

SR 7 MULTIMODAL IMPROVEMENTS CORRIDOR STUDY

CHAPTER 4: PROJECT RECOMMENDATIONS

REVISED FINAL



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SECTION 4.1: INTRODUCTION

This chapter documents the project recommendations developed for the SR 7 Multimodal Improvements Corridor Study, which are categorized into three types:

- > 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

Technical Appendix E: Multimodal Network Connectivity Analysis documents in more detail the development of the proposed corridor-wide and network connectivity improvements, while Technical Appendix F: Mobility Hub Project Development documents in more detail the development of the proposed safety and operational improvements at each of the selected 15 major intersections (Mobility Hubs) along SR 7 within the study area.

SECTION 4.2: CORRIDOR-WIDE IMPROVEMENTS

As part of the baseline conditions assessment, it was determined that various types of “best practice” multimodal strategies 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
- > Countdown pedestrian countdown signals
- > Intersection/crosswalk lighting
- > Right turning vehicle “yield to pedestrian” signage

To identify the potential needed improvements, the characteristics of 54 signalized intersections along SR 7 within the study area were reviewed. Signalized intersections within the current SR 7 reconstruction project area or other signal types, such as emergency and school signals, were not evaluated. A review of the existing infrastructure at each intersection was completed using a combination of Google Earth analysis and field review. Intersections were categorized as ‘major’ or ‘minor’ based on the total number of lanes of the cross street to SR 7. Intersections previously identified as Mobility Hubs and those where the cross street has more than two traffic lanes are classified as major intersections.

For this evaluation, an inventory was prepared to capture the following:

- > Cross street number of lanes/Mobility Hub status (to identify as a major vs. minor intersection).

- > Presence of countdown pedestrian signals at each intersection leg.
- > Presence of high emphasis crosswalk markings at each intersection leg.
- > Presence of lighting at each intersection quadrant (evaluated for major intersections only).
- > Recommendation for further evaluation of a right-turning vehicle 'yield to pedestrian' sign (recommended for major intersections only).

The corridor-wide inventory compiled from this review is provided in Table 4-1. Key findings from this exercise include:

- > Of the 54 intersections reviewed, 47 (84%) are considered 'major intersections.'
- > Of the 54 intersections reviewed, 32 (59%) have pedestrian countdown signals at each intersection leg. Of the remaining 22 intersections, 5 intersections have no pedestrian countdown signals and the remaining 17 intersections have pedestrian countdown signals on 1, 2, or 3 of the intersections legs.
- > Of the 54 intersections reviewed, 33 (61%) have high-emphasis crosswalk markings at each intersection leg. Of the remaining 21 intersections, 1 intersection has no high-emphasis crosswalk markings, while the other 20 have high-emphasis crosswalk markings at 1, 2, or 3 of the intersection legs.
- > Of the 47 major intersections reviewed, 9 (19%) appear to have sufficient lighting at all four quadrants of the intersection. Of the remaining 38 intersections, 4 intersections do not appear to have sufficient lighting at any intersection quadrant, while the other 34 appear to have sufficient lighting at 1, 2, or 3 of the intersection quadrants.
- > 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.
- > Existing countdown pedestrian signals and high emphasis crosswalk markings are most frequently found at the north intersection leg, while sufficient lighting is most frequently found in the southeast and northeast intersection quadrants.

This information will be provided to FDOT District 4 to further review recommendations for each intersection and programming of funds for short-term implementation.

Table 4-1: Inventory of Recommended Corridor-Wide Improvements

Cross Street	Traffic Signal Type	Mobility Hub or # of Traffic Lanes	Major/Minor Intersection (Major = Mobility Hub or > 2 Lanes)	Countdown Ped Signals Present?				High Emphasis Crosswalk Markings Present?				Evaluate Need for Right-Turn 'Yield to Pedestrian' Signs? (Evaluated for Major Intersections Only)	Intersection Lighting? (Evaluated for Major Intersections Only)				
				North Leg	South Leg	East Leg	West Leg	North Leg	South Leg	East Leg	West Leg		NE Quadrant	NW Quadrant	SE Quadrant	SW Quadrant	
NW 215 ST	Traffic Signal	8	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
HALLANDALE BCH BLVD	Traffic Signal	Hub	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
SHERIDAN ST	Traffic Signal	Hub	Major	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes
SUNSET DR	Traffic Signal	2	Minor	No	No	No	Yes	No	Yes	No	Yes	No	No	N/A	N/A	N/A	N/A
STIRLING RD	Traffic Signal	Hub	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SEMINOLE WAY	Traffic Signal	5	Major	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SW 54TH CT/LUCKY ST	Traffic Signal	5	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
SW 51 ST	Traffic Signal	6	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No
GRIFFIN RD	Traffic Signal	12	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
ORANGE DR	Traffic Signal	4	Major	No	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	No	No	No	No
BROWARD LANDFILL	Traffic Signal	3	Major	Yes	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No	No
OAKES RD	Traffic Signal	2	Minor	No	Yes	No	No	No	Yes	No	No	No	No	N/A	N/A	N/A	N/A
RIVERLAND RD	Traffic Signal	Hub	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
DAVIE BLVD	Traffic Signal	Hub	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PETERS RD	Traffic Signal	4	Major	No	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
SW 6 ST	Traffic Signal	2	Minor	No	No	No	No	No	No	Yes	No	No	No	N/A	N/A	N/A	N/A
BROWARD BLVD	Traffic Signal	Hub	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NW 5TH ST	Traffic Signal	3	Major	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
NW 6 CT	Traffic Signal	3	Major	Yes	No	Yes	No	Yes	No	Yes	No	Yes	Yes	No	No	No	Yes
NW 8 ST	Traffic Signal	3	Major	No	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	No	Yes	No	No
NW 11 ST	Traffic Signal	3	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
NW 12 ST	Traffic Signal	5	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
NW 16 ST	Traffic Signal	8	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
NW 19 ST	Traffic Signal	2	Minor	No	No	No	No	No	No	No	No	No	No	N/A	N/A	N/A	N/A
NW 21 ST	Traffic Signal	3	Major	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	No	Yes
NW 21 ST	Traffic Signal	3	Major	No	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	No	No	No	No
NW 24 ST	Traffic Signal	2	Minor	No	No	No	No	No	No	Yes	No	No	No	N/A	N/A	N/A	N/A
NW 26 ST	Traffic Signal	2	Minor	No	No	No	No	No	No	Yes	No	No	No	N/A	N/A	N/A	N/A
NW 29 ST	Traffic Signal	8	Major	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
OAKLAND PARK BLVD	Traffic Signal	Hub	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
NW 34 ST	Traffic Signal	2	Minor	No	No	No	No	No	No	Yes	No	No	No	N/A	N/A	N/A	N/A
NW 37 ST	Traffic Signal	5	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
NW 41 ST	Traffic Signal	7	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
NW 207 ST	Traffic Signal	6	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NW 44 ST	Traffic Signal	6	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
HEADWAY OFFICE PARK	Traffic Signal	5	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NW 21200 BLK	Traffic Signal	4	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
COMMERCIAL BLVD	Traffic Signal	Hub	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes

