MOBILITY OPTIONS

2040 Miami-Dade Transportation Plan

EYES ON THE FUTURE

MIAMI-DADE 2040

Long Range Transportation Plan

October 23, 2014

MIAMI-DADE METROPOLITAN PLANNING ORGANIZATION

Photo by Asad Gilani

MIAMI-DADE
2040 LONG RANGE TRANSPORTATION PLAN

Metropolitan Planning Organization for the Miami Urbanized Area

Approved by MPO Governing Board on October 23, 2014

This document was prepared by the Metropolitan Planning Organization (MPO) for the Miami Urbanized Area in collaboration with Florida Department of Transportation, Miami-Dade Expressway Authority, Florida's Turnpike Enterprise, South Florida Regional Transportation Authority, Miami-Dade League of Cities, Miami-Dade County Regulatory and Economic Resources Department, Miami-Dade County Public Works and Waste Management Department, Miami-Dade Transit Agency, Miami-Dade Aviation Department, Miami-Dade Seaport Department, Miami-Dade County Office of Strategic Business Management, City of North Miami, City of Hialeah, City of Miami, City of Miami Beach, City of Miami Gardens, City of Homestead, Miami-Dade County Public Schools, Miami-Dade MPO Citizens Transportation Advisory Committee, Bicycle/Pedestrian Advisory Council, Freight Transportation Advisory Committee, Transportation Aesthetics Review Committee, Broward MPO, Palm Beach MPO, and South Florida Regional Planning Council.

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EYES ON THE FUTURE

FINAL REPORT

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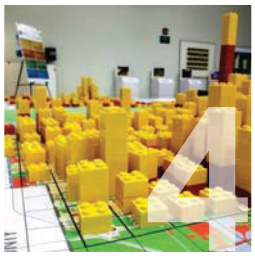
Envisioning the Future

Planning for a Shared Future

Connecting the Dots

Staying in Touch



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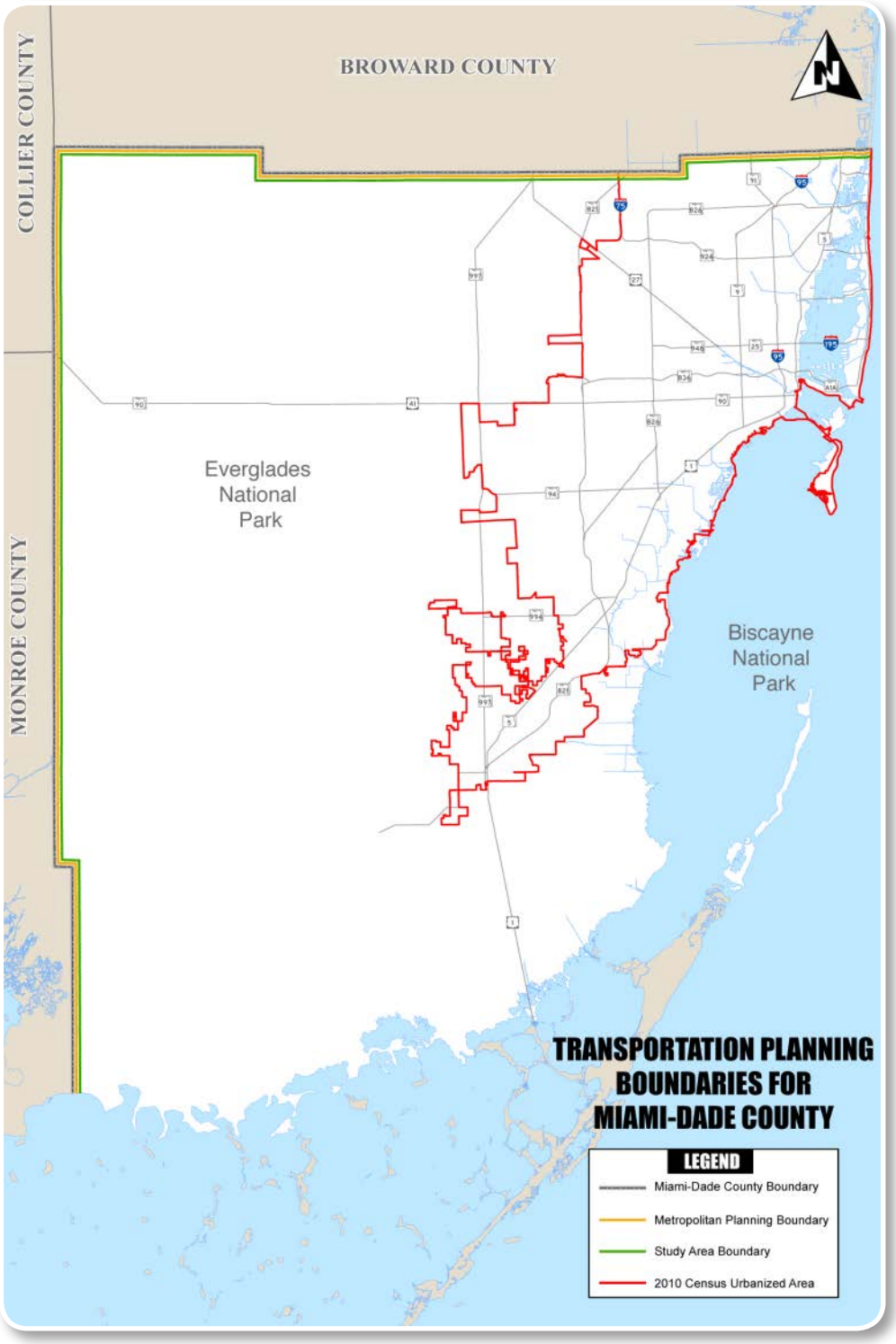
Acronyms

BPAC – Bicycle Pedestrian Advisory Committee
BRT – Bus Rapid Transit
CMP – Congestion Management Process
CST – Construction
CTAC – Citizens Transportation Advisory Committee
DBFOM – Design-Build-Finance-Operate-Maintain
E+C – Existing-Plus-Committed
EBS – Enhanced Bus Service
EPA – US Environmental Protection Agency
ETAT – Environmental Technical Advisory Team
ETDM – Efficient Transportation Decision Making
FDOT – Florida Department of Transportation
FHWA – Federal Highway Administration
FTE – Florida Turnpike Enterprise
FTA – Federal Transit Administration
FTAC – Freight Transportation Advisory Committee
HBW – Home Based Work
HEFT – Homestead Extension of Florida's Turnpike
HOV – High Occupancy Vehicle
ITS – Intelligent Transportation System
LOGT – Local Option Gas Tax
LOS – Level of Service
LRT – Light Rail Transit
LRTP – Long Range Transportation Plan
MAP-21 – Moving Ahead for Progress in the 21st Century Act
MDT – Miami Dade Transit
MDX – Miami-Dade Expressway Authority
MIA – Miami International Airport
MIC – Miami Intermodal Center
MNAT – Mobility Needs Assessment Tool
MOE – Measures of Effectiveness
MPO – Metropolitan Planning Organization
NEPA – National Environmental Policy Act
O&M – Operations and Maintenance
P3 – Public Private Partnership
PDE – Project Development and Environment
PIP – Public Involvement Plan
Pre-Eng – Preliminary Engineering
PTP – People's Transportation Plan
PWWM – Public Works and Waste Management
ROW – Right-of-Way

Acronyms (continued)

RTTAC – Regional Transportation Technical Advisory Committee
SAFETEA-LU – Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SE – Socioeconomic
SEFTC – Southeast Florida Transportation Council
SERPM – Southeast Florida Regional Planning Model
SFRTA – South Florida Regional Transportation Authority
SHS – State Highway System
SIS – Strategic Intermodal System
SOV – Single Occupancy Vehicle
STIP – State Transportation Improvement Plan
TARC – Transportation Aesthetics Review Committee
TAZ – Traffic Analysis Zone
TDM - Transportation Demand Management
TPA – Transportation Planning Areas
TSM – Transportation System Management
TIF – Tax Increment Financing
TIP – Transportation Improvement Plan
TMA – Transportation Management Area
TOD – Transit Oriented Development
TPC – Transportation Planning Council
UDB – Urban Development Boundary
USDOT – United Statas Department of Transportation
VMT – Vehicle Miles Traveled
YOE – Year of Expenditure



The Transportation Planning Boundaries for the Miami-Dade MPO, as depicted in this map, overlap with the Miami-Dade County Boundaries. Both the Metropolitan Planning Boundary and the Study Area Boundary coincide with the administrative boundaries for Miami-Dade County.

Miami-Dade County encompasses more than 2,000 square miles of land but only over 430 square miles of urban development, cradled between two national parks: Everglades National Park and Biscayne National Park. Everglades National Park land is protected land for which the MPO has no jurisdiction. However, all planning on federal land is coordinated with the MPO and the appropriate agencies and jurisdictions.

For practical purposes of administering transportation programs and studies, the MPO divided the urban development area of Miami-Dade County into six distinct geographic units identified as Transportation Planning Areas (see more details on Page 1-2 and **Figure 1-1** on Page 1-3).

Summary Highlights

The population of Miami-Dade County is expected to grow over 30% between 2010 and 2040, from almost 2.5 million people to over 3.3 million people. Employment is expected to grow over 40% for the time period, from 1.4 million workers to more than 2 million workers.

The transportation defficiency analysis for the 21-year period from 2020 to 2040 identified almost 300 candidate capacity improvement projects needed to meet desired mobility conditions. These projects were reviewed and evaluated to develop the 2040 Plan. The 2040 Cost Feasible Plan (Plan) was developed based on the projected available revenue of $41 billion YOE dollars for the planning period. Removing the Operating and Maintenance (O&M) cost of the existing transportation system, leaves $15.2 billion YOE dollars for new capital projects and the associated Operating & Maintenance (O&M) cost for new projects, includes: highway projects which would cost $14 billion YOE dollars, and transit projects which would cost $1.4 billion YOE dollars, and $105 million for other projects. The projected revenue covers about 26% of the cost of the needed improvements. The following are highlights of the Miami-Dade 2040 Long Range Transportation Plan (LRTP) projects per mode, as follows:

Transit Improvements:
Improvements to the public transportation system are a primary objective of the Plan. Different from the 2035 Plan, there are additional available revenues for new transit projects and their Operating & Maintenance (O&M) costs. Flexible funding was allocated to construct and implement the following projects:

- East-West Corridor (Flagler) Enhanced Bus
- North Corridor (NW 27 Ave) Enhanced Bus
- Douglas Road Corridor (37 Ave) Enhanced Bus
- Kendall Corridor Enhanced Bus
- Northeast Corridor (Biscayne) Enhanced Bus
- NW 7 Ave Enhanced Bus
- North Corridor (NW 27 Ave) BRT with Dedicated Lanes
- Kendall Park-and-Ride Facility
- Busway Park-and-Ride Facility
- Dolphin Station Transit Terminal
- Palmetto Intermodal Terminal

Highway improvements:
As an integral part of the Plan, and to build upon the success of the I-95 managed lanes, additional managed lanes are planned for I-75, SR-821, SR-826 (Palmetto), and SR-836 (Dolphin). Other expressway improvements are listed for the Florida's Turnpike, Florida Department of Transportation and the Miami-Dade Expressway Authority (MDX).

Cost Estimates:
Costs were estimated for all phases (Preliminary Engineering, ROW, Construction, and O&M) of work for all projects. Partially funded projects are identified in the Plan with allocated funds shown per phase leading up to construction. These estimates are shown for all projects in the Plan.

Non-motorized Improvements:
Facilities such as on-road bicycle lanes, off-road greenways / trails and sidewalks are included in the Plan. On-road bicycle and pedestrian projects are incorporated into capacity projects, when feasible. Funding for other non-motorized projects is based on the assumption that a pre-determined financial set-aside will be devoted to non-motorized transportation projects.

Congestion Management Process Improvements:
The Congestion Management Process (CMP) process was prepared in coordination with the LRTP and it is integrated within the Plan. Funding for these improvements is based on the assumption that a pre-determined financial set-aside will be devoted to congestion management.

Freight Transportation Improvements:
Freight movement is emphasized in the 2040 LRTP. The 2014 Miami-Dade Freight Plan is integrated within the LRTP cost feasible plan and includes a variety of freight related improvements identified to improve freight movement that also provides benefits to non-freight travel. Improvements that will primarily improve freight movement (Freight Only Projects) will be funded with a pre-determined financial set aside devoted to Freight Only Projects.

Private Sector Improvements:
The Plan also includes highway improvements that will be completed with private sector funding as part of proposed land development projects. As such, these projects are dependent upon market conditions, and are not included in the cost feasible network.

Plan Innovations

The Miami-Dade MPO capitalizes on innovations and best practices in the development of the long range transportation plan. The Miami-Dade 2040 Long Range Transportation Plan (LRTP) incorporates these concepts to develop a comprehensive, state of the art, user friendly LRTP in accordance with federal and state requirements. A collection of innovations in transportation planning used in the development of this 2040 Plan include the following:

Visualization Techniques:
The use of visualization techniques, is an important method of dissemination of technical transportation information to the public and decision makers. A variety of visualization techniques were developed and utilized throughout the 2040 LRTP process. Some examples of these techniques include:

- Blocks and Ribbons Game – The Blocks and Ribbons Game was used for the Round II (Needs Development) meetings. The Blocks and Ribbons Game included the use of Legos, ribbons, and base maps, providing a 3-dimensional interactive medium for participants to visualize population and employment growth (Legos) so they could provide transportation solutions (ribbon) based on projected needs tempered with limited funding. The "game" engaged users to actively participate, while simultaneously providing them an opportunity to learn about the challenges faced by transportation planners.

- Interactive Survey Technology – An interactive survey audience response device was utilized to provide instantaneous results to gauge public sentiment regarding mobility issues and challenges facing Miami-Dade County. This interactive survey technology was used during both public and Steering Committee meetings to provide a real-time assessment of the transportation priorities of participants.

- Interactive LRTP Web Application – An Interactive LRTP website was developed to provide users with a wide variety of information pertaining to the development of the 2040 LRTP. Citizens utilized this website to download materials, stay current with public involvement activities, and provide comments and/or suggestions using online applications of surveys administered at the public meetings. Another interactive feature of the LRTP website was a project mapping element that could be used to view projects on a Google Maps© base map, which included aerial photography and other mapping elements.

Reaching Millennials:
There was a concerted effort to reach Millennials, a traditionally overlooked group. The Goals and Objectives ranking exercise conducted at the Kick-Off Meetings was conducted at three (3) college campuses: Miami-Dade College North and Wolfson Campuses and Florida International University South Campus. More than 400 students completed the ranking exercise during this special outreach effort.

Mobility Needs Assessment Tool (MNAT):
The MNAT was developed to streamline the travel demand forecasting methodology and optimize the transportation needs assessment process. MNAT was used for principal scenario testing and mobility assessments in corridors and real-time testing of the mobility benefits of improvements. The MNAT was ideal for use during meetings where results were provided "on-the-fly " without the need to run the travel demand model. As a mobility tool the MNAT can incorporate both highway and transit improvements for a given corridor. It is important to note that the focus of MNAT was strictly limited to assessing mobility at the corridor level to enhance the needs assessment process.

Financial Set-Asides for Non-Motorized, Congestion Management and Freight Specific Projects:
Financial set-asides were established early in the LRTP update process for three programs: Congestion Management, Non-Motorized (Bicycle and Pedestrian) and Freight Specific improvements. The funds set aside for these programs were subtracted from projected revenue estimates prior to the development of the Cost Feasible Plan, ensuring a minimum funding commitment in the plan to these programs. This represents a commitment to transportation improvements that are important for the mobility of goods and people.

Emphasis on Freight:
The importance of moving goods within and through an area is increasingly being recognized as necessary components of a well-functioning regional economy. The area's established, and expanding, freight transportation system in the greater Miami metropolitan area serves as the cornerstone of the region's economy and connects the region to the global economy through major sea and air gateways. With an emphasis on freight, infrastructure needs identified in the 2014 Miami-Dade Freight Plan Update were grouped into two categories: (1) projects that will improve both freight and passenger

vehicle movements and (2) projects that will primarily improve freight movement (Freight Only Projects). The projects that will improve both freight and passenger vehicle movements were incorporated into Priorities I-IV as well as in the unfunded list of projects. The projects that are Freight specific were included in the freight set-aside.

Integration of the Congestion Management Process (CMP) in the 2040 Plan:
The federally mandated CMP was prepared in coordination with the LRTP update. Candidate facilities for congestion management treatments from both processes were folded into the LRTP prior to the development of the Cost Feasible Plan. This integration provided a more meaningful role for both the LRTP and the CMP in the cost efficient improvement of the transportation network in the County at a time when transportation funding projections are more limited than in past Plan updates.

Regional LRTP Process and the Southeast Florida Transportation Council (SEFTC):
The regional coordination process for the Southeast Florida region was focused on multi-modal highway and transit facilities serving regional travel markets. The 2040 Regional Plan marked the second regional coordination effort that included the participation of the SEFTC, a regional board made up of Board members from the 3 Southeast Florida MPOs. The SEFTC is advised by the Regional Transportation Technical Advisory Committee (RTTAC) which is composed of staff from the 3 MPOs, FDOT Districts 4 and 6, and the transit agencies.

Illustrative Projects:
To comprehensively describe the county's needs, an Illustrative Projects list which includes additional projects was developed. It includes projects from both the cost feasible and needs plans. As allowed by federal guidelines, these projects will be included as other revenue sources become available. Illustrative Projects take priority over other needs projects, as they are higher ranked in terms of necessity.

01

Introduction

"Envisioning the Future"

Chapter Subsections

Chapter Overview
What is the MPO and the LRTP?
County Overview
Key Trends, Issues, & Challenges

Chapter Overview

Miami-Dade County's multi-modal transportation system serves as the backbone of the County's commerce, quality of life, and economic prosperity, all of which are dependent on the efficient mobility of people and freight. In A. T. Kearney's 2014 Global Cities Index (GCI) and Emerging cities Outlook, Global Cities, Present and Future, Miami was recognized as one of 84 global cities worldwide. Miami's 2014 ranking is 30 moving up from 36 in 2012. The study considered numerous dimensions, including business activity, human capital, information exchange, cultural experience, and political engagement. An absolutely critical part of the Miami Urbanized Area and Miami-Dade County's future success as an economic generator and Global Hub on par with London, New York, Chicago, and Tokyo, is the mobility of its residents, visitors, and goods.

Two examples of Miami-Dade County's value and commitment to the global economy are the Port of Miami Tunnel project and Deep Harbor Dredge, both which have been recognized internationally as major improvements to Miami-Dade County's competitiveness on a global scale. The Deep Dredge project will prepare the Port of Miami to accommodate larger "Post-Panamax" freight ships expected to arrive after the opening of the Panama Canal in 2015. The Port Tunnel project contributes to Miami-Dade County's status as a gateway to the world. The Port Tunnel project will accommodate the increased truck traffic resulting from the Port's expanded freight market, while preserving mobility for motorists in the City of Miami. These two projects are part of a $2 billion port improvement package exemplify Miami-Dade County's increasing role and competitiveness in the global marketplace.

What Is The MPO and The LRTP?

The Metropolitan Planning Organization (MPO) for the Miami-Urbanized Area guides the transportation process in Miami-Dade County. MPOs are federally mandated agencies for metropolitan areas with more than 50,000 total population. A primary function for the MPOs is to produce and update (every 5 years) a Long Range Transportation Plan (LRTP) with a minimum time horizon of 20 years. The LRTP is a comprehensive transportation infrastructure plan that includes, at a minimum, highway and transit infrastructure improvements. The Miami-Dade LRTP includes highway, transit, freight, and non-motorized components, a truly multimodal plan that covers a broad range of issues including the environment, economic development, mobility, safety, security, and quality of life.

The Miami-Dade Long Range Transportation Plan Update to the Year 2040, hereto referred to as the 2040 LRTP, commenced in December 2012 and involves a major update of the 2035 LRTP, which was adopted in October 2009. The 2040 LRTP's primary purpose is to assist citizens, businesses, and elected officials in cultivating their transportation vision for the County through the next 26 years. The 2040 LRTP serves as an instrument to identify the needed improvements to the transportation network, and provides a long-term investment framework to address current and future challenges.

In light of Miami-Dade's bright and prosperous future as a global hub, the 2040 LRTP is focused on Providing Mobility Options, with Eyes on the Future, as depicted by the plan logo. The plan is also guided by a comprehensive vision to…

"Provide mobility options for Miami-Dade County residents and visitors and promote economic competitiveness by investing in the County's transportation infrastructure while protecting the environment and maximizing the efficiency of the existing transportation system."

The key vision elements which are also central to the 2040 LRTP Goals and Objectives outlined in Chapter 2, include mobility, economy, environment, and efficiency. These are the focal points for an effective transportation system in Miami-Dade County to the year 2040.

Transportation Planning Areas

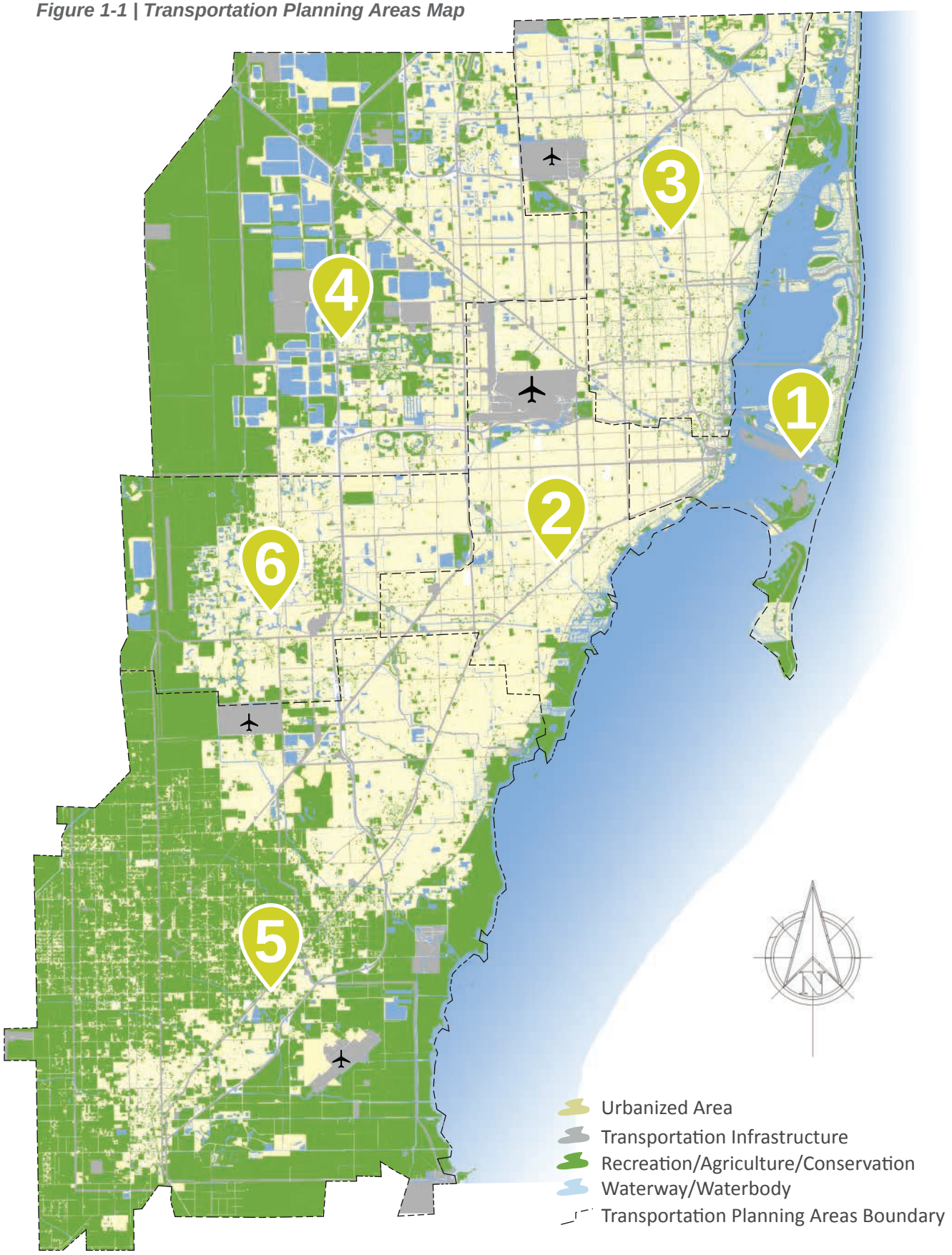
For the practical purposes of administering transportation programs and studies, the MPO divided Miami-Dade County into six distinct geographic units identified as Transportation Planning Areas (TPAs), illustrated in **Figure 1-1**. Each planning area presents its own unique transportation challenges.

Transportation Planning Areas 2040 SNAPSHOT

BEACH/CBD	543,800 Population 390,500 Employment	37 SQM	Bay Harbour Downtown Miami Little Havana Miami Beach Port of Miami Sunny Isles Beach
CENTRAL	480,400 Population 407,600 Employment	68 SQM	Coconut Grove Coral Gables Key Biscayne Miami International Miami Springs South Miami University of Miami
NORTH	712,000 Population 361,700 Employment	77 SQM	Civic Center Little Haiti Miami Gardens Miami Shores North Miami Opa-Locka
NORTHWEST	478,900 Population 428,000 Employment	150 SQM	Doral Hialeah Hialeah Gardens Miami Lakes Sweetwater Virginia Gardens
SOUTH	654,900 Population 290,300 Employment	226 SQM	Cutler Bay Florida City Homestead Kendall Palmetto Bay Zoo Miami
WEST	435,300 Population 172,900 Employment	68 SQM	Florida International Kendall Lakes Kendall-Tamiami Executive Airport Tamiami The Hammocks

Square Miles (SQM)

Figure 1-1 | Transportation Planning Areas Map



County Overview

With limited geographic growth potential in the County due to the Atlantic Ocean to the east and the Florida Everglades to the west, the expected growth in Miami-Dade County's population and employment represents both a challenge and an opportunity; a challenge because there is less space to accommodate growing areas with new or expanded transportation facilities; an opportunity because the concentrated growth increases the viability for transit and other non-highway expansion improvements. It also creates opportunities for creative solutions that both improve mobility within the County and also improve the overall quality of life of Miami-Dade County residents and visitors alike. This positive growth creates economic oppurtunities and contributes to Miami-Dade County's role in the global marketplace.

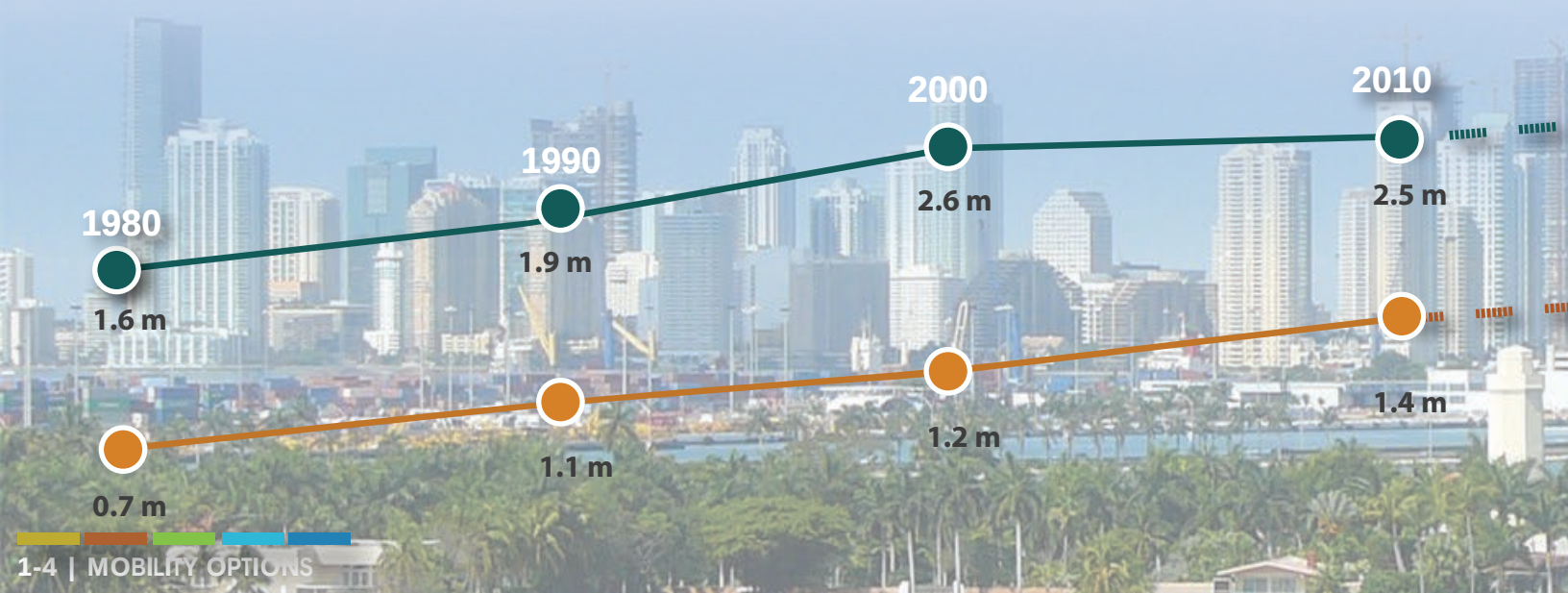
Population And Employment Growth

Miami-Dade County is, by far, the most populous county in Florida, with almost 2.5 million residents in 2010 and is expected to grow by over 30% by 2040 to over 3.3 million. The residents of Miami-Dade County, along with visitors, equates to a substantial demand on the transportation system. Projected growth can be expected to worsen already congested conditions on the County's roadways without proportional improvements to the transportation system. Employment in Miami-Dade County represent the other critical variable in terms of demand on the system. Total employment in the County in 2010 was just over 1.4 million and is expected to grow to more than 2 million by 2040. Historic and projected population and employment trends are illustrated in **Figure 1-2**.

The greatest population growth, in terms of new residents added and percentage growth, is expected to occur in the southern planning area, with 217,000 or nearly 50% increase of population by 2040. While the south planning area, defined roughly as the area south of Kendall Drive, has traditionally been composed primarily of residential development and will continue to, it is also expected to experience the greatest employment growth, in percentage terms, at just over 64%. The growth in employment, relative to population growth is a positive trend allowing greater potential for more localized travel, which can have a positive effect on traffic levels of regional facilities, like US-1 and the HEFT. Change in population and employment by planning areas is shown in **Figure 1-3** and **Figure 1-4**.

The Downtown population and employment growth are expected to grow to 543,000 and 391,000 by 2040, respectively. The renewed growth in construction over the last several years, as evidenced by the construction cranes dotting the Miami skyline, will continue to strain the transportation infrastructure. This growth also provides opportunities for redevelopment and non-automobile oriented mobility solutions to the growing congestion.

The west planning area is expected to grow by a modest 48,000 residents, but a much greater 173,000 employment. The northwest is expected to grow to 479,000 residents and 428,000 in employment. The north planning area is expected to remain the most populous growing to 712,000 residents and an increase of employment to 362,000. The central planning area is expected to grow to 480,000 residents and increase employment more than 100,000 to 408,000 total employment.



While the robust countywide growth of between 33% and 45% in population and employment respectively, will require significant infrastructure improvements, the nature and pattern of the growth should dictate the nature and extent of the specific type of improvements. The County will face challenges as it grows and continues to prosper as both a major player in the global economy and the chosen home of more than 2 million people. Those challenges, however, can also be viewed as opportunities to both preserve the character and improve the function of Miami-Dade County and to propel Miami-Dade forward to a promising future. The County's growth and infrastructure trends call for cutting edge transportation solutions befitting of a global hub of commerce and lifestyle.

As a global hub, Miami attracts many visitors every year. The Greater Miami Convention and Visitor Bureau estimated the area had 13.9 million overnight visitors in 2013. These overnight visits translate into increased demand on the County's transportation system.

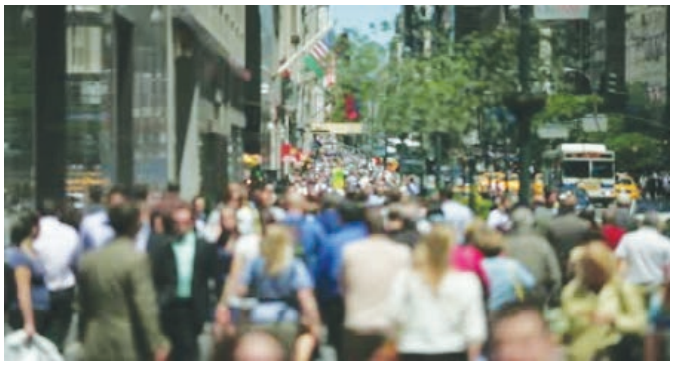


Figure 1-4 | Employment Growth 2010-2040

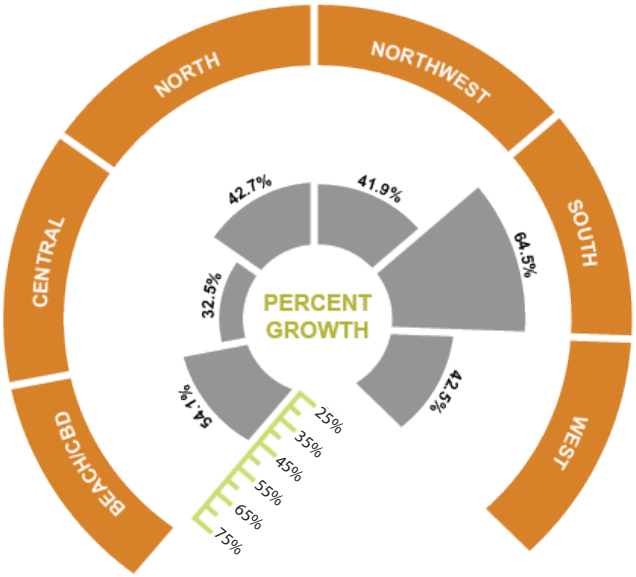
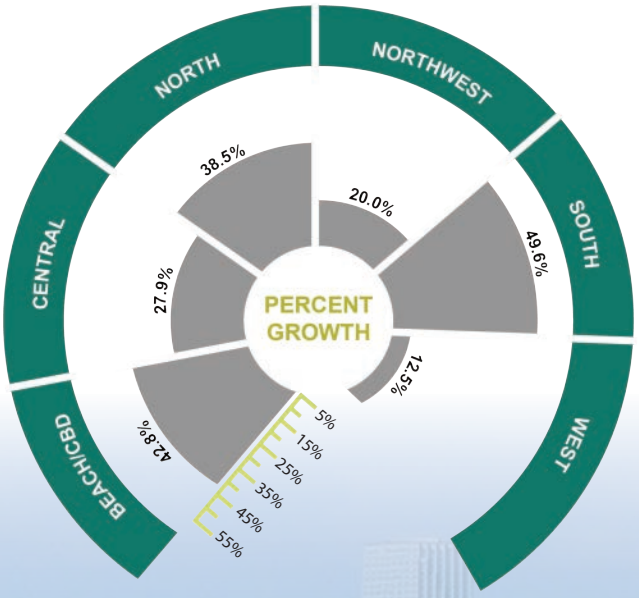


Figure 1-3 | Population Growth 2010-2040



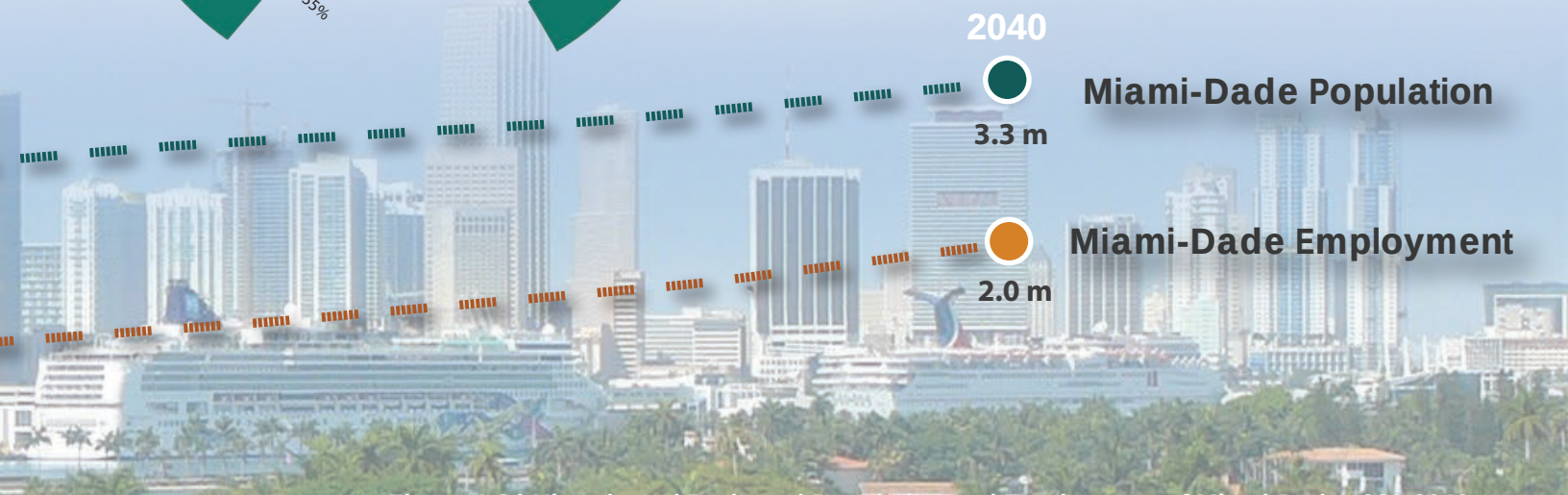


Figure 1-2 | Historic and Projected Population and Employment of Miami-Dade 1980-2040

Figure 1-5 | Population Growth Map 2010-2040

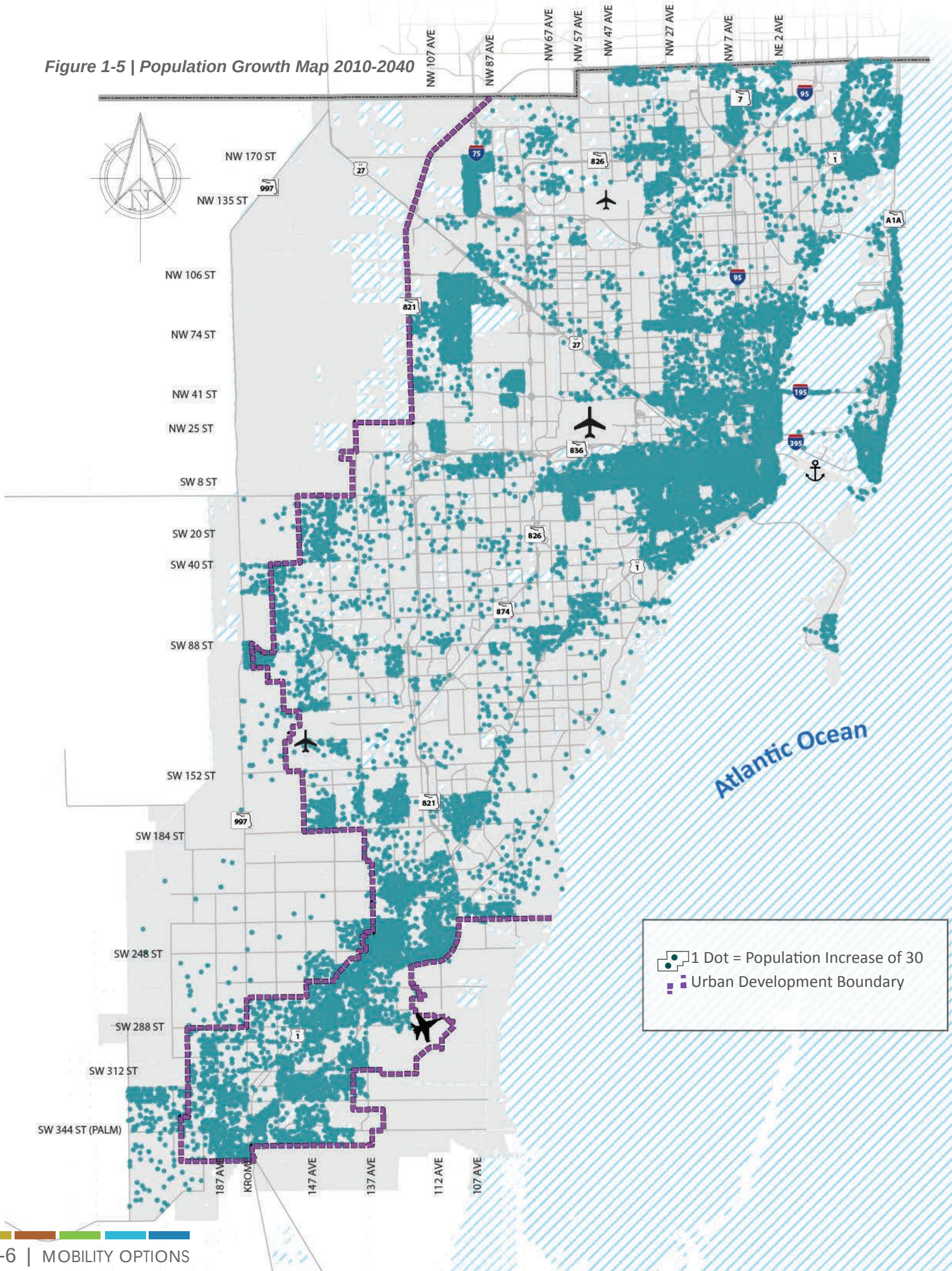


Figure 1-6 | Employment Growth Map 2010-2040

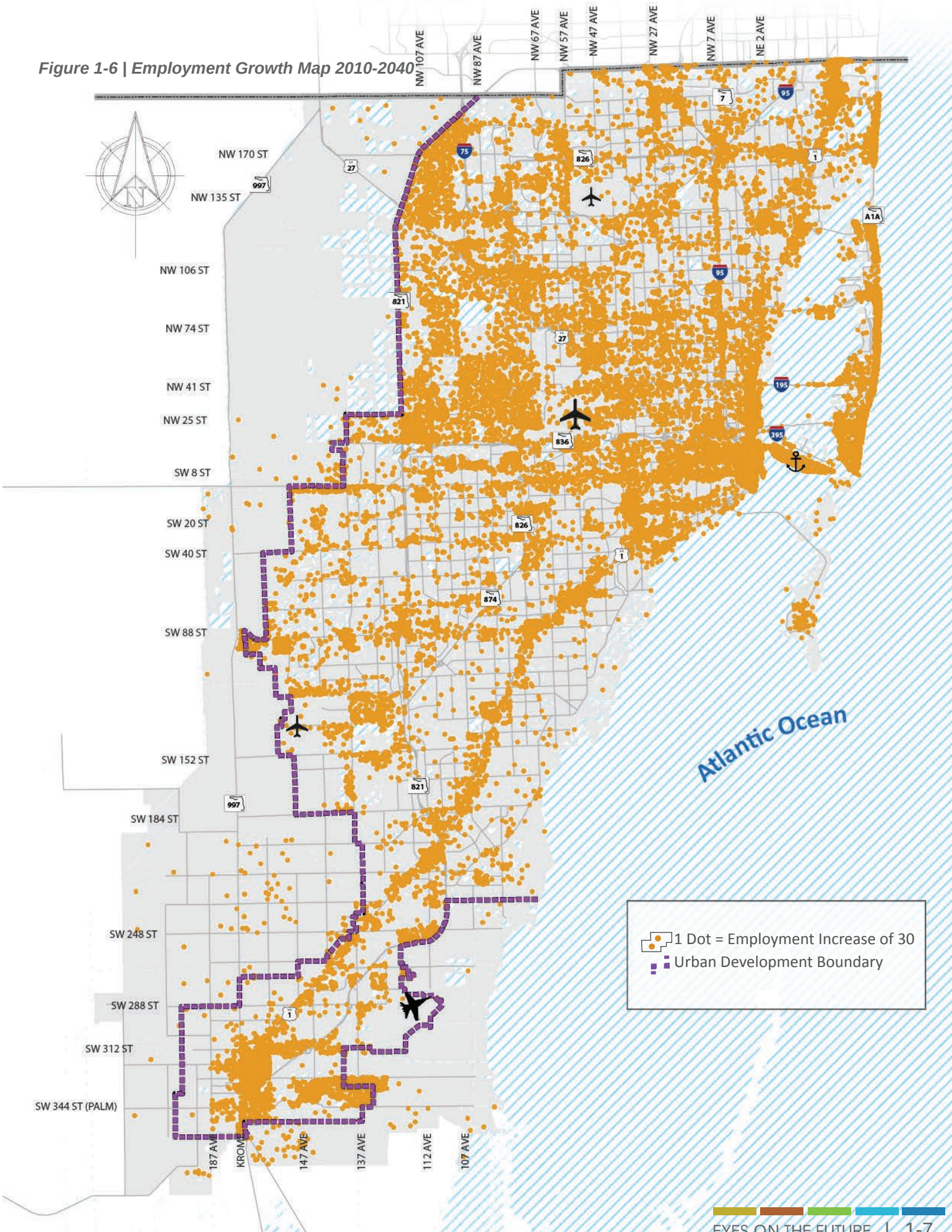


Figure 1-7 | Mobility Options in Miami-Dade County

Key Trends, Opportunities, & Challenges

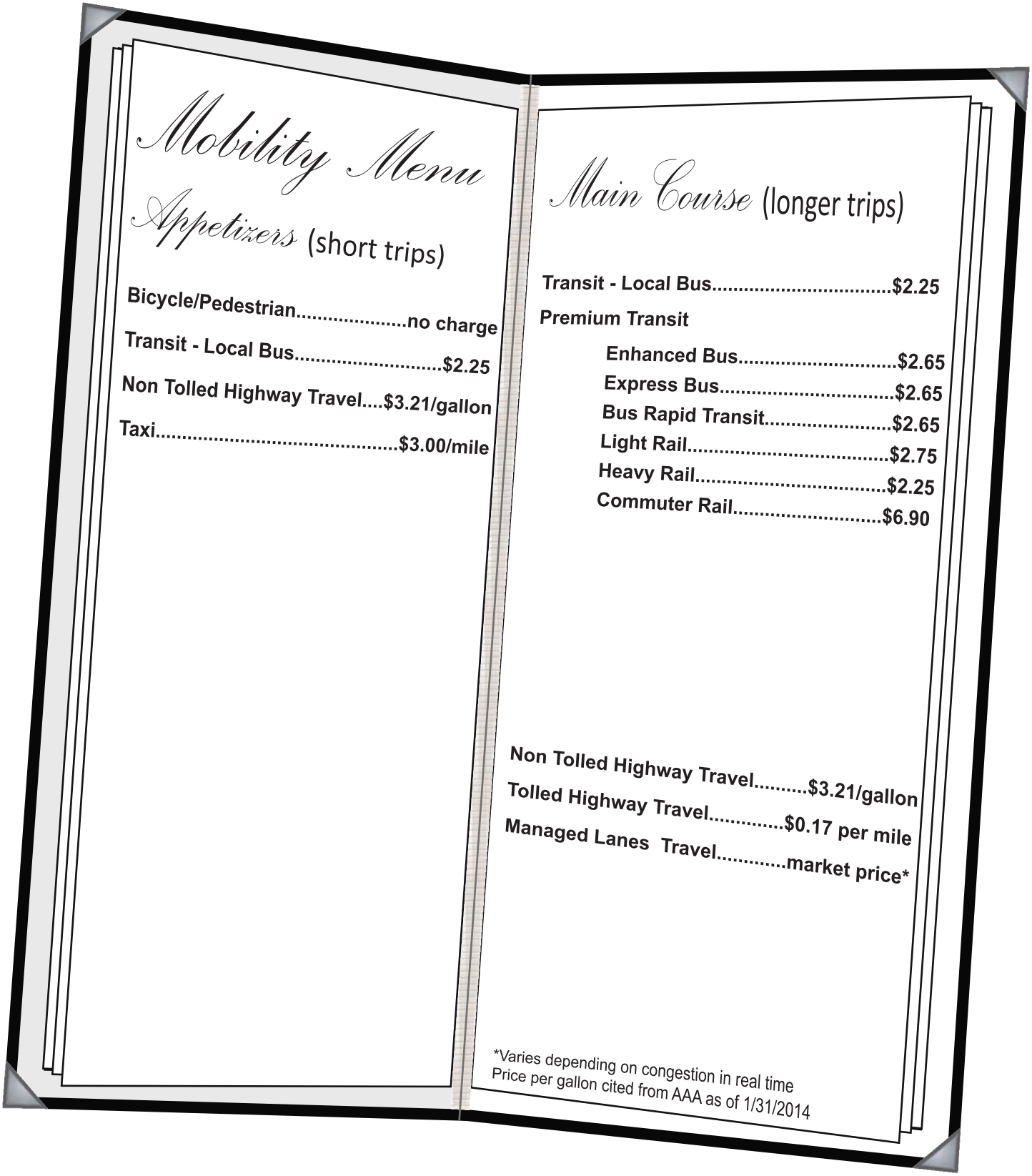
Current traffic congestion on Miami-Dade County roadways is significant, causing over 174 million hours of delay per year for Miami-Dade motorists, according to the Texas Transportation Institute's (TTI) 2012 Annual Urban Mobility Report. This is estimated to cost nearly $4 billion, valued in part as Miami-Dade County's workforce productivity lost to time spent in traffic. It is a goal of the 2040 LRTP to address this issue with a range of mobility options, including both motorized and non-motorized, both roadway and public transit, for both motorists and freight movement. The menu of options available to the traveling public should include a range of choices specific to the types of trips being made, in terms of short trips to the store, long trips to work, and everything in between, as shown in **Figure 1-8**. The opportunities to provide innovative and cutting edge solutions must also be balanced with the financial limitations, particularly in the recovery of the national economy. At this time of economic recovery, the challenge is to make the most of still-limited financial resources and to do so in a way that delivers the greatest possible return, for mobility.

Innovative Solutions

Transportation improvements designed to alleviate today's traffic congestion and accommodate future demand must include innovative solutions that capitalize on existing investments and maximize the efficiency of our transportation system. Florida Department of Transportation (FDOT), with the help of an Urban Partnership Agreement between the Miami-Fort Lauderdale urban areas and the USDOT opened the I-95 Express in Miami-Dade County in December 2008.

Managed lanes are defined by the Florida Department of Transportation (FDOT) as highway facilities or sets of lanes within an existing highway facility where operational strategies are proactively implemented and managed in response to changing conditions with a combination of tools. These tools may include accessibility, vehicle eligibility, pricing, or a combination thereof. As illustrated in **Figure 1-9**, managed lane strategies can be applied in varying combinations and at different complexities to achieve varying results. Within Florida, managed lane types include express lanes, truck only lanes, and express bus lanes.

Figure 1-8 | Mobility Menu



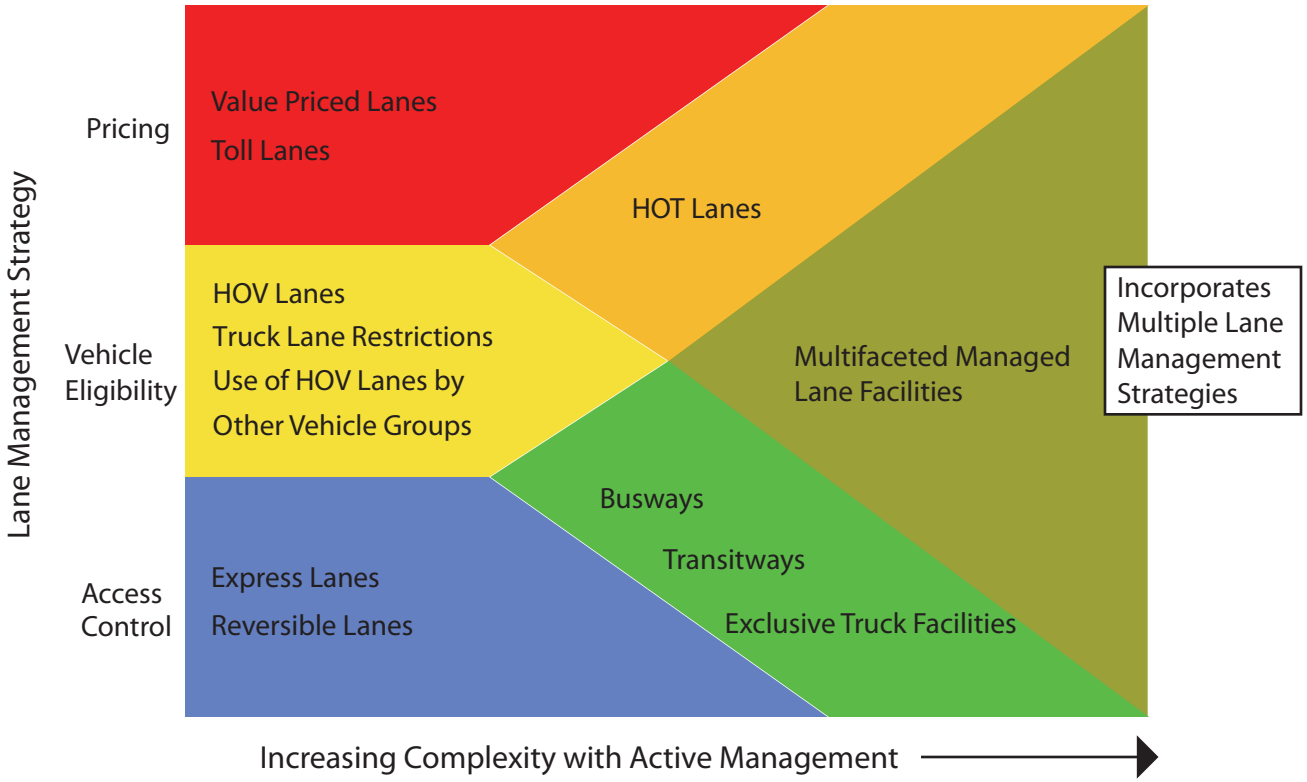
In August 2013, FDOT issued a directive specifying that FDOT shall consider the implementation of managed lanes or express buses for all new limited access facilities on the State Highway System (SHS), lanes added to existing limited-access facilities on the SHS, new major bridges on the SHS over waterways and replacements for existing major bridges on the SHS over waterways. Express lanes are defined as a type of managed lane where dynamic pricing through electronic tolling is applied to lanes with through traffic, having fewer access points. Express lanes can co-locate within an existing non tolled facility to manage congestion and provide a more reliable trip time. Express lane strategies, may include congestion pricing to reduce peak period traffic volumes to optimal levels or toll roads financed with the toll paying, fully or partially, for the cost of such projects. Additionally, within the directive, the Department specified that all additional capacity on the interstate shall be express lanes.

In December 2013, FDOT issued Guiding Principles for Express Lanes, specifying the six principles for the use of Express Lanes throughout the state. These principles are; Feasibility Assessment, Vehicle Eligibility, Financial Feasibility and Toll Collections, Design, and Communications.

The use of managed lanes is growing in popularity in major urban areas across the United States as these facilities are often cost-effective, highly viable transportation alternatives. Through the control of vehicle eligibility, access, and pricing, managed lanes provide a high degree of operational flexibility enabling operations to be actively managed to respond to growth and chang-ing needs. The tools used in managed lanes are operated in a manner so as to achieve an optimal condition, such as free-flow speeds. At a time when demand for transportation capacity is at a premium, managed lanes provide for the most efficient movement of people and goods to and through the state's metropolitan areas.

Roadways that could benefit from managed lane improvements include I-75, SR-836 (Dolphin), SR-826 (Palmetto), and others. A variety of other modal and multimodal improvements are considered and weighed against the LRTP Goals and Objectives to determine their relative value and priority in the larger system plan. (One of the cost-effective strategies employed in this LRTP is the Congestion Management Process (CMP), which includes numerous potential improvement types as alternatives to costly major capital improvements. The CMP, as required by federal law, is designed to incorporate policy and operational improvements to manage, mitigate, and/or alleviate congestion on the County's roadways.) Figure 1-10 and Figure 1-11 depict I-95 Express and a rendering of the future managed lanes on the Palmetto Expressway, respectively.

Figure 1-9 | Lane Management Strategy



Source: U.S. Department of Transportation - Federal Highway Administation

Figure 1-10 | I-95 Express, Example of Existing Managed Lanes in Miami-Dade

Figure 1-11 | Palmetto Expressway, Rendering of Future Managed Lanes in Miami-Dade

02

Goals and Objectives

"Planning for a Shared Future"

CHAPTER SUBSECTIONS

Chapter Overview

In 2012-2013, Miami was ranked a top-100 global city by ***2thinknow***® as part of their Innovation Cities Program, an index classification system based on cities' "potential for creation, implementation and communication of ideas in their urban economies." Miami is classified by ***2thinknow*** as a HUB city, defined as "Dominance or influence on key economic and social innovative segments, based on global trends." Maintaining the Global Hub status requires that Miami-Dade County foster the backbone of its economy, its transportation system and to do so requires a plan that is goal-driven.

Goals represent the desired effect of a process or effort. Objectives represent a more detailed or actionable version or subset of goals. Together, the LRTP goals and objectives represent the guiding direction to which every other part of the LRTP process aims. As such, the goals and objectives are a critical part of the planning process. In the words of Yogi Berra ***"If you don't know where you are going, you'll end up someplace else".*** While it is difficult to envision the future and even more difficult to realize that vision, it is nevertheless important to chart a course based on principles.

This LRTP is guided by eight goals and 63 objectives, each of which represent a specific element of how the transportation system should evolve, or in some cases, be preserved, over the next 20 years. Each objective was carefully designed to enable **measurement** of both the plan's adherence to the goals and objectives, in terms of the types of projects that are in the plan, and also the performance of the transportation system after plan adoption. The formulation of the LRTP goals and objectives is a process involving **extensive stakeholder involvement** by the 23 members that make up the MPO Governing Board, the 17 county and municipal agency directors that make up the Transportation Planning Council, the 25 planning agency staff comprising the LRTP Steering Committee, and the general public.

GOALS AND OBJECTIVES
SNAPSHOT

The eight LRTP goals are intended to maintain Miami-Dade County's status as a top-100 global city and to improve the County's transportation system, keeping pace with the expected growth in demand for transportation services in the County. Each goal includes supporting objectives that provide measurable actions. These objectives also provide the basis for measures to assess plan performance. This chapter outlines the goals, objectives, and measures of effectiveness developed in the preliminary stages of the LRTP update process. The 2040 LRTP goals and objectives were established through building on the previous LRTP (2035), extensive public input, and refinement based on a comprehensive review of federal, state, and local plans by the LRTP Steering Committee.

The public involvement process utilized in the development of the goals and objectives, more thoroughly discussed in Chapter 4, consisted of a survey of participants' priorities and opinions concerning the desired direction of transportation system improvements in Miami-Dade County. During public involvement workshops, participants had the opportunity to analyze population and employment growth, existing conditions, and to consider future county conditions. Participants were then presented with a draft list of goals and objectives and voted for those goals they believed to be most significant to their lives.

The goal prioritization process represents one of the key refinements of the 2040 update to the LRTP. While all eight goals are critical pieces of the puzzle, they do not necessarily carry the same weight in people's commuting decisions and habits, as was evident in the public workshop results. The weighting of the goals enabled a quantitative evaluation of candidate transportation improvements in the development of the 2040 Plan, whereby candidate projects were evaluated individually against each goal. The eight individual project scores were then multiplied by the respective goal weights to obtain a weighted project evaluation score, which is described in more detail later in this chapter.

Figure 2-1 is a depiction of the goal weights, clearly defining **Goal 1: Improve System and Travel** as the most important goal and **Goal 3: Improve Security** as the least important goal. While the variation in the most and least important goals is considerable, the remainder of the goals are more or less evenly weighted. **Figure 2-2** provides a snapshot of the eight goals, their numerical weights, and a summary of objectives under each goal.

The rest of this chapter includes a review of the Federal, State, regional, and local plans, policies and guidance documents reviewed in preparing the 2040 goals and objectives; a description of the goal weighting process; a detailed explanation of how the goals and objectives were used to evaluate transportation improvements; and a comprehensive summary of the goals, objectives, and measures.

Figure 2-1 | Goal Weight Comparison

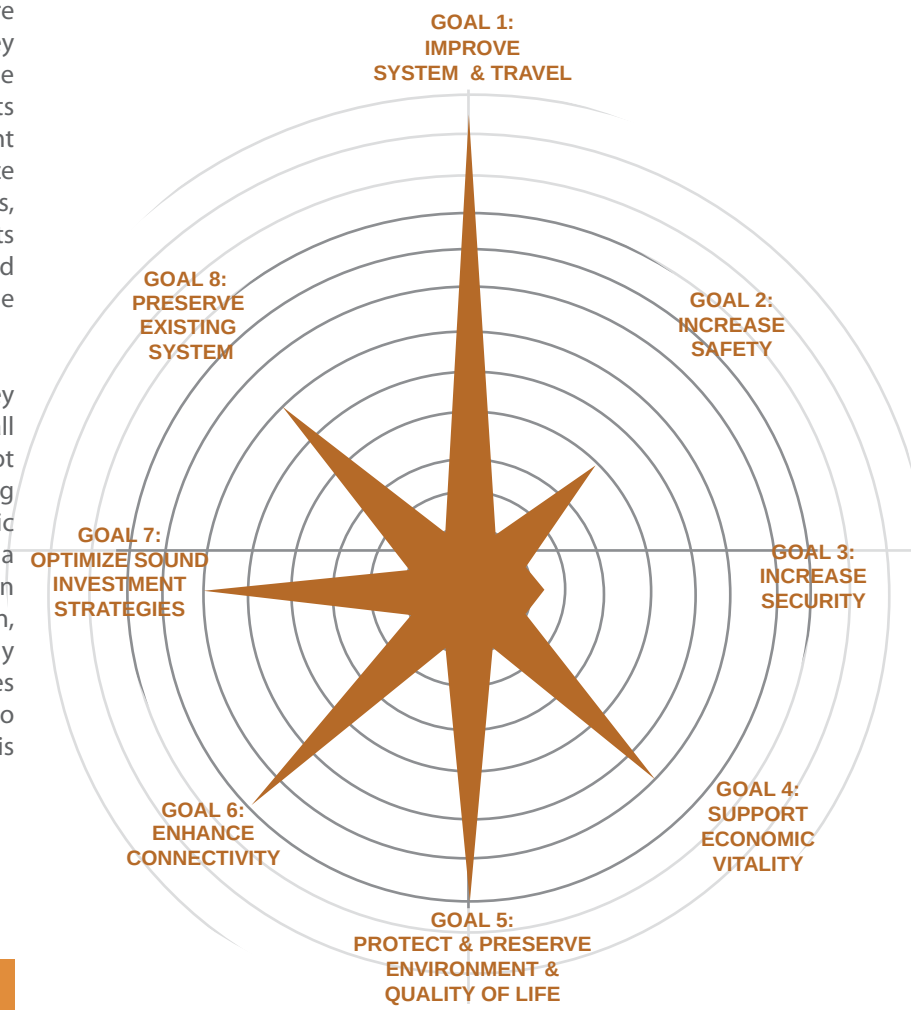


Figure 2-2 | Goals Snapshot

Goal Weight

GOAL

TITLE

Goal Objectives Sample
Goal Objectives Sample
Goal Objectives Sample

GOAL KEY

25

GOAL 1

IMPROVE SYSTEM & TRAVEL

- Reduce Congestion
- Enhance mobility for people & freight
- Promote system reliability & fill transit services gaps

8

GOAL 2

INCREASE SAFETY

- Reduce roadway & multi-modal crashes
- Improve safety on facilities & in operations
- Provide safe & easy pedestrian & non-motorized travel

3

GOAL 3

INCREASE SECURITY

- Enhance the capacity of evacuation corridors
- Ensure options are available during emergency evacuations
- Ensure security of ports, airports, & multi-modal centers

12

GOAL 4

SUPPORT ECONOMIC VITALITY

- Increase access to employment sites
- Enhance the efficient movement of freight & goods
- Support economic development

14

GOAL 5

PROTECT & PRESERVE ENVIRONMENT & QUALITY OF LIFE

- Support livable rural & urban communities
- Minimize impacts to established neighborhoods & historic areas
- Minimize & mitigate impacts of transportation on air & water quality

14

GOAL 6

ENHANCE CONNECTIVITY

- Improve connectivity to intermodal facilities
- Provide options consistent with the plans of local government
- Improve movement of goods by intermodal access & connectivity

12

GOAL 7

OPTIMIZE SOUND INVESTMENT STRATEGIES

- Maximize state, federal, & private funding sources
- Provide options consistent with the plans of local governments
- Establish strong linkages with Southeast Florida governments to plan infrastructure

12

GOAL 8

PRESERVE EXISTING SYSTEM

- Repair & maintain existing infrastructure
- Use the best technologies & innovations to improve the system
- Reserve corridors for future facilities & services

"public participation is vital in goal definition"

Federal, State, And Local/Regional Plans

The LRTP Steering Committee reviewed plans from federal, state, and local/regional levels of government to ensure consistency between the LRTP goals and objectives and those of the various plans and policies. The primary reason for this review is to comply with the federal rules and regulations that govern the LRTP update process and content. In addition, the LRTP is a collaborative effort that includes all implementing transportation agencies, as well as other planning agencies within the region and the County. As such, consistency with other plans and policies that affect transportation issues is important. Policies and priorities from other agencies' plans must be considered, if not included in the LRTP process, as relevant. **Figure 2-3** identifies the plans reviewed as part of this process.

MAP-21 National Goals

Signed in 2012, Moving Ahead for Progress in the 21st Century Act (MAP-21) is the first long-term federal highway authorization enacted since its precursor Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005. MAP-21 provides the policy guidance to update long range transportation plans in addition to providing funding for planning and implementing transportation improvements projects. MAP-21 emphasizes a streamlined, performance-based multimodal program to address the many challenges of improving safety, maintaining infrastructure condition, reducing traffic congestion, improving system efficiency and freight movement, protecting the environment, and reducing delays in project delivery. The goals and objectives set forth in MAP-21 are shown in **Figure 2-4.** The "Highway and Transportation Funding Act of 2014" (H.R. 5021) was signed by President Obama on August 8, 2014 extending MAP-21 funding from September 30, 2014 (when MAP-21 was set to expire) through May 31, 2015.

$105 billion

MAP-21 made available $105 billion of funds for surface transportation programs nationally.

Figure 2-3 | Federal, State, and Local/Regional Plans Reviewed

Federal Plans

- MAP-21 National Goals - 2012
- Creating Equitable, Healthy, Sustainable Communities - 2013

State Plans

- 2060 Florida Transportation Plan - 2010
- Strategic Intermodal System Plan - 2014
- Strategic Highway Safety Plan - 2012
- Six Pillars 20-Year Strategic Plan - 2012
- State Health Improvement Plan - 2012

Local/Regional Plans

- 2035 Long Range Transportation Plan - 2009
- 2035 Regional Long Range Transportation Plan - 2009
- Southeast Florida Regional Climate Action Plan - 2009
- Greenprint: Our Design for Sustainable Future - 2010
- One Community One Goal Strategic Plan - 2010
- Comprehensive Development Master Plan - 2011
- Port of Miami 2035 Master Plan - 2011
- 2040 LRTP: Compliance Requirements - 2013
- Seven50 Southeast Florida Prosperity Plan

Figure 2-4 | MAP-21 National Performance Goals

MAP-21 National Performance Goals

Goal 1 - Safety
To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

Goal 2 - Infrastructure Condition
To maintain the highway infrastructure asset system in a state of good repair.

Goal 3 - Congestion Reduction
To achieve a significant reduction in congestion on the National Highway System.

Goal 4 - System Reliability
To improve the efficiency of the surface transportation system.

Goal 5 - Freight Movement and Economic Vitality
To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

Goal 6 - Environmental Sustainability
To enhance the performance of the transportation system while protecting and enhancing the natural environment.

Goal 7 - Reduced Project Delivery Delays
To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

Moving Ahead for Progress in the 21st Century Act

MAP-21 consolidated some programs and eliminated others to make more financial resources and greater flexibility available to states and metropolitan areas to invest in their prioritized transportation needs. With respect to the long range planning process and requirements, MAP-21 maintained previously established planning factors established by the SAFETEA-LU. There are new provisions in MAP-21, including a focus on streamlining project delivery, measuring system performance, and prioritizing freight improvements. The general theme running through these new focus areas is an outcome-oriented planning process.

New Areas of Focus for MAP-21

The actual implementation of the LRTP includes a series of processes that in past LRTP updates had not addressed in detail. The MPO has recently instituted a new program called "MPO Program Priorities", whereby the MPO sets improvement priorities on a yearly basis, encouraging implementing agencies to enact those priorities and commit to delivering improvements. In addition to the MPO Program Priorities, the final chapter of this plan includes a project delivery strategy that is focused on the ends (transportation improvements) rather than just the means (planning).

The national emphasis on freight mirrors Miami-Dade County's emphasis on freight over the last several years, with the construction of the Port Tunnel and Deep Harbor Dredge projects. The Miami-Dade MPO for years has emphasized the importance of freight through the activities of the Freight Technical Advisory Committee (FTAC), which is made up of public agency and private freight industry stakeholders. The MPO staffs this committee and relies on its expert membership to help guide the County's investment in freight infrastructure. Another key element of the 2040 Plan related to freight is the establishment of a financial set-aside specifically for freight, ensuring a dedicated source of funding in the plan for freight-related infrastructure improvements.

The performance monitoring program envisioned by MAP-21 involves the identification of metrics, performance targets for those metrics, and the measurement of the transportation system performance against the metrics. This strengthens the project delivery process by instituting an outcome-oriented process directly related to improvement of the system, in a quantifiable way. The specific requirement outlined in MAP-21 involves the adoption of performance measures and targets at the federal level, state level, and metropolitan level, in that order. This is intended to ensure a consistent process and results. While the schedule for this process extends beyond the timeframe of the 2040 update process, with State performance targets not due to be adopted until April 2015, FDOT has proactively outlined draft state level measures in advance of the federal government and the 2040 Plan reflects a quantitative metric-driven process.

Upon completion of the performance measure definitions by FHWA, FDOT will have one year to define the state level performance measures. Once the State performance measures are completed, MPO's will have 180 days to complete their own performance measures, for the purpose of implementing the performance measures at both the State and Federal levels. Miami-Dade MPO intends to amend the local performance measures into the 2040 Plan through an administrative amendment process.

Metropolitan and Statewide Planning Factors

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase the accessibility and mobility of people and for freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes, people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.

2060 Florida Transportation Plan (FTP)

The goals and objectives of the 2040 Plan must also be consistent with the goals and objectives of the 2060 Florida Transportation Plan (FTP).

Finalized in December 2010, the FTP guides the future investments in Florida's transportation system for the next 50 years including safety, security, preservation, and mobility needs.

"The FTP defines transportation goals, objectives, and strategies to make our economy more competitive, our communities more livable, and our environment more sustainable for future generations."

2060 FTP Goals

- Invest in transportation systems to support a prosperous, globally competitive economy
- Make transportation decisions to support and enhance livable communities
- Make transportation decisions to promote responsible environmental stewardship
- Provide a safe and secure transportation system for all users
- Maintain and operate Florida's transportation system proactively
- Improve mobility and connectivity for people and freight

2012 Strategic Highway Safety Plan (SHSP)

The 2012 Strategic Highway Safety Plan (SHSP) is a five-year plan that addresses the "4 E's" of safety: Engineering, Enforcement, Education, and Emergency Response. FDOT in partnership with FHWA developed the SHSP to reduce fatalities and serious injuries on Florida's transportation system Florida.

Vision of the SHSP:

To provide a safer surface transportation system for residents, businesses, and visitors.

Goal of the SHSP:

Achieve a 5% annual reduction in the actual number of fatalities and serious injuries

Emphasis Areas for the 2012 SHSP Update:

1. Aggressive Driving
2. Intersection Crashes
3. Vulnerable Road Users (pedestrians, bicyclists, and motorcyclists)
4. Lane Departure Crashes
5. Impaired Driving
6. At-Risk Drivers (aging road users and teens)
7. Distracted Driving
8. Traffic Data

"4 E's" of Safety: Engineering, Enforcement, Education, and Emergency Response

LRTP Goals

One of the hallmarks of the MAP-21 legislation is an emphasis on performance measurement. While the details of the Federal rulemaking process for Metropolitan Transportation Planning were not prepared in time to be fully considered in this LRTP update, performance measurement plays a major role. The LRTP Goals were developed to address the National Performance Goals and represent a comprehensive account of transportation issues, challenges, and opportunities faced by transportation planners and users of the transportation system. As such, the goals characterize the desires and needs of Miami-Dade County's residents and visitors, while meeting applicable federal, state, and local regulations. **Figure 2-5** displays visualizations of the LRTP's eight goals, consistent with materials used to disseminate information to the public.

Goal Weights

The establishment of goal weights was completed in two parts. First, goal ballot boxes were prepared for 15 community workshops and meetings. Each goal was represented by a ballot box with the corresponding goal visualizations. Participants in the workshops were given a predetermined sum of "play" money to "spend" or allocate across the eight goals. The goal weights were computed simply by the aggregate sum of money allocated to each goal across all participants. The results of the public input were presented to the LRTP Steering Committee for further review and refinement. **Figure 2-6** depicts the weights assigned to each goal as recommended by the LRTP Steering Committee and adopted by the MPO Governing Board.

Figure 2-6 | 2040 LRTP Goals and Weights

2040 LRTP Goals	Weight
Goal 1 - Improve System and Travel	25%
Goal 2 - Improve Safety	8%
Goal 3 - Improve Security	3%
Goal 4 - Support Economic Vitality	12%
Goal 5 - Preserve Environment & Quality of Life	14%
Goal 6 - Improve Connectivity	14%
Goal 7 - Employ Sound Investment Strategies	12%
Goal 8 - Preserve the Existing System	12%

Figure 2-5 | Goal and Objective Images

Goal and Objective Measures

Goal objectives were developed to provide a detailed implementation framework for the goals and serve as the basis for evaluating transportation improvement projects. In general, the objectives include measureable elements of the goals that facilitate project and system improvements evaluation. Furthermore, specific "performance" measures were identified to assess how the proposed projects and system are meeting the Goals of the Plan and expectations of the region's citizens, in a quantifiable manner. **Table 2-1** is a detailed list of measures (or metrics) by each goal objective.

