

SR 7 MULTIMODAL IMPROVEMENTS CORRIDOR STUDY

TECHNICAL APPENDIX E: MULTIMODAL NETWORK CONNECTIVITY ANALYSIS

REVISED FINAL



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INTRODUCTION

The purpose of this technical appendix is to document the results of Task 5.06 of the SR 7 Multimodal Improvements Corridor Study. The purpose of Task 5.06 is to assess the existing bicycle and pedestrian network for gaps and identify opportunities for feasible, short-term projects to provide additional connectivity and enhanced safety for non-motorized users, either along SR 7 or along intersecting or parallel streets. As part of this effort, corridor-wide systemic improvements to enhance pedestrian and bicyclist safety at major intersections along the SR 7 corridor were also identified.

Task 6.01c builds on this effort by further developing the network connectivity projects identified in Task 5.06. Under this task, easily implementable concepts are promoted to be prioritized for short-term implementation. This process includes conducting engineering assessments and planning-level cost estimates for each project, as well as further vetting bicycle and pedestrian safety issues for consideration during the project prioritization process. The recommended corridor-wide improvements will not be prioritized, but rather provided as a list to FDOT District 4 for further review and implementation.

IDENTIFICATION OF CORRIDOR-WIDE IMPROVEMENTS

TYPES OF CORRIDOR-WIDE IMPROVEMENTS

As part of the baseline conditions assessment, it was noted that various types of “best practice” multimodal strategies could 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:

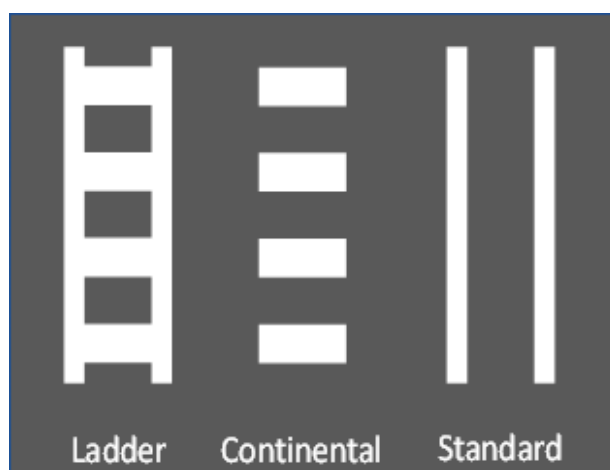
- > Enhanced/high emphasis crosswalk markings
- > Countdown pedestrian countdown signals
- > Intersection/crosswalk lighting
- > Right turning vehicle “yield to pedestrian” signage

Enhanced/High Emphasis Crosswalks

Crosswalks are a vital part of the pedestrian network; they define a designated crossing area for pedestrians and alert drivers of the likelihood of pedestrians. There are many different types of acceptable crosswalk markings/treatments, but the ladder crosswalk marking (Figure 1) often is considered the preferred treatment, and often referred to as a high emphasis crosswalk. The longitudinal markings and the parallel edge-line markings of the ladder crosswalk provide more

surface area to be seen by drivers and are more visible from further distances than a standard crosswalk. Although crosswalk visibility is not critical at signalized intersections as the signal provides the right-of-way for the pedestrian, providing high-emphasis markings helps to discourage drivers from encroaching on the crosswalk area and may help pedestrians assert their right-of-way when dealing with left- and right-turning traffic.

Figure 1: High Emphasis vs. Standard Crosswalk Markings



Countdown Pedestrian Signals

Countdown pedestrian signals (see Figure 2) provide more definitive feedback to pedestrians than standard flashing “Don’t Walk” indications and have become standard in many jurisdictions throughout Florida. If installed, they should be timed such that the maximum “Walk” phase is provided and the countdown will reach zero concurrent with the through phase going to amber.

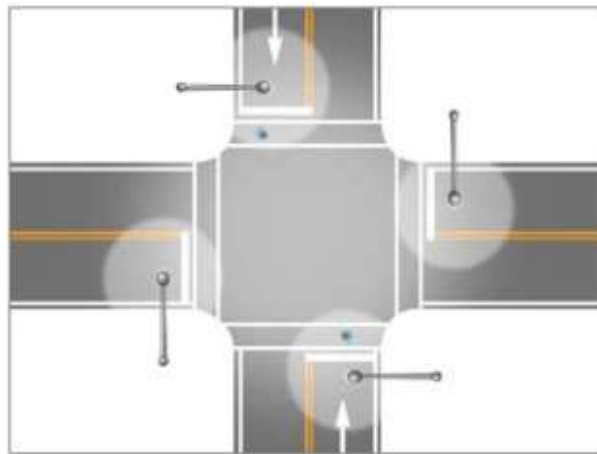
Figure 2: Countdown Pedestrian Signal



Intersection/Crosswalk Lighting

Roadway lighting is a critical component of roadway safety and should be designed to provide adequate illumination for all roadway users. Many factors affect roadway lighting and its effectiveness in increasing safety, including location, orientation, intensity, color, ambient light, etc. New research on the placement of lighting in relationship to intersections and crosswalks is summarized in the Federal Highway Administration's (FHWA) *Informational Report on Lighting Design for Midblock Crosswalks*. Figure 3 provides an example of the preferred lighting location at an intersection.

