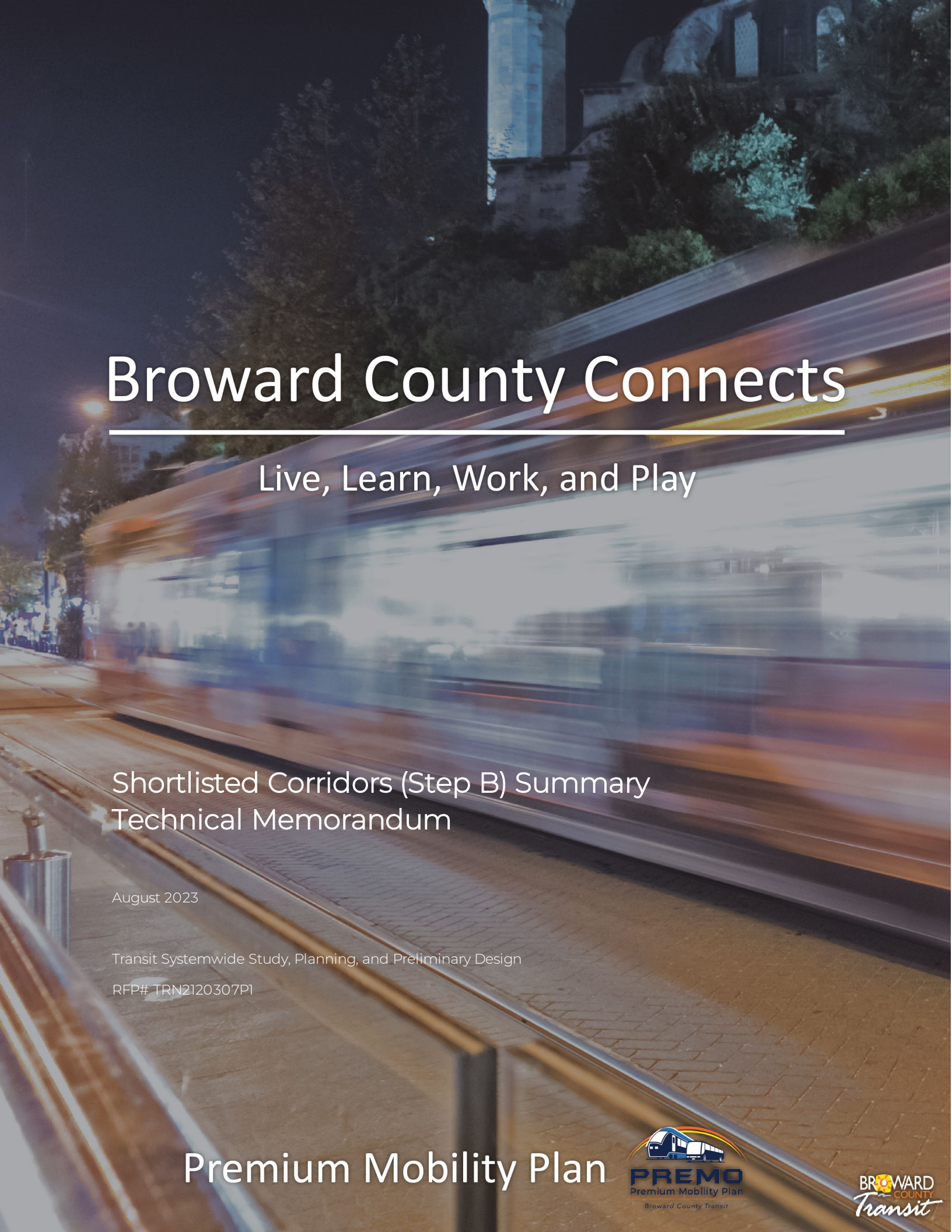

# Broward County Connects

## Live, Learn, Work, and Play

## Shortlisted Corridors (Step B) Summary Technical Memorandum

August 2023

Transit Systemwide Study, Planning, and Preliminary Design

RFP# TRN2120307P1

Premium Mobility Plan

PREMO Premium Mobility Plan Broward County Transit

BROWARD COUNTY Transit

| | |
|---|---|
| Name: | Broward County Transit Systemwide Study, Planning, and Preliminary Design |
| RFP Contract Number: | TRN2120307P1 |
| Project Limits: | Broward County (Entire County) |
| Proposed Activity: | Provide a transit systemwide study including planning and preliminary designs resulting in the Premium Mobility Plan (PREMO) |
| Document Purpose: | Description and documentation of BCT Premium Mobility Plan's Step B approach, methodology, coordination, and results to identify the Shortlisted Corridors. |

## Prepared for
Broward County

## Prepared by
WSP

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# Acronyms and Abbreviations

| | |
|---|---|
| BCT | Broward County Transit |
| CIG | Capital Investment Grant |
| CTPP | Census Transportation Planning Package |
| FDCA | Florida Department of Community Affairs |
| FDOR | Florida Department of Revenue |
| FDOT | Florida Department of Transportation |
| FG | Fixed Guideway |
| FLL | Ft. Lauderdale-Hollywood International Airport |
| FLU | Future Land Use |
| FTA | Federal Transit Administration |
| GIS | Geographic Information System |
| JTW | Journey to Work |
| KNR | Kiss-n-Ride |
| LEHD | Longitudinal Employer-Household Dynamics |
| LPA | Locally Preferred Alternative |
| MAP Broward | Mobility Advancement Program |
| OD | Origin-Destination |
| PAG | Project Advisory Group |
| PNR | Park-n-Ride |
| PREMO | Broward County Transit Premium Mobility Plan |
| SMART | Strategic Miami Area Rapid Transit |
| STOPS | Simplified Trips on Project Software |
| TAZ | Traffic Analysis Zone |
| TDP | Transit Development Plan |
| TOD | Transit Oriented Development |
| TSP | Transit Signal Priority |
| VMT | Vehicle Miles Traveled |

# 1. Introduction

PREMO incorporates the goals of the Penny for Transportation Surtax Program. This program, referred to as the Broward Mobility Advancement Program (MAP Broward), provides funding support for improving transit service, enhancing multimodal options, and ensuring economic development and benefits. The Transportation Surtax took effect on January 1, 2019.

This document outlines Step B of PREMO to identify the Shortlisted Corridors.

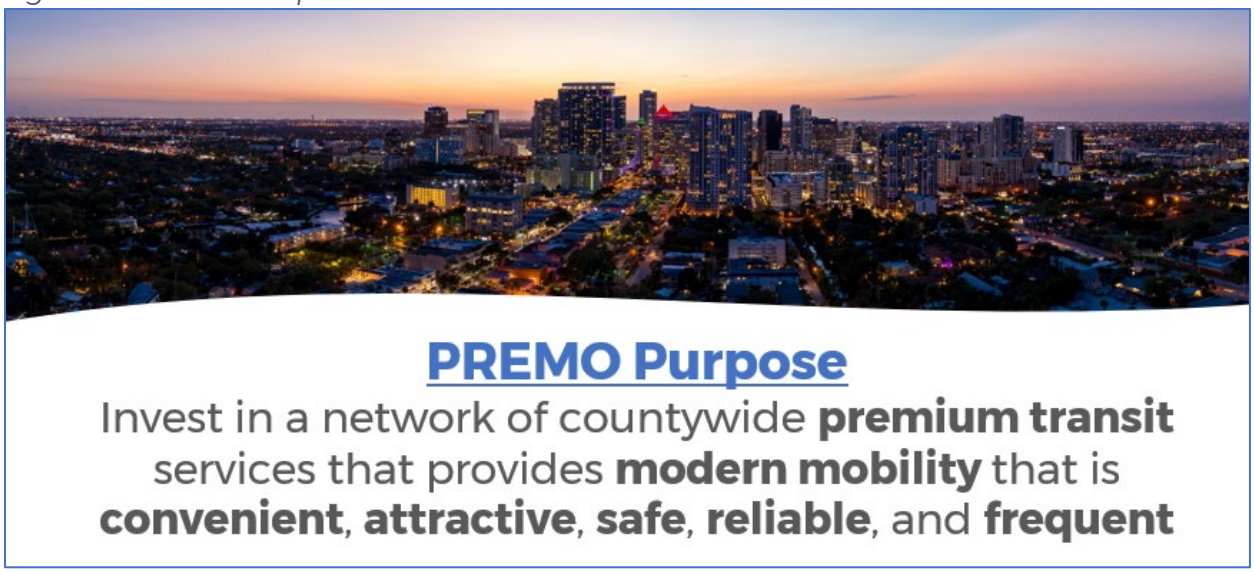
## 1.1 PREMO Purpose

PREMO will define a vision for a world-class premium transit network in Broward County. To achieve this vision, PREMO strategically identifies a program of projects that sequences the implementation of premium transit services —connecting local BCT routes to regional services.

Premium transit is an expression that describes high-capacity transit projects that are modern, convenient, attractive, safe, and reliable. Premium transit can also include investments that give preferential treatment to transit in the form of exclusive or shared transit lanes and the use of technologies that give transit a priority at signalized intersections.

PREMO will closely follow Federal Transit Administration (FTA) Capital Investment Grant (CIG) guidelines, while coordinating closely with the Florida Department of Transportation (FDOT), the Broward County Public Works Department, municipal partners, and other stakeholders.

*Figure 1: PREMO Purpose*



## 1.2 PREMO Goals

PREMO will evaluate and recommend the location and mode of various premium transit service investments in Broward County. The goals of PREMO include:

- Improve Mobility for All: ensure mobility improvements for all who live, work, and travel in Broward County through implementing a reliable, premium transit service
- Implement Equitable Transit Solutions: ensure that transit improvements provide access to jobs, services, and destinations from all communities throughout Broward County, with a focus on equitable connections for transit dependent populations and underrepresented communities
- Improve Safety and Security, and Ensure Environmental Stewardship: provide safe mobility options that minimize impacts to the environment and ensure that customers and communities are safe and secure
- Enhance Economic Development and Ensure Financial Sustainability: implement cost-effective transit solutions to encourage transit-supportive development while providing improved access and connectivity to employment areas and population centers
- Integrate and Serve Communities: implement transit investments with connections to multimodal hubs, employment centers, and activity centers to connect with existing and future development that is oriented for transit

## 1.3 PREMO Process

PREMO follows a tiered technical evaluation process, with each tier addressing a single key question. The answer to each question facilitates the development of the PREMO Plan, serves County needs, and meets established goals. Figure 2 illustrates the PREMO process starting with the identification of a premium transit network (Step A) and resulting in a sequenced program of projects (Step F) for implementation.

*Figure 2: PREMO Evaluation Process*

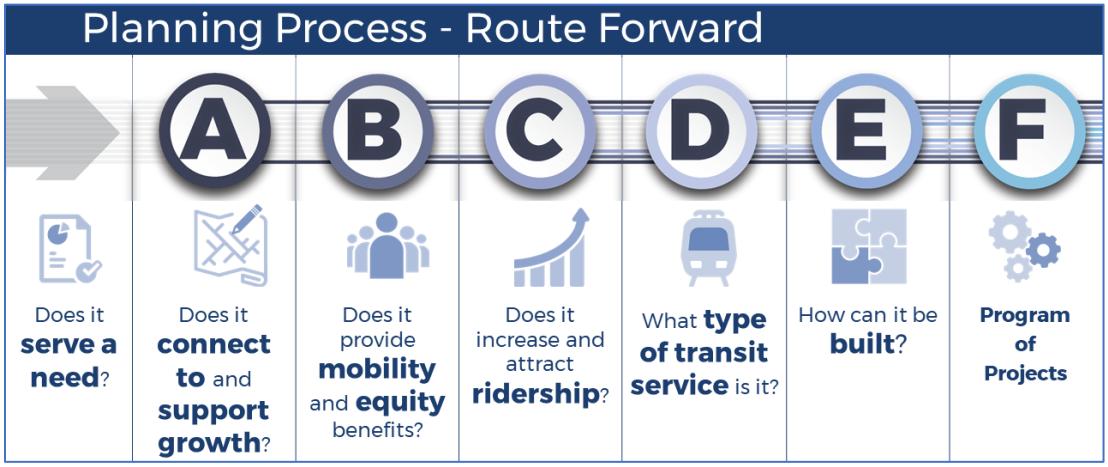



Table 1 provides a summary of the PREMO process. PREMO will be directed by the outcomes of technical analyses, stakeholder direction, and public opinion.