Cross Street	Traffic Signal Type	Mobility Hub or # of Traffic Lanes	Major/Minor Intersection (Major = Mobility Hub or > 2 Lanes)	Countdown Ped Signals Present?				High Emphasis Crosswalk Markings Present?				Evaluate Need for Right-Turn 'Yield to Pedestrian' Signs? (Evaluated for Major Intersections Only)	Intersection Lighting? (Evaluated for Major Intersections Only)			
				North Leg	South Leg	East Leg	West Leg	North Leg	South Leg	East Leg	West Leg		NE Quadrant	NW Quadrant	SE Quadrant	SW Quadrant
PROSPECT RD	Traffic Signal	7	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
BAILEY RD	Traffic Signal	5	Major	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	Yes	No	Yes
SW 17 ST	Traffic Signal	7	Major	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	No	Yes
BLVD OF CHAMPIONS	Traffic Signal	6	Major	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes
SW 12 ST	Traffic Signal	4	Major	No	Yes	No	Yes	No	Yes	No	Yes	Yes	No	No	Yes	Yes
SW 11 ST (Kimberly DR)	Traffic Signal	Hub	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SW 7 ST	Traffic Signal	4	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
SOUTHGATE BLVD	Traffic Signal	7	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ATLANTIC BLVD	Traffic Signal	Hub	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
MARGATE BLVD	Traffic Signal	5	Major	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	No
COCONUT CREEK PKWY	Traffic Signal	5	Major	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No	No	Yes	Yes
COPANS RD	Traffic Signal	10	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
WINFIELD BLVD	Traffic Signal	4	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No
RANCH BLVD	Traffic Signal	5	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
NW 31 ST	Traffic Signal	9	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
TURTLE CREEK DR	Traffic Signal	5	Major	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No

SECTION 4.3: NETWORK CONNECTIVITY IMPROVEMENTS

EXISTING INVENTORY AND PROGRAMMED IMPROVEMENTS

The existing bicycle and pedestrian facilities were reviewed as part of the baseline conditions analysis and documented in Chapter 3-A. The existing inventories were 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. It should be noted that the bicycle and pedestrian facilities being constructed from south of Stirling Road to SW 26th Street (north of Hallandale Beach Blvd) as part of the ongoing SR 7 reconstruction project are included in the existing inventory.

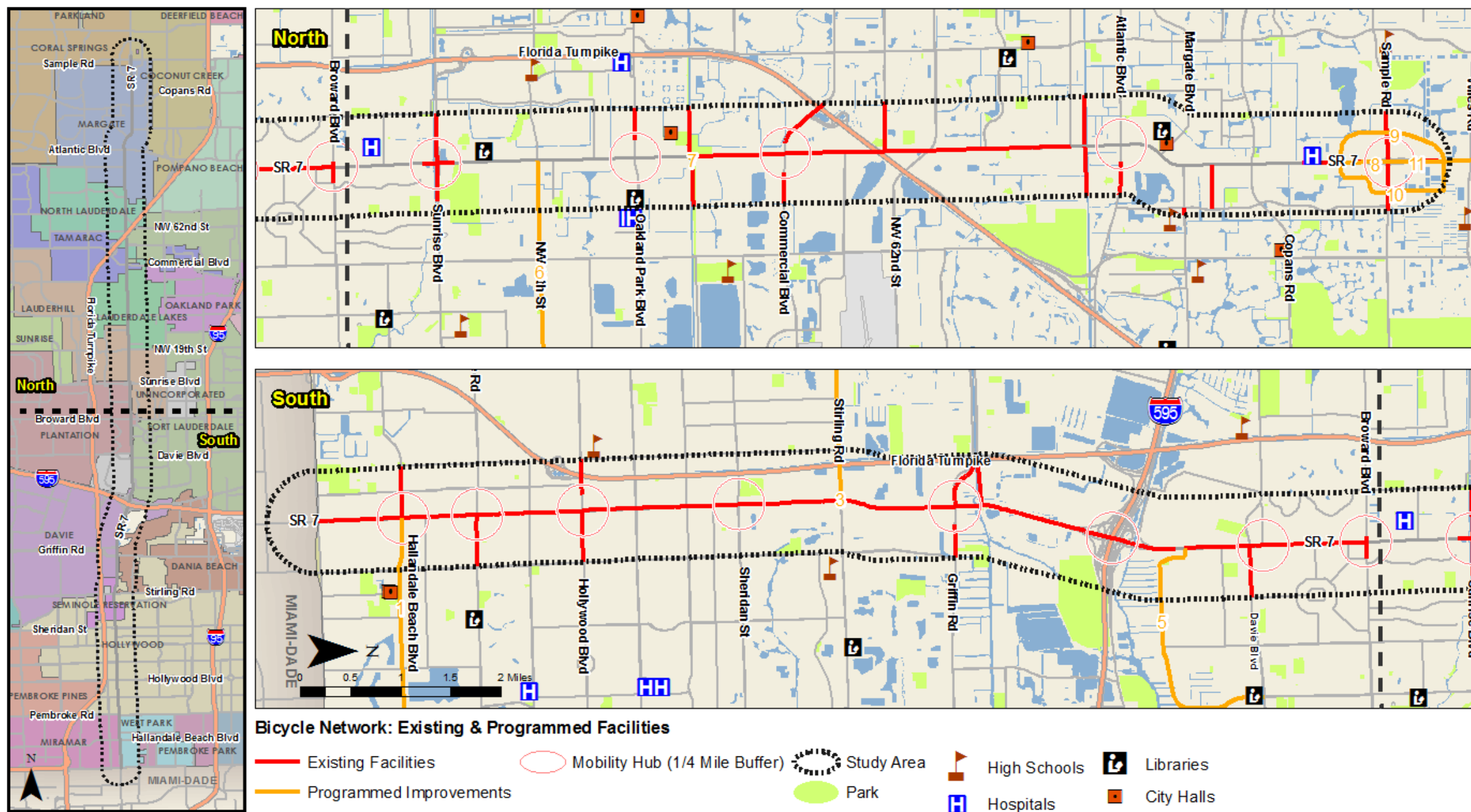
Using the existing inventory as the baseline, the bicycle and pedestrian projects that are not yet under construction, but funding has been programmed by the Broward MPO or local governments and will be constructed in the near future were identified (see Table 4-2). The existing (baseline) plus the programmed/planned projects provides the starting point from which to assess the bicycle and pedestrian facility network connectivity gaps. The existing and programmed bicycle facilities are illustrated on Map 4-1 and the existing and programmed pedestrian facilities are illustrated on Map 4-2. For both maps, projects are identified by the reference number provided in the summary table.

Table 4-2: Programmed Bicycle and Pedestrian Network Improvements

Reference Number	Description	On Street	From	To
1	Bicycle and sidewalk facilities with resurfacing	Hallandale Beach Blvd	SR 7	Lakeshore Blvd
3	Bicycle and sidewalk facilities with resurfacing	Stirling Rd	East of University	East of SR 7
4	Sidewalks	SR 7	I-595 Greenway	Riverland Rd
5	Bicycle and sidewalk facilities with resurfacing	Riverland Rd	SR 7	Davie Blvd
6	Bicycle lanes/sidewalks	NW 19 th St	SR 7	Powerline Rd
7	Mid-block crossing	SR 7	C-13 Greenway	
8	Widen existing sidewalks to 10-foot sidewalks	SR 7	NW 31 st St	Sample Rd
9	Bicycle lanes/sidewalks	NW 62 nd Ave/ Turtle Creek Dr	SR 7	SR 7
10	Bicycle lanes/sidewalks	NW 54 th Ave/ Callum Rd	SR 7	SR 7
11	Bicycle lanes/sidewalks	SR 7	Sample Rd	Palm Beach County

Source: Broward County FY 2017-2021 Draft Tentative Work Program; FDOT District 4.