89 System Measures serve as benchmarks for 63 goal objectives

Table 2-1 | Complete Goals, Objectives, and Measaures

Objectives	Measures
Goal 1 - Improve Transportation System and Travel	
Objective 1.1 Improve accessibility to major health care, recreation, education, employment and cultural facilities	Highway lane and centerline miles within .25 miles of major healthcare, recreation, education, employment, and cultural facilities.
	Transit service route miles within 0.25 miles of major healthcare, recreation, education, employment, and cultural facilities.
Objective 1.2 Enhance mobility for people and freight	Average Travel Time (all purposes)
	Number of daily passengers on public transit
Objective 1.3 Reduce Congestion	Hours of delay
Objective 1.4 Maximize multimodal travel options and provide travel choices	Transit service route miles
	Managed-lane miles
Objective 1.5 Fill transit service gaps	Service coverage in transit supportive areas
Objective 1.6 Promote system reliability	Total hours of delay on highway facilities with transit service
	Total hours of delay on highway facilities
Objective 1.7 Improve transportation facilities' and services' regional connectivity	Highway lane and centerline miles in corridors of regional significance
	Transit service route miles in corridors of regional significance
	Transit travel time for key travel markets
	Number of Park and Ride/multimodal facilities
Objective 1.8 Include provisions for non-motorized modes in new projects and in reconstruction	Does the plan consider non-motorized infrastructure in highway and transit improvements?
Objective 1.9 Promote non-motorized (bicycle, pedestrian, greenways) projects through new projects or reconstructions	Does the plan consider non-motorized infrastructure in highway and transit improvements?
	Does the plan consider new non-motorized facilities?
	Percentage increase in number/mileage of non-motorized facilities
	Number of bicycle trips
	Number of walking trips
Objective 1.10 Increase reverse commute opportunities for disadvantaged communities	Transit service route miles from cities and central areas in the AM Peak period (City of Hialeah, City of Homestead, City of Miami, City of Miami Beach, City of Miami Gardens, City of North Miami, City of North Miami Beach)
Objective 1.11 Promote transportation improvements that provide for the needs of the elderly and disabled	Average highway and transit travel times for areas with highest proportion of elderly population

Table 2-1 | Complete Goals, Objectives, and Measures (continued)

Objectives	Measures
Goal 2 - Increase the Safety of the Transportation System for All Users	
Objective 2.1 Improve safety on facilities and in multimodal operations	Level of investment in safety projects
Objective 2.2 Reduce roadway and multi-modal crashes	Number of accidents by facility, accident type, and cost
Objective 2.3 Increase safety at transit stops and intermodal stations and connections	Does MDT address safety at transit stops and stations as part of the operation of its system?
Objective 2.4 Develop and Implement safe routes to schools	Does the county have a Safe Routes to School program?
Objective 2.5 Promote the safe mobility of aging vulnerable road users	Number of accidents involving elderly drivers
Objective 2.6 Accommodate the safe and convenient movement of non-motorized users	Number of accidents involving pedestrians
Goal 3 - Increase the Security of the Transportation System for All Users	
Objective 3.1 Enhance the capacity of evacuation corridors	Total lane miles within evacuation travel corridors
Objective 3.2 Improve transportation security for facilities and in operations	Does the plan address security as part of the operation of its system?
Objective 3.3 Ensure transportation options are available during emergency evacuations for the elderly and persons with disabilities	Transit service route miles within 0.25 miles of TAZs with a high proportion of elderly population
Objective 3.4 Ensure security at ports, airports, and major intermodal centers/terminals	Do airports, seaports, and intermodal centers address security as part of the operation of their facilities?
Goal 4 - Support Economic Vitality	
Objective 4.1 Increase access to employment sites	Average Home Base Work (HBW) travel time
Objective 4.2 Enhance tourist travel and access opportunities	Highway lane and centerline miles within .25 miles of tourist attractions
	Transit service route miles within .25 miles of tourist attractions
Objective 4.3 Increase and improve passenger and freight access to airports and seaports	Highway lane and centerline miles within .5 miles of MIA, Opa-Locka, HGAA, and Port of Miami
	Transit service route miles within 0.5 miles of MIA, Opa-Locka, Homestead General Aviation Airport (HGAA), and Port of Miami
	Number of transit patrons going to/from the airports and seaport
Objective 4.4 Augment multimodal access to major activity centers	Highway lane and centerline miles within .5 miles of major activity centers
	Transit service route miles within 0.5 miles of major activity centers
Objective 4.5 Enhance the efficient movement of freight and goods	Does the plan consider freight-specific infrastructure improvements/programs?
Objective 4.6 Implement projects that support economic development and redevelopment areas	Highway lane and centerline miles within .5 miles of redevelopment areas
	Transit service route miles within 0.5 miles of redevelopment areas
Objective 4.7 Plan and develop transportation systems to provide adequate connectivity to economically productive rural areas	Highway lane and centerline miles within .5 miles of rural activity centers
Objective 4.8 Invest in Port Miami infrastructure to further increase competitiveness for Post Panamax traffic	Percentage of funding dedicated to Port of Miami infrastructure improvements
Objective 4.9 Expand cargo-handling and related intermodal facilities to the optimum extent	Percentage of funding dedicated to intermodal access to Port of Miami and Miami International Airport

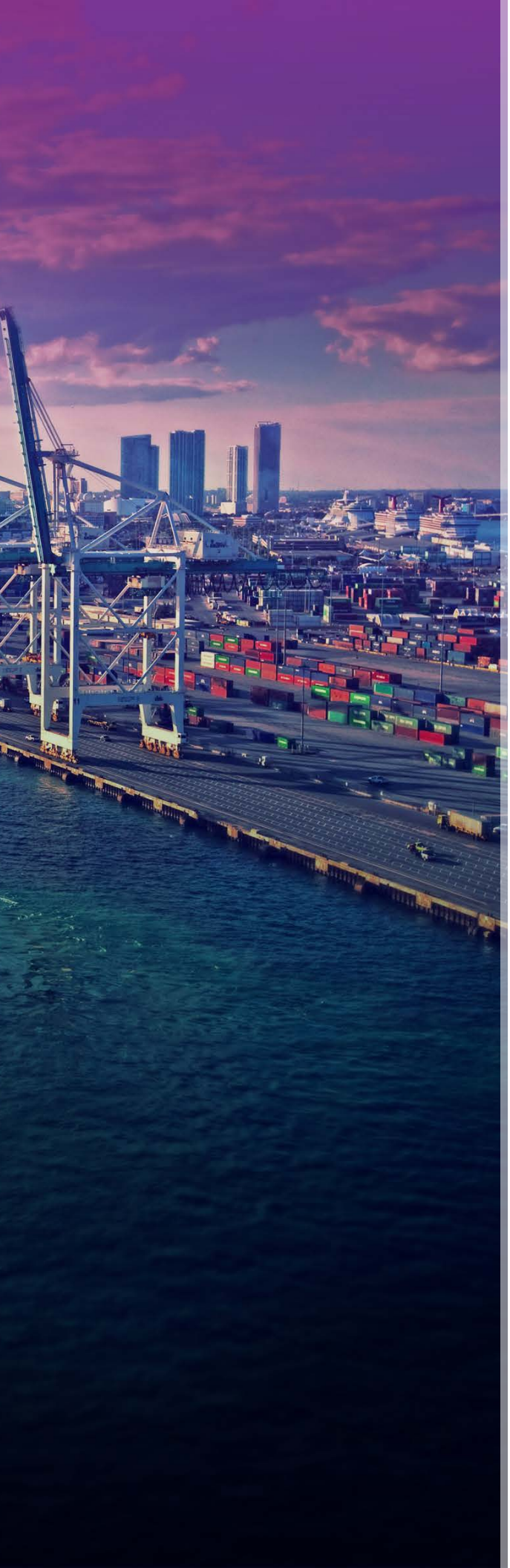
Table 2-1 | Complete Goals, Objectives, and Measures (continued)

Objectives	Measures
Goal 5 - Protect and Preserve the Environment and Quality of Life and Promote Energy Conservation	
Objective 5.1 Minimize and mitigate air and water quality impacts of transportation facilities, services, and operations	Tons per day of emissions (NOx, CO, VOC)
	Surface coverage of transportation system on acres of wetlands
Objective 5.2 Reduce fossil fuels use	Vehicle Miles Traveled (VMT)
	Non fossil fuel burning daily transit service route miles
	Does the plan promote the use of alternative fuel technologies?
Objective 5.3 Promote projects that support urban infill and densification	Highway lane and centerline miles within the Urban Infill Area
	Transit service route miles within the Urban Infill Area
Objective 5.4 Minimize adverse impacts to established neighborhoods	Does the plan minimize impacts to established neighborhoods?
Objective 5.5 Promote transportation improvements that are consistent with adopted comprehensive development master plans	Is the plan consistent with adopted Comprehensive Development Master Plans?
Objective 5.6 Prioritize funding to favor intra-urban, Urban Development Boundary (UDB) improvements	Ratio of lane and highway centerline miles inside/outside UDB boundaries
	Ratio of transit service route miles inside/outside UDB boundaries
Objective 5.7 Apply transportation and land use planning techniques, such as transit-oriented development, that support intermodal connections and coordination	Number of projects which include transit oriented development or support intermodal connections and coordination.
Objective 5.8 Coordinate transportation and land use decisions to support livable rural and urban communities	Does the plan support compact, accessible, and walkable neighborhoods?
Objective 5.9 Protect historic areas	New highway lane miles within historic site/district
Objective 5.10 Coordinate transportation investments with other public and private decisions to foster livable communities	Sidewalks and trail miles per highway centerline miles
	Transit route miles per highway centerline miles
Objective 5.11 Promote the aesthetic value and character of major transportation projects and facilities in Miami-Dade County	A minimum of three significant projects (per year) will be reviewed for their aesthetic impact on the community
Goal 6 - Enhance the Integration & Connectivity of the System, Across & Between Modes, for People & Freight	
Objective 6.1 Improve connectivity to Strategic Intermodal System (SIS) and intermodal facilities	Highway centerline miles on SIS connectors
Objective 6.2 Provide multi-modal options consistent with the local government comprehensive plan	Is the plan consistent with adopted Comprehensive Development Master Plans?
Objective 6.3 Integrate modal infrastructure, technologies, and payment systems to provide seamless connectivity for passenger and freight trips from origin to destination	Does the plan address multimodal connections?
	Does the plan address integrated technologies / payment systems?
Objective 6.4 Improve goods movement by enhanced intermodal access and other infrastructure that serve major freight origins and destinations in Miami-Dade County (And Regional)	Highway lane miles within .5 miles of major freight origins and destinations
	Report truck travel times
Objective 6.5 Improve freight movement operations and reliability by promoting expedient and cooperative practices across all modes	Does the freight component of the plan address multimodal freight components?
Objective 6.6 Reinforce and transform Florida's Strategic Intermodal System facilities to provide multimodal options for moving people and freight	Percentage of funding dedicated to SIS hubs, corridors, and connectors by mode (freight rail, transit, and highway)

Table 2-1 | Complete Goals, Objectives, and Measures (continued)

Objectives	Measures
Goal 7 - Optimize Sound Investment Strategies for System Improvement and Management/Operation	
Objective 7.1 Optimize benefits of capital expenditures	Capital expenditure/travel time savings benefit ratio
Objective 7.2 Optimize operations and maintenance expenses	O&M expenditure/travel time savings benefit ratio
Objective 7.3 Optimize applications of People's Transportation Plan (PTP) funding	PTP expenditures/travel time savings benefit ratio
Objective 7.4 Maximize use of State, Federal, and private sector funding sources	Dollar amount of private sector funding (as a proportion of total cost of plan)
	Dollar amount of State and Federal funding (as a proportion of total cost of plan)
Objective 7.5 Promote local improvement projects within the systems improvement context	Number of improvements on local facilities (non-State Highway System)
Objective 7.6 County will establish strong regional linkages with Southeast Florida governments to plan for infrastructure	Does the plan address regional intergovernmental coordination?
Goal 8 - Maximize and Preserve the Existing Transportation System	
Objective 8.1 Continue to examine the provision and utilization of managed lanes on the existing system	Lane miles of managed lanes as a proportion of total lane mile improvements.
	Transit route miles on managed lanes
Objective 8.2 Identify and implement the best available technologies and innovations to improve the reliability and efficiency of the transportation system	Does the plan identify and consider the latest technologies and innovations in transportation improvements?
Objective 8.3 Identify and reserve corridors and right-of-way (on roadways, railways, and waterways) for future transportation facilities and services	Does the plan identify and consider right of way acquisitions as a phase that can be planned independently?
Objective 8.4 Expand the use of Transportation Demand Management (TDM) strategies	Number of projects which utilize TDM strategies.
Objective 8.5 Achieve and maintain a state of good repair for transportation assets for all modes	Percent of funding allocated to maintenance and rehabilitation.
Objective 8.6 Reduce the vulnerability and increase the resilience of critical infrastructure to the impacts of climate trends and events.	Highway lane and centerline miles within the 100-year flood plain.
Objective 8.7 Minimize damage to infrastructure from transportation vehicles	Local centerline and lane miles of roadway with high truck volumes.
Objective 8.8 Ensure necessary supporting infrastructure (water, sewer, drainage) capacity is available for new projects and improvements.	Does the plan consider existing utilities infrastructure when planning new projects?
Objective 8.9 Repair and maintain existing infrastructure first	Does the plan prioritize repair and rehabilitation of existing infrastructure before construction of new infrastructure?
Objective 8.10 Achieve and maintain a state of good repair for evacuation corridors	Percent of funding allocated to maintenance and rehabilitation of evacuation corridors.

Pursuant to MPO Governing Board Resolution #06-16, dated February 18, 2016, establishing policy for the 2040 LRTP to set as highest priority the advancement of rapid transit corridor projects in Miami-Dade County.



03

Plan Update Process

"Connecting the Dots"

CHAPTER SUBSECTIONS

Chapter Overview

In a December 1, 2013 *Wall Street Journal* article titled "Overseas Money Pours Into Miami Real Estate" authors Arian Campo-Flores and Conor Dougherty note the booming multi-family real estate market in downtown Miami that, until 2011 lay dormant for the preceding three years. There are currently more than 100 proposed condominium towers in the Miami area, with roughly one third of them already under construction. The sight of cranes rising over the Miami skyline is a sign of robust growth in one of the hardest hit cities, in one of the hardest hit states in the financial crisis of 2007-2008 which led to the Great Recession that gripped the national, and global economy. This renewed economic growth places Miami-Dade County on the world stage as both an international destination and a global hub of commerce, which can only succeed with a proportionate commitment to invest in the County's infrastructure. It is the purpose of the LRTP to plan that infrastructure investment in preparation for the expected growth.

In addition to its being an investment strategy to improve mobility and generate economic activity, the plan is a dynamic and multi-layered process that balances community needs and desires with a technical process that satisfies state and federal requirements. One of the primary challenges is to connect the technical data and process with the public and stakeholder vision in a way that is understandable and mutually agreeable. This challenge often leads to a community and stakeholder outreach effort that is informative and educational for both the planners and community participants. This chapter provides a general description of the plan update process with detailed accounts of the specific methodologies and strategies used.

PLAN PROCESS SNAPSHOT

The 2040 Plan update was a technical, collaborative process that involved interested parties throughout the County, including transportation providers and the general population. There were five key stages that ultimately led to the adoption of the 2040 Plan, a financially constrained plan of transportation improvements, by the Miami-Dade MPO Governing Board as shown in **Figure 3-1**. The culmination of this process was a plan that represented the unified vision of citizens, business leaders, elected officials, and transportation agencies, all of whom have an important stake in the future of the County's transportation system. The 2040 Plan was developed to ensure consistency with all applicable state and federal requirements guiding the LRTP process. This chapter discusses the state and federal context of the LRTP update process and describes the plan development activities resulting in the 2040 Plan.

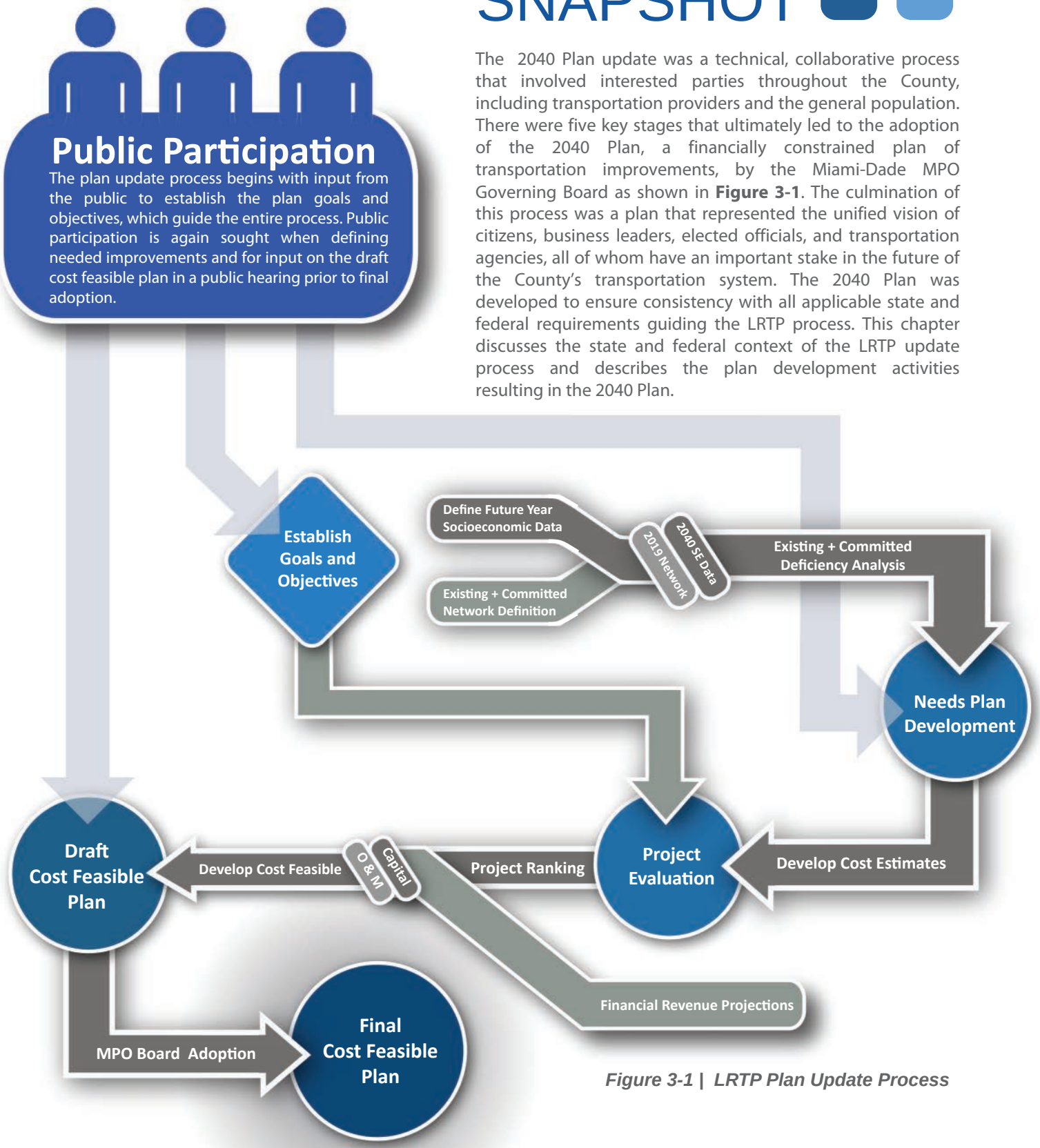


Figure 3-1 | LRTP Plan Update Process

The five stages of the LRTP development process identified in the flow chart in **Figure 3-1** are briefly described below in **Figure 3-2** with the location in this document where they are addressed in more detail. Additionally, the public was provided opportunities throughout the process to participate in and comment on the development of the plan as explained in Chapter 4.

5 STEPS OF THE PLAN PROCESS

Establish Goals and Objectives:
Developed to guide the development of the Plan and to meet Federal and State requirements. The Goals and Objectives were introduced during the first round of meetings for public input. Weights were assigned to each goal as recommended by the LRTP Steering Committee and adopted by the MPO Governing Board. (Chapter 2)

Needs Plan Development:
Deficiencies are identified in the transportation system and candidate highway and transit improvements are defined to address those deficiencies i.e. accommodate the future travel demand. The Mobility Needs Assessment Tool (MNAT) is implemented to help define the needs of the transportation system along with input from the public and Steering Committee. (Page 3-14)

Project Evaluation:
Projects in the Needs Plan are evaluated and ranked using project level measures and the three tier process including: Goal Element Analysis, Congestion Coordination, and input from implementing agencies. (Page 3-17)

Draft Cost Feasible Plan:
Available funding is allocated to the ranked list of Needs Plan projects to develop the list of cost feasible projects while balancing the funding with need, modes, and locations. (Chapter 6)

Final Cost Feasible Plan:
Once the 2040 Plan is adopted by the MPO governing Board it will become the document which guides the Transportation Improvement Plan (TIP) development and project implementation over the next five year period.

Figure 3-2 | 5 Steps of the Plan Process

FEDERAL REQUIREMENTS

As a federally designated transportation planning authority, the Miami-Dade MPO is required to coordinate the transportation planning activities for the Miami urbanized area. This includes the planning and programming of federal funds through the LRTP and the Transportation Improvement Program (TIP), which is a subset of the LRTP. To ensure compliance, the 2040 Plan is required to address statutory requirements as set forth by federal law and regulations as shown in **Table 3-1**. The 2040 Plan was developed in adherence with the federal requirements listed below.

Table 3-1 | Federal Requirements of the LRTP

Federal Requirement	How/Where Requirement is Addressed in LRTP
Identify transportation facilities that should function as an integrated metropolitan transportation system, giving emphasis to those facilities that serve important national and regional transportation functions. [23 U.S.C. 134(i)(2)(A); 49 U.S.C. 5303(i)(2)(A); 23 C.F.R. 450.322(f)(2)]	Finding a Balance - Chapter 6, Priority I - IV, Partially Funded, Privately Funded, Unfunded, Bicycle/ Pedestrian, Congestion Management, and Freight project tables. Expanding Our Horizon - Chapter 8
Include no less than a 20-year planning horizon [23 C.F.R. 450.322(a)]	Envisioning the Future - Chapter 1 (p 2); Putting Our Infrastructure to Work - Chapter 5; Finding a Balance - Chapter 6
Describe the performance measures and targets used in assessing the performance of the transportation system in accordance with 23 U.S.C. 134(h)(2) and 49 U.S.C. 5303(h)(2). [23 U.S.C. 134(i)(2)(B); 49 U.S.C. 5303(i)(2)(B)]	Planning for a Shared Future - Chapter 2 (p 2-6 to 2-9); Connecting the Dots - Chapter 3 (p 3-16 to 3-18); Wheels in Motion - Chapter 9
Include a report evaluating the condition and performance of the transportation system with respect to the targets described in 23 U.S.C. 134(h)(2) and 49 U.S.C. 5303(h)(2), including progress achieved in meeting the targets in comparison with system performance recorded in previous reports. [23 U.S.C. 134(i)(2)(C); 49 U.S.C. 5303(i)(2)(C)]	The State has 1 year from the time USDOT issues its final regulations on Performance Measures to set the State's Performance Targets. MPOs have 6 more months to set Performance Targets. [23 U.S.C. 134(h)(2)(C); 49 U.S.C. 5303(h)(2)(C)] Planning for a Shared Future - Chapter 2 (p 2-6 to 2-11); Connecting the Dots - Chapter 3 (p 3-16 to 3-18); Wheels in Motion - Chapter 9 (p 9-10 to 9-13)
Include discussion of the types of environmental mitigation activities and areas to carry them out, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. Federal, state, and tribal, wildlife, land management, and regulatory agencies should be included. [23 U.S.C. 134(i)(2)(D); 49 U.S.C. 5303(i)(2)(D); 23 C.F.R. 450.322(f)(7)]	Sustaining Our Environment & Communities - Chapter 7
A financial plan thats shows the adopted plan can be implemented and indicates public/private resources available to carry out the plan. This may include, for illustrative purposes, additional projects that would be included in the adopted plan if additional resources were available. Projects in the financial plan are required to be expressed in Year of Expenditure costs. [23 U.S.C. 134(i)(2)(E); 49 U.S.C. 5303(i)(2)(E); 23 C.F.R. 450.322(f)(10)]	Putting Our Infrastructure to Work - Chapter 5; Finding a Balance - Chapter 6, Priority I - IV, Partially Funded, Privately Funded, Unfunded, Bicycle/Ped, Congestion Management, and Freight project tables. Wheels in Motion - Chapter 9 (p 9-4 to 9-9)
Include operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods. [23 U.S.C. 134(i)(2)(F); 49 U.S.C. 5303(i)(2)(F); 23 C.F.R. 450.322(f)(3)]	Finding a Balance - Chapter 6, Congestion Management (p 6-64 to 6-71)

Table 3-1 | Federal Requirements of the LRTP (continued)

Federal Requirement	How/Where Requirement is Addressed in LRTP
Include capital investment and other strategies to preserve the existing and future system and provide for multimodal capacity increases based on regional priorities and needs. [23 U.S.C. 134(i)(2)(G); 49 U.S.C. 5303(i)(2)(G); 23 C.F.R. 450.322(f)(5)]	Finding a Balance - Chapter 6
Include proposed transportation and transit enhancement activities. [23 U.S.C. 134(i)(2)(H); 49 U.S.C. 5303(i)(2)(H); 23 C.F.R. 450.322(f)(9)]	Finding a Balance - Chapter 6
Within Transportation Management Areas (TMAs), the plan should address congestion management through a metropolitan-wide strategy of new and existing transportation facilities and the use of travel demand reduction and operational management strategies. [23 U.S.C. 134(k)(3); 49 U.S.C. 5303(k)(3); 23 C.F.R. 450.322(f)(4)]	Finding a Balance - Chapter 6, Congestion Management (p 6-64 to 6-71)
In formulating the transportation plan, the MPO shall consider subsection (h) as the factors relate to a 20-year forecast period [23 USC 134(i)(2)(A)(ii); 49 USC 5303(i)(2)(A)(ii)]	The eight (8) planning factors listed in subsection (h) guided the framework of the 2040 LRTP Goals and Objectives and the development of the 2040 Plan.
Include both long and short range strategies/actions that lead to the development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people/goods in addressing current/future transportation demand. When updating the Plan use the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity. [23 C.F.R. 450.322(e)][23 C.F.R. 450.322(b)]	Finding a Balance - Chapter 6; Envisioning the Future - Chapter 1(p 1-5)
Identify the projected transportation demand of persons and goods in the metropolitan planning area over the period of the plan. [23 C.F.R. 450.322(f)(1)]	Performance Results - Appendix F
Include the results of the congestion management process in TMAs, including the identification of Single Occupancy Vehicle (SOV) projects that result from a congestion management process in TMAs that are nonattainment for ozone or carbon monoxide. [23 C.F.R. 450.322(f)(4)]	Finding a Balance - Chapter 6, (6-64 tp 6-71)
Describe proposed improvements in sufficient detail to develop cost estimates, e.g. design concept and design scope descriptions. [23 C.F.R. 450.322(f)(6)]	Finding a Balance - Chapter 6, Priority I - IV, Partially Funded, Privately Funded, Unfunded, Bicycle/Pedestrian Congestion Management, and Freight project tables.
Identify pedestrian walkway and bicycle transportation facilities in accordance with 23 U.S.C. 217(g). [23 C.F.R. 450.322(f)(8)]	Finding a Balance - Chapter 6, Bicycle and Pedestrian (p 6-44 to 6-63)
Include a safety element incorporating the priorities, goals, countermeasures, or projects for the MPA contained in the SHS Plan required under [23 U.S.C. 148], as well as (as appropriate) emergency relief and disaster preparedness plans and strategies/policies supporting homeland security (as appropriate) and safeguard the personal security of all motorized and nonmotorized users. [23 C.F.R. 450.322(h)]	Planning for a Shared Future - Chapter 2; Connecting the Dots - Chapter 3 (p 3-19)

Federal Strategies for Implementing Requirements for LRTP Updates for the Florida MPO's (Expectations Letter)

The Federal Highway Administration (FHWA), in cooperation with the Federal Transit Administration (FTA) issued the "Federal Strategies for Implementing Requirements for LRTP Updates for the Florida MPOs," dated November 2012 to the Florida Department of Transportation (FDOT) and the MPOs in Florida. This letter, referred to as **FHWA's Expectations Letter**, outlines their expectations for the development of LRTP Updates to assist MPOs in meeting the federal planning requirements. To ensure compliance with the FHWA Expectation Letter, the 2040 Plan was developed in adherence with the Expectations Letter as listed below in **Table 3-2**.

Table 3-2 | FHWA Expectations Letter

Expectations	How is it addressed in the LRTP?
Transportation Improvement Programs (TIPs) are required to demonstrate planning consistency with the LRTP (23 CFR 450.324(d))	All TIP capacity projects are in the LRTP. The LRTP also references non-capacity projects such as safety, resurfacing, and operations & maintenance. Projects in the current TIP are listed in LRTP Priority 1. Preliminary engineering from the TIP is carried forward into Priority II-IV Tables. The TIP and LRTP will also be linked electronically as a follow-up activity to the LRTP update.
Projects in the LRTP: Regionally significant projects must be included in the Cost Feasible LRTP. A regionally significant project is a facility which serves regional transportation needs. At a minimum, this includes all principal arterial highways and all fixed guideway transit facilities that offer a significant alternative to regional highway travel.	Regionally significant projects are included in the 2040 cost feasible plan and are identified in the data base. Examples include improvements to SR-826 (Palmetto), SR-836 (Dolphin), SR-821, and the phased implementation of BRT transit corridors shown in Multimodal Solutions - Chapter 6 (pages 6-8 to 6-33).
Grouped Projects in the LRTP: Federal regulations allow certain project(s) to be grouped in the TIP and LRTP. Grouped projects are typically ones that are not of an appropriate scale to be individually identified and can be combined with other projects which are similar in function, work type, and/or geographic area.	Bicycle/Pedestrian, congestion management, and freight specific projects are grouped together and funded with set aside funds. The financial set-asides are identified in Chapter 5, page 5-5, and the set-aside project lists are in Chapter 6, pages 6-44 to 6-77.
Fiscal Constraint: Operations & Maintenance: LRTP cost estimates need to be provided for the Operations and Maintenance (O&M) activities for the entire timeframe of the LRTP. System level estimates for O&M costs may be shown for each of the five-year cost bands or may be provided as a total estimate for the full LRTP timeframe. (23 CFR 450.322(f)(10)(i)).	Overall O&M costs for the State highway system, MDT, and Miami-Dade Department of Public Works and Waste Management (PWWM) are identified in Chapter 5, page 5-5. The O&M cost for each project is listed in Chapter 6, Priority Tables II-IV on pages 6-16 to 6-33. The O&M cost for MDT and Miami-Dade PWWM is also shown in the Recurring Cost Table in Chapter 6, on page 6-4.
Fiscal Constraint: Federal Revenue Sources: Federal and state participation on projects in the Cost Feasible LRTP can be shown as a combined source for cost feasible projects. The project funding, however, must be clearly labeled as a combined Federal/State source in the Cost Feasible LRTP. (23 CFR 450.322(10)f(iii))	Federal and State funds are shown separately for projects listed in the Cost Feasible Plan.
Fiscal Constraint: LRTP Documentation/Final Board Approval: The final LRTP documentation must be available for distribution no later than 90 days after the plan's adoption.	The LRTP documentation was completed and made available for distribution prior to the adoption of the Plan.

Table 3-2 | FHWA Expectations Letter (continued)

Expectations	How is it addressed in the LRTP?
Fiscal Constraint: Cost Feasible Plan: For a project to be included in the cost feasible plan, an estimate of the cost and source of funding for each phase of the project being funded (including the Project Development and Environment (PD&E) phase) must be included. The phases to be shown in LRTPs include Preliminary Engineering, ROW and Construction (FHWA and FTA support the option of combining PD&E and Design phases into "Preliminary Engineering"). (23 CFR 450.322(f)(10)).	All projects in the 2040 Plan, shown in the Chapter 6 Priority Tables I-IV, have total costs identified, including costs for the phases: Preliminary Engineering, ROW, Construction, along with the source of funding.
Fiscal Constraint: New Revenue Sources: If the LRTP assumes a new revenue source as part of the cost feasible plan, the source must be clearly explained, why it is considered to be reasonably available, when it will be available, what actions would need to be taken for the revenue to be available, and what would happen with projects if the revenue source was not available. This applies to all revenue sources in the LRTP (i.e. federal, state, local, private, etc.)	New revenue sources were not included in the Cost Feasible Plan. Potential new revenue sources are identified but are not assumed to be reasonably available in developing the 2040 Plan.
Fiscal Constraint: Total Project Costs: All phases of a project must be described in sufficient detail to provide an estimated total project cost. Projects which go beyond the horizon year of the LRTP must include an explanation of the project's elements beyond the horizon year and what phases/work will be performed beyond the horizon year of the plan. Costs beyond the horizon year of the plan must be estimated using Year of Expenditure (YOE) methodologies and the estimated completion date may be described as a band. (23 CFR 450.322(f)).	Total project cost is shown for all projects in the Needs Plan and includes Priority I-IV, Partially Funded, Privately Funded, and Unfunded tables. For Partially Funded projects, the cost beyond the horizon year of 2040 is calculated in YOE for 2041-2050.
Fiscal Constraint: Full Timespan of the LRTP: The LRTP must have a planning horizon of at least 20 years. MPOs will need to show projects and funding for the entire time period covered by the LRTP, from the base year to the horizon year. (23 CFR 450.322(a))	The cost feasible plan shows projects and funding for the entire timespan of the plan from the current TIP / Priority I projects to the horizon year of 2040.
Fiscal Constraint: Documented LRTP Modification Procedures: MPOs need established procedures approved by the Board documenting how modifications to the LRTP are addressed after Board adoption. These procedures can be included as part of the LRTP, the PPP, or provided elsewhere as appropriate.	LRTP modification procedures are addressed in the MPO's Public Participation Plan (PPP) and states "Amendments to the LRTP must be advertised 14- days prior to going before the MPO Governing Board for adoption."
Fiscal Constraint: Linking Planning and National Environmental Policy Act (NEPA): Prior to FHWA approving an environmental document, the project must be consistent with the LRTP, the TIP and Statewide Transportation Improvement Program (STIP).	The MPO will continue to coordinate closely with implementing agencies to ensure that planning and NEPA consistency determinations are properly documented, and that projects should not be moving forward without planning/NEPA.
Fiscal Constraint: LRTP & STIP/TIP Amendment Consistency: The STIP and TIPs must be consistent with the LRTP. When amendments to the STIP/TIP are made, the projects must also be consistent with the LRTP from which they are derived. (23 CFR 450.328 and 23 CFR 450.216(b))	Projects in the TIP are coordinated with FDOT for consistency with the STIP. In addition, amendments are also coordinated with FDOT for consistency with the LRTP.

Table 3-2 | FHWA Expectations Letter (continued)

Expectations	How is it addressed in the LRTP?
Fiscal Constraint: Environmental Mitigation: For highway projects, the LRTP must include a discussion on the types of potential environmental mitigation activities and opportunities which are developed in consultation with Federal, State and Tribal wildlife, land management and regulatory agencies. The use of Efficient Transportation Decision Making (ETDM) alone is not environmental mitigation. Documentation of the consultation with the relevant agencies should be maintained by the MPO. (23 CFR 450.322(f)(7) and (g)).	Chapter 7 discusses Environment & Sustainability. This chapter includes sections on the following: transportation and land use; adaptation to climate change; air quality conformity; and the transportation needs of an aging population. Mitigation, or reducing the impacts of the transportation system, is a component of each of these sections. In addition, within Miami-Dade County's Department of Regulatory and Economic Resources, there are two offices, Planning, and Sustainability, which are members of the LRTP Steering Committee. These offices, along with the other agencies represented on the Steering Committee, participated in developing the list of Cost Feasible plan projects in a manner that reduces negative impacts as much as possible. The projects were ranked using the goals and weighting factors identified in Chapter 2. Goal #5 Preserve Environment & Quality of Life is tied for the second highest goal weighting factor. In addition to the mitigation aspects of the plan noted above, each implementation agencies has processes in place to ensure that any negative impacts of projects are mitigated. The MPO is also coordinating with FDOT to have any new projects screened in the ETDM process.
Transit Projects and Studies: Major Transit Capital Projects: For transit "New Start" projects in the LRTP, the MPO must assume they will be successful in competing for discretionary FTA New Starts funding. A reasonable funding assumption is 50% FTA/25% Local/25% State, as is currently the norm in Florida. For major capital transit facility other than a New Start, the assumption must be made that FTA funds such as "State of Good Repair" or "Bus and Bus Facilities" will be awarded. A reasonable funding assumption is 80% FTA/20% local, or up to 100% FTA matched with toll revenue credits.	None of the projects in the Cost Feasible plan will use "New Starts" funding.
Transit Projects and Studies: Transit Facility: Transit maintenance facilities, transfer facilities, multi-modal stations, park-n-ride lots with transit service or other transit facility for rehabilitation, renovation or new construction, should be contained within the TIP, STIP and be "consistent with" the LRTP.	All Transit projects are consistent with the TIP and the 2040 cost feasible LRTP.
Transit Projects and Studies: Transit Service including Fixed Route Bus, Deviated Route, Para-transit, Enhanced or Express Bus: New transit service for a new area or corridor should be "consistent with" the LRTP.	Proposed new transit service is consistent with the 2040 cost feasible LRTP.

Table 3-2 | FHWA Expectations Letter (continued)

Expectations	How is it addressed in the LRTP?
Transit Projects and Studies: Transit Service Including Bus Rapid Transit (BRT), Light Rail Transit (LRT) Heavy Rail Transit (HRT), Commuter Rail Transit (CRT), Streetcar through the New Starts/Small Starts Program: New fixed guideway transit service (like BRT, LRT, HRT, CRT or Streetcar) for a new area or corridor as part of FTA's New Starts/Small Starts or Core Capacity Program should be "consistent with" the LRTP.	Proposed new transit service is consistent with the 2040 cost feasible LRTP, however, New Starts/Small Starts funds are not identified as a funding source in this LRTP update.
Emerging Issues – Not Required: Performance Measurement: Consider ways to incorporate performance measures/metrics for system-wide operation, as well as localized measures/metrics into their LRTPs.	Performance Measures have been addressed in Wheels in Motion – Chapter 9 – Plan Implementation.
Emerging Issues – Not Required: Freight: Recognize the importance of freight to the nation's economic wellbeing and global competitiveness, as well as its support and promotion of job creation. MPOs should include a reference to the increasing importance of freight, including the development of Statewide Freight Plans.	Freight projects are incorporated into the plan in two ways. First, those projects that benefit freight and vehicles are incorporated in Priority Tables I-IV. Second, freight specific projects are incorporated into the freight set aside as part of the Cost Feasible Plan.
Emerging Issues – Not Required: Sustainable Transportation and Context Sensitive Solutions: Identify and suggest contextual solutions for appropriate corridors, as well as develop livability principles, such as: improving pedestrian and transit access; preserving affordable housing; improving/preserving special resources like parks, monuments and tourism areas; increasing floor area ratios and reducing parking minimums in select corridors to encourage walking trips and public transit; and transportation demand management, etc.	Chapter 7 discusses Environment & Sustainability. The chapter includes sections on the following: transportation and land use; adaptation to climate change; air quality conformity; and addressing the transportation needs of an aging population. The concepts of sustainability and context sensitive solutions are a component of each of these sections. In addition, purpose and needs statements are included in the Appendix for all projects.
Proactive Improvements – Not Required: Linking Planning and NEPA: For regionally signficant projects in the Cost Feasible Plan of the LRTP, MPOs should strongly consider including a purpose and need statement in the LRTP, which will be carried into the National Environmental Policy Act (NEPA) process as a way to enhance the linkage between planning and NEPA.	Brief purpose and needs statements are included in the Appendix for all projects.
Proactive Improvements – Not Required: Climate Change: MPOs may also give consideration to climate change strategies which minimize impacts from the transportation system.	Climate change is addressed in Sustaining our Environment and Communities – Chapter 7.
Proactive Improvements – Not Required: Scenario Planning: MPOs may elect to develop multiple scenarios for consideration in the development of the LRTP.	At this time, the 2040 LRTP did not employ scenario planning.

STATE REQUIREMENTS

In addition to adhering to federal statutory requirements, the 2040 Plan addresses state statutory requirements as shown in **Table 3-3**. Every attempt has been taken to ensure compliance with the statutory requirements set forth by the State of Florida in regards to the development of a long range transportation plan. The 2040 Plan was an iterative process that required open and frequent communication between transportation agencies and transportation users. The 2040 Plan was developed with state requirements in mind.

Table 3-3 | State Requirements of the LRTP

State Requirements	How/Where Requirement is Addressed in LRTP
Identify transportation facilities that should function as an integrated metropolitan transportation system, giving emphasis to facilities that serve important national, state, and regional transportation functions. Those facilities include the facilities on the Strategic Intermodal System and identified under TRIP. [339.175(1), F.S.]	Connecting the Dots - Chapter 3; Finding a Balance - Chapter 6; Expanding Our Horizon - Chapter 8
Address the prevailing principles to be considered in the LRTP: preserving the existing transportation infrastructure; development of surface transportation systems that will foster economic growth and development while minimizing transportation related fuel consumption, air pollution and greenhouse gas emissions; and improving travel choices to ensure mobility needs of people and freight. The LRTP must be consistent with future land use elements and the goals, objectives, and policies of local governments. [339.175(1) and (7), F.S.]	Planning for a Shared Future - Chapter 2; Sustaining Our Environment & Communities - Chapter 7
Identify transportation facilities, including, but not limited to, major roadways, airports, seaports, spaceports, commuter rail systems, transit systems, pedestrian walkways, bicycle transportation facilities, and intermodal or multimodal terminals that will function as an integrated metropolitan transportation system. [339.175(1) and (7), F.S.]	Finding a Balance - Chapter 6; Priority Tables
Develop a LRTP that addresses at least a 20-year planning horizon. The plan must include both long-range and short-range strategies and must comply with all other state and federal requirements. [339.175(7), F.S.]	Putting Our Infrastructure to Work - Chapter 5; Finding a Balance - Chapter 6
Consider the goals and objectives identified in the Florida Transportation Plan. [339.175(7)(a), F.S.]	Planning for a Shared Future - Chapter 2

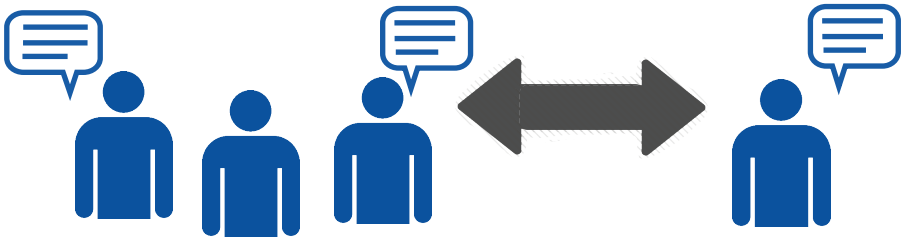
Table 3-3 | State Requirements of the LRTP (continued)

State Requirements	How/Where Requirement is Addressed in LRTP
Include a financial plan that demonstrates how the plan can be implemented, indicating resources from public and private sources which are reasonably expected to be available to carry out the plan, and recommends any additional financing strategies for needed projects and programs. The financial plan may include, for illustrative purposes, additional projects that would be included in the adopted long-range transportation plan if reasonable additional resources beyond those identified in the financial plan were available. [339.175(7)(b), F.S.]	Finding a Balance - Chapter 6, Putting Our Infrastructure to Work - Chapter 5
Assess capital investment and other measures necessary to ensure the preservation of the existing metropolitan transportation system, and make the most efficient use of existing transportation facilities to relieve vehicular congestion and maximize the mobility of people and goods. [339.175(7)(c), F.S.]	Finding a Balance - Chapter 6
When developing the LRTP, each MPO is encouraged to consider strategies that integrate transportation and land use planning to provide for sustainable development and reduce greenhouse gas emissions. [339.175(7), F.S.]	Environment and Sustainability - Chapter 7
Provide the public, affected public agencies, representatives of transportation agency employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transit, and other interested parties with a reasonable opportunity to comment on the long-range transportation plan. [339.175(7), F.S.]	Staying in Touch - Chapter 4

3 Tools to meet Requirements

The tools utilized to meet the federal and state requirements and develop an equitable and effective transportation plan can be classified in three broad categories. The first category is **Community Interface**, which encompasses the process by which community and stakeholder input is collected and disseminated for consideration in the plan. The second category is **Forecasting**, which involves the simulation and analysis of future conditions, both with respect to the demand on the transportation system and the supply of transportation infrastructure to meet that demand. The third and final category is **Performance Measurement**, which consists of the application of measureable criteria to assess the need and value of individual transportation improvements and the performance of the system as a whole.

Community Interface | **Forecasting** | **Performance Measurement**



Community Interface

The involvement of transportation providers, and the community at large, represents an integral part of the LRTP, as it informs the purpose and improvements that ultimately are prioritized by the plan. There are two basic elements of community interface: provider input and user input. The provider input consists of the public agencies and volunteer committees advising and guiding the plan development. The public agencies are represented through an LRTP Steering Committee, which convened more than 15 times over the course of the 2-year plan update process. The Steering Committee provides an enormous wealth of information and guidance from the standpoint of transportation service provision, environmental regulation, land use planning, regional planning, aging population advocacy, as well as other sources, as represented in the agency membership below in **Table 3-4**.

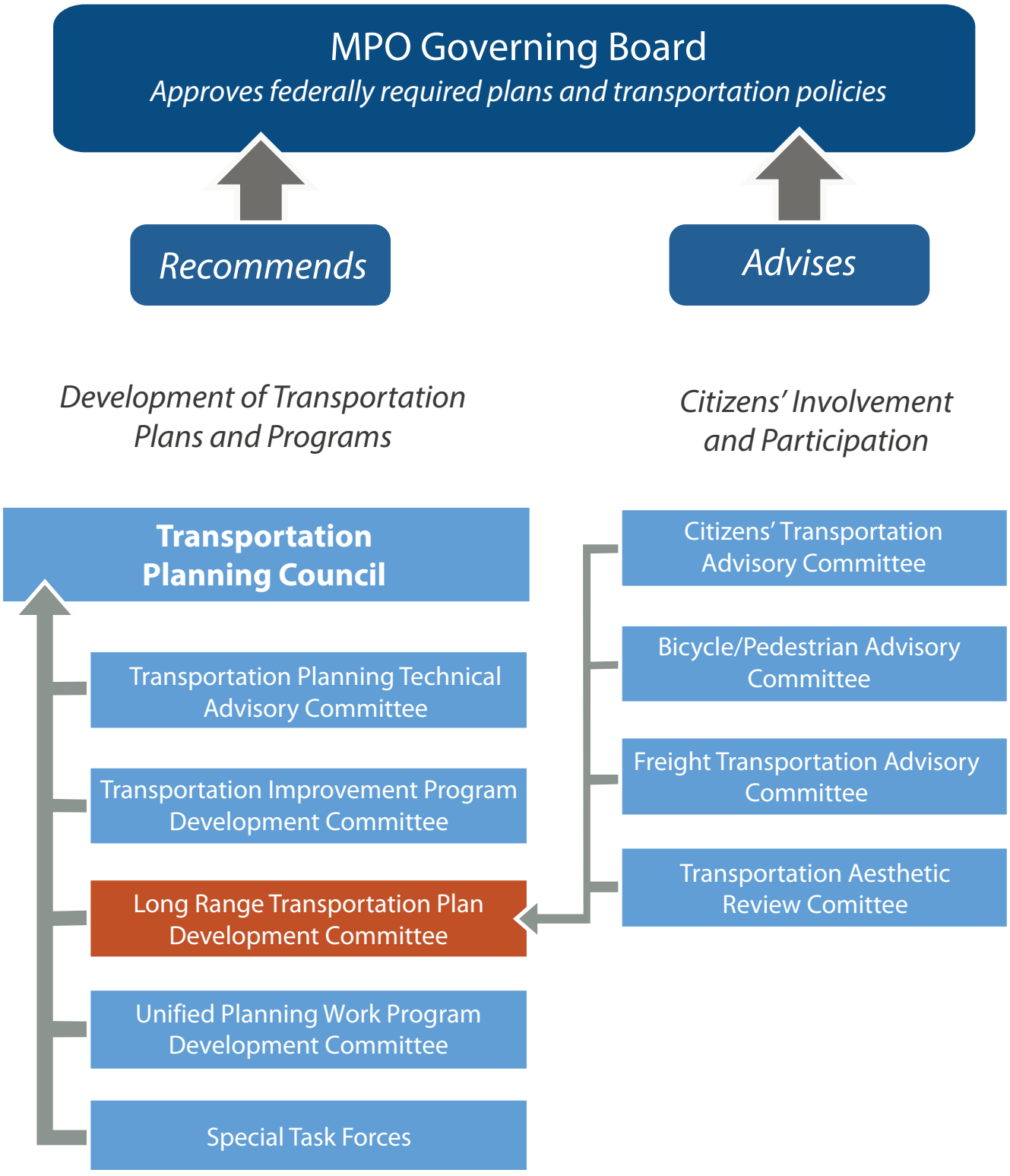
Table 3-4 | LRTP Steering Committee Membership

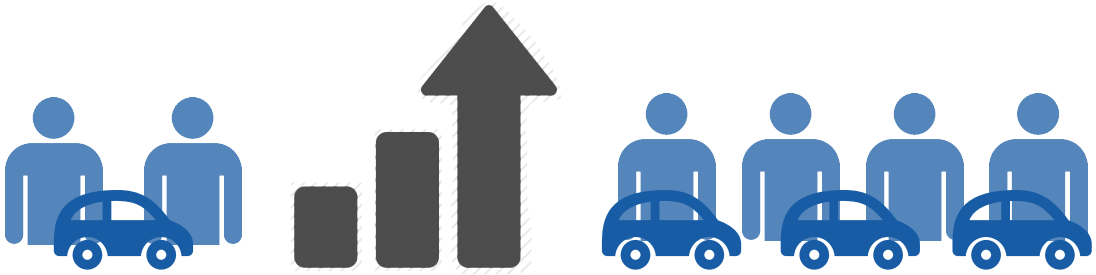
voting members	Florida Department of Transportation	Miami-Dade Expressway Authority	Miami-Dade County Public Schools	Miami-Dade League of Cities	Miami-Dade Aviation Department
	Seaport (Port of Miami)	Public Works & Waste Management	Miami-Dade Transit	Regulatory & Economic Resources	
non-voting	Citizens' Transportation Advisory Commitee	South Florida Regional Planning Council	Broward County MPO	Palm Beach County MPO	South Florida Regional Transportation Authority

The volunteer committee involvement in the planning process includes the MPO's Citizen Transportation Advisory Committee (CTAC), the Freight Transportation Advisory Committee (FTAC), and the Bicycle Pedestrian Advisory Committee (BPAC), all of which provided an advisory and review role in the process. The relationship between committees and the roles each play is illustrated in **Figure 3-3**.

Finally, the user, or consumer input plays a crucial role in the shaping of planned transportation infrastructure improvements. The consumer is the public at large, including drivers on the highways, transit patrons, and bicyclists and pedestrians. The interface with the consumer can and has taken many forms, including an interactive website, open meetings in the communities, and social media. In addition to the open-ended input received from participants throughout the process, the 2040 Plan update was designed to collect key input from the communities at two principal stages. The first is the Goals and Objectives stage, at which point the guiding principles for the 2040 Plan are determined. The second is the transportation needs identification and assessment stage. At both stages a series of meetings were held across the County at geographically dispersed locations, as described in Chapter 4. The first and second stages involved the assessment of needed improvements.

Figure 3-3 | Miami-Dade County Metropolitan Planning Transportation Planning Process





Forecasting

LRTP projects should effectively and efficiently serve the needs of the traveling public and goods movement in the region. As such, a critical phase in the development or update of the LRTP is the identification of needed improvements, which relies on a forecasting process to determine where and how much improvement will be needed in the horizon year (2040).

The process of identifying needed improvements requires input from several sources, including: local agencies' master plans; the LRTP Steering Committee; goals, objectives, and visions for the MPO; and travel demand forecast models. Although all forms of input must be considered, travel demand models are unique in that they allow decision-makers the ability to understand how the identified projects will perform when interacting with the existing infrastructure and other projects.

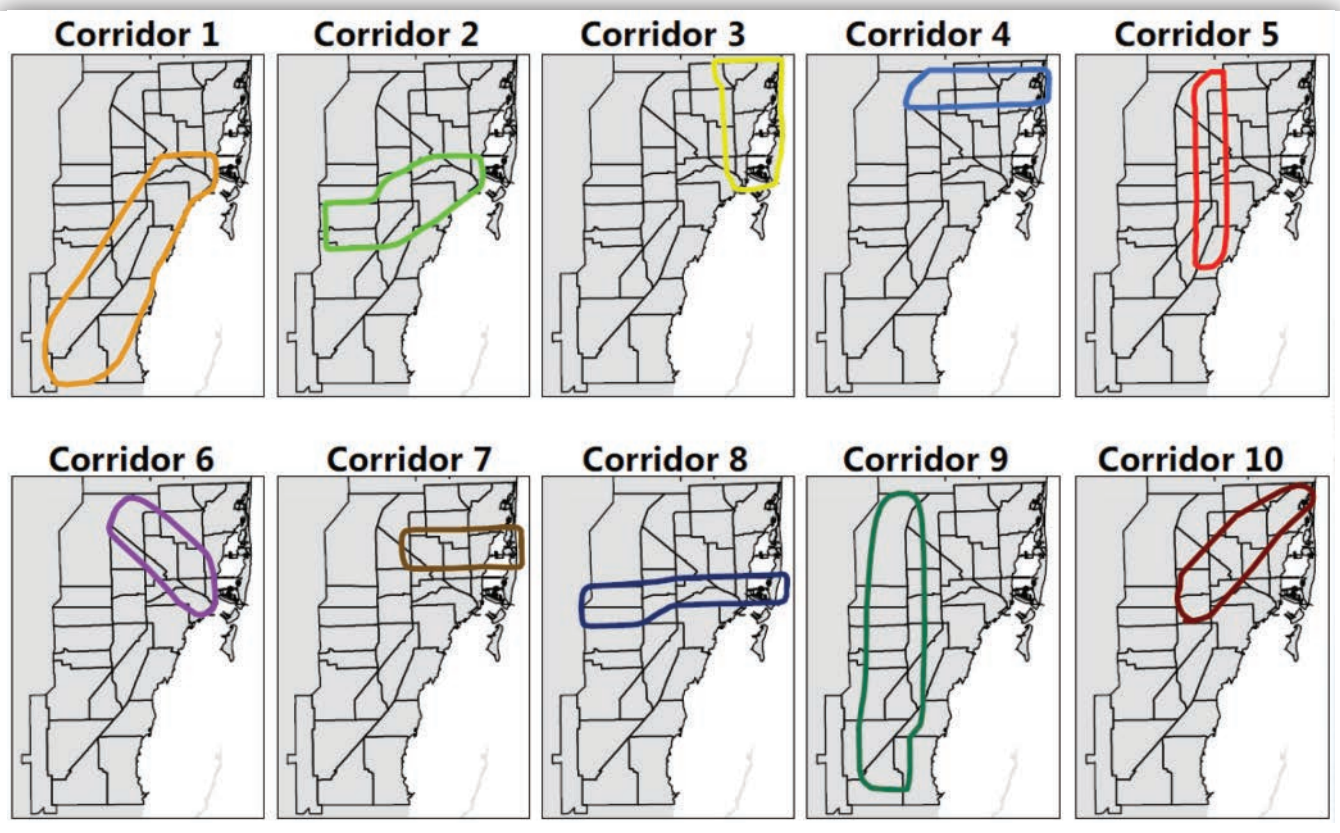
The recent development of an advanced activity-based version of the Southeast Regional Planning Model (SERPM7) has provided planners with a greater level of detailed information to identify local transportation needs. One of the trade-offs, however, of this greater level of detail is a more time intensive process to utilize the model. This inherently limits the use of the model, in terms of extensive testing of various improvements or scenarios. In an effort to optimize the transportation needs assessment process, a simple Mobility Needs Assessment Tool (MNAT) was developed to streamline the travel demand forecasting methodology. Use of the MNAT enables reservation of the SERPM7 for principal scenario testing, while the MNAT can be utilized for mobility assessments in corridors and real-time testing of the mobility benefits of improvements.

The MNAT is a streamlined corridor planning tool with several advantages over traditional modeling and planning tools. After the initial setup, the tool is simple to conceptualize needs and interpret the results. All variables are self-explanatory and changes are made through simple drop down menus (e.g. number of added lanes). The MNAT is ideal for use during meetings where results are provided "on-the-fly" without the need to run the travel demand model. As a mobility tool the MNAT can incorporate both highway and transit improvements for a given corridor. It is important to note that the focus of MNAT is strictly limited to assessing mobility at the corridor level and to enhance the needs assessment process.

MNAT Tool

The Mobility Needs Assessment Tool (MNAT) utilizes a full SERPM7 model run as an initial input to inform and define the identified corridors, based on dominant travel patterns within the County, and to process the performance of the transportation infrastructure within those corridors. The network scenario utilized for this purpose is the Existing-plus-Committed, which represents a minimum investment scenario inclusive of all capacity improvements programmed in the first five years of the LRTP, as adopted in the Miami-Dade Transportation Improvement Program. The short term Existing-plus-Committed network scenario is typically simulated with horizon year socioeconomic data inputs in order to identify deficiencies in the transportation system. Using the MNAT, the results of the Existing-plus-Committed simulation are manipulated in the spreadsheet tool to assess the benefits of various capacity improvements, including the addition of highway lanes; operational improvements to existing lanes; and the addition of transit services in terms of both new routes and existing route frequency improvements. While the MNAT is not equipped to provide full impact simulations of these improvements, it offers order of magnitude benefits that enable a quick assessment in a committee setting of the corridor and system planning process.

Figure 3-4 | Planning Screenline Corridor Locations



Ten corridors identified and analyzed using the MNAT are depicted in **Figure 3-4** above and listed in **Table 3-5** to the right. The average width and length of the corridors is 5 miles and 17 miles respectively and there are an average of 4 screenlines, or cross sections, per corridor. Highway and transit network performance is measured and analyzed at these screenlines as a peak hourly volume to peak hourly capacity ratio. These corridors were developed based on travel desire-lines from the Southeast Regional Planning Model (SERPM) version 6.5 which represent the total number of daily trips between the 37 Miami-Dade Department of Planning and Zoning Districts (i.e. each desire-line represents the daily trips between two districts). These trips were estimated in the Existing-plus-Committed scenario of the SERPM. The 25 desire-lines with the highest number of daily trips were used to define the ten corridors. The screenlines for each corridor were selected based on input from the Long Range Plan Steering Committee, and major roads running perpendicular to the corridor.

While the MNAT is useful to determine the appropriate location, magnitude, and quantity of highway and transit improvements to address deficiencies in the system, it is not a comprehensive tool, nor is it intended to provide final results of simulated network scenarios. The SERPM7 is the tool used to simulate the Base Year, Existing-plus-Committed, Needs, and Cost Feasible Plan scenarios and report system level results, including countywide congestion levels, transit ridership, and hours of delay.

Table 3-5 | Planning Screenline Corridors

Planning Screenline Corridors	
1	Southwest US-1
2	Kendall Downtown
3	Northeast
4	North County
5	Northeast Kendall NS
6	Northwest Downtown
7	Northeast East-West
8	East-West Downtown
9	West County
10	Kendall - Northeast

Projects from the 2035 Long Range Plan, Agency Master Plans, and MPO studies such as the Arterial Grid Analysis Study were added to the MNAT to form a base scenario for the 2040 Needs Plan. By making changes to these base scenario projects and/or adding new projects to both the highway and transit networks, the 2040 Needs Plan was developed.

Performance Measurement

The measurement of transportation performance takes various forms in different dimensions. One dimensional characteristic of performance measurement is observation versus forecast. The performance of improvements, measured after construction or implementation, is observed, using data collection techniques. The projected performance of future improvements must be forecasted. Another dimensional characteristic is encompassed by the scope of performance measurement, in terms of project-level versus system-level measures. From a forecasting perspective, these two levels of measures are applied differently using different tools.

System-Level Measures

System measures are designed to assess the performance of the County's transportation system as a whole and can be applied to system scenarios. The four primary scenarios for which the system measures are generated include the Base Year scenario (2010), the Existing-plus-Committed scenario (2019), the Needs scenario (2040) and the Cost Feasible Plan scenario (2040), shown in **Figure 3-5**.

The Base Year scenario represents current system performance, which is useful as a reference point when analyzing future year performance. The reason the Base Year is 2010 and not 2014 is that the travel demand model utilized to generate the measures was calibrated to 2010 conditions. The Existing-plus-Committed scenario represents a minimum investment scenario, including improvements slated for construction by the year 2019. This scenario is simulated against 2040 demand, including projected population and employment growth for the Year 2040. The other two scenarios represent unconstrained improvements (Needs) and constrained improvements (Cost Feasible Plan). The Needs scenario includes all needed improvements, whether they can be afforded or not, while the Cost Feasible Plan scenario includes only improvements that can be afforded based on an estimate of revenues over the period.

The System-Level Measures process provides a more aggregate scenario-based approach to the evaluation process

Figure 3-5 | System-Level Scenarios

Project-Level Measures

Project level measures are used to prioritize projects and develop a Cost Feasible Plan. These measures are utilized to assess the value of each of the identified needs improvements, which is a necessary process, given that only a portion of needed improvements can be afforded. The three step process of project evaluation is shown in **Figure 3-6**.

Goal Elements Analysis

The first tier analysis involves a goal element project evaluation framework, developed to identify the relationship between proposed improvements and specific elements contained in the plan Goals and Objectives. A detailed analysis of projects relative to the detailed elements contained within the LRTP objectives was completed through the development of a goal elements analysis. There are two categories of elements identified. The first goal element is geographical, which includes elements that can be isolated and represented in a Geographic Information System (GIS) environment. The second goal element is qualitative, which includes elements that cannot be related to projects geographically, but can be assessed based on qualitative criteria. The goal elements and corresponding measures are listed in **Table 3-6**.

Needs Plan projects were evaluated against the geographical elements in GIS through a buffer analysis. The geographical relationship between the project buffers and goal elements was used to score projects. An example geographical element is health care facilities, which is referenced in **Objective 1.1** to improve accessibility to major health care facilities. A comparison of project locations to a 0.25 mile buffer of all major health care facilities within the County was utilized to determine whether projects addressed that particular element. Projects were evaluated against the qualitative elements by subjecting them to the same scoring process that utilizes non-geographical criteria. An example qualitative element is system reliability. The criteria developed for this element is simply whether a project is a managed lane improvement or a fixed guideway (rail) public transit improvement. The logic of these criteria is that managed lanes and fixed improvements are the only types of improvements, in a planning context that can reasonably be assumed to assure reliability.

Using a binary or yes/no scoring process, each project is evaluated against each of the two goal elements and the project score against each goal is summed and weighted by the respective goal element. The goal scores are then summed for a total weighted score for each project.

Congestion Coordination

The second tier of project evaluation involves the analysis of congestion levels on facilities identified for improvements in a minimum investment scenario, or E+C scenario. Whereas the goal element methodology applies a simplified binary tool, the second tier enables a higher degree of resolution and a specific focus on mobility, which in fact represents the highest weighted goal by both the public and the Steering Committee. The relationship of project rankings to the congestion levels on the respective roadways is analyzed relative to the goal element evaluation results.

Implementing Agency Coordination

The third and final tier involves a consultation process with corresponding implementing agencies on projects in the respective agency's jurisdiction (e.g. coordination with FDOT for state highway projects). This facilitated the consideration of implementing agency priorities, which is a good indicator of project value and suppport. The process of incorporating congestion and coordination resulted in minor revisions to the ranked order of projects, with maintenance of original evaluation results where possible.

Figure 3-6 | Project-Level Measures: 3 Tier Process

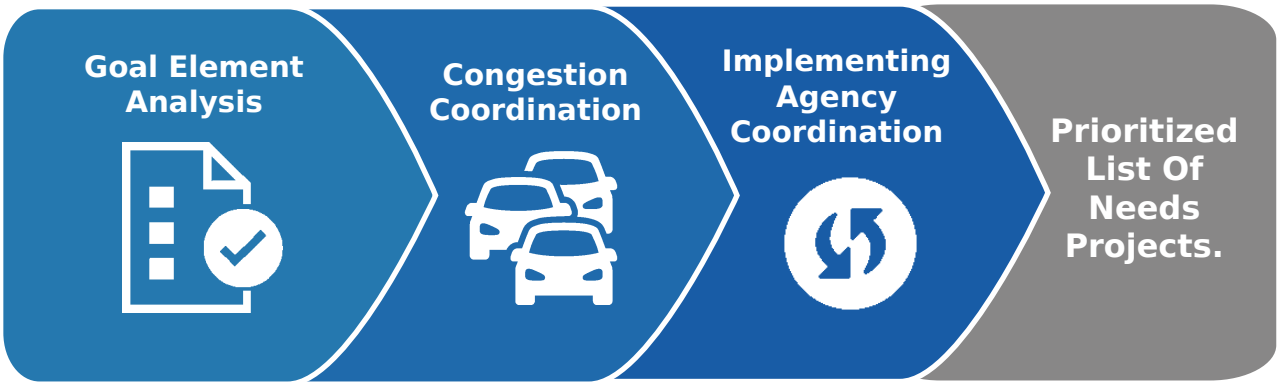


Table 3-6 | Goals Elements and Performance Measures

	Goal Elements	Performance Measures
Goal 1	Access to health care facilities	Proximity to health care facilities (0.25 mile)
	Access to recreational facilities	Proximity to recreational facilities (0.25 mile)
	Access to educational facilities	Proximity to educational facilities (0.25 mile)
	Access to employment facilities	Proximity to employment facilities (0.25 mile)
	Access to cultural facilities	Proximity to cultural facilities (0.25 mile)
	Disadvantaged communities	Transit improvement proximity to disadvantaged communities (0.25 mile)
	Elderly/disabled needs	Transit improvement proximity to elderly/disabled communities (0.25 mile)
	Travel options	Managed lanes or transit improvement
	Transit Service Gaps	Transit improvement outside of current service coverage area
	System reliability	Managed lanes or fixed guideway transit
	Regional Connectivity	Connection to or improvement of facility of regional signficance
Goal 2	Safety projects	Primary focus of project on safety (e.g. safe routes to school)
	Accident Locations	Project on facility with high accident rate
	Safe mobility of vulnerable users	Primary focus of project on transit or non-motorized safety
Goal 3	Evacuation needs of elderly/disabled	Evacuation facility improvement proximity to elderly/disabled communities (0.5 mile)
	Evacuation Facility Capacity	Improvement on evacuation facility
	Security projects	Primary focus of project on security (e.g. security infrastructure at transit station)
	Port, Airport, Intermodal security	Security improvements at Port, Airport, or Intermodal facility
Goal 4	Access to Tourist Destinations	Proximity to tourist destinations (0.25 mile)
	Freight Access to Airports and Seaports	Freight improvements proximity to airports/seaport (0.5 mile)
	Multimodal Access to Activity Centers	Transit improvement proximity to major employment centers (0.25 mile)
	Enhance Freight Movement	Improvement on freight facility
	Economic Development/ Redevelopment areas	Proximity to redevelopment areas (0.25 mile)
	Connectivity to Econ. Productive Rural Areas	Highway improvement proximity to agricultural areas (0.5 mile)
	Port of Miami improvements	Improvement on Port Miami infrastructure
	MIA freight improvements	Improvement on MIA freight infrastructure
Goal 5	Wetlands, Natural Areas, Habitats	Proximity to environmentally sensitive areas (0.5 mile)
	Fossil fuels use	Promotion of alternatives to single occupancy vehicle (SOV) travel
	Support Infill Development	Improvement within Urban Development Boundary
	Historic Areas	Proximity to historic bridges, cemeteries, structures, archaeological sites (0.5 mile)
Goal 6	Connectivity to SIS	Connection to SIS facility
	Multimodal options	Multimodal improvement (e.g. PnR, Intermodal facility, Transit access)
	Integrated infrastructure	Improvement on facility(ies) crossing jurisdictional regional boundaries
	Intermodal freight access to Origins/Destinations	Intermodal freight improvements proximity to freight Os and Ds (0.5 mile)
	Freight infrastructure integration across modes	Freight improvement addresses intermodal operational integration
	SIS Multimodal options	Multimodal improvement on SIS facilities (e.g. PnR, Intermodal facility, Transit access)
Goal 7	Maximize non-local funding sources	Improvement a viable candidate for P3
	Local improvements within system context	Improvement on local road with connection to regional facility
	Regional linkages	Improvement eligible for TRIP or other regional funding
Goal 8	Managed lanes on existing facilities	Managed lanes improvement
	Innovative/tech solutions	Improvement operational using technological solutions (e.g. ITS)
	Transportation Demand Management (TDM)	Improvement classified as TDM or non capital
	Repair and maintain infrastructure first	Is project operational/maintenance in nature
	State of good repair on evacuation facilities	Is project operational/maintenance in nature and on evacuation facility
	Supporting infrastructure	Water, sewer, drainage facilities in place to support improvement (0.1 mile)
	Vulnerability to climate change	Is project in flood plain and scheduled for increased routine maintenance

Safety Improvements

Safety improvements include measures taken to either minimize or eliminate hazardous conditions in the transportation network that can cause accidents and injuries to the traveling public. Safety was a critical element of the 2040 Plan and of the transportation system. The Miami-Dade MPO and implementing transportation agencies are committed to providing a safe and efficient transportation system and will continue to improve the safety of transportation in the County through improvements and programs for all modes of transportation.

MAP-21 continued the Highway Safety Improvement Program (HSIP) as a core federal-aid program with the purpose of reducing fatalities and serious injuries on all public roads. Florida's Strategic Highway Safety Plan (SHSP) is the result of state and local collaboration to identify data-driven solutions to achieve that purpose. On-going efforts supported by the SHSP include:

- Evaluation of high-crash locations for safety improvements by FDOT and the Miami-Dade County Public Works/Waste Management Department
- Safe Routes to School infrastructure and non-infrastructure projects
- Community Traffic Safety Team coordination of local enforcement and educational activities
- Outreach efforts including the "Alert Today, Alive Tomorrow" and "Put it Down" campaigns
- The WalkSafe and BikeSafe educational programs

Safety efforts are coordinated with the MPO through the 3-C planning process, and are included in the annual update of the TIP.

Examples of facility improvements geared toward safety include intelligent transportation system improvements, open road tolling improvements, bridge repairs/replacements, and Road Ranger service patrols. All of the measures taken to improve the safety of Miami-Dade's transportation system supports the goals and strategies identified in the Florida Strategic Highway Safety Plan, namely the reduction of fatalities and serious injuries. Additional safety measures will be built on the existing programs and agencies that improve the safety of Miami-Dade's transportation system.

Security Improvements

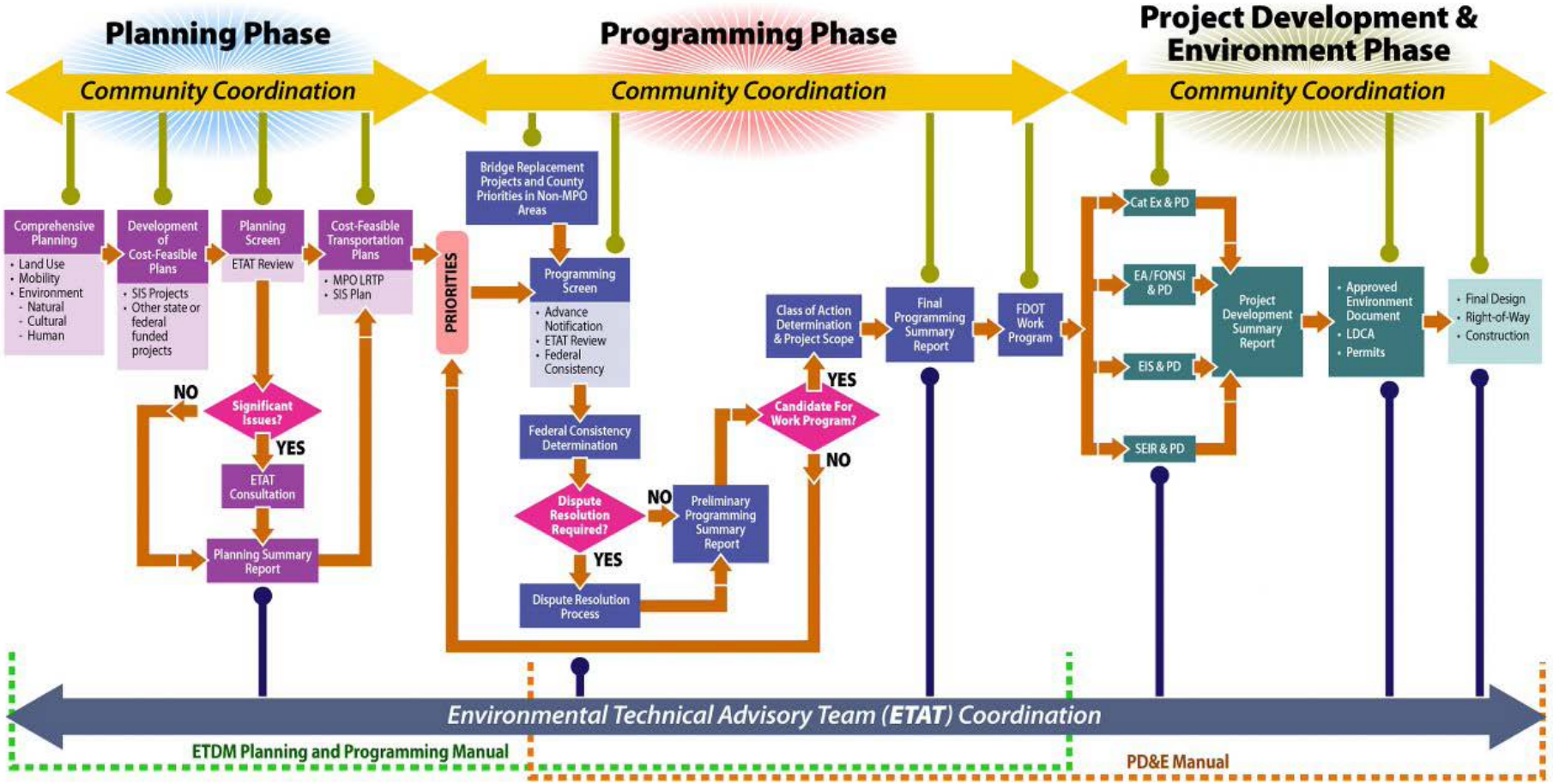
Providing a secure transportation system involves the protection of travelers, commerce, and the transportation infrastructure from injury, loss of life, damage, or destruction, due to terrorist attacks or other malicious acts. The Miami-Dade transportation system is vital to commerce and economic growth in the region as well as national defense. As a result, it is important to enhance the security of the transportation system across all modes. Therefore, the Miami-Dade MPO and implementing agencies are committed to providing a highly-secure transportation system. The MPO and implementing agencies will work continuously to improve the security of transportation in Miami-Dade County through all feasible means for each mode of transportation.

A key component in this effort is ITS (intelligent transportation systems). The ITS component of security entails maintaining the control and monitoring capabilities of the transportation infrastructure in the event of terrorist attacks, natural disasters and other unforeseen events. This is being carried out by the traffic management centers through the use of closed-circuit televisions (CCTVs), highway advisory radios (HARs), dynamic message signs (DMSs), Road Ranger service patrol vehicles equipped with automated vehicle location (AVL) systems, and travel time/speed sensors that allow implementing agencies to detect and manage incidents. Additional security measures will be built upon current programs and agencies that provide security for the Miami-Dade transportation system.

ETDM

Another important process utilized to evaluate projects is the FDOT's Efficient Transportation Decision Making tool (ETDM), which involves an interagency review process designed to incorporate environmental considerations into both the planning (long term) and programming/development (short term) phases of the transportation improvement process as seen in **Figure 3-7**. ETDM utilizes a geospatial analysis tool that enables the Environmental Technical Advisory Team (ETAT) members to interactively review proposed transportation improvements in a user friendly environment. The tool features a wealth of environmental and sociocultural data that allows a comprehensive review of projects and their potential impacts. ETDM is intended to ensure that issues are identified early so that they can be mitigated or addressed in the project; to involve agency and public stakeholders in the planning and project development process; to link the planning and project development processes; and to incorporate potential dispute resolution tools or methodologies in the planning process. A list of projects screen via the ETDM process is shown in **Table 3-7.**

Figure 3-7 | Efficient Transportation Decision Making Manual



Source: Florida Department of Environmental Management Office - ETDM Manual

Table 3-7 | Projects Screened via ETDM

Project	Limits From	Limits To	Description
Priority II			
NW 122 Ave	NW 12 St	NW 41 St	New 2 lane road to support the flow of truck traffic from SR-821 (HEFT)
NW 117 Ave	NW 25 St	NW 41 St	New 2 lane road to support the flow of truck traffic from SR-821 (HEFT)
Dolphin Station Transit Terminal	West of SR-821 (HEFT) and North of NW 12 St		Park-and-Ride facility with Kiss-and-Ride, 12 bus bays & 1,000 parking spaces
Expand Overcapacity Park-and-Ride lot at SW 152 St	At US-1		New 500 space parking garage
Expand Overcapacity Park-and-Ride lot at Dadeland South			New 1000 space parking garage with a minimum of 8 more articulated bays
Perimeter Rd	NW 42 Ave (LeJeune)	NW 57 Ave	Add 2 lanes and reconstruct
I-95	I-95	E 2 Ave	Ramp reconstruction/reconfiguration
I-95	I-95	S Miami Ave	Ramp reconstruction/reconfiguration
Direct Ramps to Dolphin Station Transit Terminal	SR-821 (HEFT) Managed Lanes	Dolphin Station Intermodal Terminal	Direct access ramps
Priority III			
Palmetto Intermodal Terminal	SR-826 (Palmetto) and NW 74 St		Expand Park-and-Ride facility
Direct Ramps to Palmetto Intermodal Terminal	SR-826 (Palmetto) Managed Lanes	Palmetto Intermodal Terminal	Direct access ramps
Ramps between the Busway and SR-826 (Palmetto)	US-1 Busway	SR-826 (Palmetto)	Ramps connecting the Busway to the SR-826 (Palmetto)
Direct Ramps to Dolphin Station Transit Terminal	SR-836 (Dolphin) Managed Lanes	Dolphin Station Transit Terminal	Direct access ramps
I-195 Ramps in Midtown	I-195	N 36 and N 38 St	Reconstruction/reconÿguration ramps leading to N 36 St and N 38 St
Priority IV			
US-27 (Okechobee)	At SR-826 (Palmetto) Interchange		Ramp improvements
US-1	At SW 27 Ave		Grade separation of US-1 over SW 27 Ave
US-1	At SW 344 St (Palm)		Grade separated overpass
Partially Funded			
Beach Connection (Baylink)	Miami Downtown Terminal	Miami Beach Convention Center	Premium transit service
SW 88 St (Kendall)	At SW 127 Ave		Grade separation of North Kendall Dr over SW 127 Ave
SW 117 Ave	At SW 152 St		Grade separation of SW 117 Ave over SW 152 St
Town of Indian Creek Bridge			Reconstruct bridge

04

Public Involvement

"Staying in Touch"

Chapter Subsections

Chapter Overview
Visualization Techniques
Communication Tools
Public Outreach/Public Meetings
Environmental Justice and Title VI

Chapter Overview

Public participation is integral to the development of the long range transportation plan and is continuous throughout the process. Metropolitan Planning Organizations must provide "citizens, affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with a reasonable opportunity to comment on the transportation plan," as mandated by federal requirements 23 USC 134(i)(6) - on LRTP requirements & Public Participation.

