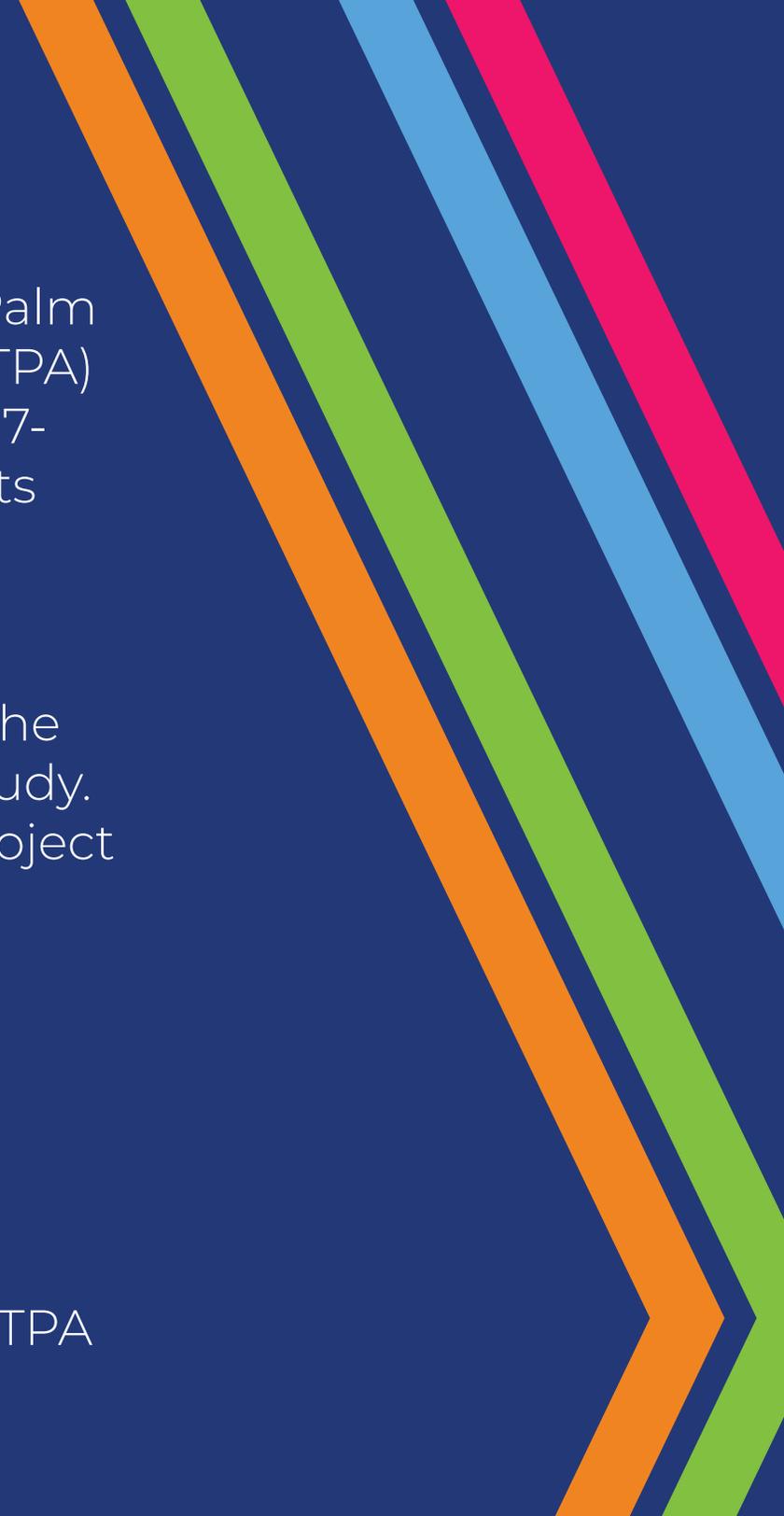




US-1 Multimodal Corridor Study



CONNECTINGCOMMUNITIES
In Palm Beach County



The US-1 Multimodal Corridor Study is a Palm Beach Transportation Planning Agency (TPA) Priority Project that was conducted in 2017-2018 to identify multimodal improvements along US-1 in Palm Beach County from Camino Real in the City of Boca Raton to Indiantown Road in the Town of Jupiter. This coffee book contains a high-level of the findings and recommendations of this study. More information can be found on the project website or the Palm Beach TPA's website.

Project Website:

www.us1pbcorridorstudy.com/index

Palm Beach TPA's Website:

www.palmbeachtpa.org/us1

Adopted May 17, 2018 by the Palm Beach TPA
Governing Board

Acknowledgments

We extend our sincere appreciation and gratitude to the residents, business owners, elected officials, local government staff, partner agencies, Health Impact Assessment (HIA) Working Group, and stakeholders who participated in the planning process and guided the development of the US-1 Multimodal Corridor Study.





1205

1 SOUTHBOUND
CAMINO REAL

1205





Project Overview



Project Overview

The US-1 Multimodal Corridor Study encompasses the US-1 corridor in Palm Beach County from Camino Real in the City of Boca Raton to Indiantown Road in the Town of Jupiter, a length of approximately 42 miles. US-1 is a major north-south travel corridor that traverses 14 of the county's eastern communities. The corridor serves approximately 102,000 workers and 68,000 residents.

Palm Tran's highest ridership bus Route 1 and "The Bolt" limited stop service operate along US-1 and provide access to employment destinations such as Downtown West Palm Beach, education destinations such as Florida Atlantic University, and retail and entertainment destinations such as Downtown Delray Beach. The population is diverse, with both very low and very high-income concentrations located along it. Significant redevelopment occurring all along the corridor reflects and contributes to changing needs and desires of both existing users and those occupying these new places.

The purpose of the US-1 Multimodal Corridor Study is to develop a comprehensive plan to implement continuous multimodal facilities that connect communities along the corridor, including upgrading the existing limited stop service to corridor-based bus rapid transit (BRT). As part of this study, a Health Impact Assessment (HIA) was conducted to understand how bicycle, pedestrian and transit improvements could enhance the health of the adjacent communities. This study was inspired by several previous studies within the US-1 corridor and other multimodal initiatives, which serve as resources for this study including the Palm Beach TPA Complete Streets Policy, Palm Tran Transit Development Plan (TDP) major update, FDOT Complete Streets Implementation, and many local municipal studies and plans.

