



SR 80 Corridor Action Plan From US-27 to I-95

FINANCIAL PROJECT NO. 435162-1-12-01

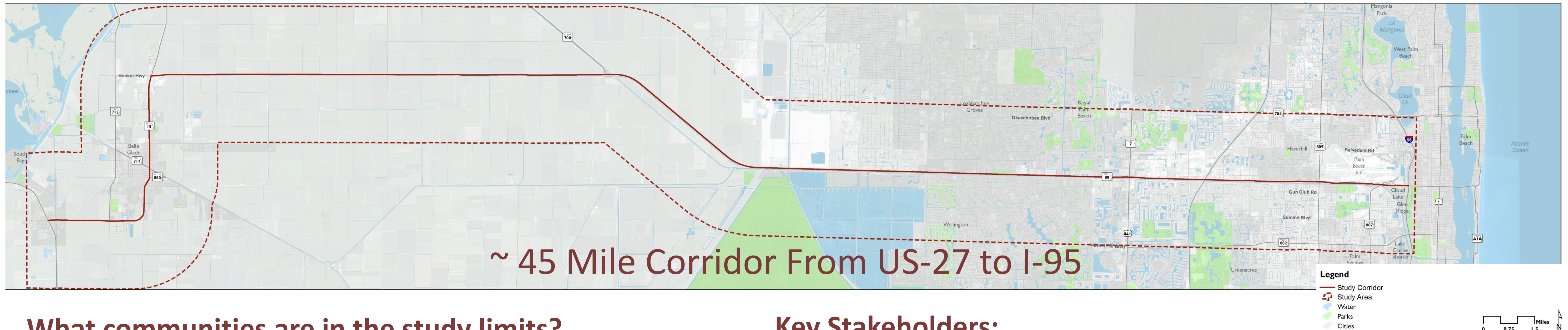
Stakeholder Meeting with the Central Palm Beach County Chamber of Commerce

February 6, 2018

STUDY PURPOSE & PROCESS

STUDY PURPOSE

The purpose of the study is to identify and recommend actions to be taken by FDOT, County agencies, local governments, and other stakeholders to protect mobility and enhance multimodal access along the SR 80 corridor for all users.



What communities are in the study limits?

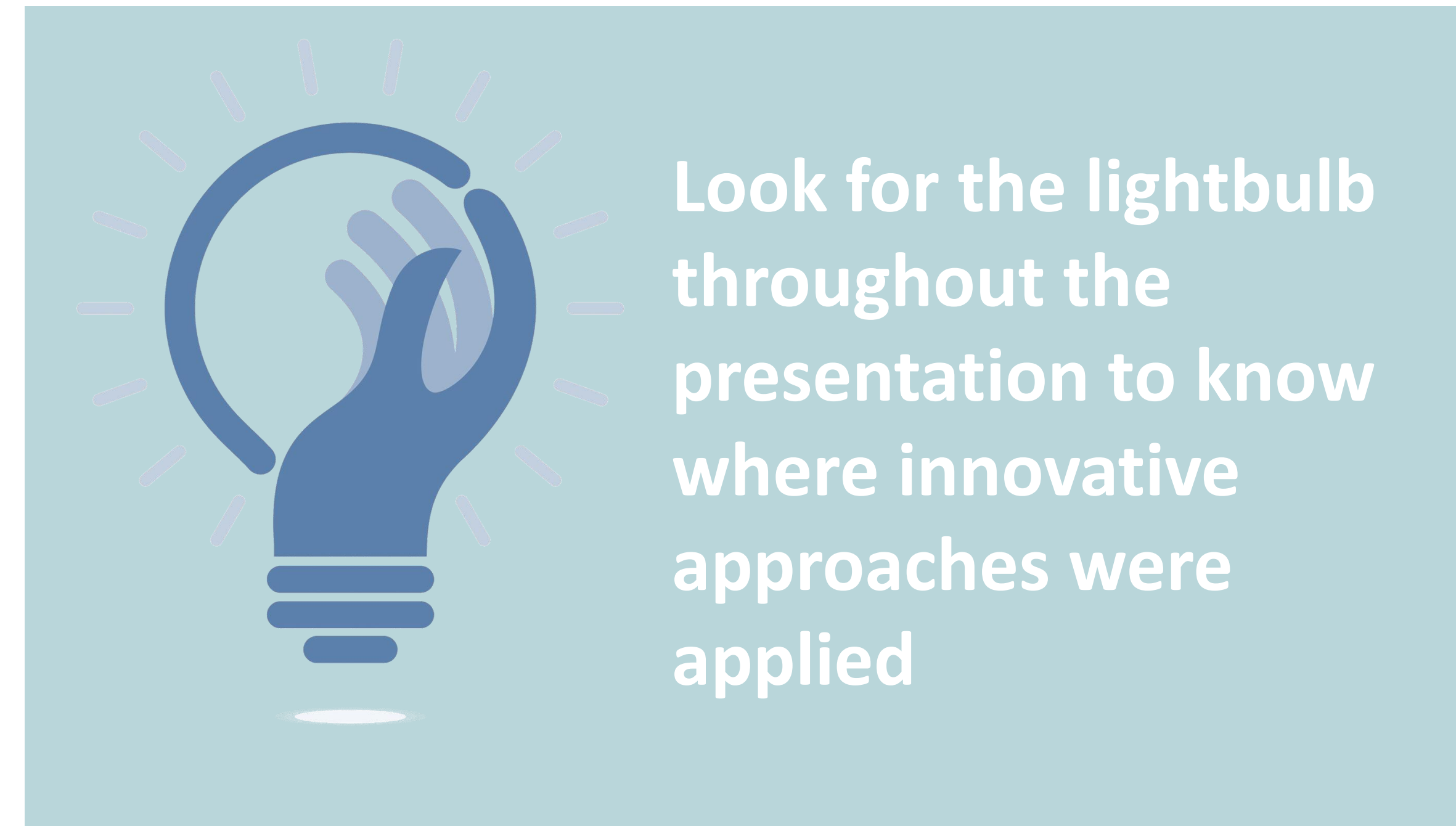
- | | |
|-----------------------------|-------------------------|
| City of South Bay | Town of Haverhill |
| City of Belle Glade | Town of Glen Ridge |
| Town of Loxahatchee Groves | Town of Cloud Lake |
| Village of Royal Palm Beach | City of West Palm Beach |
| Village of Wellington | Palm Beach County |

Key Stakeholders:

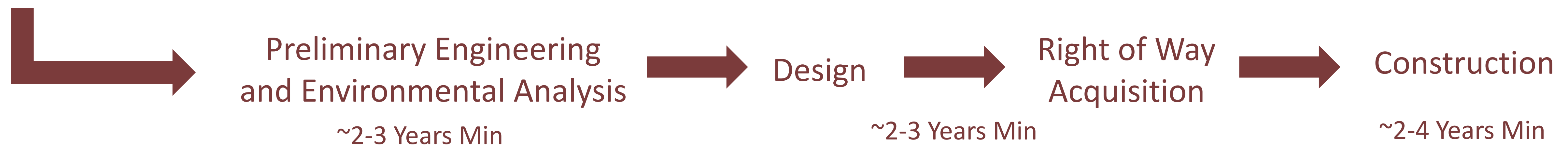
- Municipalities, communities, and businesses along SR 80
- Palm Beach Transportation Planning Agency
- Palm Tran Public Transportation
- South Florida Water Management District
- Palm Beach County Engineering and Public Works Department
- Palm Beach County Planning, Zoning & Building Department
- Florida's Turnpike Enterprise

STUDY PROCESS

Planning Process (2.5 Years)



Project Development Process (~10-20 Years)



STUDY OUTREACH

Technical Review Committees (TRC)

- October 2015, March 2016, and February and May 2017

Stakeholder Interviews

- December 2015
 - West Stakeholder Interviews were held in Belle Glade City Hall
 - East Stakeholder Interviews were held at the Royal Palm Beach Village Hall

Palm Beach TPA Board and Supporting Committees (TAC, CAC, and BTPAC)

- December 2015 and September 2017

Public Alternatives Workshops

- December 2017

Additional One-on-One Outreach Efforts

- January – June 2016:
 - Economic Roundtable Discussion
 - Chamber of Commerce of the Palm Beaches Government Affairs Committee
 - Wellington Chamber Business and Economic Development Committee
 - Palm Beach County League of Cities Ocean to Lake Trail Committee
 - Land Use Scenario 2 Discussion with Palm Beach County Engineering and Palm Beach TPA
- July – December 2016:
 - Tier 1 Screening Results with Palm Beach County Engineering Division and the Palm Beach TPA
 - Tier 1 Transit Strategies Screening Results with Palm Tran, Palm Beach County Engineering Division, and Palm Beach TPA
- February 2017:
 - Land Use Scenario Results and Transit Planning with Palm Tran and Palm Beach TPA
 - TSM&O Needs with Palm Beach County Traffic Engineering Division and FDOT Traffic Operations Office
- November and December 2017:
 - Recommendations briefing with Palm Tran
 - Study Process and Results Overview with Palm Beach County (multiple divisions including planning, traffic, and design)



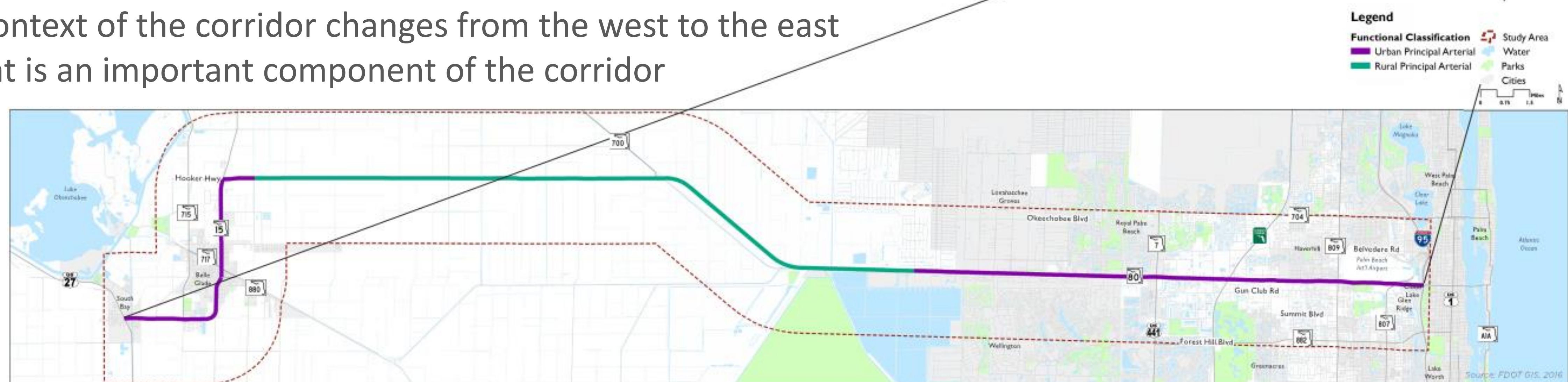
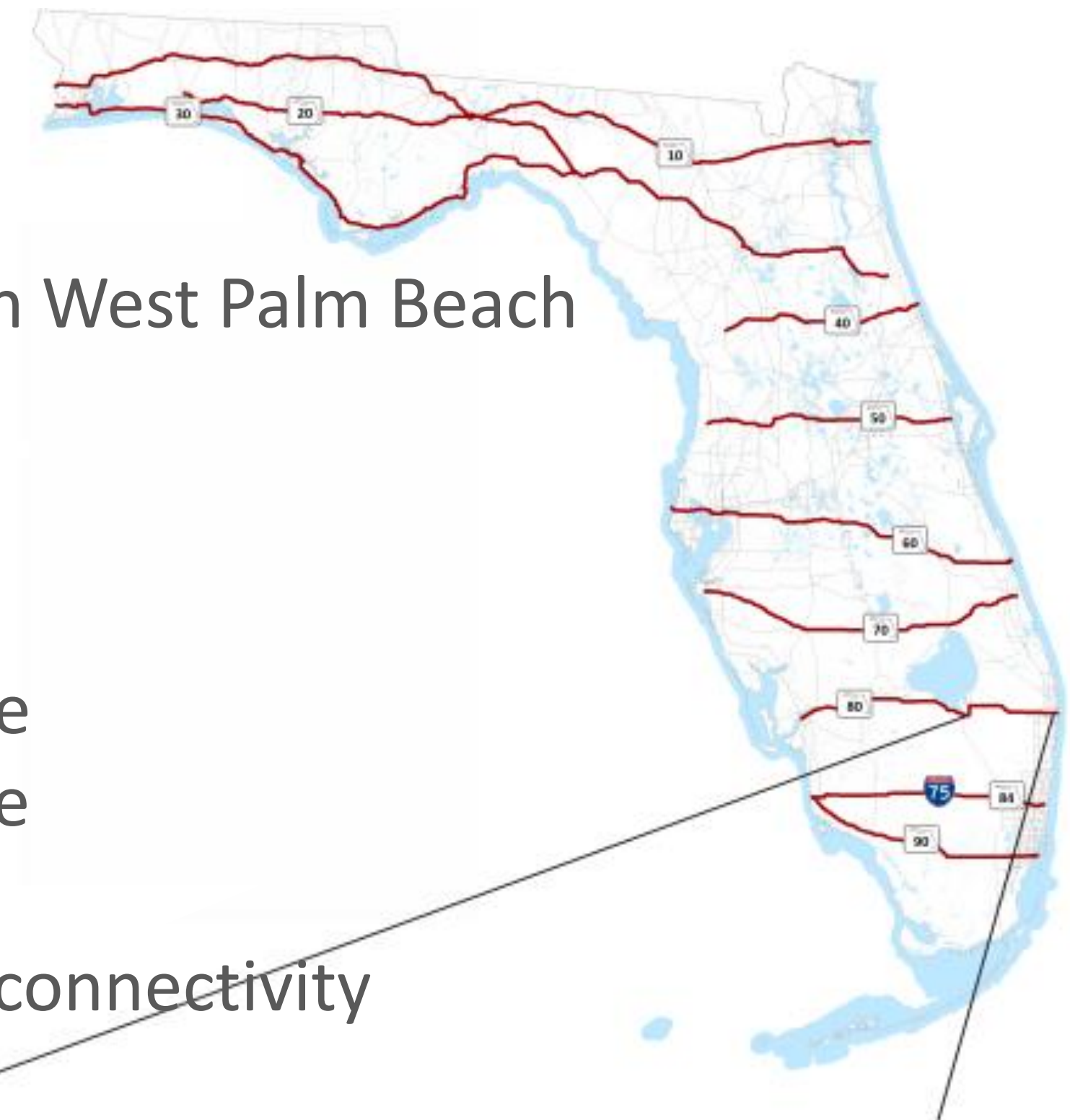
HISTORY & ROLE OF THE CORRIDOR

Why is SR 80 Important?

- SR 80 is a Cross-State Facility
- SR 80 is Part of the Strategic Intermodal System (SIS)
- SR 80 is a Primary Connection from South Bay and Belle Glade to Downtown West Palm Beach
- SR 80 is an Emergency Evacuation Route
- SR 80 is Impacted by New Development

What Do We Know Now About SR 80?

- There is a recurring congestion in the corridor that will increase in the future
- There is a need for better coordination between transportation and land use
- There is a need for better transit access and connectivity in the corridor
- There is a need for better bicycle and pedestrian infrastructure, access and connectivity
- There is a need to improve roadway network connectivity
- The context of the corridor changes from the west to the east
- Freight is an important component of the corridor

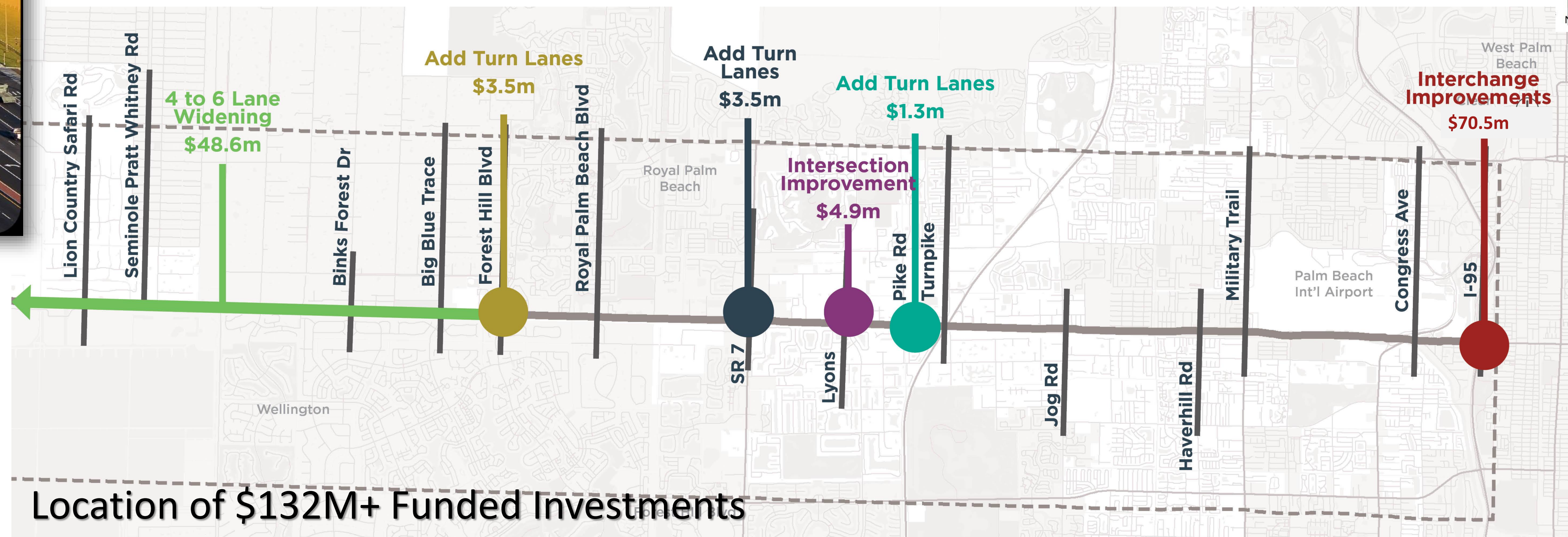


HISTORY AND ROLE OF THE CORRIDOR

Over the years, FDOT has been working to try and protect the mobility of SR 80.