Map 4-1: Existing and Programmed Bicycle Network

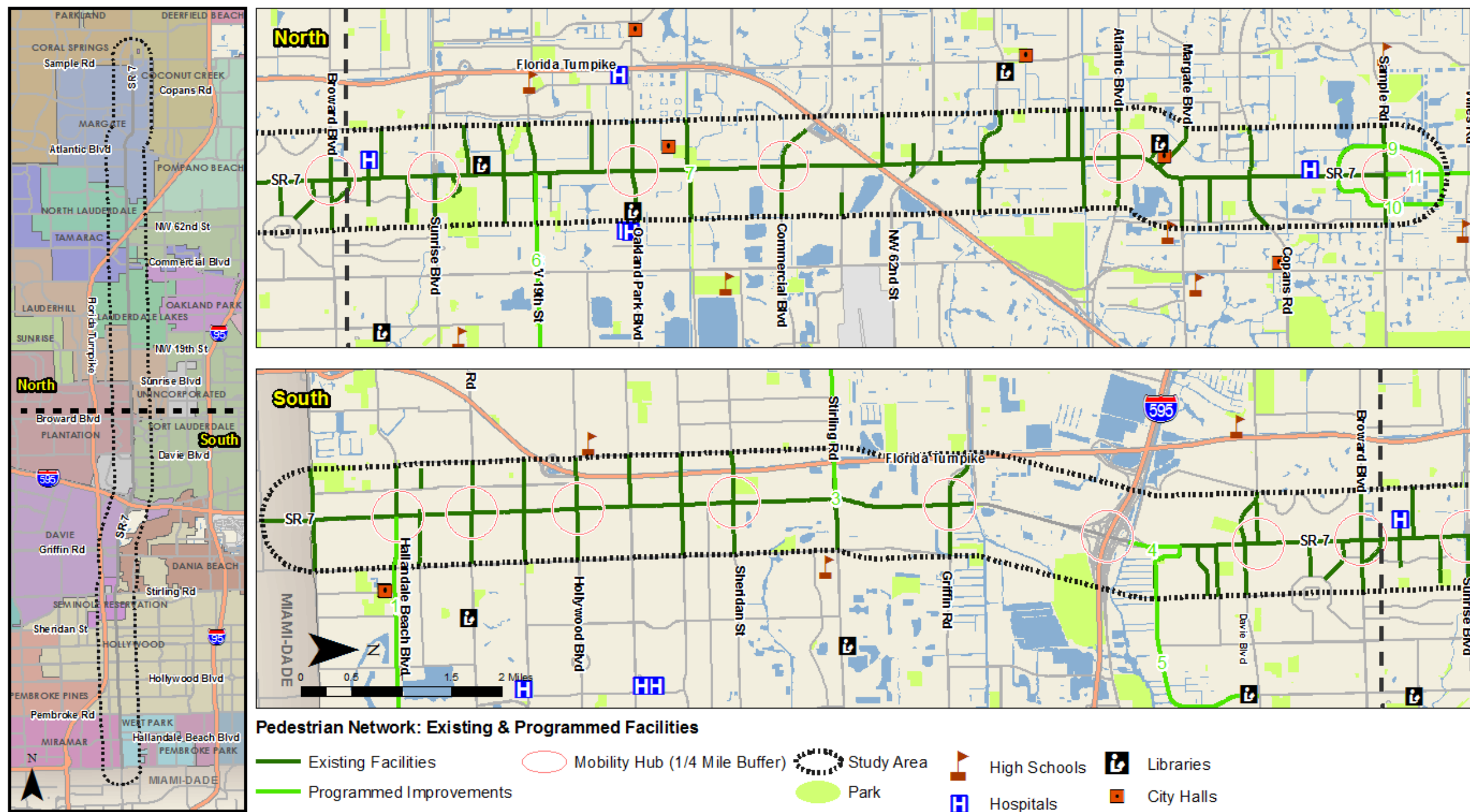


Bicycle Source: Aerial Imagery, Agency Review

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 4-2: Existing and Programmed Pedestrian Network



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.

PROPOSED NETWORK CONNECTIVITY IMPROVEMENTS

To identify the proposed project network, gaps in the existing plus programmed bicycle and pedestrian network were identified. A review of the existing conditions of these gaps was completed using Google Earth. Where feasible, connecting facilities were identified for further review and vetting. Other parameters used to identify the initial list of proposed network connectivity projects include:

- > All projects identified are able to be constructed within the existing right-of-way, based on a planning-level review of the street section and right-of-way limits.
- > Network connectivity projects were reviewed for collector roads and above. In general, local/neighborhood streets are not included in this analysis.

For those proposed projects identified, project limits for recommended improvements may extend beyond the ½-mile study area limits to reach the most logical terminus.

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 5 and 8 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 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.

Proposed Network Connectivity Improvements

Table 4-3 summarizes the network connectivity projects initially identified and ultimately proposed for the SR 7 study area. For each of these projects, engineering assessments and field reviews were completed to understand if there are any barriers to completing the proposed project, such as insufficient right-of-way, infrastructure conflicts, etc. The results of this assessment are summarized in Technical Appendix E. This table also notes whether the project is being recommended to move forward for prioritization and inclusion in the implementation plan, or be removed from consideration based on findings from the field review and/or engineering assessment. For those projects recommended to move forward, planning cost estimates were developed and are provided in the table.

The proposed bicycle connectivity projects recommended to move forward, along with the existing and programmed facilities, are illustrated on Map 4-3 and the proposed pedestrian network connectivity projects recommended to move forward, along with the existing and programmed facilities, are illustrated on Map 4-4. For both maps, projects are identified by the reference number provided in the summary table.

Table 4-3: Proposed Network Connectivity Improvements

Project Reference	Working Group (City)	Project Description	On Street (From/To)	Project Length (miles)	Recommendation	Planning Cost Estimates ^B
1	South (Hollywood)	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	Taft St (from SR 7 to N 40th Ave)	1.50	Move forward to prioritization	\$2.02 M
2	South (West Park, Miramar)	Provide shared lane arrows and bicycle lanes	SW 25th St (from SW 62nd Ave to SW 40th Ave)	1.70	Move forward to prioritization	\$480,000
3	South (West Park, Pembroke Park, Miramar)	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	Countyline Rd (from SW 68th Ln to SW 48th Ave)	2.15	Move forward to prioritization	\$3.8 M
4	South (Dania Beach, Hollywood)	Reconstruct median and modify lane markings to for bicycle keyholes	Griffin Rd (from SR 7 to SW 44th Ave)	0.20	Remove from consideration due to insufficient right-of-way	N/A
5	South (Davie)	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	Move forward to prioritization	\$2.2 M
6	Central (Lauderdale Lakes)	Provide mid-block crossing at the C-13 Greenway Canal Trail	SR 7 at the C-13 Greenway	< 0.10	Remove from consideration; project already programmed (included as #7 in Table 4-2)	N/A

Project Reference	Working Group (City)	Project Description	On Street (From/To)	Project Length (miles)	Recommendation	Planning Cost Estimates ^B
7	Central (Fort Lauderdale, North Lauderdale)	Eliminate 3 rd eastbound lane to NW 38 th Ave and widen pavement from NW 38 th Ave to NW 31 st Ave to provide bicycle lanes	W Prospect Rd (from SR 7 to NW 31st Ave)	1.00	Move forward to prioritization	\$2.1 1M
8	Central (Lauderhill)	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	NW 16th St (from NW 47th Ave to SR 7)	0.55	Move forward to prioritization	\$974,000
9	Central (Lauderhill)	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	NW 19th St (from NW 47th Ave to SR 7)	0.60	Move forward to prioritization	\$1.06 M
10	Central (Lauderhill, Lauderdale Lakes)	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	NW 26th St (from NW 49th Ave to SR 7)	0.87	Move forward to prioritization	\$1.4 M
11	Central (Lauderhill, Plantation)	Continue trail to NW 31st Ave and enhance SR 7 crossing	Sunrise Blvd Canal (from SR 7 to SW 31st Ave)	1.10	Move forward to prioritization	\$615,000
12	North (Margate)	Provide 12' sidewalks	SR 7 (from Seton Dr to NW 31 st St)	1.60	Move forward to prioritization	\$320,000
13	North (Margate)	Provide a protected bicycle lane with landscaped buffer	SR 7 (from Merrill Rd to Seton Dr)	0.40	Move forward to prioritization	\$600,000
14	North (Margate, Coconut Creek)	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes	Copans Rd (from SR 7 to Lyons Rd)	1.00	Move forward to prioritization	\$2.6 M

