SR7

Multimodal Improvements
CORRIDOR STUDY

Move People • Create Jobs • Strengthen Communities

EXECUTIVE SUMMARY

Revised Final

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Prepared for

Broward MPO
Metropolitan Planning Organization

Prepared by

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INTRODUCTION

The Broward Metropolitan Planning Organization (MPO), in partnership with the Florida Department of Transportation (FDOT) District 4, is undertaking the SR 7 Multimodal Improvements Corridor Study to identify short-, mid-, and long-term infrastructure, safety, and operational improvements for this critical regional roadway and transit corridor. The need for the project was identified in Commitment 2040, Broward County's Long Range Transportation Plan.

STUDY AREA

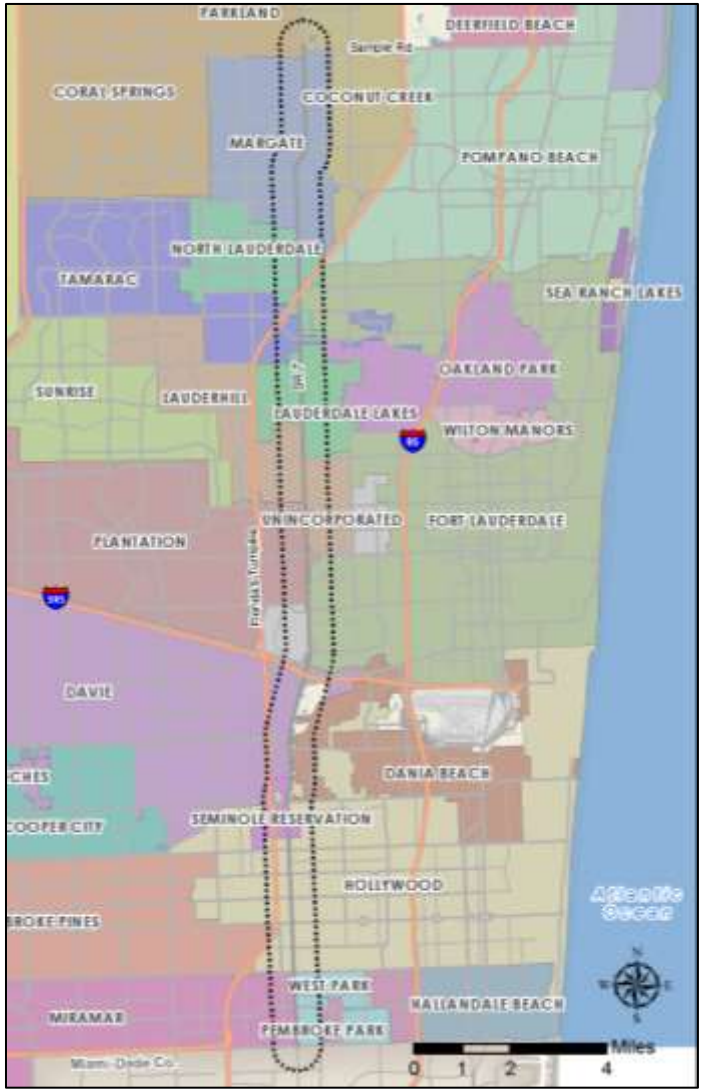
The study area is a 1 mile wide corridor centered on SR 7 that runs approximately 21 miles in length from just south of the Miami-Dade County Line to north of Sample Rd. The corridor impacts 15 cities, unincorporated Broward County, and the Seminole Tribe of Florida. Map 1 illustrates the study area and its relationship to the surrounding jurisdictions.

PROJECT ADVISORY COMMITTEE & WORKING GROUPS

This study is guided by a Project Advisory Committee (PAC), which consists of representatives from the various partner agencies involved in this study process.

Working Groups were also formed to complement the PAC and provide the opportunity for representatives of the different municipalities and the Seminole Tribe of Florida to be involved in and coordinate with during the SR 7 corridor study process.

Map 1: SR 7 Study Area



REPORT ORGANIZATION

This Executive Summary provides a high-level summary of the technical analysis, public participation, and stakeholder/agency guidance used to develop the project recommendations and implementation plan resulting from this study. The full report contains 5 chapters and 10 technical appendices to provide supportive detail concerning the information collected and synthesized throughout this study. The report chapters and technical appendices that comprise the full report include:

Chapter 1: Study Purpose and Need outlines the problem statement, goals and objectives, purpose and need, performance measures, and monitoring methodology developed for this study.

Chapter 2: Public Participation Summary summarizes the public involvement activities initially outlined in the Public Participation Plan (PPP) prepared at the beginning of this study. An evaluation of the public participation process undertaken for this study is also provided.

Chapter 3: Data and Analysis is comprised of three sub-chapters that presents the baseline conditions of the SR 7 corridor, a detailed land use analysis and summary of applicable local planning efforts, and introduction to infrastructure concepts being considered for Mobility Hubs/major intersections.

Chapter 4: Project Recommendations documents the three categories of project recommendations developed, which include:

- Short-term systemic safety improvements.
- Short- to mid-term pedestrian and bicycle network improvements.
- Longer-term safety and operational improvements at Mobility Hubs and major intersections.

Chapter 5: Implementation Plan documents the prioritization of the project recommendations developed for the SR 7 Multimodal Improvements Corridor Study. The implementation and funding plan developed for the network connectivity projects and the longer-term Mobility Hub improvements previously identified in Chapter 4 is also presented in Chapter 5.

- Technical Appendix A.1: Data Review Summary and Needs Memo
- Technical Appendix A.2: SR 7 Transit Intercept Survey Results
- Technical Appendix A.3: SR 7 Bicycle and Pedestrian Observations
- Technical Appendix B.1: Public Participation Plan
- Technical Appendix B.2: Public Outreach Evaluation
- Technical Appendix C: Hot Spot Preliminary Traffic and Safety Operations Reviews
- Technical Appendix D: Travel Market Analysis
- Technical Appendix E: Multimodal Network Connectivity Analysis
- Technical Appendix F: Mobility Hub Project Development
- Technical Appendix G: Project Prioritization

PROBLEM STATEMENT

The problem statement for SR 7 was developed with input from the PAC and provides the framework for identifying goals and objectives to guide development of project recommendations.

SR 7 has the highest transit ridership of any corridor in Broward County and has been the subject of extensive land use and economic development planning activities; however:

- *Transit service along the corridor requires continued monitoring and investment to keep up with growing ridership demand;*
- *There is a high frequency of pedestrian and bicycle crashes along the corridor;*
- *Segments and intersections along the corridor exhibit high levels of traffic congestion; and*
- *Land use visions have not been uniformly implemented and may not be consistent with the current cost-feasible transportation plan.*

PROJECT PUPROSE AND NEED

The purpose of this study is to identify a list of specific transportation and congestion management projects to address operational and safety improvements identified within the study area. The projects include multimodal improvements that enhance safety, address congestion management, and lead to better transit service. The projects also include improvements to better the transit passenger experience, enhance the bicycle and/or pedestrian experience, improve bicycle and/or pedestrian safety, improve transit reliability and travel time, and encourage transit oriented development, emphasize integrated planning and investment, and support the vision for sustainable growth within the corridor.

GOALS AND OBJECTIVES

Five goals, each with a series of supporting objectives, were identified to address the problem statement.

Goal 1: Enhance the safety of all road users.

- Objective 1.1: Reduce the frequency and severity of pedestrian and bicycle crashes within the SR 7 corridor.
- Objective 1.2: Reduce the frequency and severity of automobile crashes within the SR 7 corridor.

Goal 2: Improve the quality and completeness of the non-motorized transportation network.

- Objective 2.1: Provide continuous, high-quality bicycle and pedestrian facilities along SR 7.
- Objective 2.2: Provide a comprehensive network of bicycle and pedestrian facilities within the SR 7 corridor.
- Objective 2.3: Provide for adequate opportunities for safe and convenient crossing of SR 7 and other major roadways within the study area.

Goal 3: Continue to improve transit service within the SR 7 corridor.

- Objective 3.1: Provide for on-time performance and acceptable bus load-factors.

- Objective 3.2: Reduce bus running times through facility design and operational strategies.
- Objective 3.3: Improve transit passenger experience through Mobility Hub improvements.
- Objective 3.4: Improve the safety and convenience of accessing transit (cross-reference Objectives 1.1, 2.1, 2.2, and 2.3).

Goal 4: Reduce automobile traffic congestion without adversely impacting the mobility and/or safety of cyclists, pedestrians, and transit users.

- Objective 4.1: Identify critical 'bottleneck' locations.
- Objective 4.2: Identify and qualify opportunities to reduce congestion through geometric and/or operational improvements (i.e., new or extended turn lanes, modified signal timing).
- Objective 4.3: Assess the potential of Advanced Traffic Management System (ATMS) solutions to reduce congestion along SR 7.

Goal 5: Encourage land use and urban form to support multimodal transportation options

- Objective 5. 1: Incorporate existing and planned land use conditions when analyzing and planning for Mobility Hub infrastructure investments.
- Objective 5.2: Identify opportunities to update zoning and land development code to implement the Transit Oriented Corridor (TOC) designation.

PERFORMANCE MEASURES AND MONITORING

Performance measures and potential monitoring strategies were identified to assist the Broward MPO in evaluating the effectiveness in meeting the goals and objectives previously defined.