The Miami-Dade MPO is committed to providing opportunities for public involvement for the transportation planning process. The Miami-Dade MPO offered open and effective public involvement activities throughout the development of the 2040 LRTP through workshops and interactive programs on the project's website.

PUBLIC INVOLVEMENT
SNAPSHOT

The Public Involvement Plan (PIP), developed at the outset of the development of the 2040 Plan, served as a roadmap for engaging the public in the update process. It also described the tools and techniques to reach stakeholders and underserved populations.

The PIP documented Miami-Dade County's diverse population and the increasing need for multilingual materials. LRTP brochures, meeting materials, and newspaper advertisements were produced in three languages: English, Spanish and Creole. Translators were present at all public meetings, and website content is available in English and Spanish.

Establish Goals & Objectives

June 2013

Kick-Off Meetings to introduce the LRTP process and obtain Goal weighting input.

Needs Plan Development

June 2014

Needs Development meetings obtained input on types and locations of improvements, through interactive audience participation surveys and blocks and ribbons exercises.

Draft 2040 LRTP

August 2014

Draft 2040 LRTP Virtual Meeting provided an overview of the process, thanked the public for their input, and provided the Draft 2040 LRTP.

Visualization Techniques

MAP-21 continues the SAFETEA-LU requirement that transportation plans employ visualization techniques to present the plan. Various visualization techniques, as identified in **Figure 4-1** below, were used throughout the development process of the 2040 Plan and presented in various forums including the 2040 LRTP website, videos, public meetings, virtual meetings, and brochures.

Figure 4-1 | Visualization Techniques

Communication Tools

Community Flyers & Brochures

Information for Phase I was displayed in the community flyer, see **Figure 4-2**. The flyer describes the activities conducted in Phase I such as the purpose of the process, website information, and the Kick-Off Meeting schedule. Brochures were sent by regular and electronic mail to the MPO's Stakeholders database and made available at public libraries, city halls and community centers countywide. Brochures were produced in the following quantities: English (1500), Spanish (300), and Creole (150).

During Phase II of the update process the *Get Involved!* Brochure seen in **Figure 4-3**, a glossy, 16-page newsletter, described the critical steps of identifying the needed improvements to the county's transportation plan. It further described the six (6) Transportation Planning Areas (TPAs) in the Miami Urbanized Area and major projects planned for the areas. The "*Get Involved*" brochure mapped highway and transit needs for each area and listed projected population and employment growth percentages by 2040. This brochure was sent by regular and electronic mail to the MPO's Stakeholders database, posted on the website, and distributed to various facilities countywide.

Videos

Four (4) videos were produced for the 2040 LRTP update process: the Kick-Off, Needs Plan survey, a "virtual meeting" video, and final video. The Kick-Off video described the existing conditions of the county's transportation system. It offered instructions on sharing public comments and kick-off public meeting dates. The second video captured the public meeting experience and provided instructions for taking the Needs Plan survey. The "virtual meeting" thanks the public for participating in the Plan process and presents the 2040 Plan. The final video explains the LRTP update process from Kick-Off to the adoption of the 2040 Plan.

Figure 4-2 | Community Flyer

Figure 4-3 | Community Brochure

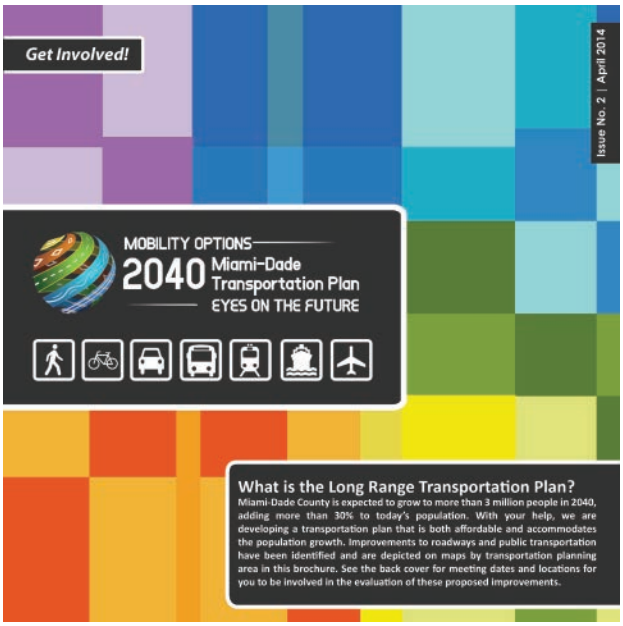


Figure 4-4 | LRTP Interactive Website

Interactive Website

The official 2040 long range transportation plan website, www.miamidade2040lrtp.com shown in **Figure 4-4**, provides electronic information and documentation about the project and the opportunity to review the draft Needs Plan, participate in the Miami-Dade 2040 Long Range Transportation Plan Survey, and watch LRTP informational videos. The website allows residents to share their priorities for existing highways and transit services in the existing public transportation system. All public meeting materials are posted on the website.

Advertising

Public meetings were properly noticed and promoted through advertisements and social media. Advertisements were placed in the *Miami Herald Neighbors, El Nuevo Herald* and *Le Floridien*. *Miami Herald* advertisements ran three times in all zones. *El Nuevo Herald* (Spanish) and *Le Floridien* (Creole) quarter-size ads ran twice. Facebook, YouTube and Miami-Dade 2040 LRTP website postings were utilized to ensure younger and tech-savvy residents were aware of the update process. A "virtual meeting" was also produced to allow residents to learn more about the process and take the online survey.

On Thursday, April 24, 2014, *The Miami Today* ran an article on the Miami-Dade 2040 Long Range Transportation Plan process. The article explained the necessity of public participation and the role of the MPO in planning the future of the local transportation system.

Public Outreach

Public facilities and neighborhood centers were "brochure" distribution sites. The Public Involvement Plan (PIP) Team identified sites in transit-dependent communities, including: Culmer Overtown Branch Library, Town Center of Cutler Bay, Florida City Community Action Agency, Frankie Rolle Neighborhood Center, Hialeah Wilde Community Center, Naranja Library, North Dade Regional Library, North Miami City Hall, North Miami Beach Public Library, North Miami Beach City Hall, Perrine Community Action Agency, Phicole Williams Center, and South Dade Regional Library. Presentations were made at the neighborhood centers monthly meetings.

The PIP Team distributed meeting notices to homeowners associations, community-based groups, churches, chambers of commerce and elected officials for distribution to their constituencies. The following groups and/or elected officials offices distributed the materials: Black Affairs Advisory Board, Chamber South, Coconut Grove Collaborative, Coconut Grove Ministerial Alliance, Coconut Grove Village Council, Coconut Grove Village West Home & Tenant Association, Continental Homeowners Association, Coral Gables Estates Homeowners Association, Goulds Ministerial Alliance, Kendall Federation of Homeowners, Overtown NET Office, Richmond Heights Resource Center, Town Park Plaza South, Under-represented People Positive Action Council, and Virginia Key Bicycle Club.

Partnering with Municipalities to Share Information

Municipal managers were contacted and asked to place the meeting notices on their cities' website. This approach proved most effective in reaching residents, business owners and elected officials. For example, the City of North Miami Beach posted the meeting notices on their website, announced the meeting at council hearings, and posted meeting information on the City's marquee. Similar promotions were made by Hialeah, Town of Cutler Bay, Town of Miami Lakes, Miami Gardens and Village of Pinecrest.

PUBLIC MEETINGS

Phase I (Kick-Off Meetings)

Five (5) public Kick-Off Meetings were held throughout the county. Meeting surveys and comment cards were produced in English, Spanish, and Creole. Spanish and Creole-speaking translators were on-hand to assist non-English speaking participants. During the Goals and Objectives ranking exercise, participants were instructed to rank their transportation needs by spending sixteen (16) $20 bills on their priorities. Each oversized ballot box represented a goal: (1) Improve Transportation System & Travel; (2) Increase Safety for Motorized and Non-Motorized Users; (3) Increase Security of the Transportation System; (4) Support Economic Vitality; (5) Preserve the Environment & Quality of Life; (6) Enhance Connectivity in the Transportation System; (7) Optimize Sound Investment Strategies; and (8) Maximize & Preserve Existing Transportation.

Reaching Millennials

After the Kick-Off Meetings were held throughout the County, an additional effort was conducted to reach millennials. The PIP Team conducted the same Goals and Objectives ranking exercise on three (3) college campuses: Students and staff were instructed to spend their sixteen (16) $20 bills on their transportation priorities, similar to the exercise at the Kick-Off Meetings. More than 400 people completed the ranking exercise during this special outreach effort. This outreach exercise was conducted at Miami-Dade College's North and Wolfson Campuses and Florida International University's South Campus. Collegiate participants ranked the following as their top three goals: (1) Enhance Connectivity in the Transportation System; (2) Preserve the Environment & Quality of Life; and (3) Improve Transportation System & Travel.

Phase II (Needs Development Meetings)

In an effort to bring transportation planning to the technological age, the public meetings offered another fun, interactive way to conduct the surveys. Attendees were given "clickers" to register their responses and view the results in real-time. This device was viewed by the public as a user-friendly approach to surveying their transportation priorities.

The ribbons game was utilized to measure transit service and roadway improvements. Maps with yellow and red Legos representing growth in household and employment growth, respectively were placed on tables. Purple and orange ribbons, representing transit and highway improvements, respectively were distributed to the participants. Participants laid out their suggested transit (purple ribbon) lines enhancements and highway corridors (orange ribbon) improvements to alleviate congestion. Initially, unlimited expenditures were allowed, resulting in major roadway and transit service expenditures countywide. When budget constraints were imposed and participants were instructed to scale back their improvements based on the projected funding implemented by corresponding ribbon length, priority improvements were placed on the map. Participants spent several minutes explaining their reasoning for selecting specific corridors. The final selections were captured on camera for inclusion in the final public involvement summary of the meetings.

Phase III (Virtual Meeting)

In order to provide online access to the 2040 Long Range Transportation Plan update process, the PIP team produced the Cost Feasible Plan "virtual meeting" for on-demand viewing. The "virtual meeting" briefly explains the three phases of the update process: 1) ranking of the Goals and Objectives; 2) development of the Draft Needs Plan; and 3) adoption of the Cost Feasible Plan. The "virtual meeting" also presents the projects in the 2040 Plan including; highway, transit, bicycle/pedestrian, freight specific, and congestion management projects. And, finally, it recognizes the importance of public participation in the federally mandated transportation planning update process.

Electronic messages were sent to the Miami-Dade MPO database, technical committees, and community leaders to drive traffic to the Miami-Dade 2040 LRTP website to view the video. The "virtual meeting" was also posted on Facebook and the Miami-Dade MPO YouTube Channel.

From the Kick-Off video to the Phase III Virtual Meeting, the Miami-Dade LRTP public involvement program, summarized in photos as shown in **Figure 4-5**, offered various ways for the public to participate in the update process. The 2040 LRTP website is available for stake-holders to review the update process and learn more about the future of transportation in the Miami Urbanized Area to the year 2040.

Figure 4-5 | Miami-Dade Residents Participating

Environmental Justice and Title VI

Executive Order 12898, signed by President Clinton in February 1994, directed all Federal agencies to make environmental justice a key part of its mission by identifying and addressing the impacts of programs, policies, and activities on both minority and low-income populations. Throughout the 2040 LRTP study process, the provisions of environmental justice, as defined by the Federal Highway Administration, were followed to ensure consistency with environmental justice and Title VI of the Civil Rights Act. MPO staff and consultants made every effort to include all affected parties from varying socio-economic groups to ensure that their input was considered in the 2040 LRTP update.

The Miami-Dade MPO is committed to developing strategies and methods to address the degree of impact of proposed transportation projects on minority and low-income communities. The MPO has developed a web-based GIS application, Miami-Dade Transportation and Community Mapping, whereby planners and decision-makers can create customized demographic, project related reports for any area within Miami-Dade County. This tool provides assistance in the determination of appropriate public involvement strategies to address environmental justice and Title VI requirements. The web application can be accessed at: http://mpoportal.fiu.edu.

Extensive efforts were made to reach and serve disadvantaged populations during the LRTP update process. Online survey advisories were sent to Haitian American Business News, Amigos for Kids and We Care of South Dade, Inc., a not-for-profit organization that oversees a network of low-income programs in south Miami-Dade. Furthermore, local, and state officials were asked to distribute study information to their constituents. LRTP materials were produced in English, Spanish and Creole and mailed to residents in the local MPO's database. Materials were also hand-delivered to venues serving disadvantaged populations, including the Haitian Organization of Women, Homestead City Hall, and Frankie Rolle Neighborhood Service Center. Meeting surveys, agendas, and comment cards were produced in English, Spanish and Creole. Spanish and Creole-speaking translators were on-hand at public meetings to assist non-English speaking attendees.

The PIP Team identified key groups serving low-income and transit-dependent populations in Miami-Dade County. Public meeting brochures were sent to each group by electronic mail. Additionally, follow-up telephone calls were placed to confirm receipt of the information and encourage a representative of the organization to attend a public meeting. **Table 4-1** includes the organizations and their targeted constituencies.

The PIP Team incorporated several outreach techniques into the public involvement program to engage the transit-dependent population. For example, the PIP Team partnered with the Miami-Dade County Community Action Agency (CAA) boards to reach transit-dependent residents in Florida City/Homestead, Perrine, and Naranja. Presentations were made at board meetings, materials distributed at area meetings, and reminder telephone calls placed to CAA board members in advance of public meetings.

Brochures were delivered to community-based organizations providing social services to underserved residents. This distribution process ensured that residents without transportation or Internet access were aware of the update process. Their members were encouraged to call the Miami-Dade MPO public information office to share their comments. Listed in **Table 4-2** are some of the organizations briefed during this process.

To ensure public meetings were accessible to the underserved population, the PIP Team held several public meetings at the neighborhood centers and public libraries operating in low-income communities, including: the Frankie Rolle Neighborhood Center (Coconut Grove), Culmer/Overtown Neighborhood Center (Overtown), North Dade Regional Library (Miami Gardens/Opa-Locka), South Dade Regional Library (Goulds, Homestead, Perrine), and Victor Wilde Community Center (Hialeah).

Table 4-1 | Low-Income and Transit Dependent Populations

Organization	African-Americans	Disabled	Haitian Americans	Hispanics	Homeless	Migrants	Native Americans	Elderly
Amigos For Kids				●				
Biscayne Gardens Civic Association		●						
Black Affairs Advisory Board	●		●					
Coconut Grove Collaborative	●							●
Coalition of Farmworkers Organization				●		●		
Goulds CDC	●	●		●				●
Hispanic Coalition				●				●
Miccosukee Tribe of Indians of Florida							●	
Miami Lighthouse for the Blind		●						
Richmond Heights Homeowners Association	●							●
Sagrada de Familia				●				●
Under-represented People Positive Action Council	●							●
Veccion de Acción				●				●
We Care of South Dade	●	●	●	●	●	●	●	●
Wilde Community Center	●	●		●				●

Table 4-2| Community- Based Organizations

Organization	Area
Community Action Agency – Coconut Grove CAC	Coconut Grove
Community Action Agency – Culmer Center CAC	Overtown
Community Action Agency- Florida City CAC	Florida City
Community Action Agency – Perrine CAC	Perrine
Community Action Agency – South Miami CAC	South Miami
Community Action Agency – Naranja CAC	Perrine
Goulds Coalition of Ministers & Lay People	Goulds
Coalition of Farmworkers Organization	Florida City
Victor Wilde Community Center Senior Program	Hialeah
We Care of South Dade	Homestead
Under-Represented People Positive Action Council	Miami Gardens
Sant La Neighborhood Center	Little Haiti

05

Financial

"Putting Our Infrastructure to Work"

CHAPTER SUBSECTIONS

Chapter Overview

Putting our Infrastructure to work requires financial resources to build new transportation facilities and to operate and maintain both the existing and future facilities. A detailed financial analysis was performed to estimate the available revenues projected to be available to Miami-Dade County through 2040. The forecasted revenues are based on recent federal and state legislation, current policies, population growth, motor fuel consumption, tax rates, vehicle miles traveled, and motor vehicle registrations.

The principal federal, state, and local funding programs that support transportation investments in Miami-Dade County are identified and forecasted through 2040 and include:

- Federal funding programs for both highways and public transportation
- Florida Department of Transportation (FDOT) funding programs and revenue estimates
- Fuel tax revenues and road impact fees
- Local agency revenues, including Miami-Dade Expressway Authority (MDX), Miami-Dade Transit (MDT), and the South Florida Regional Transportation Authority (SFRTA)
- Potential new local/regional funding sources

Financial Methodology **SNAPSHOT**

The methodologies to estimate the potential revenues were guided by FDOT's 2040 Revenue Forecast Handbook and Appendix for the Metropolitan Long Range Plan. The 2040 Revenue Forecast Handbook also provides guidelines for allocating and presenting future revenues. The Appendix for the Metropolitan Long Range Plan and the Supplement to the 2040 Revenue Forecast Handbook, 2040 Revenue Forecast for Miami-Dade Metropolitan Area (found in **Appendix B** and **Appendix C**, respectively) provide state and federal projected revenues statewide and for Miami-Dade County. The available resources are identified and used to prioritize future capital transportation investments in a "constrained" scenario limited to existing and reasonably likely funding sources. Available information provided by the County and transportation agencies is summarized below. Detailed information on the methodologies and assumptions used to develop the forecasted revenues by agency is located in the Miami-Dade MPO 2040 Long Range Transportation Plan Technical Memorandum: Financial Resources Review which can be found on the MPO website.

- Similar to the 2035 LRTP update, the 2040 LRTP presents both costs and revenue forecasts in year-of-expenditure (YOE) dollars. Federal planning regulations which were established in 2007 and corresponding MPO Advisory Council (MPOAC) guidelines require that both cost and revenue forecasts are presented in year-of-expenditure (YOE) dollars, rather than in base year dollars. FDOT revenue forecasts are in YOE dollars, and FDOT inflation forecasts were applied to estimate YOE project costs.

- Revenue forecasts are provided for 2019 and 2020 and then in five-year increments for the periods 2021 to 2025, 2026 to 2030, and a ten year increment for the period 2031 to 2040 to correspond to the forecasts provided by FDOT. Each of the incremental band years are identified as a Priority as follows:

  - Priority I: TIP (2015-2019) and 2020
  - Priority II: 2021-2025
  - Priority III: 2026-2030
  - Priority IV: 2031-2040

Priority Bands

With the recent adoption of the Transportation Improvement Plan (2015-2019), projections for 2019 – 2020 were reduced by half to account for FY19 inclusion in the TIP and FY20 as the remaining forecast year. Therefore, 50% of the 2019-2020 projections are estimated for 2020.

- The Florida's Turnpike Enterprise (FTE) provided 10-year projections of gross toll revenues expected to be collected on the Homestead Extension of Florida's Turnpike (HEFT). The assumptions on the approximate share of the HEFT in system-wide operating expenses, debt service and the ongoing replacement and renewal costs were discussed and agreed upon with FTE staff.

- Projections for Miami-Dade Expressway Authority (MDX) came from its 15-year Financial Plan containing a detailed breakdown of revenues, expenses and outstanding debt service.

- Revenue growth rates for all existing Miami-Dade County gas taxes and Road Impact Fees (RIF) were developed in consultation with the County's Office of Management and Budget (OMB).

- Based on guidance from County staff, forecasts of Miami-Dade Transit (MDT) revenues are based on the latest People's Transportation Plan (PTP) Pro Forma. Revenue estimates provided in the 2014 MDT Pro Forma were not independently verified, but were accepted as is.

- The 2040 LRTP projected Road Impact Fees are based on the historic as well as the latest data on building permits issued in the County. It was assumed that with the economic recovery, the number of building permits could recover by 2020 and would grow from thereon at the projected growth rate in population.

- Potential revenue sources were estimated based on the publicly available data on the existing tax bases and application of an additional rate of taxation allowed under the existing Florida law.

Table 5-1 | Revenue Forecast FY 2020-FY 2040 Estimates for Miami-Dade County (Millions YOE $)

	Priority I 2020	Priority II 2021-2025	Priority III 2026-2030	Priority IV 2031-2040	Total 2020-2040
Capital Revenues					
SIS Highways Construction & ROW	$205	$374	$2,372	$3,592	$6,543
Other Arterial Construction & ROW	$96	$429	$405	$887	$1,817
Transit	$47	$241	$253	$531	$1,072
TMA Funds	$34	$168	$168	$336	$705
Districtwide TALT Funds	$3	$16	$16	$32	$68
Transportation Alternatives (TALU)	$3	$17	$17	$33	$69
Transportation Regional Incentive Program (TRIP)	<$1	$6	$6	$13	$25
FTE**	$0	$42	$413	$1,930	$2,385
MDX**	$44	$240	$401	$1,269	$1,954
PWWM					
Constitutional Gas Tax*	$15	$77	$79	$164	$335
Road Impact Fees	$43	$231	$243	$521	$1,038
MDT					
PTP Surtax (debt service for capital)	$160	$890	$1,024	$2,861	$4,935
5-cent CI-LOGT	$18	$91	$94	$195	$398
Operating Revenue					
PWWM					
6-cent LOGT	$42	$211	$216	$449	$918
County Gas Tax	$8	$42	$43	$89	$182
9th Cent Gas Tax	$11	$54	$55	$114	$234
MDT					
Direct Operating Revenues	$145	$828	$961	$2,449	$4,383
Federal/State Grants (excl. FDOT Transit above)	$57	$320	$372	$949	$1,698
PTP Surtax (for operations)	$92	$577	$801	$2,233	$3703
All Other Existing (incl GF and LOGT)	$276	$1,565	$1,861	$4,846	$8,548
Total	**$1,297**	**$6,419**	**$9,800**	**$23,492**	**$41,008**

* Department of Public Works and Waste Management (PWWM) receives 80% of projected - Constitutional Gas Tax (Secondary Gas Tax), 20% of this tax is allocated to the County General Fund.
**Net Revenues are shown for FTE and MDX.
Note: Totals may not add due to rounding.

The projected financial resources were analyzed to identify the available revenues for capacity-related capital improvements and associated operations and maintenance (O&M). Capacity-related improvements are improvements to surface transportation facilities that add capacity to the transportation network, including highway, transit (bus, rail, Metromover), bicycle, or pedestrian facilities. **Table 5-1** Revenue Forecast FY 2020-2040 Estimates for Miami-Dade County, summarizes the available revenue by agency and Priority Years.

Based on **Figure 5-1**, $41 billion (YOE) is the forecasted revenue estimate for the 21 year period from 2020 through 2040. Figure 5-1 illustrates how the projection compares to the past two LRTPs, in 2008 dollars. By comparison, the projected total for the 2040 Plan are close to the pre-recession levels as in the 2030 LRTP.

Figure 5-1 | Comparison to Past LRTPs (Billions 2008 $)

Funding Sources

SIS Highways Construction and Right-of-Way

Florida's Strategic Intermodal System (SIS) was created in 2003 by the Florida Legislature as a network of high priority transportation facilities including airports, spaceports, deepwater seaports, freight and rail terminals, interregional rail and bus terminals, rail corridors, urban fixed guideway transit corridors, waterways, and highways that are critical to Florida's economic competitiveness and quality of life. The SIS, Florida's highest statewide priority for transportation capacity movements, focuses on regional, statewide, interstate, and international facilities that move people and freight. The SIS portion of FDOT revenues is programmed by FDOT for their highest priority transportation improvements which are incorporated into the 2040 Plan.

The SIS was designated to address trends shaping the state's economy in conjunction with the transportation system including:

- Meet growing demand for moving people and freight,
- Link Florida's economic regions,
- Enhance Florida's economic competitiveness,
- Balance future growth with environmental stewardship, and
- Make strategic choices given limited resources.

The SIS contains three "funding" Plans for projects:

- First Five Year Plan – projects funded in the Work Program, Year 1, and projects that are programmed for funding in Years 2-5. This plan is updated annually and adopted by the legislature.

- Second Five Year Plan – projects that are planned to be funded in Years 6-10, beyond the adopted Work Program. This plan is updated annually after the adoption of the Work Program.

- Cost Feasible Plan – projects considered to be financially feasible for Years 11-25. Projects in this plan may move forward to the Second Five Year Plan as funds become available or backwards into the Needs Plan if revenues are less than projected. This plan is updated as new revenue forecasts become available, typically every 2 to 3 years.

Other Arterial Construction and Right-of-Way

The primary purpose of this program is to fund improvements on segments of the State Highway System (SHS) that is not designated as SIS including construction and improvement projects and right-of-way on state roadways not included in the SIS.

TMA Funds

TMA Funds are allocated to Transportation Management Areas (TMA), urbanized areas with a population over 200,000. TMA funds are the same as "SU" funds in the 5-Year Work Program and provide a flexible funding source that is coordinated with FDOT District 6.

Transportation Alternatives Funds

The Transportation Alternatives Program (TAP) authorized under MAP-21 provides funding for transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways. Transportation Alternative Funds are allocated to TMAs, areas with a population over 200,000, as TALU Funds and Transportation Alternatives allocated to any area in the state are TALT Funds. Projects funded with statewide funds should be identified as "illustrative projects."

TRIP Funds

In accordance with the 2040 Revenue Handbook, Transportation Regional Incentive Program or TRIP funds are eligible to fund projects that at a minimum:

- Functions as an integrated regional transportation system
- In compliance with local government comprehensive plan policies relative to corridor management
- Consistent with the SIS Plan
- Have a commitment for local, regional, or private financial matching funds

TRIP funds may be used to fund up to 50% of project costs. Projects that are partially funded with TRIP funds should be shown as "illustrative projects."

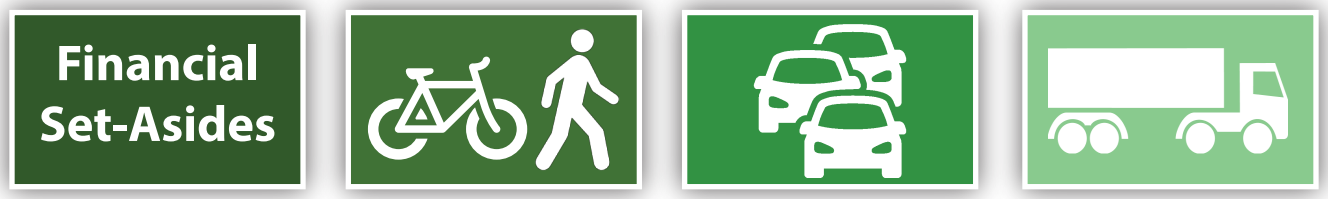
Financial Set-Asides

Financial set-asides in the LRTP provide assurance that specific programs are afforded a minimum level of investment in the plan. MAP-21 requires the integration of a Congestion Management Process (CMP), bicycle and pedestrian facilities, and considers projects and strategies for the movement of freight in addition to people. The 2040 LRTP includes financial set asides for Congestion Management, Bicycle and Pedestrian Facilities, and Freight specific projects are shown in **Table 5-2** below. The financial set-asides were approved by the MPO Board at the June 2014 meeting.

Table 5-2 | 2040 Set-Aside Funds (Millions YOE $)

	Priority I 2020	Priority II 2021-2025	Priority III 2026-2030	Priority IV 2031-2040	Total 2020-2040
Bicycle/Pedestrian	$5	$24	$24	$47	$99
Congestion Management	$9	$46	$45	$70	$171
Freight	$6	$30	$29	$62	$127
Total Set-Asides	**$20**	**$100**	**$98**	**$179**	**$397**

Note: Totals may not add due to rounding.



Cost Estimates

Project costs were determined for all projects defined in the Needs Plan to assess the financial feasibility in the process of developing the 2040 Plan. For capital improvements, project costs were determined based on available data from existing reports, work programs, and/or the transportation agencies where available. If exiting cost estimates were not available, costs were estimated using the FDOT Cost Calculator and unit costs, similar types of projects, and input from the agencies, where available.

The cost to operate and maintain transportation system improvements are often the most expensive part of a project and therefore, must be estimated for all proposed future facilities. Operations and Maintenance costs (O&M) were based on existing current O&M rates. O&M for roads in the State Highway System (SHS) are accounted for under the State Highway System Operations and Maintenance program and do not need to be reflected in the LRTP. The districtwide estimates for the State Highway Operations and Maintenance Estimates are provided by FDOT and must be documented based on an agreement between FDOT and the Federal Highway Administration Division Office. The O&M costs for the existing SHS, MDT, and the Department of Public Works and Waste Management (PWWM) facilities are summarized in **Table 5-3.**

Table 5-3 | Operations and Maintenance Costs for Existing System (Millions YOE $)

	Priority I 2020	Priority II 2021-2025	Priority III 2026-2030	Priority IV 2031-2040	Total 2020-2040
Operating and Maintenance					
Districtwide SHS O&M	$145	$740	$811	$1,781	$3,477
MDT O&M/Expeneses	$794	$4,442	$5,214	$13,696	$24,146
PWWM O&M	$55	$309	$364	$929	$1,658
Total Committed Funds	**$994**	**$5,491**	**$6,389**	**$16,406**	**$29,281**

Note: Totals may not add due to rounding.

Maintaining the Existing System

Available Revenue for New Capital and New O&M

The revenue forecast provides the total estimated revenue projected to be available by agency for the 21 years beyond the Transportation Improvement Plan (TIP). Some of the funds identified are already programmed or allocated to operations and maintenance for the existing transit system and roads not in the SHS. The SIS is developed by FDOT and the SIS projected revenues are programmed by FDOT and are not available to fund non SIS projects. The operating and maintenance costs for the existing transit system and roads on non-SHS roads must be covered by projected revenue. A summary of the projected revenue available for new capital projects and new O&M is summarized in **Table 5-4**. The allocation of available funds from funding sources to; new capital and new O&M, committed capital, and existing O&M and recurring costs is illustrated in **Figure 5-2**.

Table 5-4 | Available Revenue for New Capital and New O&M (Millions YOE $)

	Priority I 2020	Priority II 2021-2025	Priority III 2026 -2030	Priority IV 2031-2040	Total 2020-2040
Revenues for New Capital and New O&M					
Other Arterial Construction & ROW	$86	$386	$364	$798	$1,635
Transit	$0	$71	$152	$367	$590
TMA Funds	$30	$149	$149	$299	$627
FTE	$0	$42	$413	$1,930	$2,385
MDX	$44	$240	$401	$1,269	$1,954
PWWM	$59	$282	$247	$382	$970
Subtotal for New Capital and New O&M	$219	$1,170	$1,727	$5,045	$8,161
SIS Highway Construction & ROW	$205	$374	$2,372	$3,592	$6,543
Transportation Alternatives (TALU)	$1	$3	$3	$7	$13
Districtwide Transportation Alternatives (TALT)	$3	$16	$16	$32	$68
TRIP	$0	$6	$6	$12	$24
Set-Asides (Bicycle/Pedestrian, CMP, Freight)	$20	$100	$98	$179	$397
Total Available Funds	**$448**	**$1,669**	**$4,222**	**$8,867**	**$15,206**

Note: Totals may not add due to rounding.

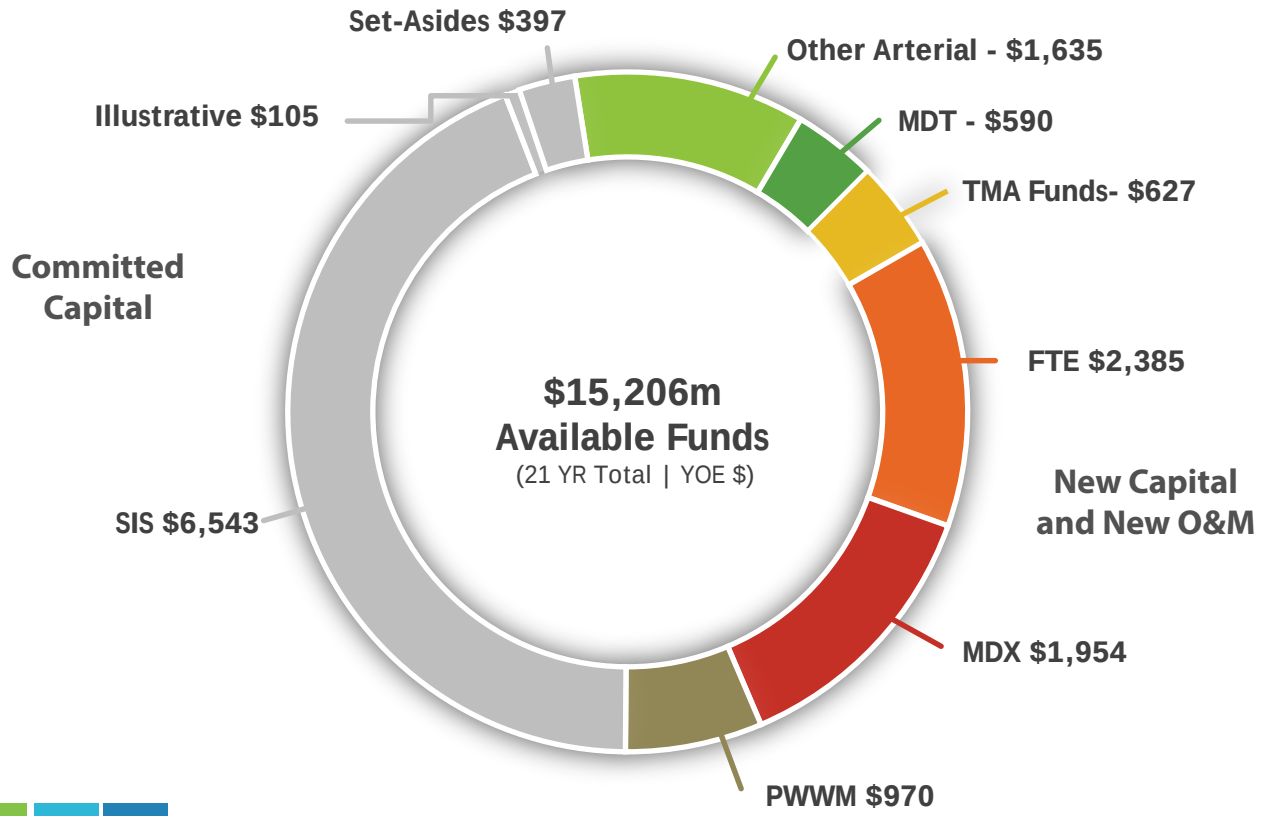
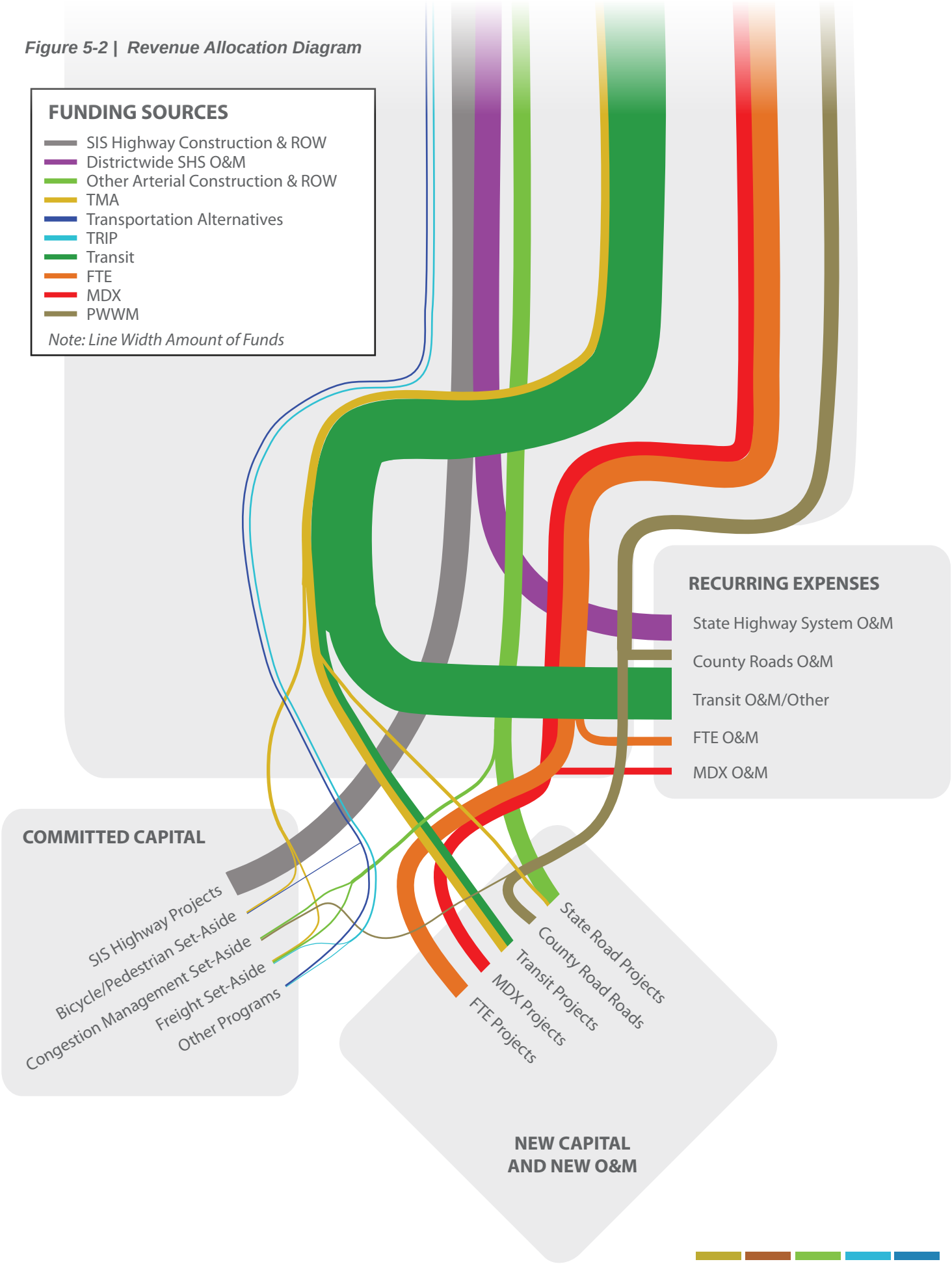


Figure 5-2 | Revenue Allocation Diagram



Potential Revenue Sources

Potential new public sector revenues (taxes or fees) can be categorized into existing sources and new sources. The existing sources may be increased either by Board action (such as the Board of County Commissioners or the MDX Board of Directors) or by countywide referendum, with no approval or new legislation required from the State legislature. New funding sources, by contrast, would generally require a referendum by the voters, legislative grant of significant new authority to the County, and in some cases a state constitutional amendment might be required. However, changes to some of the "smaller" existing fees could also require state legislative approval.

The existing and potential new local public sector sources that may be considered by the MPO are summarized in **Table 5-5**. The existing and new local public sector sources under consideration by the MPO are summarized in **Figure 5-3**. The Vehicle Miles Traveled (VMT) is the only new possible revenue source identified.

Table 5-5 | Potential Revenue Sources Forecasted (Millions of YOE $)

Source	Rate	2019- 2020	2021-2025	2026-2030	2031-2035	2036-2040	Total 2019-2040
Sales tax (charter county and regional transportation surtax)	0.5% (half cent)	$568	$1,574	$1,818	$2,101	$2,428	$8,490
Additional Real Property Ad Valorem Tax	$0.25 per $1000 in Taxable Value	$115	$314	$356	$402	$455	$1,643
Existing Local Option Gas Tax (LOGT)	2¢ per gallon	$41	$105	$108	$110	$113	$478
Additional Parking Fee	$0.5 per space	$4	$11	$11	$11	$11	$46
Additional Hotel Occupancy Tax	0.5% (half cent)	$18	$49	$56	$65	$75	$262
VMT Tax	1¢ per mile	$276	$713	$746	$781	$818	$3,335

Note: Totals may not add due to rounding.

Figure 5-3 | Potential Revenue Sources Under Consideration

Potential Revenue Sources

- ***Additional ½-cent Local Option Sales Tax***

  Additional ½-cent Local Option Sales Tax (or Charter County and Regional Transportation System Surtax) are the most widely used source of dedicated local and regional funding for transit and they generally provide the greatest yield as well as being among the most broadly acceptable sources of funding. Sales tax receipts are sensitive to the changes in the local economic cycles.

  Miami-Dade County voters approved a 1/2 cent Chapter County Surtax in 2002 referendum as part of the People's Transportation Plan. The tax is commonly referred to as the PTP Surtax.

  Eligible uses of a local option sales tax include planning, developing, constructing, operating and maintaining roads, bridges, bus systems and fixed guide way systems. At a County's discretion, the proceeds can be transferred to an expressway or transportation authority to be used to finance the operation and maintenance of a bus system or to construct and maintain roads and service the debt on bonds issued for that purpose.

- ***Additional Real Property Tax***

  Property tax revenues are calculated by multiplying the Taxable Value by the adopted/forecasted millage for the fiscal year. Other taxing jurisdictions levying a property tax include libraries, school districts, municipalities, special districts such as water management, fire protection and others. In Florida, the growth in revenue from property taxes assessed by taxing authorities is capped at a rate equal to the growth in Florida per capita personal income plus new construction, unless the governing board of the taxing authority overrides the cap with a super-majority, unanimous vote, or referendum.

- ***Additional 2-cent Local Option Fuel Tax***

  Local Option Fuel Tax can be levied at 1 to 5 cents per gallon of motor fuel (gasoline and gasohol, but not diesel fuel). To impose an additional 2 cent per gallon tax would require an extraordinary vote of the county commission or a countywide referendum initiated by the commission.

- ***Increased Tolls on MDX Expressways Applied to Transit***

  Nationwide experience suggests that toll revenues can offer significant funding opportunities for transit, as long as regional, state, and local partners and the public recognize the significance of the transit project to the region. Florida Statute allows "excess" toll revenues to be used on other projects, but so far this funding flexibility has not been pursued. Since toll rates on MDX's five expressways vary according to the vehicle classification and type of invoicing, this 2040 LRTP Update did not estimate the potential for toll increase on MDX.

- ***Increases in "Smaller" Taxes/Fees, Such As Hotel Occupancy Taxes and Parking Fees***

  The MPO examined several other fees and taxes including hotel occupancy taxes and parking fees. These fees and taxes have narrower tax bases and generally do not provide sufficient yield to be considered as potential revenue source for capital funding. They are, however, considered in combination with other revenue sources.

  Miami-Dade is one of the most dynamic tourism and business travel markets in the U.S. with moderate hotel occupancy taxes relative to other tourism and business travel markets in the county. The Global Business Travel Association reported that in 2011 ten cities with the highest total daily tax burden for travelers were Chicago, New York City, Boston, Kansas City, Seattle, Minneapolis, Cleveland, Indianapolis, Nashville and Houston.

- ***VMT Tax***

  Application of Vehicle Miles Travel Tax (VMT) to replace the motor fuel-based taxes is now widely debated among transportation professionals and state and federal government officials. A number of states are conducting pilot programs to find ways to effectively and efficiently administer and collect this tax.

Public Private Partnerships Options and Trends

Alternative project delivery options provide opportunities for the County to accelerate implementation, better manage risks, and possibly reduce costs. Possible private sector involvement could include concession contracts (applicable to roads and highways projects as well as transit) and Joint Development/Value Capture mechanisms (applicable mainly to transit/public transportation).

Several Value Capture mechanisms (Tax Increment Financing or TIF, Special Assessment Districts or SAD, and Joint Development) have been applied in Florida to help fund transit projects. The potential for Value Capture mechanisms around fixed guideway transit stations continues to hold promise, provided that zoning, parking, and other land use regulations are supportive of transit. The joint development efforts could include air rights development, parking structures, donation of right-of-way, stations integrated into existing buildings, and other in-kind donations. An example of TIF mechanisms being implemented in other counties is The Wave project, a planned 2.7 mile streetcar system in downtown Fort Lauderdale; SFRTA is the FTA project sponsor for the project and manager of design and construction.

Public Private Partnerships (P3s), agreements between a public agency and a private group, are a growing resource as an innovative way to finance transportation projects. P3s provide greater private-sector involvement to deliver the design, construction, financing, operation and maintenance of transportation improvements as compared to traditional design-bid-build procurements. The transfer of risk including revenue return for which the private sector assumes responsibility differs from project to project.

P3 options can be categorized as design-build, design-build-finance, design-build-operate-maintain, design-build-finance-operate-maintain, asset monetization concessions, and build-own-operate. Each of these models has somewhat different implications on the interface between the planning and environmental approval processes and the development of P3 procurements.

Existing planning and environmental review processes require certain steps to quantify the consideration of P3 opportunities and includes:

- Consideration of tolling and alternative funding, during NEPA and the state and regional planning processes
- Aligning project definition with revenue potential and available funding
- Managing NEPA and other strategies to afford greater flexibility and speed

For example, many states have introduced toll highways using a design-build-finance-operate-maintain (DBFOM) project delivery arrangement.

Availability Payments

The use of availability payments on DBFOM projects is where the Owner is providing a promissory note to the Concessionaire as its primary revenue source. The payments are made normally at critical construction milestones and matching operational performance standards during the O&M period, including lane closures, incident management, or snow removal. In some instances, congestion pricing on high-occupancy toll (HOT) lanes linked to prescribed traffic level of service may be used as the primary performance metric.

Availability payments are often used for projects that are not tolled or for which project revenues are not expected to cover debt service costs and the Owner retains the underlying revenue risk associated with developing the project, and the private partner receives a predictable, fixed set of payments throughout the concession period.

In the United States, the first availability payment concessions are being used on the following projects in Florida:

- Port of Miami Tunnel – $1.1 billion, 1 mile, opened in 2014, 30-year concession, FDOT Availability Payment approximately $40 million / year.

- I-595 Express (Fort Lauderdale) – $1.2 billion, 10.5 miles, opens 2014, 30-year concession, FDOT Availability Payment approximately $15 million / year.

Toll Facilities

Highway and bridge tolling has long been an efficient, effective, and equitable means for transportation finance and Florida has made good and appropriate use of this financing tool. It is important to note that tolling will likely become a greater focus for transportation in general due to the vast costs associated with improving transportation and providing needed capacity to keep pace with growth and travel demand. In addition, tolling will have a far greater nexus with transportation planning and long range plans as listed in **Figure 5-4**.

Figure 5-4 | Long Range Planning/ Tolling Nexus

- ***Multimodal Dimension*** - Toll revenues may now be used to fund public transportation projects making tolling a bona fide multi-modal financing mechanism.
- ***Favorable Federal Policy***—MAP-21 relaxed many long-standing prohibitions or restrictions that had significantly limited the use of tolling. Tolling may now be used for a much wider range of highway, bridge and tunnel improvements.
- ***Demand Management***—Tolling and transportation planning have a very strong connection in terms of developing strategic approaches to demand management; congestion pricing can be an effective demand management tool in addition to generating revenue.
- ***Toll Pilot Projects***—Continued expansion of toll pilot programs suggest that tolling will steadily increase and expand in various ways over the LRTP planning horizon.
- ***Technology***—As the public has increasingly embraced technology and the various associated systems such as SunPass, tolling will steadily become more widely accepted, particularly if there is a premium service of value being provided. The public is willing to provide goods and services digitally if there is value. The value of tolled facilities for the public comes in various forms including the value of time savings for premium travel.

Source: Federal Highway Administration (FHWA)

As we gain further experience with tolling nationally and as a region we will also be in a better position to estimate the associated long-term revenue generation with a degree of reliability that will help sharpen our cost feasible transportation planning and help the region to further diversify the revenue base for meeting needs.

Miami-Dade County faces far-reaching decisions in the coming months and years about the funding of its transportation needs. Many potential funding options exist that could supplement existing transportation revenues and prevent the deferral of important investments, but each of these options presents challenges for the County that must be addressed.

Rendering of the Miami Intermodal Center (MIC)

06

Multimodal Solutions

"Finding a Balance"

Chapter Subsections

Chapter Overview

Transportation facilities and mobility options are essential and prominent elements of a Global Hub. 21st century global economic competitiveness relies heavily on the ability to swiftly and reliably move people, goods, and ideas within a region and beyond.

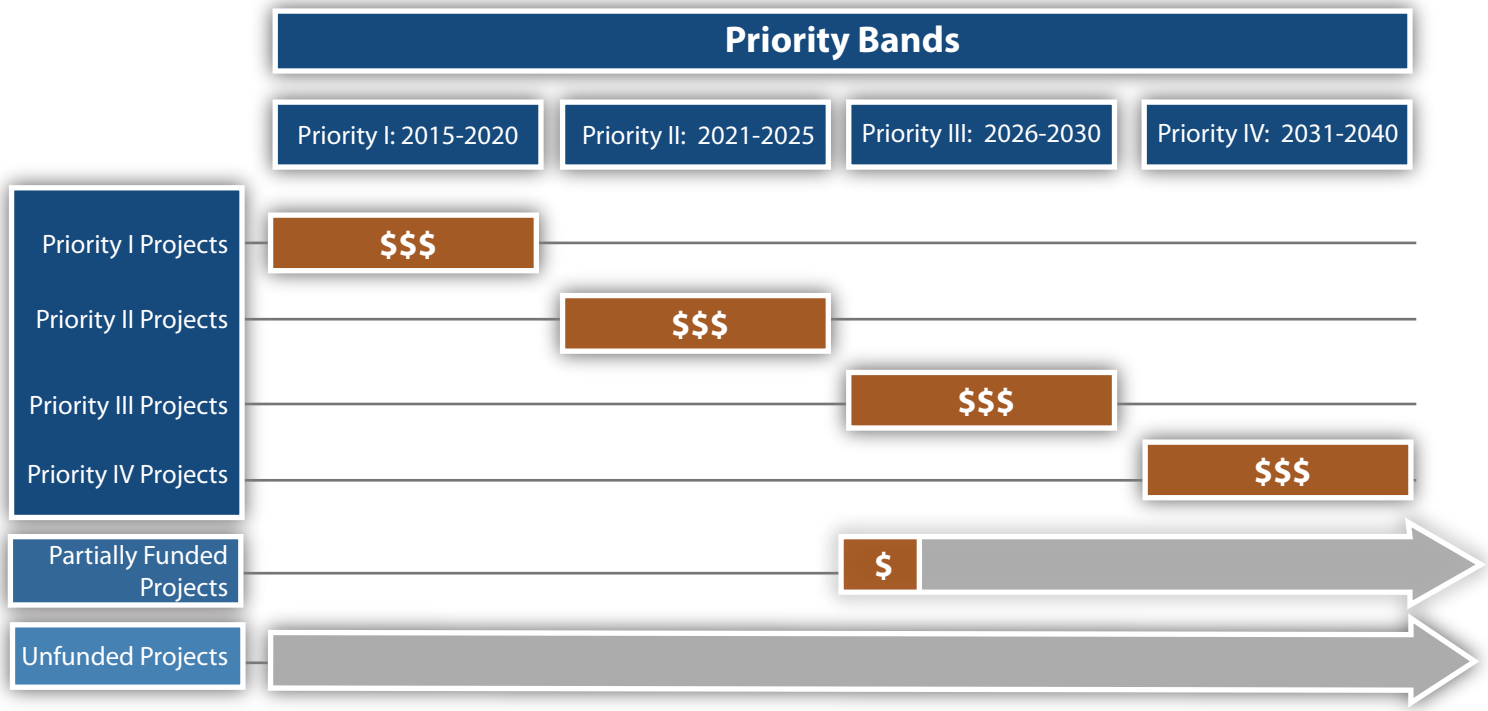
Miami is rightly described as the "Gateway to the Americas." The Miami International Airport (MIA) and Port of Miami are the mega-facilities that clearly establish Miami as a bona fide international gateway for moving people and goods. The Miami-Dade transportation network also serves critical interstate, regional, and local mobility needs serving "the gateway" and many other destinations. As such, strategic investments in a wide array of highway and bridge infrastructure and public transportation are required. These critical improvements enhance travel within Miami-Dade County and improve accessibility beyond the county. A cost feasible set of prioritized transportation improvements is essential to satisfy growing travel demand and to provide reliable transportation for Miami-Dade businesses, residents and visitors.

Multimodal SNAPSHOT

The 2040 Plan was developed to guide the transportation investments in Miami-Dade County to 2040. First, the Needs Plan was developed to address the transportation deficiencies and to enhance the multimodal transportation system. Projects in the Needs Plan were evaluated and ranked. Next, available funding was allocated to the ranked list of Needs Plan projects to develop the prioritized list of cost feasible projects while balancing the funding with the need, modes, and locations. Projects were grouped into incremental band years or Priorities based on available funding. **Figure 6-1** illustrates the phasing of projects by funding status. The Priorities are as follows:

- Priority I: TIP (2015-2019) and 2020
- Priority II: 2021-2025
- Priority III: 2026-2030
- Priority IV: 2031-2040

Figure 6-1 | Priority Bands



The 2040 LRTP is a multimodal plan for Miami-Dade County and represents planned highway, transit, park and ride, bicycle/pedestrian, congestion management, and freight specific projects to improve the transportation system. The projects in the 2040 Plan are presented in this Chapter as indicated on the next page.

Project Listings

Priority I Improvements (TIP and 2020)
Projects scheduled to be funded for construction by 2020. This group includes projects in the TIP (2015-2019) and the highest ranked projects.

Priority II Improvements (2021 – 2025)
Projects planned to be funded for construction and opened for service by 2025.

Priority III Improvements (2026-2030)
Projects planned to be funded for construction and opened for service by 2030.

Priority IV Improvements (2031-2040)
Projects planned to be funded for construction and opened for service by 2040.

Partially Funded Projects
Projects identified in the Needs Plan without revenues available to fund the projects through construction. Therefore, revenue is applied to an earlier phase or part of a phase.

Unfunded Projects
Projects identified in the Needs Plan without revenues available to fund any phase of the project. If additional resources come available, these projects could be funded.

Privately Funded Projects
Projects which are to be funded by the private sector.

Bicycles/Pedestrian Set-Aside Projects
Projects that are non-motorized which are planned to be funded via the Bicycle/Pedestrian set-aside.

Congestion Management Set-Aside Projects
Projects planned to be funded via the Congestion Management set-aside.

Freight Set-Aside Projects
Freight specific projects to be funded via the Freight set-aside.

Highways, transit, bicycle, and pedestrian facilities are integrated into MPO Transportation Plans and function as an intermodal transportation system. The Miami-Dade 2014 Bicycle/Pedestrian Plan, Miami-Dade County 2014 Congestion Management Process (CMP) Update, and the 2014 Miami-Dade Freight Plan Update were conducted in coordination with the development of the 2040 LRTP. The results of these studies provided a list of projects by Priority for the financial set-asides as discussed in Chapter 5. The highlights of these plans are described in this Chapter. For additional information and details, the plans can be found on the Miami-Dade MPO website at www.miamidade.gov/mpo.

Roadway and Transit Projects

Proposed projects are eligible for different funding sources depending on type and jurisdiction of the project as described in Chapter 5. The prioritized projects from the Needs Plan are matched to the available funds by source to identify the projects that are cost feasible i.e. can be afforded in the 2040 Plan.

Priorities I – IV have projects that are multimodal including: highway, transit, and freight projects and are multi-jurisdictional including: the Strategic Intermodal System (SIS), State Highway System (SHS), Florida Turnpike Enterprise, Miami-Dade Expressway Authority, Miami-Dade Transit, county, and municipal facilities. SIS projects are as programmed by FDOT. Projects identified in the Strategic Intermodal System Funding Strategy, First Five Year Plan FY 2014/2015 through FY 2018/2019, Second Five Year Plan FY 2019/2020 through FY 2023/2024, and the Long Range Cost Feasible Plan 2024 – 2040 Plan, are incorporated into the 2040 Plan. Proposed highway and transit improvements are identified by priority as listed in the **Tables 6-6, 6-7, 6-8** and **6-9**. Partially Funded, Privately Funded, and Unfunded Projects are listed in **Tables 6-10, 6-11**, and **6-12**, respectively.

As described in Chapter 5, the cost to operate and maintain the transportation system is often the most expensive part of a project and must be accounted for in the 2040 Plan. The cost to operate and maintain the existing transportation system, other financial obligations, and the set-aside funds are summarized as recurring obligations (cost) by Priority in **Table 6-1**.

Table 6-1 | Recurring Obligations and Set-Asides (Millions YOE $)

Recurring Obligations/Set-Asides	Total 2020-2040	Priority I 2015-2020	Priority II 2021-2025	Priority III 2026-2030	Priority IV 2031-2040
MDT Bus Replacement	$111.5	$14.5	$69.0	$20.0	$8.0
MDT Existing O&M	$16,599.5	$560.5	$3,119.0	$3,643.0	$9,277.0
MDT SFRTA Contribution	$88.0	$4.0	$21.0	$21.0	$42.0
MDT Municipal Contribution	$1,987.0	$58.0	$337.0	$420.0	$1,172.0
MDT Other Expenses	$538.0	$11.0	$74.0	$107.0	$346.0
MDT Debt Service - Prior to FY19	$3,107.5	$145.5	$747.0	$748.0	$1,467.0
MDT New Debt Service - Debt Issued FY19 & After	$1,716.0	$0.0	$74.0	$256.0	$1,386.0
Existing County Roads O&M	$1,657.0	$55.0	$309.0	$364.0	$929.0
Bike/Ped Set-Aside	$100.0	$5.0	$24.0	$24.0	$47.0
Congestion Management Set-Aside	$170.0	$9.0	$46.0	$45.0	$70.0
Freight Set-Aside	$127.0	$6.0	$30.0	$29.0	$62.0

Roadway

The highway (and roadway) system is the backbone of the transportation system. There are many types of roadways from local roads to major arterial highways. In Miami-Dade County several agencies own and operate highway facilities including: Florida Department of Transportation, Florida Turnpike Enterprise, Miami-Dade Expressway Authority, Department of Public Works and Waste Management (county roads), and various municipalities. There are also many potential types of road improvements depending on the need and deficiency. Typical improvements identified in this Plan include: new roads, managed lanes, roadway widening, intersection improvements, and operational improvements.

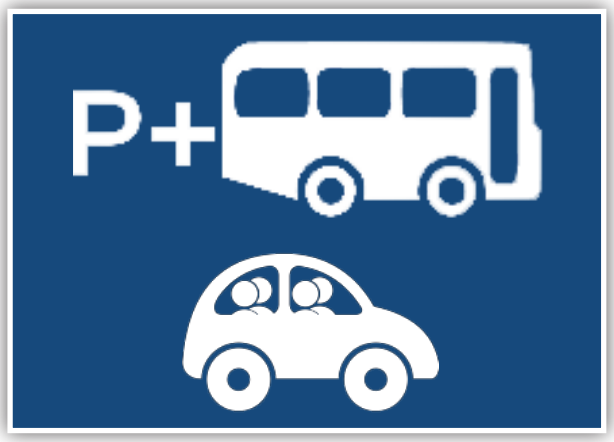
Park-and-Ride Facilities and Intermodal/Transit Terminals

Park-and-Ride Facilities and Intermodal Terminals are multimodal and intermodal with uses for both transit access and for carpooling. To help encourage transit use, especially for riders who have choices, access must be convenient and available. Park-and-Ride facilities should be strategically located along transit routes to allow for maximum transit use and provide enough parking for the demand.

Park-and-Ride facilities are typically very productive and efficient. A small land parcel can often accommodate many vehicles that otherwise would be mixing with other traffic and using congested roadways. Park-and-Ride facilities are also usually at a relatively low cost for construction or upgrading. Further, the infrastructure design and construction requirements are fairly basic, allowing for flexibility for alternative uses of the facilities in the future with limited retrofitting.

Miami-Dade Transit has an aggressive program of planned Park-and-Ride lot facilities and continues to look for opportunities to expand them. As the economy continues to improve and job expansion occurs the public will require a greater range of mobility options, particularly in the short run for those who have experienced long term unemployment or under-employment. The carpooling option, made possible through Park-and-Ride infrastructure, helps to facilitate and promote carpooling. Benefits include:

- Air quality and environmental benefits
- Reduced congestion and travel time savings
- Cost savings to those carpooling
- Promotes a greater sense of community
- Benefits for employers to be able to access workers



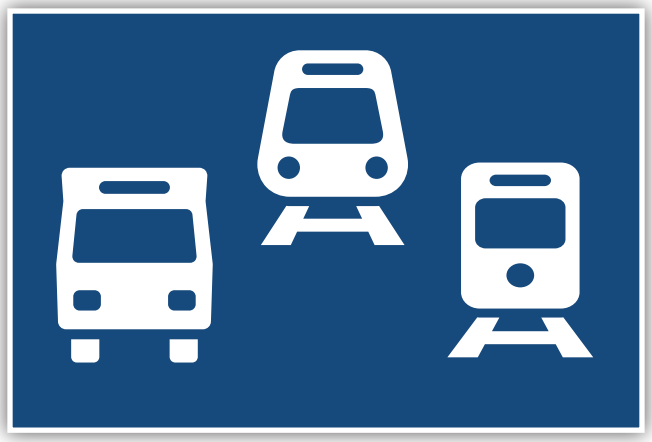
Park-and-Ride Amenities

Park-and-Ride Facilities and Intermodal Terminals can provide an array of amenities and even opportunities for Transit-Oriented Developments (TOD). The common amenities for a Park-and-Ride Facility include:

- Surface or garage parking for personal vehicles for daily users
- Kiss-and-Ride area to drop-off and pick -up passengers
- Pedestrian facilities (sidewalks, lighting, shelters)
- Bicycle facilities (bike racks, lockers)
- Bus Bays adjacent to the parking area
- Access to MetroRail and Facilities serving MetroRail

Transit

Miami-Dade County residents and visitors have several transit options including: bus, enhanced bus, express bus, MetroMover, MetroRail, and Tri-Rail. One notable change from the 2035 LRTP is that there are available bonding capacities for transit to expand the transit system within Miami-Dade County including: Enhanced Bus Service (EBS) and Bus Rapid Transit (BRT). To maximize this new investment capacity, flexible funding sources are used to fund transit capital projects while the transit bonding capacities are allocated for the operating and maintenance for the proposed future transit projects.



2040 Plan Summary

The following tables (**Tables 6-2** through **6-5**) summarize the 2040 Plan by cost and revenue by mode (in dollars and percent), and by Priority. **Table 6-2** includes the cost and revenue for projects in the TIP, which is subset of the LRTP. **Table 6-3** through **6-5** include the cost and revenue for projects proposed for 2020 to 2040. Project details can be found in the Priority Tables (Tables – include for all expect for unfunded.)

Table 6-2 | Expected Revenue and Cost of Plan (Millions in YOE $)

Transportation Mode	Cost	Revenue	Surplus / Deficit	Source
SIS	$6,543	$6,543	$0	SIS[1]
FTE	$866	$2,385	$1,519	FTE
MDX	$1,953	$1,954	$1	MDX
Other Roadways	$1,401	$1,399	-$2	Other Arterial Construction and ROW
	$14	$14	$0	TMA
	$917	$957	$40	PWWM New Capital
	$355	$397	$42	Set Asides (Bike/Ped, CMP, Freight)[2]
Subtotal Other Roadways	***$2,686***	***$2,767***	***$81***	
County Roads O&M	$1,657	$1,657	$0	PWWM Existing O&M
	$13	$13	$0	PWWM New O&M
Subtotal: Highway	***$13,718***	***$15,319***	***$1,600***	
Transit Capital	$615	$614	-$1	TMA
	$311	$312	$1	MDT New Cap
	$235	$235	$0	Other Arterial Construction & ROW
Transit O&M	$24,146	$24,146	$0	MDT O&M/Expenses
	$278	$278	$0	MDT New O&M
Subtotal: Transit	***$25,585***	***$25,585***	***$0***	
Other Projects [3]	$105	$105	$0	TALU, TALT, TRIP
Total	**$39,408**	**$41,008**	**$1,600**	

Note: Totals may not add due to rounding.

CMAQ – Per Revised Interim Guidance on CMAQ Operating Assistance under MAP-21, CMAQ funds can be used as start-up operating costs for incremental cost of expanding transit services. Therefore, this funding can be provided for eligible projects which reduce emissions and are consistent with Federal requirements. This can be programmed on a project by project basis in coordination with FDOT and other agencies. Current work program instructions show the annual amount is $1.6 million per year.

Notes:

[1] *SIS is balanced to costs and revenues as provided by FDOT*

[2] *Set-Asides: Additional Bicycle/Pedestrian and Freight Specific project will be identified as opportunities arise to account for remaining funds.*

[3] *Transportation Alternatives (TALU and TALT) funds are programmed through the MPO annual application program. TRIP funds are programmed for regional facilities and will fund 50% of project costs. TRIP funds will be programmed in coordination with regional agencies and FDOT.*

Table 6-3 | TIP (2015-2019) Funding by Mode (Millions YOE $)

Transportation Mode	Cost	Revenue
Highway: Capital and O&M	$4,691	$4,691
Transit: Capital and O&M	$2,531	$2,531
Total	**$7,221**	**$7,221**

Table 6-4 | Expected Cost of Plan Years 2020-2040 (Billions YOE $)

Transportation Mode		Cost Feasible Plan	
Highway		$13.36	33.9%
Transit	Capital	$1.16	2.9%
	O&M	$24.42	62.0%
	Subtotal	***$25.58***	***64.9%***
Congestion Management		$0.17	0.4%
Bicycle/Pedestrian		$0.09	0.2%
Freight		$0.09	0.2%
Other Projects [3]		$0.11	0.3%
Total		**$39.42**	**100%**

Table 6-5 | Expected Revenue and Cost of Plan by Period Years 2020-2040 (Millions in YOE $)

Transportation Mode	Priority I 2020		Priority II 2021-2025		Priority III 2026-2030		Priority IV 2031-2040		Total YOE	
	Cost	Revenue	Cost	Revenue	Cost	Revenue	Cost	Revenue	Cost	Revenue
Highway Capital	$341	$341	$1,365	$1,366	$3,797	$3,802	$6,544	$8,141	$12,047	$13,649
County Roads O&M	$55	$55	$310	$310	$366	$366	$939	$939	$1,671	$1,671
Subtotal: Highway	***$397***	***$396***	***$1,675***	***$1,676***	***$4,163***	***$4,168***	***$7,483***	***$9,080***	***$13,718***	***$15,320***
Transit Capital	$102	$102	$262	$262	$345	$345	$451	$451	$1,160	$1,160
Transit O&M	$794	$794	$4,457	$4,457	$5,258	$5,258	$13,915	$13,915	$24,424	$24,424
Subtotal: Transit	***$896***	***$896***	***$4,720***	***$4,720***	***$5,603***	***$5,603***	***$14,366***	***$14,366***	***$25,585***	***$25,585***
Subtotal: Highway & Transit	***$1,293***	***$1,292***	***$6,395***	***$6,396***	***$9,766***	***$9,771***	***$21,849***	***$23,446***	***$39,303***	***$40,905***
Other Projects [3]	$4	$4	$25	$25	$25	$25	$51	$51	$105	$105
Total	**$1,297**	**$1,296**	**$6,420**	**$6,421**	**$9,791**	**$9,796**	**$21,900**	**$23,497**	**$39,409**	**$41,008**

Note: Totals may not add due to rounding.