Project Reference	Working Group (City)	Project Description	On Street (From/To)	Project Length (miles)	Recommendation	Planning Cost Estimates ^B
15	North (Margate)	Widen pavement to provide bicycle lanes	Coconut Creek Pkwy (from SR 7 to Banks Rd)	0.40	Remove from consideration as subsequent field review identified existing bicycle lanes within this section	N/A
16	North (North Lauderdale)	Use a road diet to provide bicycle lanes; potential roundabout at SW 64 th Ave	Kimberly Blvd (from SW 81 st Ave to SR 7)	2.10	Move forward to prioritization	\$3.7 M
17	North (Margate, North Lauderdale)	Widen pavement and reduce lane widths (if possible) to provide bicycle lanes or sharrows and widen sidewalks	SW 11th St (from SR 7 to SW 49th Ter)	0.75	Move forward to prioritization	\$1.1 M
18	Central (Fort Lauderdale, North Lauderdale)	Widen pavement to provide bicycle lanes	W Prospect Rd (from SR 7 to NW 31st Ave)	1.00	Remove from consideration; duplicate project to #7	N/A
19	North (Margate)	Provide 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	Move forward to prioritization	\$150,000
20	South (Davie)	Construct sidewalk on east side of road	SR 7 (from SW 45th St to Oakes Rd/SW 36th St)	0.65	Move forward to prioritization	\$330,000
21	South (Davie)	Construct wide sidewalk along north side of road (will require ROW easement)	SW 45th St (from the Turnpike to SR 7)	0.45	Move forward to prioritization	\$268,000

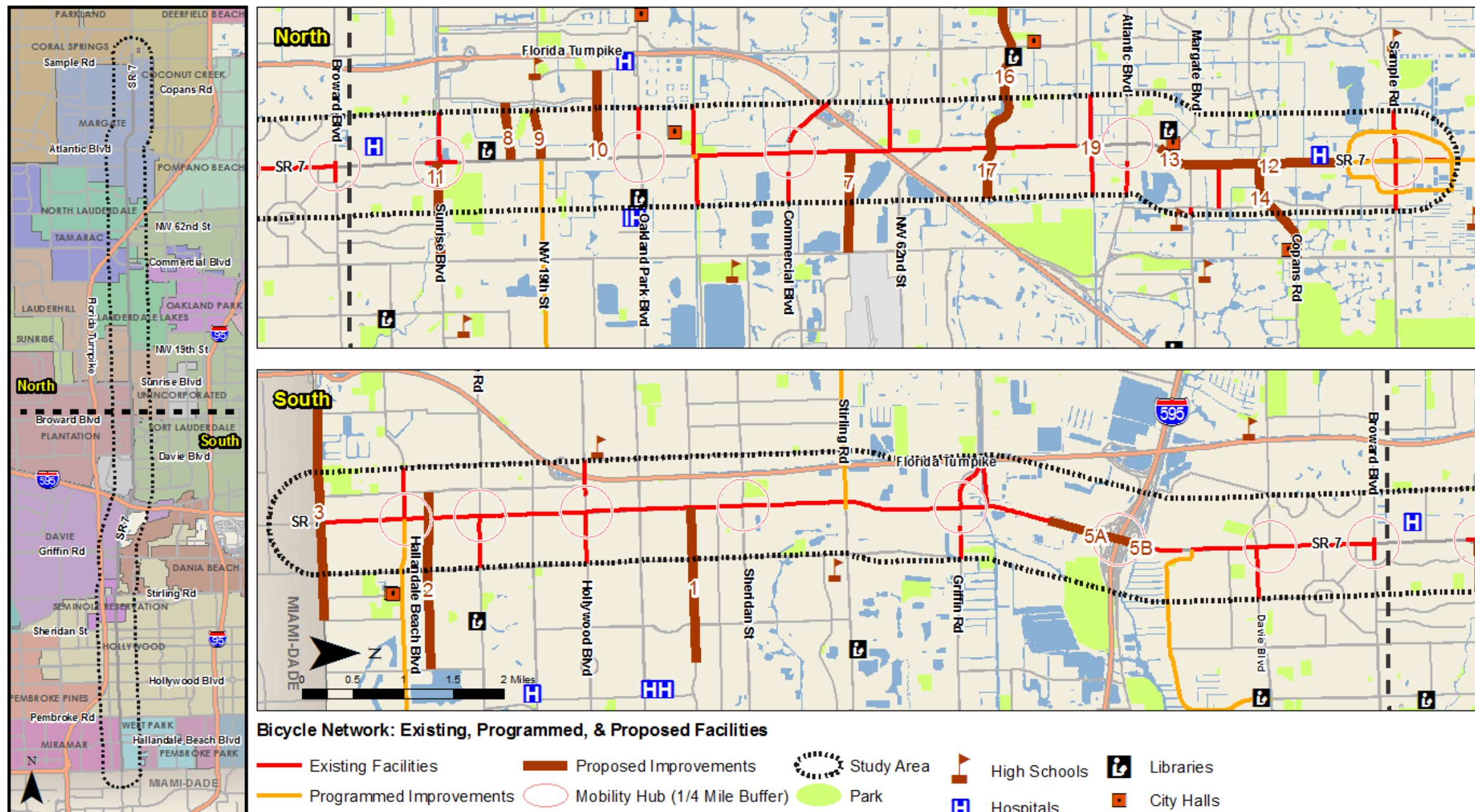
Project Reference	Working Group (City)	Project Description	On Street (From/To)	Project Length (miles)	Recommendation	Planning Cost Estimates ^B
22	South (Miramar)	Complete gaps to provide sidewalk on north side (1/4 mile)	SW 25th St (from SW 64th Ave to SR 7)	0.50	Move forward to prioritization	\$350,000
23	South (West Park)	Delineate sidewalk from paved parking along north side	Hallandale Beach Blvd (from Edmund Rd to SW 58th Ave)	0.13	Move forward to prioritization	\$50,000
24	South (Miramar)	Complete sidewalk along north side of road	SW 33rd St (from SW 62nd Ave to SR 7)	0.25	Move forward to prioritization	\$120,000
25	Central (Fort Lauderdale, North Lauderdale)	Complete sidewalk along south side of road and median at 3600 block	W Prospect Rd (from SR 7 to NW 36th Ave)	0.25	Move forward to prioritization	\$170,000
26	Central (Plantation)	Provide mid-block pedestrian hybrid beacon, median modifications, and bus stop relocation	SR 7 (north of Broward Boulevard)	0.10	Move forward to prioritization	\$250,000
26A	North (North Lauderdale)	Sidewalk on north side connects to SR 7 via Blvd of Champions	W McNab Rd (from SW 66th Ave to SR 7)	0.11	Remove from consideration; insufficient right-of-way and significant impacts to existing utilities and driveway access	N/A

Project Reference	Working Group (City)	Project Description	On Street (From/To)	Project Length (miles)	Recommendation	Planning Cost Estimates ^B
27	North, Central (Fort Lauderdale, North Lauderdale, Broward County)	Sidewalk on south side; connects to SR 7 via ramp sidewalk	W McNab Rd/NW 62nd St (from NW 35th Ave to SR 7)	0.70	Remove from consideration as subsequent field review identified an existing concrete sidewalk as recommended	N/A

A: Source of existing right-of-way is for assessment is Broward County Property Appraisers maps.

B: Inclusive of construction (including maintenance of traffic and mobilization), contingency, and Construction, Engineering & Inspection (CEI) costs.