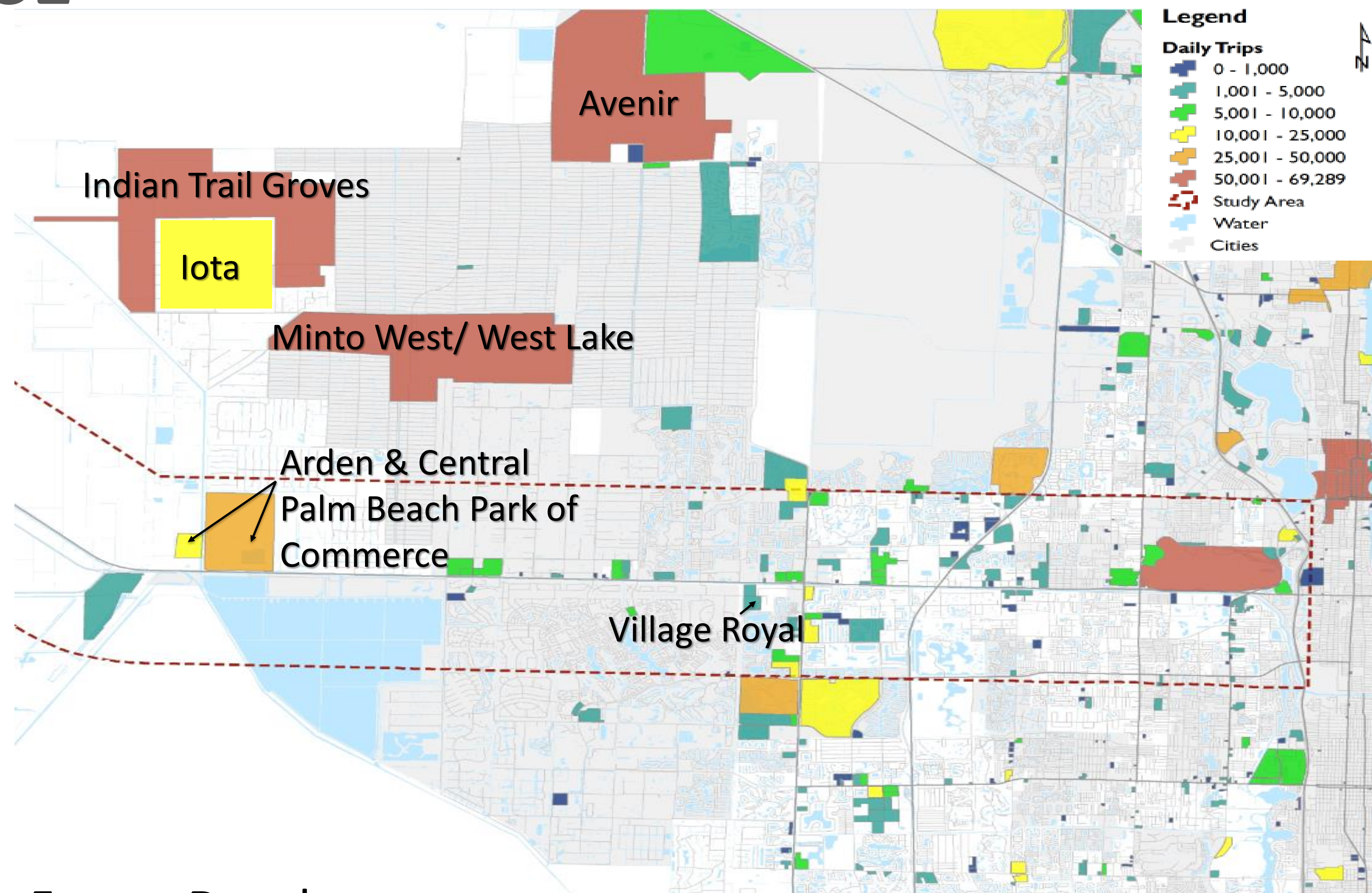
- Over \$346 Million of improvements invested since 2005
- Over \$132 Million of future investments funded and programmed



CORRIDOR-WIDE FINDINGS

GROWTH AND LAND USE

- Significant population growth is anticipated by 2040
- ~15,000 new homes have been approved in the western communities, potentially generating over 150,000 trips per day
- Current and future land use is low density and spread out creating more auto demand on SR 80.

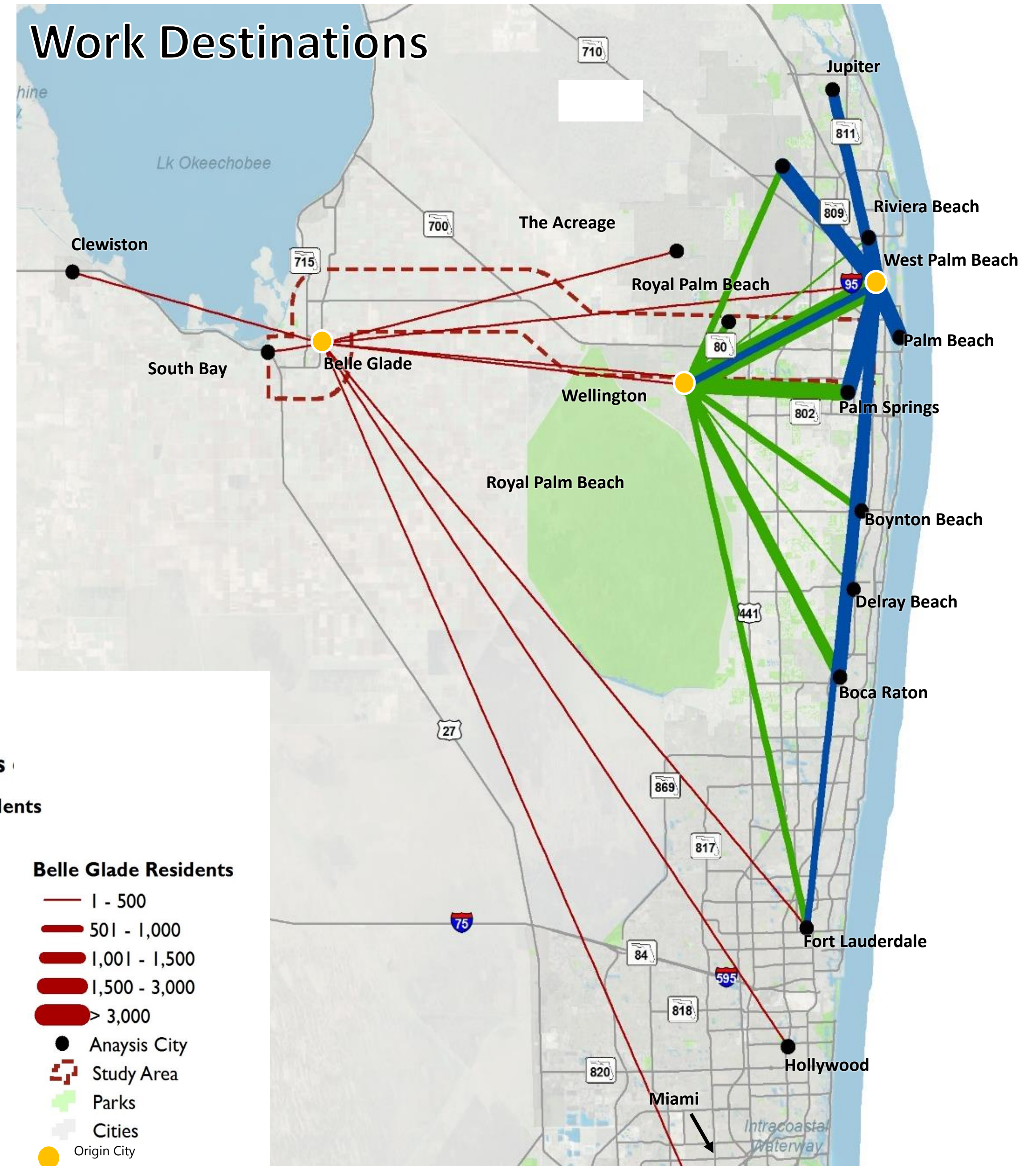


Future Developments

Snapshot from 2015-2016; exact development plans may have since changed.

GROWTH AND TRAVEL PATTERNS

- Up to a 25% increase in auto demand by 2040
- Commute patterns are scattered throughout the county and beyond
- Limited street network connectivity forces both local and regional trips onto SR 80



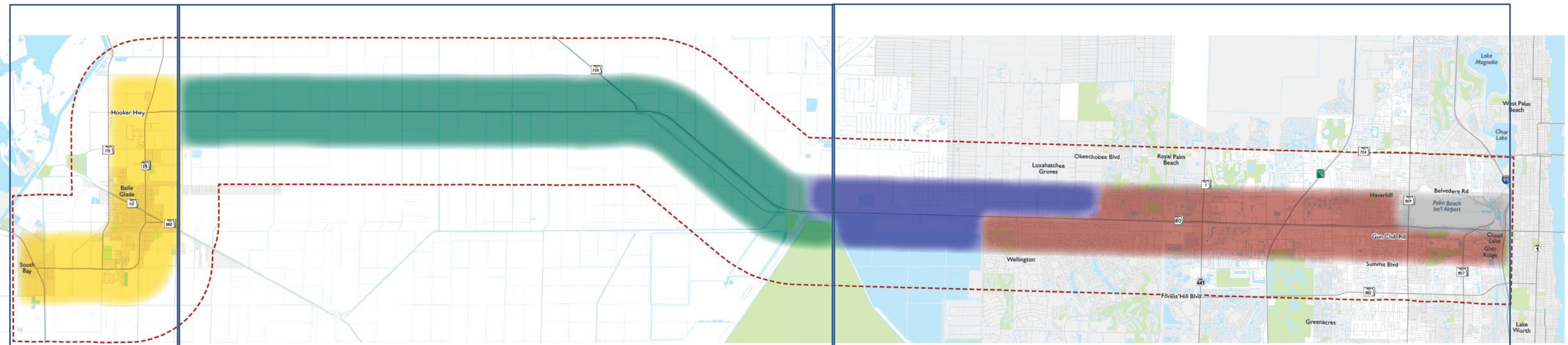
CORRIDOR SEGMENTS

Corridor characteristics vary in each segment

US-27 to
Hooker Highway
Segment 1

Hooker Highway to
20-Mile Bend
Segment 2

20-Mile Bend
to I-95
Segment 3










Character Districts Map





-  Airport
-  Suburban
-  Transitioning
-  Agricultural
-  Rural Town
-  Study Area



CORRIDOR SEGMENTS

All alternatives include multiple strategies

-  • Network connection enhancements
-   • Express/enhanced bus service
-   • Ped/bike accommodations
-    • Access management needs
-    • Land use and policy examples
-    • TSM&O (including emerging technologies)
-   • Previously Programmed Projects

-  Operations & Freight
-  Pedestrians & Bicyclists
-  Transit
-  Safety

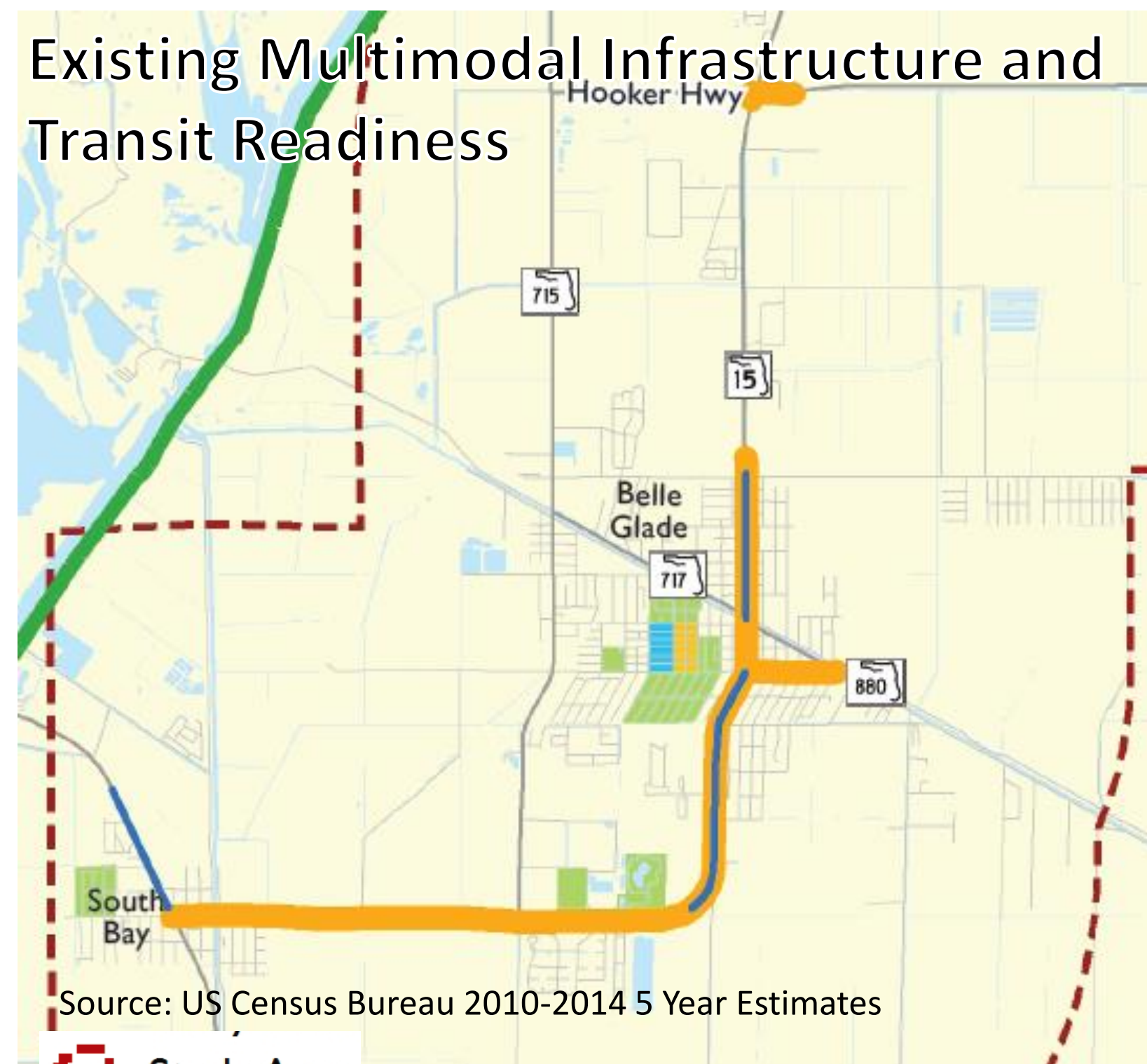


US-27 TO HOOKER HIGHWAY FINDINGS

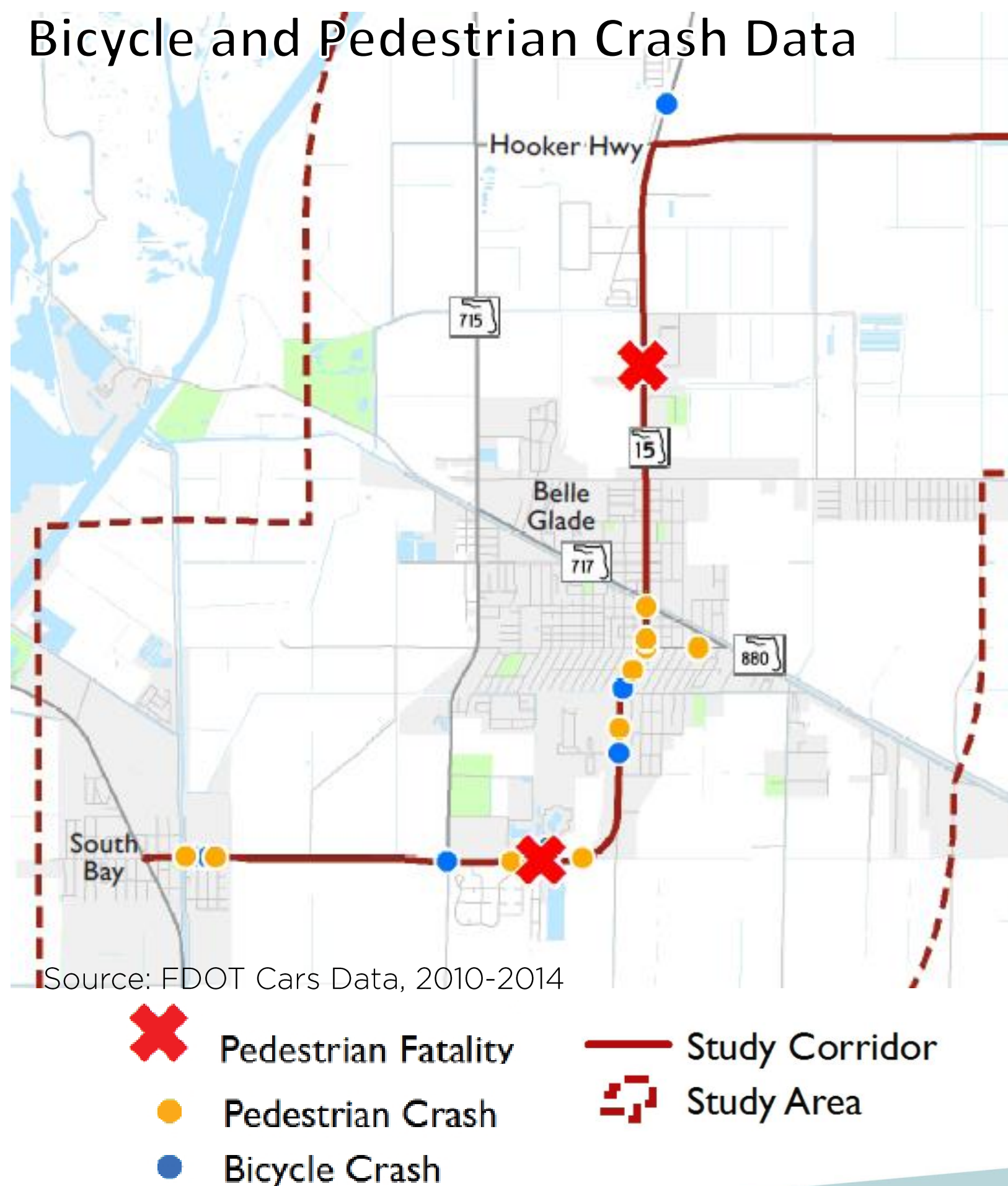
SEGMENT 1 CHARACTERISTICS

Walking and Biking

- Bicycle facilities and sidewalks are not continuous and may not be comfortable for some users.