Figure 3: Preferred Intersection/Crosswalk Lighting



Right Turning Vehicle “Yield to Pedestrian” Signage

Signs can be used to warn drivers and other roadway users of potential threats and can also serve as visual reminders regarding driver requirements under specific circumstances. Signs like the MUTCD¹ R10-15(R/L) sign (Figure 4 4) remind turning drivers of their responsibility to yield to pedestrians. However, the placement of signs should be done with care; too many or overuse of signs could result in drivers becoming desensitized and could lead to noncompliance.

Figure 4: MUTCD R10-15 Sign—Right-Turn Yield to Pedestrians

¹FHWA's Manual of Uniform Traffic Control Devices



IDENTIFICATION OF CORRIDOR-WIDE IMPROVEMENTS

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 Appendix A. 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 intersection 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.

NETWORK CONNECTIVITY IMPROVEMENTS

EXISTING INVENTORY AND PROGRAMMED IMPROVEMENTS

The existing bicycle and pedestrian facilities were reviewed and documented as part of the baseline conditions analysis documented in Report 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 widening project are included in the existing inventory.

Using the existing inventory as the baseline, the first step in this process was to identify bicycle and pedestrian projects that are not yet under construction, but are programmed for funding by the Broward MPO or local governments and will be constructed in the near future. Once established, the existing (baseline) plus the programmed/planned projects provides the starting point from which to assess the bicycle and pedestrian facility network connectivity gaps.

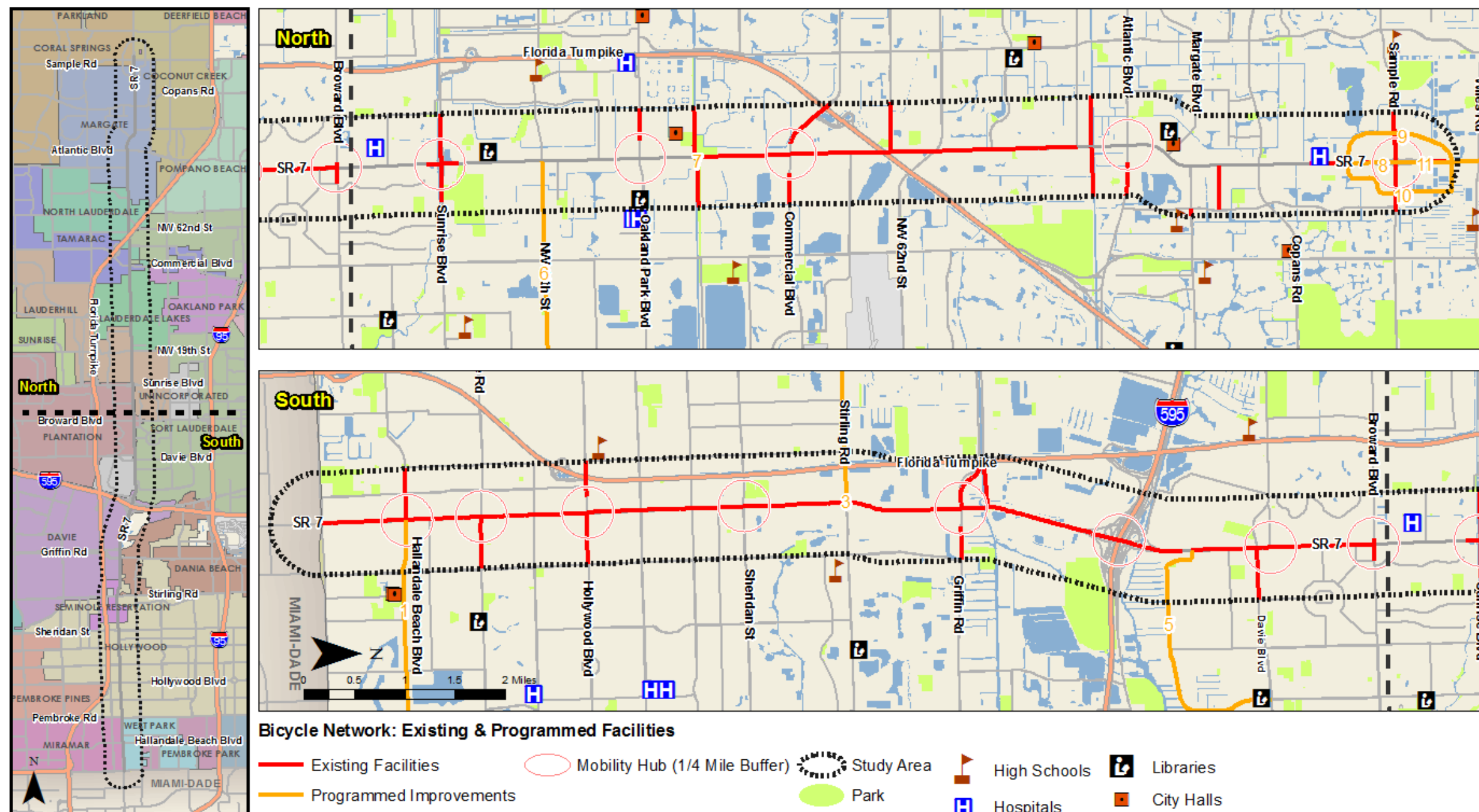
Table 1 summarizes the programmed bicycle and pedestrian network improvements for the SR 7 study area. The existing and programmed bicycle facilities are illustrated on Map 1 and the existing and programmed pedestrian facilities are illustrated on Map 2. For both maps, projects are identified by the reference number provided in the summary table.