Study Area

- Study Corridor
- Municipality



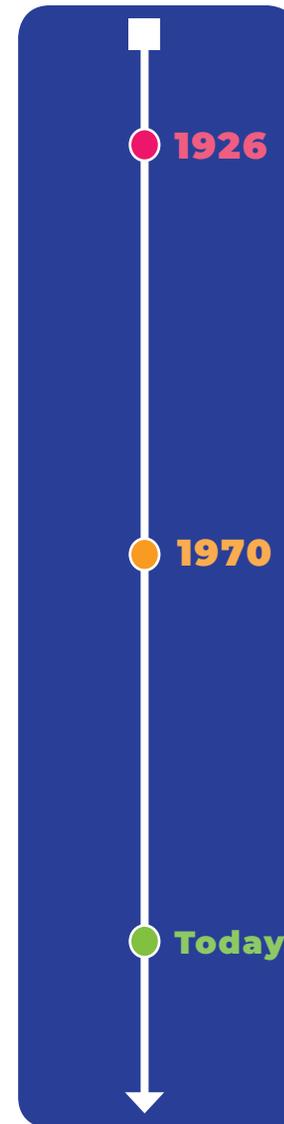
US-1 History + Today

Historically, US-1 has provided mobility for north-south trips through Palm Beach County. US-1 was designated in 1926 as “The Dixie Highway,” which was one of several trans-continental roads envisioned in the early days of the automobile. Development catered to the motoring public with motels, restaurants and other services designed for patrons arriving by car. Because of its transportation role, it was widened over the years to meet growing traffic demand reinforcing its auto-orientation.

The role of US-1 began to change in the 1970’s with the construction of Interstate 95, when it was the main road to get to and through Palm Beach County for long distance trips along the eastern seaboard and within Florida. The high number of destinations that have grown along the corridor have also increased use by pedestrians, bicyclists and transit riders.

Some of the corridor’s municipal leaders have started to pursue Complete Streets policies, preparing studies, redesigning networks and even reconstructing portions of US-1 that traverse their communities. The fragmented nature of these prior actions have resulted in varying approaches for accommodating walking and bicycling. Consequently, this has contributed to an inconsistent environment for active transportation and transit users.

Today, US-1 is a “Main Connector” serving downtown areas in the eastern core of Palm Beach County.



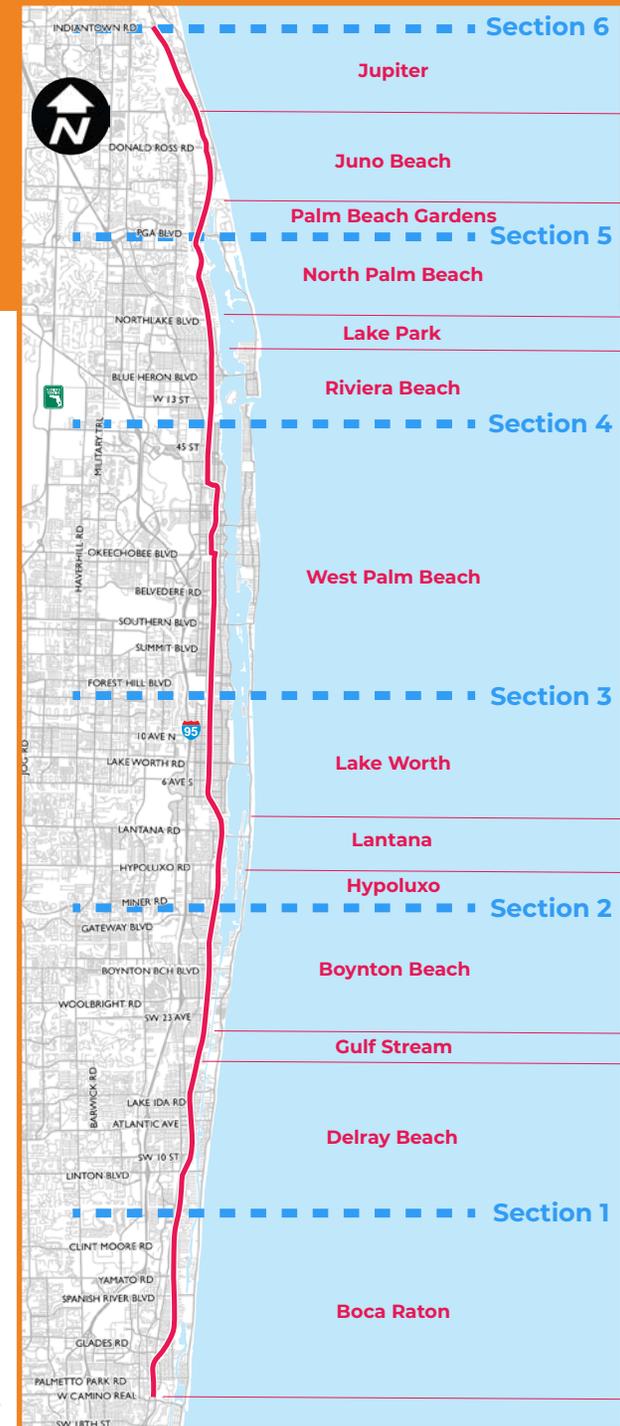
The Vision for US-1

To fully understand the opportunities and issues in connecting pedestrian and bicycle facilities as well as upgrade and expand existing transit service along US-1, the study team met with over 100 stakeholders and hosted a series of six workshops and six three-day charrettes over six months in each of the corridor's sub-segments. During the charrettes, community members were invited to review baseline data, study findings, walk the corridor with the study team and discuss their ideas and desires. The charrettes helped to engage a broad range of community members in the study process. The information received also served as a baseline for the study team's analysis and identification of issues and initial ideas that would respond to specific needs and reflect the context and priorities of surrounding communities.

A specific aspect of the study was designed to assess and quantify the benefits of changes along the corridor. This Health Impact Assessment (HIA) identified parts of the study area with the most acute active transportation needs and uses data to demonstrate how various solutions are likely to affect the well-being of residents, effectively incorporating health considerations into the transportation planning decision-making process.

Study Area

- Section #
- City Boundary



US-1 Community

To understand significant transportation improvements to all modes of travel in palm Beach County and specifically US-1, the Palm Beach TPA Transportation Improvement Program (TIP) (FY 2018-2022) was reviewed and incorporated into the analysis.

