Broward MPO
Metropolitan Planning Organization

Move People & Goods | Create Jobs | Strengthen Communities

Commitment 2045 Metropolitan Transportation Plan

Final Report

Adopted December 12, 2019

Amendment No. 01 - January 28, 2021

Amendment No. 02 - March 10, 2022

Amendment No. 03 - February 9, 2023

Amendment No. 04 - February 8, 2024









COMMITMENT 2045

Broward MPO
Metropolitan Planning Organization

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Commitment is what transforms a promise into reality.

–Abraham Lincoln

The *Commitment 2045* Metropolitan Transportation Plan (MTP) is the result of a two-year collaboration of the MPO and its partners. The Plan lays out a multimodal transportation system from 2020 through 2045.

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COMMITMENT 2045

Metropolitan Transportation Plan

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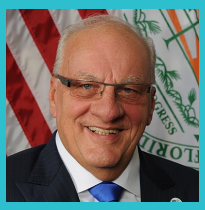
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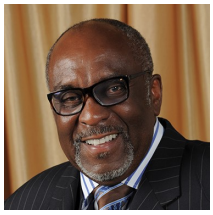
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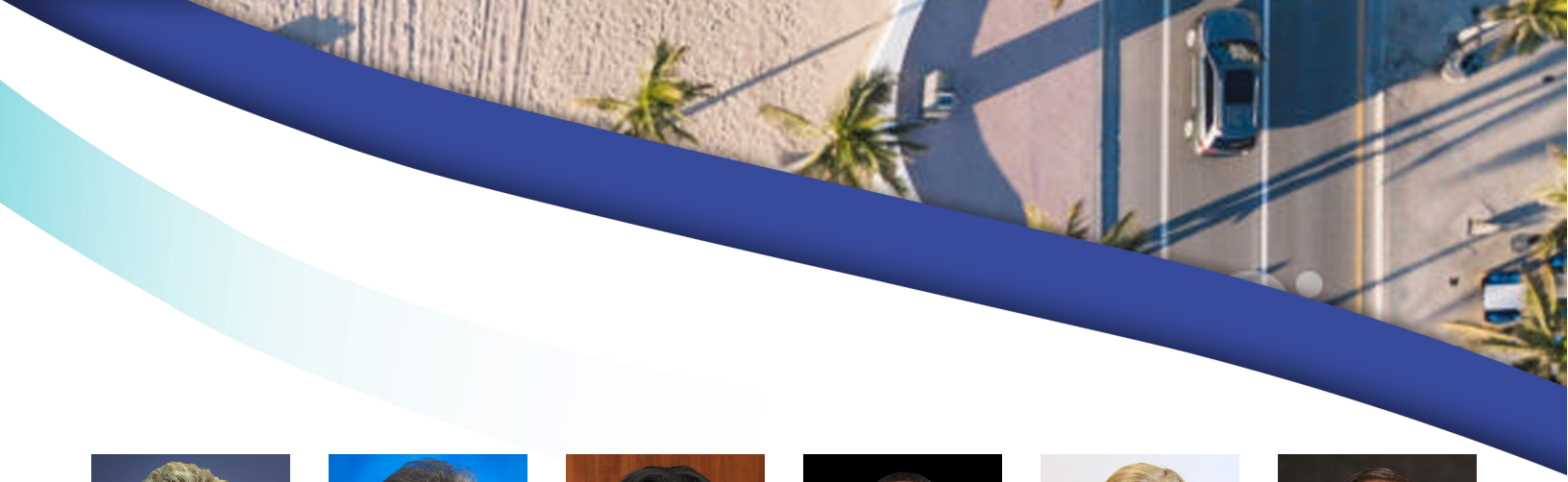
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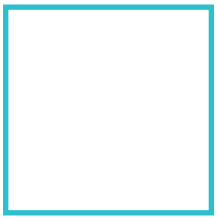
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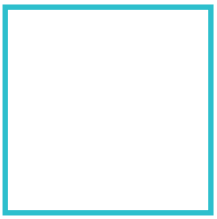
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Acronyms

AADT	Annual Average Daily Travel
AAF	All Aboard Florida
ACES	Automated, Connected, Electric, Shared (vehicles)
ACS	American Community Survey
AV/CV	Autonomous Vehicles/Connected Vehicles
BCT	Broward County Transit
CAC	Citizens Advisory Committee
CDC	Center for Disease Control and Prevention
CFP	Cost Feasible Plan
CMAQ	Congestion Mitigation and Air Quality
CMP	Congestion Management Process
CSLIP	Complete Streets and Other Localized Initiatives Program
CSMP	Complete Streets Master Plan
DHS	Department of Homeland Security
EJ	Environmental Justice
EMD	Emergency Management Division
ELMS	Enhanced Local Mitigation Strategy
EST	Environmental Screening Tool
ETDM	Efficient Transportation Decision Making
FDOT	Florida Department of Transportation
FEC	Florida East Coast Railway
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FTAC	Freight Transportation Advisory Committee
FTP	Florida Transportation Plan
HSIP	Highway Safety Improvement Program
ICT	Information and Communications Technology
IRI	International Roughness Index
ITS	Intelligent Transportation Systems
LCB	Local Coordinating Board
LEP	Limited English Proficiency
LOS	Level of Service
LOTTR	Level of Travel Time Reliability
LRTP	Long Range Transportation Plan
MAP	Mobility Advancement Program (Broward County)
MOD	Mobility on Demand
MPO	Metropolitan Planning Organization
MPOAC	Metropolitan Planning Organization Advisory Council
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards

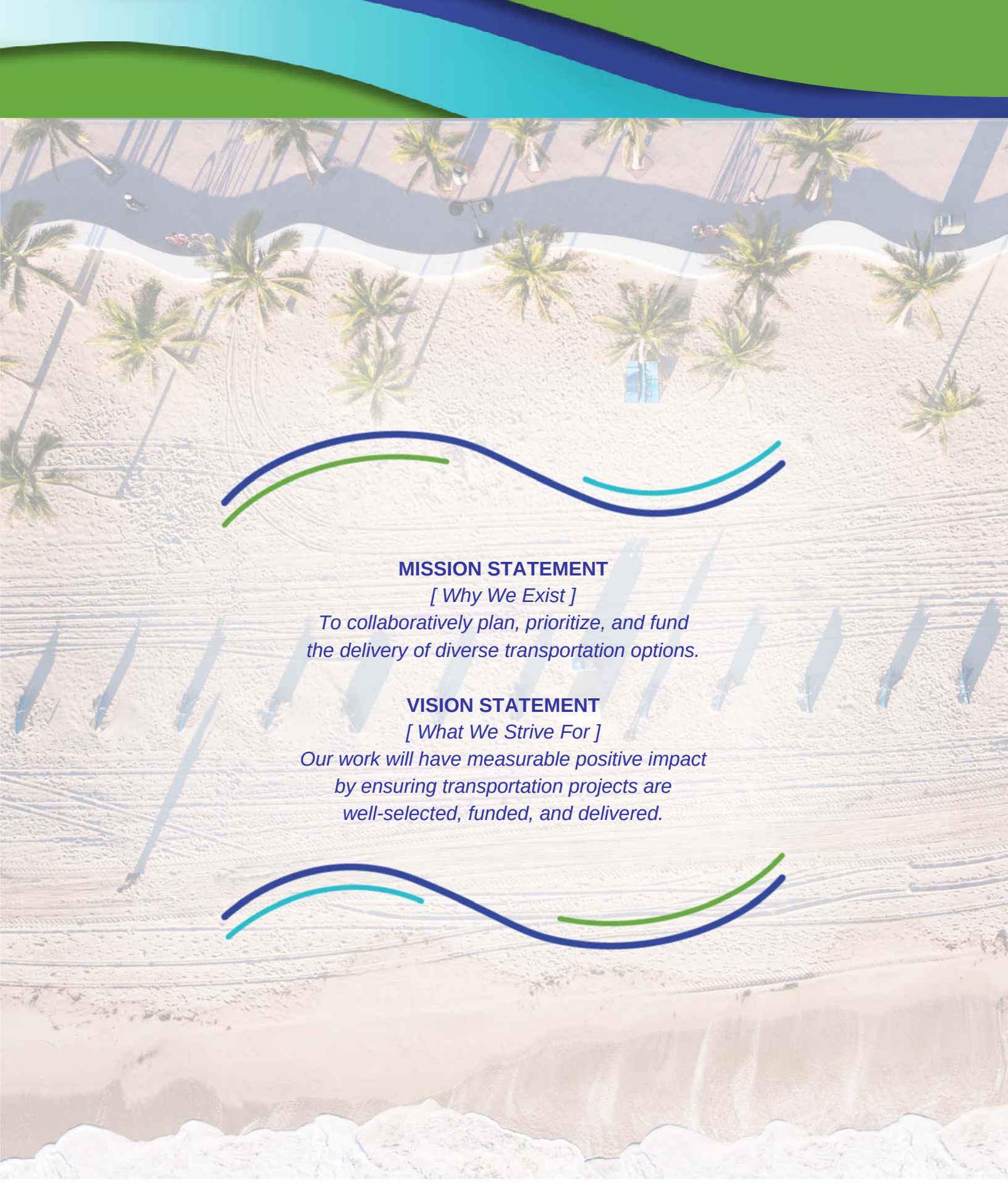
NHFP	National Highway Freight Program
NHPP	National Highway Performance Program
NHS	National Highway System
NPMRDS	National Performance Management Research Data Set
NPTSP	National Public Transportation Safety Plan
PHED	Peak Hour Excessive Delay
PSR	Present Serviceability Rating
PTASP	Public Transportation Agency Safety Plan
RTP	Regional Transportation Plan
SEFTC	Southeast Florida Transportation Council
SERPM	Southeast Regional Planning Model
SFRC	South Florida Rail Corridor
SFRTA	South Florida Regional Transportation Authority
SHSP	Strategic Highway Safety Plan
SIS	Strategic Intermodal Systems
SOV	Single-Occupancy Vehicle
SR	State Road
TAC	Technical Advisory Committee
TAM	Transit Asset Management
TDP	Transit Development Plan
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TNC	Transportation Network Company
TPA	Transportation Planning Agency
TPO	Transportation Planning Organization
TRIP	Transportation Regional Incentive Program
TTTR	Truck Travel Time Reliability
TSM&O	Transportation Systems Management and Operations
UASI	Urban Areas Security Initiative
ULB	Useful Life Benchmark
USDOT	United States Department of Transportation
UPWP	Unified Planning Work Program
VHT	Vehicle Hours Travelled
VMT	Vehicle Miles Traveled
YOE	Year of Expenditure

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1



Introducing *Commitment 2045*



MISSION STATEMENT

[Why We Exist]

To collaboratively plan, prioritize, and fund the delivery of diverse transportation options.

VISION STATEMENT

[What We Strive For]

Our work will have measurable positive impact by ensuring transportation projects are well-selected, funded, and delivered.

THE BROWARD MPO

The Broward Metropolitan Planning Organization (MPO) is a federally-mandated agency responsible for setting policy on local transportation issues and deciding how to spend Federal and State funding on transportation projects in the Broward region. The MPO seeks to address overall mobility needs based on the needs and aspirations of residents, businesses, and visitors.

The Broward MPO's mission is to collaboratively plan, prioritize, and fund the delivery of diverse transportation options. Through the *Commitment 2045* Metropolitan Transportation Plan (MTP), the MPO emphasizes the need for reliable transit, bicycle, pedestrian, freight, and roadway projects that promote economic strength and environmental conservation and improve the quality of life.

The MPO uses the MTP to guide the use of Federal, State, and other funds to create a transportation system that moves people and goods, creates jobs, and strengthens communities within its planning area. The MPO also works with citizens, the private sector, and its planning partners to ensure that the transportation options funded in *Commitment 2045* best represent the direction chosen in the context of policy direction from the MPO Board.

Figure 1-1 illustrates the Core Products of the Broward MPO; the MTP is a critical guiding document for all other core products. These Core Products include:

- *MTP* – Also known as a long-range transportation plan; guides investment in Broward's transportation system for the next 25 years.
- *Multimodal Priorities List* – Annual list of multimodal transportation priorities.
- *Transportation Improvement Program (TIP)* – Five-year comprehensive list of Federal, State, and local funded transportation projects, including transit, roadways, bridges, aviation, seaport, rail and commuter rail, bicycle facilities, pedestrian provisions, and enhancement projects such as landscaping and greenways.
- *Unified Planning Work Program (UPWP)* – Two-year operational budget of the MPO (operations, work program development, and transportation and related planning responsibilities).
- *Strategic Business Plan* – Action-oriented business plan that reflects strategic direction provided by the MPO Board.
- *Public Participation Plan* – Plan to guide the public participation activities of MPO staff to achieve the MPO Board's Mission and Vision.

Figure 1-1: Core Products of the Broward MPO



WHAT IS *COMMITMENT 2045*?

The Broward MPO developed the *Commitment 2045* MTP in accordance with the requirements of the US Department of Transportation's Fixing America's Surface Transportation (FAST) Act, Florida Statutes, and Federal metropolitan transportation planning regulations.

The MTP documents the plan development process, transportation needs in the Broward region, and a transportation plan that can be funded with sources that are reasonably expected to be available between today and 2045. As part of the MTP, the MPO developed and now manages six funding programs (Figure 1-2) that support the allocation and monitoring of transportation investments in these critical transportation funding categories. Federal, State, and local transportation revenues are allocated to these six funding programs based largely on eligible use requirements dictated by funding agencies and, to the extent possible, policy direction from the MPO Board for sources that offer some flexibility in their allocation.

The MTP also continues the pattern established in the previous plan updates (2035 and 2040) to provide a balanced transportation system that optimizes mobility and accessibility and supports economic growth through investments in a multimodal transportation system within existing resources. As a result, *Commitment 2045* ties directly back to the three key goals and numerous associated objectives illustrated below.



Move People & Goods

- Maintain Infrastructure
- Provide Transportation Options
- Manage Roadway Congestion
- Improve Transit, Auto, and Truck Travel Time Reliability/Consistency
- Improve Transportation Accessibility for All Users
- Improve Safety and Security for All Users
- Increase Transit Ridership
- Shorten Project Delivery



Create Jobs

- Maintain or Reduce Average Travel Times to Major Economic Centers
- Support Smart Growth and Transit-Oriented Development
- Support Efficient Transportation Investments
- Maximize Private Investments in Transportation Service Provision
- Fund and Support the Implementation of Multimodal Transportation Projects



Strengthen Communities

- Improve Transportation Accessibility for All Users
- Strive for the Equitable Distribution of Transportation Benefits and Costs
- Reduce Pollutant Emissions Generated by Mobile Transportation Sources
- Promote Resiliency in Response to Climate Change and Weather Related Events
- Distinguish Quality of Life Considerations by Community
- Consider Financial Burden on Communities that May Result from Transportation Investments.

COMMITMENT 2045 THEMES

The following three themes were continually referenced throughout development of the *Commitment 2045* MTP.

SCENARIOS

Five transportation improvement scenarios emphasize different perspectives and ultimately establish a 2045 Needs Plan that blends the best elements of each scenario.

FUNDING

A more thorough understanding of transportation funding sources, their eligible uses, and how each is allocated and assigned to transportation improvement projects is accomplished as part of the *Commitment 2045* MTP.

PLANNING EVOLUTION

The evolution of transportation planning for the Broward region, a key theme for the MPO, looking back historically (1977 to present), planning for the next 25 years (2020 to 2045), and imagining a vision for the long-term future of the region (Vision 2100).

Figure 1-2: Broward MPO Funding Programs

The Broward MPO developed a new approach to funding transportation projects and now manages funding programs in six major categories:



MPO COMMITMENT & STORY

The *Commitment 2045* MTP shows the Broward MPO's strong commitment to:

- **Projects** that will improve Broward's multimodal transportation system within the existing planning and transportation funding framework
- **Initiating a Call to Action** to collaboratively work toward changing how transportation improvements are funded at the Federal and State government levels and to seek more flexibility and local autonomy
- **Setting the stage for Broward Vision 2100**, an aspirational vision for transportation in the region that goes beyond *Commitment 2045* by reflecting on opportunities presented by growth, technology, resiliency, and other new and emerging issues that will influence the future of the region

The Broward MPO commitment and story are communicated through three key planning documents:

- *STARTED Plan (Strategic Transportation and Regional Transit Economic Development Plan)* – provides the history of how the MPO and its plans have evolved over the past four decades to where the MPO is today.
- *Commitment 2045 MTP* – the 25-year transportation plan that identifies and prioritizes transportation improvements that can be funded with resources projected to be available from 2020 through 2045. It fulfills the requirements set forth by Federal and State law and provides the policies and strategies to guide all other activities of the MPO.
- *Broward Vision 2100* – describes and illustrates the vision for Broward in 2100. It is intended to be aspirational, identifying and illustrating opportunities that leverage new and emerging technologies to increase transportation options, resiliency, and quality of life.

Plan Development Process

Commitment 2045 was developed using a systematic process designed to respond to the following:

- Policy guidance from the Broward MPO Board
- FAST Act Metropolitan Transportation Planning and Programming (23 C.F.R., Part 450, Subpart C)
- Florida statutory requirements (Florida Statutes Title XXVI; Public Transportation, Chapter 339, Section 175)
- Federal Highway Administration (FHWA) / Federal Transit Administration (FTA) 2045 Long Range Transportation Plan Expectations (January 2018)
- Florida MPO Advisory Council (MPOAC), Financial Guidelines for MPO 2045 Long-Range Transportation Plans (July 13, 2017)

As illustrated in Figure 1-3, the plan development process for *Commitment 2045* is organized into seven major steps, with ongoing input from the public, MPO committees, and the MPO Board occurring throughout. Appendix A provides a checklist showing how and where the long-range transportation planning requirements are addressed in *Commitment 2045*.

Figure 1-3: Commitment 2045 Plan Development Process



Federal Context

Signed into law on December 4, 2015, the FAST Act builds upon the previous Federal transportation act, Moving Ahead for Progress in the 21st Century Act (MAP-21), by continuing to focus on transportation system condition and performance while providing greater emphasis on intermodal strategies that contribute to safety, security, efficiency, productivity, reliability, and resiliency. The FAST Act also aims to reduce the environmental impacts of freight movement while providing the US with a platform to compete in the global marketplace.

A significant part of the reforms made by MAP-21 included transitioning to a performance-based planning program, including establishing national performance goals for Federal-aid highway programs and incorporating performance goals, measures, and targets into the process of identifying needed transportation improvements and project selection. The FAST Act supports and continues this overall performance management approach, with states investing resources in projects that collectively will make progress toward national goals.

The FAST Act reflects 10 planning factors to be addressed in the 2045 MTP. Table 1-1 illustrates how the three Broward MPO goals relate to the planning factors and are addressed throughout the plan development process. For additional information, refer to Chapter 3.

Table 1-1: 2045 MTP Goals and FAST Act Planning Factors

FAST Act Planning Factors	2045 MTP Goals		
	Goal #1: Move People & Goods	**Goal #2: Create Jobs**	**Goal #3: Strengthen Communities**
Support Economic Vitality	✓	✓	✓
Increase Safety	✓		✓
Increase Security	✓		✓
Increase Accessibility and Mobility of People and Freight	✓	✓	✓
Improve Quality of Life, Environment, Energy Conservation, and Plan Consistency	✓	✓	✓
Enhance Integration and Connectivity Across and Between Modes	✓		✓
Promote System Management and Operations	✓		✓
Emphasize Preservation of the Existing System	✓		✓
Improve Resiliency and Reliability	✓	✓	✓
Enhance Travel and Tourism	✓	✓	✓

Florida Context

The Florida Transportation Plan (FTP) is the long-range transportation plan for the entire state of Florida. Its purpose is to provide strategic direction to the Florida Department of Transportation (FDOT) and its planning partners at all levels of government—state, regional, and local.

The FTP has three distinct elements:

- Vision Element – Florida's transportation system vision (50-year horizon)
- Policy Element – builds upon the Vision and outlines the goals and objectives for Florida's transportation system (25-year horizon)
- Implementation Element – provides specific direction, identifies roles and responsibilities for each planning partner, and calls for performance measures as a means of implementing and evaluating the progress of the FTP.

FDOT developed the FTP in partnership with public and private stakeholders to define transportation goals, objectives, and strategies to make the Florida economy more competitive, its communities more livable, and its environment more sustainable for future generations. The goals for the FTP are provided in Figure 1-4.

Partnerships

The MPO worked closely with its partners throughout the Broward region to collaborate in the development of *Commitment 2045*. Partners include the following:

- Broward County
- The county's 31 municipalities
- FDOT District 4
- Florida's Turnpike Enterprise
- South Florida Regional Transportation Authority (SFRTA)
- Fort Lauderdale-Hollywood International Airport
- Port Everglades
- Broward County School Board
- Southeast Florida Transportation Council
- Miami-Dade Transportation Planning Organization (TPO)
- Palm Beach Transportation Planning Agency (TPA)
- South Florida Regional Planning Council

Figure 1-4: Florida Transportation Plan Goals (2015)

FTP GOALS (2015)

- Safety and Security for Residents, Visitors, and Businesses
- Agile, Resilient, and Quality Infrastructure
- Efficient and Reliable Mobility for People and Freight
- More Transportation Choices for People and Freight
- Transportation Solutions that Support Florida's Global Economic Competitiveness
- Transportation Solutions that Support Quality Places to Live, Learn, Work, and Play
- Transportation Solutions that Support Florida's Environment and Conserve Energy

CONSISTENCY WITH OTHER PLANS

Many plans developed by partners of the MPO are critically important to the region and *Commitment 2045*. The MPO made a concerted effort to ensure consistency to the maximum extent possible with relevant plans and programs in the region.

The Southeast Florida Region: Three Counties, One Traveling Public

The Southeast Florida region is made up of Broward County and the neighboring counties of Miami-Dade and Palm Beach. Collectively, the region has a population of 5.85+ million people and is expected to reach nearly 7.5 million over the next 25 years, making it the fourth most populous urbanized area in the nation.

Whereas the Miami-Dade, Broward, and Palm Beach Metropolitan Planning Organizations (MPOs) have always maintained cooperative working relationships with each other, their alliance solidified when the 2000 Census data were released defining the eastern portion of 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 partnership was formalized through an Interlocal Agreement. Since its inception, SEFTC has approved:

- Regional goals and objectives
- Regional corridors of significance
- Regional transportation plans
- Project lists for Transportation Regional Incentive Program (TRIP) funding

Over the past decade, the region has adopted two Regional Transportation Plans (RTP) that have impacted the way we look at regional movement and infrastructure needs with an emphasis on transit. During the development of this 2045 MTP, the region has been concurrently working on its third RTP evaluating different future scenarios. The scenarios being assessed consider how we can create a future transportation system that provides safe, affordable, and convenient travel options for all while reducing the dependency on vehicle ownership and in return decreasing environmental impacts and improving overall quality of life for our residents. More information on the scenario planning used in the RTP can be found in Chapter 3.

Broward County Mobility Advancement Program (MAP)

In November 2018, voters approved a local 1-cent, 30-year surtax to increase mobility and address transportation challenges in Broward County. The detailed plan is designed to reduce traffic congestion, improve roads and bridges, enhance traffic light timing, develop safe sidewalks and bike paths, expand mass transit, fully fund special needs/on-demand services and community shuttles, connect greenways, enhance school safety zones, and fund a variety of transportation projects. The implementation program for MAP is in its early stages and will need to be more formally integrated into the MTP through the amendment process in 2020.

Long Range Transportation Plans in Communities Adjacent to Broward

The Miami-Dade TPO and the Palm Beach TPA developed long range transportation plans concurrently with the Broward MPO. These planning efforts were coordinated closely through SEFTC and its committees and through the Regional Transportation Plan noted previously.

Other Local Plans and Programs

Through its Technical Advisory Committee (TAC), the MPO worked closely with Broward County, municipalities, and other agency partners to coordinate and ensure consistency with local plans and programs such as local comprehensive plans and transit development plans, among others.

DOCUMENT ORGANIZATION

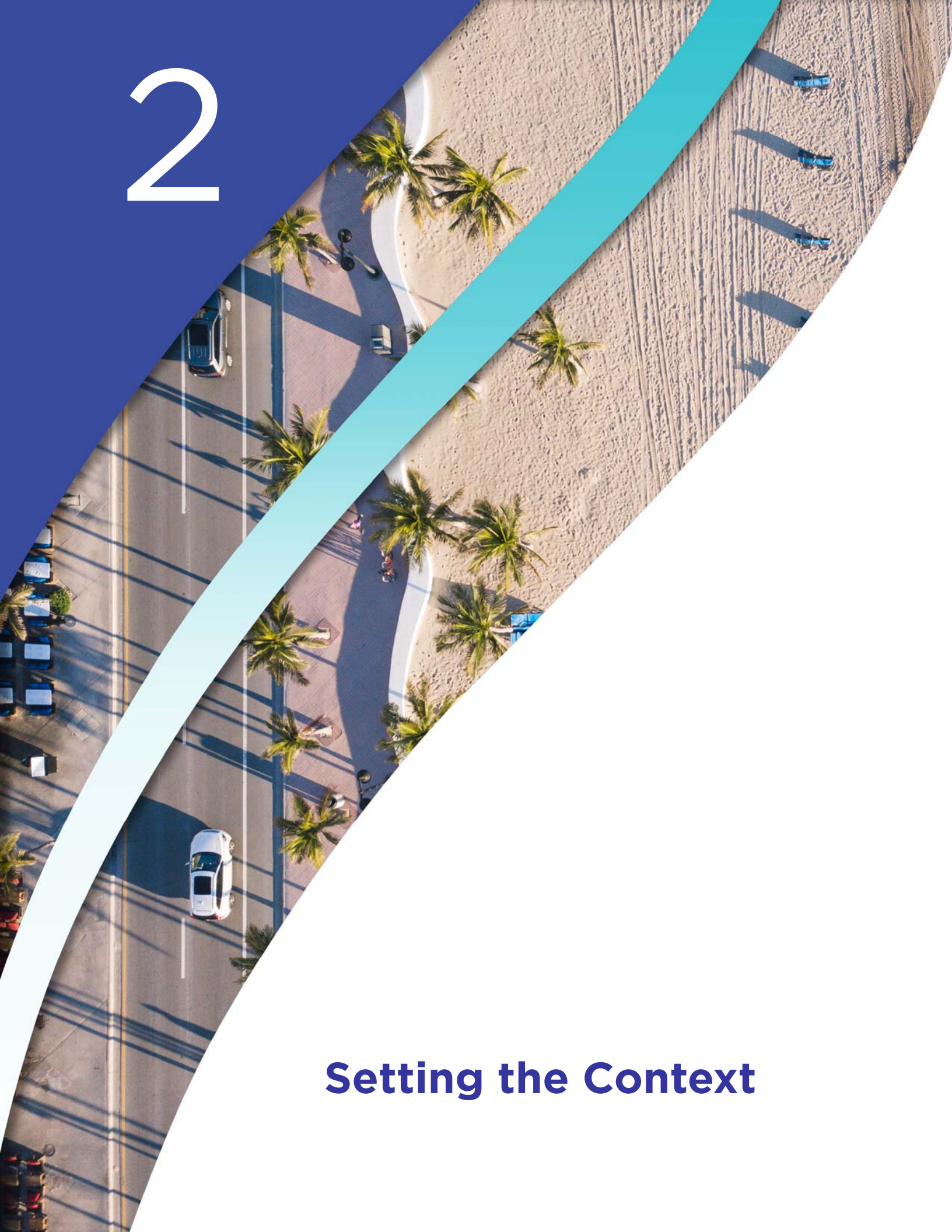
The *Commitment 2045* MTP is organized into seven major chapters and numerous supporting appendices:

- Chapter 1 – Introduction to *Commitment 2045*
- Chapter 2 – Setting the Context
- Chapter 3 – Guiding the Plan
- Chapter 4 – Identifying Needs
- Chapter 5 – Funding Projects
- Chapter 6 – Measuring Performance
- Chapter 7 – Summary & Call for Action

Technical reports related to the MTP are available as separate documents on the *Commitment 2045* web page at:

Broward MPO Commitment 2045 MTP Web Page
www.browardmpo.org/commitment-2045-metropolitan-transportation-plan

2



Setting the Context



The Commitment 2045 MTP responds to the significant challenges associated with population growth projected through 2045 in Broward and in the region. Broward County's population is projected to increase from 1.9 million in 2018 to 2.2 million in 2045, an increase of nearly 16%. Over this same time period, the population in the greater metropolitan region is projected to increase from 5.85+ million to 7.5 million.

INTRODUCTION

The Broward region is located in the center of the Miami Urbanized Area, the 4th largest urbanized area in the US. This location is of vital importance for the local, national, and global economies, with Port Everglades and the Fort Lauderdale–Hollywood International Airport serving as gateways to Latin America, the Caribbean, and the rest of the US and the world. Being in the center means the regional transportation system is an integral part of Broward's transportation system.

The Broward MPO works closely with the Palm Beach TPA and the Miami-Dade Transportation TPO through SEFTC, whose goals are to foster coordination among the three planning agencies and to develop a Regional Transportation Plan (RTP) that identifies transportation issues that cross county boundaries and impact the overall region (the entire Miami Urbanized Area). SEFTC was created through an Interlocal Agreement on January 9, 2006.Through SEFTC, the three planning agencies work with FDOT and others on a variety of regional plans, including the 2040 Southeast Florida Regional Freight Plan, the Regional Transportation System Management & Operations Strategic Plan, the Regional Climate Action Plan, and many others.

The basis for any successful planning process is (1) understanding existing conditions, (2) developing thoughtful projections of future conditions, (3) identifying challenges, (4) developing solutions to meet those challenges, and (5) determining the most appropriate solution(s) through analysis and public engagement. This chapter addresses the first two steps of the planning process and provides insights into emerging challenges and the scenario planning effort that was undertaken to help identify potential solutions outside of the conventional approach. The chapter concludes with a discussion of how Broward is addressing equity as part of this MTP.

EXISTING CONDITIONS

Broward comprises 1,230 square miles, with 431 square miles[1] located in the urbanized area and the remainder in water conservation areas, as shown in Map 2-1. The urbanized area is considered the developable area of the Broward region and is where the majority of the MPO's transportation investments are focused. Although some vacant land exists in patches in the urbanized area, the bulk of the land development that will occur in Broward in the future will be redevelopment that increases the density and intensity of the urbanized area.

EXISTING TRANSPORTATION FACILITIES

Maps 2-2 through 2-4 show the existing transportation facilities and services in Broward.

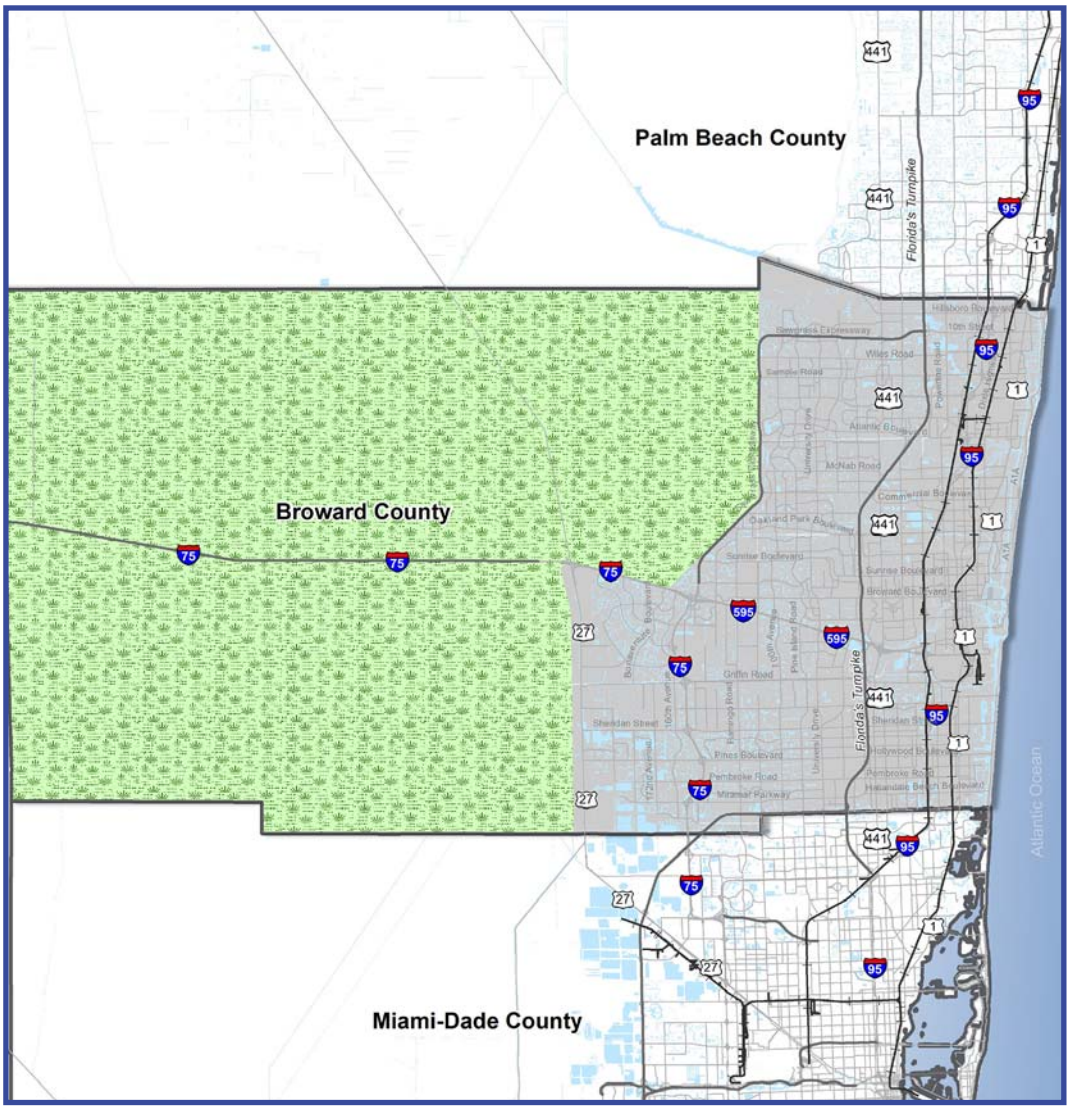
Figure 2-1 provides summary statistics about Broward's transportation system, and Figure 2-2 provides summary statistics for the Miami Urbanized Area's transportation system.

Maps 2-5 and 2-6 illustrate the existing regional transportation facilities and services in the Miami Urbanized Area and the Broward region, respectively.

[1] Broward County Planning Council, "Setting for Countywide Planning," accessed from http://www.broward.org/PlanningCouncil/Pages/Setting.aspx, on May 7, 2019.

Map 2-1:
Broward MPO Planning Area

Urbanized Area
Water Conservation Areas



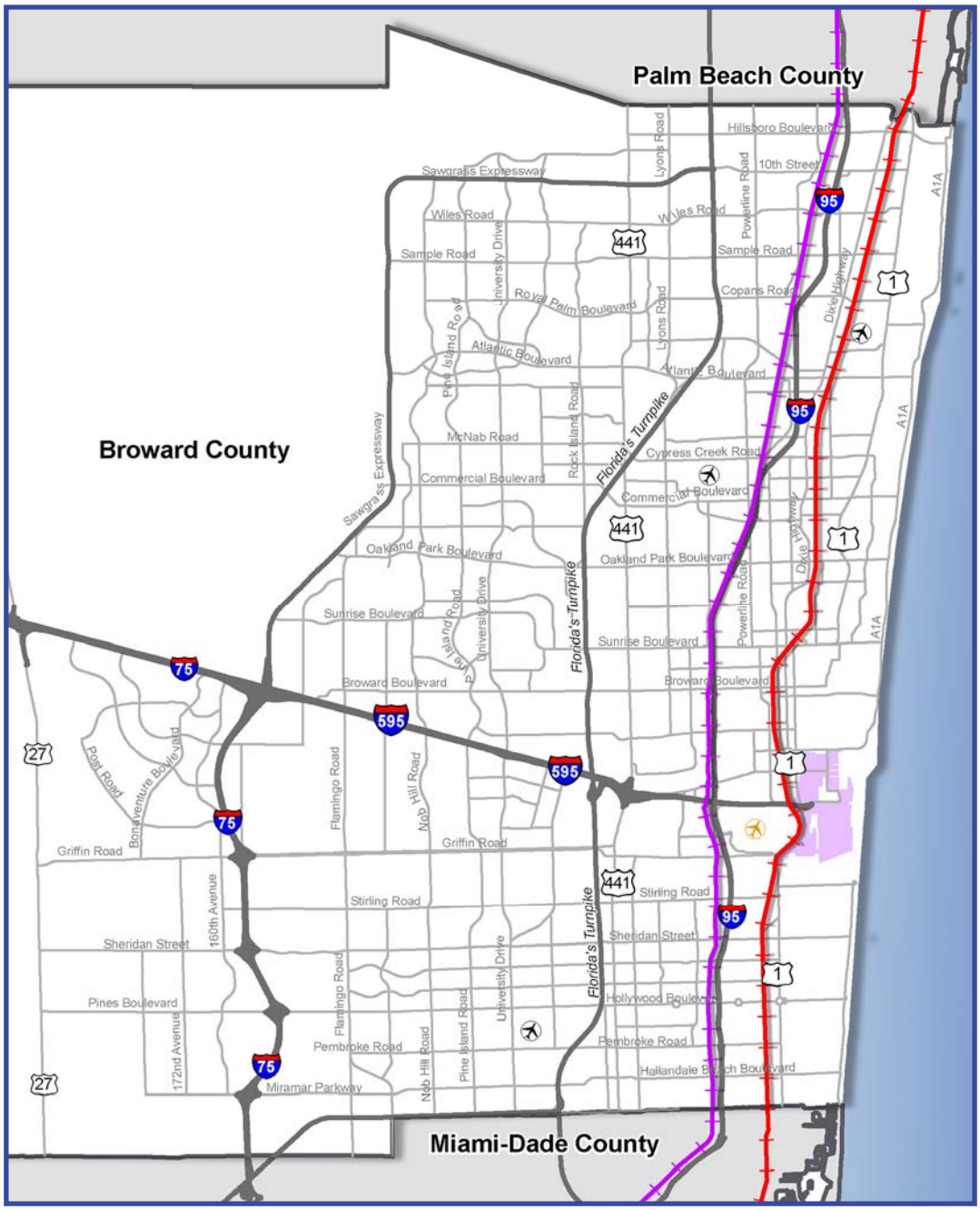
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Map 2-2:
Broward Region Existing Transportation System: Roadways, Railroads, Port and Airports

- South Florida Rail Corridor (SFRC)[1]
- Florida East Coast (FEC) Railway[2]
- Interstates
- Major Roads
- Fort Lauderdale-Hollywood International Airport
- Other Broward County Airports
- Port Everglades

Notes:

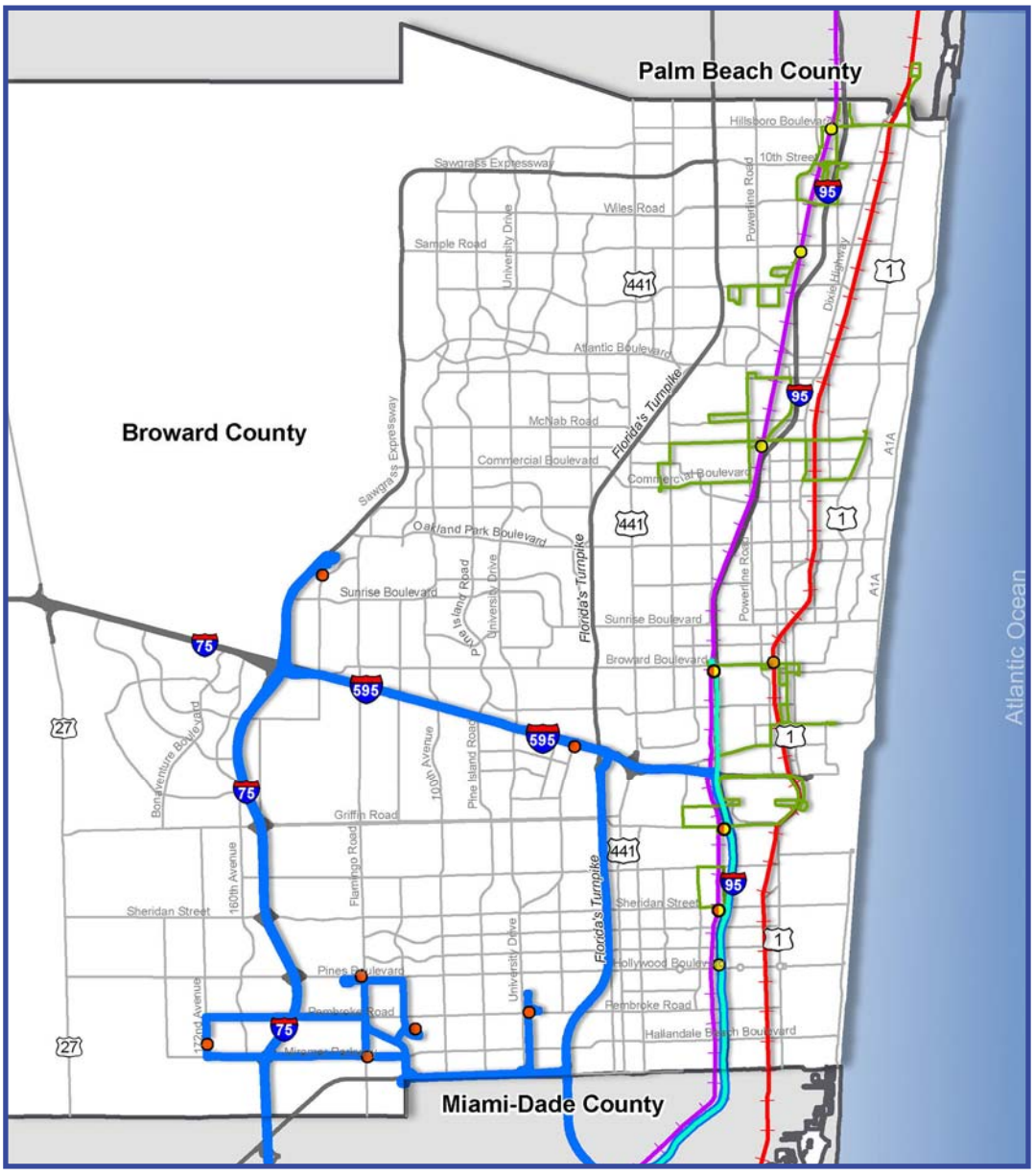
1. SFRC is used by Tri-Rail, Amtrak, and freight services.
2. FEC is used by freight and private passenger rail services.



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Map 2-3:
Broward Region Existing Transportation System: Regional Transit

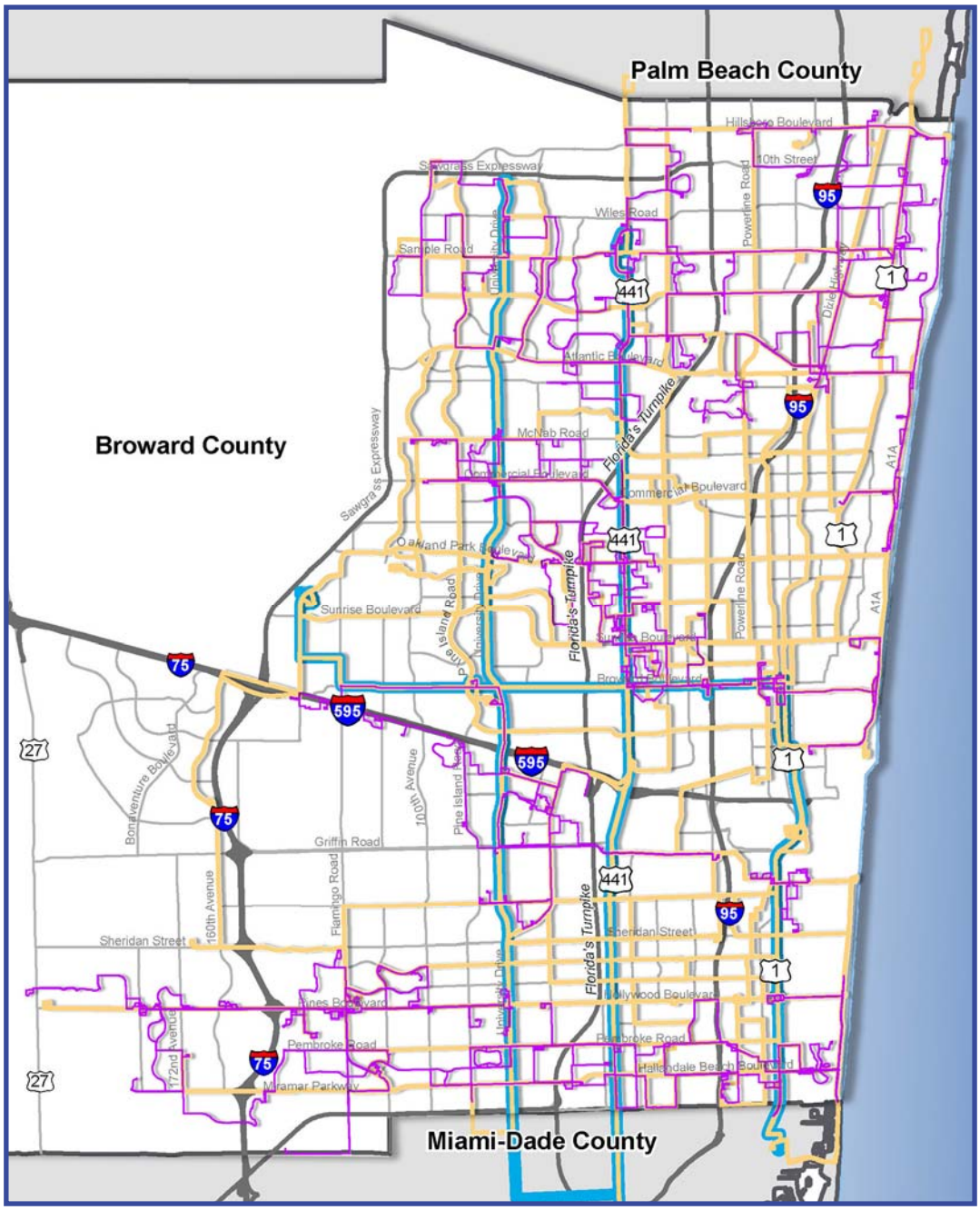
- Express Bus Stations
- Brightline/Virgin Trains Station
- Tri-Rail Stations
- Express Bus Operated by Miami-Dade Transit
- SFRTA Shuttle Routes
- Express Bus Operated by Broward County Transit
- Tri-Rail and Amtrak
- Brightline/Virgin Trains
- Major Roads
- Interstates



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Map 2-4:
Broward Region Existing Transportation System:
Local Transit

- Community Shuttles
- Local Bus
- The Breeze
- Interstates
- Major Roads



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Figure 2-1: Transportation Statistics, Broward Region, 2017

Broward Region Roadways (2017)

Type of Roadway	Centerline Miles	Daily Vehicle Miles Traveled (VMT)
Interstates (I-95, I-75, I-595)	84	11.1 million
Florida's Turnpike & Sawgrass Expressway	54	5.7 million
Arterials (e.g., SR-7, Broward Blvd)	582	19.2 million
Collectors (e.g., Dixie Hwy, Davie Rd)	419	4.6 million
Local (neighborhood streets)	3,944	7.1 million
TOTAL	**5,083**	**47.7 million**

Source: FDOT, Transportation and Data Analytics Office

Broward Region Transit (2017)

Type of Transit	Miles	Annual Passenger Trips	Number of Routes	Number of Stops/ Stations
Commuter Rail (Tri-Rail)	25	1.6 million[1]	1	7
Intercity Rail (Virgin Brightline)	25	Not available	1	1
Express Bus (I-95 or I-595 Express)	N/A	0.6 million[2]	6[3]	8
Local Routes (includes Breeze)	N/A	26.0 million[2]	38[3]	4,575[4]
Community Routes	N/A	2.3 million[2]	54[3]	N/A
Tri-Rail Connectors	152	0.9 million[2]	11	N/A
TOTAL	**202+**	**31.4+ million**	**111**	**4,591+**

Sources: [1]SFRTA Operations Reports for 2017 boardings at Broward stations, [2]FDOT Urban Integrated Transit Database, [3]Broward County Transit Development Plan Major Update 2019-2029, December 2018, [4]Broward County Transit Facts, December 2017.

