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SR 7 MULTIMODAL IMPROVEMENTS CORRIDOR STUDY

Project Advisory Committee Meeting #5

March 15, 2016

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Agenda

- Recap of Working Group Meetings
  - Programmed and proposed sidewalk and bicycle improvements
- Mobility Hub concepts
- Public outreach status report
- Upcoming meetings/next steps

Recap of Working Group Meetings

Working Group Meetings

- North Working Group – January 27th
- South and Central Working Groups – January 28th

Working Group Meeting Agenda

- Public Engagement Summary
- Safety Review
- Multimodal Network (existing, programmed, and proposed projects)
- Hubs/Hot-Spots

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Project Development Notes

- Multimodal network connectivity analysis
- Examine areas outside Mobility Hubs (discussed separately)
- Goal is to identify feasible projects **within existing right-of-way**
- Considered recent/ongoing studies and construction projects

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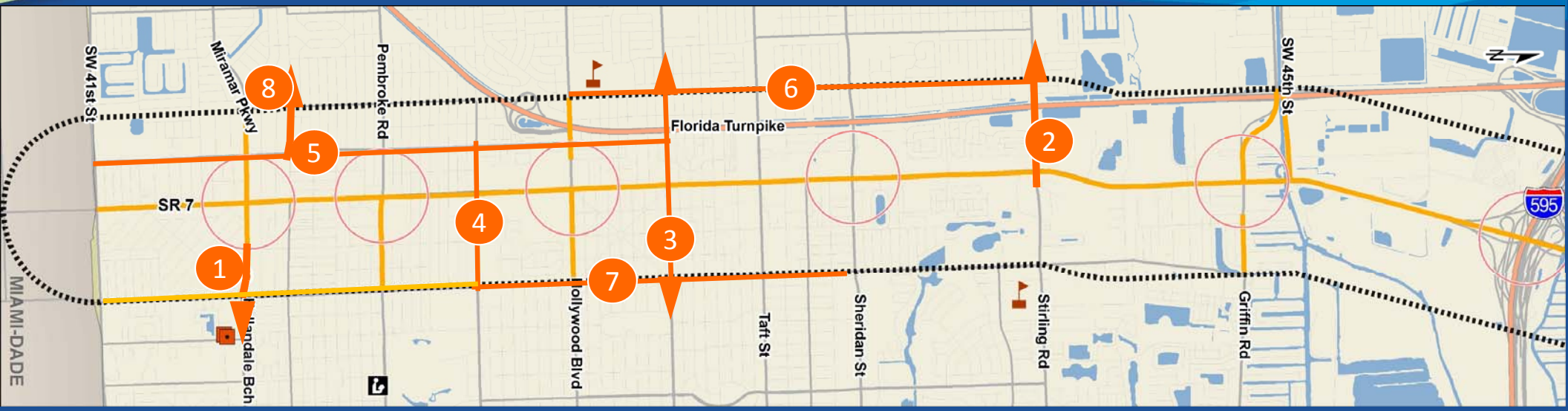
Multimodal Network Programmed Bike Facilities (South)



Legend

Existing

Programmed

1. Resurfacing Hallandale Beach Blvd from SR 7 to Lakeshore Blvd (2017)
2. Resurfacing Stirling Rd from University to SR 7 (2017)
3 & 4. Improvements Included w/ Hollywood/Pines Blvd. Recs.
5 - 8. Phase III Mobility Project Bike Lanes

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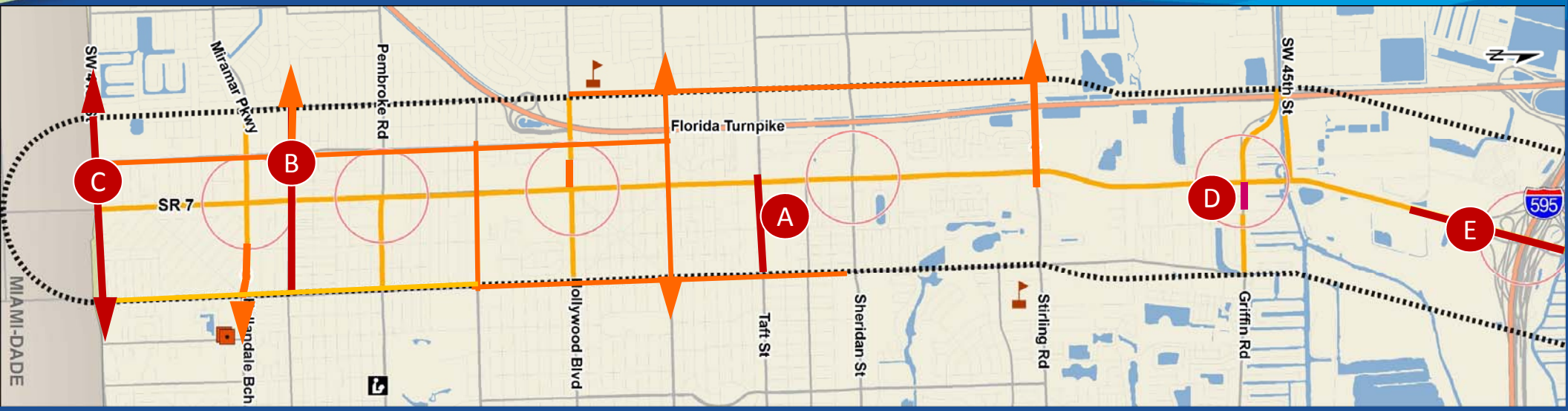
Multimodal Network
Proposed Bike Facilities (South)



Legend

Existing

Programmed

Proposed

ID	Onstreet	From	To	Recommendations
A	Taft St	SR 7	SW 56th Ave	Widen pavement to provide bike lanes
B	SW 25th St	SW 62nd Ave	SW 56th Ave	Provide shared lane arrows
C	Countyline Road	SW 68th Lane	SW 48th Ave	Widen pavement to provide bike lanes
D	Griffin Rd	SR 7	SW 44th Ave	Reconstruct median and modify lane markings to for keyholes
E	SR 7	Oakes Rd	New River Greenway	Provide shared use path in center median

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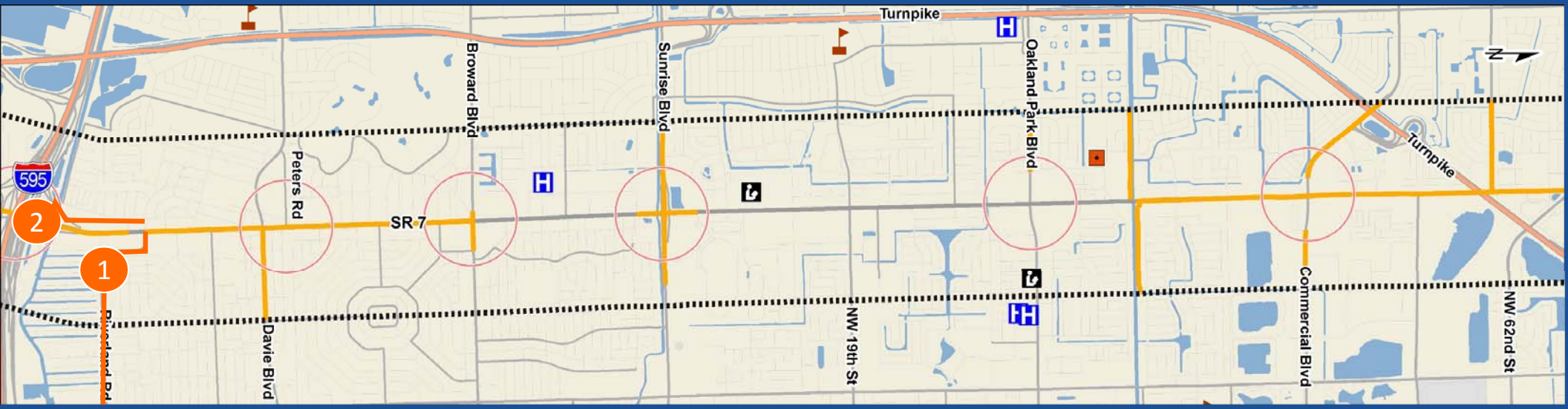
Multimodal Network Programmed Bike Facilities (Central)



Legend

Existing

Programmed

1. Resurfacing Riverland Road from SR 7 to Davie Blvd (2020)
2. Sidewalk/Trail Connection and Bridge Across New River Greenway

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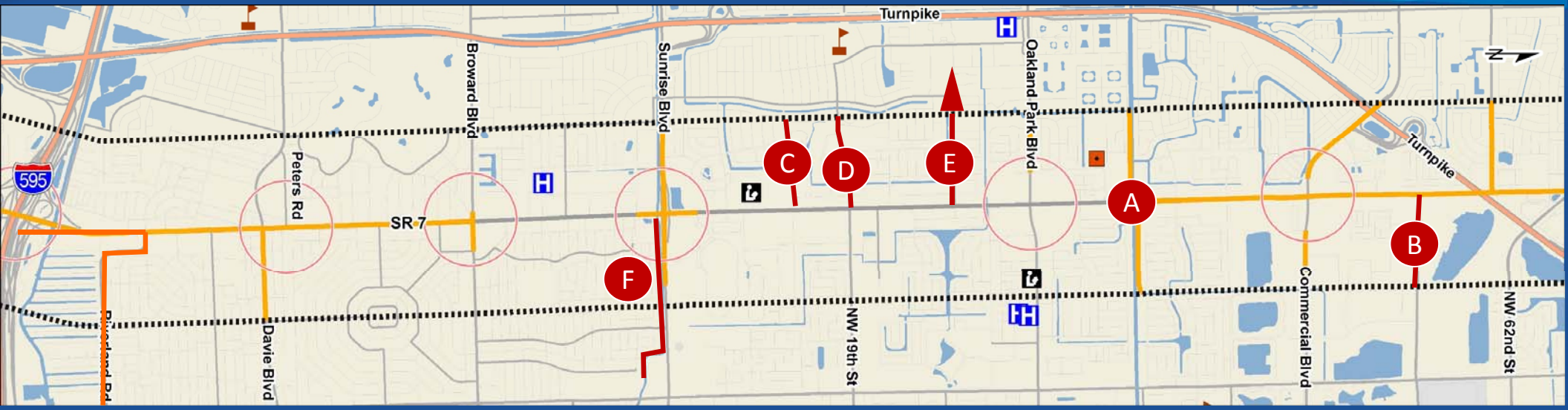
Multimodal Network
Proposed Bike Facilities (Central)



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Existing

Programmed

Proposed

ID	Onstreet	From	To	Recommendations
A	SR 7	C-13 Greenway		Accelerate planned trail crossing
B	W Prospect Rd	SR 7	NW 31st Ave	Widen pavement to provide bike lanes
C	NW 16th Street	NW 47th Ave	SR 7	Widen pavement to provide bike lanes
D	NW 19th Street	NW 47th Ave	SR 7	Widen pavement to provide bike lanes
E	NW 26th Street	NW 49th Ave	SR 7	Widen pavement to provide bike lanes
F	Sunrise Blvd Canal	SR 7	NW 31st Ave	Continue trail to NW 31st Ave and enhance SR 7 crossing

Multimodal Network Programmed Bike Facilities (North)

1. Buffered Bike Lanes to Palm Beach County Line (2017); Side Paths North From Sample Road; Sidewalk Gaps South of Sample Road Addressed.

Legend

Existing

Programmed

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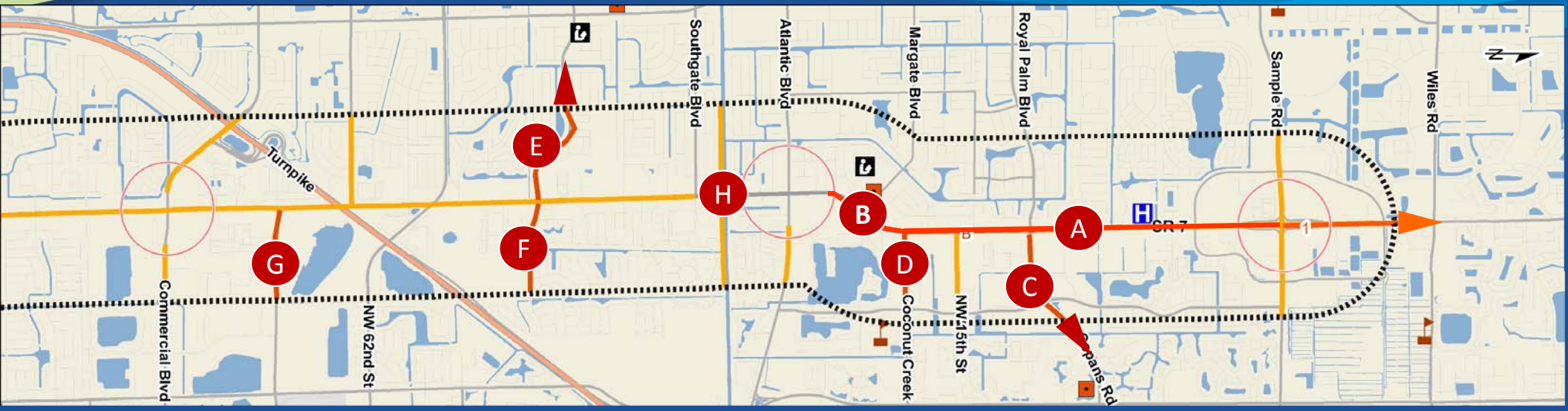
Multimodal Network
Proposed Bike Facilities (North)



Legend

Existing

Programmed

Proposed

ID	Onstreet	From_	To	Recommendations
A	SR 7	City Center Frontage	Sample Road	Provide 8 – 10 foot wide side-paths as ROW allows
B	SR 7	City Center Frontage		Provide 15' shared use paths or protected bike lanes
C	Copans Rd	SR 7	Lyons Road	Widen pavement to provide bike lanes
D	Coconut Creek Pkwy	SR 7	Banks Rd	Restripe and widen pavement to provide bike lanes
E	Kimberly Blvd	Rock Island Road	SR 7	Widen pavement for paved shoulder/bike lane
F	SW 11th St	SR 7	SW 50th Ter	Widen pavement for bike lanes or Sharrows + widen sidewalks
G	W Prospect Rd	SR 7	NW 31st Ave	Widen pavement to provide bike lanes
H	SR 7	C-14 Greenway		Mid-block crossing for multi-use trail and wide sidewalks

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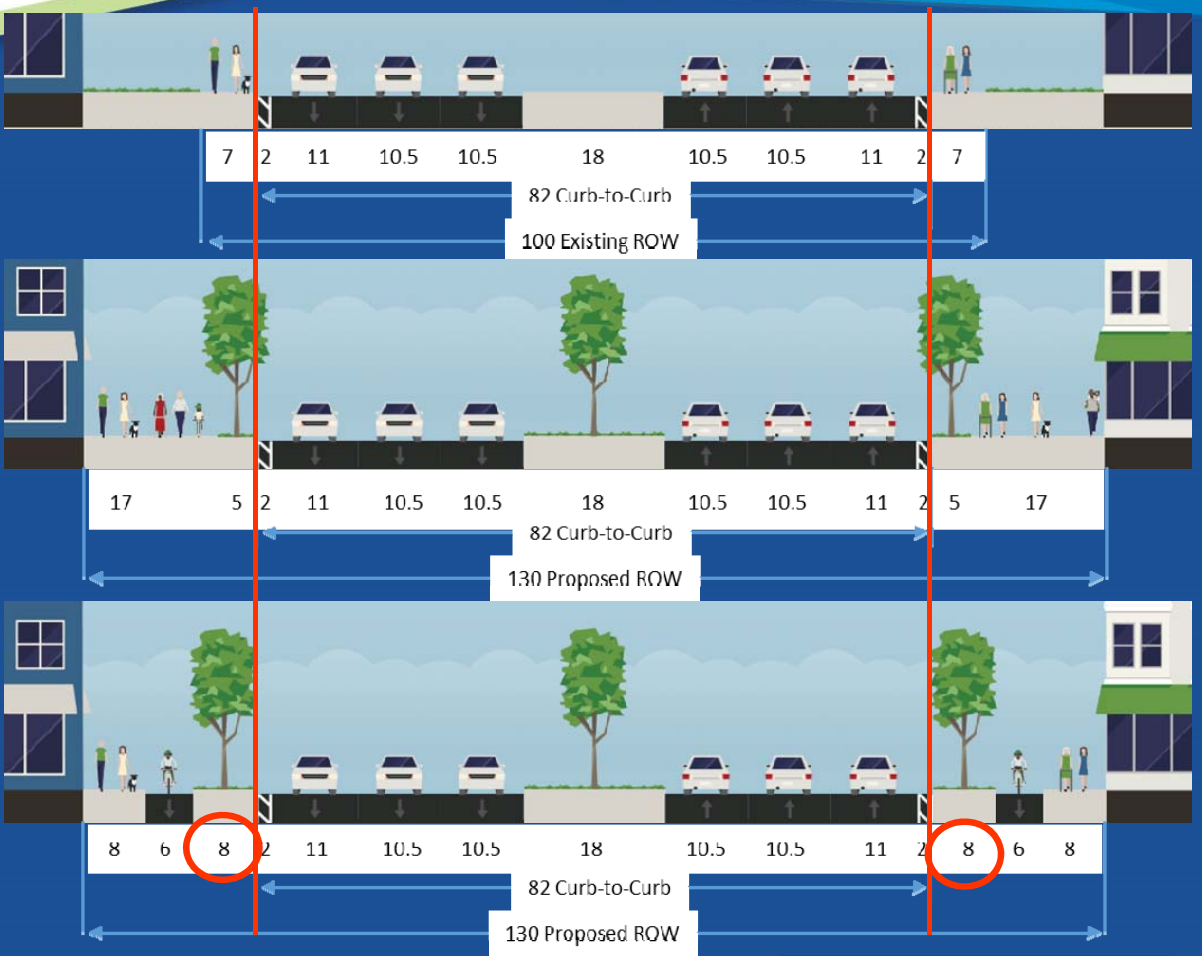
Margate City Center Concepts