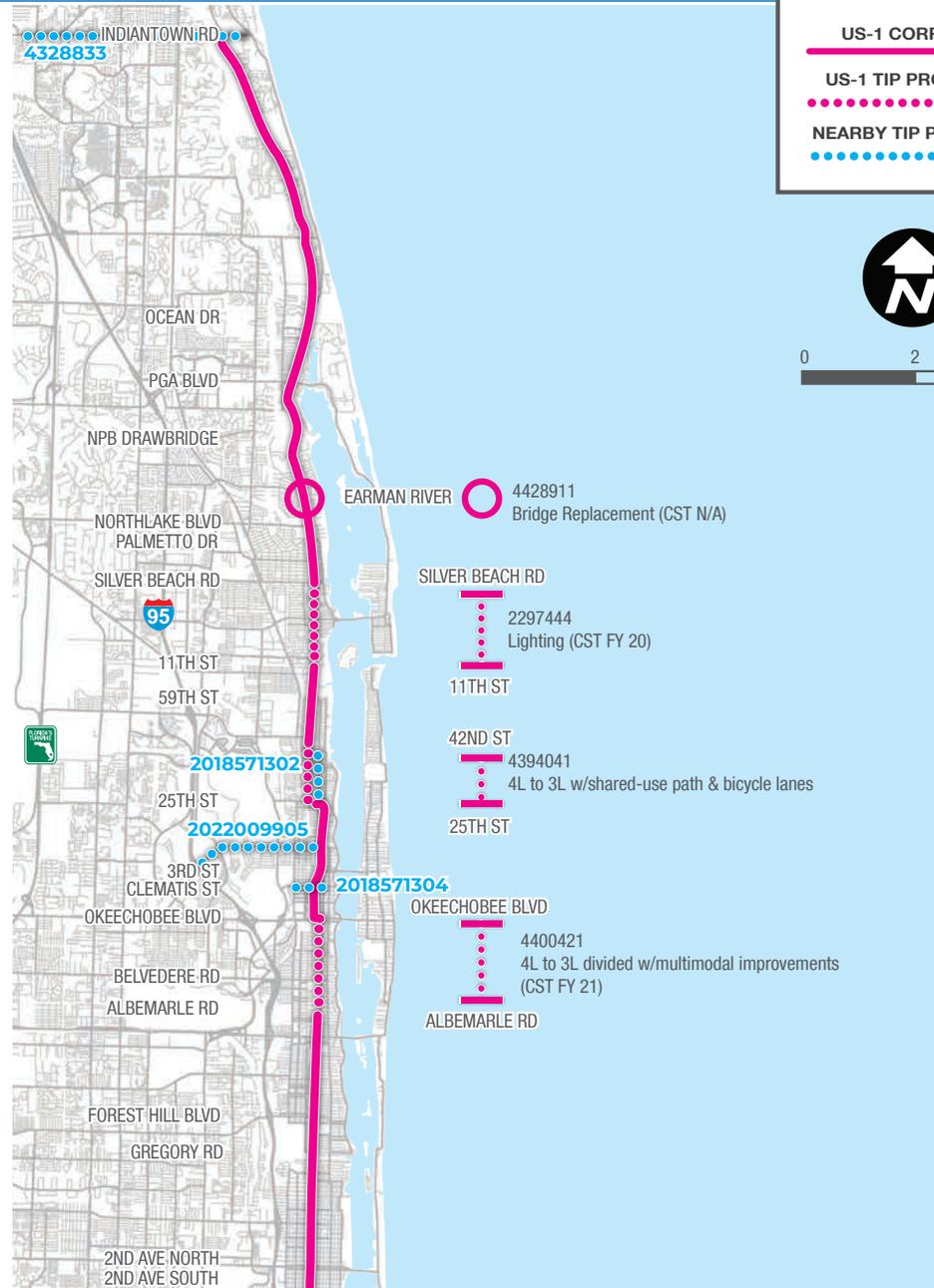
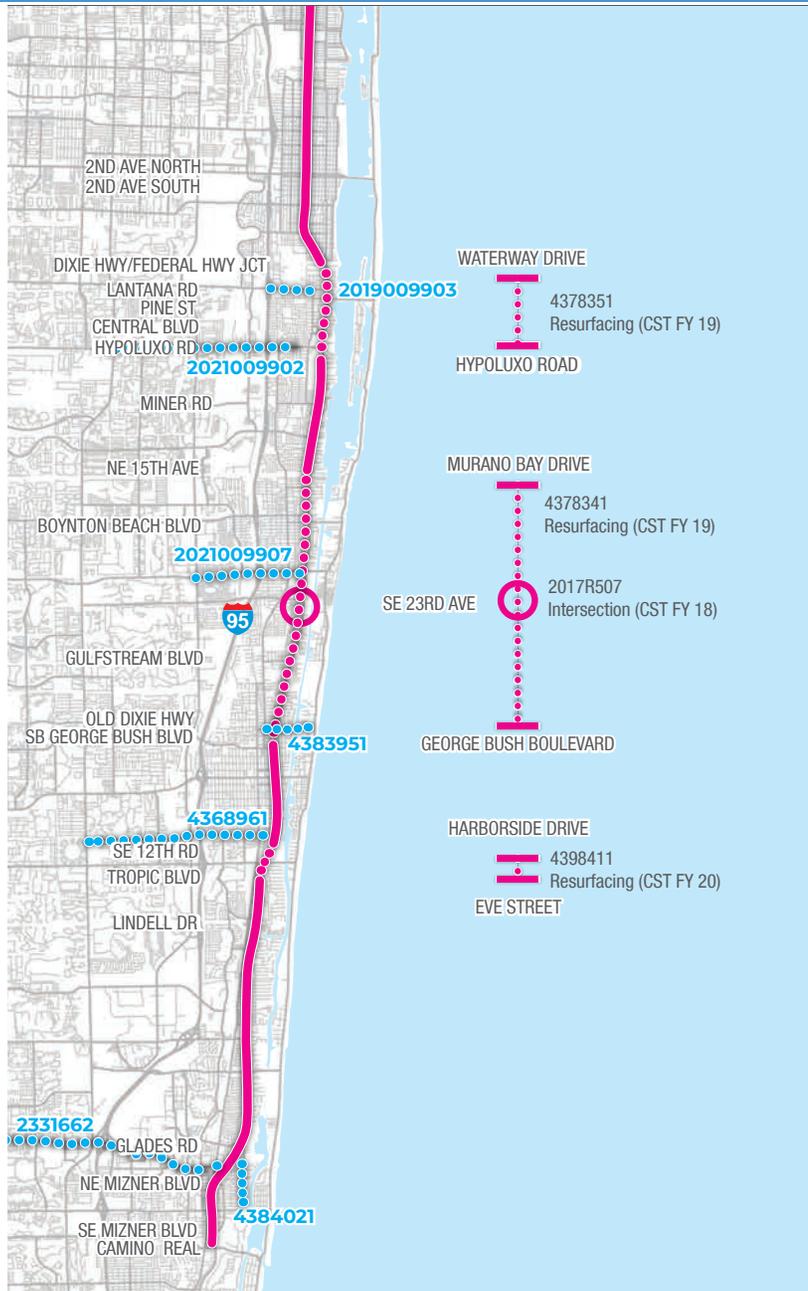
US-1 TIP Projects

Project #	Limits	Length (miles)	Jurisdiction	Funding	Description
4398411	Eve Street to S. of Harborside Drive	0.5	Delray Beach	PE FY18: \$275,000 CST FY20: \$1,300,403	Resurfacing
4378341	North of George Bush Boulevard to North of (Canal) Murano Bay Drive	4.6	Delray Beach – Boynton Beach	CST FY19: \$7,005,000	Resurfacing
2017R507	US-1 at SE 23 rd Avenue	--	Boynton Beach	CST FY18: \$650,000	Intersection Improvement
4378351	N of Hypoluxo Road to Waterway Drive	1.4	Lake Worth-Lantana	CST FY19: \$2,804,768	Resurfacing
4400421	Albemarle Road and Okeechobee Boulevard	1.0	West Palm Beach	PE FY19: \$759,000 ENV FY20: \$309,000 CST FY21: \$5,311,000	Convert 4L to 3L & associated multimodal improvements
4394041 & 4394042	25 th Street to 42 nd Street	1.0	West Palm Beach	PE FY18: \$1,280,000	Convert 4 lane roadway to 3-lane roadway with dedicated bicycle lanes and a shared-use nonmotorized trail on the west side
2297444	11 th Street to Silver Beach Road	1.4	Riviera Beach	PE FY18: \$360,000 CST FY20: \$834,830	Lighting
4428911	US-1 over Earman River (C-17) Bridge 930003	0.2	North Palm	TBD	Bridge Replacement