Map 4-3: Proposed Bicycle Network Connectivity Improvements

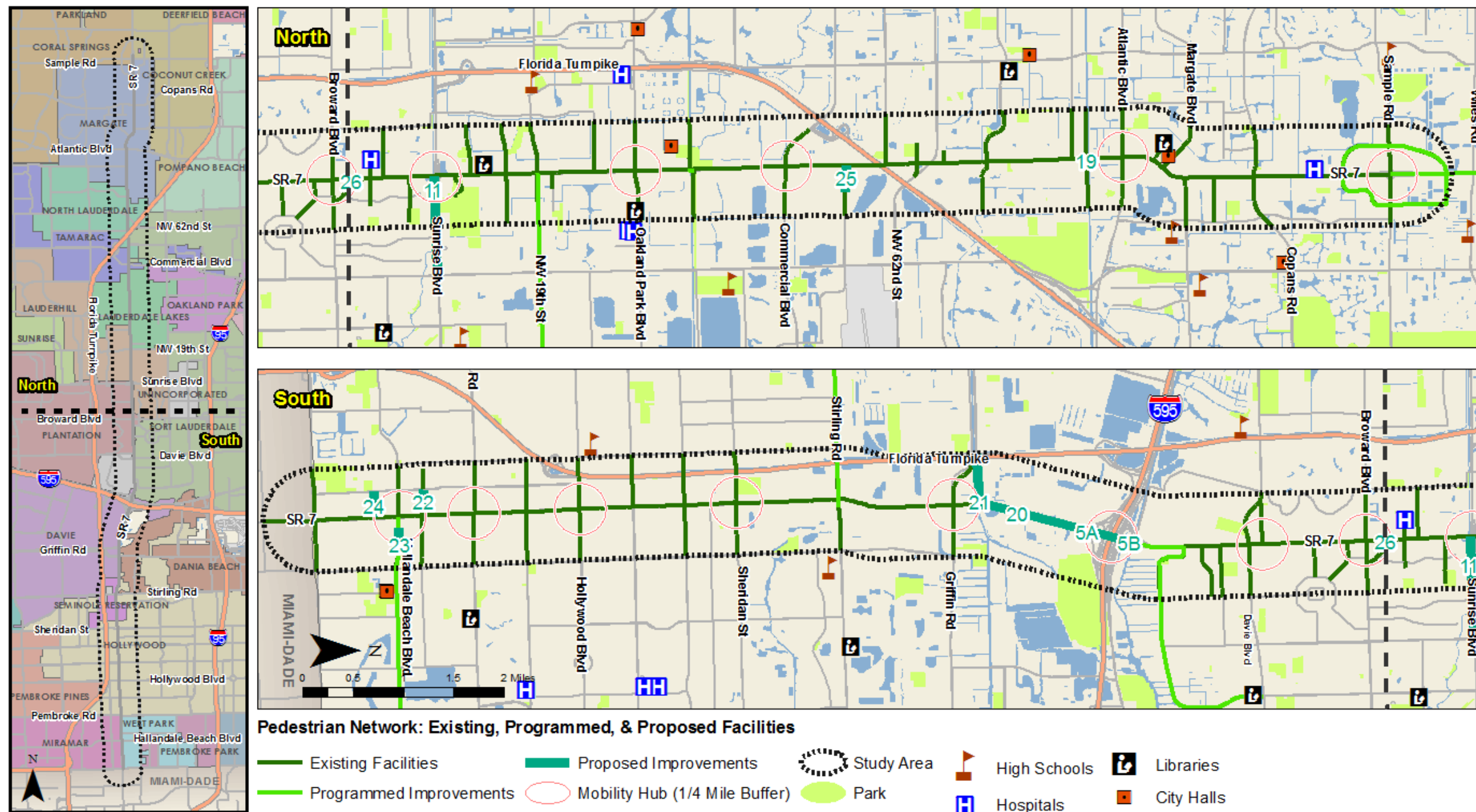


Bicycle Source: Aerial Imagery, Agency Review

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 4-4: 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.

SECTION 4.4: MOBILITY HUB PROJECT RECOMMENDATIONS

As documented in Chapter 3-C and Technical Appendix F, 15 intersections along SR 7 were identified for further review and analysis to develop safety and operational improvements. The intersections were grouped into two different study categories based on transit ridership, crash history, and other variables as outlined in Chapter 3-C, which include:

- > 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.

Table 4-4 lists the 15 intersections by type of study.

Table 4-4: Summary of SR 7 Major Intersections by Study Category

Intersection of SR 7 and:	Study Category (Abbreviated vs. Full Study)
Miramar Parkway/Hallandale Beach Boulevard	Full Study
Pembroke Road	Abbreviated Study
Hollywood Boulevard	Abbreviated Study
Johnson Street	Abbreviated Study
Sheridan Street	Abbreviated Study
Stirling Road	Abbreviated Study
Riverland Road	Abbreviated Study
Davie Boulevard	Full Study
Broward Boulevard	Full Study
Lauderhill Mall Area	Abbreviated Study
Oakland Park Boulevard	Full Study
Commercial Boulevard	Full Study
Kimberly Boulevard	Abbreviated Study
Atlantic Boulevard	Full Study
Sample Road/Turtle Creek Drive	Abbreviated Study

ABBREVIATED STUDY INTERSECTION RECOMMENDATIONS

The preliminary recommendations for the abbreviated study intersections mainly included 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. Technical Appendix F provides additional detail related to evaluation completed for each abbreviated study intersection leading to the recommended improvements for each, which are summarized in Table 4-5.

Table 4-5: Summary of Recommendations for 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)			
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	

Intersection of SR 7 and:	Pedestrian Safety Improvements	Pedestrian Infrastructure Improvements	Bus Stop Relocation	Transit Operational Improvements	Transit Infrastructure Improvements	Lighting Improvements	Other
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		
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 the beginning of the right turn lane)		Provide a shelter at the far-side northbound bus stop		

A comparison of the recommended improvements to FDOT's plans for the ongoing SR 7 reconstruction project from south of Stirling Road to SW 26th Street (north of Hallandale Beach Blvd) was completed to ensure compatibility. As documented in Technical Appendix F, many of the proposed recommendations already planned to be addressed through the SR 7 reconstruction project and all but one recommendation is compatible with the reconstruction plans. At Pembroke Road, this study recommends extending the right turn lane (at the northbound far-side bus stop location) down to the intersection, thus creating an open bus bay for a possible queue bypass lane application. According to FDOT's reconstruction plans, there is a new traditional bus bay programmed just north of Fletcher Street, which ultimately moves the existing bus stop further from the intersection.

FULL STUDY INTERSECTION RECOMMENDATIONS

Six intersections were selected and categorized as full study intersections mainly because of their relatively high ranking of average number of daily BCT boardings in conjunction with their relatively high number of bicycle/pedestrian-related crashes when compared to the other nine intersections selected for Mobility Hub infrastructure improvements along the corridor.

For each full study intersection, an assessment of the recommendations' impacts to the existing drainage system, existing utilities, and right-of-way was completed to determine if there are any fatal flaws for implementing these improvements. The recommendations for each full study intersection are summarized below. Full details of the assessment completed for each intersection, including environmental assessment, constructability/right-of-way review, VISSIM traffic analysis, and planning level cost estimates are provided in Technical Appendix F: Mobility Hub Project Development.

Prior to implementing any recommendation, Title 23 of the Code of Federal Regulations (CFR) requires a review of impacts to the environment; planned growth or land use; existing populations; natural, cultural, recreational, or historic resources; air, noise, or water quality; contamination sites; and travel patterns. According to the October 2015 programmatic agreement for categorical exclusions (CE) between FHWA and FDOT, projects that do not cause major adverse impacts to the above mentioned areas and have no more than a minimal impact to right-of-way can be qualified as a Type 1 CE. As documented in Technical Appendix F, it was determined that a Type 1 CE document is or is anticipated to be appropriate for all six full study intersections.

The recommendations for each full study intersection are summarized below.

Miramar Parkway/Hallandale Beach Boulevard

- > Upgrade existing pedestrian push buttons and associated signage.
- > Tighten all curb radii where feasible. Curb radii with an open bus bay (northeast, southeast, and southwest corners) were designed so right turning vehicles used the second lane instead of the outside lane when merging into traffic. Note this design will likely require a design variance from FDOT and right turning movements on red should be disallowed. However, based on FHWA's Designing for Pedestrian Safety, this design is encouraged.