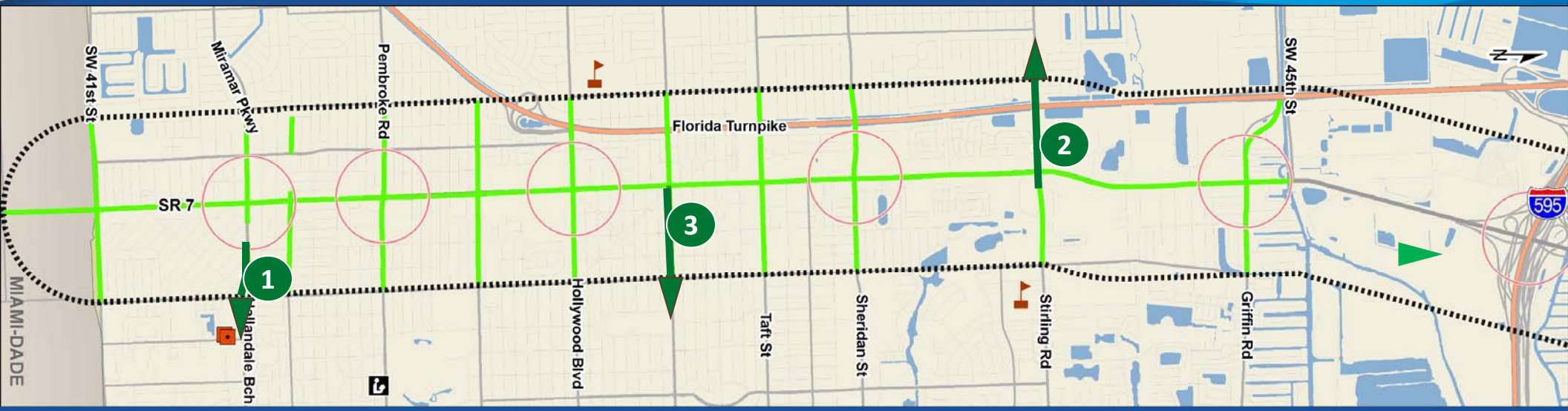


Approximate Existing Condition

Alternative 1: Shared use Path

Alternative 2: Protected Bike Lanes

Multimodal Network
Programmed Sidewalk Facilities (South)



Legend

Existing

Programmed

1. Resurfacing Hallandale Beach Blvd from SR 7 to Lakeshore Blvd (2017)
2. Resurfacing Stirling Rd from University to SR 7 (2017)
3. Sidewalks on Johnson Street from SR 7 to N 56th Ave

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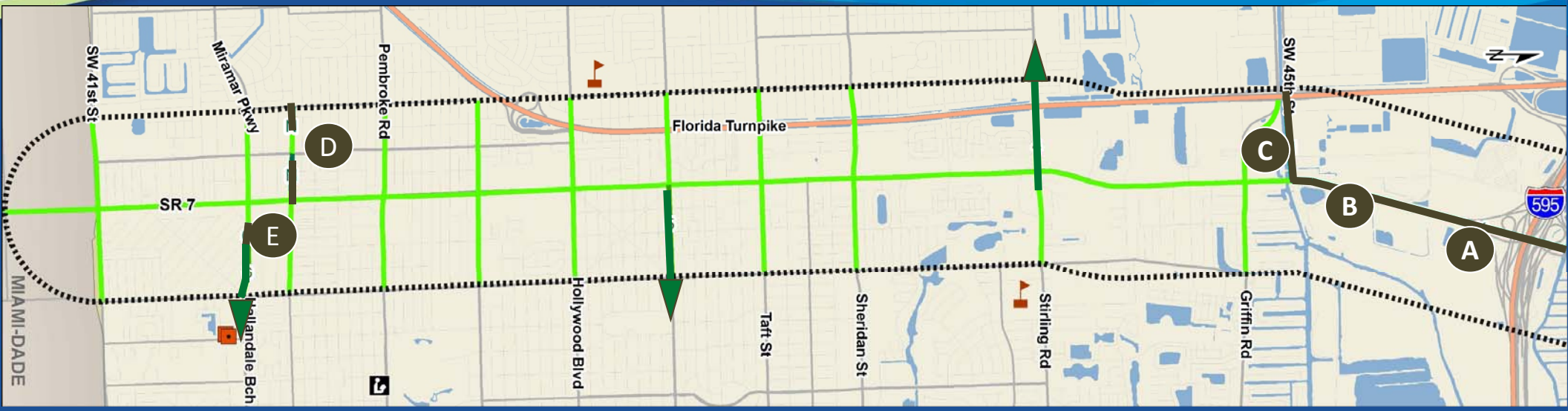
Multimodal Network
Proposed Sidewalk Facilities (South)



Legend

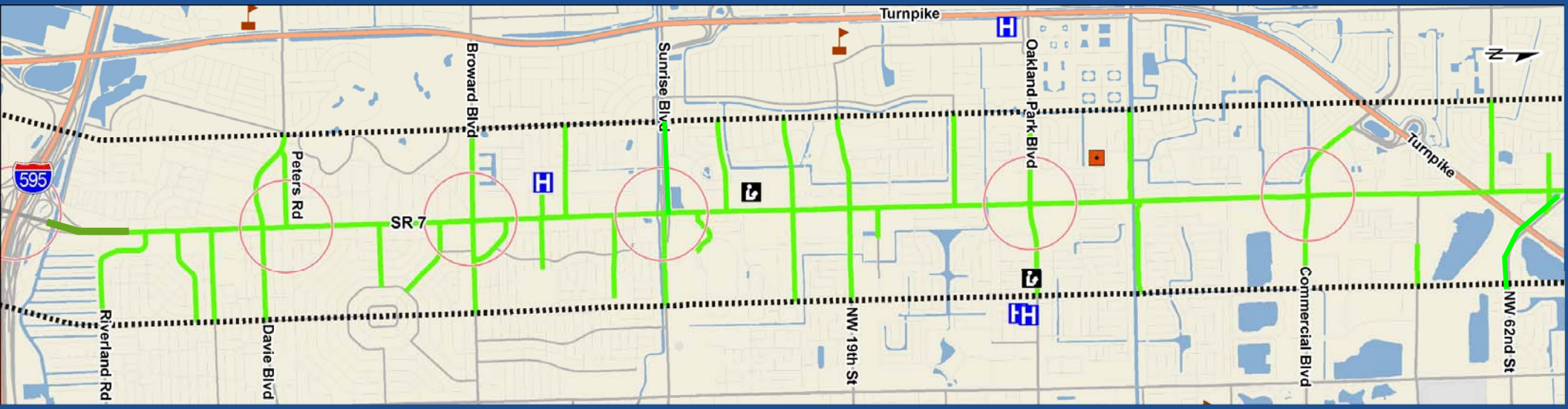
Existing

Programmed

Proposed

ID	Onstreet	From	To	Recommendations
A	SR 7	Oakes Rd/SW 36th St	New River Greenway Trail	Consider trail connection through median of SR 7
B	SR 7	SW 45th St	Oakes Rd/SW 36th St	ROW exists for sidewalk on east side, sidewalk exists on west
C	SW 45th St	FL Turnpike	SR 7	Construct wide sidewalk along north side of road
D	SW 25th St	SW 64th Ave	SR 7	Complete gaps to provide sidewalk on north side (1/4 mile)
E	Hallandale Beach Blvd	Edmund Rd	SW 58th Ave	Delineate (stripe) sidewalk from paved parking along north side

Multimodal Network
Programmed Sidewalk Facilities (Central)



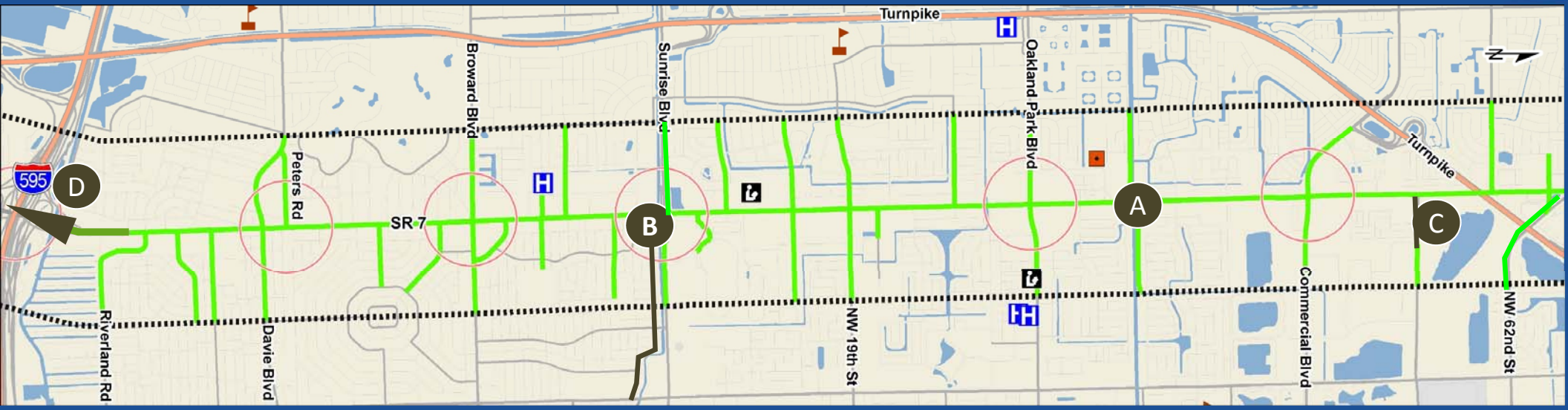
Legend

Existing

No Sidewalk Projects Identified in TIP/Mobility Project List

Connection to New River Greenway Planned by Broward County

Multimodal Network
Proposed Sidewalk Facilities (Central)



Legend

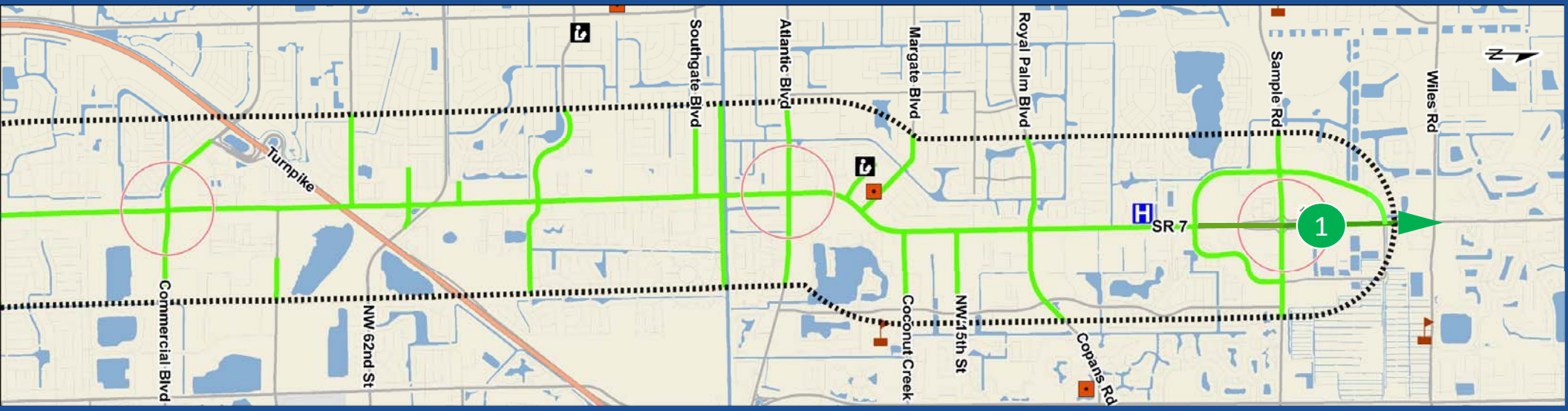
Existing

Programmed

Proposed

ID	Onstreet	From	To	Recommendations
A	SR 7	C-13 Canal		Expedite planned trail crossing
B	Sunrise Blvd Canal	SR 7	NW 31st Ave	Extend trail and improve crossing at SR 7
C	Prospect Road	SR 7	NW 36th Ave	Complete sidewalk along south side of road.
D	SR 7	Riverland Road	I 595 Greenway	Provide connection to existing trail along west side of SR 7

Multimodal Network
Programmed Sidewalk Facilities (North)



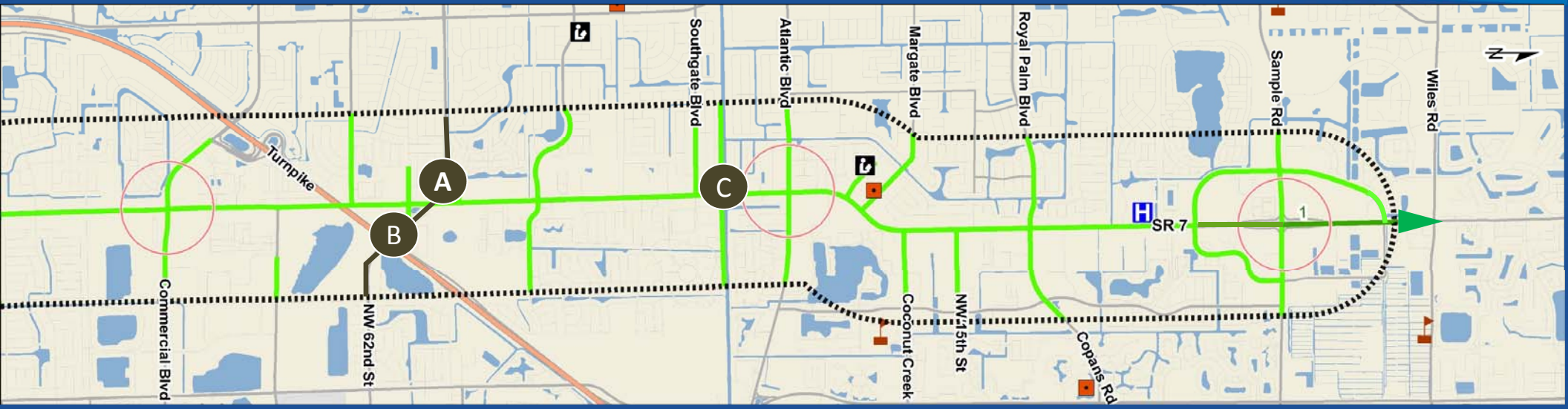
1. Connect sidewalks to existing and extend to Palm Beach County Line (2017)

Legend

Existing

Programmed

Multimodal Network
Proposed Sidewalk Facilities (North)



Legend

Existing

Programmed

Proposed

ID	Onstreet	From	To	Recommendations
A	W McNab Rd	SW 66th Ave	SR 7	Sidewalk on N side connects to SR 7 via Blvd of Champions
B	Cypress Creek Rd	SR 7	NW 35th Ave	Sidewalk on S side connects to SR 7 via ramp sidewalk
C	SR 7	Greenways C-14		Mid-block crossing for multi-use trail

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Hot Spot Safety/ Operational Reviews

- Five “hot spot” intersections reviewed for safety/operations include:
  1. Stirling Road
  2. Broward Boulevard
  3. NW 19th Street
  4. Oakland Park Boulevard
  5. Commercial Boulevard
- Hot spot locations in reconstruction zone removed from consideration

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Hot Spot Safety/ Operational Reviews

Pedestrian conflicts/ unsafe behavior

Signal timing/ queuing issues

Striping/signage issues

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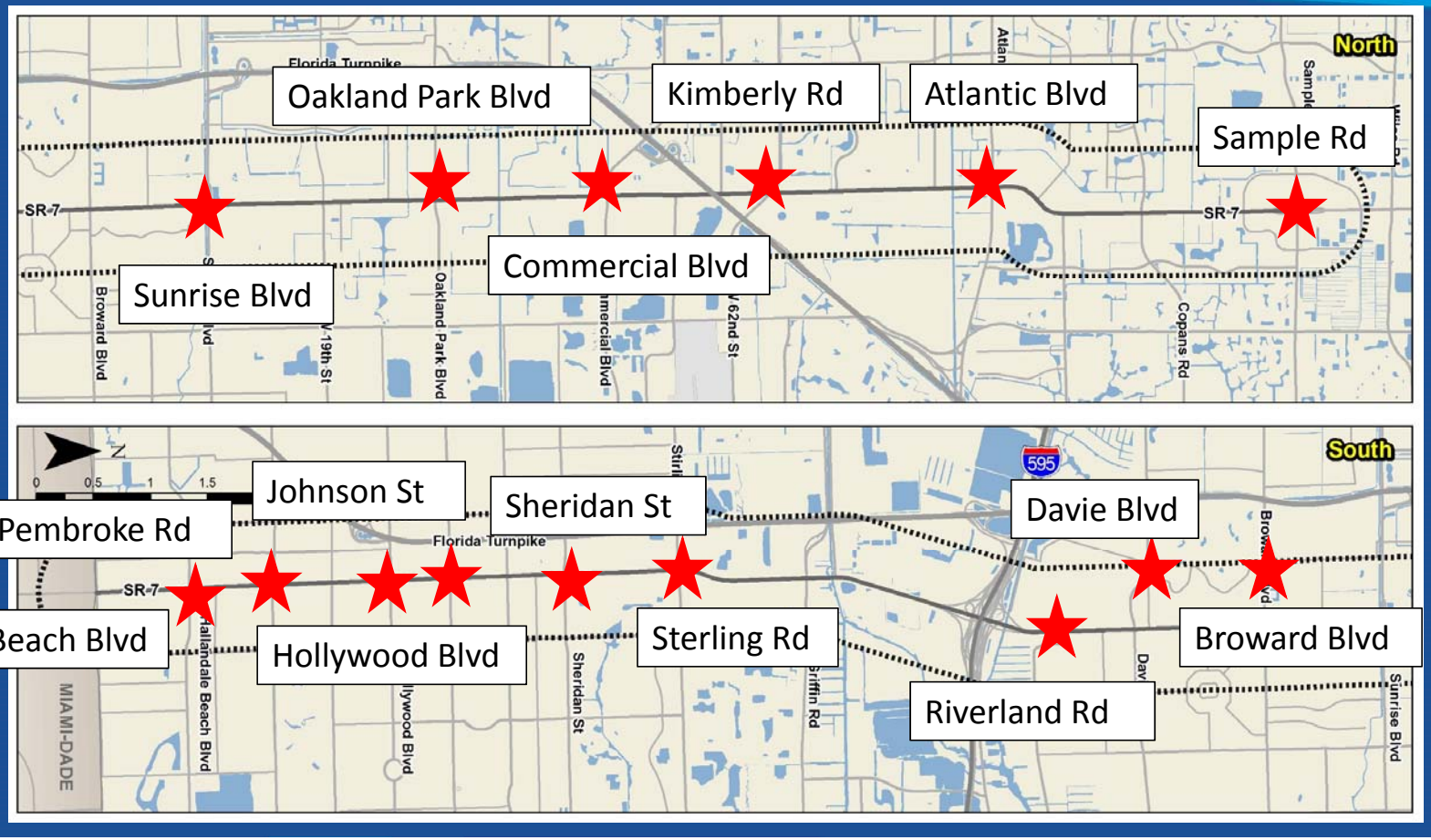
"Hot Spot"/Mobility Hub Concepts