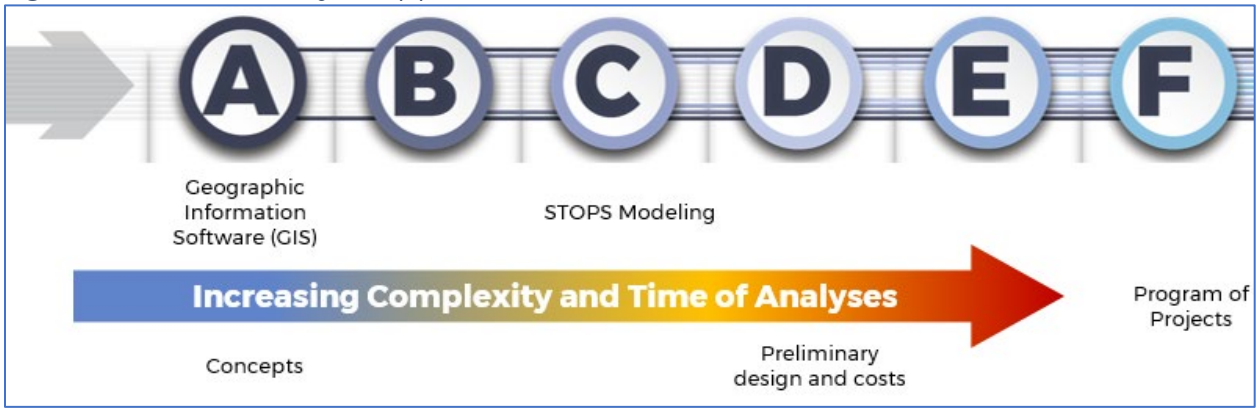
*Table 1: PREMO Process Steps*

| Step | Key Question to be Addressed | Anticipated Outcome |
|---|---|---|
| Initial | Does the proposed PREMO corridor address a County mobility need? | **Initial Network:** List of initial candidate corridors to be considered for premium transit |
| A | Does the proposed PREMO corridor connect to and support County growth? | **Initial Corridors:** Approximately 20 top performing corridors to be considered for a premium transit investment |
| B | Does the proposed PREMO corridor provide mobility and equity benefits? | **Shortlisted Corridors**: Approximately 10 top performing corridors to be considered for a premium transit investment |
| C | Does the proposed PREMO corridor increase and attract transit ridership? | **Demand for Ridership**: Evaluate ridership demand and match appropriate transit types for each Shortlisted Corridor |
| D | What type of transit service best serves the proposed PREMO corridors? | **Define the Preferred Transit Type**: Validated and defined the recommend transit type for each Shortlisted Corridor |
| E & F | How can the proposed PREMO projects best be built? | **Implementation Strategy:** A sequenced program of projects and each project's proposed implementation strategy |

# 2. Step B: Shortlisted Corridors Approach

Each step in PREMO's development increases the level of analytical complexity (see **Figure 3**). During the initial phase, the number of potential premium transit corridors under consideration warranted Countywide analyses. Steps C through E involve corridor specific analyses to examine project implementation details. For example, Steps A and B primarily focus on readily available Geographic Information Systems (GIS) data. Steps C through E use the FTA Simplified Trips on Project Software (STOPS) model.

*Figure 3: PREMO Analysis Approach*



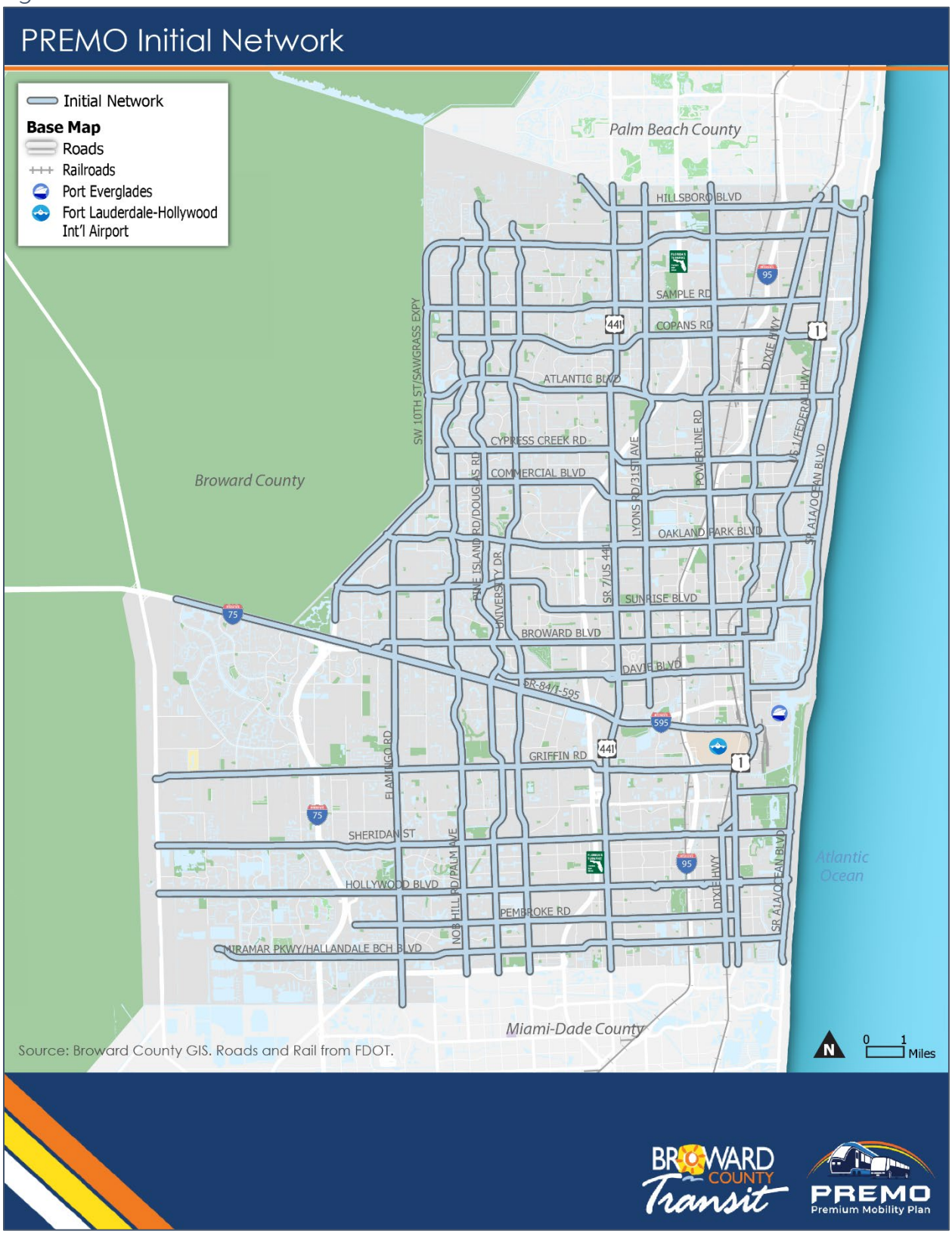

## 2.1 Getting to Step B

### 2.1.1 Identifying the Initial Network

The Initial Network is comprised of major north-south and east-west roads within Broward County that have the potential to serve both existing and future mobility needs. This Initial Network was presented to the PAG in January 2022 and is discussed in the Transit Systems Definition Report. **Figure 4** shows the Initial Network, which include (alphabetical order):

- Atlantic Boulevard
- Broward Boulevard
- Commercial Boulevard
- Cypress Creek Road
- Davie Boulevard
- Dixie Highway
- Flamingo Road
- Griffin Road
- Hillsboro Boulevard
- Hollywood Boulevard
- Lyons Road/31st Avenue
- Miramar Parkway/Hallandale Beach Boulevard
- Nob Hill Road/Palm Avenue
- Oakland Park Boulevard
- Pembroke Road
- Pine Island Road/Douglas Road
- Powerline Road
- Sample Road
- Sheridan Street
- SR 7/US 441
- SR A1A/Ocean Boulevard
- SR-84/I-595
- Sunrise Boulevard
- SW 10th Street/Sawgrass Expressway
- University Drive
- US-1/Federal Highway

*Figure 4: PREMO Initial Network*



### 2.1.2 Step A: Identifying the Initial Corridors

The purpose of Step A was to identify corridors that connect to and support Broward County's expected growth. The Step A analysis resulted in the Initial Corridors to move forward and served as the starting point for Step B. For more information about the process to identify the Initial Corridors, refer to the Initial Corridors (Step A) Summary Technical Memorandum. The Initial Corridors are shown in Figure 5 and include (alphabetical order):

- Atlantic Boulevard
- Broward Boulevard
- Commercial Boulevard
- Cypress Creek Road
- Dixie Highway
- Douglas Road/Pine Island Road
- Hollywood Boulevard
- Lyons Road/31st Avenue
- Miramar Pkwy/Hallandale Beach Blvd
- Nob Hill Road/Palm Avenue
- Oakland Park Boulevard
- Pembroke Road
- Powerline Road
- Sample Road
- Sheridan Street
- SR A1A/Ocean Boulevard
- SR7/US441
- Sunrise Boulevard
- University Drive
- US 1/Federal Highway

### 2.1.3 Broward County Transit Projects Currently Under Consideration

PREMO recognizes the importance of projects currently being considered by Broward County. While these efforts are being discussed or studied under separate but parallel efforts, they are part of the broader County premium transit network and included within PREMO. These projects include Broward Commuter Rail, the Airport-Seaport-Convention Center Connector, Downtown Connection, and Broward Boulevard. These projects are included in the PREMO network and shown in Figure 5.

*Figure 5: PREMO Initial Corridors*

## Broward Commuter Rail – South

Broward Commuter Rail South (Figure 6) is a proposed 11.5-mile commuter service operating together with Brightline on the FEC line and connecting downtown Ft. Lauderdale with Aventura and Miami to the south. Three new Broward County stations are proposed:

- SW 15th St/SW 17th St. (near Broward Health Medical Center) – Ft. Lauderdale
- Ft. Lauderdale/Hollywood International Airport
- Tyler Street/Taylor Street – Hollywood

The project goals are to enhance regional mobility, provide congestion relief on roadways, and foster economic growth. The Broward County Board of County Commissioners selected an LPA in August 2022, and the FTA subsequently approved project development in December 2022. With total project capital expenses estimated at $297 million, 50% of needed funding is anticipated from the FTA's Small Starts grant program. The northern portion to Palm Beach County is under further study.