Table 1: Programmed Bicycle and Pedestrian Network Improvements

Reference Number	Description	On Street	From	To
1	Bicycle and Sidewalk Facilities with Resurfacing	Hallendale 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 1: Existing and Programmed Bicycle Network

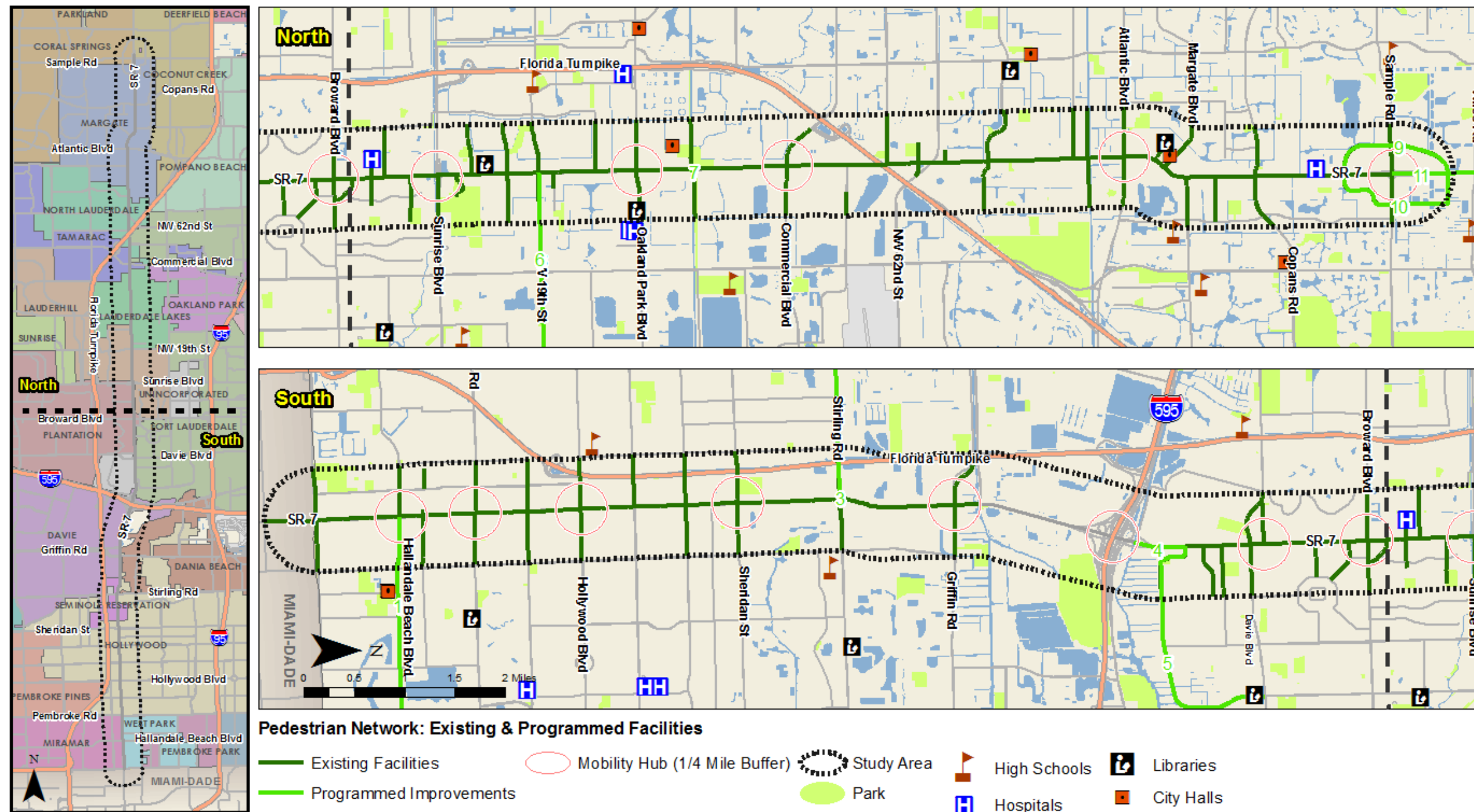


Bicycle Source: Aerial Imagery, Agency Review

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 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

The remainder of this section describes the bicycle and pedestrian network improvement initially identified and ultimately proposed for the SR 7 study area. The purpose of this exercise is to identify needs and opportunities for connecting and parallel non-motorized bicycle facilities and sidewalks to enhance safety for pedestrians and cyclists, where feasible. This includes identifying opportunities to complete facility gaps.

As part of the baseline conditions assessment, a review of the existing traffic volumes along SR 7 was completed. Based on existing traffic, it has been determined that recommending a “road diet” (i.e., removing a lane of traffic to provide additional bicycle/pedestrian facilities) along any part of SR 7 within the study area is not feasible.