As part of the implementation plan developed for the SR 7 Multimodal Improvements Corridor Study, a monitoring system/action plan was developed to document specific agency project development and funding responsibilities, and to monitor implementation of the study recommendations to ensure attainment of goals, objectives and performance measures.

DATA COLLECTION AND REVIEW

The first phase of data collection for this study involved collection and review of available data, documents, and Geographic Information Systems (GIS) files from various agencies to develop a baseline assessment of conditions along the corridor. Over 1,200 interviews with transit passengers along SR 7 and observations of bicyclist and pedestrian behavior along the corridor were also collected and information gathered from these activities was used in the analysis phase. More information can be found in Technical Appendices A.1, A.2, and A.3.

Following the initial data analysis, field reviews were conducted and additional data were collected concerning intersection and turning movement counts, pedestrian counts, and VISSIM multimodal traffic flow simulation analysis.

PUBLIC PARTICIPATION

Effective public involvement is a critical component of the SR 7 Multimodal Improvements Corridor Study. To successfully guide the outreach process, preparing a Public Participation Plan (PPP) was one of the first activities completed for this study. The PPP identified the goals and objects for the study's public outreach process and the timeline of public participation activities to be completed.

PUBLIC PARTICIPATION ACTIVIES

Public participation activities were categorized into three groups:

- Communication Tools, which include the various methods used to communicate with the public and stakeholders about this SR 7 study.
- Public Information Techniques, which includes techniques to provide information to the public and stakeholders about this study and how they could get involved in the study development process. This includes techniques such as the project website, project materials, and email/text message campaigns.
- Direct Participation Techniques, which include activities that directly engage participants, such as 'grass-roots' community meetings, an e-town hall meeting, in – person (transit intercept) and online surveys, etc.

During the course of this study, it is estimated that over 7,350 people were contacted and a subset of this number ultimately engaged through various public outreach activities (see Table 1).

Table 1: Estimated Number of Persons Reached

Public Outreach Activity	Estimated Number of Contacts
Email Campaigns	3,500+
Text Message Campaigns	183
Transit Intercept Survey	1,143
Online Survey	43
Community Meetings	115+
E-townhall Meeting	2,368
PAC and Working Group Participants & Observers	Varies
MPO and Town/City Commission Presentations	Varies
Total	**7,350+**

PPP GOALS AND OBJECTIVES EVALUATION

As part of the PPP, four goals and associated evaluation measures pertaining to the public participation and outreach process for this study were identified. At the conclusion of the study, each evaluation measure was assessed. Each evaluation measure was met during the course of this study.

More information pertaining to the public participation process, the PPP document, and public participation evaluations can be found in Chapter 2 and Technical Appendices B.1 and B.2.

BASELINE CONDITIONS ASSESSMENT

A range of information and data were gathered to understand the baseline conditions for the SR 7 corridor, focusing primarily on existing traffic conditions, multimodal infrastructure, transit services, safety issues (crash history), and land use/demographic patterns. This information is critical in identifying and evaluating opportunities to reduce congestion and improve multimodal travel options and safety throughout the study area.

TRANSPORTATION ANALYSIS

SR 7 is designated as a state principal arterial road. Within the study area, SR 7 is a six-lane road from Sample Rd to Stirling Rd, a four-lane road from south of Stirling Rd to SW 26th St (north of Hallandale Beach Blvd), and a six-lane road from Hallandale Beach Blvd to the county line.

Key aspects of the Transportation Analysis task are summarized below.

Identification of Safety 'Hot Spots':

- Transit ridership and crash data were analyzed to identify locations with a relationship between high transit ridership areas and more frequent pedestrian and bicycle crash.
- Intersections with the highest transit ridership and most frequent occurrence of crashes with pedestrian and bicyclists include (in order) SR 7 and Oakland Park Blvd, Commercial Blvd, Hollywood Blvd, Broward Blvd, and Atlantic Blvd.

Analysis of Transit Service/Ridership:

- Route alignments, frequencies, and stop-level ridership were evaluated to understand transit demand and to assist in prioritizing bus stop access and safety improvements.
- Priority areas for transit operational improvements were identified for major intersections. Based on discussions with FDOT and Broward County Transit (BCT), operational treatments, including queue jumps and queue bypass lanes, were vetted and ultimately recommended at several major intersections along the corridor.

Analysis of Bicycle/Pedestrian Network Connectivity.

- All arterial and collector roads within the study area were reviewed to identify opportunities to improve facilities for cyclists and pedestrians and the overall connectivity of the bicycle/pedestrian network. Key links across limited access roadway canals, and disconnected segments where an alternative parallel route is not available received a more in-depth examination since in these areas there is a lack of an alternative route along low-volume parallel streets. Key areas identified for improvement to the existing multimodal network include:

- New mid-block crossings at the C-14 Canal and north of Broward Blvd.
- Enhanced crossing at the Sunrise Blvd canal
- Connecting pedestrian/bicycle facility needed between Oakes Rd and the New River Greenway.
- Enhanced sidewalk/bicycle facility north of Margate and a protected bicycle lane through Margate Town Center.
- Various locations to widen pavement and reduce lane widths (if possible) to provide bicycle lanes.
- Various locations to construct sidewalks to fill in gaps within the existing sidewalk network.

LAND USE ANALYSIS

Building a physical environment that efficiently supports multiple modes of transportation requires the close integration of land use policy and transportation infrastructure investments. Therefore, the baseline conditions assessment undertook a comprehensive look at the land use composition, economic indicators, and supporting local codes policies implemented throughout the study area. This helped to evaluate the redevelopment potential along the corridor as well as at major intersections/Mobility Hubs. Key findings from this analysis include:

> The majority of local governments within the study area have enacted land use designations along SR 7 that support an enhanced multimodal network, including the Transit Oriented Corridor (TOC) designation, or higher density allowances within a Regional/Local Activity Center (R/LAC) or Community Redevelopment Area (CRA).

> Several local governments have implemented policies or codes to support urban design principles that encourage walking or biking over driving. These include higher densities (particularly near transit), mixed-use/transit supportive design, enhanced network connectivity, and transition from arterial commercial-focused streets to neighborhoods.

> Redevelopment potential appears highest at SR 7 and:
  - Atlantic Blvd, Oakland Park Blvd, Sunrise Blvd, and Broward Blvd (located within various CRAs, which encourage redevelopment at these intersections).
  - Commercial Blvd (surrounded by older-aged commercial buildings with lower building-to-land value ratios).
  - Griffin Rd (surrounded by older-aged commercial buildings with lower average value per acre and lower building-to-land value ratios).
  - Sheridan St and Hollywood Blvd (supported by local agency plans for longer-term redevelopment).

Chapter 3 and Technical Appendices C and D provide more detail pertaining to the synthesis of the baseline conditions of the SR 7 corridor study area, including a detailed map series of the information reviewed.

PROJECT DEVELOPMENT

The information analyzed as part of the baseline conditions assessment was used to better understand the safety, network connectivity, and operation improvements needed throughout the study area.

It should be noted that FDOT is currently reconstructing the existing four-lane section of SR 7 south of Stirling Rd to SW 26th St (north of Hallandale Beach Blvd). Once completed in 2018/19, this section of SR 7 will feature six traffic lanes, landscaped safety medians, dry retention areas for stormwater runoff, new lighting and sidewalks, bicycle lanes, and bus bays. Recommendations developed from this study will focus on areas outside of the reconstruction zone, where these types of improvements are already planned as part of the reconstruction effort.

As the project development process unfolded, three categories of project recommendations emerged, including:

- Short-term corridor-wide safety improvements
- Short- to mid-term pedestrian and bicycle network improvements
- Longer-term safety and operational improvements at Mobility Hubs and major intersections

CORRIDOR-WIDE SYSTEMIC IMPROVEMENTS

Short-term corridor-wide systemic safety improvements include various types of "best practice" multimodal strategies that should be considered throughout the SR 7 corridor. Most of these strategies/recommendations focus on systemic improvements to the pedestrian and bicycle facilities at signalized intersections along SR 7, including:

  - Enhanced/high emphasis crosswalk markings
  - Pedestrian countdown signals
  - Intersection/crosswalk lighting
  - Right turning vehicle "yield to pedestrian" signage

To identify the corridor-wide improvements, the characteristics of 54 signalized intersections along SR 7 within the study area were reviewed through Google Earth and/or field visits and a corridor-wide inventory was compiled. Key findings from this exercise include:

- Of the 54 intersections reviewed, 22 (41%) do not have pedestrian countdown signals at each intersection leg.
- Of the 54 intersections reviewed, 21 (39%) do not have high-emphasis crosswalk markings at each intersection leg.
- Of the 47 major intersections reviewed, 38 (81%) do not appear to have sufficient lighting at all four quadrants of the intersection.
- All 47 major intersections are recommended for further evaluation of a right-turning vehicle 'yield to pedestrian' (MUTCD R10-15) sign at one or more intersection leg.

MUTLIMODAL NETWORK IMPROVEMENTS

Pedestrian Facilities

A strong pedestrian network is important to provide for general mobility and to facilitate access to transit stops and major intersections. Project recommendations to enhance walkability include construction of sidewalks or multiuse pathways along collector and arterial streets where facilities are lacking or insufficient. Sidewalks are typically constructed of concrete, are intended primarily for walking, and are between five and eight feet wide. Multiuse pathways accommodate pedestrians, bicyclists, and other non-motorized modes (e.g. skateboarders), should be at least 12 feet wide to accommodate bicycle traffic in both directions, and are more likely to be constructed of asphalt than concrete.