*Figure 6: Broward Commuter Rail Project Map*

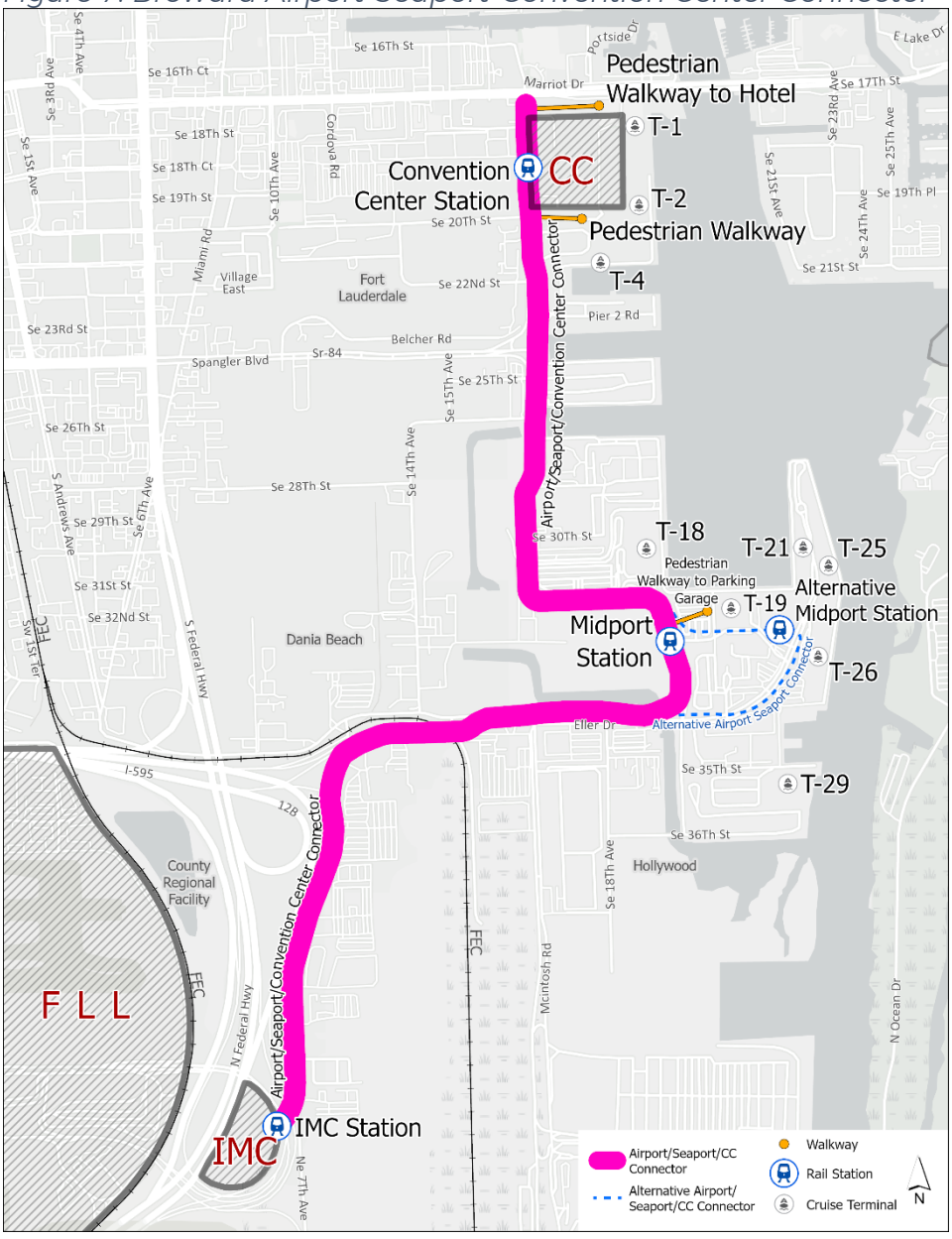
## Airport-Seaport-Convention Center Connector LRT

Broward County will study light rail transit (LRT) connecting Ft. Lauderdale-Hollywood International Airport (FLL), Port Everglades, and the Broward County Convention Center (Figure 7). BCT advanced the project by including capital planning budget funding of $81.7 million in FY25 for planning, design, and project management and $202.5 in FY27 for construction, anticipating FTA New Starts support for 50% of the total program cost.

The Airport-Seaport-Convention Center Connector is planned to be 3.5 miles with 3 stations:

- Intermodal Center (at FLL)
- Midport (Port Everglades)
- Convention Center

*Figure 7: Broward Airport-Seaport-Convention Center Connector*

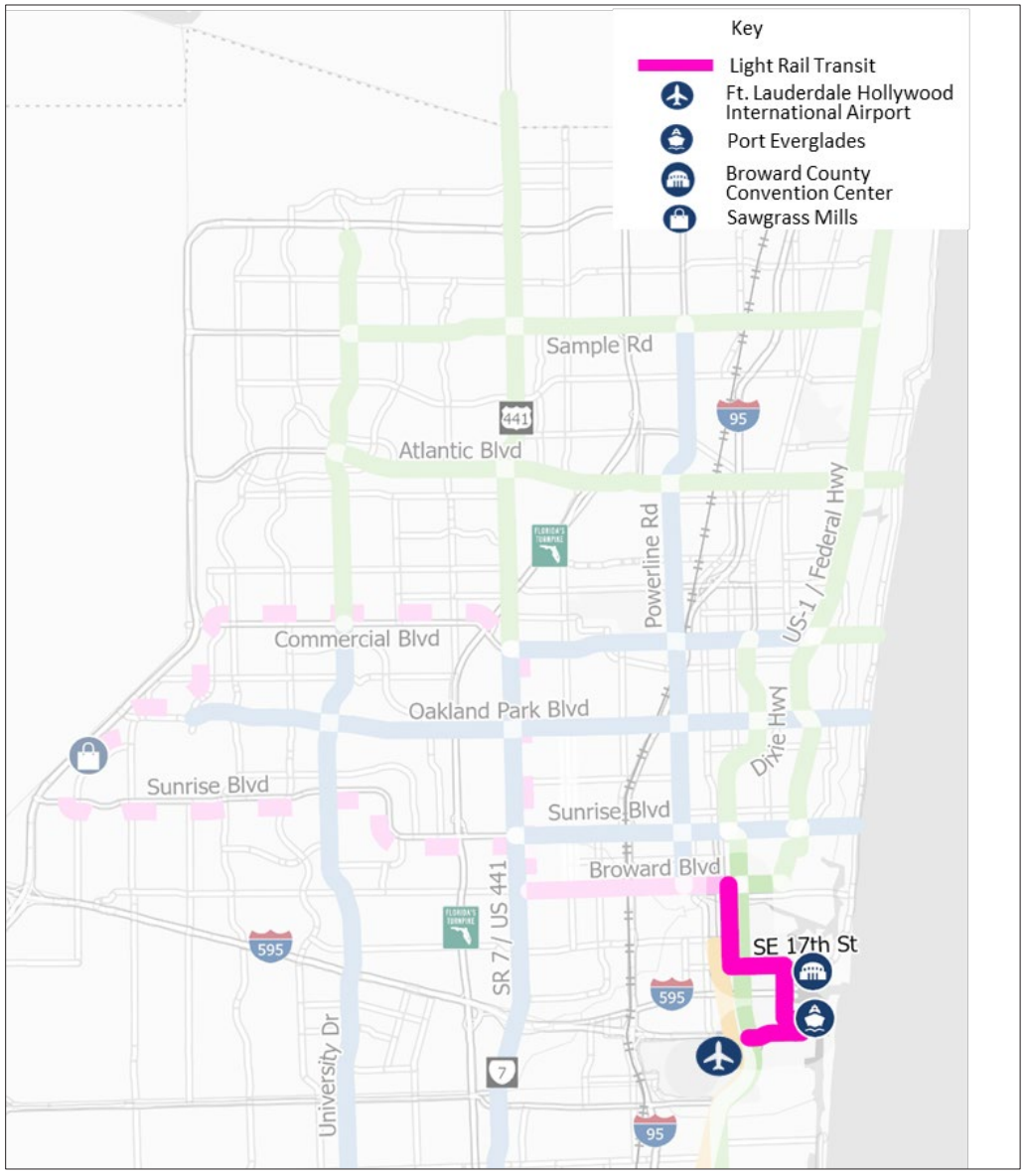


## Downtown Connector LRT

The Downtown Connection LRT is a logical extension from the Convention Center to Downtown Fort Lauderdale (Figure 8). The project will add 4 miles of light rail west along SE 17th Street and north to downtown, passing near the Broward Health Medical Center and the Broward County Courthouse complex and connecting these locations with the seaport and airport.

Alignment and station locations are to be finalized; projected opening is 2035

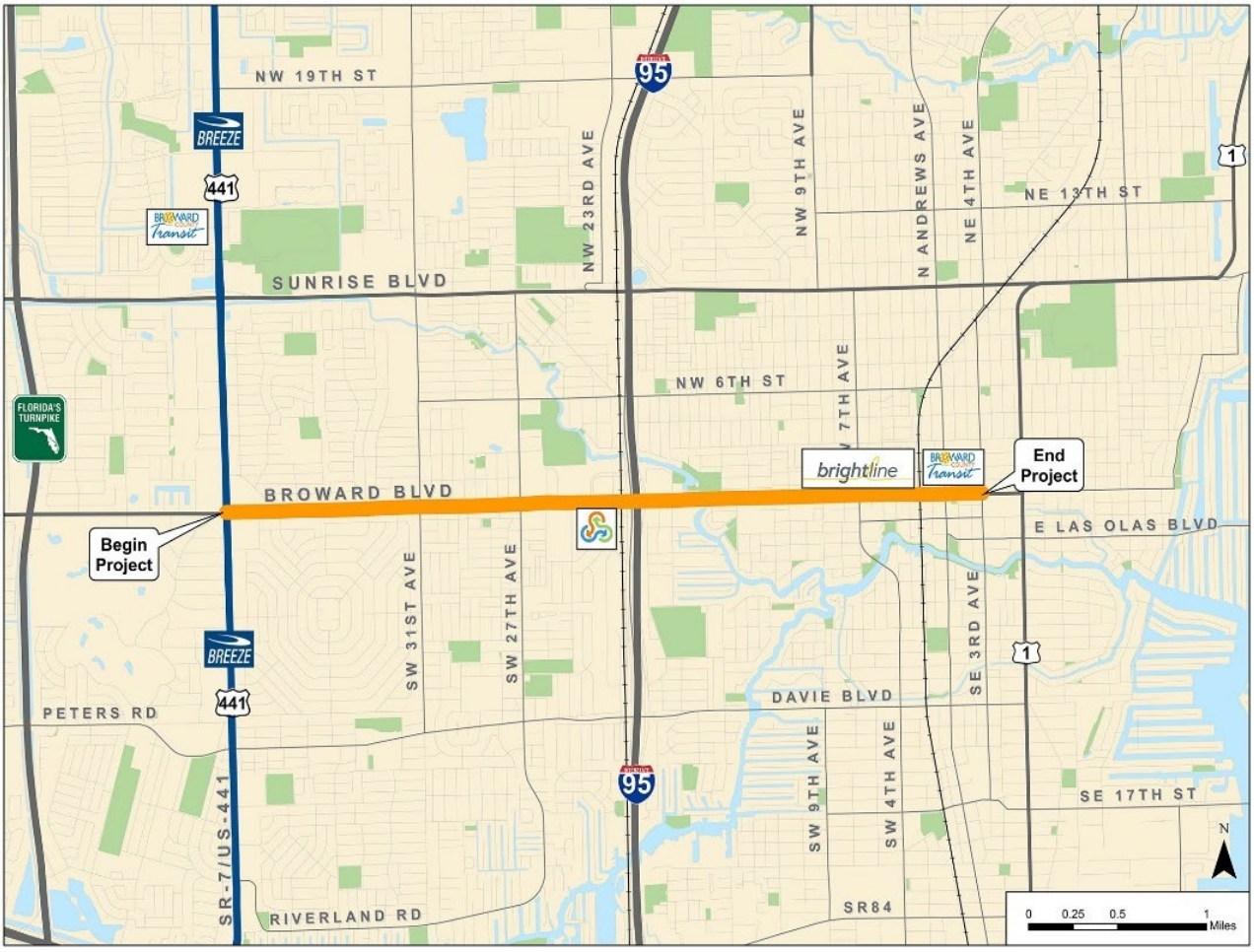
*Figure 8: Downtown Connector LRT*



## Broward Boulevard LRT

Broward County and FDOT D4 have initiated the Broward Boulevard Premium Transit (BBPT) Study (Figure 9), which includes a technical evaluation of a premium east-west transit service along the segment of Broward Boulevard from approximately SR 7/US 441 in the City of Lauderhill to approximately East 3rd Avenue in Downtown Fort Lauderdale. The purpose of this project is to provide mobility options and make important transit connections within the study area, including SR 7/US 441 Breeze and local service, the 95 Express Bus and Tri-Rail station at Broward Boulevard and I-95, and with the Brightline Station and Broward County Transit (BCT) Central Terminal in Downtown Fort Lauderdale.

