



Chapter 4  
**VISION**

## 4. Vision

The 2035 LRTP, branded as “Transformation,” is the Broward MPO’s plan for change. Economic vitality for the region, a better environment, and enhanced quality of life are envisioned. This transformation can be achieved by integrating land use with transportation, including transit. This integration begins with increased priority spending for alternative modes of travel and connectivity to places where people meet transit, or Mobility Hubs. Goals established the framework for developing the Needs Plan which resulted in the 2035 LRTP Transformation, a cost-affordable strategy.

### 4.1 Needs Plan

The Needs Plan consists of all projects required to meet future demand and address transportation deficiencies through transit (instead of highway) improvements, irrespective of how they will be funded. That is the first step in developing a list of affordable projects. The technical evaluation of needs shows a wide variety of potential projects across the county and across modes. A planning framework was established to facilitate an evaluation of the best projects for inclusion in the Cost Feasible Plan. The *Model Application Methodology* and *2035 Transportation Needs Assessment* technical reports explain the technical evaluation approach and processes used for identifying the Needs Plan projects.

Specific planning factors required per federal guidance include:

- Economic vitality;
- Safety and security;
- Accessibility and mobility of people and freight;
- Enhance the environment;

Many travel modes were considered in the development of the 2035 LRTP. The project received direction from both public and agency stakeholders as well as the Broward MPO Board Members.



- Integration and connectivity of the transportation system across modes for people and freight;
- Efficient management and operation of the transportation system; and
- Preservation of the existing transportation system.



Travel modes considered in the development of the 2035 LRTP include transit, roadways, freight/seaport/airport, bicycle/pedestrian, Greenways, and waterborne. Intelligent transportation system and safety/security improvements were also incorporated into projects envisioned for the plan. The basis for identifying corridors and projects is described for each element.

#### 4.1.1 Transit

A framework was established to identify candidate transit corridors for consideration in meeting existing deficiencies of the transit system and future demand. The framework that was followed to screen candidate transit projects is outlined below.

- Deficiency analysis-Identify geographic areas that exhibit a decrease in mode split;
- Identify high quality transit corridors experiencing high future travel movements within Broward County and between adjacent counties, and define Premium Transit projects to meet this demand;
- Identify the highest performing Broward County Transit (BCT) routes, both existing and future (2018) per BCT’s Transit Development Plan (TDP), and define Premium Transit projects to meet this demand;
- Provide direct service connections or “one-seat” rides to major employment or activity centers;
- Provide transit service in areas designated by Broward County in the Comprehensive Land Use Plan as Transit Oriented Corridor (TOC), Transit Oriented District (TOD), Regional Activity Center (RAC), or Local Activity Center (LAC); and
- Increase transit service for the transit dependent population.

*During the development of the Needs Plan, transit corridors were identified based on six key factors.*

The following projects undergoing transportation planning studies were included in the Needs Plan without further review. These projects are being fully evaluated in separate corridor studies now underway and their respective merits will be determined based on the outcome of the National Environmental Policy Act (NEPA) process.

- Central Broward East-West Transit Analysis
- South Florida East Coast Corridor (FEC)
- People Mover–SunPort (Airport/Seaport)
- City of Fort Lauderdale Downtown Circulator (The Wave)



Candidate corridors were assigned service frequencies which classify the level of Premium Transit services proposed. They were modeled using the Southeast Florida Regional Planning Model, version 6.5, to illustrate the effect of the transit service on mode split, or public transit use, to determine their effectiveness in meeting future travel demand. Existing and projected ridership to 2018 from the Broward County Transit (BCT) Transit Development Plan (TDP), future projected travel demand from 2035, and an operational analysis of synergies between candidate corridors and transit operations were used to determine optimum frequencies in an iterative process. Transit improvements were then rated as Premium High Capacity or Premium Rapid Bus for the cost feasible assessment.

#### 4.1.2 Roadway

Identification of roadway projects focused on missing links critical to local and regional connectivity, cost effective congestion mitigation strategies, improvements that support transit, bicycle and/or pedestrian enhancements, and safety improvements. Some of the guidelines for roadway project selection include the following:

- Roadways expanded beyond six lanes for major arterials were only considered for exclusive transit lanes.
- Priority for new roadways that are essential to the development of identified RACs, LACs, TODs, TOCs, and newly designated Mobility Hubs.
- Cost effective congestion mitigation strategies for major traffic back-ups, bottlenecks and corridors will include Intelligent Transportation Systems, reversible lanes, and managed lanes.
- Roadway improvements to increase emergency evacuation capacity and response times on designated hurricane evacuation routes.

