



Broward Metropolitan Planning Organization Commitment 2045 Metropolitan Transportation Plan

Technical Report #6

Scenario Planning and Transit Evaluation Approach

May 10, 2018

MPO MISSION STATEMENT

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

MPO VISION STATEMENT

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

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Introduction

The Broward Metropolitan Planning Organization (MPO) is developing its Commitment 2045 Metropolitan Transportation Plan (MTP) in accordance with the requirements of the US Department of Transportation's Fixing America's Surface Transportation (FAST) Act and federal and state Metropolitan Transportation Planning regulations. The MTP will be adopted by the Broward MPO no later than June 2019.

The MTP will document the assessment, services, and needs of transportation facilities over the next 25 years, using 2045 as its horizon year. Importantly, it will continue the new paradigm established in the previous plan updates (2035 and 2040) to provide a balanced transportation system that achieves optimum mobility and supports economic growth through improvements in multiple modes, with emphasis on mass transit and transit-supportive land uses.

A scenario planning process is identified as a framework for supporting the planning process and aiding in defining a robust multi-modal transportation system for the Broward region. The scenarios are developed to focus on key issues being faced in the Broward region today and in the future. The comparative evaluation of five scenarios will lead to the development of a hybrid scenario that results from what is learned in the scenario planning process. The Hybrid Scenario will then be refined to develop the Commitment 2045 Needs Plan.

This report also presents the transit evaluation approach to the Commitment 2045 MTP. Key elements of the approach include segmentation of the transit markets, identification of initial transit corridors for evaluation, development of a high-opportunity transit corridor network, and development of consensus regarding a transit vision and priorities for the Broward region. The transit evaluation approach will be used to determine how to best integrate transit into each of the five scenarios and develop a transit vision and implementation plan that will become the transit element of the Commitment 2045 Needs Plan.

The scenario planning process and transit evaluation approach are discussed in more detail throughout this technical report.

Overview of Scenario Planning

Part of the exercise of developing the MTP is to develop five scenarios that contemplate future conditions based on past or emerging trends that are anticipated to have transformational impacts on the community over a period of time. The five scenarios were developed in close coordination with Broward MPO staff for consideration and review by the MPO Board and its advisory committees.

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 decision-makers as they develop transportation plans. The scenarios allow stakeholders to explore and consider alternatives by evaluating the implications of more extreme measures being taken in the areas of land use, transportation investment, technology, resiliency, and others. Ultimately, this scenario planning process supports the development of a hybrid scenario based on what we learn from the evaluation of each of the initial, more extreme scenarios and what will best respond to the adopted goals and objectives for the 2045 MTP. The Hybrid Scenario, in turn, becomes the basis for the Commitment 2045 Needs Plan.

Five Scenarios

The five proposed scenarios to be evaluated as part of the Commitment 2045 MTP include the following:

- Trend Scenario
- · Compact Development Scenario
- Technology Scenario
- Resiliency Scenario
- Community Vision Scenario

These five "extreme" scenarios provide the framework for developing a shared and realistic vision for the future by analyzing various concerns that affect growth and transportation investments.

Concurrent with the Commitment 2045 MTP is the 2045 Regional Transportation Plan (RTP), which focuses on regional coordination and assessment that, in turn, supports

the respective long range transportation plans under development by the Broward MPO, Miami-Dade Transportation Planning Organization (TPO), and the Palm Beach Transportation Planning Agency (TPA).

The proposed scenarios and anticipated outcomes are shown in Figure 1. The figure also reflects input resulting from regional partner coordination and regional policy scenarios considered as part of the 2045 RTP.

Figure 1: Extreme Scenarios and Outcomes



Trend Scenario

Scenario planning must identify current trends to establish a baseline from which to compare other scenarios. In the Trend Scenario, development and transportation investment patterns of the recent past are assumed to continue through the planning horizon of 2045. Key characteristics of the trend scenario are highlighted in Table 1.