*Figure 9: Broward Boulevard Study Map*



## 2.2 Project Readiness

Transit planning and implementation is complex and can take several years to complete. Therefore, "early wins" or opportunities to accelerate investments are important to meeting the objectives of MAP Broward.

There are several existing plans in Broward County that have established community priorities and transit recommendations. While many of these projects have merit, they did not continue through to implementation, oftentimes due to lack of available funding. Consistency with these plans assists in identifying PREMO Project Readiness opportunities and avoids wasting resources re-evaluating a prior recommendation.

PREMO Project Readiness criteria identifies mature transit projects that meet the goals and objectives of PREMO and have the potential to be implemented more quickly. To identify the potential projects ready to advance, evaluation criteria were developed to analyze each candidate's viability for consideration. This memorandum outlines the evaluation process and resulting identification of PREMO Project Readiness opportunities. The following criteria were used to evaluate Project Readiness opportunities.

1. Transit recommendation is identified in a previously adopted Metropolitan Transportation Plan (MTP).
2. Transit recommendation has completed a formal technical analysis such as a Feasibility Study, Project Development & Environment Study and/or the National Environmental Policy Act (NEPA) process, Conceptual Design and/or Design.
3. Transit recommendation is not included within or as part of an ongoing transit study or study area.
4. Transit recommendation is considered a premium transit service.
5. Transit recommendation has secured a formal endorsement by a governing board (Board Approval) of the recommendation or a locally preferred alternative (LPA).
6. Transit recommendation has documented public outreach.
7. Transit recommendation has completed some level of conceptual design.
8. Transit recommendation should have developed planning-level or design-level capital and operating cost estimates.
9. Transit recommendation should have defined an operating service plan.
10. Transit recommendation should have developed preliminary ridership forecasts and demonstrated the ability to increase existing corridor ridership.
11. Transit infrastructure has been implemented within a corridor that is supportive of future premium transit service investment.

Table 2 shows the projects that scored highest in the evaluation.

*Table 2: PREMO Project Readiness Opportunities Scoring*

| Corridor | # of Criteria Satisfied |
|---|---|
| **Oakland Park Boulevard**<br>Oakland Park Boulevard Alternatives Analysis, FDOT | 11 |
| **SR 7/US 441**<br>SR 7/US 441 Transit Corridor Improvements Project, FDOT | 11 |
| **University Drive**<br>University Drive Mobility Improvements Planning Study, Broward MPO | 10 |
| **US 1/Federal Highway**<br>South US 1 Bus Rapid Transit Improvement Study, Broward MPO | 9 |

Oakland Park Boulevard was selected to advance into project development since subsequent transit investments were completed as part of short-term improvements endorsed by the Broward MPO in 2014, along with the selection of the locally preferred alternative.

## 2.3 Step B Performance Measures

PREMO evaluates premium transit recommendations using quantitative and qualitative analyses to determine how well each recommendation satisfies the identified goals. In doing so, performance measures are aligned with PREMO goals and objectives.

Table 3 describes the performance measures used for Step B. The table also demonstrates how these performance measures are applied. As described, these performance measures have been discussed with the PAG during the May 2022 and September 2022 meetings.

*Table 3: Step B PREMO Performance Measures*

| | |
|---|---|
| **Key:** | Does it provide mobility and equity benefits? |
| **Goals:** | Improve Mobility for All; Implement Equitable Transit Solutions |
| **Objective:** | Using the Initial Corridors recommended to advance from Step A, identify approximately 10 top performing corridors or Short-listed Corridors recommendation |

| | | | | | |
|---|---|---|---|---|---|
| Improve Mobility for All | Bicycle Connections | Miles of bicycle and trail facilities within a 1/2-mile buffer of the top 20 corridors. Calculated as a per corridor mile average. | Broward County and Municipal GIS Data/Tool: GIS | Range of data results demonstrated by the Initial Corridors divided into percentiles | High<br>Medium High<br>Medium<br>Medium Low<br>Low |
| | Pedestrians Connections | Street block densities within a 1/2-mile buffer of the top 20 corridors. Calculated as a per corridor mile average. | Broward County and Municipal GIS Data/Tool: GIS | | |
| | | Sidewalk facilities within a 1/2-mile buffer of the top 20 corridors. Calculated as a per corridor mile average. | Broward County and Municipal GIS Data/Tool: GIS | | |
| | Regional Connectivity | Number of regional multimodal and transit connections within a 1/2-mile buffer of the top 20 corridors. Calculated as a per corridor mile average. | Broward County and Municipal GIS Data/Tool: GIS | | |
| | Existing Corridor Capacity and Congestion | Corridor volume to capacity (v/c) ratio and level of service of the top 20 corridors. With greater levels of congestion providing the best opportunity for premium transit to provide mobility benefits. | Most Recent Traffic Counts, Broward County and Municipal GIS Data/ Tool: FDOT Traffic On-line Portal and Spreadsheet Analyses | | |
| | Future Corridor Capacity and Congestion | Corridor v/c ratio and level of service of the top 20 corridors. With greater levels of congestion providing the best opportunity for premium transit to provide mobility benefits. | SERPM8 Future Data, Broward County and Municipal GIS Data/ Tool: SERPM8 | | |
| Implement Equitable Transit Solutions | Equity and Transit Dependent Populations | Existing transit dependent populations and populations below poverty, racial minority, ethnic minority, youth (10 -17 years) and older adults (65 year and older), Limited English Proficiency (LEP), zero-car households, and disabled within a 1/2-mile buffer of the top 20 corridors. Calculated as a per corridor mile average. | SERPM8 Data and/or US Census; American Community Survey/ Tool: GIS | Range of data results demonstrated by Initial Corridors divided into percentiles | |
| | Access to Jobs | Number of existing jobs within a 30-minute transit trip. Isochrone analysis using existing BCT network and premium transit corridor (1/2-mile job buffer from Isochrone). Calculated as a per corridor mile average. | Broward County and Municipal GIS Data/Tool: TransCAD | | |
| | Access to Activity Centers | Number of activity centers within a 30-minute transit trip. Isochrone analysis using existing BCT network and premium transit corridor (1/2-mile activity centers buffer from Isochrone). | Broward County FLUM and Municipal GIS Data/ Tool: TransCAD | | |
| | Access to Affordable Housing | Number of affordable housing units within a 30-minute transit trip. Isochrone analysis using existing BCT network and premium transit corridor (1/2-mile existing affordable housing buffer from Isochrone). | Broward County and Municipal GIS Data/ Tool: TransCAD | | |

## 2.4 Data Sources and Criterion Thresholds

Evaluation criteria were applied to the Initial Corridors to determine how well each corridor satisfies the goals of the analysis. The objective is to determine corridors that provide additional benefits of mobility and equity. Data analysis and isochrone analysis were used to complete this step.

It should be noted that Broward MPO develops and adopts a forecast for future jobs and population growth in Broward County as part of their Metropolitan Transportation Plan (MTP). Following national best practices, this adopted socioeconomic data was heavily used in the development of PREMO.

As described in Table 3, data sources used for completing analyses are described below:

- Existing bicycle and pedestrian connections were evaluated using available existing multimodal infrastructure GIS data provided by Broward County and Broward County Municipalities
- Existing corridor capacity and congestion were evaluated using available FDOT traffic data
- Future corridor congestion and capacity were evaluated using adopted travel forecasts from the Southeast Regional Planning Model (SERPM)
- Equity and Transit Dependent Populations were evaluated using Broward MPO socioeconomic data and U.S. Census data
- Access to Jobs, Activity Centers, and Affordable Housing were evaluated using Broward MPO socioeconomic data and Broward County GIS data

### 2.4.1 Data Analysis

Tables 4 through 11 show the source of the data reviewed and the scoring breakpoints or thresholds for each criterion, organized by goal:

- Improve Mobility for All
- Implement Equitable Transit Solutions

Each performance metric includes the source of data and scoring breakpoints used in the shortlist calculations. The full data is provided in Appendix A.

*Table 4: Criterion Thresholds – Improve Mobility for All*

| PREMO Goal | Improve Mobility for All | |
|---|---|---|
| Evaluation Criteria | Bicycle Connections | Pedestrian Connections |
| Measure of Effectiveness | Miles of bicycle and trail facilities within a 1/2-mile buffer of the corridors, calculated as a per corridor mile average | Street block densities within a 1/2-mile buffer of the corridors, calculated as a per corridor mile average |
| Data Source | Broward County and Municipal GIS Data/ Tool: GIS (Broward County GeoHub) | Broward County and Municipal GIS Data/ Tool: GIS (Broward County GeoHub) |
| Average | 2 | 0.21 |
| Standard Deviation | 1 | 0.07 |
| Maximum Value | 3 | 0.41 |
| Minimum Value | 1 | 0.11 |
| Sum | 35 | 4.13 |
| Median | 2 | 0.19 |
| Top 4/5ths | 2.339 | 0.35 |
| Middle 3/5ths | 1.901 | 0.29 |
| Bottom 2/5ths | 1.464 | 0.23 |
| Bottom 1/5th | 1.026 | 0.17 |
| Range | 2 | 0.30 |
| High Score of 5 | ≥ 2.340 | ≥ 0.35 |
| Medium High Score of 4 | ≥ 1.911 and < 2.339 | ≥ 0.29 and < 0.35 |
| Medium Score of 3 | ≥ 1.472 and < 1.901 | ≥ 0.23 and < 0.29 |
| Medium Low Score of 2 | ≥ 1.036 and < 1.464 | ≥ 0.17 and < 0.23 |
| Low Score of 1 | < 1.026 | < 0.17 |

*Table 5: Criterion Thresholds – Improve Mobility for All*

| PREMO Goal | Improve Mobility for All | |
|---|---|---|
| Evaluation Criteria | Pedestrian Crossings | Regional Connectivity |
| Measure of Effectiveness | Sidewalk facilities within a 1/2-mile buffer of the corridors, calculated as a per corridor mile average | Number of regional multimodal and transit connections within a 1/2-mile buffer of the corridors per corridor mile average |
| Data Source | Broward County and Municipal GIS Data/ Tool: GIS (Broward County GeoHub) | Broward County and Municipal GIS Data/ Tool: GIS (Broward County GeoHub) |
| Average | 4 | 4.41 |
| Standard Deviation | 1 | 0.08 |
| Maximum Value | 6 | 0.25 |
| Minimum Value | 2 | 0.0 |
| Sum | 85 | 1.61 |
| Median | 4 | 0.07 |
| Top 4/5ths | 4 | 0.20 |
| Middle 3/5ths | 3 | 0.15 |
| Bottom 2/5ths | 3 | 0.10 |
| Bottom 1/5th | 2 | 0.05 |
| Range | 3.92 | 0.30 |
| High Score of 5 | ≥ 5 | ≥.20 |
| Medium High Score of 4 | ≥ 4 and < 5 | ≥. 15 and < 0.20 |
| Medium Score of 3 | ≥ 3 and < 4 | ≥ .10 and < 0.05 |
| Medium Low Score of 2 | ≥ 3 and < 3 | ≥ .05 and < 0.00 |
| Low Score of 1 | < 2 | < 0.05 |