To identify the proposed project networks, 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. Once this more detailed review is complete, a final list of proposed projects will be identified. Other parameters used to identify the initial list of proposed network connectivity projects include:

- > All projects identified can 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.

Table 2 summarizes the proposed network connectivity projects initially identified 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. Notes from the engineering assessment are provided in the summary table, as well as a recommendation to either move the project forward to be prioritized and included in the implementation plan or remove the project from consideration based on findings from the field review and/or engineering assessment. In addition, Long Range Estimate (LRE) planning costs were developed for each project and are also provided in the table.

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

Table 2: Proposed Network Connectivity Improvements

Project #	Working Group (City)	Project Description	On Street (From/To)	Project Length (mi)	Evaluation Notes ^A	Move Project Forward? (Y/N)	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	<ul style="list-style-type: none"> > Existing right-of-way appears sufficient to build bicycle lanes except for the approach to N 56th Avenue. Might need to consider alternative transitions at this location. > If widening towards the outside, the addition of bicycle lanes will impact existing landscape (mature trees) on the shoulder of the existing road. > Addition of bicycle lanes will reduce the existing drainage storage area which will need to be mitigated by the design team. > Coordination with SFWMD will most likely be required for drainage permitting purposes. > Public outreach will be necessary as the addition of bicycle lanes will impact many private driveways within the proposed project limits. 	Yes	\$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	<ul style="list-style-type: none"> > Existing right-of-way appears sufficient to build bicycle lanes. > Predominantly a commercial area with large trucks and other vehicles constantly backing up into the roadway, this could potentially cause conflicts with bicycle users. 	Yes	\$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	<ul style="list-style-type: none"> > Project may require coordination with FDOT District 6 as it appeared that they have significant jurisdiction over Countyline Road as per Broward County Property Appraisers maps. > Existing right-of-way appears sufficient to build bicycle lanes except for the approach to NW 13th Ct. Might need to consider alternative transitions at this location. Additionally, there are a few areas where the design team might need to combine lane width reduction and widening to achieve the desired typical section. > Addition of bicycle lanes will reduce the existing drainage storage area which will need to be mitigated by the design team. > Coordination with SFWMD will most likely be required for drainage permitting purposes. > Public outreach will be necessary as the addition of bicycle lanes will impact many private driveways east of SR 7. 	Yes	\$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	<ul style="list-style-type: none"> > Existing right-of-way line appears to be just behind the sidewalk. Widening to the outside within the existing right-of-way does not appear to be feasible between the project limits. 	No	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	<ul style="list-style-type: none"> > This alternative requires extensive coordination with FDOT as it has been FDOT practice to keep medians clear of obstructions. > For the initial ~2,300 feet of the project, the median width is not sufficient to construct a path without violating the separation requirements from the mainline. The design team could look into alternatives at this location, such as reducing the width of the path or even using concrete barriers to separate the main line traffic from the pedestrian and bicyclist traffic. > Another challenge with this alternative is that SR 7 is elevated over the New River Greenway and would require significant structural work, such as the installation of mechanically stabilized earth (MSE) walls to retain existing SR 7 embankment and allow the trail in the median to slope down at a standard rate until it connects to the trail. 	Yes	\$2.2 M
5B	South (Davie)	Provide shared use path along the west side of SR 7 with unsignalized	SR 7 (from Oakes Rd/SW 36th St to New River Greenway Trail)	0.90	<ul style="list-style-type: none"> > This alternative does not present as many design and structural challenges as Alternative 5A, but it does propose the installation of unsignalized crosswalks at three (3) free-flow high speed ramps. 	Yes	\$500,000

Project #	Working Group (City)	Project Description	On Street (From/To)	Project Length (mi)	Evaluation Notes ^A	Move Project Forward? (Y/N)	Planning Cost Estimates ^B
		crosswalks at the three ramps			> This could be a potential safety issue. Additional work such as the installation of retaining walls and hand rail might be required at some locations for this alternative.		
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)	No	N/A
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	> N/A	Yes	\$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	<ul style="list-style-type: none"> > Existing right-of-way appears sufficient to build bicycle lanes. > If widening towards the outside, addition of bicycle lanes will reduce the existing drainage storage area which will need to be mitigated by the design team. > If widening to the outside, existing parking, backing into NW 16th Street, between NW 43 Terr. and NW 43 Ave will be impacted. > If widening towards the outside, the addition of bicycle lanes will impact existing landscape (mature trees) on the shoulder of the existing road. > Widening to the outside to fit the bicycle lane will affect three (3) bus stop pads by reducing their area and might necessitate the removal of the existing benches due to horizontal clearance issues. > If widening to the inside, it is possible that a design variation would be needed for median width and/or horizontal clearance to existing trees. > Coordination with SFWMD will most likely be required for drainage permitting purposes. > Public outreach will be necessary as the addition of bicycle lanes will impact many private driveways within the proposed project limits. 	Yes	\$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	<ul style="list-style-type: none"> > Existing right-of-way appears sufficient to build bicycle lanes ,except for a notable pinch point at the intersection of SR 7. > Widening for bicycle lanes will require the modification of two box culverts within the project limits. This will require coordination and permitting from SFWMD. > If widening towards the outside, addition of bicycle lanes will reduce the existing drainage storage area which will need to be mitigated by the design team. > Coordination with SFWMD will most likely be required for drainage permitting purposes. > If widening towards the outside, it is likely that existing utility poles will be impacted. > If widening towards the outside, the addition of bicycle lanes will impact existing landscape (mature trees) on the shoulder of the existing road. > If widening to the inside, it is possible that a design variation would be needed for median width and or horizontal clearance to existing trees. > Public outreach will be necessary as the addition of bicycle lanes will impact many private driveways within the proposed project limits. 	Yes	\$1.06 M