#### 4.1.3 Freight/Seaport/Airport

Funded projects programmed in the Transportation Improvement Program (TIP) were eliminated from the needs list. Those projects that have not yet been funded and were identified in previous studies are included in the Needs Plan. Studies listed below refer to priority projects to address system deficiencies.

- *Urban Freight/Intermodal Mobility Study* (Broward MPO, 2007/08)
- *SIS Connector Study* (FDOT, District Four, Feb. 2007)
- *Port Everglades Unfunded Projects List–5-Year Capital Improvement Plan*, June 2009
- *Atlantic Commerce Corridor Study*, November 2003



In addition, projects were selected from prior years' LRTPs and the ongoing *Regional Freight Mobility Study* (FDOT, District Four) in progress at the publication time for the LRTP. Inclusion or deferral of projects was determined in consultation with the project sponsors. Any intermodal project that potentially improves passenger and/or the movement of goods within a facility or transportation system was added to the freight needs list. Most of the projects that did not make it to the needs lists are either capital maintenance projects or expansion projects with indirect affects. Other projects that address airport, seaport and rail needs will be addressed through the South Florida Regional LRTP rather than the Broward MPO 2035 LRTP.

### US 27 Rail Corridor Study

The development of a new rail corridor along US 27 has the potential to significantly affect freight and passenger transportation in South Florida. The corridor could attract freight traffic from existing lines, creating new opportunities for passenger service along the eastern routes. It also has the potential to support industrial development in the Glades region, particularly the proposed Integrated Logistics Center.

Phase 1 analysis has identified 10 build alternatives at the sketch planning level. The alternatives were developed given the current US 27 right-of-way and vary at the northern and southern termini in western Miami-Dade and Palm Beach counties, based on a systems approach.

All 10 alternative alignments are feasible, based on a macroscopic qualitative assessment. Therefore, a more detailed evaluation of feasibility is required to refine and possibly eliminate alternatives. It is recommended that a technical evaluation be undertaken to determine feasibility specifically designed to address the key considerations identified as part of Phase 1.

#### 4.1.4 Intelligent Transportation Systems

Congestion mitigation projects including Automated Transportation Management Systems (ATMS) to coordinate and synchronize traffic signals at intersections were identified through input received from the Broward County Traffic Engineering Division.

Open Road Tolling (ORT) was defined in the Needs Plan for Florida's Turnpike and the Sawgrass Expressway to allow free flow traffic to register tolls from transponders. License plate readers will also be developed to phase out and eliminate the toll booths. The automation of the revenue collection process will increase throughput and safety.

In addition, Intelligent Transportation Systems (ITS) projects were identified in a generic fashion due to lack of specific design application for a discrete list of projects. The types of projects identified for inclusion in the needs list along with their technology and applications in Broward County follow.

*License plate readers have been successfully developed in Los Angeles, CA; Arapahoe, CO; and the United Kingdom.*



- Ramp Signals to manage traffic flow along I-95/595 and reduce travel times and congestion and improve safety.
- Arterial Dynamic Message Screens to alert the traveling public of congestion relative to accidents or emergency situations and anticipated travel times upon the approach to major interchanges.
- Travel Time Systems to provide accurate real-time data. Collection of data can be accomplished through either Automatic Vehicle Locators or license plate readers located along major arterial intersections and freeway interchanges. Next bus and next train technologies will also be implemented at select Mobility Hubs.
- Roadway Weather Information System includes remote weather stations at strategic locations such as bridges or roadways with high traffic volumes. Collection and dissemination from the Traffic Management Center will improve safety and support emergency evacuation plans.

#### 4.1.5 Bikeways/Pedestrian Walkways/Greenways

All projects identified through Geographic Information System (GIS) analysis of available Broward County sidewalk/pedestrian and bicycle facilities inventory data were included in the Needs Plan. Also, greenways identified in the Broward County Greenways Master Plan were included in the Needs Plan. The Greenways Master Plan was approved by the Broward County Board of County Commissioners in 2002.