In addition to "linear" facilities, pedestrian facility recommendations also include opportunities to provide for or enhance marked crosswalks at signalized and un-signalized locations in order to improve overall pedestrian mobility options and to connect existing or proposed facilities. Recommendations also include opportunities to increase the safety and comfort of pedestrians at major intersections by implementing best design practices for intersection geometry, lighting, and signs and pavement markings. In many cases the objective of these design strategies is to reduce overall pedestrian exposure, simplify conflicts, and reinforce the pedestrians' right-of-way with respect to turning vehicles.

Bicycle Facilities

Bicycles allow for longer-distance trip making and significantly expand the catchment of transit service. With minor exception, Florida bicyclists may legally ride on sidewalks or, when no bicycle lane is provided, may ride with motor vehicle traffic using general purpose travel lanes. However, for the safety of cyclists and pedestrians and for the convenience of motor vehicle traffic, the preferred facility type for cyclists along most collector and arterial streets is a marked bicycle lane. On urban roadways with concrete curb and gutter structures, a bicycle lane should be marked at least four feet from the edge of the asphalt pavement and five feet from the curb face.

Multimodal Network Project Recommendations

The existing (baseline) plus the programmed/planned projects multimodal network was reviewed in terms of general network connectivity (i.e., gaps in the existing network), proximity to major trip generators, and proximity to transit stops within the corridor study area.

Potential projects on arterial and collector roads that could be completed within the existing right-of-way were reviewed during an engineering assessment for constructability. Several projects were removed from consideration due to insufficient right-of-way or other complications. The bicycle and pedestrian network connectivity projects advancing to the implementation plan are summarized in Table 2 and illustrated on Maps 2 and 3, respectively.

Table 2: Summary of Recommended Network Connectivity Projects

Project Reference	Project Description	On Street (From/To)	Project Length (miles)
1	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	Taft St (from SR 7 to N 40th Ave)	1.50
2	Provide shared lane arrows (sharrows) and bicycle lanes	SW 25th St (from SW 62nd Ave to SW 40th Ave)	1.70
3	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	Countyline Rd (from SW 68th Ln to SW 48th Ave)	2.15
5	Provide a shared-use path along the center median of SR 7	SR 7 (from Oakes Rd/SW 36th St to New River Greenway Trail)	0.90
7	Eliminate 3rd eastbound lane to NW 38th Ave and widen pavement from NW 38th Ave to NW 31st Ave to provide bicycle lanes	W Prospect Rd (from SR 7 to NW 31st Ave)	1.00
8	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	NW 16th St (from NW 47th Ave to SR 7)	0.55
9	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	NW 19th St (from NW 47th Ave to SR 7)	0.60
10	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	NW 26th St (from NW 49th Ave to SR 7)	0.87
11	Continue trail to NW 31st Ave and enhance SR 7 crossing	Sunrise Blvd Canal (from SR 7 to SW 31st Ave)	1.10
12	Provide 12' sidewalks	SR 7 (from Seton Dr to NW 31st St)	1.60
13	Provide a protected bicycle lane with landscaped buffer	SR 7 (from Merrill Rd to Seton Dr)	0.40

Project Reference	Project Description	On Street (From/To)	Project Length (miles)
14	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	Copans Rd (from SR 7 to Lyons Rd)	1.00
16	Road diet to provide bicycle lanes; potential roundabout at SW 64th Ave	Kimberly Blvd (from SW 81st Ave to SR 7)	2.10
17	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes or shared lane arrows and widen sidewalks	SW 11th St (from SR 7 to SW 49th Ter)	0.75
19	Mid-block crossing with pedestrian hybrid beacon for multi-use trail and wide sidewalks	SR 7 at Cypress Creek Greenway/C-14 Canal	0.10
20	Construct sidewalk on east side of road	SR 7 (from SW 45th St to Oakes Rd/SW 36th St)	0.65
21	Construct wide sidewalk along north side of road (will require ROW easement)	SW 45th St (from the Turnpike to SR 7)	0.45
22	Complete gaps to provide sidewalk on north side (1/4 mile)	SW 25th St (from SW 64th Ave to SR 7)	0.50
23	Delineate sidewalk from paved parking along north side of road	Hallandale Beach Blvd (from Edmund Rd to SW 58th Ave)	0.13
24	Complete sidewalk along north side of road	SW 33rd St (from SW 62nd Ave to SR 7)	0.25
25	Complete sidewalk along south side of road and median at 3600 block	W Prospect Rd (from SR 7 to NW 36th Ave)	0.25
26	Provide mid-block pedestrian hybrid beacon, median modifications, and bus stop relocation	SR 7 (north of Broward Boulevard)	0.10

Note: Project #s 4, 6, 15, 18, 26A, and 27 were deemed infeasible or unnecessary (due to confirmation of existing facilities or project already programmed) and therefore were not included in the list of projects recommended to move forward to the project prioritization process.

Map 2: Proposed Bicycle Network Connectivity Improvements

Bicycle Source: Aerial Imagery, Agency Review

Facilities Source: Florida Geographic Data Library (FGDL) Broward County MPO Mobility Plan, Broward County MPO Transportation Improvement Plan (TIP)

Note: Existing Facilities refer areas with Bike Lanes on both sides of the street. Programmed projects may be included in both the Mobility Plan and the T.I.P. Improvement ID labels refer to the IDs in the corresponding improvement table.

Map 3: Proposed Pedestrian Network Connectivity Improvements

Sidewalk Source: Aerial Imagery Agency Review

Facilities Source: Florida Geographic Data Library (FGDL) Broward County MPO Mobility Plan, Broward County MPO Transportation Improvement Plan (TIP)

Note: Existing Facilities refer areas with sidewalks on both sides of arterials, or at least one side of collectors and local streets. Programmed projects may be included in both the Mobility Plan and the T.I.P. Improvement ID labels refer to the IDs in the corresponding improvement table.

MOBILITY HUB IMPROVEMENTS

A total of 15 intersections along SR 7 were selected for further review and analysis to develop location-specific safety and operational improvements. Based on crash history, transit ridership, and other factors, the 15 intersections were grouped into one of two different study categories (see Table 3):

- Abbreviated study, which entails a review of any existing plans, a field visit, a preliminary impact assessment, and preliminary recommendations.
- Full study, which goes beyond that completed for the abbreviated study to include detailed recommendations, engineering review of constructability, planning-level cost estimates, and VISSIM traffic analysis.

Recommendations for the abbreviated study intersections are summarized in Table 4 and primarily include improvements to general traffic operations and roadway geometry to improve safety such as pedestrian signage, high emphasis crosswalks, lighting, and tightening curb radii. Many of these recommendations can be implemented using an existing FDOT push-button contract, considering FDOT's emphasis on improving pedestrian safety along state roads.

Recommendations for the full study intersections are illustrated in Figures 1-6 and generally include the same safety improvements as the abbreviated study intersections, but also include context sensitive hub infrastructure improvement recommendations and transit operations improvements such as queue jumps and queue bypass lanes.

Table 3: SR 7 Major Intersections by Study Category

Intersection of SR 7 and:	Study Category
Miramar Parkway/Hallandale Beach Blvd	Full Study
Pembroke Rd	Abbreviated Study
Hollywood Blvd	Abbreviated Study
Johnson St	Abbreviated Study
Sheridan St	Abbreviated Study
Stirling Rd	Abbreviated Study
Riverland Rd	Abbreviated Study
Davie Blvd	Full Study
Broward Blvd	Full Study
Lauderhill Mall Area	Abbreviated Study
Oakland Park Blvd	Full Study
Commercial Blvd	Full Study
Kimberly Blvd	Abbreviated Study
Atlantic Blvd	Full Study
Sample Rd/Turtle Creek Dr	Abbreviated Study

Table 4: Recommended Improvements at Abbreviated Study Intersections

Intersection of SR 7 and:	Pedestrian Safety Improvements	Pedestrian Infrastructure Improvements	Bus Stop Relocation	Transit Operational Improvements	Transit Infrastructure Improvements	Lighting Improvements	Other
Pembroke Road	Upgrade existing pedestrian push buttons and associated signage Upgrade all crosswalks to high-emphasis	Construct a sidewalk on the west side of SR 7, north of Pembroke Rd Complete sidewalk network on the west side of SR 7, south of Pembroke Rd	Relocate the far-side southbound bus stop closer to the intersection	Create an open bus bay for the existing far-side northbound bus stop Implement a queue bypass lane for the northbound bus stop	Provide a shelter at the far-side northbound and southbound bus stops		Tighten curb radii at all corners (southeast and northwest corners are top priority) Relocate curb ramp at the southwest corner
Hollywood Boulevard	Upgrade existing pedestrian push buttons and associated signage Upgrade all crosswalks to high-emphasis			Consider implementing a queue jump treatment for the northbound and southbound directions (note: bus bays are programmed as a part of the ongoing SR 7 reconstruction project)			