- Nearly 50% of the entire corridor's pedestrian & bicycle crashes happened in the Belle Glade/South Bay area (this area only makes up 14% of the ~45-mile corridor)

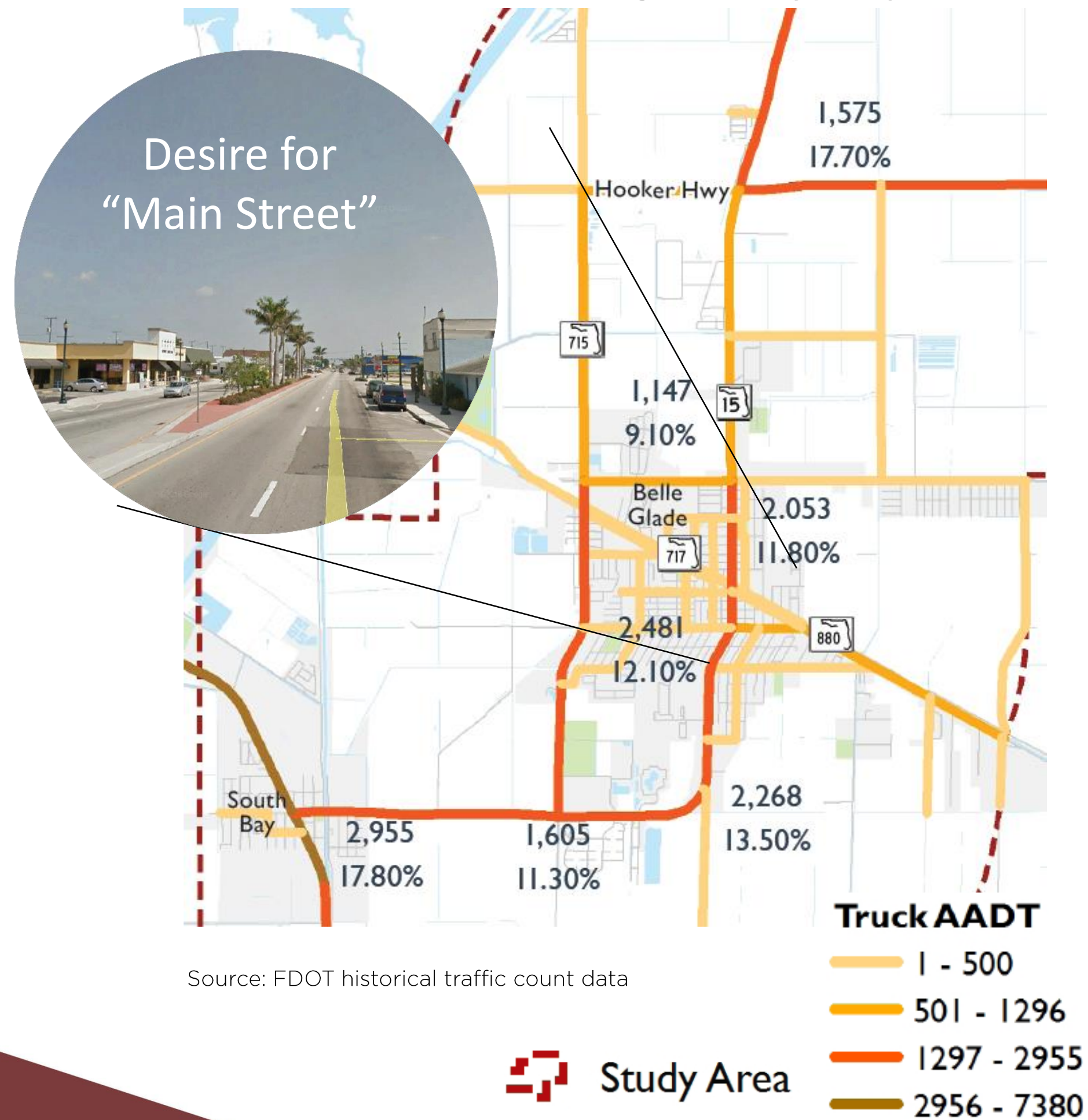


SEGMENT 1 CHARACTERISTICS

Freight & Traffic

- Local and regional travel must be accommodated while maintaining local downtown streets.
- Future traffic will be accommodated with already planned projects.

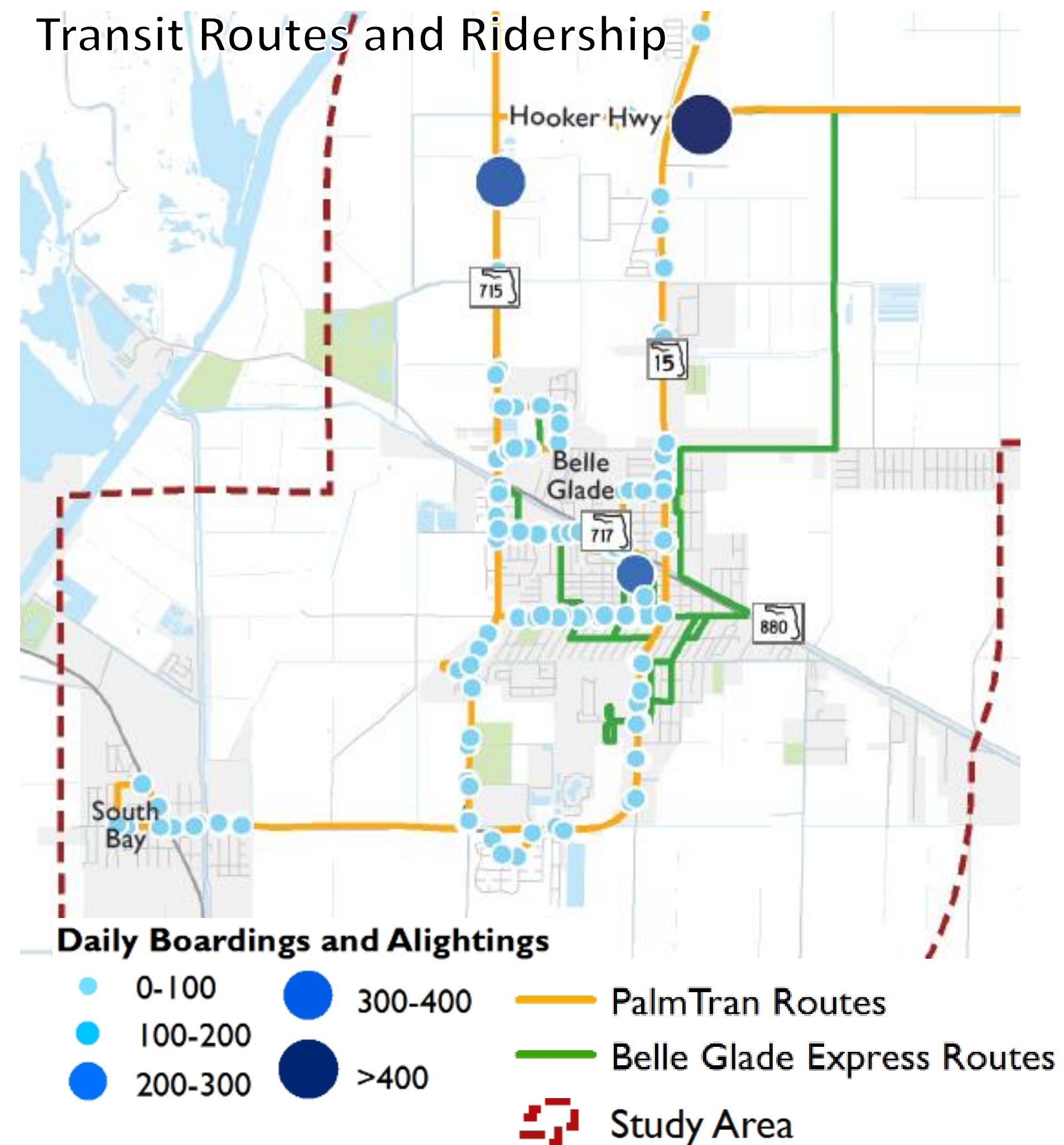
Truck Annual Average Daily Trips



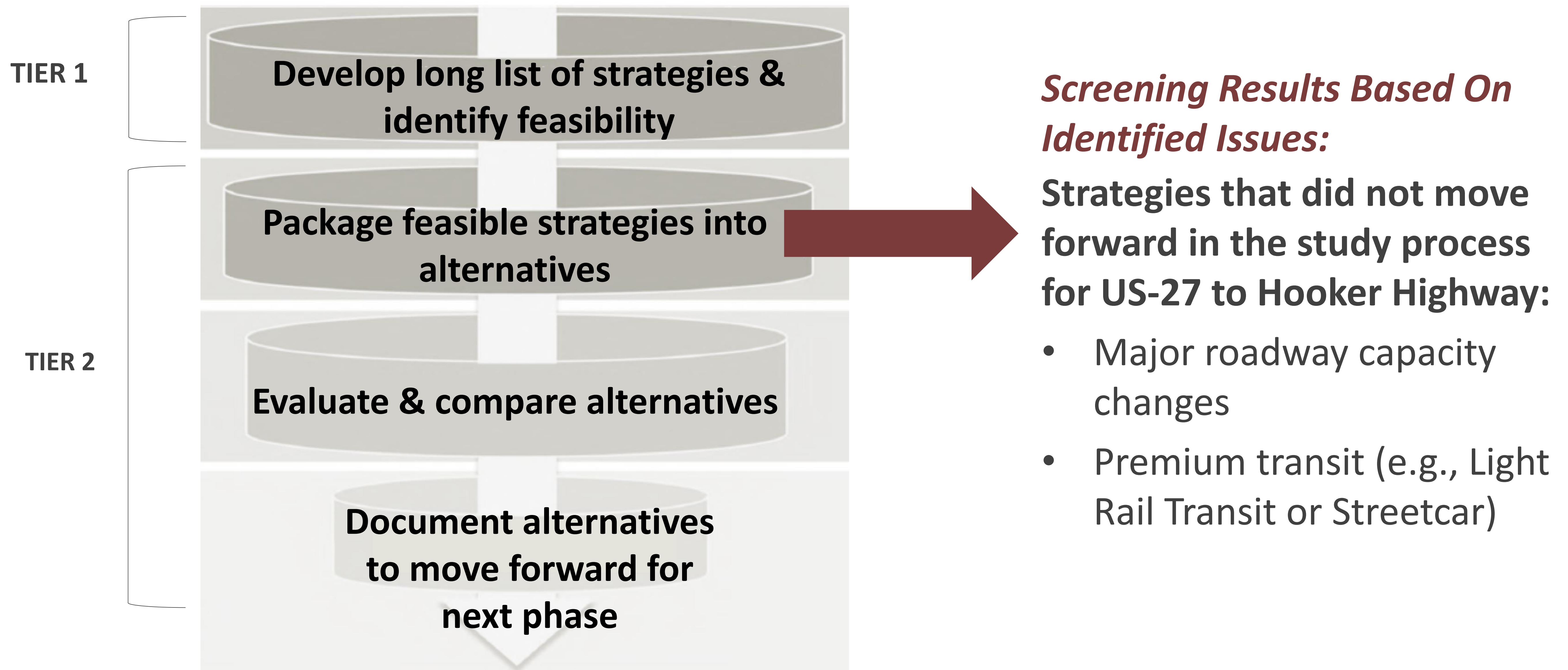
Transit

- Transit ridership is highest in this segment of the corridor and access should be more convenient.

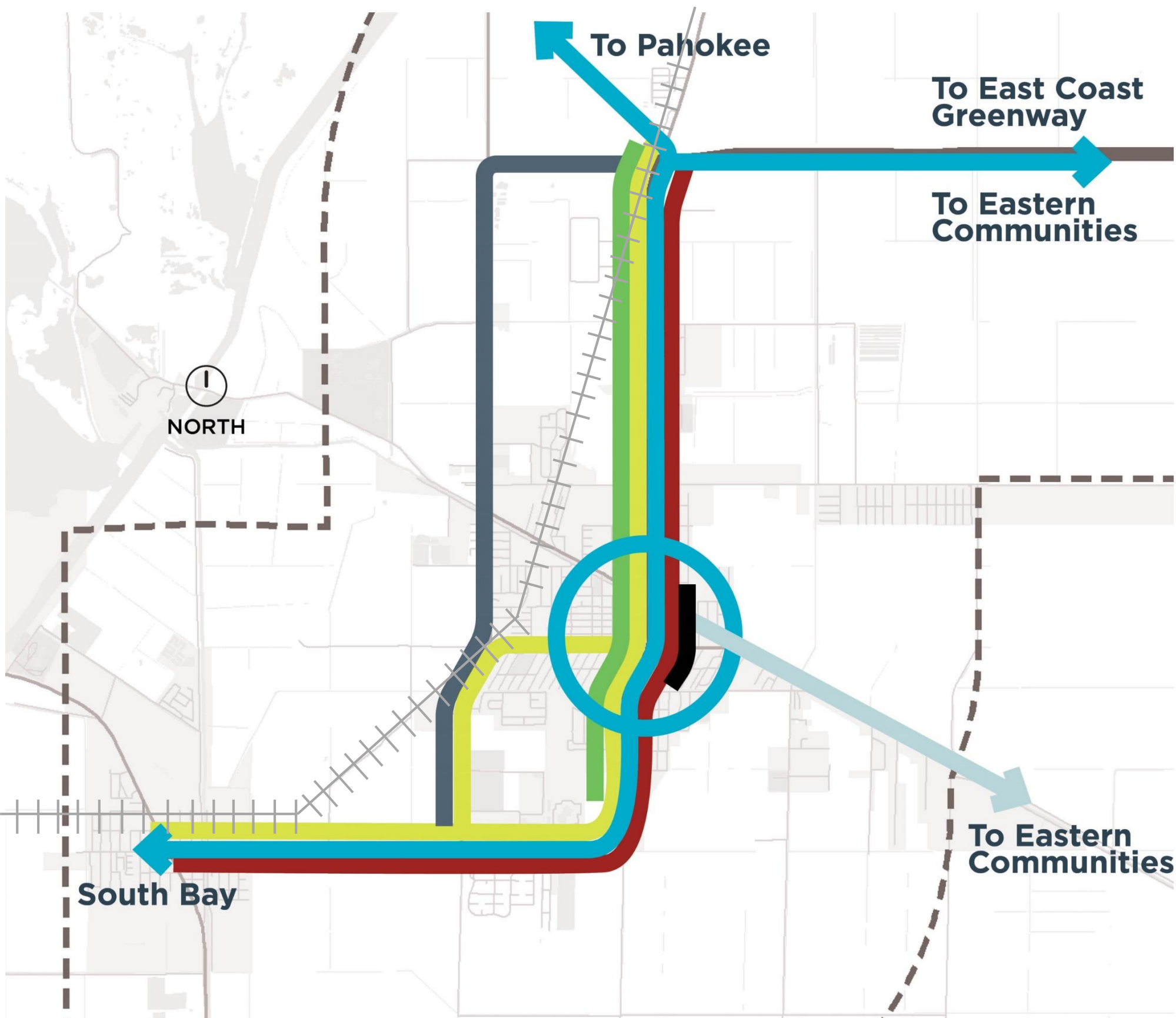
Transit Routes and Ridership




SEGMENT 1 OVERVIEW OF TIERED ALTERNATIVE DEVELOPMENT PROCESS



Segment 1 Multimodal Alternative Strategies



-  **Continuous, Bike Facility:** Provide continuous bicycle facilities to major places of interest
-  **Alternative Freight Routes:** Provide a freight route that does not go through the downtown of Belle Glade
-  **Downtown Treatment:** Provide a downtown feel through design
-  **Pedestrian and Bicycle Crossing Improvements:** Provide frequent and conveniently located crossing opportunities
-  **Safety Study:** Conduct a more in-depth safety study with a focus on pedestrian and bicycle travel
-  **Transit Service Improvements:** Provide more convenient and accessible transit including a downtown transit hub
-  **Roadway Rehabilitation:** Support County rehabilitation efforts to provide a reliable secondary access point

Number of Votes Received from the Public at the Workshops (89 attendees in total)

Continuous, Bike Facility	5
Alternative Freight Routes	30
Downtown Treatment	3
Pedestrian and Bicycle Crossing Improvements	4
Safety Study	9
Transit Service Improvements	10
Roadway Rehabilitation	17

Goal	Performance
Increase and improve access to transit	●
Create a safer pedestrian and bicycle system	●
Protect and support Rural Areas of Opportunity	●
Reduce freight/auto conflicts in rural areas	●
Support the freight industry	●