#### 4.1.6 Waterborne

While Broward County is bordered by the Atlantic Ocean, and a number of canals flow inland, the transportation deficiencies fall outside of the geographic coverage of those waterborne arteries. Water taxis serve an important role in providing circulator services in downtown Fort Lauderdale and provide a unique feature for tourists; however, waterborne transportation routes fall short of providing travel time savings to commuters. Capital-intensive improvements are required to support waterborne transportation, including docks, slip ramps, storage areas for vessels, and parking facilities to support direct access to docks. Furthermore, for waterborne transportation to serve as a well-utilized and cost-effective travel mode, adjacent high density employment areas (similar to New York, Boston, and Baltimore) are necessary to ensure sufficient demand. As such, waterborne projects were not included in the 2035 LRTP.

#### 4.2 Financial Analysis

Federal law requires that LRTPs in urban areas be financially constrained within reasonably expected funding sources over a minimum 20-year planning horizon. The Broward MPO LRTP extends to 2035, or 25 years, to maintain this minimum over the next five

years. The updated 2035 LRTP will demonstrate Broward County’s plans for future capital investment in transportation infrastructure and ongoing operating and maintenance expenses. An identification and projection of available financial resources through the 2035 LRTP horizon year is required to determine what projects included in the Needs Plan can be funded.

The following principal federal, state, and local funding programs that support transportation investment in Broward County were reviewed and forecasted through 2035.

- Federal Highway Administration;
- Federal Transit Administration;
- State of Florida Department of Transportation;
- Gas tax revenues and transportation concurrency/impact fees; and
- Local agency revenues, specifically for Broward County Transit.

Today’s economic climate is challenging for Broward County and these challenges are reflected in the projected revenue streams. Challenges also offer opportunities. A summary of observations can be drawn for today’s circumstances that affect our ability to assess and plan for the future.

### Exhibit 16—Challenges & Opportunities for the 2035 LRTP

#### Challenges

Cost increases in recent years for projects estimated in previous plans due to right-of-way, labor, and commodities such as steel and concrete.

A national recession that affects revenues generated by gas taxes, property taxes, sales taxes, tolls, rental car taxes—all of which have experienced major declines from prior years.

Petroleum price volatility affects transit ridership, vehicle miles traveled (VMT), and gas tax revenues (which are tied to VMT).

South Florida has historically leveraged few federal funds available for fixed guideway projects.

Dedicated funding sources for both operations & maintenance and capital are necessary to transform our transportation system.

#### Opportunities

Better mobility options may help create jobs and minimize severe economic fluctuations.

Greater emphasis on environmental factors and limiting the use of fossil fuels may change travel behavior.

The public vision in Broward County calls for new types of transportation facilities and approaches that can draw from new revenue sources.

The Mobility Hubs Concept creates opportunities for public-private partnerships.

Potential for sweeping changes in the federal transportation policy and funding levels at reauthorization of the federal transportation spending bill.

Additional legislation is proposed that could positively affect transportation funding including the Climate Change Bill and Livable Communities Initiative.

High Speed Rail funding may be available for South Florida in future that would prompt additional investment in Premium Transit to provide connectivity.

*Available revenue was identified to develop a “constrained” scenario.*

The 2035 LRTP demonstrates the Broward MPO’s plans for future capital investment in transportation infrastructure, as well as ongoing operating and maintenance expenses. The identification of available revenue resources was used to prioritize transportation investments in a “constrained” scenario which is limited to existing and reasonably likely funding sources. It is important to note, however, that some of the revenues identified in this review (specifically revenues for Florida’s Turnpike Enterprise, Strategic Intermodal Systems, and Florida Interstate Highway System) have already been programmed by their respective agencies for transportation projects in Broward County. These funds were not available for prioritization by the MPO.

In addition, an approach described in Chapter 5 “Strategy” was developed to address potential new funding sources which could be used to fund additional transportation investments.

#### 4.2.1 Capital and Operating & Maintenance Cost

Once projects were identified for the Needs Plan, their capital costs were estimated. Some of the assumptions used in development of capital program costing were developed specific to a given mode and in some cases taken from estimates prepared by others in separate planning processes. The aggregate intermodal cost for the Needs Plan with Rapid Bus projects totals \$9 billion. The cost with High Capacity Transit was expressed as two scenarios, BRT or LRT, totaling \$14 or \$20 billion in 2009 dollars respectively, as detailed in Exhibit 17.