Intersection of SR 7 and:	Pedestrian Safety Improvements	Pedestrian Infrastructure Improvements	Bus Stop Relocation	Transit Operational Improvements	Transit Infrastructure Improvements	Lighting Improvements	Other
Johnson Street	Upgrade existing pedestrian push buttons and associated signage Upgrade all crosswalks to high-emphasis		Relocate the existing far-side northbound and westbound bus stop closer to the intersection		Provide shelters at the far-side northbound and westbound bus stops		
Sheridan Street	Upgrade all crosswalks to high-emphasis		Relocate the existing far-side eastbound bus stop closer to the intersection Consider moving the existing far-side westbound bus stop closer to the intersection	Create an open bus bay and implement a queue jump at the far-side eastbound bus stop	Provide a shelter at the far-side northbound and eastbound bus stops	Verify intersection lighting	
Stirling Road	Upgrade all crosswalks to high-emphasis		Relocate the existing far-side northbound and southbound bus stops closer to the intersection (will require coordination with the Seminole Tribe of Florida)		Consider providing a shelter at all existing bus stops		

Intersection of SR 7 and:	Pedestrian Safety Improvements	Pedestrian Infrastructure Improvements	Bus Stop Relocation	Transit Operational Improvements	Transit Infrastructure Improvements	Lighting Improvements	Other
Riverland Road	Upgrade all crosswalks to high-emphasis					Verify intersection lighting Replace missing light pole from the northeast corner	Tighten up curb radius at the northwest corner
Lauderhill Mall Area	Upgrade existing pedestrian push buttons and associated signage Upgrade all crosswalks to high-emphasis		Relocate existing northbound bus stop across from the programmed transit transfer center				
Kimberly Boulevard	Upgrade existing pedestrian push buttons and associated signage Upgrade all crosswalks to high-emphasis					Verify intersection lighting Replace missing light pole at the southwest corner	Fix damaged signal heads
Sample Road/Turtle Creek Drive	Upgrade all crosswalks to high-emphasis		Relocate the existing far-side northbound bus stop closer to the intersection (to beginning of the right turn lane)		Provide a shelter at the far-side northbound bus stop		

Figure 1: Recommended Improvements at SR 7 & Miramar Parkway/Hallandale Beach Blvd