Port Everglades (2017)

Freight Twenty-Foot Equivalent Units	1.1 million
Cruise Passengers	3.9 million

Source: Broward County

Fort Lauderdale-Hollywood International Airport (2017)

Cargo Tons	0.5 million
Passengers	15.8 million

Source: Broward County

Figure 2-2: Transportation Statistics, Miami Urbanized Area, 2017

Miami Urbanized Area Roadways (2017)

Type of Roadway	Centerline Miles	Daily Vehicle Miles Traveled (VMT)
Interstates (I-95, I-75, I-595)	158	26.0 million
Florida's Turnpike	210.5	21.6 million
Arterials (e.g., SR-7, Broward Blvd)	1,896.3	55.9 million
Collectors (e.g., Dixie Hwy, Davie Rd)	1,648.2	16.0 million
Local (neighborhood streets)	12,409.7	22.2 million
TOTAL	**16,322.8**	**141.7 million**

Source: FDOT, Transportation and Data Analytics Office

Miami Urbanized Area Transit (2017)

Type of Transit	Miles	Annual Passenger Trips[1]	Number of Routes[2]	Number of Stops/ Stations
Commuter Rail (Tri-Rail)	70.9	4.3 million	1	18
Intercity Rail (Virgin Brightline)	67	Not available	1	3
Bus (All types)	N/A	96.2 million	239	N/A
Metrorail*	25	20.0 million	2	23
Metromover*	4	9.5 million	3	21
TOTAL	**166.9 +**	**130+ million**	**246**	**65+**

**These transit services available only in Miami-Dade County.*
Sources: [1]FDOT Urban Integrated Transit Database and [2]Broward, Miami-Dade, and Palm Beach counties as appropriate.

Port Activity (2017)

Port	Freight (TEUs)	Cruise Passengers
Port Everglades	1.1 million	3.9 million
Port Miami	1.0 million	5.3 million
Port of Palm Beach	0.3 million	0.4 million
TOTAL	**2.4 million**	**9.6 million**

Sources: Broward County, Miami-Dade County, Palm Beach County

International Airports Activity (2017)

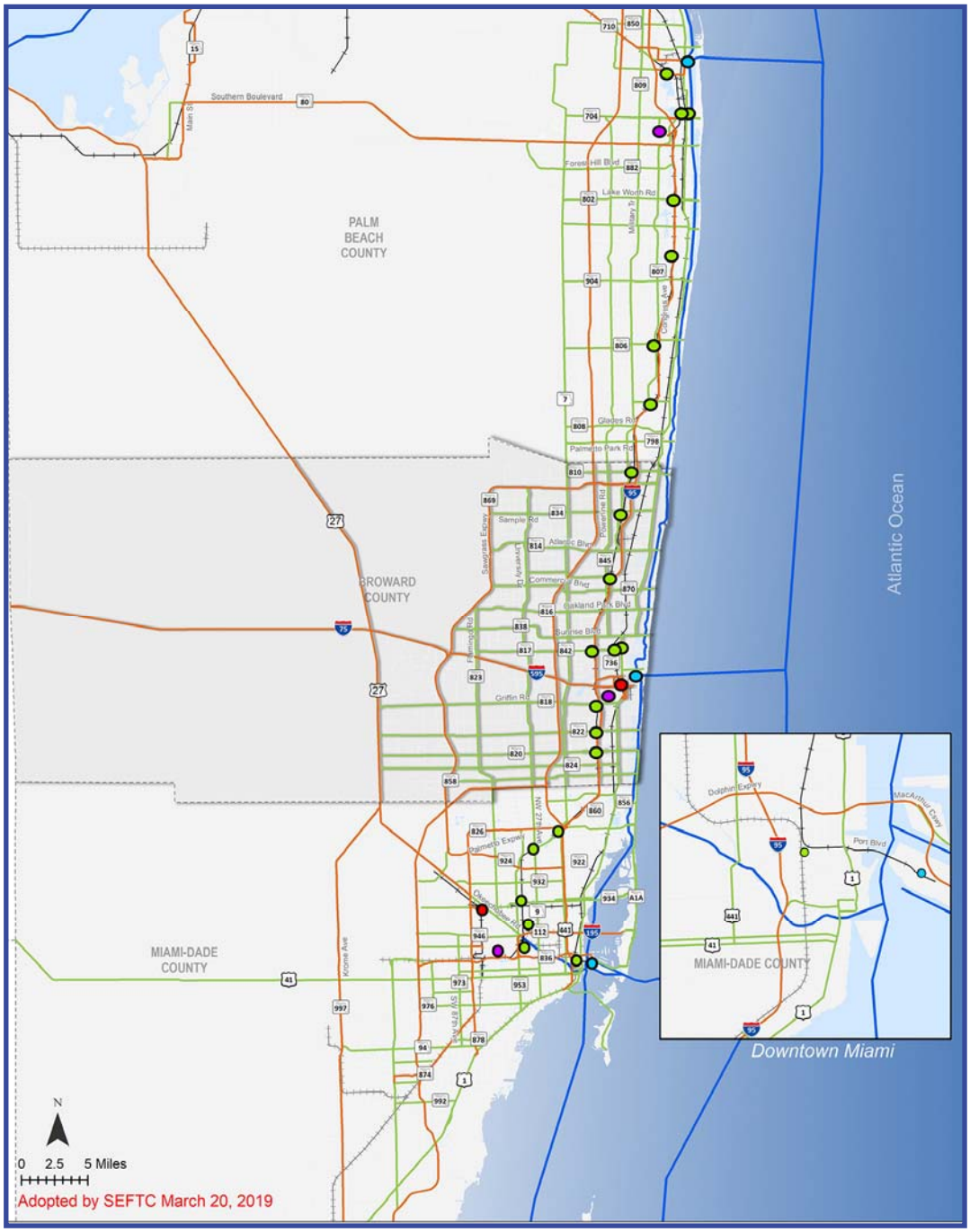
Airport	Cargo Tons	Passengers
Fort Lauderdale-Hollywood Intl.	0.5 million	15.8 million
Miami Intl.	2.3 million	44.1 million
Palm Beach Intl.	0.03 million	6.3 million
TOTAL	**2.83 million**	**66.2 million**

Sources: Broward County, Miami-Dade County, Dade County, Palm Beach County

Map 2-5:
Miami Urbanized Area
Regional Transportation Network

Regional Facilities
- SIS Roadways
- Other Roadways
- SIS Rail Lines
- Other Active Rail Lines
- SIS Waterways

Regional Hubs
- Passenger Terminal
- Freight Terminal
- Seaport
- Airport

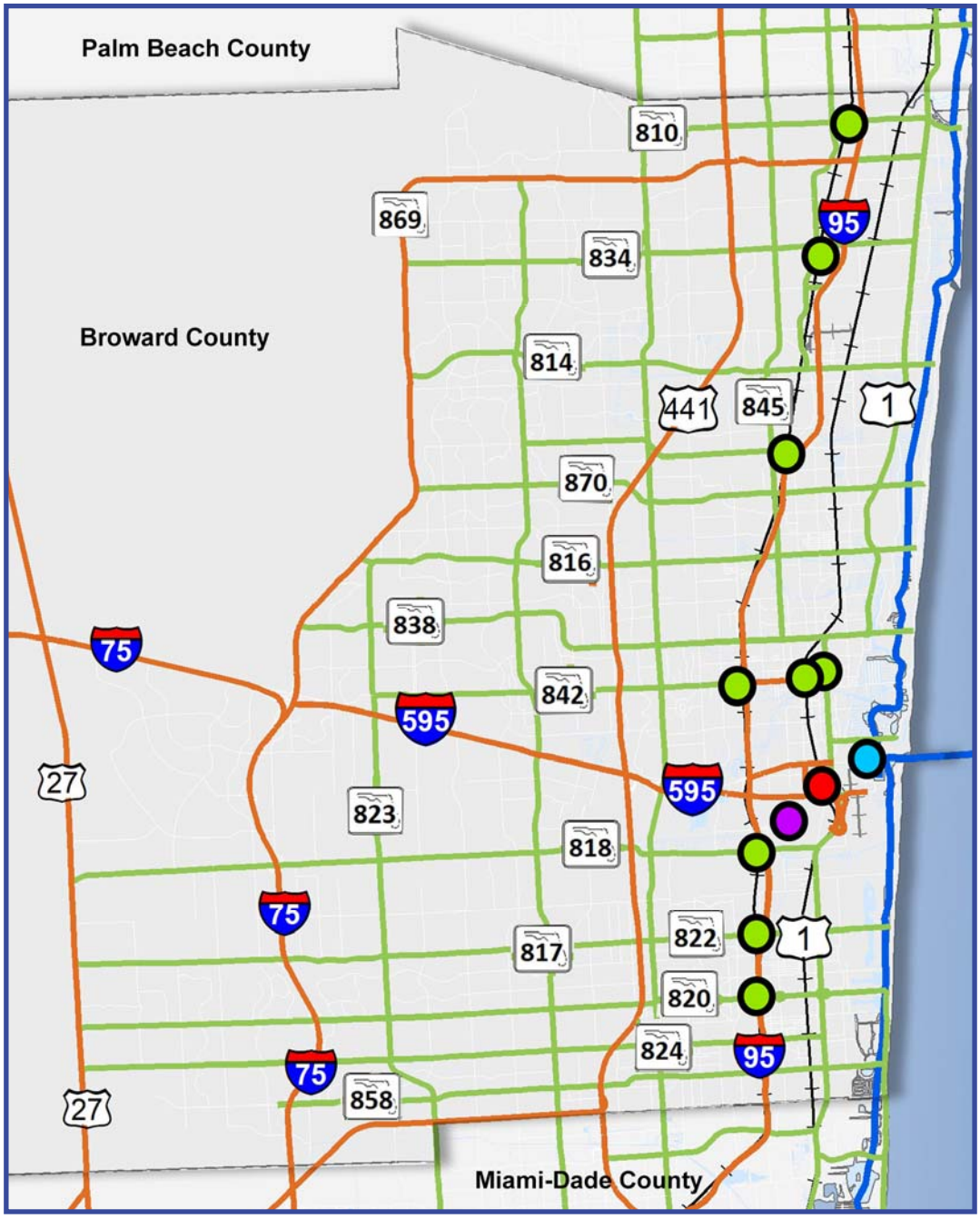


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Map 2-6:
Miami Urbanized Area
Regional Transportation Network—Broward

Regional Facilities
- SIS Roadways
- Other Roadways
- SIS Rail Lines
- Other Active Rail Lines
- SIS Waterways

Regional Hubs
- Passenger Terminal
- Freight Terminal
- Seaport
- Airport



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FUTURE LAND USE

Transportation and land use are inextricably connected and should be considered in tandem when developing future plans. Recognizing this linkage, Florida's Community Planning Act of 2011 requires each local government to adopt a comprehensive plan with multiple required elements—two of which are the Future Land Use Plan Element and the Transportation Element. As part of its Charter, Broward County has authority over future land use through the Broward County Planning Council. Each municipal government within Broward County must adopt a Future Land Use Element that is consistent with the Planning Council's Land Use Plan, known as *Broward NEXT*. Consistency between comprehensive plan Transportation Elements and plans developed by both the MPO and FDOT is required. Florida law requires local governments to review their comprehensive plans, at a minimum, every seven years to determine if amendments are needed to achieve consistency.

Table 2-1 provides a summary of the distribution of land uses throughout Broward. Map 2-7 shows the adopted Future Land Use Plan Map for Broward County, which was adopted September 25, 2018.

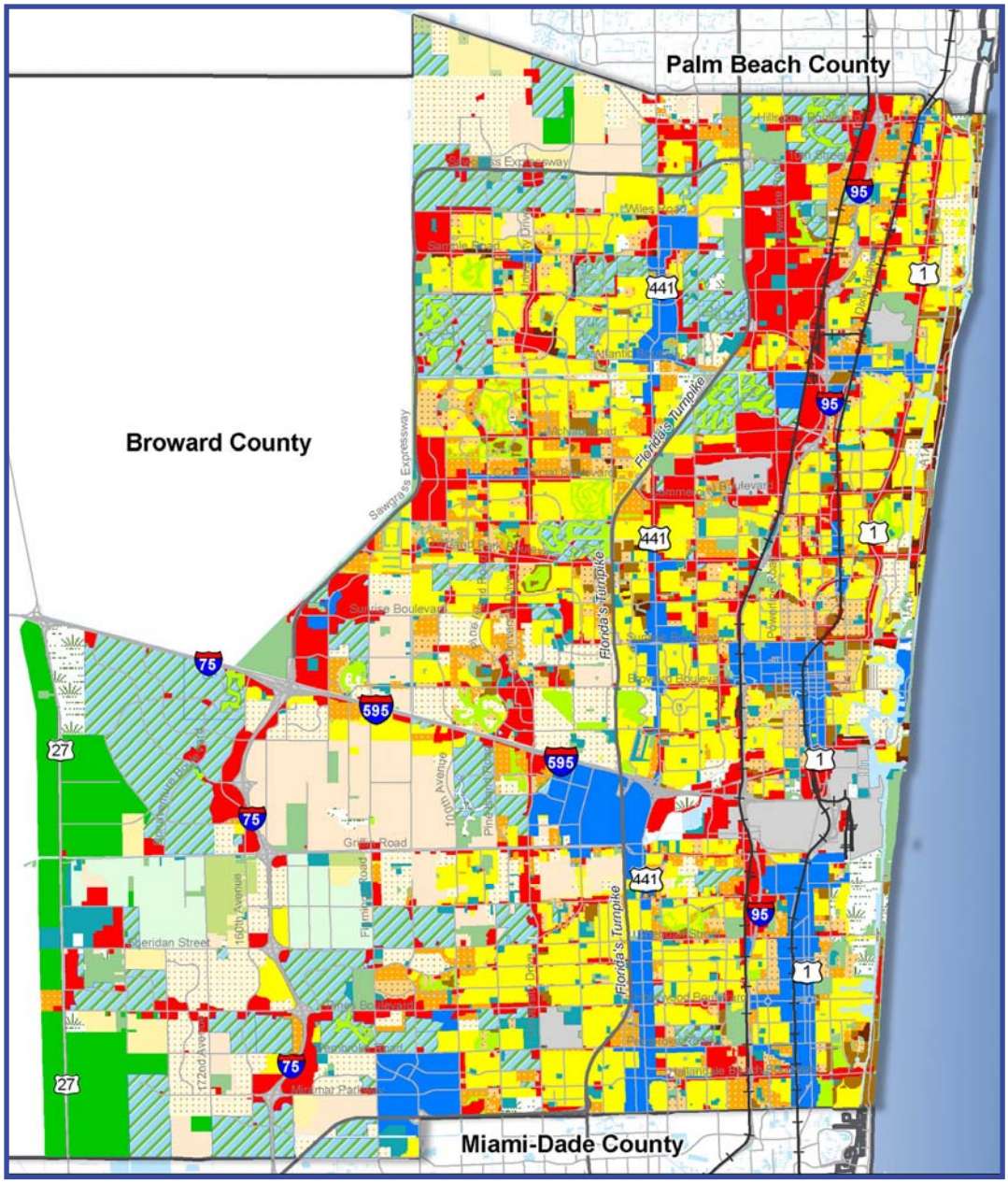
Two emphasis areas for *Broward NEXT* include targeted redevelopment and multimodal visions. One of the targeted redevelopment strategies is to "prioritize new development and redevelopment to existing and planned downtowns and major transit corridors and transit hubs." This strategy is reflected on the Future Land Use Plan Map by the location of the Activity Center designation (blue areas on the map). The strategies for achieving the multimodal vision are not reflected in the Future Land Use Plan Map but, rather, are policies that are consistent with MPO efforts, such as promotion of complete streets and making the best use of the regional transportation system.

Table 2-1: Broward County Future Land Use Distribution

Future Land Use Category	Acres
Rural Residential (1 Unit Per Acre (UPA) or less)	22,938
Low-Density Residential (2–5 UPA)	76,685
Low-Medium-Density Residential (10 UPA)	13,111
Medium-Density Residential (16 UPA)	10,914
High-Density Residential (25 UPA)	5,042
Irregular Residential	34,024
Activity Center	17,324
Conservation	4,312
Recreation and Open Space	10,152
Commercial Recreation	5,655
Community	8,081
Transportation	12,168
TOTAL	**220,406**

Map 2-7:
Broward County Planning Council Adopted Future Land Use Map

- Palm Beach County Rural Residential - 10
- Rural Ranches
- Rural Estates
- Estate (1) Residential
- Low (2) Residential
- Low (3) Residential
- Low (5) Residential
- Low-Medium (10) Residential
- Medium (16) Residential
- Medium-High (25) Residential
- High (50) Residential
- Irregular Residential
- Dashed-Line Area
- Activity Center
- Commerce
- Agricultural
- Conservation-Natural Reservations
- Conservation-Reserve Water Supply Areas
- Recreation and Open Space
- Commercial Recreation
- Community
- Tribal Lands
- Mining
- Transportation



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POPULATION AND EMPLOYMENT GROWTH

Step 2 of the planning process is to develop thoughtful future projections. The variables that most directly influence transportation needs are population (number of people living in the county) and employment (number of jobs in the county). The tool used to determine future transportation needs, the Southeast Regional Planning Model (SERPM), further breaks down population and employment by additional variables to better predict travel behavior. For example, population is assigned to households, as household size influences the number of trips generated. Employment data are broken down by sector, including retail, professional business services, and health, as this information influences the time of day and frequency (number of days per week) of travel.

Population projections for the planning horizon of 2045 were developed along with 10-year increments for 2025, 2035, and 2045. The development of the population projections considered historical population trends, Broward County's Population Forecast and Allocation Model, other population forecast models (University of Florida's Bureau of Economic and Business Research, Woods & Poole Economics, Inc., and Moody's Analytics), and consultation with professionals in Broward County who are knowledgeable about development opportunities and constraints. After this review, it was determined that the population projections developed by Broward County's Population Forecast and Allocation Model were the most appropriate given foreseeable future conditions.

Figure 2-3 shows the population trend for Broward County for 1990–2017. During this period, Broward's population increased by 636,000, from 1.26 million in 1990 to 1.94 million in 2017, a 54% change. On a yearly basis between 1990 and 2015, the population grew by 1.7%, which is slightly less than Florida's 1.8% but higher than the national average of 1% for the same period.

Figure 2-4 shows the changes in number of households in Broward for 1990–2015. In 1990, there were approximately 532,000 households; by 2015, this number had grown to approximately 743,000, an increase of 211,000.

Figure 2-3: Population Change in Broward County, 1990–2017

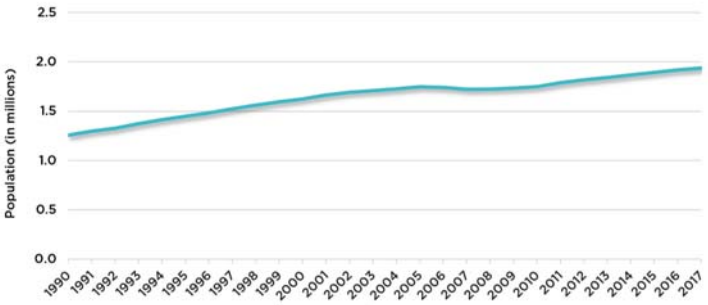


Figure 2-4: Households Change in Broward County, 1990–2015

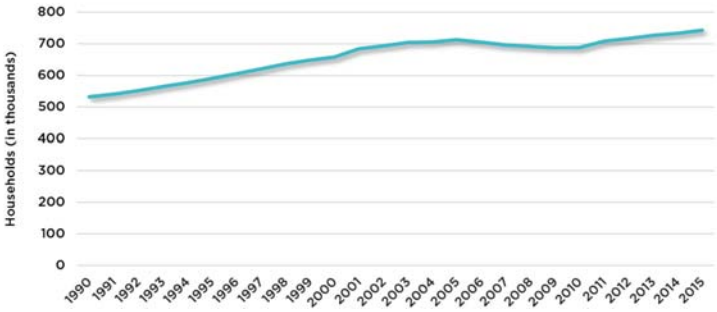


Figure 2-5 shows the projected population and number of households in 2045. The population is projected to increase to almost 2.18 million, an overall change of 20% or an annual growth rate of 0.6%. Households are projected to increase to approximately 929,000, an overall increase of 27%, an annual growth rate of 0.8%.

Figure 2-5 also provides information about projected school enrollment and hotel/motel rooms, which are important factors in determining transportation needs.

Table 2-2 shows the projected change in school enrollment by school type (public or private) and grade level. Although increases are projected for grades K–8 and college, a decrease in grades 9–12 is projected, regardless of school type.

Figure 2-5: Broward County Projected Growth by 2045

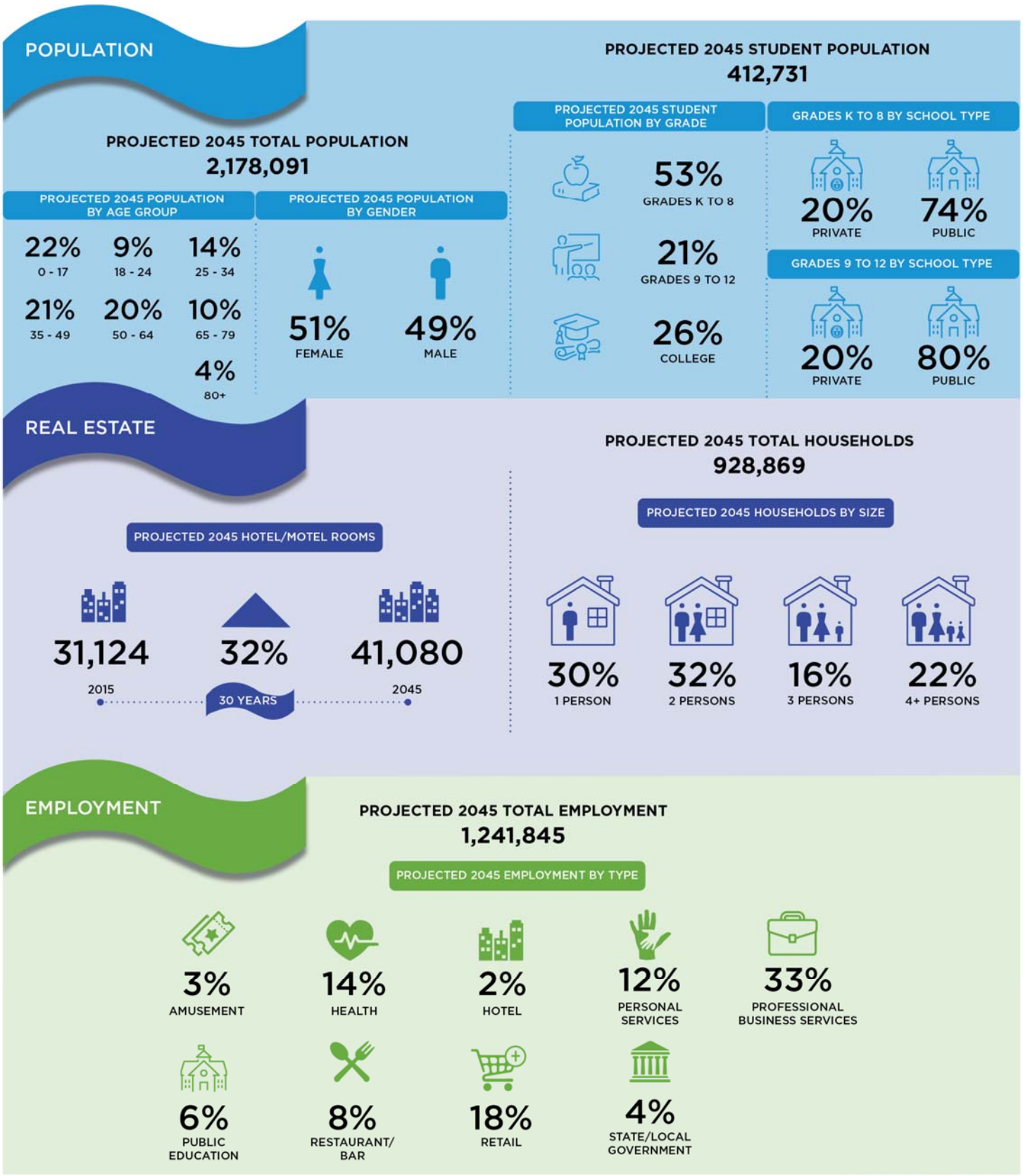


Table 2-2: Projected School Enrollment, 2045 and Change from 2015

Grade Level	Public Schools	Private Schools	Total Enrollment	Percent Change from 2015
K–8	162,088	55,999	218,087	8.5%
9–12	70,014	17,948	87,962	-1.4%
College	–	–	106,682	22.3%
Total	**232,102**	**73,947**	**412,731**	**9.3%**

Hotel/motel rooms are projected to increase from approximately 31,000 in 2015 to 41,000 by 2045, a 32% change overall.

Employment projections for 2045 were developed in a fashion similar to population projections and began with an analysis of related historical trends. Data sources used for employment projections included the Bureau of Economic Analysis, employment data from SERPM 8 for 2015, other forecast models (Woods & Poole and Moody's), consultation with professionals in Broward who are knowledgeable about employment growth, and a review of employment to population ratios developed by regional partners. For the employment projections, it was determined that the employment data developed for SERPM 8 would be used for the base year and a more conservative growth rate would be applied.

Data from the Bureau of Economic Analysis indicates that employment in Broward grew by 2.5% on a yearly basis between 1990 and 2015, with a higher growth rate of 3.4% per year experienced between 2010 and 2015. As shown previously in Figure 2-5, projected employment for 2045 increases from 962,000 to more than 1.2 million, an overall increase of 25% or an annual growth rate of 0.9%. This projected pace of employment growth is conservative compared to the historical trends previously reported.

Broward's population and employment are expected to grow by 27% and 25%, respectively, through 2045, which means additional needs will be placed on the transportation system.

EQUITY ASSESSMENT

The Broward MPO is developing a process to more consistently and comprehensively evaluate its plans and programs against Title VI, Environmental Justice (EJ), and other Federal and State non-discrimination authorities. As part of this effort, an enhanced approach to evaluating equity has been included in the *Commitment 2045* MTP. Referred to as the "equity assessment process," the goal of this approach is to ensure that the benefits and impacts of projects included in this plan are understood and that protected populations are not disproportionately burdened by the outcomes of this planning process. The methodology and application of the *Commitment 2045* MTP equity assessment is documented in Technical Report #16.

The *Commitment 2045* MTP equity assessment process consists of four steps:

1. Equity Area Identification
2. Scenario Development
3. Project Prioritization
4. 2045 System Assessment

The comprehensive equity assessment will continue over time as projects resulting from this MTP are further reviewed and refined.

Equity Area Identification

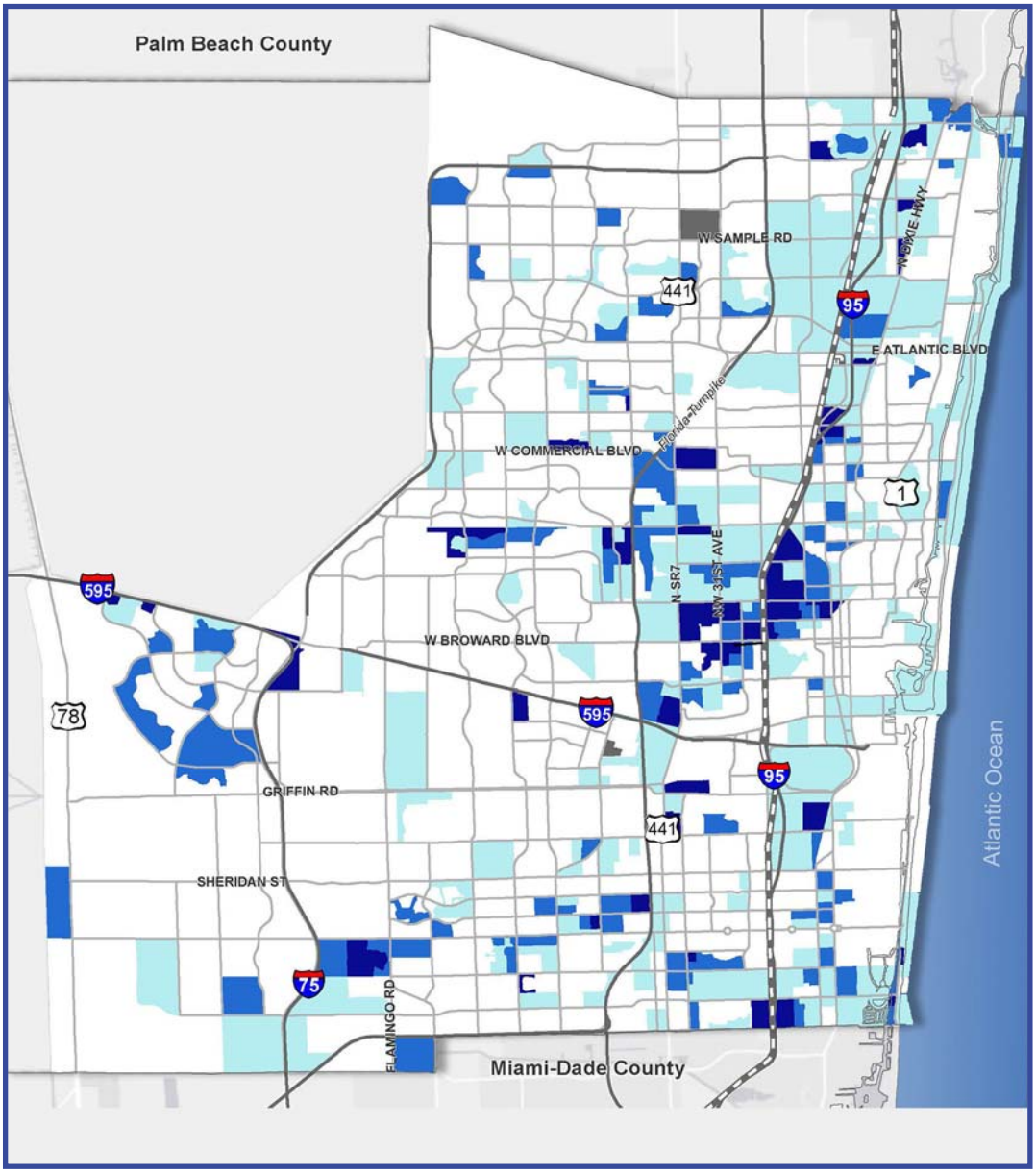
In the first step, equity areas were identified to understand where higher proportions of protected populations live. This process was based on a quantitative, statistically-driven methodology that assigns an equity score to each block group within the county. The equity scores were generated based on the relative concentration of selected demographic indicators compared to the countywide average. The selected demographic indicators address protected populations under Title VI, EJ, and other Federal non-discrimination authorities. The indicators include race, ethnicity, limited English proficiency (LEP) status, poverty, age (youth and older adults), and disability status and are based on demographic data obtained from the American Community Survey (ACS) 5-Year Estimates.

Map 2-8 illustrates the equity score for each block group based on data from ACS 2013–2017 5-Year Estimates. Equity areas to be used in subsequent steps of the *Commitment 2045* MTP equity assessment process are block groups labeled as “high” or “very high,” as these are areas of the county with higher concentrations of protected populations than the county average.

Chapters 4 and 5 provide the results of the equity analysis for Scenario Development, Project Prioritization, and the 2045 System Assessment.

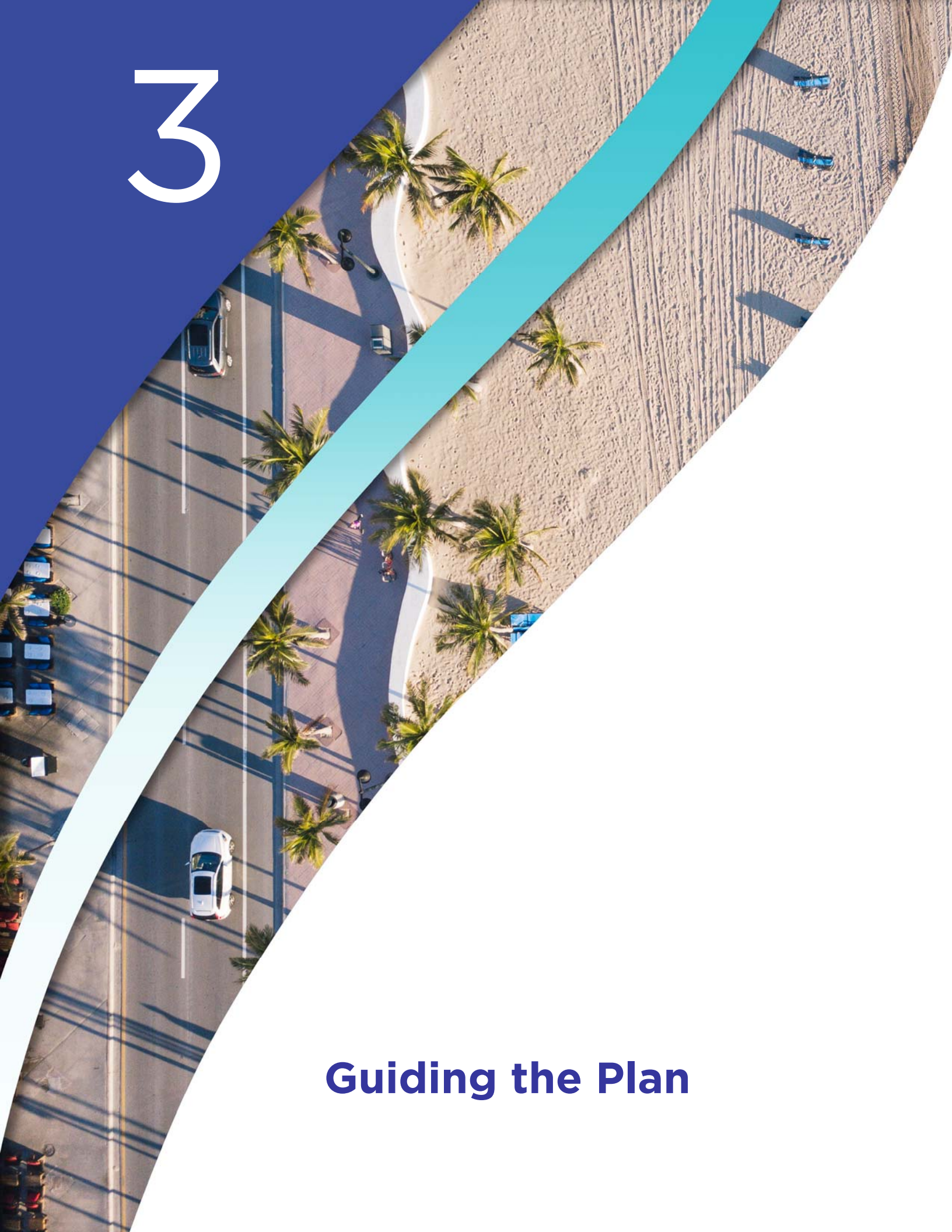
Map 2-8:
Transportation Planning Equity Areas

Block Group Score
- Low
- Medium
- High
- Very High
- No Data



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3



Guiding the Plan



The Broward MPO commits to transparency with all of its plans, programs, and publications, including the Commitment 2045 MTP. MPO products and other information are readily-available and accessible to the MPO Board, MPO committees, partner jurisdictions and agencies, and the general public (BrowardMPO.org).

Transparency is one of the underlying themes of *Commitment 2045*. As a public agency, the MPO strives to make its programs and documents easily accessible to the public, and the development of *Commitment 2045* was no exception. In lieu of holding special meetings for the MTP, the focus of public outreach efforts was to engage people in a variety of ways, and additional efforts were made to ensure that the MPO Committees and MPO Board were involved in each major step of the MTP's development.

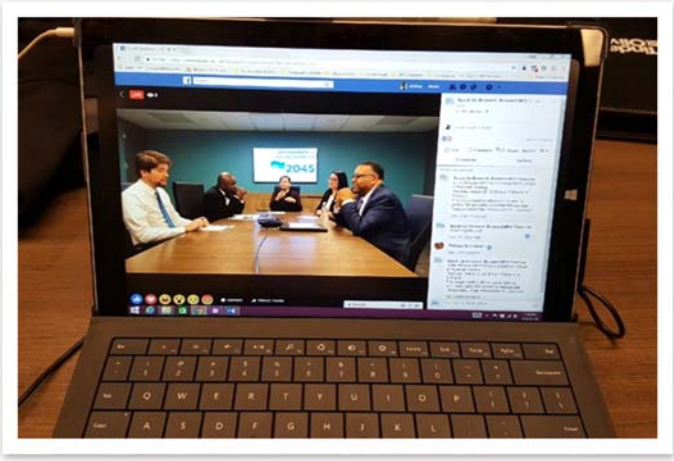
This chapter provides an overview of the public involvement undertaken during the development of the plan, coordination with the RTP, and how emerging issues in Broward helped to shape the plan.

PUBLIC INVOLVEMENT

The Broward MPO has built a significant public involvement infrastructure over the past several years that includes frequent community events, a well-maintained website, an e-newsletter, a social media presence on Facebook, Twitter, Instagram, YouTube, and LinkedIn, and various other activities. Information about the MTP was shared through each of these venues, and tracking the total MTP outreach effort was challenging, as some activities were specific to the MTP, as summarized here, and some were not. A copy of the *Commitment 2045* MTP Public Participation Plan is included as Appendix B.

MTP-specific public outreach efforts were separated into two phases, each with a mixture of informative and interactive activities. Phase One took place during the early stages of the MTP and was an effort to make the public aware of the project and solicit their opinions about transportation needs. Occurring primarily between December 2017 and June 2018, these efforts included the following:

- A tool kit that standardized the messaging and branding of the MTP effort for partners to share
- Rack cards that encouraged readers to visit the website and complete an online survey
- A website with 4,500+ views by July 23, 2018
- E-blasts with 15 versions to approximately 2,000 recipients
- An introductory video that provided an overview of the MTP and encouraged participation in the survey and was promoted via Facebook posts



Facebook Live Webcast as part of e-town hall event

- A direct mail piece sent to residents age 50 or older who reside in predominantly minority and low-income areas of the area to encourage their participation in the online survey
- A Mayors'/Elected Officials' Roundtable
- 10 workshops with professional organizations and at public events
- An online survey that received about 1,000 responses
- Weekly social media posts
- 19 outreach meetings with homeowners' associations and civic groups
- A telephone e-town hall event that connected with 47,465 callers and was webcast via Facebook Live

The online survey results from January through April 2018 are shown in Figure 3-1. The telephone e-town hall event was conducted in March 2018; results from polls conducted during that event are summarized in Figure 3-2. These surveys reflect the opinions of different audiences, as the online survey was completed by self-selected participants and the telephone e-town hall event focused on Broward residents.

The results of the two surveys were remarkably similar regarding the biggest transportation problems facing the Broward region, with 52–54% of respondents saying congestion, 36% saying a lack of transportation options, and 4–7% saying safety. These survey results, along with other comments provided by the public, were used to identify needs, which is discussed further in Chapter 4. A detailed summary of the Phase One outreach activities is provided in Technical Report #1A, "Phase One Outreach Evaluation."

Between Phase One and the start of Phase Two, a public opinion survey was conducted in November 2018 with 500+ randomly-selected registered voters. The survey covered two issues—transportation priorities and policies and the 2018 transportation sales tax referendum. Respondents were asked to provide a priority ranking for a defined set of improvements and about policies related to toll lanes on arterials, dedicated lanes for transit, and creating infrastructure for new and emerging transportation technologies. Questions regarding the sales tax were focused on how the respondent voted, awareness of the ballot item prior to voting, and priorities for use of the funds. Figure 3-3 is a summary of several key findings from the survey. A detailed summary of the public opinion survey results is included in Technical Report #1B, "Public Outreach Evaluation."

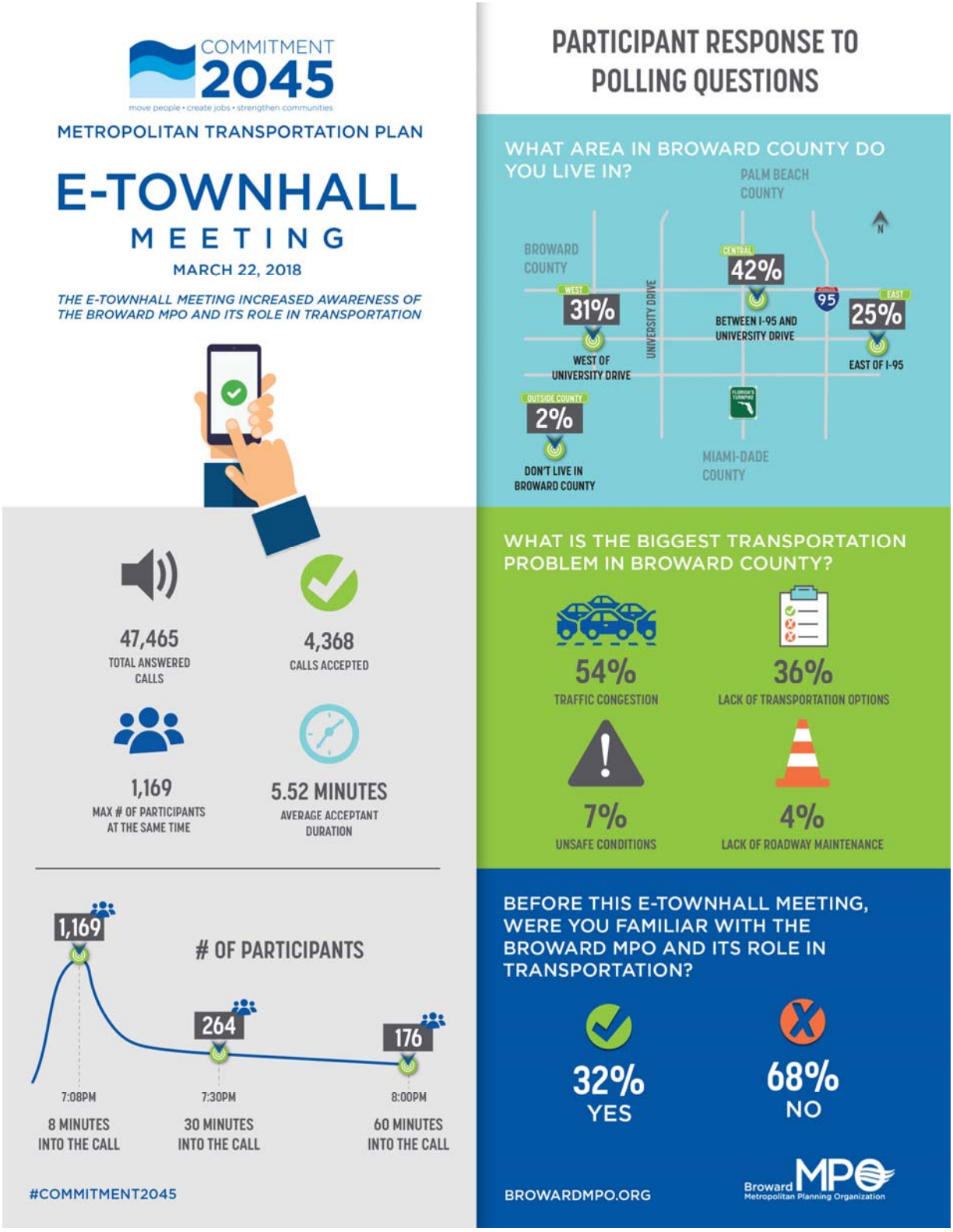
Phase Two of the public involvement effort began in June 2019 and included the following additional activities:

- An interactive map of the Cost Feasible Plan that allowed for public comments by project

Figure 3-1: Online Survey (January to April 2018) Results Summary



Figure 3-2: Telephone E-Townhall Meeting (March 2018) Summary



- A palm card encouraging use of the interactive map
- A flyer explaining the Scenario Planning Analysis
- A video that encouraged use of the interactive map
- Five workshops with professional organizations at public events
- Five outreach meetings with homeowners groups and civic associations
- A second telephone e-townhall event

These Phase Two efforts were designed to ensure participation by areas of the Broward region that were not sufficiently involved during Phase One and to re-engage with participants from Phase One.

MPO Board and Committee Engagement

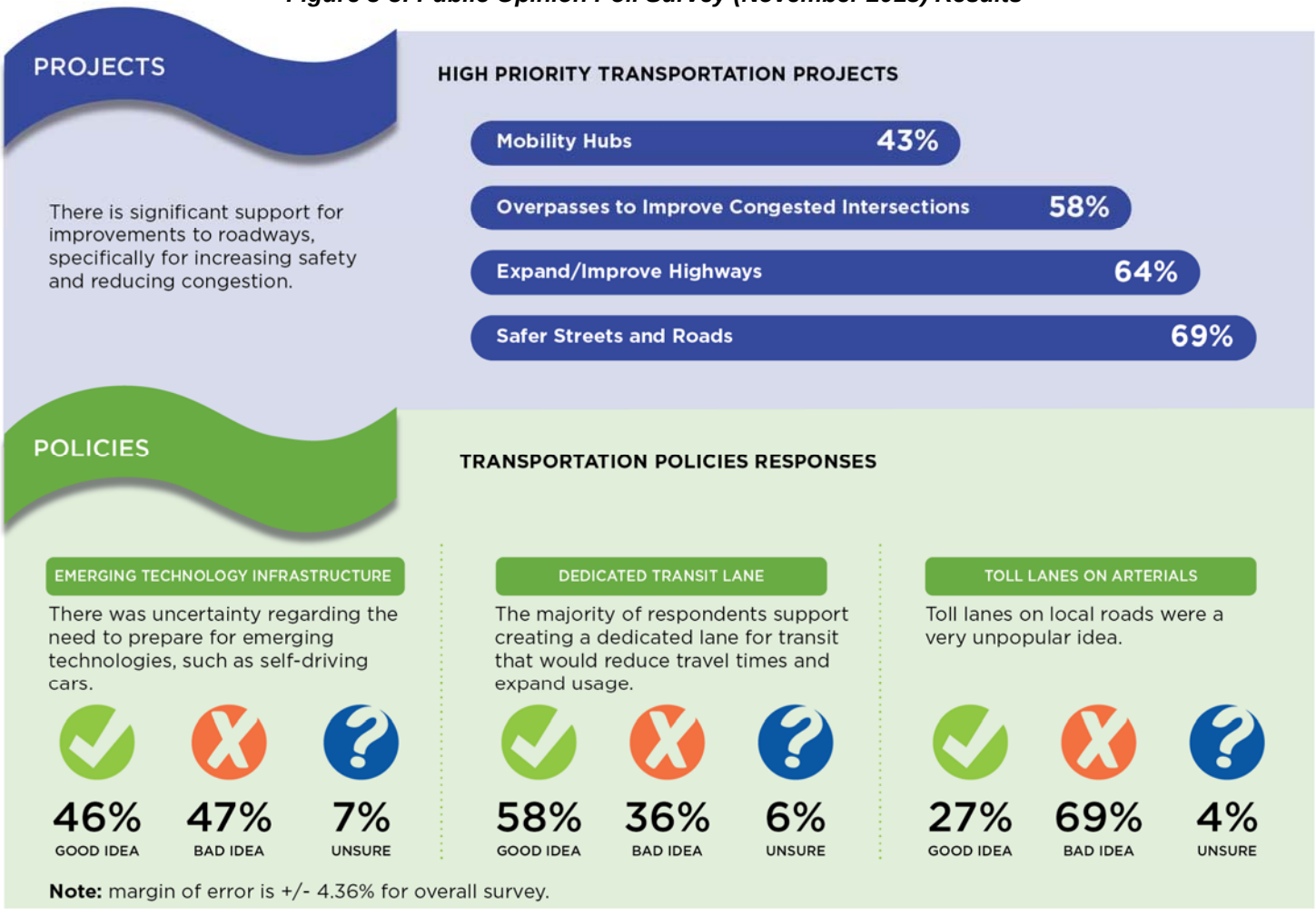
Throughout the MTP, MPO staff consistently provided updates about the progress of the MTP to the MPO Board and Committees. The MTP was on the MPO Board's agenda for all 22 meetings over the two-year period of its development, from December 2017 to December 2019. Similar presentations were made to MPO Committees:

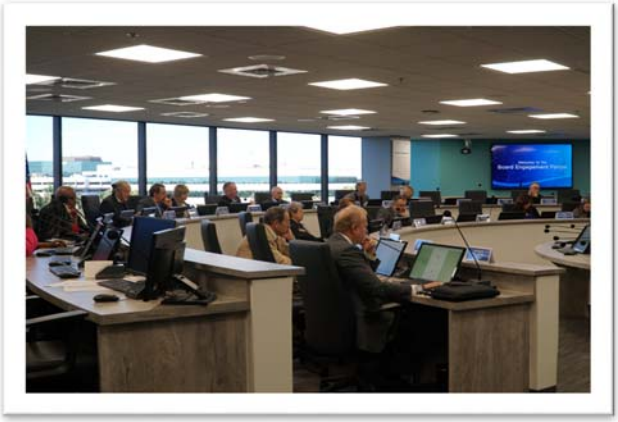
- Technical Advisory Committee (TAC) – 18 meetings
- Citizens' Advisory Committee (CAC) – 18 meetings
- Freight Transportation Advisory Committee (FTAC) – 7 meetings
- Transportation Disadvantaged Local Coordinating Board (LCB) – 2 meetings.