*The Needs Plan identified costs for both a LRT-focused plan and a BRT-focused plan.*

#### Exhibit 17-Needs Plan Cost Summary (By Scenario)

Cost Category	Capital Cost (\$ millions 2009)	Annual O&M Cost (\$ millions 2009)
Broward County Transit	\$230	\$185
Rapid Bus Scenario	\$249	\$72
Bus Rapid Transit Scenario	\$4,502	\$135
Light Rail Transit Scenario	\$10,772	\$147
Mobility Hubs	\$220	\$0.12
Bicycle/Pedestrian	\$226	n/a
Greenways	\$309	n/a
Roadways	\$4,563	\$125
Intelligent Transportation Systems	\$182	n/a
Freight/Seaport/Airport	\$477	n/a
Illustrative (On-going Transit Projects) <sup>1</sup>	\$3,016	\$34
<b>Total Needs Plan Range:</b>		
Rapid Bus Scenario	\$9,472	\$416
Bus Rapid Transit Scenario	\$13,725	\$479
Light Rail Transit Scenario	\$19,995	\$491

<sup>1</sup>Includes transit projects with corridor planning and environmental studies underway including Central Broward East-West Transit Analysis, South Florida East Coast Corridor Study, SunPort (Airport/Seaport People Mover), and the Wave (City of Fort Lauderdale Downtown Circulator).



Operating and maintenance (O&M) costs are not identified for some fixed facilities in the plan; however, costs may be involved in their ongoing maintenance. These costs are expected to be covered by other revenue sources beyond the scope of the LRTP. A description of the capital and O&M cost for each mode/category follows.

**Broward County Transit**

The FY2018 Transit Development Plan (TDP) was the basis for cost projections in the 2035 LRTP. Capital maintenance, as well as operating and maintenance cost requirements for the TDP levels of local bus and Breeze services were also included in the Needs Plan. The TDP includes six “Strategic Opportunistic Service Initiatives” that overlap Premium Transit Corridors. No additional local transit service was included beyond the ten-year plan as they are served with Premium Transit services.



**Premium Transit**

Cost was developed for each type of transit element based on cost estimates from other high capacity fixed guideway transit facilities in the U.S. A cost scenario was developed for each technology—Light Rail Transit, Bus Rapid Transit, and Premium Rapid Bus for 347 miles, including 109 miles of Premium Rapid Bus to provide connectivity between these modes. Selection of Premium Rapid Bus projects were made for corridors that did not merit premium high capacity transit modes (LRT or BRT) and included in each of the three scenarios. The range of cost levels by technology scenario are shown in the following table.

**Exhibit 18-Needs Plan Cost by Technology (Premium Transit)**

Transit Technology	Capital Cost (\$ millions 2009)	Average Cost (\$ millions 2009) (to construct/mile)	Annual O&M (\$ millions 2009)
LRT	\$10,772	\$45	\$185
BRT	\$4,502	\$19	\$135
Rapid Bus	\$249	\$0.8	\$72

*Cost per mile for transit technologies was calculated at mid-range for the U.S.*

*\*Cost for platforms, canopy, ticket vending machines, and bus bays are included in the cost for transit corridors.*

Cost per mile is in the mid-range for current cost estimates in the U.S. Aggregate capital cost estimates above exclude right-of-way acquisition cost that could be required due to the lack of definition of alignments and extent of the property needed. It was expected that because the fixed guideways would be incorporated into existing public right-of-way, property takes would primarily occur at station locations and places where the guideway transitions require a wider radius than can be accommodated in existing intersections. The projects included in these scenarios would not likely include extensive grade separation or bridges. At this conceptual level of project definition, a 30% design contingency (percentage of professional services and construction) and a 10% contingency on construction

cost were applied. Costs were adjusted to 2009 present day dollars, using an inflation factor of 3%.

### Mobility Hubs

Mobility Hubs are locations where people meet transit and are classified by the expected transit use and surrounding land use. The cost for each of the Gateway, Anchor, and Community hubs were estimated based on the footprint of the structures, transit amenities, intermodal facilities, the deployment of intelligent transportation systems, and security programmed for each. Right-of-way cost is not included in capital cost estimates. Exhibit 19 shows the types of improvements anticipated for each type of hub.