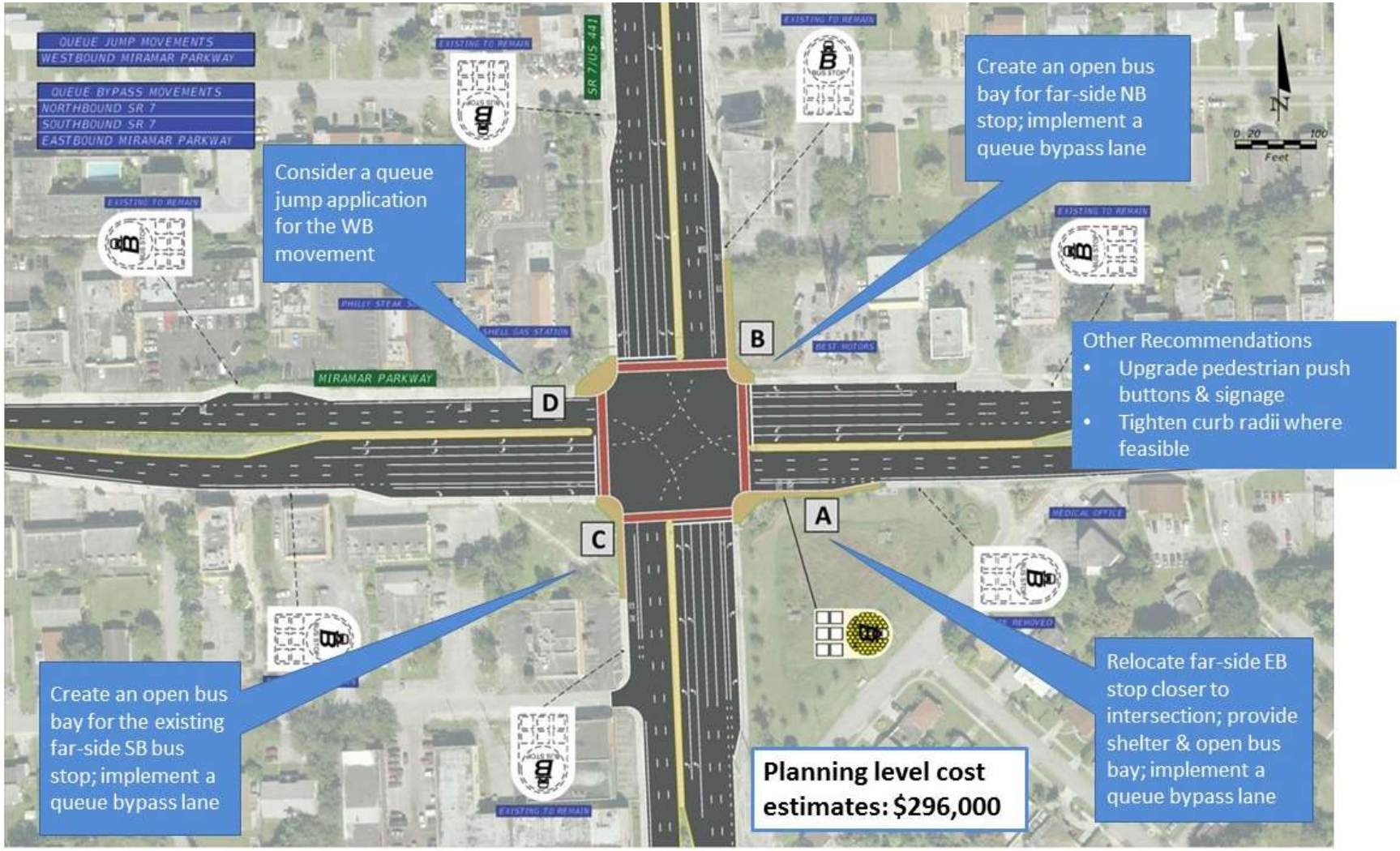


Figure 2: Recommended Improvements at SR 7 & Davie Blvd

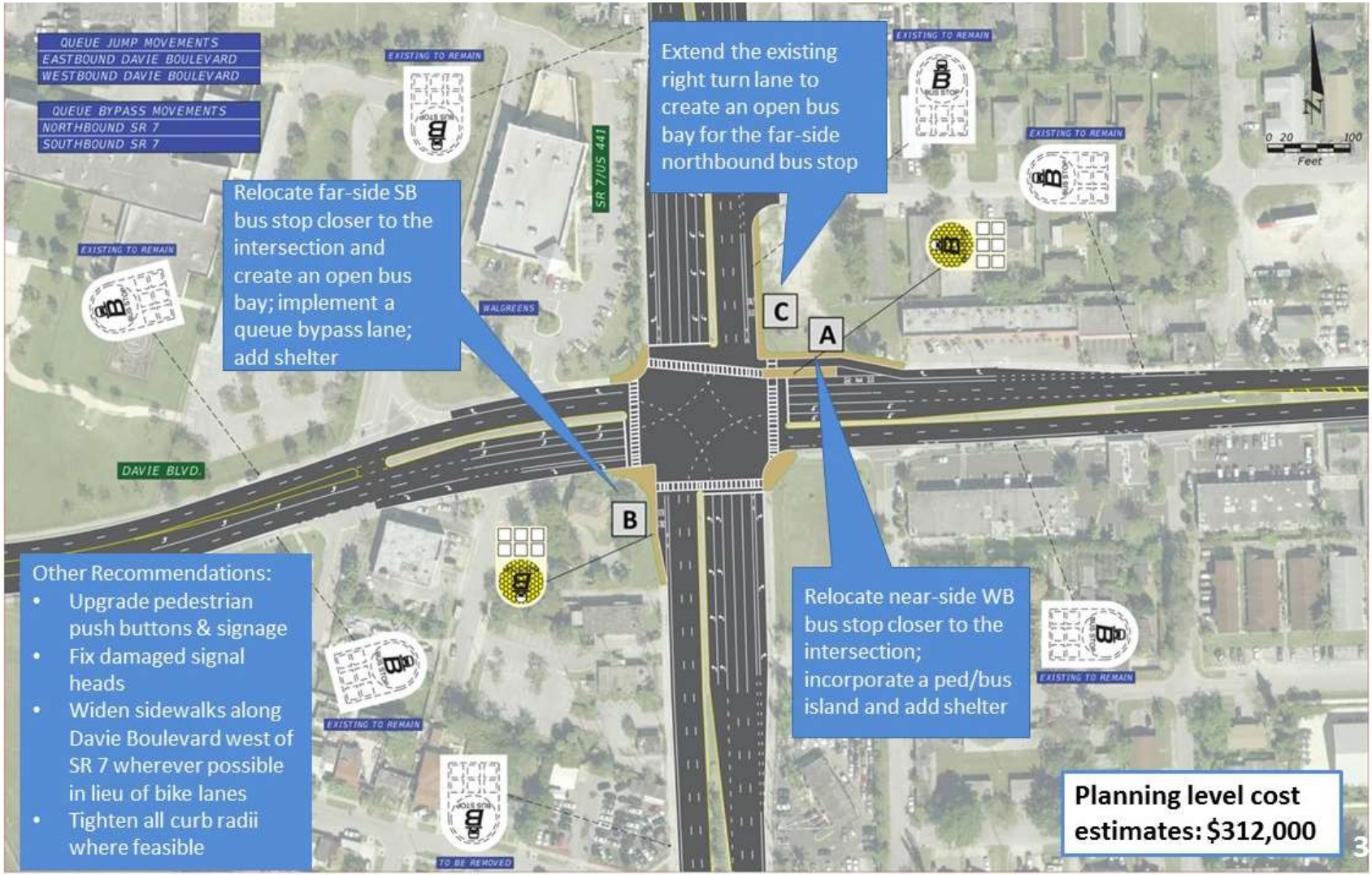


Figure 3: Recommended Improvements at SR 7 & Broward Blvd

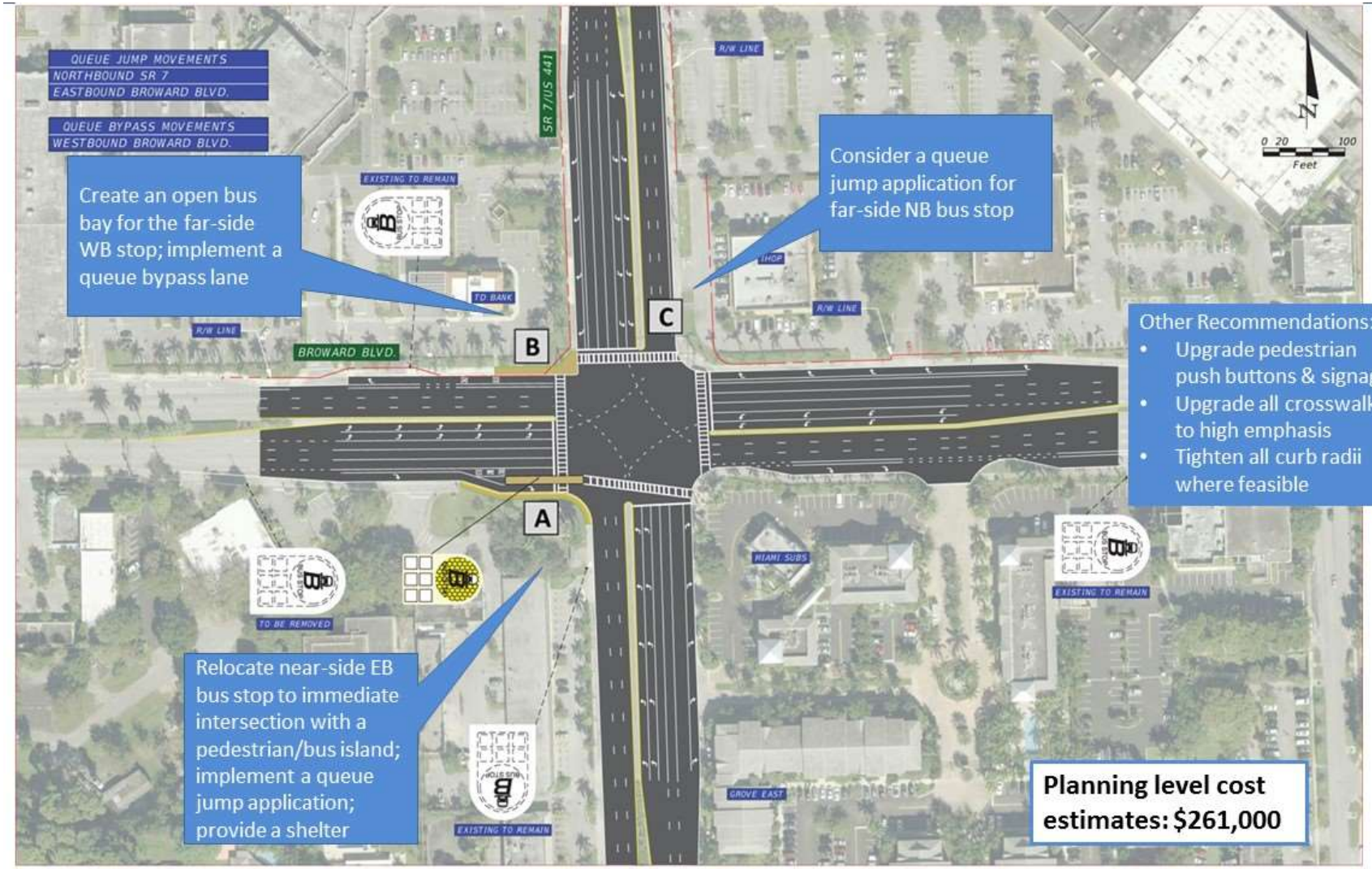


Figure 4: Recommended Improvements at SR 7 & Oakland Park Blvd

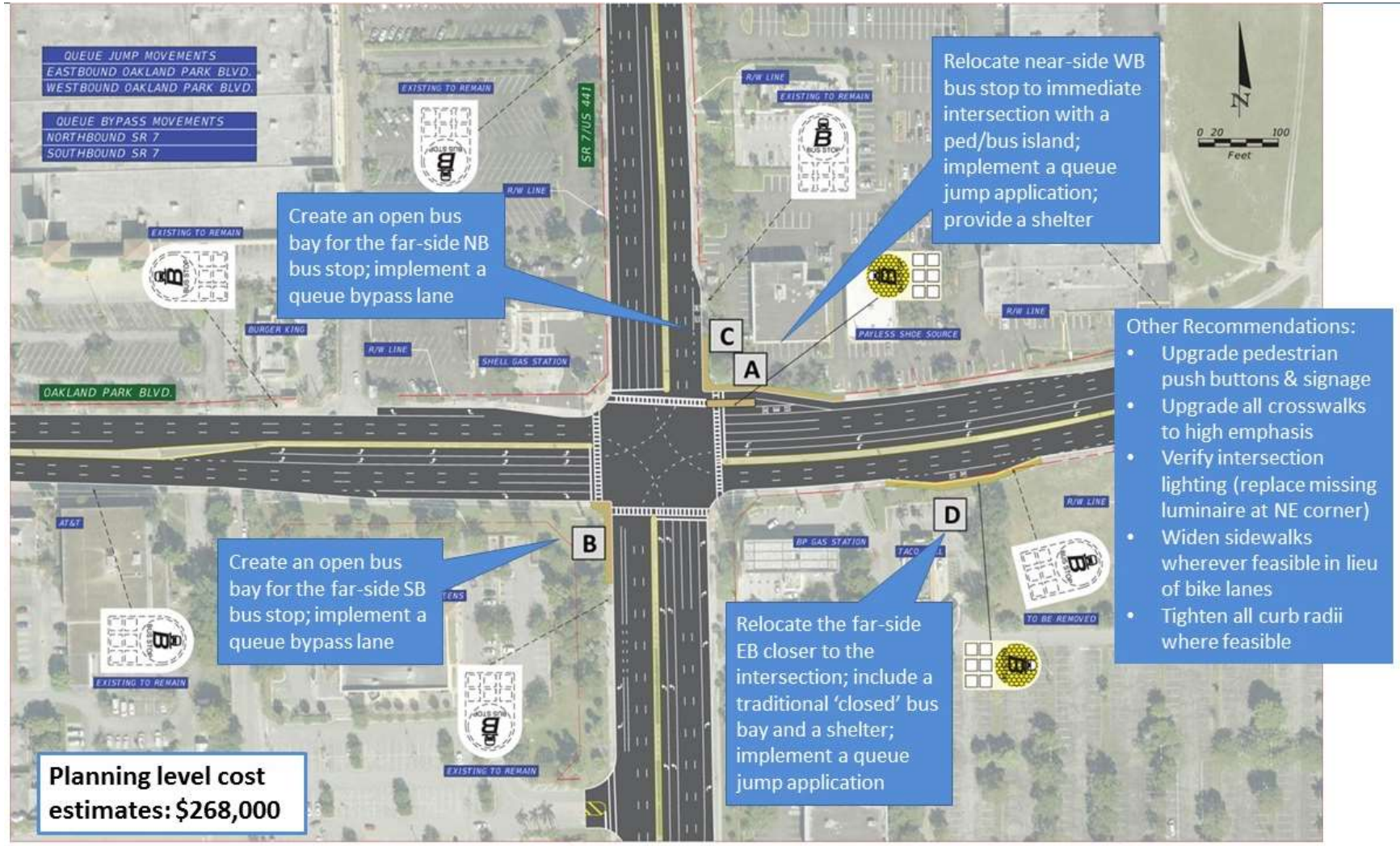


Figure 5: Recommended Improvements at SR 7 & Commercial Blvd

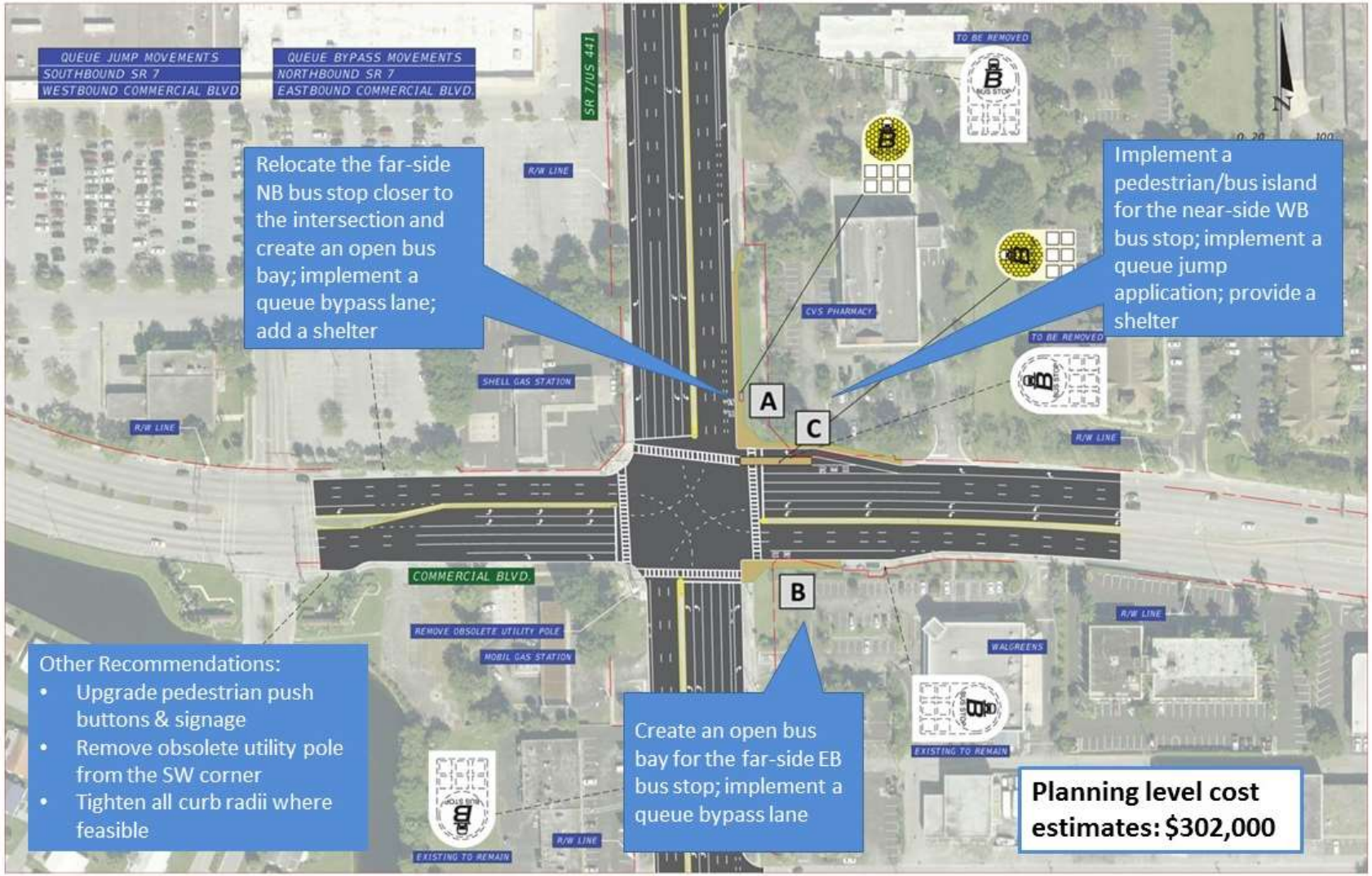
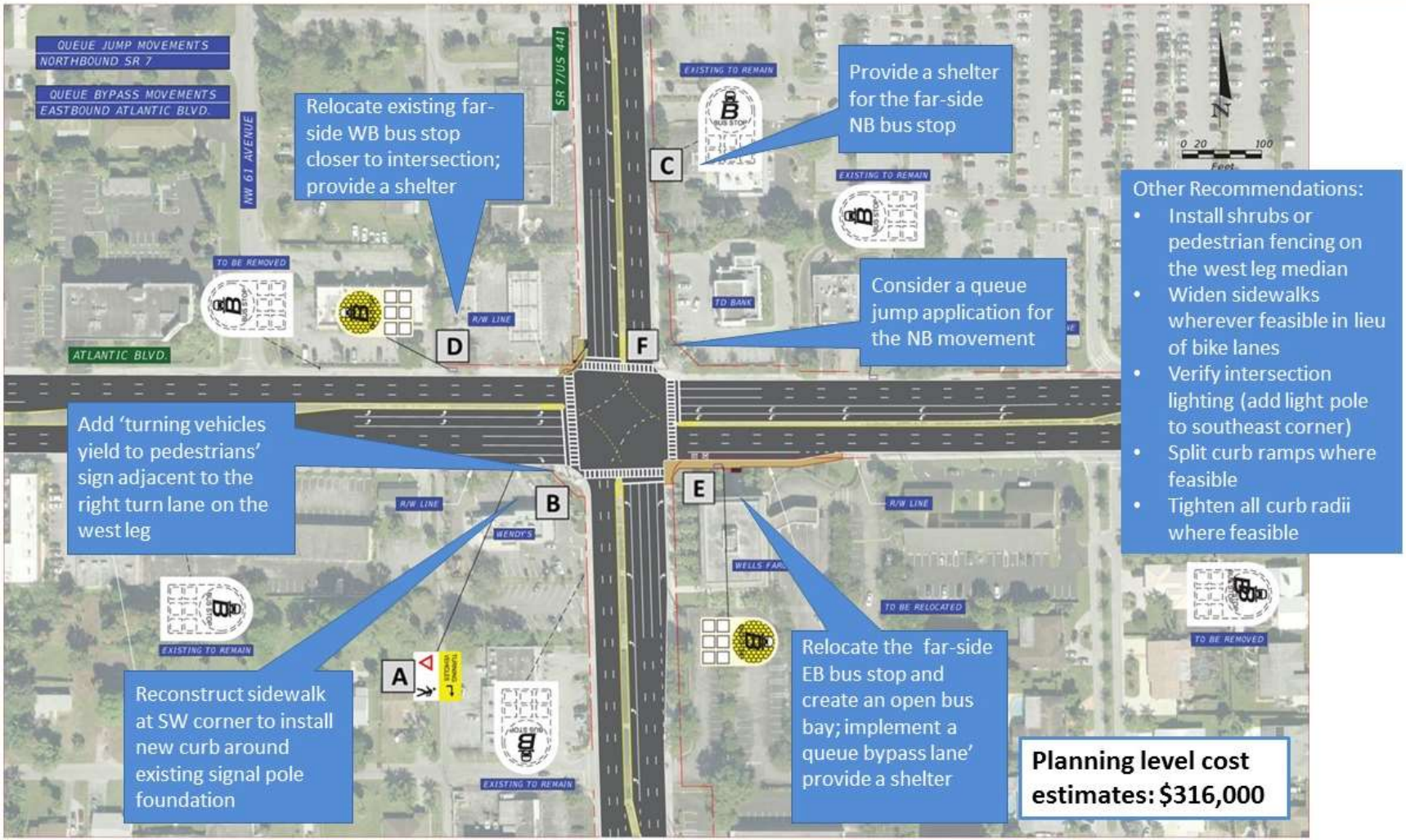


Figure 6: Recommended Improvements at SR 7 & Atlantic Blvd



PROJECT PRIORITIZATION AND IMPLEMENTATION PLAN

Project recommendations were grouped into the following three main categories each of which fall into short-, mid-, and longer-term implementation priority tiers.

PRIORITY TIER 1—SHORT-TERM SYSTEMIC IMPROVEMENTS (FEWER THAN 5 YEARS)

Priority Tier 1 recommendations are generally consistent with new FDOT standards and/or common low-cost safety countermeasures that would typically be retrofit into existing roadways as part of resurfacing projects, signal maintenance, or programmatic, proactive pedestrian safety improvements. With the exception of recommendations to enhance intersection lighting to meet FDOT's updated Plans Preparation Manual Chapter 7.3.2.2, these recommendations do not require a formal design phase and may be implemented using either state funds or federal Highway Safety Improvement Program Funds (HSIP), neither of which require MPO prioritization.

Systemic project recommendations include the uniform implementation of the following improvements at all signalized intersections along the corridor.

- Countdown Pedestrian Signals (Priority Tier 1-1)
- R10-15 "Right Turn Yield to Pedestrian" Signs (Priority Tier 1-1)