Project #	Working Group (City)	Project Description	On Street (From/To)	Project Length (mi)	Evaluation Notes ^A	Move Project Forward? (Y/N)	Planning Cost Estimates ^B
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	<ul style="list-style-type: none"> > Existing right-of-way appears sufficient to build bicycle lanes, except for a pinch point at the approach to SR 7. Might need to consider alternative transitions at this location. > Addition of bicycle lanes will reduce the existing drainage storage area which will need to be mitigated by the design team. > Coordination with SFWMD will most likely be required for drainage permitting purposes. > It is likely that existing utility poles will be impacted, particularly those located near the intersection of SR 7. > Public outreach will be necessary as the addition of bicycle lanes will impact many private driveways within the proposed project limits. 	Yes	\$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	<ul style="list-style-type: none"> > The available land to construct a trail is owned by SFWMD. This project is contingent on coordination with SFWMD to obtain the needed easement to construct the C-14 trail. > This project is contingent on obtaining the necessary environmental permits and public support. > Direct trail crossing such a midblock signal might not be possible due to the proximity of the existing signalized intersection of Sunrise Blvd. > Public outreach will be necessary as the continuation of the trail will be within close proximity of many private backyards. > This will be a longer-term project w/ NEPA & Public Involvement. 	Yes	\$615,000
12	North (Margate)	Provide 12' sidewalks	SR 7 (from Seton Dr to NW 31 st St)	1.60	<ul style="list-style-type: none"> > Extension of 10' sidewalks in 60% design from NW 31st St to Sample Rd 	Yes	\$320,000
13	North (Margate)	Provide protected bicycle lane with landscaped buffer	SR 7 (from Merrill Rd to Seton Dr)	0.40	<ul style="list-style-type: none"> > Part of the Margate City Center concept. 	Yes	\$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	<ul style="list-style-type: none"> > Existing right-of-way appears sufficient to build bicycle lanes, except for a pinch point at the approach to Lyons Road. Might need to consider alternative transitions at this location. > Additional right-of-way restrictions may be encountered along the north side of Copans Road between Hammocks Blvd and Lyons Road. Might need to widen to the inside in this area and or reduce the lane width, which will may trigger the need to obtain a design exception. > Widening to accommodate bicycle lanes will impact the existing bus stop shelter at the SE corner of Copans Road and SR 7. > Addition of bicycle lanes will reduce the existing drainage storage area which will need to be mitigated by the design team. > Coordination with SFWMD will most likely be required for drainage permitting purposes. > Widening could impact the location of mast arms at the intersection of Banks Road and/or affect the minimum allowed deflection angles of the intersection. 	Yes	\$2.6 M
15	North (Margate)	Widen pavement to provide bicycle lanes	Coconut Creek Pkwy (from SR 7 to Banks Rd)	0.40	<ul style="list-style-type: none"> > Subsequent field review identified existing bicycle lanes within this section. 	No	N/A
16	North (North Lauderdale)	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	<ul style="list-style-type: none"> > Existing right-of-way appears just enough to build bicycle lanes. > If widening toward the outside, addition of bicycle lanes will most likely eliminate most of the existing drainage storage area which will need to be mitigated by the design team. > Coordination with SFWMD will most likely be required for drainage permitting purposes. 	Yes	\$3.7 M