Table 1: Trend Scenario Characteristics

| Growth and Land Use Assumptions | Evaluates current trends based on current and future land use information provided by Broward County. | | | | |
|--|--|--|--|--|--|
| Economic Development | Focuses on current economic development policies occurring in the Broward region. | | | | |
| Transit and TDM Focuses on the continuation of existing transit and TDM serving Broward region, with a greater emphasis on local bus services incremental enhancements within existing funding sources. | | | | | |
| Roadway | Places greater emphasis on intersection and safety improvements while adding roadway capacity where feasible. | | | | |
| Freight and Goods Movement | Continues recent trends in the movement of freight and the distribution of goods throughout the Broward region. | | | | |
| Management and Operations | Continues recent trends of striving to optimize the existing transportation network through systems management and operations. | | | | |
| Bike, Pedestrian, and Greenways | Continues recent trends with current infrastructure in the Broward region, with incremental improvements where possible within existing funding sources. | | | | |

Note: Shaded rows represent a primary focus of this scenario.

Compact Development Scenario

The Compact Development Scenario is intended to establish a transportation vision that results from alternative land use allocations that emphasize density in selected areas of the Broward region, such as downtowns, major activity centers, and high-opportunity transit corridors. In addition, compact development and redevelopment aims for a more efficient use of land through higher densities, which can be applied to new urban developments or redevelopment projects. This particular type of development reduces sprawl and reduces dependency on private car use while encouraging a more walkable environment.

In this scenario, land use alternatives for the future are developed to evaluate the implications of more compact, dense, and vertical development within selected corridors and surrounding key intersections. Compared to the Trend Scenario, this scenario has higher gross densities and a greater mix of land uses and focuses on more development within high-opportunity transit corridors and around mobility hubs. In addition, it is likely to provide an operating environment more supportive of premium transit investments and an increased emphasis on walking, cycling, and better access to transit stations and stops. In this scenario, higher population control totals will be assumed for the Broward region using the highest population growth projection from the Bureau of Economic and Business Research (BEBR). Key characteristics of the Compact Development Scenario are highlighted in Table 2.

Table 2: Compact Development Scenario Characteristics

| Growth and Land Use Assumptions | Emphasizes alternative land uses characterized by mixed use, compact, and vertical development, infill, and redevelopment. Higher-density growth is assumed to occur within selected high-opportunity transit corridors and surrounding key mobility hubs and intersections. Recognizes that growth in other areas of the Broward region are expected to continue in a manner similar to the Trend Scenario. | | | | | |
|------------------------------------|--|--|--|--|--|--|
| Economic Development | Places significant emphasis on economic development and redevelopment around mobility hubs and high-opportunity transit corridors in the Broward region. | | | | | |
| Transit and TDM | Places more significant emphasis on premium transit operating in dedicated lanes within high-opportunity transit corridors while incorporating express, local, and community bus and TDM services to respond to market demands. The goal is to achieve a significant increase in the share of travel taken by transit and TDM solutions. | | | | | |
| Roadway | Focuses on intersection and safety improvements with reduced emphasis on major roadway capacity projects. | | | | | |
| Freight and Goods Movement | Places significant emphasis on the movement of freight and goods in relation to greater development densities and a mix of land uses. | | | | | |
| Management and Operations | Increases investment in management, operations, and maintenance of roadways and transit services. | | | | | |
| Bike, Pedestrian, and Greenways | Places greater emphasis on walking, cycling, and access to transit stations and bus stops, especially within high-opportunity transit corridors and around mobility hubs. | | | | | |

Technology Scenario

A technology-based scenario emphasizes the aggressive integration of advanced and emerging transportation technologies into a transportation vision for the future. In particular, the Technology Scenario considers the potential impacts of disruptive and transformational Connected Vehicle/Autonomous Vehicle (CV/AV) technologies on safety, road capacity, ownership, vehicle miles traveled (VMT), roadway design, future demand, land use, and economic development. In addition, this scenario is intended to identify the possible interactions between CV/AV vehicles and various forms of shared mobility services. Key characteristics of the Technology Scenario are highlighted in Table 3 to best determine how to integrate and evaluate the technological implications for the 2045 MTP.

Table 3: Technology Scenario Characteristics

| t trends based on current and future land use |
|---|
| ded by Broward County. |
| ent economic development policies occurring in the with additional economic development opportunities the advanced and emerging technology integration. |
| and coordinate autonomous and connected vehicle transit and TDM solutions; includes partnership and shared mobility service providers. |
| essive integration of technology into the stem, with emphasis on autonomous and connected |
| gration of autonomous and connected vehicle movement of freight and goods along high- cology corridors. |
| of technology to optimize the management and dways and intersections near high-opportunity lors. |
| t emphasis on integrating mobility options within technology corridors. |
| |

Resiliency Scenario

Planning for resiliency in scenario-based planning encompasses a wide range of issues. However, in transportation planning, the primary focus is to assess the potential risk to infrastructure in response to sea-level rise, severe weather conditions, and other events beyond the control of the community. Key characteristics of the Resiliency Scenario are highlighted in Table 4.