- Transportation and Land Use Analysis
  - Existing Conditions
    - Right of way
    - Crash data
    - Geometry, traffic, transit
  - Field Review

- Project Development
  - Initial Environmental Screening
  - Preliminary Recommendations
  - Stakeholder coordination – FDOT, BCT, BCTED, municipalities

Study Area – Identified Hot Spot Intersections



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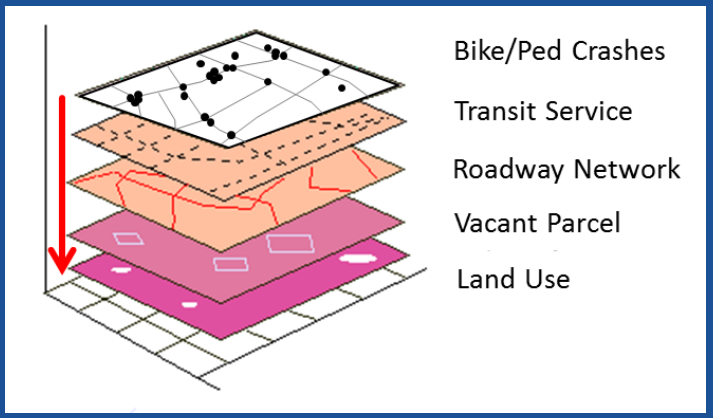
Transportation and Land Use Analysis – Existing Conditions

- Some intersections already have on-going studies/plans
  - Sample Rd/Turtle Creek
  - Lauderhill Mall area

- Others have on-going construction
  - Sheridan St
  - Johnson St
  - Hollywood Blvd
  - Pembroke Rd

Transportation and Land Use Analysis – Existing Conditions

- Identified existing BCT stop locations
- Identified existing bicycle and pedestrian networks
- Identified existing vacant/underutilized parcels
  - As well as property owners for adjacent parcels
- Identified existing right of way



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Transportation and Land Use Analysis – Field Review

- Documented existing deficiencies and opportunities
  - Pedestrian/bicycle infrastructure
  - Transit infrastructure
- Observed transit operations and passenger behaviors
  - Bus bays vs. curbside
  - Transfer activity
  - Jaywalking
- On-going construction in southern portion of corridor
  - Reviewed construction plans

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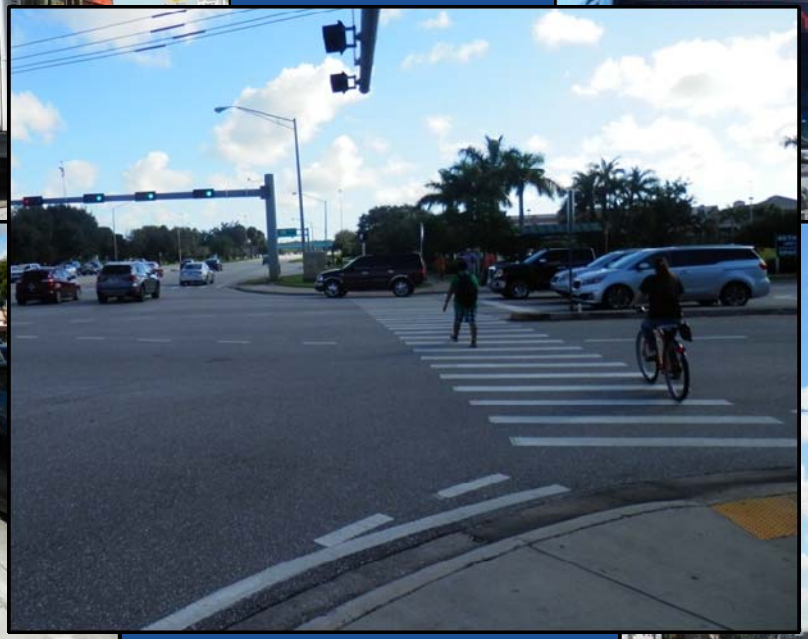
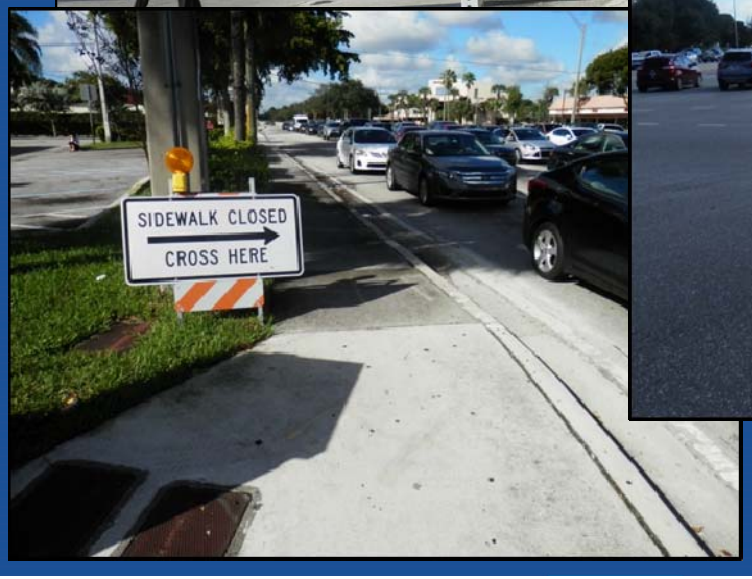
Transportation and Land Use Analysis – Field Review





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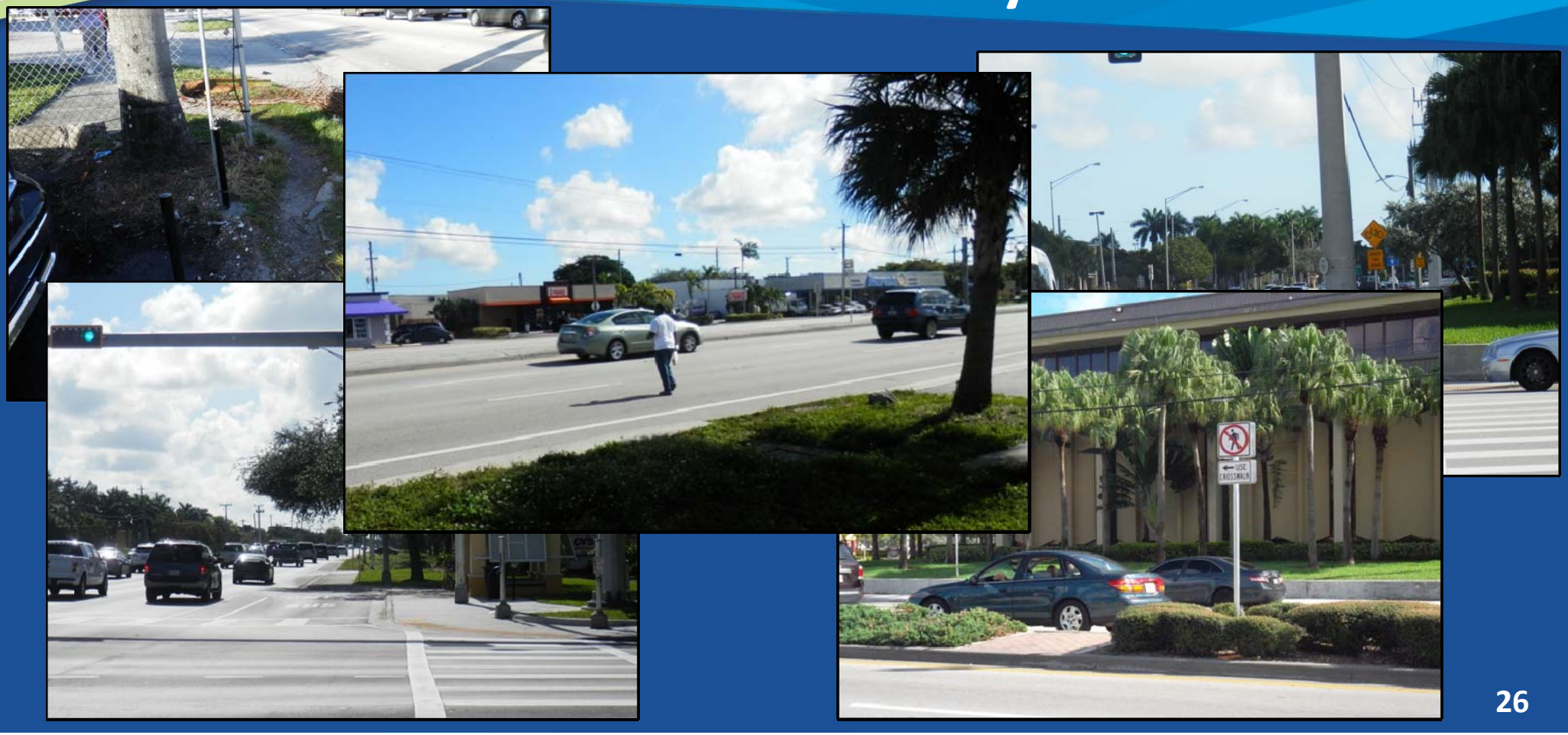
Transportation and Land Use Analysis – Field Review



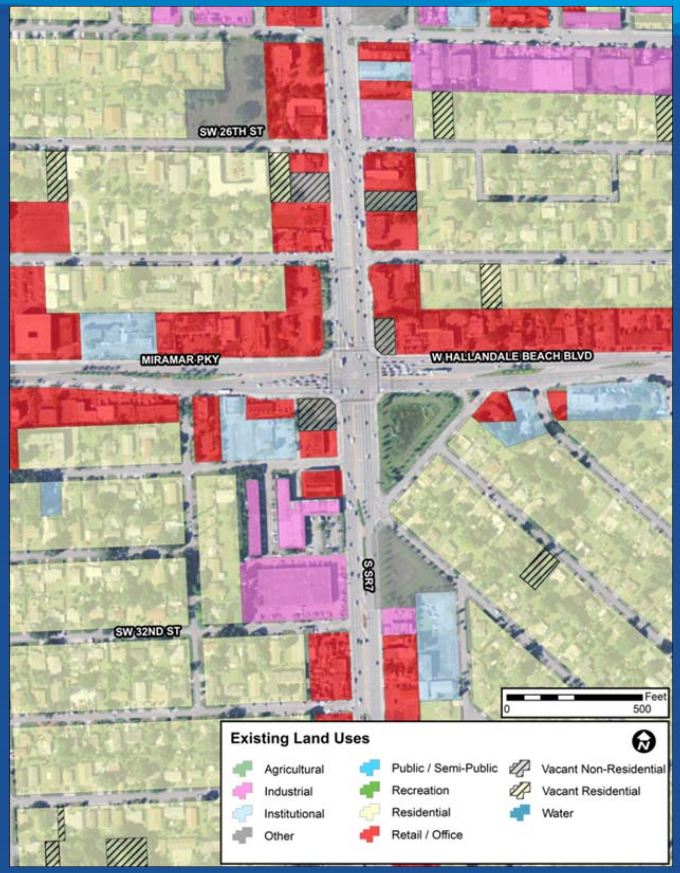
Project Development – Initial Environmental Screening

- GIS desktop analysis of:
  - Land Use
  - Historical Resources
  - Wetlands (none)
  - Contaminated Sites

Project Development – Land Use Screening Results

- Office, retail, or commercial
  - Residential is mostly set back
  - A few industrial uses

- Some vacant corner parcels of varying sizes. Examples include:
  - NW corner of Commercial Blvd.
  - SW corner of Oakland Park Blvd.
  - NE and SE corners of Davie Blvd.
  - NE, SE, and SW corners of Miramar Pky.

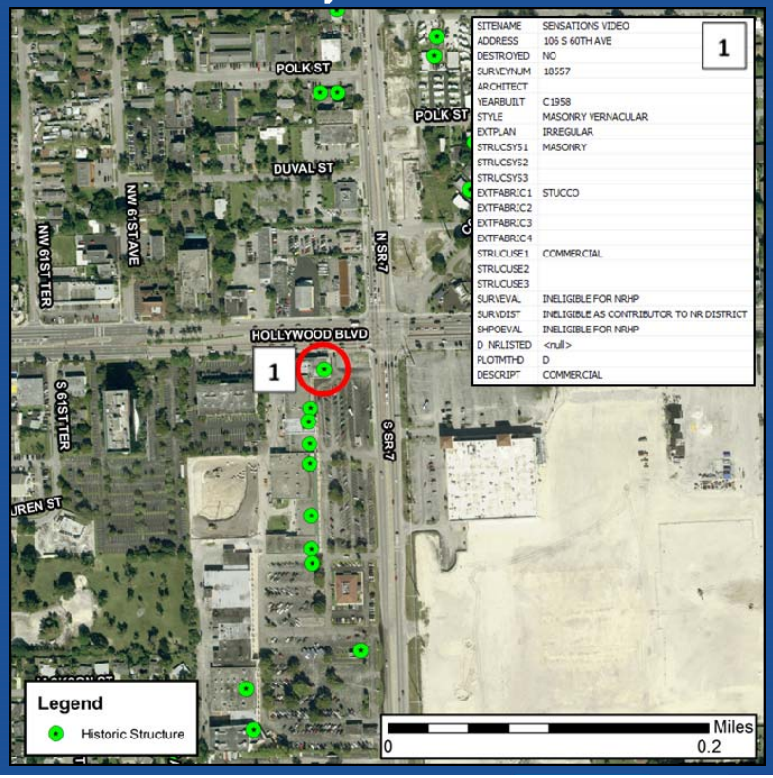


Source: Broward County GIS – Existing Land Uses; 2016

Project Development – Historical Resources Screening Results

- Two (2) intersections have active historical structures within their influence area.

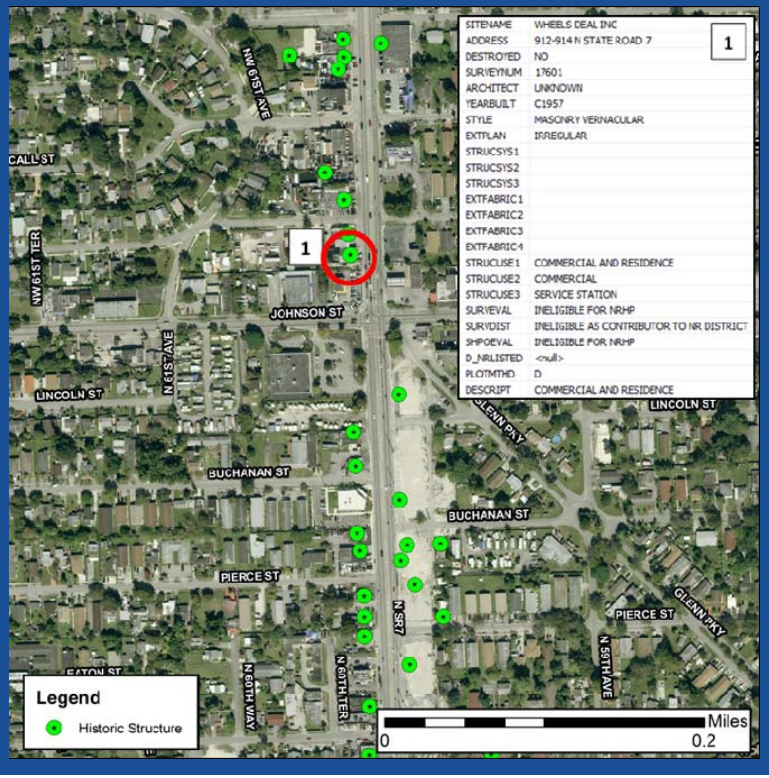
Hollywood Blvd



Source:

Florida Division of Historical Resources; 2016

Johnson St

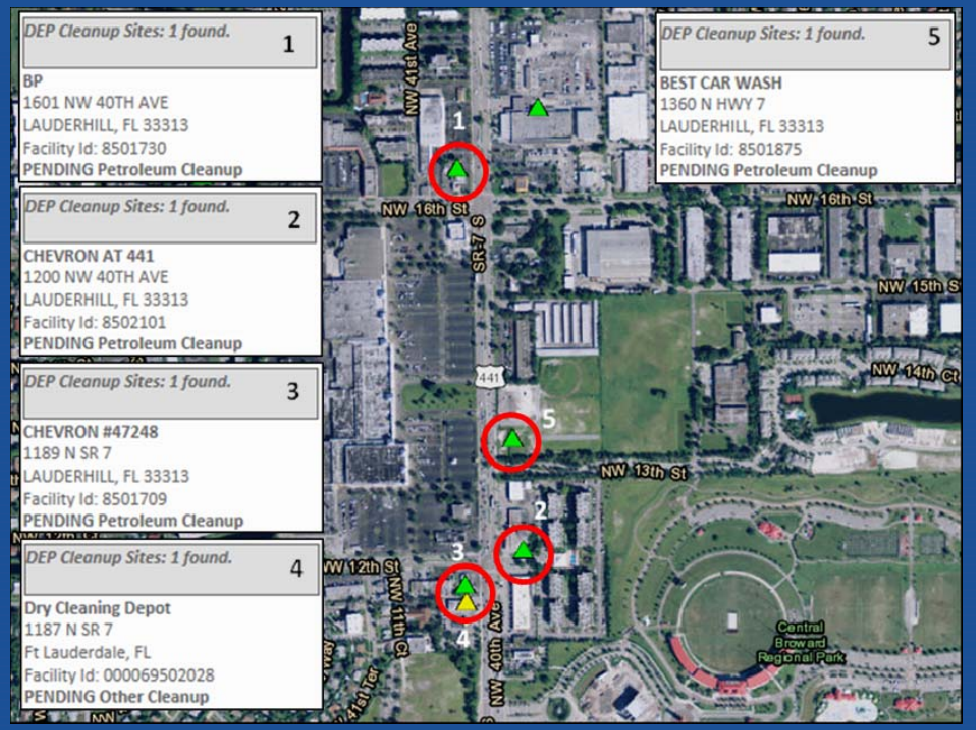


Project Development – Contaminated Sites Results

- Eight (8) intersections have contaminated sites
  - Total of 15 contaminated sites

Intersection	Contaminates Sites
Kimberly Blvd	1 - (petroleum)
Commercial Blvd	1 - (petroleum)
Oakland Park Blvd	1 - (petroleum)
Lauderhill Mall area	5 - (4 petroleum and 1 dry cleaning)
Riverland Dr	1 - (petroleum)
Sheridan St	2 - (petroleum)
Johnson St	1 - (petroleum)
Miramar Pky	3 - (petroleum)