Tribal Coordination

The Broward planning area includes tribal lands for the Seminole Tribe of Florida, and coordination with the Tribe was undertaken throughout the development of *Commitment 2045*, beginning with a letter in February 2018 notifying them of the Call for Projects and inviting them to submit projects for consideration. Coordination continues through the ongoing Efficient Transportation

Figure 3-3: Public Opinion Poll Survey (November 2018) Results





January 2019 MPO Board Engagement Forum

Decision Making (ETDM) process, established by FDOT as a means to support the State's environmental policies. In addition, the Tribe was contacted to advise them of the availability of the draft MTP document for review. A member of the Tribe also serves on the TAC.

Freight Community Coordination

The freight community was involved in *Commitment 2045* through several efforts. Representatives from Port Everglades and the Fort Lauderdale–Hollywood International Airport are members of the FTAC. Seven presentations were made to the FTAC throughout the MTP process, with input leading to changes in MTP goals to include the movement of goods and people and the inclusion of several freight-related projects as part of needs. An open house listening session was coordinated with FDOT District 4 and the freight industry to identify key freight needs in October 2018, and a follow-up discussion of its findings was presented to the FTAC in November 2018. A representative of the Florida Trucking Association serves on the CAC.

Tourism Industry

According to data from the Florida Department of Revenue (DOR), over the last five years, tourism and visitors to Broward accounted for more than 30% of the local tax revenue; as such, tourism is a significant part of Broward's economy. The tourism industry was involved in *Commitment 2045* through the development of socioeconomic data, specifically hotel and motel units. Interviews were conducted with representatives of the Greater Fort Lauderdale Convention and Visitors Bureau to understand existing and future plans for growth in hotel and motel units.

Tourism was also indirectly considered throughout the MTP by virtue of the location of the major tourist attractions, including beaches, the Everglades, and several shopping areas such as Sawgrass Mills Mall, IKEA, and the Galleria Mall. All of these areas, with the exception of the Everglades, are identified as key activity centers in the MTP and were included in the project prioritization criteria.

Federal and State Land Management, Environmental and Wildlife Agencies

Coordination with Federal and State land management and environmental and wildlife agencies was undertaken through the ETDM screening completed for the Cost Feasible Plan, which is further described in Chapter 5. Due to the built-out nature of Broward's transportation system, most projects proposed in *Commitment 2045* are focused on operational improvements, thereby limiting the potential for impacts to lands owned and managed by the Federal government or the State of Florida, environmentally-sensitive areas, and wildlife habitats, which are depicted in Maps 3-1 and 3-2 for reference.

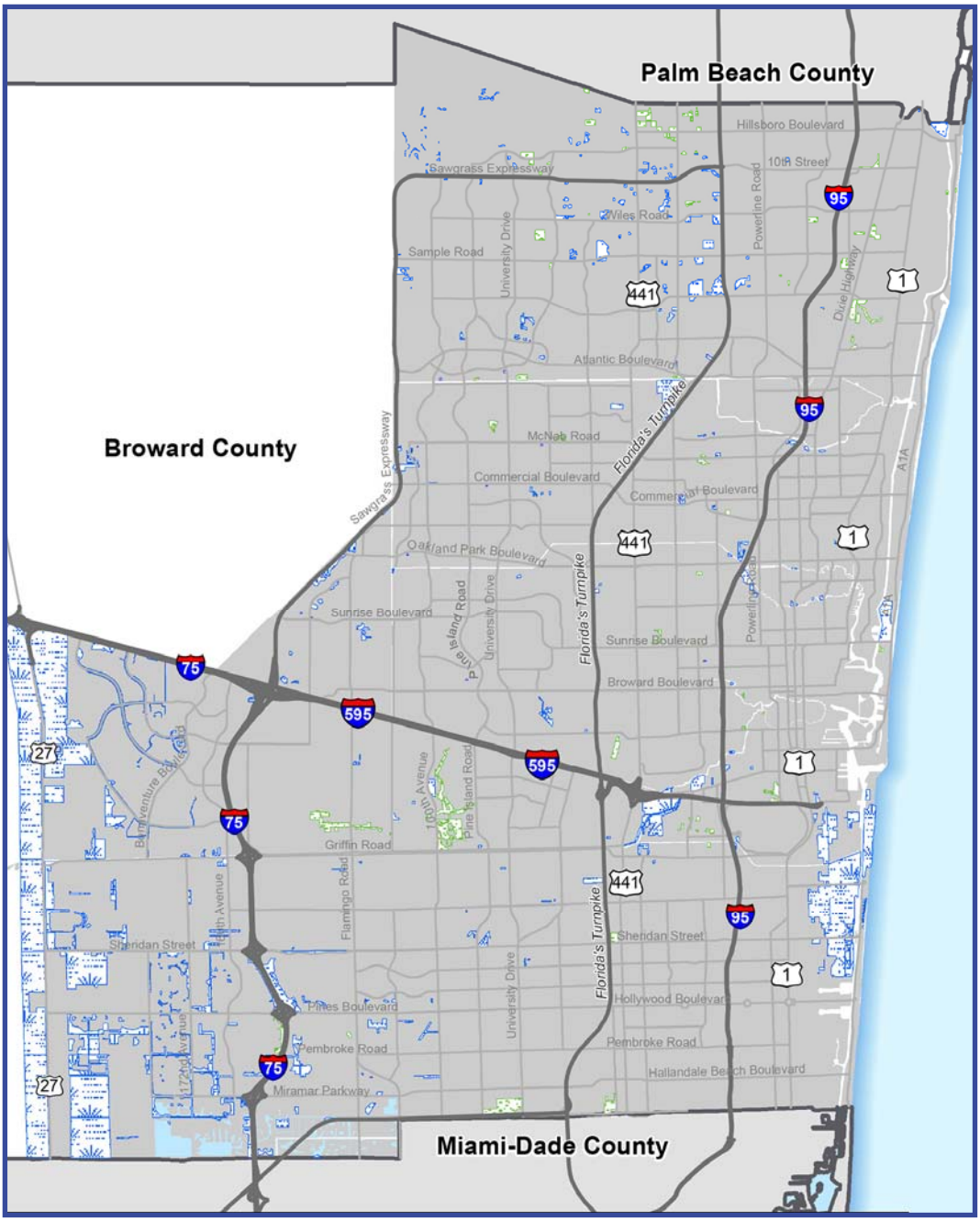
Natural Disaster Risk Reduction Agency Coordination

Broward County's Emergency Management Division (EMD) is responsible for administering and coordinating the County's emergency management programs, including response plans and preparations. EMD updated the County's Enhanced Local Mitigation Strategy (ELMS) in 2017, which references coordination with the MTP as a future strategy. The ELMS was reviewed as part of the *Commitment 2045* process, and, based on the projects proposed, additional coordination was not required, as there are no proposed improvements to vulnerable transportation facilities. However, it is recommended that EMD be involved in the resiliency studies identified in the Cost Feasible Plan.

In addition, the MPO hosted an All-Hazards Recovery Training in March 2018, an FTA-sponsored program that focuses on the development of a comprehensive emergency recovery plan that maximizes the use of transit, social media, travel demand management strategies, and intelligent transportation system (ITS) technologies.

Map 3-1:
Areas of Potential Impact—Wetlands and Forested Uplands

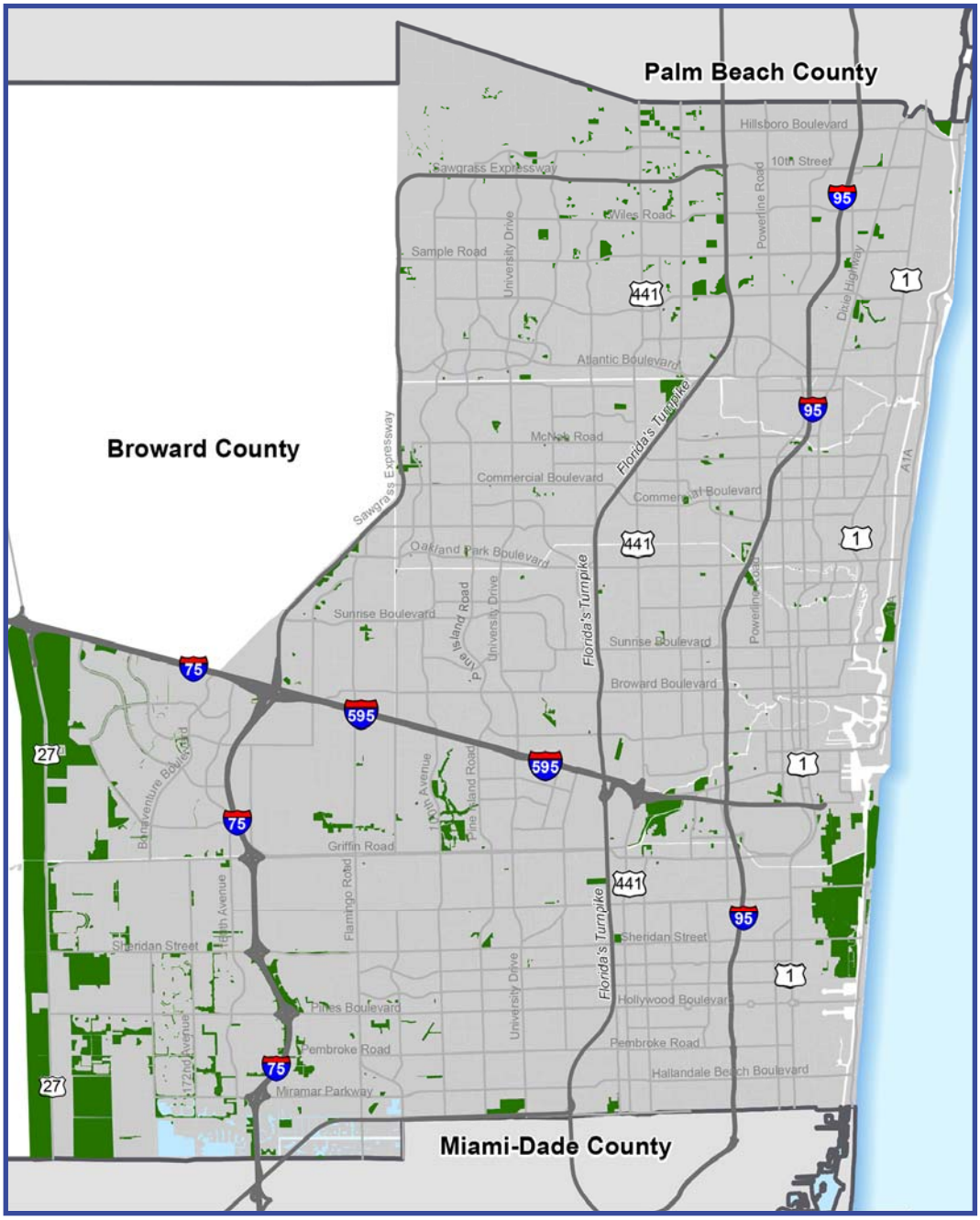
- Forested Upland
- Wetland
- Interstates
- Major Roads



This map is for informational purposes only. For complaints, questions, or concerns about civil rights or nondiscrimination or for special requests under the Americans with Disabilities Act, please contact Erica Lychak, Communications Manager/Title VI Coordinator, at (954) 876-0058 or Lychake@browardmpo.org

Map 3-2:
Areas of Potential Impact—Wildlife Habitat

- Wildlife Habitat
- Interstates
- Major Roads



This map is for informational purposes only. For complaints, questions, or concerns about civil rights or nondiscrimination or for special requests under the Americans with Disabilities Act, please contact Erica Lychak, Communications Manager/Title VI Coordinator, at (954) 876-0058 or Lychake@browardmpo.org

Public Involvement Summary

Overall, the public involvement efforts for *Commitment 2045* engaged more than 295,000 participants. Table 3-1 provides a summary of the number of people reached by each activity.

MTP Document Availability

A draft of the MTP document was made available for public review and comment via the MPO's website. Notices of its availability for review were shared via social media, e-mail blasts, and announcements during public events and meetings.

EMERGING ISSUES

Expanding beyond the required elements of the MTP, the MPO also considered additional interrelated topics of importance to the transportation planning process. Mobility technology is a relatively recent issue related to advances in automotive and infrastructure technology, whereas other issues such as public health, aging, resiliency, and arterial managed lanes have been part of the transportation discussion in the Broward region for a longer period of time. This section provides a summary of each of these issues and their relevance to transportation planning and describes how each was addressed through the MTP process.

Table 3-1: Summary of Public Involvement Engagement

Activity	Number Engaged		
	Phase One	**Phase Two**	**Entire Effort**
MTP Rack Cards	2,000	—	2,000
MTP Website	4,586	2,674	7,260
MTP E-Blasts	15 E-Blasts to 2,000 recipients	11 E-Blasts to 2,500 recipients	2,000 to 2,500
English Version—Full Video Views	450	121	571
Spanish Version—Full Video Views	293	N/A	293
Video Likes	—	3	3
Direct Mail	20,000 mailings	—	20,000
Mayors'/Elected Officials' Roundtable	126 participants	—	126
Workshops	850 participants		850
Online Survey	1,001 participants	—	1,001
Outreach Meetings	400 participants	805 participants	1,205
Social Media (*Commitment 2045* post interactions—Likes and Comments)	N/A	552	552
Social Media (promoted posts only)	137,133	59,984	197,117
Telephone e-Town Hall Event	47,465	39,173	86,638
Public Opinion Poll	500	—	500
Interactive Map Likes	—	78	78
Total	**216,804**	**105,890**	**320,694**

Notes: This table does not include MPO Committee and Board meetings, which always include members of the public in the audience. Phase One data do not tally non-promoted posts on social media, as the MPO did not have a method to quantify views outside of promoted posts at the time. N/A indicates the data are not available. — indicates the activity was not conducted during that phase.

Mobility Technology

Mobility Technology includes several interrelated topics such as Smart Cities, Automated, Connected, Electric, Shared (ACES) vehicles, and Mobility on Demand (MOD). Each approach may be implemented independently, and mobility benefits are enhanced if implemented together.

A Smart City, as defined by the Smart Cities Council, is one that "uses information and communications technology (ICT) to enhance its livability, workability and sustainability. A Smart City collects information about itself through sensors, other devices and existing systems. Next, it communicates that data using wired or wireless networks. Third, it analyzes that data to understand what's happening now and what's likely to happen next."[1] For example, traffic sensors, not people, report congested conditions. This information is communicated to travelers and traffic signals to optimize the use of alternate routes.

Implementation of Smart City technology goes beyond transportation to include water and sewer systems, energy use, health care, freight movements, and environmental conditions. In addition to installing sensors, a communications network has to be established that allows the data collected to be transmitted. Analysis of the data occurs to turn it into actionable information. Although not required for the implementation of ACES and MOD, these types of improvements can assist with its implementation.

ACES includes autonomous (self-driving) vehicles, connected vehicles that communicate with other vehicles and infrastructure, electric vehicles powered by batteries rather than gasoline or diesel combustion engines, and shared vehicles that are owned or used by more than one person or family. Smart City technology is not required for automated, electric, or shared vehicles, but it is essential for connected vehicles, as they rely on data from other vehicles, traffic signals, and other roadway sensors. Connectivity improves the automated, electric, and shared vehicle experience by providing real-time information that influences travel decisions, such as where the nearest available charging station is located, how long the wait for the next shared vehicle will be, or if roads are so congested that the departure time will be delayed.



Example of an autonomous vehicle. Source: Google.com

MOD uses information, real-time data, and predictive analysis to provide travelers with transportation choices that best serve their needs and circumstances. MOD can use current vehicle technology, similar to Transportation Network Companies (TNCs) such as Uber and Lyft or ACES vehicles, and can be designed for both public transit users and individual travelers. These types of services are currently being tested by transit agencies across the US. There is a wide range of potential applications, including:

- More flexible routing options in certain areas where existing transit service may not be sufficient
- First/last mile connections to and from the transit network
- Formal partnerships with TNCs or other ridesharing options to supplement service in specific areas or during specific times of day

For individual travelers who are not in areas served by or who do not use public transportation, MOD may be represented by an individual sharing ownership of an autonomous (and possibly connected) vehicle that functions much as TNCs do today. In this instance, a traveler hails a ride and, once the trip is completed, the vehicle heads out to the next call or parks itself to await the next request.

For both transit and individual travel applications, the automotive industry is not yet able to provide self-driving cars or transit vehicles on a wide scale.

[1] Smart Cities Council, Definition of a Smart City, accessed from https://rg.smartcitiescouncil.com/readiness-guide/article/definition-definition-smart-city on May 29, 2019.

Thus, some aspects of MOD (such as TNCs) are already in place, whereas others require additional time to advance the appropriate technology and receive necessary safety certifications.

Mobility Technology, in all of its forms, is the future for transportation, and each form faces similar unknowns. Until there is a better understanding of how autonomous vehicles/connected vehicles (AV/CV) will be delivered (e.g., shared or individual ownership), it is difficult to assess their impacts on the transportation system. Shared vehicles may reduce auto ownership rates and trip lengths but may not reduce the number of trips on the network. Similarly, if people buy their own self-driving car, conditions will be similar to, if not worse than, the current conditions, as more people who currently are unable to drive can use private cars in lieu of public transportation to complete their travel needs. Equity is also a concern for Mobility Technology, specifically in regards to the costs, and is something that will need to be considered as progress is made.

Due to the private sector development of much of this technology, government agencies are in a response mode. The MPO can encourage advancement of this issue by prioritizing the installation of sensors and communication devices along roadways and other transportation infrastructure, provided that infrastructure owners are willing and appropriate funding sources are available. For the next MTP update, the prioritization criteria should be revisited to determine if there is a need to better address these types of projects.

This issue was addressed in several ways in this MTP. First, several municipalities in Broward County submitted projects for consideration that were autonomous circulators. Although these projects were prioritized as part of the Needs Assessment, they were left out of the Cost Feasible Plan due to a lack of ongoing operations and maintenance funding by the proposers. Through the Scenario Planning effort, the impact of AV/CV vehicles on the transportation network was tested; however, it did not consider an increase in the number of trips; rather, it reflected the potential additional capacity that could be provided if AV/CV corridors were in place by 2045.

Public Health

The transportation system in a community has a strong influence on the quality of an individual's life, including physical and mental health. Transportation systems that limit choice can negatively impact health by limiting opportunities for exercise, increasing stress, and decreasing air quality. Creating an active transportation network has the potential to lower the negative health impacts of the transportation systems that are dominated by automobile-centric designs, especially for populations that are disproportionately impacted. Active transportation is defined by the Center for Disease Control and Prevention (CDC) as "any self-propelled, human-powered mode of transportation, such as walking or bicycling." Strategies for ensuring an active transportation network include the provision of sidewalks, bicycle facilities, greenways, complete streets, and transit.

To ensure that these active modes are viable forms of transportation, they must be strategically placed and designed with safety in mind. Equal in importance are good design principles that promote walkability. For example, studies suggests that walkable environments (i.e., demonstrating street connectivity, destination accessibility, presence of active transport infrastructure) are correlated with increased physical activity in both children and adults.[2] Adolescents who live in walkable neighborhoods have lower risk for chronic diseases such as diabetes, heart disease, and high blood pressure due to their higher levels of physical activity.[3] The health benefits of active transportation can decrease, and even eliminate, conditions such as fatigue, sleep disorders, asthma, diabetes, weak muscles and bones, and cardiovascular disease.[4]

Active transportation systems can be equally beneficial for mental health. Modes such as walking can create opportunities for social interaction and community

[2] Smith, Melody, et al., "Systematic Literature Review of Built Environment Effects on Physical Activity and Active Transport – An Update and New Findings on Health Equity," *International Journal of Behavioral Nutrition and Physical Activity,* 14(1), 2017, doi:10.1186/s12966-017-0613-9.

[3] Francis, David. "Connecting Health and Equity to Complete Streets," Greater Southeast Affiliate: American Heart Association, Safe Streets Summit, 2018, West Palm Beach, retrieved from https://www.safestreetssummit.org/2018-presentations.

[4] Department of Health & Human Services, "Physical Activity – It's Important." Better Health Channel, July 9, 2012, https://www.betterhealth.vic.gov.au/health/healthyliving/physical-activity-its-important.

cohesion, such as quick greetings on sidewalks or conversations held at bus stops. Physical activity can change chemicals in the brain such as endorphins, serotonin, and stress hormones, which can immediately impact mood.

Traffic-related air pollution has been linked to respiratory conditions such as wheezing, decreased lung function, and cardiovascular disease. Living near a highway or major roadway increases a person's exposure to traffic-related air pollution. Traffic pollution can also disproportionately impact the health of those relying on alternative modes of transportation such as biking. As transportation accounts for 48% of all greenhouse gases,[5] encouraging a shift from vehicles to bicycling and walking will help to reduce the amount of pollutants generated and also improve physical and mental health.

The MPO is addressing the implementation of active transportation improvements through several ongoing programs, including the Complete Streets and Other Localized Initiatives Program (CSLIP), the Complete Streets Master Plan, and Mobility Hubs. Air quality issues are addressed through the Congestion Management Process and as part of Broward Vision 2100, where the goal of a 100% electric vehicle fleet would result in significantly-reduced air pollutants from transportation sources.

Aging Population

According to the Bureau of Economic and Business Research's population estimates and projections for Broward, almost 17% of Broward's population in 2018 was age 65 or older; this segment is projected to grow, accounting for 24% of the population by 2045. Mobility options for the aging population who are no longer able to drive include public transit and private transportation services such as taxis, ride-hailing services, or services offered through residential communities, but these private services can be cost-prohibitive for those living on a limited income. Expansion of lower-cost public transit services will be essential to maintain independent living for lower income individuals. Advances in automotive technology such as autonomous vehicles may help to prolong



independent living for those who do not live near public transit, provided the cost is not significant. Improvements to pedestrian and bicycle facilities may also benefit this population, as active transportation is another low-cost option to driving, provided the individual is capable of such activity.

The *Commitment 2045* MTP considered the aging population in the equity assessment (described in Chapter 2) and incorporated it into the project prioritization process. Mobility solutions for this population also were considered through the Scenario Planning effort, specifically the Technology and Compact Development scenarios. Improvements to the active transportation system are being addressed through existing MPO programs, and an expansion to the public transportation system is planned with the passage of the one-cent transportation surtax in November 2018.

[5]Southeast Florida Regional Compact Climate Change Regional Greenhouse Gas Inventory: Transportation and Stationary Energy, accessed via https://southeastfloridaclimatecompact.org/resources/ghg-inventory/ on November 10, 2019.



Damage to SR-A1A in Fort Lauderdale caused by a combination of higher sea levels, unnamed severe weather events, and Tropical Storm Sandy.
Source: WLRN.org

Resiliency

Resiliency to sea-level rise and a changing climate is not a new issue for Broward or South Florida. In the past 10 years, transportation partners have worked to rebuild a coastal road following damage from a tropical storm combined with a high tide event. Certain areas of South Florida already experience road flooding during high tide events, especially if rain occurs at the same time. To address these issues, the MPO conducted two studies to identify vulnerable transportation assets and mitigation strategies for those assets.

The "South Florida Climate Change Vulnerability and Adaptation Pilot Project" determined the impact of extreme weather on the area's regional transportation network based on the stressors of sea-level rise, storm surge, and precipitation-induced flooding. The focus was to develop a consistent methodology for integrating vulnerability into the MPO transportation decision-making process. The final report identified the vulnerability of both roadway and rail assets, and the results were endorsed by the MPO Board on March 12, 2015, and approved by FHWA on September 29, 2015.

"Extreme Weather and Climate Change Risk to the Transportation System in Broward County, Florida" addressed the Broward region's local/county-level needs, building upon the work of the initial Pilot Project. The analysis resulted in the identification of vulnerable facilities and methods for treatment of roadways in areas that might be impacted by sea-level rise, storm surge, and precipitation-induced flooding stressors. The project applied climate change stressors to county and local roadways classified as collectors and above within the Broward region and included an assessment of the locations and elevations of significant roadways and bridges throughout the county compared to current and future flood levels. The future flood levels include sea-level rise values as identified and agreed upon by the Southeast Florida Climate Change Compact. The study provided an overview of the risks to the transportation system and should help guide policies and investments to ensure that decisions made today consider those future risks. This phase was approved by the MPO Board on October 13, 2016.

Results of both studies were used in the development of the *Commitment 2045* MTP. The project prioritization criteria considered the vulnerability of the transportation asset, as established by the Pilot Project, and whether or not the proposed project would improve resiliency of the asset regardless of its vulnerability. The Resiliency scenario also sought to prohibit future investment to roadways identified in the "Extreme Weather and Climate Change Risk" study as vulnerable.

Arterial Managed Lanes

The concept of including managed lanes on arterial roadways was raised in Broward previously and has resurfaced with the *Commitment 2045* MTP. Arterial managed lanes could be accomplished by either repurposing existing lanes or constructing additional lanes, either at-grade or separated (elevated or depressed), and constructing toll gantries. For arterial managed lanes to be effective, grade separation at signalized intersections would be needed so through traffic could continue without stopping. Arterial managed lanes were reconsidered for *Commitment 2045* to address congestion on several major east-west arterials and for inclusion in the Technology Scenario as a way to accommodate AV/CV vehicles on identified corridors while still allowing for driver-operated vehicles in separated lanes.

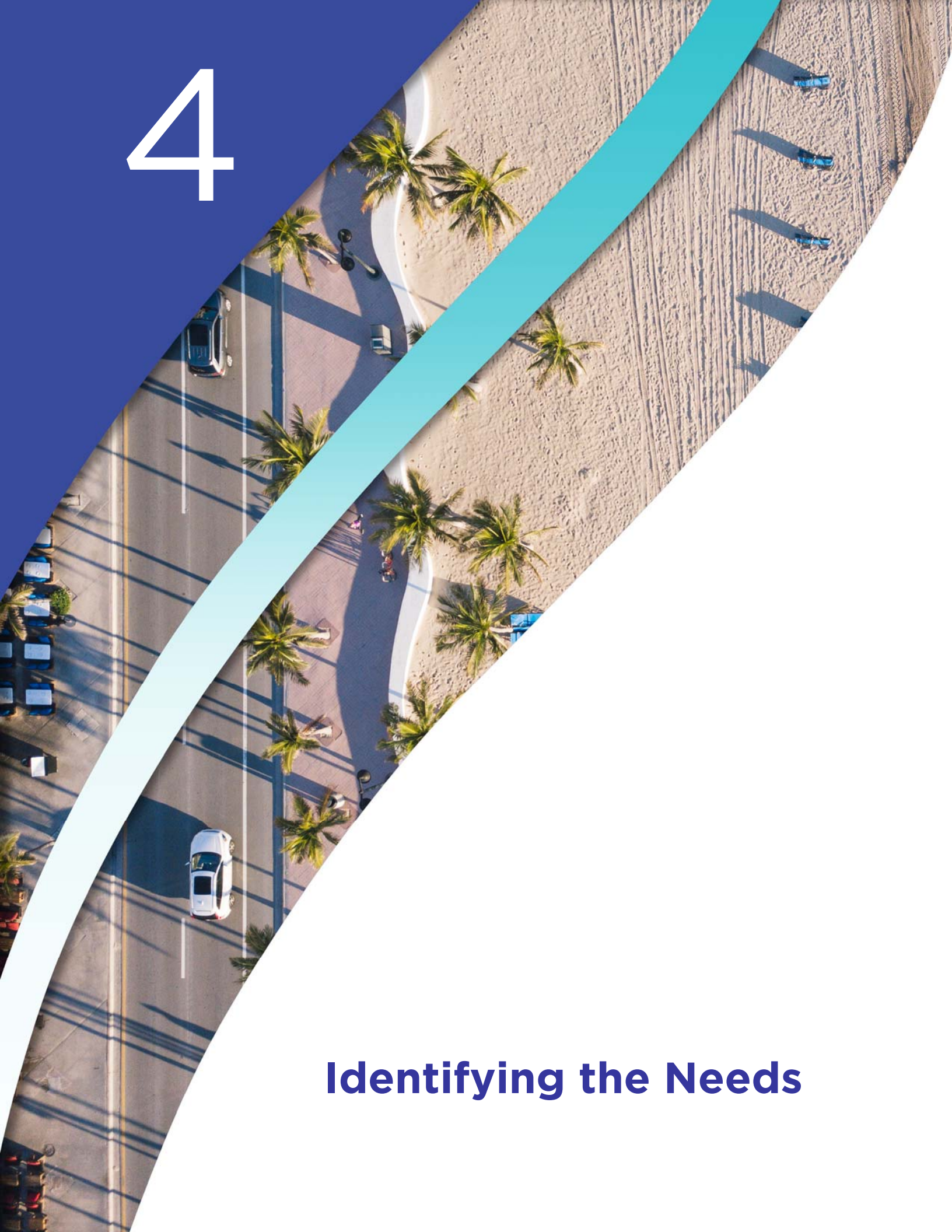
A statistically-valid telephone survey of Broward voters was conducted in November 2018 that asked, “Do you think it is a good or bad idea to create toll lanes on major local roads so those who use them will pay for their upkeep and repair?” The response was overwhelmingly negative, with close to 69% of respondents indicating they thought it was a “bad idea.” Following the survey, the proposed projects identified for consideration were removed. The concept of arterial managed lanes was still tested as part of the Technology Scenario and may be reconsidered as ACES technology evolves, more as a way to allow for the use of existing roadways by AV/CV vehicles along with driver-operated vehicles. Under this scenario, the lanes may or may not be tolled.

SUMMARY

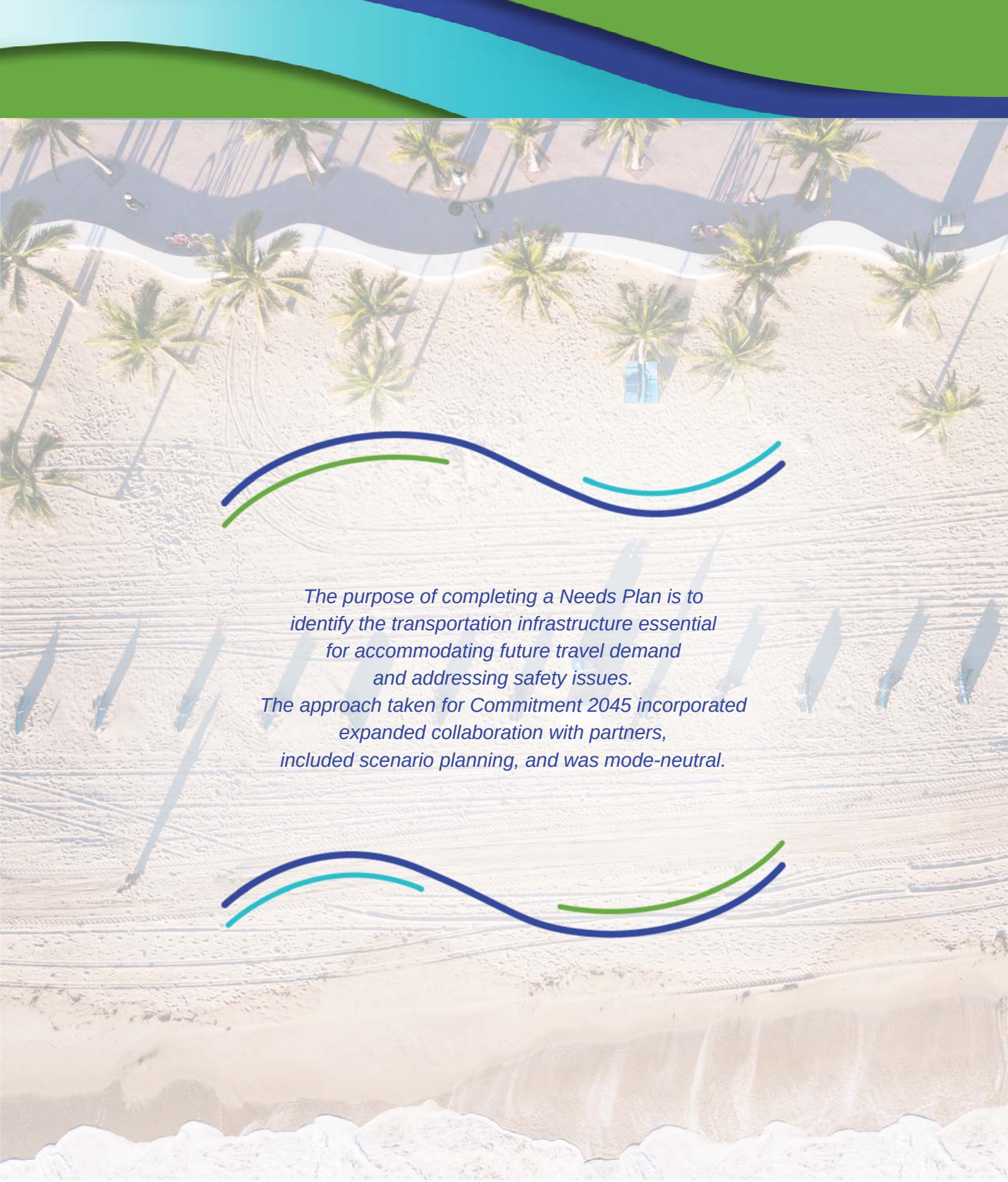
This chapter summarized the public involvement and coordination efforts of the MTP and the emerging issues that influenced the development of the needs for *Commitment 2045* and for Broward Vision 2100. Public involvement also affected the Cost Feasible Plan, as several identified needs were removed from further consideration, such as arterial managed lanes. Chapter 4 addresses the development of the needs, the project prioritization process, and the associated results.

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4



Identifying the Needs



The purpose of completing a Needs Plan is to identify the transportation infrastructure essential for accommodating future travel demand and addressing safety issues. The approach taken for Commitment 2045 incorporated expanded collaboration with partners, included scenario planning, and was mode-neutral.

Like all major urban areas, Broward's transportation needs are substantial. Due to Broward's built-out nature, options for addressing needs are limited since the traditional approach of widening roads to add capacity is not widely feasible due to high community and environmental impacts. As a result, the solutions developed for Broward's needs focus on improving operations, expanding travel options, and enhancing safety for all users. The approach to developing the needs included the following:

- *Call for Projects* – Formal call for projects to partner agencies and jurisdictions.
- *Transit Vision* – Transit Systems Plan developed through technical analysis and collaboration among the MPO, Broward County, and SFRTA.
- *Collaboration with Partners* – Collaboration through MPO committees and direct meetings with agencies and jurisdictions.
- *Scenario Planning Analysis* – Evaluation of five scenarios to identify opportunities to integrate the best elements of each scenario for consideration in the overall *Commitment 2045* MTP needs assessment.
- *Travel Demand Modeling* – Regional travel demand model used to comparatively evaluate existing conditions, five scenarios, and the 2045 Needs and Cost Feasible Plans.
- *Public Participation* – Participation by thousands of people in the development of the *Commitment 2045* MTP through surveys (on-line survey and scientific public opinion poll), public outreach meetings and presentations, telephone/e-townhall meetings, website and social media outreach, MPO committees, and direct collaboration with the MPO agency and jurisdictional partners.
- *MPO Project Team Input* – Numerous meetings and collaborations among the MPO Project Team to review results of technical analyses and use sound planning judgment to incrementally develop the *Commitment 2045* MTP.
- *Commitment 2040 Long Range Transportation Plan* – Review and consideration of transportation improvements from the previously-adopted transportation plan as part of the *Commitment 2045* MTP needs assessment.
- *Broward County Surtax Projects* – During development of needs, Broward County was preparing for a referendum to raise an additional one percent surtax to fund transportation projects. The MPO worked collaboratively with County staff to identify projects appropriate for both the surtax project list and the MTP.

NEEDS PLAN DEVELOPMENT

The purpose of completing a Needs Plan is to identify the transportation infrastructure essential for accommodating future travel demand and addressing safety issues. Figure 4-1 shows the seven major steps undertaken to develop the Needs Plan portion of the MTP.

Figure 4-1: Commitment 2045 MTP Needs Plan Development Process



Step 1 – Data & Analysis – Included eight inputs (discussed in more detail in the next section):

- Travel Demand Modeling
- Call for Projects
- Broward County Surtax Projects
- Land Use
- Policy & Performance
- Collaboration with Partners
- MPO Team Collaboration
- Commitment 2040

Step 2 – Scenario Planning Analysis – Included two inputs—projects identified through Step 1, packaged together to create the five scenarios (Trend, Community Vision, Compact Development, Technology, and Resiliency), and the Transit Vision, all described on page 4-5. The transit improvements identified in the Transit Vision were incorporated as part of the Compact Development scenario, which also redistributed the projected population and employment growth for 2045 to corridors with high capacity transit.

Step 3 – Hybrid Scenario – Included projects used for the Trend, Community Vision, Compact Development, and Technology scenarios; ultimately, became the Needs Plan, with some minor exceptions.

Step 4 – 2045 Needs Plan – Included projects from the Trend, Community Vision, and Compact Development scenarios, as well as additional projects identified by the MPO to address congestion. Improvements from the Technology scenario were not considered in the Needs Plan based on public comments and lack of any proposed projects to implement AV/CV lanes throughout Broward County. An equity assessment of the Needs Plan was completed that compared its performance in identified Equity Areas to the 2015 baseline conditions.

Step 5 – Project Prioritization Process – Included prioritization criteria and weights, developed through collaboration with the Broward MPO Board and Committees, and applied to the capacity projects in the Needs Plan (discussed in more detail on page 4-14).

Step 6 – 2045 Needs Plan Priorities – Included projects listed in order of priority. Following review by the Technical Advisory Committee and Citizens Advisory Committee, the list was approved by the Broward MPO Board (more information on page 4-15).

Step 7 – 2045 Needs Plan by Program – Assigned prioritized projects to the appropriate funding program. As part of this MTP, the Broward MPO established the following six funding programs:

- *Roadway* – for transportation improvements that increase roadway capacity.
- *Transit* – includes transit capital investments and roadway improvements designed to serve as running ways for transit services.
- *Systems Management/Safety Program* – focuses on actively managing the multimodal transportation network, measuring performance, streamlining and improving the existing system, promoting effective cooperation/collaboration, and delivering positive safety and mobility outcomes to the traveling public.
- *Complete Streets and Other Localized Initiatives Program* – for small local transportation projects (with total costs of less than $2 million) that will improve safety and mobility for all transportation users.
- *Complete Streets Master Plan* – established to implement the priority projects identified in the Complete Streets Master Plan. Projects funded through this program are generally greater than $2 million
- *Mobility Hub Program* – established to implement Mobility Hubs, which are transit access points with frequent transit service, high development potential, and a critical point for travel demand or transfers within the transit system. Funds in this program are available to support the collaborative development of mobility hubs as communities identify and commit to opportunities that further the objectives of this program.

More details about the types of projects funded by these programs are provided in Chapter 5, and information about how projects were ranked within each of these funding programs can be found on pages 4-15 and 4-16.

DATA & ANALYSIS

- **Travel Demand Model** – The Southeast Regional Planning Model (SERPM) was used to evaluate the scenarios and to identify additional capacity needs for 2045. Technical Report 12 (all of the Technical Reports referenced in this and other MTP chapters are available on the *Commitment 2045* website) provides specific details of how the model was coded for the Needs and Cost Feasible Plans. To identify additional needs, the

volume-to-capacity (v/c) results from a SERPM run using the 2045 Existing + Committed network and projected 2045 population and employment growth were mapped. All roadway segments with a v/c ratio greater than 1 were separated into a table and further reduced by removing all Florida Strategic Intermodal System (SIS) facilities and arterials that are already six lanes wide. The remaining segments were then compared to recent aerial photographs to determine if additional right-of-way is available. Where sufficient right-of-way exists, those projects were added to the needs list.

- **Call for Projects** – The Broward MPO issued a Call for Projects from its partner agencies, including municipalities, Broward County, FDOT, SFRTA, and Port Everglades. The initial Call for Projects list included more than 700 projects, ranging from non-motorized improvements such as landscaping and sidewalks to large-scale capacity projects. The projects were organized in a spreadsheet and categorized by a variety of factors, including work mix (type of improvement proposed), eligibility for inclusion in the MTP, and the source of the project (such as Call for Projects, FDOT, Broward County Surtax, etc.). The Call for Projects for *Commitment 2045* is not a new approach for the Broward MPO; however, this MTP included more extensive coordination between the Broward MPO and its partner agencies, with multiple meetings held with each agency throughout the MTP process. As other needs were identified, they were added to this spreadsheet, and the number of projects grew to more than 860. Ultimately, the list was reduced to approximately 500 projects when the Broward County Surtax Projects were removed.
- **Broward County Surtax Projects** – Broward County, as part of its transportation surtax effort, collected transportation needs from each of the municipalities and created a list of its own needs for unincorporated areas and County-owned facilities. These projects were submitted to the MPO as part of the Call for Projects and ultimately were removed from consideration, with the exception of several rapid bus projects, when the surtax passed in November 2018. There was substantial coordination between the Broward MPO and Broward County to determine the disposition of these projects. Ultimately, it was decided that only projects seeking Federal funding would remain on the list to be prioritized. As additional surtax projects are identified for Federal funding, the Broward MPO and Broward County will work together to amend the MTP to include those projects as part of the Needs Plan or Cost Feasible Plan, as appropriate.
- **Land Use** – The development of trend population and employment growth and a higher growth estimate for 2045 is detailed in separate technical reports and summarized in Chapter 2. These data were used to identify needs as part of the SERPM model. Specifically, the trend growth data were used in the Existing + Committed model run to identify facilities that are projected to need improvement as a result of anticipated growth. The higher growth data, which were the Bureau of Economic and Business Research high estimates for 2045, were used in the Scenario Planning Analysis to direct additional growth to the identified transit corridors in the Compact Development Scenario. Ultimately, the Compact Development Scenario was revised to reflect the trend growth projections, with the growth redistributed to high-capacity transit corridors.
- **Policy & Performance** – The adopted Goals and Objectives and corresponding Performance Measures, which are discussed in more detail in Technical Report #3 and Chapter 6, informed the development of the criteria for prioritizing projects. *Commitment 2045* used a performance-based, mode-neutral approach to project prioritization in an effort to better align funded projects with the federally-required and regional Performance Measures (see Chapter 6). The project prioritization process is described in more detail on page 4-14.
- **Collaboration with Partners** – Chapter 3 provides a more extensive discussion of partner collaboration efforts. For *Commitment 2045*, the MPO increased its collaboration efforts by involving all partner agencies more frequently through either existing committees or one-on-one meetings.
- **MPO Team Collaboration** – Throughout the development of *Commitment 2045*, MPO staff met regularly and with the MTP consultant to ensure that the technical analyses and approach were sound and consistent with other MPO efforts, including development of the Multimodal Priorities List and TIP.
- **Commitment 2040** – Projects identified in Commitment 2040 that were not funded were reconsidered for inclusion in the Needs Plan for *Commitment 2045*.

These projects were not automatically included unless submitted by a partner agency through the Call for Projects or the review of SERPM results identified a need that could be met by one of these project.

SCENARIO PLANNING ANALYSIS

In long-range transportation planning, scenario planning evaluates the effects of alternative policies, plans, or programs on the future of the community and/or region. In addition, it can provide insight to stakeholders and decisionmakers as they develop transportation plans. The scenarios allow stakeholders to explore and consider alternatives by evaluating the implications of alternative approaches to the transportation system. Both the RTP and the *Commitment 2045* MTP included scenario planning in their development over the past two years, although each had different approaches—the scenario planning undertaken for *Commitment 2045* focused on different transportation network solutions, whereas the RTP was focused on policy and funding scenarios. Both scenario planning approaches and their results are described in this section.

Commitment 2045 MTP

The goal of *Commitment 2045* was to develop five scenarios to evaluate different levels of transit investment and focus on key issues being faced in the Broward region today and expected in the future. The comparative evaluation of these five scenarios was then used to develop a hybrid scenario that informed the Needs Plan. The five scenarios identified for this effort are briefly described below. Additional information about the scenarios is provided in Technical Report #6.

- **Trend Scenario** – continues recent trends in growth and transportation investments. Improvements included in this scenario were minor roadway projects that did not provide significant expansions of capacity. Transit improvements were not included, as the ability to significantly expand the transit system was not a possibility. In essence, this represented a cost-constrained scenario.
- **Compact Development Scenario** – aggressively pursues high-density development, infill, and redevelopment within key corridors. Improvements in this scenario were based on the Transit Vision and refocused growth projections to the corridors where investments in high-capacity transit were proposed. This scenario was not constrained by funding availability.
- **Technology Scenario** – aggressively pursues the advancement of emerging transportation technologies. Improvements in this scenario include conversion of existing managed lanes to technology corridors and the identification of additional arterial corridors that would accommodate automated, connected, electric, and shared (ACES) vehicles. Additional modifications to model variables were made to better reflect the benefits associated with the implementation of autonomous and connected vehicles, including increasing roadway capacity, reducing traffic signal delay, and reducing transit wait times. This scenario was not constrained by funding availability.
- **Resiliency Scenario** – responds to sea-level rise, severe weather events, and other forces. The approach for this scenario was to use the same projects as the Trend Scenario and remove any that were located on facilities identified as vulnerable in the "Extreme Weather and Climate Change Risk" study. This scenario was not constrained by funding availability.
- **Community Vision Scenario** – integrates individual community and agency visions. The improvements included in this scenario were projects submitted by local governments and partner agencies that could be coded as part of the transportation network. This scenario was not constrained by funding availability.