Table 4: Resiliency Scenario Characteristics

| Growth and Land Use Assumptions | Focuses development in more sustainable areas of the Broward region, especially in response to anticipated sea-level rise and future severe weather events (e.g., storm surge). Consider avoiding significant growth in areas estimated as being inundated by sea-level rise by 2040 and 2070. | | | | |
|------------------------------------|--|--|--|--|--|
| Economic Development | Focuses economic development opportunities in more sustainable areas of the Broward region, including areas that can withstand, prevent, or quickly recover from major disruptions (i.e., sea-level rise, weather disruptions, storm surge, and natural disasters). | | | | |
| Transit and TDM | Places significant emphasis on premium transit in dedicated guideways within high-opportunity transit corridors (adjusted to increase resiliency by adapting to weather-related events, examining recovery and support, and adjusting to infrastructure implications) and around mobility hubs, while incorporating express, local, and community bus services to meet market demands. | | | | |
| Roadway | Focuses on resiliency for emergency evacuation routes, raising roads in high-risk locations, and improving safety and intersections while reducing emphasis on major roadway capacity projects. Consider avoiding significant roadway investments in areas estimated as being inundated by sea-level rise by 2040 and 2070. | | | | |
| Freight and Goods Movement | Adjusts freight-related improvement priorities to increase resiliency in the movement of freight and goods by subsidizing non-fossil fuel running vehicles | | | | |
| Management and Operations | Increases investment in management, operations, and maintenance of roadways and transit services. | | | | |
| Bike, Pedestrian, and Greenways | Increases emphasis on infrastructure to support walking, cycling, access to transit, and a more sustainable approach to travel. | | | | |

Community Vision Scenario

The Community Vision Scenario is conceived by aggregating the transportation and growth visions of each community and agency in the Broward region. The MPO issued a Call for Projects (see Figure 2) to its partners, including Broward County, municipalities, agencies, and the Florida Department of Transportation (FDOT), to identify projects to be evaluated for inclusion in the needs assessment for 2045 MTP. Projects identified through this process will serve as the foundation for the Community Vision Scenario. It is envisioned that this scenario will be compared and contrasted with the other scenarios to identify similarities and differences. Key characteristics of the Community Vision Scenario are highlighted in Table 5.

Table 5: Community Vision Scenario Characteristics

| Growth and Land Use Assumptions | Emphasizes each community's vision for growth and land use and is anticipated to be similar to the Trend Scenario, which is developed by Broward County with input from communities throughout the Broward region. | | | |
|------------------------------------|--|--|--|--|
| Economic Development | Responds to economic development opportunities and priorities expressed by MPO partners in the call for projects. | | | |
| Transit and TDM | Emphasizes the transit and TDM vision expressed by MPO partners in the Broward region (Broward County, municipalities, and agencies). The vision may vary considerably by community and agency, ranging from maintaining the status quo to increasing or decreasing the emphasis on transit and TDM. | | | |
| Roadway | Reflects roadway improvements identified by MPO partners in the call for projects. | | | |
| Freight and Goods Movement | Reflects freight and goods movement improvements identified by MPO partners in the call for projects. | | | |
| Management and Operations | Reflects management and operations improvements identified by MPO partners in the call for projects. | | | |
| Bike, Pedestrian, and Greenways | Reflects active transportation (bike, pedestrian, and greenways) improvements identified by MPO partners in the Call for Projects. | | | |

Figure 2: Commitment 2045 Call for Projects



Looking for a way to fund your transportation projects?

The Broward MPO is here to help.

Project Name

Start the conversation with us by providing a list with Information on your **program** ready transportation projects to the MPO For example:



Brief Description of Project



Federal law requires the Broward MPO (and MPO's across the country) to update their Metropolitan Transportation Plan every five years. Commitment 2040, the current MTP, was adopted by the Board in December 2014. Work on Commitment 2045, the update of Commitment 2040, began in December 2017 and will be complete in 2019 with adoption of the final plan by the Broward MPO. Projects included as part of Commitment 2045 can be programed in as little as six years, depending on funding availability.