Refer to Figure 4-1 (Items A-D) for longer-term recommendations for this intersection. The total estimated construction cost for the recommended improvements for the Miramar Parkway/Hallandale Beach Boulevard intersection is approximately \$296,000.

Figure 4-1: Miramar Parkway/Hallandale Beach Boulevard Recommendations

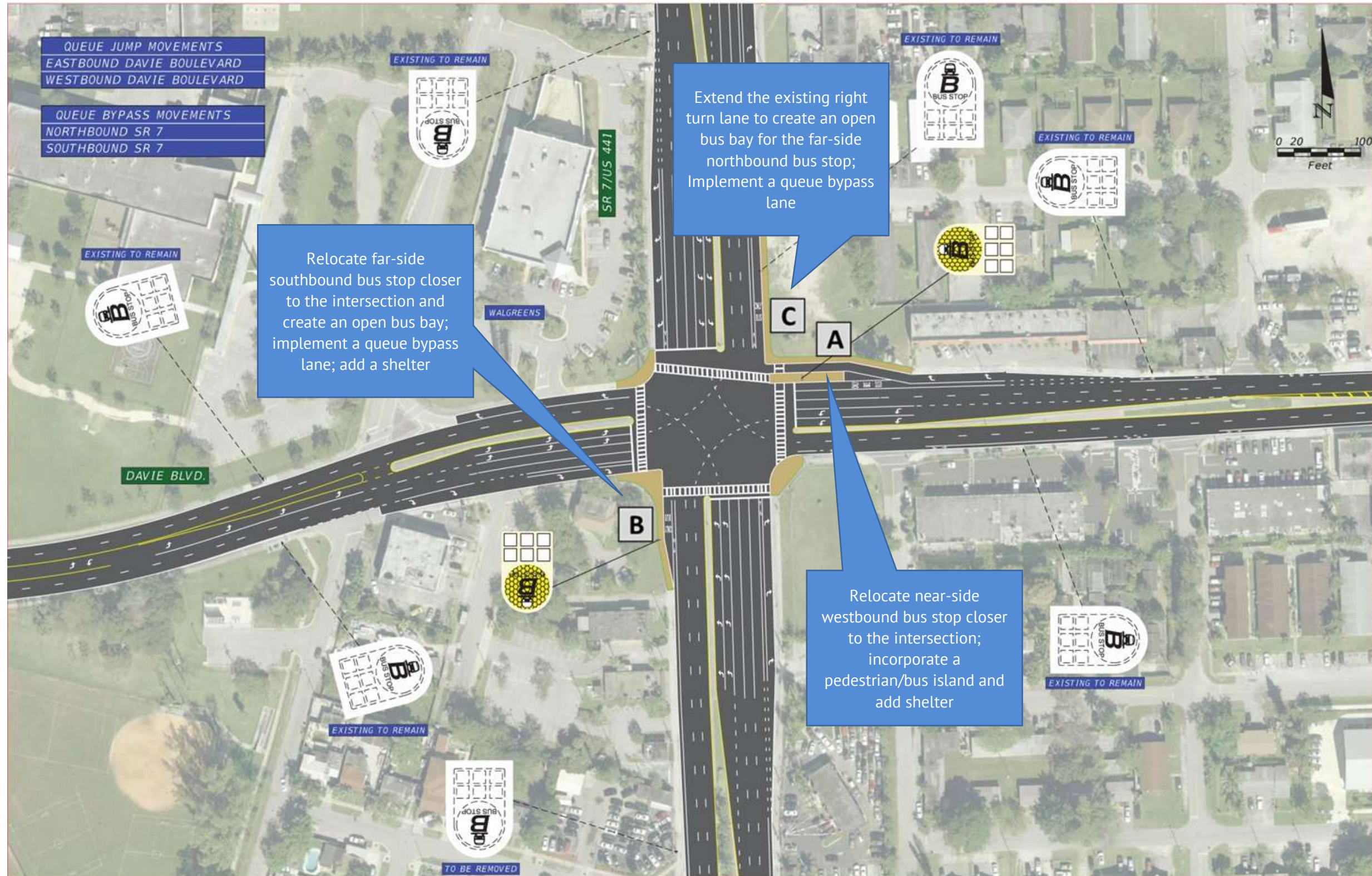


Davie Boulevard

- > Upgrade existing pedestrian push buttons and associated signage.
- > Fix damaged signal heads.
- > Include a shelter for all existing bus stops.
- > Widen sidewalks along Davie Blvd west of SR 7 wherever possible in lieu of bicycle lanes.
- > Tighten all curb radii where feasible. Curb radii with an open bus bay (northeast and southwest corners) were designed so right turning vehicles used the second lane instead of the outside lane when merging into traffic.

Refer to Figure 4-2 (Items A-C) for longer-term recommendations for this intersection. The total estimated construction cost for the recommended improvements for the Davie Boulevard intersection is approximately \$331,000.