- 7 intersections have no contaminated sites



Source: Florida Department of Environmental Protection (DEP); 2016

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Project Development – Environmental Screening Summary

	Environmental Screening Results			
Intersection	Land Use	Historical Resources	Wetlands	Contaminated Sites
Miramar Pky	Primarily retail/office, some surrounding vacant non-residential, residential, industrial, and institutional	none	none	(3) active petroleum cleanup sites
Pembroke Rd	Primarily retail/office, surrounding residential to the west and north, industrial to the SE, and institutional to the SW	none	none	none
Hollywood Blvd	Primarily retail/office, surrounding residential to the north	(1) site: Sensations Video	none	none
Johnson Rd	Primarily retail/office, surrounding residential, some industrial to the west	(1) site: Wheels Deal, Inc.	none	(1) active petroleum cleanup site
Sheridan St	Primarily retail/office, surrounding residential, public/semi-public, and recreation	none	none	(2) active petroleum cleanup sites
Stirling Rd	Primarily public/semi-public, some retail/office	none	none	none
Riverland Rd	Mixed with retail/office, vacant non-residential, and industrial	none	none	(1) active petroleum cleanup site
Davie Blvd	Mixed with retail/office, vacant non-residential, public/semi-public, industrial and other	none	none	none
Broward Blvd	Primarily retail/office, surrounding residential	none	none	none
Lauderhill Mall area	Primarily retail/office, surrounding industrial and residential/recreation	none	none	(3) active petroleum cleanup site, (1) dry cleaning site
Oakland Park Blvd	Primarily retail/office surrounding residential	none	none	(1) active petroleum cleanup site
Commercial Blvd	Primarily retail/office surrounding residential	none	none	(1) active petroleum cleanup site
Kimberly Blvd	Primarily retail/office surrounding residential	none	none	(1) active petroleum cleanup site
Atlantic Blvd	Primarily retail/office surrounding residential	none	none	none
Sample Rd	Generally retail/office, with some residential and industrial	none	none	none

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Preliminary Recommendations

- Corridors' 15 intersections divided into two major categories:

- Abbreviated study:
  - Pembroke Rd
  - Hollywood Blvd
  - Johnson Rd
  - Sheridan St
  - Stirling Rd
  - Riverland Rd
  - Lauderhill Mall area
  - Kimberly Dr
  - Sample Rd/Turtle Creek

- Full study:
  - Miramar Pky
  - Davie Blvd
  - Broward Blvd
  - Oakland Park Blvd
  - Commercial Blvd
  - Atlantic Blvd

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Preliminary Recommendations – Typical Improvements

- Bicycle and pedestrian improvements
  - High-emphasis crosswalks
  - Upgrade pedestrian buttons and associated signage
  - Wider sidewalks and/or bike lanes
  - Median landscaping and/or fencing
  - Lighting improvements
- Transit related improvements
  - Relocating existing bus stops
  - Queue jumps
  - Pedestrian/bus islands
  - Bus shelters

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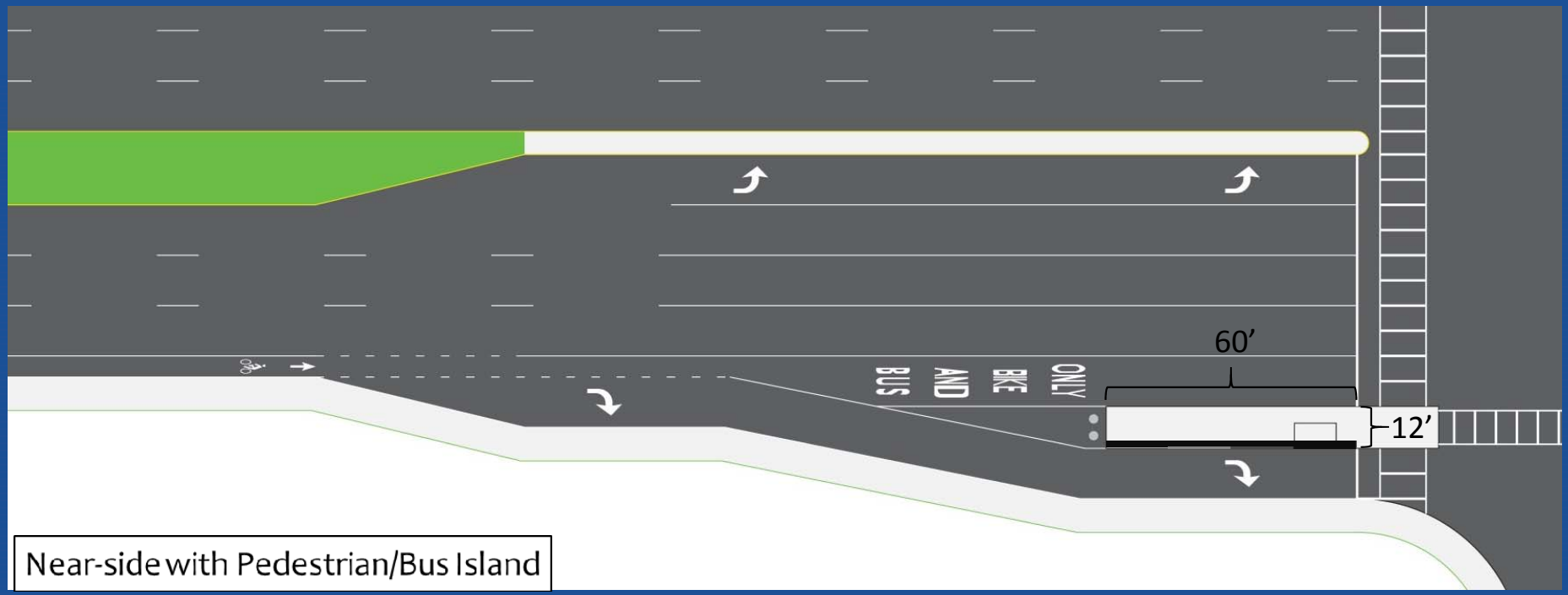
Queue Jumps and Pedestrian/Bus Islands – Typical Sections



Near-side with Pedestrian/Bus Island

*For illustrative purposes only.
Not drawn to scale.

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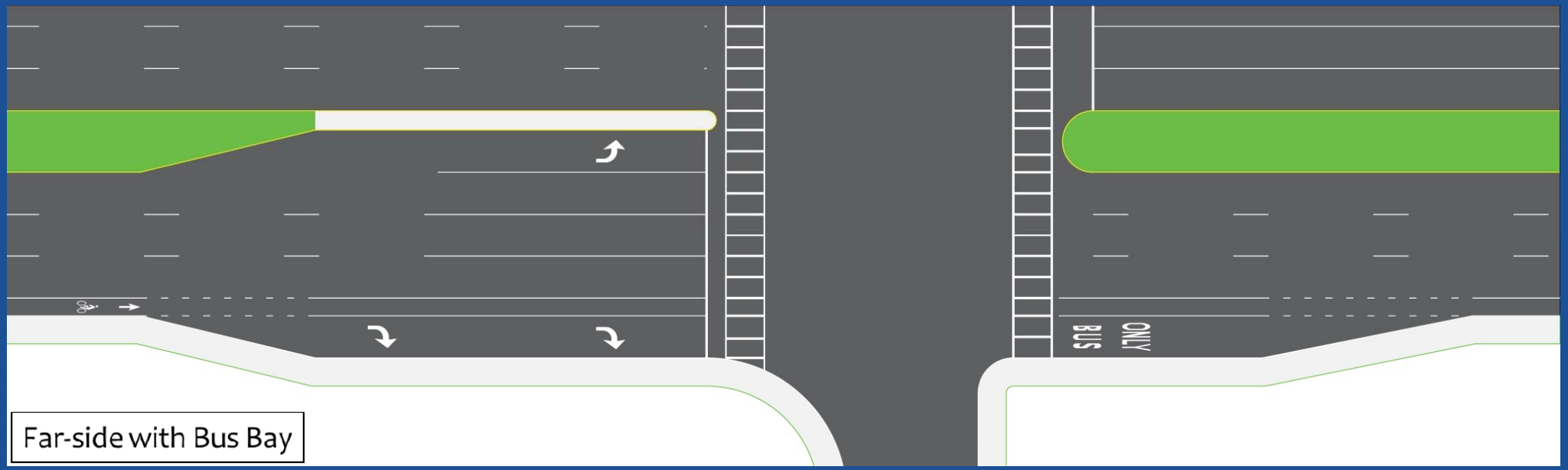
Queue Jumps and Pedestrian/Bus Islands – Typical Sections



Far-side with Bus Bay

*For illustrative purposes only.
Not drawn to scale.

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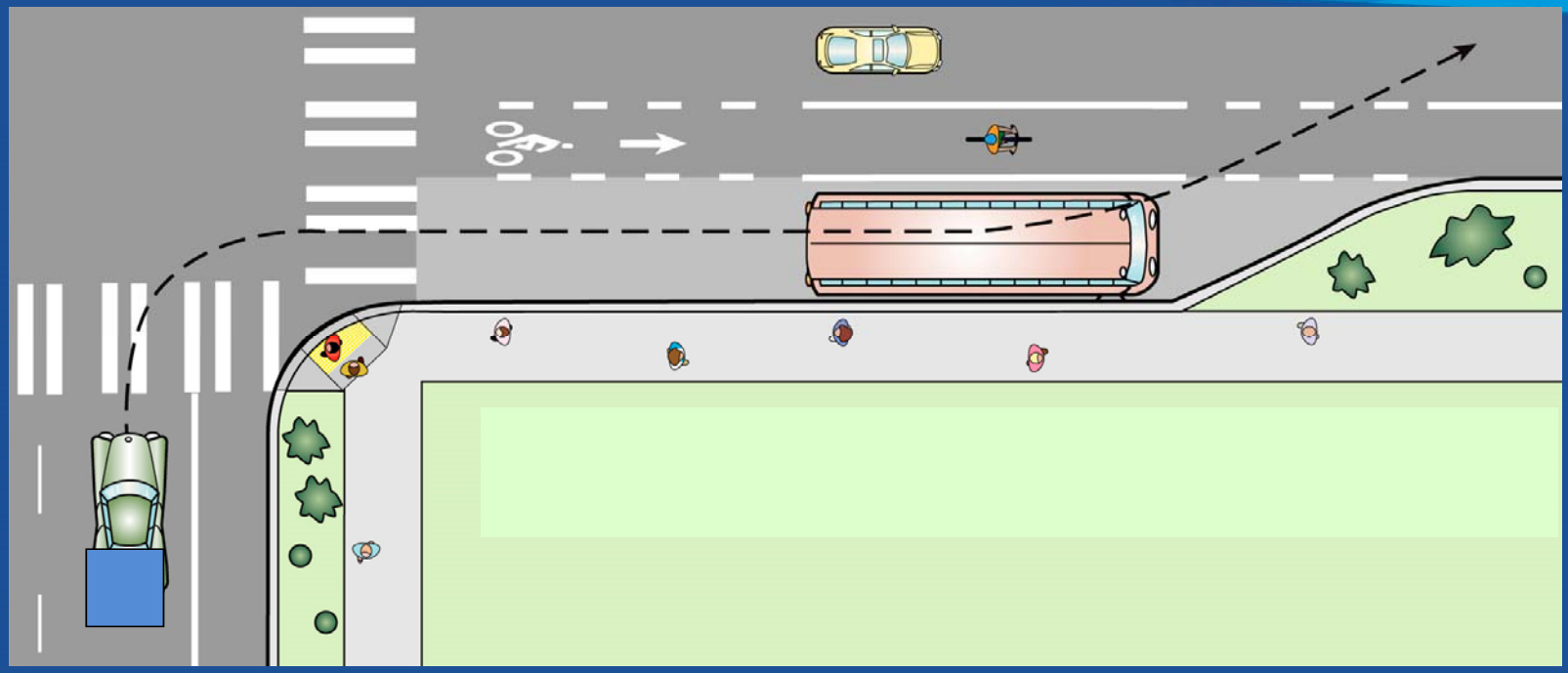

A “open” far side pullout typically used in conjunction with a queue jump lane can be used as an acceleration lane, endangering other users. However, very tight curb radii helps mitigate this effect.

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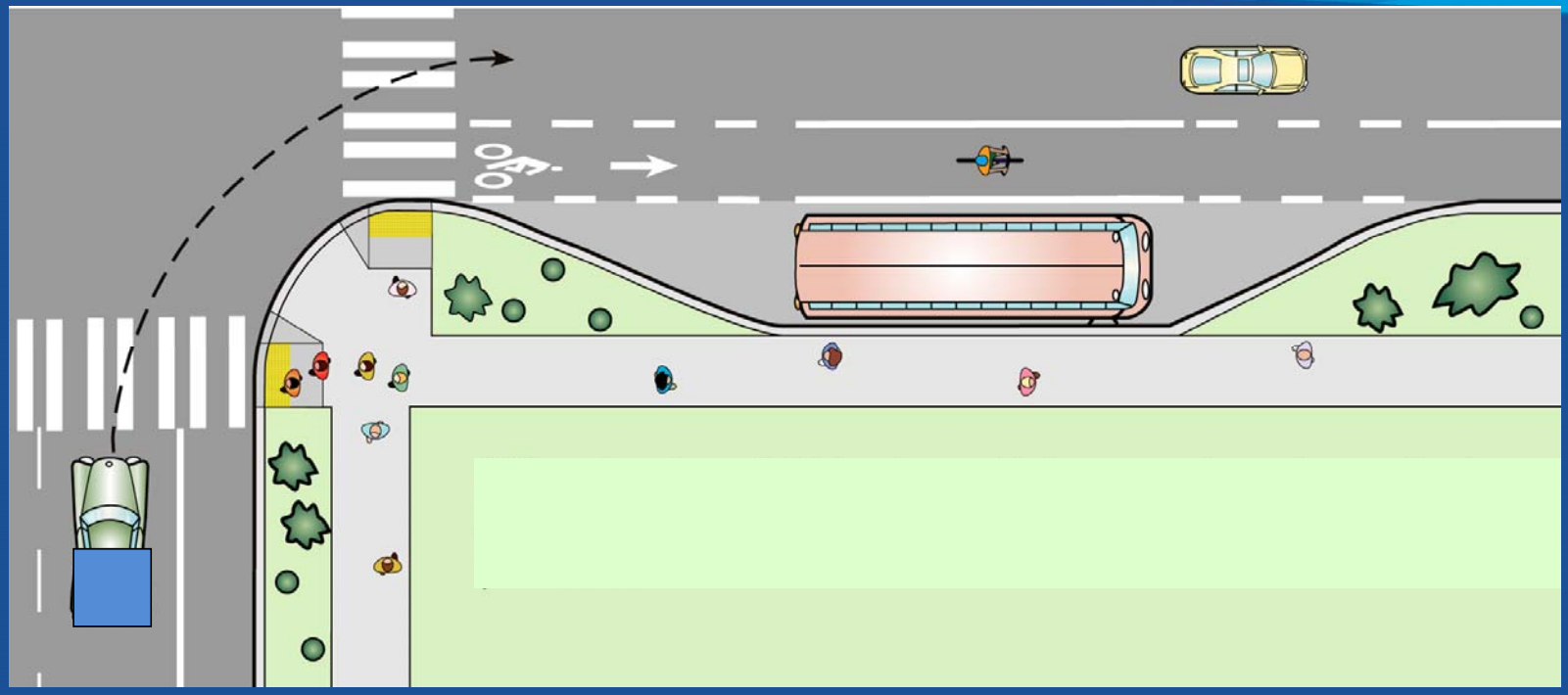

A conventional bus bay requires drivers to turn more cautiously but may require a bus using the queue-jump on green to merge in and out of traffic.

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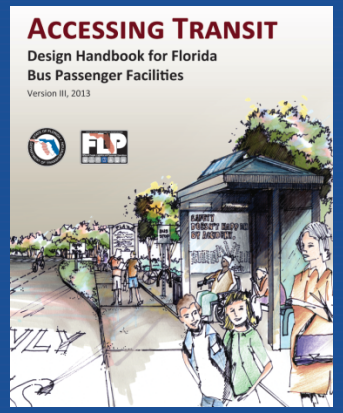
Traditional Criteria for Implementing Queue Jumps

- Average bus headways are 15 minutes or less
  - NB/SB service along SR-7 has cumulative headways less than 15 minutes
- Curb lane (peak hour) traffic volumes exceed 250 vehicles
- Intersection operates at LOS ‘D’ or worse
- Land acquisition and infrastructure costs are ‘feasible’
  - Preferably has an existing right turn lane
- An exclusive bus lane at intersection is warranted if right-turning vehicles exceed 400 in the peak hour



Source: FDOT Accessing Transit Handbook

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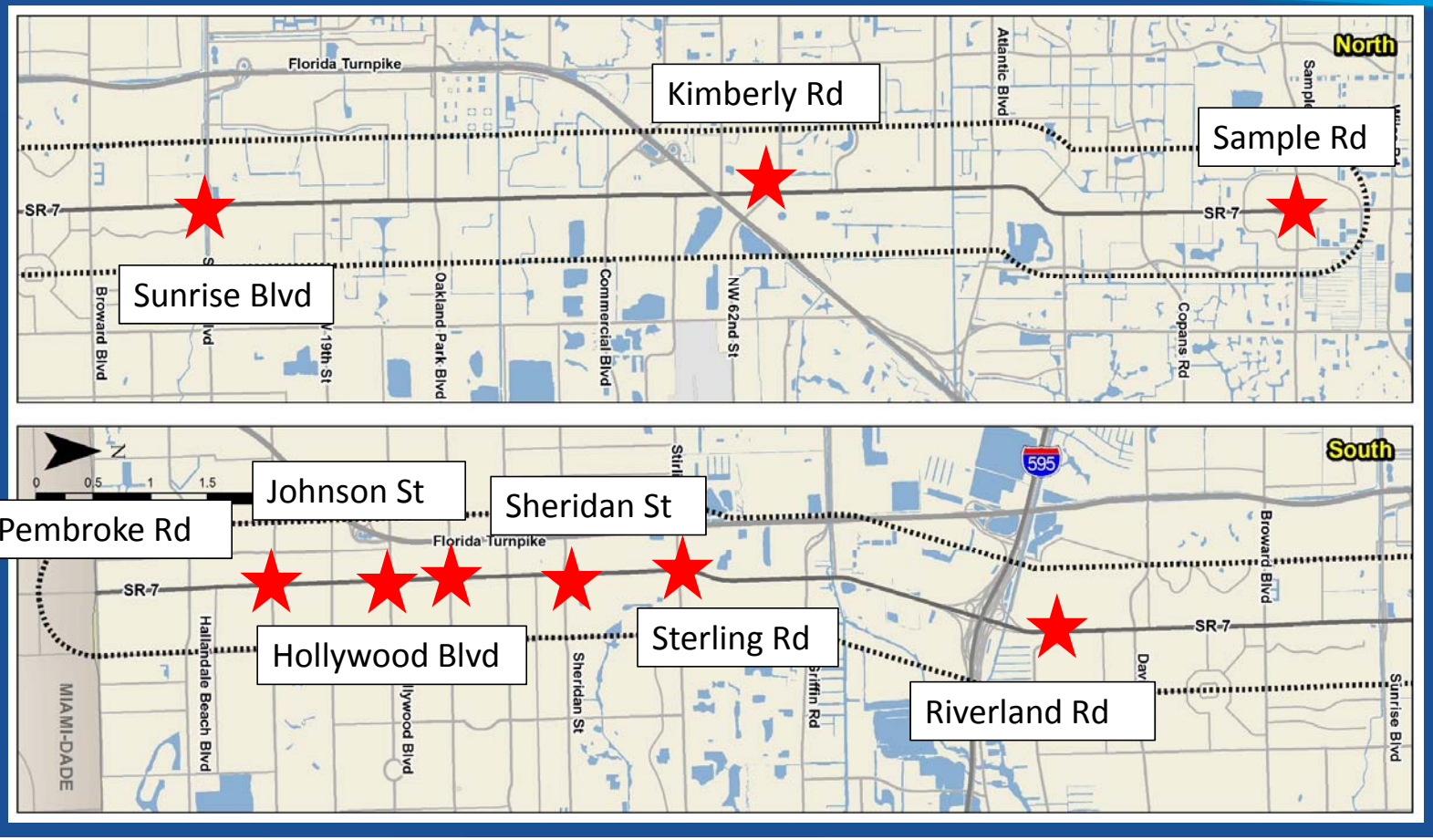
Other Considerations for Implementing Queue Jumps