*Table 6: Criterion Thresholds – Improve Mobility for All*

| PREMO Goal | Improve Mobility for All | |
|---|---|---|
| Evaluation Criteria | Existing Corridor Capacity and Congestion | Future Corridor Capacity and Congestion |
| Measure of Effectiveness | Corridor volume to capacity (v/c) ratio and level of service of the corridors; greater levels of congestion provide best opportunity for mobility | Corridor v/c ratio and level of service of the top 20 corridors, with greater levels of congestion providing the best opportunity for premium transit mobility |
| Data Source | Most recent traffic counts, Broward County and Municipal GIS Data/ Tool: FDOT Traffic On-line Portal and Spreadsheet | SERPM8 Future Data, Broward County and Municipal GIS Data/ Tool: SERPM8 |
| Average | 0.68 | 0.84 |
| Standard Deviation | 0.09 | 0.11 |
| Maximum Value | 0.82 | 1.07 |
| Minimum Value | 0.49 | 0.61 |
| Sum | 13.77 | 15.97 |
| Median | 0.68 | 0.88 |
| Top 4/5ths | 0.75 | 0.98 |
| Middle 3/5ths | 0.69 | 0.88 |
| Bottom 2/5ths | 0.62 | 0.79 |
| Bottom 1/5th | 0.55 | 0.70 |
| Range | 0.33 | 0.46 |
| High Score of 5 | ≥ 0.75 | ≥.98 |
| Medium High Score of 4 | ≥ 0.75 and < 0.69 | ≥ 0.98 and < 0.89 |
| Medium Score of 3 | ≥ 0.69 and < 0.62 | ≥ 0.88 and < 0.79 |
| Medium Low Score of 2 | ≥ 0.62 and < 0.55 | ≥ 0.79 and < 0.70 |
| Low Score of 1 | < 0.55 | < 0.70 |

*Table 7: Criterion Thresholds – Implement Equitable Transit Solutions*

| PREMO Goal | Implement Equitable Transit Solutions | |
|---|---|---|
| Evaluation Criteria | Access to Activity Centers | Access to Jobs |
| Measure of Effectiveness | Number of activity centers within a 30-minute transit trip; Isochrone Analysis of existing BCT network and premium transit corridor (1/2-mile buffer from Isochrone) | Number of existing jobs within a 30-minute transit trip; Isochrone Analysis of existing BCT network and premium transit corridor (1/2-mile buffer from Isochrone), calculated as per corridor mile average |
| Data Source | Broward County FLUM and Municipal GIS Data/ Tool: TransCAD | Broward County and Municipal GIS Data / Tool: TransCAD |
| Average | 1.41 | 19,274 |
| Standard Deviation | 0.49 | 7,954 |
| Maximum Value | 2.25 | 36,217 |
| Minimum Value | 0.67 | 7,206 |
| Sum | 28.02 | 385,473 |
| Median | 1.28 | 18,038 |
| Top 4/5ths | 1.93 | 30,415 |
| Middle 3/5ths | 1.61 | 24,613 |
| Bottom 2/5ths | 1.30 | 18,810 |
| Bottom 1/5th | 0.98 | 13,008 |
| Range | 0.58 | 29,010.89 |
| High Score of 5 | ≥ 1.93 | ≥ 30,415 |
| Medium High Score of 4 | ≥ 1.62 and < 1.93 | ≥ 24,613 and < 30,415 |
| Medium Score of 3 | ≥ 1.30 and < 1.61 | ≥ 18,810 and < 24,613 |
| Medium Low Score of 2 | ≥ 0.98 and < 1.30 | ≥ 13,008 and < 18,810 |
| Low Score of 1 | < 0.98 | < 13,008 |

*Table 8: Criterion Thresholds – Implement Equitable Transit Solutions*

| PREMO Goal | Implement Equitable Transit Solutions | |
|---|---|---|
| Evaluation Criteria | Access to Affordable Housing | Dependent Population - Youth |
| Measure of Effectiveness | Number of affordable housing units within a 30-minute transit trip; Isochrone Analysis of existing BCT network and premium transit corridor (1/2-mile buffer from Isochrone) | Existing transit dependent populations of youth (10 -17 years) |
| Data Source | Broward County FLUM and Municipal GIS Data/ Tool: TransCAD | SERPM8 Data and/or US Census; American Community Survey(ACS)/ Tool: GIS |
| Average | 1.41 | 2,028 |
| Standard Deviation | 0.49 | 655 |
| Maximum Value | 2.25 | 3,267 |
| Minimum Value | 0.67 | 234 |
| Sum | 28.02 | 40.564 |
| Median | 1.28 | 2,174 |
| Top 4/5ths | 1.93 | 2,660 |
| Middle 3/5ths | 1.61 | 2,054 |
| Bottom 2/5ths | 1.30 | 1,447 |
| Bottom 1/5th | 0.98 | 841 |
| Range | 0.58 | 3,032 |
| High Score of 5 | ≥ .1.93 | ≥ 2,660 |
| Medium High Score of 4 | ≥ 1.62 and < 1.93 | ≥ 2,054 and < 2,660 |
| Medium Score of 3 | ≥ 1.30 and < 1.61 | ≥ 1,447 and < 2,054 |
| Medium Low Score of 2 | ≥ 0.98 and < 1.30 | ≥ 841 and < 1,447 |
| Low Score of 1 | < 0.98 | < 841 |

*Table 9: Criterion Thresholds – Implement Equitable Transit Solutions*

| PREMO Goal | Implement Equitable Transit Solutions | |
|---|---|---|
| Evaluation Criteria | Dependent Population - Poverty | Dependent Population – Racial and Ethnic Minority |
| Measure of Effectiveness | Existing transit dependent populations below poverty | Existing transit dependent populations of racial minorities and ethnic minorities |
| Data Source | SERPM8 Data and/or US Census; American Community Survey/ Tool: GIS | SERPM8 Data and/or US Census; American Community Survey/ Tool: GIS |
| Average | 1,349 | 4,514 |
| Standard Deviation | 464 | 1,638 |
| Maximum Value | 2,129 | 6,398 |
| Minimum Value | 310 | 402 |
| Sum | 26,971 | 90,275 |
| Median | 1,477 | 4,486 |
| Top 4/5ths | 1,765 | 5,199 |
| Middle 3/5ths | 1,401 | 3,999 |
| Bottom 2/5ths | 1,037 | 2,800 |
| Bottom 1/5th | 674 | 1,601 |
| Range | 1,819 | 5,996 |
| High Score of 5 | ≥ 1,765 | ≥ 5,199 |
| Medium High Score of 4 | ≥ 1,401 and < 1,765 | ≥ 3,999 and < 5,199 |
| Medium Score of 3 | ≥ 1,037 and < 1,401 | ≥ 2,800 and < 3,999 |
| Medium Low Score of 2 | ≥ 674 and < 1,037 | ≥ 1,601 and < 2,800 |
| Low Score of 1 | < 674 | < 1,601 |

*Table 10: Criterion Thresholds – Implement Equitable Transit Solutions*

| PREMO Goal | Implement Equitable Transit Solutions | |
|---|---|---|
| Evaluation Criteria | Dependent Population – Older Adults | Dependent Population – Limited English Proficiency (LEP) |
| Measure of Effectiveness | Existing transit dependent populations of older adults ages 65 and up | Existing transit dependent populations of limited English proficiency (LEP) |
| Data Source | SERPM8 Data and/or US Census; American Community Survey/ Tool: GIS | SERPM8 Data and/or US Census; American Community Survey/ Tool: GIS |
| Average | 1,584 | 333 |
| Standard Deviation | 348 | 129 |
| Maximum Value | 2,272 | 648 |
| Minimum Value | 1,000 | 81 |
| Sum | 31,614 | 6,663 |
| Median | 1,486 | 326 |
| Top 4/5ths | 2,017 | 534 |
| Middle 3/5ths | 1,763 | 421 |
| Bottom 2/5ths | 1,509 | 308 |
| Bottom 1/5th | 1,254 | 194 |
| Range | 1,271 | 5,996 |
| High Score of 5 | ≥ 2,017 | ≥ 534 |
| Medium High Score of 4 | ≥ 1,763 and < 2,017 | ≥ 421 and < 534 |
| Medium Score of 3 | ≥ 1,509 and < 1,763 | ≥ 308 and < 421 |
| Medium Low Score of 2 | ≥ 1,254 and < 1,509 | ≥ 194 and < 308 |
| Low Score of 1 | < 1,254 | < 194 |

*Table 11: Criterion Thresholds – Implement Equitable Transit Solutions*

| PREMO Goal | Implement Equitable Transit Solutions | |
|---|---|---|
| Evaluation Criteria | Dependent Population – Disability | Dependent Population – Zero Cars |
| Measure of Effectiveness | Existing transit dependent populations with disabilities | Existing transit dependent populations of zero car households |
| Data Source | SERPM8 Data and/or US Census; American Community Survey/ Tool: GIS | SERPM8 Data and/or US Census; American Community Survey/ Tool: GIS |
| Average | 1,088 | 253 |
| Standard Deviation | 288 | 76 |
| Maximum Value | 1,561 | 397 |
| Minimum Value | 362 | 117 |
| Sum | 21,764 | 5,057 |
| Median | 1,092 | 252 |
| Top 4/5ths | 1,327 | 341 |
| Middle 3/5ths | 1,093 | 285 |
| Bottom 2/5ths | 859 | 229 |
| Bottom 1/5th | 625 | 173 |
| Range | 1,169 | 280 |
| High Score of 5 | ≥ 1,327 | ≥ 341 |
| Medium High Score of 4 | ≥ 1,093 and < 1,327 | ≥ 285 and < 341 |
| Medium Score of 3 | ≥ 859 and < 1,093 | ≥ 229 and < 285 |
| Medium Low Score of 2 | ≥ 625 and < 859 | ≥ 173 and < 229 |
| Low Score of 1 | < 625 | < 173 |

## 2.4.2 Isochrone Analysis

An isochrone analysis calculates how far a rider can travel in a set amount of time using transit. The PREMO Team used this analysis to measure the Initial Corridors for their ability to reach destinations throughout the county in 30 minutes, given a potential investment in premium transit. This 30-minute travel time was calculated using the PREMO network and the existing BCT transit network. The corridors were divided into approximately three-mile segments representing five-minute premium transit travel time. The analysis then used TransCAD, a GIS software designed for transportation analysis, to calculate the volume of employment, activity centers, and affordable housing accessible within a 30-minute transit travel distance.

Isochrone analysis results are included within the Step B performance measures described above in **Tables 7** and **8**. **Figures 10, 11** and **12** illustrate the results of this isochrone analysis with darker colors illustrating a higher number of affordable housing units, activity centers, and jobs accessible within a 30-minute transit travel distance.