Other TIP Projects Adjacent to US-1

Project #	Road	Limits	Jurisdiction	Funding	Description
4384021	5 th Avenue	Boca Raton Road to NE 20 th Street	Boca Raton	PE FY19: \$260,000 CST FY20: \$464,022	Sidewalk
2331662	Glades Road/ SR 808	SR 7 to US-1	Boca Raton	CST FY 17: \$8,200,000	Various Intersection Improvements
4368961	Lowson Boulevard/ SW 10 th Street	Military Trail to SE 6 th Avenue	Delray Beach	PE FY18: \$5,000 CST FY20: \$4,786,978	Bicycle Lanes/ Sidewalk
4383951	George Bush Boulevard	NE 2 nd Avenue to SR A1A (excluding Intracoastal Waterway Bridge)	Delray Beach	PE FY19: \$510,000 CST FT21: \$3,203,356	Bicycle Lanes/ Sidewalk
2021009907	Woolbright Road	Congress Avenue to US-1	Boynton Beach	CST FY21: \$221,000	Resurfacing
2021009902	Hypoluxo Road	Military Trail to US-1	Hypoluxo	CST FY21: \$1,400,000	Resurfacing
2019009903	Lantana Road	I-95 to US-1	Lantana	CST FY19: \$500,000	Resurfacing
2018571304	Banyan Boulevard	Tamarind Avenue to Olive Street	West Palm Beach	CST FY18: 1,770,000	Resurfacing
2022009905	Palm Beach Lakes Boulevard	I-95 to US-1	West Palm Beach	--	Resurfacing
2018571302	Spruce Street	25 th Street to 40 th Street	West Palm Beach	CST FY 18: 1,070,000	Urban Corridor Improvements
4328833	Indiantown Road	Florida Turnpike to US-1	Jupiter	RRU/CST FY 19: 5,986,129	Arterial Traffic Management Systems

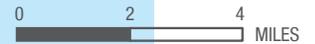
US-1 Community Projects (FY 2018-2022)



US-1 CORRIDOR

US-1 TIP PROJECTS

NEARBY TIP PROJECTS





Understanding the





US-1 Corridor

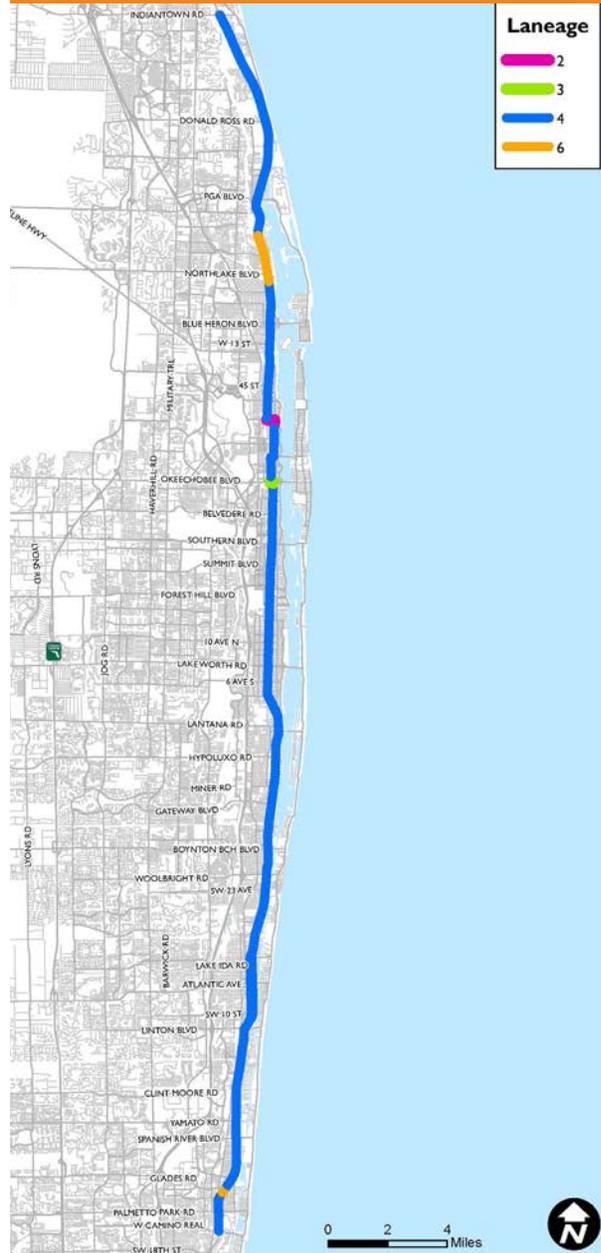


Understanding the US-1 Corridor

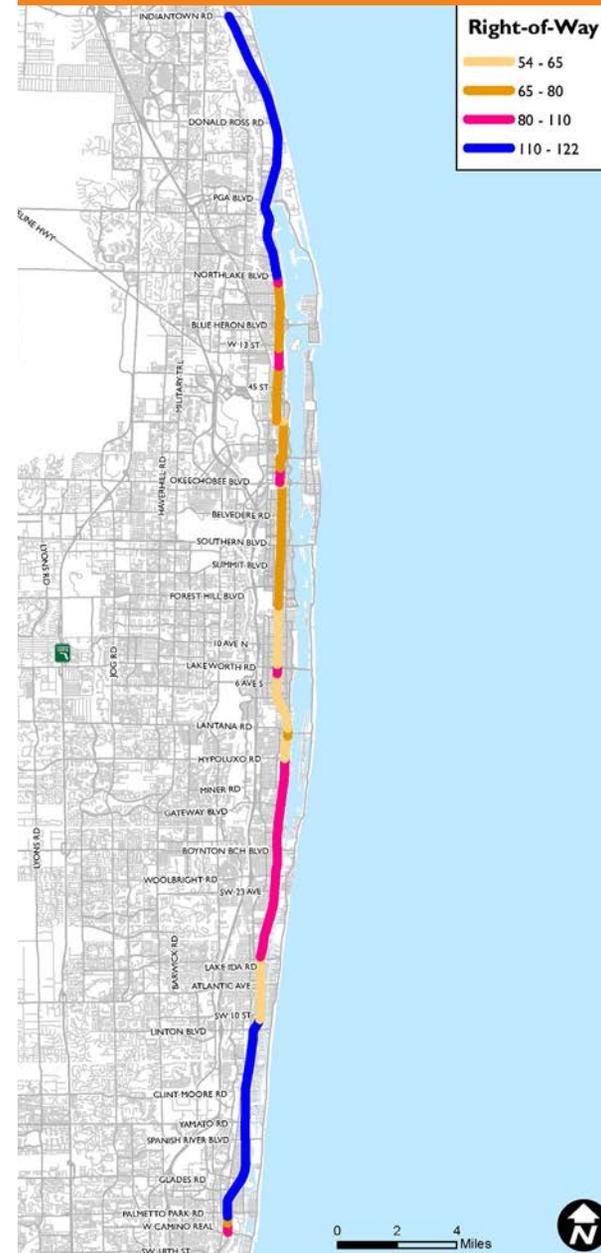
US-1 is a major population and employment corridor in Palm Beach County with a diverse population and a high need for accessible, convenient, safe, and comfortable transportation options. In order to understand the quality and quantity of the transportation system as well as how people are using it, this section describes the existing transportation conditions. It describes the system by looking at the Street Network Characteristics and Transit Conditions.