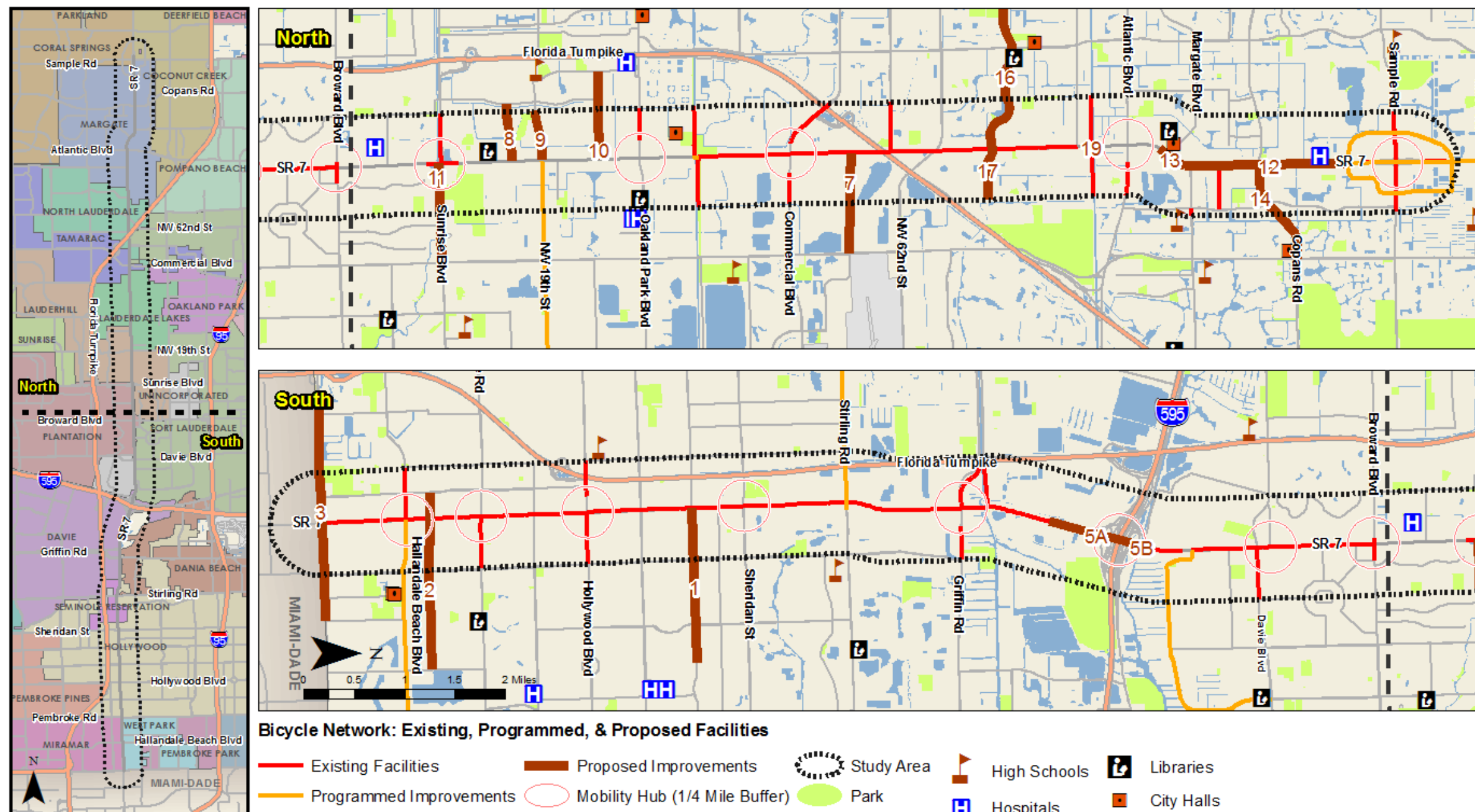
Project #	Working Group (City)	Project Description	On Street (From/To)	Project Length (mi)	Evaluation Notes ^A	Move Project Forward? (Y/N)	Planning Cost Estimates ^B
					<ul style="list-style-type: none"> > If widening to the inside, it is possible that a design variation would be needed for median width and/or horizontal clearance to existing trees. > Public outreach will be necessary as the addition of bicycle lanes will impact may private driveways within the proposed project limits. 		
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	<ul style="list-style-type: none"> > Existing right-of-way appears sufficient to build bicycle lanes or provide sharrows and widen the sidewalk, except for a pinch point at the intersection of SR 7. Might need to consider an alternative transition at this location. > Addition of bicycle lanes will impact the existing concrete curb and gutter as well as the existing drainage structures which will need to be relocated. > A number of existing trees will be impacted by widening the road to construct bicycle lanes. > Widening of sidewalks might be restricted at points where power poles are located unless they are relocated. > Coordination with SFWMD will most likely be required for drainage permitting purposes. > Public outreach will be necessary as the addition of bicycle lanes or widening of sidewalks will impact may private driveways within the proposed project limits. 	Yes	\$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	<ul style="list-style-type: none"> > Remove from consideration; duplicate project to #7. 	No	N/A
19	North (Margate)	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	<p>As per FDOT PPM Vol. 1, Ch. 8 a mid-block crossing shall meet the following criteria:</p> <ul style="list-style-type: none"> > Design must ensure a median or crossing island is provided as crossing distance exceeds 60-ft. > Design must meet stopping sight distance requirements. > Design must meet ADA cross-slope and grade criteria. > Location must meet traffic light warrants as established by the MUTCD. > If signalized crossing is desired, an engineering study is required. > Direct coordination with FDOT D4 Traffic Operations Office is required. 	Yes	\$150,000
20	South (Davie)	Construct sidewalk on east side of road (sidewalk exists on west)	SR 7 (from SW 45th St to Oakes Rd/SW 36th St)	0.65	<ul style="list-style-type: none"> > Existing right-of-way appears sufficient to build a sidewalk on the east side of the road. > Addition of a concrete sidewalk will reduce the existing drainage storage area which will need to be mitigated by the design team. > Coordination with SFWMD will most likely be required for drainage permitting purposes. > Location of proposed sidewalk may trigger the need for installation of curb and gutter at some locations which in turn will impact the existing drainage system. Design team will need to mitigate impacts. > A number of existing trees will be impacted by the construction of the proposed sidewalk. 	Yes	\$330,000
21	South (Davie)	Construct wide sidewalk along north side of road	SW 45th St (from the Turnpike to SR 7)	0.45	<ul style="list-style-type: none"> > Existing right-of-way does not appear available to construct a continuous sidewalk for the entire project limits as property owned by Griffin Commerce Center (4701 SW 45 St) is adjacent to the exiting edge of pavement unless an easement is obtained. > Estimated construction cost does not include any potential costs associated with obtaining a right-of-way easement. 	Yes	\$268,000
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	<ul style="list-style-type: none"> > Existing right-of-way appears sufficient to build a sidewalk on the north side of the road. > Addition of a concrete sidewalk will reduce the existing drainage storage area, which will need to be mitigated by the design team. 	Yes	\$350,000