For more information or to schedule a meeting contact Peter Gies at:

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For complaints, questions or concerns about civil rights or nondiscrimination; or for special requests under the Americans with Disabilities Act, please contact: Christopher Ryan, Title VI Coordinator at (954) 876-0036 or ryanc@browardmpo.org

Summary of Scenario Planning Process

Table 6 provides a summary overview of the five scenarios, including how each scenario is intended to reflect key elements of the plan. The table also reflects how the assessment of the five more extreme scenarios leads to the development of a Hybrid Scenario and, ultimately, the Commitment 2045 Needs Plan.

Table 6: Proposed Scenario Approach

| | Scenarios | Description | Growth and Land Use Assumptions | Economic Development | Transit and TDM | Roadway | Freight and Goods Movement | Management & Operations | Bike, Pedestrian, and Greenways |
|---|------------------------|---|--|---|--|---|--|--|---|
| 1 | Trend | A future that is achieved by reinforcing recent trends as we define them today. | Evaluates current trends based on current and future land use information provided by Broward County. | Focuses on current economic development policies occurring in the Broward region. | Focuses on the continuation of existing transit and TDM services in the Broward region, with a greater emphasis on local bus services and incremental enhancements within existing funding sources. | Places greater emphasis on intersection and safety improvements while adding roadway capacity where feasible. | Continues recent trends in the movement of freight and the distribution of goods throughout the Broward region. | Continues recent trends of striving to optimize the existing transportation network through systems management and operations. | Continues recent trends with current infrastructure in the Broward region, with incremental improvements where possible within existing funding sources. |
| 2 | Compact Development | A future that is achieved by aggressively pursuing compact development, infill, and redevelopment (focus growth on key nodes and corridors). | Emphasizes alternative land uses characterized by mixed use, compact, and vertical development, infill, and redevelopment. Higher-density growth is assumed to occur within selected high-opportunity transit corridors and surrounding key mobility hubs and intersections. Recognizes that growth in other areas of the Broward region are expected to continue in a manner similar to the Trend Scenario. | Places significant emphasis on economic development around mobility hubs and high-opportunity transit corridors in the Broward region. | Places more significant emphasis on premium transit operating in dedicated lanes within high-opportunity transit corridors while incorporating express, local, and community bus and TDM services to respond to market demands. The goal is to achieve a significant increase in the share of travel taken by transit and TDM solutions. | Focuses on intersection and safety improvements with reduced emphasis on major roadway capacity projects. | Places significant emphasis on the movement of freight and goods in relation to greater development densities and a mix of land uses. | Increases investment in management, operations, and maintenance of roadways and transit services. | Places greater emphasis on walking, cycling, and access to transit stations and bus stops, especially within high-opportunity transit corridors and around mobility hubs. |
| 3 | Technology | A future that is achieved through aggressively pursuing transportation technology integration. | Evaluates current trends based on current and future land use information provided by Broward County. | Focuses on current economic development policies occurring in the Broward region, with additional economic development opportunities in conjunction with advanced and emerging technology integration. | Aims to integrate and coordinate autonomous and connected vehicle technologies with transit and TDM solutions; includes partnership and collaboration with shared mobility service providers. | Focuses on aggressive integration of technology into the transportation system, with emphasis on autonomous and connected vehicles. | Encourages integration of autonomous and connected vehicle technology in the movement of freight and goods along high-opportunity technology corridors. | Emphasizes use of technology to optimize the management and operations of roadways and intersections near high-opportunity technology corridors. | Places significant emphasis on integrating mobility options within high-opportunity technology corridors. |
| 4 | Resilience | A future that is achieved by aggressively responding to sea level rise, severe weather events, and other transformational forces that are beyond the community's control. | Focuses development in more sustainable areas of the Broward region, especially in response to anticipated sea-level rise and future severe weather events (e.g., storm surge). Consider avoiding significant growth in areas estimated as being inundated by sea level rise by 2040 and 2070. | Focuses economic development opportunities in more sustainable areas of the Broward region, including areas that can withstand, prevent, or quickly recover from major disruptions (i.e., sea level rise, weather disruptions, storm surge, and natural disasters). | Places significant emphasis on premium transit in dedicated guideways within high-opportunity transit corridors (adjusted to increase resiliency by adapting to weather related events, examining recovery and support, and adjusting to infrastructure implications) and around mobility hubs, while incorporating express, local, and community bus services to meet market demands. | Focuses on resiliency for emergency evacuation routes, raising roads in high-risk locations, and improving safety and intersections while reducing emphasis on major roadway capacity projects. Consider avoiding significant roadway investments in areas estimated as being inundated by sea level rise by 2040 and 2070. | Adjusts freight-related improvement priorities to increase resiliency in the movement of freight and goods by subsidizing non-fossil fuel running vehicles | Increases investment in management, operations, and maintenance of roadways and transit services. | Increases emphasis on infrastructure to support walking, cycling, and access to transit. |
| 5 | Community Vision | A future that is achieved by integrating and implementing individual community and agency visions. | Emphasizes each community's vision for growth and land use and is anticipated to be similar to the Trend Scenario, which is developed by Broward County with input from communities throughout the Broward region. | Responds to economic development opportunities and priorities expressed by MPO partners in the call for projects. | Emphasizes the transit and TDM vision expressed by MPO partners in the Broward region (Broward County, municipalities, and agencies). The vision may vary considerably by community and agency, ranging from maintaining the status quo to increasing or decreasing the emphasis on transit and TDM. | Reflects roadway improvements identified by MPO partners in the call for projects. | Reflects freight and goods movement improvements identified by MPO partners in the call for projects. | Reflects management and operations improvements identified by MPO partners in the call for projects. | Reflects active transportation (bike, pedestrian, and greenways) improvements identified by MPO partners in the call for projects. |