Street Network Characteristics

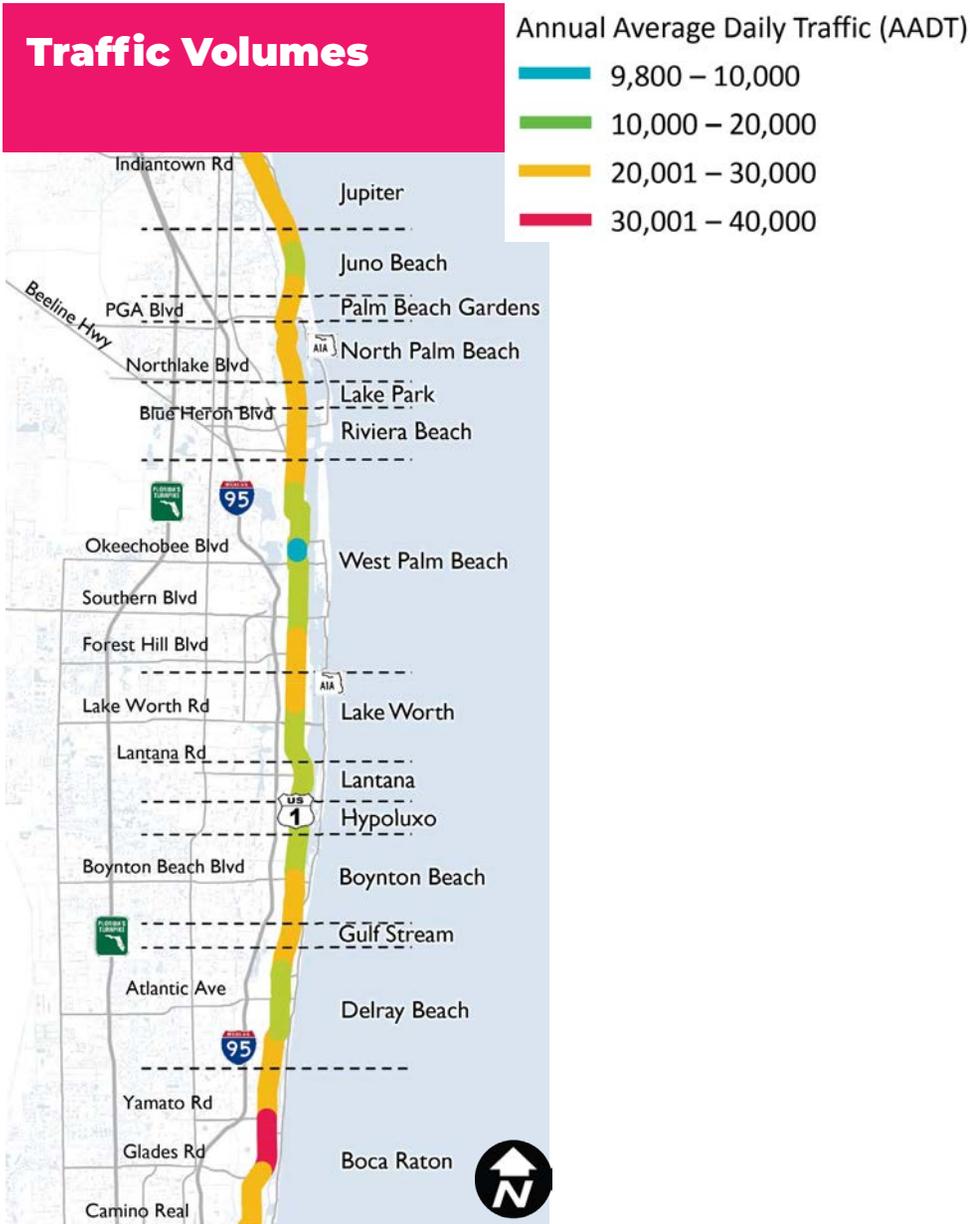
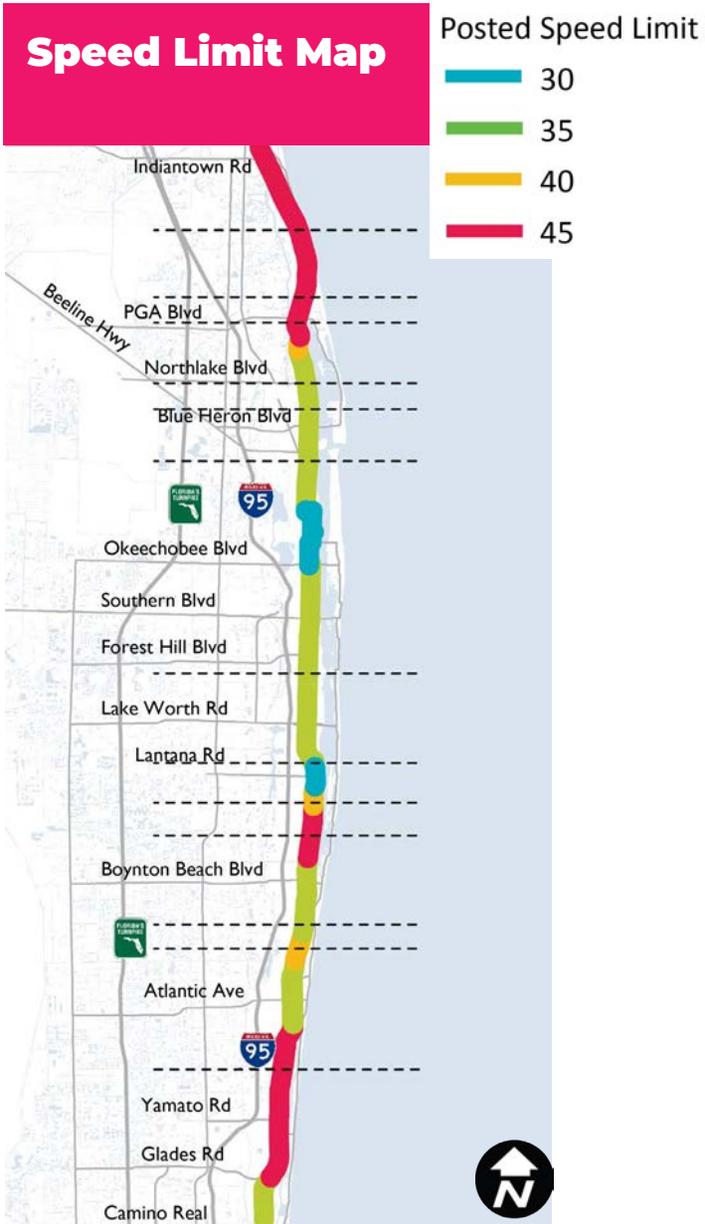
Laneage