Six factors were identified for evaluating the performance of each of these scenarios, which were also linked to the project prioritization process—accessibility, mobility, safety, equity, economic vitality, and environmental stewardship. Table 4-1 provides definitions for each of these factors and the criteria used to measure them for the scenario planning process. Different criteria were established for the same six factors for the project prioritization process, as discussed later in this chapter.

SERPM was used to evaluate how the proposed networks of each scenario functioned relative to each other, specifically in relation to the six planning factors. Technical Report #11 provides more details about the coding and evaluation of the scenarios using the travel demand model.

Table 4-1: Scenario Planning Evaluation Factors and Criteria

Evaluation Factor	Evaluation Criteria
Mobility – providing high-speed and reliable travel between major activity centers and destinations. Focus is getting from one place to another as quickly as possible and typically is characterized by longer trips.	Hours of peak period delay
Accessibility – providing access and circulation within higher-density, mixed-use places; tend to be shorter trips.	Number of jobs within 30-min travel time for cars and transit
Safety – reducing number and severity of crashes.	Annual fatalities
Equity – ensuring that benefits and impacts shared among Broward's population.	Composite of other measures[1]
Environmental Stewardship – protecting natural and built environments.	Daily carbon monoxide (CO) emissions
Economic Vitality – supporting economic activity and businesses.	Delay on roadways that carry >5% trucks

[1] To determine score for Equity, composite ranking developed through evaluation of results for equity areas in comparison with non-equity areas. For the other five measures, a score was assigned +1 if measure moved in positive direction, 0 if measure unchanged, -1 if measure moved in negative direction. Total score for equity areas compared to total score for non-equity area for each scenario and composite ranking established were based on difference between total scores.

The Resiliency Scenario was not able to be modeled, as there were no improvements proposed for vulnerable roadways.

Although the evaluation results were not expressed in a quantitative manner, they suggest that the Technology and Community Vision scenarios provide the best results, as they involved a combination of roadway and transit improvements. The Compact Development Scenario was focused on transit-only improvements, and the Trend Scenario was limited to minor roadway improvements. The results from the Scenario Planning Analysis informed the list of needs in both a direct and an indirect manner. In some instances, projects identified in a specific scenario were included in the list of needs, whereas in other instances, the results influenced the approach to Broward Vision 2100. Figure 4-2 (see next page) summarizes the results of the Scenario Planning Analysis. Key takeaways from the effort are that a mixture of roadway and transit capacity improvements achieve better results than investing in one option over the other, technology enhancements such as connected vehicles improve travel times by reducing peak hour delay, and transit use increases when growth is concentrated around high-capacity lines. These findings are consistent with the RTP's scenario planning analysis and results.

Table 4-2 (see next page) shows how each of the scenarios aligns with the Hybrid Scenario/Needs Plan and Broward Vision 2100. All projects in the Trend and Community Vision scenarios were included in the Needs Plan. Transit improvements from the Compact Development Scenario ultimately were included in the Needs Plan after additional network revisions that resulted from coordination with Broward County Transit. Due to the public's notable objection to managed lanes on arterials, this element from the Technology Scenario was not included in the Needs Plan and, instead, was included in the Vision 2100 Plan. A list of studies to determine the most appropriate way to mitigate for projected climate change impacts was included in the Needs Plan to reflect the Resiliency Scenario. The Resiliency Scenario is not included in Vision 2100. This does not mean that resiliency is not addressed in Vision 2100; rather, the Scenario Planning analysis did not identify specific resiliency projects that were included as part of the vision.

2045 Regional Scenarios

Given the region's expected growth and need to proactively explore transportation funding to meet urban area needs, the 2045 RTP effort sought to explore several important policy and investment questions about Southeast Florida's future. These questions revolve around two main elements:

- **Financial and legislative:** What changes to policy and legislation will allow greater flexibility in how existing revenue sources are used? What new revenue sources can feasibly generate revenue for regional transportation infrastructure?
- **Growth and development:** Are changes in development patterns necessary to complement regional transportation investments?

Figure 4-2: Summary of Scenario Planning Analysis Results

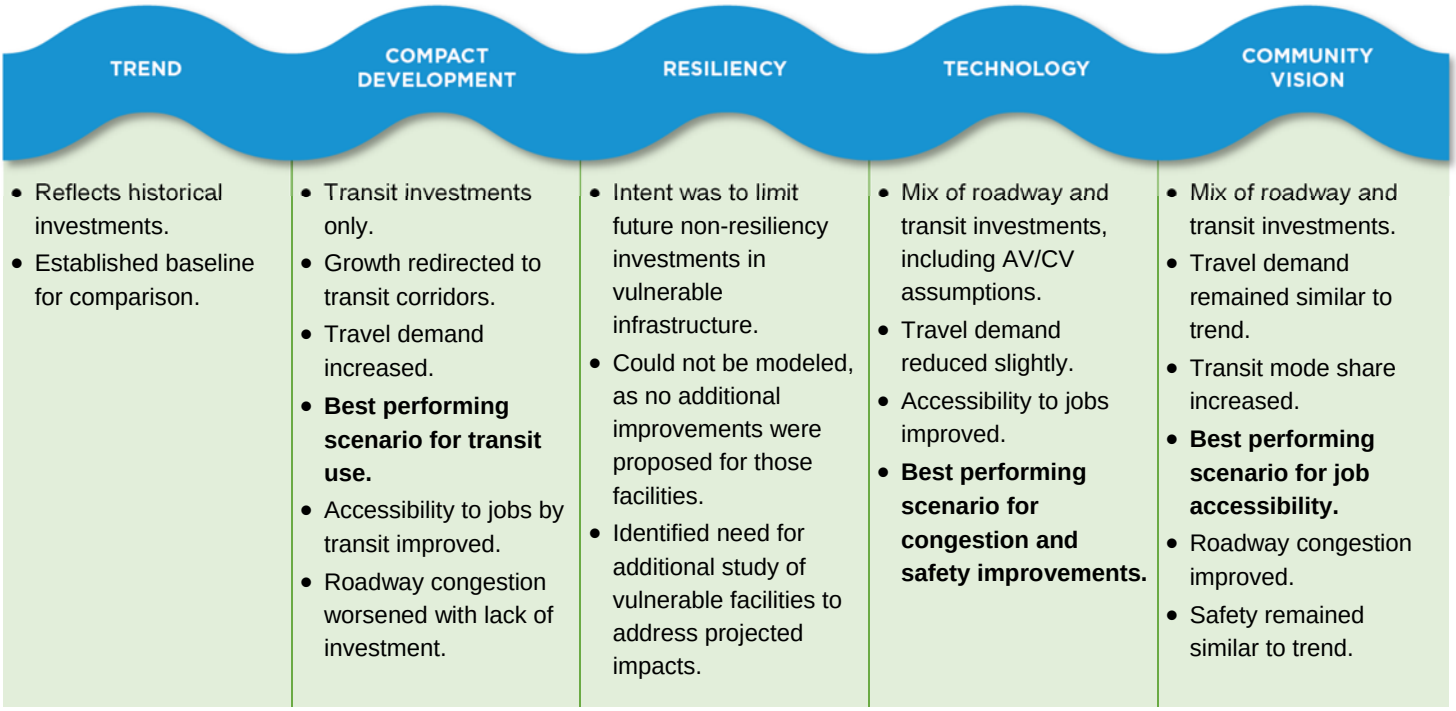


Table 4-2: Integration of Scenario Planning Results into Commitment 2045 MTP and Broward Vision 2100

Scenario Name	Included in Hybrid Scenario/Needs Plan?	Included in Broward Vision 2100?
Trend	Yes	No
Compact Development	Yes	Yes
Resiliency	Yes	No
Technology	No	Yes
Community Vision	Yes	No

To help answer those questions, a set of distinct scenario concepts was created for evaluating what policy changes may be needed to fund a transportation system to meet the ever-growing needs of our urbanized region:

- *Scenario 1 – Trend*: Current funding practices, transportation investment and land use decisions.
- *Scenario 2 – Regional Transit*: Creating flexibility in existing revenue sources to enable a "flexing" of funds to new transit investment while also exploring new revenue sources to fully build out a regional transit network.
- *Scenario 3 - Alternative Growth and Development*: Shifting future growth to compact locations in close proximity to regional transit.

The 2045 regional scenarios are illustrated in Figure 4-3, and the detailed results of the RTP's scenario planning effort can be found in the Trends and Alternative Scenarios report on the SEFTC website at https://www.seftc.org/2045rtp.

Key findings from the effort include the following:

- Overall travel demand does not change but shifts slightly from cars to transit.
- High-capacity transit ridership more than triples.
- Alternative land use scenario leads to more walk and bike trips.

Figure 4-3: 2045 Regional Transportation Plan Scenarios



CONGESTION MANAGEMENT PROCESS

The integration of transportation and land use is essential to the successful development of an effective multimodal transportation system. Reducing single-occupancy vehicle (SOV) travel and developing and implementing strategies other than road widening to improve safety and mobility through other modes of transportation (i.e., transit, community shuttles, bicycle/pedestrian facilities) are the main intent of the Broward MPO's Congestion Management Process (CMP).

The CMP deals with current and long-term transportation conditions. In the recent past, the Broward MPO combined the CMP and Livability Planning to provide a comprehensive approach to implementing previous Long Range Transportation Plans (LRTPs). The corridor studies from the combined effort resulted in many project recommendations advanced by the MPO for funding and implementation. Recommendations also included working closely with transportation partners to implement Transportation Demand Strategies to mitigate congestion and identify low-cost strategies (signal timing, queue lengths, etc.) that can be implemented in a short timeframe. More specifically, the recommendations address the location of Mobility Hubs and transit infrastructure and bicycle/pedestrian facilities, designation of appropriate land uses, and guidelines for appropriate redevelopment and retrofitting.

The Broward MPO continues to follow its CMP and monitors the capacity and traffic levels on major roadways (collector and arterial network) in the Broward region on a regular basis. This process uses existing and projected demographic, employment, and traffic data as part of a regional Transportation Demand Model to identify overcapacity roadways. For the *Commitment 2045* MTP, the MPO identified future transportation needs and proposed projects to address deficiencies in the roadway network using data from the regional Transportation Demand Model. Projects identified through this effort were included in the MTP Needs Assessment and prioritized for funding.

TRANSIT NEEDS

An evaluation of the transit needs in Broward County was conducted as part of the Transit Vision that was developed in conjunction with the MTP effort. Technical Reports #7, #8, and #11 document these efforts in detail, which were made possible by additional funding from FTA specifically for the transit needs. A high-level summary of the process to determine transit needs is provided in Figure 4-4. Map 4-1 illustrates the transit needs, which were finalized following coordination meetings with BCT and SFRTA.

PREVIOUS PLANS/STUDIES

A review of previous plans and studies was conducted to assist with the identification of additional needs, specifically freight and goods movement. Appropriate projects from the South Florida Regional Freight Plan were included in the needs and discussed with the Freight Transportation Advisory Committee. Plans and studies reviewed as part of this effort are listed in Table 4-3.

Figure 4-4: Transit Evaluation Approach

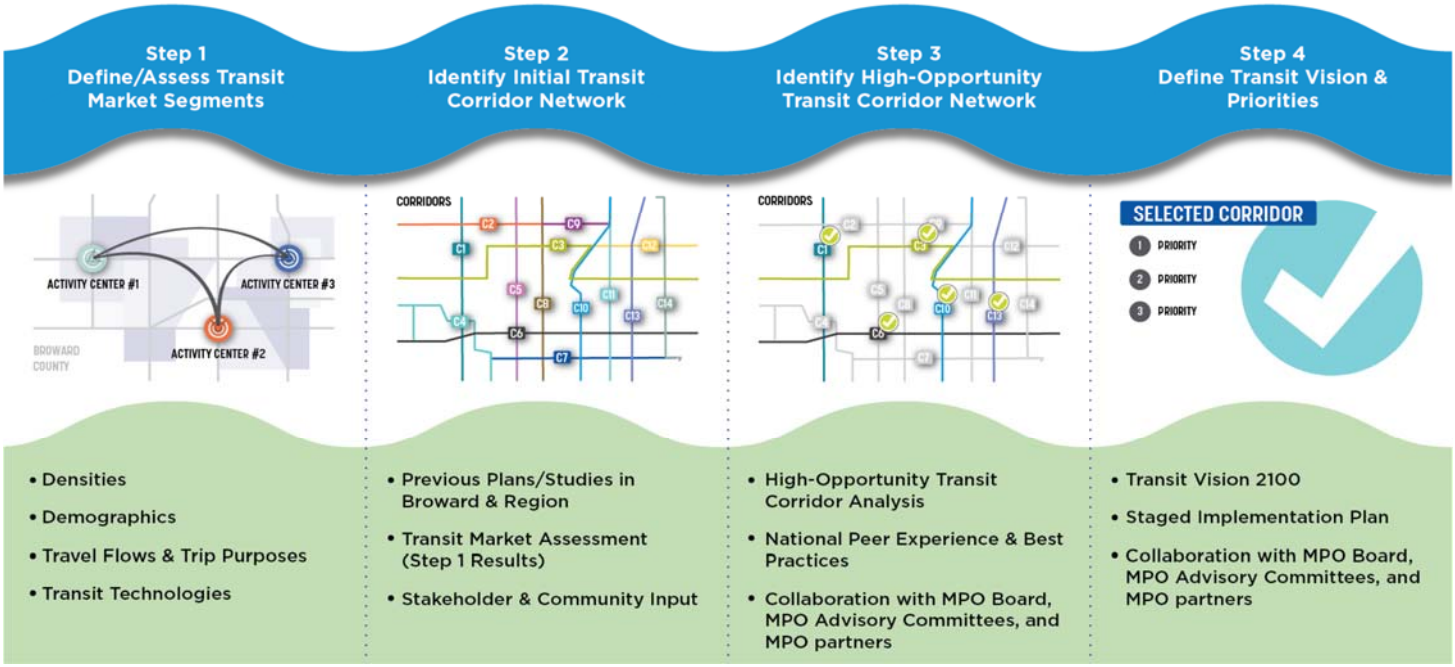


Table 4-3: Previous Plans and Studies Reviewed for Commitment 2045 Needs

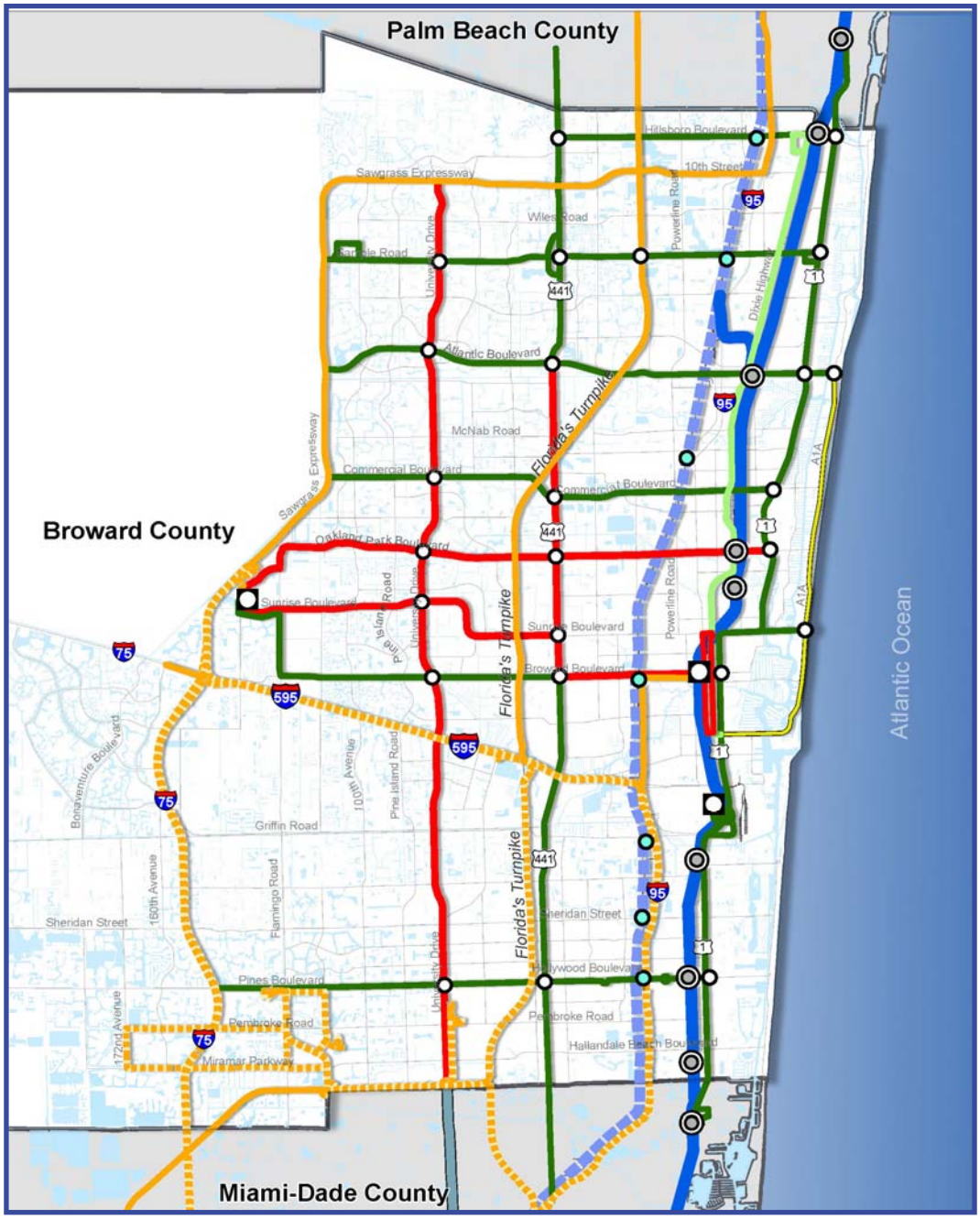
Previous Plan and Studies
Broward County Potential Greenway System (no date provided)
Broward MPO Bicycle & Pedestrian Safety Action Plan, March 2018
Broward MPO South Florida Climate Change Vulnerability Assessment and Adaptation Pilot Project, April 2015
Port Everglades 2014 Master/Vision Plan, June 2014
SFRTA Forward Plan: FY 2018–2027 Transit Development Plan, 2017 Update
Broward County Transit 2019–2028 Transit Development Plan, December 2018
Broward MPO Extreme Weather and Climate Change Risk to the Transportation System in Broward County, Florida, September 2016
Fort Lauderdale – Hollywood International Airport Master Plan, 2008
Southeast Florida Regional Freight Plan 2014 Update, April 2015
2045 SIS Multi-Modal Unfunded Needs Plan: FDOT District Four Projects, June 2017

Map 4-1:
2045 Transit Needs

Existing Transit Service
- Express Bus
- Commuter Rail (Tri-Rail)
- Station (Tri-Rail)

Proposed Transit Service[1]
- Beach Trolley
- Express Bus
- BCT Rapid Bus
- Fixed Guideway (<50%)
- Fixed Guideway (>50%)
- Commuter Rail (Coastal Link)
- SMART Plan (North Corridor)

Proposed Stations[2]
- System to System Station[3]
- Coastal Link Station
- Intermodal Center[4]



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Notes:
1. Local bus not shown; assumed to operate on all major roads.
2. Six park-and-ride lots (all locations to be determined).
3. Potential transit stations shown at system-to-system intersections; additional and/or actual locations to be determined in future corridor studies.
4. Five additional intermodal centers (all locations to be determined).

2045 NEEDS PLAN

The 2045 Needs Plan comprises projects identified through the Call for Projects, the Scenario Planning Analysis, the Transit Vision, a review of previous plans and studies including Commitment 2040, collaboration with partners, a review of the travel demand model results for 2045, coordination among Broward MPO staff, and public participation. The needs are multimodal, from greenways and transit centers to roadway widenings and freight rail improvements. Table 4-4 summarizes the 2045 Needs Plan by mode and estimated cost.

Map 4-2 shows the identified Roadway Needs for *Commitment 2045*. The categories in the map legend include Capacity Projects, which are widening or turn-lane addition projects; Bridge Projects, which are either bridge rehabilitation/replacement or adding turn-lane projects; interchange/intersection projects, which include improvements to interstate highway interchanges or intersection improvements for non-interstate roadways, center turn overpasses, or grade separations at railroad tracks; and areawide projects, which are multiple projects of the same type (Capacity or Bridge) proposed within different areas of the highlighted municipalities.

2045 NEEDS PLAN EQUITY ASSESSMENT

The Broward MPO's equity assessment process is designed as a top-down approach to ensure that consideration for equity starts early at initial project concept. Therefore, when projects initially identified as part of the *Commitment 2045* process are ultimately programmed for funding and implementation, a comprehensive understanding of potential benefits and adverse impacts to protected populations has already been conducted.

Using selected performance measures, outputs from the SERPM model were used to evaluate the performance of the 2045 Needs Plan compared to the 2015 baseline network in equity areas within Broward County (previously defined in Chapter 2) compared to non-equity areas. From this, observations for key measures related to the three MTP goals were identified:

- **Goal 1: Move People & Goods** (Figure 4-5) – Transit supply increases more in equity areas, but transit use increases more in non-equity areas as the transit system expands and becomes competitive with or more attractive than driving.
- **Goal 2: Create Jobs** (Figure 4-6) – Access to jobs by premium transit increases at twice the level within equity areas compared to non-equity areas. Average travel time to work by transit decreases and by car increases at nearly the same rate for equity areas and non-equity areas.
- **Goal 3: Strengthen Communities** (Figure 4-7) – The percentage of population near transit service in equity areas increases at nearly twice that of non-equity areas. A generally similar performance for VMT and air quality in equity areas versus non-equity areas and only a slightly greater decrease in VHT in equity areas is observed.

Table 4-4: 2045 Needs Summary by Mode

Mode	Estimated Cost*
Bicycle & Pedestrian	$500–$520 million
Greenways	$20–$47 million
Public Transportation (includes park-and-ride lots, new transit service, transit centers, and transit stops)	TBD**
Roadways	$1.2 billion
Freight (includes new rail facilities, port projects and grade separations*** to improve safety)	$1.3 billion
Total for 2045 Needs Plan	**TBD**

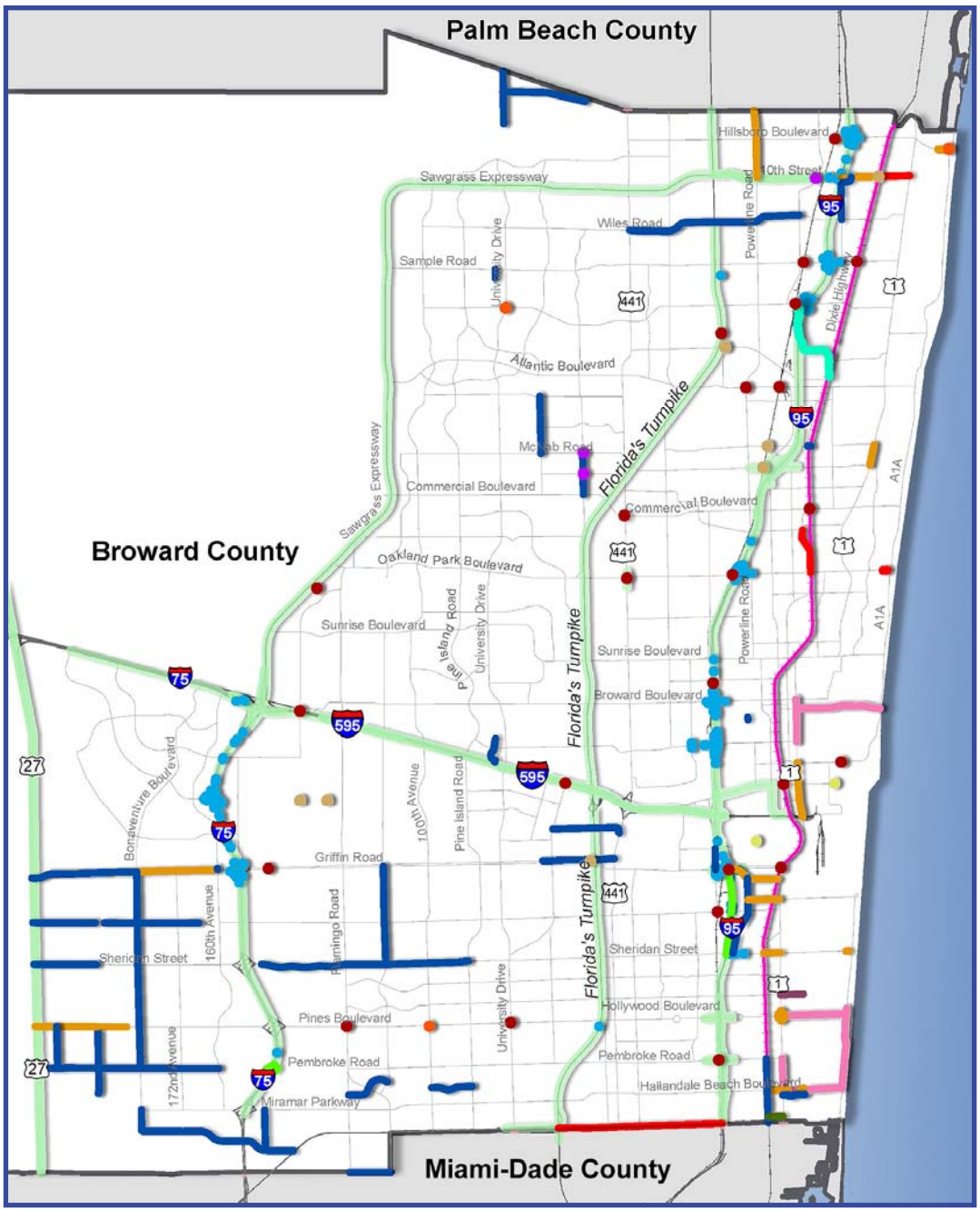
*Range of costs provided for modes where projects may not have been sufficiently defined.
**To be determined by future work with Broward County and its Mobility Action Plan (surtax projects).

The results of the 2045 Needs Plan evaluation will be compared to a similar evaluation completed for the 2045 Cost Feasible Plan to understand equity impacts of funded versus all potential transportation projects. As the Broward MPO updates *Commitment 2045* in the future, this process can be repeated to understand how the future transportation system is expected to perform in areas of the county where there are higher concentrations of protected population groups.

Map 4-2: 2045 Roadway Needs

State Projects
- Capacity
- Interchange/ Intersection
- Capacity
- Interchange/ Intersection
- Pompano Connection
- Multimodal Study/ Improvements
- Resiliency Study
- SIS Interchange
- SIS Airport/Port
- SIS Capacity/ Interchange
- SIS Rail

Non-State Projects
- Capacity
- Interchange/ Intersection
- Capacity
- Multimodal Study
- Resiliency Study



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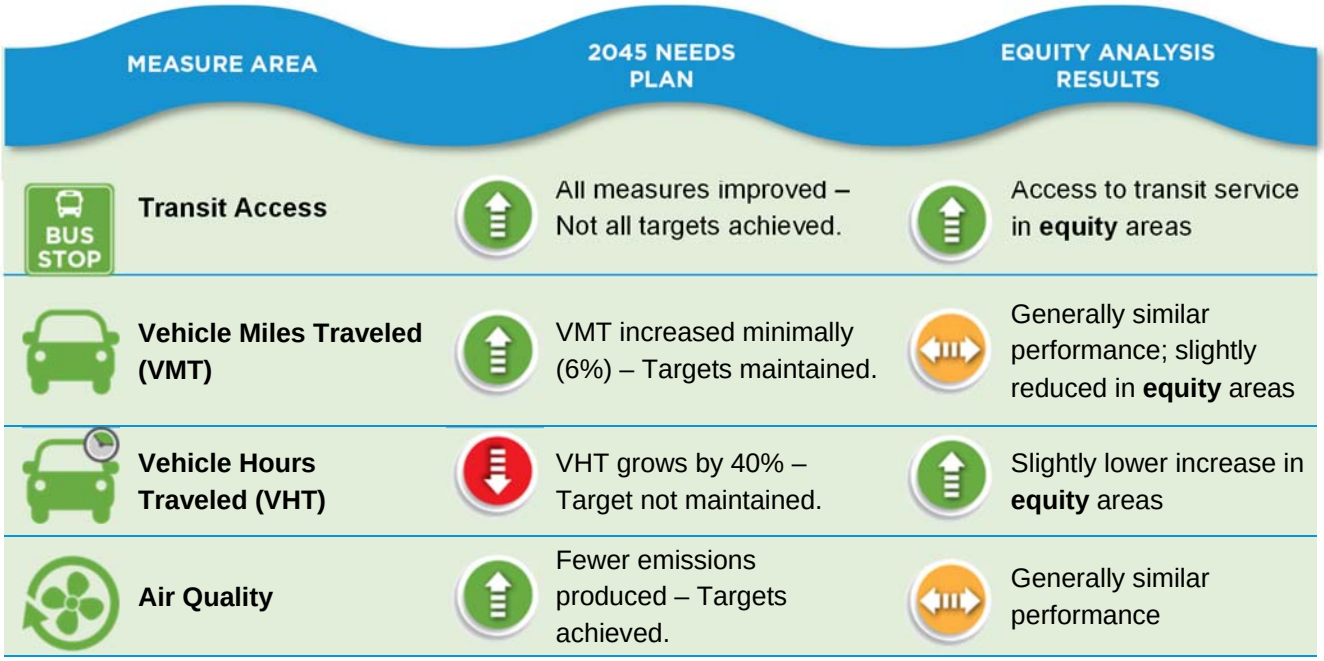
Figure 4-5: 2045 Needs Plan Equity Assessment (Goal 1: Move People & Goods)

MEASURE AREA	2045 NEEDS PLAN	EQUITY ANALYSIS RESULTS
Congestion Management	Generally, congestion is worse – Targets not achieved.	Generally similar performance
Safety	Serious crashes increase with growth in travel – Targets not achieved.	Generally similar performance
Delay	Delay is worse – Target not achieved.	Less delay in **equity** areas
Mode Share	Fewer SOV trips and more transit trips – Not all targets achieved.	Greater increase in **non-equity** areas
Transit Supply	More transit is provided – Not all targets achieved.	Greater improvement in **equity** areas
Transit Used	More transit is used – Targets achieved.	Greater improvement in **non-equity** areas
System Capacity	More capacity is provided – Targets achieved.	Greater percent change in **equity** areas; more absolute growth in non-equity areas

Figure 4-6: 2045 Needs Plan Equity Assessment (Goal 2: Create Jobs)



Figure 4-7: 2045 Needs Plan Equity Assessment (Goal 3: Strengthen Communities)



PROJECT PRIORITIZATION

Prior to prioritizing them, projects were separated into the six funding programs established for the MTP—Roadway, Transit, Systems Management/Safety, Complete Streets and Localized Initiatives, Complete Streets Master Plan, and Mobility Hubs. More details about these funding programs are provided in Chapter 5. Only projects assigned to the Roadway and Transit funding programs were prioritized through the process described in this section, as the remaining four funding programs have their own prioritization criteria and process established or in development on an annual or periodic basis.

The prioritization criteria are based on the MTP goals and objectives (adopted by the Broward MPO Board on

May 10, 2018, and documented in Technical Report #3a), include relevant required Performance Measures identified in the FAST Act, and reflect measures used in the Scenario Planning process. A total of 21 criteria, listed in Table 4-5, were identified for prioritizing projects in an approach that was designed to be mode-neutral by focusing on the movement of people and goods as opposed to vehicles.

To provide for consistency between the Prioritization Process and Scenario Planning effort, it was decided that the prioritization criteria would be grouped into the same six planning factors used for the scenario evaluation—mobility, accessibility, safety, equity, environmental stewardship, and economic vitality. Each of the six planning factors was given a weighted value to align it with its importance to the community. The weighting values were determined through an interactive polling process with the TAC, CAC, LCB, and MPO Board. The values obtained were averaged and resulted in the following:

- Mobility – 20.5
- Equity – 14.3
- Accessibility – 20.8
- Environmental Stewardship – 12.8
- Safety – 18.7
- Economic Vitality – 13.0

The prioritization process was endorsed by the Broward MPO Board during its November 14, 2018, meeting following several discussions with the TAC and the CAC in September and October 2018.

Table 4-5: Project Prioritization Criteria for Commitment 2045

Planning Factor	Criteria
Mobility	Impact on Single Occupant Vehicle (SOV) Travel
	Impact on Vehicle Miles Traveled (VMT)
	Impact on Person Capacity
	Impact on Peak Period Delay/Transit Travel Time
Accessibility	Impact on Transit Ridership
	Activity Center Access and Reliability (measured by peak-hour travel time or transit frequency to key activity centers)
	Impact on Multimodal Connectivity
Safety	Safety Improvements at High-Crash Locations
	Safety Improvements at Non-High-Crash Locations
	Multimodal Safety (measured by safety improvements at identified pedestrian and bicycle crash hot spots and/or within key activity centers)
Equity	Impact on Transit Service Frequency
	Impact on Transit Services (Frequency and Connectivity) within Equity Areas
	Impact on Travel Time Savings within Equity Areas
	Improvements to Multimodal Safety within Equity Areas
	Community Impacts (measured by potential for impacts to existing residences and businesses)
Environmental Stewardship	Improvements Related to Sea-Level Rise Mitigation/Extreme Weather Resiliency
	Impact on Greenhouse Gas and Precursor Emissions
	Potential for Impacts to Wetlands, Floodplains, and Natural and Historic Resources
Economic Vitality	Freight and Goods Movement (measured by impact on travel time reliability or operations on corridor identified on National Highway Freight Network or corridor with truck percentage of 5% or more)
	State of Good Repair (measured by impacts on infrastructure rated as fair or poor condition)
	Economic Development (measured by impact on access to key activity centers)

NEEDS PLAN PRIORITIES

Projects were scored using the criteria shown in Table 4-5. These scores were then normalized by dividing the resulting number by the total points possible for each factor. The weight was applied, and the scores for each factor were added to create a final score for each project. An example of this scoring process is shown in Table 4-6.

Projects were given an ordinal rank based on their total score. Projects with the same total score were given the same ordinal rank, also illustrated in Table 4-6. The complete list of prioritized projects, which is included in Technical Report #13, was presented to the Broward MPO's TAC and CAC in February 2019 for their review.

NEEDS PLAN BY FUNDING PROGRAM

After scoring the eligible projects, the projects were separated into the two funding programs, Roadway and Transit. Roadway projects were further subdivided by their facility ownership, either "on" or "off" the State Highway System. Transit projects were reviewed to determine if operating and maintenance funding was available. If there was no commitment to fund operations and maintenance, the projects were removed from consideration in the Cost Feasible Plan. Once allocated to the Roadway and Transit funding programs, the projects were re-ranked within the programs based on their overall score.

The next step in the process was to determine which projects could be funded based on the projected revenues over the next 25 years. Chapter 5 provides information about the revenue projections, how each funding program was allocated available revenue, programmed projects by projected year of expenditure, and additional information regarding other efforts considered as part of the Cost Feasible Plan.

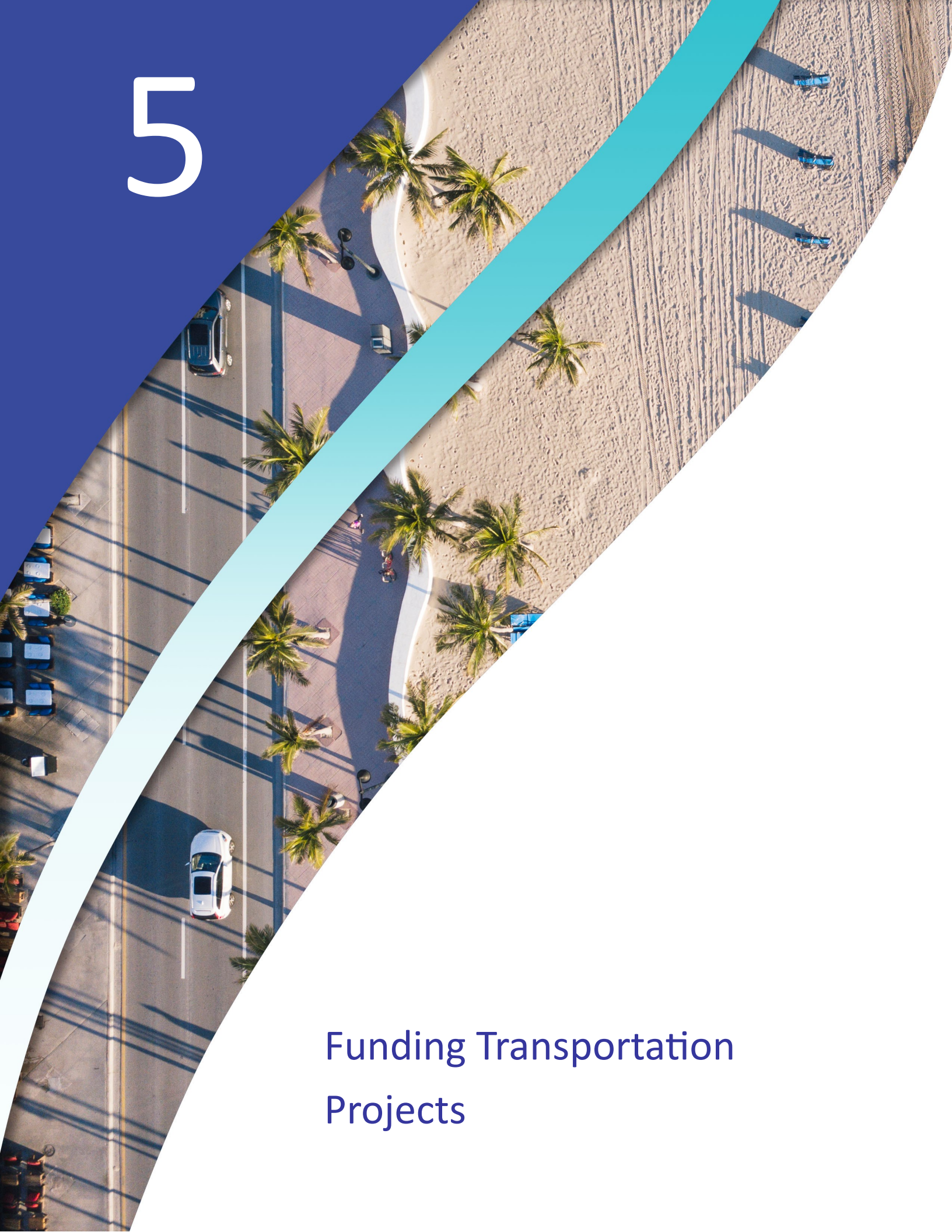
Table 4-6: Project Prioritization Scoring & Ranking Examples

Project Name & Limits	Hypothetical Avenue (Here to There)			
Description:	Widen from 2 to 4 Lanes			
Planning Factor	**Raw Score / Max Score**	**Normalized Score**	**Weighting**	**Weighted Score**
Mobility	6 / 8	0.750	20.5	15.375
Accessibility	2 / 6	0.333	20.8	6.933
Safety	2 / 5	0.400	18.7	7.480
Equity	-1 / 8	-0.125	14.3	-1.787
Environment	0 / 4	0.000	12.8	0.000
Economy	3 / 5	0.600	13.0	7.8000
			Total Weighted Score	**35.801**

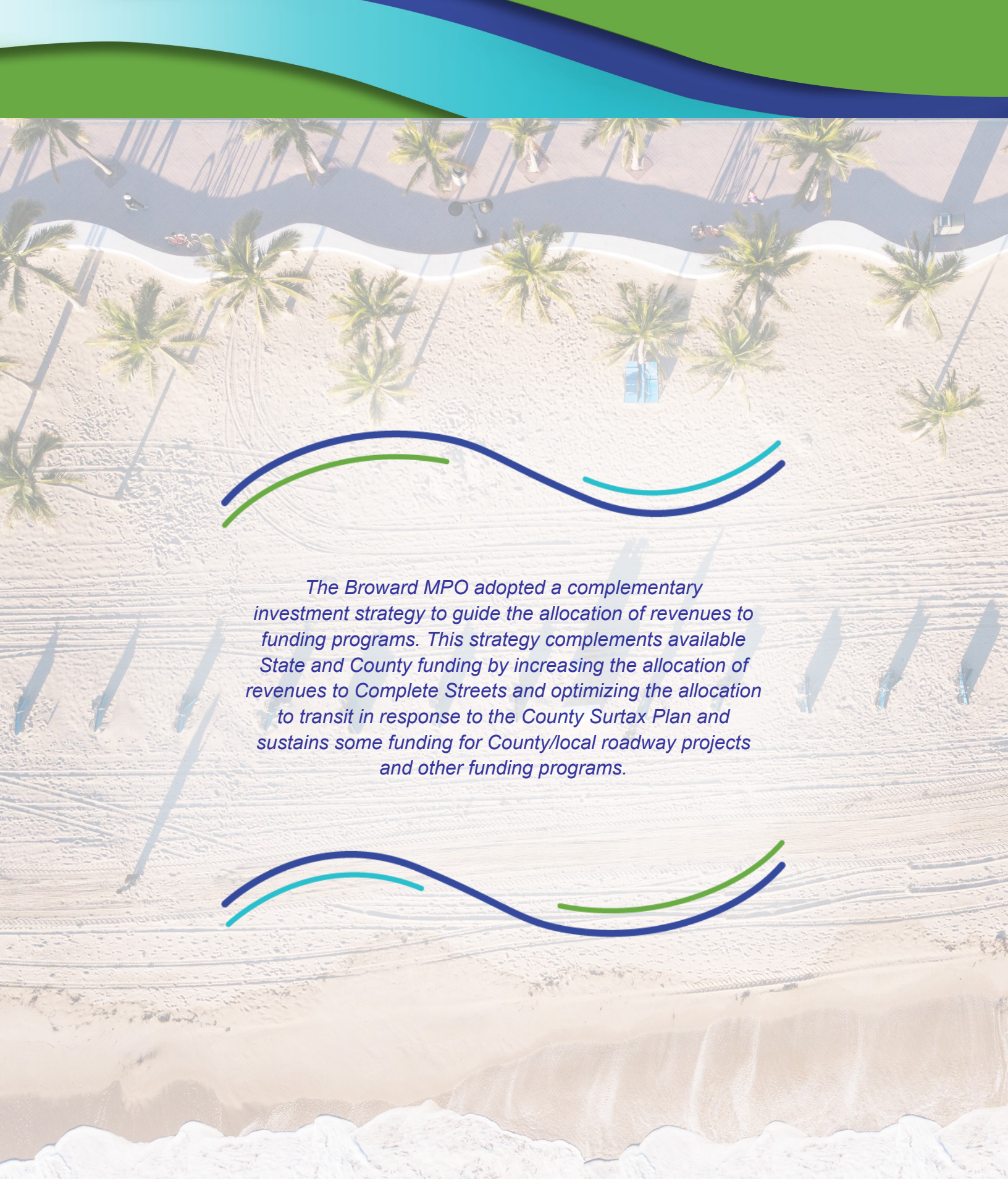
Project Name	**Weighted Score**	**Rank**
Transit Project A	45.551	1
Transit Project B	40.111	2
Hypothetical Avenue	35.801	3
Theoretical Avenue	35.801	3
Railroad Crossing 1	32.356	5
Railroad Crossing 2	32.356	5
Railroad Crossing 3	32.356	5
Local Road A	30.857	8

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5



Funding Transportation Projects



The Broward MPO adopted a complementary investment strategy to guide the allocation of revenues to funding programs. This strategy complements available State and County funding by increasing the allocation of revenues to Complete Streets and optimizing the allocation to transit in response to the County Surtax Plan and sustains some funding for County/local roadway projects and other funding programs.

Funding diverse transportation improvements in the Broward County region is a key responsibility of the Broward MPO. In fulfilling this responsibility, the MPO adopted a complementary funding strategy to "complement" available State and County funding and how these funds are allocated today. This chapter summarizes how this investment strategy was implemented to support the development of the 2045 Cost Feasible Plan for the Broward region. Included in this chapter are the following:

- Summary of financial resources available for funding transportation improvements
- Overview and illustration of the 2045 Cost Feasible Plan (tables and maps)

FIVE-STEP APPROACH

In developing the *Commitment 2045* MTP, the MPO established a new approach to identifying, prioritizing, and funding transportation improvements. This new approach was conceived to ensure that the financial resources of the MPO are allocated to six funding programs in a manner that corresponds to the policy direction of the MPO Board while remaining consistent with the eligible uses of each funding source. The five-step approach to developing the 2045 Cost Feasible Plan is illustrated in Figure 5-1 and summarized as follows:

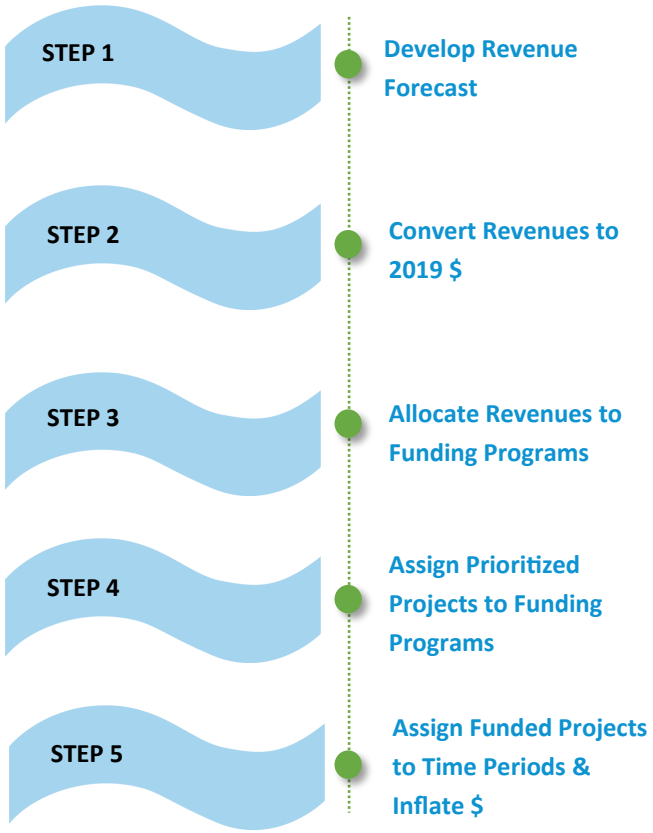
- **Step 1: Develop Revenue Forecast** – The revenue forecast provided by FDOT (see Appendix C) was evaluated and integrated into the MTP.
- **Step 2: Convert Revenues to 2019 Dollars** – The revenues were adjusted to reflect the present value in 2019 to normalize the allocation of revenues to funding programs.
- **Step 3: Allocate Revenues to Funding Programs** – Revenues were allocated to funding programs according to eligible uses and policy direction from the MPO Board.
- **Step 4: Assign Prioritized Projects to Funding Programs** – The prioritized roadway and transit projects were assigned to the appropriate roadway and transit funding programs.
- **Step 5: Assign Funded Projects to Time Periods and Inflate Dollars** – Based on revenue availability, funded projects were prioritized and assigned to a future time period for implementation, with the project cost inflated to be consistent with that time period.

Additional information about the application of this approach is provided in the remainder of this chapter and in Technical Report #15, "2045 Cost Feasible Plan."