● Good ◐ Acceptable ○ Poor

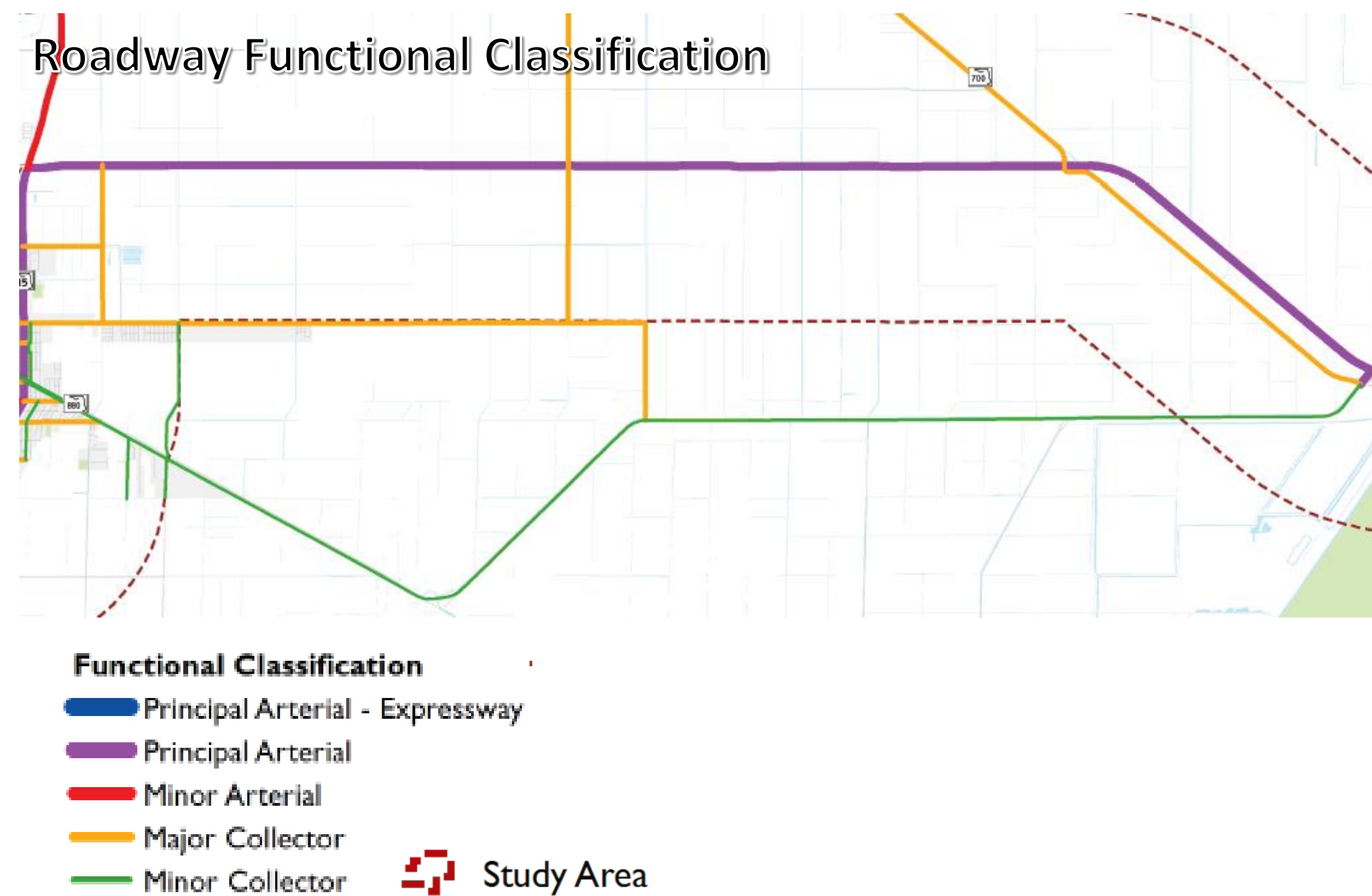


HOOKER HIGHWAY to 20-MILE BEND FINDINGS

SEGEMENT 2 CHARACTERISTICS

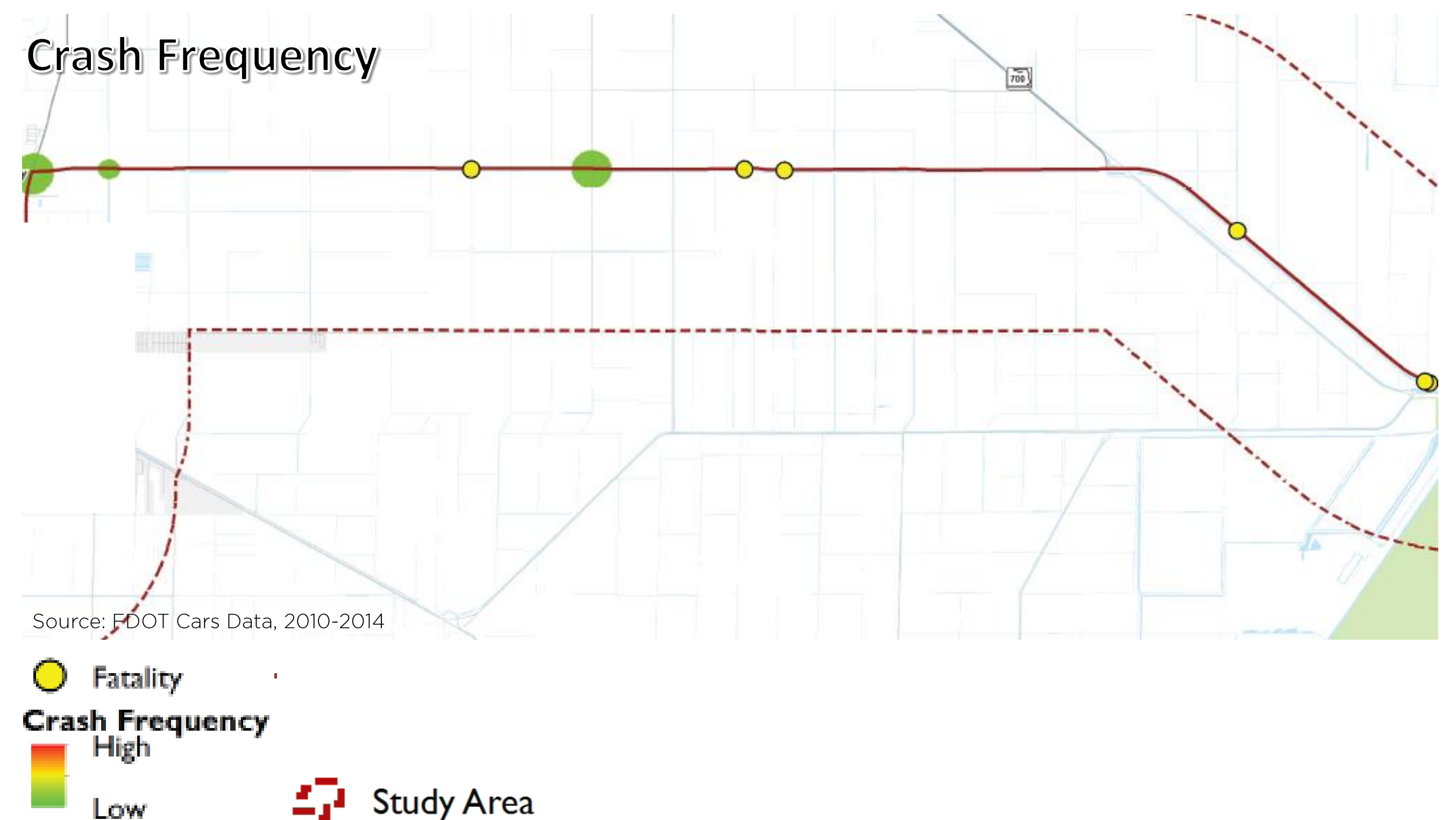
Regional Connection

- An additional east-west arterial is needed for emergency and evacuation purposes.

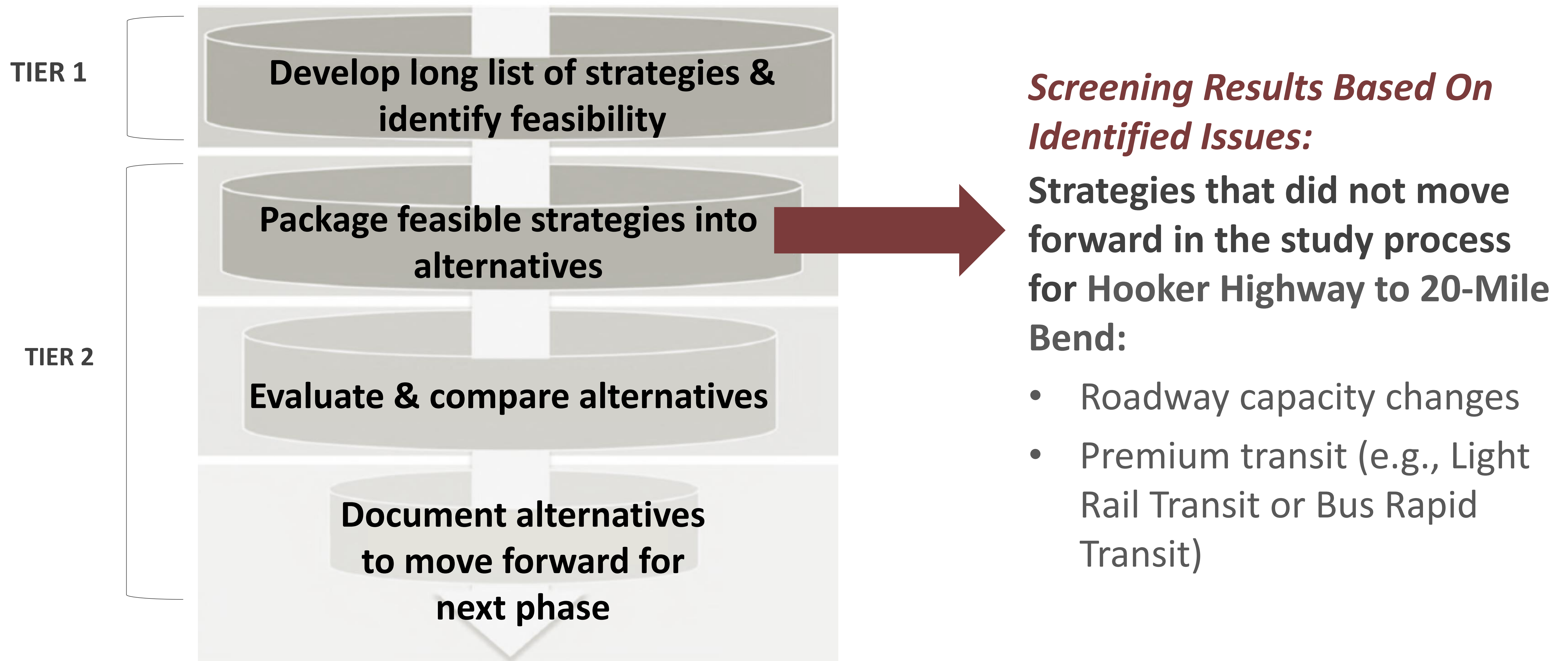


Safety

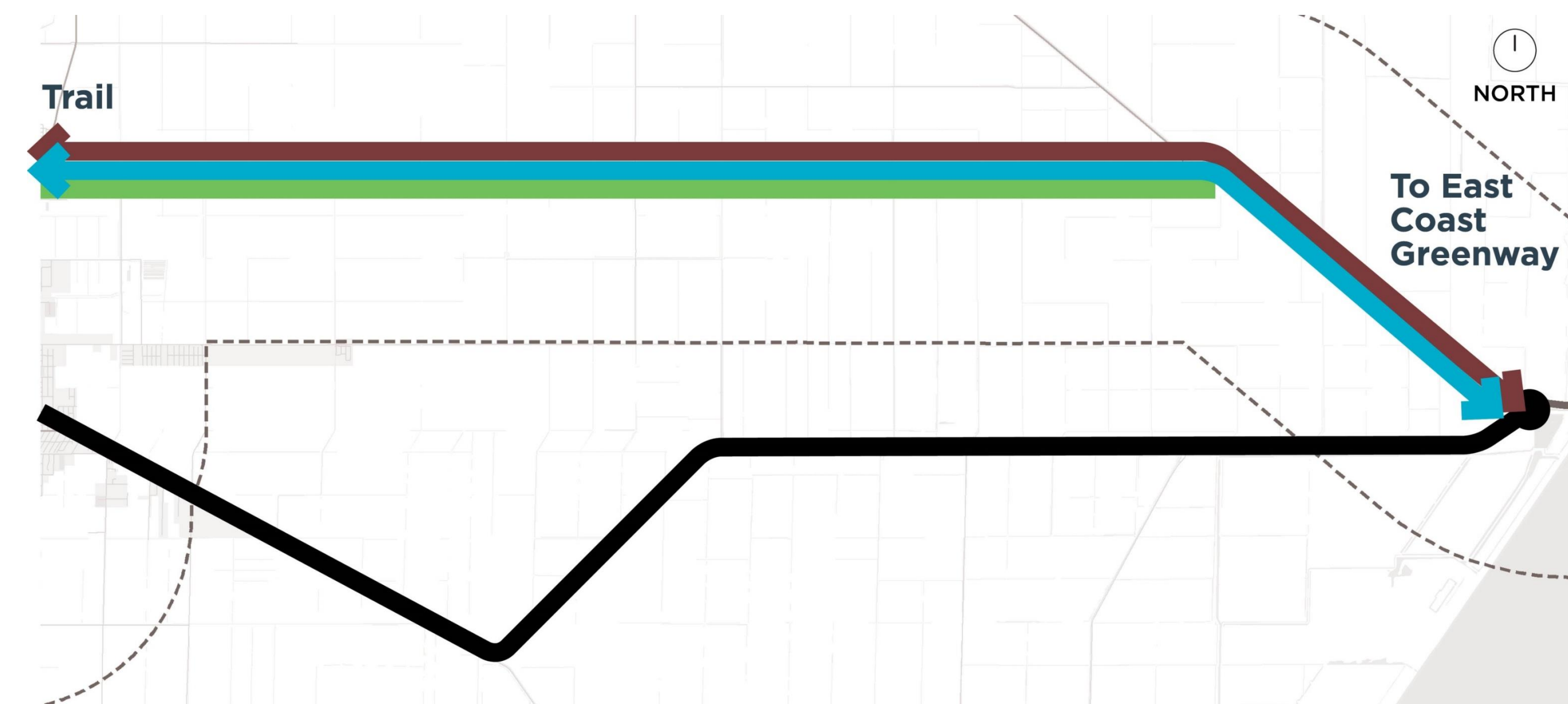
- The facility needs to safely accommodate north-south crossing traffic and create higher visibility for all users.



SEGMENT 2 OVERVIEW OF TIERED ALTERNATIVE DEVELOPMENT PROCESS



Segment 2 Multimodal Alternative Strategies



Corridor-Wide Greenway: Provide greenway trail connecting the east to the Lake Okeechobee Scenic Trail (consistent with the adopted Regional Greenways Plan)

Resurfacing & Lighting Study: Implement recommendations from future lighting studies

Rehabilitation & Maintenance: Implement on-going County CR 880 rehabilitation project

Safety Study: Conduct in-depth safety studies as needed to accommodate all users including freight and agricultural uses

Goal	Performance
Create a safer pedestrian and bicycle system	●
Protect and support Rural Areas of Opportunity	●
Reduce freight/auto conflicts in rural areas	●
Support the freight industry	●

● Good ◐ Acceptable ○ Poor

Number of Votes Received from the Public at the Workshops (89 attendees in total)

20

16

27

4

20-MILE BEND to I-95 FINDINGS

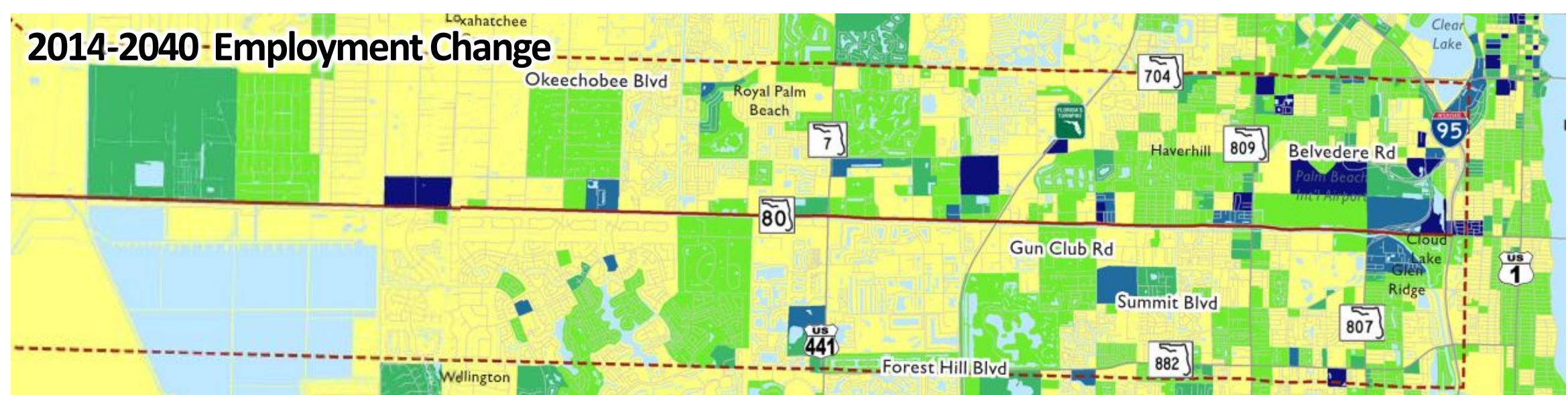
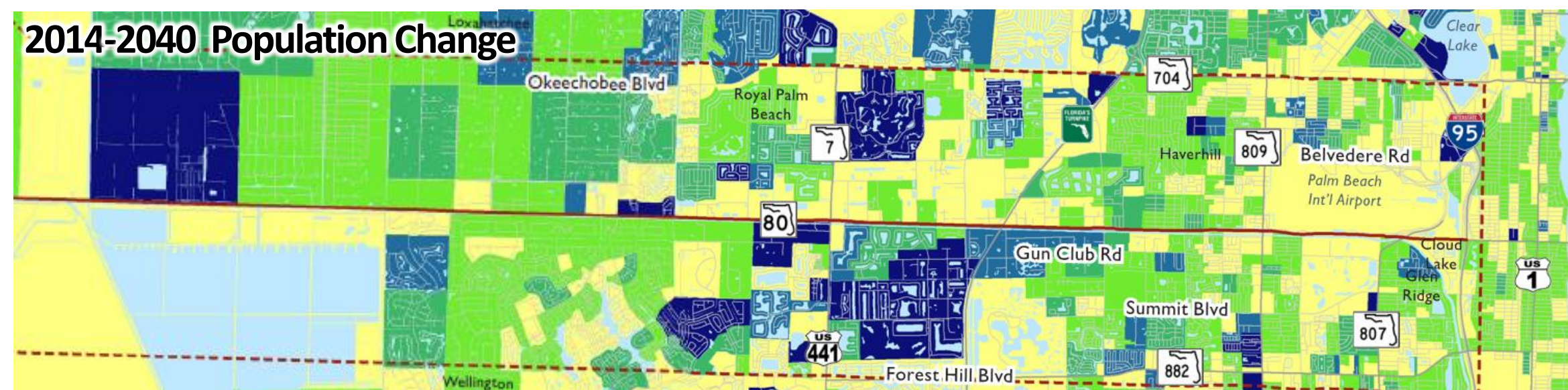
SEGMENT 3 CHARACTERISTICS

Population and Employment

- Population increases to the west and employment increases to the east create more SR 80 trips.