Right-of-Way

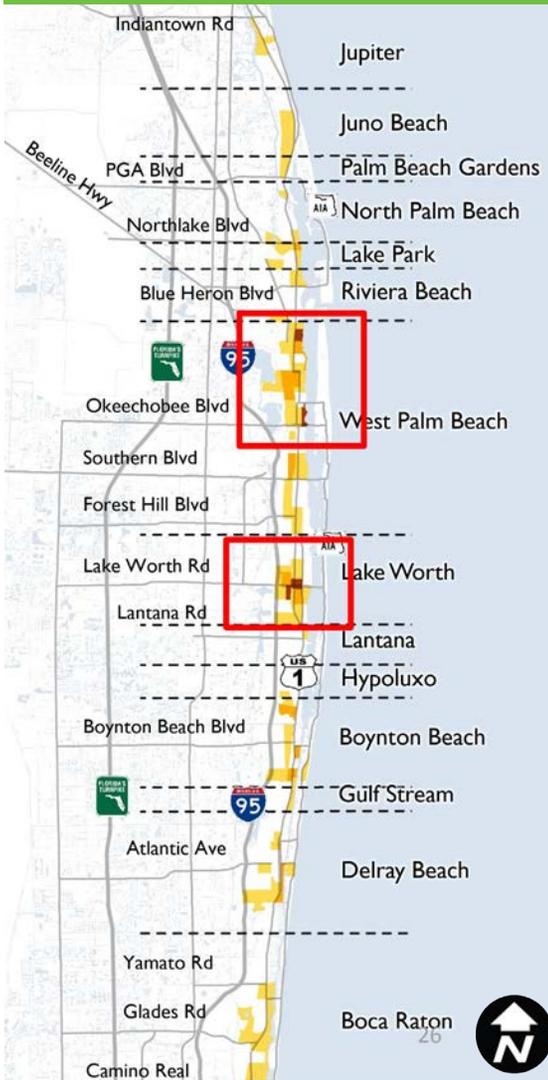


Street Network Characteristics



Street Network Characteristics

Access to Vehicle



Households Without Access to a Vehicle

- 0.29 (County Avg) – 1 / Acre
- 1.01 – 1.5 / Acre
- 1.6 – 10.5 / Acre

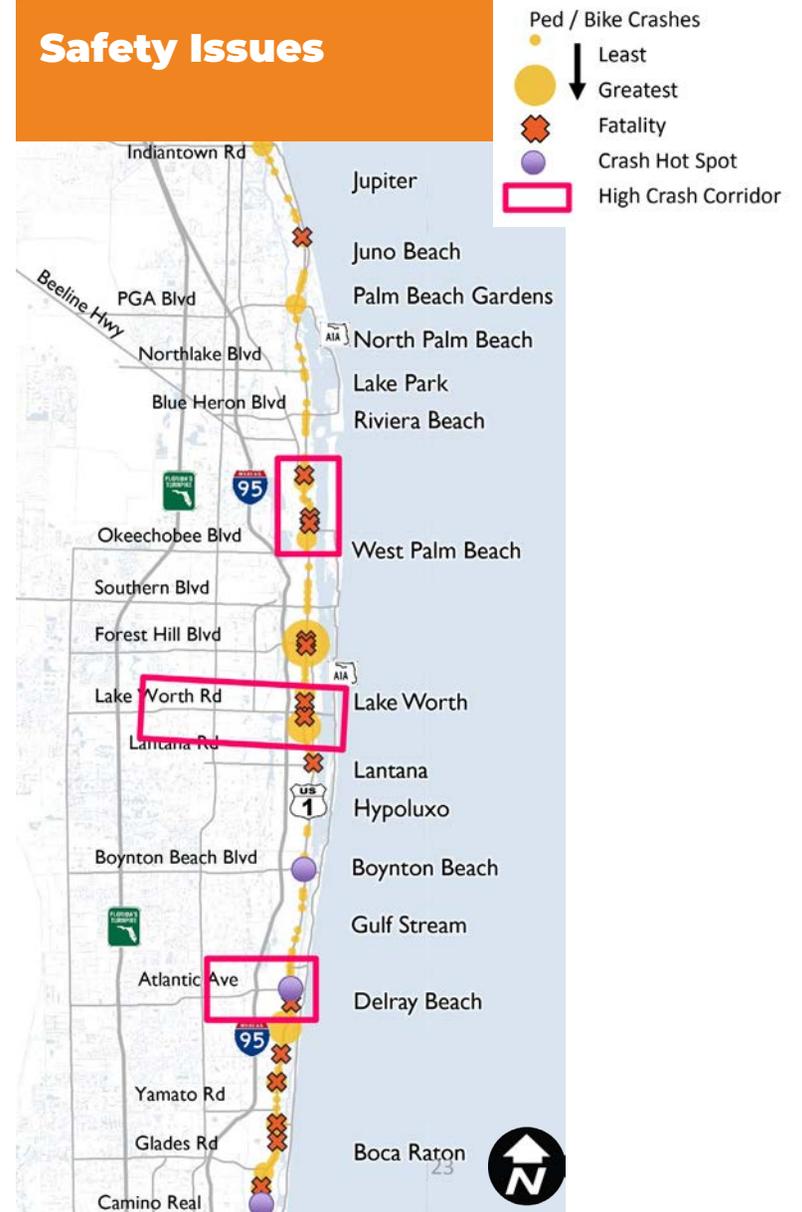
Sidewalk & Bicycle Gaps



Walking and Bicycling Facilities

- Bicycle Facility Gap
- Sidewalk Gap

Safety Issues



Ped / Bike Crashes
 ↓ Least
 ↓ Greatest
 Fatality
 Crash Hot Spot
 High Crash Corridor



Public Engagement

Process



Existing Conditions Section 1: Boca Raton

Map showing Right-of-Way (ROW) boundaries and existing conditions for Section 1: Boca Raton.

- Right-of-Way - 124
- Right-of-Way - 122
- Right-of-Way - 87
- Right-of-Way - 120

US-1 Multimodal Corridor Study

Get informed!

What is the US-1 Multimodal Corridor Study?
The US-1 Multimodal Corridor Study is a project to improve the safety, efficiency, and multimodal connectivity of the US-1 corridor in South Florida. The study will evaluate existing conditions and propose improvements for the corridor, including transit, bicycle, and pedestrian facilities.