#### Exhibit 19–Mobility Hub Features

*Mobility Hubs represent a dramatic improvement to the transportation system.*

Feature	Gateway	Anchor	Community
Waiting Area*	Building*	Shelter*	Bus Stop
Community Plaza with Landscape/Public Art	Yes	No	No
Carshare Facility	Yes	No	No
Restrooms	Yes	No	No
Ticket Vending Machines	Yes	No	No
Wi-fi Facility	Yes	No	No
ITS Equipment for Downtown Central Facility	Yes	No	No
Bus Pull-in Bays*	Yes	Yes	No
Taxi Bays and Kiss-n-ride Pull-in	Yes	Yes	No
Surface Parking	Yes	Yes	No
Bikeshare Facility	Yes	Yes	No
Closed Circuit TV Cameras	4	2	1
Real-time Passenger Information	Yes	Yes	Yes
Transit Maps and Schedules	Yes	Yes	Yes
Emergency Phone Service	Yes	Yes	Yes
Allowance for drainage, utilities, landscaping	Yes	Yes	Yes

*\*Cost for platforms, canopy, ticket vending machines, and bus bays are included in the cost for transit corridors.*

### Roadway

Roadway cost estimates were developed using FDOT’s Long Range Estimation (LRE) System (July 2009). Right-of-way cost is included based on input from Broward MPO. Project contingency of 25% is applied to construction cost; design and construction engineering inspections (CEI) are estimated at 15% of total project cost with contingency for each.

### Freight/Seaport/Airport

Improvements for freight includes costs for seaport and airport projects in addition to freight rail movement of goods and services as provided by studies noted in the Needs Plan Section 4.1.3.

### Intelligent Transportation Systems

Cost for Automated Traffic Management System projects were provided by Broward County Traffic Engineering Division as documented in the FY2010-11 Unfunded Multimodal Surface Transportation Priorities. The Open Road Tolling is based on a per mile cost of \$1.5 million. ITS projects were estimated individually for each type of technology and the extent of its application in Broward County.

### Bikeways/Pedestrian Walkways/Greenways

Bicycle projects were based on an average of the cost for two types of facilities, striped bike lanes on existing pavement and off-road facilities. The average cost for each was derived from FDOT's average unit cost for Broward County. An average cost of \$232,000 per mile, or \$44/linear foot, was applied to the total mileage. The mix of on-road and off-road facilities will be determined during design. Pedestrian sidewalks were estimated based on an average per mile cost of \$358,000 or \$68/linear foot. These costs were also developed using the FDOT LRE System. An average cost of \$1 million per mile for greenway projects was provided by the Broward MPO.

### Safety and Security

Cost for safety and security features are included in individual project cost estimation for each mode. Additional safety and security programs and potential funding are described in Section 6.4 "Safety and Security."

### 4.2.2 Revenue Forecast

A significant change in methodology from the prior LRTP relates to the treatment of inflation. Federal planning regulations adopted in 2007 and corresponding MPO Advisory Council (MPOAC) guidelines now require that both cost and revenue forecasts be presented in year-of-expenditure (YOE) dollars, rather than in base year dollars as had been the standard approach previously. FDOT revenue forecasts are now given in YOE dollars, and FDOT provides inflation forecasts which can be used to estimate YOE project costs.

FDOT's guidelines for estimating and presenting future revenues are followed in this review, as laid out in the *2035 Revenue Forecast Handbook* and subsequent supplements, revisions, and workshops. FDOT currently provides its revenue forecasts for the period 2014 through 2018 as the "2nd Five Years Plan" and then the period 2019 through 2035 as the "2035 Cost Feasible Plan." (See Appendix, Exhibit 80 for the FDOT Revenue Forecast.) The updated 2009-2013 Transportation Improvement Program (TIP) is used for near-term revenue forecasts prior to the "2nd Five Years Plan." Funding in the 2035 Cost Feasible Plan is provided for 2019 and 2020 and then in five-year aggregates for the periods 2021 to 2025, 2026 to 2030, and 2031 to 2035.