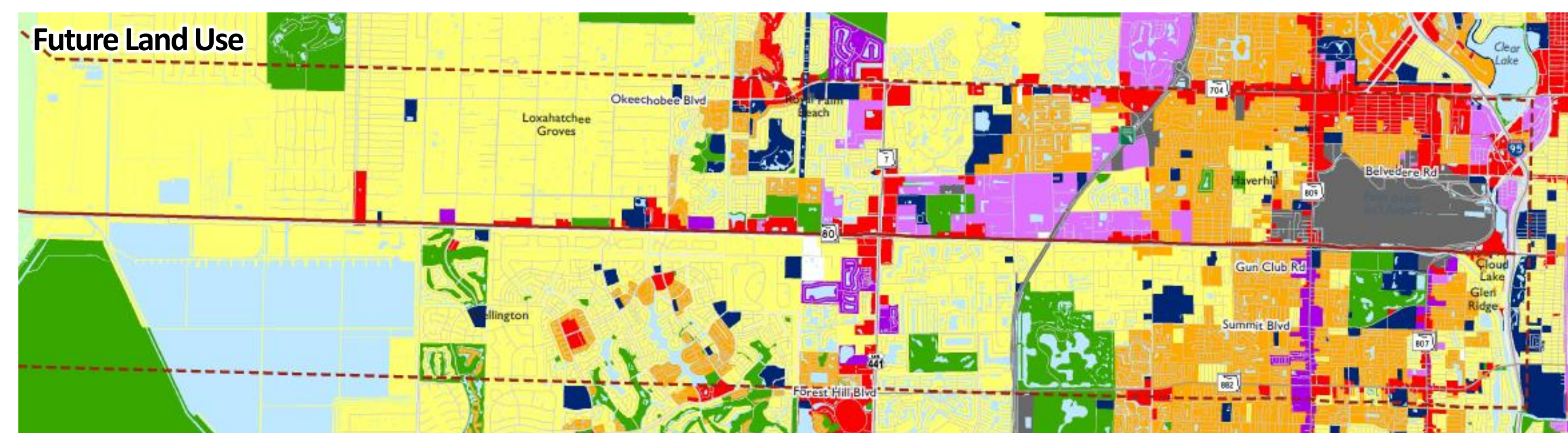
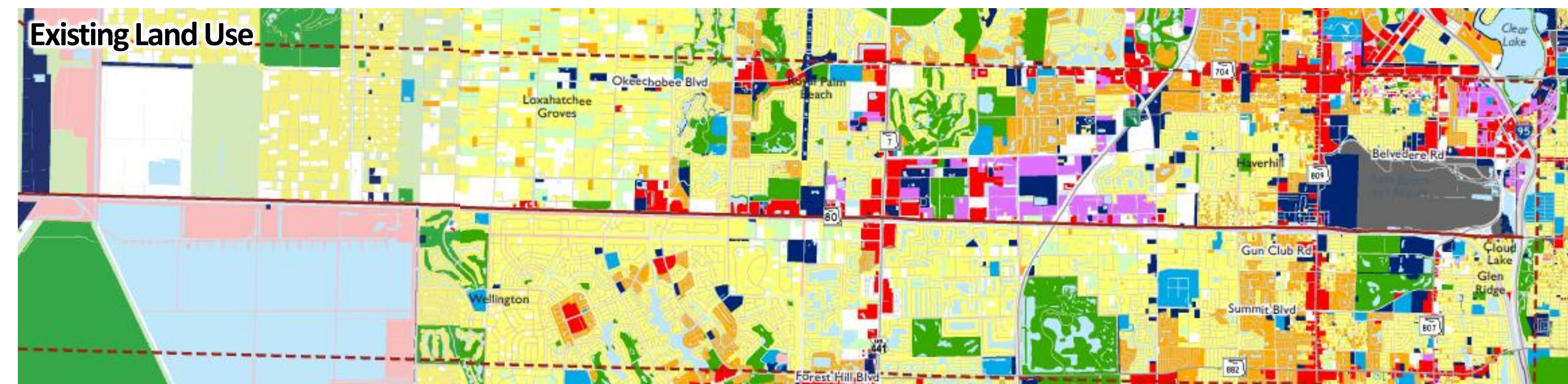
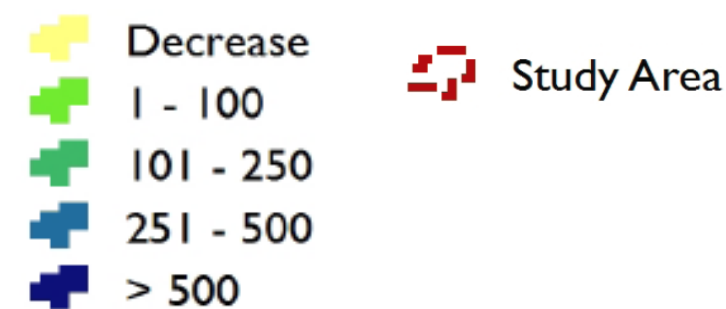
Land Use and Development

- Emerging development patterns are auto-oriented and will create more auto demand on SR 80 in the future.



Source: SERPM 7.062

2014 to 2040 Population/ Employment Change



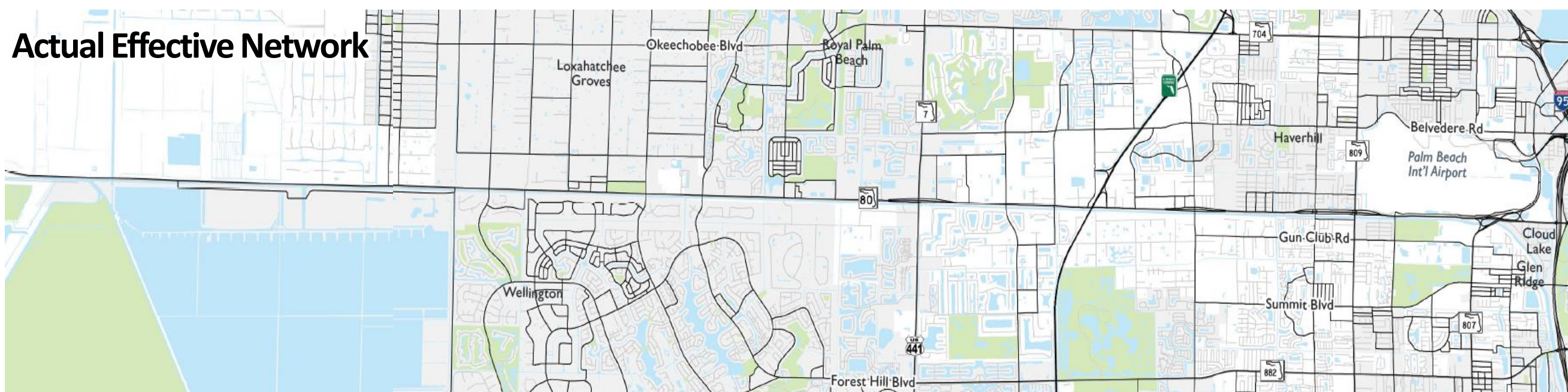
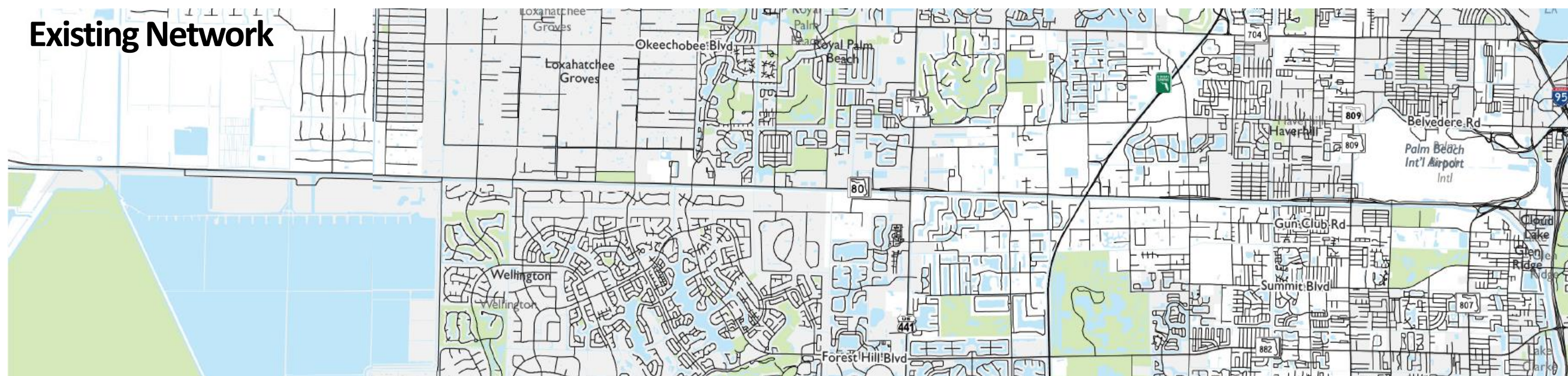
Source: Palm Beach County, 2015



SEGMENT 3 CHARACTERISTICS

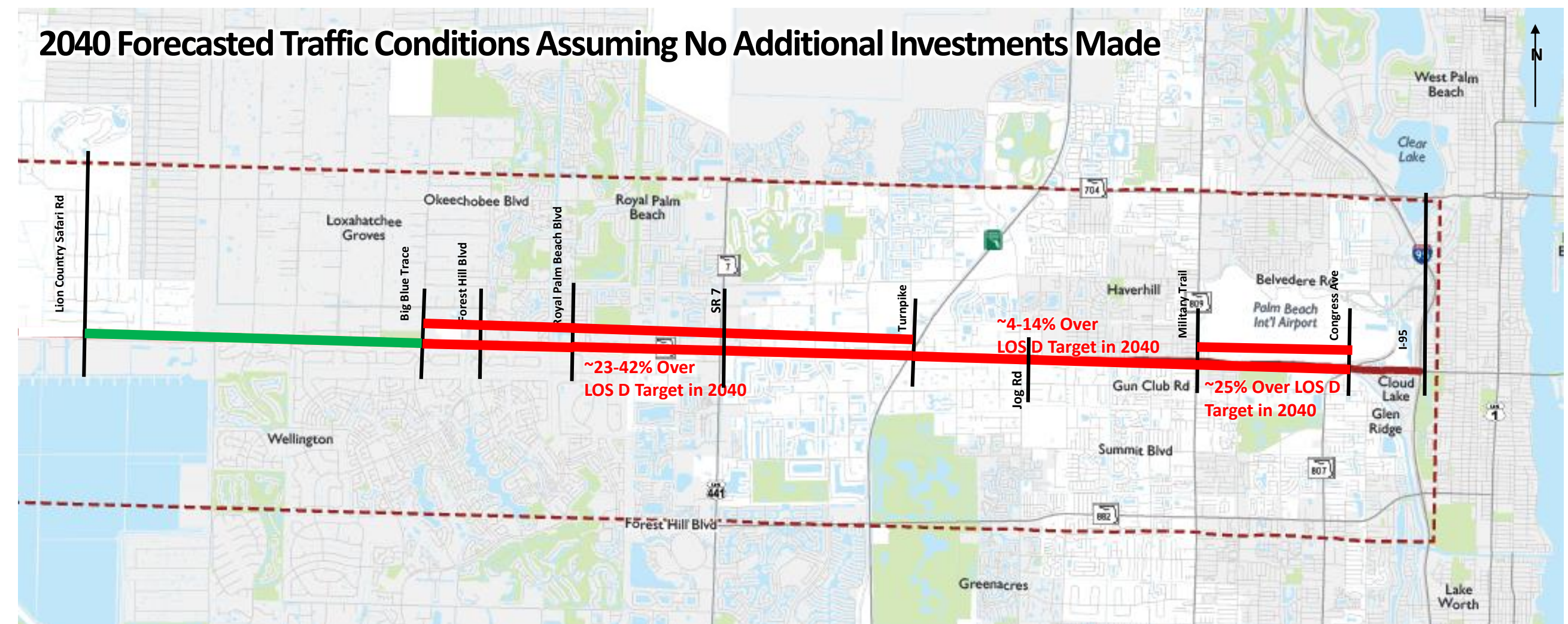
Network

- East-west connections are limited to the north and south of SR 80.
- A limited east-west network forces a majority of trips in the area to use SR 80.



Safety & Traffic

- This segment is not on FDOT's high crash list, but there is potential to make it safer.
- Congestion is expected to exceed the level-of-service D target.

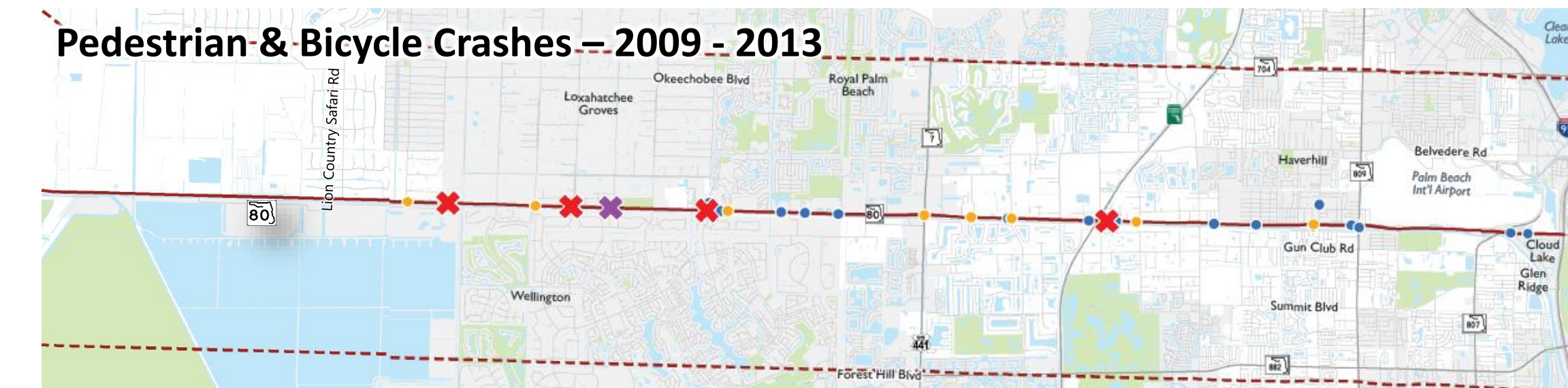
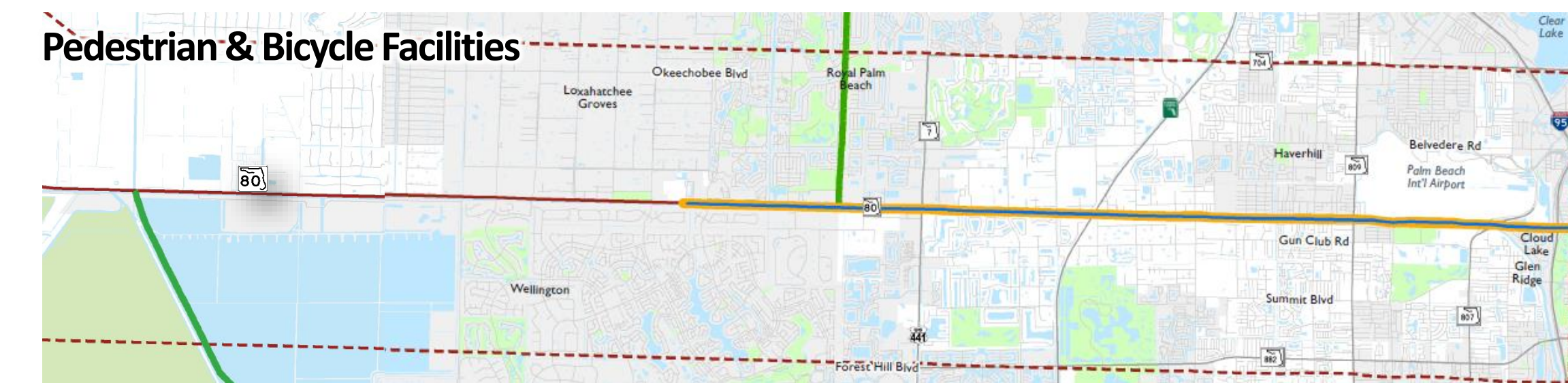


█ Forecasted to Meet LOS D Standard in 2040
█ Forecasted to Not Meet LOS D Standard in 2040
 % = % over LOS D Service Volume

SEGMENT 3 CHARACTERISTICS

Walking and Biking

- 50% of pedestrian & bicycle crashes resulted in a fatality.

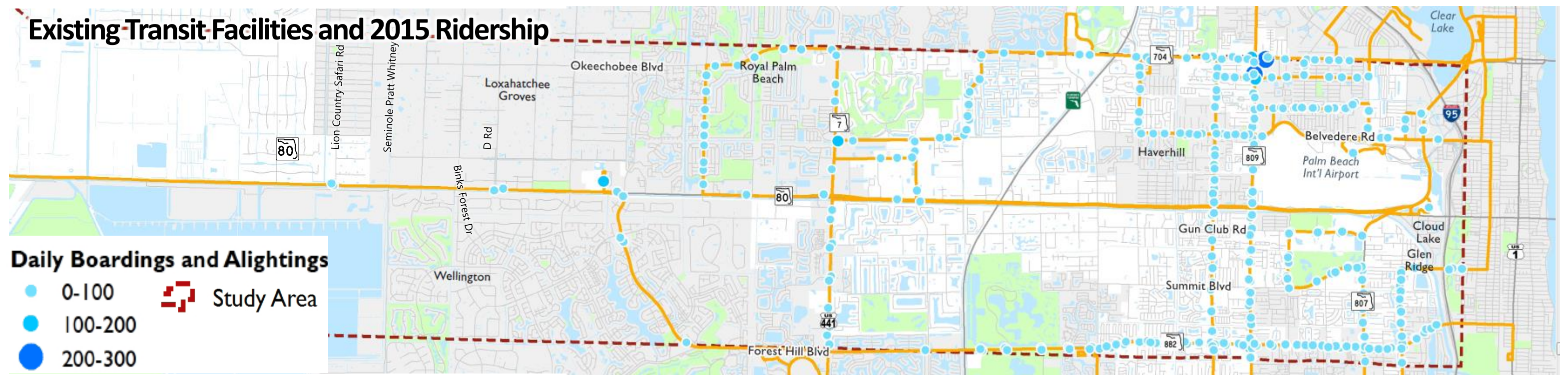


Source: FDOT CARS Data, 2010-2014

- Designated Bike Lanes on SR 80
- Sidewalks on SR 80
- Designated Greenways
- X Pedestrian Fatality
- X Bicycle Fatality
- Pedestrian Crash
- Bicycle Crash
- Study Area

Transit

- This section of the corridor is not ready for premium transit (e.g., Bus Rapid Transit, Light Rail Transit, etc.) given existing and adopted future land uses.
- Access to transit is currently limited and should be improved upon to make it more convenient and accessible.