Note: Cells shaded in light blue represent a primary focus of scenario.

Hybrid Scenario

2045 MTP Needs Plan

Transit Evaluation Approach

Background

The Transit Evaluation Approach is a key component of the overall multimodal evaluation and prioritization effort for the Commitment 2045 MTP. As illustrated in Figure 3 and described in the remainder of this report, this approach is a four-step process that identifies and prioritizes transit needs in the Broward region. The four steps include the following:

- Step 1: Define/Assess Transit Market Segments
- Step 2: Identify Initial Corridors for Evaluation
- Step 3: Identify High-Opportunity Transit Corridors
- Step 4: Define Transit Vision and Priorities

Linking the Transit Evaluation to the Scenarios

The outcome of the transit evaluation will be an unconstrained vision for transit in the Broward region, which will provide the basis for establishing the approach to transit in the scenario planning process. The transit element for each scenario is summarized below:

- Scenario 1: Trend (continue with recent trends in transit services and investments)
- Scenario 2: Compact Development (unconstrained transit vision from the transit evaluation presented in this report)
- Scenario 3: Technology (adjust unconstrained transit vision to respond to aggressive integration of transportation technologies)
- Scenario 4: Resiliency (adjust unconstrained transit vision to emphasize an aggressive response to sea-level rise and severe weather events)
- Scenario 5: Community Vision (adjust unconstrained transit vision to respond to transit vision expressed by MPO partners)

Figure 3: Transit Evaluation Approach

Broward MPO Commitment 2045 Metropolitan Transportation Plan

Step 1 **Define/Assess Transit Market** Segments

- > Define potential transit market segments.
- √ Traditional Transit Markets (dependent)

Transit Markets and Technologies

- ✓ Discretionary Transit Markets (choice)
- ✓ Geographic and Travel Flow Markets
- ✓ Key transit market segments based on population, demographic, and travel behavior characteristics
- > Develop hierarchy of transit technologies/services.
- > Rate the extent to which each transit technology/ service would serve the key transit market segments.
- Collaborate with MPO Project Team and Technical Advisory Committee.