PRIORITY I **SNAPSHOT**

Figure 6-2 | Number of Priority I Projects by Improvement Type

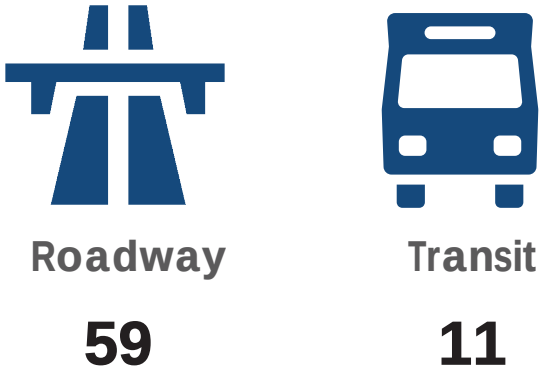
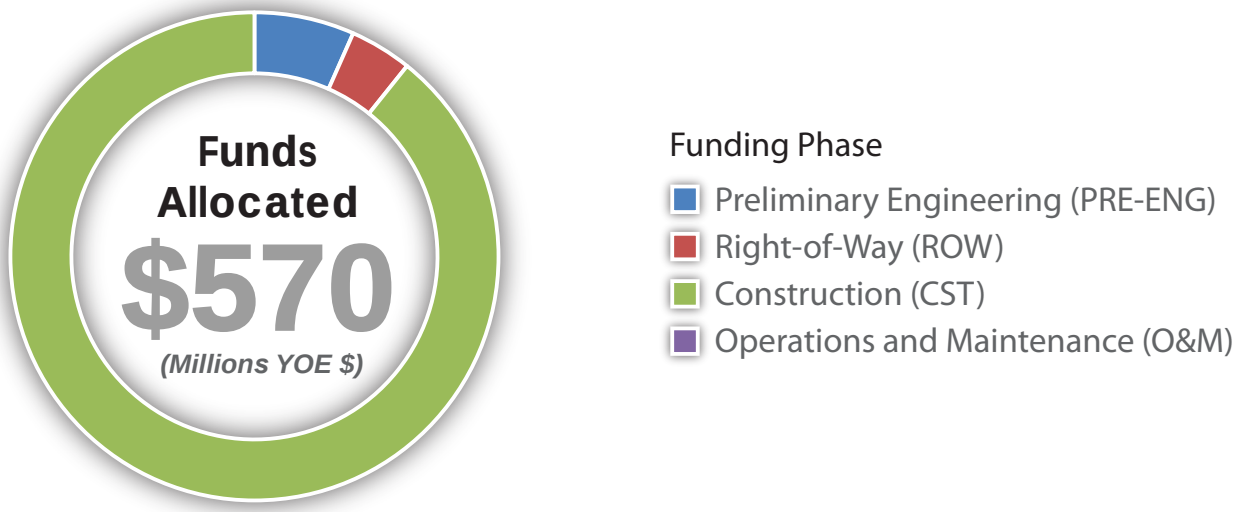


*Figure 6-3 | Priority I Allocation by Project Funding Phase**



Note: Snapshot does not include the Miami Intermodal Center (MIC) Repayment.
**Funds Allocated do not include funds included through the TIP or O&M for improvements on the SHS.*

Figure 6-4 | Priority I Project Map

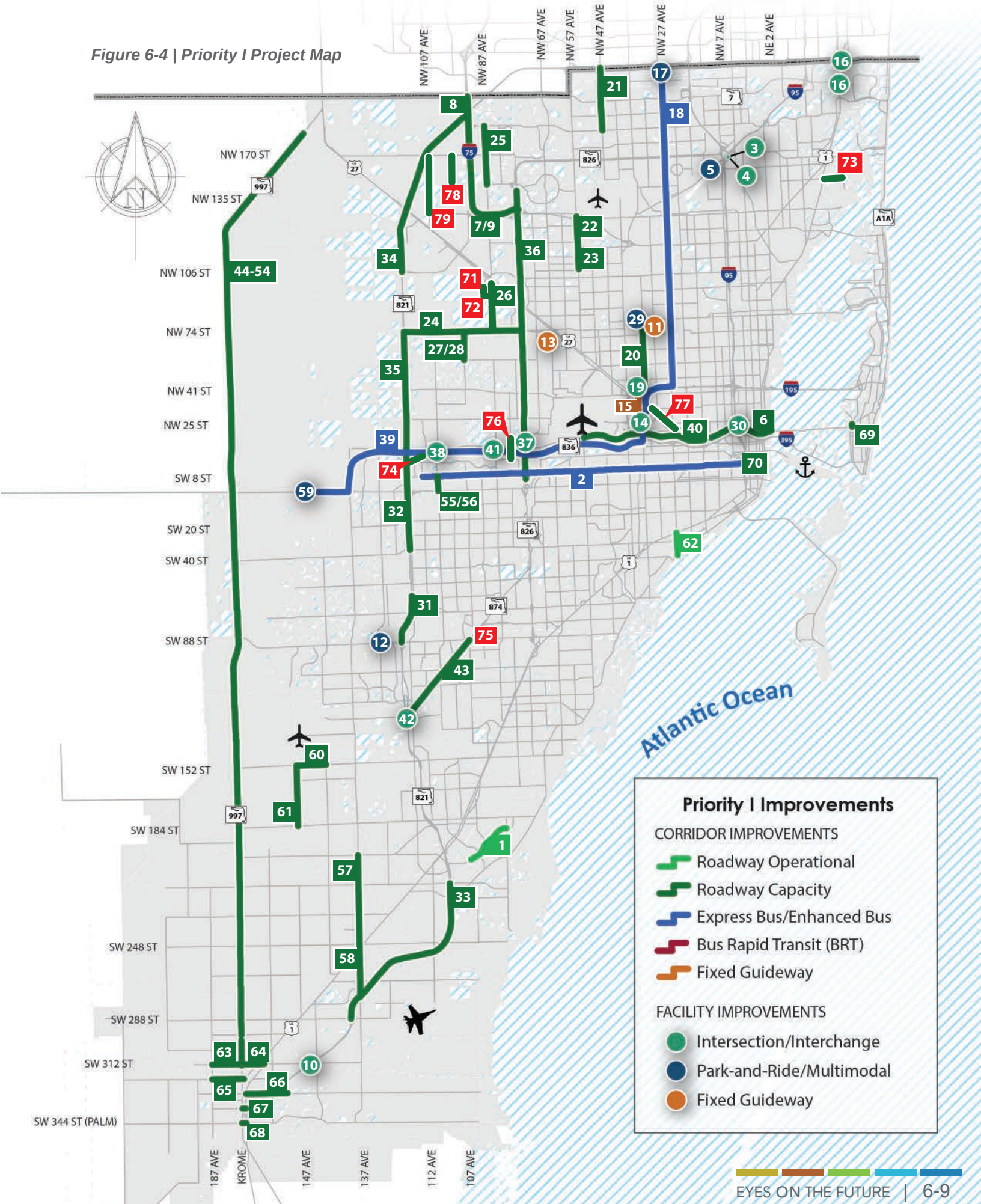


Table 6-6 | Priority I Projects (Values in Millions YOE $)

MAP ID	Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2013 $)	Project Costs Funded via 2040 Plan	
1	Caribbean Blvd	Coral Sea Rd	SW 87 Ave	Add center turn lane	$4.467			
2	East-West Corridor (Flager Enhanced Bus)**	Miami Downtown Terminal	FIU-MMC (SW 112 Ave)	Incremental improvement on PTP corridor	$2.000	$13.000	$15.730	
3	Golden Glades Interchange: SR-826 (Palmetto)	SR-826 (Palmetto) EB Ramp	I-95 NB	Modify interchange	$171.426			
4	Golden Glades Interchange Improvements	Florida's Turnpike		Interchange improvement	$74.448			
5	Golden Glades Multi-Modal Terminal (Phase 1)			Modal hub capacity improvements	$51.243			
6	I-395	I-95	MacArthur Causeway Bridge	Modify interchange	$760.584		$200.010	
7	I-75	South of NW 170 St	Miami-Dade County Line	ITS communications	$6.593			
8	I-75 Managed Lanes System	NW 170 St	South of SR-821 (HEFT) Interchange	Managed lanes	$38.853			
9	I-75 Managed Lanes System	South of SR-821 (HEFT) Interchange	Miami-Dade County Line	Managed lanes	$108.037			
n/a	Implementation of Quiet Zones for All Aboard Florida	Miami-Dade/Broward County Line	Downtown Miami	19 intersection for quiet zones in the County		$3.200	$3.872	
10	Improvements at SW 312 St (Campbell) Interchange	SR-821 (HEFT)/ SW 312 St (Campbell)		Interchange improvements	$3.984			
11	IRIS Connection	CSX Mainline	FEC Mainline	Rail capacity project	$8.304			
12	Kendall Park-and Ride Facility	SW 127 Ave/ SW 88 St (Kendall)		Park-and-Ride facility with 160 spaces	$0.741			
13	Lehman Yard Rehabilitation & Expansion (Phase 1)	Lehman Center		Rehabilitation and expansion	$1.232			
n/a	Miami Intermodal Center (MIC) Repayment***				$199.046			
14	Miami Intermodal Center (MIC) Connection To NW 37 Ave	Miami Intermodal Center (MIC)	NW 37 Ave	New 2 lane road construction	$9.827			
15	Miami River-Miami Intermodal Center (MIC) Capacity Improvement			Double track remaining single track of Tri-Rail near Miami River	$50.400	$49.000	$59.290	
16	NE 203 St and NE 215 St	US-1	West Dixie Highway	Intersection improvements, passing track/siding	$42.960			
17	NW 215 St Transit Terminal Facility**	At NW 27 Ave		Park-and-Ride facility	$2.994			
18	North Corridor (NW 27 Ave) Enhanced Bus**	Miami Intermodal Center (MIC)	NW 215 St Terminal	Enhanced bus service	$27.000			
19	NW 36 St	NW 42 Ave (LeJeune)	US-27 (Okeechobee)	Replace bridge and add lanes	$10.280			
20	NW 37 Ave	North River Dr	NW 79 St	Add 2 lanes and center turn lane and reconstruct	$17.508			
21	NW 47 Ave	NW 183 St	Miami-Dade/Broward County Line	Capacity improvements	$41.652			
22	NW 57 Ave (Red)	W 65 St	W 84 St	Add 2 lanes and reconstruct	$22.587			
23	NW 57 Ave (Red)	W 53 St	W 65 St	Add 2 lanes and reconstruct	$23.907			
24	NW 74 St	SR-821 (HEFT)	SR-826 (Palmetto)	Add 2 lanes and reconstruct	$8.476			
25	NW 87 Ave	NW 154 St	NW 186 St	Add 2 lanes and reconstruct	$6.483			
26	NW 87 Ave	NW 74 St	NW 103 St	New 2 lane road construction	$36.822			
27	NW 97 Ave	NW 70 St	NW 74 St	New 4 lane road construction	$0.977			

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
**denotes portions of phase values are included in both the TIP and 2040 Plan*
*** denotes Operations and Maintenance is funded via MDT system efficiencies*
****denotes Repayment of TIFIA Loan is funded through Local Funds Not in Escrow (LPNE) with payments scheduled to 2034.*
n/a - not applicable, project not shown on map

Priority I 2015-2020				Priority II 2021-2025				Priority III 2026-2030				Priority IV 2031-2040			
PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M
		$4.467													
		*$17.730	**				**				**				**
$6.000	$31.111	$113.914													
$6.337	$6.743	$61.368													
$1.500		$49.549													
$3.273	$10.179	*$596.877													
		$1.890													
		$1.695													
		$2.215													
		$3.872													
$0.285		$3.699													
$0.100		$7.782													
		$0.741													
		$1.232													
		$32.834													
	$5.168	$4.371													
*$14.258		*$95.432													
$4.010		$38.286													
		$2.550	**				**				**				**
		$3.181	**				**				**				**
		$0.600													
$0.013		$17.495													
$0.025	$18.217	$21.639													
		$3.730													
		$3.278													
	$5.000	$8.476													
		$6.483													
$0.300		$32.805													
		$0.977													

Table 6-6 | Priority I Projects (continued) (Values in Millions YOE $)

MAP ID	Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2013 $)	Project Costs Funded via 2040 Plan	
28	NW 97 Ave	NW 58 St	NW 70 St	Add 2 lanes and reconstruct	$5.500			
29	SFRTA Metrorail Tri-Rail 79 St Transfer Station			Intermodal hub capacity	$0.374			
30	SR 836 (Dolphin)/I-95 Interchange Ramps	NW 12 Ave	I-95	Modify interchange	$142.048		$131.824	
31	SR-821 (HEFT)	SW 88 St (Kendall)	60 St Canal Bridge	Add lanes and reconstruct	$224.049			
32	SR-821 (HEFT)	SW 40 St (Bird)	SR-836 (Dolphin)	Add lanes and reconstruct	$156.248			
33	SR-821 (HEFT)	SW 288 St	SW 216 St	Add lanes and reconstruct	$80.267			
34	SR-821 (HEFT)	NW 106 St	I-75	Add lanes and reconstruct	$100.907			
35	SR-821 (HEFT)	SR-836 (Dolphin)	NW 106 St	Add lanes and reconstruct	$203.822		$26.542	
36	SR-826 (Palmetto) and I-75	Flagler NW 170 St	NW 154 St SR-826 (Palmetto)	Managed lanes	$298.103			
37	SR-826 (Palmetto) and SR 836 (Dolphin) Interchange	North of SW 8 St (Tamiami) NW 87 Ave	South of 25 St NW 57 Ave (Red)	Interchange improvement	$843.949			
38	SR-836 (Dolphin) Access Ramp	NW 107 Ave	SR-836 (Dolphin)	Construction of access ramp	$3.467			
39	SR-836 (Dolphin) Enhanced Bus**	Miami Intermodal Center (MIC)	SW 147 Ave/ SW 8 St (Tamiami) Park-and-Ride	Enhanced bus service	$25.000			
40	SR-836 (Dolphin) Improvements	NW 57 Ave	NW 17 Ave	Mainline widening and interchange improvements	$198.786			
41	SR-836 (Dolphin) Interchange Modiÿcations At 87 Ave	SR-836 (Dolphin) West of 82 Ave	NW 97 Ave	Interchange improvements	$80.979			
42	SR-874 (Don Shula) Ramp Connector	SW 128 St	SR-874 (Don Shula)	New connector ramp construction	$103.421			
43	SR-874 (Don Shula)/ Killian Parkway Interchange	SR-821 (HEFT)	SW 88 St (Kendall)	Mainline widening and interchange reconstruction	$1.269			
44	SR-997 (Krome)	SW 88 St (Kendall)	One Mile North of SW 8 St (Tamiami)	Add 2 lanes and reconstruct	$75.580			
45	SR-997 (Krome)	SW 136 St	SW 88 St (Kendall)	Add 2 lanes and reconstruct	$51.838			
46	SR-997 (Krome)	North of SW 8 St (Tamiami)	MP 2.754	Add 2 lanes and reconstruct	$22.184			
47	SR-997 (Krome)	MP 10.953	MP 14.184/ US-27 (Okeechobee)	Add 2 lanes and reconstruct	$42.082			
48	SR-997 (Krome)	MP 2.754	MP 5.122	Add 2 lanes and reconstruct	$20.714			
49	SR-997 (Krome)	MP 5.122	MP 8.151	Add 2 lanes and reconstruct	$27.589			
50	SR-997 (Krome)	MP 8.151	MP 10.935	Add 2 lanes and reconstruct	$24.460			
51	SR-997 (Krome)	SW 312 St (Campbell)	SW 296 St	Resurface and add 2 lanes	$14.098			
52	SR-997 (Krome)	SW 296 St	SW 232 St	Add 2 lanes and reconstruct	$79.351			
53	SR-997 (Krome)	SW 232 St	SW 184 St (Eureka)	Add 2 lanes and reconstruct	$53.080			
54	SR-997 (Krome)	SW 184 St (Eureka)	SW 136 St	Add 2 lanes and reconstruct	$38.236			
55	SW 107 Ave	SW 3 St	West Flagler St	Add lanes and rehabilitate pavement	$14.132			
56	SW 107 Ave	SW 1100 Block	SW 3 St	Add lanes and rehabilitate pavement	$32.470			

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
** denotes portions of phase values are included in both the TIP and 2040 Pla*
*** denotes Operations and Maintenance is funded via MDT system e˜ciencies*

Priority I 2015-2020				Priority II 2021-2025				Priority III 2026-2030				Priority IV 2031-2040			
PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M
		$5.500													
		$0.374													
	$9.189	$131.824													
		$0.834													
$1.314		$154.934													
$0.413		$79.854													
$7.407		$93.500													
*$1.206		*$229.158		Amended by MPO Resolution #07-15											
		$38.895													
		$96.510													
		$3.467													
			**				**				**				**
$0.210	$10.860	$187.716													
$0.050		$80.929													
$0.973	$3.711	$98.737													
		$1.269													
	$3.989	$55.546													
	$5.100	$45.168													
		$21.653													
$0.020		$41.803													
		$20.547													
		$27.556													
		$24.425													
$1.075		$13.023													
$2.850	$43.126	$33.109													
$1.785	$29.200	$21.694													
$0.087	$12.183	$24.116													
	$6.859	$5.401													
	$13.376	$12.234													

Table 6-6 | Priority I Projects (continued) (Values in Millions YOE $)

MAP ID	Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2013 $)	Project Costs Funded via 2040 Plan	
57	SW 137 Ave	US-1	SW 200 St	Completion as 2 continuous lanes	$13.934			
58	SW 137 Ave	SR-821 (HEFT)	US-1	Add 2 lanes and reconstruct	$6.949			
59	SW 147 Ave/SW 8 St Park-and-Ride**			Park-and- Ride facility	$9.000			
60	SW 152 St	SW 157 Ave	SW 147 Ave	Add 2 lanes and reconstruct	$2.351			
61	SW 157 Ave	SW 184 St (Eureka)	SW 152 St (Coral Reef)	New 4 lane road construction	$6.662			
62	SW 27 Ave	US-1	Bayshore Dr	Add center turn lane	$1.347			
63	SW 312 St (Campbell)	SW 187 Ave	SW 177 Ave	Add 2 lanes and center turn lane and reconstruct	$5.723			
64	SW 312 St (Campbell)	SR-997 (Krome)	US-1	Widening existing lanes and reconstruct	$13.181			
65	SW 320 St (Mowry)	SW 187 Ave	Flagler Ave	Add 2 lanes and reconstruct	$1.805			
66	SW 328 St	US-1	SW 162 Ave	Add 2 lanes and reconstruct	$2.146			
67	SW 336 St	SR-997 (Krome)	US-1	Widen and resurface existing roadway	$1.390			
68	SW 344 St (Palm)	SR-997 (Krome)	US-1	Widen and resurface existing roadway	$0.890			
69	West Ave Connector Bridge	North of Lincoln Rd	South of 18 St	New bridge construction	$5.473			
70	SR-968/SW 1 St	At Miami		Bridge replacement	$84.981			
71	NW 89 Ave	NW 93 St	NW 95 St	Widen to 3 lanes		$1.281	$1.550	
72	NW 93 St	NW 89 Ave	NW 87 Ave	Widen to 3 lanes		$1.281	$1.550	
73	NE 151 St	Biscayne Blvd	Bay Vista Blvd	Widen to 6 lanes				
74	SR 836 (Dolphin)	SR 836 (Dolphin)	SR 821 (HEFT)	New HEFT Ramp Connections		$20.165	$24.400	
75	SR 874 (Don Shula)/SW 72 St			Add new interchange		$8.017	$9.700	
76	NW 82 Ave	NW 7 St NW 10 St	NW 10 St NW 12 St	Widen to 3 lanes New 4 lane road construction			$2.717	
77	NW South River Dr	NW 38 St	NW 32 Ave	Roadway reconstruction and bridge replacement at Palmer Lake			$9.118	
78	NW 97 Ave	NW 154 St	NW 170 St	New 2 lane roadway (West side)			$5.000	
79	NW 107 Ave	NW 138 St	NW 170 St	New 5 lane roadway			$14.000	
80	Homestead Multimodal Transit Center & Pedestrian Transit Access			Construct new multimodal transit center			$33.330	

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
** denotes portions of phase values are included in both the TIP and 2040 Plan*
*** denotes Operations and Maintenance is funded via MDT system efficiencies*

Priority I 2015-2020				Priority II 2021-2025				Priority III 2026-2030				Priority IV 2031-2040			
PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M
$0.100		$13.834													
$0.031		$6.918													
		$9.000	**				**				**				**
		$2.351													
		$6.662													
		$1.347													
$0.443		$5.280													
$0.880		$12.301													
		$1.805													
		$2.146													
$0.275		$1.115													
$0.220		$0.670													
	$1.635	$2.552													
$0.140	$4.651	$84.981													
$0.133		**$1.418**		Added by MPO Resolution #16-15											
$0.133		**$1.418**		Added by MPO Resolution #16-15											
				Added by MPO Resolution #29-15											
		$24.400		Added by MPO Resolution #01-16											
		$9.700		Added by MPO Resolution #02-16											
		$2.717		Amended by MPO Resolution #54-16											
		$9.118		Added by MPO Resolution #55-16											
		$5.000		Amended by Resolution #56-16											
		$14.000		Amended by Resolution #56-16											
		$33.330		Amended by Resolution #04-17											

PRIORITY II **SNAPSHOT**

Figure 6-5 | Number of Priority II Projects by Improvement Type

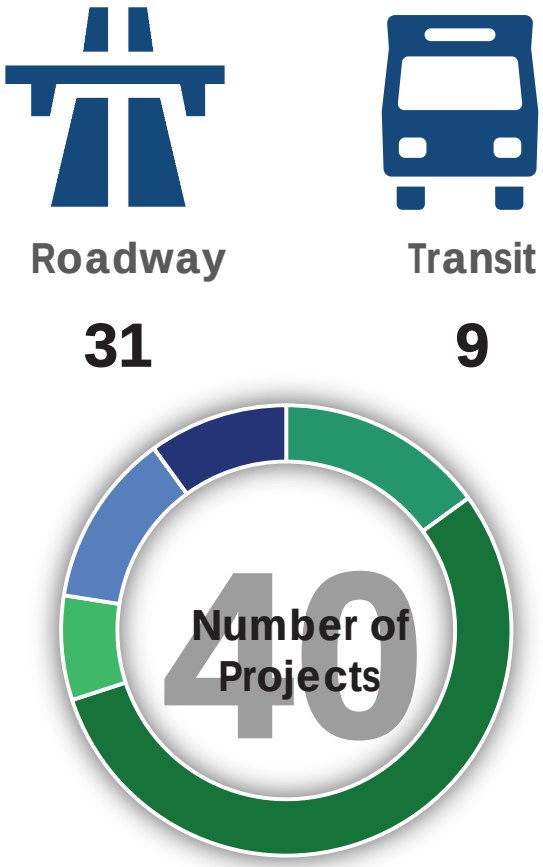
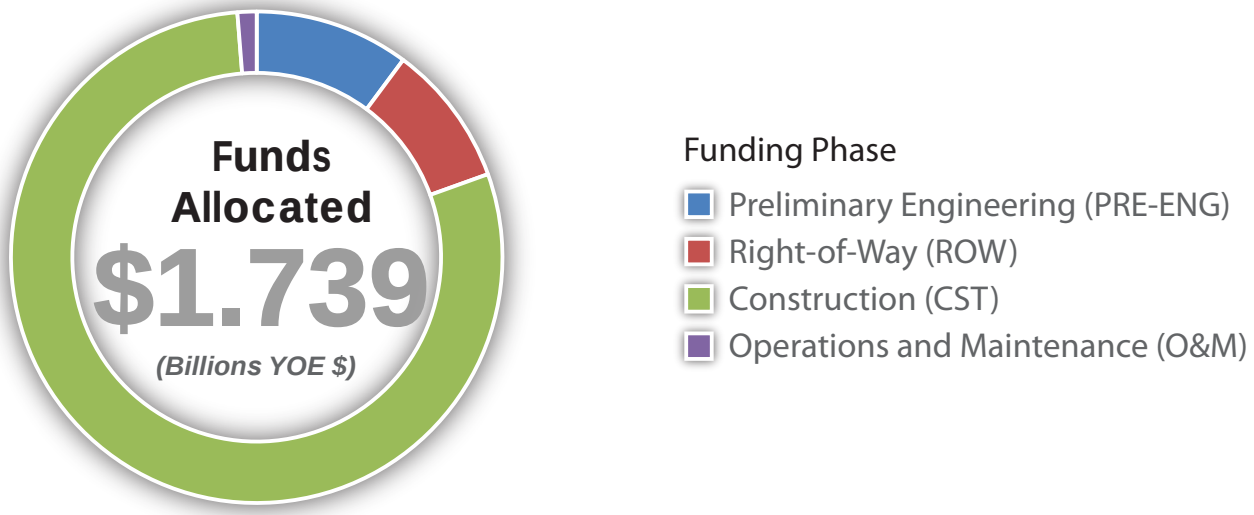


*Figure 6-6 | Priority II Allocation by Project Funding Phase**



Note: Snapshot does not include the Port of Miami Tunnel / Oversight Consultant.
**Funds Allocated do not include funds included through the TIP or O&M for improvements on the SHS.*

Figure 6-7 | Priority II Project Map

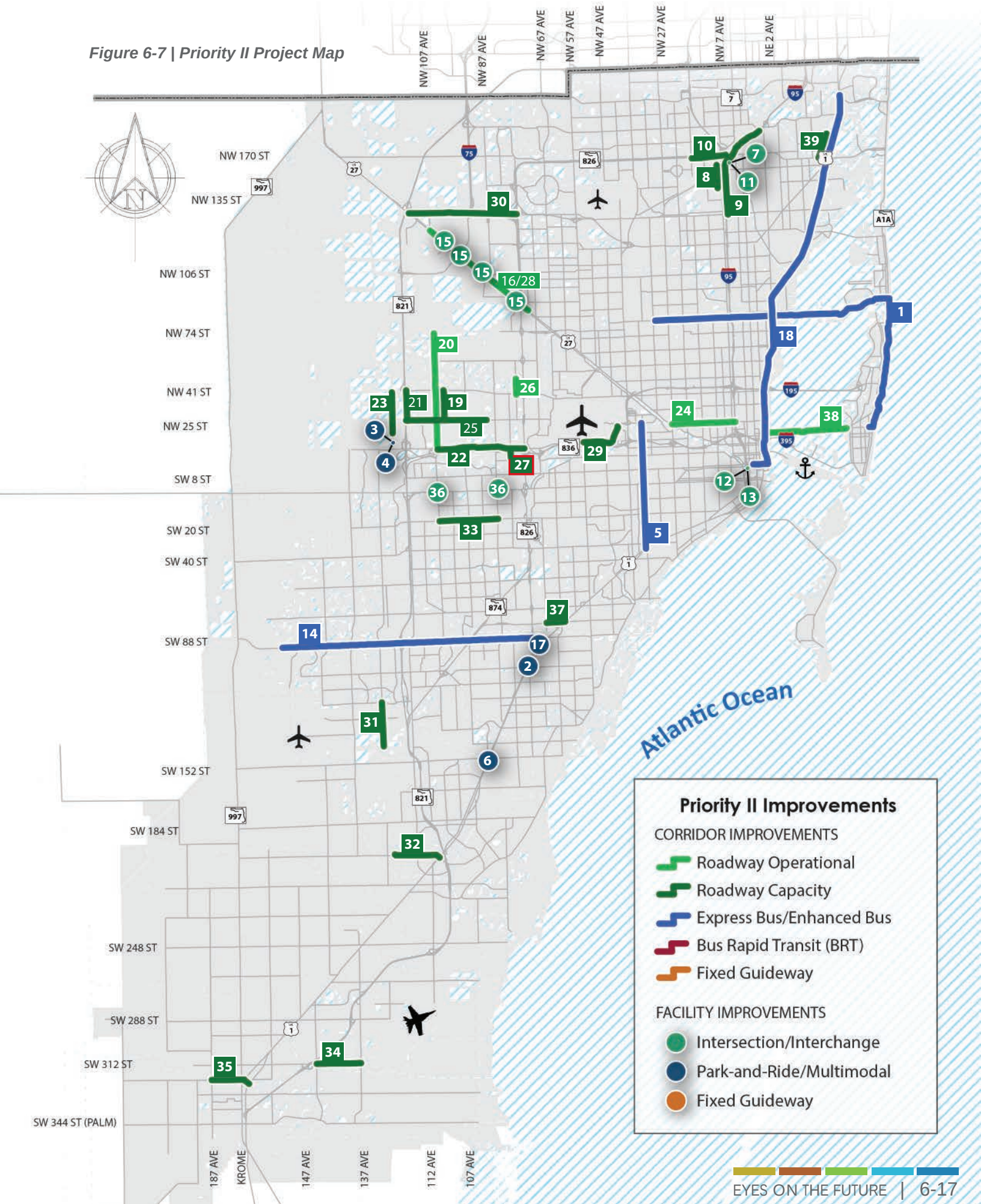


Table 6-7 | Priority II Projects (Values in Millions YOE $)

MAP ID	Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2013 $)	Project Costs Funded via 2040 Plan	
1	79 St Causeway (JFK Cwy) Enhanced Bus	Northside Metrorail Station	Miami Beach Convention Center	Improve/implement transit service		$55.457	$218.876	
2	Busway Park-and-Ride Facility	US-1 Busway	SW 104 St	Park-and-Ride facility with 250-300 surface parking spaces		$0.116	$1.581	
3	Direct Ramps to Dolphin Station Transit Terminal	SR-821 (HEFT) Managed Lanes	Dolphin Station Transit Terminal	Direct access ramps for transit and trucks		$45.000	$60.750	
4	Dolphin Station Transit Terminal	West of SR-821 (HEFT) and North of NW 12 St		Park-and-Ride with kiss-and-ride, 12 bus bays & 1000 parking spaces		$25.000	$31.425	
5	Douglas Road Corridor (37 Ave) Enhanced Bus**	US-1	Miami Intermodal Center (MIC)	Incremental improvement on PTP corridor		$13.200	$17.820	
6	Expand Overcapacity Park-and-Ride lot at SW 152 St			New parking garage with 500 parking spaces		$16.250	$22.333	
7	Golden Glades Interchange: Florida Turnpike SouthBound	At I-95		Express Lane Flyover	$3.413		$64.683	
8	Golden Glades Interchange: I-95	Biscayne River Canal	Miami Gardens Dr	Add 2 auxiliary lanes	$2.791		$35.980	
9	Golden Glades Interchange: I-95	SR 916/Opa-Locka Boulevard	Golden Glades Interchange	New road construction	$3.672		$70.916	
10	Golden Glades Interchange: SR-826 (Palmetto)	NW 17 Ave	Golden Glades Interchange	Managed lanes	$104.639		$103.289	
11	Golden Glades Interchange: SR-826 (Palmetto)	At I-95		New express lane ramps on I-95	$11.388		$228.120	
12	I-95	I-95	E 2 Ave	Ramp reconstruction/ reconfiguration of I-95 ramps		$29.614	$39.979	
13	I-95	I-95	S Miami Ave	Ramp reconstruction/ reconfiguration of I-95 ramps		$29.614	$39.979	
14	Kendall Corridor (Kendall Enhanced Bus)**	West Kendall Transit Terminal	Dadeland North Metrorail Station	Incremental improvement on PTP corridor	$6.609	$8.800	$11.880	
n/a	MDT Bus Stop Enhancements	MDT System		Enhance all off-street bus stops		$2.500	$3.375	
15	Medley Bridge/Canal Improvement Program			Improvements at; NW 121 Way, NW 116 Way, NW 105 Way, NW 79 Ave		$5.000	$6.750	
16	Medley Freight Access Roadway Improvements	US-27 (Okeechobee)	Medley	Bridge widening and canal improvements		$ 0.263	$2.073	
17	Metrorail Park-and-Ride Facility	At Dadeland South		Expand Park-and-Ride facility with 1000 parking space garage		$25.000	$34.541	
18	Northeast Corridor (Biscayne) Enhanced Bus**	Miami Downtown Terminal	Aventura Terminal	Incremental improvement on PTP corridor	$4.500	$14.000	$17.293	
19	NW 107 Ave	NW 41 St	NW 25 St	Add 2 lanes and reconstruct		$12.873	$16.810	
20	NW 107 Ave	NW 12 St	NW 74 St	Operational and capacity improvements where feasible		$0.263	$1.091	
21	NW 117 Ave	NW 25 St	NW 41 St	New 2 lane road to support the flow of truck traffic to SR-821 (HEFT)		$2.500	$9.153	
22	NW 12 St	NW 107 Ave	SR-826 (Palmetto)	Widening		$20.000	$26.476	
23	NW 122 Ave	NW 12 St	NW 41 St	New 2 lane road to support the flow of truck traffic from SR-821 (HEFT)		$11.635	$14.257	
24	NW 20 St	NW 27 Ave	I-95	Roadway infrastructure improvements		$0.566	$1.255	
25	NW 25 St	NW 89 Ct	SR-821 (HEFT)	Capacity and operational improvements		$24.336	$32.853	
26	NW 79 Ave	NW 48 Way	NW 36 St	Merge and reduce access points if possible		$0.197	$0.254	
27	~~NW 82 Ave~~	~~NW 8 St~~	~~NW 12 St~~	~~New 4 lane road construction~~		~~$2.977~~	~~$3.999~~	
28	NW South River Dr	NW 107 Ave	NW 74 Ave	Roadway and operational improvements		$5.000	$6.750	

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
** denotes portions of phase values are included in both the TIP and 2040 Plan*
*** denotes Operations and Maintenance is funded via MDT system efficiencies*
n/a - not applicable, project not shown on map

	Priority I 2015-2020				Priority II 2021-2025				Priority III 2026-2030				Priority IV 2031-2040			
	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M
					$7.371	$15.795	$45.279	$16.054				$37.816				$96.561
								$0.169				$0.398				$1.015
					$8.505		$52.245									
	$4.235		$24.714					$0.109				$0.257				$0.657
							$17.820									
					$2.363	$5.063	$14.513	$0.042				$0.099				$0.254
	$3.413						$61.270									
	$2.791						$33.189									
	$3.672						$67.244									
							$103.289									
	$11.388						$216.732									
					$6.663		$33.316									
					$6.663		$33.316									
		$1.000	**$5.609**				$11.880	**				**				**
					$0.473		$2.903									
					$1.350	$1.688	$3.713									
					$0.071		$0.284	$0.183				$0.432				$1.103
					$4.725		$29.025	$0.084				$0.199				$0.508
			***$18.391**				$3.402	**				**				**
	$0.593	$5.539	$0.944				$9.483	$0.027				$0.063				$0.161
					$0.071		$0.284	$0.079				$0.185				$0.473
					$2.187		$6.966									
	$4.840	$6.050					$14.850	$0.079				$0.185				$0.473
	$2.816	$3.519	$6.194				$1.728									
	$0.137	$0.171					$0.420	$0.056				$0.133				$0.339
					$6.070	$7.587	$19.196									
	$0.048	$0.060					$0.146									
	~~$0.214~~	~~$0.315~~	~~$0.307~~				~~$3.086~~	~~$0.008~~				~~$0.019~~	Moved to Priority 1 by MPO Resolution #54-16			~~$0.049~~
					$1.350	$1.688	$3.713									

Table 6-7 | Priority II Projects (continued) (Values in Millions YOE $)

MAP ID	Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2013 $)	Project Costs Funded via 2040 Plan	
29	Perimeter Rd	NW 42 Ave (LeJeune)	NW 57 Ave	Add 2 lanes and reconstruct		$13.488	$17.373	
n/a	Port of Miami Tunnel / Oversight Consultant			Payment to oversight consultant of the Port of Miami Tunnel	$3.300		$2.816	
30	SR-924 Gratigny West Extension	SR-826 (Palmetto)/I-75	SR-821 (HEFT)	Extend SR-924 to SR-821 (HEFT) with connections to I-75 and SR- 826 (Palmetto)	$25.886	$150.000	$240.800	
31	SW 127 Ave	SW 120 St	SW 144 St	Add 2 lanes and new 4 lane road construction		$10.118	$13.536	
32	SW 200 St	US-1	Quail Roost Dr	Add 2 lanes and reconstruct		$11.211	$15.279	
33	SW 24 St	SW 107 Ave	SW 87 Ave	Add 2 lanes and reconstruct		$15.758	$21.428	
34	SW 312 St (Campbell)	SW 152 Ave	SW 137 Ave	Add 2 lanes with left turn lanes and reconstruct		$11.314	$14.932	
35	SW 320 St (Mowry)	SW 197 Ave US-1	SW 187 Ave SW 142 Ave	Add 2 lanes with left turn lanes and reconstruct		$5.355	$7.091	
36	SW 8 St (Tamiami)	SW 87 Ave	SW 107 Ave	Grade Separations at SW 8 St/SW 87 Ave and SW 8 St/SW 107 Ave	$1.650	$79.410	$181.653	
37	SW 80 St	SW 72 Ave	US-1	Add 2 lanes and center turn lane and reconstruct		$6.257	$8.605	
38	Venetian Causeway Bridge	Bayshore Dr	Purdy Ave	Bridge replacement		$131.462	$177.601	
39	W Dixie Hwy	NE 163 St	NE 175 St	Widen to 4 Lanes		$4.682	$5.997	

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
** denotes portions of phase values are included in both the TIP and 2040 Plan*
*** denotes Operations and Maintenance is funded via MDT system efficiencies*
n/a - not applicable, project not shown on map

	Priority I 2015-2020)				Priority II 2021-2025				Priority III 2026-2030				Priority IV 2031-2040			
	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M
	$1.801		$8.712				$6.480	$0.041				$0.096				$0.244
			$1.500				$1.316									
	$13.748	**$12.138**	$43.996				$153.414	$4.635				$10.917				$27.876
	$0.551	$2.791	$0.890				$8.937	$0.039				$0.092				$0.235
	$0.801		$1.276				$12.816	$0.041				$0.097				$0.247
	$1.109		$1.796				$18.032	$0.052				$0.123				$0.315
	$2.738	$3.422					$8.401	$0.040				$0.093				$0.238
	$1.296	$1.620	$1.069				$2.783	$0.035				$0.081				$0.208
	$1.650				$21.441	$101.250	$58.962									
					$0.452	$0.849	$7.147	$0.017				$0.039				$0.101
	$4.769						$172.152	$0.073				$0.171				$0.436
			$4.532				$1.264	$0.021				$0.051				$0.129

PRIORITY III **SNAPSHOT**

Figure 6-8 | Number of Priority III Projects by Improvement Type

Roadway

32

Transit

5

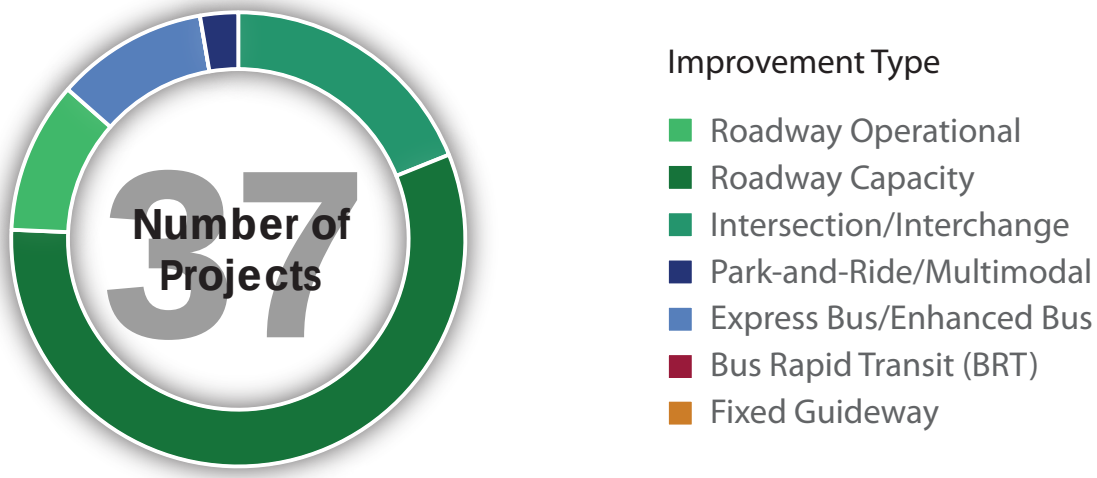
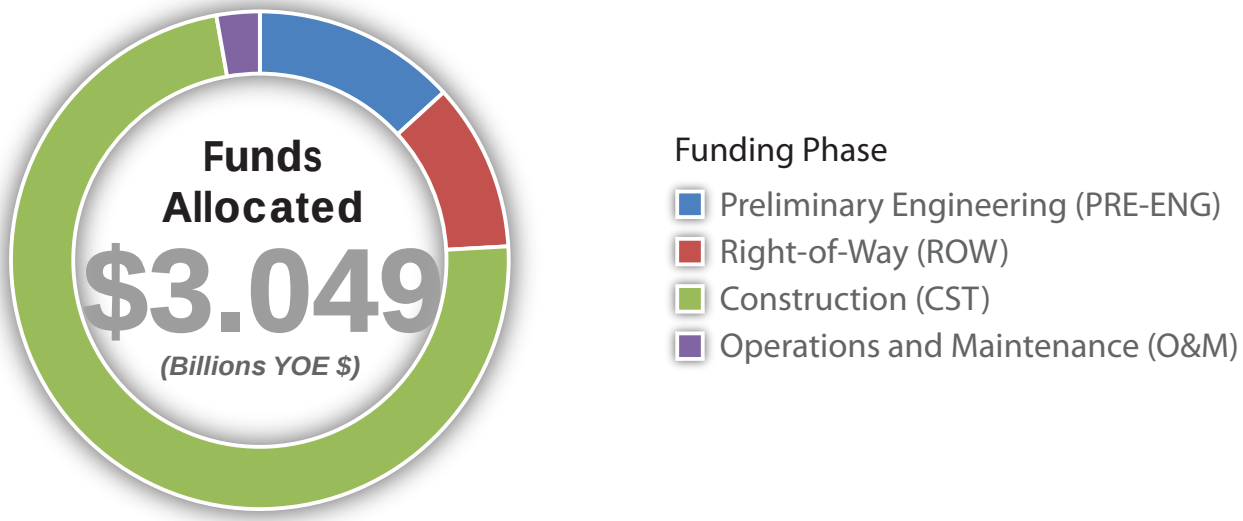


*Figure 6-9 | Priority III Allocation by Project Funding Phase**



**Funds Allocated do not include funds included through the TIP or O&M for improvements on the SHS.*

Figure 6-10 | Priority III Project Map

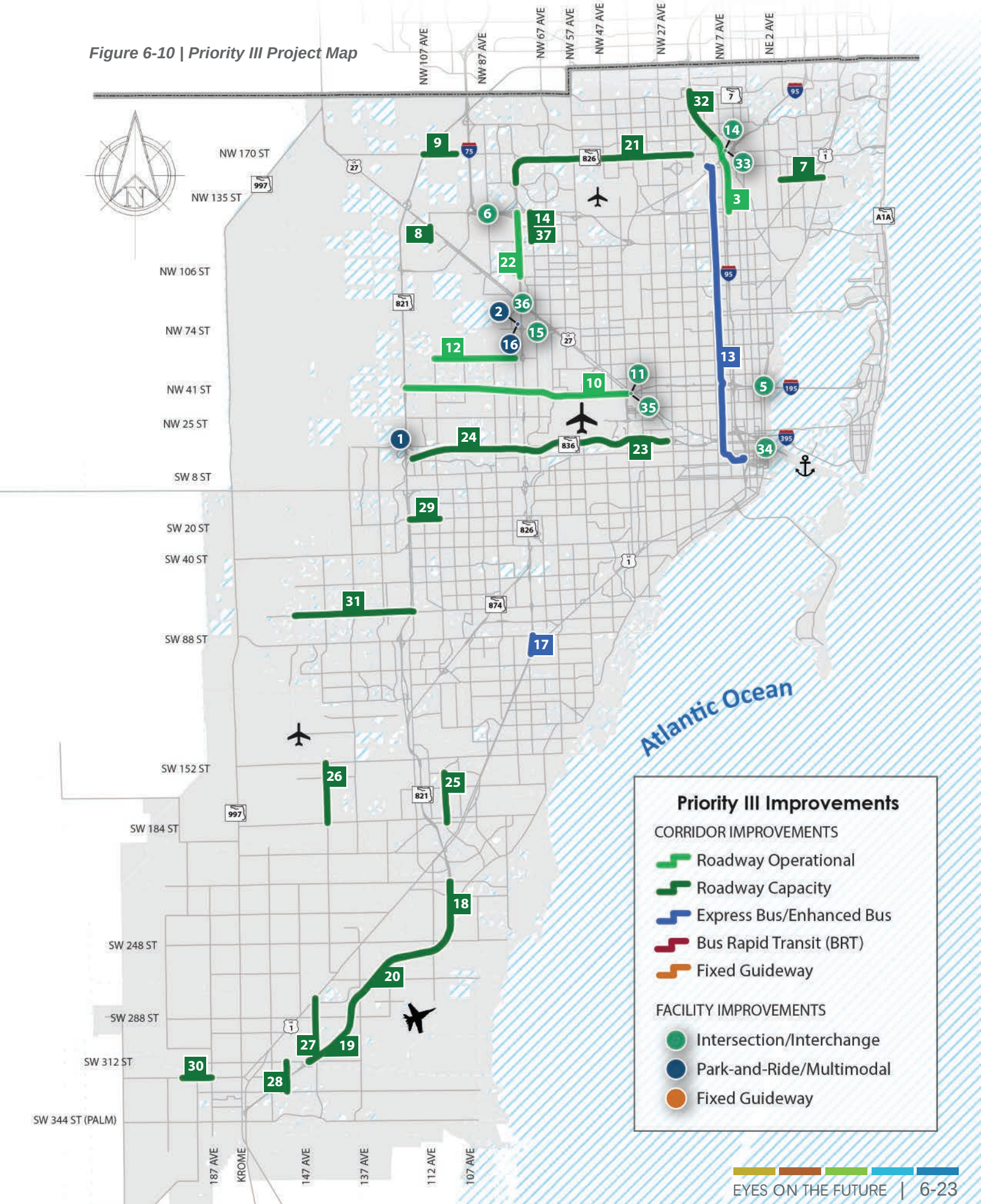


Table 6-8 | Priority III Projects (Values in Millions YOE$)

MAP ID	Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2013 $)	Project Costs Funded via 2040 Plan	
1	Direct Ramps to Dolphin Station Transit Terminal	SR-836 (Dolphin) Managed Lanes	Dolphin Station Transit Terminal	Direct access ramps for transit		$45.000	$ 71.550	
2	Direct Ramps to Palmetto Intermodal Terminal	SR-826 (Palmetto) Managed Lanes	Palmetto Intermodal Terminal	Direct access ramps for transit		$45.000	$70.038	
3	Golden Glades Interchange	SB Turnpike	SB I-95 at NW 135 St	Modify interchange			$224.190	
4	Golden Glades Interchange: SR-826 (Palmetto)	NW 17 Ave at SR-826 (Palmetto)	NB I-95 at NW 183 St	Modify interchange			$322.770	
5	I-195 ramps in Midtown (N 36 & N 38 Sts)	I-195	N 36 & N 38 St	Reconstruction/ reconfiguration of ramps leading to N 36 St & N 38 St		$29.614	$47.087	
6	I-75 Ramp	At NW 87 Ave		Construct an off ramp from SB I-75 to SB W 28 Ave/NW 87 Ave		$29.614	$47.087	
7	NE 151 St	NE 10 Ave	West Dixie Highway	Add 2 lanes and reconstruct		$12.105	$19.517	
8	NW 107 Ave	1000 feet North of W 122 St	US-27 (Okeechobee)	Widen bridge over Miami Canal		$2.602	$4.199	
9	NW 170 St	SR-821 (HEFT)	NW 97 Ave	6-lane divided roadway		$14.716	$23.609	
10	NW 36 St/NW 41 St	NW 42 Ave (Le Jeune)	SR-821 (HEFT)	Operational improvements		$0.263	$0.418	
11	NW 42 Ave (LeJeune)	US-27 (Okeechobee)		Improve advance signage for intersection lane alignment		$0.134	$0.213	
12	NW 58 St	NW 107 Ave	NW 82 Ave	Corridor traffic operational improvements		$0.263	$0.795	
13	NW 7 Ave Enhanced Bus	Downtown Miami	Golden Glades Interchange Terminal	Premium limited stop transit service		$37.050	$85.241	
14	NW 72 Ave (Milam Dairy)	NW 122 St	NW 138 St	Add center turn lane		$4.200	$6.865	
15	NW 72nd Ave (Milam Dairy)	Hialeah Expy		Operational improvements		$0.103	$0.164	
16	Palmetto Intermodal Terminal	SR-826 (Palmetto) and NW 74 St		Expadand Park-and-Ride facility	$2.655	$25.000	$35.647	
17	Ramps between US-1 Busway and SR-826 (Palmetto)	US-1 Busway	SR-826 (Palmetto)	Construct ramps connecting the US-1 Busway to SR-826 (Palmetto)		$60.000	$93.384	
18	SR-821 (HEFT)	SW 137 Ave	SW 216 St	Widen to 8 lanes, include express lanes for portion of project length		$72.160	$185.439	
19	SR-821 (HEFT)	SW 312 (Campbell Dr)	SW 288 St	Widen to 6 lanes		$36.080	$66.947	
20	SR-821 (HEFT)	SW 288 St	SW 137 Ave (Speedway)	Widen to 8 lanes		$11.990	$29.676	
21	SR-826 (Palmetto)	NW 154 St	NW 17 Ave	Managed lanes	$21.000		$701.190	
22	SR-826 (Palmetto)	NW 138 St	NW 103 St/W 49 St	Add a braided off ramp to W 68 St/ NW 122 St		$52.600	$47.087	
23	SR-836 (Dolphin) Managed Lanes	SR-826 (Palmetto)/ SR-836 (Dolphin)	Just West of 27 Ave	Two new managed lanes within the right-of-way of SR-836 (Dolphin)		$59.300	$129.700	
24	SR-836 (Dolphin) Managed Lanes	SR-821 (HEFT)	SR-826 (Palmetto)/SR-836 (Dolphin) Interchange	Two new managed lanes within the ROW of SR 836 (Dolphin)		$80.500	$140.400	
25	SW 107 Ave	Quail Roost Dr	SW 160 St	Add 2 lanes and reconstruct		$11.295	$18.280	
26	SW 147 Ave	SW 184 St (Eureka)	SW 152 St (Coral Reef)	Add 2 lanes and reconstruct		$13.359	$21.626	
27	SW 152 Ave	US-1	SW 312 St (Campbell)	Add 2 lanes and reconstruct		$11.220	18.276	
28	SW 162 Ave (Farm Life)	SW 312 (Campbell)	SW 328 (Lucy)	Add 2 lanes and center turn lane and reconstruct		$8.410	$13.562	
29	SW 24 St	SW 117 Ave	SW 107 Ave	Add 2 lanes and reconstruct		$8.235	$13.284	

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
** denotes portions of phase values are included in both the TIP and 2040 Plan*
*** denotes Operations and Maintenance is funded via MDT system efficiencies*

Priority I 2015-2020				Priority II 2021-2025				Priority III 2026-2030				Priority IV 2031-2040			
PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M
								$10.017		$61.533					
				$8.505						$61.533					
									$111.300	$112.890					
									$7.950	$314.820					
								$7.848		$39.239					
								$7.848		$39.239					
								$0.980	$2.822	$15.445	$0.044				$0.225
								$0.260		$3.876	$0.010				$0.052
								$4.680	$5.850	$12.869	$0.035				$0.176
								$0.084		$0.335					
								$0.021		$0.192					
								$0.084		$0.335	$0.062				$0.315
				$5.387	$11.543	$9.265				$28.059	$5.074				$25.914
								$0.457		$6.221	$0.031				$0.156
								$0.016		$0.147					
$2.655				$4.725		$21.769				$8.546	$0.099				$0.508
				$11.340						$82.044					
				$8.856						$104.304	$11.836				$60.444
				$4.428		$19.040				$29.727	$2.252				$11.500
				$1.472						$17.331	$1.781				$9.093
$3.100	$18.000									$701.190					
								$7.848		$39.239					
								$6.837		$87.450	$5.800				$29.618
				$7.425		$74.520				$31.482	$4.435				$22.649
								$0.985	$1.451	$15.524	$0.052				$0.268
								$1.245	$0.328	$19.667	$0.063				$0.323
								$1.057		$16.784	$0.071				$0.364
								$2.674	$3.343	$7.354	$0.031				$0.159
								$0.774		$12.320	$0.031				$0.159

Table 6-8 | Priority III Projects (continued) (Values in Millions YOE $)

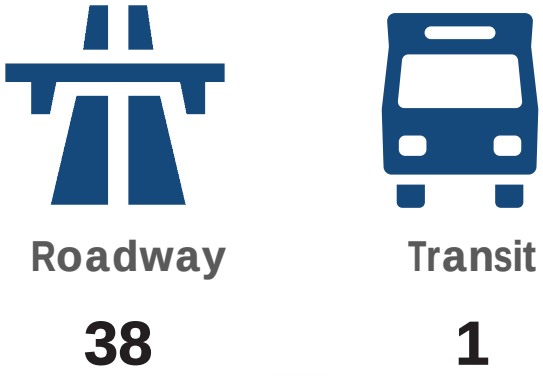
MAP ID	Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2013 $)	Project Costs Funded via 2040 Plan	
30	SW 320 St (Mowry)	SW 187 Ave S. Dixie Hwy	SW 197 Ave SW 142 Ave	Add 2 lanes and reconstruct		$24.804	$37.310	
31	SW 72 St	SW 117 Ave	SW 157 Ave	Add 2 lanes and reconstruct		$29.783	$48.118	
32	Turnpike (Mainline)	Golden Glades Interchange	SR-821 (HEFT)	Widen to 8 lanes		$73.984	$129.543	
33	Turnpike (Mainline)	Golden Glades Interchange		Add SB ramp capacity		$55.000	$87.450	
34	US-1	Port Blvd		Expand SB left turn lane for trucks entering Port of Miami		$1.275	$1.986	
35	US-27 (Okeechobee)	NW 42 Ave (Le Jeune)		Improve access at intersection		$0.263	$0.418	
36	US-27 (Okeechobee)	SR-826 (Palmetto)		Operational improvements		$8.024	$12.758	
37	NW 72 Ave (Milam Dairy)/ W 16 Ave	W 68 St/NW 122 St	W 77 St	Roadway improvements		$2.253	$3.583	

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
** denotes portions of phase values are included in both the TIP and 2040 Plan*
*** denotes Operations and Maintenance is funded via MDT system efficiencies*

	Priority I 2015-2020				Priority II 2021-2025				Priority III 2026-2030				Priority IV 2031-2040			
	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M
					$2.025		$11.011				$24.085	$0.031				$0.158
									$2.742		$44.613	$0.125				$0.638
					$8.213					$11.235	$96.727	$2.189				$11.179
											$87.450					
					$0.235						$1.751					
									$0.084		$0.335					
									$2.552	$3.190	$7.017					
											$3.583					

PRIORITY IV **SNAPSHOT**

Figure 6-11 | Number of Priority IV Projects by Improvement Type



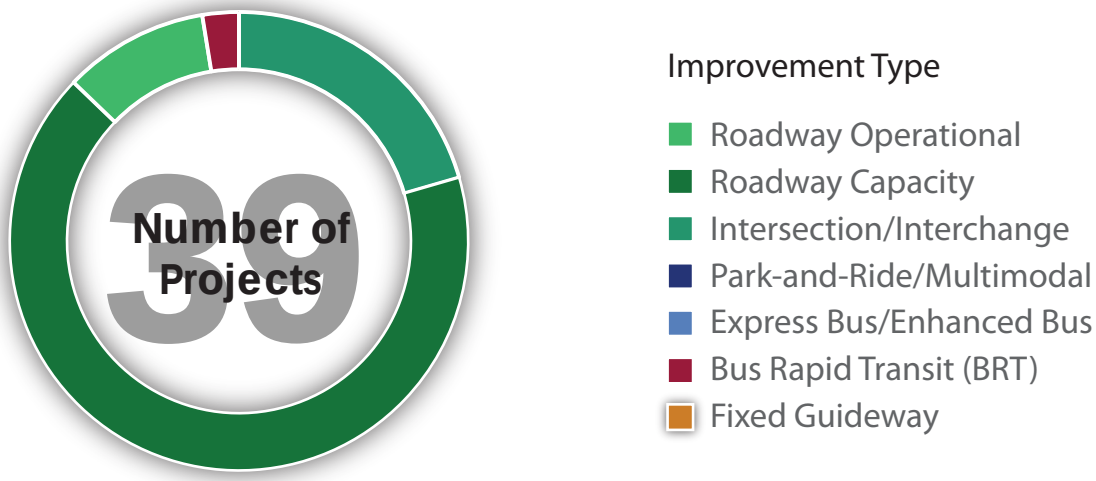
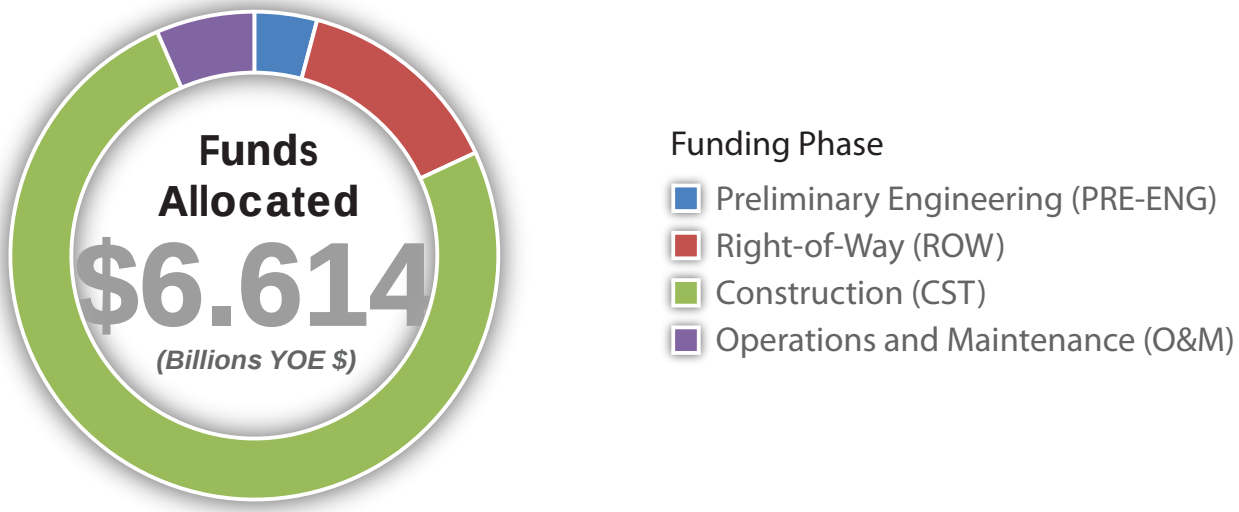


*Figure 6-12 | Priority IV Allocation by Project Funding Phase**



Note: Snapshot does not include the Port of Miami Tunnel Financial Repayments
**Funds Allocated do not include funds included through the TIP or O&M for improvements on the SHS.*

Figure 6-13 | Priority IV Project Map

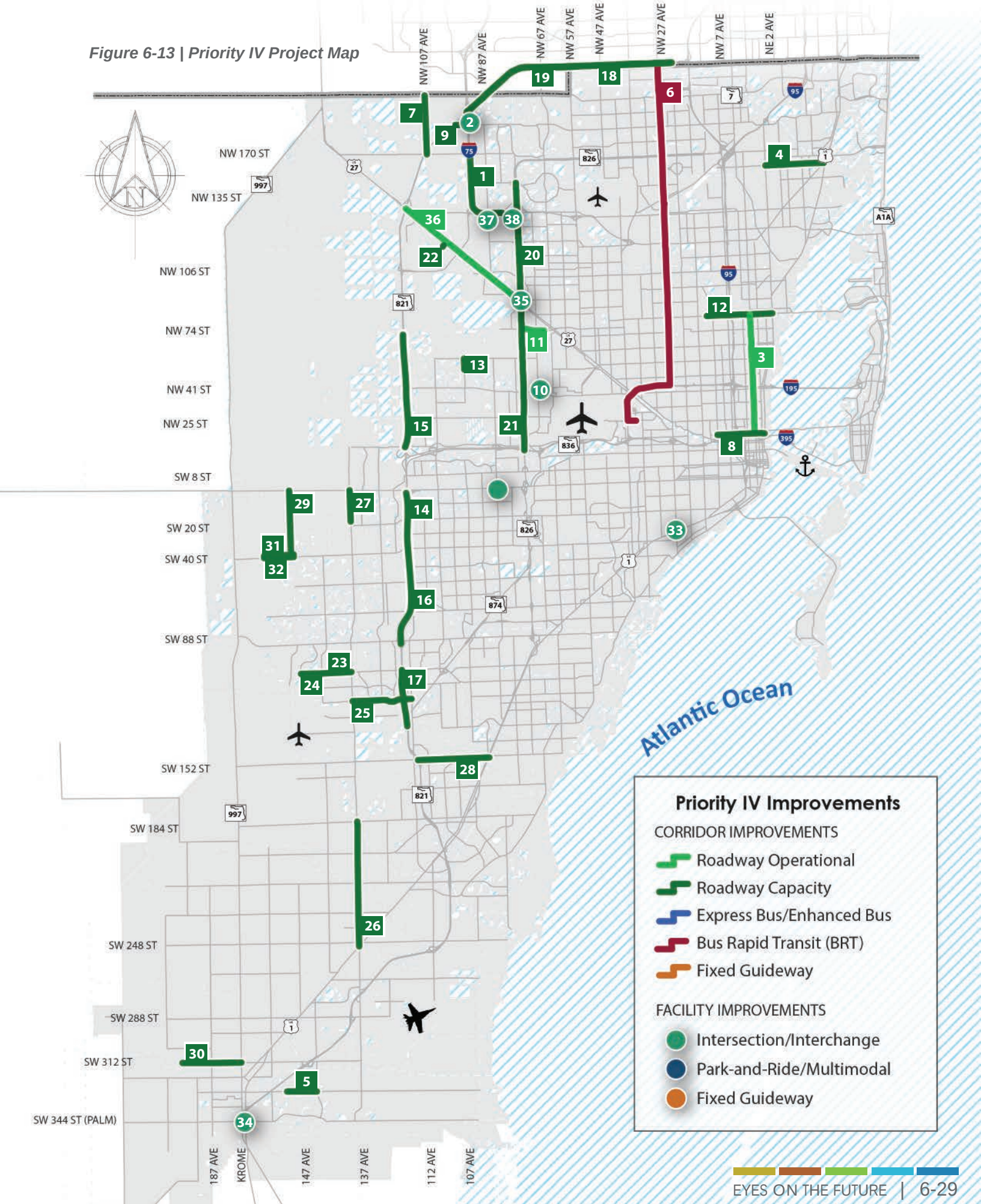


Table 6-9 | Priority IV Projects (Values in Millions YOE $)

MAP ID	Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2013 $)	Project Costs Funded via 2040 Plan	
1	I-75	SR-826 (Palmetto)	NW 170 St	Widen with express lanes			$550.000	
2	I-75	At Miami Garden Dr		Modify Interchange	$8.520		$132.820	
3	N. Miami Ave	NW 14 St	Miami City Limitis	Roadway improvements		$3.358	$7.576	
4	NE 159 St	NE 6 Ave	West Dixie Highway	Add 2 lanes and reconstruct		$13.731	$ 28.032	
5	North Canal Dr	SW 162 Ave	SW 152 Ave	Add 2 lanes and divided roadway with left turn lanes		$8.493	$17.321	
6	North Corridor (NW 27 Ave) BRT with Dedicated Lanes	Miami Intermodal Center (MIC)	NW 215 St	Full bus rapid transit		$291.120	$625.975	
7	NW 107 Ave***	NW 170 St	Broward County line	Extend NW 107 Ave to the County Line		$34.404	$70.887	
8	NW 14 St	Civic Center	US-1	Widen to 3 lanes and resurface		$7.857	$16.056	
9	NW 186 St	NW 97 Ave	I-75	New 4 lane road construction		$5.355	$10.906	
10	NW 36 St	At NW 72 Ave (Milam Dairy)		Grade separation of NW 36 St over NW 72 Ave		$39.705	$80.601	
11	NW 74 St	SR-826 (Palmetto)	FEC Intermodal Yard	Modify connector			$130.900	
12	NW 79 St/NW 81 St/NW 82 St	NW 13 Ct	Biscayne Bay	Capacity improvements		$16.859	$34.223	
13	NW 97 Ave	NW 58 St	NW 52 St	Add 2 lanes and reconstruct		$2.514	$5.132	
n/a	Port of Miami Tunnel	Port of Miami	SR 836 (Dolphin)/I-395	Financing/repayments	$10.264		$6.500	
n/a	Port of Miami Tunnel	Port of Miami	SR 836 (Dolphin)/I-395	Financing/repayments	$2,611.161		$1,463.342	
n/a	Port Tunnel / Miami-Dade County MPO Priority			FDOT repayment to Miami-Dade County	$110.000		$382.000	
14	SR-821 (HEFT)	SW 40 St (Bird)	SW 8 St (Tamiami	Transportation systems management and operations (TSM&O)		$8.640	$17.539	
15	SR-821 (HEFT)	NW 12 St	NW 74 St	Transportation systems management and operations (TSM&O)		$17.064	$34.640	
16	SR-821 (HEFT)	SW 88 St (Kendall)	SW 40 St (Bird)	Transportation systems management and operations (TSM&O)		$13.997	$28.414	
17	SR-821 (HEFT)	SR-874 (Don Shula)	Killian Pkwy	Widen to 10 lanes		$52.742	$101.973	
18	SR-821 (HEFT)	NW 57 Ave (Red)	Turnpike (Mainline)	Widen to 8 lanes		$40.238	$90.991	
19	SR-821 (HEFT)	I-75	NW 57 St (Red)	Widen to 8 lanes		$47.176	$93.266	
20	SR-826 (Palmetto)	NW 103 St	NW 154 St	Widen with express lanes			$763.400	
21	SR-826 (Palmetto)	SR-836 (Dolphin)	NW 103 St	Add 4 special use lanes			$763.400	
22	SW 102 Ave	Tamiami Canal		New bridge over Tamiami Canal		$5.520	$11.221	
23	SW 104 St	SW 147 Ave	SW 137 Ave	Add 2 lanes and reconstruct		$7.568	$15.442	
24	SW 104 St	Hammocks Blvd	SW 147 Ave	Add 2 lanes and reconstruct		$5.245	$10.702	
25	SW 120 St	SW 137 Ave	SW 117 Ave	Add 2 lanes and reconstruct		$15.285	$31.190	
26	SW 137 Ave	US-1	SW 184 St	Add 2 lanes and reconstruct		$10.466	$21.581	

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
** denotes portions of phase values are included in both the TIP and 2040 Plan*
*** denotes Operations and Maintenance is funded via MDT system efficiencies*
****Project does not comply with the CDMP*
n/a - not applicable, project not shown on map

Priority I 2015-2020				Priority II 2021-2025				Priority III 2026-2030				Priority IV 2031-2040			
PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M
														$550.000	
$8.520														$124.300	
												$1.444		$5.778	$0.354
												$1.590	$0.754	$25.530	$0.158
												$3.448	$4.310	$9.483	$0.080
				$36.288	$17.107				$71.436	$39.457				$369.102	$92.589
												$14.130	$17.663	$38.859	$0.235
												$3.190	$3.987	$8.772	$0.107
												$2.174	$2.717	$5.978	$0.036
												$7.060	$14.708	$58.833	
														$130.900	
												$6.845	$8.556	$18.823	
												$1.021	$1.276	$2.807	$0.028
$1.250		$0.250				$1.250				$1.250				$2.500	
$0.625		$207.676				$247.975				$287.471				$719.595	
		$42.000				$85.000				$85.000				$170.000	
														$17.539	
														$34.640	
														$28.414	
												$5.889	$26.767	$58.887	$10.431
												$5.255	$23.884	$52.545	$9.307
								$4.825	$21.933	$21.713				$33.882	$10.912
														$763.400	
														$763.400	
												$2.241	$2.801	$6.163	$0.016
												$3.072	$3.841	$8.449	$0.080
												$2.129	$2.662	$5.856	$0.055
												$6.206	$7.757	$17.066	$0.161
												$1.228		$20.017	$0.336

Table 6-9 | Priority IV Projects (continued) (Values in Millions YOE $)

MAP ID	Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2013 $)	Project Costs Funded via 2040 Plan	
27	SW 137 Ave	SW 24 St	SW 8 St (Tamiami	Add 2 lanes and reconstruct		$9.291	$18.958	
28	SW 152 St (Coral Reef)	SR-821 (HEFT)	US-1	Add 2 lanes and reconstruct	$1.750	$64.607	$131.153	
29	SW 157 Ave	SW 8 St (Tamiami)	SW 42 St	Add 2 lanes and construct new 4 lane road		$14.585	$29.787	
30	SW 312 St (Campbell)	NW 14 Ave/SW 176 Ave	SW 197 Av	Add 2 lanes and reconstruct		$29.611	$51.506	
31	SW 40 St	SW 157 Ave	SW 167 Ave	New 2 lane road construction		$1.400	$2.912	
32	SW 42 St	SW 162 Ave	SW 157 Ave	Add 2 lanes and reconstruct		$7.752	$15.824	
33	US-1	At SW 27 Ave		Grade separation of US-1 over SW 27 Ave		$39.705	$73.588	
34	US-1	At SW 344 St (Palm)		Grade separated overpass		$39.705	$80.601	
35	US-27 (Okechobee)/ SR-826 (Palmetto) Interchange	NW 95 St	W 16 Ave	Ramp improvements		$52.600	$106.778	
36	US-27 (Okeechobee)	SR-826 (Palmetto)	SR-997 (Krome)	Operational/capacity improvements with grade separated intersections	$31.330[1]		$624.800	
37	W 24 St	W 28 Ave		Operational improvements		$0.460	$0.934	
38	W 24 St	W 23 Ave		Lower curbs to allow wider turns		$0.039	$0.079	

[1]US-27 Okeechobee Details of TIP

	US-27 (Okeechobee)	SR 997 (Krome)	NW 79 Ave	Operational/capacity improvements with grade separated intersections	$1.130
	US-27 (Okeechobee)	West of SR-997 (Krome)	East of 117 Ave	Operational/capacity improvements with grade separated intersections	$5.550
	US-27 (Okeechobee)	East of NW 87 Ave	NW 79 Ave	Operational/capacity improvements with grade separated intersections	$2.600
	US-27 (Okeechobee)	East of NW 116	East of 87 Ave	Operational/capacity improvements with grade separated intersections	$13.100
	US-27 (Okeechobee)	East of NW 107 Ave	East of NW 116 Way	Operational/capacity improvements with grade separated intersections	$5.350
	US-27 (Okeechobee)	East of NW 117 Ave	East of NW 107 Ave	Operational/capacity improvements with grade separated intersections	$3.600

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
** denotes portions of phase values are included in both the TIP and 2040 Plan*
*** denotes Operations and Maintenance is funded via MDT system efficiencies*

	Priority I 2015-2020				Priority II 2021-2025				Priority III 2026-2030				Priority IV 2031-2040			
	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M
													$3.772	$4.715	$10.373	$0.098
	$0.175	$1.000											$7.362	$103.546	$20.245	
													$1.060	$11.704	$16.844	$0.179
									$2.419	$5.871	$23.275				$19.811	$0.130
															$2.842	$0.070
													$3.147	$3.934	$8.655	$0.087
									$5.530	$11.520	$8.295				$48.243	
													$7.060	$14.708	$58.833	
													$11.368	$10.150	$85.260	
	$31.330														$624.800	
													$0.093		$0.840	
													$0.008		$0.071	

PARTIALLY FUNDED **SNAPSHOT**

Figure 6-14 | Number of Partially Funded Projects by Improvement Type

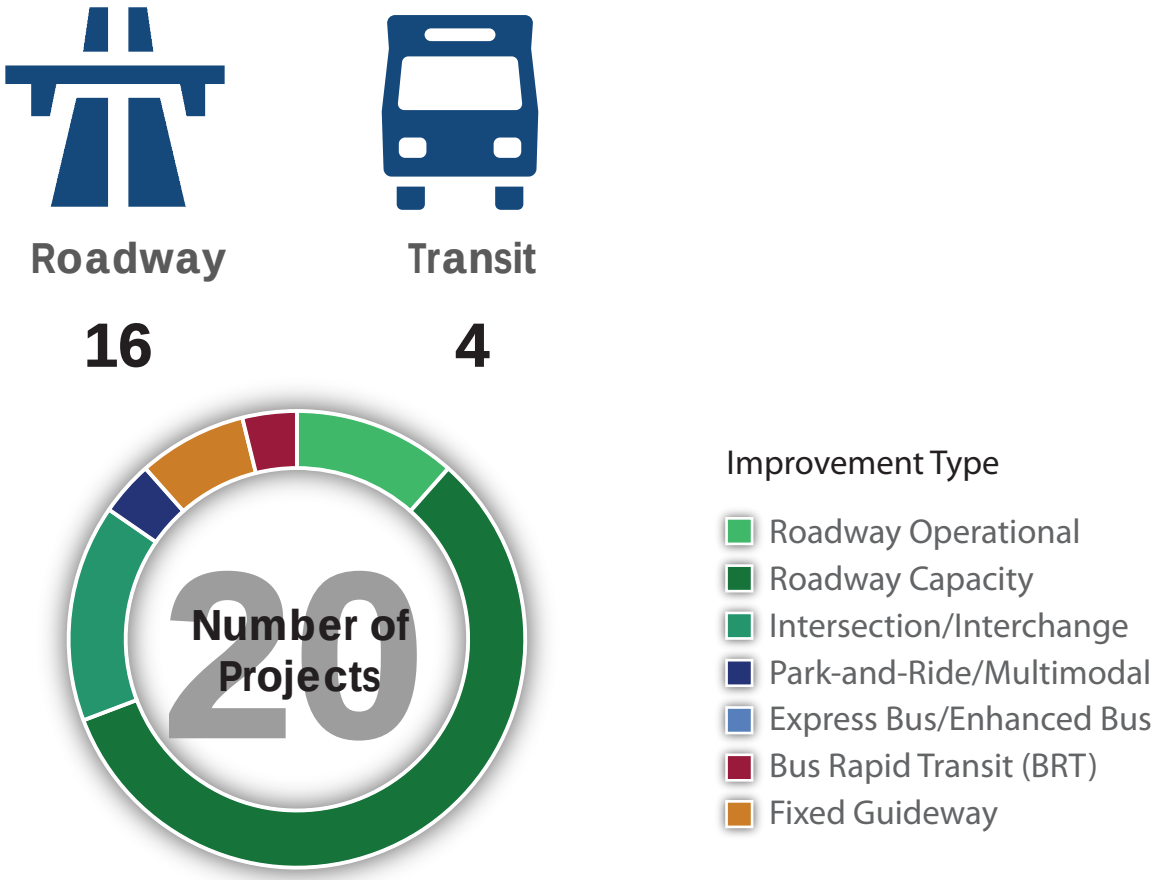


Figure 6-15 | Funds Needed to Complete Partially Funded Projects (2041-2050 YOE $)*

$ 7,300,000,000

**Funds needed to complete Partially Funded projects, excluding those projects where the PD&E will determine the scope.*

Figure 6-16 | Partially Funded Project Map

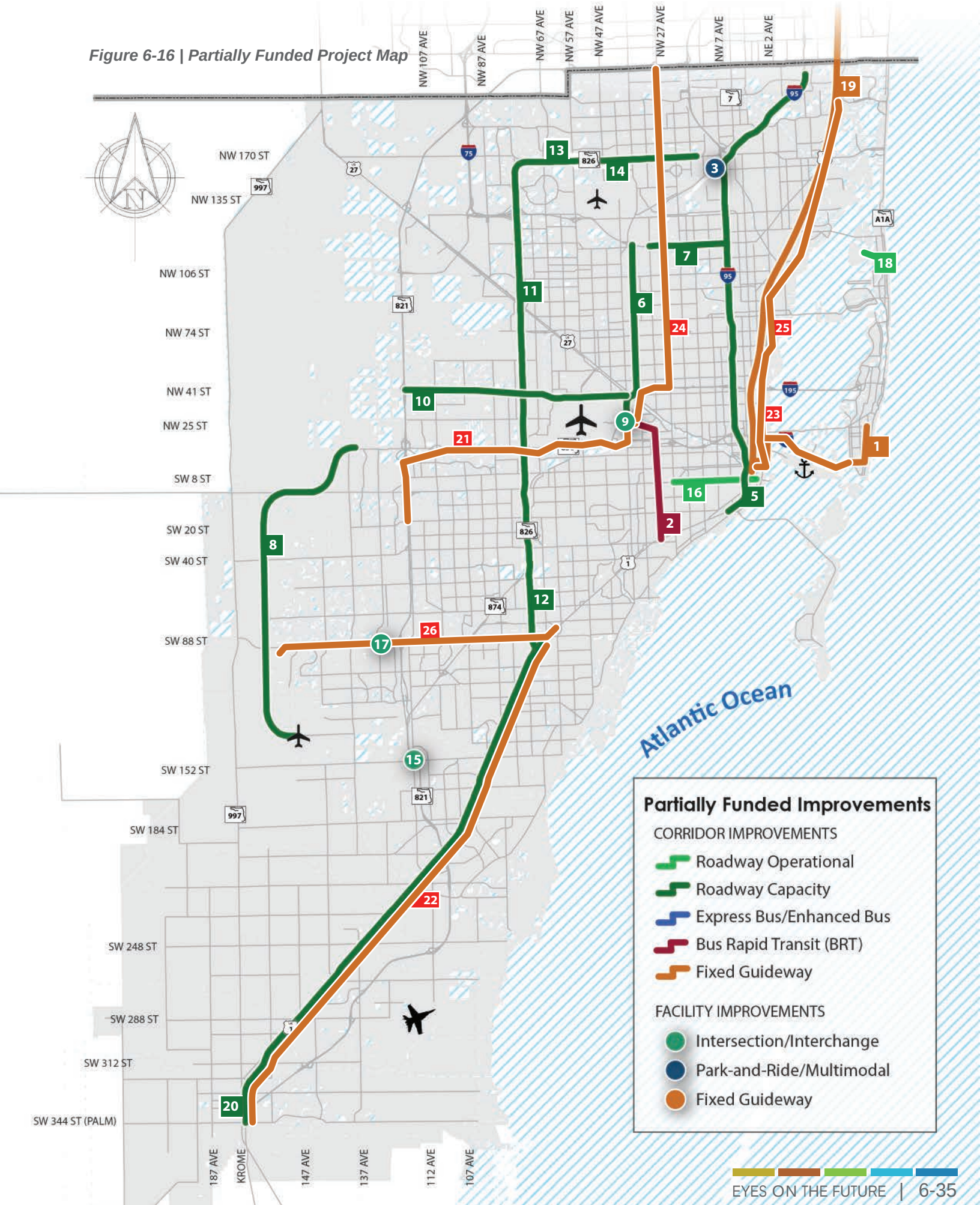


Table 6-10 | Partially Funded Projects (Values in Millions YOE $)

MAP ID	Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2013 $)	Project Costs Funded via 2040 Plan	
1	Beach Connection (Baylink)	Miami Downtown Terminal	Miami Beach Convention Center	Premium transit service		$532.132	$161.273	
2	Douglas Rd Corridor BRT(SW 27/37 Ave) Dedicated Lanes	US-1	Miami Intermodal Center (MIC)	Full bus rapid transit		$166.400	$36.378	
3	Golden Glades Multimodal Terminal (Phase 2)			Park-and-Ride facility with 1,800 space garage		$45.000	$6.075	
4	I-95	South of SR 836/I-395	Broward County Line	Operational and capacity improvements	$13.035		$13.035	
5	I-95	US-1	South of SR 836/I-395	Operational and capacity improvements	$10.200		$10.200	
6	MDX Connect 4 Express	Central Miami-Dade County	North Miami-Dade County	New expressway connecting SR-836 (Dolphin), SR- 112 , SR-924, and SR-826 (Palmetto)	$7.300	$150.000	$323.800	
7	MDX SR-924/Gratigny Parkway East Extension	NW 32 Ave	I-95	New expressway extension of SR-924 Eas* to I-95	$0.240	$477.000	$296.500	
8	MDX SR-836 (Dolphin) SouthWest Extension***	Western Terminus of SR-836 (Dolphin)	SW 136 St	Extend SR-836 from NW 137 Ave to the Southwest Kendall area	$7.490	$808.000	$681.900	
9	Miami Intermodal Center (MIC)			NW 42 Ave (LeJeune) Strip	$0.012			
10	NW 36th /NW 41 St	SR-821 (HEFT)	NW 42 Ave (LeJeune)	Redesign NW 36 St/41 St as a superarterial express street		$397.051	$509.504	
11	SR-826 (Palmetto)	West Flagler St	NW 154 St	Operational and capacity improvements			$2.080	
12	SR-826 (Palmetto)	US-1/S Dixie Highway	SR-836 (Dolphin)	Managed lanes	$7.150			
13	SR-826 (Palmetto)	East of NW 67 Ave	East of NW 57 Ave	Capacity and operational improvements	$5.500			
14	SR-826 (Palmetto)	West of NW 32 Ave	East of NW 27 Ave	Capacity and operational improvements	$6.900			
15	SW 117 Ave/SW 152 St (Coral Reef) Grade Separation			Grade separate SW 117 Ave over SW 152 St (Coral Reef)		$39.705	$7.060	
16	SW 7 St/ SW 8 St	Brickell Ave	SW 27 Ave	Interchange and corridor improvements		$1.686	$2.040	
17	SW 88 St (Kendall)/SW 127 Ave Grade Separation			Grade separate SW 88 St (Kendall) over SW 127 Ave.		$39.705	$7.060	
18	Town of Indian Creek Bridge			Reconstruct bridge	$1.515	$13.860		
19	Tri-Rail Coastal Link	Miami	Pompano	Tri-Rail service	$5.566			
20	US-1 Managed Lanes***	SW 344 St (Palm)	Dadeland South Metrorail Station	Add 2 /1 reversible new managed lanes within the ROW of the Busway	$1.809	$367.000	$139.700	
21	SMART Plan East-West (SR 836) Corridor[1]	Miami Intermodal Center	Florida International University	Light Rail Transit (LRT) and/or appropriate premium transit technology			$ 9.00	
22	SMART Plan South Dade Transitway Corridor[1]	Florida City	Dadeland South Metrorail Station	Conversion of US-1 Busway from Enhanced Bus Service to Light Rail Transit (LRT) and/or appropriate premium technology			$ 7.00	
23	SMART Plan Beach Corridor[1]	Midtown Miami at or near NE 41 St and NE 2 Ave	Transit Hub Connector in the vicinity of 5 St and Alton Rd	Light Rail Transit (LRT) and/or appropriate premium transit technology			$ 5.00	
24	SMART Plan North Corridor[1]	Miami Intermodal Center (MIC)	SW 215 St	Light Rail Transit (LRT) and/or appropriate premium transit technology			$ 4.069	
25	SMART Plan Northeast Corridor (Tri-Rail Coastal Link/FEC)[1]	Downtown Miami	City of Aventura	Passenger Rail Service on FEC Corridor			$ 7.550	
26	SMART Plan Kendall Corridor[1]	Dadeland South Metrorail Station	SW 167 Ave	Light Rail Transit (LRT) and/or appropriate premium transit technology			$ 4.069	

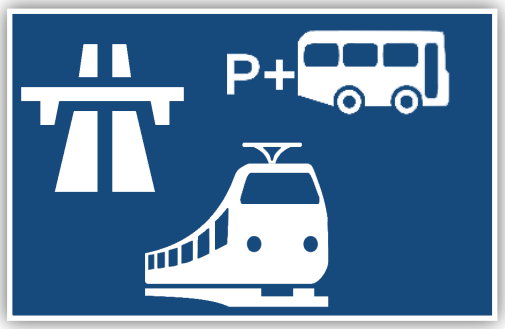
Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
[1]Smart Plan Projects
** denotes portions of phase values are included in both the TIP and 2040 Plan*
*** denotes Operations and Maintenance is funded via MDT system efficiencies*
****Project would require amendment of the Miami-Dade County Comprehensive Plan Development Master Plan*

	Priority I 2015-2020				Priority II 2021-2025				Priority III 2026-2030				Priority IV 2031-2040			
	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M
									$91.088	$24.645				$45.540		
													$36.378			
					$6.075											
	$13.035															
	$10.200															
	$7.300								$63.600	$47.700					$212.451	
	$0.240								$49.290					$107.540	$139.613	
	$7.490								$63.600					$347.130	$271.208	
		$0.012														
									$31.566				$120.902	$161.203	$195.834	
					$2.080											
	$7.150															
	$5.500															
	$6.900															
													$7.060			
	$2.040				Amended by MPO Resolution #08-15											
													$7.060			
	$1.515															
	$5.566															
	$1.809								$31.800	$1.590					$106.270	
	$9.00				Adopted by MPO Resolution #34-16											
	$7.00				Adopted by MPO Resolution #35-16											
	$10.00				Adopted by MPO Resolution #40-16											
	$4.2				Adopted by MPO Resolution #26-16											
	$5.7				Adopted by MPO Resolution #26-16											
	$4.0				Adopted by MPO Resolution #26-16											

Rendering of the All Aboard Florida - Miami Downtown Terminal

PRIVATELY FUNDED **SNAPSHOT**

Figure 6-17 | Privately Funded Projects Quick Facts



4 Park-and-Rides
2 New Interchanges
1 New Terminal
15 Miles of Roadway Improvements

Table 6-11 | Privately Funded Projects

Project	Limits From	Limits To	Description
Busway Lot - SW 200 St	US-1 Busway	SW 200 St	Park-and-Ride facility with 140 surface spaces
Kendall-Tamiami Executive Airport Park-and-Ride Facility	SW 137 Ave and SW 120 St		Park-and-Ride facility
All Aboard Florida	Downtown Miami	Miami-Dade/ Broward County Line	New rail services and multimodal terminal in Downtown Miami conncecting to Ft. Lauderdale, West Palm Beach, and Orlando
NE 151 St/US-1 Park-and-Ride Facility			Park-and-Ride facility
NW 107 Ave	NW 90 St	NW 106 St	Add 2 lanes and reconstruct
~~NW 107 Ave~~	~~NW 138 St~~	~~NW 170 St~~	~~New 2 lane divided road construction~~ Moved to Priority 1 by MPO Resolution #56-16
NW 154 St	NW 87 Ave	NW 107 Ave	New 2 lane road construction
NW 87 Ave	NW 197 St	Miami-Dade/ Broward County Line	New 2 lane road construction
NW 90 St	NW 107 Ave	NW 87 Ave	New 4 lane road construction
~~NW 97 Ave~~	~~NW 154 St~~	~~NW 186 St~~	~~New 2 lane divided road construction~~ Moved to Priority 1 by MPO Resolution #56-16
NW 97 Ave	NW 74 St	NW 90 St	New 4 lane road construction
Senator Villas			Park-and-Ride facility between SW 89 Ave and SW 89 Ct at SW 40 St
SR-821 (HEFT)	NW 170 St		New full interchange
SR-821 (HEFT)	SW 328 St (Lucy)		New partial interchange (to/from north)
SW 104 St	SW 167 Ave	SW 177 Ave	New 2 lane road construction
SW 104 St	SW 160 Ave	SW 167 Ave	New 4-lane / Widen to 4 lanes
SW 157 Ave	SW 184 St (Eureka)	SW 216 St	New 2 lane road construction
SW 184 St	SW 157 Ave	SW 147 Ave	Add 2 lanes and reconstruct