Source: Palm Tran, 2015

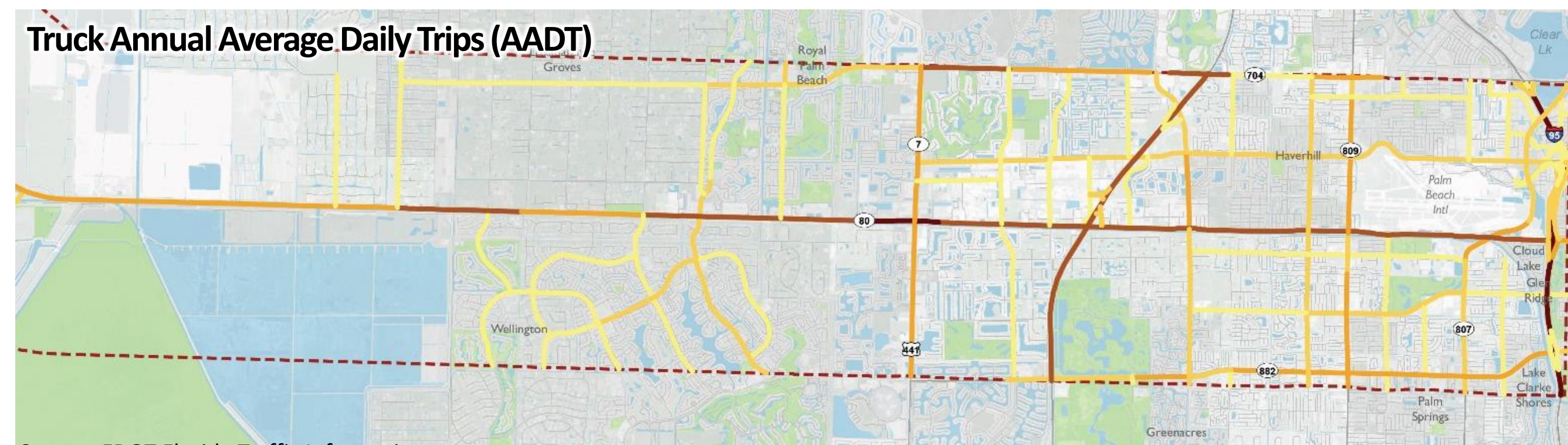
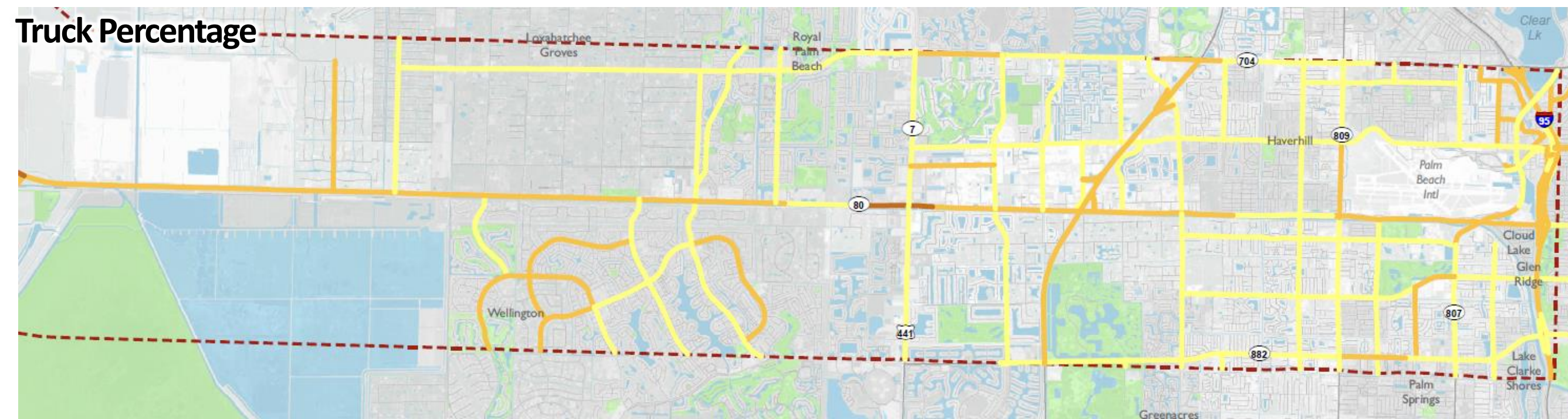


Source: Applied the FDOT Transit Handbook Transit Readiness Guidance

SEGMENT 3 CHARACTERISTICS

Freight

- Regional and local freight trips heavily rely on SR 80.

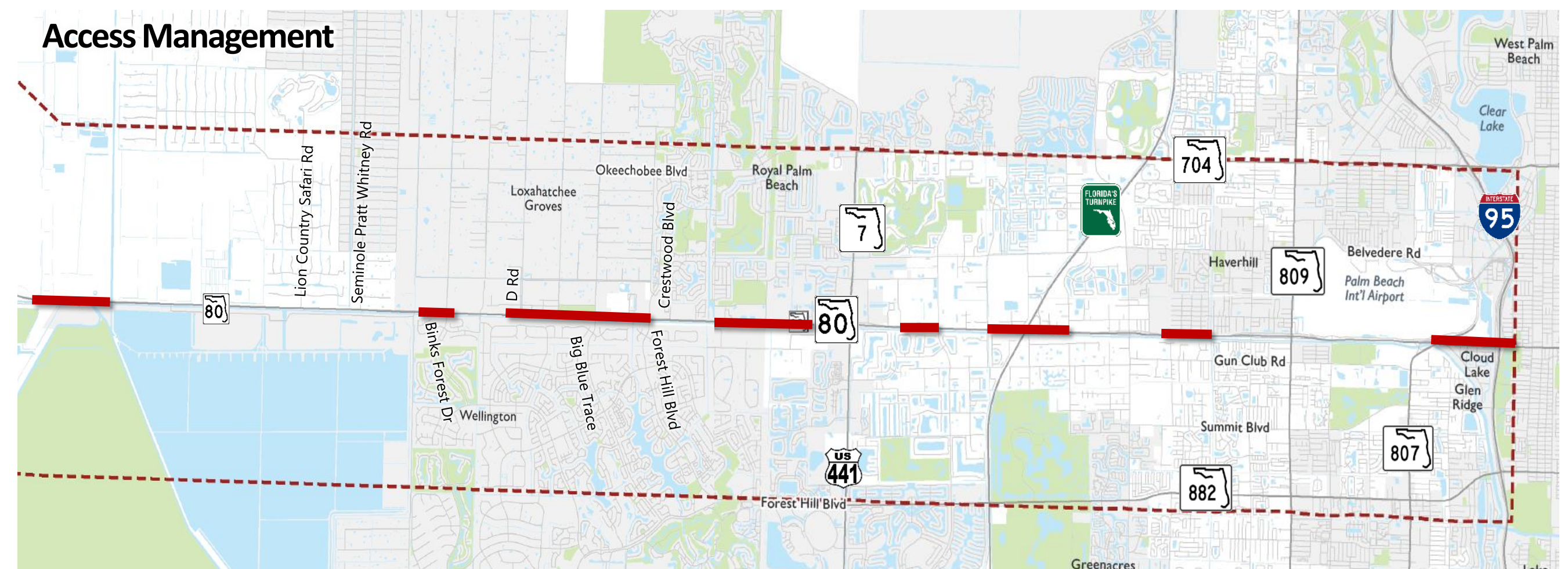


Source: FDOT Florida Traffic Information

Truck Percentage	< 5%	Truck AADT	1 - 500
	5-15%		501 - 1296
	15-30%		1297 - 2955
	> 30%		2956 - 7380
			7381 - 15984

Access Management

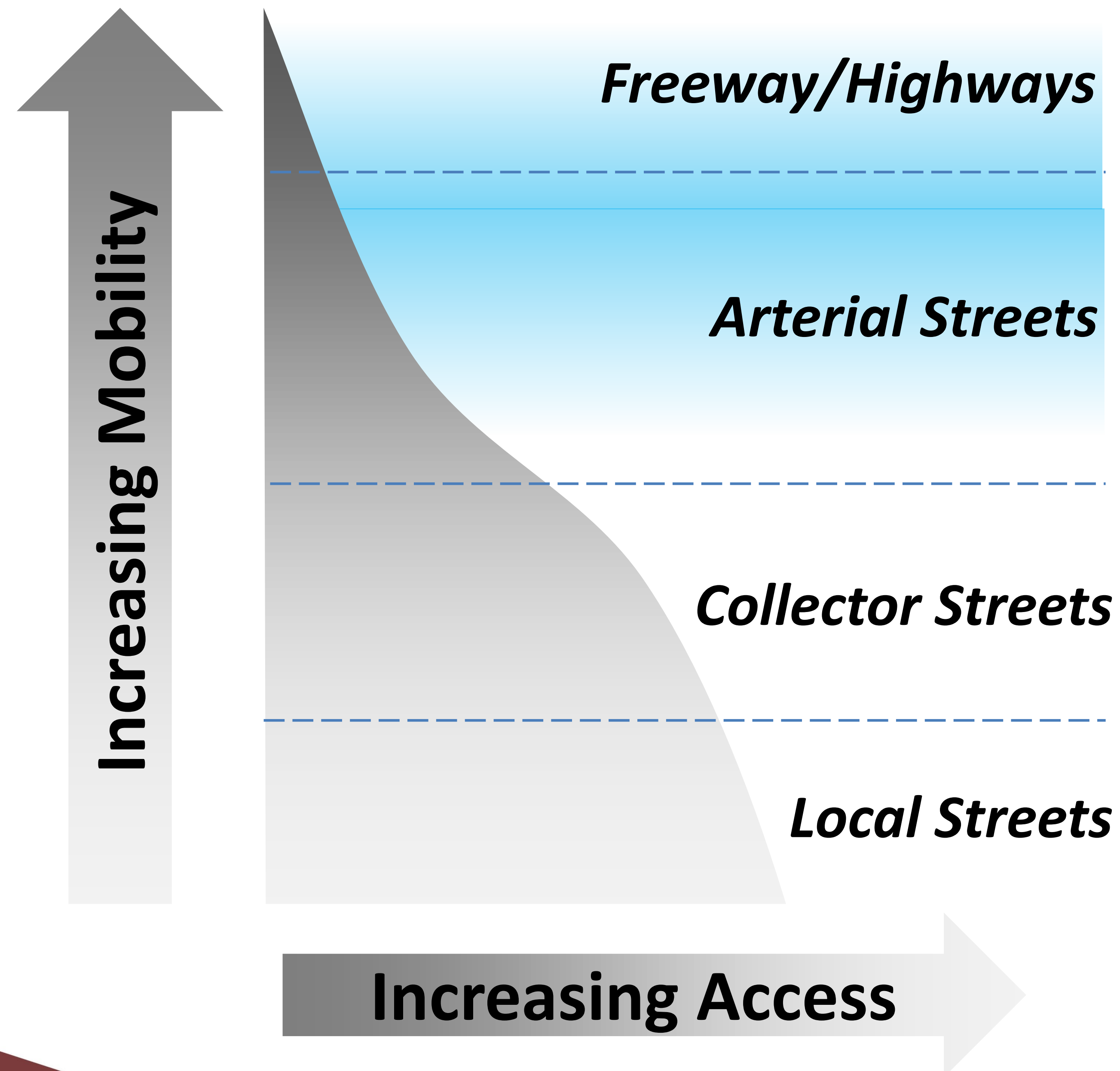
- 35% of the corridor does not meet access management standards from 20-Mile Bend to Forest Hill Boulevard.
- 47% of the corridor does not meet access management standards from Forrest Hill Boulevard to I-95; therefore, limiting mobility.



- Sections that Do Not Meet FDOT Access Classification 3 Requirement
- Study Area

SEGMENT 3 CHARACTERISTICS

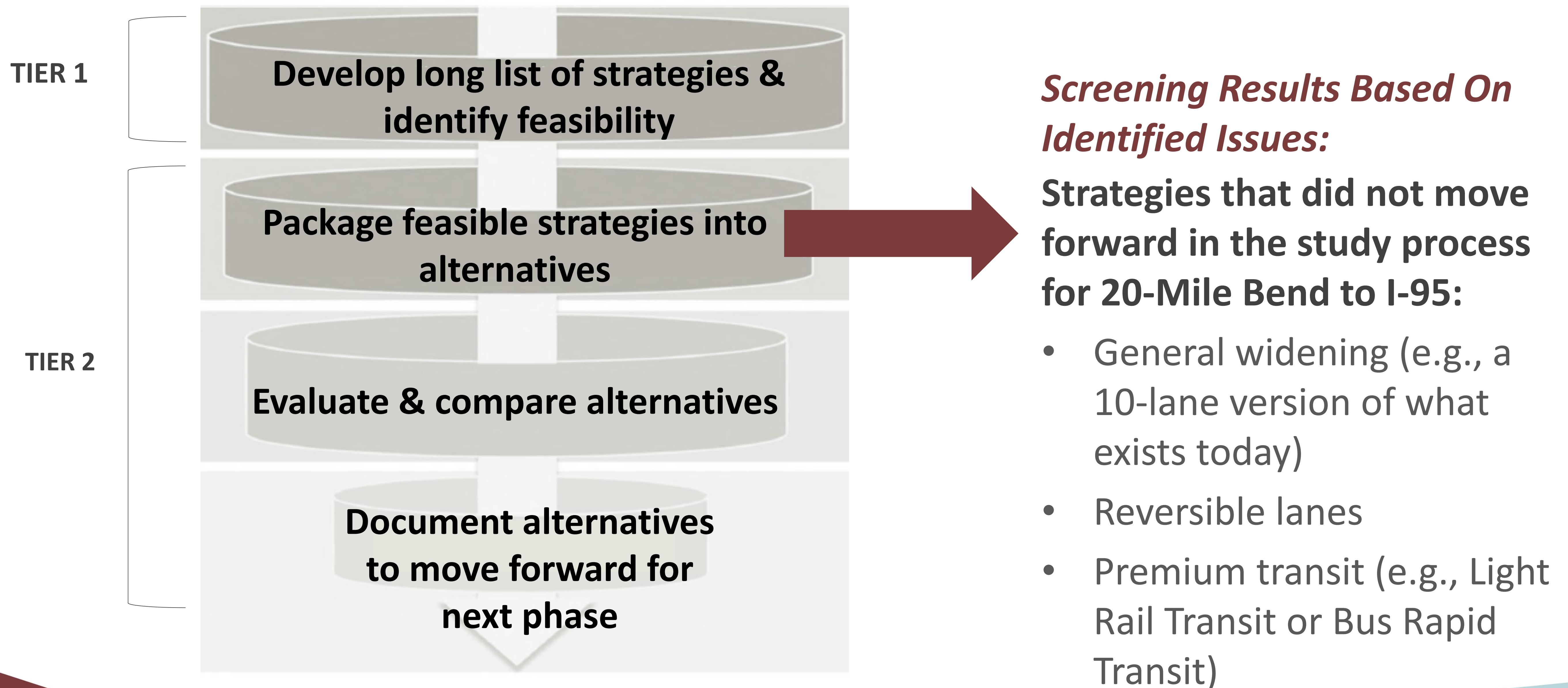
Mobility vs. Access



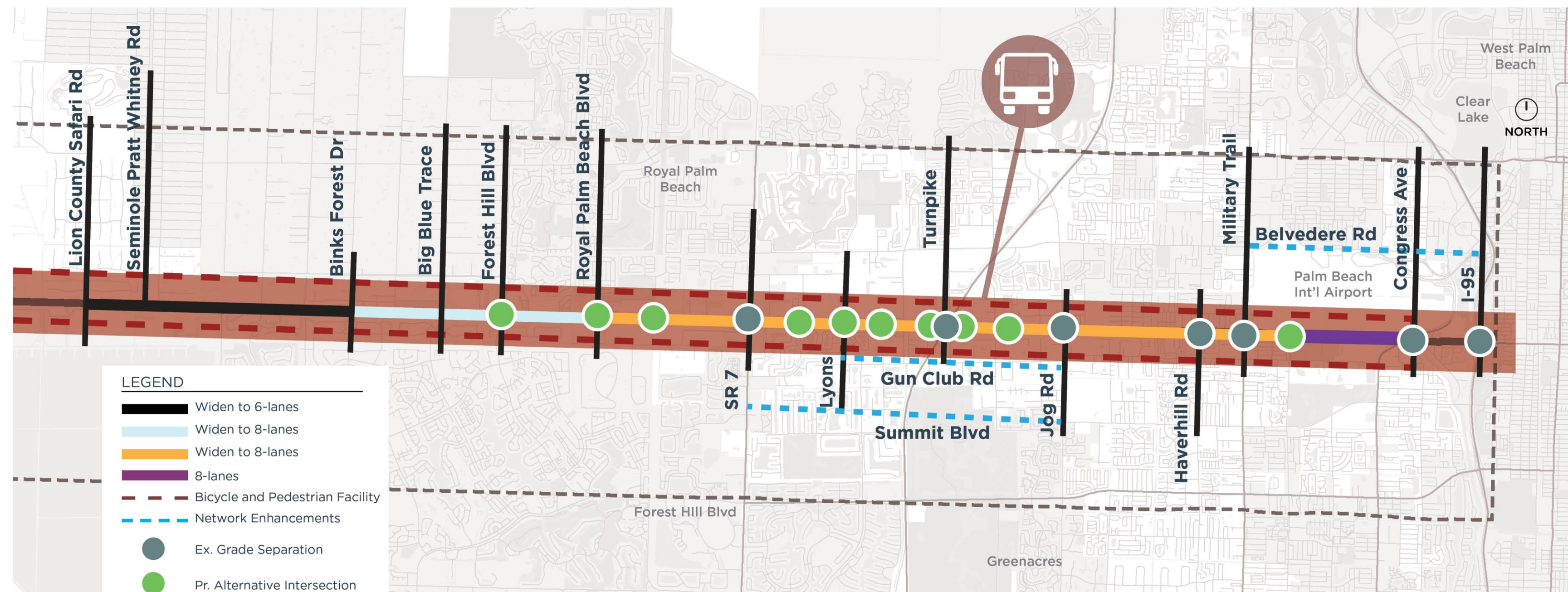
SR 80 currently blends classifications

- Creates inconsistent driving environment
- Reduces potential mobility
- Decreases safety