Figure 4-2: Davie Boulevard Recommendations

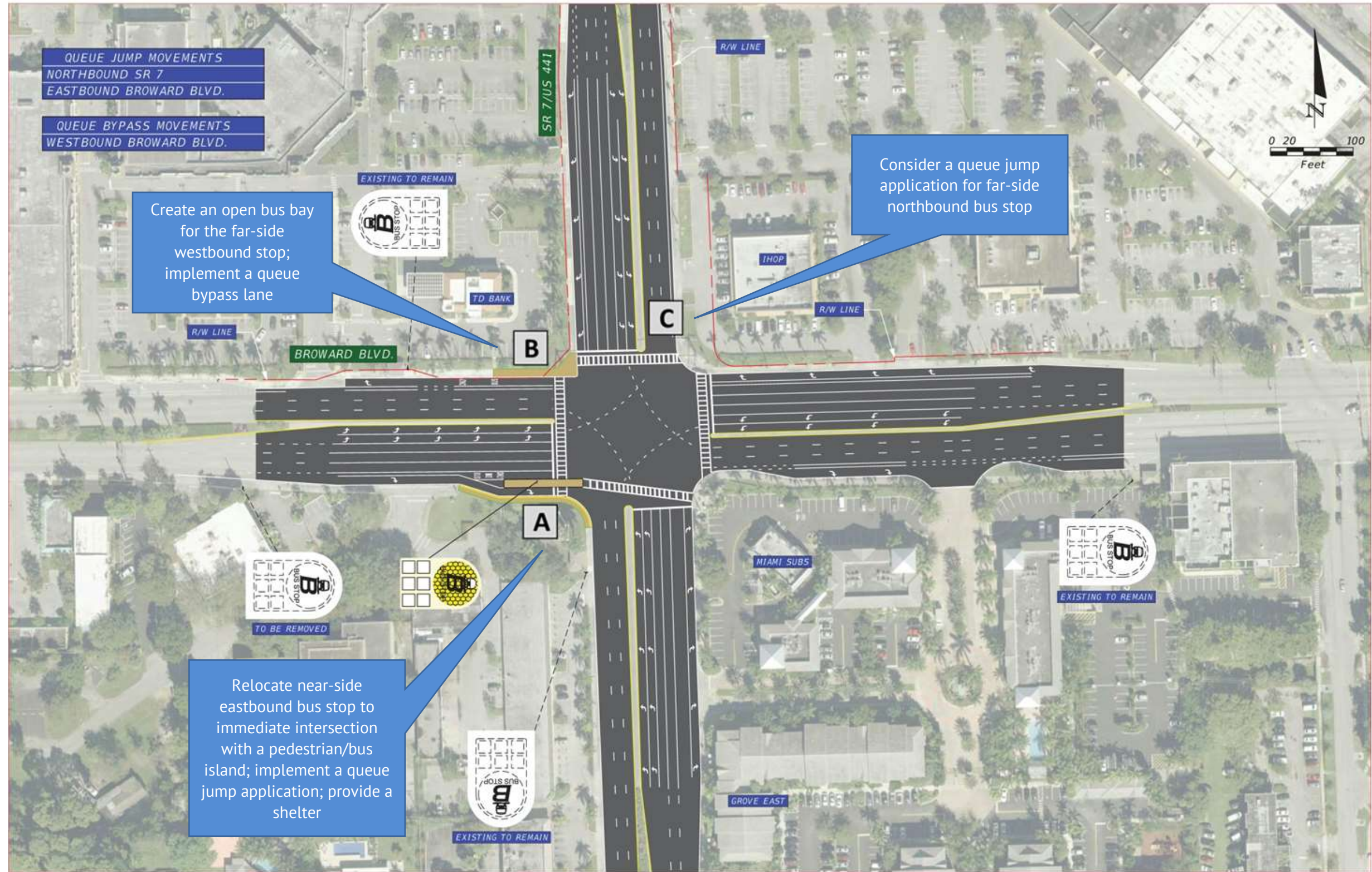


Broward Boulevard

- > Upgrade existing pedestrian push buttons and associated signage.
- > Upgrade all crosswalks to high-emphasis.
- > Tighten all curb radii where feasible. Curb radii with an open bus bay (northwest corner) were designed so right turning vehicles used the second lane instead of the outside lane when merging into traffic.

Refer to Figure 4-3 (Items A-C) for longer-term recommendations for this intersection. The total estimated construction cost for the recommended improvements for the Broward Boulevard intersection is approximately \$261,000.

Figure 4-3: Broward Boulevard Recommendations

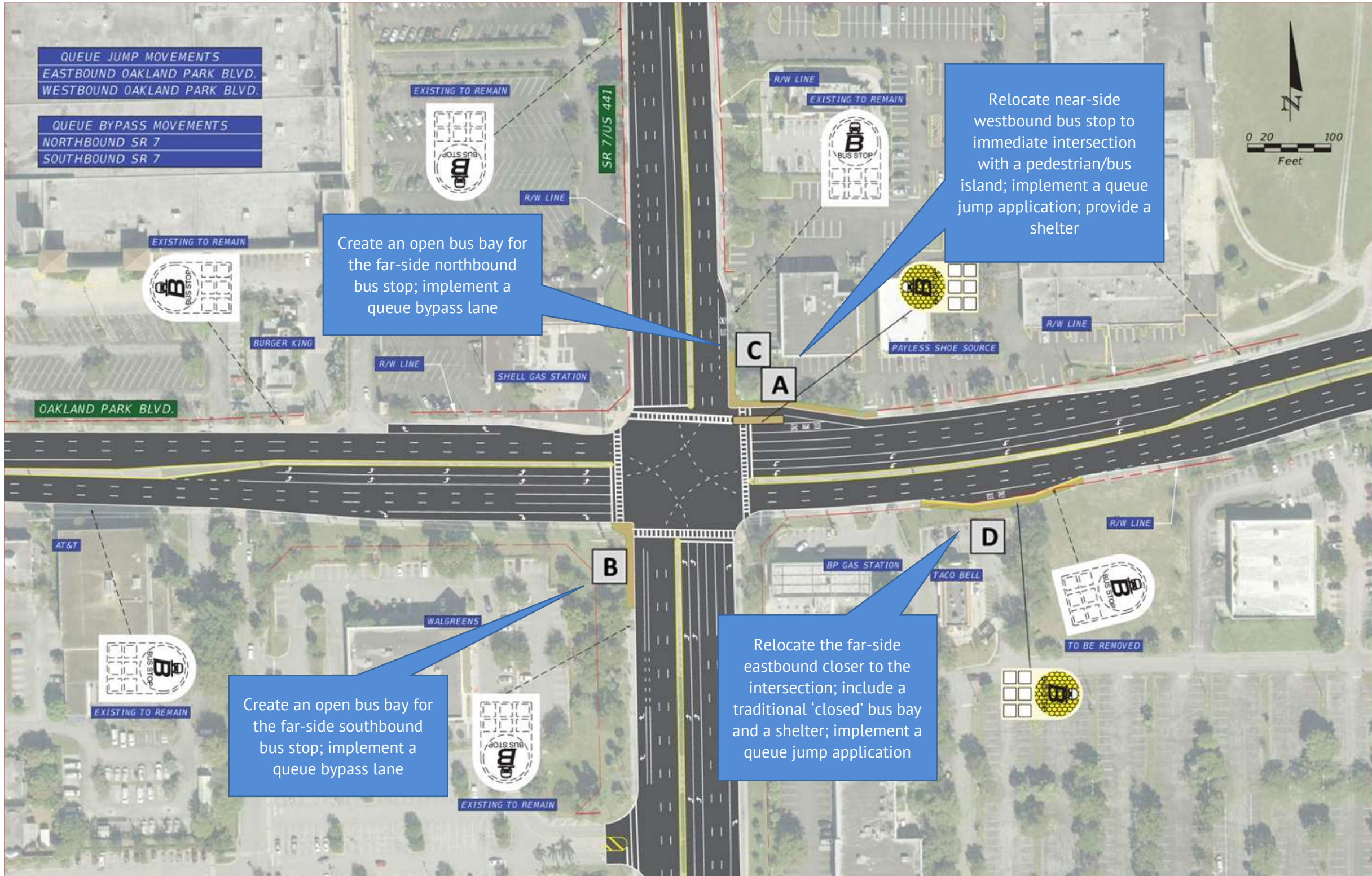


Oakland Park Boulevard

- > Upgrade existing pedestrian push buttons and associated signage.
- > Upgrade all crosswalks to high-emphasis.
- > Verify intersection lighting (light pole at the northeast corner is missing the luminaire).
- > Widen sidewalks wherever feasible in lieu of bicycle lanes.
- > Tighten all curb radii where feasible. Curb radii with an open bus bay (northeast and southwest corners) were designed so right turning vehicles used the second lane instead of the outside lane when merging into traffic.

Refer to Figure 4-4 (Items A-D) for longer-term recommendations for this intersection. The total estimated construction cost for the recommended improvements for the Oakland Park Boulevard intersection is approximately \$268,000.