*Figure 10: Number of Affordable Housing Units Accessible within a 30-minute Transit Trip as a Result of an Investment in Premium Transit*

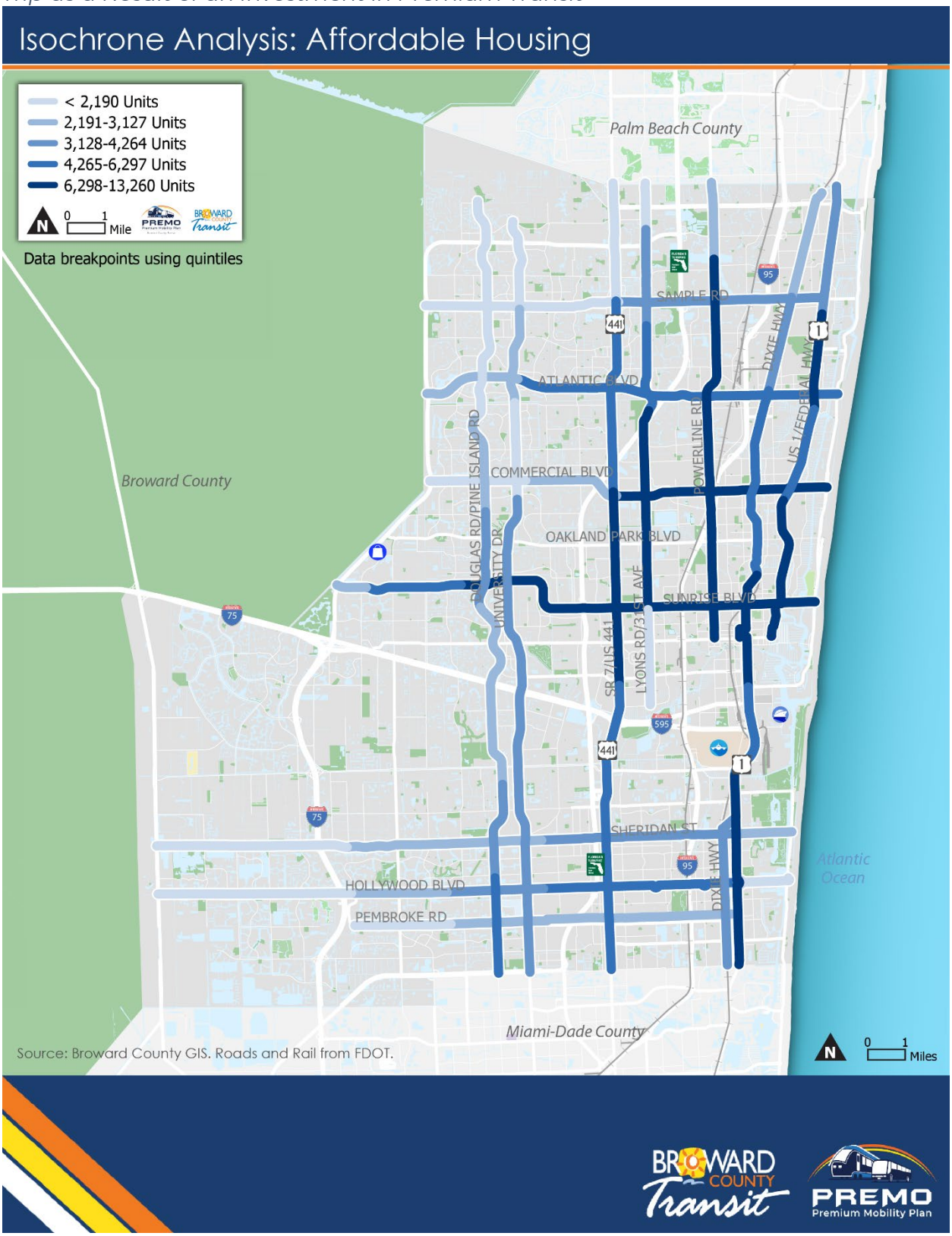


*Figure 11: Number of Activity Centers Accessible within a 30-minute Transit Travel Distance as a Result of an Investment in Premium Transit*

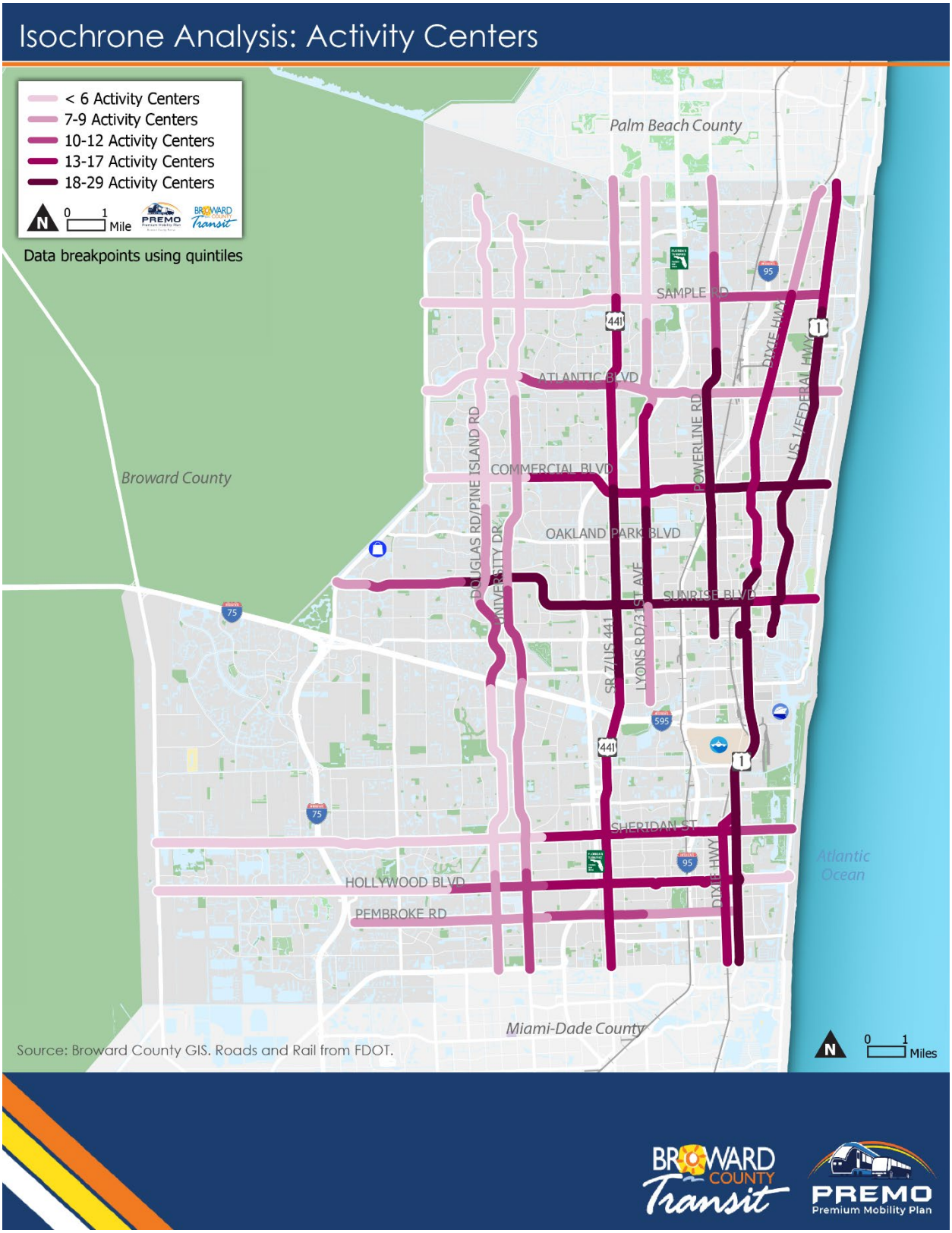
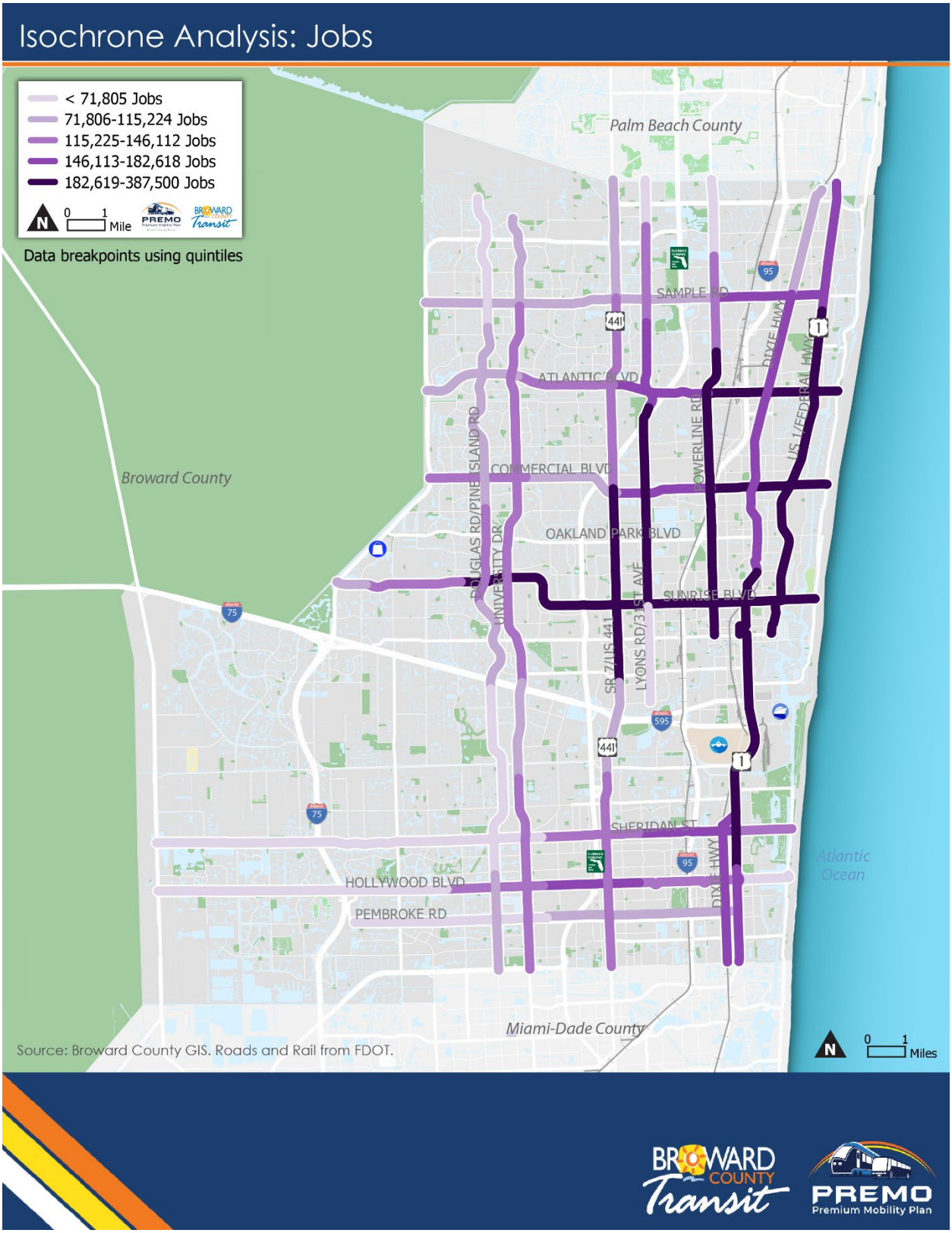


*Figure 12: Number of Jobs Accessible within a 30-minute Transit Travel Distance as a Result of an Investment in Premium Transit*



# 3. Step B Corridor Evaluation Results

Using the methodologies described in Section 2, all corridors identified by the Initial Network were evaluated and compared. The goal of this comparison was to identify the highest performing corridors.

## 3.1 Corridor Evaluation Results

The following tables provide the results of the Step B Analysis by goal, with **Table 12** summarizing "Mobility" results and **Table 13** summarizing "Equitable Transit Solutions" results. **Table 14** summarizes and ranks each corridor by the combined Step A and B scoring results.