SEGMENT 3 OVERVIEW OF TIERED ALTERNATIVE DEVELOPMENT PROCESS



Alternative 1 - Signalized Arterial with Alternative Intersections



Locations of Grade Separated Intersections: None

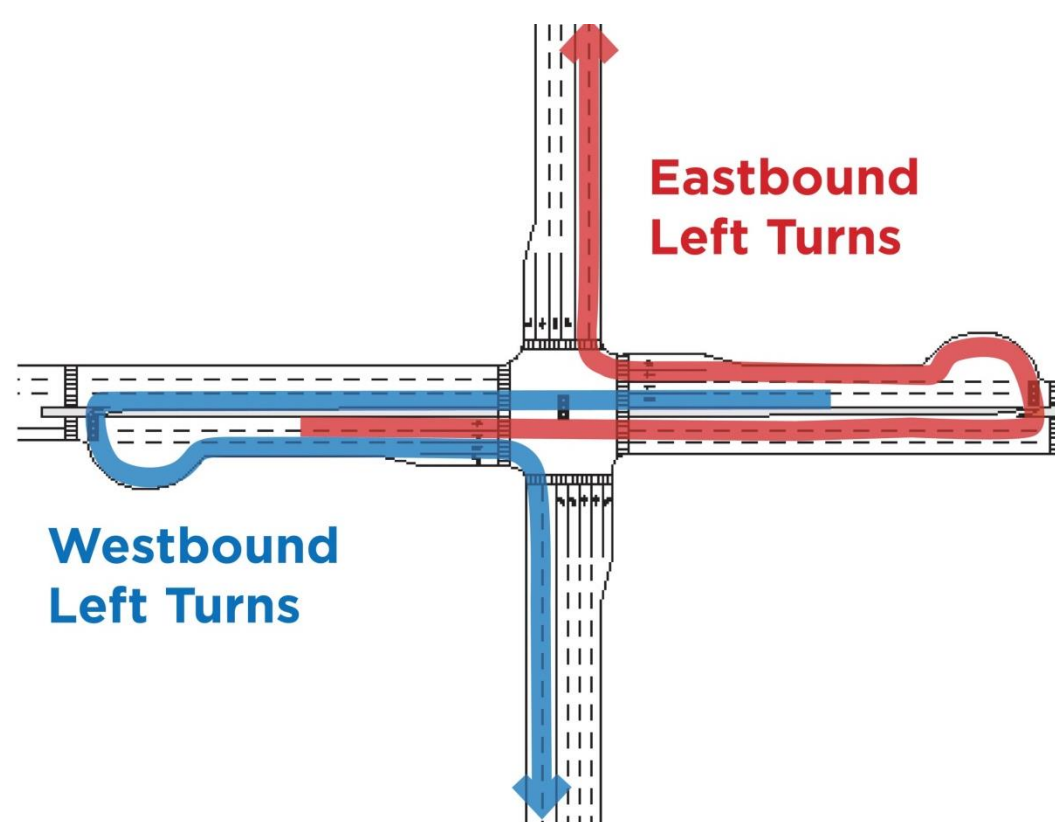
Locations of Alternative Intersection Forms:

- Forest Hill Boulevard
- Royal Palm Beach Boulevard
- Lamstein Lane
- Fairgrounds Road
- Lyons Road
- Benoist Farm Road
- Pike Road
- Florida Turnpike Northbound Ramps
- Cleary Road
- Kirk Road

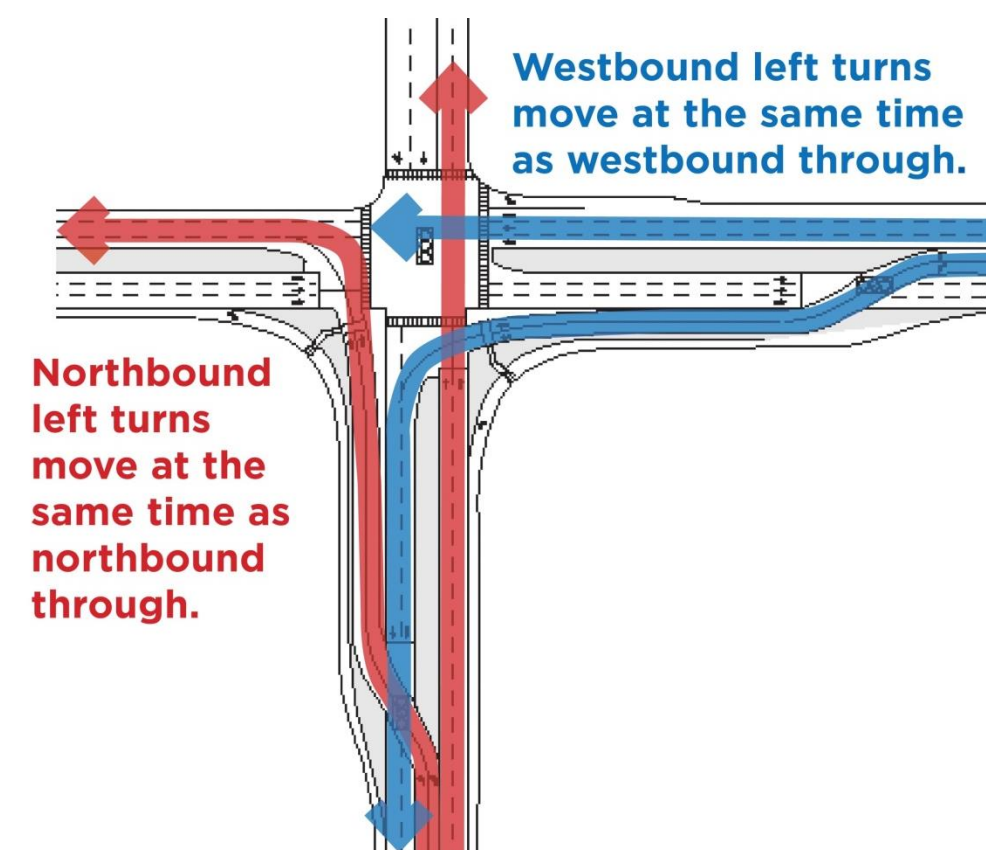
Limited Stop Bus Service

*Both wildlife and non-motorized user crossings are assumed as part of the alternative. Specific locations and designs will be determined in future phases.

Median U-Turn Intersection



Displaced Left Turn Intersection



Examples of Alternative Intersections

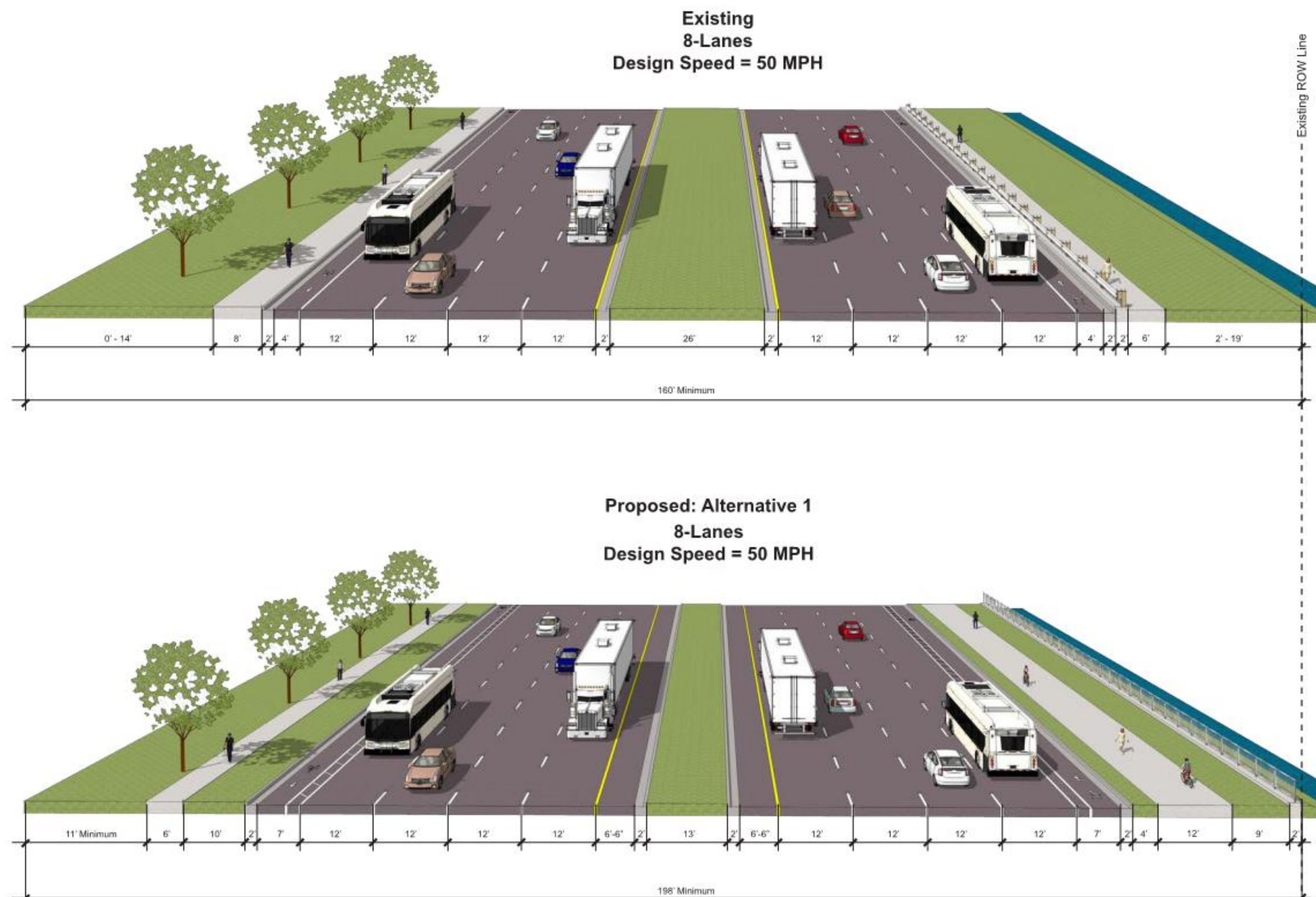
Goal	Performance
Protect the mobility of the SIS and provide capacity to serve future development	○
Increase and improve access to transit	○
Encourage non-single occupancy auto trips	○
Preserve mobility for regional trips and Provide access for local trips	○
Create a safer pedestrian and bicycle system	○
Support adopted future growth plans	○
Identify cost-effective investments	●
Minimize impacts to the environment	○
Minimize impacts to the business community	●

● Good ○ Acceptable ○ Poor



Segment 3

Alternative 1 - Signalized Arterial with Alternative Intersections



*Two, 12' shared use paths also being considered as another option to serve pedestrians and bicyclists

Number of Votes Received from the Public at the Workshops (89 attendees in total)

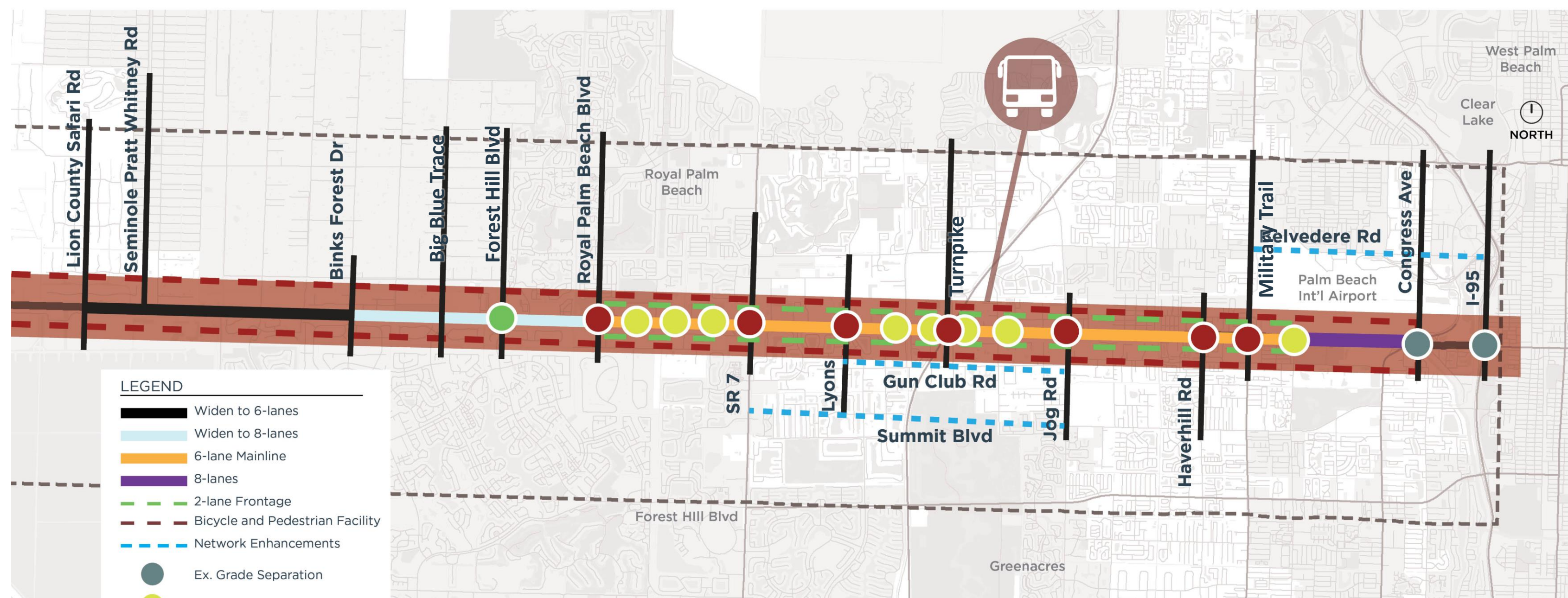
16 (21%)

NOTE: Lanes may be managed as determined appropriate over time (i.e., bus only lanes, freight only lanes, ridesharing lanes, automated vehicle lanes, etc.)

Typical Section/Vision



Alternative 2 - Partially Elevated Roadways for Through Traffic with Frontage Roads



Locations of Grade Separated Intersections:

Bold indicates direct access to mainline

- **Royal Palm Beach Boulevard**
- Royal Commerce
- Lamstein Lane
- 103rd Avenue
- **SR 7**
- **Lyons Road**
- Benoist Farm Road
- Pike Road
- **Florida Turnpike**
- Florida Turnpike Northbound Ramps
- Cleary Road
- **Jog Road**
- **Haverhill Road/Military Trail**
- Kirk Road

Locations of Alternative Intersection Forms:

- Forest Hill Boulevard

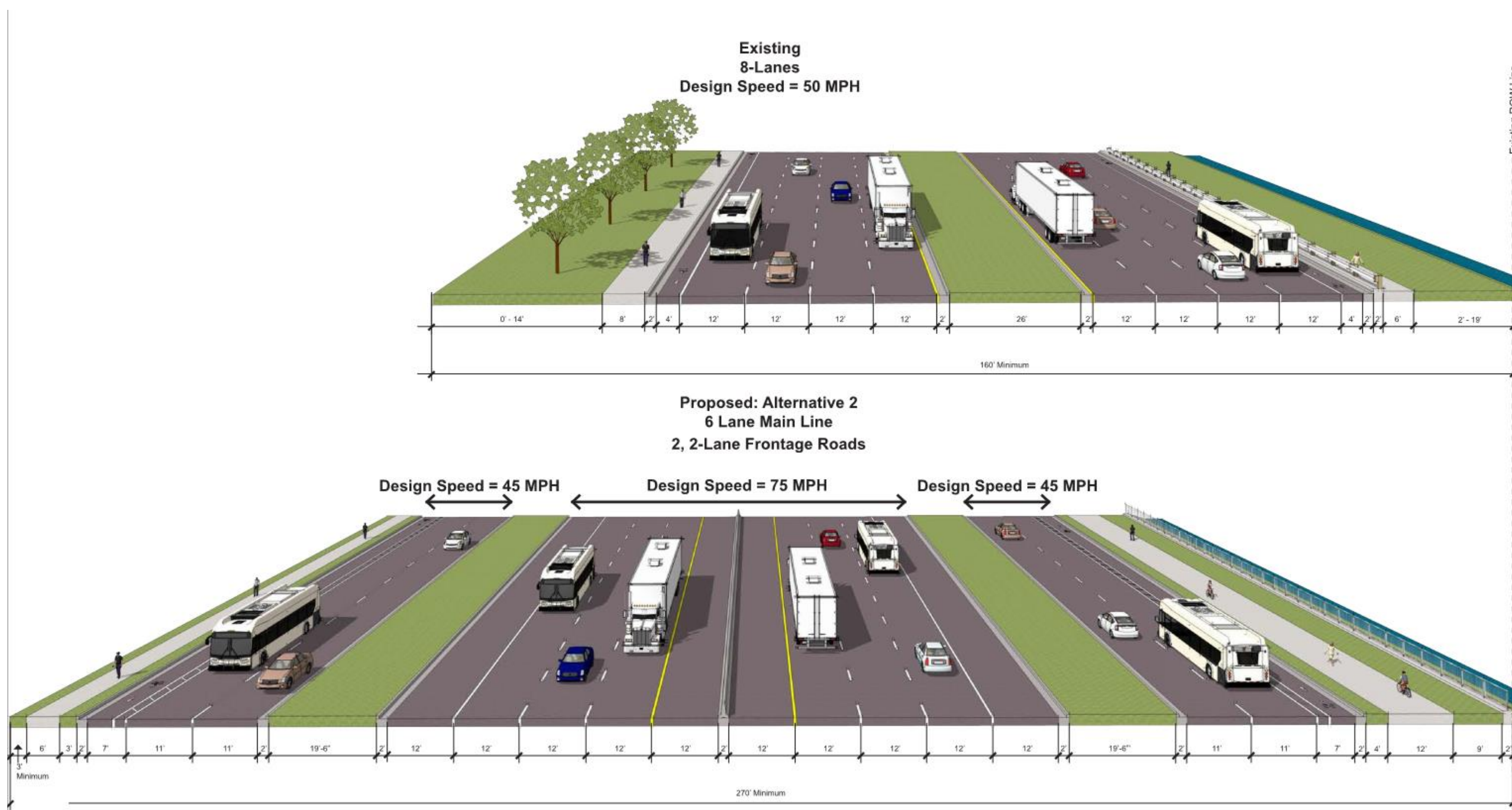
*Both wildlife and non-motorized user crossings are assumed as part of the alternative. Specific locations and designs will be determined in future phases.