Project #	Working Group (City)	Project Description	On Street (From/To)	Project Length (mi)	Evaluation Notes ^A	Move Project Forward? (Y/N)	Planning Cost Estimates ^B
					<ul style="list-style-type: none"> > Coordination with SFWMD will most likely be required for drainage permitting purposes. > Public outreach will be necessary as the addition of concrete sidewalk will impact may private driveways within the proposed project limits. 		
23	South (West Park)	Delineate sidewalk from paved parking along north side	Hallandale Beach Blvd (from Edmund Rd to SW 58th Ave)	0.13	<ul style="list-style-type: none"> > Coordinate with FDOT D4 Traffic Operations Office for placement of these markings. > If approved, consider installing them via a Maintenance Crew as the cost is minor. 	Yes	\$50,000
24	South (Miramar)	Complete sidewalk along north side of road	SW 33rd St (from SW 62nd Ave to SR 7)	0.25	<ul style="list-style-type: none"> > Existing right-of-way appears sufficient to build a sidewalk on the north side of the road. > Addition of a concrete sidewalk will reduce the existing drainage storage area which will need to be mitigated by the design team. > Coordination with SFWMD will most likely be required for drainage permitting purposes. > Public outreach will be necessary as the addition of concrete sidewalk will impact may private driveways within the proposed project limits. 	Yes	\$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	<ul style="list-style-type: none"> > Existing right-of-way appears sufficient to build a sidewalk on the south side of the road except for the area next to the exclusive turn lane into NW 36th Ave. If sidewalk connection is desired, the design team could consider the elimination of the turn lane. > Turn lane elimination might require a traffic study to determine the impacts to traffic on Prospect Rd. > Addition of a concrete sidewalk will reduce the existing drainage storage area, which will need to be mitigated by the design team. > Coordination with SFWMD will most likely be required for drainage permitting purposes. > Several utility poles will be impacted by the proposed sidewalk and will need to be relocated. 	Yes	\$170,000
26	Central (Plantation)	Provide pedestrian hybrid beacon, median modifications, and bus stop relocation	SR 7 (north of Broward Boulevard)	0.10	<p>As per FDOT PPM Vol. 1, Ch. 8, a mid-block crossing shall meet the following criteria:</p> <ul style="list-style-type: none"> > Design must ensure a median or crossing island is provided as crossing distance exceeds 60-ft. > Design must meet stopping sight distance requirements. > Design must meet ADA cross-slope and grade criteria. > Location must meet traffic light warrants as established by the MUTCD. > If signalized crossing is desired, an engineering study is required. > Direct coordination with FDOT D4 Traffic Operations Office is required. 	Yes	\$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	<ul style="list-style-type: none"> > Insufficient right-of-way and significant impacts to existing utilities and driveway access. 	No	N/A
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	<ul style="list-style-type: none"> > Field review identified an existing concrete sidewalk as recommended. 	No	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 3: Proposed Bicycle Network Connectivity Improvements