- High Emphasis Crosswalk Markings (Priority Tier 1-2)
- Intersection Lighting Improvements
  - Within segment currently being reconstructed (Priority Tier 1-1)
  - Outside of segment of SR 7 currently being reconstructed (Priority Tier 1-3)

PRIORITY TIER 2—MID-TERM NETWORK CONNECTIVITY PROJECTS (5 TO 10 YEARS)

These projects are generally consistent with the Broward MPO's countywide Mobility Projects program and, for the most part provide for bicycle lanes, sidewalk projects, and shared use pathways along SR 7 or along collector and arterial roadways connecting to the SR 7 corridor. The vast majority of these projects require no right-of-way and most require no reconstruction/relocation of existing curb and drainage structures or utilities; however they do require a formal design phase and must be individually programmed within the MPO's Transportation Improvement Program (TIP) and FDOT's 5-Year Work Program.

The network connectivity projects were prioritized through a point-based system to determine the relative priority of each project based on the following factors:

- **Traffic Characteristics and Quality of Existing Multimodal Facilities (50 points maximum):** Projects along higher-volume, higher-speed roadways are more essential than projects along lower-speed, lower-volume roadways where it is less dangerous to walk or ride a bicycle along

the roadside. Projects to provide sidewalks, marked bicycle lanes, or multi-use trails along or across roadways with no pedestrian or bicycle facilities are, all else being equal, prioritized above projects to enhance roadways with partial facilities (e.g., wide outside lanes for cyclists or sidewalks along one side of the street).