Figure 4-4: Oakland Park Boulevard Recommendations

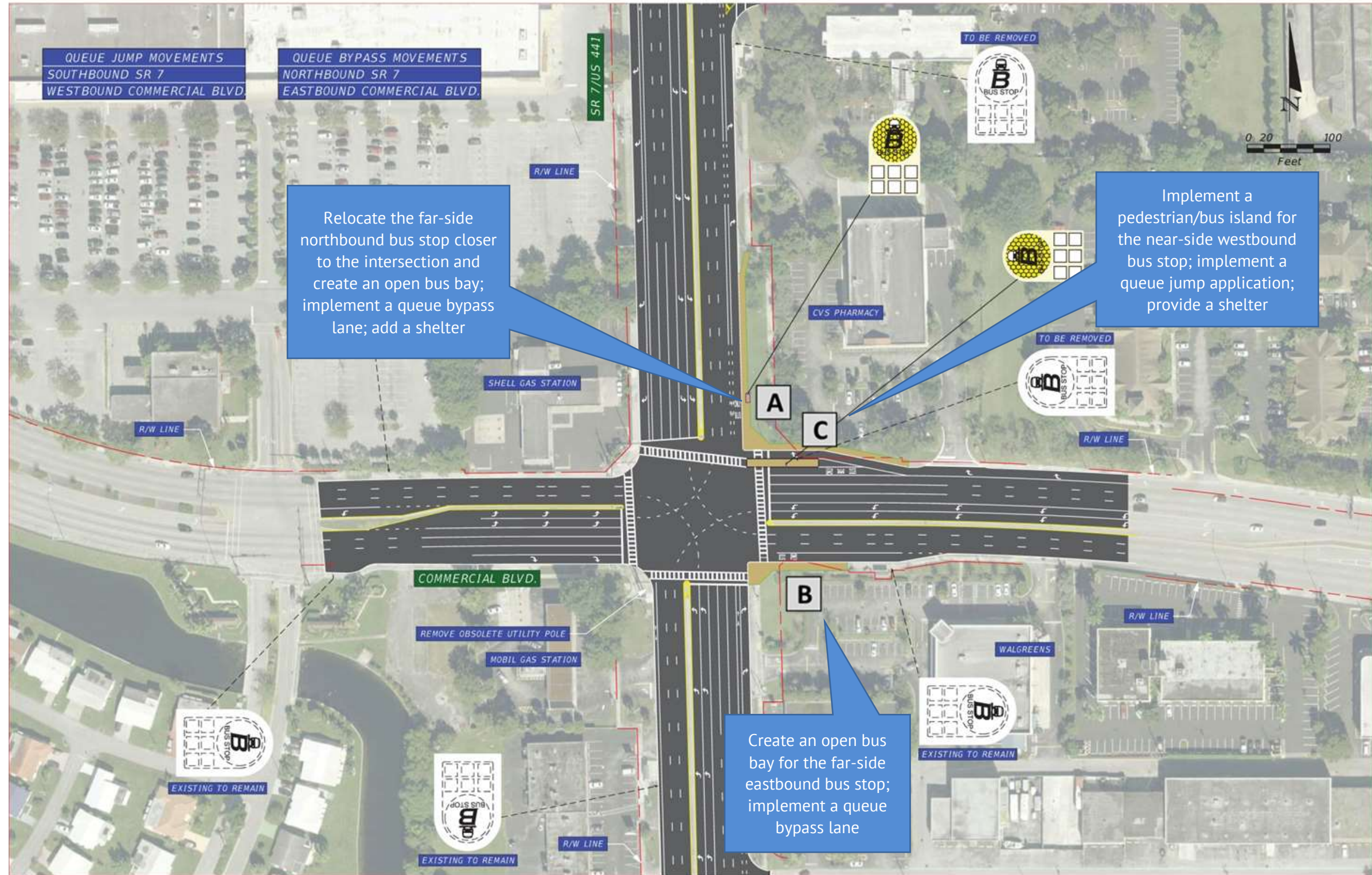


Commercial Boulevard

- > Upgrade existing pedestrian push buttons and associated signage.
- > Remove obsolete utility pole from the southwest corner.
- > Tighten all curb radii where feasible. Curb radii with an open bus bay (northeast and southeast corners) were designed so right turning vehicles used the second lane instead of the outside lane when merging into traffic.

Refer to Figure 4-5 (Items A-C) for longer-term recommendations for this intersection. The total estimated construction cost for the recommended improvements for the Commercial Boulevard intersection is approximately \$302,000.

Figure 4-5: Commercial Boulevard Recommendations

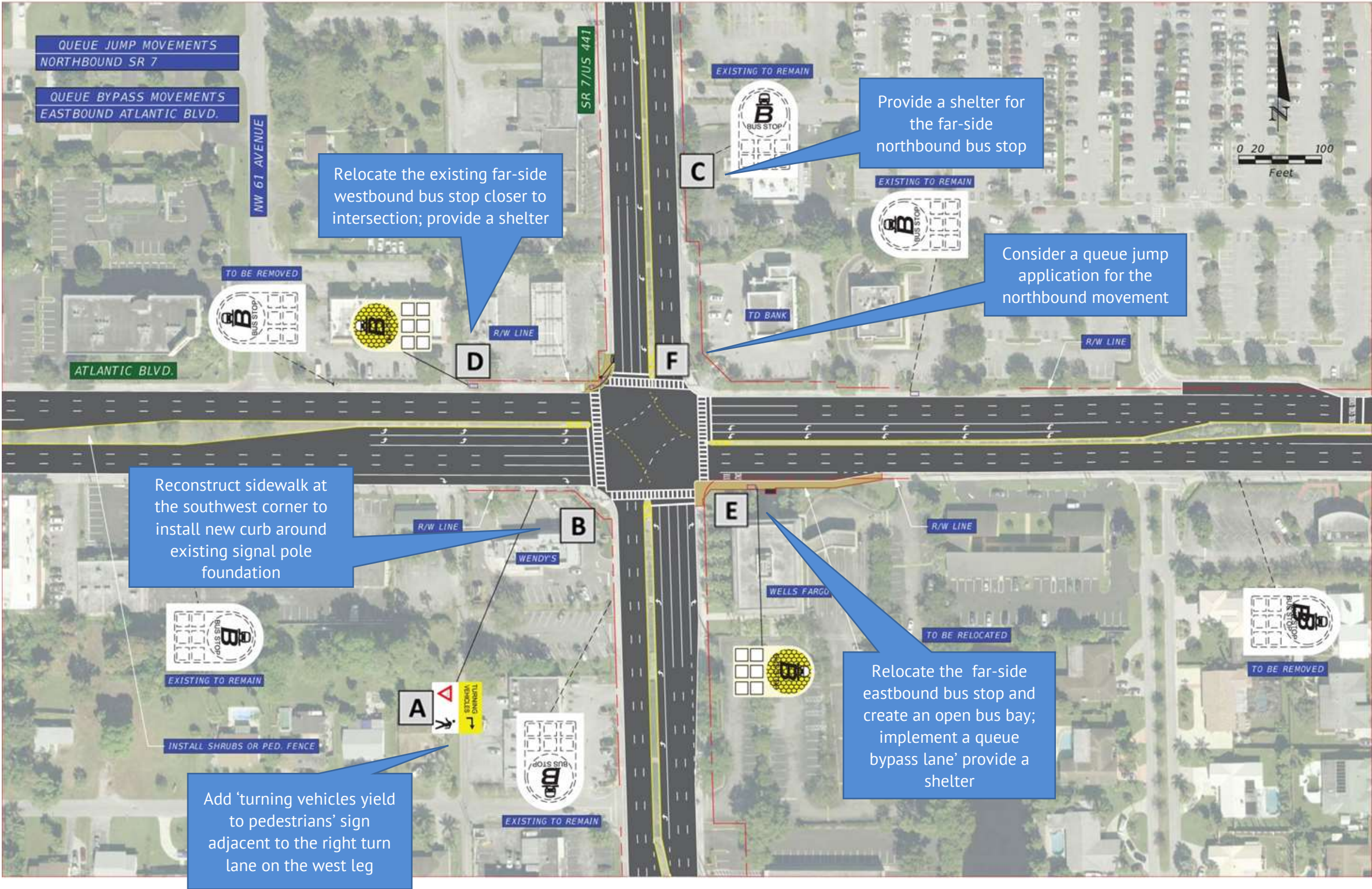


Atlantic Boulevard

- > Install shrubs or pedestrian fencing on the west leg median.
- > Verify intersection lighting and add light pole to the southeast corner.
- > Split curb ramps where feasible.
- > Widen sidewalks wherever feasible in lieu of bicycle lanes.
- > Tighten all curb radii where feasible. Curb radii with an open bus bay (southeast corner) were designed so right turning vehicles used the second lane instead of the outside lane when merging into traffic.

Refer to Figure 4-6 (Items A-F) for longer-term recommendations for this intersection. The total estimated construction cost for the recommended improvements for the Atlantic Boulevard intersection is approximately \$316,000.

Figure 4-6: Atlantic Boulevard Recommendations



SECTION 4.5: PROJECT PRIORITIZATION AND IMPLEMENTATION PLAN

The list of proposed corridor-wide improvements will be provided to FDOT District 4 to review recommendations for each intersection and programming of funds for short-term implementation.

The list of proposed network connectivity projects will be prioritized based on a series of criteria presented in Chapter 5. An implementation plan identifying funding for and the proposed timeframe for implementation of the prioritized network connectivity projects and the proposed Mobility Hub projects will also be presented in Chapter 5.