UNFUNDED **SNAPSHOT**

Figure 6-18 | Unfunded Projects Quick Facts

106 Projects
$17.431 Billion

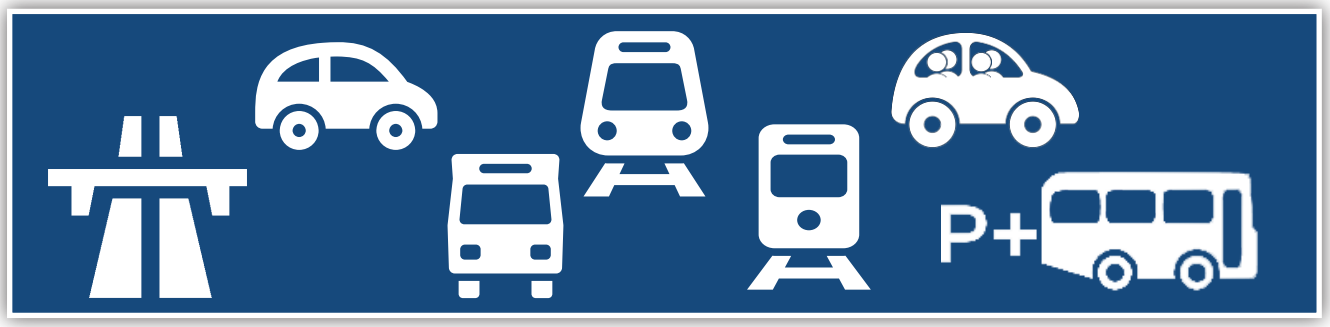


Table 6-12 | Unfunded Projects (Values in Millions $)

Project	Limits From	Limits To	Description	Total Capital Cost (2013 $)
107 Ave Enhanced Bus	Miami Dade College SW 104 St	Palmetto Intermodal Terminal	Implement limited stop enhanced bus service	$58.890
17 Ave Enhanced Bus	Vizcaya Metrorail Station	Golden Glades Interchange Terminal	Implement limited stop enhanced bus service	$56.160
183 St Enhanced Bus	Miami Gardens/I-75 Park-and-Ride	Aventura Terminal	Implement limited stop enhanced bus service	$56.550
22 Ave Enhanced Bus	Coconut Grove Metrorail Station	Golden Glades Interchange Terminal	Implement limited stop enhanced bus service	$53.430
295 Express Improvements	NW 215 St Terminal	Downtown Miami	Express bus service	$0.156
2nd Ave Enhanced Bus	Miami Beach Convention Center	Aventura Terminal	Implement limited stop enhanced bus service	$69.030
37 Ave Enhanced Bus (North)	Miami Intermodal Center (MIC)	NW 215 St Terminal	Implement limited stop enhanced bus service	$56.550
NW 57 Ave (Red) Enhanced Bus (North)	US-27 (Okeechobee)	Miami Lakes Terminal	Implement limited stop enhanced bus service	$30.030
SW 57 Ave (Red) Enhanced Bus (South)	South Miami Metrorail Station	Miami Intermodal Center (MIC) (MIC)	Implement limited stop enhanced bus service	$32.760
72/67 Ave Enhanced Bus	Dadeland North Metrorail Station	Miami Lakes Terminal	Implement limited stop enhanced bus service	$67.860
87 Ave Enhanced Bus	Palmetto Intermodal Terminal	US-1 Busway at SW 136 St Park-and-Ride	Implement limited stop enhanced bus service	$56.160
SW 40 St (Bird) Enhanced Bus	SW 8 St (Tamiami)/ SW 147 Ave	Douglas Metrorail Station	Implement limited stop enhanced bus service	$60.060
Brickell Metrorail Station Improvements	Brickell Metrorail Station		Improve; Metromover & Metrorail connection, bus capacity, and area bus circulation.	$3.900
Busway extension to Dadeland North	Dadeland South Metrorail Station	Dadeland North Metrorail Station	Extend busway to Dadeland North (approximately one-half mile)	$26.000
Busway Park-and-Ride Facility	US-1 Busway	SW 136 St	Park-and-Ride with 50-75 surface spaces	No Capital Cost
Busway Park-and-Ride Facility	US-1 Busway	SW 312 St (Campbell)	Park-and-Ride facility with 90 surface spaces	$1.073

Table 6-12 | Unfunded Projects (continued) (Values in Millions $)

Project	Limits From	Limits To	Description	Total Capital Cost (2013 $)
Busway Park-and-Ride Facility	US-1 Busway	SW 112 St	New Park-and-Ride facility with minimum of 200 spaces	$2.860
Central Multi-Modal Port Miami Multi-Modal Terminal			Multi-modal center to provide service to cruise port terminals	$52.000
Civic Center Metrorail Station Improvements	Civic Center Metrorail Station	Civic Center Metrorail Station	Implement limited stop enhanced bus service	$3.000
Collins Ave Enhanced Bus	Miami Beach Convention Center	Aventura Terminal	Implement limited stop enhanced bus service	$54.210
Communications Infrastructure Needs & Deployment				$32.500
Coral Reef Enhanced Bus	Dadeland North Metrorail Station	SW 152 Ave / SW 152 St	Implement limited stop enhanced bus service	$42.900
Coral Way Enhanced Bus	SW 147 Ave/SW 8 St	Brickell Metrorail Station	Implement limited stop enhanced bus service	$60.450
Dolphin Mall-Dolphin Station Connector Road	Dolphin Mall	Dolphin Station Transit Terminal	New cut and cover roadway	$10.000
Dolphin Tri-Rail Extension	Miami Intermodal Center (MIC)	Dolphin Mall area	New pass rail service on SFRC/CSX tracks along 836/East-West corridor	$140.000
Douglas Road LRT	US-1	Miami Intermodal Center (MIC)	Convert bus rapid transit to light rail	$427.700
East-West Corridor BRT with dedicated lanes along SW 8 St	SW 8 St (Tamiami)/ SW 147 Ave	Miami Intermodal Center (MIC)	Convert bus rapid transit	$182.000
East-West Corridor BRT	Downtown Miami	Douglas Road Metrorail Station	Convert EBS to BRT	$336.700
East-West Corridor	SW 8 St (Tamiami)/ SW 147 Ave	Miami Intermodal Center (MIC)	Convert bus rapid transit to heavy rail	$2,311.400
Expand Park-and-Ride Facility at Dadeland North	Dadeland North Metrorail Station		New 1000 space parking garage with ground floor retail and office space	$25.000
Expand Park-and-Ride Facility at SW 168 St	At SW 168 St		Add 300 parking spaces to existing facility	$4.290
FLL-Miami Beach Express Bus	FLL Airport & FLL Tri-Rail Station	Miami Beach Convention Center	New express bus route using I-95 managed lanes	No Capital Cost
FLL-Port Miami Express Bus	FLL Airport & FLL Tri-Rail Station	Port Miami	New express bus route using I-95 managed lanes	No Capital Cost
Homestead Air Reserve Base Connection to Turnpike	Homestead Air Reserve Base	SR-821 (HEFT)	Provide connection between Homestead Air Reserve Base and SR-821 (HEFT)	$97.198
I-195 Express Enhanced Bus (Central)	Miami Beach Convention Center	Miami Intermodal Center (MIC)	Express bus on managed lanes	$0.117
I-195 Express Enhanced Bus (North)	Miami Beach Convention Center	Golden Glades Interchange Terminal	Express bus on managed lanes	$0.137
I-75 and Miami Gardens Dr Park-and-Ride Facility			Park-and-Ride facility	$2.860
I-75/ Gratigny	I-75/ Miami Gardens Dr Park-and-Ride	Park-and-Ride at Gratigny Pkwy	Express transit service	$0.098
I-95 Express Service Improvements	Golden Glades Interchange Terminal	Downtown Intermodal Terminal	Express bus on managed lanes	$0.098
Intermodal Terminal at SW 88 St (Kendall) / SR-821 (HEFT)	SW 88 St (Kendall)	SR-821 (HEFT)	Multi-modal terminal	$1.820
Kendal Corridor (North)	SW 88 St (Kendall)/ SR-821 (HEFT)	SR-821 (HEFT)/ SW 8th St (Tamiami)	New Metrorail service	$964.600
Kendall Area LRT	Metrozoo Area	Dadeland	New premium transit service	$442.000
Kendall Coridor (South	US-1/ SW 200 St	SW 88 St (Kendall)/ SR-821 (HEFT)	New Metrorail service	$1,365.000
Kendall Corridor (Kendall BRT)	West Kendall Transit Terminal	Dadeland North Metrorail Station	Full BRT	$286.000
Kendall South/Zoo Miami	Zoo Miami Park		Park-and-Ride facility	No Capital Cost
Kiss-and-Rides at all Busway Stations	SW 344 St (Palm)/ Busway	Dadeland South Metrorail Station	Kiss-and-Ride	$1.260
42 Ave (LeJeune) Enhanced Bus Service	Douglas Rd Metrorail Station	Miami Intermodal Center (MIC)	New enhanced bus service	$19.500

Table 6-12 | Unfunded Projects (continued) (Values in Millions $)

Project	Limits From	Limits To	Description	Total Capital Cost (2013 $)
Little River Park-and Ride	US-1 and NE 79 St		Park-and-Ride facility	No Capital Cost
Mall of the Americas Terminal			Improve existing terminal	$2.000
Marlins Stadium Premium Transit Connection	Downtown	Marlins Stadium	Expand Metrorail service to connect Downtown with FIU and Marlins Stadium	$409.839
MDT Bus Acquisition			Bus purchases for existing & new routes	$20.000
MDT Infrastructure Renewal Program			Infrastructure renewal program	$12.500
Metromover Loop Closures: Brickell	Brickell		Expand Metromover to the Brickell loop	$331.000
Metromover Loop Closures: Omni	Omni		Expand Metromover to the Omni loop	$588.494
Metrorail/Tri-Rail Bus Hub Improvements			Increase bus terminal capacitya and add mixed use TOD with ground °oor retail	$2.600
Miami Beach Convention Center Terminal			New terminal similar to Miami Downtown Terminal	$3.900
Miami Beach Intermodal Center	63 St (Collins)	87 St/West Bay Dr	New North Beach bus transfer Station	$2.699
Miami Beach LRT Collins Extension	Miami Beach Convention Center	71 St	Extend light rail north to 71 St	$400.400
Miami Lakes Terminal	SR-826 (Palmetto) and NW 154 St		Add new transit terminal, Kiss-and-Ride, and Park-and-Ride facility	$2.600
Miami Streetcar (Downtown-Little Havana)	SW 27 Ave	Miami Ave	Streetcar	$284.587
Miami Streetcar (Downtown-Midtown)	NE 36 St	Flagler St	Streetcar link from Downtown to Midtown Miami	$351.168
MIC-Port Miami Rail Connection	Miami Intermodal Center (MIC)	Port Miami	Passenger rail connection between the MIC & Port Miami, using the SFRC & FEC corridors	$25.000
Middle Beach Circulator	Dade Blvd	72 St	Circulator bus	$0.820
Midtown Light Rail (East)	Miami Beach Convention Center	Midtown at Biscayne Blvd/ NW 36 St	Light rail	$391.300
Midtown Light Rail (West)	Allapattah Metrorail Station	Midtown at Biscayne Blvd/ NW 36 St	Light rail	$154.700
Miller Dr (SW 56 St) Enhanced Bus	SW 8 St (Tamiami)/ SW 147 Ave	University Metrorail Station	Implement limited stop enhanced bus service	$62.010
NE 125 St/NE 6 Ave/W Dixie Hwy			Intersection improvements	$5.654
NE 163 St (Sunny Isles Blvd) / 167 St	Golden Glades Interchange	Sunn Isles Blvd / Collins Ave	Improve/implement transit service	$24.570
New Tri-Rail Station in Northern Miami-Dade			New Tri-Rail Station in the vicinity of Ives Dairy Rd	$20.000
Next Generation of Tra˜c Controllers				$65.000
North Corridor (NW 27 Ave) Metrorail Extension	Miami Intermodal Center (MIC)	NW 215 St	Convert to full bus rapid transit to heavy rail	$1,747.200
Northeast Corridor (Biscayne BRT) Dedicated Lanes	Downtown Miami	Aventura Terminal	Convert to full bus rapid transit	$369.200
NW 103 St Enhanced Bus	Okeechobee Terminal	US-1/ NE 79 St (Little River Park-and-Ride)	Implement limited stop enhanced bus service	$57.330
NW 199/ 203 St Enhanced Bus	NW 215 St Terminal	Aventura Terminal	Implement limited stop enhanced bus service	$29.640
NW 215/203 Elevated Expy	Turnpike (Mainline)	Lehman Causeway	New elevated East/West exressway construction	$858.274
NW 21 St/ NW 32 Ave	NW 37 Ave	NW 28 St	Construct high level bridge	$62.771
NW 62 St Enhanced Bus	Okeechobee Metrorail Station	US-1	Implement limited stop enhanced bus service	$30.030
Policies of Safer People, Safer Streets Initiative			Added by MPO Resolution #69-16	

Table 6-12 | Unfunded Projects (continued) (Values in Millions $)

Project	Limits From	Limits To	Description	Total Capital Cost (2013 $)
NW 7 St Extension	NW 118 Ave	NW 114 Ave	New 2 lane road construction	$10.000
NW 7 St Enhanced Bus	Dolphin Station Transit Terminal	Government Center	Implement limited stop enhanced bus service	$58.890
Okeechobee Enhanced Bus Intermodal Terminal	SR-821 (HEFT)	Miami Intermodal Center (MIC)	Implement limited stop enhanced bus service	$43.680
Okeechobee Terminal	SR-821 (HEFT)/ US-27 (Okeechobee)		Park-and-Ride facility with a minimum of 250 spaces	$2.600
Palmetto Express (Central) via Plametto	Dolphin Station Transit Terminal	Miami Lakes Terminal (NW 154 St / SR-826)	Express bus service	$0.137
Palmetto Express Bus (East)	Palmetto Intermodal Terminal	Golden Glades Interchange Terminal	Implement express bus service on managed lanes between terminals	$0.137
Palmetto Express Bus (North)	Palmetto Intermodal Terminal	NW 183 St/ I-75 Interchange	Express commuter transit service	$0.078
Palmetto Express Bus (South)	Dadeland North Metrorail Station	Dolphin Station Transit Terminal	Implement express bus service on managed lanes between terminals	$0.078
Palmetto Express Bus (West)	SW 8 St (Tamiami)/ SW 147 Ave	Palmetto Intermodal Terminal	Express bus on managed lanes	$1.735
Park-and-Ride Garages at Metrorail Stations			Construction of Park-and-Ride facilities at Metrorail stations within the City of Miami	$200.000
Park-and-Ride at SW 152nd St & SR-82 (HEFT)			Park-and-Ride facility	$12.500
Park-and-Ride at Gratigny Pkwy/NW 119 St/NW 27 Ave			Park-and-Ride facility	$5.460
Smart Card Technology and TVMS			Continued evolution & expansion of smart card & ticketing.	$0.500
South Beach Bus Transfer Station			New South Beach bus transfer station	$1.472
SR-874 Ramp Connector Park-and-Ride Facility			Park-and-Ride facility	$2.860
SR-821 (HEFT North)	Dolphin Station Transit Terminal	Miami Gardens/ I-75 Park-and-Ride	Implement express bus service on managed lanes between terminals	$0.176
SR-821 (HEFT-South)	SW 344 St (Palm)/ Busway	Dolphin Station Transit Terminal	Express transit service	$0.293
Sunset Enhanced Bus	West Kendall Transit Terminal	South Miami Metrorail Station	Implement limited stop enhanced bus service	$45.240
SW 127 Ave Enhanced Bus	SW 137 Ave at Kendall Tamiami Airport	Dolphin Station Transit Terminal	Implement new enhanced bus	$40.950
SW 137 Ave Enhanced Bus	US-1	SW 8 St (Tamiami)/ SW 147 Ave	Premium limited-stop transit service	$63.570
SW 47 St/ 48 St	SW 112 Ave	SW 122 Ave	Overpass across SR-821 (HEFT)	$24.577
SW 8 St Enhanced Bus	FIU-MMC	Brickell Metrorail Station	Implement limited stop enhanced bus service	$43.680
Tra˜c Management Center (TMC)				$25.000
US-1 Busway	SW 88 St (Kendall)	SW 344 St (Palm)	Improve service on busway to bus rapid transit levels	$18.980
US-1 Busway	SW 88 St (Kendall)	SW 344 St (Palm)	Bus signal priority	$8.780
US-1 Busway	SW 88 St (Kendall)	SW 344 St (Palm)	Bus only grade separations at all intersections including and south of 98 St	$307.800
US-1	SW 88 St (Kendall)	SW 104 St	Metrorail extension	$140.000
US-1 Corridor	SW 104 St	SW 344 St (Palm)	Metrorail extension	$2,660.000
West Kendall Transit Terminal Improvements	SW 88 St (Kendall)/ SW 162 Ave		Improve bus hub add kiss-and-ride, expand parking	$12.500
*NW 102 Ave	NW 154 St	NW 168 St	New 4 lane divided roadway	$7.837
*NW 158 St	NW 97 Ave	NW 107 Ave	New 4 lane divided roadway	$9.423

*Added by MPO Resolution #07-16 (in 2015 $)

Bicycle and Pedestrian Set-Aside Projects

It is critical to enhance non-motorized transportation mobility and accessibility in Miami-Dade County to connect the county's cities, neighborhoods, and surrounding facilities. Pedestrian and bicycle-friendly environments invite residents to patronize local businesses, walk or bike to work and school, and access public transportation for longer trips. Furthermore, promoting walking and bicycling in Miami-Dade County achieves important sustainability, health, and recreation goals as well.

The Miami-Dade 2040 Bicycle/Pedestrian Plan presents a vision and improvement strategies to enhance the important non-motorized transportation network of Miami-Dade County. The Miami-Dade 2040 Bicycle/Pedestrian Plan serves as the non-motorized element of the 2040 Long Range Transportation Plan. The vision of the Miami-Dade 2040 Bicycle and Pedestrian Plan is to enhance the accessibility, safety, public health, social equity, environment, and overall quality of life within Miami-Dade County by creating interconnected bicycle and pedestrian friendly communities throughout the county.

Bicycle facilities in Miami-Dade County are comprised of two different categories: On-road facilities and off-road facilities. On-road facilities are comprised of all roadways within Miami-Dade County's roadway network. The county has approximately 160 miles of existing or under-construction on-road facilities and includes: Bicycle Lanes, Paved Shoulders, Wide Curb Lanes, and Multi-Use paths. Off-road facilities include greenways, trails, and shared-used paths and are considered more suitable for mountain biking and include: Unpaved Trails and Share-Use Trails.

SafeRoutes

Safe Routes to School is a Federal Highway Administration (FHWA) funded program that looks to provide safer walking and bicycling routes for children to and from the school site. The program's vision is to build sidewalks, bicycle paths, and pedestrian-friendly infrastructure to ensure safe connection to and from school. The program aims to reduce speeds in school zones and neighborhoods, and install speed bumps to encourage slower speeds for vehicles driving around the school. The program also looks to educate students on pedestrian safety for students walking and riding to and from school. The program also focuses on building parent involvement at school and promoting a community with safe school zones and public involvement in the general safety around schools.

Table 6-13 | Evaluation Criteria for On-road and Off-Road Facilities

Parameters	On-Road Facilities	Off-Road Facilities
Existing Conditions	Pedestrian & Bicyclist Crash Data	Unpaved Path
	Pedestrian and Bicycle LOS	
Connectivity	Schools, Employment Centers, Residential, Public Transit, Parks and Recreation Areas	Schools, Employment Centers, Residential, Public Transit, Parks and Recreation Areas
	Existing Pedestrian and Bicyclist Facilities	Existing Pedestrian and Bicyclist Facilities
Local Support	Funding	Funding
Cost Feasibility	ROW (Right-of-Way) Availability	ROW (Right-of-Way) Availability
	Component of an LRTP Project	

The 2040 Bicycle/Pedestrian Needs Plan was developed from the 2035 Bicycle and Pedestrian Plan and incorporates the 2014/2015 Transportation Improvement Program (TIP) and area-wide plans and studies to identify non-motorized transportation needs. These projects were analyzed to identify gaps in the proposed non-motorized system that represent additional needs with a focus to fill in gaps between proposed facilities or between a proposed facility and a key destination. The non-motorized transportation needs assessment seeks to identify facilities that should be more bicycling and walking friendly.

The Plan's Goals and Objectives, developed in consultation with the MPO's Bicycle Pedestrian Advisory Committee (BPAC), were used to identify evaluation criteria. The evaluation criteria were broadly divided into four parameters: Existing Conditions, Connectivity, Local Support, and Cost Feasibility, shown in **Table 6-13**. Each parameter included one or more variables measuring different aspects of the parameter. The evaluation criteria are slightly different for on-road facilities and off-road facilities. For example, crash data can be used to evaluate on-road facilities but not off-road facilities.

"The vision of the Miami-Dade 2040 Bicycle and Pedestrian Plan is to enhance the accessibility, safety, public health, social equity, environment, and overall quality of life within Miami-Dade County by creating interconnected bicycle and pedestrian friendly communities throughout the county."

BICYCLE/PEDESTRIAN **SNAPSHOT**

Figure 6-19 | Bicycle/Pedestrian Projects by Improvement Type and Priority

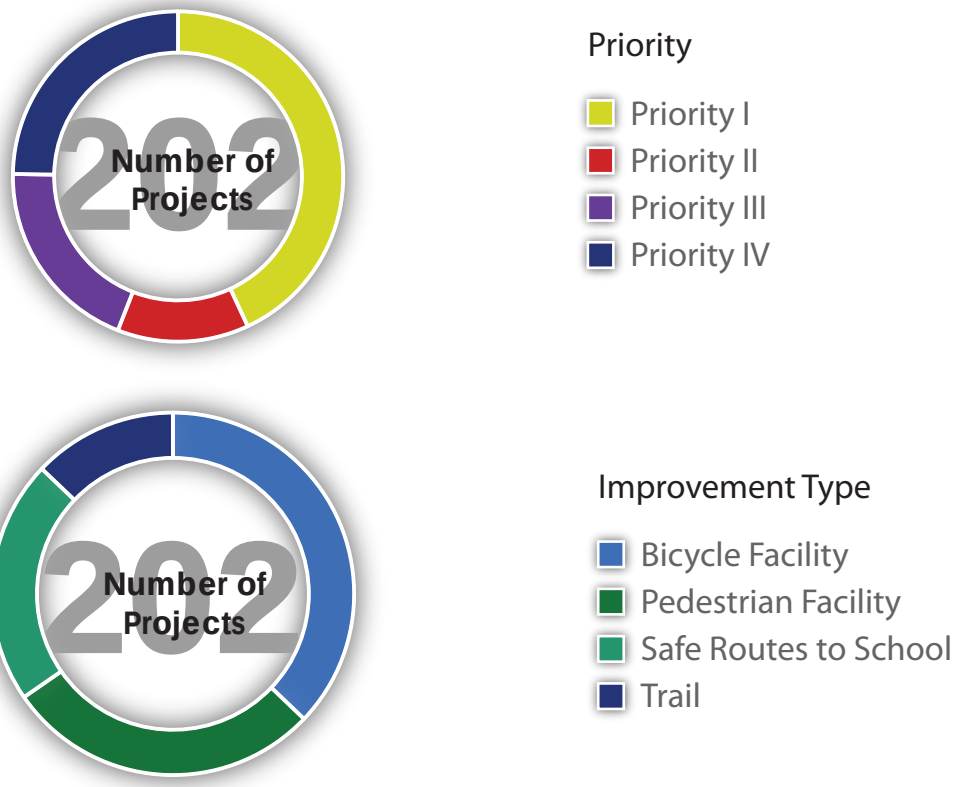
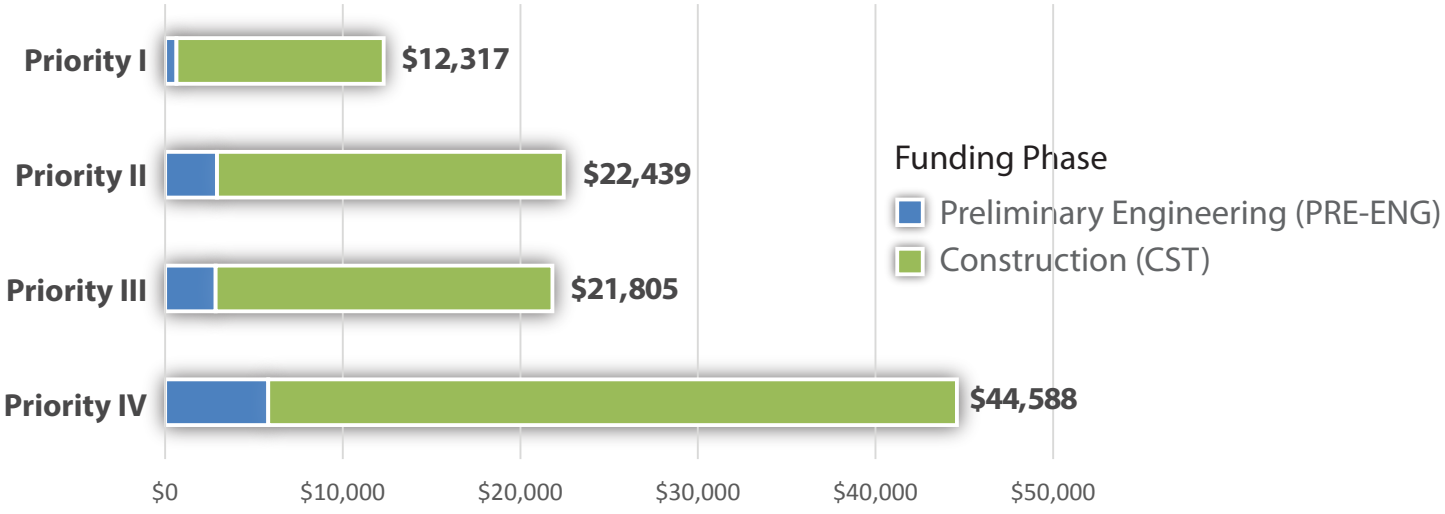


Figure 6-20 | Allocation of Bicyle/Pedestrian Funding by Priority and Phase (Thousands YOE $)



Note: Snapshot does not include the Improvements to Safety Through Public Outreach Initiatives.

Figure 6-21 | Bicycle/Pedestrian Project Map

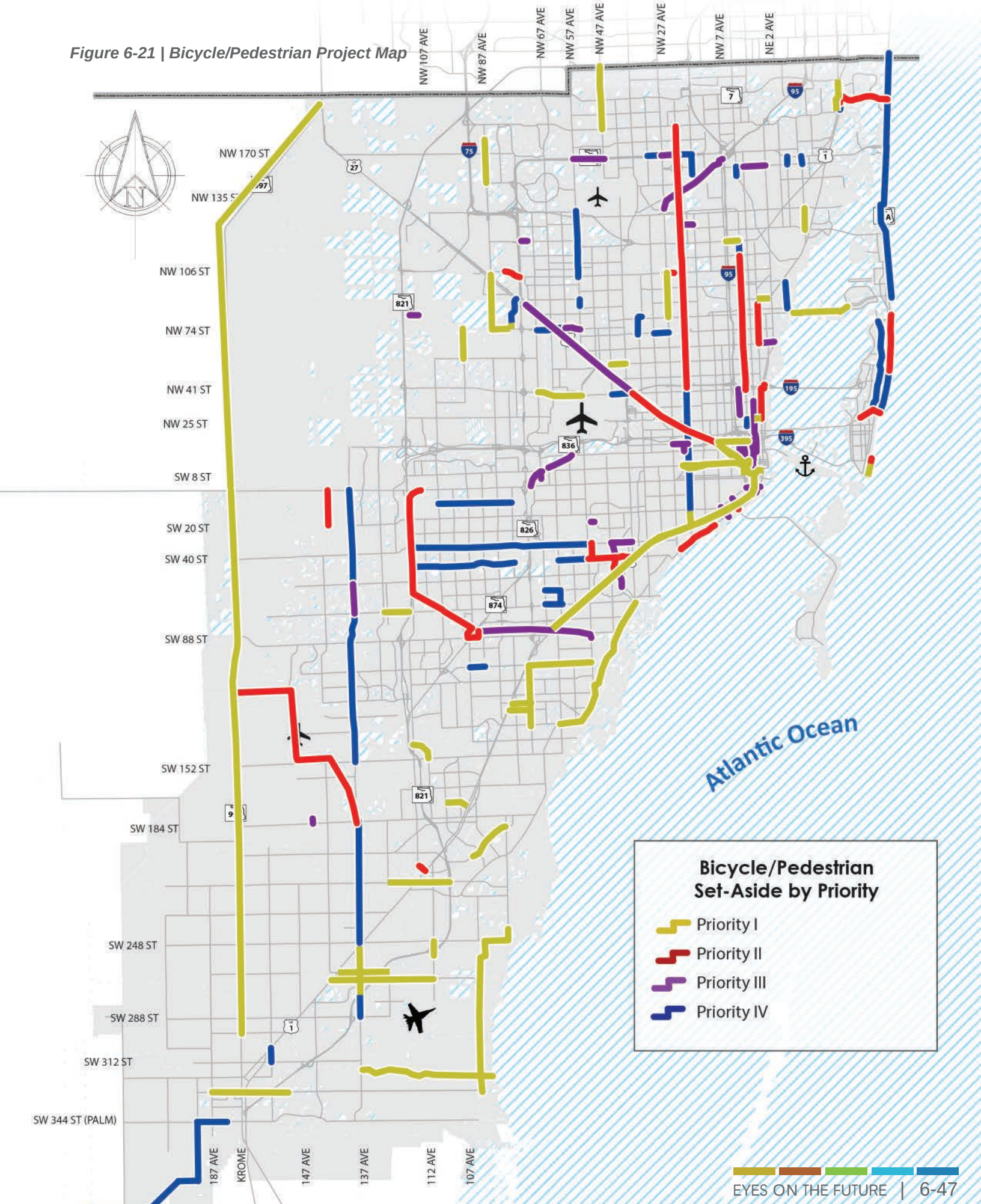


Table 6-14 | Bicycle/Pedestrian Priority I Projects (Values in Thousands YOE $)

Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2014 $)	Project Costs Funded via 2040 Plan	
SW 328 St	SW 187 Ave	SW 162 Ave	Bicycle Facility Improvements	*			
SW 268 St	S Dixie Highway	SW 112 Ave	Bicycle Facility Improvements	*			
SW 112 Ave	SW 256 St	SW 248 St	Bicycle Facility Improvements	*			
Caribbean Boulevard	Marlin Road	SW 87 Ave	Bicycle Facility Improvements	*			
SW 112 Ave	SW 117 Ave	SW 152 St	Bicycle Facility Improvements	*			
SW 72 St	SW 127 Ave	SW 118 Ave	Bicycle Facility Improvements	*			
SW 77 Ave	SW 104 St	SW 136 St	Bicycle Facility Improvements	*			
SW 124 St	SW 77 Ave	S Dixie Highway	Bicycle Facility Improvements	*			
SW 128 St	SW 77 Ave	S Dixie Highway	Bicycle Facility Improvements	*			
SW 104 St	SW 77 Ave	SW 57 Ave	Bicycle Facility Improvements	*			
Flagler St	NW 2 Ave	NW 24 Ave	Bicycle Facility Improvements	*			
SW 1 St	SW 24 Ave	SW 17 Ave	Bicycle Facility Improvements	*			
SW 1 St	SW 5 Ave	SW 2 Ave	Bicycle Facility Improvements	*			
NW 87 Ave	NW 74 St	NW 103 St	Bicycle Facility Improvements	*			
NW 97 Ave	NW 74 St	NW 58 St	Bicycle Facility Improvements	*			
NW 36 St	NW 72 Ave	Curtiss Prkway	Bicycle Facility Improvements	*			
Hialeah Drive	E 4 St	E 8 St	Bicycle Facility Improvements	*			
NW 27 Ave	NW 103 St	NW 79 St	Bicycle Facility Improvements	*			
NE 79 St	NE Bayshore Ct	Bay Drive	Bicycle Facility Improvements	*			
NW 87 Ave	NW 154 St	NW 178 St	Bicycle Facility Improvements	*			
NW 47 Ave	NW 183 St	NW 21 St	Bicycle Facility Improvements	*			
NW 119 St	NW 7 Ave	NE 2 Ave	Bicycle Facility Improvements	*			
SW 216 St	S Dixie Highway	SR-821 (HEFT)	Bicycle Facility Improvements	*			
NW 16 Ave	NE 135 St	NE 123 St	Bicycle Facility Improvements	*			
NW 11 St	NW 12 Ave	SW 2 Ave	Bicycle Facility Improvements	*			
SR-997 (Krome)	SW 8 St (Tamiami)	US-27 (Okeechobee)	Bicycle Facility Improvements	*			
Krome Trail	Homestead	SW 8 St (Tamiami)	Trail Improvements	*			
Coral Way K-8 Center			Safe Routes to Schools	**			
Maya Angelou Elementary			Safe Routes to Schools	**			

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
**Funded in 2015/2019 Miami-Dade County Transportation Imrpovement Program (TIP) in conjunction with road reconstruction/rehabilitation*
*** Safe Routes to School - funded as a program 2015/2019 Miami-Dade County TIP ($6.2M)*

	Priority I 2015-2020		Priority II 2021-2025		Priority III 2026-2030		Priority IV 2031-2040	
	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST

Table 6-14 | Bicycle/Pedestrian Priority I Projects (continued) (Values in Thousands YOE $)

Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2014 $)	Project Costs Funded via 2040 Plan	
Winston Park K-8 Center			Safe Routes to Schools	**			
Ernest R Graham Elementary			Safe Routes to Schools	**			
Meadowlane Elementary			Safe Routes to Schools	**			
Ben Sheppard Elementary			Safe Routes to Schools	**			
Brentwood Elementary			Safe Routes to Schools	**			
Gertrude Edelman/Sabal Palm Elementary			Safe Routes to Schools	**			
Spanish Lake Elementary			Safe Routes to Schools	**			
Melrose Elementary			Safe Routes to Schools	**			
Dr. Robert B. Ingram Elementary			Safe Routes to Schools	**			
Biscayne Elementary			Safe Routes to Schools	**			
North Beach Elementary			Safe Routes to Schools	**			
Fienberg/Fisher K-8 Center			Safe Routes to Schools	**			
Miami Lakes K-8 Center			Safe Routes to Schools	**			
Redondo Elementary			Safe Routes to Schools	**			
Shenandoah Elementary			Safe Routes to Schools	**			
Silver Bluff Elementary			Safe Routes to Schools	**			
Kinloch Park Elementary			Safe Routes to Schools	**			
Fairlawn Elementary			Safe Routes to Schools	**			
Nathan Young Elementary			Safe Routes to Schools	**			
James H. Bright Elementary			Safe Routes to Schools	**			
Morningside Elementary			Safe Routes to Schools	**			
Hialeah Gardens Elementary			Safe Routes to Schools	**			
Perrine Elementary			Safe Routes to Schools	**			
Palmetto Elementary			Safe Routes to Schools	**			
Howard Drive Elementary			Safe Routes to Schools	**			
Coral Reef Elementary			Safe Routes to Schools	**			
Pinecrest Elementary			Safe Routes to Schools	**			
Saunders Elementary			Safe Routes to Schools	**			
Avocado Elementary			Safe Routes to Schools	**			

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
**Funded in 2015/2019 Miami-Dade County Transportation Imrpovement Program (TIP) in conjunction with road reconstruction/rehabilitation*
*** Safe Routes to School - funded as a program 2015/2019 Miami-Dade County TIP ($6.2M)*

	Priority I 2015-2020		Priority II 2021-2025		Priority III 2026-2030		Priority IV 2031-2040	
	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST

Table 6-14 | Bicycle/Pedestrian Priority I Projects (continued) (Values in Thousands YOE $)

Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2014 $)	Project Costs Funded via 2040 Plan	
Devon Aire K-8 Center			Safe Routes to Schools	**			
NW 74 St	NW 87 Ave	NW 79 Ave	Bicycle Facility Improvements		$48.480	$65.230	
NW 79 Place	NW 74 St	Palmetto Metrorail Station	Bicycle Facility Improvements		$17.200	$23.143	
SW 216 St	SW 127 Ave	HEFT	Bicycle Facility Improvements		$19.260	$25.914	
SW 264 St	US-1	SW 137 Ave	Bicycle Facility Improvements		$35.260	$47.442	
SW 176 St/Hibiscus St	SW 107 Ave	US-1	Bicycle Facility Improvements		$63.200	$85.036	
SW 22 Ave	US-1	Coral Way	Bicycle Facility Improvements		$30.480	$41.011	
SW 137 Ave	HEFT	US-1	Bicycle Facility Improvements		$33.240	$44.724	
West Dixie Highway	NE 186 St/Miami Gardens Drive	Ives Dairy Road	Bicycle Facility Improvements		$23.000	$30.947	
Overtown Greenway	NW 7 Ave	NW 3 Ave	Trail Improvements	$2,142.000	$2.142		
Biscayne Trail "C"	Biscayne National Park	Black Point Park	Trail Improvements	$1,085.000	$1.085		
Old Cutler Road Path Phase 2	SW 136 St	SW 72 St	Trail Improvements	$1,324.000	$1.324		
South Dade Greenway Bridges	Biscayne and Black Creek	Trail Bridges	Trail Improvements	$960.000	$0.960		
Biscayne Trail "D"	US-1 / South Dixie Highway	Biscayne National Park	Trail Improvements	$1,850.000	$1.850		
Miami River Greenway (complete missing segments)	NW 12 Ave	SE 2 Ave	Trail Improvements		$406.000	$546.273	
M-Path GreenLink (short-term improvements)	SW 67 Ave	Miami River Greenway	Trail Improvements		$452.400	$608.704	
Atlantic Trail	South Pointe Park / South Pointe Drive	5 St	Trail Improvements		$220.000	$296.010	
El Portal / 87 St	NW 5 Ave	NE 2 Ave	Pedestrian Facility Improvements		$222.500	$299.374	
East of Little Havana	Greenways/South River Drive	SW 12 Ave to J. Marti Park	Pedestrian Facility Improvements		$766.500	$1,031.326	
NE 20 St	N Miami Ave/FEC Railroad	NE 2 Ave	Pedestrian Facility Improvements		$114.000	$153.387	
Kensington Park Elementary			Safe Routes to Schools		$136.000	$182.988	
Santa Clara Elementary			Safe Routes to Schools		$117.000	$157.424	
Linda Lentin K-8 Center			Safe Routes to Schools		$169.000	$227.390	
Natural Bridge Elementary			Safe Routes to Schools		$130.000	$174.915	
Little River Elementary			Safe Routes to Schools		$125.000	$168.188	
Phyllis Ruth Miller Elementary			Safe Routes to Schools		$75.000	$100.913	
Phillis Wheatley Elementary			Safe Routes to Schools		$124.000	$166.842	
Toussaint L'ouverture Elementary			Safe Routes to Schools		$156.000	$209.898	
Oak Grove Elementary			Safe Routes to Schools		$200.000	$269.100	

Bolded phase funds are included in the 2015/2019 Miami-Dade TIP
**Funded in 2015/2019 Miami-Dade County Transportation Imrpovement Program (TIP) in conjunction with road reconstruction/rehabilitation*
*** Safe Routes to School - funded as a program 2015/2019 Miami-Dade County TIP ($6.2M)*

Priority I 2015-2020		Priority II 2021-2025		Priority III 2026-2030		Priority IV 2031-2040	
PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST
$8.508	$56.722						
$3.019	$20.124						
$3.380	$22.534						
$6.188	$41.254						
$11.092	$73.944						
$5.349	$35.662						
$5.834	$38.891						
$4.037	$26.910						
	$2,142.000						
	$1,085.000						
	$1,324.000						
	$960.000						
	$1,850.000						
$71.253	$475.020						
$79.396	$529.308						
$38.610	$257.400						
$39.049	$260.325						
$134.521	$896.805						
$20.007	$133.380						
$23.868	$159.120						
$20.534	$136.890						
$29.660	$197.730						
$22.815	$152.100						
$21.938	$146.250						
$13.163	$87.750						
$21.762	$145.080						
$27.378	$182.520						
$35.100	$234.000						

Table 6-15 | Bicycle/Pedestrian Priority II Projects (Values in Thousands YOE $)

Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2014 $)	Project Costs Funded via 2040 Plan	
NE 2 Ave	NE 20 St	NE 36 St	Bicycle Facility Improvements		$82.400	$124.136	
NE 2 Ave	NE 62 St	West Little River Canal/NE 84 St	Bicycle Facility Improvements		$108.800	$163.907	
Federal Highway	NE 36 St	NE 38/39 St	Bicycle Facility Improvements		$47.600	$71.709	
NW 22 Ave	NW 111 St	NW 183 St	Bicycle Facility Improvements (Restriping)		$44.810	$67.506	
NW 22 Ave	NW 36 St	NW 111 St	Bicycle Facility Improvements / Road Diet		$355.360	$535.350	
NW 2 Ave	NW 20 St	NW 79 St	Bicycle Facility Improvements		$366.800	$552.584	
Commodore Trail improvements	Darwin St	Mercy Hospital	Trail Improvements		$377.000	$567.951	
Atlantic Trail	4600 Block / Indian Beach Park	6400 Block / Allison Park	Trail Improvements		$927.500	$1,397.279	
SW side of SW 117 Ave	Roberta Hunter Park	South Dade Trail & Black Creek Trail junction	Trail Improvements		$151.200	$227.783	
Snapper Creek Trail "A"	K-Land Park / SW 88 St	SW 72 St	Trail Improvements		$1,040.000	$1,566.760	
Snapper Creek Trail "A"	SW 72 St	SW 8 St / FIU	Trail Improvements		$2,451.000	$3,692.432	
Dade Blvd Bike Path	Meridian Ave	Atlantic Trail / Beachwalk	Trail Improvements		$307.200	$462.797	
Beachwalk Greenway/5th St	Ocean Drive	Atlantic Trail / Beachwalk	Trail Improvements		$19.600	$29.527	
Black Creek Trail "B"	Larry and Penny Thompson Park	Krome Trail	Trail Improvements		$3,140.000	$4,730.410	
Miami River Greenway (complete missing segments)	NW 36 St	NW 12 Ave	Trail Improvements		$840.250	$1,265.837	
NW 103 St	W 28 Ave	W 24 Ave	Pedestrian Facility Improvements		$79.000	$119.014	
NW 103 St	W 24 Ave	W 49 St	Pedestrian Facility Improvements		$130.500	$196.598	
Biscayne Boulevard	NE 191 St	Aventura Boulevard	Pedestrian Facility Improvements		$134.250	$202.248	
SW 142 Ave	SW 26 St	SW 8 St	Pedestrian Facility Improvements		$563.250	$848.536	
Granada Boulevard	Ponce De Leon Boulevard	Blue Road	Pedestrian Facility Improvements		$265.500	$399.976	
Blue Road	SW 57 Ave	Ponce De Leon	Pedestrian Facility Improvements		$763.000	$1,149.460	
S Miami Ave	S Dixie Highway	SW 26 Road	Pedestrian Facility Improvements		$19.000	$28.624	
Alhambra Circle	Blue Road	SW 40 St	Pedestrian Facility Improvements		$269.000	$405.249	
Urban Center Pedestrian Safety/Mobility Improvements	Various Locations		Pedestrian Facility Improvements		$1,000.000	$1,506.500	
Lehman Causeway Pedestrian Facility	Aventura	Sunny Isles Beach	Pedestrian Facility Improvements		$411.750	$620.301	
Non-motorized Facility Improvements	Various Locations		Safe Routes to Schools		$1,000.000	$1,506.500	
Improve safety by public outreach initiatives	Various Locations		Improve safety through public outreach initiatives		$1,000.000	$1,506.500	

	Priority I 2015-2020		Priority II 2021-2025		Priority III 2026-2030		Priority IV 2031-2040	
	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST
			$16.192	$107.944				
			$21.379	$142.528				
			$9.353	$62.356				
			$8.805	$58.701				
			$69.828	$465.522				
			$72.076	$480.508				
			$74.081	$493.870				
			$182.254	$1,215.025				
			$29.711	$198.072				
			$204.360	$1,362.400				
			$481.622	$3,210.810				
			$60.365	$402.432				
			$3.851	$25.676				
			$617.010	$4,113.400				
			$165.109	$1,100.728				
			$15.524	$103.490				
			$25.643	$170.955				
			$26.380	$175.868				
			$110.679	$737.858				
			$52.171	$347.805				
			$149.930	$999.530				
			$3.734	$24.890				
			$52.859	$352.390				
			$196.500	$1,310.000				
			$80.909	$539.393				
			$196.500	$1,310.000				
			$196.500	$1,310.000				

Table 6-16 | Bicycle/Pedestrian Priority III Projects (Values in Thousands $)

Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP (Y-O-E $)	Total Capital Cost (2014 $)	Project Costs Funded via 2040 Plan (Y-O-E $)	
S 13 St / Coral Way	SW 3 Ave	Brickell Ave	Bicycle Facility Improvements		$94.800	$167.891	
Tamiami Canal Road	West Flagler St	NW 7 St	Bicycle Facility Improvements		$18.100	$32.055	
South Miami Ave	SW 15 Road	SW 14 Terrace	Bicycle Facility Improvements		$22.800	$40.379	
South Miami Ave	SW 7 St	SW 3 St	Bicycle Facility Improvements		$29.800	$52.776	
North Miami Ave	NW 17 St	NW 29 St	Bicycle Facility Improvements		$87.000	$154.077	
North Miami Ave / NE 1 Ave	NW 5 St	NW 17 St	Bicycle Facility Improvements		$85.500	$151.421	
NE 62 St	Biscayne Boulevard	NE 2 Ave	Bicycle Facility Improvements		$52.100	$92.269	
SW 32 Road	Vizcaya Metrorail Station	Coral Way	Bicycle Facility Improvements		$18.500	$32.764	
SW 32 Road	Brickell Ave	Vizcaya Pedestrian Bridge	Bicycle Facility Improvements		$28.000	$49.588	
SW 25 Road	Brickell Ave	Coral Way	Bicycle Facility Improvements		$43.900	$77.747	
NW 5 Ave	NW 22 St	NW 36 St	Bicycle Facility Improvements		$87.900	$155.671	
Tamiami Canal Road	SW 8 St	West Flagler St	Bicycle Facility Improvements		$66.600	$117.949	
SW 137 Ave	SW 72 St	SW 56 St	Bicycle Facility Improvements		$80.000	$141.680	
SW/NW 1 Ave	SW 2 St	NW 11 St	Bicycle Facility Improvements		$17.300	$30.638	
SW 72 Ave	SW 4 St	West Flagler St	Bicycle Facility Improvements		$25.300	$44.806	
NW 11 St	NW 27 Ave	NW 22 Ave	Bicycle Facility Improvements		$52.000	$92.092	
NW 23 Ave	NW 7 St	NW 11 St	Bicycle Facility Improvements		$23.300	$41.264	
NW 5 Ave	NW 4 St	NW 11 St	Bicycle Facility Improvements		$45.900	$81.289	
Snapper Creek Trail "B"	SW 94 Ave / K-Land Park	SW 57 Ave	Trail Improvements		$1,521.200	$2,694.045	
M-Path GreenLink (long-term improvements)	SW 67 Ave	Miami River Greenway	Trail Improvements		$4,524.000	$8,012.004	
NW/NE 131 St	NW 22 Ave	NE 16 Ave	Trail Improvements		$43.000	$76.153	
Overtown Greenway (except between NW 3 and 7 Ave)	Miami River Greenway	Musuem Park	Trail Improvements		$32.082	$56.817	
W Okeechobee Road	NW 103 St	W 18 Ave	Pedestrian Facility Improvements		$1,447.500	$2,563.523	
Hialeah Expressway	W 8 Ave	W 4 Ave	Pedestrian Facility Improvements		$256.000	$453.376	
SR-9 Extension Frontage Road	NW 27th Ave	SR 9 Extension	Pedestrian Facility Improvements		$684.750	$1,212.692	
SW 117 Ave	SW 17th St	SW 8 St	Pedestrian Facility Improvements		$185.000	$327.635	
NW 82 St	NW 114 Path	NW 109 Ave	Pedestrian Facility Improvements		$75.000	$132.825	
SW 152 Ave	SW 184 St	SW 181 Terrace	Pedestrian Facility Improvements		$41.750	$73.939	
Granada Boulevard	Hardee Road	S Dixie Highway	Pedestrian Facility Improvements		$273.000	$483.483	

	Priority I 2015-2020 (Y-O-E $)		Priority II 2021-2025 (Y-O-E $)		Priority III 2026-2030 (Y-O-E $)		Priority IV 2031-2040 (Y-O-E $)	
	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST
					$21.899	$145.992		
					$4.181	$27.874		
					$5.267	$35.112		
					$6.884	$45.892		
					$20.097	$133.980		
					$19.751	$131.670		
					$12.035	$80.234		
					$4.274	$28.490		
					$6.468	$43.120		
					$10.141	$67.606		
					$20.305	$135.366		
					$15.385	$102.564		
					$18.480	$123.200		
					$3.996	$26.642		
					$5.844	$38.962		
					$12.012	$80.080		
					$5.382	$35.882		
					$10.603	$70.686		
					$351.397	$2,342.648		
					$1,045.044	$6,966.960		
					$9.933	$66.220		
					$7.411	$49.406		
					$334.373	$2,229.150		
					$59.136	$394.240		
					$158.177	$1,054.515		
					$42.735	$284.900		
					$17.325	$115.500		
					$9.644	$64.295		
					$63.063	$420.420		

Table 6-16 | Bicycle/Pedestrian Priority III Projects (continued) (Values in Thousands YOE $)

Project Handle	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2014 $)	Project Costs Funded via 2040 Plan	
Granada Boulevard	Blue Road	SW 40 St	Pedestrian Facility Improvements		$264.000	$467.544	
NE 159 St	N Miami Ave	NE 6 Ave	Pedestrian Facility Improvements		$188.750	$334.276	
NW 167 St	NW 57 Ave	NW 47 Ave	Pedestrian Facility Improvements		$268.250	$475.071	
NW 3 Court	NW 2 St	NW 8 St	Pedestrian Facility Improvements		$100.750	$178.428	
NW 167 St	NW 27 Ave	NW 22 Ave	Pedestrian Facility Improvements		$266.000	$471.086	
W 68 St	W 19 Court	W 17 Court	Pedestrian Facility Improvements		$53.250	$94.306	
SW 40 St	University Drive	Segovia St	Pedestrian Facility Improvements		$116.750	$206.764	
SW 40 St	Segovia St	SW 42 Ave	Pedestrian Facility Improvements		$62.000	$109.802	
Sevilla Ave	Alhambra Circle	Anastasia Ave	Pedestrian Facility Improvements		$30.500	$54.016	
Non-motorized Facility Improvements	Various Locations		Safe Routes to Schools		$1,000.000	$1,771.000	
Improve safety by public outreach initiatives	Various Locations		Improve safety through public outreach initiatives		$1,000.000	$1,771.000	

	Priority I 2015-2020		Priority II 2021-2025		Priority III 2026-2030		Priority IV 2031-2040	
	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST
					$60.984	$406.560		
					$43.601	$290.675		
					$61.966	$413.105		
					$23.273	$155.155		
					$61.446	$409.640		
					$12.301	$82.005		
					$26.969	$179.795		
					$14.322	$95.480		
					$7.046	$46.970		
					$231.000	$1,540.000		
					$231.000	$1,540.000		

Table 6-17 | Bicycle/Pedestrian Priority IV Projects (Values in Thousands YOE $)

Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2014 $)	Project Costs Funded via 2040 Plan	
SW 137 Ave	US-1	SW 184 St	Bicycle Facility Improvements		$83.060	$188.172	
NW 79 Place/NW 79 Ave	Palmetto Metrorail Station	US-27 (Okeechobee)	Bicycle Facility Improvements		$69.760	$158.041	
Bike Boulevard Demonstration Project	NW 32 Ave/NW 41 St	NW 11 Ave/Little River Drive	Bike Boulevard Improvements		$3,000.000	$6,796.500	
SW 137 Ave	SW 152 St	SW 72 St	Bike Boulevard Improvements		$404.160	$915.624	
SW 137 Ave	SW 56 St	SW 8 St	Bicycle Facility Improvements		$255.520	$578.881	
SW 16 St	SW 107 Ave	SW 82 Ave	Bicycle Facility Improvements		$200.080	$453.281	
SW 48 St	SW 117 Ave	SW 82 Ave	Bicycle Facility Improvements		$1,767.000	$4,003.139	
NW 344 St	SW 192 Ave	NW 6 Ave	Bicycle Facility Improvements		$20.480	$46.397	
SW 376 St	Ingraham Highway	SW 192 Ave	Bicycle Facility Improvements		$13.680	$30.992	
Ingraham Highway	SW 376 St	SW 392 St	Bicycle Facility Improvements		$45.480	$103.035	
SW 392 St	Ingraham Highway	Everglades National Park	Bicycle Facility Improvements		$59.680	$135.205	
SW 192 Ave	SW 344 St	SW 376 St	Bicycle Facility Improvements		$40.580	$91.934	
SW 137 Ave	SW 288 St	SR-821 (HEFT)	Bicycle Facility Improvements		$56.080	$127.049	
Blue Road	SW 67 Ave	SW 42 Ave	Bicycle Facility Improvements		$51.460	$116.583	
SW 40 St	SW 117 Ave	SW 57 Ave	Bicycle Facility Improvements		$485.280	$1,099.402	
NW 22 Ave	SW 22 St	Airport Expyway/ SR -12	Bicycle Facility Improvements		$338.320	$766.464	
Pine Tree Drive/La Gorce	23 St	63 St	Bicycle Facility Improvements		$250.800	$568.187	
Atlantic Trail (Boardwalk Replacement Project)	23 St	4600 Block / Indian Beach Park	Trail Improvements		$658.800	$1,492.511	
M-Path / Overtown Greenway	North of Miami River		Trail Improvements		$3,666.400	$8,306.229	
Atlantic Trail (north of Miami Beach)	North Shore Park	Haulover Park	Trail Improvements		$2,128.400	$4,821.890	
Atlantic Trail (north of Haulover Park)	Haulover Park	Broward County Line	Trail Improvements		$1,272.400	$2,882.622	
W 4 Ave	W 53 St	NW 114 St	Pedestrian Facility Improvements		$487.500	$1,104.431	
W 4 Ave	NW 114 St	NW 119 St	Pedestrian Facility Improvements		$61.250	$138.762	
NE 16 Ave	NE 159 St	NE 163 St	Pedestrian Facility Improvements		$68.250	$154.620	
NW 17 Ave	NW 157 St	NW 167 St	Pedestrian Facility Improvements		$164.000	$371.542	
NW 167 St	NW 32 Ave	NW 27 Ave	Pedestrian Facility Improvements		$126.250	$286.019	
SW 104 St	SW 97 Ave	SW 92 Ave	Pedestrian Facility Improvements		$127.750	$289.418	
NW 2 Ave	N Biscayne River Drive	NW 159 St	Pedestrian Facility Improvements		$78.250	$177.275	
Hialeah Expressway	W Okeechobee Road	W 10 Ave	Pedestrian Facility Improvements		$30.250	$68.531	

	Priority I 2015-2020		Priority II 2021-2025		Priority III 2026-2030		Priority IV 2031-2040	
	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST
							$24.544	$163.628
							$20.614	$137.427
							$886.500	$5,910.000
							$119.429	$796.195
							$75.506	$503.374
							$59.124	$394.158
							$522.149	$3,480.990
							$6.052	$40.346
							$4.042	$26.950
							$13.439	$89.596
							$17.635	$117.570
							$11.991	$79.943
							$16.572	$110.478
							$15.206	$101.376
							$143.400	$956.002
							$99.974	$666.490
							$74.111	$494.076
							$194.675	$1,297.836
							$1,083.421	$7,222.808
							$628.942	$4,192.948
							$375.994	$2,506.628
							$144.056	$960.375
							$18.099	$120.663
							$20.168	$134.453
							$48.462	$323.080
							$37.307	$248.713
							$37.750	$251.668
							$23.123	$154.153
							$8.939	$59.593

Table 6-17 | Bicycle/Pedestrian Priority IV Projects (continued) (Values in Thousands YOE $)

Project	Limits From	Limits To	Description	Total Capital Cost Funded via TIP	Total Capital Cost (2014 $)	Project Costs Funded via 2040 Plan	
NW 167 St	NW 22 Ave	NW 17 Ave	Pedestrian Facility Improvements		$130.500	$295.648	
NW 2 Ave	NW 17 St	NW 20 St	Pedestrian Facility Improvements		$62.000	$140.461	
W Okeechobee Road	W 8 Ave	W 4 Ave	Pedestrian Facility Improvements		$170.000	$385.135	
Biscayne Road	NE 187 St	NE 191 St	Pedestrian Facility Improvements		$59.750	$135.364	
NW 36 St	East Drive	N Le Jeune Road	Pedestrian Facility Improvements		$129.750	$293.949	
SW 64 St	SW 72 Ave	SW 67 Ave	Pedestrian Facility Improvements		$129.750	$293.949	
NW 37 Ave	NW 71 St	NW 79 St	Pedestrian Facility Improvements		$139.000	$314.905	
Hialeah Expressway	NW 72 Ave	N Royal Poinciana Boulevard	Pedestrian Facility Improvements		$131.000	$296.781	
SW 72 St	SW 72 Ave	SW 67 Ave	Pedestrian Facility Improvements		$143.000	$323.967	
Hialeah Expressway	W 10 Ave	W 8 Ave	Pedestrian Facility Improvements		$63.500	$143.859	
SW 67 Ave	SW 72 St	SW 67 St	Pedestrian Facility Improvements		$121.750	$275.825	
NW 71 St	NW 32 Ave	NW 27 Ave	Pedestrian Facility Improvements		$127.500	$288.851	
NW 81 St	NW 37 Ave	NW 36 Ave	Pedestrian Facility Improvements		$26.500	$60.036	
W 4 Ave	W 33 St	W 37 St	Pedestrian Facility Improvements		$55.750	$126.302	
NE 12 Ave	NE 8 St	NE 15 St	Pedestrian Facility Improvements		$122.500	$277.524	
E Okeechobee Road	E 1 Ave	East Drive	Pedestrian Facility Improvements		$134.500	$304.710	
W 4 Ave	W 49 St	W 53 St	Pedestrian Facility Improvements		$84.000	$190.302	
NE 2 Ave	NW 111 St	W Dixie Highway	Pedestrian Facility Improvements		$262.000	$593.561	
NE 10 Ave	NE 82 St	NE 95 St	Pedestrian Facility Improvements		$450.000	$1,019.475	
NE 12 Ave	NE 159 St	N Miami Beach Boulevard	Pedestrian Facility Improvements		$127.500	$288.851	
Non-motorized Facility Improvements	Various Locations		Safe Routes to Schools		$1,000.000	$2,265.500	
Improve safety by public outreach initiatives	Various Locations		Improve safety through public outreach initiatives		$1,000.000	$2,265.500	

	Priority I 2015-2020		Priority II 2021-2025		Priority III 2026-2030		Priority IV 2031-2040	
	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST	PRE-ENG	CST
							$38.563	$257.085
							$18.321	$122.140
							$50.235	$334.900
							$17.656	$117.708
							$38.341	$255.608
							$38.341	$255.608
							$41.075	$273.830
							$38.711	$258.070
							$42.257	$281.710
							$18.764	$125.095
							$35.977	$239.848
							$37.676	$251.175
							$7.831	$52.205
							$16.474	$109.828
							$36.199	$241.325
							$39.745	$264.965
							$24.822	$165.480
							$77.421	$516.140
							$132.975	$886.500
							$37.676	$251.175
							$295.500	$1,970.000
							$295.500	$1,970.000

Congestion Management Set-Aside Projects

Slow and stopped traffic, longer travel times, and long queues of vehicles result from traffic congestion. Traffic congestion stresses the transportation system and drivers causing billions of gallons of wasted fuel, hours of wasted time, and costs to the economy. According to the Texas Transportation Institute (TTI), Urban Mobility Information for 2011, each auto commuter in the Miami Urbanized Area experienced 47 hours of delay, 25 gallons of excess fuel, and a congestion cost of $933, annually.

Yearly, Miami Commuters Waste:

47 Hours of Delay

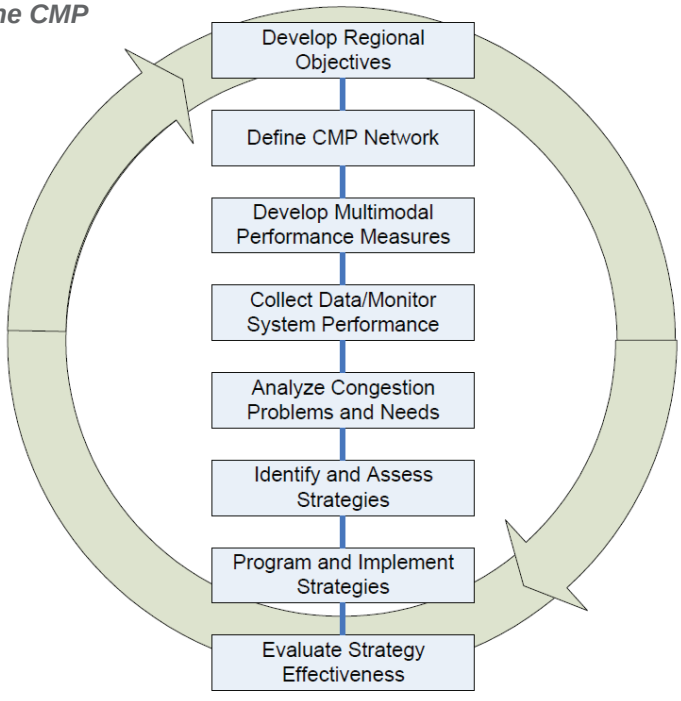
25 Gallons of Fuel

$933 of Congestion Costs

Congestion management is an integral part of the planning process and the Congestion Management Process (CMP) is required to be developed and implemented pursuant to Title 23 U.S. Code § 134 – Metropolitan Transportation Planning in Transportation Management Areas (TMA). Congestion management is the application of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods through demand reduction and operational improvements.

The Miami-Dade County 2014 Congestion Management Process Update improved upon the 2009 Miami-Dade Congestion Management Process. The CMP is an on-going process which requires continuous data collection, performance monitoring and strategies assessment. The CMP was developed based on the 8-step process outlined in FHWA's Congestion Management Process: A Guidebook. **Figure 6-22** illustrates the 8-step process.

Figure 6-22 | Elements of the CMP



Source: Congestion Management Process: A Guidebook, FHWA

CMP objectives were drawn from Miami-Dade County's 2040 LRTP goals and objectives and serve as one of the primary points of connection between the CMP and LRTP, and define the direction for development of CMP Performance Measures.

Different from the 2009 update, in the 2014 CMP update process, transit, freight, and non-motorized modes are evaluated through the 2040 LRTP update process as a separate effort, thus are not included in the CMP update process.

Mobility performance measures, along with other measures, are emphasized in the federal transportation legislation MAP-21. CMP Performance Measures are used to characterize current and future conditions on the transportation system in the region.

Performance Measures were selected to identify congested corridors (segments greater than 2 miles) and for the evaluation methodology. Congested corridors were evaluated using a 4-Step process with two different weighting schemes to emphasize different congestion aspects (intensity, duration, extent, and variability).

Hotspots are roadway infrastructure segments shorter than two miles. The methodology for identifying and evaluating hotspots is by total vehicle delay, which is calculated using the following measures from the loaded travel demand model, Southeast Regional Planning Model (SERPM), network output file:

- Daily volume
- AM-peak travel time (AM TT)
- Off-peak tr avel time (Off Peak TT)
- PM-peak travel time (PM TT)
- Free flow travel time (Free Flow TT)

CMP projects were identified using the final list of congested corridors and hotspots and supplemented with high-priority 2035 LRTP congestion management projects carried forward as unfunded needs.

The methodology used to identify CMP projects for the 2040 plan is described below:

1. All Tier 1 congested corridors are proposed for CMP improvements.
2. 2035 LRTP CMP projects that had an evaluation score of over 35 are proposed for CMP improvements.
3. Tier 1 hotspots were checked against the corridors proposed for CMP improvements. Only hotspots outside of those corridors are proposed for CMP improvements.

After the process described above, a total of 20 CMP corridors and hotspots were identified as candidates for CMP funding as listed in **Table 6-18**. These 20 CMP corridors and hotspots were then prioritized using "average vehicle delay".

"Congestion management is the application of strategies to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods."

Table 6-18 | CMP Corridors/Hotspots Recommended for CMP Funding

Rank	Projects ID	CMP Corridors/Hotspots
1	2014 CMP HS-4	Interchange at I-95 and I-195
2	2014 CMP HS-1	Intersection at NW S River Dr and NW 33 Ave
3	2014 CMP-1	MacArthur Causeway eastern terminus (Watson Island to Alton Rd)
4	2014 CMP HS-3	Intersection at NW 29 St and NW 42 Ave (Le Jeune) - north leg
5	2014 CMP HS-2	Intersection at NE 203 St (Ives Dairy) and Highland Lakes Blvd - south leg
6	LRTP-FDOT132	Coral Way from SW 37 Ave to US-1
7	2014 CMP-9	US-1 between SW 344 St and I-95
8	LRTP-CoM106	NW 27 Ave/SW 27 Ave from SW 8 St (Tamiami) to NW 36 St
9	2014 CMP-4	Ponce De Leon Blvd between SW 57 Ave (Red) and NW 42 Ave (Le Jeune)
10	2014 CMP-3	NW 7 St between NW 72 Ave and NW 7 Ave
11	2014 CMP-5	NW 2 Ave between Golden Glades Interchange and Miami-Dade/Broward County line
12	LRTP-FDOT137	SW 8 St (Tamiami) from SR-826 (Palmetto) to I-95
13	LRTP-FDOT112	NW 57 Ave (Red) from NW 135 St to SR-826 (Palmetto)
14	2014 CMP-7	NW 167 St between NW 2 Ave and NE 15 Ave
15	2014 CMP-8	SR-934 (Hialeah Expressway) between NW 84 Ave and W 4 Ave (Red)
16	LRTP-CoM100	Miami Ave; SW 2 Ave; SW 1 St; Flagler St; NW 7 Ave bridges over Miami River
17	LRTP-PW101	SW 22 St (Coral Way) from SR-826 (Palmetto) to SW 37 Ave
18	LRTP-HS104	SR-997 (Krome) at SW 312 St (Campbell)
19	2014 CMP-2	NW 21 St/MIA access/circulation road
20	2014 CMP-6	NW 12 St (Perimeter)/MIA access/circulation road

Further, the resulting list of congestion management projects was compared to the highway projects in the Needs Plan to ensure a CMP strategy is not recommended for a facility that has a planned capital improvement. The logic is that the planned improvement will help to relieve congestion and as such the congestion management resources should be targeted to facilities that do not have a planned capacity expansion. See **Appendix D** for this comparison.

A CMP toolbox was developed for the Miami-Dade MPO, considering the region's demographics and congestion pattern. The toolbox is organized into nine CMP strategy categories: Intelligent Transportation Systems (ITS) and Transportation System Management (TSM), Transportation Demand Management (TDM), Land Use, Parking, Regulatory, Transit, Highway, Bicycle and Pedestrian, and Access Management. Within each category, there are a number of strategies. **Table 6-19** lists the nine categories, number of CMP strategies included in each category, general benefits and costs pertinent to each category, and most representative strategies. Additional information about the CMP toolbox strategies are listed in **Appendix E**. **Table 6-20** list the CMP projects by Priority.

Table 6-19 | Congestion Management Program Toolbox

Major Categories	Intensity/ Number of Strategies	Benefits	Costs	Examples
Intelligent Transportation Systems (ITS) and Transportation	19 strategies	Reduce travel time, reduce stops, reduce delays, increase safety	Mostly low to moderate	Signal coordination, ramp metering, highway information systems, service patrols
TDM	9 strategies	Reduce peak period travel, reduce SOV VMT	Mostly low to moderate	Alternative work hours, telecommuting, road pricing, toll roads
Land Use	5 strategies	Decrease SOV trips, increase walk trips, increase transit modeshare, air quality benefit	Low to moderate	Infill, TOD development, densification
Parking	7 strategies	Increase transit use, reduce VMT, generate revenue	Low to moderate	Preferential parking for HOVS, park and ride lots, advanced parking systems
Regulatory	5 strategies	Decrease VMT, air quality benefits, increase safety, generate revenue	Low to moderate	Carbon pricing, VMT fee, pay as you drive insurance, auto restriction zones, truck restrictions
Transit	15 strategies	Shifting modeshare, increasing transit ridership, reduce VMT, provide air quality benefits	Low to high	Increasing coverages and frequencies, new fixed guideway travelways, signal priority, intelligent transit stops (tech improvements)
Highway	9 strategies	Increase capacity, mobility, and traffic flow	Moderate to high	HOV lanes, super street arterials, highway widening, acceleration and deceleration lanes, design improvements
Bicycle and Pedestrian	8 strategies	Decrease auto modeshare, reduce VMT, provide air quality benefits	Mostly low	New sidewalks and bike lanes, improved facilities near transit stations, bike sharing, and exclusive rights of way
Access Management	9 strategies	Increase capacity, efficiency, and mobility, reduce travel time	Mostly moderate to high	Turn restrictions, turn lanes, frontage roads, roundabout intersections

CONGESTION MANAGEMENT **SNAPSHOT**

20 Corridor/Hotspots

31 Strategies

Figure 6-23 | Congestion Management by Priority

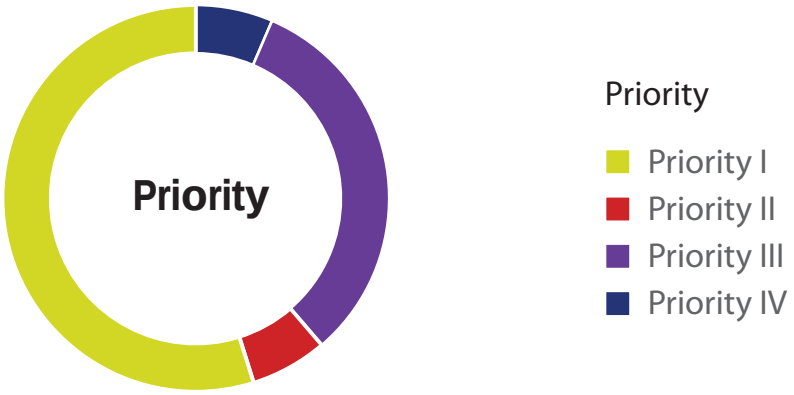
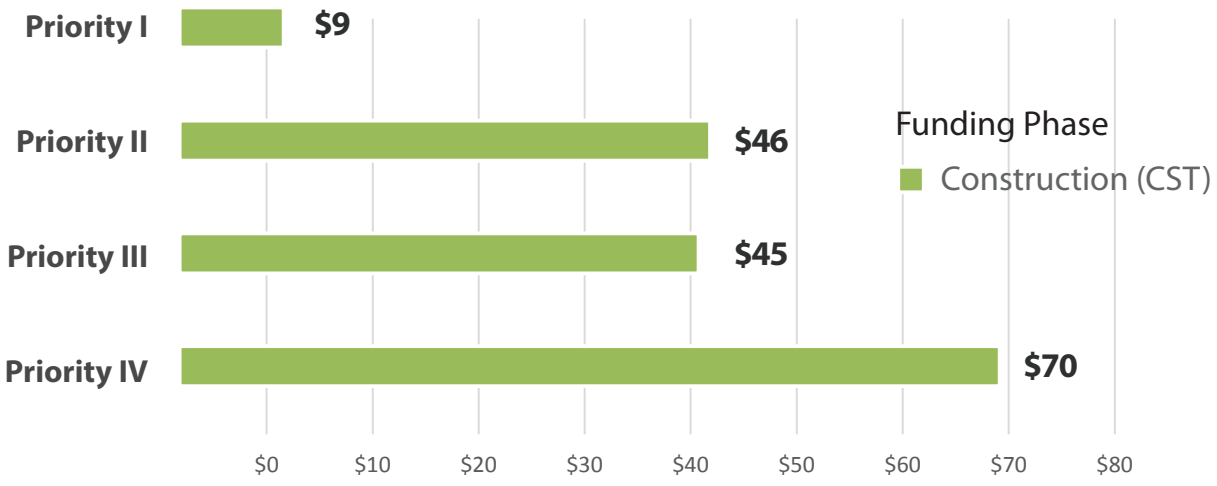


Figure 6-24 | Allocation of Congestion Management Funding by Priority (Millions YOE $)



Note: Snapshot does not include the strategies with "insignificant" costs.