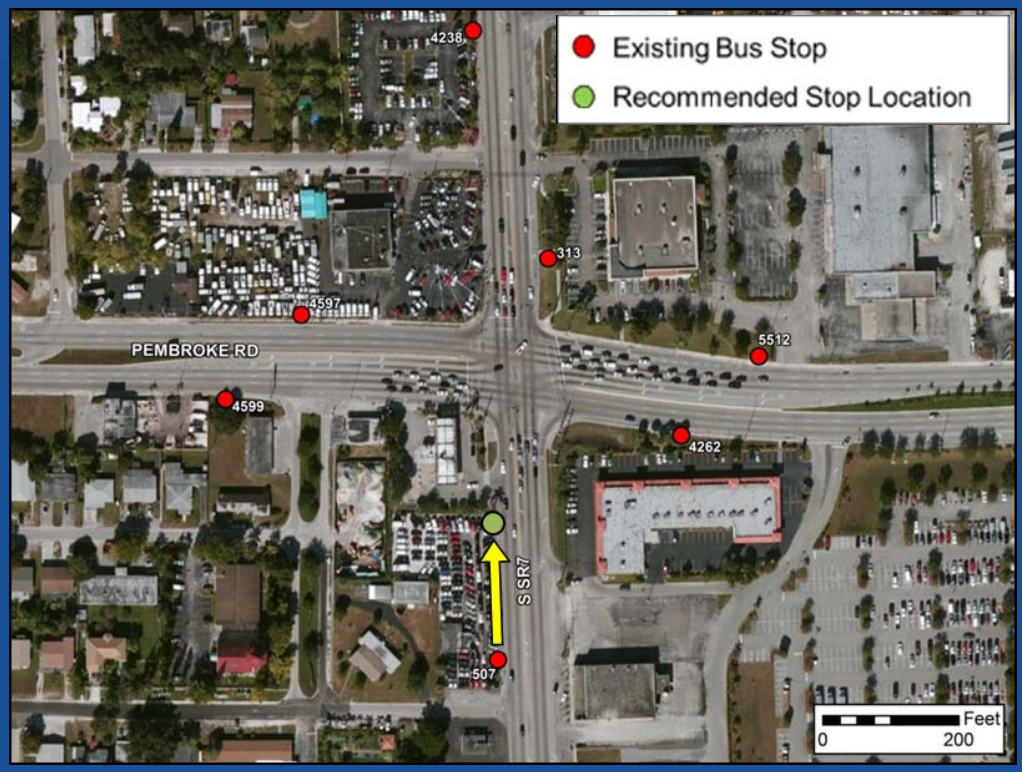
- Improved stop placement for pedestrian safety
- Opportunities to pair intersecting routes to provide for hub sites
- Consideration for applying TSP

Preliminary Recommendations – Abbreviated Studies



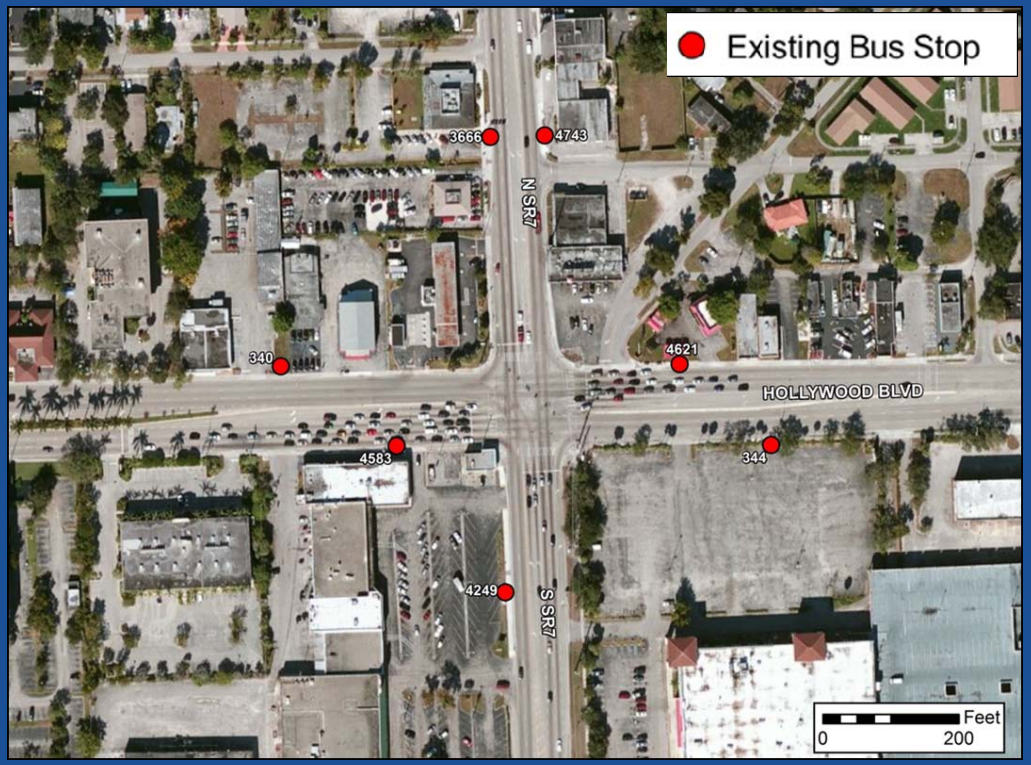
Preliminary Recommendations – Pembroke Rd

- Tighten curb radii at all corners
- Relocate existing far-side (SB) stop closer to intersection
  - Include a shelter
- Install a sidewalk on west side of SR-7 north of Pembroke Rd
- Fill sidewalk gap on west side of SR-7 south of Pembroke Rd
- Implement a queue jump for the NB and SB movements
  - Works well with programmed bus bays



Preliminary Recommendations – Hollywood Blvd

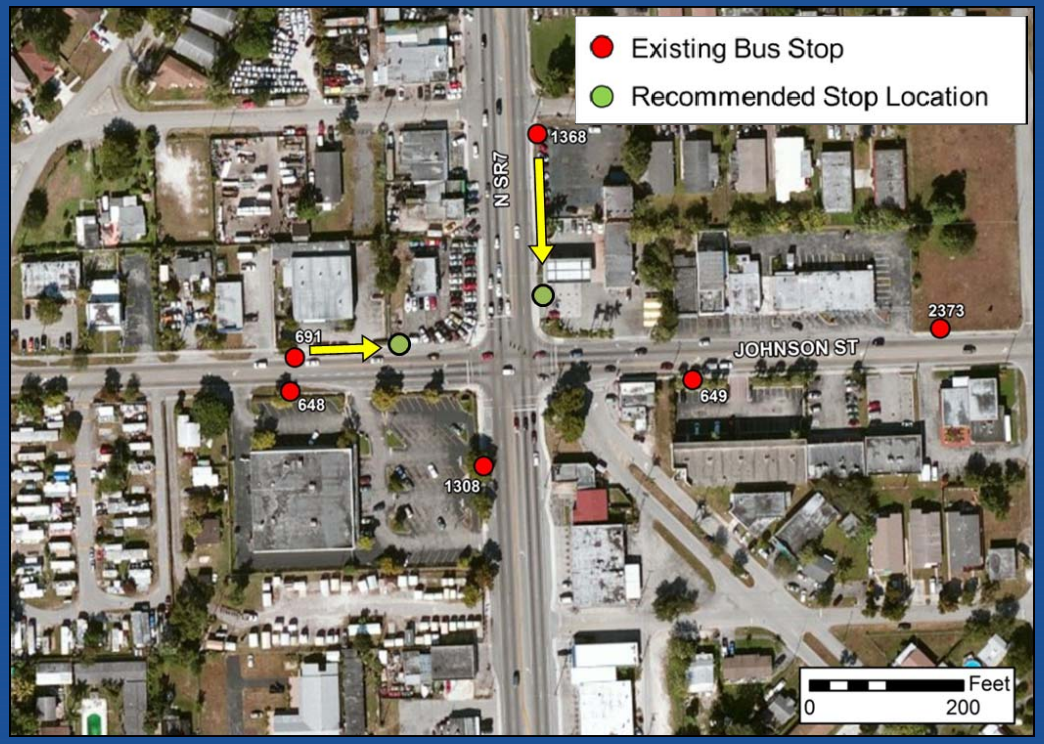
- Implement a queue jump for the NB and SB movements
  - Works well with programmed bus bays



Preliminary Recommendations – Johnson St

- Relocate the existing far-side (NB) stop closer to the intersection

- Relocate the existing far-side (WB) stop closer to the intersection
  - Both relocations will require coordination with property owner
  - Include a shelter at both relocations

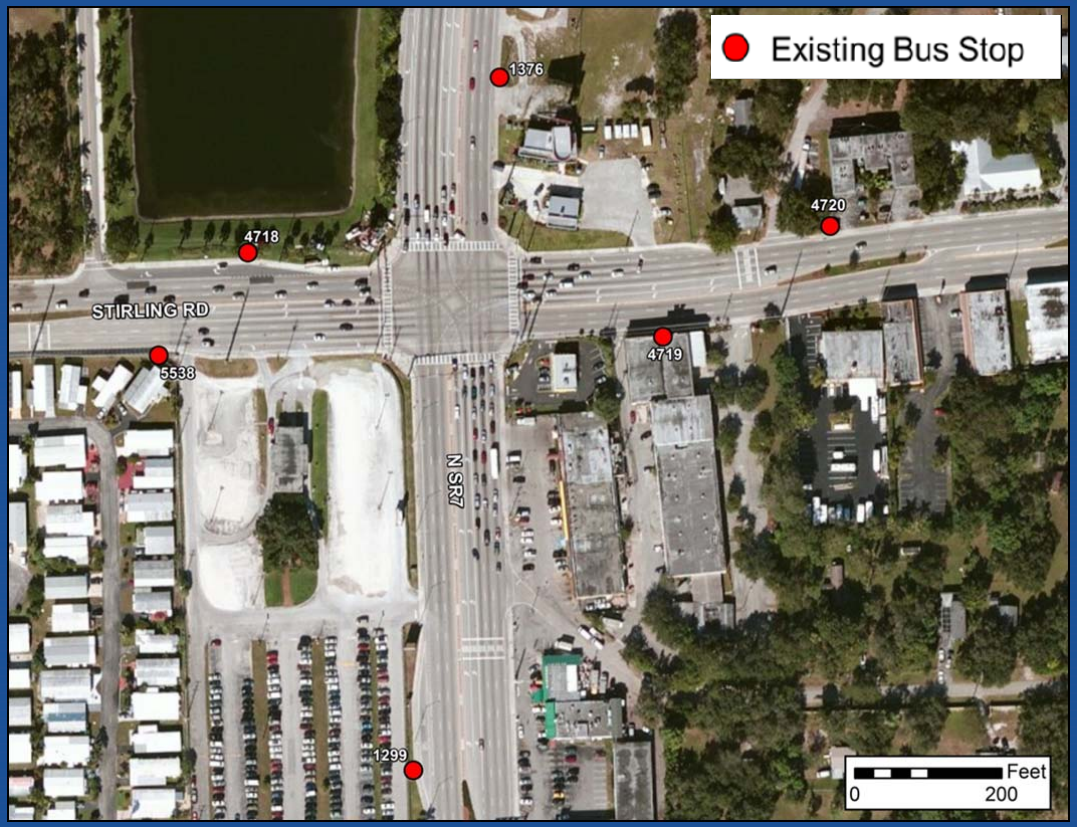


Preliminary Recommendations – Sheridan St

- Provide a shelter for the existing far-side (NB) stop
- Implement a queue jump for the NB movement

Preliminary Recommendations – Stirling Rd

- Include shelters at all existing stops
- Implement a queue jump for the SB, EB, and WB movements
  - EB/WB transit service has 30 minute peak-hour headways….



Preliminary Recommendations – Riverland Rd

- Tighten curb radius at NW corner

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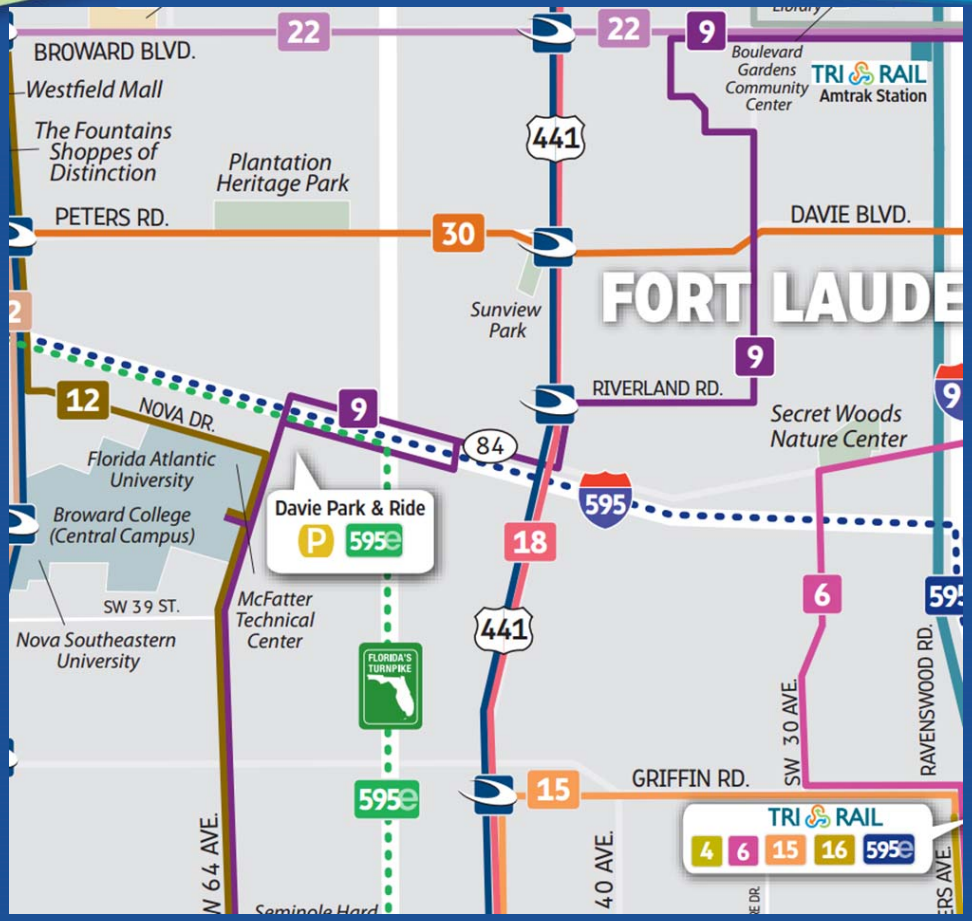
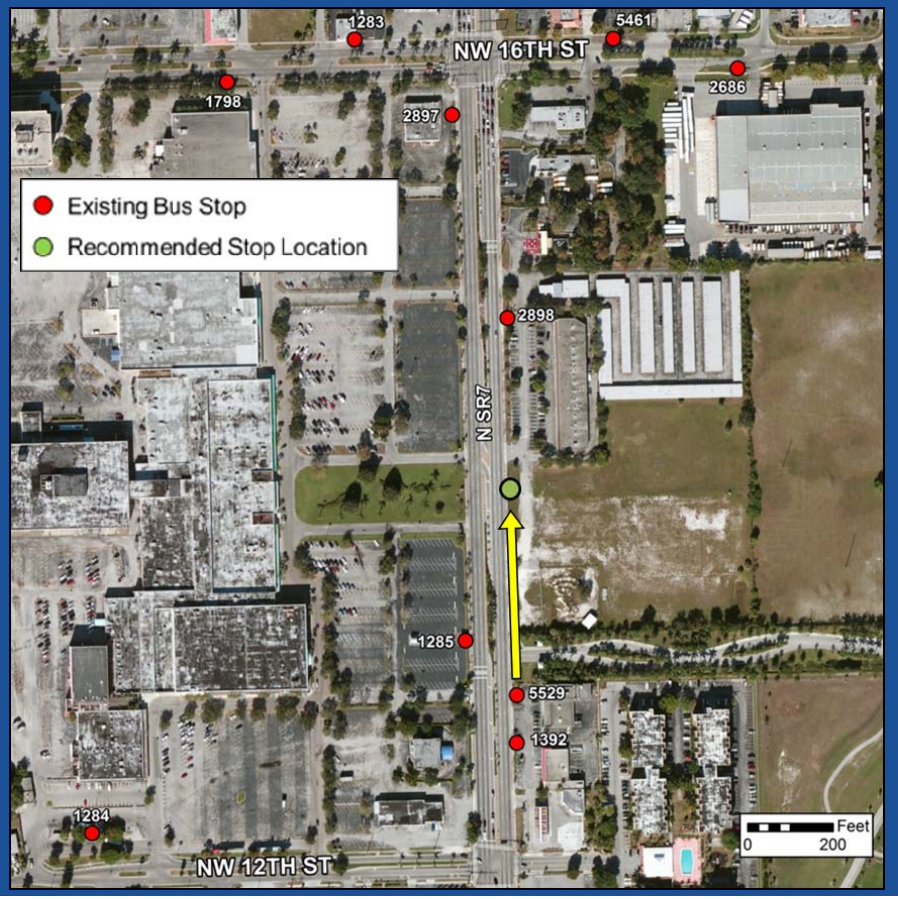
Existing Transit Service– Riverland Rd