FINANCIAL RESOURCES

Between 2020 and 2045, $12.8 billion is available to fund

Figure 5-1: 2045 Cost Feasible Plan: Five-Step Approach



Commitment 2045 transportation improvements throughout the Broward region. The initial five years of *Commitment 2045* (2020–2024) reflect the MPO's adopted and committed Transportation Improvement Program (TIP). The remaining 21 years of the plan (2025–2045) reflect the transportation improvements that can be funded with revenues that are reasonably expected to be available over

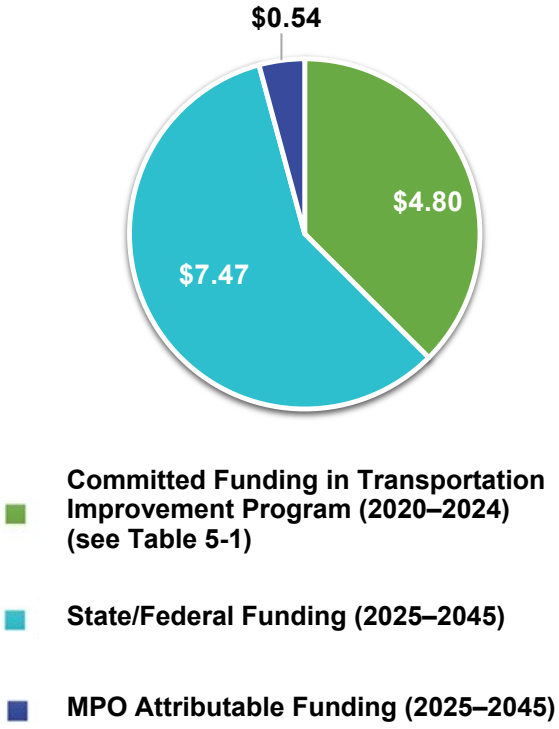
this time period.

Total revenues for *Commitment 2045* (2020–2045) are illustrated in Figure 5-2. Key observations about these revenues are highlighted as follows:

- $4.8 billion in transportation improvements is programmed in the TIP for implementation over the next five years (2020–2024). Table 5-1 is a summary of funding sources for this five-year time period. The following links to the MPO's TIP:

  http://www.browardmpo.org/images/TIP_FY_20-24_revision_9-5-2019.pdf.
- An estimated $8.0 billion in revenues is forecast to be available from 2025–2045.
- Of the $8.0 billion in revenues, $7.5 billion is designated by law or policy for specific types of transportation improvements with little flexibility to change uses.
- The remaining $538 million has the flexibility to be allocated according to the technical analyses and the policy decisions of the Broward MPO.
- Table 5-2 provides the roadway capacity projects in the MPO's TIP (2020-2024).

Figure 5-2: MTP Revenues (2020–2045)
(in billions of year-of-expenditure dollars)*



*Year-of-expenditure (YOE) dollars adjusted for inflation from present time to expected year of construction for more accurate cost estimate for each project.

FUNDING PROGRAMS

The six MPO Funding Programs are described below and illustrated in Figure 5-3. Also shown in this figure is the

Table 5-1: Transportation Improvement Program (FY 2020–2024) (in YOE dollars)

Funding Source	Costs/Revenues in Year of Expenditure					
	2020	2021	2022	2023	2024	Total
Revenue Summary						
Federal	$183,568,858	$159,373,840	$110,261,432	$149,535,721	$215,482,780	$818,222,631
Federal Earmark	$13,066,343	$0	$0	$0	$0	$13,066,343
Local	$301,102,621	$210,131,974	$124,260,963	$111,616,686	$216,370,678	$963,482,922
R/W & Bridge Bonds	$2,449,348	$0	$1,000,000	$0	$0	$3,449,348
State	$11,325,581	$26,378,291	$55,526,116	$7,210,988	$7,210,988	$107,651,964
State 100%	$346,068,724	$343,685,432	$340,262,805	$362,668.184	$493,101,198	$1,885,786,343
Toll/Turnpike	$95,274,202	$118,612,824	$315,339,278	$306,111,475	$193,261,749	$1,028,599,528
TOTAL FUNDING	**$952,855,677**	**$858,182,361**	**$946,650,594**	**$937,143,054**	**$1,125,427,393**	**$4,820,259,079**
Total Project Cost						
TOTAL COST	**$952,855,677**	**$858,182,361**	**$946,650,594**	**$937,143,054**	**$1,125,427,393**	**$4,820,259,079**

Table 5-2: Transportation Improvement Program: Roadway Capacity Projects (FY 2020–2024) (in YOE dollars)

FM	Description	Work Mix	PE	ROW	Construction	Total
4443011	Add One Lane to NB off ramp At Sample Rd / TPK Interchange (SR 91, MP 69)	Interchange - Add Lanes	$300,000	-	$1,133,848	$1,433,848
2307241	Andrews Ave. Ext From Pompano Park Place to S. of Atlantic Blvd	Add Lanes and Reconstruct	-	$30,700	$63,780	$94,480
4439561	Atlantic Blvd Interchange Improvements (Sawgrass Expressway MP 8)	Interchange Improvement	$4,171,388	-	$52,082,064	$56,253,452
4233932	Broward /I-95 Express Bus Purchase & Station Improvements	Intermodal Hub Capacity	-	-	$4,370,980	$4,370,980
4258613	College Ave Phase 2 from Nova Dr to SR-84	Add Lanes and Reconstruct	-	-	$1,790,734	$1,790,734
4363081	EB SR-54 to SB SR-93/I-75 on ramp	Interchange ramp (New)	-	-	$8,450,699	$8,450,699
4372242	Extend Aux Lane Along TPK NB entrance ramp from Sawgrass (MP 71.6-71.9)	Add Auxiliary Lane(s)	$200,000	-	$1,827,017	$2,027,017
4060991	Hollywood Blvd / TPK (SR820 / SR91) Interchange Modification (MP 49)	Interchange Improvement	$151,000	-	$11,440	$162,440
4208093	I-595/SR-862/ P3 from E of I-75 to W of I-95	Add Lanes and Reconstruct	$625,000	-	$446,672,954	$447,297,954
4327091	I-75/SR-93 E side ramp Improvements at Griffin Rd	Interchange Improvement	-	-	$16,891,874	$16,891,874
4093542	I-95/I-595 Express Lanes Direct Connect, I-95 from Stirling to Broward Blvd	Interchange - Add Lanes	$500,000	-	$15,105,951	$15,605,951
4378511	NW 136Th Ave at SR-84, SIS Facility Improvements	Add Turn Lane(s)	-	$32,809	$78,624	$111,433
4439551	Oakland Park Blvd Interchange Improvements (Sawgrass Expressway MP 3)	Interchange Improvement	$2,500	-	-	$2,500
4440101	PD&E Express Lane Direct Connect Between Sawgrass (SR-869) & I-75 Interchange	PD&E/EMO Study	$2,501,500	-	-	$2,501,500
4357631	PD&E Widen Sawgrass Expressway S of Sunrise to S of US-441 (MP 0.5 to 18)	PD&E/EMO Study	$2,000,000	-	-	$2,000,000
4422121	PD&E Widen TPK From I-595 to Wiles Rd (8 to 10 Lanes) (MP 53-70)	PD&E/EMO Study	$150,000	-	-	$150,000
4369801	Pembroke Road from Douglas Rd (SW 89 Ave) to SR-817/University Dr	PD&E/EMO Study	$2,495,047	-	-	$2,495,047
4419561	Pembroke Rd from US-27 to SW 160Th Ave	PD&E/EMO Study	$885,000	-	-	$885,000
4419251	Pine Island Rd from SR-818/Griffin Rd to Nova Dr	Add Lanes & Reconstruct	$2,050,034	-	$22,960,380	$25,010,414
4215482	Royal Palm Blvd Intersection Improvements at Weston Rd	Intersection Improvement	-	-	$1,950,184	$1,950,184
4399391	SR-25/US-27 at boat ramps	Add Special Use Lane	$15,000	-	$740,192	$755,192
4419551	SR-5/US-1 at SR-838/Sunrise Blvd	PD&E/EMO Study	$2,000,000	-	-	$2,000,000
4435891	SR-5/US-1 SB on ramp to WB I-595	Widen/Resurface Exist Lanes	$1,080,000	$815,000	$5,097,287	$6,992,287
4435911	SR-7/US-441 at Oakes Rd	Intersection Improvement	$625,122	-	$3,817,789	$4,442,911
2277741	SR-7/US-441 from N of Hallandale Beach to N of Fillmore St	Add Lanes and Reconstruct	-	$3,425,254	$3,676	$3,428,930
4405701	SR-817/University Dr at Sheridan St	Add Turn Lane(s)	$150,000	-	$905,000	$1,055,000
4399111	SR-820/Hollywood Blvd at SR-9/I-95 Interchange and S. 28th Ave	Interchange Improvement	$49,136	$20,000	$3,186,466	$3,255,602
4449771	SR-820/Pines Blvd from US-27 to NW 196th Ave	PD&E/EMO Study	$2,700,000	-	-	$2,700,000
4080462	SR-820/Pines Blvd at SR-823/Flamingo Rd	PD&E/EMO Study	$2,610,000	-	-	$2,610,000

Table 5-2: Transportation Improvement Program: Roadway Capacity Projects (FY 2020–2024) (in YOE dollars) (cont'd)

FM	Description	Work Mix	PE	ROW	Construction	Total
4433091	SR-842/Broward Blvd from NW/SW 7th Ave to E of SR-5/US-1/Fed Hwy	Intersection Improvement	$5,000	$55,000	$672,767	$732,767
4361111	SR-858/Hallandale Beach Blvd E of RR Crossing #628290-Y to W of Ansin Blvd	Add Right Turn Lane(s)	-	-	$27,103	$27,103
4398911	SR-869/SW 10th St from W of SR-845/Powerline Rd to W of Military Trail	Add Managed Lanes	$2,875,000	$35,069,253	$396,431,698	$434,375,951
4358086	SR-9/I-95 at Cypress Creek Rd Interchange (East Side)	Interchange Improvement	-	$1,570,260	-	$1,570,260
4369581	SR-9/I-95 at SR-834/Sample Rd from S of NB Exit ramp to N of NB Entrance Ramp	Interchange Justification/ Modification	$10,227	$824,615	$21,203,079	$22,037,921
4355131	SR-9/I-95 at SR-842/Broward Blvd	Interchange - Add Lanes	$8,670,000	$12,401,102	-	$21,071,102
4355141	SR-9/I-95 at Sunrise Blvd Interchange Improvement	Interchange Improvement	$610,412	$2,994,603	$28,012,539	$31,617,554
4369621	SR-9/I-95 at Copans Rd from S of NB exit ramp to N of SB to WB exit ramp	Interchange Justification/ Modification	$218	$1,286,600	$22,512,892	$23,799,710
4391711	SR-9/I-95 at Davie Blvd	Interchange - Add Lanes	$2,585,000	-	-	$2,585,000
4391721	SR-9/I-95 at SR-816/Oakland Park Blvd	Interchange - Add Lanes	$2,585,000	-	-	$2,585,000
4331088	SR-9/I-95 from Miami-Dade/Broward County Line to Palm Beach County Line	Preliminary Engineering for Future Capacity	-	-	$4,250,000	$4,250,000
4309321	SR-9/I-95 from N of SW 10th St to S of Hillsboro Blvd	Interchange Improvement	-	-	$1,548	$1,548
4331084	SR-9/I-95 from S of SR-842/Broward Blvd to N of SR-870/Commercial Blvd	Add Special Use Lane	-	$290	$393,610	$393,900
4369031	SR-9/I-95 from S of SR-858/Hallandale Bch Blvd to N of Hollywood Blvd	PD&E/EMO Study	$13,267,907	-	-	$13,267,907
4331086	SR-9/I-95 from S of SW 10th St to Broward/Palm Beach County Line	Add Special Use Lane	-	-	$2,725,500	$2,725,500
4391701	SR-9/I-95 from S of Sheridan St to N of Griffin Rd	Interchange - Add Lanes	$3,030,000	-	-	$3,030,000
4369641	SR-9/I-95 from S of SW 10th St to N of Hillsboro Blvd	Interchange - Add Lanes	$3,289,385	$31,144,373	-	$34,433,758
4417231	SR-9/I-95 NB off-ramp to EB I-595	Add Lanes and Rehabilitate Pavement	$288,722	-	-	$288,722
4358082	SR-9/I-95 SB C/D Rd from Cypress Creek Rd to SR-817/Commercial Blvd	Widen/Resurface Existing Lanes	-	$5,905,101	-	$5,905,101
4378324	SR-93/I-75 from Sheridan St to Griffin Rd Aux Lanes	Add Auxiliary Lane(s)	$655,183	-	$3,973,651	$4,628,834
4151521	SR-93/I-75 Interchange @ SR-820 Pines Blvd from N of Miramar Pkwy to N of Pines Blvd	Interchange - Add Lanes	$1,992,342	$150,000	-	$2,142,342
4215481	SR-93/I-75 Interchange @ Royal Palm Blvd from Griffin Rd to N of SW 14 St	Add Lanes and Reconstruct	$20,000	-	$2,104,600	$2,124,600
4215486	SR-93/I-75 Interchange @ Royal Palm Blvd from Griffin Rd to Royal Palm Blvd	Add Lanes and Reconstruct	-	-	$15,636,640	$15,636,640
4215487	SR-93/I-75 Interchange @ Royal Palm Blvd from S Royal Palm Blvd to S SW 14 St	Add Lanes and Reconstruct	-	-	$8,801,398	$8,801,398
4307635	SR-93/I-75 Miami-Dade/Broward County Line to I-595	Preliminary Engineering for Future Capacity	$25,000	-	-	$25,000
4061031	Sunrise Blvd / TPK Interchange Modification (SR 838 / SR 91) (MP 58)	Interchange Improvement	$3,283	$17,141	$16,676	$37,100
4317571	SW 30th Ave from Griffin Rd to SW 45th St	Add Lanes and Reconstruct	-	-	$63,259	$63,259
4061561	SW 10th St/TPK (SR91) Interchange Modification (MP 71)	Interchange Justification/ Modification	$2,318	-	-	$2,318
4193361	TPK ramps from I-595 to Griffin Rd SB Work	Add Lanes and Reconstruct	-	$386,000	-	$386,000

Table 5-2: Transportation Improvement Program: Roadway Capacity Projects (FY 2020–2024) (in YOE dollars) (cont'd)

FM	Description	Work Mix	PE	ROW	Construction	Total
4317561	University Dr from NW 40th St to Sawgrass Exp	Add Lanes and Reconstruct	$74,015	$1,679,528	$19,564,484	$21,318,027
4293281	Widen HEFT from NW 57th Ave to Miramar Plaza (MP 43-47) (4 to 8 Lanes) W/EI	Add Managed Lanes	$8,054	-	$2,071,074	$2,079,128
4372241	Widen Sawgrass Exp from SR-7 to Powerline Rd (MP 18-21) (6 to 10 Lanes) W/EI	Add Lanes and Reconstruct	$4,850,000	$30,075,593	-	$34,925,593
4354611	Widen Sawgrass Exp from N of Atlantic to SR-7 (MP 8-18) (6 to10 Lanes) (W Exp Lanes)	Add Lanes and Reconstruct	$2,600,000	$2,195,897	$190,433,710	$195,229,607
4371551	Widen Sawgrass Exp from S of Sunrise to S of Atlantic (MP 0.5-6.6) (6 to 10 Lanes) W/Exp	Add Lanes and Reconstruct	$12,241,102	$28,238,600	$237,433,490	$277,913,192
4233736	Widen Spur (SR91) from Broward County to TPK Ext (SR821) (MP 3.3 to 3.6) 6 to 8 Lanes	Add Lanes and Reconstruct	$1,500	-	-	$1,500
4060951	Widen TPK (SR91) - HEFT (SR821) to N of Johnson St (MP 47-51) (6 to 10 Lanes) W/Exp	Add Lanes and Reconstruct	$4,150,000	-	$3,306,400	$7,456,400
4060954	Widen TPK (SR91) from N of Johnson St to Griffin Rd (MP 51-53) (6 to 10 Lanes) W/Exp	Add Lanes and Reconstruct	$5,100,000	-	-	$5,100,000
4159271	Widen TPK (SR91) from Sawgrass to Palm Beach County Line (MP 71-73) (6 to 8 Lanes) W/EI	Add Lanes and Reconstruct	$5,000,000	-	$1,111	$5,001,111

MPO's policy direction for allocating funding to each of the funding programs from funding sources in which the MPO has complete flexibility and control ($538 million indicated previously).

Major Funding Programs

Major funding programs include major transportation investments in specific projects that are itemized in the *Commitment 2045* MTP. The MPO maintains two major funding programs—Roadway Program and Transit Program.

- **Roadway Program** – Funding for this program is for transportation improvements that increase roadway capacity by building new roadways, adding lanes to existing roadways, or building/expanding interchanges and major intersections. Funding may also be allocated to concept studies, preliminary engineering, and design to support the development of roadway capacity projects.



- **Transit Program** – This funding program includes transit capital investments such as transit vehicles, transit technology investments (e.g., fare collection equipment, automatic passenger counters, vehicle location, etc.), and roadway improvements designed to serve as exclusive lanes for transit services (for which operating funding has been identified).



Other Funding Programs

Other funding programs are set up in the MTP to allocate funding to various types of projects that are to be identified and prioritized annually or every two or three years following adoption of the MTP. This means that specific projects are not identified in the 2045 MTP for these programs. As part of the *Commitment 2045* development process, the MPO has allocated funding into four additional funding categories, as summarized below:

- **Systems Management/Safety Program** – Funding allocated to this program is to be focused on Transportation Systems Management and Operations (TSM&O), a program based on actively managing the multimodal transportation network, measuring performance, streamlining and improving the existing system, promoting effective cooperation/ collaboration, and delivering positive safety and mobility outcomes to the traveling public. This includes capital projects related to Automated, Connected, Electric, and Shared (ACES) vehicle infrastructure. Example projects funded in this program include signal timing/ coordination, electric vehicle charging infrastructure, connected and autonomous vehicle infrastructure, and major safety improvements. Funding in this program also is set aside to support studies to identify, prioritize, and implement safety improvements.

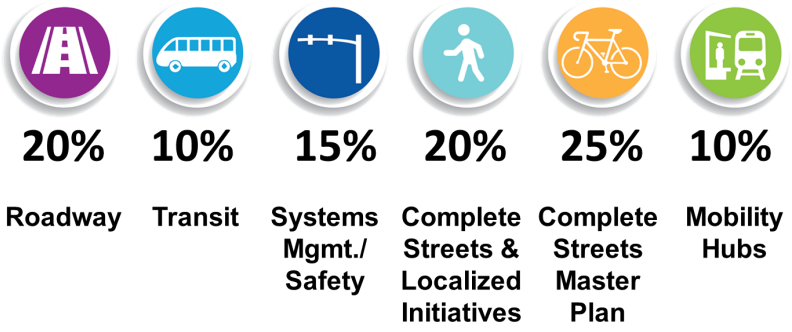


- **Complete Streets and Localized Initiatives Program (CSLIP)** – This program provides funding for small local transportation projects that will improve safety and mobility for all transportation users. The MPO facilitates an annual competitive grant program to fund projects such as Complete Streets projects, traffic calming and intersection improvements, ADA compliance upgrades, bus shelters, bike racks, and technology advancements (e.g., transit signal priority and traffic control devices). Projects funded through this program are generally around $2 million each.

- **Complete Streets Master Plan (CSMP)** – Complete Streets are built for all users, with an emphasis on pedestrians, bicyclists, and those who use transit. The MPO developed a CSMP to guide future investments by creating a prioritized list of projects based on technical and data-driven analysis and community input. Funding is allocated to this program to implement the priority projects identified in the plan. Projects funded through this program are generally greater than $2 million each. In order to enhance regional multimodal connectivity, MPO attributable funding (SU) allocated to this program may, at the sole discretion of the MPO, be used for CSMP projects located on state facilities and will be clearly identified in the MPO's Multimodal Priorities List (MMPL).

- **Mobility Hub Program** – Mobility Hubs are transit access points with frequent transit service, high development potential, and a critical point for travel demand or transfers within the transit system. Funding through this program is available to help support the collaborative development of mobility hubs as communities identify and commit to opportunities that further the objectives of this program.

Figure 5-3: Commitment 2045 MTP Funding Programs and Policy Allocation



10% of Other State Road Funding on Non-State Roads

According to the *FDOT Revenue Forecasting Guidebook* (July 2018), MPOs in Transportation Management Areas (TMAs), such as the Broward MPO, can assume that 10% of the FDOT estimates for non-Strategic Intermodal System (SIS) other roadway construction and right-of-way funds can be used for non-State roadway capacity improvements. Since this funding allocation has not been clearly specified in previous long range transportation plans, the Broward MPO is highlighting this policy in the 2045 MTP and is clearly identifying the proposed projects for funding with the 10% set-aside for non-State roads.

2045 COST FEASIBLE PLAN

Using the approach described previously, revenues were allocated to the six funding programs. Figure 5-4 shows the distribution of transportation revenues by funding program for the time period from 2025 to 2045 (in YOE dollars). For each funding category, the revenues are reflected in two categories:

(1) Federal/State Funding (eligible uses are prescribed)

(2) MPO Attributable Funding (MPO has more control over eligible uses and allocation)

The prioritized roadway and transit projects were then assigned to the appropriate funding programs to determine how many projects can be funded.

Additional information about each funding program is provided in Tables 5-3 through 5-6, with each table summarized briefly below:

- **Table 5-3: Financial Summary by Funding Program** – Provides a summary of revenues, costs, and fund balance for each funding program in the 2045 Cost Feasible Plan.
- **Table 5-4: 2045 Roadway Plan** (funded and unfunded projects) – Includes SIS, other State, and non-State roadway projects and the project cost in 2019 dollars. Projects above the thicker green line are funded in the time band indicated in the table; projects below the thicker green line are unfunded but part of the Needs Plan.
- **Table 5-5: 2045 Transit Plan** – Includes transit projects that involve MPO funding (in 2019 dollars). Projects above the thicker green line are funded in the time band indicated; projects below the thicker green line are unfunded but part of the Needs Plan.
- **Table 5-6: Funding Program Allocations** – Funding is allocated to programs for which projects are identified annually or every 2 to 3 years (in YOE dollars). These allocations are included in the 2045 Cost Feasible Plan.

In addition, Maps 5-1 and 5-2 illustrate the 2045 Cost Feasible Roadway Plan and Transit Plan, respectively. For additional detail, refer to Appendix F for a summary of project costs in YOE dollars and by phase (preliminary

Figure 5-4: 2045 Transportation Revenues by Funding Program (in millions of YOE dollars)

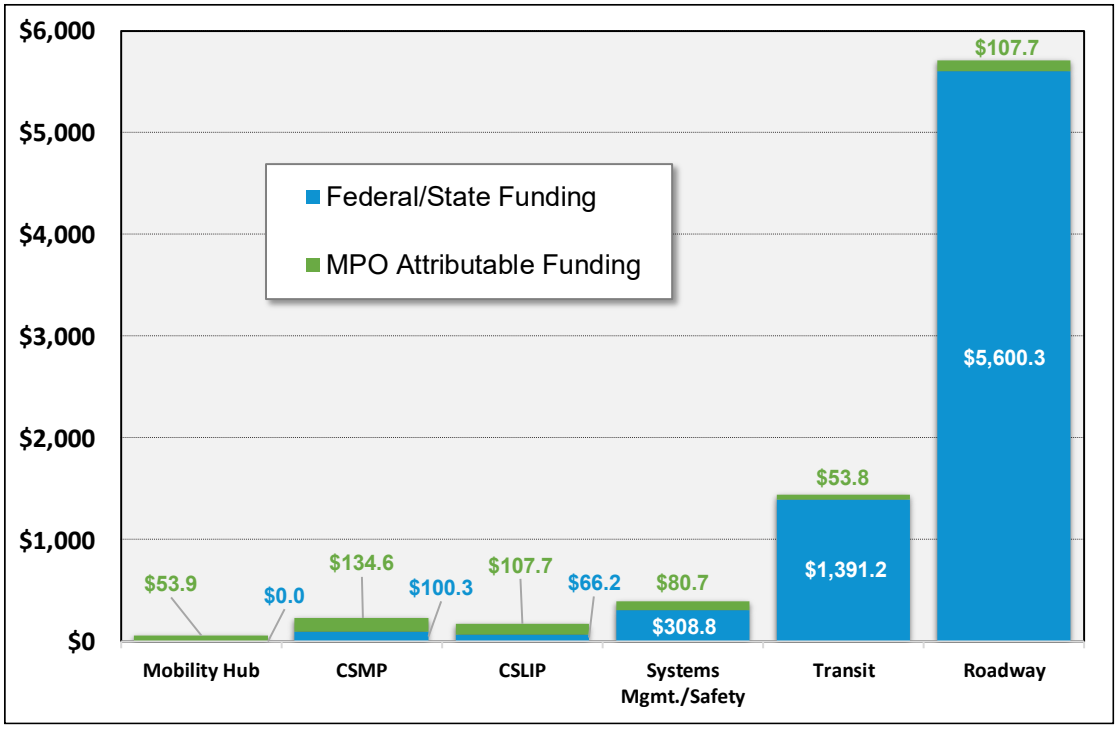


Table 5-3: 2045 Cost Feasible Plan
Financial Summary by Funding Program (2025–2045)

Financial Summary	Costs/Revenues in Year of Expenditure				
	2025	2026/30	2031/35	2036/45	Total
Roadway Program – State Roads					
Available Revenues	$585,855,298	$637,199,668	$1,524,429,618	$2,510,475,849	$5,257,960,434
Project Costs	$589,504,936	$588,090,033	$1,553,268,200	$2,470,803,512	$5,200,754,681
Balance	-$3,649,638	$49,109,635	-$27,926,582	$39,672,337	$57,205,753
Cumulative Balance	-$3,649,638	$45,459,998	$17,533,415	$57,205,753	$57,205,753
Percent of Revenue Expended	100.6%	92.3%	101.8%	98.4%	98.9%
Roadway Program – Non-State Roads					
Available Revenues	$15,541,800	$92,589,400	$123,109,280	$218,710,152	$449,950,632
Project Costs	$1,500,000	$80,598,578	$95,586,330	$227,569,822	$403,754,730
Balance	$14,041,800	$11,990,822	$27,522,950	-$8,859,670	$46,195,902
Cumulative Balance	$14,041,800	$26,032,622	$53,555,572	$44,695,902	$44,695,902
Percent of Revenue Expended	9.7%	87.0%	77.6%	104.1%	89.7%
Transit Program					
Available Revenues	$42,897,400	$354,200,313	$447,867,293	$600,056,748	$1,445,021,754
Project Costs	$37,540,000	$336,835,113	$435,028,093	$587,643,749	$1,393,796,955
Balance	$5,357,400	$17,365,200	$12,839,200	$12,412,999	$47,974,799
Cumulative Balance	$5,357,400	$22,722,600	$35,561,800	$47,974,799	$47,974,799
Percent of Revenue Expended	87.5%	95.1%	97.1%	97.9%	96.7%
System Management/Safety Program					
Available Revenues	$18,431,814	$92,312,371	$92,587,371	$186,248,093	$389,579,650
Project Costs	$18,431,814	$92,312,371	$92,587,371	$186,248,093	$389,579,650
Balance	$0	$0	$0	$0	$0
Cumulative Balance	$0	$0	$0	$0	$0
Percent of Revenue Expended	100.0%	100.0%	100.0%	100.0%	100.0%

All project costs reflect Amendment No. 03 changes.

Table 5-3: 2045 Cost Feasible Plan
Financial Summary by Funding Program (2025–2045) (cont'd)

Financial Summary	Costs/Revenues in Year of Expenditure				
	2025	2026/30	2031/35	2036/45	Total
Complete Streets and other Localized Initiatives Program					
Available Revenues	$8,279,133	$41,396,987	$41,396,987	$82,788,493	$173,861,600
Project Costs	$8,279,133	$41,396,987	$41,396,987	$82,788,493	$173,861,600
Balance	$0	$0	$0	$0	$0
Cumulative Balance	$0	$0	$0	$0	$0
Percent of Revenue Expended	100.0%	100.0%	100.0%	100.0%	100.0%
Complete Streets Master Plan Program					
Available Revenues	$11,183,657	$55,921,403	$55,921,403	$111,835,851	$234,862,313
Project Costs	$11,183,657	$55,921,403	$55,921,403	$111,835,851	$234,862,313
Balance	$0	$0	$0	$0	$0
Cumulative Balance	$0	$0	$0	$0	$0
Percent of Revenue Expended	100.0%	100.0%	100.0%	100.0%	100.0%
Mobility Hub Program					
Available Revenues	$2,567,400	$12,839,200	$12,839,200	$25,677,300	$53,923,100
Project Costs	$2,567,400	$12,839,200	$12,839,200	$25,677,300	$53,923,100
Balance	$0	$0	$0	$0	$0
Cumulative Balance	$0	$0	$0	$0	$0
Percent of Revenue Expended	100.0%	100.0%	100.0%	100.0%	100.0%
TOTAL PROGRAMS					
Available Revenues	$684,756,503	$1,286,459,342	$2,298,151,152	$3,735,792,486	$8,005,159,483
Project Costs	$666,006,940	$1,207,993,685	$2,285,715,584	$3,692,566,820	$7,855,283,029
Balance	$15,749,562	$78,465,657	$12,435,568	$43,225,666	$151,376,454
Cumulative Balance	$15,749,562	$94,215,220	$106,650,788	$149,876,454	$149,876,454
Percent of Revenue Expended	97.7%	93.9%	99.5%	98.8%	98.1%

Nearly 99% of revenues forecast to be available for 2025–2045 is allocated to projects or funding programs, with some variations in fund balance for each time period. The outcome is the 2045 Cost Feasible Plan. All project costs reflect Amendment No. 03 changes.

Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
1	Turnpike	Turnpike	Southern Turnpike Mainline/SR-91	MP 71 - Sawgrass Expwy/SR-869 to MP 73 - Broward/ Palm Beach County Line	Provide one auxiliary lane in each direction.	$23,963,559	X			
2	FDOT	State SIS	I-95	South of SW 10th St. to N of Hillsboro Blvd.	Modify interchange.	~~$780,491,000~~ $932,093,622	X	X		
3	FDOT	State SIS	I-95 @ I-595		Add 2 lanes to northbound I-95 off-ramp to eastbound I-595.	~~$1,286,441~~ $3,728,443	X	X		
4	FDOT	State SIS	I-75 @ Pines Blvd	N of Miramar Pkwy to N of Pines Blvd	Modify interchange.	~~$56,989,831~~ $151,957,654	~~X~~	X		
5	Broward MPO	State	SR-845/ Powerline Rd	Palm Beach Co Line to SW 10th St	Widen from 4 to 6 lanes.	$25,997,536	X			
6	Broward MPO	State	SR-822/ Sheridan St	US-1 to Dixie Hwy	Widen from 4 to 6 lanes.	$43,551,562	X			
7	FDOT	State SIS	SW 10th St	FL TPK to W of I-95	Add managed lanes.	~~$305,260,000~~ $332,304,066	X	X		
8	FDOT	State SIS	I-95 @ Broward Blvd		Modify interchange.	~~$98,825,802~~ $154,600,462	X	X		
9	FDOT	State SIS	I-95 @ Davie Blvd		Modify interchange.	$41,271,910		X	X	

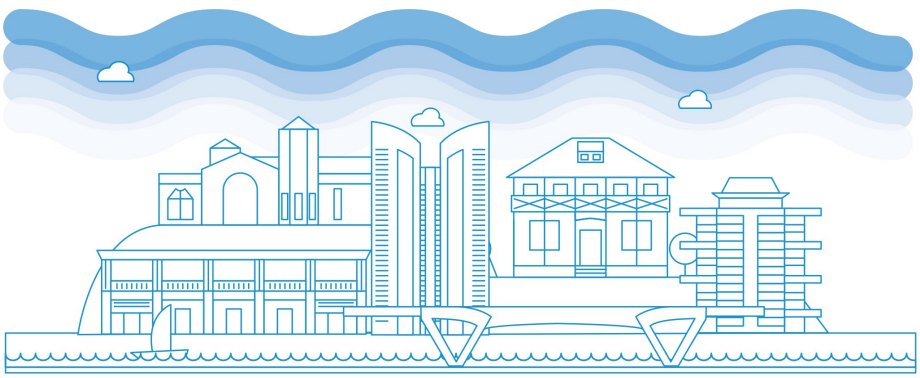


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
10	FDOT	State SIS	I-95	Miami-Dade/ Broward Co. Line to North of Griffin Road	Interchange justification/ modification	$271,812,045		X	X	
11	FDOT	State SIS	I-595 Managed Lanes	E of I-75 to W of I-95	Continue payout agreement for managed lanes on I-595.	$975,311,642	X	X	X	X
12	Turnpike	Turnpike	Southern Turnpike Mainline/SR-91	MP 47 - Turnpike Ext/ SR-821 to MP 51 - Johnson St	Widen to 10 lanes with managed lanes; includes interchange improvements at MP 47 - Turnpike Extension @ SR-821 and MP 49 - Hollywood Blvd/Pines Blvd @ SR-820.	$152,630,769		X		
13	Turnpike	Turnpike	Southern Turnpike Mainline/SR-91	MP 51 - Johnson St to MP 53 - Griffin Rd/SR 818	Widen to 10 lanes with managed lanes; includes interchange improvement at MP 53 - Orange Dr/Griffin Rd/SR-818.	$146,563,077		X		
14	Turnpike	Turnpike	Southern Turnpike Mainline/SR-91	MP 71 - Sawgrass Expwy/SR-869 to MP 73 - Broward/ Palm Beach County Line	Widen to 10 lanes with managed lanes.	$65,331,538		X		
15	Turnpike	Turnpike	Sawgrass Expressway/ SR-869	MP 18 - US 441/ SR-7 to MP 22 - Powerline Rd	Widen from 6 to 10 lanes; includes interchange improvements at MP 18 - US 441 @ SR-7; MP 19 - Lyons Rd; MP 21 - Southern Turnpike Mainline/SR -91/SW 10th St.	$405,922,308		X		

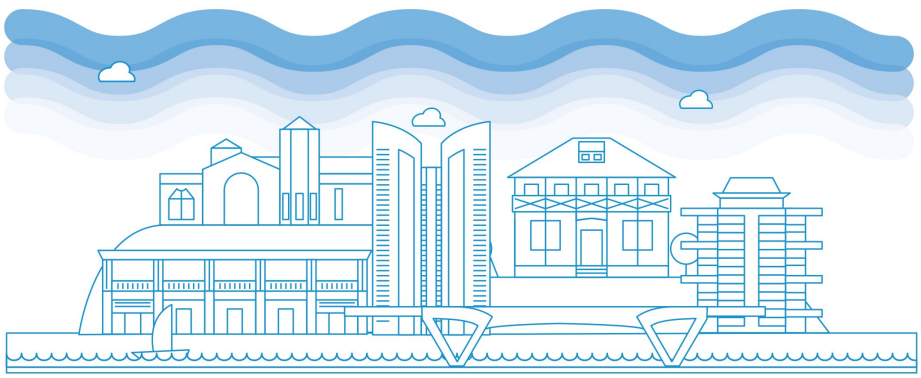


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
16	FDOT	State SIS	I-95 @ Oakland Park Blvd		Modify interchange.	$42,378,796		X	X	
17	Broward MPO	State	Hollywood Blvd	US-1 to SR-A1A	Conduct study to determine resiliency improvements.	$1,500,000		X		
18	Broward MPO	State	SR-A1A	South of Arizona St to Hallandale Beach Blvd	Conduct study to determine resiliency improvements.	$1,500,000		X		
19	Broward MPO	State	US-1/SR-5	Las Olas Blvd to Davie Blvd	Conduct study to determine resiliency improvements.	$1,500,000		X		
20	Broward MPO	State	US-1	Broward Blvd to Las Olas Blvd	Conduct study to determine resiliency improvements.	$750,000		X		
21	Broward MPO	State	Las Olas Blvd.	US-1 to SR-A1A	Conduct study to determine resiliency improvements.	$1,500,000		X		
22	Broward MPO	State	US-1	Pembroke Rd to Hallandale Beach Blvd	Conduct study to determine resiliency improvements.	$1,000,000		X		
23	Broward MPO	State	Hallandale Beach Blvd	US-1 to SR-A1A	Conduct study to determine resiliency improvements.	$1,500,000		X		
24	City of Oakland Park	State	Dixie Hwy Corridor	Oakland Park Blvd to Prospect Rd	Conduct multimodal feasibility study.	$600,000		X		

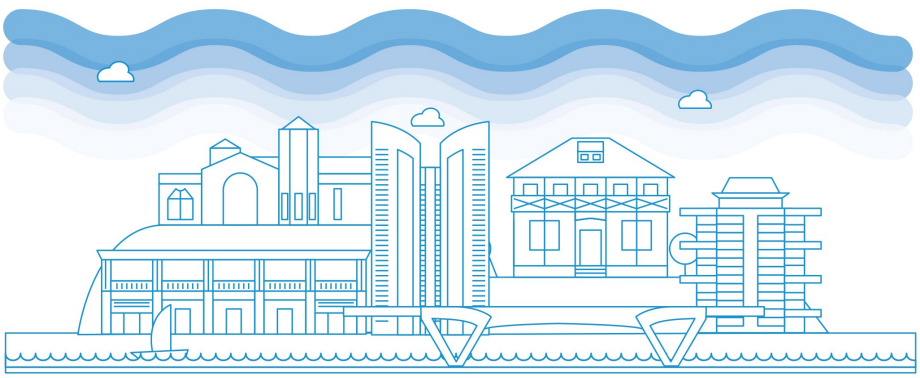


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
25	City of Deerfield Beach	State	SE 10th St	Dixie Hwy to US-1	Conduct multimodal feasibility study.	$750,000		X		
26	Broward MPO	State	County Line Rd/HEFT Extension	I-95 to Florida's Turnpike	Conduct multimodal feasibility study.	$1,500,000		X		
27	SFRTA	State	Pompano Beach FEC-SFRC Connection		Construct track connection between FEC rail corridor and SFRC at Pompano Beach.	$77,700,000		X		
28	FDOT	State	Griffin Rd	Old Griffin Rd intersection	Construct interim reconfiguration of north approach to intersection.	$4,440,000		X		
29	Town of Davie	State	Florida's Turnpike Interchange @ Griffin Rd/ Orange Dr		Construct improvements to interchange.	$51,240,000		X		
30	Broward MPO	State	Oakland Park Blvd @ SR-7		Construct center turn overpass.	$99,900,000		X		
31	FDOT	State	US-1/SR-5	McNab Rd/15th St to Cypress Creek Rd/62nd St	Add eastbound left-turn lane.	$2,450,980		X		
32	City of Coral Springs	State	University Dr @ Royal Palm Blvd		Add dual left-turn lanes on University Dr southbound at Royal Palm Blvd.	$1,035,990		X		

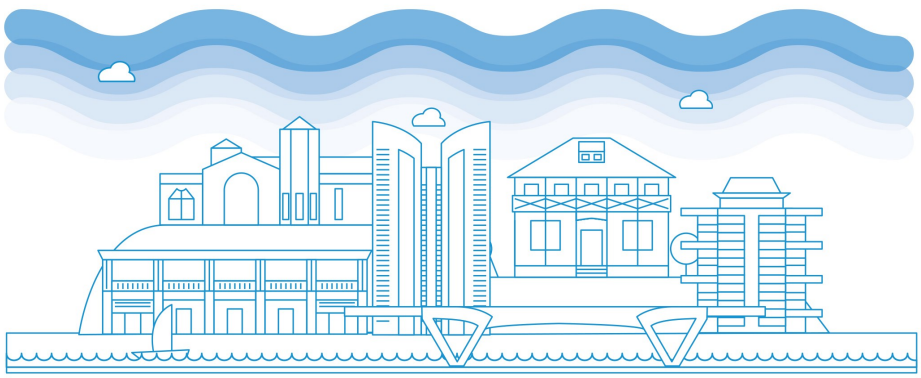


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
33	Town of Hillsboro Beach	State	SR-A1A @ Hillsboro Blvd		Reconfigure intersection; additional EB to NB turn lane, allow through movement EB to WB, and extend left-turn lane NB to WB.	$6,822,751		X		
34	FDOT	State	US 1/I-595 Westbound On -Ramp		Improve intersection alignments along US-1 and add additional lane to US-1/I-595 WB on-ramp.	$8,880,000		X		
35	City of Hallandale Beach	State	Hallandale Beach @ NE 14th Ave		Implement dual left-turn lane from EB Hallandale Beach Blvd to NB NE 14th Ave.	$3,714,781		X		
36	Broward MPO	State	South Florida Rail Corridor @ Copans Rd		Construct grade separation at railroad crossing.	$52,458,600		X		
37	Broward MPO	Non-State	Johnson St	US-1 to N 14th Ave	Conduct study to determine resiliency improvements	$750,000		X		
38	City of Hallandale Beach	Non-State	SE 2nd St/ Hibiscus St/ Church St Extension Project	US-1 to Church St	Conduct multimodal feasibility study.	$600,000		X		
39	Town of Davie	Non-State	East Orange Dr	SW 67th Ave to SR-7	Add center turn lane and lighting improvements.	$12,567,573		X		

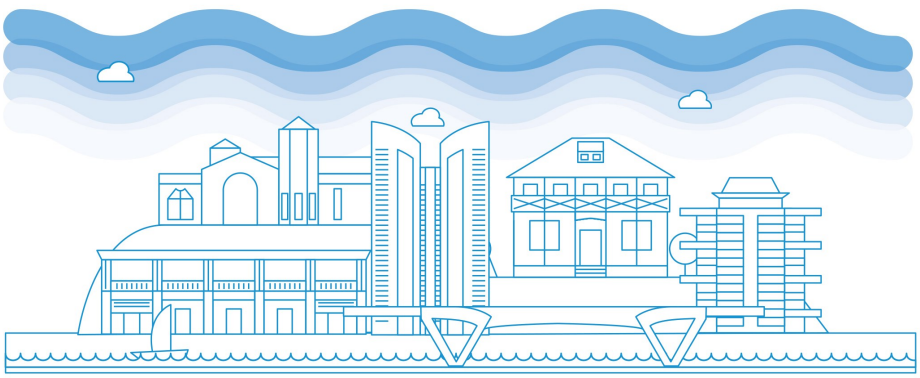


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
40	City of Coral Springs	Non-State	Coral Hills Dr	Sample Rd to NW 31st Ct	Extend left-turn lane on Coral Hills Dr at Sample Rd, widen Coral Hills Dr between Sample Rd and NW 31St to 3-lane cross section including curb and gutter, bike lanes, and new sidewalk on east side.	$3,071,831		X		
41	Town of Davie	Non-State	West Davie Roadway Improvements		Widen SW 130th Ave to add turn lane; widen SW 136th Ave from 2 to 4 lanes; add landscape medians; expand sidewalks; add bike lanes, construct roundabout; install traffic signal at Flamingo Rd @ SW 26th St.	$22,692,000		X		
42	City of Hallandale Beach	Non-State	SE 9th St FEC Rail Crossing Realignment	Dixie Hwy to US-1	Construct grade separation over railroad crossing. Add EB to NB left-turn lane at US-1.	$1,898,432		X		
~~43*~~	~~City of Miramar~~	~~Non-State~~	~~Pembroke Rd~~	~~SW 160th Ave to SW 184th Ave~~	~~Widen from 2to 4 lanes with median, bicycle lanes, sidewalks, lighting, landscaping, hardscape, and irrigation systems.~~	~~$31,413,000~~		~~X~~		
44	City of Parkland	Non-State	University Dr	Old Club Rd to Loxahatchee Rd	Widen from 2 to 4 lanes with bike lanes and sidewalks.	$11,501,130		X		

*MTP Ref. ID #43: Project funded through Mobility Advancement Program. Project sponsors mutually agreed to remove project from MTP as part of the 2021 MTP Amendment Cycle (Amendment No. 02).