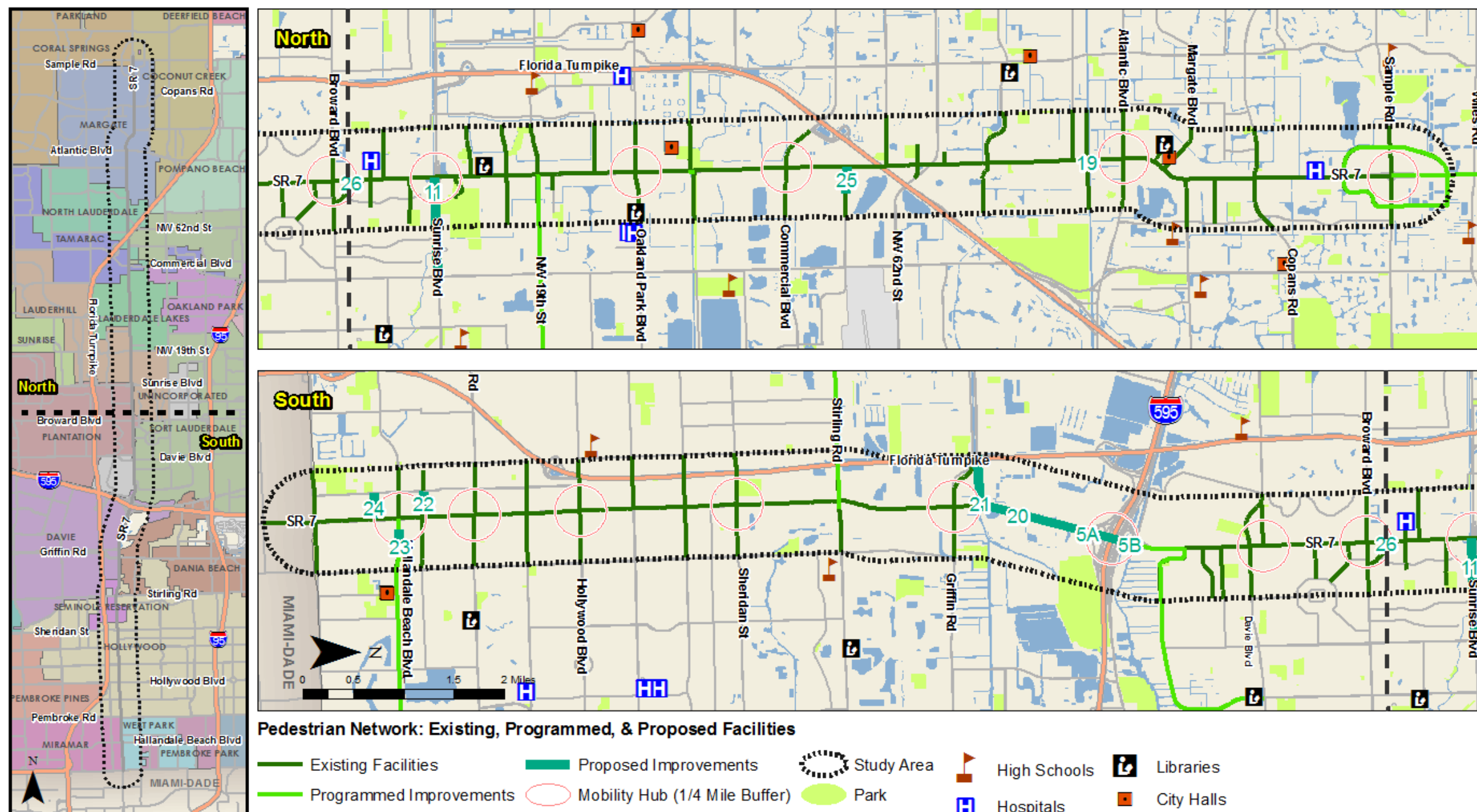


Bicycle Source: Aerial Imagery, Agency Review

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: 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.

NEXT STEPS

The proposed multimodal network connectivity projects identified in this chapter will be prioritized based on different factors (including safety, cost, access to other modes, sociodemographic impacts, etc.) and summarized in the final implementation plan developed for this study.

The recommended corridor-wide improvements will not be prioritized, but rather provided as a list to FDOT District 4 for further review and implementation.

APPENDIX E.1: SIGNALIZED INTERSECTION INVENTORY FOR CORRIDOR-WIDE IMPROVEMENTS

Table E.1-1: 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
HALLANDALE BCH BLVD	Traffic Signal	Hub	Major	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	No	No	Yes
SUNSET DR	Traffic Signal	2	Minor	No	No	No	Yes	No	Yes	No	Yes	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
SEMINOLE WAY	Traffic Signal	5	Major	No	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	No	Yes	Yes
SW 51 ST	Traffic Signal	6	Major	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	No	Yes	Yes
ORANGE DR	Traffic Signal	4	Major	No	Yes	No	Yes	No	Yes	No	Yes	Yes	No	No	No	No
BROWARD LANDFILL	Traffic Signal	3	Major	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No	No	No
OAKES RD	Traffic Signal	2	Minor	No	Yes	No	No	No	Yes	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	No	Yes	Yes	Yes
DAVIE BLVD	Traffic Signal	Hub	Major	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	No	Yes	Yes	Yes
SW 6 ST	Traffic Signal	2	Minor	No	No	No	No	No	No	Yes	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
NW 5TH ST	Traffic Signal	3	Major	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No	Yes	No	Yes
NW 6 CT	Traffic Signal	3	Major	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	No	No	Yes
NW 8 ST	Traffic Signal	3	Major	No	Yes	Yes	No	No	Yes	No	Yes	Yes	No	Yes	No	No
NW 11 ST	Traffic Signal	3	Major	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	No	Yes	No	Yes
NW 16 ST	Traffic Signal	8	Major	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	N/A	N/A	N/A	N/A
NW 21 ST	Traffic Signal	3	Major	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes	No	Yes	No	Yes
NW 21 ST	Traffic Signal	3	Major	No	Yes	Yes	No	No	Yes	Yes	No	Yes	No	No	No	No
NW 24 ST	Traffic Signal	2	Minor	No	No	No	No	No	No	Yes	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	N/A	N/A	N/A	N/A
NW 29 ST	Traffic Signal	8	Major	Yes	No	Yes	Yes	Yes	No	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	No	Yes
NW 34 ST	Traffic Signal	2	Minor	No	No	No	No	No	No	Yes	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	No	Yes
NW 41 ST	Traffic Signal	7	Major	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
NW 44 ST	Traffic Signal	6	Major	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
NW 21200 BLK	Traffic Signal	4	Major	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	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