What are some of the analyses?
- Recommendation of transit facilities, including transit stations and transit stops
- Evaluation of transit service options, including transit routes, transit modes, and transit schedules
- Evaluation of health and environmental impacts of the proposed transit facilities

Workshop/Charrette Schedule

Event	Date	Location
Public Meeting	April 12, 2017	US-1 Corridor Study
Public Meeting	April 19, 2017	US-1 Corridor Study
Public Meeting	April 26, 2017	US-1 Corridor Study
Public Meeting	May 3, 2017	US-1 Corridor Study
Public Meeting	May 10, 2017	US-1 Corridor Study
Public Meeting	May 17, 2017	US-1 Corridor Study
Public Meeting	May 24, 2017	US-1 Corridor Study
Public Meeting	May 31, 2017	US-1 Corridor Study
Public Meeting	June 7, 2017	US-1 Corridor Study
Public Meeting	June 14, 2017	US-1 Corridor Study
Public Meeting	June 21, 2017	US-1 Corridor Study
Public Meeting	June 28, 2017	US-1 Corridor Study
Public Meeting	July 5, 2017	US-1 Corridor Study
Public Meeting	July 12, 2017	US-1 Corridor Study
Public Meeting	July 19, 2017	US-1 Corridor Study
Public Meeting	July 26, 2017	US-1 Corridor Study
Public Meeting	August 2, 2017	US-1 Corridor Study
Public Meeting	August 9, 2017	US-1 Corridor Study
Public Meeting	August 16, 2017	US-1 Corridor Study
Public Meeting	August 23, 2017	US-1 Corridor Study
Public Meeting	August 30, 2017	US-1 Corridor Study
Public Meeting	September 6, 2017	US-1 Corridor Study
Public Meeting	September 13, 2017	US-1 Corridor Study
Public Meeting	September 20, 2017	US-1 Corridor Study
Public Meeting	September 27, 2017	US-1 Corridor Study
Public Meeting	October 4, 2017	US-1 Corridor Study
Public Meeting	October 11, 2017	US-1 Corridor Study
Public Meeting	October 18, 2017	US-1 Corridor Study
Public Meeting	October 25, 2017	US-1 Corridor Study
Public Meeting	November 1, 2017	US-1 Corridor Study
Public Meeting	November 8, 2017	US-1 Corridor Study
Public Meeting	November 15, 2017	US-1 Corridor Study
Public Meeting	November 22, 2017	US-1 Corridor Study
Public Meeting	November 29, 2017	US-1 Corridor Study
Public Meeting	December 6, 2017	US-1 Corridor Study
Public Meeting	December 13, 2017	US-1 Corridor Study
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Public Meeting	December 24, 2018	US-1 Corridor Study
Public Meeting	December 31, 2018	US-1 Corridor Study

What is the project timeline?

- Spring 2017: RESEARCH
- Summer - Fall 2017: OUTREACH
- Winter 2018: REPORT
- Spring 2018: OUTREACH

Who is involved in the project?

FDOT, US-1 Corridor Study, and other stakeholders.

How can I get more information?

Visit www.us1corridorstudy.com or call 1-800-352-3434.

Existing Conditions Section 4: West Palm Beach

Map showing Right-of-Way (ROW) boundaries and existing conditions for Section 4: West Palm Beach.

- Right-of-Way - 124
- Right-of-Way - 122
- Right-of-Way - 87
- Right-of-Way - 120

Public Engagement Process

The US-1 Multimodal Corridor Study began with an open streets public outreach kick-off event in May 2017 at Sanborn Square in Boca Raton that was used as an opportunity for public awareness of the project and consensus-building. The existing conditions for the project corridor related to socioeconomic and street network characteristics and transit conditions was presented to increase the project corridor for healthy community development. Workshops and open studio charrettes followed for more detailed engagement with the public.



2017

April

- Health Impact Assessment Working Group Kick-Off Meeting

May

- Open Streets Public Outreach
- Kick-Off Event Comment Map

June — October

- Public Survey
- Stakeholder/Personal Interviews
- Workshops
- Open Studio Charrettes
- Health Impact Assessment Working Group Meetings

2018

May

- Technical Advisory Committee (TAC) Meeting
- Citizens Advisory Committee (CAC) Meeting
- Bicycle/Trailways/Pedestrian Advisory Committee (BTPAC) Meeting
- TPA Governing Board Meeting

Key interest groups targeted and invited to participate in engagement process included:

- Residents
- Business owners
- Elected officials
- City staff
- Agency representatives
- Economic development officials
- Neighborhood advocates
- Multimodal advocates
- Educators

Workshops & Open Studio Charrettes

Workshops were held on Saturdays and the open studio charrettes were held on Monday through Wednesday of the following week. The workshops included an overview presentation, group walking audit “Walkshop” to assess the corridor and a group street design exercise.

The three-day open studio charrettes consisted of different activities as listed below to capture the participants’ desired vision for the US-1 corridor and a closing presentation on the third day.

- Build-a-Street
- Priority Pyramid
- Intersection Designs
- Transit Characteristics
- Conceptual “Opportunity Area” Analysis





WALKSHOP

Stakeholder Interviews

Creating a community vision is a planning step that should not be taken lightly. It requires a thoughtful approach to engaging the community and empowering stakeholders. Over 100 stakeholder interviews were held to encourage aspirational planning while understanding why decisions were made.

Stories of the Corridor

Beethoven is a driven entrepreneur confident in the potential of Riviera Beach. Relocating a few years ago from Connecticut to open a popular coffee shop and restaurant, he is committed to being part of a future renaissance in Riviera Beach and notes the interest of other businesses, such as leading yacht services firm Rybovich, similarly relocating to Riviera. For Beethoven, US-1 is the gateway and an opportunity to enhance business development. He dreams of more on street parking opportunities and a roundabout on 20th street to support the walkable access to local businesses fronting the corridor.

“
We need more people to come
to Riviera Beach not through.”



BEETHOVEN

Pat enjoys the shade while offering support and outreach to patrons at Bus Stop #155 at the CVS in the heart of Lake Worth. However, she notes that the garbage and lack of stewardship of the stops really gives a bad impression of her community. She and her friend, Eileen, bring trash bags to clean up the debris each time she's out.

“
...This is a thoroughfare where people
come from outside our area and they see
all this filth around the bus stops and that
to me is a disgrace. People that come to
a bus stop, they are looking at what Lake
Worth is like, and that gives a very bad
taste in someone's mouth.”