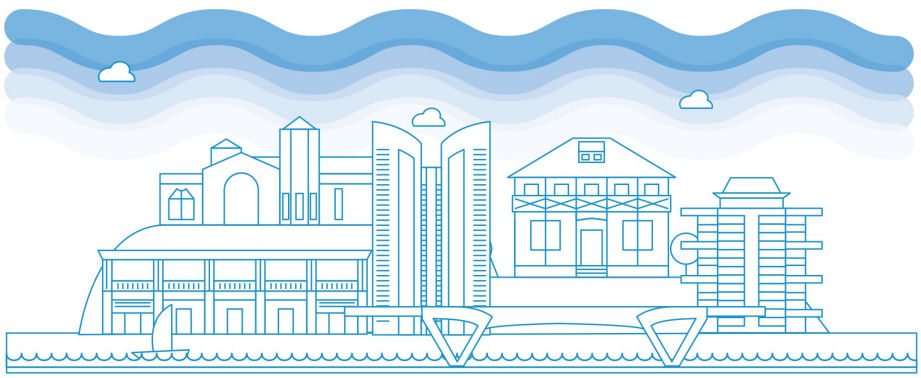


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
45	Turnpike	Turnpike	Southern Turnpike Mainline/SR-91	MP 54 - I-595 to MP 70 - Wiles Rd	Conduct study to widen from 6/8 to 10/12 lanes with managed lanes; includes interchange improvements at MP 62 - Commercial Blvd @ SR-870; MP 67 - Coconut Creek Pkwy/ Martin Luther King Blvd/Blount Rd; MP 69 - Sample Rd @ SR-834. Includes new interchanges at MP 61 - Oakland Park Blvd and MP 63 - Cypress Creek Rd.	$2,990,789		X	X	
46	FDOT	State SIS	I-95	S of Hallandale Beach Blvd to N of Hollywood Blvd	Add highway capacity.	$202,219,737			X	
47	FDOT	State SIS	I-95 @ Stirling Rd		Modify interchange.	$5,265,132			X	
48	FDOT	State SIS	I-95	S of Commercial Blvd to N of Cypress Creek Rd	~~Add highway capacity.~~Interchange Justification/ Modification	~~$132,963,158~~ $202,104,000	X	X	X	
49	FDOT	State SIS	US-27	Krome Ave (Miami-Dade County) to Evercane Rd (Hendry County)	Implement corridor management/ITS.	$23,635,526			X	
50	City of Tamarac	State	SR-7 @ Commercial Blvd		Construct urban interchange.	$328,560,000	X		X	

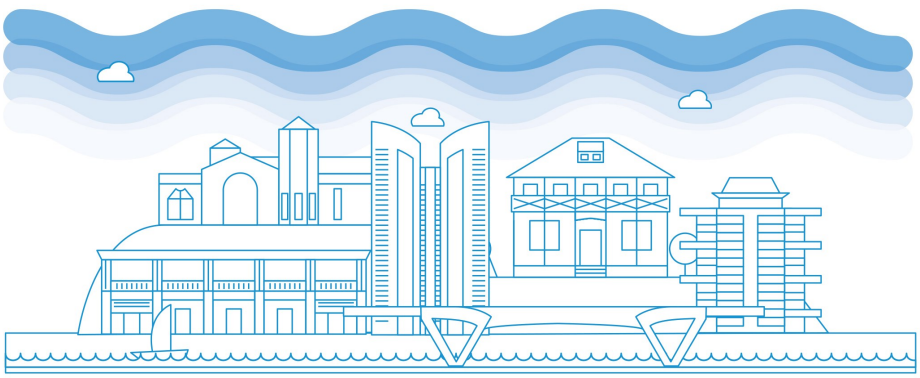


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
51	City of Miramar	Non-State	SW 148th Ave	Bass Creek Rd to Miramar Pkwy	Widen from 2 to 4 lanes with median, bicycle lanes, sidewalks, lighting, landscaping, hardscape, and irrigation.	$8,917,940		X		
52	City of Miramar	Non-State	Miramar Blvd	Flamingo Rd to Hiatus Rd	Widen from 2 to 4 lanes with median, bicycle lanes, sidewalks, lighting, landscaping, hardscape, and irrigation.	$19,738,201			X	
53	City of Pembroke Pines	Non-State	Sheridan St	196th Ave to US-27	Widen from 2 to 4 lanes (includes sidewalk on one side).	$13,237,489			X	
54	Broward MPO	Non-State	Ravenswood Rd	SW 42nd St to Griffin Rd	Widen from 2 to 4 lanes.	$8,214,000			X	
55	Broward MPO	Non-State	Wiles Rd	Florida's Turnpike to Powerline Rd	Widen from 4 to 6 lanes.	$14,874,000			X	
56	City of Tamarac	Non-State	Rock Island Road	McNab Rd to Commercial Blvd	Widen from 4 to 6 lanes with buffered bike lanes.	$6,822,053			X	
57	FDOT	State SIS	I-95	SR-84 to S of Broward Blvd	Add highway capacity.	$279,476,518			X	X
58	FDOT	State SIS	I-95	N of Broward Blvd to Sunrise Blvd	Add highway capacity.	$40,522,119			X	X
59	FDOT	State SIS	US-27	Pembroke Rd to SW 26th St (N of Griffin Rd)	Add service-frontage-connector and distributor system and new interchanges.	$78,861,565			X	X

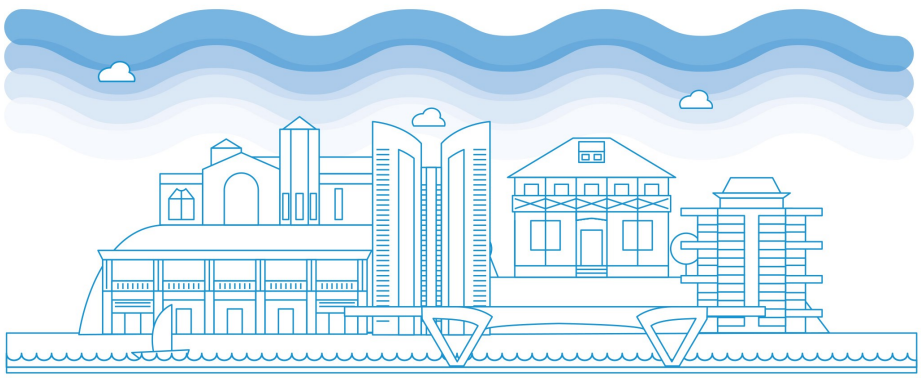


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
60	FDOT	State SIS	US-27	Krome Ave (Miami-Dade County) to Broward/Palm Beach County Line	Add freight capacity.	$320,574,467			X	X
61	Broward MPO	State	South Florida Rail Corridor @ Sample Rd/ SR-834		Construct grade separation at railroad crossing.	$52,458,600				X
62	Broward MPO	State	FEC Rail Corridor @ Sample Rd/SR -834		Construct grade separation at railroad crossing.	$52,458,600				X
63	Broward MPO	State	FEC Rail Corridor @ Commercial Blvd/SR-870		Construct grade separation at railroad crossing.	$52,458,600				X
64	Broward MPO	State	Pines Blvd @ Flamingo Rd		Construct center turn overpass.	$99,900,000				X
65	Broward MPO	State	Atlantic Blvd @ Powerline Rd		Construct center turn overpass.	$99,900,000				X
66	Broward MPO	State	University Dr @ Pines Blvd		Construct center turn overpass.	$99,900,000				X
67	City of Hallandale Beach	State	Hallandale Beach Blvd	Dixie Highway to NE 8th Ave	Install a 4-lane bi-directional express bypass on Hallandale Beach Blvd across FEC rail lines.	$71,501,760				X
68	Broward MPO	State	South Florida Rail Corridor @ Atlantic Blvd/SR-814		Construct grade separation at railroad crossing.	$52,458,600				X
69	Broward MPO	Non-State	South Florida Rail Corridor @ NW 62nd/ Cypress Creek		Construct grade separation at railroad crossing.	$52,458,600				X

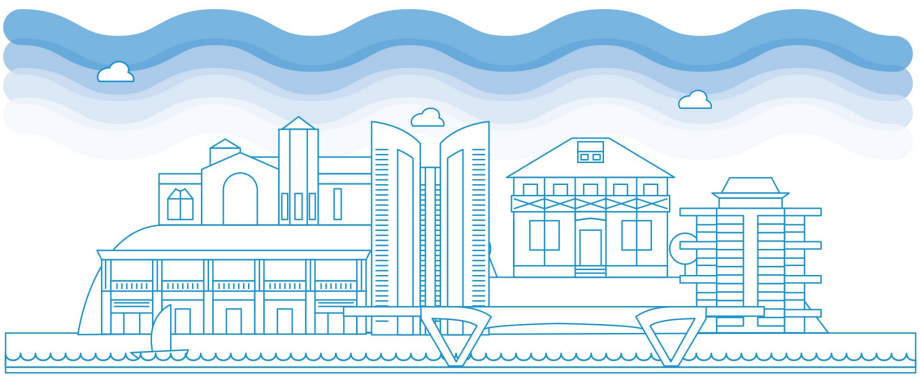


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
70	Broward MPO	Non-State	SW 196th Ave	Pines Blvd to Miramar Pkwy	Widen from 2 to 4 lanes.	$42,400,535				X
71	Town of Southwest Ranches	Non-State	Griffin Rd	Bonaventure Blvd to US-27	Widen Griffin Rd from 2 to 4 lanes (include new bike lanes, install solar lighting from I-75 to US-27).	$21,843,338				X
136	Broward MPO	Non-State	Museum of Discovery and Science Educational Transportation Exhibit		Develop an interactive public engagement transportation exhibit highlighting resiliency and how to address the impacts of climate change on Broward's transportation system.	$1,271,186	X			
137	City of Plantation	Non-State	Plantation Midtown Bridge Project (Illustrative)	SW 17th Street to SR-84	New bridge connection over SFWMD New River Canal. ~~Current cost reflects local funding for design phase.~~ Cost reflects local funding for Design phase and proposed grant and local funding for Construction phase.	~~$1,010,083~~ $11,589,668	X			
72	Turnpike	Turnpike	Southern Turnpike Mainline/ SR-91	MP 47 - Turnpike Ext/SR-821 to MP 71 - Sawgrass Expwy/SR-869	Implement systems management improvements.	Not Available	Unfunded			
73	City of Hollywood	State	US-1, Young Cir, including Tyler St, Harrison St and 17th Ave	Polk St to Van Buren St	Reconstruct US-1 around Young Cir, replacing signalized intersection with roundabouts; add bike lanes, reconfigure bus stops and service, reconstruct parking islands, and provide two-way traffic.	$41,528,800	Unfunded			
74	City of Lauderhill	State	U.S. 441/SR 7	Sunrise Blvd to NW 26 Street	Remove grade separation.	$46,650,360	Unfunded			
75	Broward MPO	State	South Florida Rail Corridor @ Hillsboro Blvd/SR-810		Construct grade separation at railroad crossing.	$52,458,600	Unfunded			
76	City of Fort Lauderdale	State	Oakland Park Blvd Bridge Ring Rd Improvements	NE 33rd Ave to NE 33rd Ave	Address tidal and storm flooding; improve lighting and pedestrian accommodations; move bridge wall back to allow for shared use path under bridge to separate bicyclists/ pedestrians from vehicles.	$2,577,843	Unfunded			

Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
~~77*~~	~~City of Dania Beach~~	~~State~~	~~West Dania Beach Blvd Corridor Improvements~~	~~US-1 to Bryan Rd~~	~~Acquire right-of-way, construct roadway improvements, make intersection improvements on local roads, bridge over C-10 Canal, signalized intersection at Bryan Rd, improve railroad crossing.~~	~~$9,388,839~~	~~Unfunded~~			
78	Broward MPO	State	South Florida Rail Corridor @ Commercial Blvd/SR-870		Construct grade separation.	$52,458,600	Unfunded			
79	City of Hollywood	State	Hollywood Blvd Raised Intersection over I-95	Hollywood Blvd @ I-95	Construct interchange improvements at Pat Salerno Dr to and from N at Sawgrass Expwy (SR-869).	$131,424,000	Unfunded			
80	City of Deerfield Beach	State	SE 10th St @ US 1		Eastbound to NB left-turn lane.	$1,946,662	Unfunded			
81	Broward MPO	State	Griffin Rd	Weston Rd to US-27	Widen from 4 to 6 lanes/2 to 4 lanes with guardrail enhancements and bicycle and pedestrian infrastructure.	$46,663,370	Unfunded			
82	City of Pembroke Pines	State	Pines Blvd	West of 186th Ave to US-27	Widen Pines Blvd from 4 to 6 lanes.	$29,285,569	Unfunded			

*MTP Ref. ID #77: Removed at the request of the City of Dania Beach as part of the 2021 MTP Amendment Cycle (Amendment No. 02)

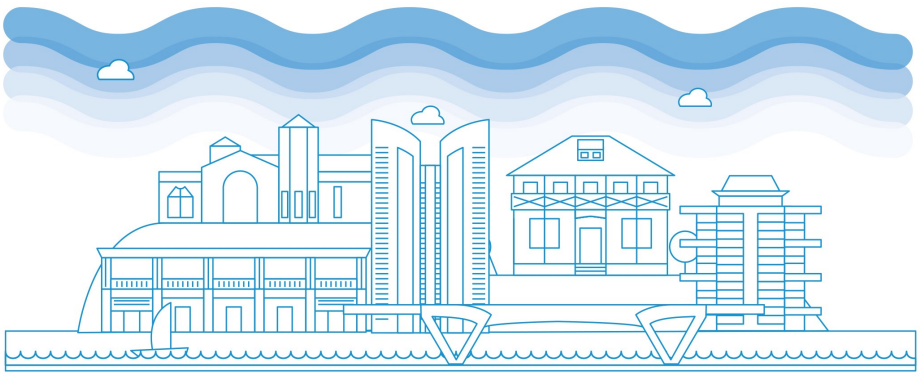


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
83	Broward MPO	State	South Florida Rail Corridor @ Oakland Park Blvd/SR-816		Construct grade separation at railroad crossing.	$52,458,600	Unfunded			
84	Broward MPO	State	South Florida Rail Corridor @ Stirling Rd/ SR-848		Construct grade separation at railroad crossing.	$52,458,600	Unfunded			
85	Broward MPO	State	FEC Rail Corridor @ SR -84		Construct grade separation at railroad crossing.	$52,458,600	Unfunded			
86	Broward MPO	State	FEC Rail Corridor @ Griffin Rd/SR-818		Construct grade separation at railroad crossing.	$52,458,600	Unfunded			
87	City of Deerfield Beach	State	Hillsboro Blvd Bridge @ Inter -Coastal		Replace/modify Hillsboro Blvd Inter-Coastal Bridge.	$14,272,943	Unfunded			
88	City of Fort Lauderdale	State	SE 17th St @ Eisenhower Intersection Improvements		Reconstruct intersection.	$3,404,859	Unfunded			
89	Broward MPO	State	South Florida Rail Corridor @ Pembroke Rd/SR-824		Construct grade separation at railroad crossing.	$52,458,600	Unfunded			
90	Broward MPO	State	Hammondville Rd @ Florida's Turnpike		improve access to Turnpike Interchange, including improvements at Blount Rd./Martin Luther King Jr. Blvd and Turnpike Entrance Intersection.	$83,639,599	Unfunded			

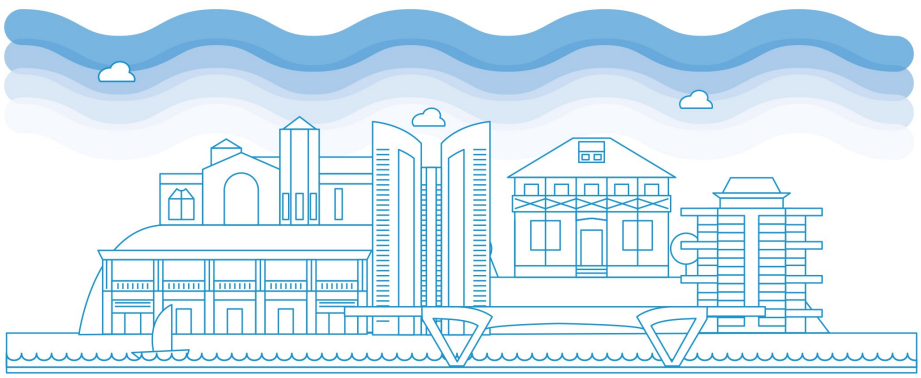


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
91	Town of Davie	State	SR-84 @ Davie Rd		Allow EB traffic lanes on SR-84 to have continuous flow through SR-84/Davie Rd Intersection.	$18,056,000	Unfunded			
92	City of Sunrise	State	Pat Salerno Northbound Ramps on Sawgrass Expwy (SR-869)		Construct interchange improvements at Pat Salerno Drive to and from N at Sawgrass Expwy (SR-869).	$124,320,000	Unfunded			
93	Broward MPO	State	Pines Blvd/SR-820 @ Palm Ave		Construct grade separation.	$65,712,000	Unfunded			
94	City of Dania Beach	State	Griffin Road Corridor Improvements		Widen Griffin Rd; make intersection improvements at Griffin Rd and DCOTA; elevate slip ramp to I-95 NB; potential right-of-way acquisition.	$25,136,527	Unfunded			
95	City of Pembroke Pines	State	Pembroke Rd to I-75 Express Lanes		Add ramps from Pembroke Rd to I-75 Express Lanes.	$64,068,544	Unfunded			
96	City of Hollywood	State	Sheridan St Intercoastal Elevated Bridge		Construct elevated bridge at Sheridan St over Intercoastal.	$138,195,000	Unfunded			
97	City of Fort Lauderdale	State	I-95 & Sistrunk Blvd Interchange		Construct interchange at I-95 and Sistrunk Blvd.	$64,068,544	Unfunded			
98	City of Sunrise	State	Southbound NW 136th Ave to Eastbound I-595		Construct flyover from SB NW 136th Ave to EB I-595.	$69,391,872	Unfunded			

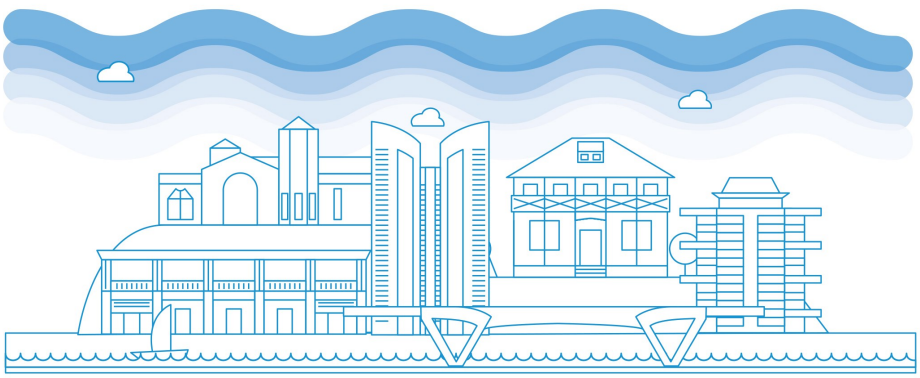


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
99	City of Dania Beach	State	South Broward I-95 Interchange	Stirling Rd to I-95; Griffin Rd to I-95; Sheridan St to I-95	Reconstruct I-95 interchange and construct improvements at Griffin Rd, Stirling Rd, and Sheridan St.	$416,351,232	Unfunded			
100	Broward MPO	Non-State	Oakes Rd	SR-7/US 441 to Davie Rd	Construct new 4-lane divided road, including overpass at Florida's Turnpike.	$45,510,000	Unfunded			
101	Broward MPO	Non-State	South Florida Rail Corridor @ McNab Rd		Construct grade separation at railroad crossing.	$52,458,600	Unfunded			
102	Broward MPO	Non-State	Bryan Rd	Stirling Rd/SR-848 to Old Griffin Rd	Widen from 2 to 4 lanes.	$14,652,000	Unfunded			
103	Broward MPO	Non-State	McNab Rd	Dixie Hwy to SW 7th Ave	Construct new grade separation (2-lane roadway over FEC Rail Corridor connecting McNab Rd from Dixie Hwy to SW 7th Ave).	$44,400,000	Unfunded			
104	Broward MPO	Non-State	SW 81st Ave	McNab Rd to Southgate Blvd	Widen from 4 to 6 lanes.	$11,839,023	Unfunded			
105	Broward MPO	Non-State	Wiles Rd	US-441 to Florida's Turnpike	Widen from 4 to 6 lanes.	$22,075,001	Unfunded			
106	City of Pembroke Pines	Non-State	Stirling Rd	196th Ave to US-27	Widen from 2 to 4 lanes with sidewalk on one side.	$13,237,489	Unfunded			
107	City of Miramar	Non-State	County Line Rd	Flamingo Rd to Red Rd	Widen from 2 to 4 lanes with median, bicycle lanes, sidewalks, lighting, landscaping, hardscape, and irrigation.	$9,182,648	Unfunded			

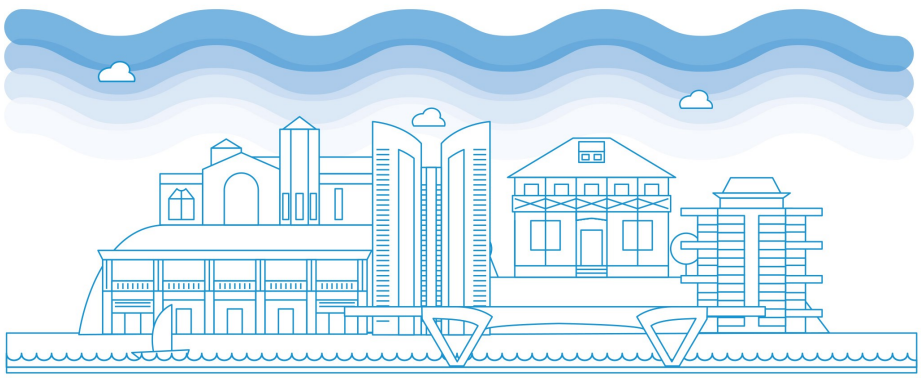


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
108	Town of Davie	Non-State	West Orange Dr Corridor Enhancements	SW 145th Ave @ Orange Dr	Widen bridge at SW 145th Ave to include additional turn lane.	$2,628,480	Unfunded			
109	City of Plantation	Non-State	Plantation Midtown N-S Spine Rd Extension		Extend N-S spine road in Midtown District; acquire right-of-way and construct bridge across New River Canal to westbound SR-84.	$56,937,062	Unfunded			
110	City of Deerfield Beach	Non-State	SW 11th Way	NE 48th to SE 10th	Widen from 2 to 4 Lanes (FAU Research Pkwy).	$8,865,026	Unfunded			
111	City of Lighthouse Point	Non-State	Citywide Bridge Replacements	5 individual off-system bridges throughout city (NE 28th St, NE 29th St, NE 31st Ct, NE 24th Ave, NE 48th St)	Replace 5 off-system bridges with improvements to pedestrian and bicycle usage where warranted.	$2,611,884	Unfunded			
112	City of Dania Beach	Non-State	Bryan Rd Extension	Stirling Rd to Sheridan St	Construct new Bryan Rd Extension.	$19,903,165	Unfunded			
113	City of Miramar	Non-State	Miramar Blvd	Palm Ave to Douglas Rd	Widen from 4 to 6 lanes with bicycle lanes, sidewalks, lighting, landscaping, hardscape, and irrigation.	$8,038,216	Unfunded			
114	City of Miramar	Non-State	SW 184th Ave	Bass Creek Rd to Miramar Pkwy	Widen from 2 to 4 lanes with bicycle lanes, sidewalks, lighting, landscaping, hardscape, and irrigation.	$4,337,562	Unfunded			

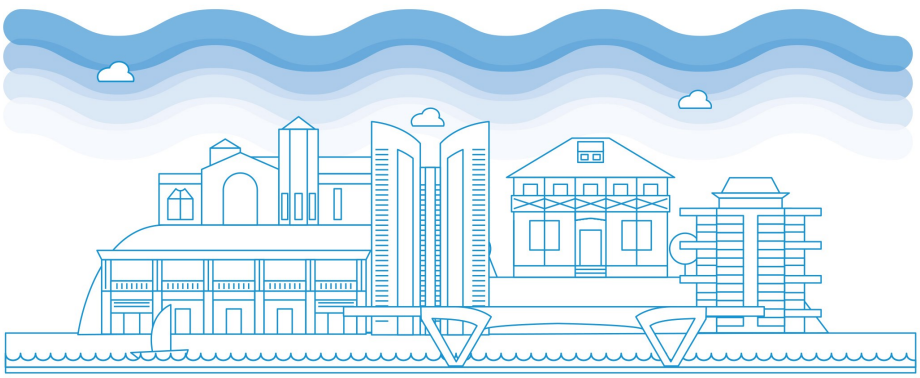


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
115	City of Miramar	Non-State	Bass Creek Rd	SW 148th Ave to Florida's Turnpike	Construct new 2-lane roadway with median, noise walls, bicycle lanes, sidewalks, lighting, landscaping, hardscape, and irrigation.	$5,216,314	Unfunded			
116	Broward MPO	Non-State	SW 184th Ave	Sheridan St to Pembroke Rd	Widen from 4 to 6 lanes.	$40,112,692	Unfunded			
117	Broward MPO	Non-State	Hiatus Rd	Stirling Rd to Sheridan St	Widen from 2 to 4 lanes.	$19,570,397	Unfunded			
118	City of Miramar	Non-State	Bass Creek Rd	SW 148th Ave to SW 172nd Ave	Widen from 2 to 4 lanes with bicycle lanes, sidewalks, lighting, landscaping, hardscape, and irrigation.	$26,435,858	Unfunded			
119	Broward MPO	Non-State	FEC Rail Corridor @ SE 10th St		Construct grade separation at railroad crossing.	$52,458,600	Unfunded			
120	City of North Lauderdale	Non-State	McNab Rd @ Rock Island Rd		Add wide turn lane on McNab Rd from WB approach to northbound on Rock Island Rd.	$2,214,910	Unfunded			
121	City of North Lauderdale	Non-State	Bailey Rd @ Rock Island Rd		Add wide right-turn lane on Bailey from westbound approach to NB Rock Island Rd.	$2,214,910	Unfunded			
122	City of Deerfield Beach	Non-State	Century Village		Improve turn lanes at entrance/exit to Century Village.	$2,407,609	Unfunded			

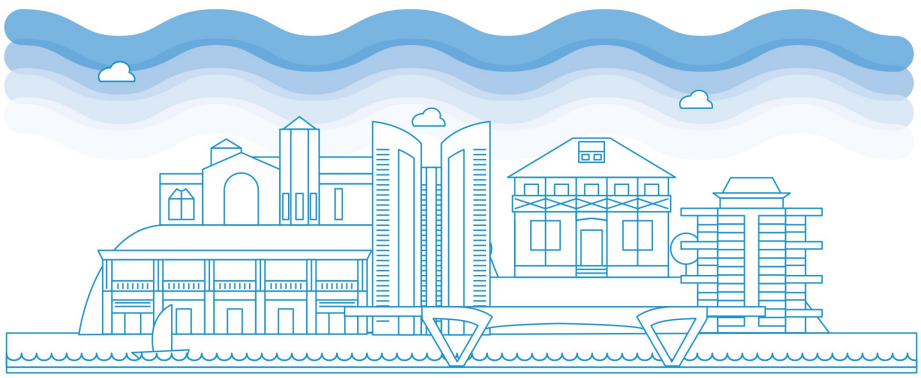


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
123	City of Pembroke Pines	Non-State	SW 208th Ave	Pines Blvd to Pembroke Rd	Construct 2-lane road on 208th Ave from Pines Blvd to Pembroke Rd.	$8,046,758	Unfunded			
124	City of Miramar	Non-State	Bass Creek Rd	SW 172nd Ave to SW 184th Ave	Construct new 4-lane road and widen existing 2 lanes to 4 lanes, with bicycle lanes, sidewalks, lighting, landscaping, hardscape, and irrigation.	$8,176,512	Unfunded			
125	Broward MPO	Non-State	Hiatus Rd	Stirling Rd to Griffin Rd	Construct new 4-lane roadway.	$37,547,712	Unfunded			
126	Broward MPO	Non-State	Sheridan St	Douglas Rd to 172nd Ave	Widen from 4 to 6 lanes.	$120,754,094	Unfunded			
127	Broward MPO	Non-State	Stirling Rd	SW 193rd Way to SW 166th Ave	Construct new 4-lane road.	$80,811,412	Unfunded			
128	City of Hallandale Beach	Non-State	South Old Dixie Hwy	Pembroke Rd to SW 11th St	Convert Dixie Highway from 4-lane one-way to 4-lane two-way (includes restriping, new signage, installation of traffic control devices, mini-medians, 7-ft wide sidewalks, ADA upgrades, and 12-ft-wide shared use path along FEC).	$7,467,524	Unfunded			

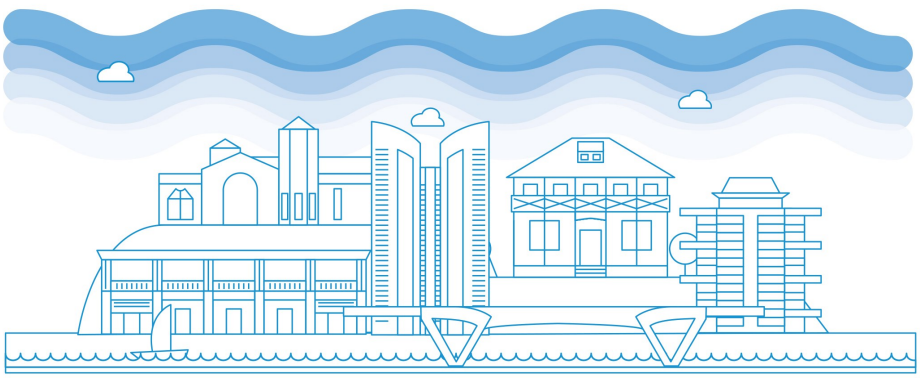


Table 5-4: 2045 Roadway Plan (2025–2045)
(Funded and Unfunded Projects) (cont'd)

Ref. ID	Project Sponsor	Jurisdiction	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
							2025	2026/30	2031/35	2036/45
129	City of Deerfield Beach	Non-State	Green Rd	Powerline Rd to Military	Install wall along southern homes; create new drive lane.	$14,031,136	Unfunded			
130	Broward MPO	Non-State	Coconut Creek Pkwy/ Hammondville Rd @ NW 31st Ave		Overpass for EB and WB through movements only.	$39,427,200	Unfunded			
131	City of Miramar	Non-State	Pembroke Rd	SW 184th Ave to US-27	Widen from 2 to 4 lanes from SW 184th Ave to SW 196th Ave, construct 4 lanes from SW 196th Ave to US-27 with bicycle lanes, sidewalks, lighting, landscaping, hardscape, and irrigation.	$37,714,641	Unfunded			
132	City of Fort Lauderdale	Non-State	SW 12th Ave Swing Bridge	Over north fork of New River	Upgrade bridge.	$95,335,680	Unfunded			
133	Town of Southwest Ranches	Non-State	SW 184th Ave	Bonaventure Blvd in Weston at Griffin Rd and south to SW 184th Ave at Sheridan St in Pembroke Pines	Construct new 2-lane road from Griffin Rd south to Sheridan St.	$17,750,202	Unfunded			
134	Town of Southwest Ranches	Non-State	Weston Rd Bridge Widening	Just north of Griffin Rd	Widen Weston Rd bridge just N of Griffin Rd.	$6,962,454	Unfunded			
135	City of Parkland	Non-State	W Hillsboro Blvd Extension	New 4-lane divided roadway with bike lanes and 8-ft sidewalks.	Begin at University Dr and end to connect at existing 4-lane Hillsboro Blvd	$46,199,263	Unfunded			
138	Broward County	State & Non-State	Flamingo Road Greenway (SUN Trail)	NW 202nd St to SR-84/New River Greenway	Construct a 12-foot wide concrete trail alongside the Snake Creek North Fork Canal from NW 202nd Street at the Miami-Dade and Broward County line to the New River Greenway. The design will include safety features for bicyclists and pedestrians using the facility.	$35,667,265	Unfunded			
139	City of Coral Springs	Non-State	Everglades Memorial Loop Pedestrian and Bicycle Bridge (SUN Trail)	Wiles Road extending over the Sawgrass Expressway, and terminates at the existing Conservation Levee Corridor	Construction of a concrete pedestrian and bicycle bridge. The bridge is proposed at a width of 16 feet and will provide a 12-foot wide multiuse path for pedestrians and cyclists	$10,248,888	Unfunded			

Table 5-5: 2045 Transit Plan (2025–2045)
(Funded and Unfunded Projects)

Ref. ID	Project Sponsor	Project Name	Project Limits	Project Description	Total Cost (2019$)	Timeframe for Implementation			
						2025	2026/30	2031/35	2036/45
1	Broward County	Federal Transit Formula Funding Program		Provide Federal transit funding for Broward County Transit	$661,263,728	X	X	X	X
2	City of Fort Lauderdale	Andrews & 3rd Avenues Mobility Improvements	SE 17th St to Sunrise Blvd	Reconfigure streets to be one-way oriented, with shared use path, transit-only lane, lighting, stormwater, transit, crosswalks	$10,000,000		X		
3	Broward County	Hollywood/ Pines Blvd Rapid Bus	Flamingo Rd (Pembroke Pines) to Hollywood (Young Circle)	Implement 10-15 min limited stop bus service, mixed traffic or semi-exclusive Business Access and Transit (BAT) lanes, level boarding stations, use of Transit Signal Priority (TSP)/Queue Jump technologies, mobile ticketing	$64,557,779		X		
4	Broward County	University Dr Rapid Bus	Coconut Creek (Sample Rd) to Miami-Dade Co (Golden Glades)	Implement 10-15 min limited stop bus service, mixed traffic or semi-exclusive BAT lanes, level boarding stations, use of TSP/Queue Jump technologies, mobile ticketing.	$115,696,114			X	
5	SFRTA	Tri-Rail Rolling Stock		Fund 1/3 of cost to replace rolling stock for Tri-Rail, including 6 new locomotives and 10 new bi-level coaches	$24,333,333		X		X
6	SFRTA	Tri-Rail Mobile Ticketing and Fare Verification		Fund Mobile Ticketing and Fare Verification Equipment	$2,625,000				X
7	Broward County	Broward Commuter Rail South (Illustrative)	Broward Health Center between 15th and 17th Streets in Fort Lauderdale to Brightline/ Commuter Rail Station in	Commuter rail service on FEC rail corridor. ~~Project development phase only. Note: Total project cost estimated at $297M (right-of-way and construction phases unfunded).~~ Note: Total project cost estimated at $312.5M* (with right-of-way and construction phases funded through a combination of local funds and federal and state grants; * $15.5 Million expended prior to 2025).	~~$20,042,373~~ $297,000,000	X			
8	Broward County Aviation Department	Intermodal Center (IMC) (Illustrative)		8-level parking garage providing approximately 4,500 parking spaces including a bus transfer area, transit center and connection to future Automated People Mover. Total project cost estimated at $835M* (with design and construction phases funded through a combination of local funds and federal and state grants; *partial funds expended prior to 2025).	$814,435,000	X	X		
9	Broward County Aviation Department	Automated People Mover (APM) Circulator (Illustrative)		Elevated guideway and train system connecting the airport's terminals, existing parking garages, Rental Car Center, and the future Intermodal Center in a closed loop with up to six stations and a Maintenance and Storage Facility. Total project cost estimated at $855M* (with design and construction phases funded through a combination of local funds and federal and state grants; *partial funds expended prior to 2025).	$766,175,000	X	X	X	
~~8~~ 10	SFRTA	Tri-Rail Coastal Link (TRCL)		Construct/implement TRCL on FEC Corridor (Broward County)	$1,998,000,000	Unfunded			

Table 5-6: 2045 Cost Feasible Plan—Other Funding Programs

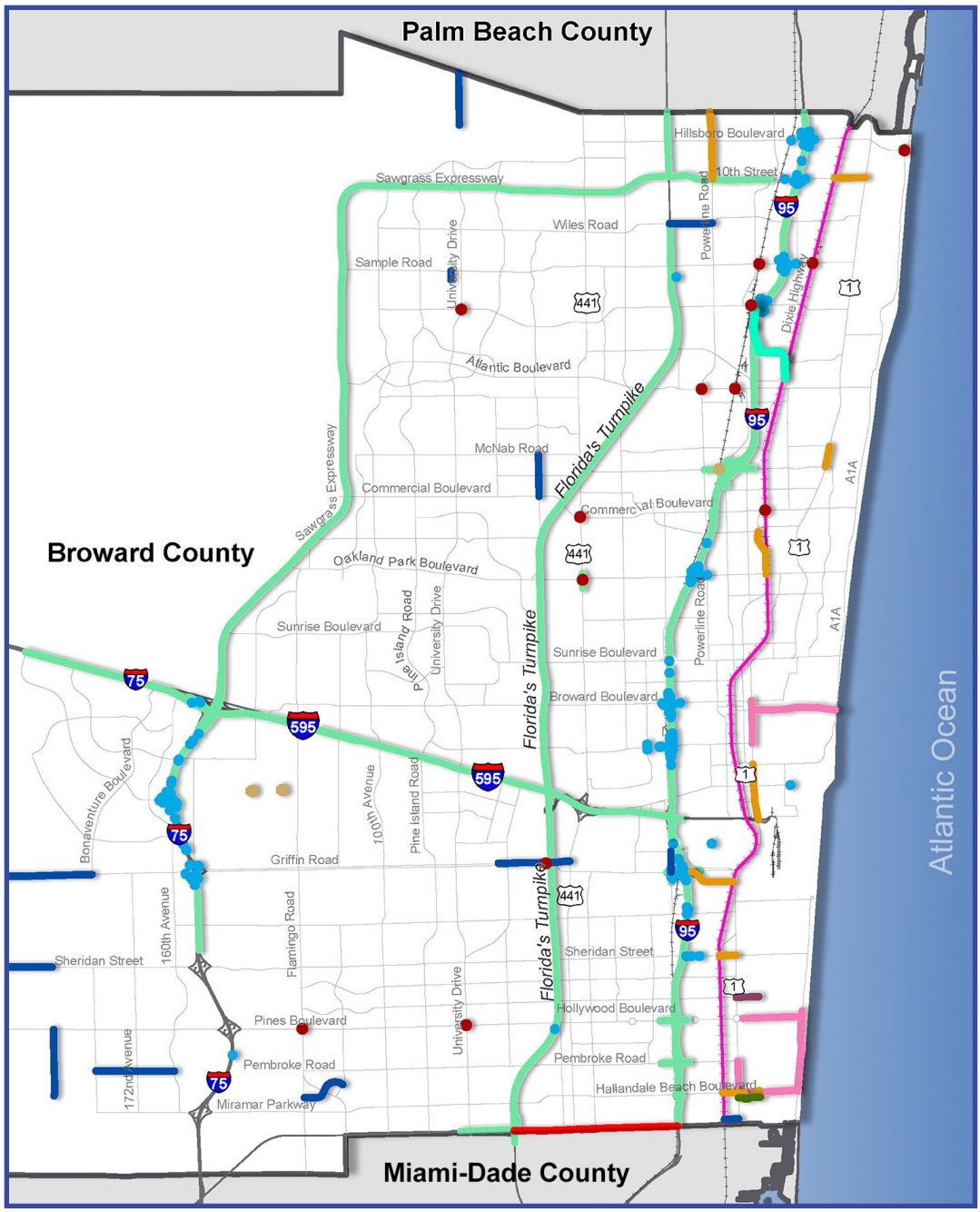
Project Sponsor	Funding Program Category	Costs/Revenues in Year of Expenditure				
		2025	2026/30	2031/35	2036/45	Total
System Management/Safety Program						
Broward MPO	Safety Project Studies – State Roads	$295,000	$1,625,000	$1,900,000	$4,875,000	$8,695,000
Broward MPO	Safety Projects – State Roads	$9,523,810	$47,619,048	$47,619,048	$95,238,095	$200,000,000
Broward MPO	Safety Project Studies – Non-State Roads	$236,000	$1,300,000	$1,520,000	$3,900,000	$6,956,000
Broward MPO	Safety Projects – Non-State Roads	$3,615,100	$17,958,800	$17,738,800	$34,615,950	$73,928,650
FDOT	Signal System Technologies	$4,761,905	$23,809,524	$23,809,524	$47,619,048	$100,000,000
	TOTAL	**$18,431,814**	**$92,312,371**	**$92,587,371**	**$186,248,093**	**$389,579,650**
Complete Streets and other Localized Initiatives Program						
Broward MPO	Complete Streets and other Localized Initiatives Program – State Roads	$2,069,783	$10,349,247	$10,349,247	$20,697,123	$43,465,400
Broward MPO	Complete Streets and other Localized Initiatives Program – Non-State Roads	$6,209,350	$31,047,740	$31,047,740	$62,091,370	$130,396,200
	TOTAL	**$8,279,133**	**$41,396,987**	**$41,396,987**	**$82,788,493**	**$173,861,600**
Complete Streets Master Plan Program*						
Broward MPO	Complete Streets Master Plan Program – State Roads	$3,690,607	$18,454,063	$18,454,063	$36,905,831	$77,504,563
Broward MPO	Complete Streets Master Plan Program – Non-State Roads	$7,493,050	$37,467,340	$37,467,340	$74,930,020	$157,357,750
	TOTAL	**$11,183,657**	**$55,921,403**	**$55,921,403**	**$111,835,851**	**$234,862,313**
Mobility Hub Program						
Broward MPO	Mobility Hub Program	$2,567,400	$12,839,200	$12,839,200	$25,677,300	$53,923,100
	TOTAL	**$2,567,400**	**$12,839,200**	**$12,839,200**	**$25,677,300**	**$53,923,100**

*MPO attributable funding (SU) may be used on a case by case basis for Complete Streets Master Plan (CSMP) projects located on state facilities at the discretion of the MPO and will be clearly identified in the MPO's adopted annual Multimodal Priorities List (MMPL).

Map 5-1
2045 Cost Feasible Roadway Plan

State Projects
- Interchange/ Intersection
- Capacity
- Pompano Connection
- Multimodal Study
- Resiliency Study
- SIS Interchange
- SIS Capacity/ Interchange
- SIS Rail

Non-State Projects
- Interchange/ Intersection
- Capacity
- Multimodal Study
- Resiliency Study



This map is for informational purposes only. For complaints, questions, or concerns about civil rights or nondiscrimination or for special requests under the Americans with Disabilities Act, please contact Erica Lychak, Communications Manager/Title VI Coordinator, at (954) 876-0057 or Lychake@browardmpo.org

Map 5-2

2045 Cost Feasible Transit Plan

Existing Transit Service

- Express Bus
- Commuter Rail (Tri-Rail)
- Station (Tri-Rail)

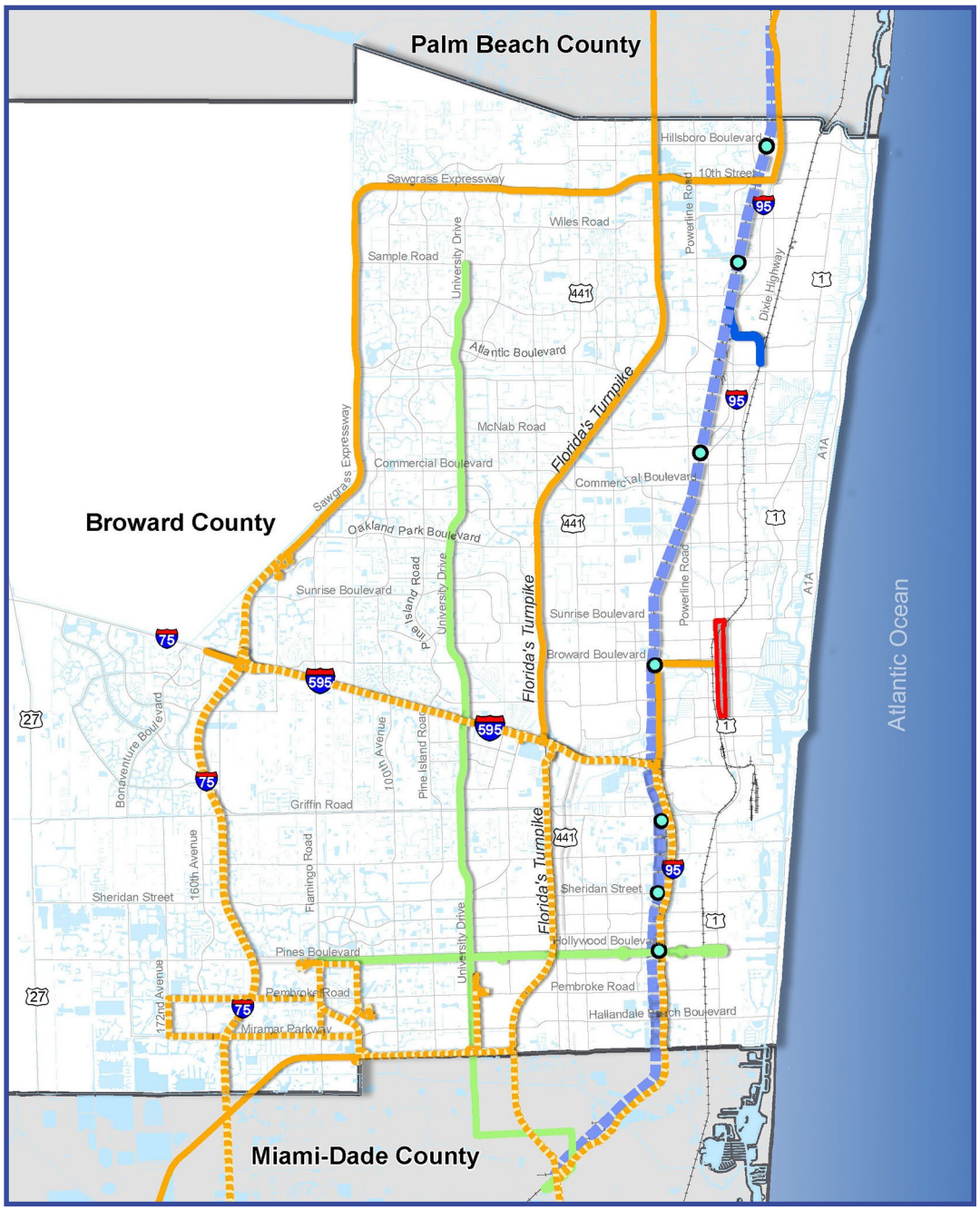
Proposed Transit Service

- Express Bus
- BCT Rapid Bus
- Fixed Guideway (>50%)
- Pompano Connection

- Interstates
- Major Roads

Note:

1. Local bus not shown; assumed to operate in all major roads.



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engineering, right-of-way, and construction cost).

Strategic Intermodal System

Section 339.64, F.S. provides for development of a SIS Plan with, among other things, a needs assessment, a project prioritization process, and a finance plan including both 10-year and 20-year cost feasible components. Subsection 339.65(4) requires that FDOT develop and maintain a plan for SIS roadway corridor projects anticipated to be constructed within a period of at least 20 years. The SIS Policy Plan provides direction for updating SIS first and second five-year plans, the SIS Cost Feasible Plan (CFP), and the SIS Multimodal Unfunded Needs Plan.

FDOT plans for the SIS in coordination with the state's MPOs and other partners. MPOs plan for integrated metropolitan transportation systems in coordination with FDOT and other partners and give emphasis to facilities that serve national, state, and regional transportation functions (23 U.S.C. 134, 49 U.S.C. 5303, F.S. 339.175). Subsection 339.175(1), F.S. notes that facilities that serve national, state, and regional transportation functions include facilities on the SIS. Multiple performance measures established under the MAP-21/FAST Act, for which FDOT and the MPOs set targets, apply to SIS facilities.

Projects in the SIS CFP focus on roadways, as FDOT and modal partners have not been able to identify cost-feasible projects beyond the FDOT work program sufficiently to include them in the SIS CFP. Revenue projections relevant to the identification of cost-feasible SIS projects for the SIS 2045 CFP and 2045 LRTPs for the 27 MPOs in Florida are in the FDOT 2045 Revenue Forecast. Right-of-way and construction phases for projects in the SIS 2045 CFP are funded out of the forecast's statewide estimate for the SIS Roadway Construction and right-of-way capacity program as one of eight capacity programs. Project development and preliminary engineering phases for those projects are funded out of the forecast's statewide estimate for Product Support. SIS first- and second five-year plans include a Statewide SIS Modal Plan section. For example, that section in the SIS First Five-Year Plan (FY 2019/2020–FY 2023/2024) includes aviation, spaceport, rail, seaport, transit, and multi-modal capacity improvements.

The projects in the FDOT District 4 section of the SIS 2045 CFP reflect use of multiple sources (studies, long range transportation plans, and other plans, etc.), input from District staff and consultants with working knowledge of SIS facilities, consultations with MPOs, application of District- and State-level project prioritization processes, and consideration of factors such as constructability and the ability of corridors to function in relation to one another (e.g., I-95 and SR-80). The design phases for the projects are timed so they can inform each other and set the stage for funding of subsequent phases. Construction phase cost estimates are inflated to the middle year of the applicable time band.

The SIS CFP is a key source for projects programmed by FDOT in the SIS first and second five-year plans updated annually. The adopted versions of the SIS First Five-Year Plan (FY 2019/2020–FY 2023/2024) and the SIS Second Five-Year Plan (FY 2024/2025–FY 2028/2029) are now posted on the FDOT website at https://www.fdot.gov/planning/systems/programs/mspi/plans/default.shtm.

Information in these plans is more current than information in the MPO's currently adopted TIP.

OTHER PARTNER AGENCIES

Port Everglades

Port Everglades is one of the most diverse seaports in the US. Located on the southeast coast of the Florida peninsula, Port Everglades is:

- One of the top three cruise ports in the world
- Among the most active containerized cargo ports in the US
- South Florida's main seaport for petroleum products such as gasoline and jet fuel

Port Everglades is planning for 2033 with an updated roadmap for future growth over the next 14 years that identifies $1.6 billion in capital investments to improve productivity for cargo, cruise, and petroleum businesses that operate at the South Florida seaport. The current 20-Year Master/Vision Plan was approved on June 24, 2014, by the Broward County Board of County Commissioners, which governs the Port as a self-funded enterprise fund. The Port is now in the process of updating its Master/Vision Plan. The MPO is committed to supporting Port Everglades in its effort to secure funding for the maintenance and expansion of the port. Table 5-7 shows the unfunded project priorities for the port as of November 2019.