Figure 6-25 | Congestion Management Set-Aside Map

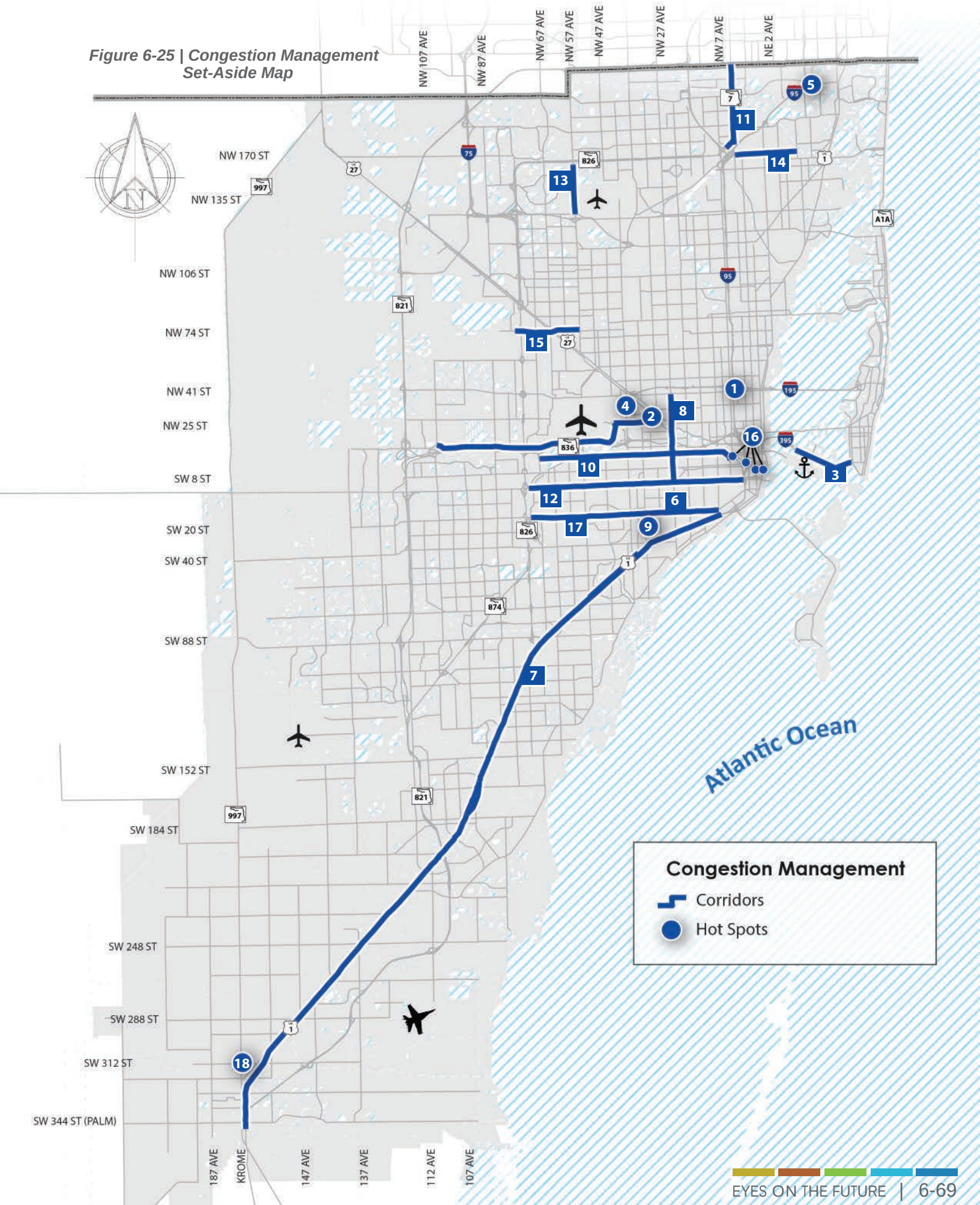


Table 6-20 | Congestion Management Set-Aside Projects (Values in Millions YOE $)

MAP ID	Congestion Management Program Corridors/Hotspots	Congestion Management Strategies	
n/a	Network	Communication networks and roadway surveillance coverage*	
1	Interchange at I-95 and I-195	Speed harmonization/queue warning on I-95 and I-195	
		Roadway signage improvements on ramps from I-195 to I-95	
2	Intersection at NW S River Dr and NW 33 Ave	Access management	
		Widen the road and bridge to at least three lanes to provide at a minimum, a turn lane for the turning vehicles	
3	MacArthur Causeway eastern terminus (Watson Island to Alton Rd)	Signal timing optimization	
		Access management and intersection improvement at Watson Island	
4	Intersection at NW 29 St and NW 42 Ave (Le Jeune) - north leg	Signal timing optimization	
		Intersection improvements at NW 29 St and NW 42 Ave	
		Access improvements	
5	Intersection at NE 203 St (Ives Dairy) and Highland Lakes Blvd - south leg	Signal detector improvement - pilot	
6	Coral Way from SW 37 Ave to US-1	Signal timing optimization	
		Real Time Parking Availability Information	
7	US - between SW 344 St and I-95	Enforce "don't block box' initiatives	
		Signal timing optimization	
8	NW 27 Ave/SW 27 Ave from SW 8 St (Tamiami) to NW 36 St	Signal timing optimization	
		Median/access improvements	
9	Ponce De Leon Blvd between SW 57 Ave (Red) and NW 42 Ave (Le Jeune)	Signal timing optimization	
10	NW 7 St between NW 72 Ave and NW 7 Ave	Signal timing optimization	
11	NW 2 Ave between Golden Glades Interchange and Miami-Dade/ Broward County line	Signal timing optimization	
12	SW 8 St (Tamiami) from SR-826 (Palmetto) to I-95	Signal timing optimization	
13	NW 57 Ave (Red) from NW 135 St to SR-826 (Palmetto)	Signal timing optimization	
		Access improvements	
14	NW 167 St between NW 2 Ave and NE 15 Ave	Signal timing optimization	
		Access improvements	
15	SR-934 (Hialeah Expressway) between NW 84 Ave and W 4 Ave (Red)	Signal timing optimization	
		Intersection improvements for trucks	
		TDM Strategies	
16	Miami Ave; SW 2 Ave; SW 1 St; Flagler St; NW 7 Ave bridges over Miami River	Advanced bridge closing signs/rerouting information signs	
17	SW 22 St (Coral Way) from SR-826 (Palmetto) to SW 37 Ave	Signal timing optimization	
18	SR-997 (Krome) at SW 312 St (Campbell)	Intersection Improvements - redesign to meet minimum turn radius requirements	
19	NW 21 St/MIA access/circulation road	Active traffic management strategies on MIA circulator road and between MIA and NW 3 Ave**	
		Advanced Parking System	
n/a	City of Miami Beach	ITS and Parking Management System (PMS)***	

**Communications networks and roadway surveillance coverage*
*** Active traffic management strategies include dynamic lane control, dynamic speed control, real-time information, etc.*
**** The City of Miami Beach has applied for $14.5 M TIGER funding for this project, with the City contributing $4.5 M local match.*
n/a - not applicable, project not shown on map

	Total Project Cost (2014 $)	Priority I 2015-2020	Priority II 2021-2025	Priority III 2026-2030	Priority IV 2031-2040	Project Costs Funded via Cost Feasible
		Capital	Capital	Capital	Capital	
	$34.013	$4.764	$27.484		$19.728	$51.975
	$12.984		$17.528			$17.528
	Insignificant					Insignificant
	$1.000	$1.210				$1.210
	$2.303		$0.988	$2.499		$3.487
	$0.013	$0.016				$0.016
	$30.000			$7.482	$51.374	$58.856
	$0.049	$0.059				$0.059
	$1.000			$1.590		$1.590
	$1.000			$1.590		$1.590
	$0.050	$0.061				$0.061
	$0.059	$0.071				$0.071
	$1.000			$1.590		$1.590
	Insignificant					Insignificant
	$0.228	$0.276				$0.276
	$0.033	$0.039				$0.039
	$3.025			$4.810		$4.810
	$0.020	$0.024				$0.024
	$0.068	$0.083				$0.083
	$0.026	$0.032				$0.032
	$0.114	$0.138				$0.138
	$0.026	$0.032				$0.032
	$2.000			$3.180		$3.180
	$0.033	$0.039				$0.039
	$1.000			$1.590		$1.590
	$0.020	$0.024				$0.024
	$3.000			$4.770		$4.770
	Insignificant					Insignificant
	$1.218	$1.474				$1.474
	$0.046	$0.055				$0.055
	$0.500	$0.605				$0.605
	$8.000			$12.720		$12.720
	$2.000			$3.180		$3.180
	$14.500					*** $0.000

Freight Set-Aside Projects

The established and expanding freight transportation system, serves as the cornerstone of the region's economy, providing access to Florida's largest consumption market, as well as connecting the region to the global economy through major sea and air gateways. Miami-Dade County is home to a multi-cultural community with an economy dominated by tourism, international trade, agriculture and mining, and natural resources.

Miami-Dade County has an extensive freight system encompassing all major modes of transportation. These modes work to complement one another to ensure a smooth flow of goods throughout the county, the region, the state, and the country. The freight infrastructure is undergoing significant improvements and expansion to position the region for future growth.

The 2014 Miami-Dade Freight Plan Update identified a prioritized list of freight needs for Miami-Dade County that was developed using stakeholder interviews, review of past plans, consultation with the FDOT Work Program, and identification of hot spots/bottlenecks based on a combination of screening and field review. The highway infrastructure needs identified in the 2014 Miami-Dade Freight Plan Update to improve freight movement are included in the 2040 Plan. The identified freight infrastructure needs were grouped into two categories: (1) projects that will improve both freight and passenger vehicle movements and (2) projects that will primarily improve freight movement (Freight Only Projects). The projects that will improve both freight and passenger vehicle movements are incorporated into Priorities I-IV and unfunded projects.

As part of this Freight Plan Update, numerous highway infrastructure needs were identified throughout the county. While all identified projects will have an impact on freight movements, some also improve passenger movements. For instance, the PortMiami Tunnel, while giving trucks direct access to the interstate system, also improves traffic conditions in Downtown Miami as well as ease of access for cruise passengers traveling to PortMiami to embark on a cruise. The Miami-Dade MPO has approved financial set-asides for projects that focus specifically on freight and freight operations.

Port Miami
"Cargo Gateway to the Americas"

Truck Parking / Overnight Facilities

The Miami-Dade region has made significant investments in its transportation infrastructure to support its standing as a major international freight gateway. These investments also help to ensure long-term capacity to accommodate the growth in goods movement. The Port of Miami is a mega-facility with a massive economic impact and a generator of thousands of jobs. It will continue to grow as a result of the new tunnel, future port dredging and the associated increase in larger post-Panamax ships. As port cargo grows so will regional truck travel. Regional truck travel growth will also occur in relation to goods movement that is not port related.

To facilitate general regional economic and population growth, it is necessary to plan to accommodate truck parking needs over the planning horizon. Some parking demand will be able to be met through future distribution facilities including any inland distribution centers that might be developed. It will be important to plan these facilities to include space for layover parking.

In other instances stakeholder organizations will need to collaborate and innovate to provide ways to safely accommodate truck parking within (and in close proximity to) highway right of way. Some truck parking needs are accommodated by private truck travel plazas. It has become increasingly clear, however, that the growth in freight transportation will require expansion of both private and public parking facilities.

Truck parking facilities are key to several of the safety goals that have been established in the region's freight plans over time. Technology will increasingly help in the effective operation of truck parking facilities. The concept of Smart-Parking is taking hold in some regions with greater use of advance information to truck operators on truck parking availability at various facilities. It is also expected that truck parking apps will be developed to help direct truck operators to facilities.

Several key strategies will be important over the planning horizon:

- Continued dialogue with the freight industry to remain current with truck parking needs and developments
- Maintaining a current inventory of truck parking facilities as well as the identification of potential sites for future truck parking, based on appropriate criteria that is sensitive to community needs and trucking industry needs
- Identifying land suitable for truck parking and to potentially acquire such properties where beneficial to do so
- Coordinating land development and other truck parking issues with local government to minimize impacts
- Leveraging federal, state and private funds to the greatest extent possible to expand truck parking
- Ensuring that freight projects generally, and parking projects specifically, remain a focus for future TIPs

FDOT is in the early stages of developing an overnight truck parking facility. This may be a potential Public Private Partnership opportunity. It is hoped that this project will be amended into the plan when sufficient information becomes available.

The freight only projects were generally identified based on the project's location. Projects located in exclusively industrial or predominately warehousing areas, such as west of the airport, were identified as freight only projects and eligible for the Freight Set-Aside funds.

The Freight Only projects were prioritized based on the following: Facility Type, Adjacent Freight Center Density, Truck ADT, Project Cost, Attraction to General Traffic, and Type of Project. **Table 6-21** list the freight only projects by Priority.

Additional information on the 2014 Miami-Dade Freight Plan Update can be found on the MPO's website.

More than 50% of cargo from Latin America and Caribbean flows through Port Miami.

FREIGHT **SNAPSHOT**

Figure 6-26 | Freight Projects by Priority

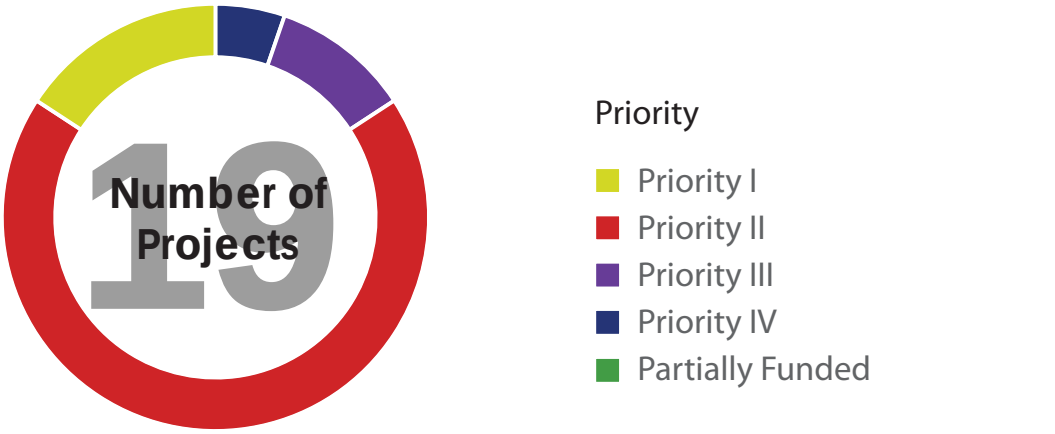
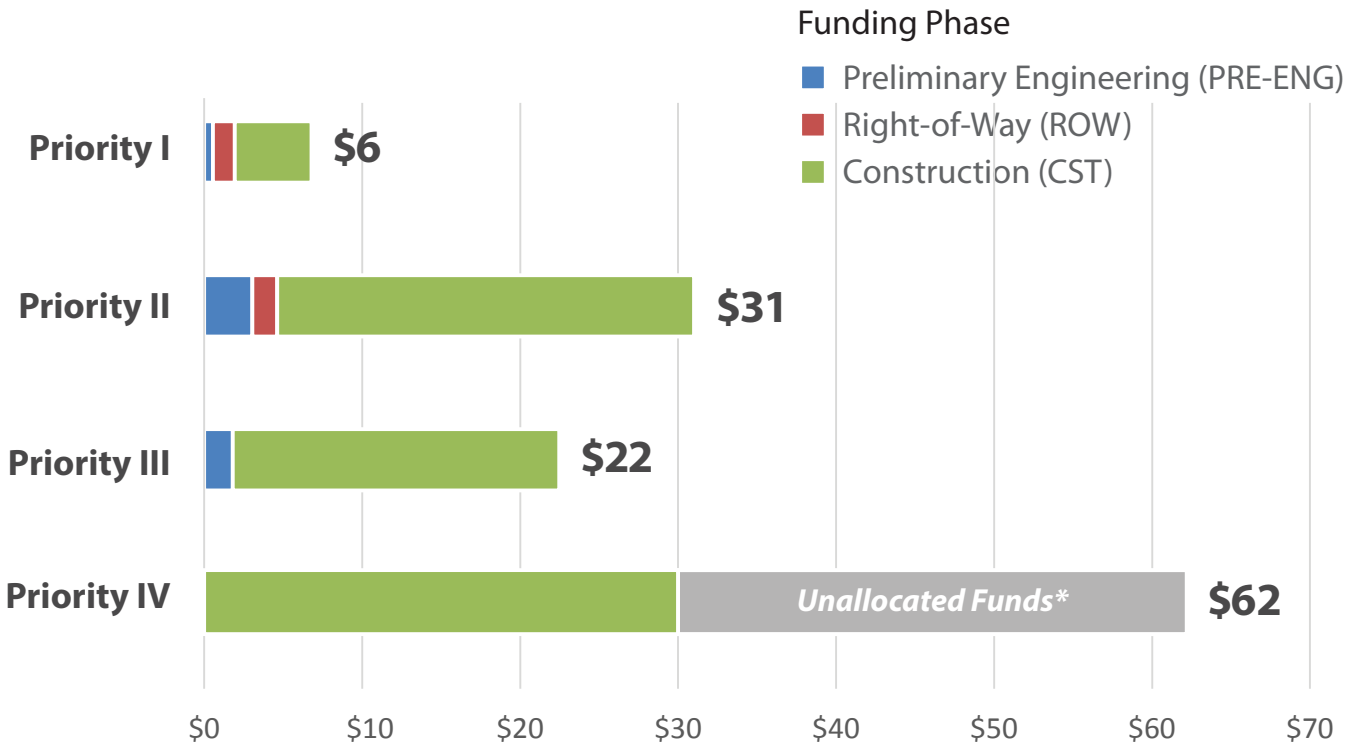


Figure 6-27 | Allocation of Freight Funding by Priority and Phase (Millions YOE $)



**Projects to be identified through future freight planning efforts.*

Figure 6-28 | Freight Set-Aside Map

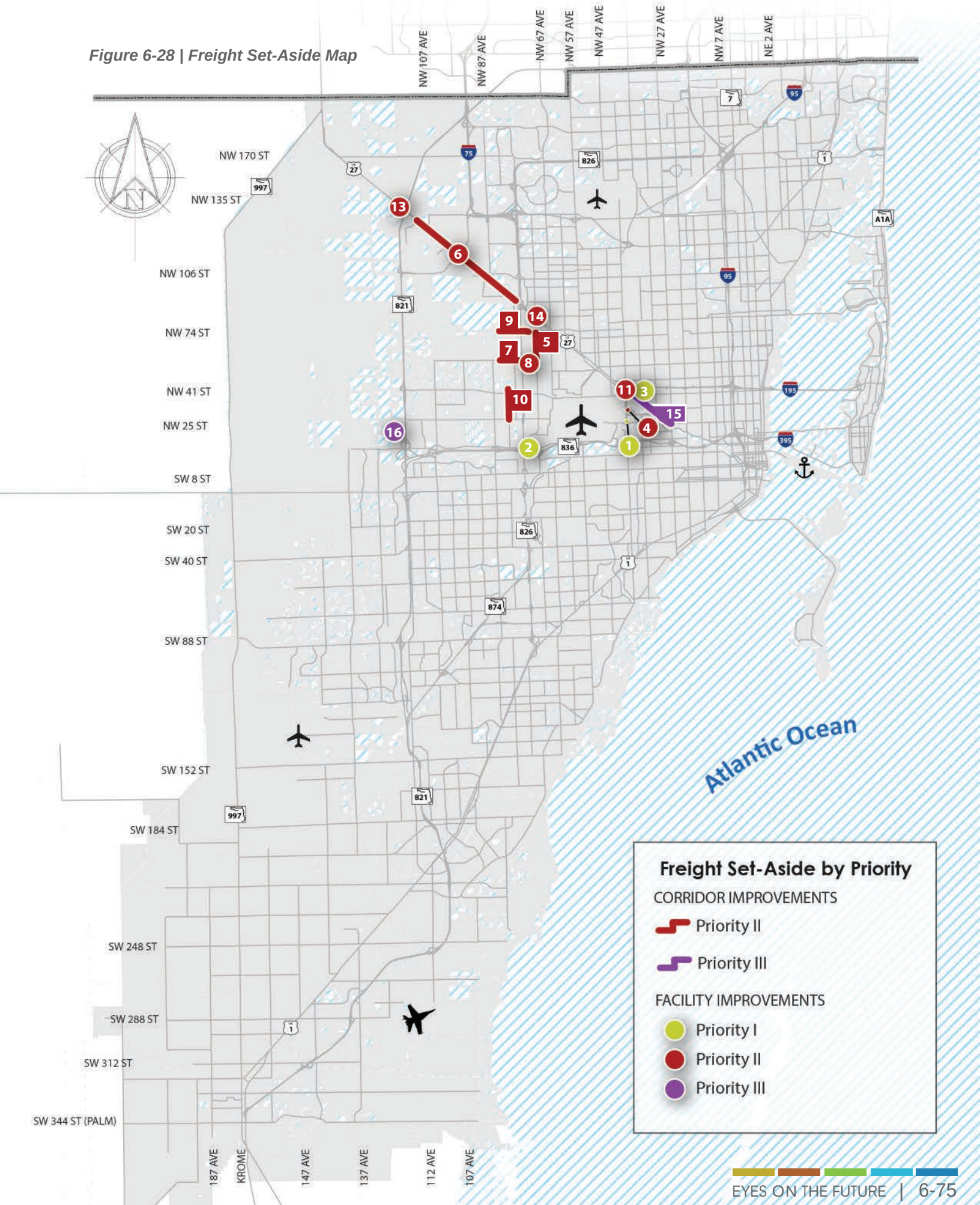


Table 6-21 | Freight Set-Aside Projects (Values in Millions YOE $)

MAP ID	Project	Limits From	Limits To	Description	Total Capital Cost (2013 $)	Project Costs Funded via Cost Feasible	
Priority I							
1	Le Jeune Road	NW 28 St		Make SB left-turn protected only. Close the gap for sidewalks. Discontinued sidewalk north of NW 28 St on the east side of Le Jeune Road.	$0.124	$0.150	
2	NW 72 Avenue	NW 74 Ave	SR-836 (Dolphin)	The intersections at 12, 25, 36, 58 need improvement for turning radii, left-turn storage, and signal timing (left-turn clearance).	$1.841	$2.228	
3	Truck Parking Improvement	NW 36 Street/NW 37 Ave		Develop a truck staging/parking area near NW 36 Street and NW 37 Ave for the Port of Miami River.	$3.400	$4.114	
Priority II							
4	NW 42 Ave (LeJeune)	NW 28 St	North of NW 31 St	Flatten the access point to allow fast in-and-out. On the east side of LeJeune merge and close some access points and move them.	$0.039	$0.051	
n/a	Medley freight hub streetlight and local roadway improvements			Add street lights to local roads in Medley to increase safety and help to facilitate expanded hours of operations.	$3.655	$5.731	
5	NW 72 Ave (Milam Dairy)	NW 58 St	NW 74 St	High number of access points and side streets on the west side. Merge and reduce access points, extend right turn radius onto side streets.	$0.197	$0.258	
6	NW 116 Way	US-27 (Okeechobee)	South River Dr	Improve signal operations with truck headways and lost time. Retime and improve signal coordination.	$0.429	$0.562	
7	NW 58 St	NW 82 Ave	NW 74 Ave	High number of access points on the south side of NW 58th Street. Merge and reduce access points close to busy intersections if possible.	$2.268	$2.971	
8	NW 58 St	NW 74 Ave		Extend right turn radius at this location. Truck backing up at NB downstream; Move the access/egress point future downstream.	$0.460	$0.603	
9	NW 74 St	NW 84 Ave	NW 74 Ave	Merge and close some access points on south side of NW 74 St if possible. Provide advance signage WB lane drop after NW 79 Pl.	$2.172	$2.845	
10	NW 82 Ave	NW 41 St	NW 25 St	Widen from 2 to 4 lanes	$5.700	$7.467	
11	NW South River Drive	NW 36 Street		Reduce the slope on NB approach is possible. Improve timing and coordination between South River Dr and Le Jeune Rd.	$0.594	$0.778	
12	US-27 (Okeechobee)	NW 138 Ave	NW 79 Ave	Signal timing improvements, improve access and improve signing to provide better flow	$0.131	$0.172	
13	Truck Parking Improvement	US-27 (Okeechobee)/ SR-821 (HEFT)		Provide a location in the area of Okeechobee Road and the HEFT for long-term truck parking and staging.	$2.500	$3.275	
14	W 16 Ave	US-27 (Okeechobee)	NW South River Drive	Improve signal timing and coordination considering truck headways. Pull back curb at the right turn spot to allow wider right turn radius.	$0.460	$0.603	
n/a	Way-Finding Sign Improvement Program			Improve county-wide way-finding for movements to/from regional freight hubs.	$2.433	$3.187	
Priority III							
15	NW North River Drive	SR-112	NW 27 Ave	Repave, mark center lane as truck standing permitted, widen where possible to provide side-or-road truck parking.	$2.946	$4.131	
16	Truck Parking Facility	NW 12 St/ SR-821 (HEFT)		Truck Parking facility adjacent to Dolphin Station Transit Terminal Park-and-Ride.	$16.700	$20.574	
Priority IV							
n/a	Truck Parking Improvement			Development of additional parking facilities. Strategic locations to be determined.		$30.000	

n/a - not applicable, project not shown on map

	Priority I 2015-2020				Priority II 2021-2025				Priority III 2026-2030				Priority IV 2031-2040			
	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M	PRE-ENG	ROW	CST	O&M
	$0.006		$0.144													
	$0.024		$2.204													
	$0.424	$1.150	$2.541													
							$0.051									
					$1.146		$4.585									
							$0.258									
					$0.028		$0.534									
					$0.028		$2.943									
							$0.603									
							$2.845									
							$7.467									
					$0.050		$0.728									
					$0.026		$0.145									
					$0.262	$1.310	$1.703									
					$0.028		$0.575									
					$0.459		$2.729									
					$0.500		$1.816				$1.815					
									$1.500		$19.074					
															$30.000	

07

Environment & Sustainability

"Sustaining Our Environment & Communities"

CHAPTER SUBSECTIONS

Chapter Overview

Sustainability is a broad strategic focus and a way of doing business. It is far more than maintaining and protecting the environment—as important as that is as a component of sustainability. Sustainability has broad application for transportation planning encompassing social, environmental, and economic categories and principles.

The goal of sustainability is to meet basic social needs, protect human health and the environment, and promote a viable and competitive economy in ways that make efficient use of resources. Sustainability entails meeting the needs of the current generation without compromising the ability of future generations to meet their own needs. Alternative transportation projects often satisfy varied goals and such as:

- Improve Transportation System and Travel
- Support Economic Vitality
- Protect and Preserve the Environment and Quality of Life and Promote Energy Conservation
- Optimize Sound Investment Strategies for System Improvement and Management / Operation (to maximize financial resources).

SUSTAINABILITY SNAPSHOT

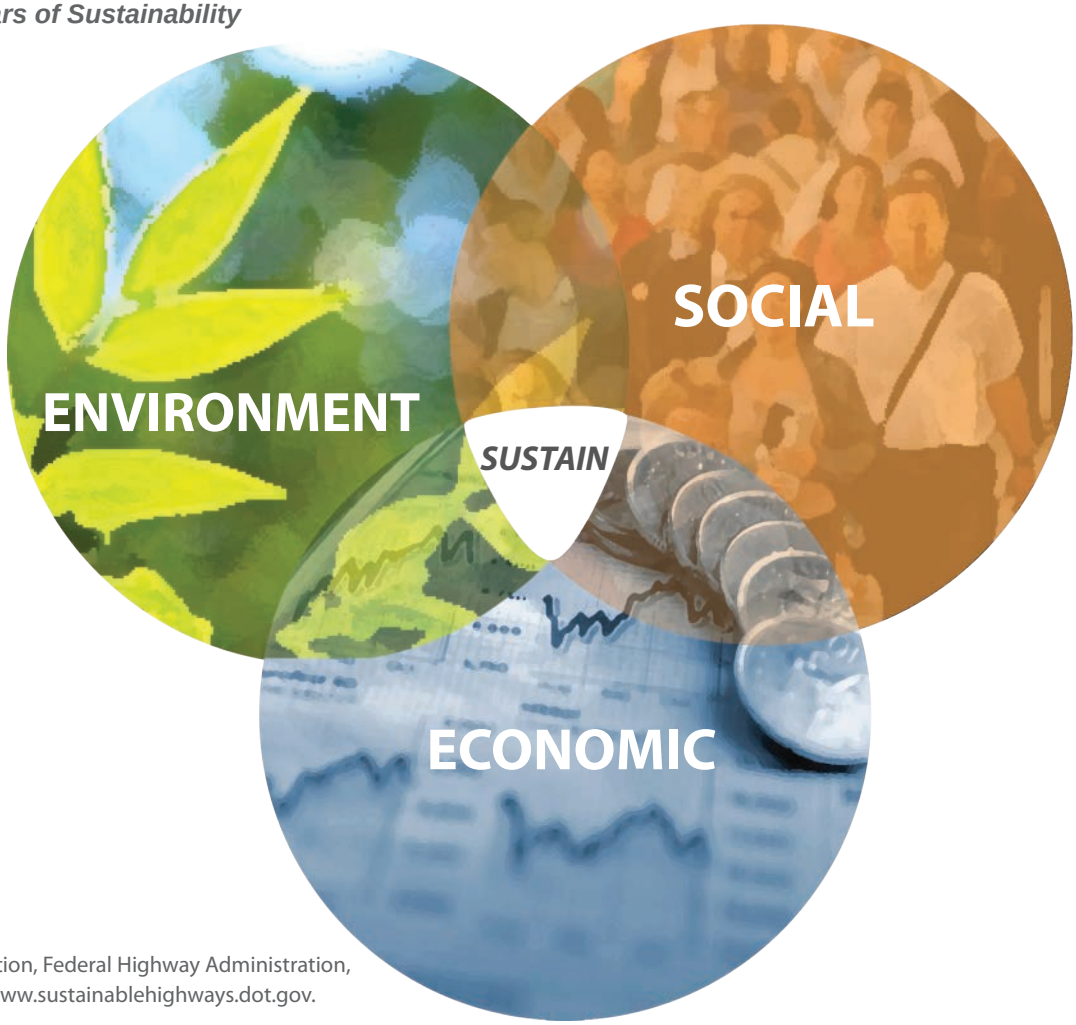
"For the Federal Highway Administration (FHWA), a sustainable approach to highways means helping decision makers make balanced choices among environmental, economic, and social values—the triple bottom line of sustainability—that will benefit current and future road users."[1] This approach helps decision makers to make balanced choices and is not limited to highway projects—the approach is applicable to all transportation projects.

As illustrated in **Figure 7-1**, the balance of this Chapter is organized in three major sections that are related to the "pillars" of Sustainability: Economically and Financially Viable, Environmentally Sound, and Socially Responsible. In addition, various components of the County's GreenPrint initiative are integrated throughout.

In March 2009, Miami-Dade County was selected as one of three communities nationwide to participate in a sustainability planning pilot program through ICLEI-Local Governments for Sustainability (ICLEI). Through this effort, Miami-Dade County staff engaged in a collaborative community process with many diverse stakeholders: nonprofit executives, municipal representatives, business managers, academic leaders, and a wide range of individual Miami-Dade residents.

The process was designed to connect the community's diverse efforts and weave them together into a strategic framework and plan of action to help ensure that our community attains even better and lasting economic, environmental, and community health, the core interrelated components of sustainability. The result was the release of a community-wide sustainability plan known as GreenPrint (***www.miamidade.gov/greenprint***) in December 2010. The first progress report for GreenPrint was released in January 2014. The Board of County Commissioners offcially adopted GreenPrint in March 2014 via Resolution 226-14

Figure 7-1 | LRTP 3 Pillars of Sustainability



1. U.S. Department of Transportation, Federal Highway Administration, Sustainable Highway Initiative. www.sustainablehighways.dot.gov.

GreenPrint uses a "big picture," collaborative, and long-term approach to achieving goals that will ensure a better quality of life for the people who live in and visit Miami-Dade County. GreenPrint is an action plan with 5-year cycles, focused on measurable goals and specific targets within its 7 interconnected goal areas. The 7 goals are shown in **Figure 7-2**.

Figure 7-2 | GreenPrint Aspirational Goals

Strong Leadership, Connections & Commitment

- Create the next generation of green leaders

Water & Energy Efficiency

- Use less water and energy

Our Environment

- Maintain exceptional quality of air, drinking water, and waters used for recreation
- Protect and enhance Biscayne Bay, the Everglades, and vital ecosystems
- Reinvent our solid waste system

Responsible Land Use & Smart Transportation

- Use our land wisely, creating and connecting strong sustainable neighborhoods
- Provide more transportation options, reducing the time we spend in our cars

Vibrant Economy

- Create green jobs
- Build on our international reputation to become a green enterprise destination

Healthy Communities

- Raise awareness that sustainable living is healthy
- Plant more Florida-friendly and native trees and landscapes

Climate Change Action Plan

- Understand and respond to current and future climate change impacts
- Reduce greenhouse gas emissions

Sustainability Pillar 1: Economically and Financially Viable

The relationship between transportation and the economy is vital. Mobility, moving people and goods as efficiently as possible, is fundamental for economic prosperity. The Miami-Dade region is diverse in economic sectors with some segments of the economy having a global focus and importance, while other economic activity is regional in nature. In either case, transportation plays a key role in sustaining economic activity.

As our economy continues to improve and grow, transportation improvements must keep pace to sustain economic expansion rather than to be a drag on the economy. This is one reason why long range transportation plans are particularly important—to ensure that long term transportation capital improvements align with the forecasted growth of jobs and population in the region, as well as specific growth assumptions such as the increase in freight movement.

Another facet of economic sustainability for transportation is to provide mobility for those often faced with the greatest challenges to workforce participation. The 2040 Plan supports this facet of economic sustainability through:

- Transit investments
- Public input and involvement in all areas of the county to shape the plan
- Efforts to improve bicycle and pedestrian safety as many rely solely on these modes to access jobs and school
- Focus on Responsible Land Use & Smart Transportation

A key facet of sustainability in all sectors is to maximize the use of resources, particularly financial resources. The 2040 Plan advances the financial sustainability principle by, among other things:

- Keeping a strong focus on transportation system preservation
- Advancing projects that improve transportation efficiency and operations
- Expanding funding for transit operations and maintenance
- Investing in projects that are deemed to have the greatest return on investment
- Responsibly aligning project investments with a reasonable expectation of the resources that will be available over the planning horizon

"...gradual steps that move in the right direction..."

Focus on Responsible Land Use & Smart Transportation

Often, the most important transportation connection to economic sustainability is through a coordinated approach to land use / development. To the extent that transportation and land-use are meshed it can have a significant positive impact for economic sustainability and also yield more efficient and productive project results. Transit Oriented Development (TOD) is a classic example of how coordinated transportation and land use can result in greater transportation efficiently while bolstering economic development, often in brownfield areas that require less infrastructure investment.

Land use and transportation continue to become increasingly linked. Compact, effiecient and urban areas are supported by transit, biking, and walking and provide livable communities while reducing greenhouse gas emissions.

Many community partners have been tasked with implementing GreenPrint initiatives. The Miami-Dade MPO has been designated as the lead agency or as a partner for the following GreenPrint initiatives in the Responsible Land Use and Smart Transportation goal area.

This GreenPrint goal area acknowledges new federal livability priorities and sets forth a plan to address local challenges both internal to county operations and external for municipalities and our developers. It establishes a vision, while recognizing short-term challenges. As such the plan's approach is one of taking gradual steps that move in the right direction of better coordinated transportation and land use decision-making.

Many of the Goals and Objectives developed for the LRTP correspond to the initiatives and are indicated in the parentheses after the initiative in **Table 7-1**.

Table 7-1 | Goal Area: Responsible Land Use and Smart Transportation

Initiative	Goal Area: Responsible Land Use and Smart Transportation
55	Coordinate among the County departments and other agencies in implementing the CDMP and the County code (LRTP Objective 5.5)
57	Develop Corridor Master Plans modeled after the community based area planning process and designed to address the Federal Livability Principles (LRTP Objective 6.2)
60	Better integrate land use and transportation planning modeling for the long-range transportation planning process (LRTP Objectives 5.6, 5.7, 5.10)
61	Evaluate shifting current revenue streams to include funding of transit operations and maintenance and other sustainable modes (LRTP Objective 7.4)
62	Study innovative funding sources and mechanisms to support Miami-Dade Transit operations and maintenance costs and for capital improvements (LRTP Objective 7.4)
71	Develop regulations and programs that promote connectivity, pedestrian movement and lower vehicular speeds (LRTP Objective 6.2)
74	Implement the Bicycle & Pedestrian Facilities Plan, prioritizing projects and securing funding (LRTP Objectives 1.9, 2.6, 5.10)
76	Increase the number of safe walking and bicycling facilities as components of road improvement projects (LRTP Objectives 1.9, 2.6, 5.10)
77	Fund and construct priority non-motorized multi-use trails (LRTP Objectives 1.9, 2.6, 5.10)
83	Increase integration of transit with pedestrian and bicycle trips (LRTP Objectives 1.9, 2.6, 5.10)
85	Improve bicycle parking at transit hubs (LRTP Objectives 1.9, 2.6, 5.10)
87	Increase the number of enhanced bus corridors (LRTP Objectives 1.4, 1.5, 1.7, 1.10)
94	Continue to implement projects that improve connectivity and mobility between major economic drivers and major activity hubs such as the Port of Miami, airports, sports venues, and convention centers (LRTP Goals 4 and 6)
95	Continue implementing traffic system management solutions including improved signal timing (LRTP Objective 8.4)
96	Continue to pursue traffic demand management solutions such as ridesharing, congestion pricing, and high occupancy toll lanes providing express transit service (LRTP Objective 8.4)
98	Expand the express bus service between Miami-Dade and Broward counties through extending the I-95 managed/express lanes from Golden Glades Interchange to I-595 (LRTP Objective 8.1)
99	Explore feasibility of "pay for miles travelled" insurance (LRTP Objective 8.1, 8.2)

Sustainability Pillar 2: Environmentally Sound

The first cycle of GreenPrint contains 137 initiatives. While the plan contains many new initiatives, it also aims to elevate and intensify efforts related to other existing and excellent County and municipal initiatives and plans. Together, the existing and new initiatives strive to achieve aggressive water conservation, energy, climate change, and greenhouse gas reduction goals to sustain ourselves and our natural resources.

The initiatives outlined in GreenPrint are projected to reduce greenhouse gas emissions by 1,470,000 metric tons and to avoid 3,050,000 metric tons over the first five year cycle. One of the most significant County legislative efforts tied to GreenPrint was the Miami-Dade Board of County Commissioners' approval in May 2014 of a resolution (Resolution 451-14) requiring all county infrastructure projects to consider the potential impacts of sea level rise during all project phases and requiring an evaluation of all County infrastructure that is vulnerable to sea level rise. **Table 7-2** lists two of the specific GreenPrint Strategies and Initiatives impacted by this new resolution.

Focus on Climate Change

There is consensus among the world's leading scientists that climate change is among the most significant problems facing the world today. Florida, and in particular, South Florida is considered one of the most vulnerable areas to climate change (Third National Climate Assessment, May 2014, www.globalchange.gov). Miami-Dade County is resourceful and resilient, but is on the frontline to experience climate change impacts, especially rising sea levels and has unique characteristics that make these projected impacts more challenging:

- It is a coastal community, located at the tip of the Florida peninsula, with most of the geographic area only a few feet above sea level
- Important economic drivers, such as tourism and agriculture, that are weather dependent
- A storm water infrastructure system based on gravity flow directly impacted by sea level rise and already experiencing impacts at extreme high tides
- A porous substrate directly affected by sea level rise, which may cause saltwater intrusion into the shallow aquifer that serves as the primary source of freshwater
- A large, dense population whose growth could be exacerbated at any time by a segment of mass migration.

The Climate Change Action Plan focuses on adapting to change and building resiliency. Both strategies are critical to a comprehensive Climate Action Plan and Miami-Dade has been actively addressing both of these critical components since 2006.

In addition, to help mitigate adverse impacts to wetlands, Miami-Dade County adheres to the Uniform Mitigation Assessment Methodology (UMAM) to determine the amount of mitigation required for regulatory permits. Examples include:

- Over the last few years, FDOT has purchased mitigation credits at the Florida Power & Light Company's Mitigation Bank, which was created to return over 13,000 acres of the Everglades to their natural condition.
- There are ongoing efforts to restore water flow to the Everglades National Park along a portion of US-41 and west of Krome Avenue.
- These types of activities will continue for future projects as they arise.

The Miami-Dade Climate Change Advisory Task Force was established in 2006 for a period of 5 years to review existing science and projections of climate change impacts to SE Florida, and to develop recommendations for further action by the county to further reduce GHG emissions and begin climate adaptation planning for community resilience to extreme weather and other projected climate change impacts.

The Southeast Florida Regional Climate Compact was formed in 2009, as a partnership of Broward, Miami-Dade, Monroe and Palm Beach counties, as well as their municipalities and partners, working together to mitigate the causes and adapt to the impacts of climate change. The Compact developed the Regional Climate Action Plan (RCAP) in August 2012. The RCAP offers recommendations designed to guide planning, policy, and investment decisions in support of the Compact's climate mitigation and adaptation objectives that provide the common integrated framework for a stronger and more resilient Southeast Florida.

In July 2013, The Miami-Dade Sea Level Rise Task Force was established by the Miami-Dade Board of County Commissioners to review current and relevant data, science and reports and develop a "comprehensive and realistic" assessment of the likely and potential impacts of sea level rise and storm surge over time.

The Broward MPO, in coordination with the Miami-Dade and Palm Beach MPOs and other partnering agencies, is administering the South Florida Climate Change Vulnerability and Adaption Pilot Project. This is a regional project with a goal of determining the impact of extreme weather on the regional transportation network based on sea level rise, storm surge, and precipitation induced flooding. The focus of the pilot project is to develop of a consistent methodology for integrating vulnerability into the MPO transportation decision making process. This effort has an anticipated completion date of early 2015.

Table 7-2 | Goal Areas: Leadership, Connections and Commitment & Climate Change Action Plan

Initiative	Goal Area: Leadership, Connections and Commitment
7	Integrate and prioritize climate change and sustainability in local government strategic planning, business planning and in fiscal decision making
Initiative	**Goal Area: Climate Change Action Plan**
134	Analyze sea level rise scenario maps to model buildable/livable footprints and correlate economic scenarios
135	Examine the implications of sea level rise on vulnerable facilities

Air Quality

The Clean Air Act, which was last amended in 1990, requires U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) (40 CFR (Code of Federal Regulations) part 50) for pollutants considered harmful to public health and the environment. As part of the NAAQS there are 6 Criteria Pollutants which are:

- Ozone (O3) - which is made up of volatile organic compounds (VOCs) and nitrogen oxides (NOx)
- Carbon Monoxide (CO)
- Particulate Matter (PM) – both (PM2.5) and (PM10)
- Nitrogen Dioxide (NO2)
- Sulfur Dioxide (SO2)
- Lead (Pb)

Vehicle emissions contribute to ozone, carbon monoxide, particulate matter, and nitrogen dioxide. Smelting plants and other variables contribute to sulfur dioxide and lead.

Transportation Conformity ensures that Federal funding and approval is allocated to transportation plans, programs, and projects that meet air quality standards. Areas that have received FHWA or FTA funds that do not meet or have not met the air quality standards in the past, known as "nonattainment or maintenance areas" must show conformity to the air quality standards. As of June 2005 the entire state of Florida is in compliance with NAAQS and Air Quality Conformity Determination Reports are not required under either the LRTP or Transportation Improvement Plan (TIP).

In 2008, the Federal government strengthened the NAAQS for ground-level ozone (O3) 8-hour average from 0.080 parts per million (ppm) to 0.075 ppm. On January 6, 2010, the EPA proposed to strengthen the NAAQS again for ground-level ozone. The proposed revisions, based on scientific evidence about O3 and its effects on people and the environment, proposed to change the 8-hour primary O3 standard to a level with the range of (0.060 ppm to 0.070 ppm) with seasonal secondary standards that are designed to protect sensitive vegetation and ecosystems. To date, this proposed revised standard has not been issued.

The Miami-Dade 2040 Long Range Transportation Plan (LRTP) is guided by eight goals, including one to "protect and preserve the environment and quality of life and promote energy conservation." The LRTP goals are specified by objectives, all of which are measured, either qualitatively or quantitatively, to assess the performance of the LRTP. The objectives listed under the environmental protection goal include the following:

- Minimize and mitigate air and water quality impacts of transportation facilities, services, and operations;
- Reduce fossil fuel use; and Promote the use of alternative vehicle technologies.

The 2040 LRTP Cost Feasible Plan includes several types of improvements and strategies that address these objectives, including:

- Diesel Engine Retroÿts and Conversion to CNG (compressed natural gas)
- Managed lanes projects that include incentives for hybrid and high occupancy vehicles;
- Non-motorized financial set-aside that includes funding for the development of bicycle paths and sidewalks to encourage non-motorized transportation;
- Express bus and bus rapid transit projects along Kendall, Biscayne and I-95 to provide alternatives to automobile travel;
- Park-and-Ride lot development and expansion projects to provide improved access to transit services; and
- Congestion Management financial set-aside that includes funding for the construction of multimodal facilities and transportation demand management programs.

Sustainability Pillar 3: Socially Responsible

Social sustainability is perhaps the least formally defined sustainability principle. Social equity, social diversity, and quality of life are aspects of social sustainability and can be addressed, in part, by ensuring that public participation from all represented and underrepresented groups which are addressed through Environmental Justice and Title VI. Environmental sustainability is addressed through Miami-Dade's GreenPrint. Economic Sustainability is maintained through the development of the Cost Feasible projects and by programming projects that foster economic competitiveness.

Environmental Justice, as established through federal policy including Title VI of the Civil Rights Act is also an important facet of environmental sustainability and is covered in detail in Chapter 4. Title VI is a sweeping provision bolstered through other Executive Orders to prevent and ensure that there is no discrimination associated with the use of Federal funds.

Aging Population

Miami-Dade County has the largest population of persons 60 and over in Florida. According to the U.S. Census, almost 15% of Miami-Dade's population in 2013 was 65 and over. Reliable and safe transportation through transit and safe walkable communities for the elderly population is essential to maintain independent living. As more seniors continue to drive highway features such as clear signing and lighting become especially important.

The 2040 Plan considers the aging population, changing demographics and population growth. The plan considers the transportation system needs of all user groups and recognizes that there is an increasing demand for solutions and strategies spanning the broadest spectrum of users, vehicles, and modal choice preferences. One way to plan for and accommodate different users is by providing solutions and options that work for those who have the greatest needs. By reaching out to citizens and communities, as well as providing for numerous public meeting forums, the MPO made age friendly transportation a high priority.

The incorporation of older adult needs is a vital step in the development of the LRTP. Additional transportation support and services are often necessary to meet the mobility needs of travelers who experience declining abilities and the means of independent transportation. The transportation infrastructure and mobility network outlined by the 2040 Plan provides a strategic framework that supports equal access and availability for all users and in no way discriminates against users based on their age, abilities, gender, or income.

While there are various stages in the transition of many older adults, from relying solely on personal or single occupancy vehicles to using other modes and means of transportation, developing supportive services and options for those who are making the transition must continue to be a priority of long range transportation plans.

The personal automobile has granted us substantial freedoms and a premier level of mobility. That same highly-prized sense of freedom is often limited to those who can afford to purchase, operate and maintain reliable motor vehicles. Further, there is a growing segment of people, of all ages and abilities, who prefer not to drive for every trip. Many prefer to walk, bicycle, or take public transit if there is a reasonably acceptable alternative to driving available.

The 2040 Plan includes specific goals and objectives related to the transportation and mobility needs of the increasing elderly population. These Goals and Objectives are also part of a measurement tool used to prioritize projects. The Goals and Objectives that incorporate age friendly considerations are as follows:

- Goal 1 – Improve Transportation System and Travel (Objective 11 – Promote transportation improvements that provide for the needs of the elderly and disabled.)
- Goal 2 – Increase the Safety of the Transportation System for all Users (Objective 5 – Promote the safe mobility of aging vulnerable road users.)
- Goal 3 – Increase the Security of the Transportation system for All Users (Objective 3 – Ensure transportation options are available during emergency evacuations for the elderly and persons with disabilities.)

South Beach view to Central and Middle Beach

08

Regional Coordination

"Expanding Our Horizons"

CHAPTER SUBSECTIONS

Chapter Overview

Miami-Dade County is one of three counties in the Miami Urbanized Area, the other two are Broward and Palm Beach Counties. The Southeast Florida region is the fourth most populous urbanized area in the nation. Collectively, the region has a population of 5.5+ Million people with an expected 27% growth over the next 25-years. Many don't realize, 12% of all trips in the urbanized area are destined to neighboring counties. In fact, statistics show that 7% of all trips made by Miami-Dade residents are destined to Broward or Palm Beach Counties. Conversely, with Miami-Dade containing a majority of the regionally sought destinations, 16% of trips in Miami-Dade originate from Broward and 1% from Palm Beach County.

To compete in the national and global marketplace, an efficient and effective transportation system is essential. Regional travel is not only being monitored and accounted for at the County level, Miami-Dade has been actively engaged in regional coordination and collaboration for years and is currently managing the 2040 Regional Transportation Plan – a Plan that is complimentary to the 2040 Miami-Dade Transportation Plan, but with a higher-level focus across the three-county urbanized area.

Regional Coordination **SNAPSHOT**

While the Miami-Dade, Broward, and Palm Beach MPOs have long maintained cooperative working relationships with each other, their alliance solidified when the 2000 Census defined the tri-county area as the Miami Urbanized Area. Then in 2005, recognizing the need for increased regional transportation planning and coordination balanced with the need and desire to maintain localized transportation planning, the three MPOs created the Southeast Florida Transportation Council (SEFTC). This was accomplished through an Interlocal Agreement under Florida Statutes Chapter 339.1 75, paving the way for the first meeting in January 2006.

Within the Miami Urbanized Area itself, there are 3 counties, 104 cities, 3 MPO's, 3 transit agencies, 2 Florida Department of Transportation Districts, 2 regional planning councils, 1 transportation council, 1 regional transportation authority, 1 statewide rail enterprise, and 1 expressway authority. These agencies, shown in **Figure 8-1**, must all work in a coordinated, collaborative fashion in order to successfully plan and implement regional transportation projects for the jurisdictions highlight in the map shown in **Figure 8-2**.

Regional Transportation Authority

RTA SOUTH FLORIDA REGIONAL TRANSPORTATION AUTHORITY

Figure 8-1 | Many Partners, One Unified Voice

Regional Partners

Metropolitan Planning Organization

MIAMI-DADE MPO Metropolitan Planning Organization

metropolitan PALM BEACH MPO planning organization

broward MPO metropolitan planning organization

Department of Transportation

FDOT

FLORIDA'S TURNPIKE ENTERPRISE

Regional Planning Councils

South Florida Regional Planning Council

TREASURE COAST TCRPC REGIONAL PLANNING COUNCIL

Transit Agencies

BROWARD COUNTY FLORIDA

PalmTran

MIAMI-DADE COUNTY

Figure 8-2 | Southeast Florida

About The Regional Governing Board

The **Southeast Florida Transportation Council (SEFTC)** is a formal partnership of the Broward, Miami-Dade, and Palm Beach Metropolitan Planning Organizations (MPOs).

SEFTC facilitates transportation planning by engaging the public and fostering strong partnerships between the three MPOs with other agencies, local governments, and communities. One of SEFTC'S most important responsibilities is developing and implementing its Regional Transportation Plan (RTP) in coordination with other regional and local plans, while moving toward a consensus transportation vision for Southeast Florida. This plan is updated every five years to adapt to regional population changes of the region. Steps involved in developing the 2040 RTP range from goal setting to selection and prioritization of projects for inclusion in a financially feasible plan.

Many of the projects included in the RTP will advance into the Transportation Improvement Program's (TIP), a staged 5-year program of prioritized transportation projects updated annually, and consistent with each MPO's LRTP. Major projects that eventually make their way into a future MPO TIP generally begin as ideas many years earlier.

Since its inception, SEFTC has adopted:

- The 2035 Regional Transportation Plan encompassing:
  - Regional goals and objectives
  - Regional network definitions and maps;
- A prioritization process for regionally funded projects;
- A regional public involvement process; and
- A regional performance monitoring system to assess the effectiveness of regional coordination.

SEFTC SUPPORTING COMMITTEES

Staff support to the SEFTC is provided by the respective MPOs on a rotational basis. SEFTC'S Regional Transportation Technical Advisory Committee (RTTAC) is a staff-level working group tasked to address many of the issues brought before the SEFTC. The RTTAC is composed of staff from the three MPOs, Florida Department of Transportation Districts 4 and 6, Florida Turnpike Enterprise, Miami-Dade Expressway Authority, Miami-Dade Transit, Broward County Transit, Tri-Rail, Palm Tran, the South Florida Regional Planning Council and the Treasure Coast Regional Planning Council. This group evaluates, discusses, and ultimately recommends technical actions to the elected offcials appointed to the SEFTC. The RTTAC is supported by three subcommittees as described herein. The organization of the Southeast Florida Transportation Council and its supporting committees is shown in **Figure 8-3**.

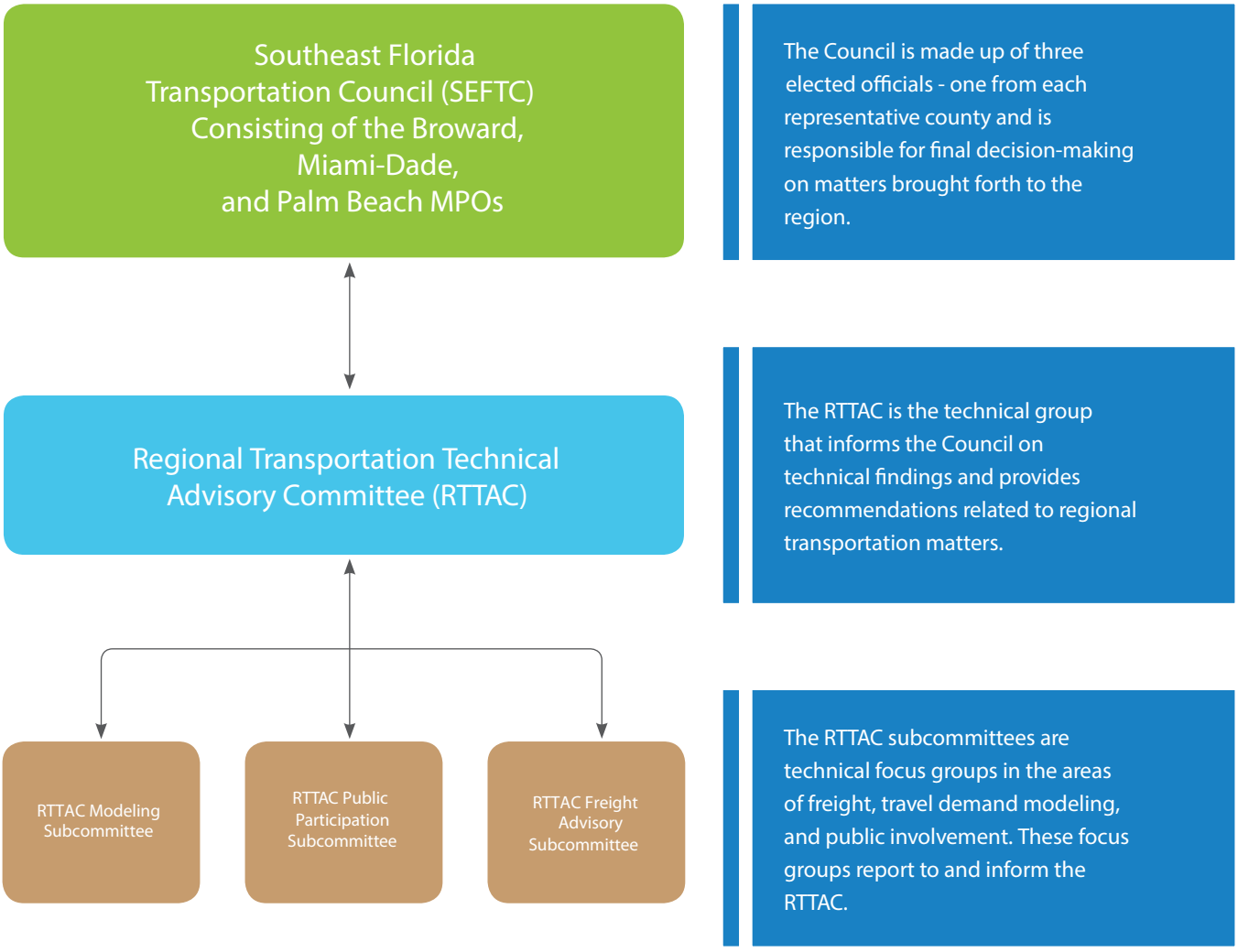
About the RTTAC Modeling Subcommittee

The SEFTC is also supported by a staff-level working group that focuses on travel demand modeling. This group is the Regional Transportation Technical Advisory (RTTAC) Modeling Subcommittee and consists of modeling experts from various agencies throughout the region including from the Broward, Miami-Dade, and Palm Beach MPOs, and FDOT Districts 4 and 6. This group collectively determines guidelines, policies, and technical applications for travel demand modeling activities in the Southeast Florida region. About the Public Participation Subcommittee The RTTAC Public Participation Subcommittee (PPS) was formed to ensure a coordinated regional public participation effort to educate and engage the general public on matters related to current and future regional transportation investments. It also ensures the continued use of effective outreach strategies within the tri-county region. SEFTC approved the creation of the RTTAC Public Participation Subcommittee (PPS) at its April 22, 2013 meeting. The subcommittee consists of the Public Information/Involvement officers from the Broward, Miami-Dade, and Palm Beach MPOs, and FDOT Districts 4 and 6.

About the Freight Advisory Subcommittee

The RTTAC Freight Advisory Subcommittee was formed to primarily develop the 2040 Southeast Florida Regional Freight Plan. Their role is to provide technical input and direction to this Regional Freight Plan. The subcommittee consists of the Broward, Miami-Dade, and Palm Beach MPOs; FDOT Districts 4 and 6 and Central Office; Broward, Miami-Dade, and Palm Beach airports and seaports; Florida Turnpike Enterprise; Miami-Dade Expressway Authority; Economic Development Councils; FEC and CSX railways; and Broward, Miami-Dade, and Palm Beach business representatives.

Figure 8-3 | Decision-Making Structure for Southeast Florida



Regional Network

The 2040 Regional Corridor Network identifies corridors that support future regional travel of people and goods and provides for stronger regional planning. Statistics of these corridors are shown in **Figure 8-4** and mapped in **Figure 8-5**. The development of this network is a state requirement as part of the regional interlocal agreement.

The foundation for the 2040 Regional Corridor Network was derived from previous regional planning efforts including the 2030 Corridors of Regional Significance and 2035 Regional Transportation Network. The 2040 Network maintains the core elements of previous efforts, while updating criteria to ensure most current industry definitions were applied and refining criteria to ensure simplicity, consistency, and predictability. Ultimately, four criteria were utilized to guide the regional corridor network development.

Regional Facilities Defined

1. Principal Arterials
2. Planned Physical Extensions of Principal Arterials
3. Strategic Intermodal (SIS) Network
4. Principal Arterial Connections

(Criteria utilized to guide regional network development.)

Figure 8-4 | Regional Facility Statistics

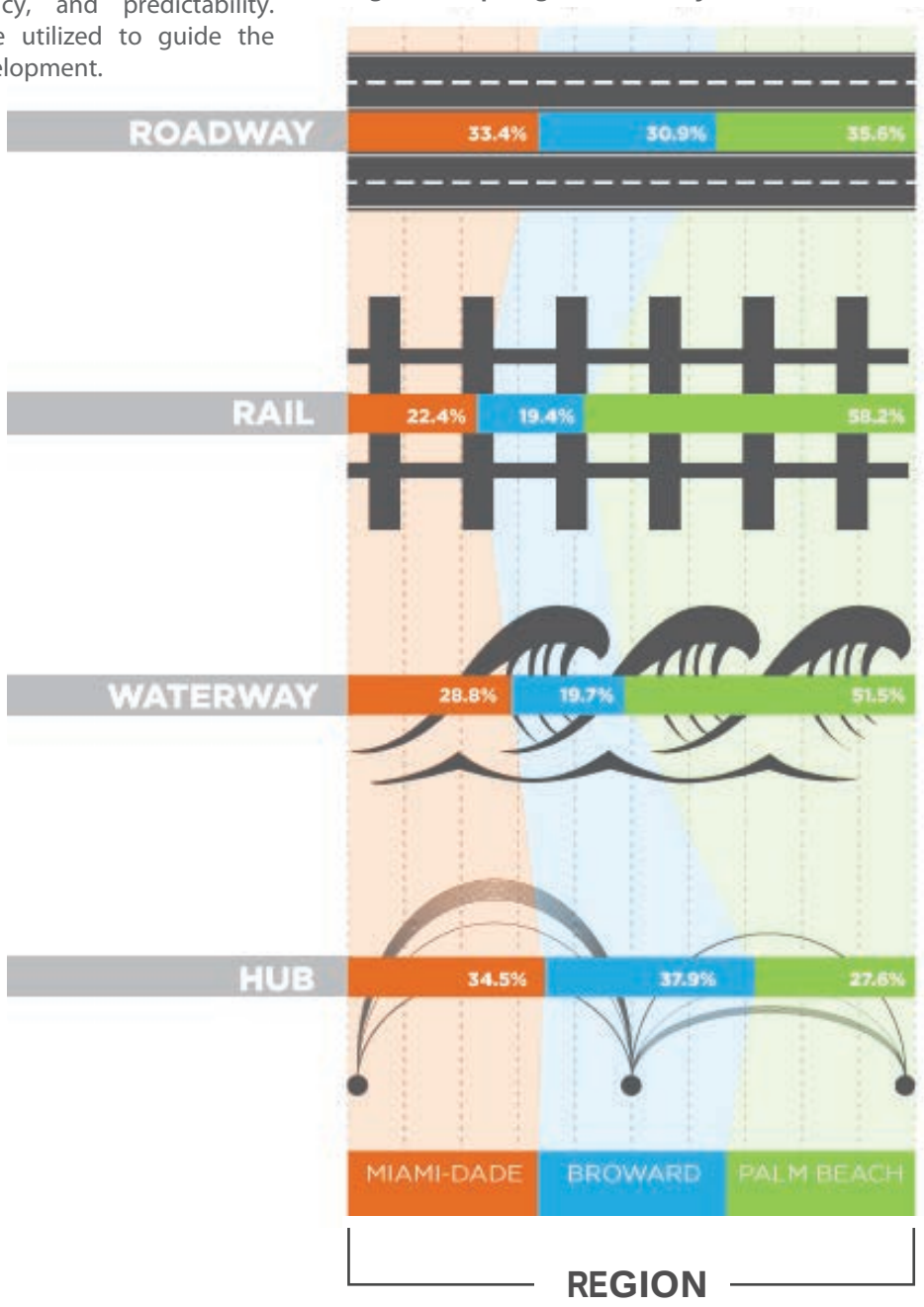
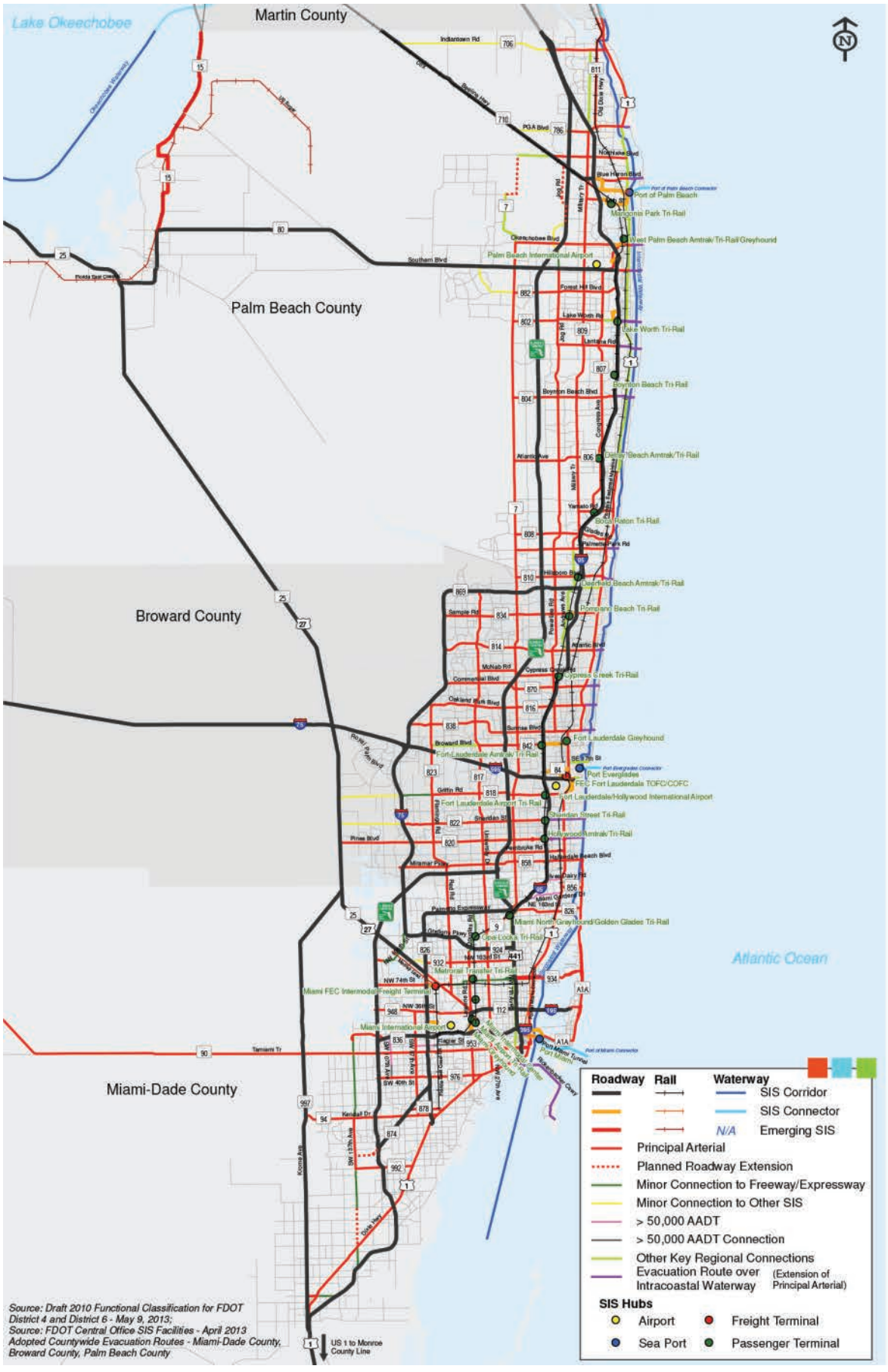


Figure 8-5 | Regional Transportation Network



Source: SEFTC Regional Transportation Plan

Southeast Florida 2040 Plan

The 2040 Regional Transportation Plan (RTP) identifies the most significant transportation investments needed to meet growing and changing travel demands throughout the southeast Florida region (Broward, Miami-Dade, and Palm Beach counties). The horizon year of 2040 provides time for agencies to assemble funds and complete the technical work required to design and construct selected regional transportation improvements. Important elements of the RTP include:

ESTIMATES OF GROWTH OVER THE NEXT 25 YEARS: How many more residents and jobs will come to Southeast Florida by 2040?

GOALS FOR ACCOMMODATING THIS GROWTH: How the region wants to grow has a great influence on where and how limited transportation dollars should be invested.

REGIONALLY SIGNIFICANT INVESTMENTS: Prioritizing projects that best meet the plan goals.

FUNDING TO IMPLEMENT THE PLAN: A financial plan that lays out funding sources and mechanisms to implement RTP strategies.

A COMPLETE REGIONAL PICTURE: A Plan that matches investments to where and how the region is growing. The RTP is intended to articulate the collective best choices for the region as it plans to add approximately one million jobs and 1.5 million residents to the transportation network.

"One Vision Investing in Many Components"

Get Involved

Public input is a critical element in the development and adoption of the 2040 RTP, given the importance and impact of transportation on residents/travelers in the region. The results of this plan are to be presented to the SEFTC Board as part of the final report to demonstrate how stakeholders were involved and shaped the final plan. To stay up-to-date, please follow us at our website: www.SEFTC.org.

2040 Regional Plan Components

- ***Agreed to Goals and Objectives***
- ***Identified regionally significant facilities***
- ***Developed a Regional Transit Vision***
- ***Developed a Regional Highway Network***
- ***Identified Regional Pedestrian & Bicycle Emphasis Areas***
- ***Incorporates Freight Needs & Investments***

Figure 8-6 | Southeast Florida 2040 Plan

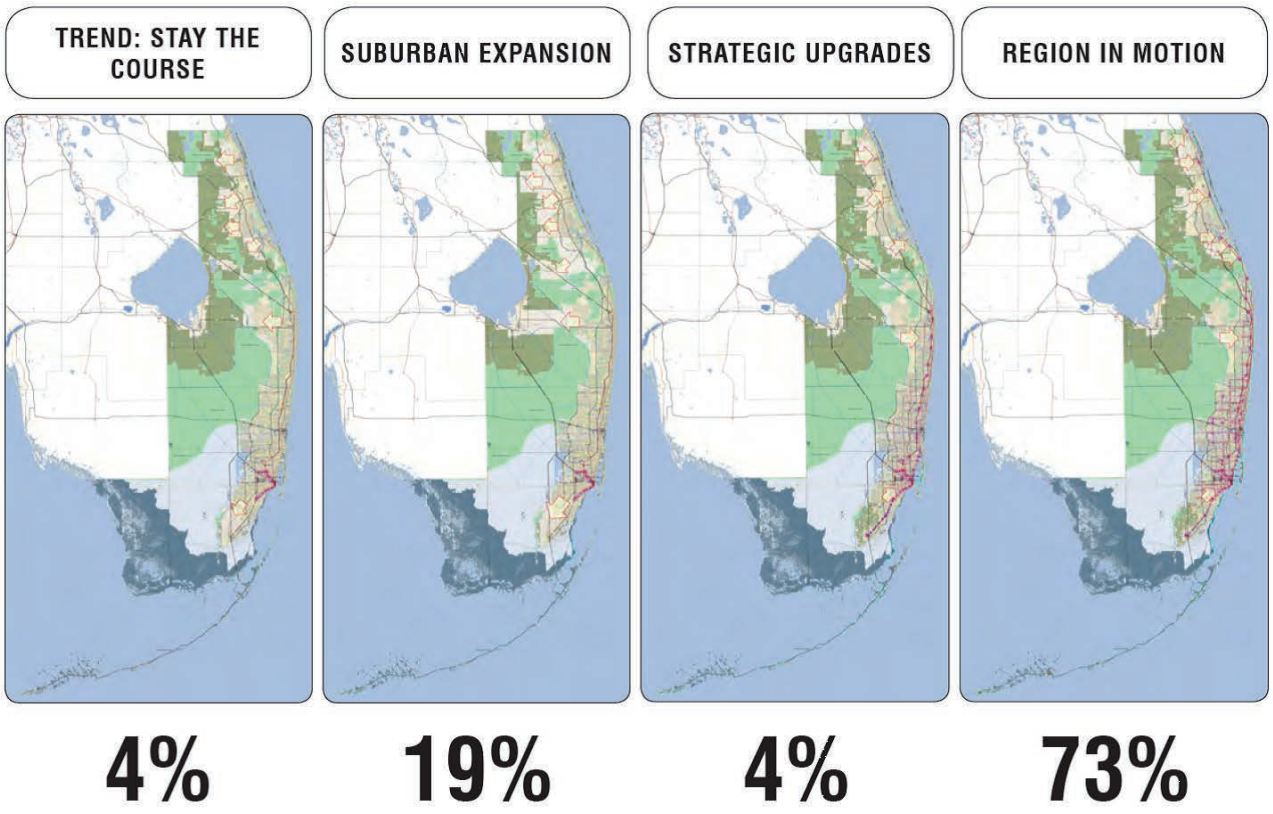
Seven50 Southeast Florida Prosperity Plan

The Seven50 Southeast Florida Prosperity Plan is a vision for the economic prosperity of the seven counties in Southeast Florida – Monroe, Miami-Dade, Broward, Palm Beach, Martin, St Lucie, and Indian River counties – with a horizon year of 2060. Spearheaded by the South Florida and Treasure Coast Regional Planning Councils and the Southeast Florida Regional Partnership (SFRP), Seven50 is mapping the strategy for the best-possible quality of life for the more than six million residents of the seven-county mega region. In partnership with over 200 agencies across the seven counties, Miami-Dade MPO and several other Miami-Dade based agencies and organizations were Consortium Partners throughout the plan and actively participated in its development from the kick-off in 2010 through the closing Summit in 2014. The plan was devised through a series of public summits, workshops, online outreach and high-impact studies led by the region's top thinkers. Seven50 was made possible by a competitive grant awarded to the region from the US Department of Housing & Urban Development's Sustainable Communities Initiative.

The planning process for Seven50 was a full community effort that involved civic and community leaders, local and national experts, and a wide cross-section of the public. A transparent process, open communication, and intense public outreach were a priority from the start of Seven50. The team used the latest technology available to broadcast and document every event and to share with the region every idea presented during project summits, workshops and community meetings.

One of the technologies used to understand community desires was the Seven50 Online Scenario Modeler. The Online Modeler allowed the public to explore different scenarios for growth and development in the seven counties for the next fifty years and beyond. The public was encouraged to explore the various options, communicate their priorities for the future, and determine what broad policy decisions should be encouraged to lead to their preferred scenario for the future. In four months of voting, thousands of comments were received and the preferred scenario was selected: the Region in Motion scenario as shown in **Figure 8-7**. In this scenario, a significant percentage of the roughly 3 million new residents by 2060 are accommodated in walkable, transit oriented development centers along existing rail lines such as the FEC and CSX lines which extend from south of Miami to Sebastian and beyond. Neighborhoods and communities are better connected to rail transit by streetcar or bus. Public streets are upgraded to provide a balance between all users of the rights of way: cars, buses, transit, cyclists, and pedestrians. Diverse transportation options keep the growing region in motion.

Figure 8-7 | Southeast Florida Development Trends



NW 25 Street Viaduct Construction

09

Plan Implementation

"Wheels in Motion"

Chapter Subsections

Chapter Overview
LRTP/TIP Linkage
Illustrative Projects
Monitoring Performance

Chapter Overview

People are drawn to Miami-Dade County from near and far. In 2010 Miami-Dade County's population was approximately 2.5 million, making it the most populous county in Florida and the eighth-most populous in the United States. From a global standpoint, Miami-Dade County is attracting both people and goods and is anticipating this attractiveness to significantly strengthen and grow the region over the next 20+ years. This global magnetism is evidenced in various ways - Miami has the largest population of new arrivals to the US, is home of the Cargo Gateway to the Americas and is also known as the Cruise Capital of the World. The recommendations made herein are designed to meet the future transportation needs of this desirable and growing metropolitan area. These improvements will make substantial contributions to the Miami-Dade area's economic competitiveness, livability, and attractiveness and will reinforce its status as the Epicenter of the Americas and major center of global trade and finance. The successful implementation of the LRTP will depend on strong political leadership, close collaboration among government jurisdictions and other stakeholders, broad public support, and commitments to securing sufficient funding for the recommended transportation system improvements.

Source: Miami Downtown Development Authority. Downtown Miami Epicenter of the Americas 2025 Downtown Miami Master Plan. October 2009

Post Plan Adoption SNAPSHOT

This plan is the starting point for achieving our region's goal of having a well-connected and efficient multimodal transportation system that is safe and accessible for all users. The LRTP is a plan focused on transportation, recognizing the importance of communities and quality of life and that transportation must mesh and support community aspirations. The outcomes of this document lay the groundwork for identifying where strategic investments ought to be made to protect and enhance the quality of life for the communities of Miami-Dade County. A project prioritization process was developed to focus on regional benefits. The prioritization process also helps to align projects with the goals and objectives guiding the decisions. The resulting prioritized list of projects guides the region to determine the sequence and timing for moving projects from planning into ensuing preliminary engineering, design, or construction phases.

Post LRTP adoption, implementation of project recommendations from the LRTP occurs through the programming of transportation improvements. For projects within the planning area that are funded or considered regionally significant, the MPO, in consultation with transportation planning partners, including airport, seaport, transit, local government agencies and with the Florida Department of Transportation, determines which projects are to be advanced from the LRTP into the MPO's short-term Transportation Improvement Program (TIP).

Beyond programming the projects, the MPO along with transportation partners in the region, monitor the progress and performance of the system and the overall plan implementation process. Measuring performance is a way to gauge the impacts of the plan on the transportation system. Performance measures aim to answer questions about whether the performance of the region's transportation system (or economy, air quality, etc.) is getting better or worse over time; and whether transportation investments are correlated or linked to the LRTPs stated goals and objectives. The recently-passed transportation reauthorization bill Moving Ahead for Progress in the 21st Century (MAP-21) features a new federal emphasis on performance measurement. The 2040 LRTP is consistent with this performance-based focus, which promotes the transparency of public data and decision-making and seeks to improve the accountability of public spending by better linking investments to outcomes.

LINKAGE TO THE TRANSPORTATION IMPROVEMENT PROGRAM

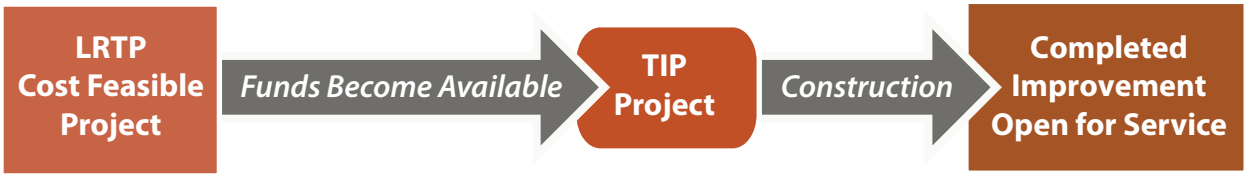
The development of the TIP follows the adoption of the LRTP. The TIP is a staged multi-year program that prioritizes transportation improvement projects for federal, state and local funding. The TIP is also the capital improvements element of the LRTP. The TIP in a word puts the LRTP into action.

Picturing the projects contained in the 2040 Long Range Transportation Plan for Miami-Dade County as a warehouse of transportation projects for the next 20-plus years, the TIP is the vehicle that carries those projects to market, this process is visualized in **Figure 9-1**. The TIP not only lists specific projects, but also the anticipated schedule and cost for each project. Like the LRTP, the projects in the TIP must be financially constrained, undergo a series of evaluations, and include opportunity for public comment.

The TIP is a 'living' document, meaning that it needs to stay current and up-to-date given it's important role in documenting the funding and implementation schedule of near-term (the next five-years) investments. After it has been formally approved, any change to the TIP, known as an amendment, can occur for a variety of reasons. Frequently, projects may be added to meet changing priorities or to take advantage of a special opportunity. Amendments to the TIP must undergo the same review and public scrutiny as the original TIP.

The TIP Development Committee is composed of representatives from the same agencies with voting members on the Transportation Planning Council and is appointed by their respective directors. The development committee is responsible for coordinating, compiling and preparing the 5-year Transportation Improvement Program in conjunction with federal, state, regional and local agencies.

Figure 9-1 | Progression of Project from LRTP Cost Feasible Plan to Completion via the TIP



Implemented Project Highlights

Since the adoption of the 2035 LRTP, several key projects have been implemented in Miami-Dade County. These key projects, first identified in the LRTP, were identified in subsequent TIPs and ultimately implemented by the appropriate agencies.