Key Evaluation Criteria

- > Transportation Planning Equity Measure/Tool
- > Regional Transit Propensity Analysis
- > Major Activity Centers/Mobility Hubs
- > Travel Flows/Commuter Flows
- > Density
- ✓ Population
- ✓ Employment
- > Transit Oriented Demographics

Step 2 **Identify Initial Transit Corridor** Network

Initial Transit Corridor Network

- > Leverage previous plans/studies:
- ✓ Commitment 2040 LRTP and RTP
- ✓ Seven-50 Southeast Florida Prosperity Plan
- √ Transit Development Plans (SFRTA and BCT)
- ✓ Broward MPO Complete Streets Master Plan
- ✓ Broward MPO Mobility Hubs
- ✓ Corridor studies (Broward Boulevard, Central) Broward East West, Coastal Link, Hollywood/ Pines, Oakland Park, SR 7, Sunrise Area, University Drive, US 1, Wave, etc.)
- √ Other relevant plans/studies
- Refine initial transit corridor network based on transit market segmentation and stakeholder input.



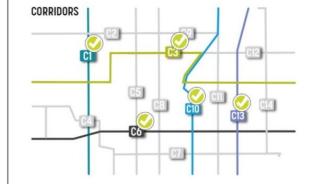
Key Evaluation Criteria

- > Historical Studies/Plans
- > Transit Market Segmentation Analysis (Step 1)
- Stakeholder Input

Step 3 **Identify High-Opportunity Transit Corridor Network**

High-Opportunity Transit Corridor Network

- Evaluate corridors for significant transit opportunities.
- Define high-opportunity transit corridor network.
- Develop sub-sections for each corridor to evaluate transit technology potential.
- Leverage lessons learned from transit master plans in other communities throughout US (Seattle, SFRTA, etc.).
- Collaborate with MPO Board, advisory committees, and MPO partners.



Key Evaluation Criteria

- Local/Regional Connectivity
 - ✓ Major Activity Centers Served
 - √ Travel Flows
- Accessibility
- √ Transit vs. Highway Travel Time Accessibility
- Transit Demand
- √ Transit Ridership Projections
- √ Share of Travel (network and by corridor)
- **Economic Development**
- ✓ Density of Jobs and Residents
- ✓ Areas with Transit Supportive Policies/CRAs

Step 4 **Define Unconstrained Transit Vision & Priorities**

Unconstrained Transit Vision & Priorities

- Refine termini for corridors to reflect the appropriate transit technology.
- Develop transit vision and final high-opportunity transit corridor network.
- Refine ridership projections for the unconstrained transit vision.
- Evaluate transit accessibility and cost effectiveness.
- Develop priorities and a staged implementation plan for the unconstrained transit vision.



Key Evaluation Criteria

- Ridership Projections
- Population and Employment Served
- Right-of-Way Availability
- Cost Effectiveness
- √ Capital Costs
- ✓ Annual Operating & Maintenance Costs
- > Funding Potential

(Draft 4/10/18)

Step 1: Define/Assess Transit Market Segments

Population in the South Florida region is projected to increase from more than 6 million in 2018 to a nearly 8 million in 2045, an increase of 33%. Step 1 of the transit evaluation approach will consider this population growth along with demographic and travel behavior characteristics to understand the transit markets in the Broward region. Understanding transit market segments, including where they live, work, and travel, will provide the information to support the evaluation and prioritization of transit services through 2045.

The key elements of Step 1 are summarized below:

- Use existing and projected population, demographic, and travel behavior characteristics to conduct a market segmentation analysis that will identify the market segments with the greatest potential for transit use. Key characteristics include:
 - Define the traditional transit rider market using the MPO's Transportation
 Planning Equity Tool and the Regional Transit Propensity Analysis.
 - Collaborate with Broward MPO Project Team, advisory committees, and stakeholders.
 - o Identify existing and future major activity centers and mobility hubs.
 - Define existing and future population and employment densities using the Density Threshold Assessment (ties population and employment densities to transit technology investments potentially supported at various thresholds).
 - Evaluate existing (2015) and future (2045) travel flows in the region, including:
 - County to county
 - City to city within the Broward region
 - Super zone to super zone within the Broward region (larger zones established to more easily illustrate travel patterns)
- Identify a hierarchy of transit services (existing and future) that potentially could respond to the transit markets identified in the segmentation analysis. The hierarchy is anticipated to include the following transit technologies:

- o Bus
 - Community bus
 - Local bus
 - Express bus
 - Bus Rapid Transit
- o Rail
 - Streetcar
 - Light rail
 - Heavy rail
 - Commuter rail
 - High Speed rail
- o Other
 - People mover
 - Waterborne
 - Autonomous vehicle
 - Shared ride
- Identify the transit technologies/services that would best serve the key transit markets identified in the transit market segmentation analysis.