Revenue growth rates for key local revenue sources, including gas taxes, transportation concurrency fees, and ad valorem (property) taxes, were developed in consultation with MPO staff.



This analysis describes only state FDOT revenues forecasted to flow to Broward County for capital improvement purposes—that is, for the State Capacity Program. The review conducted does not include FDOT operating and maintenance funds from the State Non-Capacity Program that would be applied to facilities in Broward County. FDOT implements the Non-Capacity Program throughout the state and does not provide district-level revenue estimates for the Non-Capacity Program. According to FDOT, the Department has estimated sufficient revenues to meet the non-capacity safety, preservation, and support objectives in each metropolitan area of the state. The *Financial Resources Technical Report* details revenue forecasts by source.

The financial analysis of the recommended transportation improvements of the 2035 LRTP focuses on transit, pedestrian, bicycle, highway, and local street and road improvements (Systems Development) as well as ITS and Travel Demand Management components. Freight, Airport, Seaport, and Waterways are also referenced.

Capital, operating, maintenance, and rehabilitation costs of the region's transportation systems over the next 25 years are compared against forecasts of available revenues. Actions are recommended to obtain the revenues necessary to implement the improvements recommended in the plan.

*State and federal regulations require the development of a revenue-constrained plan.*

State and federal planning regulations require the development of a revenue-constrained plan. Such a plan is based only on current sources and levels of federal, state, and local transportation revenue projected out to the year 2035. This scenario includes federal and state formula funds as well as federal and state discretionary funds for existing projects and reasonable assumptions for new projects based on historical information. However, future increases in federal and state gas taxes, or the establishment of other new revenue sources are not included in the revenue-constrained scenario.

Many worthwhile projects identified in the Needs Plan are necessarily deferred as unfunded projects in the Cost Feasible Plan due to the limited availability of reasonably foreseeable revenues forecast in the 2035 LRTP. Today's strategy for the future seeks innovation to identify potential new revenue sources to meet the full range of future transportation deficiencies.

Because we cannot afford to build all projects needed, the most effective projects need to be selected to best accomplish our goals. Innovative revenue sources are discussed in detail in Chapter 6 "Context."

### 4.3 Cost Feasible Assessment

In the Needs Plan assessment, transit corridors were identified and defined for selection based on ridership projections for corridor segments. Locations were selected where people connect to transit based on the level of boardings and alightings, transit supportive land use policies, and the proposed transit mode. These transit access points, or Mobility Hubs, were classified as Gateway, Anchor, or Community hubs. Other modes required to access these locations (pedestrian, bikeway, bus service, and roadway improvements) were prioritized in proximity to these Mobility Hubs to ensure connectivity and integration of all travel modes in the most efficient manner. In some cases, projects were identified to address traffic bottlenecks, including intersection improvements, roadway widening or traffic signal technologies.

#### 4.3.1 Project Prioritization

The next step in developing the Cost Feasible Plan is the ranking and prioritization of candidate system elements and projects. Separate evaluation criteria were established for each mode to study synergies among them through the model, and to select the most effective set of intermodal transportation solutions for the 2035 LRTP. A brief description of the criteria by mode follows.

#### Transit Projects

The first step in reviewing the merit of Premium Transit projects was to conduct a link-level analysis using the Southeast Florida Regional Planning Model to maximize the synergies among modes. All Needs Plan projects for Premium Transit corridors were modeled as mode-neutral to determine the levels of use for each corridor segment. Either BRT or LRT technologies could be implemented based on further study.

Ridership levels were displayed for each corridor segment (link breaks usually occur at major intersections). These corridor segments, or links, were classified according to ridership levels, also referred to as volume or load. Link-level ridership over 3,000 daily trips projected for 2035 warranted a Premium High Capacity or fixed guideway system. If the link-level ridership was over 1,700 but less than 3,000 in 2035 daily trips then the corridor link was classified as a Premium Rapid Bus project. Less than 1,700 daily trips were given a low priority for future consideration. (See Exhibit 20 on the following page.)

In addition to the link-level analysis, we also considered locations that would serve as logical termini for transit projects. Land use characteristics and operational needs were factored into the selection for logical termini and interlining of various levels of high capacity or Rapid Bus Transit services.