Port of Miami Tunnel

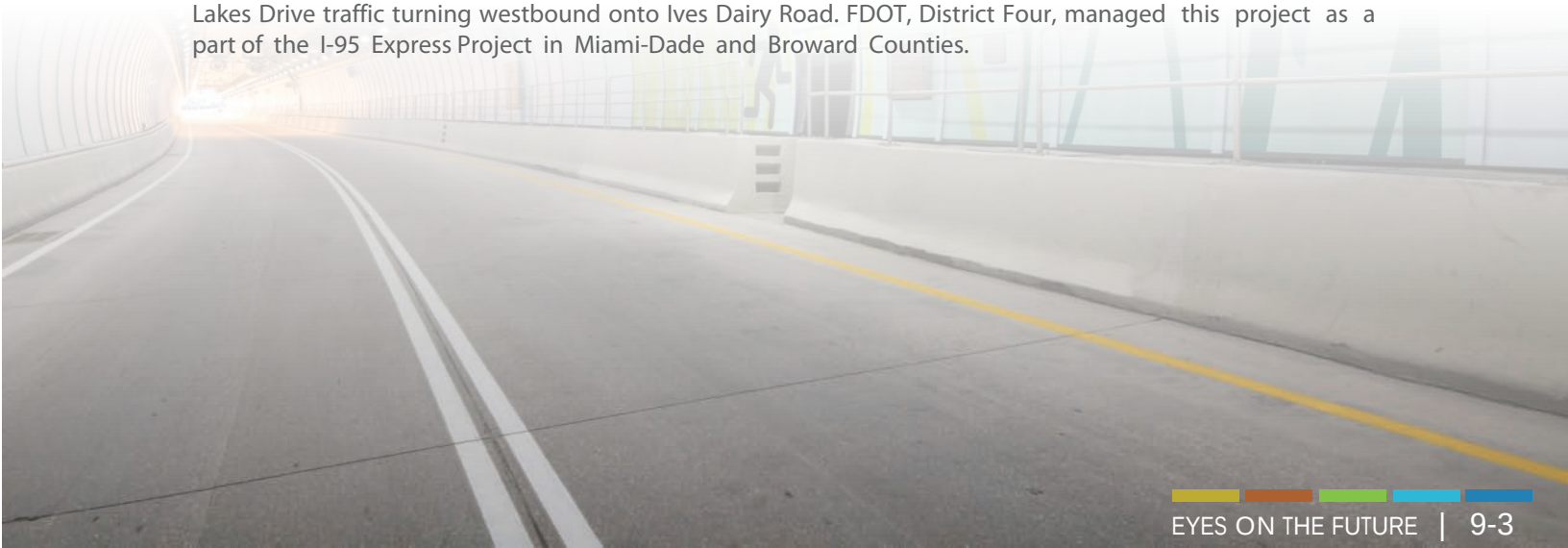
The Port of Miami Tunnel (POMT) project is a public-private partnership where the responsibility to design, build, finance, operate, and maintain the project is transferred to the private sector. The POMT was constructed by the Miami Access Tunnel (MAT) Concessionaire, LLC, in partnership with the FDOT, Miami-Dade County and the City of Miami. Construction began May 24, 2010 and the tunnel opened to the public in 2014. The Tunnel Boring Machine (TBM) began cutting into the ground in the eastbound direction on November 11, 2011 and broke out on Dodge Island (PortMiami) on July 31, 2012. Approximately 751 Concrete Tunnel Lining Rings were installed in the 4,186 linear feet (LF) bored Eastbound Tunnel. The concessionaire is required to operate and maintain the tunnel for a period of 35 years.

Miami Intermodal Center (MIC)

The Miami Intermodal Center (MIC) Program includes a Rental Car Center, the MIC Central Station, the Miami International Airport (MIA) Mover , and various access road and major highway improvements. To date, all roadway improvements have been completed providing safe and efficient access for area businesses and the travelling public while the MIC Program is under construction. The Rental Car Center opened and began operations on July 13, 2010, and the MIA Mover, an automated people mover connecting MIA and the MIC, became operational on September 9, 2011. The Metrorail Orange Line opened to revenue service on July 28, 2012. The notice to proceed for construction of the MIC Central Station was granted on May 18, 2011 and will open to the public in 2014.

I-95/Ives Dairy Road Interchange Improvements

Completed in 2012, this project helped alleviate congestion at the I-95/Ives Dairy Road interchange in northern Miami-Dade County. Specifically, the southbound exit ramp was reconstructed to accommodate three left-turn lanes. This additional capacity alleviates the stacking of vehicles queuing onto the mainline of I-95. Other improvements primarily included: widening the northbound entrance ramp from westbound Ives Dairy Road, widening the northbound exit ramp, constructing additional left turn lanes for Ives Dairy Road at the northbound and southbound ramp entrances, and adding a third left-turn lane for northbound Highland Lakes Drive traffic turning westbound onto Ives Dairy Road. FDOT, District Four, managed this project as a part of the I-95 Express Project in Miami-Dade and Broward Counties.



Illustrative Projects

The predominant theme of this LRTP is improving transportation to enhance Miami and Miami-Dade County's position as a global city and gateway to the Americas. To achieve this, the plan places increased emphasis on transit and freight. Global cities are dense and rely on transit for mobility. Gateway cities provide infrastructure to move freight reliably and efficently. To prepare for the future, we have to begin implementing the future of transportation NOW. This section of the plan highlights opportunities for positive new approaches to agency partnerships, and for agencies to work together in ways that are non-traditional.

Creative agency partnerships have the potential to advance the deployment of critical freight and transit infrastructure in ways that break through the barriers established by traditional working relationships. Innovative partnerships with the private sector can further expand the framework of our traditional business plans, and help speed up project delivery timeframes, and reduce publicly subsidized costs.

Illustrative

Several critical projects for Miami-Dade County are being highlighted as illustrative projects since they are vital to the ongoing social and economic development of the County. These projects are highlighted because, in most cases, implementation will require a coalition of agencies working together to bring them forward. These projects are multi-modal and range from freight, to transit, to highway. The following agencies will need to be involved:

- Miami-Dade MPO
- Miami-Dade Transit
- Miami-Dade Public Works and Waste Management
- Florida Department of Transportation
- Florida's Turnpike Enterprise

Several of these projects are shown as fully funded in the plan, while most others are partially funded or unfunded. Even the fully funded projects will require a great deal of attention and agency cooperation since some of these emerging projects are currently nothing more than a dirt road, and not even on the federal aid highway system. However, these projects are important enough to show as funded with the MPO's TMA funds because of the magnitude of the potential benefits.

The MPO has closely followed the Federal guidelines throughout the plan development process. The statutes which provide guidance on illustrative projects are shown below.

FEDERAL GUIDELINES FOR ILLUSTRATIVE PROJECTS

Illustrative projects are defined in the statute, 23 USC 134(i)(2)(C), as follows:

(C) Financial plan—A financial plan that demonstrates how the adopted transportation plan can be implemented, indicates resources from public and private sources that are reasonably expected to be made available to carry out the plan, and recommends any additional financing strategies for needed projects and programs. The financial plan may include, for illustrative purposes, additional projects that would be included in the adopted transportation plan if reasonable additional resources beyond those identified in the financial plan were available. For the purpose of developing the transportation plan, the metropolitan planning organization, transit operator, and State shall cooperatively develop estimates of funds that will be available to support plan implementation.

Illustrative projects are defined in the statute, 49 USC 5303 (i)(2)(E), as follows:

(E) Financial plan —

(i) In general—A financial plan that—
(I) demonstrates how the adopted transportation plan can be implemented;
(II) indicates resources from public and private sources that are reasonably expected to be made available to carry out the plan; and
(III) recommends any additional financing strategies for needed projects and programs.
(ii) Inclusions—The financial plan may include, for illustrative purposes, additional projects that would be included in the adopted transportation plan if reasonable additional resources beyond those identified in the financial plan were available.

To comprehensively describe the county's needs, the MPO has created an Illustrative Projects list which by definition includes additional projects, not included in the cost feasible plan. These projects may be included in the cost feasible plan, if other revenue sources were to be available in the future, as allowed by 23 USC 134(i)(2)(C) and 49 USC. 5303(i)(2)(E). Illustrative Projects take priority over needs projects, as they are higher ranked in terms of necessity. However, incorporating a new Illustrative Project, would require an amendment to the LRTP, if the project had no previous phases in the plan. This means no federal action may be taken on any project until it is formally included in the financially constrained LRTP and conforming Transportation Improvement Plan (TIP). Public input and involvement is imperative before any amendments are made to the LRTP, which is facilitated by public hearings and various other communication methods.

Additionally, Illustrative Projects in the LRTP which go beyond the 2040 horizon, have all phases after 2040 listed along with their respective project/phase costs and the time frame for when the project/phase is expected to commence. Expected funding sources and funding categories are also provided.

Three freight projects are included as illustrative. They are NW 25 Street, NW 117 Avenue, and NW 122 Avenue. They range from improving an existing 4 lane arterial, to a new 2 lane roadway on a new alignment. Presently all 3 roads are under County jurisdiction. Given the importance of these projects for improving freight movements and relieving freight trucking congestion on City of Doral roadways, the MPO is hopeful that FDOT and FTE will become implementation partners in these projects in order to move them forward in the near term. The projects are shown in the cost feasible plan as funded with TMA funds. If any of these projects are able to be implemented with state funds rather than federal, this will then allow other federally eligible projects to move into the cost feasible plan. Improvments identified as illustrative project candidates are listed in **Table 9-1**. For the illustrative projects which are partially funded or unfunded, there is the potential for these projects to move into the cost feasible plan as other revenue sources move closer to reality. Consistent with the Financial Element of this plan, the following additional revenue sources may help advance the illustrative projects.

- Additional sales tax
- Additional property tax
- Additional 2-cent local option gas tax
- Increased use of tolls
- Other surcharges and registration fees
- A potential tax on vehicle miles traveled

Rendering of New Centralized Multimodal/Intermodal Transportation Facility at the Palmetto Station Metrorail

Table 9-1 | Illustrative Project Candidates (Values in Millions $)

Project	Limits From	Limits To	Description	Total Capital Cost (2013 $)	Cost to Complete Construction 2041-2050 (YOE $)	
Partially Funded Projects - Illustrative Project Candidates						
Beach Connection (Baylink)	Miami Downtown Terminal	Miami Beach Convention Center	Premium transit service	$532.130	$1,252.250	
NW 36 /NW 41 St	SR-821 (HEFT)	NW 42 Ave (LeJeune)	Redesign NW 36 St/41 St as a superarterial express street	$397.050	$399.960	
Douglas Road Corridor BRT(SW 27/37 Ave) Dedicated Lanes	US-1	Miami Intermodal Center (MIC)	Full bus rapid transit	$166.400	$418.920	
Golden Glades Multimodal Terminal (Phase 2)			Parking-and-ride facility with 1,800 space garage and ground floor retail	$45.000	$114.270	
US-1 Busway - Managed Lanes	SW 344 St (Palm)	Dadeland South Metrorail Station	Add new managed lanes within the right-of-way of the US-1 Busway	$367.000	$828.500	
I-95	South of SR 836/I-395	Broward County Line	Capacity and operational improvements	PD&E funded in TIP	*	
I-95	US-1	South of SR-836(Dolphin)\ I-395	Capacity and operational improvements	PD&E funded in TIP	*	
US-27 (Okeechobee) [3]	West of SR-997 (Krome)	East of 117 Ave	Modify intersection	PD&E Completed Design funded in TIP	*	
US-27 (Okeechobee) [3]	East of NW 87 Ave	NW 79 Ave	Capacity and operational improvements	PD&E Completed Design funded in TIP	*	
US-27 (Okeechobee) [3]	East of NW 116 Way	East of 87 Ave	Capacity and operational improvements	PD&E Completed Design funded in TIP	*	
US-27 (Okeechobee) [3]	East of NW 107 Ave	East of NW 116 Way	Capacity and operational improvements	PD&E Completed Design funded in TIP	*	
US-27 (Okeechobee) [3]	East of NW 117 Ave	East of NW 107 Ave	Modify intersection	PD&E Completed Design funded in TIP	*	

See footnotes at end of table on the following page

	Potential Funding Mechanism/Source			Project Highlights
	P3	Other[1]	Discretionary Grant [2]	
	X	X	X	The Beach Connection (MDT 135) is both a potential illustrative project and a probable P-3. It is partially funded in the plan update. The two major cities in which the project will be located could explore creative funding options such as tax increment financing, or special taxing districts to help provide partial funding for the project. It is also conceivable that the transit facility could be implemented and operated by a private vendor. $15 million for PD&E (to 30%) plans.
	X	X	X	NW 36/41 Street Corridor (LeJeune to HEFT) (FP 1040) is an illustrative project that is partially funded in the plan update. It will need a coalition of agencies with multiple funding sources to bring this project to fruition.
	X	X	X	
	X	X	X	This is phase 2 of a project that is in the TIP. Development of the phase 2 terminal improvements could be part of a joint development project whereby MDT works with a private developer that can capture a revenue stream from the improvements.
	X	X	X	This is a hybrid multimodal project which can potentially serve as a BRT and managed lanes facility. Implementation could be advanced by a multiple agency coalition (such as MDT, MDX, and FDOT) and jointly funded. Project has potential for tolling as a financing mechanism.
				I-95 Master Plan (US 1 to Broward count line) is a potential illustrative "Needs" project, and is aslo a potential P-3 since any new capacity would need to be funded with toll revenue. Due to the size of this project it may need a coalition of agencies with multiple funding sources to cover the capital costs. It is conceivable that the facility could be operated by a private vendow.
				I-95 Master Plan (US 1 to Broward county line) is a potential illustrative "Needs" project, and also a potential P-2 since any new capacity would need to be funded with toll revenue. Due to the size of this project it may need a coalition of agencies with multiple funding sources to cover the capital costs. It is conceivable that the facility could be operated by a private vendor.
				Potential for implementation by multiple agency coalition and jointly funded. Project has potential for tolling as a financing mechanism.
				Potential for implementation by multiple agency coalition and jointly funded. Project has potential for tolling as a financing mechanism.
				Potential for implementation by multiple agency coalition and jointly funded. Project has potential for tolling as a financing mechanism.
				Potential for implementation by multiple agency coalition and jointly funded. Project has potential for tolling as a financing mechanism.
				Potential for implementation by multiple agency coalition and jointly funded. Project has potential for tolling as a financing mechanism.

Table 9-1 | Illustrative Project Candidates (continued) (Values in Millions $)

Project	Limits From	Limits To	Description	Total Capital Cost (2013 $)	Cost to Complete Construction 2041-2050 (YOE $)	
Unfunded - Illustrative Project Candidates						
Miami Beach Convention Center Terminal	Miami Beach Convention Center	Downtown Miami		$3.900		
West Kendall Transit Terminal Improvements	SW 88 St(Kendall)/SW 162 Ave		Improvements to existing terminal facility	$12.500		
SR-821 (HEFT-South) Express Transit Service	SW 344 St (Palm)/Busway	Dolphin Station Transit Terminal	Express bus service	$0.176		
Funded Projects - Illustrative Project Candidates						
Palmetto Terminal expansion / improvement projects				$25.000	(Priority IV) $36.65	
MrMICCI (SFRTA #110)			Double tracking and new bridge over Miami River	$50.400	(Priority I) $59.29	
NW 117 Ave	25 St	41 St	New 2 Lane Road and Grade separation over NW 41 Street connecting to SR-821 (HEFT)	$2.500	(Priority II) $ 9.15	
NW 122 Ave	12 St	41 St	New 2 Lane Road	$11.640	(Priority II) $14.26	
NW 25 St	87 St	SR-821 (HEFT)	Capacity and operational improvements	$24.340	(Priority II) $32.85	
Truck Parking Facility	NW 12 St/SR-821 (HEFT)			$16.700	(Priority IV) $20.574	

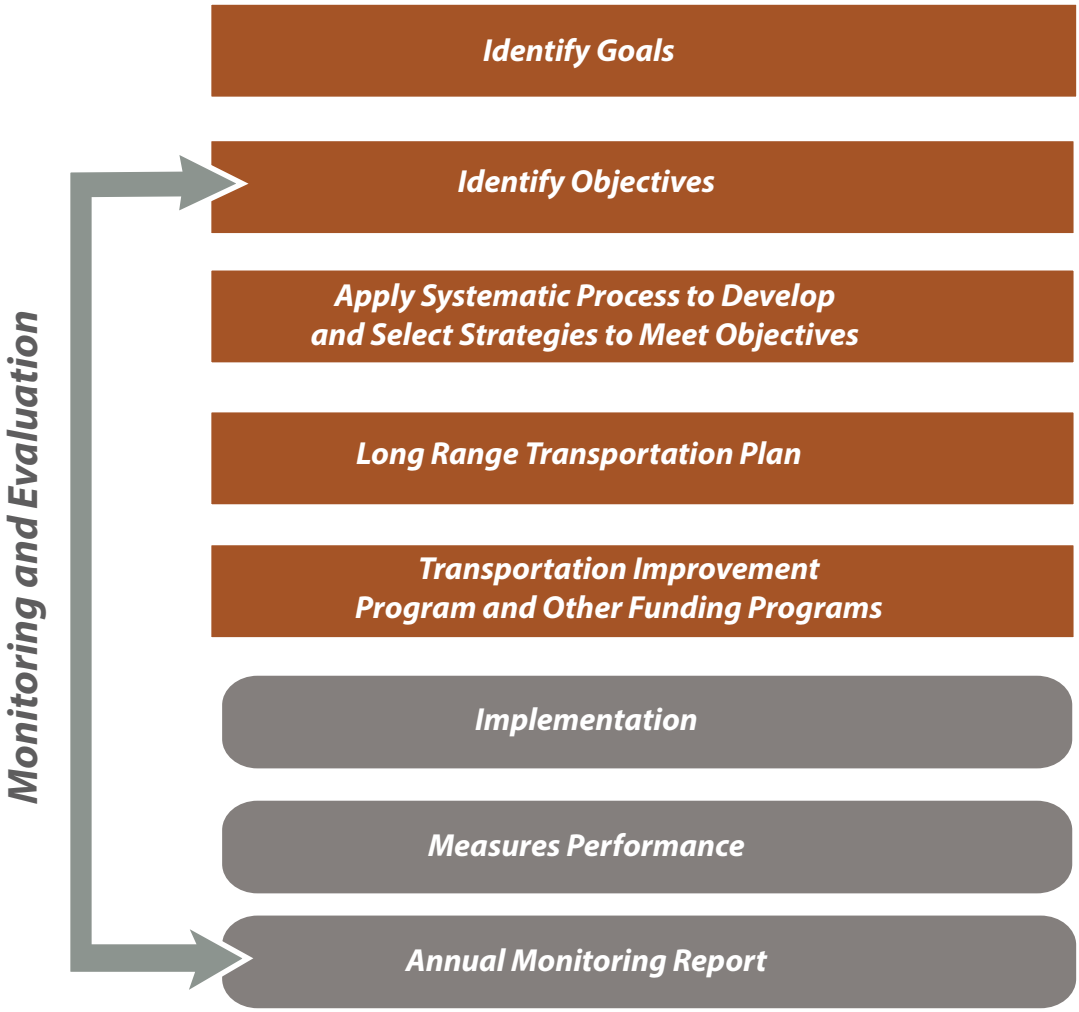
Note: Partially Funded Projects are assumed to be completed in the 2041 - 2050 year band
** Projects where the PD&E will define the project scope and / or project costs still need to be determined.*
***Joint Development*
[1] *Other - Other Potential Revenue Sources as described in Chapter 5 (p 5-8 to 5-9)*
[2] *Discretionary Grant Funds: TIGER (TG), New Starts (NS), TRIP (TP)*
[3] *Potential Multi-Agency Joint Participation Agreement*

	Potential Funding Mechanism/Source			Project Highlights
	P3	Other[1]	Discretionary Grant [2]	
				Convention Center Terminal at Miami Beach: Development of a terminal facility at this location could be part of a joint development project whereby MDT works with a private developer.
		**		West Kendall Transit Terminal Improvements: Improvement of the existing terminal facility at this location could be part of a joint development project with MDT working with the private developer for this site.
		**		SR 821-HEFT Express Transit Service: Provision of this express service could be facilitated with a multi-agency approach whereby a certain percentage of toll revenues could be utilized to fund the transit operating cost.
				The Palmetto and Okeechobee Terminal expansion/improvement projects are funded in the 2040 plan, but are also potential P-3's in that MDT could seek joint development opportunities with the private sector. The layout of a conceptual improvement alternative is shown following this table.
				MrMICCI (SFRTA #110) is a potential illustrative project even though it is shown as fully funded in the plan update. The implementing agency, SFRTA, is currently completing the PD&E, and will likely need additional funding support from other agencies such as FDOT, FTA, and FRA to fully fund and implement the project. This project will improve an important regional rail connection to the MIC.
				NW 117 Avenue (25 to 41 Streets) is a potential illustrative project even though it is shown as fully funded in the plan update. It is an important freight project, however it does not yet have a sponsoring agency, and needs additional project scope and concept development. The FTE is likely funding and implementation partner along with Miami-Dade County since this is currently a County roadway. Need agency sponsor and commitment for PD&E/design concept funding.
				NW 122 Ave (12 to 41 Streets), very similar to NW 117 above, is another potential illustrative project. It is another important freight project, and is fully funded in the plan update. It also does not have a sponsoring agency, and requires additional scoping effort and concept development. As with NW 117 Avenue, the FTE is likely fudning and implementation partner along with Miami Dade County. This is currently an unbuilt County roadway alignment (1/2 section line road). Need agency sponsor and commitment for PD&E/design concept funding.
				NW 25 Street (87 to HEFT) is a potential illustrative project and is partially funded in the plan update. While it is currently a County roadway, there is potential for FTE to be a funding and implementaiton partner. This project would connect from the airport west area, and the 25 Street viaduct, currently under construction, to the 2 freight projects noted above. It would improve a critical linkage for freight movements between the HEFT and the airport west warehousing area. It is likely that this project would require multiple funding and implementation partners. Need agency sponsor and commitment for PD&E/design concept funding.
				Develop a truck staging/parking area in the northwest quadrant of the interchange associated with a freight facility development.

Monitoring Performance

Monitoring transportation system performance goes hand-in-hand with planning for the transportation system. Performance monitoring provides essential feedback on the effectiveness and effciency of plan investments. Performance measurement is a way to gauge the impacts of the decision-making process on the transportation system. Performance measures aim to answer questions about whether the performance of the system is getting better or worse over time; and whether transportation investments are correlated or linked to stated goals and outcomes. **Figure 9-2** gives a visual depiction of how monitoring plays a role in the transportation planning process.

Figure 9-2 | An Objectives-driven, Performance-based Approach to Planning



Moving Ahead for Progress in the 21st Century (MAP-21)

Moving Ahead for Progress in the 21st Century (MAP-21) features a federal emphasis on performance measurement. Under MAP-21, U.S. DOT will establish performance measures and state DOTs will develop performance targets in consultation with MPOs and others. As shown in **Figure 9-3**, these areas include (1) safety, (2) infrastructure condition, (3) congestion reduction, (4) system reliability, (5) freight movement and economic vitality, (6) environmental sustainability, and (7) reduced project delivery delays. State investments must make progress in line with these performance target areas, and MPOs must incorporate these performance measures and targets into their Transportation Improvement Programs (TIPs) and Long Range Transportation Plans. However, MAP-21 imposes no financial penalty for states and MPOs that fail to make progress toward these performance goals, and funding decisions for any given project are not explicitly tied to performance criteria.

This performance-based focus is consistent with 2040 Miami-Dade LRTP, which promotes the transparency of public data and decision-making and seeks to improve the accountability of public spending by better linking investments to outcomes. The Miami-Dade MPO, with its partners, has taken the leadership role to create meaningful performance measures for our region and that provide information critical to decision makers.

Figure 9-3 | MAP-21 National Performance Goals

Safety
To achieve a significant reduction in traffic fatalities and serious injuries on all public roads

Infrastructure Condition
To maintain the highway infrastructure asset system in a state of good repair

Congestion Reduction
To achieve a significant reduction in congestion on the National Highway System

System Reliability
To improve the efficiency of the surface transportation system

Freight Movement and Economic Vitality
To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development

Environmental Sustainability
To enhance the performance of the transportation system while protecting and enhancing the natural environment

Reduced Project Delivery Delays
To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

Supporting the goal areas identified in **Table 9-1**, States, MPOs, and other stakeholders, in consultation with the Federal Government, will (at a minimum) establish performance measures identified below. The final set of performance measures and target requirements will be formally released by the Federal Government in 2015.

MAP-21 National Performance Measures Areas:

- Pavement condition on the Interstate System and on remainder of the National Highway System (NHS)
- Performance of the Interstate System and the remainder of the NHS
- Bridge condition on the NHS
- Fatalities and serious injuries—both number and rate per vehicle mile traveled--on all public roads
- Traffic congestion
- On-road mobile source emissions
- Freight movement on the Interstate System

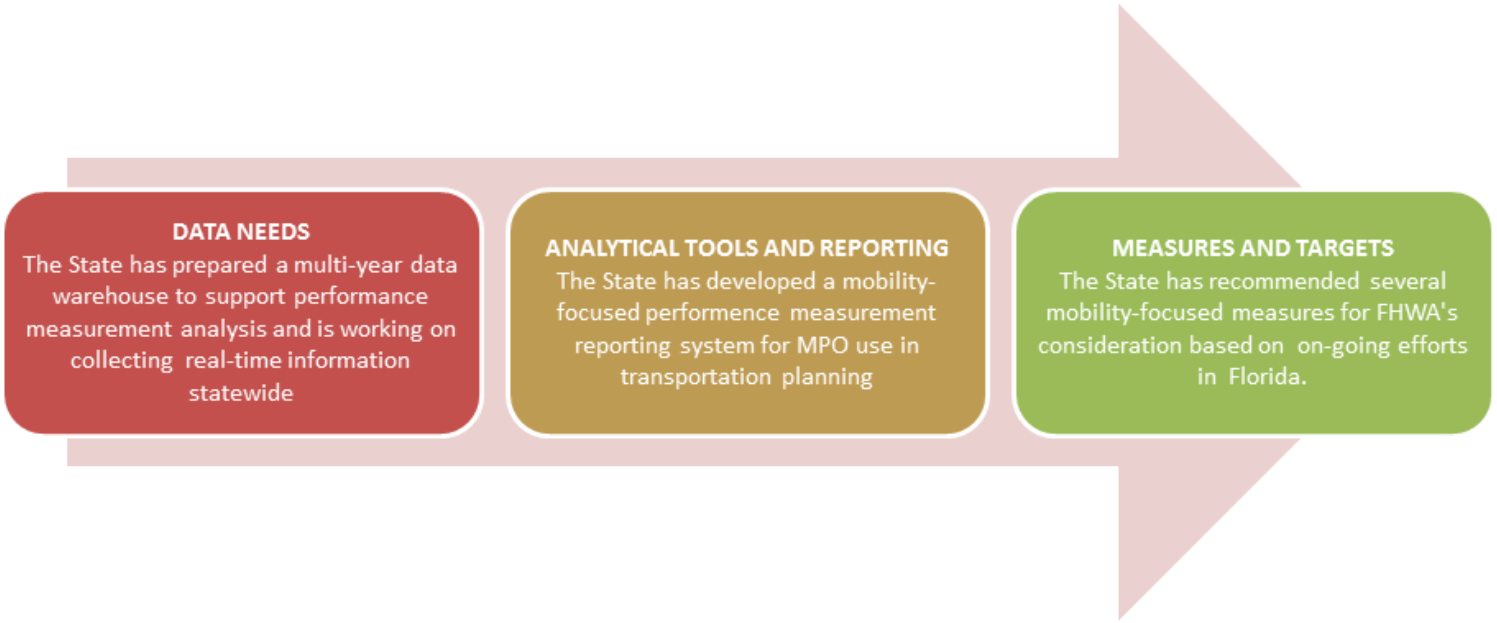
A Perspective from the State Level

The Florida Department of Transportation (FDOT) Central Office has been at the forefront of MAP-21, staying in close coordination with FHWA, the FDOT Districts and MPOs throughout the State of Florida. In anticipation of the performance measurement and target requirements that are set to be released in 2015, the FDOT has accomplished the following, as summarized in **Figure 9-4**:

- Recommended mobility-related performance measures to FHWA,
- Prepared analytical tools using current and historical data, and
- Published a statewide report called the Florida's Mobility Performance Measures (MPM) Source Book that summarizes over a 10-year period of mobility metrics.

The Miami-Dade County MPO is one of many players working alongside Central Office to determine how effective these newly developed tools are at depicting real-world conditions, and also how they can be best integrated into the transportation planning process. An FDOT-MPO workshop was held in Jacksonville in April to establish additional ideas and recommendations for improved coordination between the Department and the state's 26 MPOs. FHWA and FTA also had representatives in attendance.

Figure 9-4 | Florida Department of Transportation Activities Related to Mobility Performance Measurement



Recommended Mobility-focused Performance Measures from Other Parties

Several agencies have been recommending specific performance measures to FHWA for consideration. Recommendations have been based on various factors, with two primary measures being: availability of data; and the value-added (i.e., what does the measure tell us and how will it effectively help guide agency investment decisions) to planning, implementation, and operations and maintenance programs. Below are some examples of mobility-focused recommendations provided to-date by both the American Association of State Highway and Transportation Officials (AASHTO) and the FDOT. AASHTO and FDOT recommendations for mobility related performance measures are shown in **Table 9-2** and **Table 9-3**, respectively.

Table 9-2 | AASHTO Recommendations for Mobility Related Performance Measures

AASHTO Recommendations for Mobility Related Performance Measures		
Congestion Mitigation	**National Highway Performance Program**	**Freight Movement**
• (Should apply only to non-atainment areas 1,000,000+ popula on)	• Delay • Travel time reliability	• Delay • Travel time reliability

Table 9-3 | FDOT Recommendations for Mobility Related Performance Measures

FDOT Recommendations for Mobility Related Performance Measures
• Vehicle miles traveled
• Percent travel meeting generally acceptable operating conditions
• Travel time reliability
• Delay
• Percent miles severely congested

Performance of the 2040 Plan

During the development of the Plan's goals and objectives, both quantitative and qualitative measures of performance were identified to help inform the decision-making process. Below is a summary of the forecasted performance of the transportation system under various phases/scenarios developed as part of the 2040 LRTP:

1. Base Conditions (Year 2010)
2. Existing Transportation System + Year 2040 Growth (formally known as the Existing + Committed Plan)
3. Financially Unconstrained Transportation System + Year 2040 Growth (formally known as the Needs Plan)
4. Financially Constrained Transportation System + Year 2040 Growth (formally known as the Cost Feasible Plan)

Below, **Table 9-4** summarizes the Country-wide performance metrics of the Plan's goal of Improving System and Travel.

Table 9-4 | Improve System and Travel Related Performance Metrics (Countywide)

Performance Measures	Base Conditions	Existing Transportation System + Growth Scenario 1 Outcomes	Financially Unconstrained Transportation System + Growth Scenario 2 Outcomes	Financially Constrained Transportation System + Growth Scenario 3 Outcomes
Roadway Network Related Outcomes				
Lanes Miles	5,797	6,171	6,985	6,442
Vehicle Miles Traveled	41,771,033	57,207,284	57,865,816	57,243,299
Vehicle Hours Traveled	1,487,343	2,106,189	1,763,361	2,035,220
Transit Network Related Outcomes				
Route Miles	3,432	3,346	4,643	3,368
Transit Boardings	306,161	420,834	874,187	429,390
Mode Choice Related Outcomes				
Drive alone	0.426	0.441	0.439	0.441
Carpool	0.368	0.339	0.338	0.339
Transit	0.023	0.024	0.028	0.024
Non-Motorized	0.183	0.196	0.195	0.196

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Appendix

A. Glossary of Terms

B. Supplement to the 2040 Revenue Handbook
2040 Revenue Forecast for Miami-Dade Metropolitan Area

C. Appendix for the Metropolitan Long Range Plan
2040 Revenue of State and Federal Revenues for Statewide and Metropolitan Plans

D. CMP Comparison Analysis

E. CMP Toolbox Strategies

F. Performance Results

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- Appendix A -

Glossary of Terms

Activity Centers
Places that contain a concentration of business, civic and cultural activities, creating conditions that facilitate interaction. Special generators, as identified in the travel demand model, were utilized as activity centers for measures of effectiveness computations.

Bus Rapid Transit (BRT)
A flexible, rubber-tired form of rapid transit that combines stations, vehicles, running way, and ITS elements into an integrated system with a strong identity. BRT applications are designed to be appropriate to the market they serve and to their physical surroundings.

Capacity
The maximum traffic flow designation for a segment of roadway or a lane, within the control conditions for that particular segment of roadway or lane, usually expressed in "persons per hour" or "vehicles per hour".

Centerline Highway Miles
The actual length of roadway in one direction of travel.

Central Areas
The central district of a city. Typified by a concentration of retail and commercial buildings.

Community
A physical or cultural grouping of stakeholders with common interests created by shared proximity or use. Community can be defined at various levels within a larger context (e.g., neighborhood or city or metropolitan area or region).

Commuter Rail
Passenger rail service between a city center, outer suburbs and commuter towns or other locations that draw large numbers of commuters—people who travel on a daily basis for work or school.

Congestion
The reduction in travel speed, reliability, or maneuverability that occurs when traffic demand approaches or exceeds the available capacity of the transportation facility(ies).

Congestion Management Process (CMP)
A systematic approach required in transportation management areas (TMAs) that provides for effective management and operation, based on a cooperatively developed and implemented metropolitan-wide strategy of new and existing transportation facilities eligible for funding under title 23 U.S.C. and title 49 U.S.C. through the use of operational management strategies. Provides information on transportation system performance and ÿnds alternative ways to alleviate congestion and enhance the mobility of people and goods.

Congestion Pricing
Variable road tolls (higher prices under congested conditions and lower prices at less congested times and locations) intended to reduce peak-period traffic volumes to optimal levels.

Corridors
Highways, rail, waterways and other exclusiveuse facilities that connect major origin/destination markets within Florida or between Florida and other states/nations.

Cost Feasible Plan
A phased plan of transportation improvements that is based on (and constrained by) estimates of future revenues.

Efficient Transportation Decision Making
A FDOT initiative to improve and streamline the environmental review and permitting process by involving resource protection agencies and concerned communities from the first step of planning. Agency interaction continues throughout the life of the project, leading to better quality decisions and an improved linkage of transportation decisions with social, land use and ecosystem preservation decisions.

Fixed Guideway
A form of transit consisting of vehicles that can operate only on a guideway constructed for a specific purpose (e.g., rapid rail, light rail). Federal usage in funding legislation also includes exclusive right-ofway bus operations, trolley coaches and ferryboats as "fixed guideway transit."

Grade Separation
The raising or lowering of a road or highway grade to bridge over/under another road or highway to eliminate traffic movement conflicts.

Intelligent Transportation System
A wide range of advanced technologies and ideas, which, in combination, can improve mobility and transportation productivity, enhance safety, maximize the use of existing transportation facilities, conserve energy resources and reduce adverse environmental e˜ ects.

Intermodal Center
An existing or planed transportation facility providing an interface between more than one mode of transportation [at least one of which must provide interstate or interregional service to be designated as Strategic Intermodal System (SIS) or Emerging SIS]. An example of an intermodal center

Level of Service
A qualitative assessment of a road's operating conditions. For local government comprehensive planning purposes, level of service means an indicator of the extent or degree of service provided by, or proposed to be provided by, a facility based on and related to the operational characteristics of the facility. Level of Service indicates the capacity per unit of demand for each public facility.

Light Rail Transit (LRT)
Transit systems that provide convenient local Public Transit service on busy urban corridors, connecting major destinations such as central business districts, medical centers, campuses and entertainment centers. LRT vehicles tend to have relatively smooth and comfortable operation, easy boarding, attractive stations, Transit-oriented Development (TOD), and easy-to-understand routes and schedules.

Long Range Transportation Plan (LRTP)
A long range (20-year) strategy and capital improvement program developed to guide the effective investment of public funds in transportation facilities.

Moving Ahead for Progress in the 21st Centrury (MAP-21)
Federal funding and authorization for surface transportation programs and creates a performance based surface transportation program.

Managed Lanes
Designated roadway lanes that employ operational strategies to efficiently manage traffic.

Measure of Effectiveness (MOE)
A quantitative or qualitative indicator used to assess state agency performance. Input means the quantities of resources used to produce goods or services and the demand for those goods and services. Outcome means an indicator of the actual impact or public beneÿt of a service. Output means the actual service or product delivered by a state agency.

Metropolitan Planning Organization (MPO)
An organization made up of local elected and appointed officials responsible for developing, in cooperation with the state, transportation plans and programs in metropolitan areas containing 50,000 or more residents. MPOs are responsible for the development of transportation facilities that will function as an intermodal transportation system and the coordination of transportation planning and funding decisions.

Mobility
The degree to which the demand for the movement of people and goods can be satisified. Mobility is measured in Florida by the quantity, quality, accessibility and utilization of transportation facilities and services.

Mode
Any one of the following means of moving people or goods: aviation, bicycle, highway, paratransit, pedestrian, pipeline, rail (commuter, intercity passenger and freight), transit, space and water.

Multimodal Transportation
Denotes the use of more than one mode to serve transportation needs in a given area.

Non-motorized Transportation
Includes walking, bicycling, and pedestrian-oriented modes of travel.

Project Development and Environment (PD&E)
Florida Department of Transportation process for design and environmental assessment of transportation projects.

Quality of Life
All of the characteristics of an area's living conditions, including such things as housing, education, transportation infrastructure, leisure time offerings, climate, employment opportunities, medical and health care infrastructure and environmental resources.

Redevelopment Areas
Redevelopment areas are those areas designated for redevelopment to address a wide range of issues, including downtown, waterfront, road corridor, and neighborhood redevelopment. There are currently 18 designated redevelopment areas in Miami-Dade County.

SAFETEA-LU
The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).SAFETEA-LU authorized the federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009.

Strategic Intermodal System (SIS)
A transportation system comprised of facilities and services of statewide and interregional significance, including appropriate components of all modes.

Sustainability
Meeting the needs of the present without compromising the ability to meet the needs of the future.

Total Hours of Delay
Total hours of additional travel time during periods of traffic congestion.

Transit Route Miles
The mileage in each direction over which public transportation vehicles travel while in revenue service.

Transit Supportive Areas (TSA)
Areas that could reasonably have transit service based on a household density of 3 units per gross acre or an employment density of at least 4 jobs per gross acre.

Transit
Mass transportation by bus, rail or other conveyance that provides general or special services to the public on a regular and continuing basis. Transit does not include school buses or charter or sightseeing services.

Transportation Management Areas (TMA)
An urbanized area with a population of 200,000 or more, as defined by the U.S. Bureau of the Census and designated by the Secretary of Transportation, or any additional area where TMA designation is requested by the Governor and the MPO and designated by the U.S. Secretary of Transportation. plans and programs.

Visualization Techniques
Methods used in the development of transportation plans and programs with the public, elected and appointed o°cials , and other stakeholders in a clear and easily accessible format such as maps, pictures, and/or other displays to promote improved understanding of existing or proposed transportation

Travel Demand Management (TDM)
Strategies or polocies implemented to reduce the demand on the highway network of roads.

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- Appendix B -

Supplement to the 2040 Revenue Handbook
2040 Revenue Forecast for Miami-Dade Metropolitan Area

Supplement to the *2040 Revenue Forecast Handbook*

2040 Revenue Forecast for Miami-Dade Metropolitan Area
Prepared by District 6 and Office of Policy Planning, Florida Department of Transportation

This supplement contains estimates of state and federal transportation funds for the metropolitan area through 2040. The estimates were prepared by the Florida Department of Transportation (FDOT), based on a statewide estimate of revenues that fund the state transportation program, and are consistent with "Financial Guidelines for MPO 2040 Long Range Plans" adopted by the Metropolitan Planning Organization Advisory Council (MPOAC) in January 2013. Florida's MPOs are encouraged to use these estimates in updates of long range plans.

These estimates are based on the 2040 Revenue Forecast prepared in Spring 2013. See the *2040 Revenue Forecast Handbook*, dated July 2013, for more information on the statewide revenue forecast, revenue sources, definitions of major program categories, and methodology. All estimates are expressed in Year of Expenditure dollars.

ESTIMATES FOR CAPACITY PROGRAMS

Table 1 contains metropolitan area estimates for various time periods for certain state programs that affect the capacity of the transportation system to move people and goods.

Programs that FDOT Takes in Lead in Planning

Estimates for SIS Highways Construction & Right of Way will be available by August 21, 2013. No metropolitan estimates for Aviation, Rail, Seaport Development and Intermodal Access programs for years beyond those in the FDOT Work Program have been developed.

Other Capacity Programs

Estimates for Other Arterials Construction & Right of Way and Transit programs are shown in Table 1. MPOs are encouraged to plan for the mix of highway and transit improvements that best meets metropolitan needs with these funds. The MPO may combine the estimates for these two programs for the years 2019-2040 and consider them as "flexible" funds.

Computation of Funds for Other Arterials Construction & Right of Way – the estimates were developed as follows:

- The average share of total statewide TMA (also known as SU) Funds programmed on Other Arterials Construction & Right of Way in Fiscal Years 2013 (current year) and 2014-2018 (the Tentative Work Program) were taken "off the top" from total statewide estimates for Other Arterials & Right of Way for all forecast years.
- Transportation Alternatives (TA) estimates were taken "off the top" from total statewide estimates for Other Arterials Construction & Right of Way for all forecast years.
- Remaining funding estimates for this program (i.e., after the shares of TMA and TA estimates were taken "off the top") were distributed to district and county levels using current statutory formula factors.

TMA Funds – Funds distributed to Transportation Management Areas, as defined by MAP-21, are shown in Table 2. They are the same as "SU" funds in the 5-year Work Program. The

estimates are based on Schedule A[1] of the Work Program Instructions for Fiscal Years 2014-2018 and long range estimates of federal funds. These funds are not included in the estimates for Other Arterials Construction & Right of Way shown in Table 1. Guidance regarding planning for these funds in the long range plan is included in the *2040 Revenue Forecast Handbook.*

Transportation Alternatives Funds – Table 3 provides estimates of Transportation Alternatives funds, as defined by MAP-21, to assist MPOs in developing their plans. The estimates are based on Schedule A of the Work Program Instructions for Fiscal Years 2014-2018 and long range estimates of federal funds. These funds are not included in the estimates for Other Arterials Construction & Right of Way shown in Table 1. Guidance regarding planning for these funds in the long range plan is included in the *2040 Revenue Forecast Handbook.* Use of these funds in the long range transportation plan must be consistent with federal and state policy.

INFORMATION RELATED TO CERTAIN STATE FUNDS AND PROGRAMS

Additional estimates are provided for certain state funds and programs. See guidance in the *2040 Revenue Forecast Handbook* for planning for use of these funds. Tables 4 and 5 provide estimates of funds for state programs that have matching funds, and other, requirements.

Transportation Regional Incentive Program (TRIP) Funds – these are estimates of districtwide funds for the TRIP program that are not included in an FDOT Work Program as of July 1, 2013.

New Starts Transit Funds – these are estimates of statewide funds for the New Starts program that are not included in an FDOT Work Program as of July 1, 2013.

NON-CAPACITY PROGRAMS

Table 6 contains districtwide estimates for State Highway System Operations and Maintenance expenditures for information purposes. These estimates are provided pursuant to an agreement between FDOT and the Federal Highway Administration Division Office regarding the reporting of estimates of Operations and Maintenance costs for the State Highway System at the district level in MPO long range plans. Guidance on documenting these funds is included in the *2040 Revenue Forecast Handbook.*

No metropolitan estimates for these or other non-capacity programs have been developed. Consistent with MPOAC "Financial Guidelines for MPO 2040 Long Range Plans", the Department will prepare a summary of these program estimates and state objectives (to be entitled "Appendix for the Metropolitan Long Range Plan, 2040 Revenue Forecast") and provide the Appendix to each MPO for inclusion in the documentation of the metropolitan long range transportation plan.

FORECAST YEARS

Tables 1-5 contain revenue estimates for Fiscal Years 2019-2040. The MPO should use the TIP/STIP to summarize estimates for Fiscal Years 2014-2018. Table 6 contains revenue estimates for Fiscal Years 2014-2040 because this summary information is not readily available in the 5-Year Work Program.

[1] "Schedule A" specifies and distributes estimated funds legally available in the years covered by the FDOT 5-year Work Program. FDOT's Work Program Instructions contain Schedule A and a "Program Allocation Guide" which describes the processes, assumptions, and requirements used to develop Work Program fund allocations.

Revenue Estimates for Miami-Dade Metropolitan Area

Table 1
Capacity Program Estimates
State and Federal Funds from 2040 Revenue Forecast (Millions of Dollars)
Florida Department of Transportation

Capacity Programs	2040 Revenue Forecast				
	FYs 2019-20	FYs 2021-25	FYs 2026-30	FYs 2031-40	22 Year Total
SIS Highways Construction & ROW[1,2]	N/A	N/A	N/A	N/A	N/A
Other Arterials Construction & ROW[2]	192.0	428.7	405.3	886.8	1,912.8
Transit[2]	93.6	240.9	253.3	531.0	1,118.8

[1] To be provided separately.
[2] May be supplemented with TMA Funds. See Table 2 and guidance in the *2040 Revenue Forecast Handbook* for use of these funds.

Table 2
TMA Estimates[1]
State and Federal Funds from 2040 Revenue Forecast (Millions of Dollars)
Florida Department of Transportation

Transportation Management Area	2040 Revenue Forecast				
	FYs 2019-20	FYs 2021-25	FYs 2026-30	FYs 2031-40	22 Year Total
TMA Funds	67.1	167.9	167.9	335.7	738.6

[1] See guidance in the *2040 Revenue Forecast Handbook* for use of these funds.

Table 3
Transportation Alternatives Estimates[1]
State and Federal Funds from 2040 Revenue Forecast (Millions of Dollars)
Florida Department of Transportation

Transportation Alternatives	2040 Revenue Forecast				
	FYs 2019-20	FYs 2021-25	FYs 2026-30	FYs 2031-40	22 Year Total
TALU (>200,000 Population)	6.6	16.5	16.5	33.0	72.6
TALL (<200,000 Population)	N/A	N/A	N/A	N/A	N/A
TALT (Any Area)[2]	6.4	16.1	16.1	32.1	70.7

[1] Use of these funds must be consistent with federal and state policy. See guidance in the *2040 Revenue Forecast Handbook.*
[2] Estimates are for the entire District.

Revenue Estimates for Miami-Dade Metropolitan Area
For Information Purposes

Table 4
TRIP Estimates[1]
State and Federal Funds from 2040 Revenue Forecast (Millions of Dollars)
Florida Department of Transportation

Transportation Regional Incentive Program	2040 Revenue Forecast				
	FYs 2019-20	FYs 2021-25	FYs 2026-30	FYs 2031-40	22 Year Total
Districtwide TRIP Funds	0.8	6.2	6.2	12.5	25.8

[1] For informational purposes. Estimates are for TRIP Funds not included in an FDOT Work Program as of July 1, 2013. See guidance in the *2040 Revenue Forecast Handbook* for planning for use of these funds.

Table 5
New Starts Transit Estimates[1]
State and Federal Funds from 2040 Revenue Forecast (Millions of Dollars)
Florida Department of Transportation

New Starts Transit	2040 Revenue Forecast				
	FYs 2019-20	FYs 2021-25	FYs 2026-30	FYs 2031-40	22 Year Total
Statewide New Starts Transit Funds	63	174	174	349	760

[1] For informational purposes. Estimates are for New Starts Funds not included in an FDOT Work Program as of July 1, 2013. See guidance in the *2040 Revenue Forecast Handbook* for planning for use of these funds.

Table 6
State Highway System Operations and Maintenance Estimates[1]
State and Federal Funds from 2040 Revenue Forecast (Millions of Dollars)
Florida Department of Transportation

State Highway System Operations & Maintenance	2040 Revenue Forecast					
	FYs 2014-15	FYs 2016-20	FYs 2021-25	FYs 2026-30	FYs 2031-40	27 Year Total
Districtwide SHS O&M Funds	263	725	740	811	1,781	4,318

[1] For informational purposes. See guidance for documenting these funds in the *2040 Revenue Forecast Handbook.*

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- Appendix C -

Appendix for the Metropolitan Long Range Plan 2040 Revenue of State and Federal Revenues for Statewide and Metropolitan Plans

APPENDIX FOR THE METROPOLITAN LONG RANGE PLAN
2040 Forecast of State and Federal Revenues for Statewide and Metropolitan Plans

Overview

This appendix documents the Florida Department of Transportation (FDOT) revenue forecast through 2040. Estimates for major state programs for this metropolitan area and Florida are included. The forecast encompasses state and federal funds that "flow through" the FDOT work program. This information is used for updates of metropolitan long range transportation plans, the Florida Transportation Plan and the Strategic Intermodal System (SIS) Cost Feasible Plan.

Background

Evolving state and federal legislation, FDOT policies, and leadership by the Metropolitan Planning Organization Advisory Council have provided the impetus to enhance the cooperative relationship between FDOT and metropolitan planning organizations (MPOs) in planning for and providing transportation facilities and services. The Florida Transportation Plan (FTP), developed with the assistance of Florida's 26 MPOs and other transportation partners, established long range goals and program emphases for the expenditure of state and federal funds expected from current revenue sources.

The Department developed a long range revenue forecast through 2040. The forecast was based upon recent legislation (e.g., MAP-21[1]), changes in factors affecting state revenue sources (e.g., population growth rates) and current policies. This 2040 forecast incorporates (1) amounts contained in the Department's Work Program for 2014 through 2018, (2) the impact of the Department's objectives and investment policies, and (3) the current Statutory Formula (equal parts of population and motor fuel tax collections) for distribution of certain program funds. All estimates are expressed in year of expenditure dollars.

Purpose

This appendix provides the public and interested parties with clear documentation of the state and federal financial issues related to each MPO plan and facilitates reconciliation of statewide and metropolitan plans. This appendix does not address financial issues related to funds that do not "flow through" the state work program. Information on financial issues related to local and regional revenue sources – what those resources are and how the metropolitan areas plan to spend them – is contained in other documentation of the metropolitan plan.

This appendix describes how the statewide 2040 Revenue Forecast was developed. Also, metropolitan estimates are identified for certain major FDOT programs that expand the capacity of existing transportation systems, and are referred to as "capacity programs." "Metropolitan estimates" are the estimated share of certain state capacity programs for this metropolitan area. They can be used to fund planned improvements to major elements of the transportation system. This appendix also includes estimates of funds required for other FDOT programs designed to support, operate, and maintain the state transportation system. The FDOT has set aside sufficient funds in the 2040 Revenue Forecast for these programs, referred to as "non-capacity programs" in this document, to meet statewide objectives and program needs in all metropolitan and non-metropolitan areas. Funding for these programs is not included in the metropolitan estimates.

[1] Moving Ahead for Progress in the 21st Century Act, Public Law 112-141, July 6, 2012.

2040 Revenue Forecast (State and Federal Funds)

The 2040 Revenue Forecast is the result of a three-step process:

1. State and federal revenues from current sources were estimated.
2. Those revenues were distributed among statewide capacity and non-capacity programs consistent with statewide priorities.
3. Estimates for certain capacity programs were developed for each of Florida's 26 metropolitan areas.

Forecast of State and Federal Revenues

The 2040 Revenue Forecast includes program estimates for the expenditure of state and federal funds expected from current revenue sources (i.e., new revenue sources were not added). The forecast estimated revenues from federal, state, and Turnpike sources included in the Department's 5-Year Work Program. The forecast did not estimate revenue from other sources (i.e., local government/authority taxes, fees, and bond proceeds; private sector participation; and innovative finance sources). Estimates of state revenue sources were based on estimates prepared by the State Revenue Estimating Conference in August 2012 for state fiscal years 2014 through 2021. Estimates of federal revenue sources were based on the Department's Federal Aid Forecast for the same fiscal years. Assumptions about revenue growth were as follows:

Revenue Sources	Years	Assumptions
State Fuel Taxes	2014-2021	Florida Revenue Estimating Conference Estimates
	2022-2040	Annual 2.54% increase in 2022, gradually decreasing to 0.55% in 2040
State Tourism-Driven Sources (Rental Car Surcharge, Aviation Fuel Tax)	2014-2021	Florida Revenue Estimating Conference Estimates
	2022-2040	Annual 3.04% increase in 2022, gradually decreasing to 2.86% in 2040
State Vehicle-Related Taxes (Vehicle License, Initial Registration and Incremental Title fees)	2014-2021	Florida Revenue Estimating Conference Estimates
	2022-2040	Annual 2.28% increase in 2022, gradually decreasing to 1.71% in 2040
Documentary Stamps Taxes	2014-2021	Florida Revenue Estimating Conference Estimates
	2022-2040	$348.5 million annually
Federal Distribution (Total Obligating Authority)	2014-2021	FDOT Federal Aid Forecast
	2022-2040	Annual 0.0% increase through 2040
Turnpike	2014-2022	Exising and programmed projects, cap on outstanding debt, and planned toll increases on expansion projects

A summary of the forecast of state, federal and Turnpike revenues is shown in Table 1. The *2040 Revenue Forecast Handbook* contains inflation factors that can be used to adjust project costs expressed in "present day cost" to "year of expenditure" dollars.

Table 1
Forecast of Revenues
2040 Revenue Forecast (Millions of Dollars)

Major Revenue Sources	Time Period 2014-15[1]	2016-20[1]	2021-25	2026-30	2031-40	27-Year Total[2] 2014-2040
Federal	5,113 31%	9,542 27%	9,687 26%	9,719 24%	19,328 22%	53,389 25%
State	9,711 59%	22,243 64%	25,084 67%	27,616 69%	60,776 70%	145,430 67%
Turnpike	1,680 10%	3,044 9%	2,745 7%	2,931 7%	6,610 8%	17,011 8%
Total[2]	**16,505**	**34,829**	**37,516**	**40,266**	**86,715**	**215,830**

[1] Based on the FDOT Tentative Work Program for 2014 through 2018. [2] Columns and rows sometimes do not equal the totals due to rounding.

Estimates for State Programs

Long range revenue forecasts assist in determining which needed transportation improvements are financially feasible and in identifying funding priorities. As directed by FDOT policy, the Department places primary emphasis on safety and preservation by first providing adequate funding in the Revenue Forecast to meet established goals and objectives in these important areas. Remaining funding has been planned for new or expanded statewide, metropolitan/ regional, and local facilities and services (i.e., capacity programs). As Florida moves toward the middle of the 21st Century, safety and preservation continue to be emphasized.

The 2040 Revenue Forecast includes the program funding levels contained in the July 1, 2013 Adopted Work Program for 2014 through 2018. The forecast of funding levels for FDOT programs for 2019-2040 was developed based on the Program and Resource Plan (PRP) for fiscal years 2013-2022. The remainder of this Appendix provides forecast information for "Capacity," "Non-Capacity," and "Other" state programs. The information is consistent with "Financial Guidelines for MPO Long Range Plans" adopted by the Metropolitan Planning Organization Advisory Council in January 2013.

Capacity Programs

Capacity programs include each major FDOT program that expands the capacity of existing transportation systems (e.g., highways, transit). Table 2 includes a brief description of each major capacity program and the linkage to the program categories used in the PRP.

TABLE 2
Major Capacity Programs Included in the 2040 Revenue Forecast
and Corresponding Program Categories in the Program and Resource Plan (PRP)

2040 Revenue Forecast Programs	PRP Program Categories
SIS Highways Construction & ROW - Construction improvements, and associated right of way on SIS highways (i.e., Interstate, the Turnpike, other toll roads, and other facilitie designed to serve interstate and regional commerce including SIS Connectors).	Interstate Construction Turnpike Construction Other SIS Construction SIS Traffic Operation SIS Right of Way SIS Advance Corridor Acquisiton
Other Arterial Construction/ROW- Construction improvements, and associated right of way on State Highway System roadways not designated as part of the SIS. Also includes funding for the Economic Development Program, the County Incentive Grant Program, the Small County Road Assistance Program, and the Small County Outreach Program.	Arterial Traffic Operaions Construction County Transportation Programs Economic Development Other Arterial & Bridge Right of Way Other Arterial Advance Corridor Acquisition
Aviation - Financial and technical assistance to Florida's airports in the areas of safety, security, capacity enhancement, land acquisition planning, economic development, and preservation	Airport Improvement Land Acquisiton Planning Discretionary Capacity Improvements
Transit - Technical and operating/capital assistance to transit, paratransit, and ridesharing systems.	Transit Systems Transportation Disadvantaged – Department Transportation Disadvantaged – Commission Other; Block Grants; New Starts Transit
Rail - Rail safety inspectioms, rail-highway grade crossing safety, acquisition of rail corridors, assistance in developing intercity and commuter rail service, and rehabilitation of rail facilities.	High Speed Rail Passenger Service Rail/Highway Crossings Rail Capacity Improvement/Rehabilitation
Intermodal Access - Improving access to intermodal facilities airports and seaports; associated rights of way acquisition.	Intermodal Access
Seaport Development - Funding for development of public deep-water ports projects, such as security infrastructure and law enforcement measures, land acquisition dredging, construction of storage facilitie and terminals, and acquisition of container cranes and other equipment used in moving cargo and passengers.	Seaport Development
Documentary Stamps Funds – Improving intermodal facilities and acquisition of associated rights of way.	Documentary Stamps Funds not in Adopted Work Programs by July 1, 2013.

Statewide Forecast for Capacity Programs

Table 3 identifies the statewide estimates for capacity programs in the 2040 Revenue Forecast. About $216 billion is forecast for the entire state transportation program from 2014 through 2040; about $103 billion (48%) is forecast for capacity programs.

Table 3
Statewide Capacity Program Estimates
State and Federal Funds from the 2040 Revenue Forecast (Millions of Dollars)

Major Programs	5-Year Period (Fiscal Years)					27-Year Total[2]
	2014-15[1]	2016-20[1]	2021-25	2026-30	2031-40	2014-2040
SIS Highways Construction & ROW	4,879	7,747	7,738	8,509	17,726	46,599
Other Arterials Construction & ROW	2,264	4,371	4,264	4,076	8,766	23,740
Aviation	333	853	819	911	1,981	4,896
Transit	855	1,883	1,942	2,041	4,280	11,001
Rail	500	865	729	807	1,745	4,647
Intermodal Access	83	153	182	199	430	1,043
Seaports	383	395	496	553	1,205	3,031
Documentary Stamps Funds[3]	0	639	1,791	1,791	3,582	7,803
Total Capacity Programs	**9,297**	**16,905**	**17,961**	**18,888**	**39,715**	**102,761**
Statewide Total Forecast	**16,505**	**34,829**	**37,516**	**40,266**	**86,715**	**215,830**

[1] Based on the FDOT Tentative Work Program for 2014 through 2018.
[2] Columns and rows sometimes do not equal the totals due to rounding.
[3] Documentary Stamps funds not programmed in FDOT Work Programs as of July 1, 2013.

Metropolitan Forecast for Capacity Programs

As the first step in preparing metropolitan estimates, the Department prepared district and metropolitan estimates for the capacity programs from the statewide forecast consistent with provisions in state and federal law. Pursuant to federal law, transportation management area (TMA) funds and certain Transportation Alterntives (TALU) funds were distributed based on 2010 population. District estimates for certain Transportation Alternatives (TA) funds and the following programs were developed using the current statutory formula[2]: other arterials construction/right-of-way (net of TMA and TA funds); and the transit program.

Estimates for SIS Construction and ROW were based on the SIS Long Range Cost Feasible Plan, 2013 Edition. Because of the evolving nature of the SIS, estimates for the Rail, Aviation, Seaports and Intermodal Access programs will not be available until a SIS Cost Feasible Plan for all SIS modes is completed.

[2] The statutory formula is based on 50% population and 50% motor fuel tax collections.

FDOT districts developed metropolitan estimates consistent with district shares of the statewide forecast, adjusted as needed to account for issues such as metropolitan area boundaries (e.g., differences between metropolitan area boundaries and county boundaries). The estimates for this metropolitan area are included in Table 4. Table 4a contains estimates of TMA funds.

Table 4
Metropolitan Area Capacity Program Estimates
State and Federal Funds from the 2040 Revenue Forecast (Millions of Dollars)

Estimate for Miami-Dade Metropolitan Area

Capacity Programs*	5-Year Period (Fiscal Years)				22-Year Total
	2019-2020	2021-25	2026-30	2031-40	2019-2040
SIS Highways Construction & ROW	410.3	373.5	2,372.0	3,591.6	6,747.4
Other Arterials Construction & ROW	192.0	428.7	405.3	886.8	1,912.8
Transit	93.6	240.9	253.3	531.1	1,118.8
Aviation	N/A	N/A	N/A	N/A	N/A
Rail	N/A	N/A	N/A	N/A	N/A
Seaports	N/A	N/A	N/A	N/A	N/A
Intermodal Access	N/A	N/A	N/A	N/A	N/A
Total Capacity Programs	**695.9**	**1,043.1**	**3,030.6**	**5,009.5**	**9,779.0**

* Notes:
˜ Estimate for 2014 through 2018 are contained in the FDOT Adopted Work Program.
˜ No metropolitan estimates for Aviation Rail, Seaport Development and Intermodal Access programs for years beyond 2018 have been developed.
˜ Sources for SIS Highways Construction & ROW: SIS Approved 2nd 5-Year Plan, 2040 SIS Cost Feasible Plan.
˜ SIS Highways Construction & ROW includes Local Funds and State Managed P3 Funds.

Table 4a
Transportation Management Area (TMA) Funds Estimates
State and Federal Funds from the 2040 Revenue Forecast (Millions of Dollars)

Miami-Dade Metropolitan Area	5-Year Period (Fiscal Years)				22-Year Total[2]
	2019-20[1]	2021-25	2026-30	2031-40	2019-2040
TMA Funds	**67.1**	**167.9**	**167.9**	**335.7**	**738.6**

[1] Estimate for 2014 through 2018 are contained in the FDOT Adopted Work Program.
[2] Rows sometimes do not equal the totals due to rounding.

Annually, up to $541.75 million may be appropriated from proceeds from the Documentary Stamp Tax[3] for several major state transportation programs. These funds are distributed – according to formulas defined in state law – to the SIS, the Transportation Regional Incentive Program (TRIP), the New Starts Transit Program, and the Small County Outreach Program.

[3] Documentary Stamp Tax proceeds for transportation declined substantially with the collapse of the housing market and have since gradually increased. The 2040 Revenue Forecast assumes that proceeds for transportation programs will gradually increase and level off at approximately $350 million each year.

The 2040 Revenue Forecast contains estimates of Documentary Stamp Tax funds not included in the 2014-2018 Adopted Work Program. Because some MPOs may desire to include projects partially funded by the TRIP and/or New Starts programs in their long range plans as "illustrative projects," the Department provided separate estimates of these funds. Estimates of TRIP funds are in Table 5. Statewide estimates of New Starts Funds are in Table 6.

Table 5
Districtwide Transportation Regional Incentive Program Estimates
State Funds from the 2040 Revenue Forecast (Millions of Dollars)

FDOT District	5-Year Period (Fiscal Years)				22-Year Total[2]
	2019-20[1]	2021-25	2026-30	2031-40	2019-2040
District 1	0.9	6.7	6.7	13.4	27.8
District 2	0.7	5.4	5.4	10.8	22.4
District 3	0.5	3.7	3.7	7.4	15.3
District 4	1.2	9.1	9.1	18.1	37.5
District 5	1.4	10.0	10.0	20.1	41.5
District 6	0.8	6.2	6.2	12.5	25.8
District 7	1.0	7.3	7.3	14.6	30.3
Statewide Total Forecast	**6.6**	**48.5**	**48.5**	**97.0**	**200.6**

[1] Estimate for 2014 through 2018 are contained in the FDOT Adopted Work Program. [2] Columns and rows sometimes do not equal the totals due to rounding.

Table 6
Statewide New Starts Program Estimates
State Funds from the 2040 Revenue Forecast (Millions of Dollars)

Statewide Program	5-Year Period (Fiscal Years)				22-Year Total[2]
	2019-20[1]	2021-25	2026-30	2031-40	2019-2040
Statewide Total Forecast	**63.3**	**174.3**	**174.3**	**348.5**	**760.3**

[1] Estimate for 2014 through 2018 are contained in the FDOT Adopted Work Program.
[2] Rows sometimes do not equal the totals due to rounding.

MAP-21 created funding for Transportation Alternatives projects and established allocations for certain 2010 Census population categories. Categories impacting MPOs include (1) funds for Transportation Management Areas (TALU funds); (2) funds for areas with populations greater than 5,000 up to 200,000 (TALL funds), and (3) funds for any area of the state (TALT funds). Estimates of Transportation Alternatives Funds are shown in Table 7.

Table 7
Transportation Alternatives Funds[1] Estimates
State and Federal Funds from the 2040 Revenue Forecast (Millions of Dollars)

Miami-Dade Metropolitan Area	5-Year Period (Fiscal Years)				22-Year Total[3]
	2019-20[1]	2021-25	2026-30	2031-40	2019-2040
TALU (Urban); Funds for TMA[2]	6.6	16.5	16.5	33.0	72.6
TALL (<200,000 Population)[2]; Districtwide Funds	N/A	N/A	N/A	N/A	N/A
TALT (Any Area); Districtwide Funds	6.4	16.1	16.1	32.2	70.7

[1] Estimate for 2014 through 2018 are contained in the FDOT Adopted Work Program.
[2] "TALU" funds are for projects in Transportation Management Areas; "TALL" funds are for projects that are not in Transportation Management Areas.
[3] Rows sometimes do not equal the totals due to rounding.

Non-Capacity Programs

Non-capacity programs refer to FDOT programs designed to support, operate and maintain the state highway system: safety, resurfacing, bridge, product support, operations and maintenance, and administration. Table 8 includes a description of each non-capacity program and the linkage to the program categories used in the Program and Resource Plan.

Metropolitan estimates have not been developed for these programs. Instead, the FDOT has included sufficient funding in the 2040 Revenue Forecast to meet the following statewide objectives and policies:

- **Resurfacing program:** Ensure that 80% of state highway system pavement meets Department standards;
- **Bridge program:** Ensure that 90% of FDOT-maintained bridges meet Department standards while keeping all FDOT-maintained bridges open to the public safe;
- **Operations and maintenance program:** Achieve 100% of acceptable maintenance condition standard on the state highway system;
- **Product Support:** Reserve funds for Product Support required to construct improvements (funded with the forecast's capacity funds) in each district and metropolitan area; and
- **Administration:** Administer the state transportation program.

The Department has reserved funds in the 2040 Revenue Forecast to carry out its responsibilities and achieve its objectives for the non-capacity programs on the state highway system in each district and metropolitan area. Table 9 identifies the statewide estimates for non-capacity programs. About $106 billion (49% of total revenues) is forecast for the non-capacity programs.

Table 10 contains districtwide estimates for State Highway System Operations and Maintenance expenditures for information purposes. These estimates are provided pursuant to an agreement between FDOT and the Federal Highway Administration Division Office regarding the reporting of estimates of Operations and Maintenance costs for the State Highway System at the district level in MPO long range plans.

TABLE 8
Major Non-Capacity Programs Included in the 2040 Revenue Forecast and Corresponding Program Categories in the Program and Resource Plan (PRP)

2040 Revenue Forecast Programs	PRP Program Categories
Safety - Includes the Highway Safety Improvement Program, the Highway Safety Grant Program, Bicycle/Pedestrian Safety activities the Industrial Safety Program, and general safety issues on a Department-wide basis.	Highway Safety Grants
Resurfacing - Resurfacing of pavements on the State Highway System and local roads as provided by state law.	Interstate Arterial and Freeway Off-System Turnpike
Bridge - Repair and replace deficient bridges on the state highway system. In addition, not less than 15% of the amount of 2009 federal bridge funds must be expended off the federal highway system (e.g., on local bridges not on the State Highway System).	Repair - On System Replace - On System Local Bridge Replacement Turnpike
Product Support - Planning and engineering required to "produce" FDOT products and services (i.e., each capacity program; Safety, Resurfacing, and Bridge Programs).	Preliminary Engineering Constructio Engineering Inspection Right of Way Support Environmental Mitigation Materials & Research Planning & Environment Public Transportation Operations
Operation & Maintenance - Activities to support and maintain transportation infrastructure once it is constructed and in place.	Operations & Maintenance Traffic Engineering & Operations Toll Operations Motor Carrier Compliance
Administration - Resources required to perform the fiscal, budget, personnel, executive direction document reproduction, and contract functions Also includes the Fixed Capital Outlay Program, which provides for the purchase, construction and improvement of non-highway fixed assets (e.g., offices, maintenance yards).	Administration Fixed Capital Outlay Office Information Systems

Table 9
Statewide Non-Capacity Program Estimates
State and Federal Funds from the 2040 Revenue Forecast (Millions of Dollars)

Major Programs	5-Year Period (Fiscal Years)					27-Year Total[2]
	20014-15[1]	2016-20[1]	2021-25	2026-30	2031-40	2014-2040
Safety	245	631	625	626	1,252	3,378
Resurfacing	1,211	3,593	3,649	3,900	8,071	20,425
Bridge	529	1,593	1,373	1,452	3,044	7,991
Product Support	2,527	4,913	5,932	6,479	14,239	34,089
Operations and Maintenance	2,033	5,228	5,607	6,295	14,470	33,633
Administration	299	855	1,037	1,153	2,672	6,016
Total Non-Capacity Programs	**6,844**	**16,813**	**18,224**	**19,904**	**43,748**	**105,532**
Other[3]	364	1,111	1,330	1,474	3,252	7,531
Statewide Total Forecast	**16,505**	**34,829**	**37,516**	**40,266**	**86,715**	**215,830**

[1] Based on the FDOT Adopted Work Program for 2014 through 2018.
[2] Columns and rows sometimes do not equal the totals due to rounding. [3] "Other" is primarily for debt service.

Table 10
State Highway System Operations and Maintenance Estimates
State and Federal Funds from the 2040 Revenue Forecast (Millions of Dollars)

Major Programs	5-Year Period (Fiscal Years)					27-Year Total[2]
	20014-15[1]	2016-20[1]	2021-25	2026-30	2031-40	2014-2040
District 1	543	1,499	1,530	1,676	3,683	8,931
District 2	718	1,982	2,023	2,216	4,869	11,807
District 3	582	1,607	1,640	1,798	3,949	9,576
District 4	556	1,534	1,566	1,716	3,769	9,141
District 5	720	1,987	2,029	2,223	4,883	11,841
District 6	263	725	740	811	1,781	4,318
District 7	391	1,080	1,102	1,208	2,653	6,434
Statewide Total Forecast	**3,773**	**10,414**	**10,630**	**11,647**	**25,586**	**62,049**

Note: Includes Resurfacing, Bridge, and Operation & Maintenance Programs.

[1] Based on the FDOT Adopted Work Program for 2014 through 2018.
[2] Columns and rows sometimes do not equal the totals due to rounding.

Other

The Department is responsible for certain expenditures not included in major programs discussed above. Primarily, these expenditures are for debt service and, where appropriate, reimbursements to local governments. Approximately $7.5 billion (3.5% of total revenues) is forecast for these expenditures. These funds are not available for statewide or metropolitan system plans.

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- Appendix D -

CMP Comparison Analysis

Projects in Needs Plan which may Conflict					
Facility	**From**	**To**	**Description**	**Priority "Band"**	**Investment**
No Conflict					
No Conflict					
No Conflict					
No Conflict					
No Conflict					
No Conflict					
No Conflict					
US-1 - Managed Lanes	SW 344 St (Palm)	Dadeland South Metrorail Station	2 plus 1 reversible new Managed Lanes within the ROW of the US1 Busway, in addition to and separate from the Bus lanes.	n/a	$ 346 M
No Conflict					
No Conflict					
No Conflict					
No Conflict					
No Conflict					
No Conflict					
No Conflict					
NW 74th St	SR-826 (Palmetto)	FEC Intermodal Yard	Modify Connector	P3-P4	$131 M
No Conflict					
No Conflict					
SR-997 (Krome) Truck Bypass	SW 296 St to SW to SW 312 on Krome Ave	Krome to US 1 on SW 296th Street	New Road	n/a	$29 M
No Conflict					
No Conflict					

Congestion Management Set-Aside Improvements	
CMP Corridors / Hotspots	**CMP Strategies**
Network	Communications networks and roadway surveillance coverage
Interchange at I-95 and I-195	Speed harmonization/queue warning on I-95 and I-195
	Roadway signage improvements on ramps from I-195 to I-95
Intersection at NW S River Dr and NW 33 Ave	Access management
	Widen the road and bridge to at least three lanes to provide at a minimum, a turn lane for the turning vehicles
MacArthur Causeway eastern terminus (Watson Island to Alton Rd)	Signal timing optimization
	Access management and intersection improvement at Watson Island
Intersection at NW 29 St and NW 42 Ave (Le Jeune Rd) - north leg	Signal timing optimization
	Intersection improvements at NW 29th St and NW 42nd Ave
	Access improvements
Intersection at Ives Dairy Rd (NE 203 St) and Highland Lakes Blvd - south leg	Signal detector improvement - pilot
Coral Way from SW 37 Ave to US-1	Signal timing optimization
	Real Time Parking Availability Information
US-1 between SW 344 St and I-95	Enforce "don't block box' initiatives
	Signal timing optimization
NW 27 Ave/SW 27 Ave from SW 8 St (Tamiami Trail) to NW 36 St	Signal timing optimization
	Median/access improvements
Ponce De Leon Blvd between SW 57 Ave (Red Road) and NW 42 Ave (Le Jeune Rd)	Signal timing optimization
NW 7 St between NW 72 Ave and NW 7 Ave	Signal timing optimization
NW 2 Ave between Golden Glades Interchange and Miami-Dade/Broward County line	Signal timing optimization
SW 8 St (Tamiami Trail) from SR-826 (Palmetto Expressway) to I-95	Signal timing optimization
NW 57 Ave (Red Rd) from NW 135 St to SR-826 (Palmetto)	Signal timing optimization
	Access improvements
NW 167 St between NW 2 Ave and NE 15 Ave	Signal timing optimization
	Access improvements
SR-934 (Hialeah Expressway) between NW 84 Ave and W 4th Ave (Red Road)	Signal timing optimization
	Intersection improvements for trucks
	TDM Strategies
Miami Ave; SW 2 Ave; SW 1 St; Flagler St; NW 7 Ave bridges over Miami River	Advanced bridge closing signs/rerouting information signs
SW 22 St (Coral Way) from SR-826 (Palmetto Expressway) to SW 37 Ave	Signal timing optimization
SR-997 (Krome Ave) at SW 312 St (Campbell Dr)	Intersection Improvements - redesign to meet minimum turn radius requirements
NW 21 St/MIA access/circulation road	Active Management on MIA circulator road and between MIA and NW 37 Ave
	Advanced Parking System
City of Miami Beach	ITS and Parking Management System (PMS)

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- Appendix E -

CMP Toolbox Strategies

(1) Intelligent Transportation Systems (ITS) and Transportation System Management (TSM) Strategies

Strategies/Projects	
Traffic Signal Coordination and Modernization This strategy improves traffic flow and reduces emissions by minimizing stops on arterial streets. Enhancements to timing/coordination plans and equipment to improve traffic flow and decrease the number of vehicle stops. May include: •Modern technology that provides for real-time traffic and transit management •Equipment that may permit immediate knowledge of malfunctions •Responsive control that allows traffic signals to alter timing in response to immediate traffic flow conditions, rather than at predetermined times •Transit signal priority system that can extend "green-time" a few seconds to allow buses to progress through an intersection	
Ramp Metering This allows freeways to operate at their optimal flow rates, thereby speeding travel and reducing collisions. May include bus or high-occupancy vehicle bypass lanes. May require ramp widening to avoid extensive vehicle queuing.	
Highway Information Systems These systems provide travelers with real-time information that can be used to make trip and route choice decisions.	
Advanced Traveler Information Systems This provides an extensive amount of data to travelers, such as real time speed estimates on the web or over wireless devices, and transit vehicle schedule progress. Provides travelers with real-time information that can be used to make trip and route choice decisions. Information accessible on the web, dynamic message signs, 511 systems, Highway Advisory Radio (HAR), or handheld wireless devices.	
Targeted and Sustained Enforcement of Traffic Regulations Improves traffic flow by reducing violations that cause delays; Includes automated enforcement (e.g., red light cameras).	
Special Events and Work Zone Management Includes a suite of strategies including temporary traffic control, public awareness and motorist information, and traffic operations.	
Road Weather Management Identifying weather and road surface problems and rapidly targeting responses including advisory information, control measures, and treatment strategies.	
Roadway Signage Improvements Adequate or additional signage that facilitates route-finding and the decision-making ability of roadway users. Signs with clearer/larger lettering that can be read from a greater distance.	
Dynamic Speed Control "Go Slow, Go Fast"	
Freeway Incident Detection and Management Systems This is an effective way to alleviate non-recurring congestion. Systems typically include video monitoring, dispatch systems, and sometimes roving service patrol vehicles.	
Service Patrols Service vehicles patrol heavily traveled segments and congested sections of the freeways that are prone to incidents to provide faster and anticipatory responses to traffic incidents and disabled vehicles.	
Converting Streets to One-Way Operations Establishes pairs of one-way streets in place of two-way operations. Most effective in downtown or very heavily congested areas.	
Traffic Surveillance and Control Systems Often housed within a Traffic Management Center (TMC), monitors volume and flow of traffic by a system of sensors, and further analyzes traffic conditions to flag developing problems, and implement adjustments to traffic signal timing sequences, in order to optimize traffic flow estimating traffic parameters in real-time.	
Electronic toll collection (ETC) Equipment that electronically collects tolls from users without requiring vehicles to stop at a toll booth.	