PREMO combined the technical results with the preferences collected through a concurrent public survey (Please refer to the Public Involvement Summary Memorandum for more information). As a result, the 10 top scoring corridors combined with public preferences defined 14 corridors, plus Oakland Park Boulevard, to advance to Step C (Shortlisted Corridors). The Shortlisted Corridors, shown on **Figure 13**, in alphabetical order, are:

- Atlantic Boulevard
- Commercial Boulevard
- Dixie Highway
- Douglas Road/Pine Island Road
- Hollywood Boulevard
- Lyons Road/31st Avenue
- Oakland Park Boulevard
- Pembroke Road
- Powerline Road
- Sample Road
- Sheridan Street
- SR7 / U.S. 441
- Sunrise Boulevard
- University Drive
- US-1/Federal Highway

*Table 12: Analysis Results: Mobility Ratings*

| Corridor Name | Bicycle Connections | Pedestrian Connections: Street block | Pedestrian Connections: Sidewalk | Regional Connectivity | Existing Corridor Capacity | Future Corridor Capacity | Avg. Mobility Score | Mobility RATING |
|---|---|---|---|---|---|---|---|---|
| Atlantic | 4 | 1 | 5 | 2 | 5 | 4 | 3.50 | MEDIUM HIGH |
| Broward | 2 | 1 | 5 | 5 | 2 | 3 | 3.00 | MEDIUM |
| Commercial | 4 | 1 | 4 | 2 | 5 | 4 | 3.33 | MEDIUM HIGH |
| Cypress Creek | 1 | 1 | 3 | 4 | 3 | 2 | 2.33 | MEDIUM |
| Dixie | 4 | 3 | 5 | 4 | 3 | 1 | 3.00 | MEDIUM |
| Hollywood | 5 | 3 | 4 | 5 | 3 | 1 | 3.33 | MEDIUM HIGH |
| Lyons / 31st | 3 | 2 | 3 | 1 | 2 | 5 | 2.67 | MEDIUM |
| Miramar | 3 | 2 | 3 | 2 | 4 | 2 | 2.67 | MEDIUM |
| Nob Hill / Palm | 1 | 3 | 1 | 1 | 2 | 4 | 2.00 | MEDIUM LOW |
| Oakland Park | 3 | 1 | 4 | 1 | 4 | 4 | 2.83 | MEDIUM |
| A1A / Ocean | 4 | 5 | 1 | 2 | 4 | 2 | 3.00 | MEDIUM |
| Pembroke | 3 | 1 | 3 | 5 | 5 | 5 | 3.67 | MEDIUM HIGH |
| Douglas/Pine Isl. | 1 | 3 | 3 | 1 | 1 | 4 | 2.17 | MEDIUM |
| Powerline | 5 | 1 | 4 | 2 | 2 | 4 | 3.00 | MEDIUM |
| Sample | 5 | 1 | 4 | 2 | 3 | 2 | 2.83 | MEDIUM |
| Sheridan | 1 | 2 | 3 | 2 | 3 | 1 | 2.00 | MEDIUM LOW |
| SR 7 / US 441 | 4 | 3 | 4 | 1 | 5 | 4 | 3.50 | MEDIUM HIGH |
| Sunrise | 4 | 2 | 4 | 1 | 4 | 3 | 3.00 | MEDIUM |
| University | 3 | 3 | 4 | 3 | 5 | 3 | 3.50 | MEDIUM HIGH |
| US-1 / Federal | 3 | 4 | 5 | 1 | 5 | 3 | 3.50 | MEDIUM HIGH |

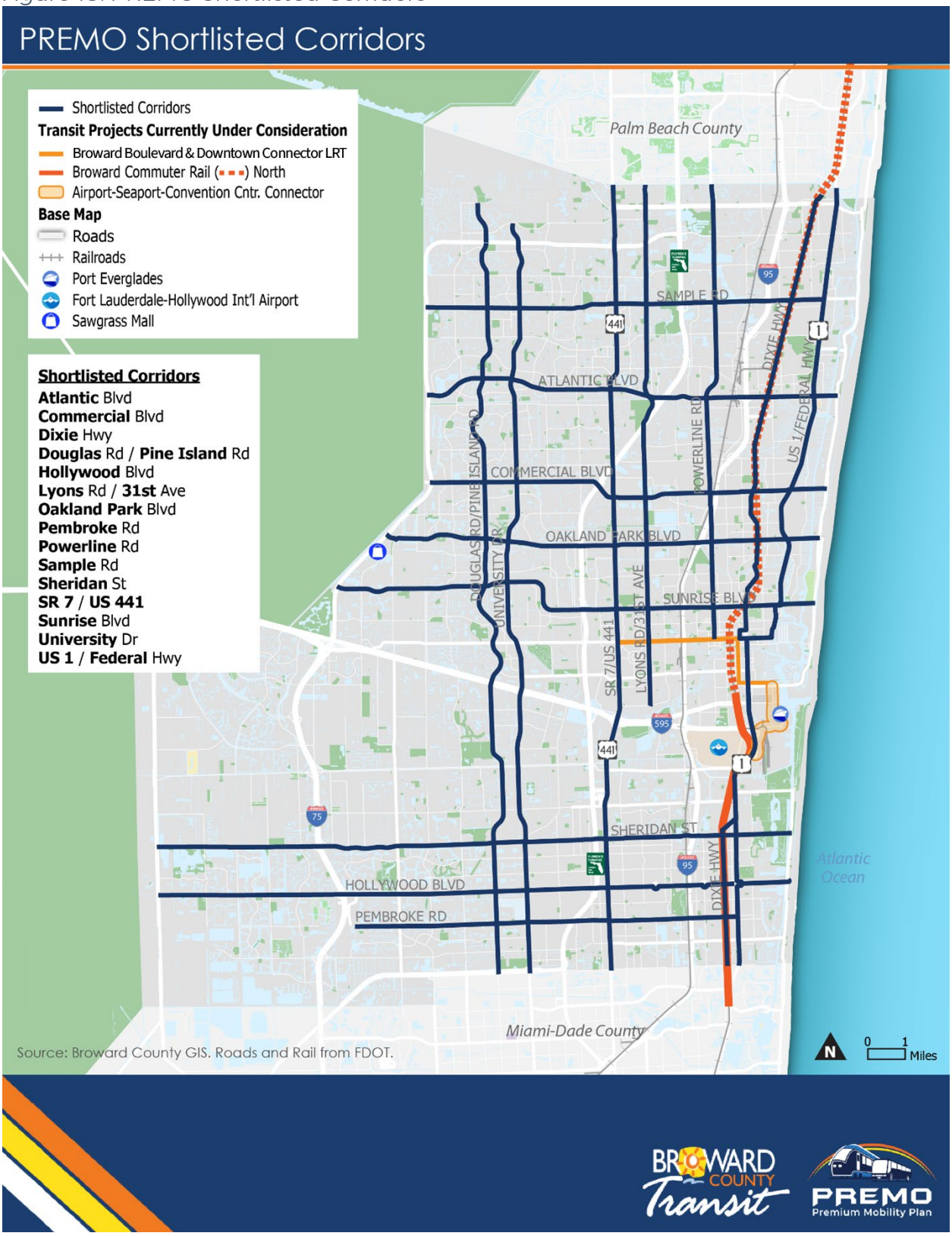
*Table 13: Analysis Results: Equitable Transit Solutions*

| Corridor Name | Transit Depend. Pop. | Poverty Pop. | Ethnic & Racial Minorities | Youth Ages 10-17 | Older Adults Ages 65+ | LEP Households | Zero-car Households | Disabled Households | Jobs 30-min Transit Trip | Activity Centers 30-min Transit Trip | Affordable Housing 30-min Transit Trip | Avg. Equitable Transit Score | Equitable Transit RATING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Atlantic | 4 | 5 | 4 | 4 | 5 | 3 | 4 | 5 | 2 | 1 | 1 | 3.45 | MEDIUM HIGH |
| Broward | 2 | 4 | 5 | 4 | 3 | 2 | 2 | 3 | 3 | 4 | 3 | 3.18 | MEDIUM HIGH |
| Commercial | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 4 | 2.82 | MEDIUM |
| Cypress Creek | 2 | 3 | 4 | 3 | 2 | 3 | 2 | 3 | 4 | 4 | 5 | 3.18 | MEDIUM HIGH |
| Dixie | 4 | 4 | 3 | 3 | 1 | 3 | 4 | 3 | 2 | 3 | 2 | 2.91 | MEDIUM |
| Hollywood | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 4 | 1 | 1 | 1 | 2.91 | MEDIUM |
| Lyons / 31st | 4 | 4 | 5 | 5 | 3 | 3 | 4 | 5 | 5 | 5 | 5 | 4.36 | HIGH |
| Miramar | 2 | 4 | 5 | 4 | 2 | 3 | 2 | 2 | 1 | 1 | 1 | 2.45 | MEDIUM |
| Nob Hill / Palm | 1 | 2 | 3 | 3 | 3 | 2 | 1 | 3 | 1 | 1 | 1 | 1.91 | MEDIUM LOW |
| Oakland Park | 5 | 4 | 5 | 4 | 5 | 3 | 5 | 5 | 4 | 5 | 4 | 4.45 | HIGH |
| A1A / Ocean | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 1.18 | MEDIUM LOW |
| Pembroke | 4 | 4 | 5 | 4 | 5 | 5 | 4 | 4 | 1 | 2 | 1 | 3.55 | MEDIUM HIGH |
| Douglas/Pine Isl. | 2 | 3 | 3 | 4 | 4 | 3 | 2 | 4 | 1 | 1 | 1 | 2.55 | MEDIUM |
| Powerline | 4 | 4 | 4 | 3 | 2 | 3 | 4 | 4 | 4 | 5 | 4 | 3.73 | MEDIUM HIGH |
| Sample | 3 | 5 | 5 | 5 | 4 | 5 | 3 | 5 | 3 | 2 | 2 | 3.82 | MEDIUM HIGH |
| Sheridan | 1 | 2 | 3 | 3 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1.64 | MEDIUM LOW |
| SR 7 / US 441 | 3 | 4 | 5 | 5 | 2 | 3 | 3 | 4 | 3 | 4 | 3 | 3.55 | MEDIUM HIGH |
| Sunrise | 4 | 4 | 5 | 4 | 2 | 1 | 4 | 4 | 3 | 4 | 3 | 3.45 | MEDIUM HIGH |
| University | 2 | 3 | 4 | 4 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2.64 | MEDIUM |
| US-1 / Federal | 3 | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2.18 | MEDIUM |

*Table 14: Summary of Step B Scoring: Ranked by Highest Score*

| Corridor Name | Step A | Step B | | | Steps A and B | | Step B Rank |
|---|---|---|---|---|---|---|---|
| | Average Combined Score | Mobility Score | Equitable Transit Score | Average Combined Score | Average Combined Score | Combined Rating | |
| Oakland Park | 4.1 | 2.8 | 4.5 | 3.6 | 3.88 | MEDIUM HIGH | 1 |
| SR 7 / US 441 | 4.0 | 3.5 | 3.5 | 3.5 | 3.74 | MEDIUM HIGH | 2 |
| University | 4.3 | 3.5 | 2.6 | 3.1 | 3.68 | MEDIUM HIGH | 3 |
| Atlantic | 3.7 | 3.5 | 3.5 | 3.5 | 3.57 | MEDIUM HIGH | 4 |
| Sunrise | 3.7 | 3.0 | 3.5 | 3.2 | 3.48 | MEDIUM HIGH | 5 |
| Powerline | 3.6 | 3.0 | 3.7 | 3.4 | 3.46 | MEDIUM HIGH | 6 |
| Broward | 3.7 | 3.0 | 3.2 | 3.1 | 3.38 | MEDIUM HIGH | 7 |
| Dixie | 3.7 | 3.0 | 2.9 | 3.0 | 3.32 | MEDIUM HIGH | 8 |
| Lyons | 3.0 | 2.7 | 4.4 | 3.5 | 3.24 | MEDIUM HIGH | 9 |
| Pembroke | 2.9 | 3.7 | 3.5 | 3.6 | 3.23 | MEDIUM HIGH | 10 |
| Sample | 3.0 | 2.8 | 3.8 | 3.3 | 3.17 | MEDIUM HIGH | 11 |
| Hollywood | 3.2 | 3.3 | 2.9 | 3.1 | 3.16 | MEDIUM HIGH | 12 |
| Miramar | 3.7 | 2.7 | 2.5 | 2.6 | 3.11 | MEDIUM HIGH | 13 |
| US 1 | 3.2 | 3.5 | 2.2 | 2.8 | 3.00 | MEDIUM HIGH | 14 |
| Cypress Creek | 3.2 | 2.3 | 3.2 | 2.8 | 2.97 | MEDIUM | 15 |
| Commercial | 2.4 | 3.3 | 2.8 | 3.1 | 2.76 | MEDIUM | 16 |
| Douglas/Pine Isl. | 2.9 | 2.2 | 2.5 | 2.4 | 2.64 | MEDIUM | 17 |
| Nob Hill | 2.8 | 2.0 | 1.9 | 2.0 | 2.38 | MEDIUM | 18 |
| A1A | 2.2 | 3.0 | 1.2 | 2.1 | 2.15 | MEDIUM | 19 |
| Sheridan | 2.4 | 2.0 | 1.6 | 1.8 | 2.11 | MEDIUM | 20 |