Step 2: Identify Initial Transit Corridor Network

In Step 2, an initial set of corridors is identified for evaluation and consideration as potential high-opportunity transit corridors. Factors guiding the identification of the initial corridors include recent reports and studies, recommendations from stakeholders, and the results of the transit market segmentation analysis conducted in Step 1.

The key elements of Step 2 include the following:

- Identify transit corridors considered in previous plans and studies to develop an initial transit corridor network. Previous plans and studies include the following:
 - Commitment 2040 LRTP
 - 750 Southeast Florida Prosperity Plan
 - SFRTA Forward TDP (and progress reports)
 - Broward Transit Connected TDP (and progress reports)
 - Broward MPO Complete Streets Initiative
 - Broward MPO Mobility Hubs

- Corridor studies on Broward Boulevard, Central Broward East West, Coastal Link, Hollywood/Pines, Oakland Park, SR 7, Sunrise Area, University Drive, US 1, Wave, etc.
- Other relevant plans/studies
- Refine the initial transit corridor network based on recommendations from stakeholders and the results of the transit market segmentation analysis conducted in Step 1 and the regional transit propensity analysis performed as part of the RTP.
- Finalize the initial transit corridor network to move into the Step 3 evaluation and identify the high-opportunity transit corridors.

Step 3: Identify High-Opportunity Transit Corridor Network

Step 3 supports the transition from the initial transit network defined in Step 2 to a more defined set of high-opportunity transit corridors. The development of a high-opportunity transit corridor network will be accomplished through technical analysis and collaboration with MPO staff and its partners. The key characteristics of Step 3 include the following:

- Develop a high-opportunity transit corridor network based on the following evaluation criteria:
 - Local and regional connectivity
 - Major activity centers served
 - Travel flows
 - Accessibility
 - Transit vs. highway accessibility
 - o Transit Demand
 - Transit ridership
 - Share of travel (network and by corridor)
 - Economic Development Potential
 - Density of jobs and residents
 - Areas with transit-supportive policies/Community Redevelopment Areas (CRAs)
- Develop sub-sections for each corridor to evaluate transit technology potential for existing (2015) and future (2045) conditions.

- Leverage lessons learned from transit master plans in other communities throughout the US.
- Collaborate with the MPO Board, advisory committees, and stakeholders.

Step 4: Define Unconstrained Transit Vision and Priorities

In Step 4, an unconstrained transit vision is developed based on an evaluation of the high-opportunity transit corridors and the determination of the most appropriate transit technology investment from the hierarchy established in Step 1. This unconstrained vision will be a future transit network that responds to the mobility and accessibility needs of the Broward region. In addition, Step 4 includes a prioritization process to support the development of a staged implementation plan for the unconstrained vision. The key characteristics of Step 4 include the following:

- Refine the termini for corridors to reflect the appropriate transit technology for existing (2015) and future (2045) conditions (using the hierarchy of transit technologies identified in Step 1).
- Refine ridership projections for the unconstrained transit vision.
- Evaluate transit accessibility and cost-effectiveness.
- Develop priorities and a staged implementation plan for the unconstrained transit vision using the following evaluation criteria:
 - Ridership projections
 - Population and employment served
 - Right-of-way availability
 - Cost effectiveness
 - Capital cost
 - Annual operating and maintenance cost
 - Funding potential

Summary

Commitment 2045 is a comprehensive process to develop a visionary transportation and land use plan for the Broward region. Key to this visionary plan is a scenario planning process that considers diverse scenarios, ranging from the continuation of recent trends (Trend Scenario) to four visionary scenarios that each emphasize a key element in the extreme. From this planning process, the MPO is seeking to define the best characteristics from each of these scenarios that can be combined into a Hybrid Scenario and, ultimately, a transformational vision for the future of the Broward region (Commitment 2045 Needs Plan).

Concurrent with the scenario planning process is the development of an unconstrained transit vision for the Broward region. The approach to developing this unconstrained transit vision is outlined and illustrated in this technical report, the results of which will be integrated into the scenario planning process.

The next steps for the Commitment 2045 MTP involve the execution of the scenario planning and travel evaluation processes, which will be documented in future technical reports.



Broward Metropolitan Planning Organization

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