- **Demand Potential (25 points maximum):** Projects in higher-density areas that provide access to Mobility Hubs or higher-frequency transit routes are more likely to provide a safety, congestion management, and/or livability benefit than projects that serve lower-density areas and do not connect to transit.
- **Critical Link (5 points maximum):** Projects that provide for multimodal connectivity or address congestion issues where alternative routes are not available are a higher priority than enhancements that complement adequate existing routes.
- **Safety Benefit (5 points maximum):** Projects that directly address a documented traffic crash issue are a higher priority than projects that implement safety best practices or are not relevant to improving safety for all road users
- **Environmental Justice (EJ) (5 points maximum):** Projects that serve disadvantaged populations are prioritized above projects where environmental justice populations are not as prevalent.
- **Sufficient Right-of-Way (ROW) (5 points maximum):** Projects with sufficient right-of-way are prioritized higher as they will have less cost impacts and time delays than projects with insufficient or gaps in right-of-way.
- **Impacts to Existing Infrastructure (5 points maximum):** Projects that will not impact existing infrastructure (drainage, utilities, driveways, trees, etc.) are prioritized higher as they will have less cost impacts and time delays than projects where infrastructure conflicts must be addressed.
- **Community Input and Stakeholder Coordination (5 points maximum):** Projects that do not require community input or stakeholder coordination outside of the typical project development process are prioritized higher as they are likely to have less cost impacts and time delays than projects where additional community input must be collected and addressed.

Table 5 summarizes the prioritized list of projects following application of the criteria in which 105 total points could be awarded to any given project. Three tiers of prioritized projects are presented based on the total points awarded: Tier 1 includes projects awarded 55+ points; Tier 2 includes projects awarded 40-54 points, and Tier 3 includes projects awarded 40 or fewer points.

Table 5: Summary of Prioritized Network Connectivity Projects

Project Description	On Street (From/To)	Project Length (mi)	Total Score	Project Rank
Priority Tier 1 Projects (55+ points):				
Project #19: Mid-block crossing with pedestrian hybrid beacon for multi-use trail and wide sidewalks	SR 7 at Cypress Creek Greenway/C-14 Canal	0.10	79	1
Project #5: Construct a path along the center median of SR 7 between Oakes Rd and the New River Greenway	SR 7 (from Oakes Rd/SW 36th St to New River Greenway Trail)	0.90	69	2
Project #12: Provide 12' sidewalks	SR 7 (from Seton Dr to NW 31st St)	1.60	59	3
Project #13: Provide protected bicycle lane with landscaped buffer	SR 7 (from Merrill Rd to Seton Dr)	0.40	59	3
Project #26: Provide mid-block pedestrian hybrid beacon, median modifications, and bus stop relocation	SR 7 (north of Broward Boulevard)	0.10	57	5
Project #3: Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	Countyline Rd (from SW 68th Ln to SW 48th Ave)	2.15	55	6
Project #25: Complete sidewalk along south side of road	W Prospect Rd (from SR 7 to NW 36th Ave)	0.25	55	6

Project Description	On Street (From/To)	Project Length (mi)	Total Score	Project Rank
Priority Tier 2 Projects (40-54 points):				
Project #14: Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	Copans Rd (from SR 7 to Lyons Rd)	1.00	53	8
Project #16: Road diet to provide bicycle lanes; potential roundabout at SW 64th	Kimberly Blvd (from SW 81st Ave to SR 7)	2.10	49	9
Project #23: Delineate sidewalk from paved parking along north side of road	Hallandale Beach Blvd (from Edmund Rd to SW 58th Ave)	0.13	49	9
Project #9: Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	NW 19th St (from NW 47th Ave to SR 7)	0.60	45	11
Project #10: Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	NW 26th St (from NW 49th Ave to SR 7)	0.87	45	11
Project #2: Provide shared lane arrows and bicycle lanes	SW 25th St (from SW 62nd Ave to SW 40th Ave)	1.70	44	13
Project #20: Construct sidewalk on east side of SR 7, sidewalk exists on west	SR 7 (from SW 45th St to Oakes Rd/SW 36th St)	0.65	42	14
Project #1: Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	Taft St (from SR 7 to N 40th Ave)	1.50	41	15
Project #24: Complete sidewalk along north side of road	SW 33rd St (from SW 62nd Ave to SR 7)	0.25	40	16

Project Description	On Street (From/To)	Project Length (mi)	Total Score	Project Rank
Priority Tier 3 Projects (<40 points):				
Project #8: Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	NW 16th St (from NW 47th Ave to SR 7)	0.55	37	17
Project #7: Eliminate 3rd eastbound lane to NW 38th Ave and widening pavement from NW 38th to NW 31st to provide bicycle lanes	W Prospect Rd (from SR 7 to NW 31st Ave)	1.00	34	18
Project #22: Complete gaps to provide sidewalk on north side	SW 25th St (from SW 64th Ave to SR 7)	0.50	33	19
Project #21: Construct wide sidewalk along north side of road	SW 45th St (from the Turnpike to SR 7)	0.45	31	20
Project #11: Continue trail to NW 31st Ave and enhance SR 7 crossing	Sunrise Blvd Canal (from SR 7 to SW 31st Ave)	1.10	28	21
Project #17: Widen pavement for bicycle lanes or shared lane arrows and widen sidewalks	SW 11th St (from SR 7 to SW 49th Ter)	0.75	28	21

Note: In some instances two projects were awarded the same number of points through the prioritization process and received the same project rank; therefore, the subsequent project rank is skipped to recognize the previous tie.

PRIORITY TIER 3—LONGER-TERM HOT SPOT INTERSECTION IMPROVEMENTS (GREATER THAN 5 YEARS)

To address safety and efficiency for transit users and buses, this study identifies concepts to modify several major intersections/Mobility Hubs along the corridor to provide for reduced right turn radii, bus bypass lanes, and bus/pedestrian islands with queue-jump infrastructure. These improvements are designed to locate bus stops closer to the existing traffic signals, reduce pedestrian exposure, and provide travel time advantages for buses.

While these concepts do not impact adjacent private property structures, parking, or driveway access, they do, for the most part, require some right-of-way acquisition. Also, those concepts that propose pedestrian/bus islands will require investments in ITS infrastructure and corresponding concept-of-operations protocols to facilitate queue-jump operation with near-side stop placement. Because of the need to incorporate a formal design phase, acquire right-of-way, and overcome technology gaps these projects will require more time to implement. For these reasons, the Major Intersection "Hot Spot" recommendations will take the longest to implement and therefore fall within the third prioritization tier.

Table 6 shows the six locations for which detailed design concepts were developed along with key prioritization measures for each. While additional coordination between the Broward MPO, BCT, and FDOT is necessary to group and/r prioritize within this set of projects, the intersections of SR 7 with Oakland Park Boulevard and with Commercial Boulevard have the greatest need from a safety perspective and also have very high transit ridership.

Table 6: Major Intersection Concepts Ranking Criteria

Location	City	Total Bus Stop Ridership	Total Pedestrian & Bicycle Crashes	Environ. Assessment (# active sites)	Impact to Bus Travel Time (sec) - AM (PM)			
					NB	SB	EB	WB
Miramar Pkwy/ Hallandale Beach Boulevard	Miramar, West Park	2,655	6	3	-9 (-10)	7 (2)	7 (-5)	13 (-16)
Davie Boulevard	Plantation, Fort Lauderdale, Unincorporated Broward County	1,456	12	0	-12 (-8)	-45 (-33)	-2 (-52)	-37 (-5)
Broward Boulevard	Plantation	2,694	18	0	4 (-3)	3 (-5)	-4 (-1)	-3 (-9)
Oakland Park Boulevard	Lauderdale Lakes	6,160	40	1	-11 (23)	2 (-5)	-6 (0)	-5 (10)
Commercial Boulevard	Tamarac	2,131	27	1	-6 (5)	-7 (1)	-39 (10)	-18 (29)
Atlantic Boulevard	Margate	1,423	18	0	11 (9)	7 (9)	-22 (9)	-3 (1)

IMPLEMENTATION PLAN

General implementation considerations for each of the three priority tiers are discussed below.

Priority Tier 1–Short-Term Systemic Improvements

- Coordinate with FDOT Traffic Operations to develop push-button task work orders for implementation of countdown signal, sign, and pavement marking improvements.
- Contact the FDOT SR 7 Widening Project Construction Project Manager to request signalized intersection lighting upgrades consistent with PPM Chapter 7.3.2.2 be incorporated in the ongoing project(s).
- Coordinate with FDOT Safety Office to prioritize Highway Safety Improvement Program or other funds and develop scopes for upgrades to signalized intersection lighting outside of the ongoing widening project(s).
- Facilitate discussion between FDOT and communities along SR 7 to allow communities to pay for the incremental costs of lighting that uses community decorative lighting standards.

Priority Tier 2–Mid-Term Network Connectivity Projects:

- Provide project priorities to FDOT Office of Work Program to allocate funding
- Participate in project scoping process.
- Participate in local public engagement process to vet projects with each community and secure resolutions of support from subject city commissions.