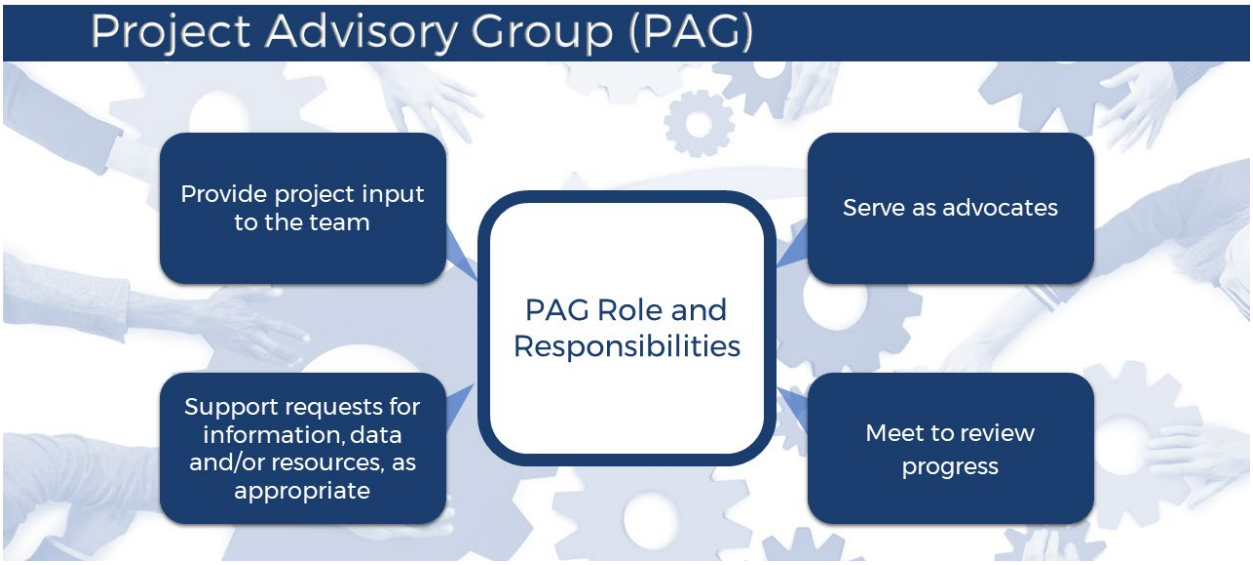
*Figure 13: PREMO Shortlisted Corridors*



## 3.2 Stakeholder Coordination

The Project Advisory Group (PAG) provides valuable collaboration and direction throughout development of the PREMO Plan (Figure 14). This group was selected by BCT to represent the community, municipalities, other County departments and agencies, and stakeholders. The study team presented the information to the PAG and discussed the results of the analysis.

*Figure 14: PREMO Project Advisory Group (PAG)*




During the September 29, 2022, meeting the Step B analysis and recommended shortlist of corridors was presented to the PAG for discussion. A summary of this meeting, including the presentations given to the group, is provided in Appendix B.

The following questions and comments from the PAG guided the discussion:

- The area in central Broward, near Griffin Road, where no shortlisted corridors are represented.
- Moving forward with 14 corridors (+ Oakland Park Boulevard) as opposed to 10 corridors as was initially anticipated.
- How ridership today is modeled to determine future ridership.
- Cost factors to be included in questions to the public regarding transit preferences.
- The public survey and the tracking of respondents.

## 3.3 Public Input

During Step B, the PREMO outreach team completed several community drop-in events which are further described in the Public Involvement Summary Report. During these community drop-in events, participants were asked to complete a public opinion survey. This survey was a preference survey only and is not statistically valid. As of September 24, 2022, PREMO received 1,497 completed preference surveys. Important to Step B were the following survey questions:

- What corridors should be prioritized based on your trips?
  - North /South Corridors
  - East / West Corridors
  - Or both are of equal importance.
- Please choose your top five North-South roadways for transit investment
- Please choose your top five East-West roadways for transit investment

Figures 15 and 16 and Table 15 summarize the input to these survey questions as provided by the public.

*Figure 15: Survey Response - What corridors should be prioritized based on your trips?*

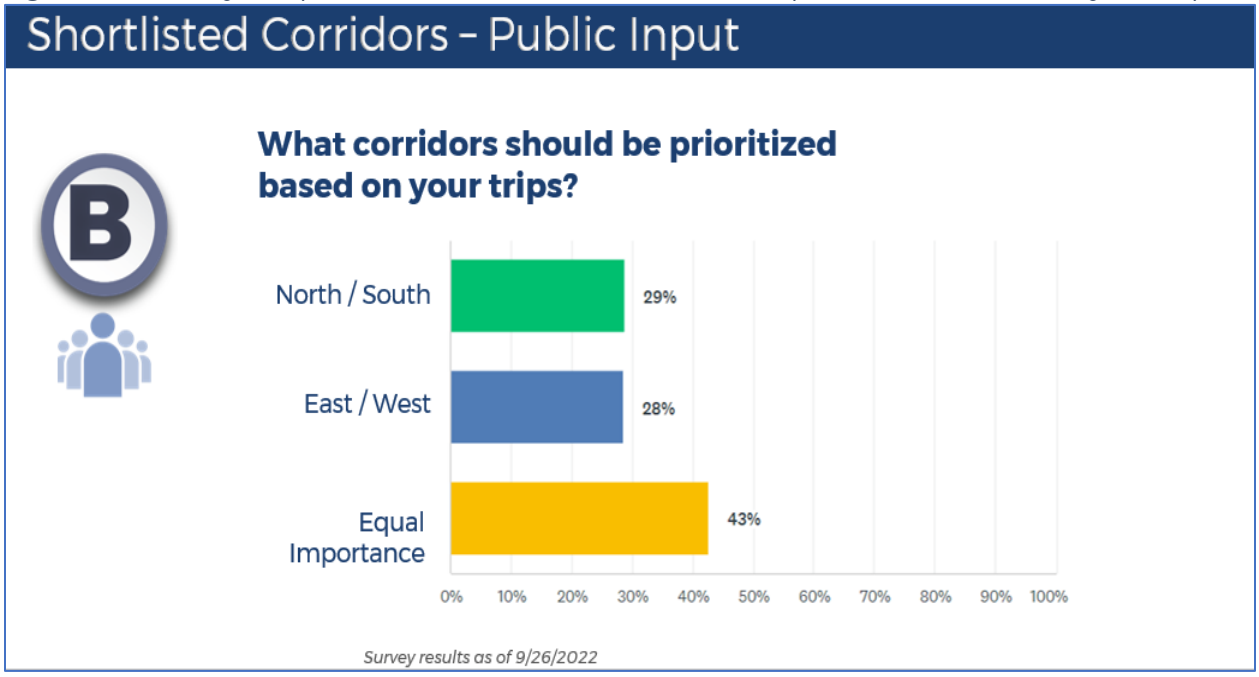


*Figure 16: Survey Response - Choose up to five North-South roadways and up to five East-West roadways.*

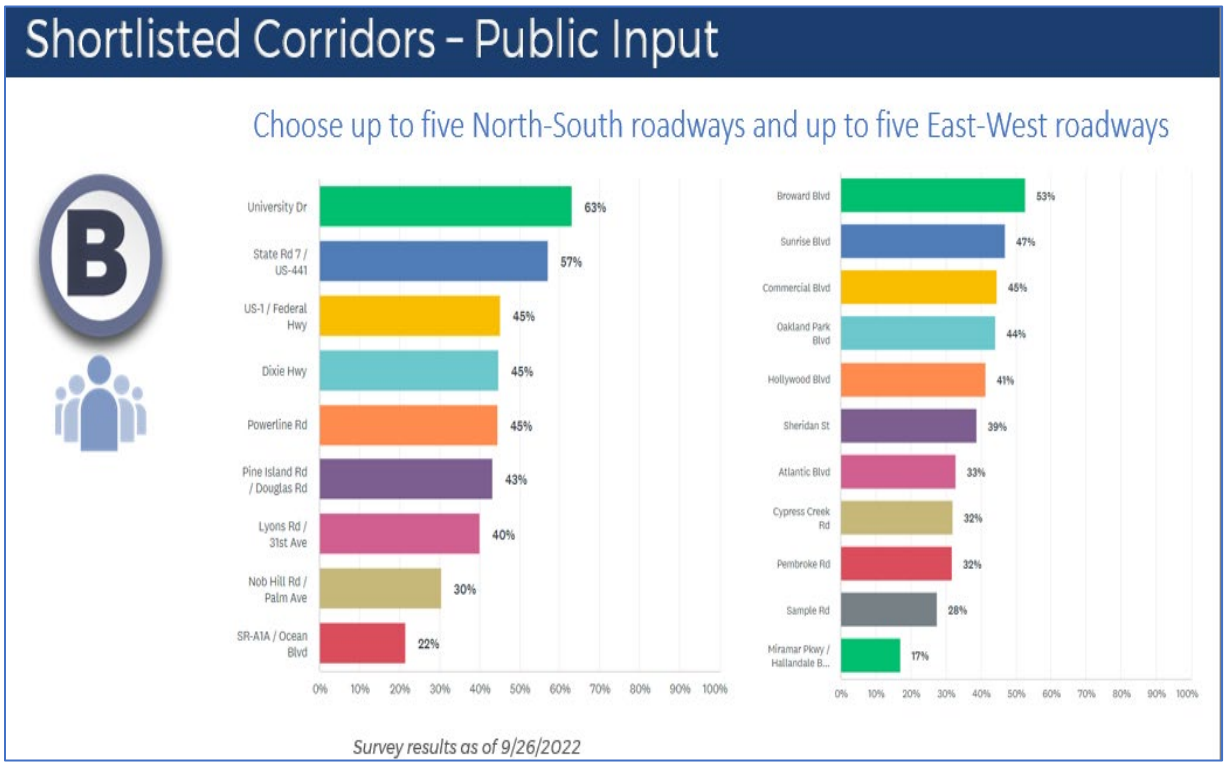


*Table 15: Summary of Step B Public Survey*

| Corridor Name | Rank | Survey Responses in Favor |
|---|---|---|
| University Dr | 1 | 946 |
| SR 7 / US 441 | 2 | 857 |
| Sunrise Blvd | 3 | 693 |
| US-1 / Federal Hwy | 4 | 676 |
| Dixie Hwy | 5 | 671 |
| Powerline Rd | 6 | 668 |
| Commercial Blvd | 7 | 659 |
| Douglas Rd/Pine Island Rd | 8 | 649 |
| Hollywood Blvd | 9 | 613 |
| Lyons Rd / 31st Ave | 10 | 599 |
| Sheridan St | 11 | 573 |
| Atlantic Blvd | 12 | 486 |
| Cypress Creek Rd | 13 | 472 |
| Pembroke Rd | 14 | 470 |
| Nob Hill Rd / Palm Ave | 15 | 456 |
| Sample Rd | 16 | 407 |
| Ocean Blvd | 17 | 322 |
| Miramar Pkwy / Hallandale Beach Blvd | 18 | 254 |
| *Survey results as of 9/26/2022* | | |

The top 10 selected corridors by those public participants in the preference survey aligned to the top the top 10 technically recommended corridors, except for the following:

- US-1 / Federal Hwy
- Douglas Rd/Pine Island Rd
- Commercial Blvd
- Sheridan St

These corridors were added to the list of shortlisted corridors for further study in Steps C, D and E.

# Appendix A: Step B Evaluation Results

# Appendix B: September 2022 Project Advisory Committee Group (PAG) Meeting Material