Preliminary Recommendations – Lauderhill Mall area

- Move existing (NB) stop across from the programmed transit terminal



Preliminary Recommendations – Kimberly Blvd

- Split curb ramps
- Move stop bars closer to the intersection

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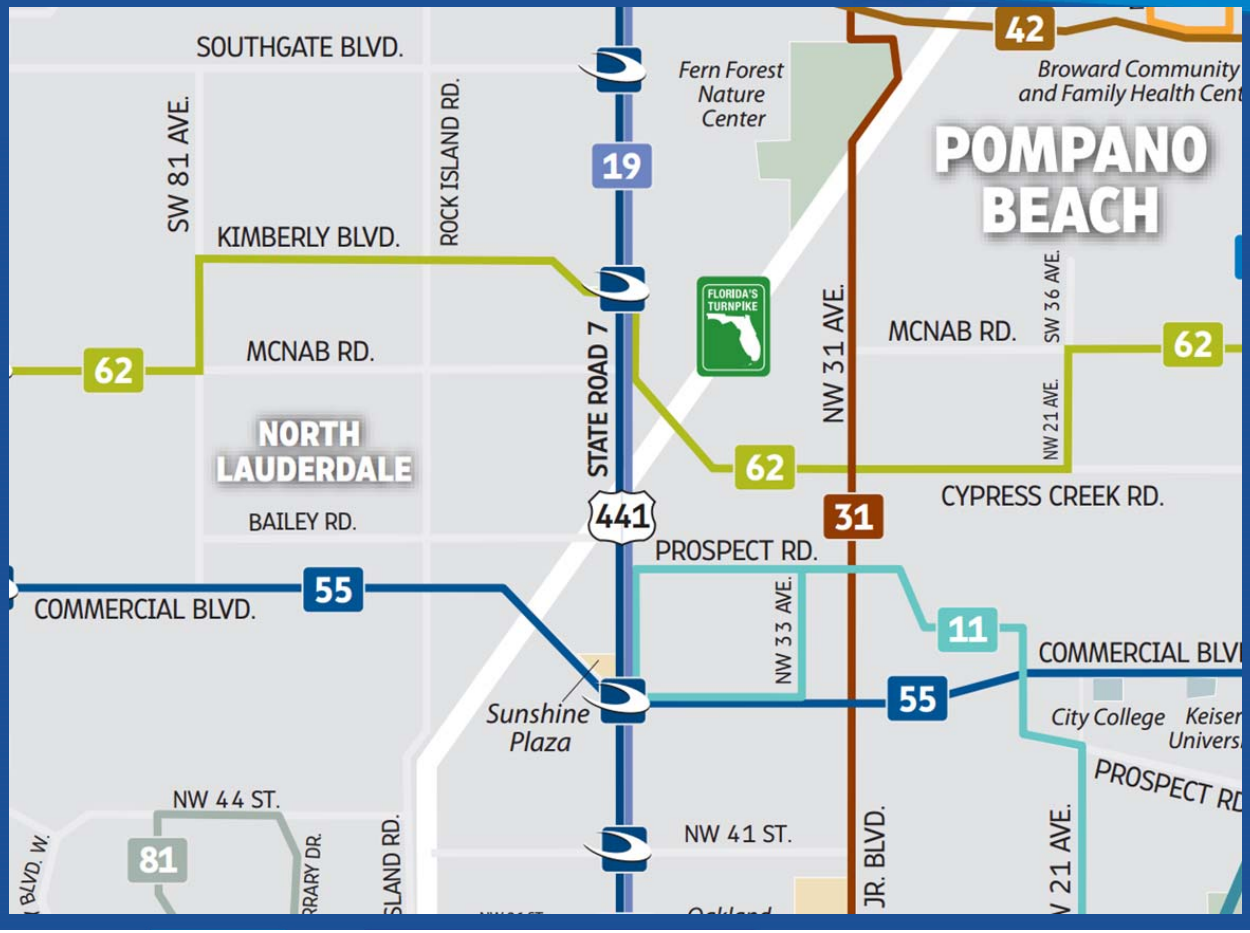
Preliminary Recommendations – Kimberly Blvd



Preliminary Recommendations – Sample Rd

- Relocate existing far-side (NB) stop closer to intersection
  - Extend the existing right turn lane to act as a bus bay
  - Provide a shelter

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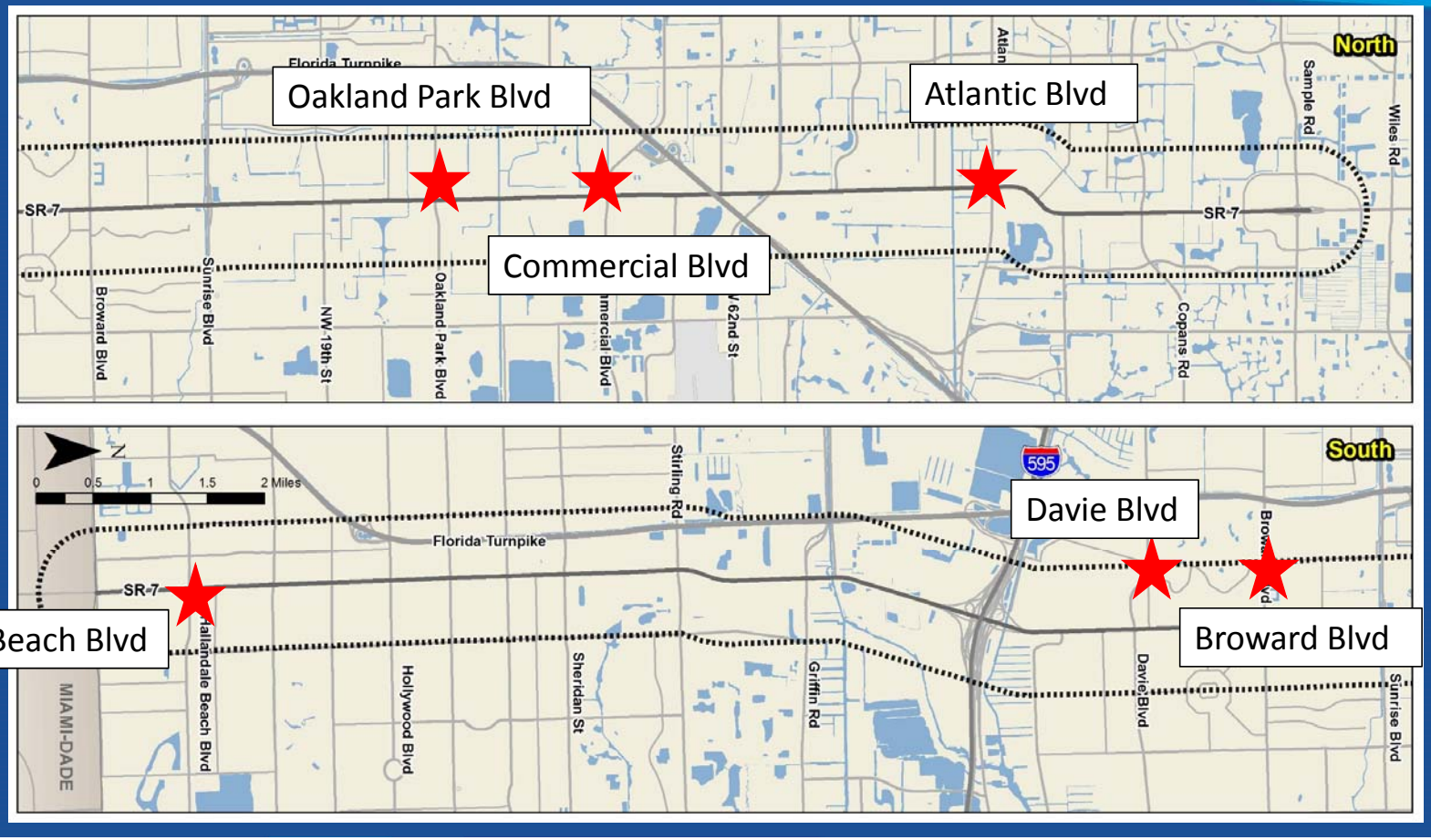
Preliminary Recommendations – Sample Rd

Preliminary Recommendations – Full Study Intersections



Preliminary Recommendations – Miramar Parkway

- Relocate the existing far-side (EB) stop closer to the intersection
  - Include a bus bay
  - Include a shelter

- Implement a queue jump for all movements of the intersection

Queue Jump Criteria		
East/West Transit Service Frequency	Curb Lane (peak hour) Volumes	Right of Way notes
20 - 30 mins (Route 28)	EB: 190 max; WB: 160 max	SE quadrant parcel owned by FDOT; NE and SW parcels are vacant non-residential (privately owned); NW quadrant (as far north as the existing bus stop) is owned by FDOT

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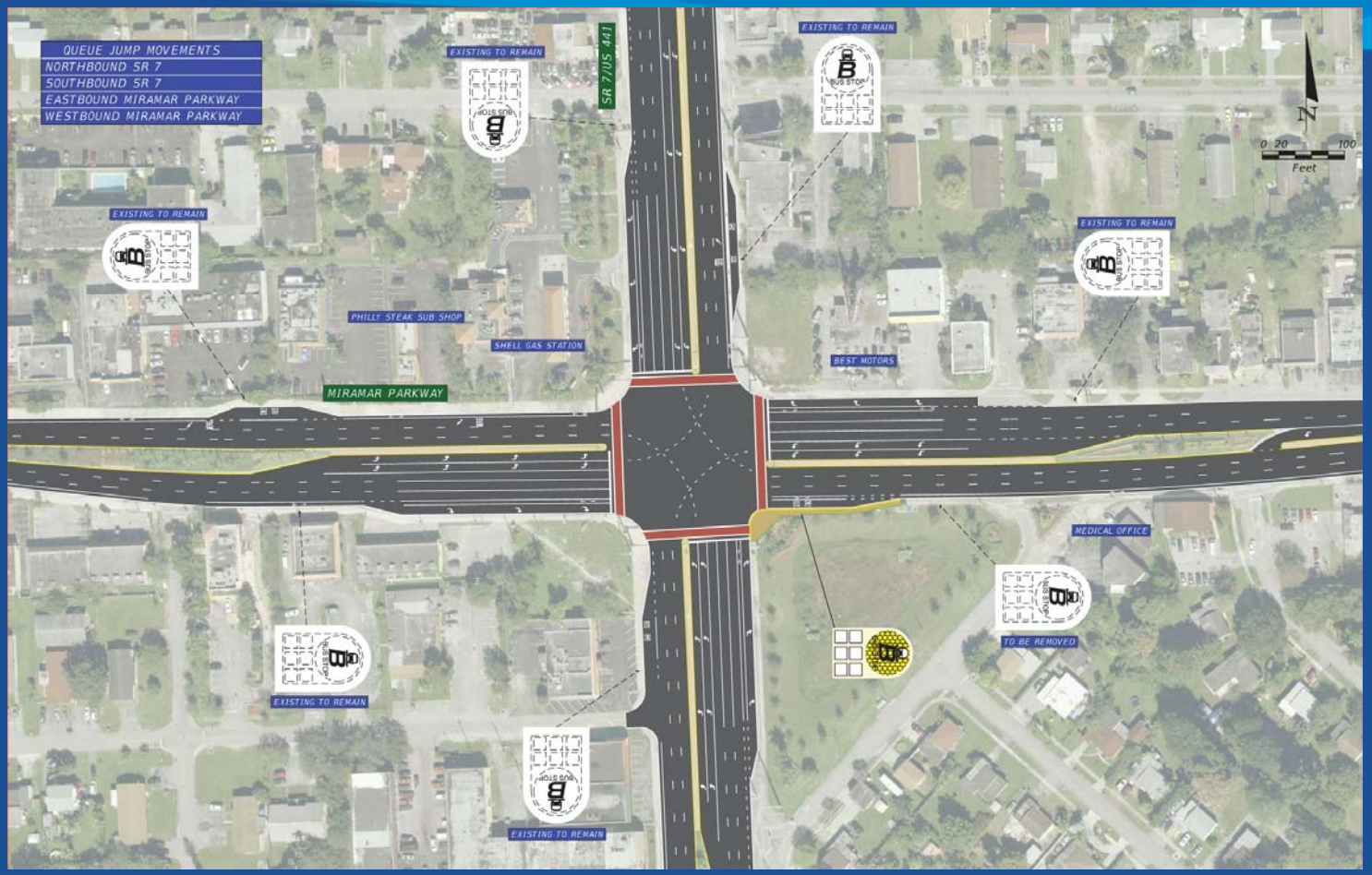
Preliminary Recommendations – Miramar Parkway



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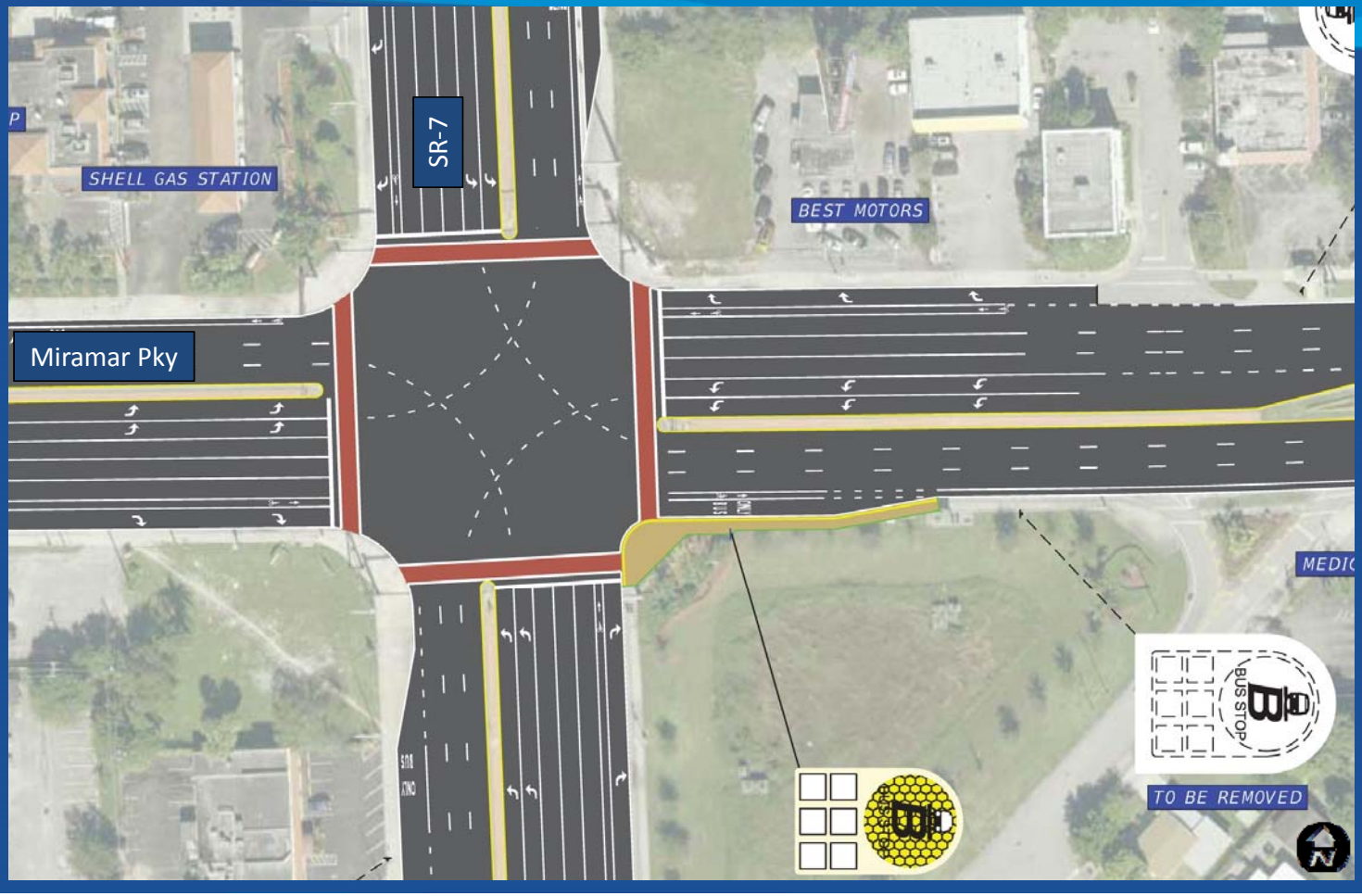
Preliminary Recommendations – Miramar Parkway



Preliminary Recommendations – Davie Blvd

- Relocate existing near-side (WB) stop closer to the intersection with a shelter
  - Will incorporate a pedestrian/bus island
  - Will require an easement from the City of Fort Lauderdale
- Relocate existing far-side (SB) stop closer to the intersection with a shelter
  - Will include a bus bay
  - Will require an easement from the private property owner
- Include a bus bay for the existing far-side (NB) stop
- Implement a queue jump for all movements of the intersection

Queue Jump Criteria		
East/West Transit Service Frequency	Curb Lane (peak hour) Volumes	Right of Way notes
20 mins (Route 30)	EB: 280 max; WB: 250 max	FDOT owns the corner sliver of the SW quadrant; City of Fort Lauderdale owns a large portion of the vacant NE quadrant (the small corner parcel is privately owned); vacant SE parcel is privately owned