During the link-level analysis, corridors were characterized, logical termini were refined, and resulting project definitions were prioritized from the most effective to the least effective based on modeled



## Exhibit 20—Link-Level Analysis Map

# LEGEND

### PREMIUM TRANSIT PROJECTS

(Link Volume 2035)

- 6656-9789
- 4201-6655
- 2851-4200
- 1696-2850
- 811-1695
- 22-810

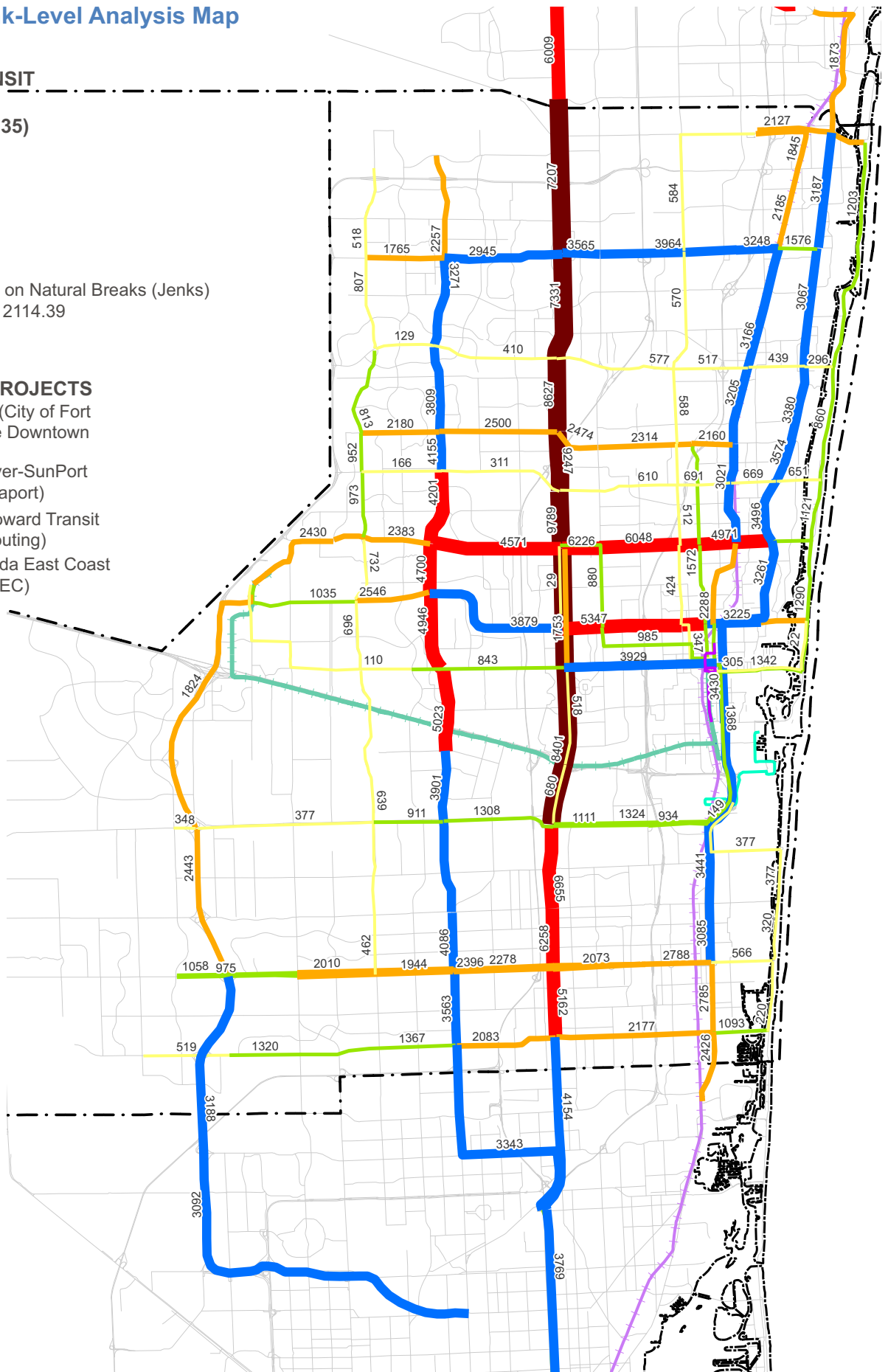
Classification based on Natural Breaks (Jenks)  
 Standard Deviation: 2114.39  
 Mean: 2387.64

Median: 1859

### ILLUSTRATIVE PROJECTS

- The Wave (City of Fort Lauderdale Downtown Circulator)
- Peplemover-SunPort (Airport/Seaport)
- Central Broward Transit (not final routing)
- South Florida East Coast Corridor (FEC)

Note: Illustrative projects are shown only for context and are not part of the 2035 Cost Feasible Plan.