	Congestion and Mobility Benefits	Costs	Implementation Timeframe
	• Improve travel time • Reduce the number of stops • Reduce VMT by vehicle miles per day, depending on program • Reduce VHD and PHT • Reduced air pollution, fuel consumption and travel time • Increase "capacity" of an intersection to handle vehicles, reduced number of vehicle strategies	L	• Short-term: 1 to 5 years (includes planning, engineering, and implementation)
	• Decrease travel time • Decrease accidents • Improve traffic flow on major facilities • Improved speed on freeway • Decreased crash rate on freeway	L	• Medium-term: 5 to 10 years
	• Reduce travel times and delay • Some peak-period travel shift	L	• Medium-term: 5 to 10 years
	• Reduce travel times and delay • Some peak-period travel and mode shift	L	• Medium-term: 5 to 10 years
	• Improve travel time • Decrease the number of stops	L	• Short-term: 1 to 5 years
	• Minimize tra□c delays • Improve mobility • Maintain access for businesses and residents	L	• Short-term: 1 to 5 years
	• Improve safety due to reduced crash risk • Increased mobility due to restored capacity, delay reductions, and more uniform traffic flow	L	• Short-term: 1 to 5 years
	• Reduced level of driver uncertainty and fewer erratic driving maneuvers • Reduced delay for upstream approaching vehicles • Psychological encouragement to unsure motorists • Less chance of crashes caused by sudden lane changes, extremely slow-moving vehicles or sudden stops	L	Short-term • Production of signs and installation can occur shortly after site visits and design of new signing plans. Design should follow the guidance of the Manual on Uniform Traffic Control Devices (MUTCD).
	• Air Quality Bene□t Medium • Positive user impacts	L	• 1 to 2 years
	• Reduce accident delay • Reduce travel time • Decrease VHT and PHT	M	• Medium- to Long-term: likely 10 years or more
	• Reduce incident duration time • Restore full freeway capacity • Reduce the risks of secondary accidents to motorists	M	• Short-term: 1 to 5 years
	• Increase tra□c □ow	M	• Short-term: 1 to 5 years (includes planning, engineering, and implementation)
	• Decrease travel times and delay • Some peak-period travel and mode shift	M	• Medium-term: 5 to 10 years
	• Fewer vehicle stops and less traveler delay at toll stations • Cost savings due to no (or fewer) toll booth facilities or lanes • Significant decrease in pollutant emissions from stop-and-go traffic at toll booths/plazas	M	Short- to medium-term: • Physical implementation of electronic toll collection equipment can be completed in a short time period for a roadway, unless additional right-of-way is needed

Strategies/Projects	
Communications networks and roadway surveillance coverage • Base infrastructure (□ber, cameras, etc.) required to support all operational activities • Communications networks that allow remote roadway surveillance and system control from a TMC and provision of data for immediate management of transportation operations and distribution of information	
Transit vehicle travel information Communications infrastructure, GPS technology, vehicle detection/monitoring devices and signs/media/Internet sites for providing information to the public such as the arrival times of the next vehicles.	
Transit intersection queue jump lanes and signal priority • Additional travel lane at a signalized intersection that allows buses to proceed via their own "green -time" before other vehicles • Done by restriping within existing road footprint or this may require construction	
Reversible Traffic Lanes These are appropriate where traffic flow is highly directional.	
Cordon area congestion fees An established cordon area or zone in which vehicles are charged a fee to enter. Such a fee can be variable (by time of day) or dynamic (based on real-time congestion conditions). Should include electronic payment/collection methods using cameras or transponders.	

	Congestion and Mobility Benefits	Costs	Implementation Timeframe
	• Increased capability for regional-level coordination of operations and traveler information.	M	Medium- to long-term • Small-scale items and opportunistic expansion can be done quickly. Larger-scale regional network components require more time for planning and funding.
	• More satis□ed customers and increased ridership due to enhanced and reliable information sources • Improved operations and management of transit service	M	Medium • Time is required for detailed planning, design and funding procurement
	• Reduced bus travel delays due to tra□c signals and tra□c congestion • Reduced bus travel delays due to traffic signals and traffic congestion • Improved operational e□ciency of transit service within a corridor • Increased ridership and reduced congestion due to time savings • Safer driving conditions for all vehicles due to fewer severe and sudden lane changes by buses • Increased ridership and reduced congestion due to time savings • Safer driving conditions for all vehicles due to fewer severe and sudden lane changes by buses	M	Short-term: 1 to 5 years • All phases–planning, engineering and implementing–a queue-jump lane can be reasonably completed in less than one year. • Longer time is needed if new lane must be constructed
	• Increase peak direction capacity • Reduce peak travel times • Improve mobility	H	• Short-term: 1 to 5 years
	• Reduced pollution and congestion within the cordon area • Revenues for roadway maintenance and new transit, bicycle and pedestrian facilities • Over all reduced congestion due to less VMT • Provide incentive to use transit, bike, or walk	H	Medium- to long-term • Extensive time is required for the entire process including political and public discussions, possible ballot measures, construction and implementation

(2) Travel Demand Management (TDM) Strategies

Strategies/Projects	
Alternative Work Hours This allows workers to arrive and leave work outside of the traditional commute period. It can be on a scheduled basis or a true flex-time arrangement. Can also include a compressed work week.	
Telecommuting This involves employees to work at home or regional telecommute center instead of going into the office. They might do this all the time, or only one or more days per week. Also include teleconferencing and videoconferencing.	
Alternative travel mode events and assistance • Variety of events that promote, encourage and educate people about alternative travel modes (e.g. Bike to Work Day, RideSmart Thursdays and employer transportation fairs) • Programs that provide free or low-cost transit services (e.g. EcoPass) or other incentives	
Public Education Campaigns E.g. driving habits, trip chaining, idle reduction, jackrabbit starts, Clean the Air Challenge.	
Commuter Services Please note that the costs and impacts are statistics between Oct. 1st 2007 and Sept. 30th 2008 - in December 2008, the 95 Express Lanes opened, so the statistics are likely over-estimates of the benefits of commuter services.	
Ridesharing This is typically arranged/encouraged through employers or transportation management agencies, which provides ride-matching services. Programs to promote carpooling and vanpooling, including ridematching services and policies that give ridesharing vehicles priority in traffic and parking.	
Road Pricing Involves pricing facilities to encourage off-peak or HOV travel, and includes time-variable congestions pricing and cordon (area) tolls, high occupancy/ toll (HOT) lanes, and vehicle-use fees.	
Guaranteed Ride Home Policies Provides a guaranteed ride home at no cost to the employee in the event an employee or a member of their immediate family becomes ill or injured, requiring the employee to leave work.	
Non-traditional toll roads For non-traditional toll roads, travelers choose to pay for passage on roads. They are implemented similarly to traditional toll roads, but with non-traditional implementation: • Managed Lanes – A toll lane or lanes designed to increase freeway efficiency through a combination of operational and design actions; and • HOT Lanes – High Occupancy Vehicle (HOV) toll lanes that allow a limited number of low-occupancy vehicles to use the lane if a fee is paid. Typically free for HOVs.	

	Congestion and Mobility Benefits	Costs	Implementation Timeframe
	• Reduce peak-period VMT • Improve travel time among participants • Reduction in SOV trips (maybe modify with "during peak")	L	• Employer-based • Short-term: 1 to 5 years
	• Reduce VMT • Reduce SOV trips • Fewer drivers during morning and afternoon rush hours. • Increased employee productivity, improved employee retention and recruitment, reduced overhead costs and lower demand for physical office and parking space • Decreased commuting time and expenses for employees	L	• Employer-based • Short-term: 1 to 5 years
	• Fewer single-occupant vehicles on the road and less overall traffic congestion • Lower commuting costs	L	• Short-term
	• Air Quality Bene□t Medium • Positive user impacts	L	• Immediate
	• Reduce VMT • Reduce SOV trips • Lower commuting cost	L	• Immediate
	• Reduce work VMT • Reduce SOV trips • Lower commuting costs • Reduce parking congestion • Promote transit, biking and walking	M	• Employer-based • Short-term: 1 to 5 years
	• Decrease peak period VMT • Decrease SOV trips	M	• Short-term: 1 to 5 years
	• Decrease work VMT • Decrease SOV trips	H	• Employer-based • Short-term: 1 to 5 years
	• Generate revenue to maintain its system and to address transportation improvements regionwide • Reduce congestion in corridors and systems • Provide travel time savings to users of the system	H	• Mid-term (3 to 10 years) for implementation • Long term (11+ years) before strategy becomes effective

(3) Land Use Strategies

Strategies/Projects	
Mixed-Use Development This allows many trips to be made without automobiles. People can walk to restaurants and services rather than use their vehicles.	
Infill and Densification This takes advantage of infrastructure that already exists, rather than building new infrastructure on the fringes of the urban area.	
Efficient land use and development practices • Areawide policies and strategies that result in a more transportation-efficient regional development pattern (e.g. urban growth boundary) • Localized planning, zoning, ordinances and site approval strategies that result in more transportation-efficient developments (e.g. mixed-land-uses, higher density, urban centers, well connected transit, pedestrian and bicycling facilities)	
Transit-Oriented Development This clusters housing units and/or businesses near transit stations in walkable communities.	
Transportation Management Associations Nonprofit, member-controlled organizations that provide transportation services in a particular area, such as a commercial district, mall, medical center, or industrial park. They are generally public-private partnerships consisting primarily of area businesses with local government support.	

	Congestion and Mobility Benefits	Costs	Implementation Timeframe
	• Increase walk trips • Decrease SOV trips • Decrease in VMT • Decrease vehicle hours of travel	L	• Long-term: 10 or more years
	• Decrease SOV • Increase transit, walk, and bicycle • Doubling density decreases VMT per household • Medium/high vehicle trip reductions • Air quality benefit to densification	L	• Long-term: 10 or more years
	• Less motor vehicle use through greater bicycling, walking and transit use • Related health benefits and economic savings via less infrastructure needs • Reduce VMT • Reduce SOV trips • Increase alternative modes share	M	• Short- to long-term • Small-scale retrofit practices, re-zonings or comprehensive plan amendments can be done in a short to moderate timeframe. Regional-scale policy changes may take a long time to adopt and result in development changes on the ground and integration with transportation systems.
	• Decrease SOV share • Shift carpool to transit • Increase transit trips • Decrease VMT • Decrease in vehicle trips • Increase transit mode share	NA	• Long-term: 10 or more years
	• Reduce VMT • Reduce SOV trips • Increase alternative modes share • Increase transit mode share	NA	• Employer-based • Short-term: 1 to 5 years

(4) Parking Strategies

Strategies/Projects	
Employer/Landlord Parking Agreements Employers can negotiate leases so that they pay only for the number of spaces used by employees. In turn, employers can pass along parking savings by purchasing transit passes or reimbursing non-driving employees with the cash equivalent of a parking space.	
Preferential or Free Parking for HOVs and Parking Management Strategies include reducing the availability of free parking spaces, particularly in congested areas, or providing preferential or free parking for HOVs. This provides an incentive for workers to carpool.	
On-Street Parking and Standing Restrictions Enforcement of existing regulations can substantially improve traffic flow in urban areas. Peak-period parking prohibitions can free up extra general purpose travel lanes or special use or HOV "diamond" lanes.	
Park and Ride Lots Park-and-Ride lots provide parking in areas that are convenient to other modes of transportation, and are commonly located adjacent to train stations, bus lines, or HOV lane facilities.	
Real Time Parking Availability Information Helps drivers find or reserve parking using real-time information about the status of parking availability.	
Location-Specific Parking Ordinances Parking requirements can be adjusted for factors such as availability of transit, a mix of land uses, or pedestrian-oriented development that may reduce the need for on-site parking. This encourages transit-oriented and mixed-use development.	
Local and Regional Excise Taxes A flat fee-per-space on parking spaces provided by businesses designed to discourage automobile-dependent development, encourage more efficient land use, and - to the extent the fees are passed on to parkers -encourage non-motorized and transit choices. The revenue generated by such a tax (on parking spaces, not their use) could be used for transit and other transportation investments not eligible for highway dollars.	

	Congestion and Mobility Benefits	Costs	Implementation Timeframe
	• Reduce work VMT • Increase non-auto mode shares	L	• Short-term: 1 to 5 years
	• Reduce work VMT • Increase vehicle occupancy	L	• Short-term: 1 to 5 years
	• Increase peak period capacity • Reduce travel time and congestion on arterials • Increase HOV and bus mode shares	M	• Short-term: 1 to 5 years (includes planning, engineering, and implementation)
	• Increase transit use and ridesharing • Decrease VMT	M	• Medium-term: 5 to 10 years
	• Decrease congestion on local streets • Some peak-period travel and mode shift	M	• Short-term: 1 to 5 years
	• Reduce VMT • Increase transit and non-motorized mode shares	NA	• Long-term: 10 or more years
	• Generate revenue to maintain its system and to address transportation improvements regionwide • Reduce congestion in corridors and systems • Promote transit, biking, and walking • Increase access to and increase use of alternative modes	NA	• Medium-term Implementation should take between 3 to 10 years.

(5) Regulatory Strategies

Strategies/Projects	
Trip Reduction Ordinance Draws commuters to use other ways to travel to work besides driving alone. Requires employers to promote commute alternatives.	
Congestion Pricing Controls peak-period use of transportation facilities by charging more for peak-period use than for off-peak. Congestion pricing fees are charged to drivers using congested roadways during specific times of the day. This strategy is evaluated in order to maintain a specific level of service on a given road or all roads (areawide systems) in a region. For example, an average fee of $0.65 cents/mile could be applied to 29% of urban and 71% of rural vehicle miles traveled (VMT) to better manage travel demand and the resulting congestion for a roadway.	
Auto Restriction Zones (Pedestrian Malls) Allows for a more equitable community, where all residents have an equal access to services within the area. Provides commercial access for pedestrians and non-car users. The most common form of an auto-restriction zone (pedestrian zones) in large cities is the pedestrian mall. Pedestrian malls generally consist of a storefront-lined street that is closed off to most automobile traffic.	
Truck Restrictions Aims to separate trucks from passenger vehicles and pedestrians. Prohibits trucks from traveling on certain roadways, and may call for weight restrictions on certain bridges.	
Arterial Access Management Involves the application of local and state planning, and regulatory tools in efforts to preserve and/or enhance the transportation functions of roadways. Includes land use ordinances and techniques, corridor preservation, transportation improvements, and techniques in finance.	

	Congestion and Mobility Benefits	Costs	Implementation Timeframe
	• Improve air quality • Decrease tra□c congestion • Minimize energy consumption	L	• Medium-term: 5 to 10 years
	• Decrease VMT • Increase transit and nonmotorized mode shares	M	• Medium-term: 5 to 10 years
	• Increase capacity • Decrease travel times • Increase safety • Improve bicycle and pedestrian-friendly roadways	M	• Medium-term: 5 to 10 years
	• Increase capacity • Decrease travel times • Increase safety • Improve bicycle and pedestrian-friendly roadways	M	• Medium-term: 5 to 10 years
	• Increase capacity • Decrease travel times • Increase safety • Improve bicycle and pedestrian-friendly roadways	M	• Medium-term: 5 to 10 years

(6) Transit Strategies

Strategies/Projects	
Enhanced Transit Amenities Includes vehicle replacement/upgrade, which furthers the benefits of increased transit use.	
Realigned Transit Service Schedules and Stop Locations Service adjustments to better align transit service with ridership markets.	
Improved Bicycle and Pedestrian Facilities at Transit Stations Includes improvements to facilities that provide access to transit stops as well as provisions for bicycles on transit vehicles and at transit stops (bicycle racks and lockers).	
Reducing Transit Fares This encourages additional transit use, to the extent that high fares are a real barrier to transit.	
Employer Incentive Programs Encourages additional transit use through transit subsidies of mass transit fares provided by employers.	
Electronic Payment Systems and Universal Farecards Interchangeable smartcard payment system (including RFID) that can be used as a fare payment method for multiple transit agencies throughout the region.	
Intelligent Transit Stops Ranges from kiosks, which show static transit schedules, to real-time information on schedules, locations of transit vehicles, arrival time of the vehicle, and alternative routes and modes.	
Electronic fare collection Equipment that allows riders to electronically pay a transit fare by using credit, debit and magnetic fare cards.	
Express Bus Service Expansion Bus service with high-speed operations, usually between two commuter points.	
Local circulator expansion Fixed-route service within an activity area, such as a CBD or campus, designed to reduce short trips by car.	
Implementing Rail Transit This best serves dense urban centers where travelers can walk to their destinations. Rail transit from suburban areas can sometimes be enhanced by providing Park-and-Ride lots.	
New Fixed Guideway Transit Travelways • Exclusive guideways (e.g. light rail, heavy/commuter rail) and street travelways (e.g. 16th Street Mall, bus rapid transit (BRT)) devoted to increasing the person-carrying capacity within a travel corridor (see section 3.F. for information on HOV lanes)	
Increasing Bus Route Coverage or Frequencies This provides better accessibility to transit to a greater share of the population. Increasing frequency makes transit more attractive to use. May require investment in new buses which would create a capital cost per passenger trip. May also include new routes or extensions to existing routes.	
Dedicated Rights-of-Way for Transit Reserved travel lanes or rights-of-way for transit operations, including use of shoulders during peak periods.	
BRT High-capacity, highly efficient bus service designed to compete with rail in terms of quality of service.	

	Congestion and Mobility Benefits	Costs	Implementation Timeframe
	• Decrease daily VMT • Decrease congestion • Increase ridership	L	• Short-term: 1 to 5 years (includes planning, engineering, and construction)
	• Increase transit ridership • Decrease daily VMT	L	• Short-term: 1 to 5 years
	• Increase bicycle mode share • Decrease motorized vehicle congestion on access routes	L	• Short-term: 1 to 5 years (includes planning, engineering, and construction)
	• Reduce daily VMT • Reduce congestion • Increase ridership	M	• Short-term: Less than one year
	• Increase transit ridership • Decrease travel time • Decrease daily VMT	M	• Short-term: 1 to 5 years
	• Increase transit ridership • Decrease travel time	M	• Short-term: 1 to 5 years
	• Decrease daily VMT • Decrease congestion • Increase ridership	M	• Medium-term: 5 to 10 years (includes planning, engineering, and construction
	• Improved service efficiency, passenger convenience and passenger loading time • Increased ridership • Acquisition of more accurate and comprehensive ridership and trip data • Improved analysis and forecasting of trip ridership patterns and fare structure impacts • Reduced overall operating cost of fare collection and processing • Increased revenue through less fare evasion and greater accountability	M	• Medium-term It is estimated that a full deployment of an electronic fare payment system could take from three to five years
	• Reduce VMT • Reduce SOV trips • Increase transit ridership & mode share	M	• Short-term: 1 to 5 years (includes planning, engineering, and construction)
	• Reduce VMT • Reduce SOV trips • Increase transit ridership & boardings	M	• Short-term: 1 to 5 years (includes planning, engineering, and construction)
	• Reduce daily VMT • More consistent and sometimes faster travel times versus driving • Reduce SOV trips	H	• Long-term: 10 or more years (includes planning, engineering, and construction)
	• More consistent and sometimes faster travel times for transit passengers versus driving • Increased person throughput capacity within a corridor due to people switching from single occupant motor vehicles to transit • Stimulation of efficient mixed-use or higher-density development	H	• Medium-to long-term Development and implementation of a rail project is a major undertaking that can take 10 or more years from initial planning phases through NEPA studies to an opening day. • On-street conversion of travel lanes to BRT may not take quite as long.
	• Increase transit ridership • Decrease travel time • Reduce daily VMT • Improved convenience and travel reliability • Reduced traffic congestion due to trips switched from driving alone to transit	H	• Short-term: 1 to 5 years (includes planning, engineering, and construction)
	• Increase transit ridership • Decrease travel time	H	• Medium-term: 5 to 10 years (includes planning, engineering, and construction)
	• Reduce VMT • Reduce SOV trips • Increase transit ridership & mode share	H	• Long-term: 10 or more years (includes planning, engineering, and construction)

(7) Highway Strategies

Strategies/Projects	
Increasing Number of lanes without Highway widening This takes advantage of "excess" width in the highway cross section used for breakdown lanes or median.	
Geometric Design Improvements This includes widening to provide shoulders, additional turn lanes at intersections, improved sight lines, auxiliary lanes to improve merging and diverging. Interchange modifications to decrease weaving sections on a freeway, paved shoulders and realignment of intersecting streets. Consider revising to discuss added segment capacity and added intersection capacity**.**	
Super Street Arterials This involves converting existing major arterials with signalized intersections into "super streets" that feature grade-separated intersections.	
Acceleration/Deceleration lanes • Deceleration lane provided on a freeway just before an exit o□-ramp allowing vehicles to reduce speed outside the through-lanes • Acceleration lane provided as an extension of a freeway on-ramp or an arterial street turn-lane for vehicles to increase speed and merge more smoothly into the through-lane	
Highway Widening by Adding Lanes This is the traditional way to deal with congestion.	
HOV Lanes This increases corridor capacity while at the same time provides an incentive for single-occupant drivers to shift to ridesharing. These lanes are most effective as part of a comprehensive effort to encourage HOVs, including publicity, outreach, Park-and-Ride lots, and rideshare matching services.	
Grade separated railroad crossings Roadway underpass or overpass of a railroad line**.**	
New Freeways Construction of new, access-controlled, high-capacity roadways in areas previously not served by freeways.	
New Arterial Streets Construction of new, higher-capacity roads designed to carry large volumes of traffic between areas in urban settings.	

	Congestion and Mobility Benefits	Costs	Implementation Timeframe
	• Increase capacity	M	• Short-term: 1 to 5 years (includes planning, engineering, and implementation)
	• Increase mobility • Reduce congestion by improving bottlenecks • Increase traffic flow and improve safety • Decrease incidents due to fewer conflict points	M	• Short-term: 1 to 5 years (includes planning, engineering, and implementation)
	• Increase capacity • Improve mobility	M	• Medium-term: 5 to 10 years (includes planning, engineering, and implementation)
	• Slower-moving turning or exiting vehicles are removed from through lanes resulting in fewer delays for upstream traffic • Accelerating vehicles are provided more distance to reach the speed of through traffic, resulting in fewer delays caused by merging and weaving vehicles • In certain situations, can greatly reduce delays (caused by braking) for upstream vehicles during peak traffic flow periods	M	• Medium-term Right-of-way is an important factor in the time required for implementation and construction.
	• Increase capacity, reducing congestion in the short term • Long-term effects on congestion depend on local conditions • Reduced traffic and congestion on parallel streets	H	• Long-term: 10 or more years (includes planning, engineering, and construction)
	• Reduce Regional VMT • Reduce regional trips • Increase vehicle occupancy • Improve travel times • Increase transit use and improve bus travel times	H	• Medium-term: 5 to 10 years (includes planning, engineering, and construction)
	• Significant reduction in travel delays at high volume locations • Likely elimination of car-train crashes • Decreased noise from train horns/whistles	H	• Medium-to long-term Implementation requires significant negotiation with railroads and local communities
	• Reduce arterial street network congestion • Reduce travel times & delay	H	• Long-term: 10 or more years (includes planning, engineering, and construction)
	• Provide connectivity • Carry traffic from local & collector streets to other areas	H	• Medium-term: 5 to 10 years (includes planning, engineering, and construction

(8) Bicycle and Pedestrian Strategies

Strategies/Projects	
New Sidewalks and Designated Bicycle Lanes on Local Streets. Enhancing the visibility of bicycle and pedestrian facilities increases the perception of safety. In many cases, bike lanes can be added to existing roadways through restriping. Use of bicycling and walking is often discouraged by a fragmentary, incomplete network of sidewalks and shared use facilities.	
Improved Bicycle Facilities at Transit Stations and Other Trip Destinations. Bicycle racks and bike lockers at transit stations and other trip destinations increase security. Additional amenities such as locker rooms with showers at workplaces provide further incentives for using bicycles.	
Design Guidelines for Pedestrian-Oriented Development Maximum block lengths, building setback restrictions, and streetscape enhancements are examples of design guidelines that can be codified in zoning ordinances to encourage pedestrian activity.	
Improved Safety of Existing Bicycle and Pedestrian Facilities. Maintaining lighting, signage, striping, traffic control devices, and pavement quality, and installing curb cuts, curb extensions, median refuges, and raised crosswalks can increase bicycle and pedestrian safety.	
Bike Sharing Programs Short-term bicycle rental program supported by a network of automated rental stations***.***	
Promote Bicycle and Pedestrian Use Through Education and Information Dissemination Bicycle and pedestrian use can be promoted through educational programs and through distribution of maps of bicycle facility/multi-use path maps.	
Exclusive Non-Motorized Rights-of-Way. Abandoned rail rights-of-way and existing parkland can be used for medium-to long distance bike trails, improving safety and reducing travel times.	
Adopt and implement a Complete Streets policy Policy that takes into account all users of streets rather than just autos, with a goal of completing the streets with adequate facilities for all users. A "Complete Street" is one designed and operated to enable safe access for all users including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.	

	Congestion and Mobility Benefits	Costs	Implementation Timeframe
	• Increase mobility and access • Increase nonmotorized mode shares • Separate slow moving bicycles from motorized vehicles • Reduce incidents	L	• Short-term: 1 to 5 years (includes planning, engineering, and construction)
	• Increase bicycle mode share • Reduce motorized vehicle congestion on access routes	L	• Short-term: 1 to 5 years (includes planning, engineering, and construction)
	• Increase pedestrian mode share • Discourage motor vehicle use for short trips • Reduce VMT, emissions	L	• Short-term: 1 to 5 years
	• Increase nonmotorized mode share • Reduce incidents • Increase monitoring and maintenance costs	L	• Short-term: 1 to 5 years
	• Increase non-motorized mode share • Discourage motor vehicle use for short trips • Decrease VMT	L	• Short-term: 1 to 5 years
	• Shift trips into non-SOV modes such as walking, bicycling, transit • Increase bicycle/pedestrian mode share	L	• Short-term: 1 to 5 years
	• Increase mobility • Increase nonmotorized mode shares • Reduce congestion on nearby roads • Separate slow-moving bicycles from motorized vehicles • Reduce incidents	M	• Medium-term: 5 to 10 years (includes planning, engineering, and construction)
	• Increase safety by improving the overall (pedestrian and bicycle transportation system environment) • Reduce congestion in corridors and systems • Provide cost savings by reducing longer distance travel, increasing shorter distance travel, and use by non-motorized modes • Provide travel time savings to users of the system • Increase access to and use of alternative modes • Protect natural environment through sound land use and transportation sustainability policies • Increase community involvement and activity in developing policy and promoting projects • Promote incentive to use transit, bike, or walk	NA	• Near term (1-2 years)

(9) Access Management Strategies

Strategies/Projects	
Left Turn Restrictions; Curb Cut and Driveway Restrictions Turning vehicles can impede traffic flow and are more likely to be involved in crashes.	
Turn lanes and New or Relocated Driveways and Exit Ramps In some situations, increasing or modifying access to a property can be more beneficial than reducing access.	
Interchange Modifications Conversion of a full cloverleaf interchange to a partial cloverleaf, for example, reduces weaving sections on a freeway.	
Roadway Restrictions Closes access during rush hours (AM and PM peak hours) and aids in the increase of safety levels through the prevention of accidents at problem intersections. This measure may be effective along mainline segments of a highway, which operate at poor service levels.	
Access Control to Available Development Sites Coordination of access points to available development sites allows for less interference in traffic flow during construction and/or operation of new developments.	
Intersection turn lanes Additional left-turn or right-turn lanes that separate turning vehicles from through-traffic.	
Roundabout intersections An intersection modification that does not use traffic signal or stop sign controls. Provides continuous movement via entrance and exit lanes to/from a typically circular distribution roadway.	
Frontage Roads and Collector-Distributor Roads Frontage roads can be used to direct local traffic to major intersections on both super arterials and freeways. Collector-distributor roads are used to separate exiting, merging, and weaving traffic from through traffic at closely spaced interchanges.	
New grade separated intersections An overpass or underpass for one roadway to avoid intersecting with a cross-street.	

	Congest ion and Mobility Benefits	Costs	Implementation Timeframe
	• Increased capacity, e□ciency on arterials • Improved mobility on facility • Improved travel times and reduced delay for through tra□c • Fewer incidents	L	• Short-term: 1 to 5 years (includes planning, engineering, and implementation)
	• Increased capacity, e□ciency • Improved mobility and safety on facility • Improved travel times and reduced delay for all tra□c	M	• Short-term: 1 to 5 years (includes planning, engineering, and implementation)
	• Increased capacity, e□ciency • Improved mobility on facility • Improved travel times and reduced delay for through tra□c • Fewer incidents due to fewer con□ict points	M	• Short-term: 1 to 5 years (includes planning, engineering, and implementation)
	• Increase capacity, efficiency on arterials • Improve mobility on facility • Improve travel times and decrease delay for through tra□c • Decrease incidents	M	• Short-term: 1 to 5 years (includes planning, engineering, and implementation)
	• Increase capacity, e□ciency on arterials • Improve mobility on facility • Improve travel times and decrease delay for through tra□c • Decrease incidents	M	• Short-term: 1 to 5 years (includes planning, engineering, and implementation)
	• Greater number of vehicles can pass through the intersection in given amount of time, resulting in a lower level of travel delays and stopped time • Can reduce the likelihood of rear-end crashes	M	• Medium-term Agencies must be sure to plan for possible time needed to obtain right-of-way.
	• Greater capacity than traditional 3 or 4-way intersections in many situations • Fewer crashes over time • Lower air pollutant emissions due to fewer stopped vehicles	M	• Medium-term Completion time for a replacement roundabout is related to the amount of planning and public outreach time needed and the right-of-way acquisition process
	• Increased capacity, e□ciency • Improved mobility on facility • Improved travel times and reduced delay for through traffic • Fewer incidents due to fewer con□ict points	H	• Medium-term: 5 to 10 years (includes planning, engineering, and implementation)
	• Increased capacity and fewer stops • No stops for through tra□c • Fewer turning movement con□icts	H	• Medium-to long-term Completion of a grade-separated intersection can take from five to 15 years, including planning, engineering, environmental analysis and construction phases.

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- Appendix F -

Performance Results

Outputs from the Southeast Regional Planning Model (SERPM Version 7.0) depicting that the cost feasible plan supports the 2040 LRTP Goals and Objectives and improves congestion and multimodal mobility, will be presented here.

Measures of Effectiveness (MOE) are a quantifiable assessment of a plan which simplifies interpretation of how well the plan performs. MOEs allow an at-a-glance understanding of how well the plan is performing compared to a baseline reading. These MOEs provide an idea of how the adopted plan will impact various system level features of the transportation system.

Population and employment growth are the demographic variables that will increase the demand on the transportation system. Miami-Dade County, the most populous county in Florida with close to 2.5 million residents in 2010, is projected to grow by 33% to over 3.3 million residents in 2040. The employment is also projected to grow, from 1.4 million to just over 2 million representing a 45% growth. This increase in population and employment is projected to add over 3 million trips (34% increase) to the transportation system producing a 37% increase in both in the Vehicles Miles Traveled (VMT) and Vehicle Hours Traveled (VHT).

Lane miles and transit revenue miles represent the supply of the transportation system. Based on the Investments in the 2040 Plan, highway lanes miles and transit revenue miles will increase by 11% and 21%, respectively.

The performance of the transportation system can be measured by peak period speed (speed during rush hour), percent of lanes miles with congested conditions causing a breakdown of traffic flow (LOS F), and transit boardings. The projected performance based on the projected growth and proposed investments are:

- Peak Period Speed - projected to decrease 0.5 mph from 23.8 mph to 23.3 mph. The result is a very slight reduction of peak period speeds by 2%
- Percent of lanes miles with congested conditions causing a breakdown of traffic flow (LOS F) – projected to increase slightly by 1%
- Transit Boardings – will increase 40%

The MOE's provide the data for the comparison of our existing transportation system to our planned future transportation system. The MOE's allow us to come to the conclusion that even with the significant levels of additional population and employment growth, and the growth in trips, there are only very modest negative impacts to peak period speeds and congested lane miles. Based on the projected performance, the planned transportation improvements are proportional to the projected growth on the transportation system. The investments in the 2040 Plan will accommodate the projected growth without a significant impact on highway congestion and with a significant positive impact to transit.

Miami-Dade Demographic and Performance - Percent Change from 2010 to 2040 Cost Feasible Plan

Attribute	Year 2010	Year 2040	Percent Change from from 2010
Demographics and Trips			
Population	2,494,310	3,305,377	33%
Employment	1,416,227	2,054,534	45%
Daily Trips[1]	9,436,610	12,613,756	34%
Transportation System			
Lane Miles	5,797	6,442	11%
Transit Revenue Miles	110,937	134,103	21%
Performance			
Work Trip Length (miles)	8.86	7.92	-11%
Vehicle Miles Traveled[2]	41,771,033	57,243,299	37%
Vehicle Hours Traveled[2]	1,487,343	2,035,220	37%
Peak Period Speed (mph)	23.84	23.29	-2%
% Lane Miles with LOS F	22.3%	23.4%	1%
Transit Boardings	306,161	429,390	40%

1 Only trips within Miami-Dade County
2 VMT and VHT account for all trips that use highway facilities in Miami-Dade County

- Appendix G -

Project Purpose and Needs Statement

Project	Limits From	Limits To	Description	Purpose and Needs Statement
Priority I				
East-West Corridor (Flager Enhanced Bus)	Miami Downtown Terminal	FIU-MMC (SW 112 Ave)	Existing incremental improvement on PTP corridor	PTP Corridor Project
I-395	I-95	MacArthur Causeway Bridge	Modify interchange	Need for improvements is based on a combination of substandard traffic conditions, urban planning objectives and the interaction with other planned facility improvements impacting the proposed project area. The following benefits are anticipated: increased capacity to mitigate existing and future traffic congestion; improved safety by alleviating existing deficiencies; improved access; and, better lane continuity. Provide an expressway link between I-95/SR-836 (Dolphin) and the MacArthur Causeway. Provide local access by ramps. Two of the needs for the proposed improvements are to improve capacity and geometrics.
Implementation of Quiet Zones for All Aboard Florida	Miami-Dade Broward County Line	Downtown Miami	In Miami-Dade County, FDOT-6 has identified 19 intersection for quiet zones	Quiet zones are sections of rail lines with one or more public roadway/rail crossings, at which locomotive horns are not sounded. To become a quiet zone, it must comply with a Federal Rail Administration safety checklist which requires enhanced safety measures to alleviate the need for horns to be sounded. To reduce the risk of auto/rail and pedestrian/rail accidents, quiet zones require an assessment of each crossing, determination of safety improvements and implementation of the approved safety measures. All Aboard Florida, will spend approximately $60 million on safety upgrades for roadway/rail crossings. Public funding in Miami-Dade will be provided by a $1 million from the Federal government.
Miami River Intermodal Center Capacity Improvement Study			Double track remaining single track of Tri-Rail near Miami River	This project will add a second track between the MIC and Hialeah Market stations, including a new rail bridge over the Miami River. This heavily traveled segment serves as a bottleneck, as it is utilized by freight trains, regularly scheduled Tri-Rail trains, and deadhead Tri-Rail trains moving to and from the Hialeah Yard. The project will relieve train delays and add needed corridor capacity in future years for additional Tri-Rail service and eventual extension of Amtrak service to the MIC.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
SR-836 (Dolphin)/I-95 Interchange Ramps	NW 12 Ave	I-95	Modify interchange	This is an important mobility improvement project which will provide new ramps from the 12 Ave / Civic Center area with improved access and connectivity to I-95. The project will provide much needed congestion relief for the highly congested EB 836 to NB I-95 movement. This is a joint FDOT / MDX project.
Priority II				
79 St Causeway (JFK Cwy) Enhanced Bus	Northside Metrorail Station	Miami Beach Convention Center	Improve/implement transit service	Improve the speed, reliability, identity, comfort and convenience of transit. Serve new markets.
Busway Park-and-Ride Facility US-1 Busway		SW 104 St	Park-and-ride facility with 250-300 surface parking spaces	Improve access to and convenience of transit. Provide park-and-ride capacity for existing and new customers. Help reduce traffic congestion and support economic vitality.
Direct Ramps to Dolphin Station Intermodal Terminal	SR-821 (HEFT) Managed Lanes	Dolphin Station Intermodal Terminal	Direct access ramps for transit and trucks	Provide greater connectivity and convenience.
Dolphin Station Intermodal Terminal			Park-and-ride facility with kiss-and-ride, 12 bus bays, and 1000 parking spaces	Improve quality, safety, convenience, comfort & accessibility. Serve new markets and increase system integration. Enhance regional connectivity.
Douglas Road Corridor (37 Ave) Enhanced Bus	US-1	Miami Intermodal Center (MIC)	Incremental improvement on PTP corridor	PTP Corridor Project.
Expand Overcapacity Park-and-Ride lot at SW 152 St (Coral Reef)			New parking garage with 500 parking spaces and ground floor retail and office space	Improve access to and convenience of transit. Provide park-and-ride capacity for existing and new customers. Help reduce traffic congestion and support economic vitality.
Golden Glades Interchange: Florida Turnpike Southbound	At I-95		Express Lane Flyover	The primary purpose of this project is to provide an express lanes system-to-system connection for the SR- 826 (Palmetto Expressway) eastbound to I-95 northbound movement in order to increase connectivity, improve mobility and shorten travel delay caused by the circuitous routes in existence today at the Golden Glades Interchange (GGI).

Project	Limits From	Limits To	Description	Purpose and Needs Statement
Golden Glades Interchange: I-95	Biscayne River Canal	Miami Garden Dr	Add 2 auxiliary lanes	The primary purpose of this project is to provide an express lanes system-to-system connection for the SR-826 (Palmetto) eastbound to I-95 northbound movement in order to increase connectivity, improve mobility and shorten travel delay caused by the circuitous routes in existence today at the Golden Glades Interchange (GGI).
Golden Glades Interchange: I-95	SR 916/Opalocka Boulevard	Golden Glades Interchange	New road construction	This project will construct an auxiliary lane between the US 441 loop on ramp and the SR-826 (Palmetto) loop off ramp on the northbound connector between I-95 and the Turnpike. This project is needed to relieve congestion and improve traffic flow and safety on NB I-95, the NB I-95 HOT lane egress at Golden Glades and the NB connector (I-95 to Turnpike).
Golden Glades Interchange: SR-826 (Palmetto)	NW 17 Ave	Golden Glades Interchange	Managed lanes	The primary purpose of this project is to provide an express lanes system-to-system connection for the SR- 826 (Palmetto) eastbound to I-95 northbound movement in order to increase connectivity, improve mobility and shorten travel delay caused by the circuitous routes in existence today at the Golden Glades Interchange (GGI).
Golden Glades Interchange: SR-826 (Palmetto)	At I-95		New express lane ramps on I-95	The primary purpose of this project is to provide an express lanes system-to-system connection for the SR- 826 (Palmetto) eastbound to I-95 northbound movement in order to increase connectivity, improve mobility and shorten travel delay caused by the circuitous routes in existence today at the Golden Glades Interchange (GGI).
I-95	I-95	E 2 Ave	Ramp reconstruction/ reconfiguration for the I-95 ramps leading into downtown Miami at E 2 Ave	This project will realign the existing I-95 ramps that feed in to Downtown Miami. The project will realign the existing ramps that inefficiently use Downtown streets. The reconfigured ramps will result in the Miami River being reconnected to the Flagler St Area.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
I-95	I-95	S Miami Ave	Ramp reconstruction/reconfiguration of I-95 ramps in downtown Miami at S Miami Ave	This project will realign the existing I-95 ramps that feed in to Downtown Miami. The proposed realignment will promote a more efficient use of Downtown streets while reconnecting Flagler St to the Miami River Area.
Kendall Corridor (Kendall Enhanced Bus)	West Kendall Transit Terminal	Dadeland North Metrorail Station	Incremental improvement on PTP corridor	PTP Corridor Project.
MDT Off-St Bus Stop Enhancements	MDT Systemwide		Enhance all off-street bus stops, include new bus shelters and passenger amenities	Improve safety, access, comfort and convenience at local bus stops.
Medley Bridge/Canal Improvement Program			Improvements at; NW 121 Way, NW 116 Way, NW 105 Way, NW 79 Ave	This project will improve freight mobility and includes operational improvements which provide access to the Okeechobee Road corridor. FDOT recently completed a PD&E study for Okeechobee which is a Strategic Intermodal System (SIS) corridor. The PD&E study also proposed improved access connections (crossing the Miami River canal) between NW South River Drive and Okeechobee Road. The project is needed to facilitate and enhance intermodal freight movement within the corridor, and access to regional employment centers, and freight activity centers.
Medley Freight Access Roadway Improvements	US-27 (Okeechobee)	Medley	Bridge widening and canal improvements at NW 121 Way, NW 116 Way, NW 105 Way, and NW 79 Ave	This project will provide streetlights and other local roadway infrastructure improvements in the Medley area. This project is needed to provide streetlights for night time operations which will improve safety. In addition, pavement conditions from heavy vehicles have deteriorated and the 1950s designed intersections can not safely accommodate larger standard trailers.
Metrorail Park-and-Ride Facility	At Dadeland South		Park-and-ride facility with 1000 parking space garage and ground floor retail and office space	Increase capacity, quality, accessibility, comfort and convenience.
North Corridor (Biscayne) Enhanced Bus	Miami Downtown Terminal	Aventura Terminal	Incremental improvement on PTP corridor	Partially Funded PTP Corridor Project.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
NW 107 Ave	NW 41 St	NW 25 St	Add 2 lanes and reconstruct	This project is to widen NW 107 Ave from NW 25 St to NW 41 St from 4 to 6 providing needed mobility improvements on NW 107 Ave.
NW 107 Ave	NW 12 St	NW 74 St	Operational and capacity improvements where feasible	This is a needed low cost freight operational improvement, identified in the Freight Plan Update, that may not require PD&E, and may be able to go directly to design.
NW 117 Ave	NW 25 St	NW 41 St	New 2 lane road to support the flow of truck traffic from SR-821 (HEFT)	NW 117 Avenue (25 to 41 Sts) is an important freight project which provides direct access from the NW 25 St warehousing corridor to the Homestead Extension of the Florida Turnpike. The MPO recently completed (June 2013) a freight access study entitled, Connecting 25 St to the HEFT. This study documents the need to provide access from the NW 25 St corridor to the HEFT interchange at NW 41 St. At present, trucks are traveling very circuitous routes through the City of Doral in order to access the NW 41 St interchange. The MPO study identified NW 117 Ave as the primary access facility. This project will reduce the large amount of truck traffic through the City of Doral. The project still needs to go through detailed project development and environmental studies. The FTE is a likely funding and implementation partner along with Miami-Dade County since this is currently a County roadway. The project is shown as fully funded in the plan since it is such an important freight improvement.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
NW 12 St	NW 107 Ave	SR-826 (Palmetto)	Widening	This is an important freight mobility project which will provide improved access and connectivity to Miami International Airport air cargo operations, both the Dolphin and Palmetto Expressways, and the NW 25 Street warehousing corridor. The NW 12 St corridor currently experiences severe peak hour congestion and causes long delays for freight movements and other users. The project will require PD&E.
NW 122 Ave	NW 12 St	NW 41 St	New 2 lane road to support the flow of truck traffic from SR-821 (HEFT)	Alleviate truck traffic in this area and to improve movement from a the propsed truck parking facility to the HEFT.
NW 20 St	NW 27th Ave	I-95	Roadway infrastructure improvements	This project will construct a median on NW 20 St from NW 27 Ave to I-95. The project is needed to manage congestion on NW 20 St by limiting access to the facility.
NW 25 St	NW 89 Ct	SR-821 (HEFT)	Capacity and operational improvements	The need for this project is that additonal capacity is needed to accommodate future traffic demand due to the new viaduct from MIA to NW 82 Ct bringing additional truck traffic to NW 25 St traveling west.
NW 79 Ave	NW 48 Way	NW 36 St	Merge & reduce access points if possible. Move access points of businesses to side Sts.	This is a needed low cost freight operational improvement, identified in the Freight Plan Update, that may not require PD&E, and may be able to go directly to design.
NW 82 Ave	NW 8th St	NW 12 St	New 4 lane road construction	This project will add a new 4 lane road from NW 8th Street to NW 12th Street providing needed mobility improvements on NW 82 Ave.
NW South River Dr	NW 107 Ave	NW 74 Ave	Roadway and operational improvements	This is a needed low cost freight operational improvement, identified in the Freight Plan Update, that may not require PD&E, and may be able to go directly to design.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
Perimeter Rd	NW 42 Ave (LeJeune)	NW 57 Ave	Widen from 2- to 4-lanes	This project will widen Perimeter Road from NW 20 St to NW 57 Ave from 2 to 4 lanes.
SR-924 Gratigny West Extension	SR-826 (Palmetto)/I-75 (HEFT)	SR-821	Extend SR-924 to SR-821 with connections to I-75 AND SR- 826 (Palmetto)	This project will extend the existing SR-924 (Gratigny Parkway) west to the HEFT, enhancing mobility in northwest Miami-Dade County by interconnecting four major highways: HEFT, I-75, SR-826 (Palmetto) and SR-924 (Gratigny). This express interconnection will improve regional travel and will reduce travel times by capturing through traffic that is currently using local roads. The local roads in the area are currently operating at deficient levels of service and include Okeechobee Road as well as local streets in the urban communities of Hialeah Gardens, Miami Lakes, and Hialeah. This west extension, in combination with the eastern extension of SR-924 (Gratigny) to the east, will create a new east-west corridor alternate to SR-836 (Dolphin) and SR-826 (Palmetto in northern Miami-Dade County.
SW 127 Ave	SW 120 St	SW 144 St	Add 2 lanes and new 4 lane road construction	This project will widen SW 127 Ave from SW 144 St SW 120 St to 4 lanes providing needed mobility improvements on SW 127 Ave.
SW 200 St	US-1	Quail Roost Dr	Add 2 lanes and reconstruct	This project will widen SW 200 St from Quail Roost Drive to US-1 from 2 to 4 lanes providing needed mobility improvements on SW 200 St.
SW 24 St	SW 107 Ave	SW 87 Ave	Add 2 lanes and reconstruct	This project will widen SW 24 St from SW 107 Ave to SW 87 Ave to 6 lanes, providing needed mobility improvements on SW 24 St.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
SW 312 St (Campbell)	SW 152 Ave	SW 137 Ave	Add 2 lanes with left turn lanes and reconstruct	This project will add 2 lanes to Campbell Drive and provide turn lanes from SW 152 Ave to SW 162 Ave, providing needed mobility improvements to a roadway that is currently experiencing LOS F and is expected to get worse in the future.
SW 320 St (Mowry)	SW 197 Ave US-1	SW 187 Ave SW 142 Ave	Add 2 lanes with left turn lanes and reconstruct	This project will add continuous left turn lanes, providing needed mobility improvements on Mowry Drive.
SW 8 St (Tamiami) Grade Separations	SW 87 Ave	SW 107 Ave	Grade Separations at SW 8 St/ SW 87 Ave and SW 8 St/SW 107 Ave	The purpose of the project is to improve overall traffic operations at the existing at-grade intersection of SR- 90/SW 8 St and SR-973/SW 87 Ave in order to alleviate conges on and achieve acceptable Levels of Service (LOS) in the existing and future condi on.
SW 80 St	SW 72 Ave	US-1	Add 2 lanes and center turn lane and reconstruct	This project will widen SW 80th Street from SW 72 Ave to S Dixie Highway to 5 lanes, providing needed mobility improvements on SW 80 St.
Venetian Causeway Bridge	Bayshore Dr	Purdy Ave	Bridge replacement	This project will replace a bridge that is currently in a state of disrepair, providing a necessary safety improvement to a vital bridge connecting downtown Miami and Miami Beach.
W Dixie Hwy	NE 163 St	NE 175 St	Widen to 4 Lanes	This project will widen W Dixie Highway from NE 163 St to NE 175 St to 4 lanes, providing needed mobility improvements on W Dixie Highway.
Priority III				
Direct Ramps to Dolphin Station Intermodal Terminal	SR-836 (Dolphin) Managed Lanes	Dolphin Station Intermodal Terminal	Direct access ramps	Provide greater connectivity and convenience.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
Direct Ramps to Palmetto Intermodal Terminal	SR-826 (Palmetto) Managed Lanes	Palmetto Intermodal Terminal	Direct access ramps for transit	Provide greater conncectivity and convenience.
Golden Glades Interchange	SB Turnpike	SB I-95 at NW 135 St	Modify interchange	The primary purpose of this project is to provide an express lanes system-to-system connection for the SR- 826 (Palmetto) eastbound to I-95 northbound movement in order to increase connectivity, improve mobility and shorten travel delay caused by the circuitous routes in existence today at the Golden Glades Interchange (GGI).
Golden Glades Interchange: SR-826 (Palmetto)	NW 17 Ave at SR-826 (Palmetto)	NB I-95 at NW 183 St	Modify interchange	Provide a system-to-system connection for the SR-826 (Palmetto) eastbound to I-95 northbound movement in order to increase connectivity, improve mobility and shorten travel delay caused by the circuitous routes in existence today at the Golden Glades Interchange (GGI). Evaluate the connectivity of a potential Express Lanes system for SR-826 (Palmetto Expressway) to the existing 95 Express Lanes system in support of a separate and adjacent PD&E Study currently being conducted (Project ID: 418423). Identify interim operational improvements within the GGI to be developed as integral components of an Ultimate Master Plan for the interchange.
I-195 ramps in Midtown (N 36 & N 38 Sts)	I-195	N 36 & N 38 St	Ramp reconstruction/reconfiguration of ramps leading to N 36 St and N 38 St	This project will result in the redesign and construction of the interchange of Biscayne Boulevard and I-195. The current configuration suffers from heavy delays due to the geometric design and many conflicting movements. This project will alleviate congestion.
I-75 Ramp	SW 197 Ave/ West 28 Ave		Construct an off ramp from SB I-75 to SB W 28 Ave/NW 87 Ave	To provide southbound I-75 traffic access to north Hialeah. This will also reduce traffic existing SR826 at NW 122 St.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
NE 151 St	NE 10 Ave	West Dixie Highway	Add 2 lanes and reconstruct	This project will widen NE 151 St from NE 10 Ave to W Dixie Highway to 4 lanes, providing needed mobility improvements on NE 151 St.
NW 107 Ave	1000 feet North of W 122 St	US-27 (Okeechobee)	Widen bridge over Miami Canal	This project will widen/reconstruct the roadway from NW 127 St to Okeechobee Road; mill/resurface the roadway from NW 127 St south for approximately 400 feet and corner turning-radii improvements; intersection improvements and signalization at NW 107 Avenue and Okeechobee Road and widen the bridge over the Miami Canal. This project will provide needed mobility and safety improvements on NW 107 Ave.
NW 170 St	SR-821 (HEFT)	NW 97 Ave	6-lane divided roadway	This project will construct a section line road to provide a needed east/west connection in the northwest corner of the county between I-75 and the SR-821, where a new interchange at NW 170 St is also a project in the LRTP Needs Plan. This improvement is needed to serve the travel needs of the residents in the Hialeah Annexation Area.
NW 36 St/NW 41 St	NW 42 Ave (Le Jeune)	SR-821 (HEFT)	Operational improvements	This is a needed low cost freight operational improvement, identified in the Freight Plan Update, that may not require PD&E, and may be able to go directly to design.
NW 42 Ave (LeJeune)	US-27 (Okeechobee)		Improve advance signage for intersection lane alignment	This is a needed low cost freight operational improvement, identified in the Freight Plan Update, that may not require PD&E, and may be able to go directly to design.
NW 58 St	NW 107 Ave	NW 82 Ave	Corridor traffic operational improvements	This project was identified in the 2009 Congestion Management Process as a non highway expansion improvement to alleviate future congestion on NW 58 Street.
NW 7 Ave Enhanced Bus	Downtown Miami	Golden Glades Interchange Terminal	Premium limited stop transit service	Provide a regional connection and serve new markets. Improve the speed, reliability, image, comfort and convenience of transit.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
NW 72 Ave (Milam Dairy)	NW 122 St	NW 138 St	Add center turn lane	This project will widen NW 72 Ave from NW 122 St to NW 138 St to 3 lanes, providing needed mobility improvements on NW 72 Ave.
NW 72 Ave (Milam Dairy)	Hialeah Expy		Operatonal improvements	This is a needed low cost freight operational improvement, identified in the Freight Plan Update, that may not require PD&E, and may be able to go directly to design.
Palmetto Intermodal Terminal	SR-826 (Palmetto) and NW 74 St		Intermodal facility to service cruise terminals	Improve quality, safety, convenience, comfort and accessibility. Serve new markets and increase system integration. Enhance regional connectivity. Support Express Bus Network.
Ramps between the US-1 Busway and SR-826 (Palmetto)	US-1 Busway	SR-826 (Palmetto)	Construct ramps connecting the US-1 Busway to SR-826 (Palmetto)	Improve quality, safety, convenience, comfort and accessibility. Serve new markets and increase system integration. Enhance regional connectivity. Support Express Bus Network.
SR-821 (HEFT)	SW 137 Ave	SW 216 St	Widen to 8 Lanes. Needs by 2030. Express lanes will be included for portions of project length.	This project would add two travel lanes in each direction to a six-mile section of the southern Turnpike, increasing capacity from 6-lanes to 8-lanes. This project will be an important part of capacity improvements to the full length of the Turnpike (SR-821), urgently needed in response to existing congestion and anticipated continued growth in traffic demand. The project to widening this section of the southern Turnpike (SR-821) from 4-lanes to 6-lanes including express lanes is included in the Tentative Work Program.
SR-821 (HEFT)	SW 312 (Campbell Dr)	SW 288 St	Widen to 6 lanes	This project would add one travel lane in each direction to a three-mile section of the southern Turnpike (SR-821), increasing capacity from 4-lanes to 6-lanes. This project will be an important part of capacity improvements to the full length of the Turnpike (SR-821), urgently needed in response to existing congestion and anticipated continued growth in traffic demand.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
SR-821 (HEFT)	SW 288 St	SW 137 Ave (Speedway)	Widen to 8 lanes	This project would add two travel lanes in each direction to a six-mile section of the southern Turnpike, increasing capacity from 6-lanes to 8-lanes. This project will be an important part of capacity improvements to the full length of the Turnpike (SR-821), urgently needed in response to existing congestion and anticipated continued growth in traffic demand. The project to widening this section of the southern Turnpike (SR-821) from 4-lanes to 6-lanes including express lanes is included in the Tentaitive Work Program.
SR-826 (Palmetto)	NW 154 St	NW 17 Ave	Managed lanes	The purpose of the SR-826 (Palmetto) project from I-75 to the Golden Glades Interchange is to relieve congestion by increasing capacity, enhance safety by addressing structural and functional deficiencies, and provide additional travel options by improving system connectivity. One or two lanes could likely be added in each direction within the existing right-of-way and function as managed and/or express lanes including High Occupancy Vehicle (HOV) lanes, High Occupancy Toll (HOT) lanes, truck only lanes, truck only toll lanes, Bus Rapid Transit (BRT) lanes, reversible lanes, or general use lanes.
SR-826 (Palmetto)	NW 138 St	NW 103 St/W 49 St	Add a braided off ramp to W 68 St/ NW 122 St	To improve transportation and travel.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
SR-836 (Dolphin) Managed Lanes	SR-826 (Palmetto)/ SR- 836 (Dolphin)	Just West of 27 Ave	Two new managed lanes within the right-of-way of SR-836 (Dolphin)	This project contemplates new managed lanes within the ROW of SR-836 (Dolphin) from SR-826 (Palmetto) east to approximately NW 27 Ave. Together with the improvements on SR-836 (Dolphin) west of SR-826 (Palmetto), this project will provide a value priced east/ west travel option to enhance mobility in the County by addressing the demand associated with the growing employment centers at the Miami International Airport, the Port of Miami and downtown Miami. Providing for managed lanes along this facility will enhance level of service for all modes along the corridors.
SR-836 (Dolphin) Managed Lanes	SR-821 (HEFT)	SR-826 (Palmetto)/SR-836 (Dolphin) Interchange	Two new managed lanes within the ROW of SR-836 (Dolphin)	This project contemplates new managed lanes within the median of SR-836 (Dolphin) from SR-826 (Palmetto) west to the HEFT. Together with the improvements on SR-836 (Dolphin) east of SR- 826 (Palmetto), this project will provide a value priced east/west travel option to enhance mobility in the County by addressing the demand associated with the growing employment centers at the Miami International Airport, the Port of Miami and downtown Miami. Providing for managed lanes along this facility will enhance level of service for all modes along the corridors.
SW 107 Ave	Quail Roost Dr	SW 160 St	Add 2 lanes and reconstruct	This project will widen SW 107 Ave from Quail Roost Drive to SW 160 St to 4 lanes, providing needed mobility improvements on SW 107 Ave.
SW 147 Ave	SW 184 St (Eureka)	SW 152 St (Coral Reef)	Add 2 lanes and reconstruct	This project will widen SW 147 Ave from SW 184 St to SW 152 St to 4 lanes, providing needed mobility improvements on SW 147 Ave.
SW 152 Ave	US-1	SW 312 St (Campbell)	Add 2 lanes and reconstruct	This project will widen SW 152 Ave from SW 312 St to S Dixie Highway to 4 lanes, providing needed mobility improvements on SW 152 Ave.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
SW 162 Ave (Farm Life)	SW 312 (Campbell)	SW 328 (Lucy)	Add 2 lanes and center turn lane and reconstruct	This project will add to lanes to SW 162 Ave from Lucy Street to approximately SW 328 St to complete the widening that has already occurred south of SW 328 St, providing needed mobility improvements on this facility. The improvement is also needed to address substandard roadway conditions and add sidewalks and curb and gutter to improve pedestrian safety issues.
SW 24 St	SW 117 Ave	SW 107 Ave	Add 2 lanes and reconstruct	This project will widen SW 24 St from SW 117 Ave to SW 107 Ave to 6 lanes, providing needed mobility improvements on SW 24 St.
SW 320 St (Mowry)	SW 187 Ave S. Dixie Hwy	SW 197 Ave SW 142 Ave	Add 2 lanes and reconstruct	This project will widen SW 320 St from SW 197 Ave to SW 187 Ave and from S Dixie Highway to SW 142 Ave to 4 lanes, providing needed mobility improvements on SW 320 St.
SW 72 St	SW 117 Ave	SW 157 Ave	Add 2 lanes and reconstruct	This project will widen SW 72 St from SW 157 Ave to SW 117 Ave from 4 to 6 lanes providing needed mobility improvements on SW 72 St.
Turnpike (Mainline)	Golden Glades Interchange	SR-821 (HEFT)	Widen to 8 lanes	This project would add travel lanes to the Turnpike (Mainline Spur). This project will widen the exisiting facility from 6-lanes to 8-lanes and is urgently needed in response to exisiting congesition and anticipated conitinued growth in traffic demand.
Turnpike (Mainline)	Golden Glades Interchange		Add SB ramp capacity	This project includes improvements to the Turnpike Southbound to I-95 Southbound movement within the Golden Glades Interchange with a direct connect flyover from the Turnpike to 95 Express. This improves overall regional mobility with the improvement of the operation of the connections among all of the major facilities: the Turnpike, I-95, and the SR-826 (Palmetto).

Project	Limits From	Limits To	Description	Purpose and Needs Statement
US-1	Port Blvd		Expand SB left turn lane for trucks entering Port of Miami	This project will expand the southbound left turn lanes on Biscayne Boulevard for trucks entering the port, reducing the overflow of vehicle backup stacking in turning lane.
US-27 (Okeechobee)	NW 42 Ave (Le Jeune)		Improve access at intersection	This is a needed low cost freight operational improvement, identified in the Freight Plan Update, that may not require PD&E, and may be able to go directly to design.
US-27 (Okeechobee)	SR-826 (Palmetto)		Add WB South River Dr access to SB SR- 826 (Palme tto) and signage to disable NB through movement at NB ramp/US-27	This is a needed low cost freight operational improvement, identified in the Freight Plan Update, that may not require PD&E, and may be able to go directly to design.
W 16 Ave/ NW 72 Ave (Milam Dairy)	W 68 St/NW 122 St	W 77 St	Improvents to drainage, sidewalk, curbing, pavement, pavement markings, and signage	To improve safety and traffic management to Palm Lakes Elementary School and provide an north/south alternate to SR-826 (Palmetto). Also, this is the only unimproved section of W 16 Ave between Okeechobee Road and W 84 St and it serves as a direct connector to MIA.
Priority IV				
I-75	SR-826 (Palmetto)	NW 170 St	Widen with express lanes	Improve mobility, relieve congestion and provide additional travel options. Relieve congestion and increase capacity between SR-836 (Dolphin) and I-75. Provide continuity with the proposed express lanes on I-75 as envisioned in the emerging South Florida Express Lanes network.
I-75	At Miami Garden Dr		Modify Interchange	Need for the improvements is based on a combination of geometric and operational deficiencies, urban planning objectives and the interaction with other planned facility improvements impacing the proposed project area.
N Miami Ave	NW 14 St	Miami City Limit	Roadway improvements	This project will provide roadway improvements along N Miami Avenue from 14 St to City of Miami limit, providing needed moblity improvements on N Miami Ave.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
NE 159 St	NE 6 Ave	West Dixie Highway	Add 2 lanes and reconstruction	This project will widen NE 159 St from NE 6 Ave to W Dixie Highway to 4 lanes, providing needed mobility improvements on NE 159 St.
North Corridor (NW 27 Ave) BRT with Dedicated Lanes	Miami Intermodal Center (MIC)	NW 215 St	Full bus rapid transit	Provide a regional connection and serve new markets. Improve the speed, reliability, image, comfort and convenience of transit.
NW 107 Ave	NW 170 St	Broward County line	Extend NW 107 Ave to the County Line	This project will extend NW 107 Ave from NW 170 St to Broward County line, providing needed mobility improvements on NW 107 Ave.
NW 14 St	Civic Center	US-1	Widen to 3 lanes and resurface	This project will add one lane to NW 14th Street from the Civic Center to Biscayne Boulevard. This project was formally funded in the 2009 TIP but was removed from the TIP due to funding limitations.
NW 186 St	NW 97 Ave	I-75	New 4 lane road construction	This project will provide a connecition to I-75 for the development west of I-75. This project is also needed to provide a connecition between developments east and west of I-75.
NW 36 St/NW 72 Ave (Milam Dairy) Grade Separation			Grade separation of NW 36 St over NW 72 Ave	This project will include needed congestion management improvements to alleviate projected future congestion on NW 36/41 Sts.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
NW 74 St	SR-826 (Palmetto)	FEC Intermodal Yard	Modify connector	This project will include freight mobility and operational improvements to the NW 74 St Strategic Intermodal System (SIS) Connector and the National Highway System (NHS) Connector system roadways, between SR-826 (Palmetto) and US 27 (Okeechobee Road), including the entrance to the FEC Intermodal Yard. The project is needed to facilitate and enhance intermodal freight movement along SR 934 (NW 74 St/Hialeah Expressway) and SR 969 (NW 72 Ave/Milam Dairy Road) and accommodate planned growth of the FEC Intermodal Yard, regional employment centers, and freight activity centers.
NW 79 St/NW 81 St/NW 82 St	NW 13 Ave	US-1	Capacity improvements	This prjoect will meet the need for a major capacity/ transit project along the 79 St corridor in order to effectively meet the objectives of two-way converting 82 St while not adversely affecting mobility along 79 St.
NW 97 Ave	NW 58 St	NW 52 St	Add 2 lanes and reconstruct	Infrastructure to support newly developing and re-developing areas.
SR-821 (HEFT)	SW 40 St (Bird)	SW 8 St (Tamiami)	TSM&O	Implement TSM&O strategy to alleviate future congestion and accommodate continued growth in traffic demand.
SR-821 (HEFT)	NW 12 St	NW 74 St	TSM&O	Implement TSM&O strategy to alleviate future congestion and accommodate continued growth in traffic demand.
SR-821 (HEFT)	SW 88 St (Kendall)	SW 40 St (Bird)	TSM&O	Implement TSM&O strategy to alleviate future congestion and accommodate continued growth in traffic demand.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
SR-821 (HEFT)	SR-874 (Don Shula)	Killian Pkwy	Widen to 10 lanes	This project would providing additional capacity or TSM&O improvement along the Turnpike (SR-821) from SR-874 (Don Schula) to Killian Parkway to alleviate future congestion and accommodate continued growth in traffic demand.
SR-821 (HEFT)	NW 57 Ave (Red)	Turnpike (Mainline)	Widen to 8 lanes	This project would construct two additonal travel lanes in each direction along a section of the Turnpike (SR-821), increasing capacity from 6-lanes to 8-lanes. This project will be an important part of capacity improvements to the full length of the Turnpike (SR-821), urgently needed in response to existing congestion and anticipated continued growth in traffic demand. The project to widening this section of the southern Turnpike (SR-821) from 4-lanes to 6-lanes is included in the Tentative Work Program.
SR-821 (HEFT)	I-75	NW 57 St (Red)	Widen to 8 lanes	This project would construct two additional travel lanes in each direction along a section of the Turnpike (SR-821), increasing capacity from 4-lanes to 6-lanes. This project will be an important part of capacity improvements to the full length of the Turnpike (SR-821), urgently needed in response to existing congestion and anticipated continued growth in traffic demand.
SR-826 (Palmetto)	NW 103 St	NW 154 St	Widen with express lanes	Evaluate the corridor for operational and capacity improvments including interchanges.
SR-826 (Palmetto)	SR-836 (Dolphin)	NW 103 St	Add 4 special use lanes	This project will construct special use lanes on SR-826 (Palmetto) from SR-836 (Dolphin) to I-75, providing needed mobility improvements and mobility options for users of SR-826 (Palmetto).

Project	Limits From	Limits To	Description	Purpose and Needs Statement
SW 102 Ave	Tamiami Canal		New bridge over Tamiami Canal	This project will provide a north/south connection across the Tamiami Canal at SW 102 Ave. This project is funded for planning/design in the 2010 TIP.
SW 104 St	SW 147 Ave	SW 137 Ave	Add 2 lanes and reconstruct	This project will widen SW 104 St from SW 147 Ave to SW 137 Ave to 6 lanes, providing needed mobility improvements on SW 104 St.
SW 104 St	Hammocks Blvd	SW 147 Ave	Add 2 lanes and reconstruct	This project will widen SW 104 St from Hammocks Boulevard to SW 147 Ave to 6 lanes, providing needed mobility improvements on SW 104 St.
SW 120 St	SW 137 Ave	SW 117 Ave	Add 2 lanes and reconstruct	This project will widen SW 120 St from SW 137 Ave to SW 117 Ave to 6 lanes, providing needed mobility improvements on SW 120 St.
SW 137 Ave	US-1	SW 184 St	Add 2 lanes and reconstruct	This project will widen SW 137 Ave from US-1 to SW 184 St.
SW 137 Ave	SW 24 St	SW 8 St (Tamiami)	Add 2 lanes and reconstruct	This project will widen SW 137 Ave from SW 24 St to SW 8 St to 6 lanes, providing needed mobility improvements on SW 137 Ave.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
SW 152 St (Coral Reef)	SR-821 (HEFT)	US-1	Add 2 lanes and reconstruct	The primary purpose of this project is to study the need for additional east-west traffic capacity to accommodate projected traffic in the long-term horizon by operational/capacity improvements that may include the widening the corridor to six-lanes consistent with the Miami-Dade County Comprehensive Development Master Plan (CDMP) – Transportation Element. The secondary purpose is to address transit, bicycle, and pedestrian facilities planning along the corridor. The corridor currently carries between 31,500 to 38,000 vehicles per day operating nearly at Level of Service D based upon FDOT's 2012 Generalized Level of Service (LOS) Tables. The corridor was identified as a highway need as part of the 2035 Miami-Dade Transportation Plan, but not included in the 2035 Cost Feasible Plan.
SW 157 Ave	SW 8 St (Tamiami)	SW 42 St	Add 2 lanes and construct new 4 lane road	This project will widen SW 157 Ave from SW 42 St SW 8 St to 4 lanes providing needed mobility improvements on SW 157 Ave.
SW 312 St (Campbell)	NW 14 Ave/SW 176 Ave	SW 197 Av	Add 2 lanes and reconstruct	This project will widen SW 312 St from SW 197 Ave to NW 14 Ave and from SW 176 Ave to HEFT to 6 lanes providing needed mobility improvements on SW 312 St.
SW 40 St	SW 157 Ave	SW 167 Ave	New 2 lane road construction	This project will include 2 lanes along SW 42 St from SW 167 Ave to SW 162 Ave, providing needed mobility improvements on SW 42 St.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
SW 42 St	SW 162 Ave	SW 157 Ave	Add 2 lanes and reconstruct	This project will widen SW 42 St from SW 162 Av to SW 157 Ave to 4 lanes, providing needed mobility improvements on SW 42 St.
SW 82 Ave	Tamiami Canal		New bridge over Tamiami Canal	This project will provide a north/south connection across the Tamiami Canal at SW 82 Ave. This project is funded for planning/design in the 2010 TIP.
US-1	SW 27 Ave		Grade separation of US-1 over SW 27 Ave	The pupose of this project is to improve traffic flow and reduce congestion in the US-1 corridor. The grade separation will allow additional green time to be given to north/south movements and to turning movements.
US-1	SW 344 St (Palm)		Grade separated overpass	Evaluate operational improvements for a grade separated overpass. This location links US-1 to the Turnpike which is the primary evacuation route for the Florida Keys and Southern Miami-Dade County.
US-27 (Okechobee)/ SR-826 (Palmetto) Interchange			Ramp improvements	The purpose of the project is to improve vehicular and freight traffic flow between Okeechobee Road and the Palmetto Expressway (SR-826). Three added fly over ramps will reduce traffic at signalized intersections within the interchange, and improve the interchange operations. As a result, there will be a significant traffic flow improvement on Okeechobee Rd.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
US-72 (Okeechobee)	SR-826 (Palmetto)	SR-997 (Krome)	Conversion to grade separated expressway	The purpose of this project is to improve overall traffic operations and safety along Okeechobee Road. As previously mentioned, the proposed project potentially involves roadway improvements along Okeechobee Road to enhance safety and mobility; frontage road enhancements, intersection improvements (grade-separated intersections will be considered) to improve the overall operations; bridge widening/canal crossing improvements, and multimodal options. This study will consider minor/Transportation Systems Management & Operations (TSM&O) options as well as major improvements. The need for improvements along Okeechobee Road is based on a combination of the present substandard traffic operations along the project corridor and to optimizes its effectiveness as both a major freight corridor linking to other major facilities and also as an important access route for various residential communities.
W 24 St	W 28 Ave		Operational improvements	This is a needed low cost freight operational improvement, identified in the Freight Plan Update, that may not require PD&E, and may be able to go directly to design.
W 24 St	W 23 Ave		Lower curbs to allow wider turns	This is a needed low cost freight operational improvement, identified in the Freight Plan Update, that may not require PD&E, and may be able to go directly to design.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
Partially Funded				
Beach Connection (Baylink)	Miami Downtown Terminal	Miami Beach Convention Center	Premium transit service	Improve regional and local connectivity. Improve the speed, reliability, comfort and convenience of transit. Serve new markets and support economic vitality.
Douglas Road Corridor BRT(SW 27/37 Ave) Dedicated Lanes	US-1	Miami Intermodal Center (MIC)	Full bus rapid transit	Provide an enhanced regional connection and serve new markets. Improve the speed, reliability, image, comfort and convenience of transit.
Golden Glades Multimodal Terminal (Phase 2)			Parking-and-ride facility with 1,800 space garage and ground floor retail	Improve quality, safety, convenience, comfort & accessibility. Serve new markets and increase system integration. Enhance regional connectivity. Support Express Bus Network.
I-95	South of SR-836 (Dolphin)/I-395	Broward County Line		This project will complete the porition Miami-Dade porition of the I-95 Express special use lanes project that has already been (or is currently) constructed from SR 112 to the Golden Glades Interchange. This improvement is needed to improve mobility on I-95 and to provide mobility opitions to users of I-95. The project will also improve regional connecitivity and add capacity to an emergency evacuation corridor.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
I-95	US-1	South of SR-836 (Dolphin)/I-395		Develop and evaluate improvement concepts and perform a detailed planning level operational analysis for the Interstate 95 corridor within District 6. The analysis will include the evaluation of all interchanges, interchange influence areas, and ramp junctions, as well as post-implementation operational conditions of the 95 Express corridor improvements. The purpose of this evaluation will be to identify deficiencies focusing on reoccurring bottlenecks and develop a series of proposed improvements to address the existing and future demands of the corridor. If necessary, multiple improvement alternatives will be developed for the mainline, interchange areas, and system-to-system connections.
MDX Connect 4 Express	Central Miami-Dade County	North Miami-Dade County	New expressway connecting SR-836 (Dolphin), SR-112 , SR-924, and SR-826	This project will construct a new north-south expressway that will connect four major regional highways: SR-836 (Dolphin), SR 112 (Airport), SR-924 (Gratigny) and, potentially, SR-826 (Palmetto) in the central area of Miami-Dade County. It will address additional regional capacity needs and will improve system connectivity. The project will improve mobility and freight movements associated with the expansion of the Port of Miami and the demand generated by the Miami International Airport (MIA), the Miami Intermodal center (MIC) and the Opa-Locka Airport. The new highway will reduce future travel times for traffic through the area and will relieve congestion on existing highways as well as on the arterial roads in the central areas of Miami-Dade County. By providing opportunities for bus transit service the new infrastructure will also address multimodal needs.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
MDX SR-924 (Gratigny) East Extension	NW 32 Ave	I-95	New expressway extension of SR-924 (Gratigny) East to I-95	This project will extend the existing SR-924 (Gratigny) east to connect to I-95 thorugh an elevated structure separate from the at-grade highway system. The project will improve regional mobility in northern Miami-Dade County by providing interconnections between the County's major highways SR-924 (Gratigny) and I-95. It will address additional capacity needs and will reduce future travel times for traffic through the area, including truck movements associated with the expansion of the Port of Miami and the MIC. The project will separate through traffic from the local traffic and will enhance local roadways functionality while preserving existing access conditions. This east extension, in combination with the western extension of SR-924 (Gratigny) to the HEFT, will create a new east-west corridor alternate to SR-836 (Dolphin) and SR-826 (Palmetto) in northern Miami-Dade County that will link I-95, SR-826 (Palmetto), I-75 and the HEFT.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
MDX SR-836 (Dolphin) Southwest Extension	Western Terminus of SR-836 (Dolphin)	SW 136 St	Extend SR-836 (Dolphin) from NW 137 Ave to the Southwest Kendall area	This project will constrution an extension of SR-836 (Dolphin) from its current terminus at NW 137 Ave and NW 12 St to the southwest Miami-Dade County area. The new extension will address existing highway congestion and enhance mobility in the fastest growing area of the county.The purpose of the SR-836 (Dolphin) SW Extension is to: Improve system connetivity, Improve access to and from the area to major employment centers such as the MIA, the MIC, the Port of Miami, Downtown Miami, Doral, as well as educational and commercial centers within the study area, Provide north south expressway access to serve existing and future travel demand, Improve hurricane/ emergency evacuation routes and travel times, Evaluate multimodal transportation opportunites to improve connectivity to the fast growing southwest area of Miami-Dade County, Evaluate the best alternative for the SR-836 (Dolphin) SW Extension that is technically sound, environmentally sensitive and publicly acceptable.
NW 36th /NW 41 St	SR-821 (HEFT)	NW 42 Ave (LeJeune)	Redesign NW 36 St/41 St as a superarterial express street	This project will enhance moblity for freight and people, reduce congestions, improve access to the airport and improve intermodal access to freight origins and destinations.
SR-826 (Palmetto)	West Flagler St	NW 154 St		The project will evaluate capacity and operational improvements for the SR-826 (Palmetto) corridor. This corridor carries in excess of 250,000 vehicles per day, and is a major freight mobility corridor. The PD&E will be the first phase of this improvement project.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
SR-826 (Palmetto)	US-1/S Dixie Highway	SR-836 (Dolphin)	Managed lanes	Evaluate the feasibility of implementing Express Lanes (EL) on SR-826 (Palmetto) from SR-836 (Dolphin) to US-1 as part of a regional EL system.
SW 117 Ave/SW 152 St (Coral Reef) Grade Separation			Grade separate SW 117 Ave over SW 152 St (Coral Reef)	This project will include needed congestion management improvements to alleviate projected future congestion on SW 117 Ave.
SW 88 St (Kendall)/SW 127 Ave Grade Separation			Grade separate SW 88 St (Kendall) over SW 127 Ave.	This project will include needed congestion management improvements to alleviate projected future congestion on North Kendall Drive.
Town of Indian Creek Bridge			Improvments to the Town of Indian Creek Bridge	This project will provide improvements to the Indian Creek Bridge which connects the Village of Indian Creek, an island community in Biscayne Bay, to the greater Miami area. The bridge was built in 1929, and the concrete arched girder structure has surpassed its life expectancy. While not structurally deficient, it is imperative to plan for the bridge replacement in order to provide uninterrupted transportation service to island residents for years to come.
Tri-Rail Coastal Link	Downtown Miami	Broward County Line	Passenger rail on the FEC corridor	The roadway network in northeastern Miami-Dade is largely built-out and unable to be widened further. The project would provide passenger rail service in a PTP (Northeast) Corridor, allowing for improved and reliable transit travel times for both intra Miami-Dade and inter-county trips. The project also supports local redevelopment plans and economic development efforts.

Project	Limits From	Limits To	Description	Purpose and Needs Statement
US-1 Managed Lanes	SW 344 St (Palm)	Dadeland South Metrorail Station	Add 2 plus 1 reversible new managed lanes within the right-of-way of the US- 1 Busway	This project contemplates new mixed-traffic managed lanes within the ROW of the US-1 Busway corridor in addition to and separate from the Bus lanes. The length of the project will be determined by its financial feasibility. The project consists of grade separations (overpasses) at all intersecting streets to provide a new variable-priced travel option for all travelers. The project is expected to enhance current bus transit service along the Busway by improving travel time and opportunities for enhanced operations. The managed lanes will be toll-free for transit buses, will not preclude future metrorail extension to the South, will retain the bus lanes and the Bike path and will keep the US-1 highway toll-free.

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Photo by Asad Gilani