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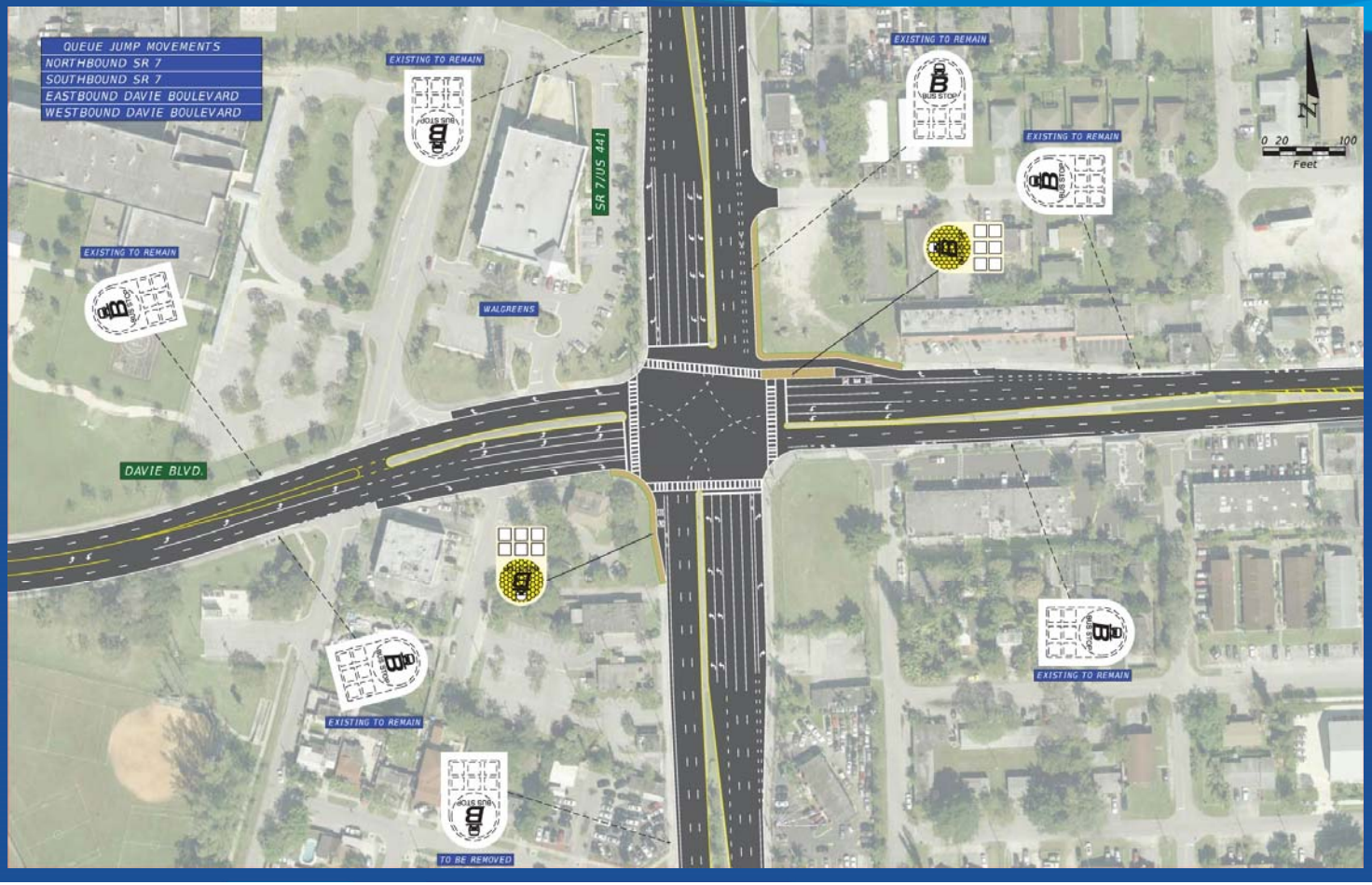
Preliminary Recommendations – Davie Blvd



Preliminary Recommendations – Davie Blvd

Preliminary Recommendations – Broward Blvd

- Relocate existing near-side (EB) stop closer to the intersection
  - Will incorporate a pedestrian/bus island
  - Will require an easement from City of Plantation
  - Include a shelter

- Implement a queue jump for all movements of the intersection

Queue Jump Criteria		
East/West Transit Service Frequency	Curb Lane (peak hour) Volumes	Right of Way notes
15 mins (Route 22)	EB: 500 max; WB: 190 max	Most of the corner quadrants are privately owned; SW quadrant is owned by both FDOT and the City of Plantation

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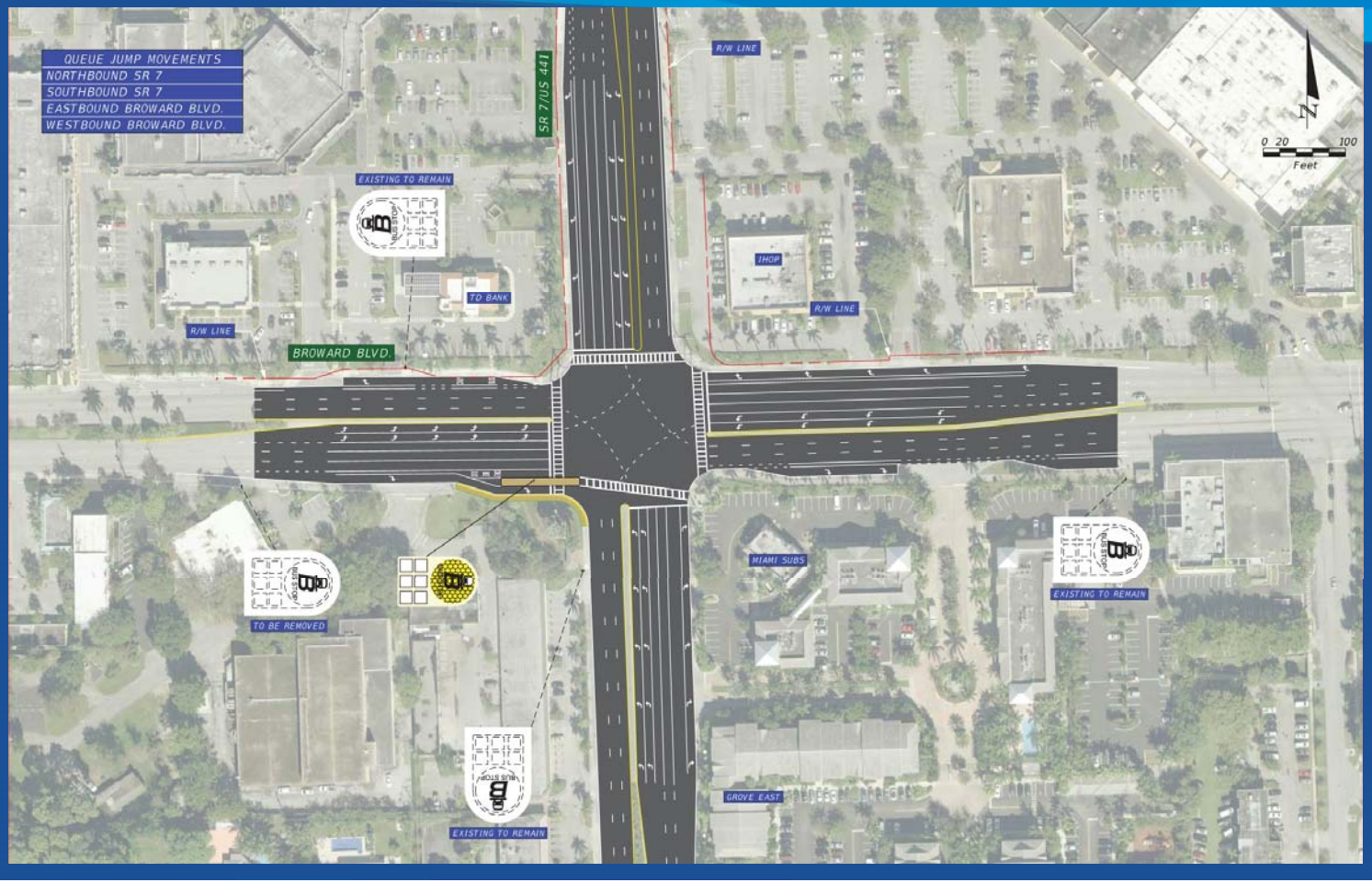
Preliminary Recommendations – Broward Blvd



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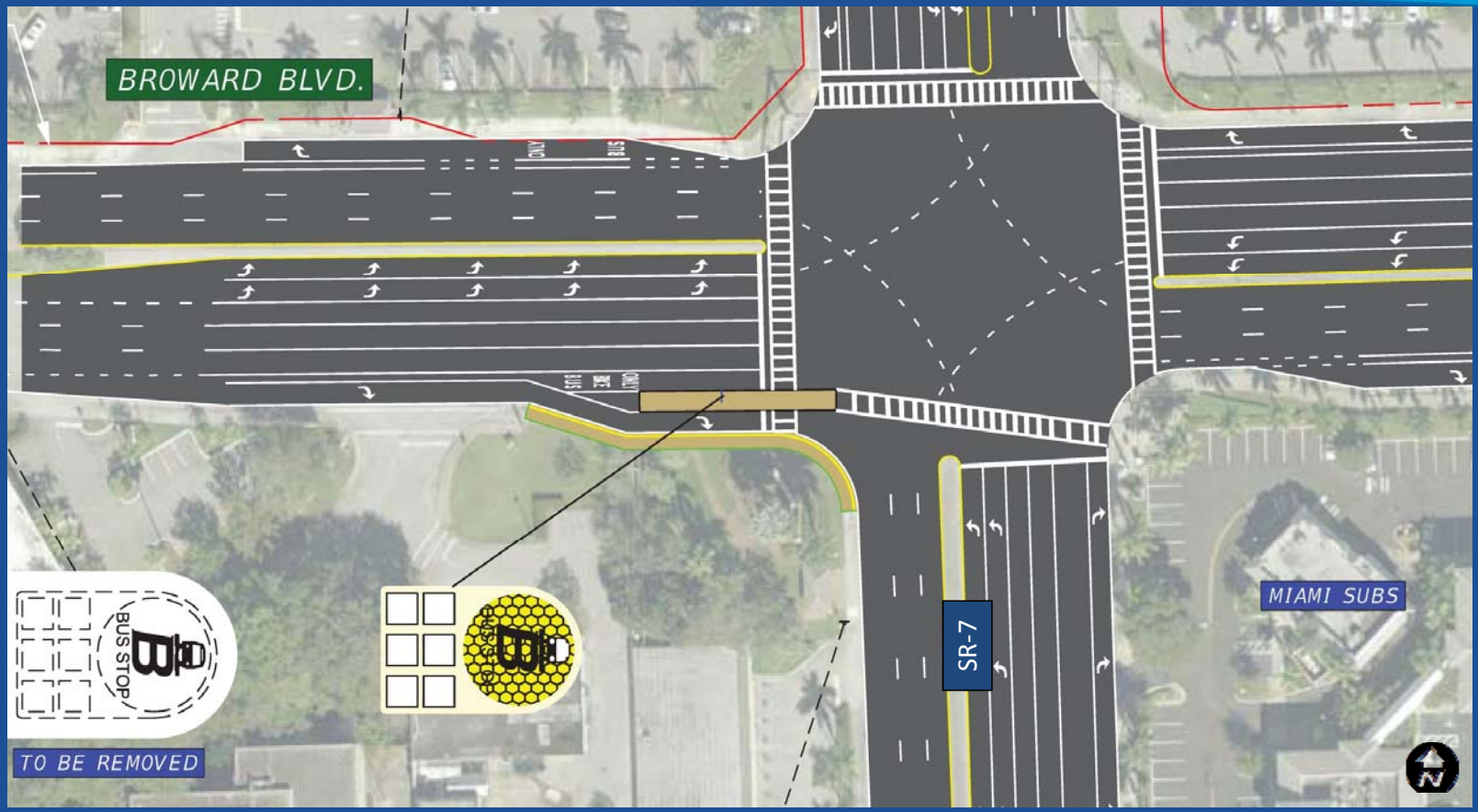
Preliminary Recommendations – Broward Blvd



Preliminary Recommendations – Oakland Park Blvd

- Relocate existing near-side (WB) stop closer to the intersection
  - Would include a pedestrian/bus island
  - Would require an easement from the private property owner
- Relocate existing far-side (EB) stop closer to the intersection
  - Include a bus bay and a transit shelter
  - Would require an easement from the private property owner
- Implement a queue jump for all movements of the intersection

Queue Jump Criteria		
East/West Transit Service Frequency	Curb Lane (peak hour) Volumes	Right of Way notes
15 mins (Route 72)	EB: 200 max; WB: 240 max	SW quadrant has a large piece of right of way owned by the City of Lauderdale Lakes; Broward County Board of Commissioners own the outermost sliver of the NE and NW corners

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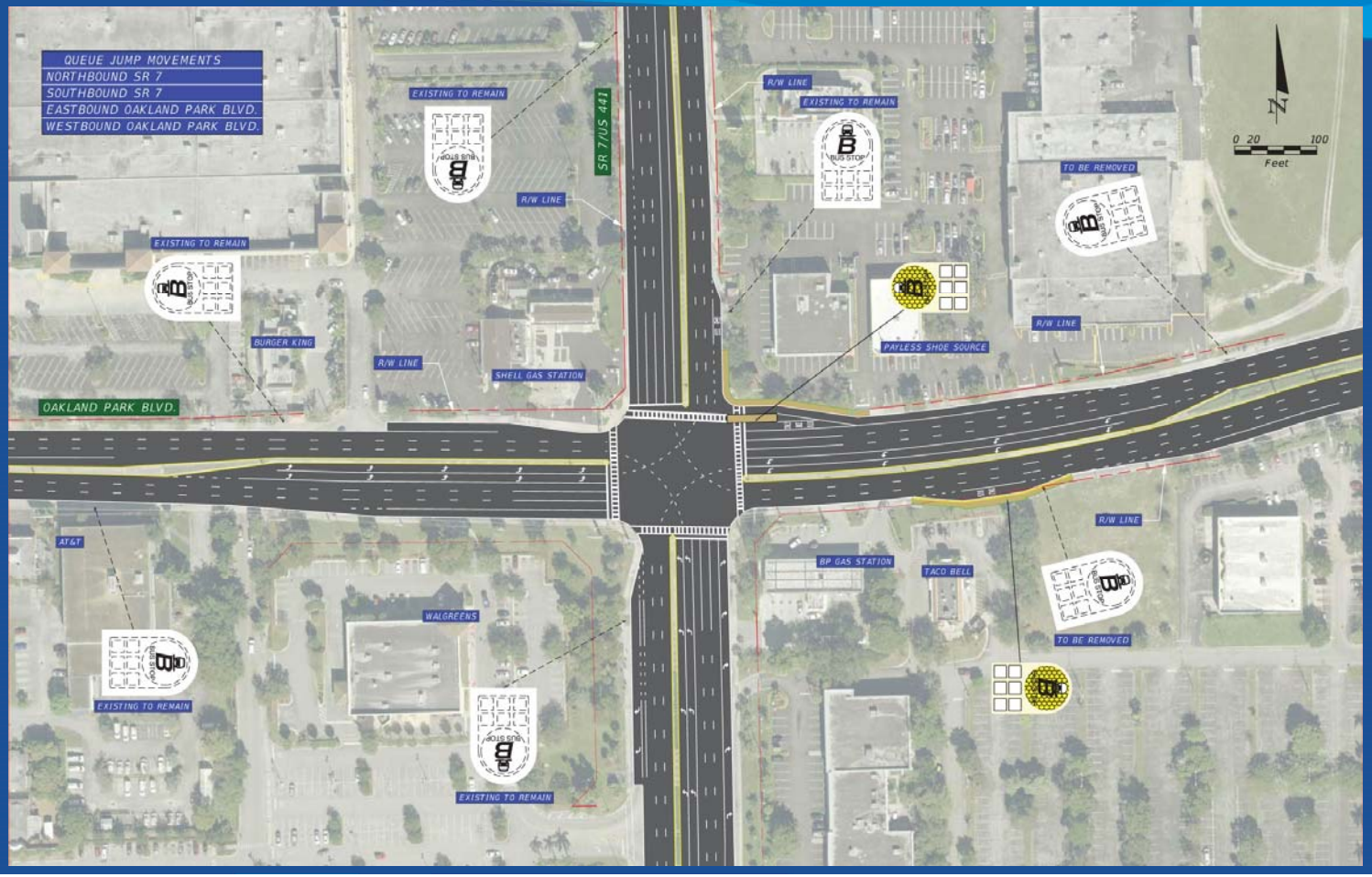
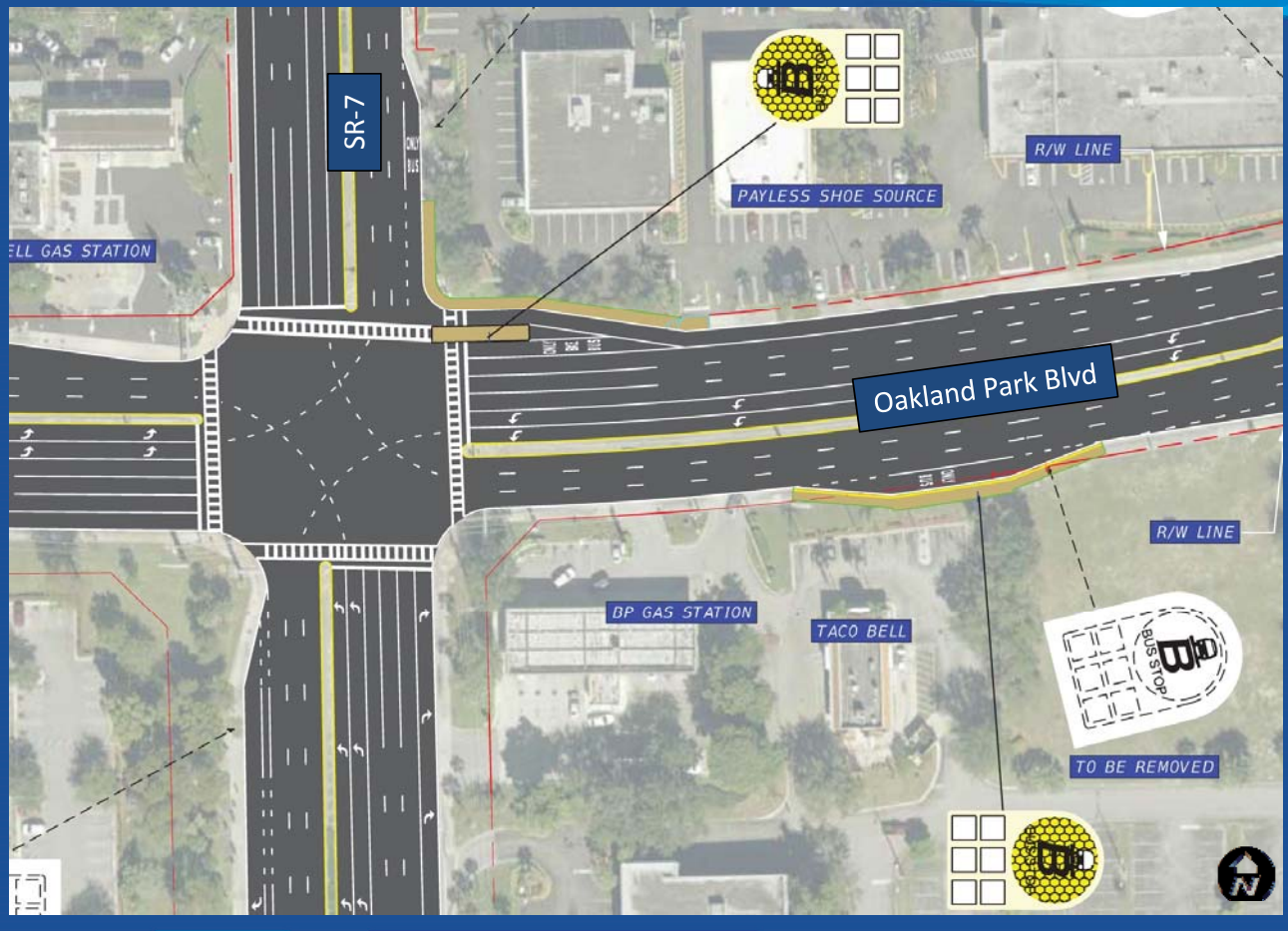
Preliminary Recommendations – Oakland Park Blvd