Table 5-7: Port Everglades Unfunded Projects (2018 Master/Vision Plan Update)

MTP 2045 Project List					
Project Description - Port Everglades Master/Vision Plan (Adopted June 18, 2020)	**CIP**	**5 Year**	**10 Year**	**20 Year**	**Total Cost**
Master Plan Projects - Northport Improvements					
New Public Works Facility Building		X			$ 41,300,000
New Bulkheads at Berths 1, 2 & 3		X			$ 25,500,000
Break-Bulk Storage Area	X		X		$ 7,912,192
Slip 1 New Bulkheads at Berths 9 & 10 Phase I	X	X			$ 96,900,000
Slip 3 Bulkheads at Berth 14 & 15 (D+C)	X		X	X	$ 30,810,000
Slip 2 New Bulkheads at Berths 4, 5, 6	X		X		$ 43,801,625
Slip 3 Expansion (Berths 11,12,13)				X	$ 135,980,000
Master Plan Projects - Midport Improvements					
Cruise Terminal 21	X	X			$ 148,555,005
Cruise Terminal 29	X		X		$ 148,555,005
Ro-Ro Yard Expansion	X	X	X	X	$ 15,752,468
Tracor Basin Fill	X		X		$ 81,551,069
New Bulkheads at Berths 16, 17, & 18	X	X			$ 26,196,000
New Bulkheads at Berths 21 & 22	X	X			$ 25,806,375
New Bulkheads at Berths 19 & 20				X	$ 19,500,000
Berth 23 New Bulkhead				X	$ 3,600,000
Berth 24 and 25 New Bulkheads				X	$ 20,500,000
Berth 26 and 27 New Bulkheads				X	$ 20,100,000
T26 Redevelopment			X		$ 124,000,000
T29 / T26 Parking Structure			X		$ 41,200,000
T19 / T20 Redevelopment				X	$ 214,124,250
T19 / T20 Parking Structure				X	$ 56,765,520
Berth 29 Bulkheads			X		$ 17,300,000
Berth 19 Finger Pier				X	$ 124,619,700
Master Plan Projects - Southport Improvements					
Southport Turning Notch Expansion & Crane Rail	X	X			$ 471,036,588
3 Additional Super Post Panamax Cranes	X	X			$ 54,607,277
Phase 9A Container Yard		X			$ 18,500,000
Phase 9C-1 Container Yard	X		X		$ 3,764,813
Phase 9C-2 Container Yard	X			X	$ 21,191,457
One STS Crane				X	$ 14,700,000
Griffin Road Extension / NE 7th Avenue Improvements			X		$ 21,233,530
McIntosh Road Realignment			X		$ 18,438,568
Container Terminal Reconfiguration			X		$ 37,628,460
Master Plan Projects - Portwide					
Slip 1 New Bulkheads at Berths 7, 8, 8a and 32. Phase II (D+C)		X	X		$ 43,954,000
Entrance Channel North Wall	X	X			$ 14,385,804
I-595 Flyover	X	X			$ 55,118,009
ACOE Deepening & Widening	X	X	X		$ 437,823,000
Former Dynegy Logistics Development		X			$ 50,000,000
Auto Terminal West		X			$ 20,000,000
Commercial Consolidation				X	$ 137,497,761
ACOE Deepening & Widening (USCG relocation)		X			$ 39,100,000

Source: Port Everglades

South Florida Regional Transportation Authority (SFRTA)

In 2018, SFRTA published the latest Major Update of its TDP, *SFRTA Building Stronger Connections*. SFRTA will use this plan as a strategic planning and guidance tool over the next 10 years, from FY 2019 to 2028.

The SFRTA TDP seeks to refocus SFRTA's mission to steadily improve the passenger experience and grow ridership while fostering collaborative relationships to promote and develop regional transit.

Table 5-8 includes funded projects in the first five years (2020–2024), and Table 5-9 includes unfunded projects in the second five years (2025–2029). Note that projects that involve MPO funding also are included in the MPO's Transit Plan presented previously in this chapter.

NON-CAPACITY PROGRAMS

State Roadway System Preservation

According to the *FDOT Revenue Forecasting Guidebook* (Appendix F), "Statewide estimates for all State non-capacity programs are an integral part of the 2045 Revenue Forecast to ensure that statewide system preservation, maintenance, and support objectives will be met through 2045." Based on agreement with the Federal Highway Administration (FHWA) and consistent with MPOAC guidelines, FDOT has provided District-level funding estimates related to the preservation of the existing transportation system. Included in this non-capacity program are resurfacing, bridge, and operations and maintenance activities. As a result of this commitment, FDOT has set aside $10.9 billion (in future YOE) for District 4 state roadway system facilities from 2020 to 2045. These revenues are set aside by FDOT for meeting District and statewide goals and are consistent with current performance measure targets for:

- Resurfacing pavements on the SHS
- Repairing and replacing deficient bridges on public roads meeting State and Federal criteria
- Maintaining transportation infrastructure once constructed

Non-State Roadway System Preservation

Historically, Broward County uses Constitutional, Local Option, and Ninth Cent gas taxes to fund non-State roadway expansion and maintenance and transit operations. The County's 2019 Transportation Capital Program reflects more than $156 million for transportation projects, including $77 million for non-State roadway maintenance, nearly $58 million for transit operations, and an estimated $21 million for roadway capacity expansion. The Broward County Board of County Commissioners oversees the allocation of gas taxes.

ETDM & ENVIRONMENTAL MITIGATION

The Broward MPO in consultation with a number of regulatory agencies such as Florida Department of Environmental Protection (FDEP), Broward County Department of Environmental Protection and Growth Management and a number of other environmental protection communities and businesses followed a comprehensive planning process that included analyzing potential environmental impacts associated with *Commitment 2045* projects, along with mitigation activities that showed promise for minimizing any significant impacts to the surrounding environment.

The primary vehicle through which projects were screened and solicited for regulatory agency comments was the Efficient Transportation Decision Making (ETDM) process, established by FDOT as a means to support the State's environmental policies. The system provides agencies and other stakeholders the opportunity for early input and consideration of the environment in transportation planning, including linking the Project Development and Environment (PD&E) process with the requirements listed under the National Environmental Policy Act (NEPA). The goal of ETDM is to proactively identify potential avoidance, minimization, and mitigation opportunities for projects identified and selected by the MPO.

As indicated above, the Broward MPO works with a variety of regulatory agencies to identify and limit potential negative impacts associated with any project contained within *Commitment 2045*. A typical mitigation approach includes the following:

Table 5-8: SFRTA Capital Plan – First Five Years (2020–2024)

Capital Expenses	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
	Capital Budget	Projected					
Funded Projects							
Rehab Rolling Stock	$3,911,826	$1,438,582	-	-	-	-	$5,350,408
Rail Yard Improvements	-	-	$100,000	-	-	$100,000	$200,000
Station Improvements	-	$500,000	$500,000	$500,000	-	$500,000	$2,000,000
Purchase of Rolling Stock	$500,000	$10,037,500	$10,037,500	$10,337,500	$10,337,500	-	$41,250,000
Project Support/Administration	$1,200,000	-	$1,490,442	$1,200,000	-	$1,200,000	$5,090,442
Preventive Maintenance	$22,784,726	$22,007,057	$23,432,057	$23,283,902	$23,283,902	$28,762,262	$143,553,906
Debt Service-DTML PTC Comm. Loan	$3,907,381	$4,495,209	$4,487,369	$4,487,369	$2,190,364		$19,567,692
Debt Service-DTMS AAF Loan	$17,528,049	-	-	-	-	-	$17,528,049
Debt Service-SIB Loan for Ops. Ctr.	$2,872,100	$4,709,519	$2,763,250	$2,500,000	$878,664	-	$13,723,533
Transfer to Operating	$1,896,895	$1,896,895	$1,896,895	$1,896,895	$1,896,895	$1,896,895	$11,381,370
West Palm Beach Parking	-	$1,000,000	$1,000,000	$1,000,000	-	-	$3,000,000
Non-Revenue Fleet Vehicles	$100,000	$100,000	$100,000	$100,000	$100,000	-	$500,000
New Furniture & Replacement Program	$100,000	-	$100,000	-	-	-	$200,000
Portable Radios	-	-	-	$62,000	-	-	$62,000
Computer/Office Equipment/Software	$300,000	$300,000	$150,000	$150,000	-	-	$900,000
Passenger Information System	$1,103,717	$1,500,000	-	-	-	-	$2,603,717
Planning and Capital Development	$1,000,000	$1,125,000	$1,000,000	$1,150,000	$1,000,000	$2,200,000	$7,475,000
Transit Oriented Development (TOD II)	$200,000	$200,000	$200,000	$200,000	$200,000	$200,000	$1,200,000
Miami River Intermodal Ctr. (MR-MICCI)	$147,462	-	$13,601,942	$13,250,000	-	-	$26,999,404
Boca II	-	$4,416,735	$3,416,735	$7,979,969	$7,979,969	-	$23,793,408
Boca Trolleys	$1,505,000	-	-	-	-	-	$1,505,000
Delray Beach Trolleys	-	$860,000	-	-	-	-	$860,000
PBIA Station Study	-			$250,000	-	-	$250,000
General Engineering Consultant	$2,648,155	$2,800,000	$2,800,000	$1,500,000	$1,500,000	$1,500,000	$12,748,155
Heavy Station Maint./Construction	$500,000	$500,000	-	$290,442	-	-	$1,290,442
Northern Layover Facility	$1,000,000	$3,530,000	-	-	-	-	$4,530,000
Positive Train Control	$3,189,384	-	-	-	-	-	$3,189,384
Emergency Flagging Services	-	-	-	-	-	-	$500,000
Flagging Svcs for Construction Projects	$2,500,000	$2,500,000	$2,500,000	$2,500,000	$2,500,000	$2,500,000	$15,000,000
Downtown Miami Station	$7,255,308	-	-	-	-	-	$7,255,308
Waste Water Treatment Plant	-	$1,636,000	$1,500,000	$612,000	-	-	$3,748,000
Northwood Crossover	$602,027	-	-	-	-	-	$602,027
Grade Crossing and Signals	$10,569,000	$12,329,800	$11,981,924	$11,993,382	$12,005,183	-	$58,879,289
Downtown Miami Link PTC	$11,077,588	$3,680,435	-	-	-	-	$14,758,023
Unfunded Projects							
SFRC Capital Replacement Program	$17,465,500	$9,951,688	$8,734,688	$8,674,688	$6,819,688	$8,573,666	$60,219,918
MOW Oversight	$1,800,000	$1,800,000	$1,800,000	$1,800,000	$1,800,000	$1,800,000	$10,800,000
Federal Funds Unallocated	-	-	-	-	-	$200,000	$200,000
County Gas Tax Funds Unallocated	-	-	$10,544	$625,736	$3,922,741	$6,113,105	$10,672,126
Total Capital Fund by Project:	**$117,664,118**	**$93,414,420**	**$93,503,346**	**$96,343,883**	**$76,914,906**	**$55,545,928**	**$533,386,601**

Source: SFRTA FY 2019 - 2028 Transit Development Plan, 2018 Major Update

Table 5-9: SFRTA Capital Plan – Second Five Years (2025–2029)

10-Year Capital Plan	Unfunded FY 23-24	Unfunded FY 24-25	Unfunded FY 25-26	Unfunded FY 26-27	Unfunded FY 27-28	Total
TRCL Jupiter Extension*	-	-	$35,666,667	$35,666,667	$35,666,667	$107,000,001
Tri-Rail Coastal Link (TRCL) Palm Beach**^			-	-	$158,000,000	$158,000,000
Tri-Rail Coastal Link (TRCL) (Broward) (1)**					$322,000,000	$322,000,000
Northeast Corridor (2)***	$95,000,000	$95,000,000	-	-	-	$190,000,000
Commuter Connector Bus Stops/Enhanced Stop	$1,321,300	$1,321,300	-	-	-	$2,642,600
Commuter Connector Bus/County Stops	$64,260	-	-	-	-	$64,260
Commuter Connector Bus/ADA Compliance	$20,880	-	-	-	-	$20,880
Boca II	$17,800,000	-	-	-	-	$17,800,000
Boca Raton Tri-Rail Station Improvements	-	-	-	$8,062,000	-	$8,062,000
Boca Raton Intermodal Center	-	-	-	$17,574,921	-	$17,574,921
Tri-Rail Ext. - Northern CSX to VA Hospital	-	-	-	$63,400,000	-	$63,400,000
Deerfield Bch Tri-Rail Station Improvements	-	-	-	-	$18,063,338	$18,063,338
Pedestrian Bridge at Golden Glades Station	-	$4,036,500	-	-	-	$4,036,500
Dade Tri-Rail Kendall/Homestead Ext.****	-	-	-	$302,737,500	-	$302,737,500
CSX-Tri-Rail Dolphin Ext. Phase I (E/W)****	-	-	-	$150,000,000	-	$150,000,000
Replacement and New Locomotives	$33,000,000	-	-	-	-	$33,000,000
New Rolling Stock	-	$10,000,000	$10,000,000	$10,000,000	$10,000,000	$40,000,000
Resilience Mitigation/Hurricane Hardening	-	-	$4,665,000	$4,665,000	-	$9,330,000
Station Area Pedestrian Plan	-	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$6,000,000
Bike Storage Cars	-	$1,000,000	$1,000,000	-	-	$2,000,000
Lundlam Corridor****	-	-	-	-	$300,000,000	$300,000,000
Miami Int'l Airport/Port Miami Ext.****	-	-	-	-	$25,000,000	$25,000,000
Kendall Link****	-	-	-	$150,000	$175,000,000	$325,000,000
Okeechobee Link****	-	-	-	-	$325,000,000	$325,000,000
US-1 Extension****	-	-	-	-	$500,000,000	$500,000,000
Total	**$122,756,045**	**$68,486,300**	**$101,831,667**	**$581,935,176**	**$1,953,038,793**	**$2,832,607,002**

* Source: Palm Beach TPA
^ Exclusive of TRCL Jupiter Extension
** Source: Tri-Rail Coastal Link Study, Preliminary Project Development Report, April 2014; Appendix 4: Capital Cost Methodology and Results.
*** Northeast Corridor Link Project Tax Increment Financing Analysis
****Source: Miami-Dade County Rail Opportunities report, 2015

Broward LRTP
Palm Beach LRTP
Miami-Dade LRTP
All three Counties
Miami-Dade SMART Plan

Source: SFRTA FY 2019–2028 Transit Development Plan, 2018 Major Update

- Avoid impacts altogether.
- Minimize a proposed activity / project size or its involvement.
- Rectify the impact by repairing, rehabilitating or restoring the affected environment.
- Reduce or eliminate the impact over time by preservation and continual maintenance during the timeframe of the action.
- Compensate for environmental impacts by providing appropriate or alternative environmental resources of equivalent or greater value, on or off-site.

A range of project-specific environmental mitigation strategies are then developed by the implementing agency in consultation with Federal, State and Tribal agencies as part of the PD&E process. Areas of potential impacts include wetlands and forested uplands, wildlife habitats, and streams and waterways.

Potential mitigation challenges include lack of funding for mitigation projects and programs, a shortage of available wetland mitigation bank credits, improperly assessing Everglades Wildlife Management Area cumulative impacts of projects, and permitting issues with regulatory agencies. In addition, the agencies responsible for the construction of any project listed or referenced within *Commitment 2045* have collaborative outreach processes in place to work with citizens, private sector and the MPO to select and implement the strategies that best minimize harmful environmental impacts unique to each project.

TRANSPORTATION SAFETY & SECURITY

Commitment 2045 identifies improving safety and security as key planning objectives for the Broward region. In addition, safety and security also are incorporated into the project prioritization process used to develop the 2045 Cost Feasible Plan. Examples of safety/security-related projects included in *Commitment 2045* include the following:

- Intersection capacity/safety/operational improvements on major evacuation routes
- Technology improvements in roadway and transit modes
- Roadway capacity expansion, including widening and interchange improvement projects on major evacuation routes

Safety

As part of the *Commitment 2045* MTP, a safety analysis was performed to identify and prioritize locations to be further evaluated for possible safety solutions. From 2013 to 2017, an estimated 7,650 crashes occurred in Broward County involving fatalities (954 crashes) or serious injuries (6,696 crashes). Maps 5-3, 5-4, 5-5, and 5-6 illustrate the top locations for future safety analysis based on a severity index developed for the Broward region. The severity index is a measure that looks at total crashes and crash severity. It uses a weighted average (higher score for incapacitating and fatal crashes) to develop an index that ranks locations in terms of their importance for future safety analysis and improvements.

The safety improvements identified through future studies will be eligible for funding allocated to the Systems Management/Safety Program, as discussed previously. MPO staff are coordinating with FDOT District 4 and other local partners to lead these studies in the near future.

Security

Federal requirements for metropolitan planning include consideration of security as a factor in the MTP. The planning process should provide for consideration and implementation of projects, strategies, and services that will increase the security of the transportation system for motorized and non-motorized users. Security goes beyond safety and includes planning to prevent, manage, or respond to threats of a region and its transportation system and users.

USDOT defines transportation system security as the freedom from intentional harm and tampering that affects both motorized and non-motorized travelers and may also include natural disasters. In addition to the possibility of man-made security issues, the Broward MPO planning area is highly vulnerable to hurricanes, floods, and other severe weather events.

Homeland Security – Attention to man-made and natural disaster security concerns has inevitably increased due to events such as September 11, 2001, and major hurricanes over the past 20 years. The vulnerability of the transportation system and its use in emergency evacuations have become key concerns for the Department of Homeland Security (DHS).

Established by DHS, the Urban Areas Security Initiative (UASI) focuses on enhancing regional preparedness in

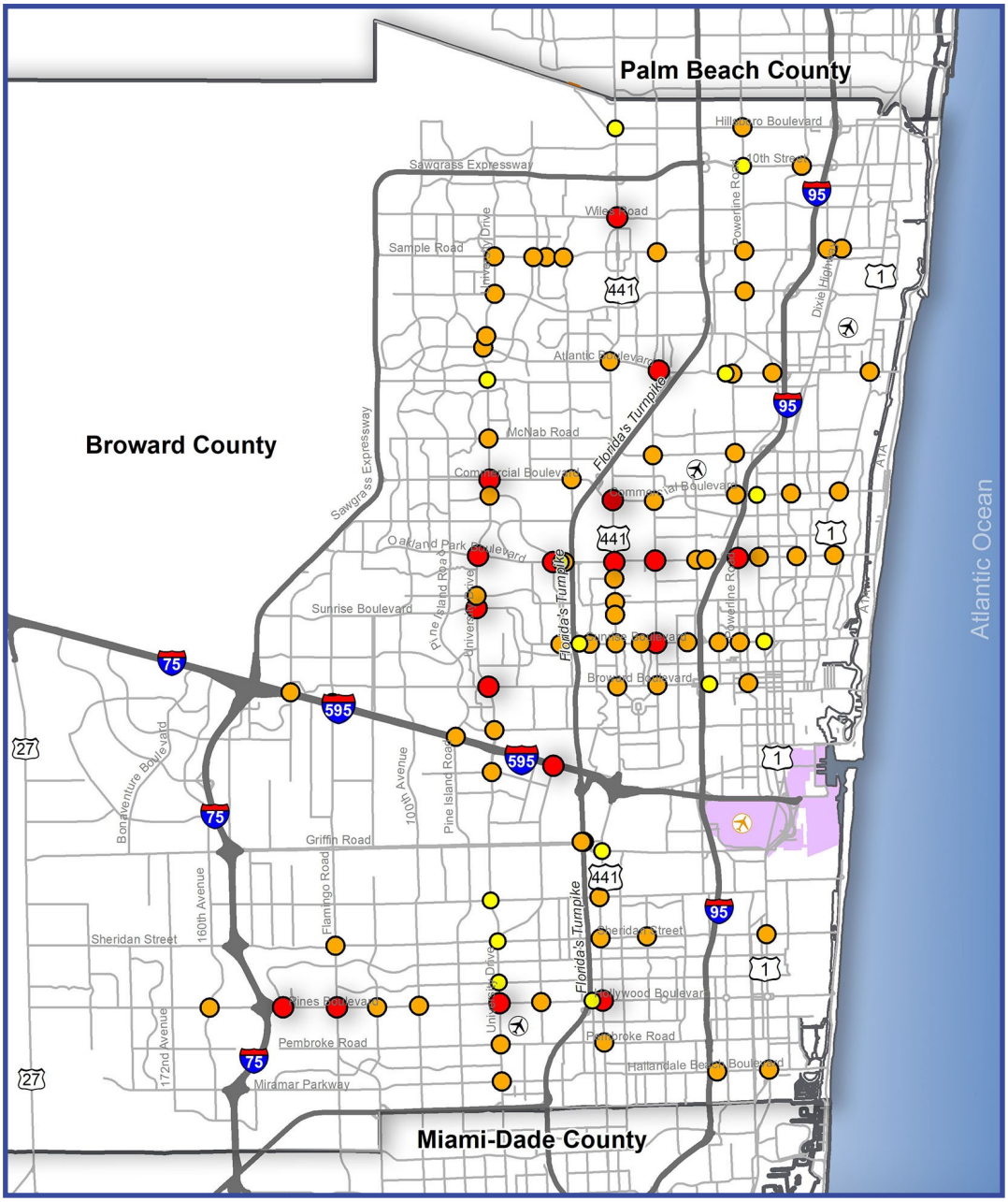
Map 5-3

Top Signalized Intersections for Future Safety Studies (State Roadways)

Top Intersections by Severity Index

- 462-500
- 501-750
- >750

- Interstates
- Major Roads
- Fort Lauderdale-Hollywood International Airport
- Other Broward County Airports
- Port Everglades



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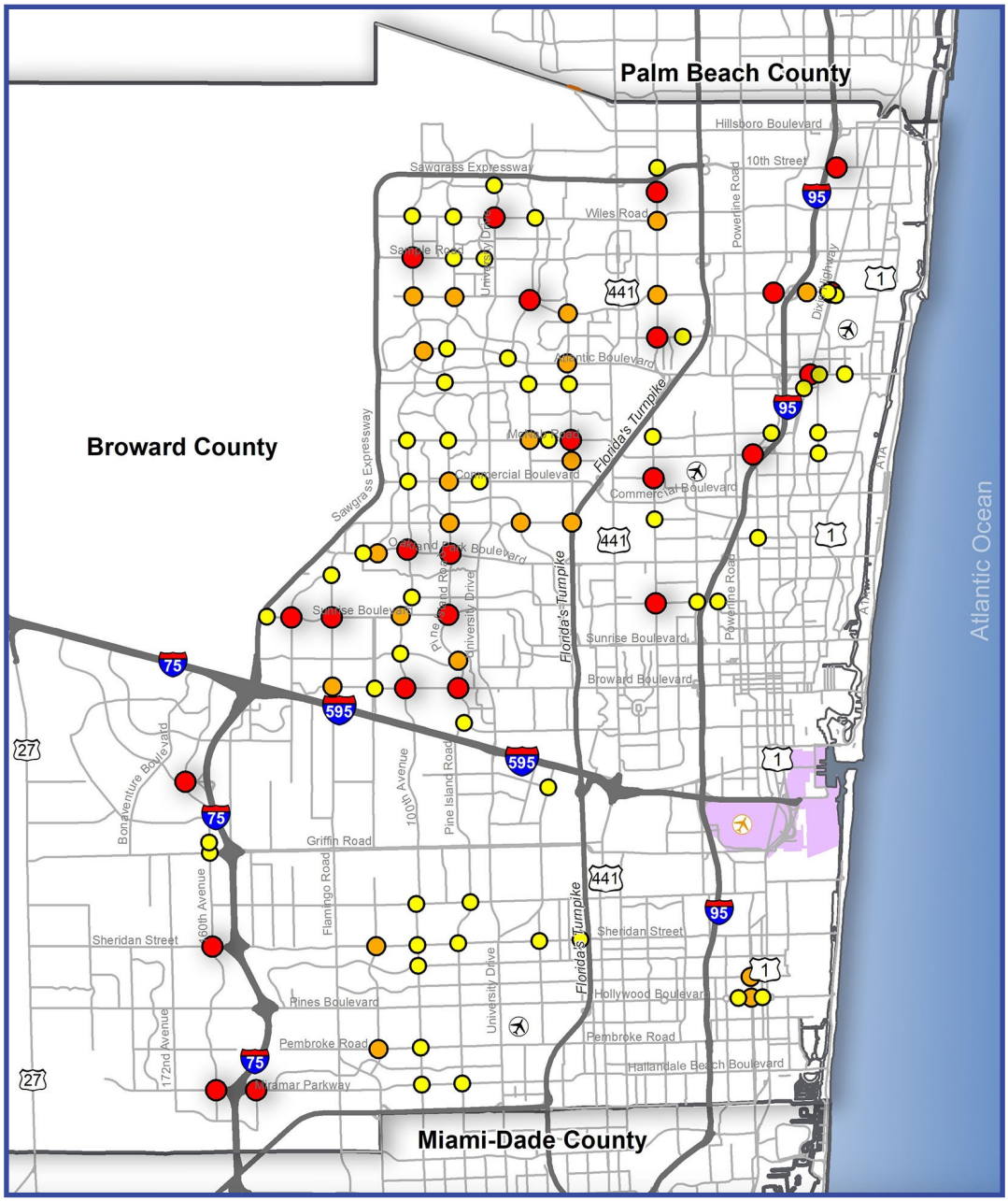
Map 5-4

Top Signalized Intersections for Future Safety Studies (Non-State Roadways)

Top Intersections by Severity Index

- 200-299
- 300-399
- >400

- Interstates
- Major Roads
- Fort Lauderdale-Hollywood International Airport
- Other Broward County Airports
- Port Everglades



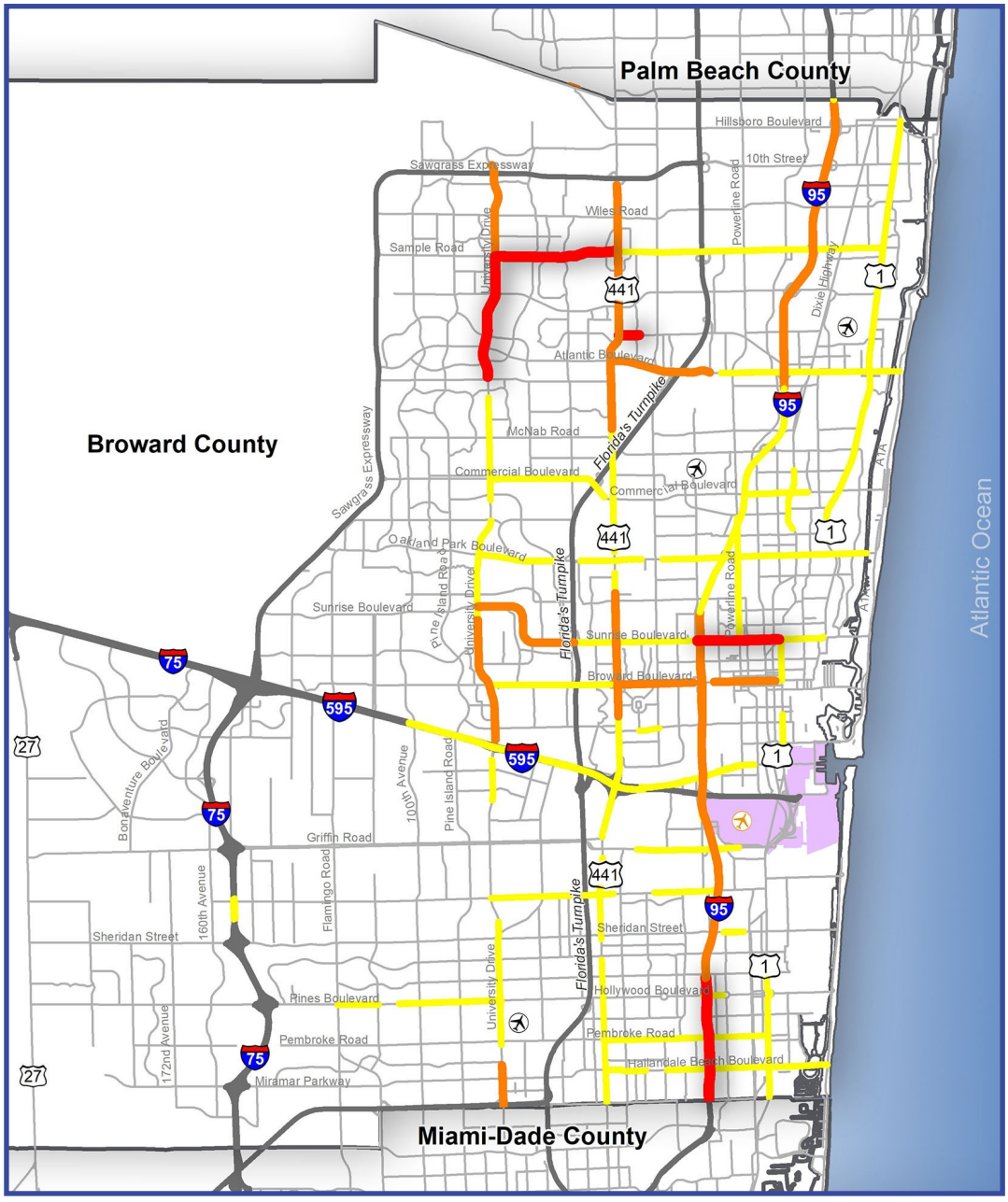
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Map 5-5
Top Corridors for Future Safety Studies
(State Roadways)

Top Corridors by Severity Index per Mile

- 100-200
- 201-300
- >300

- Interstates
- Major Roads
- Fort Lauderdale-Hollywood International Airport
- Other Broward County Airports
- Port Everglades



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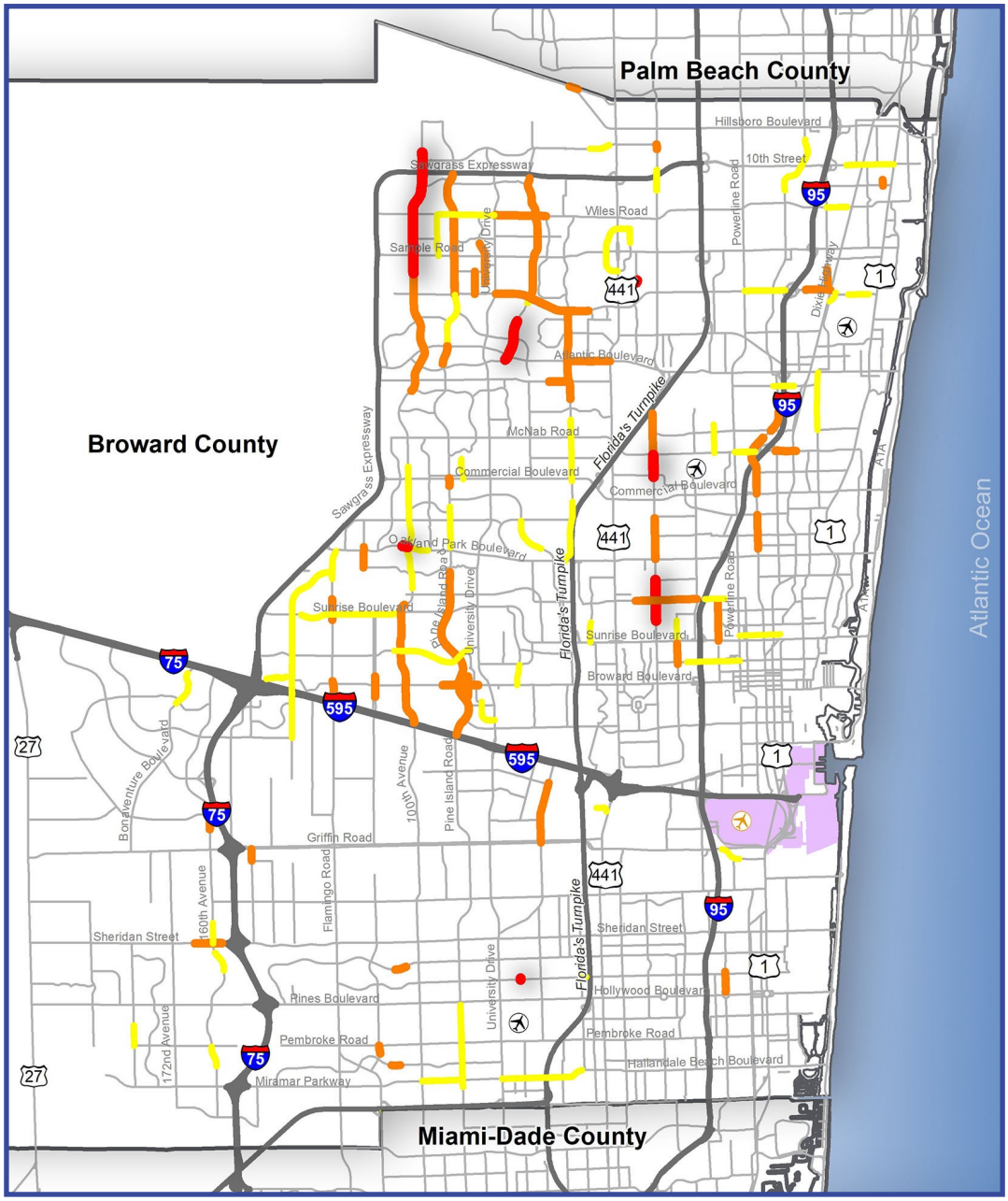
Map 5-6

Top Corridors for Future Safety Studies (Non-State Roadways)

Top Corridors by Severity Index per Mile

- 50-75
- 76-150
- >150

- Interstates
- Major Roads
- Fort Lauderdale-Hollywood International Airport
- Other Broward County Airports
- Port Everglades



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major metropolitan areas. The Miami/Fort Lauderdale UASI was established to coordinate with the Florida Division of Emergency Management on expanding regional collaboration and developing integrated regional systems for prevention, protection, response, and recovery.

MPO Security Strategies – Numerous MPO strategies integrate security aspects into the metropolitan planning process of the MPO, including the following:

- Identify and implement transportation projects that add alternate routes and connections.
- Coordinate with Broward County on implementing mitigation actions related to the multimodal transportation network.
- Coordinate/partner with local and regional agencies to incorporate transportation security into regional and local projects and plans.
- Identify and implement traffic and transit technologies to improve communications during hazards/events.

GOODS MOVEMENT

The MPO's Freight Transportation Advisory Committee (FTAC) includes members who are directly involved in the movement, storage, and distribution of freight and represent a broad spectrum of the freight community, including warehouse owners, industrial realtors, shipping companies, trucking companies and organizations, railroads, freight forwarders, importer/exporters, and truck parking and distribution companies.

The MPO established the FTAC to provide a forum for an open dialogue in which the freight community can gain insight into the MPO's decisions and upcoming projects and provide much-needed industry input to decision-makers regarding freight transportation priorities and expenditures. As a result, the FTAC played a critical role in reviewing the progress of the *Commitment 2045* MTP and its contribution to the movement of freight. Its input resulted in a change to the first MPO goal to directly reflect the movement of people and goods.

Numerous transportation improvements that increase roadway capacity are included in the 2045 Cost Feasible Plan to support movement of people and goods in the Broward region. Types of projects include roadway capacity improvements on interstates, toll roads, primary arterials, interchanges, and major intersections.

2045 EQUITY ASSESSMENT SUMMARY

The equity assessment performed for the 2045 Needs Plan was then performed for the 2045 Cost Feasible Plan to understand potential equity impacts of the funded transit and highway projects.

In general, the same trends observed for the 2045 Needs Plan are also observed for the 2045 Cost Feasible Plan, indicating that there are no significantly different benefits or potential impacts to the equity areas vs. non-equity areas based on the funded transit and highway projects.

Figures 5-5, 5-6, and 5-7 summarize the trends observed in the 2045 Cost Feasible Plan equity assessment for Goals 1, 2, and 3, respectively.

Observed differences in the equity assessment completed for the 2045 Needs Plan and 2045 Cost Feasible Plan are summarized below.

Performance Measures for Goal 1:

Move People & Goods:

- *Congestion Management* – similar trends were observed for the 2045 Needs vs. Cost Feasible systems, although the percentage of other roadways (non-freeway, uninterrupted roads, and high-speed arterials) operating at or above the level of service (LOS) standard for the AM peak period is reduced in equity areas.
- *Safety* – serious crashes increase with growth in travel, but performance measures generally did not change when comparing the 2045 Needs and Cost Feasible Plans.
- *Delay* – the level of delay worsens with the 2045 Cost Feasible Plan in both equity areas and non-equity areas; however, the delay is slightly worse in equity areas (as opposed to slightly better for equity areas in the 2045 Needs Plan system).
- *Percent of Mode Share* – the percent of transit mode share resulting from the 2045 Cost Feasible Plan is significantly lower than compared to the 2045 Needs Plan and is reduced proportionally across equity areas and non-equity areas.
- *Transit Supply* – the average transit system service headways and annual revenue hours of service per capita perform slightly better in non-equity areas compared to equity areas for the 2045 Cost Feasible

Plan.

- *Transit Used* – passenger trips do not increase as much in the 2045 Cost Feasible Plan compared to the 2045 Needs Plan for both equity and non-equity areas, which is expected given that fewer transit projects are funded than needs identified. However, the metrics generally performed better for non-equity areas in the 2045 Cost Feasible Plan and were achieved for the passenger trips per revenue hour metric for non-equity areas.
- *System Capacity* – the proposed miles of dedicated transitways are not funded in the 2045 Cost Feasible Plan. Lane miles have minimal increases across the board with a slightly higher increase in non-equity areas.

Performance Measures for Goal 2:

Create Jobs:

- *Number of New Jobs* – the number of new jobs is not influenced by the funded projects and is assumed the same for the 2045 Needs Plan and 2045 Cost Feasible Plan. Performance measures related to percent of employment within ¼-mile of transit service and the average auto and transit travel times to employment centers were fairly consistent for both equity areas and non-equity areas. However, the percent of employment within ¼-mile of premium transit service (defined as >50% fixed guideway) was reduced significantly in the 2045 Cost Feasible Plan based on the premium transit projects identified for funding. The increase in this performance measure is greater in equity areas than non-equity areas, which is expected given that the highest priority premium transit projects are located within equity areas.

Performance Measures for Goal 3: Strengthen Communities:

- The performance measures related to transit access, vehicle miles of travel (VMT), vehicle hours of travel (VHT), and air quality generally did not change when comparing the 2045 Needs and Cost Feasible Plans and the results were very similar when comparing equity areas vs. non-equity areas.

Figure 5-5: 2045 Cost Feasible Plan Equity Assessment (Goal 1: Move People & Goods)

MEASURE AREA	2045 COST FEASIBLE PLAN	EQUITY ANALYSIS RESULTS
Congestion Management	Generally congestion is worse	Generally similar performance
Safety	Serious crashes increase with growth in travel – Targets not achieved	Generally similar performance
Delay	Delay is worse	Slightly more delay in **equity** areas
Mode Share	Fewer SOV trips and more transit trips – Not all targets achieved	Greater increase in **non-equity** areas
Transit Supply	More transit is provided – Targets not achieved	Generally similar performance
Transit Used	More transit is used – Not all targets achieved	Greater improvement in **non-equity** areas
System Capacity	Slightly more roadway capacity is provided – Not all targets achieved	Greater improvement in **non-equity** areas

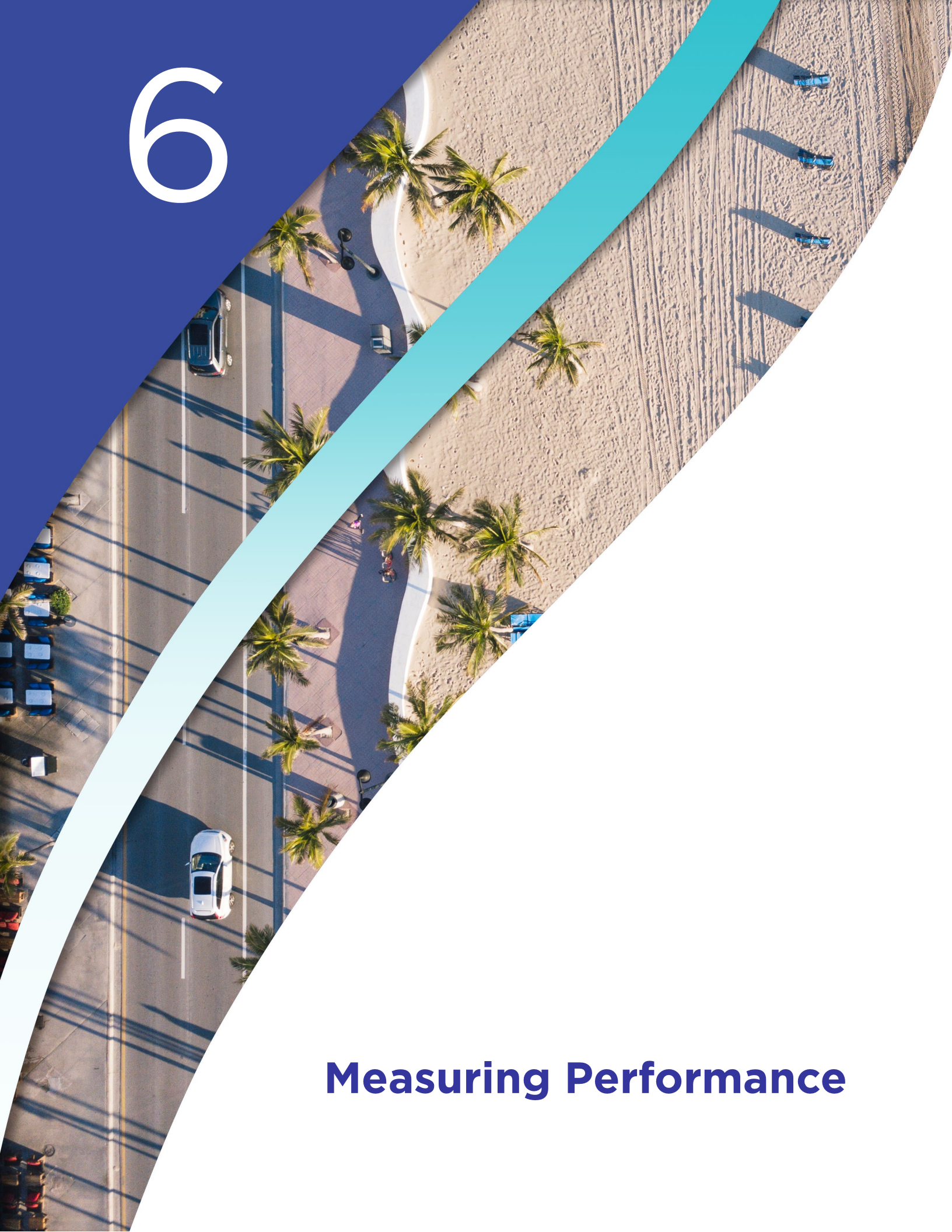
Figure 5-6: 2045 Cost Feasible Plan Equity Assessment (Goal 2: Create Jobs)

MEASURE AREA	2045 COST FEASIBLE PLAN	EQUITY ANALYSIS RESULTS
Number of New Jobs	New jobs created – Target achieved	Generally similar performance
Access to Jobs	All measures improved – Not all targets achieved	Generally similar performance for average travel time to work Access to jobs by premium transit in **equity** areas

Figure 5-7: 2045 Cost Feasible Plan Equity Assessment (Goal 3: Strengthen Communities)

MEASURE AREA	2045 COST FEASIBLE PLAN	EQUITY ANALYSIS RESULTS
Transit Access	All measures improved – Not all targets achieved	Access to transit service in **equity** areas
Vehicle Miles Traveled (VMT)	VMT minimal increase – Targets maintained	Generally similar performance; slightly reduced in equity areas
Vehicle Hours Traveled (VHT)	VHT increases – Target not maintained	Slightly lower increase in **equity** areas
Air Quality	Fewer emissions produced – Targets achieved	Generally similar performance

6



Measuring Performance



Commitment 2045 MTP establishes the benchmark for the federally-required performance measures and targets. The performance measures established by Commitment 2045 will be further used for advancing projects into the TIP to ensure the continuation of performance-based planning.

Through requirements in the most recent transportation funding bills, MAP-21 and the FAST Act, the US government is transitioning to a performance-based program that includes establishing national performance goals for Federal-aid highway programs and incorporating performance goals, measures, and targets into the process of identifying needed improvements and project selection at the MPO level. Performance measures are being implemented to improve the investment efficiency of Federal transportation funds, refocus investments on national transportation goals, increase the accountability and transparency of the Federal-aid highway program, and improve decision-making through performance-based planning and programming.

This chapter addresses two categories of performance measures used in *Commitment 2045* to assess its performance—federally-required performance measures and regional performance measures identified by the MPO. Outside the MTP process, the MPO will annually monitor and document the federally-required performance measures in the MPO's State of the System Performance Report included in the Transportation Improvement Program (TIP).

FEDERAL PERFORMANCE MEASURES & SYSTEM PERFORMANCE REPORT

Pursuant to MAP-21, enacted in 2012, and the FAST Act, enacted in 2015, state DOTs and MPOs must apply a transportation performance management approach in carrying out their federally-required transportation planning and programming activities. The process requires the establishment and use of a coordinated, performance-based approach to transportation decision-making to support national goals for the Federal-aid highway and public transportation programs.

On May 27, 2016, FHWA and FTA issued the Final Rule on Statewide and Nonmetropolitan Transportation Planning and Metropolitan Transportation Planning (Planning Rule). This rule details how state DOTs and MPOs must implement new MAP-21 and FAST Act transportation planning requirements, including transportation performance management provisions.

In accordance with the Planning Rule, the Broward MPO must include a description of the performance measures and targets that apply to the MPO planning area and a System Performance Report as an element of the MTP. The System Performance Report evaluates the condition and performance of the transportation system with respect to required performance targets and reports on progress achieved in meeting the targets in comparison with baseline data and previous reports.

There are several milestones related to the required content of the System Performance Report:

- In any LRTP adopted on or after May 27, 2018, the System Performance Report must reflect Highway Safety (PM1) measures.
- In any LRTP adopted on or after October 1, 2018, the System Performance Report must reflect Transit Asset Management measures.
- In any LRTP adopted on or after May 20, 2019, the System Performance Report must reflect Pavement and Bridge Condition (PM2) and System Performance (PM3) measures.
- In any LRTP adopted on or after July 20, 2021, the System Performance Report must reflect Transit Safety measures.

Commitment 2045 was adopted on December 12, 2019. Per the Planning Rule, the System Performance Report for the Broward MPO includes the required Highway Safety (PM1), Bridge and Pavement (PM2), System Performance (PM3), and Transit Asset Management sections. An introduction to the Transit Safety measures is provided at the end of the System Performance Report; however, as safety targets were not adopted prior to the MTP, a discussion of these targets and progress achieved is not possible.

Highway Safety Measures (PM1)

Statewide targets for highway-related measures were adopted by FDOT on August 31, 2018, and the MPO agreed to plan and program projects so they contribute toward the accomplishment of FDOT targets. The Broward MPO adopted FDOT's PM1 targets on November 14, 2018.

Table 6-1 shows the areas in which the MPO is expressly supporting the statewide target developed by FDOT.

Statewide system conditions for each safety performance measure are shown in Table 6-2 with the system conditions in the Broward MPO metropolitan planning area. These conditions reflect baseline performance, which for this first report is the same as the current reporting period (2013–2017). The safety conditions will be updated annually on a rolling five-year window and reflected in each subsequent system performance report to track performance over time in relation to baseline conditions and established targets.

Baseline Conditions

To evaluate baseline Safety Performance Measures, the most recent five-year rolling average (2013–2017) of crash data and Vehicle Miles Traveled (VMT) were used. Table 6-3 presents the Baseline Safety Performance Measures for Florida and the Broward MPO.