Goal	Performance
Protect the mobility of the SIS and provide capacity to serve future development	●
Increase and improve access to transit	◐
Encourage non-single occupancy auto trips	○
Preserve mobility for regional trips and Provide access for local trips	●
Create a safer pedestrian and bicycle system	◐
Support adopted future growth plans	●
Identify cost-effective investments	○
Minimize impacts to the environment	○
Minimize impacts to the business community	○

● Good ◐ Acceptable ○ Poor



Alternative 2 - Partially Elevated Roadways for Through Traffic with Frontage Roads



Number of Votes Received from the Public at the Workshops (89 attendees in total)

23 (30%)

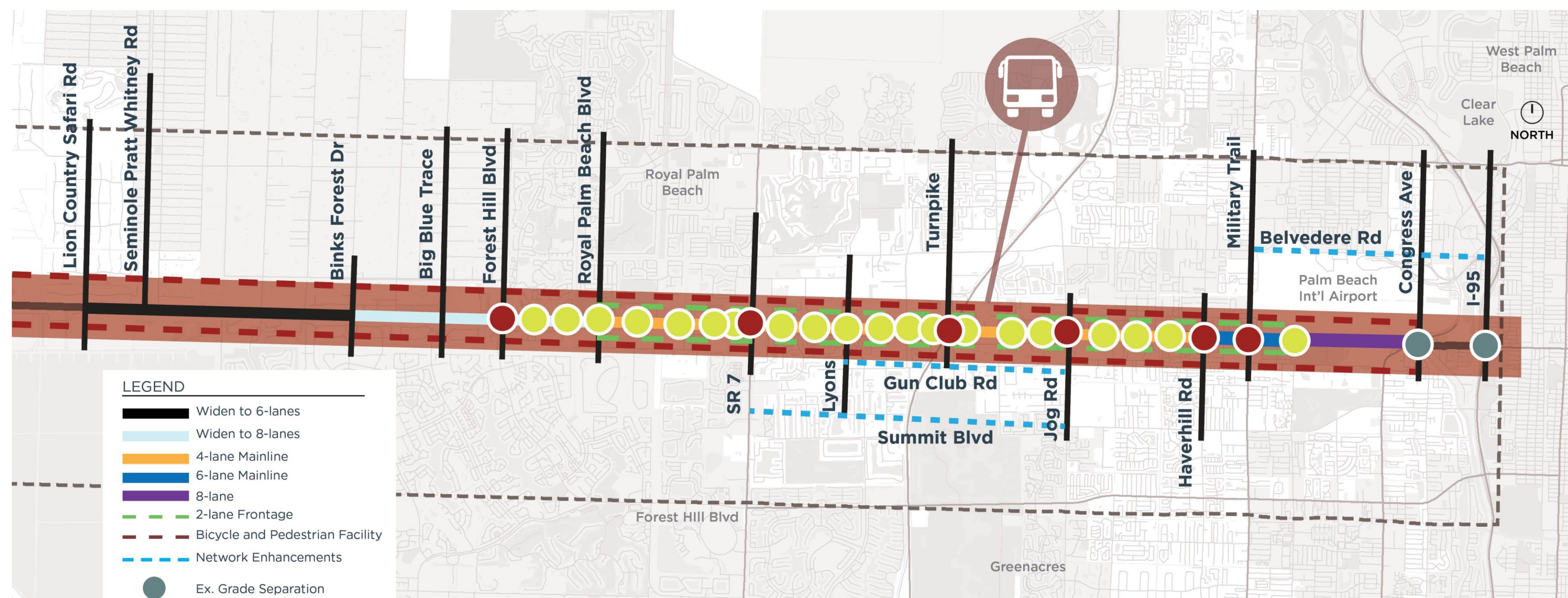
NOTE: Lanes may be managed as determined appropriate over time (i.e., bus only lanes, freight only lanes, ridesharing lanes, automated vehicle lanes, etc.)

*Two, 12' shared use paths also being considered as another option to serve pedestrians and bicyclists

Typical Section/Vision



Alternative 3 - Fully Elevated Roadways for Through Traffic with Frontage Roads



LEGEND

- Widen to 6-lanes
- Widen to 8-lanes
- 4-lane Mainline
- 6-lane Mainline
- 8-lane
- 2-lane Frontage
- Bicycle and Pedestrian Facility
- Network Enhancements
- Ex. Grade Separation
- Pr. Grade Separation
- Pr. Mainline Access Point
- Limited Stop Bus Service

Locations of Grade Separated Intersections:

- Bold** indicates direct access to mainline
- Crestwood Court
 - Cypress Head
 - Farm Credit
 - Royal Palm Beach Boulevard
 - Royal Commerce
 - Lamstein Lane
 - 103rd Avenue
 - 105th Avenue
 - **SR 7**
 - Fairgrounds Road
 - S Florida Fair Road
 - Lyons Road
 - Kelly Drive
 - Benoist Farm Road
 - Pike Road
 - **Florida Turnpike**
 - Florida Turnpike Northbound Ramps
 - Cleary Road
 - U-turn
 - **Jog Road**
 - New Development Access
 - Pine Avenue
 - Caroline Drive
 - **Haverhill Road/Military Trail**
 - Kirk Road

Locations of Alternative Intersection Forms:

- None

Goal	Performance
Protect the mobility of the SIS and provide capacity to serve future development	
Increase and improve access to transit	
Encourage non-single occupancy auto trips	
Preserve mobility for regional trips and Provide access for local trips	
Create a safer pedestrian and bicycle system	
Support adopted future growth plans	
Identify cost-effective investments	
Minimize impacts to the environment	
Minimize impacts to the business community	

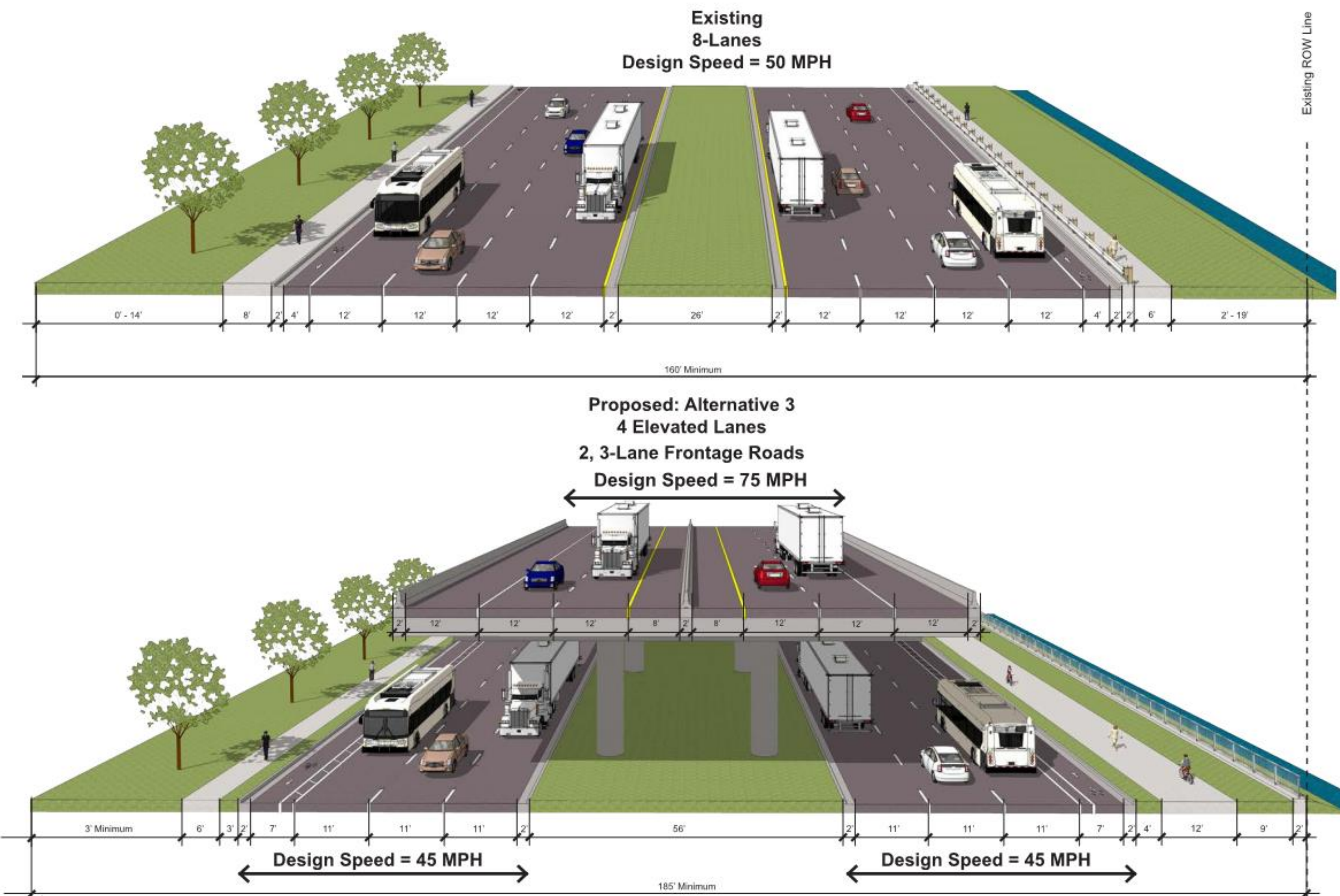
Good Acceptable Poor

*Both wildlife and non-motorized user crossings are assumed as part of the alternative. Specific locations and designs will be determined in future phases.



Segment 3

Alternative 3 - Fully Elevated Roadways for Through Traffic with Frontage Roads



Number of Votes Received from the Public at the Workshops (89 attendees in total)

37 (49%)

NOTE: Lanes may be managed as determined appropriate over time (i.e., bus only lanes, freight only lanes, ridesharing lanes, automated vehicle lanes, etc.)

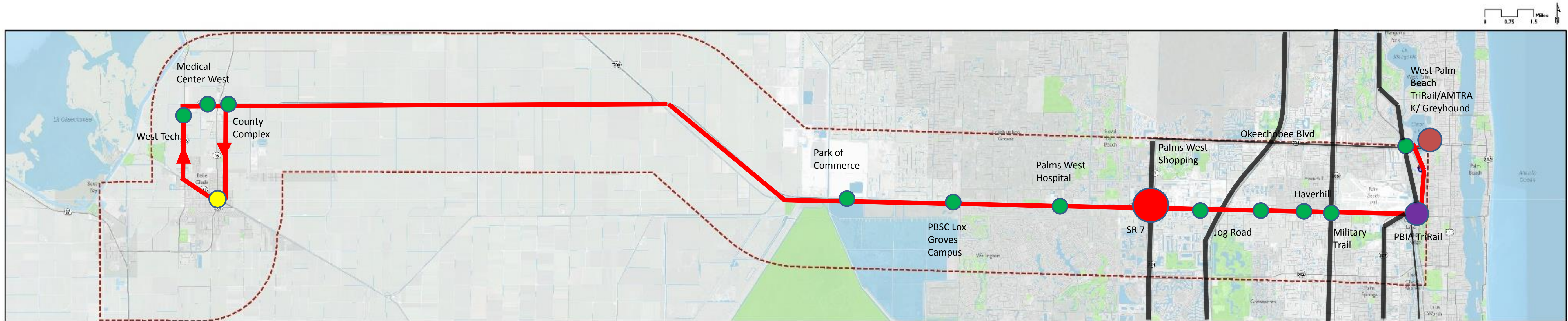
*Two, 12' shared use paths also being considered as another option to serve pedestrians and bicyclists

Typical Section/Vision



LET'S TALK TRANSIT!

TRANSIT ELEMENT FOR ALL ALTERNATIVES *"West County Bolt"*



Description: Limited Stop Enhanced Bus Service with Park-and-Ride providing peak period Limited Stop service supplementing the existing Route 40 Limited Stop service between Belle Glade and Downtown West Palm Beach.

Service Elements Ideas:














- Hours of Operation - 4 Hours AM Peak and 4 Hours PM Peak, Weekdays Only
- 30 min Headways (added to existing 60 min. service)
- 45.9 miles of Limited Stop – Park-and-Ride Lot Service
- 7 - 60 Foot, low floor, articulated, diesel, wi-fi Buses (includes 2 spare vehicles)
- 11 Branded Stops
- 11 Joint use shared Park-and-Ride Lot Upgrades at Branded Stops
- 1 New Park-and-Ride Lot 100 spaces (Not including Right-of-way)
- Transit Signal Priority at 30 signals
- Belle Glade Loop

Legend

- Existing Tri-Rail Station and Park-and-Ride
- New Tri-Rail Station and Park-and-Ride
- Belle Glade Transfer Hub
- Fairgrounds Hub 100 space Park-and-Ride Lot
- Branded Bus Stop w/Joint Park-and-Ride
- Limited Stop Bolt Service
- Palm Tran Future Planned Express/Limited Stop Services



TRANSIT AND LAND USE DENSITY RELATIONSHIP

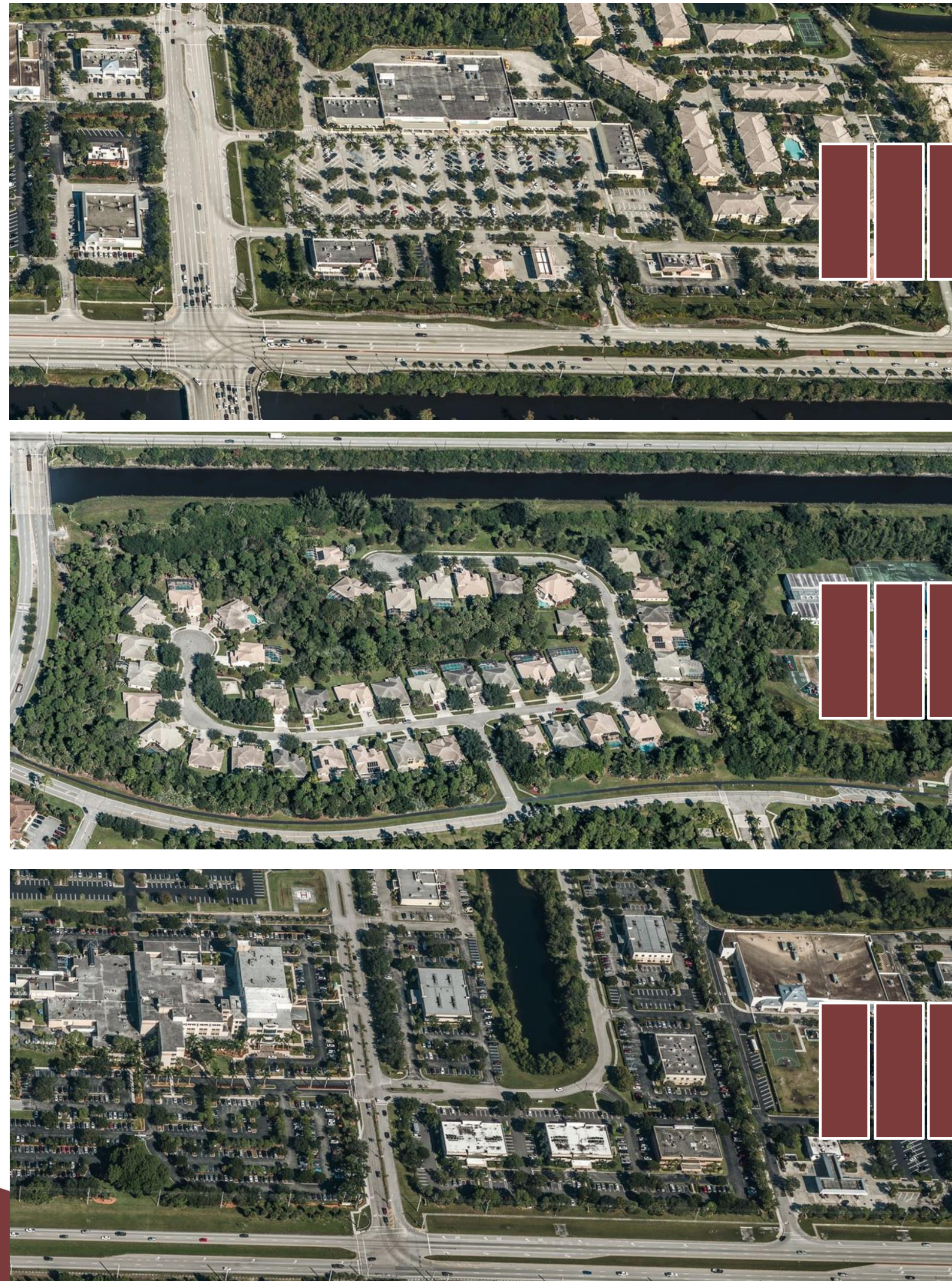
	SR 80 is currently here	Premium Transit Technologies and Related Land Use Densities are Here 				
Transit Mode	Circulator or Local Bus	Rapid/Enhanced Bus and Express Bus	Bus Rapid Transit (BRT)	Commuter Rail	Streetcar	Light Rail Transit (LRT)
						
Dwelling units per acre (density)	4-10	12-15	17-20	10-20	15-20	20-50
						

Source: <http://datatoolkits.lincolnst.edu/subcenters/visualizing-density/gallery/index.aspx> Lincoln Institute of Land Policy

This table shows the minimum amount of dwelling units or housing density that is needed to support various forms of transit.

TELL US YOUR OPINION ON TRANSIT

Existing SR 80 Land Use Context



Minimum Supportive Densities Needed for Premium Transit



SHOULD THE REGION DENSIFY AND PRIORITIZE INVESTING IN PREMIUM TRANSIT?

Number of Votes Received from the Public at the Workshops (89 attendees in total)

Let's get it done now

30

Not quite ready but interested

6

Maybe for my grandkids

8

NEXT STEPS

WHAT HAPPENS NEXT?

- Production of the final report will occur in April 2018
- Segmentation review and vetting activities will occur for an unknown length of time
 - Includes coordination with the 2045 SIS Planning efforts
 - Includes coordination with the 2045 Palm Beach TPA LRTP efforts
- Next phase activities will occur accordingly
 - Funding strategies and schedule will be identified