Preliminary Recommendations – Oakland Park Blvd



Preliminary Recommendations – Commercial Blvd

- Relocate existing far-side (NB) stop closer to the intersection
  - Would require an easement from the private property owner
  - Would need to extend the existing right turn lane for a makeshift bus bay
- Create a pedestrian bus island for the existing near-side (WB) stop
  - Would require an easement from the private property owner
  - Include a shelter on the pedestrian/bus island
- Implement a queue jump for all movements of the intersection

Queue Jump Criteria		
East/West Transit Service Frequency	Curb Lane (peak hour) Volumes	Right of Way notes
30 mins (Route 55)	EB: 490 max; WB: 180 max	City of Tamarac owns a piece of ROW in the NE and SW quadrants; FDOT owns a small piece of ROW in the SE quadrant

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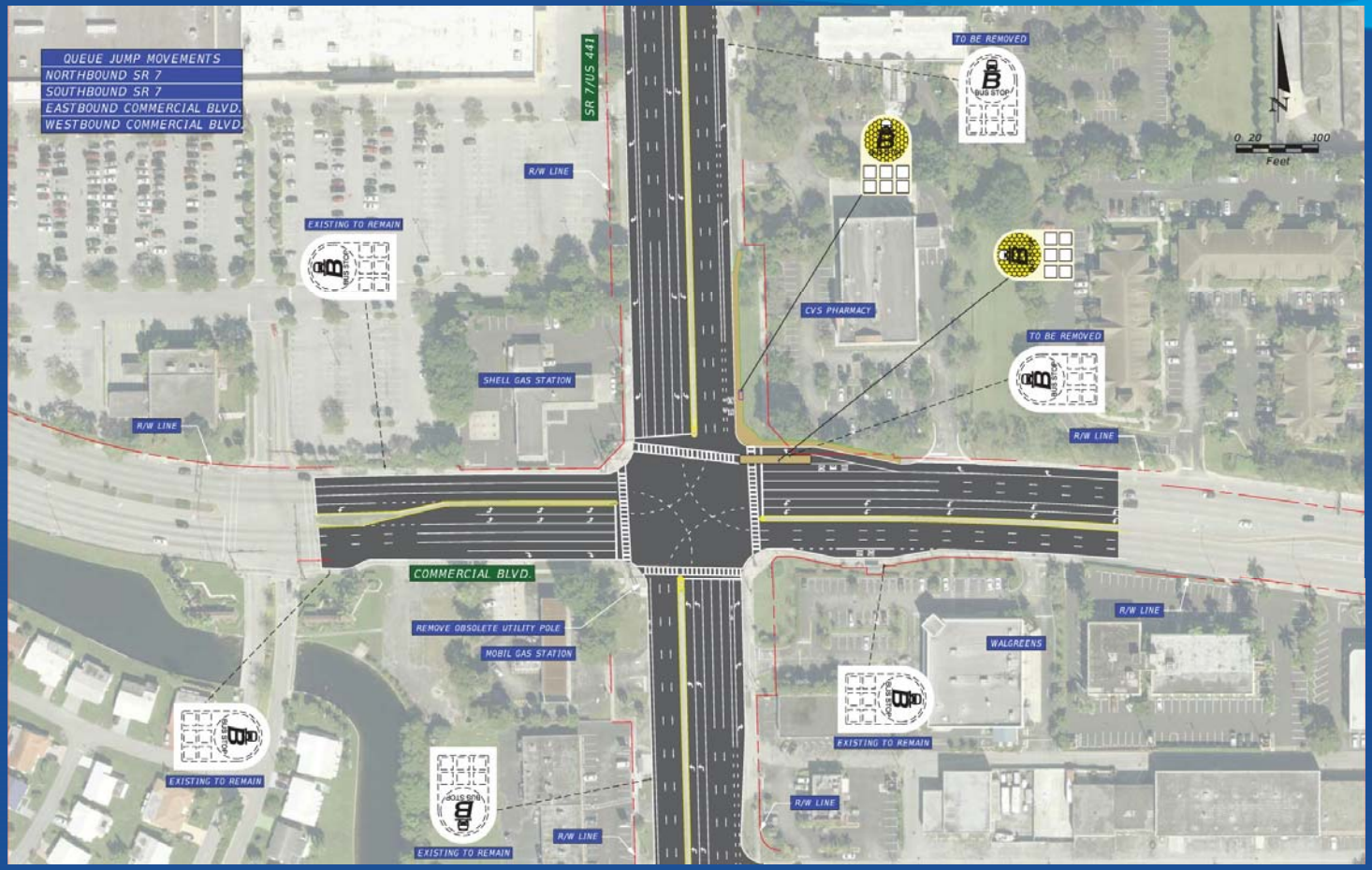
Preliminary Recommendations – Commercial Blvd



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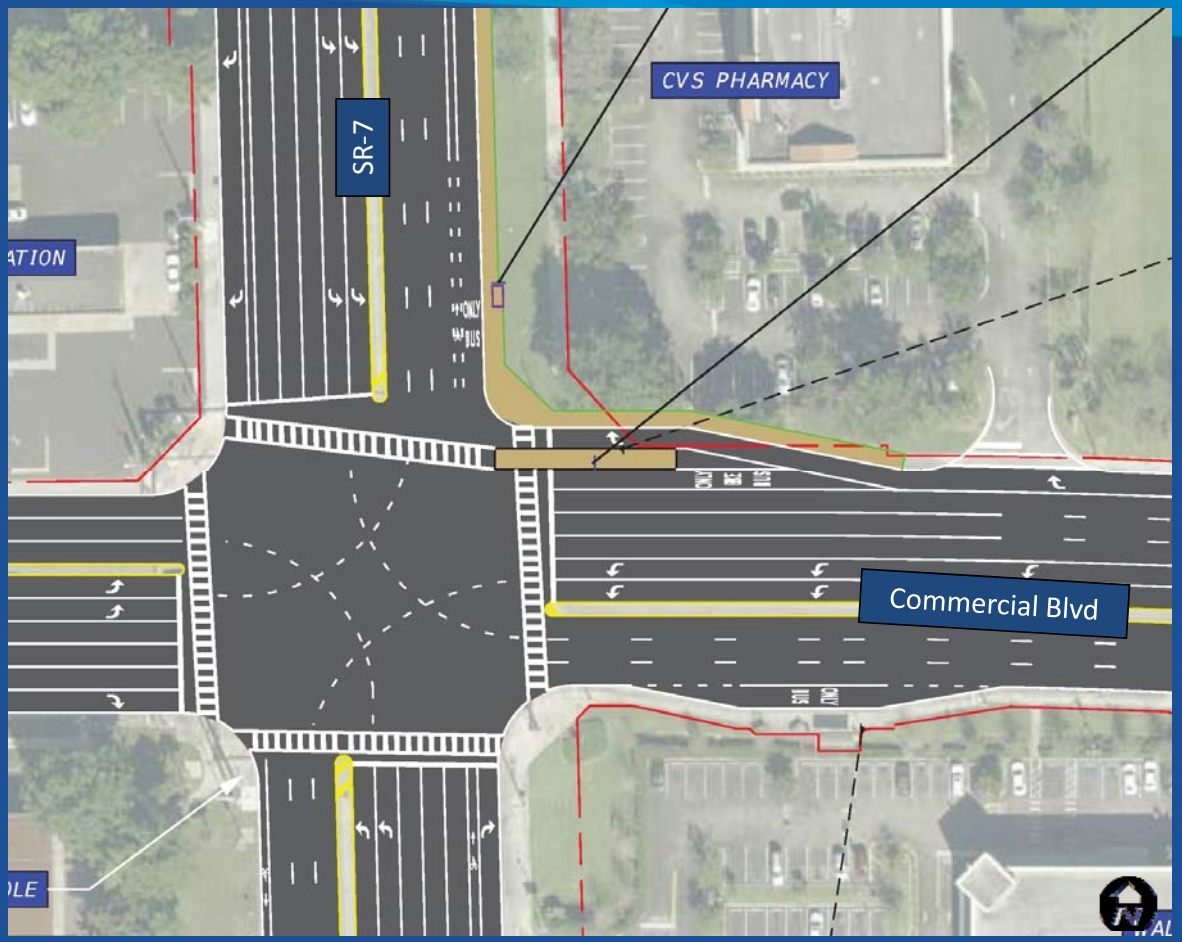
Preliminary Recommendations – Commercial Blvd



Preliminary Recommendations – Atlantic Blvd

- Tighten the radius of the NW corner
- Relocate existing far-side (WB) stop closer to the intersection
- Relocate existing far-side (EB) stop closer to the intersection
  - Will include a bus bay
  - Would require reconstructing the existing gravity wall
  - Would require an easement from the private property owner
- Provide a shelter for the existing far-side (NB), far-side and near-side (EB), and far-side and near-side (WB) stops
- Implement a queue jump for the NB and EB movements

Queue Jump Criteria		
East/West Transit Service Frequency	Curb Lane (peak hour) Volumes	Right of Way notes
30 mins (Route 42)	EB: 180 max; WB: 170 max	All ROW is privately owned; FDOT's ownership only goes to the back of curb in all quadrants

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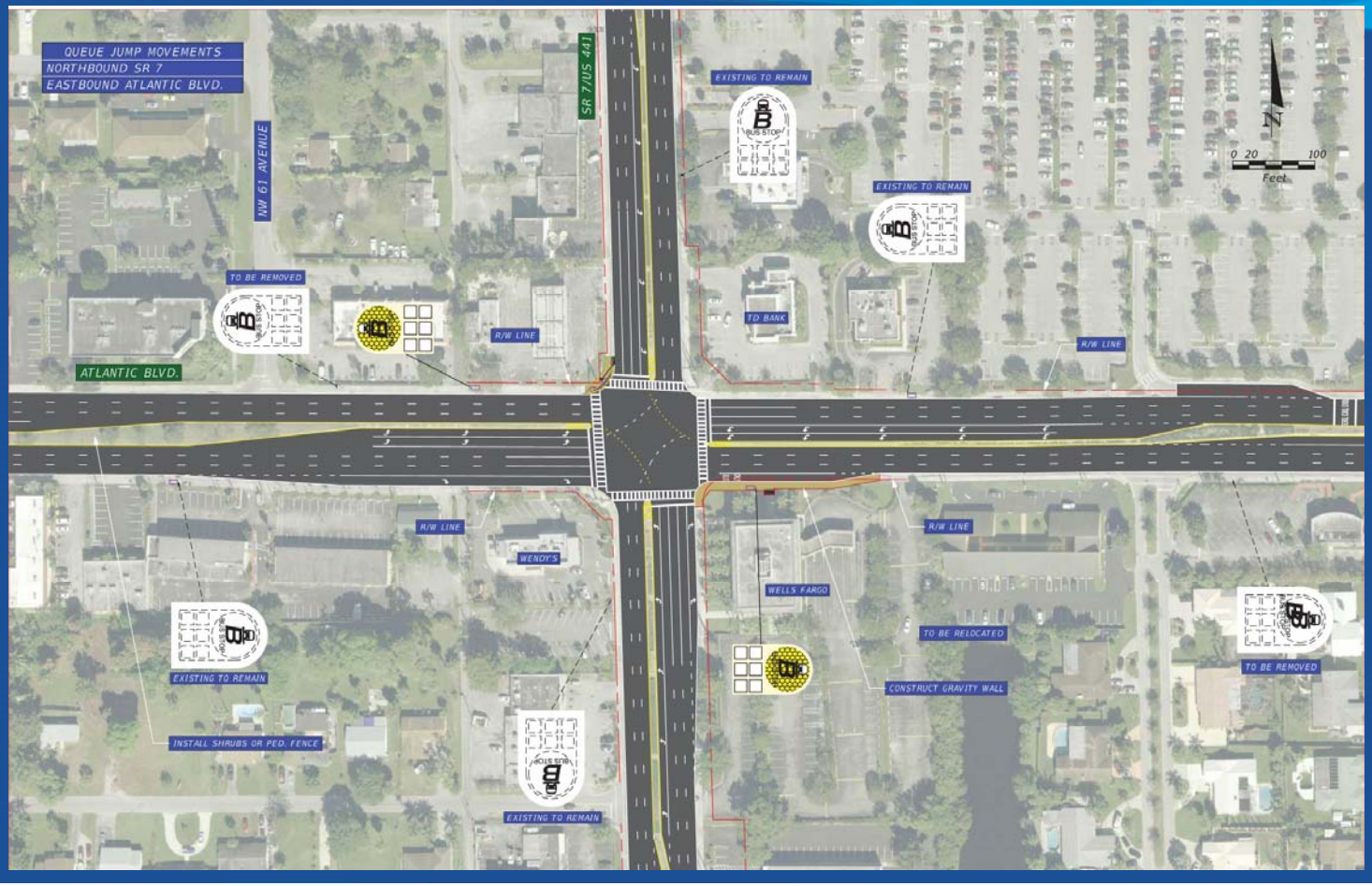
Preliminary Recommendations – Atlantic Blvd



Preliminary Recommendations – Atlantic Blvd

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Preliminary Recommendations – Summary

Recommended Queue Jump Locations	
Intersection	Movement
Atlantic Blvd	EB and NB
Commercial Blvd	All (4)
Oakland Park Blvd	All (4)
Broward Blvd	All (4)
Davie Blvd	All (4)
Stirling Rd	SB, EB, and WB
Sheridan St	NB
Hollywood Blvd	NB and SB
Pembroke Rd	NB and SB
Miramar Pky	All (4)
total	**30**

Recommended Ped/Bus Island Locations	
Intersection	Movement
Commercial Blvd	WB
Oakland Park Blvd	WB
Broward Blvd	EB
Davie Blvd	WB

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Next Steps

- Refine concepts
- Traffic operational impacts for queue jumps – VISSIM
- Queue jump technology requirements
  - Coordination with BCT, BCTED, and FDOT
- Confirm right of way impacts
- Constructability
- Preliminary NEPA determination
- Cost estimates
- Continued coordination

Public Outreach Status Report

Community meetings completed to-date:

- ***Haitian-American Chamber of Commerce****
- ***Broward Schools Facility Planning & Real Estate Development****
- ***Broward College****
- Kiwanis Club
- Ascension Peace Presbyterian Church
- Davie-Cooper Chamber of Commerce
- Advisory Board Gateway Development Office
- Broward Estates Civic Association
- SR 7 Smart Growth Partnership Lunch and Learn
- Hollywood Gardens West Civic Association
- Broward Estates Civic Association
- Saint George Community
- Advisory Board Gateway Development Office

Completed since last PAC meeting

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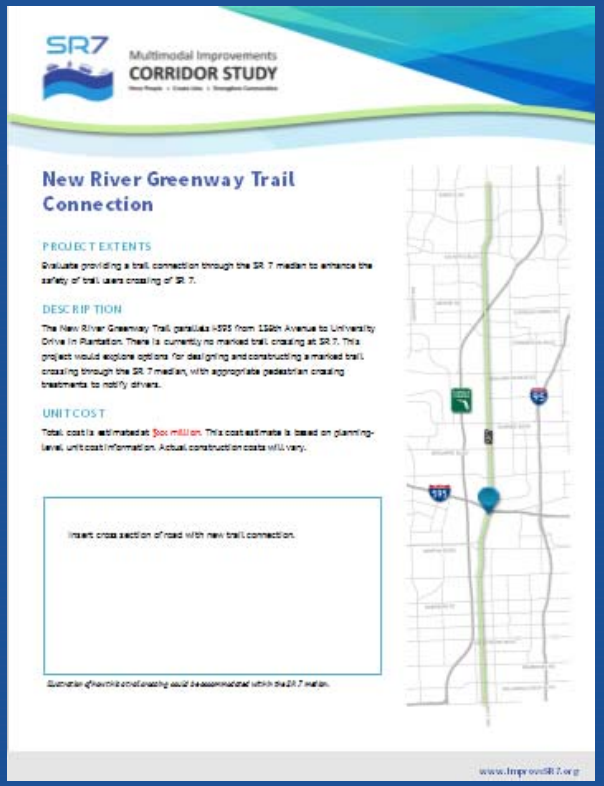
Public Outreach Status Report

Outreach techniques used:

- Project website (www.improveSR7.org)
- Project business card and fact sheet
- Cell phone text messages and email blast notices
- Small Group Meetings
- Recommended Project Fact Sheets on Website


SR7
Multimodal Improvements
CORRIDOR STUDY

New River Greenway Trail Connection

PROJECT EXTENTS

Evaluate providing a trail connection through the SR 7 median to enhance the safety of trail users crossing of SR 7.

DESCRIPTION

The New River Greenway Trail parallels I-595 from 136th Avenue to University Drive in Plantation. There is currently no marked trail crossing at SR 7. This project would explore options for designing and constructing a marked trail crossing through the SR 7 median, with appropriate pedestrian crossing treatments to notify drivers.

UNIT COST

Total cost is estimated at $xx million. This cost estimate is based on planning-level, unit cost information. Actual construction costs will vary.

Insert cross section of road with new trail connection.

Illustration of how this crossing could be accommodated within the SR 7 median.

www.improveSR7.org

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Upcoming Meetings/ Next Steps

- Next PAC meeting (anticipated late April):
  - Refined Project List
  - Project Prioritization
- Working Group Meetings (Round 3—anticipated late April/early May)
  - Review proposed recommendations