Table 6-1: Highway Safety (PM1) Targets

Performance Target	Broward MPO agrees to plan and program projects so they contribute toward the accomplishment of the FDOT safety target of zero
Number of Fatalities	✓
Rate of Fatalities per 100 Million Vehicle Miles Traveled (VMT)	✓
Number of Serious Injuries	✓
Rate of Serious Injuries per 100 Million VMT	✓
Number of Non-Motorized Fatalities/Non-Motorized Serious Injuries	✓

Table 6-2: Highway Safety (PM1) Conditions and Performance

Performance Measure	Florida Statewide Baseline Performance (Five-Year Rolling Average 2013–2017)	Calendar Year 2019 Florida Performance Targets (Vision 0)
Number of Fatalities	2,685.6	0
Rate of Fatalities per 100 Million Vehicle Miles Traveled (VMT)	1.3	0
Number of Serious Injuries	20,830.0	0
Rate of Serious Injuries per 100 Million VMT	10.2	0
Number of Non-Motorized Fatalities/Non-Motorized Serious Injuries	3,253.0	0

Table 6-3: Baseline Safety Performance Measures

Performance Measure	Florida (Five-Year Rolling Average 2013–2017)	Broward MPO (Five-Year Rolling Average 2013–2017)
Number of Fatalities	2,685.6	206.6
Rate of Fatalities per 100 Million Vehicle Miles Traveled (VMT)	1.3	1.228
Number of Serious Injuries	20,830.0	1,633.8
Rate of Serious Injuries per 100 Million VMT	10.2	9.782
Number of Non-Motorized Fatalities/Non-Motorized Serious Injuries	3,253.0	333.0

Trend Analysis

The MPO uses crash data tracking fatalities and serious injuries in Broward county to analyze past trends and identify regional safety issues. Tracking these measures will help to estimate the effectiveness of future MPO transportation investment, as reflected in the TIP. Table 6-4 shows the changes in Safety Performance Measures for the Broward MPO from 2013 through 2017. The measures shown in Table 6-4 were calculated by following the same methodology as that used to calculate the baseline conditions.

Coordination with Statewide Safety Plans and Processes

The Broward MPO recognizes the importance of linking goals, objectives, and investment priorities to established performance objectives and that this link is critical to the achievement of national transportation goals and statewide and regional performance targets. As such, *Commitment 2045* reflects the goals, objectives, performance measures, and targets as they are available and described in other State and public transportation plans and processes, specifically the Florida Strategic Highway Safety Plan (SHSP), the Florida Highway Safety Improvement Program (HSIP), and the Florida Transportation Plan (FTP).

- The 2016 Florida SHSP focuses on how to accomplish the vision of eliminating fatalities and reducing serious injuries on all public roads. It was developed in coordination with Florida's 27 MPOs through Florida's MPO Advisory Council (MPOAC). The SHSP guides FDOT, MPOs, and other safety partners in addressing safety and defines a framework for implementation activities to be carried out throughout the state.
- The Florida HSIP process provides for a continuous and systematic process that identifies and reviews traffic safety issues around the state to identify locations with potential for improvement. The goal of the HSIP process is to reduce the number of crashes, injuries, and fatalities by eliminating certain predominant types of crashes through the implementation of engineering solutions.
- Transportation projects are identified and prioritized with the MPOs and nonmetropolitan local governments. Data are analyzed for each potential project using traffic safety data and traffic demand modeling, among other data. The *FDOT Project Development and Environment Manual* requires the consideration of safety when preparing a proposed project's purpose and need and defines several factors related to safety, including crash modification factors and safety performance factors, as part of the analysis of alternatives. MPOs and local governments consider safety data analysis when determining project priorities.

MTP Safety Priorities

Commitment 2045 increases the safety of the transportation system for motorized and non-motorized users as required. The MTP aligns with the Florida SHSP and HSIP with specific strategies to improve safety performance focused on prioritized safety projects, pedestrian and/or bicycle safety enhancements, and traffic operation improvements to address our goal to reduce fatalities and serious injuries.

Table 6-4: Trends of Broward Safety Performance Measures 2013–2017

Performance Measure	2009–2013	2010–2014	2011–2015	2012–2016	2013–2017
Number of Fatalities	178.4	175.0	183.0	198.6	206.6
Number of Serious Injuries	2,080.6	2,003.8	1,888.6	1,776.6	1,633.8
Fatality Rate per 100 million VMT	1.009	1.074	1.109	1.199	1.228
Serious Injury Rate per 100 million VMT	12.801	12.277	11.446	10.801	9.782
Total Number of Non-Motorized Fatalities and Serious Injuries	351.4	350.4	341.2	351.8	333.0
VMT (100 MVMT)	162.710	163.403	165.204	165.202	167.814

The MTP identifies safety needs within the metropolitan planning area and provides funding for targeted safety improvements. The adopted goals and objectives for this MTP include Goal 1, Move People & Goods, which includes Objective 1-6, Improve system safety and security for all users. To satisfy this objective, the MPO developed a project selection process that identifies safety as one of the six planning factors by which projects are scored and accounts for up to 20% of the project's total score. Through the MTP, a funding program is established specifically for Systems Management and Safety projects, to which 15% of available revenues were allocated. Two additional funding programs, Complete Streets and Other Localized Initiatives and Complete Streets Master Plan, are dedicated to improving multimodal travel conditions within Broward County and, by default, focus on safety of all road users.

Commitment 2045 will provide information from the FDOT HSIP annual reports to track the progress made toward the statewide safety performance targets. The MPO will document the progress on any safety performance targets established by the MPO for its planning area.

Pavement and Bridge Condition Measures (PM2)

In January 2017, USDOT published the Final Rule on Pavement and Bridge Condition Performance Measures, also referred to as the PM2 Rule. This rule establishes the following six performance measures:

1. Percent of Interstate pavements in good condition
2. Percent of Interstate pavements in poor condition
3. Percent of non-Interstate National Highway System (NHS) pavements in good condition
4. Percent of non-Interstate NHS pavements in poor condition
5. Percent of NHS bridges (by deck area) classified as in good condition
6. Percent of NHS bridges (by deck area) classified as in poor condition

For pavement measures, five pavement metrics are used to assess condition:

- International Roughness Index (IRI) – an indicator of roughness; applicable to all asphalt and concrete pavements
- Cracking percent – percentage of pavement surface exhibiting cracking; applicable to all asphalt and concrete pavements
- Rutting – extent of surface depressions; applicable to asphalt pavements
- Faulting – vertical misalignment of pavement joints; applicable to certain types of concrete pavements
- Present Serviceability Rating (PSR) – quality rating applicable only to certain lower speed roads

For each pavement metric, a threshold is used to establish good, fair, or poor condition. Pavement condition is assessed for each 0.1-mile section of the through travel lanes of mainline highways on the Interstate or the non-Interstate NHS using these metrics and thresholds. A pavement section is rated as good if all three metric ratings are good and poor if two or more metric ratings are poor. Sections that are not good or poor are considered fair.

The good/poor measures are expressed as a percentage and are determined by summing the total lane-miles of good or poor highway segments and dividing by the total lane-miles of all highway segments on the applicable system. Pavement in good condition suggests that no major investment is needed and should be considered for preservation treatment. Pavement in poor condition suggests major reconstruction investment is needed due to either ride quality or a structural deficiency.

Bridge condition measures refer to the percentage of bridges by deck area on the NHS that are in good or poor condition. The measures assess the condition of four bridge components—deck, superstructure, substructure, and culverts. Each component has a metric rating threshold to establish good, fair, or poor condition. Each bridge on the NHS is evaluated using these ratings. If the lowest rating of the four metrics is greater than or equal to 7, the structure is classified as good. If the lowest rating is less than or equal to 4, the structure is classified as poor. If the lowest rating is 5 or 6, it is classified as fair.

The bridge measures are expressed as the percent of NHS bridges in good or poor condition. The percent is determined by summing the total deck area of good or poor NHS bridges and dividing by the total deck area of the bridges carrying the NHS. Deck area is computed using structure length and either deck width or approach roadway width.

A bridge in good condition suggests that no major investment is needed. A bridge in poor condition is safe to drive on but is nearing a point where substantial reconstruction or replacement is needed.

Pavement and Bridge Condition Baseline Performance and Established Targets

This System Performance Report discusses the condition and performance of the transportation system for each applicable target and the progress achieved by the MPO in meeting these targets in comparison with system performance recorded in previous reports. Because the Federal performance measures are new, performance of the system for each measure only recently has been collected and targets only recently have been established. Accordingly, this first MTP System Performance Report highlights performance for the baseline period of 2017. FDOT will continue to monitor and report performance on a biennial basis. Future System Performance Reports will discuss progress towards meeting the targets since this initial baseline report.

Table 6-5 presents baseline performance for each PM2 measure for the state and for the MPO planning area as well as the two-year and four-year targets established by FDOT for the state.

FDOT established statewide PM2 targets on May 18, 2018. In determining its approach to establishing performance targets for the Federal pavement and bridge condition performance measures, FDOT considered many factors. FDOT is mandated by Florida Statute 334.046 to preserve the state's pavement and bridges to specific standards. To adhere to the statutory guidelines, FDOT prioritizes funding allocations to ensure that the current transportation system is adequately preserved and maintained before funding is allocated for capacity improvements. These statutory guidelines envelope the statewide Federal targets that have been established for pavements and bridges.

In addition, MAP-21 requires FDOT to develop a Transportation Asset Management (TAM) Plan for all NHS pavements and bridges within the state. The TAM Plan must include investment strategies leading to a program of projects that would make progress toward achievement of the state DOT targets for asset condition and performance of the NHS. FDOT's TAM Plan was updated to reflect MAP-21 requirements in 2018.

Federal pavement condition measures also require a new methodology that is a departure from the methods currently used by FDOT and uses different ratings and pavement segment lengths. For bridge condition, performance is measured in deck area under the Federal measure, whereas FDOT programs its bridge repair or replacement work on a bridge-by-bridge basis. As such, the Federal measures are not directly comparable to the methods that are most familiar to FDOT.

In consideration of these differences and the unfamiliarity associated with the new required processes, FDOT took a conservative approach when setting its initial pavement and bridge condition targets.

Table 6-5: Pavement and Bridge Condition – Performance Measures and Targets

Performance Measures	Statewide Performance (2017 Baseline)	Broward Performance (2017 Baseline)	Statewide 2-Year Target (2019)	Statewide 4-Year Target (2021)
Percent of Interstate pavements in good condition	66%	76.6%	n/a	60%
Percent of Interstate pavements in poor condition	0.1%	0.0%	n/a	5%
Percent of non-Interstate NHS pavements in good condition	76.4%	38.4%	40%	40%
Percent of non-Interstate NHS pavements in poor condition	3.6%	0.4%	5%	5%
Percent of NHS bridges by deck area in good condition	67.7%	79.1%	50%	50%
Percent of NHS bridges by deck area in poor condition	1.2%	0.0%	10%	10%

Coordination with Statewide Plans

The Broward MPO recognizes the importance of linking goals, objectives, and investment priorities to established performance objectives and that this link is critical to the achievement of national transportation goals and statewide and regional performance targets. As such, the MTP reflects the goals, objectives, performance measures, and targets as they are described in other State and public transportation plans and processes, including the Florida Transportation Plan (FTP) and the Florida Transportation TAM Plan.

- The FTP is the single overarching statewide plan guiding Florida's transportation future. It defines the State's long-range transportation vision, goals, and objectives and establishes the policy framework for the expenditure of State and Federal funds flowing through FDOT's work program. One of the seven goals defined in the FTP is Agile, Resilient, and Quality infrastructure.
- The Florida TAM Plan explains the processes and policies affecting pavement and bridge condition and performance in the state. It presents a strategic and systematic process of operating, maintaining, and improving these assets effectively throughout their life cycle.

The MTP seeks to address system preservation, identifies infrastructure needs within the metropolitan planning area, and provides funding for targeted improvements. Goal 1, Move People & Goods, includes Objective 1-1, Maintain infrastructure, and identifies the PM2 performance measures and targets as the measures for determining achievement. The project prioritization criteria for this MTP included pavement and bridge condition criteria for scoring projects.

On or before October 1, 2020, FDOT will provide FHWA and the Broward MPO with a detailed report of pavement and bridge condition performance covering January 1, 2018, to December 31, 2019. FDOT and the Broward MPO also will have the opportunity at that time to revisit the four-year PM2 targets.

System Performance, Freight, and Congestion Mitigation & Air Quality Improvement Program Measures (PM3)

In January 2017, USDOT published the Final Rule on System Performance/Freight/CMAQ Performance Measures to establish measures to assess passenger and freight performance on the Interstate and non-Interstate NHS and traffic congestion and on-road mobile source emissions in areas that do not meet federal National Ambient Air Quality Standards (NAAQS). The rule, referred to as the PM3 Rule, requires MPOs to set targets for the following six performance measures.

National Highway Performance Program (NHPP)

1. Percent of person-miles on Interstate system that are reliable (Level of Travel Time Reliability) (LOTTR)
2. Percent of person-miles on non-Interstate NHS that are reliable (LOTTR)

National Highway Freight Program (NHFP)

3. Truck Travel Time Reliability index (TTTR)

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

4. Annual hours of peak-hour excessive delay per capita (PHED)
5. Percent of non-single occupant vehicle (SOV) travel
6. Cumulative 2- and 4-year reduction of on-road mobile source emissions (NOx, VOC, CO, PM10, and PM2.5) for CMAQ-funded projects

In Florida, only the two LOTTR performance measures and the TTTR performance measure apply. Because all areas in Florida meet current NAAQS, the last three measures listed pertaining to the CMAQ Program do not currently apply in Florida.

LOTTR is defined as the ratio of longer travel times (80th percentile) to a normal travel time (50th percentile) over all applicable roads during four time periods (AM peak, Mid-day, PM peak, and weekends) that cover the hours of 6:00 am to 8:00 pm each day. The LOTTR ratio is calculated for each roadway segment, essentially comparing the segment with itself. Segments with LOTTR ≥ 1.50 during any of the above time periods are considered

unreliable. The two LOTTR measures are expressed as the percent of person-miles traveled on the Interstate or non-Interstate NHS system that are reliable. Person-miles take into account the number of people traveling in buses, cars, and trucks over these roadway segments. To obtain person miles traveled, the vehicle miles traveled (VMT) for each segment are multiplied by the average vehicle occupancy for each type of vehicle on the roadway. To calculate the percent of person miles traveled that are reliable, the sum of the number of reliable person miles traveled is divide by the sum of total person miles traveled.

TTTR is defined as the ratio of longer truck travel times (95th percentile) to a normal travel time (50th percentile) over the Interstate during five time periods (AM peak, Mid-day, PM peak, weekend, and overnight) that cover all hours of the day. TTTR is quantified by taking a weighted average of the maximum TTTR from the five time periods for each Interstate segment. The maximum TTTR is weighted by segment length, then the sum of the weighted values are divided by the total Interstate length to calculate the Travel Time Reliability Index.

Data used to calculate these PM3 measures are provided by FHWA via the National Performance Management Research Data Set (NPMRDS), which contains travel times, segment lengths, and Annual Average Daily Travel (AADT) for Interstate and non-Interstate NHS roads.

PM3 Baseline Performance and Established Targets

The System Performance Report discusses the condition and performance of the transportation system for each applicable PM3 target and the progress achieved by the MPO in meeting targets in comparison with system performance recorded in previous reports. Because the Federal performance measures are new, performance of the system for each measure only recently has been collected and targets only recently have been established. Accordingly, this first MTP System Performance Report highlights performance for the baseline period of 2017. FDOT will continue to monitor and report performance on a biennial basis. Future System Performance Reports will discuss progress towards meeting the targets since this initial baseline report.

Table 6-6 presents baseline performance for each PM3 measure for the state and for the MPO planning area and the two- and four-year targets established by FDOT for the state.

FDOT established the statewide PM3 targets on May 18, 2018. In setting these targets, FDOT reviewed external and internal factors that may affect reliability, conducted a trend analysis for the performance measures, and developed a sensitivity analysis indicating the level of risk for road segments to become unreliable within the time period for setting targets. One key conclusion from this effort is that there is a lack of availability of extended historical data with which to analyze past trends and a degree of uncertainty about future reliability performance. Accordingly, FDOT took a conservative approach when setting its initial PM3 targets.

The Broward MPO agreed to support FDOT's PM3 targets on November 14, 2018. By adopting FDOT's targets, the Broward MPO agrees to plan and program projects that help FDOT achieve these targets.

Transit Asset Management Measures

On July 26, 2016, FTA published the Final Rule on Transit Asset Management (TAM), which applies to all recipients and subrecipients of Federal transit funding that own,

Table 6-6: Performance of NHS & Freight Movement on Interstate System – Performance Measures and Targets

Performance Measures	Statewide Performance (2017 Baseline)	Broward Performance (2017 Baseline)	Statewide 2-Year Target (2019)	Statewide 4-Year Target (2021)
Percent of person-miles on Interstate system that are reliable (Interstate Level of Travel Time Reliability [LOTTR])	82.2%	67%	75.0%	70%
Percent of person-miles on non-Interstate NHS that are reliable (Non-Interstate LOTTR)	84.0%	80%	n/a	50%
Truck Travel Time Reliability (TTTR)	1.43	1.81	1.75	2.00

operate, or manage public transportation capital assets. The TAM Rule defines the term "state of good repair," requires that public transportation providers develop and implement TAM plans, and establishes state of good repair standards and performance measures for four asset categories—transit equipment, rolling stock, transit infrastructure, and facilities. The TAM Rule became effective on October 1, 2018. Table 6-7 identifies performance measures outlined in the TAM Rule.

For equipment and rolling stock classes, useful life benchmark (ULB) is defined as the expected lifecycle of a capital asset or the acceptable period of use in service, for a particular transit provider's operating environment. ULB considers a provider's unique operating environment such as geography and service frequency and is not the same as an asset's useful life.

The MPO has three transit providers operating in the region—BCT, SFRTA, and the City of Fort Lauderdale Transportation Management Association (TMA), which operates the Sun Trolley. All are Tier I providers and, as such, must develop a TAM Plan. BCT's TAM Plan includes the following Tier II transit providers: Coconut Creek, Coral Springs, Dania Beach, Davie, Deerfield Beach, Hallandale Beach, Hillsboro Beach, Hollywood, Lauderdale-By-The-Sea, Lauderdale Lakes, Lighthouse Point, Margate, Miramar, Pembroke Pines, Pompano Beach, Tamarac, and West Park.

On November 14, 2018, the Broward MPO established transit asset targets for the MPO planning area. These targets were established in consultation with and reflect the targets established by BCT, SFRTA and the City of Fort Lauderdale through their TAM plans. The targets for rolling stock, particularly buses and vans, reflects a composite of all transit agency targets. In instances in which targets applied to one specific agency, such as locomotives and track restrictions, the MPO adopted that agency's target.

The transit asset management targets are based on the condition of existing transit assets and planned investments in equipment, rolling stock, infrastructure, and facilities. The targets reflect the most recent data available on the number, age, and condition of transit assets, as well as expectations and capital investment plans for improving these assets. Table 6-8 summarizes existing conditions for the most recent year available and the targets.

Transit Safety Performance

FTA published the Final Rule on Public Transportation Agency Safety Plan (PTASP) and related performance measures as authorized in MAP-21. The PTASP Rule requires operators of public transportation systems that receive Federal financial assistance to develop and implement a PTASP based on a safety management systems approach. Development and implementation of PTSAPs is anticipated to help ensure that public transportation systems are safe nationwide.

The PTASP Rule was published on July 19, 2018, with an effective date of July 19, 2019. Transit operators subject to the rule must have a PTASP and safety targets in place by July 20, 2020. On January 27, 2021, the Broward MPO established the initial transit safety targets for the MPO planning area. On December 9, 2021, the Broward MPO again established transit safety targets. These targets were established in consultation with and reflect only the targets established by BCT, through their Public Transportation Agency Safety Plan. SFRTA, the commuter rail operator in the MPO's planning area is not subject to the PTASP rule because they are governed by the safety rules of the Federal Railroad Administration. Table 6-9 summarizes existing conditions for the most recent year available and the targets.

Transit Safety Performance Measures

The transit agencies will set targets in their PTASPs based on the safety performance measures established in the National Public Transportation Safety Plan (NPTSP). The required safety performance measures are:

1. Total number of reportable fatalities
2. Rate of reportable fatalities per total vehicle revenue miles by mode
3. Total number of reportable injuries
4. Rate of reportable injuries per total vehicle revenue miles by mode
5. Total number of reportable safety events
6. Rate of reportable events per total vehicle revenue miles by mode
7. System reliability – mean distance between major mechanical failures by mode

Table 6-7: FTA TAM Performance Measures

Asset Category	Performance Measure and Asset Class
1. Equipment	Percentage of non-revenue, support-service, and maintenance vehicles that have met or exceeded their useful life benchmark.
2. Rolling Stock	Percentage of revenue vehicles within a particular asset class that have either met or exceeded their useful life benchmark.
3. Infrastructure	Percentage of track segments with performance restrictions.
4. Facilities	Percentage of facilities within an asset class rate below condition 3 on the Transit Economic Requirements Model (TERM) scale.

Table 6-8: Transit Asset Management (TAM) Performance Measures, Baseline Conditions and Targets

Performance Measures		Useful Life Benchmark (ULB) or Condition Rating	Broward MPO Baseline	Adopted Target
Rolling Stock	Cutaway Bus	ULB 10 yrs	0%	0%
	Paratransit Mini Van	ULB 8 yrs	0%	0%
	40 ft Bus	ULB 14 yrs	3%	15%
	60 ft Articulated Bus	ULB 14 yrs	0%	0%
	45 ft Bus	ULB 14 yrs	0%	0%
	Commuter Rail Locomotive	ULB 39 yrs	0%	0%
	Commuter Rail Passenger Coach	ULB 39 yrs	0%	0%
	Commuter Rail Self-Propelled Passenger Car	ULB 39 yrs	0%	0%
Equipment	All Non-Revenue Vehicles	ULB 8 yrs	0%	0%
	Other Rubber Tire Vehicles	ULB 14 yrs	0%	0%
Facilities	Passenger, Maintenance, Parking & Administration	Condition rating 3.0	30%	30%
Infrastructure	Rail Fixed Guideway, Track, and Signals	Performance Restrictions	8%	8%

Table 6-9: Public Transportation Agency Safety Plan (PTASP) Performance Measures, Baseline Conditions and Targets

Performance Measure	Mode	Adopted Targets	Broward MPO Baseline
Fatalities	Fixed Route Bus	0	2
	Community Bus	0	0
	Paratransit	0	0
Fatality Rate	Fixed Route Bus	0.0	0.02
	Community Bus	0.0	0.0
	Paratransit	0.0	0.0
Major Injuries	Fixed Route Bus	111	90
	Community Bus	3	0
	Paratransit	4	3
Major Injury Rate	Fixed Route Bus	0.741	0.620
	Community Bus	0.141	0.000
	Paratransit	0.040	0.400
Safety Events	Fixed Route Bus	66	678
	Community Bus	4	55
	Paratransit	6	279
Safety Event Rate	Fixed Route Bus	0.441	4.95
	Community Bus	0.181	3.1
	Paratransit	0.056	3.54
System Reliability	Fixed Route Bus	4,200	4,188
	Community Bus	5,500	5,459
	Paratransit	78,000	178,462

REGIONAL PERFORMANCE MEASURES

Regional performance measures developed for the *Commitment 2045* MTP were used to compare today's conditions with the 2045 Needs and Cost Feasible plans. The regional performance measures tie back to the three core *Commitment 2045* MTP goals. In addition to a summary of regional performance measures for consideration in *Commitment 2045*, performance targets are shown that reflect challenging, yet achievable performance targets for the Broward region. The performance targets are shown as a way of assessing the level of consistency between 2045 MTP outcomes and the regional transportation vision and goals. The regional performance measures are desired outcomes that reflect the community vision and are complementary to the federally-required performance measures. Tables 6-9, 6-10, and 6-11 summarize the regional performance measures and targets for each of the *Commitment 2045* MTP Goals.

Table 6-10: Performance Measures and Targets – Goal 1, Move People & Goods

Measure Area	Performance Measure	Target
System Safety	Number of Fatalities	Reduce by 100% by 2045
	Rate of Fatalities per 100 Million Vehicle Miles Travelled (VMT)	Reduce to 0.00 by 2045
	Number of Serious Injuries	Reduce by 100% by 2045
	Rate of Serious Injuries per 100 Million VMT	Reduce to 0.00 by 2045
Congestion Management	Percent of Freeways Operating at or Above Level of Service (LOS) Standards (AM Peak, PM Peak, Off-Peak)	Improve by 5% or more by 2045
	Percent of Uninterrupted Roads and High-Speed Arterials Operating at or Above LOS Standards (AM Peak, PM Peak, Off-Peak)	Improve by 2% or more by 2045
	Percent of Other Roadways Operating at or Above LOS Standards (AM Peak, PM Peak, Off-Peak)	Improve by 2% or more by 2045
	Percent of All Roadways Operating At or Above LOS Standards	Improve by 5% or more by 2045
	Percent of National Highway Freight Network (NHFN) Operating at or Above LOS Standards	Improve by 5% or more by 2045
Level of Delay	Total Daily Hours of Delay (Vehicle Hours)[1]	Reduce by 10% or more by 2045
Mode Share	Percent of Single Occupancy Vehicles (SOV) Mode Share	Reduce to 47% or less by 2045
	Percent of Transit Mode Share	Increase to 2% or more by 2045
Transit Supplied[2]	Average Transit System Service Headways (min)	Reduce by 20% or more by 2045
	Annual Revenue Hours of Service per Capita (working days only)	Increase by 20% or more by 2045
	Annual Revenue Miles of Service per Capita (working days only)	Increase by 35% or more by 2045
Transit Consumed	Daily Transit Passenger Trips (average weekday)	Increase by 75% or more by 2045
	Annual Transit Passenger Trips per Capita (average weekday)	Increase by 50% or more by 2045
	Transit Passenger Trips per Revenue Hour (average weekday)	Increase by 20% or more by 2045
System Capacity	Miles of Dedicated Transitways	Increase by 250% or more by 2045
	Lane Miles	Maintain or increase by 2045
	Miles of Bike Lanes	Increase by 10% by 2045
	Miles of Buffered Bike Lanes	Increase by 10% by 2045
	Miles of Paved Trails / Shared Use Paths	Increase by 10% by 2045

[1] Delay defined as excess travel time relative to free-flow conditions.
[2] Needs and Cost Feasible results do not necessarily include transit improvements proposed for implementation as part of County's Mobility Advancement Program.

Table 6-11: Performance Measures and Targets – Goal 2, Create Jobs

Measure Area	Performance Measure	Target
Employment	Number of New Jobs	Increase by 25% by 2045
Access to Jobs	Percent of Employment within 1/4 Mile of Transit Service	Increase to 70% by 2045
	Percent of Employment within 1/4 Mile of Premium Transit Service (>50% Fixed Guideway)	Increase to 30% by 2045
	Average Auto Travel Time to Employment Activity Centers with >5,000 Employees per Square Mile	Maintain or improve by 2045
	Average Transit Travel Time to Employment Activity Centers with >5,000 Employees per Square Mile	Maintain or improve by 2045
	Average Total Transit Trip Time for Daily Job Commute (Countywide)	Improve by 2045
	Average Vehicle Travel Time for Daily Job Commute (Countywide)	Improve by 2045

Table 6-12: Performance Measures and Targets – Goal 3, Strengthen Communities

Measure Area	Performance Measure	Performance Measure Target
Transit	Percent of Population within 1/4 Mile of Transit Service	Increase to 60% by 2045
System Access	Percent of Equity Area Population within 1/4 Mile of Transit Service	Increase to 65% by 2045
VMT	Vehicle Miles Traveled (VMT) per Capita	2045 VMT grows by 10% or less
VHT	Vehicle Hours Traveled (VHT) per Capita	2045 VHT grows by 5% or less
Air Quality /	Total Carbon Monoxide (CO) Emissions (kg)	Reduce by 10% or more by 2045
Pollutant Emissions	Total Nitrogen Oxide (NOx) Emissions (kg)	Reduce by 10% or more by 2045
Transportation Equity	Average Total Transit Trip Time for Daily Job Commute (Equity Areas)	Improve by 2045
	Average Vehicle Travel Time for Daily Job Commute (Equity Areas)	Improve by 2045
	Miles of Bike Lanes in Equity Areas	Increase by 10% by 2045.
	Miles of Buffered Bike Lanes in Equity Areas	Increase by 10% by 2045.
	Miles of Paved Trails / Shared Use Paths in Equity Areas	Increase by 10% by 2045.
Transportation System Vulnerability & Resiliency	Lane Miles of Evacuation Routes per 100,000 Population	Maintain or increase by 2045.
	Miles of Public Roads and Rail Forecasted to be Permanently Inundated by between 1 ft and 2 ft of Sea Level Rise	Decrease by 2045

Figures 6-1, 6-2, and 6-3 provide the results for the regional performance measures and targets by *Commitment 2045* MTP goals. Arrows are used to reflect the trend of the measure area from current (2015) conditions to the appropriate 2045 plan conditions. If a measure area comprises more than one measure, the color and direction of the arrow was based on how a majority (more than 50%) of the measures performed. For example, if two out of three measures showed improvement, the entire measure area was assigned an arrow pointing up with a green background. If the measure area included two measures and one improved and one did not, the entire measure area was assigned a two-headed arrow pointing left and right with a yellow background. If a majority of the measures did not improve, the measure area was assigned a downward pointing arrow with a red background. Measures only needed to show improvement and not necessarily meet the 2045 target to be assigned an upward pointing arrow with a green background.

Figure 6-1: Performance Results – Goal 1, Move People & Goods

MEASURE AREA	2045 NEEDS PLAN	2045 COST FEASIBLE PLAN
Congestion Management	Generally, congestion is worse –Targets not achieved.	Generally, congestion is worse –Targets not achieved.
Safety	Serious crashes increase with growth in travel – Targets not achieved.	Serious crashes increase with growth in travel – Targets not achieved.
Delay	Delay is worse – Target not achieved.	Delay is worse – Target not achieved.
Mode Share	All measures improved (fewer SOV trips and more transit trips) – Not all targets achieved.	Measure progress is split (more SOV trips and more transit trips) – Targets not achieved.
Transit Supply	All measures improved and more transit is provided – Not all targets achieved.	Generally, less transit is provided per capita – Targets not achieved.
Transit Used	More transit is used – All targets achieved.	All measures improved and more transit is used – Targets not achieved.
System Capacity	More capacity is provided – Targets achieved.	Measure progress is split (more roadway capacity and no change in dedicated transit lanes) – Not all targets achieved.

Figure 6-2: Performance Results – Goal 2, Create Jobs

MEASURE AREA	2045 NEEDS PLAN	2045 COST FEASIBLE PLAN
Number of New Jobs	New jobs created – Target achieved.	New jobs created – Target achieved.
Access to Jobs	Transit measures improve, but vehicle travel times increase – Not all targets achieved.	Transit measures improve, but vehicle travel times increase – Not all targets achieved.

Figure 6-3: Goal 3 Performance Results – Strengthen Communities

MEASURE AREA	2045 NEEDS PLAN	2045 COST FEASIBLE PLAN
Transit Access	All measures improved – Not all targets achieved.	All measures improved – Not all targets achieved.
Vehicle Miles Traveled (VMT)	VMT increased minimally (6%) – Target Maintained.	VMT increased minimally (7%) – Target Maintained.
Vehicle Hours Travelled (VHT)	VHT grows by 40% – Target not maintained.	VHT grows by 30% – Target not maintained.
Air Quality	Fewer emissions produced – Targets achieved.	Fewer emissions produced – Targets achieved.
Transportation Equity	Transit travel times improve, but vehicle travel times increase – Not all targets achieved.	Transit travel times improve, but vehicle travel times increase – Not all targets achieved.
Vulnerability & Resiliency	Generally, vulnerability is worse – Targets not maintained.	Generally, vulnerability is worse – Targets not maintained.

Generally, the 2045 Needs Plan improves conditions in Broward County and achieves many of the targets established by the regional performance measures. Five areas that did not show improvement under the Needs Plan were Congestion Management, Safety, Delay, VHT, and Vulnerability & Resiliency. Safety is calculated from total VMT; thus, as this VMT grows, the number of serious crashes increases. Therefore, the model may not be the best predictor of safety, as it does not take into account other strategies and improvements geared towards providing a safer travel experience for all users. Congestion, delay, and vehicle hours traveled are tied to vehicle use, and the ability to expand the capacity of Broward's roadways is limited. However, the model also does not account for operational improvements that may increase the efficiency of roadways; therefore, the results shown here are not a full accounting of the impact of all the planned improvements.

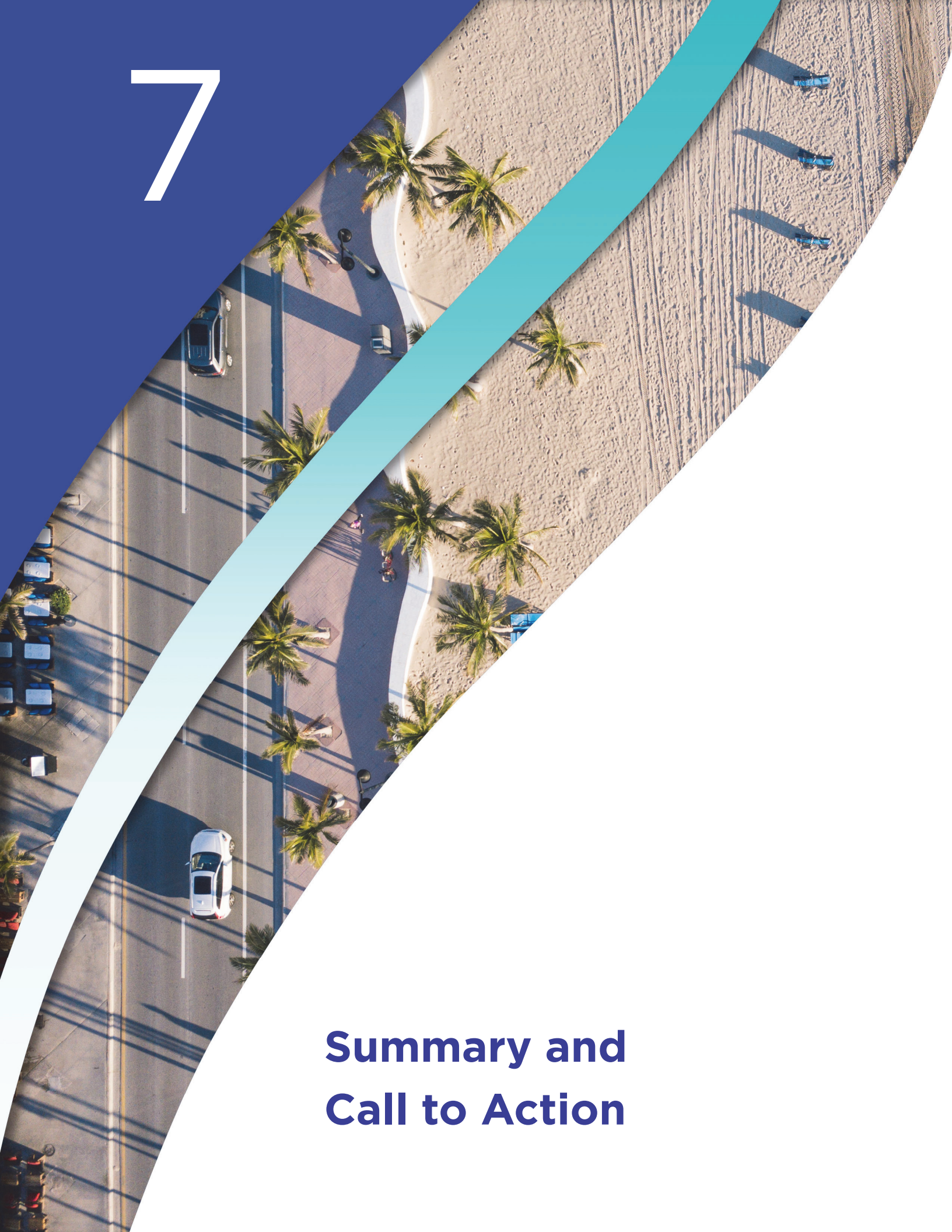
The vulnerability and resiliency measures are impacted by population growth and by Broward's limited ability to expand roadway capacity. As indicated in Table 6-9, the lane miles of evacuation routes is reported per 100,000 population. Thus, although the lane miles of evacuation routes are increasing in the 2045 Needs Plan, they are not increasing at the same rate as the population, so Broward is not meeting the measure. However, it is cost-prohibitive to expand the evacuation routes to meet the capacity expected by the performance measures given the constrained conditions that exist in Broward. The second measure in this category is the number of miles of public roads and rail infrastructure forecasted to be inundated by between 1 and 2 feet of sea-level rise. For the 2045 Needs Plan, a substantial amount of new rail lines fall within inundation areas, which explains why this measure did not improve.

The Cost Feasible Plan performed similar to the Needs Plan, except that three additional measures show a lack of improvement. Similar to the Needs Plan, the Congestion Management, Safety, Delay, VHT, and Vulnerability & Resiliency measures did not show improvement in the Cost Feasible Plan, for the same reasons discussed for the Needs Plan. The three additional performance measures that did not show improvement in the Cost Feasible Plan are Mode Share, Transit Supply, and System Capacity. Each of these measures did not perform as well in the Cost Feasible Plan because the number of transit improvements was limited as compared to the Needs Plan. These measures are anticipated to improve by 2045 with the implementation of Broward County's Mobility Action Plan, which includes significant investment in fixed guideway transit. These projects were not included in the Cost Feasible Plan at this time, as the County is still working with the MPO to determine which projects will be submitted for State and Federal funding.

SUMMARY

The *Commitment 2045* MTP was designed to be a performance-based plan. The performance measures presented herein were used throughout the process, from the Scenario Planning Analysis to Project Prioritization. *Commitment 2045* establishes the benchmark for the federally-required performance measures and targets. The regional performance measures established by *Commitment 2045* will be further used for moving projects into the TIP to ensure the continuation of performance-based planning.

7



Summary and Call to Action



Through the Commitment 2045 MTP,
the Broward MPO guides transportation investments
in the region to create a transportation system
that moves people and goods, creates jobs,
and strengthens communities.

The *Commitment 2045* MTP shows the Broward MPO's strong commitment to:

- **Projects** that will improve Broward's multimodal transportation system within the existing planning and transportation funding framework
- **Initiating a Call to Action** to collaboratively work toward changing how transportation improvements are funded at the Federal and State government levels and to seek more flexibility and local autonomy
- **Setting the stage for Broward Vision 2100**, an aspirational vision for transportation in the region that goes beyond *Commitment 2045* by reflecting on opportunities presented by growth, technology, resiliency, and other new and emerging issues that will influence the future of the region

Summarized in this chapter are key elements of the *Commitment 2045* MTP and the guiding principles that the MPO will follow in advancing its **Call to Action**.

SUMMARY OF *COMMITMENT 2045*

Transportation investments set forth in *Commitment 2045* emphasize the need for reliable transit, bicycle, pedestrian, freight, roadway, and other transportation projects that support economic vitality, contribute to environmental conservation, and enhance the quality of life in our communities.

Key Goals and Process

Development of the *Commitment 2045* MTP is driven by the Broward MPO's three key goals:

- Move people & goods
- Create jobs
- Strengthen communities

To reach these goals, the MPO developed the MTP using a systematic process designed to:

- Implement policy guidance from the MPO Board.
- Collaborate with MPO partners throughout the region, including FDOT, Broward County, the 31 cities in Broward County, local and regional agencies, and the neighboring Palm Beach TPA and Miami-Dade TPO.
- Address Federal and State metropolitan planning requirements.

Needs Assessment

To identify transportation projects that will improve the transportation system and best respond to the MPO's goals and policies, a transportation needs assessment was conducted using the following tools and procedures:

- *Call for projects* to partner agencies and jurisdictions.
- *Transit vision* developed through technical analysis and collaboration among the MPO, Broward County, and the South Florida Regional Transportation Authority (SFRTA).
- *Collaboration with partners* through MPO committees and direct meetings with agencies and jurisdictions.
- *Scenario planning analysis* that evaluated five scenarios and identified opportunities to integrate the best elements of each for consideration in the overall *Commitment 2045* needs assessment.
- *Travel demand modeling* that used the regional travel demand model to evaluate existing conditions, the five scenarios, and the 2045 Needs and Cost Feasible Plans.
- *Public participation* by thousands of people through on line surveys, a scientific public opinion poll, public outreach meetings and presentations, telephone/e-townhall meetings, website and social media outreach, MPO committees, and direct collaboration with the MPO and jurisdictional partners.
- *MPO Project Team input* through dozens of meetings and collaborations to review results of technical analyses and use sound planning judgment to incrementally develop the MTP.
- *Review of the Commitment 2040 Long Range Transportation Plan* to identify previously-noted transportation improvements.
- *Broward County surtax projects* to prepare the County for a referendum for an additional 1% surtax to fund transportation projects and to identify projects appropriate for both the surtax project list and the MTP.

Cost Feasible Plan

The *Commitment 2045* MTP is a $12.8 billion program of transportation improvements for 2020 to 2045 that will aid the Broward MPO in achieving its goals of creating a transportation system that moves people and goods, creates jobs, and strengthens communities. Based on the Needs Assessment, performance-based project prioritization process, and forecast of available revenues for transportation, a 2045 Cost Feasible Plan was developed for the Broward region.

To support the allocation and monitoring of transportation investments in six critical transportation funding categories, the Broward MPO developed and manages six funding programs:

- Roadway Program
- Transit Program
- System Management/Safety Program
- Complete Streets and Localized Initiatives Program
- Complete Streets Master Plan Program
- Mobility Hub Program

Federal, State, and local transportation revenues are allocated to these programs based on eligible use requirements and policy direction from the MPO Board for sources that offer some flexibility in their allocation.

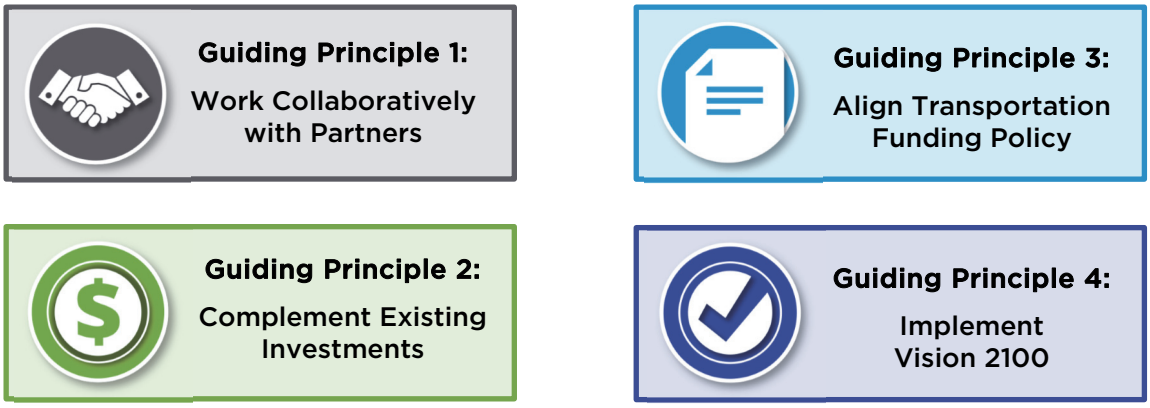
With the adoption of *Commitment 2045*, the MPO will have a new guiding document for its other plans and programs. It will be critical for the MPO to monitor and track implementation of the MTP as part of its **Call to Action**.

To advance its transportation investment and policy priorities, the MPO's Call to Action will aid in making the *Commitment 2045* MTP its blueprint for the future of the Broward region. Following the MPO's four guiding principles will support implementation of the MTP and incremental progress toward the transportation vision for the Broward region.

Guiding Principle 1: Work collaboratively and proactively with member governments to deliver projects in the MTP.

- ***Transparency*** – Ensure that member governments are working with elected representatives and the public during the identification and prioritization of transportation projects.
- ***Program readiness*** – Ensure that each project included in the Cost Feasible Plan meets the Broward MPO's "program-ready" requirements:
  - ◊ A clear **scope of work** with well-defined limits, a clear description of all elements included as part of the project, and potential right-of-way impacts
  - ◊ A realistic engineering **cost-estimate**
  - ◊ Documented **collaboration and coordination with partners** (including roadway owners and affected neighboring municipalities) and public outreach for the project
  - ◊ A **resolution of support** from a project sponsor's governing board

Figure 7-1: Broward MPO Guiding Principles for Call to Action



What makes a project program ready?



Guiding Principle 2: Maximize allocation of transportation funding to complement existing investments in the region.

- ***Funding Programs*** – Use the six MTP funding programs for projects that match transportation investments with MPO Board policy goals and direction.
- ***Funding Allocation*** – Continue to maximize the impact of MPO-attributable funding that complements other transportation funding sources, such as the County Surtax and FDOT State roadway funding.

Guiding Principle 3: Align transportation funding policy with the needs and vision for Broward County.

- ***Funding Imbalance*** – Correct the imbalance between local priorities and State funding policy that emphasizes roadway capacity projects over multimodal investments.
- ***New Local Revenues*** – Explore opportunities for new local revenue sources to support unfunded multimodal transportation needs identified in the 2045 MTP.
- ***Policy Recommendations*** – Support policies and recommendations of the 2045 Regional Transportation Plan (RTP).

Guiding Principle 4: Implement Vision 2100 for Broward's multimodal future.

- ***Transportation Vision*** – Use the *Commitment 2045* MTP to support the implementation of Broward Vision 2100. Broward Vision 2100 is an aspirational vision for the Broward region and was conceived to imagine the future of the Broward region in the context of:
  - ◊ Forecast population and employment growth through 2045 and 2100
  - ◊ Land use, development, and resiliency policies that support the vision
  - ◊ New and emerging technologies, such as Smart Cities; Smart Streets; Autonomous, Connected, Electric, and Shared (ACES) vehicles; and dynamic pricing, among others
  - ◊ Multimodal transportation system that reflects the six MPO funding programs and leverages new and emerging technologies
  - ◊ Commitment to reinforce moving people and goods, creating jobs, and strengthening cities
  - ◊ MPO leadership and commitment to the Call to Action outlined in the guiding principles in the MTP

NEXT STEPS

Commitment 2045 will guide the Broward MPO as it delivers our commitment to the residents and communities of the Broward region to ensure that we continue to move people and goods, create jobs, and strengthen communities.

Key to meeting this commitment are implementing projects, using the MTP as the blueprint for the future, and confirming the Broward MPO's commitment in the coming years.

Project Implementation

The success of *Commitment 2045* will be measured by moving identified transportation projects to implementation. From 2020 to 2045, the MTP reflects **$12.8 billion** in funding for transportation projects throughout the Broward region:

- **Five-Year Program** – From 2020 to 2024, **$4.8 billion** is programmed for specific projects in the MPO's Transportation Improvement Program.
- **Roadway Program** – From 2025 to 2045, **$5.7 billion** will be for roadway improvements on State roads ($5.1 billion) and non-State roads ($450 million).
- **Transit Program** – From 2025 to 2045, **$1.4 billion** will be for transit projects, $1.1 billion of which will flow to Broward County Transit through the Federal transit formula funding program.
- **Other Programs** – From 2025 to 2045, **$853 million** is set aside for the Systems Management/Safety Program ($390 million), Complete Streets and Localized Initiatives Program ($174 million), Complete Streets Master Plan Program ($235 million), and Mobility Hub Program ($54 million).

MTP—The Blueprint

The *Commitment 2045* MTP provides the blueprint for advancing the goals of the MPO Board and clear direction on how to invest in the future based on the priorities of the MPO Board. This direction includes project priorities for the six funding programs and a structure to advance these projects into the MPO's Five-Year Transportation Improvement Program and the annual Multimodal Priorities List.

MPO Commitment

With the adoption of the *Commitment 2045* MTP, significant progress has been made in the application of the Broward MPO's guiding principles associated with its **Call to Action**.

The Broward MPO is committed to:

- Integrating its guiding principles into all MPO plans and programs.
- Collaborating with planning partners to reinforce its guiding principles and implement transportation projects.
- Pursuing a State and Federal policy agenda that will reinforce its guiding principles.
- Supporting the implementation of the *Commitment 2045* MTP and making incremental progress toward Broward Vision 2100.

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