*Highest ranking Premium Transit projects were compared to available revenue sources.*

ridership levels. Projects were further ranked based on additional measures:

- Travel market size (total potential trips normalized by traffic analysis zone (TAZ) that could be served by the project),
- Cost-effectiveness (capital cost per rider),
- System efficiencies (number of connections to Premium Transit Corridors),
- Ability to leverage new funding sources (annualized capital cost, plus operations and maintenance cost per rider),
- Tax Incremental Financing (TIF) opportunities (percentage of route covered by designated transit support land uses—TOD, TOC, CRA, and higher density mixed use areas),
- Service for transit dependent population (households with no cars within a quarter mile of the corridor/facility),
- Reduction in greenhouse gases (CO<sub>2</sub> emissions in pounds per year), and
- Reduction in vehicle miles traveled (passenger miles).

The highest ranking Premium Transit projects were compared to the available revenue resources to determine what projects would be included in the Cost Feasible Plan. See Section 5.1 for details on the Cost Feasible Plan results. Projects that are currently under study were not ranked and are not funded for implementation in this plan. Projects that have not achieved completion of the federally-required corridor studies and NEPA processes are referred to in this plan as “Illustrative” projects and would be considered for funding at a later time. Other projects of merit are included in the 2035 LRTP as unfunded projects for possible further study and future funding strategies.

**Mobility Hubs**

Resulting Premium Transit projects that were included in the Cost Feasible Plan and their new project termini were then compared to the initial list of Mobility Hubs to refine their inclusion accordingly. Evaluation criteria for all remaining Mobility Hubs included:

- Critical connections along selected cost feasible transit corridors (number of transit corridors served—local bus routes in addition to Premium Transit Corridors),
- Service to existing developed areas (number of jobs and population within one half mile of Mobility Hubs),
- Local request/support through LRTP input or other plan designation (published plans, studies, and requests),
- Public-Private Partnership opportunities (land use designation status/initiative), and
- Tax Incremental Financing opportunities (MPO-identified potential).





All Broward County Greenway projects were included.

### Pedestrian/Bicycle/Greenway Projects

Projects identified in the Needs Plan for pedestrian and bikeway facilities were prioritized based on the following criteria:

- Improvements near schools (distance from schools),
- Integration with Greenways (proximity to Greenways),
- Supports Mobility Hubs (proximity to hub and ranking), and
- Provides continuity/connectivity to the overall transit system (proximity to transit route).

The Broward County Greenways Plan includes priorities and costs. Projects were included in the Cost Feasible Plan as provided.

### Roadways

Roadway projects that were not included in the funding allocation for the FDOT Strategic Intermodal System (SIS), the Florida Intrastate Highway System (FIHS), and Florida’s Turnpike Enterprise system were prioritized for potential inclusion in the Needs Plan based on the following criteria:

- Supports access/egress to designated cost feasible Mobility Hubs (proximity),
- Supports transit guideway project (types of transit operating on roadway),
- Cost benefit (cost per mile per trip),
- Relevance to SIS facility (model output),
- Relevance to safety (improves design at high crash/incident locations),
- Congestion mitigation (improves volume/capacity), and
- Hurricane evacuation (improves traffic flow on designated evacuation route).

### Intelligent Transportation Systems (ITS)

All projects identified in the Needs Plan for ITS were included in the Cost Feasible Plan.

### Freight/Airport/Seaport

These projects were not prioritized because of their peculiar characteristics and benefits that cannot be appropriately compared against each other. All projects in the Needs Plans for Freight/Airport/Seaport were included in the Cost Feasible Plan.

### Safety & Security

Safety and security features are incorporated into specific projects. Please see Section 6.4 for a detailed discussion on safety and security aspects as they relate to the LRTP for Broward County.