Priority Tier 3–Longer-Term Hot Spot Intersection Improvements:

- Conduct follow-up discussion with BCT, Broward County Traffic Engineering, and FDOT to develop detailed concept of operations for each major intersection improvement concept.
- Establish a Memorandum of Understanding or other similar agreement between Broward County, the Broward MPO, and FDOT to implement one or more sites as a pilot project.
- Complete necessary design, right-of-way, and construction phases.
- Evaluate pilot site performance and adjust other intersection concepts accordingly.

IMPLEMENTATION PLAN FUNDING OPTIONS

The Broward MPO's Complete Streets and other Localized Initiatives Grant Program (CSLIP) provides funding for small local transportation projects that will improve the safety and mobility for all transportation users in Broward County. Over the 22-year term of Commitment 2040, FDOT estimates CSLIP will maintain a budget of $571.6 million. The implementation plan assumes CSLIP funding for the Priority Tier 2 projects.

The Transit program provides technical and operating/capital assistance to transit, paratransit, and ridesharing systems. Over the 22-year term of Commitment 2040, FDOT estimates that the Broward MPO will be provided $819.6 million in Transit program funding to deliver regionally significant transit projects throughout Broward County. The Broward MPO combined these funds with the Other Arterial Construction & ROW funds to provide for the best mix of transportation investments for a total Transit program budget of $840.4 million.

Table 7 presents a preferred Funding Plan to implement all proposed projects and improvements well under the estimates documented in Commitment 2040. This implementation plan assumes for two successful CSLIP applications per year to fund Priority Tier 2 projects from highest to lowest ranking.

Table 7: Preferred Funding Plan

Project ID	Priority	On Street (From/To)	City	Funding Source	Cost (2016 $)[1]	Implementation Period (YOE $)[2] 2021-2025	2026-2030	2031-2040	Total
Priority Tier 1 Projects [3]									
n/a	n/a	SR 7 (corridor-wide)	N/A	Non-SIS DDR	$ -	$ 5,000,000	$ -	$ -	***$ 5,000,000***
Priority Tier 2 Projects [4]									
19	1	SR 7 at Cypress Creek Greenway/C-14 Canal	Margate	CSLIP	$ 150,000	$ 395,000	$ -	$ -	$ 395,000
5	2	SR 7 (from Oakes Rd/SW 36th St to New River Greenway Trail)	Davie	CSLIP	$ 2,200,000	$ 3,242,000	$ -	$ -	$ 3,242,000
12	3	SR 7 (from Seton Dr to NW 31st St	Margate	CSLIP	$ 320,000	$ 488,000	$ -	$ -	$ 488,000
13	3	SR 7 (from Merrill Rd to Seton Dr)	Margate	CSLIP	$ 600,000	$ 913,000	$ -	$ -	$ 913,000
26	5	SR 7 (north of Broward Boulevard)	Plantation	CSLIP	$ 250,000	$ 393,000	$ -	$ -	$ 393,000
3	6	Countyline Rd (from SW 68th Ln to SW 48th Ave)	West Park, Pembroke Park	CSLIP	$ 3,800,000	$ 5,976,000	$ -	$ -	$ 5,976,000
25	6	W Prospect Rd (from SR 7 to NW 36th Ave)	Fort Lauderdale, North Lauderdale	CSLIP	$ 170,000	$ 276,000	$ -	$ -	$ 276,000
14	8	Copans Rd (from SR 7 to Lyons Rd)	Margate, Coconut Creek	CSLIP	$ 2,600,000	$ 4,224,000	$ -	$ -	$ 4,224,000
16	9	Kimberly Blvd (from SW 81st Ave to SR 7)	North Lauderdale	CSLIP	$ 3,700,000	$ 324,000	$ 1,522,000	$ -	$ 1,846,000
23	9	Hallandale Beach Blvd (from Edmund Rd to SW 58th Ave)	West Park	CSLIP	$ 50,000	$ 50,000	$ 235,000	$ -	$ 285,000
9	11	NW 19th St (from NW 47th Ave to SR 7)	Lauderhill	CSLIP	$ 1,060,000	$ 312,000	$ 1,467,000	$ -	$ 1,779,000
10	11	NW 26th St (from NW 49th Ave to SR 7)	Lauderhill, Lauderdale Lakes	CSLIP	$ 1,400,000	$ -	$ 2,427,000	$ -	$ 2,427,000
2	13	SW 25th St (from SW 62nd Ave to SW 40th Ave)	West Park, Miramar	CSLIP	$ 480,000	$ -	$ 832,000	$ -	$ 832,000
20	14	SR 7 (from SW 45th St to Oakes Rd/SW 36th St)	Davie	CSLIP	$ 333,000	$ -	$ 627,000	$ -	$ 627,000
1	15	Taft St (from SR 7 to N 40th Ave)	Hollywood	CSLIP	$ 2,200,000	$ -	$ 3,940,000	$ -	$ 3,940,000
24	16	SW 33rd St (from SW 62nd Ave to SR 7)	Miramar	CSLIP	$ 120,000	$ -	$ 462,000	$ -	$ 462,000
8	17	NW 16th St (from NW 47th Ave to SR 7)	Lauderhill	CSLIP	$ 974,000	$ -	$ 1,801,000	$ -	$ 1,801,000
7	18	W Prospect Rd (from SR 7 to NW 31st Ave)	Fort Lauderdale, North Lauderdale	CSLIP	$ 2,100,000	$ -	$ 4,013,000	$ -	$ 4,013,000
22	19	SW 25th St (from SW 64th Ave to SR 7)	Miramar	CSLIP	$ 350,000	$ -	$ 229,000	$ -	$ 229,000
21	20	SW 45th St (from the Turnpike to SR 7)	Davie	CSLIP	$ 268,000	$ -	$ 17,000	$ 81,000	$ 98,000
11	21	Sunrise Blvd Canal (from SR 7 to SW 31st Ave)	Lauderhill, Plantation	CSLIP	$ 615,000	$ -	$ 213,000	$ 1,001,000	$ 1,214,000
17	21	SW 11th St (from SR 7 to SW 49th Ter)	Margate	CSLIP	$ 1,100,000	$ -	$ 52,000	$ 244,000	$ 296,000
4	N/A	Griffin Rd (from SR 7 to SW 44th Ave	Dania Beach, Hollywood	Project deemed infeasible prior to project prioritization process.					
6	N/A	SR 7 at the C-13 Greenway	Lauderdale Lakes	Project deemed infeasible prior to project prioritization process.					
15	N/A	Coconut Creek Pkwy (from SR 7 to Banks Rd)	Margate	Project deemed infeasible prior to project prioritization process.					
18	N/A	W Prospect Rd (from SR 7 to NW 31st Ave)	Fort Lauderdale, North Lauderdale	Project deemed infeasible prior to project prioritization process.					
26A	N/A	W McNab Rd (from SW 66th Ave to SR 7)	North Lauderdale	Project deemed infeasible prior to project prioritization process.					
27	N/A	W McNab Rd/NW 62nd St (from NW 35th Ave to SR 7)	Fort Lauderdale, North Lauderdale, Broward County	Project deemed infeasible prior to project prioritization process.					
Subtotal - Priority Tier 2 Projects						***$ 16,593,000***	***$ 17,837,000***	***$ 1,326,000***	***$ 35,756,000***
Priority Tier 3 Projects									
n/a	n/a	Broward Boulevard	Plantation	Regionally Significant Transit Project	$ 261,000	$ 77,000	$ 361,000	$ -	$ 438,000
n/a	n/a	Commercial Boulevard	Tamarac	Regionally Significant Transit Project	$ 302,000	$ 89,000	$ 418,000	$ -	$ 507,000
n/a	n/a	Atlantic Boulevard	Margate	Regionally Significant Transit Project	$ 316,000	$ 93,000	$ 437,000	$ -	$ 530,000
n/a	n/a	Oakland Park Boulevard	Lauderdale Lakes	Regionally Significant Transit Project	$ 268,000	$ -	$ 465,000	$ -	$ 465,000
n/a	n/a	Miramar Parkway / Hallandale Beach Boulevard	Miramar, West Park	Regionally Significant Transit Project	$ 296,000	$ -	$ 513,000	$ -	$ 513,000
n/a	n/a	Davie Boulevard	Plantation, Fort Lauderdale, Broward County	Regionally Significant Transit Project	$ 312,000	$ -	$ 541,000	$ -	$ 541,000
Subtotal - Priority Tier 3 Projects						***$ 259,000***	***$ 2,735,000***	***$ -***	***$ 2,994,000***
Total - All Projects						**$ 21,852,000**	**$ 20,572,000**	**$ 1,326,000**	**$ 43,750,000**

Notes:

(1) Source: Chapter 5, Table 5-2

(2) Year of Expenditure (YOE) dollars are dollars that are adjusted for inflation from the present time to the expected year of construction. By using YOE dollars, this ensures that the more accurate cost estimates are used in planning, programming and implementation of the project. An annual inflation rate of 3.3% is used to adjust the 2016 costs to YOE costs.

(3) Funding source for Priority Tier 1 improvements is assumed to FDOT District Dedicated Revenue (DDR) for non-Strategic Intermodal System (SIS) facilities programmed within 2017-21 TIP, FM No. 4385181.

(4) Assumes two successful CSLIP applications per year from highest to lowest ranking.