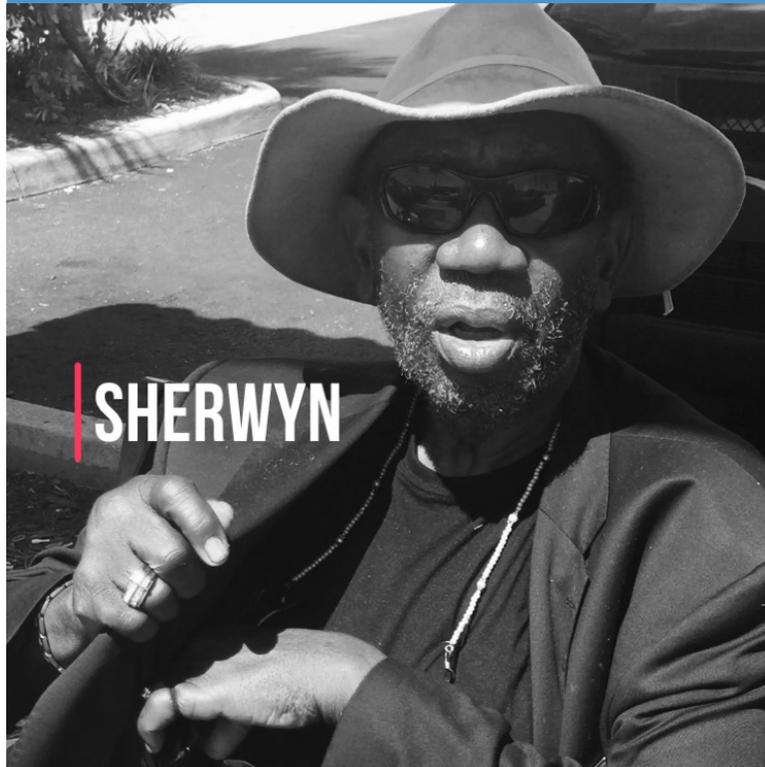
PAT

Stories of the Corridor

Pedro is a hard, loyal nurse's assistant employed by Bethesda East Hospital in Boynton Beach. Each morning at 4:30 AM he walks to the Intermodal Center in West Palm in the dark. With the lack of well lit sidewalks and crosswalks near the station, he walks quickly as he's very concerned about his personal safety and "fear of being a target". His journey to and from the hospital takes a little over 2 hours each way. Sometimes he rides Tri-Rail in the morning, but uses the bus on the return trip due to the cost. He usually buys a weekly bus pass, but on this day he purchased a single pass because he could not afford to purchase a new weekly pass after his expired. Pedro felt that it was too much for the what would normally take about 20 minutes by car.



PEDRO



SHERWYN

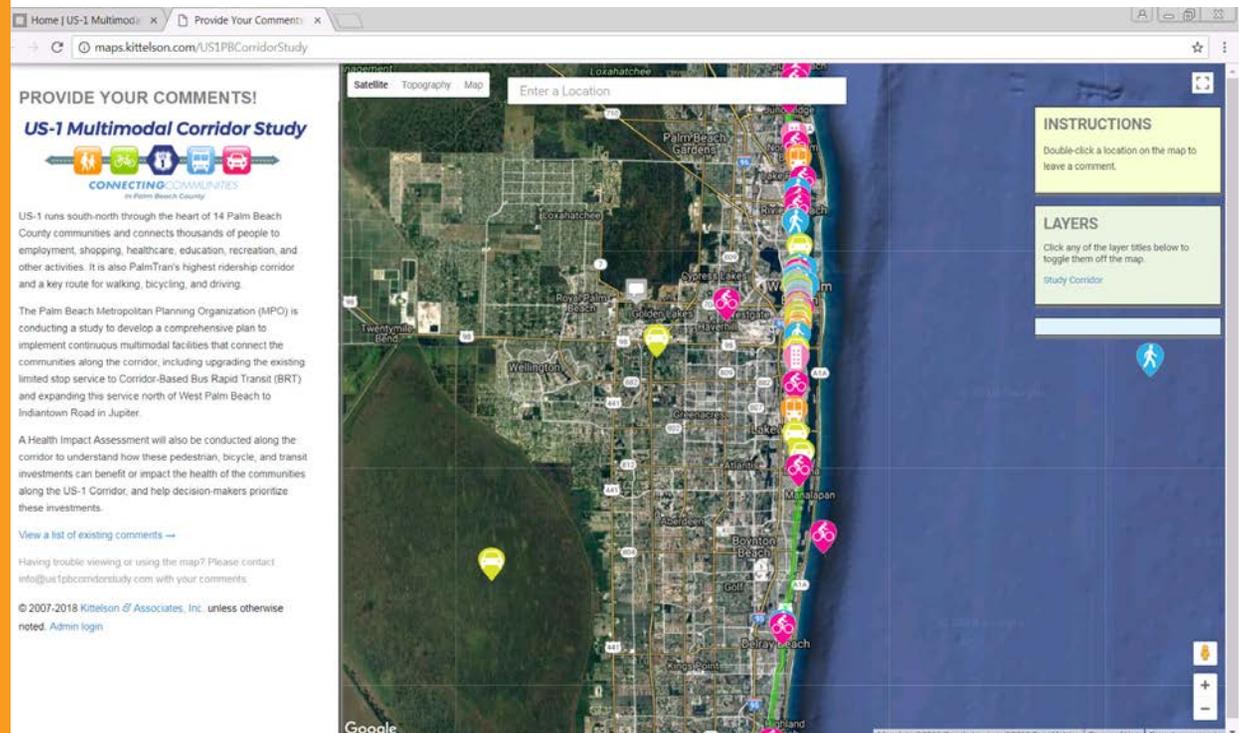
Sherwyn, a retired police officer, is a big transit user and notes the dangerous conditions of intersections and bus stops along US-1. From a pedestrian safety standpoint, he notes the importance of high emphasis crosswalks and a mandatory reduction of speed limits, especially near major intersections.

“ We don't have enough police officers to enforce limits and patrol traffic and we don't need to. Design it for walkers and bicyclists first, and things can take care of themselves. ”

Interactive Comment Map

An interactive comment map was provided on the project website for the public to indicate issues and identify recommendations for improving transportation along the US-1 project corridor. Because a given respondent could drop their note on a specific location or address, these notes were generally very specific about a place, intersection, segment of roadway, or desire for some new aspect. There were over 130 comments placed on the map and an average of two likes per comment (260+ likes) - meaning many other respondents were supportive of those comments - whether or not they left their own comment.

130 RESPONSES

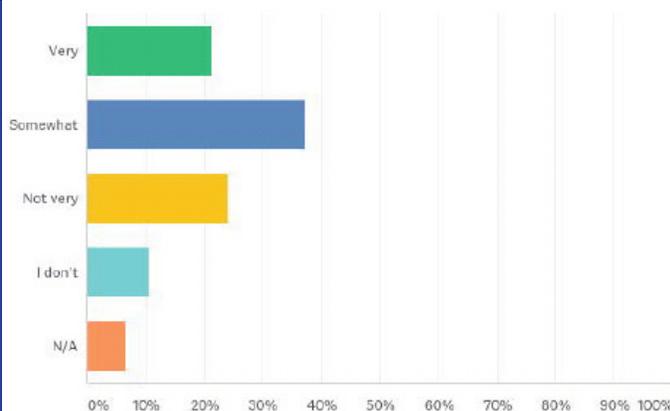


Quality of Life and Transit Survey

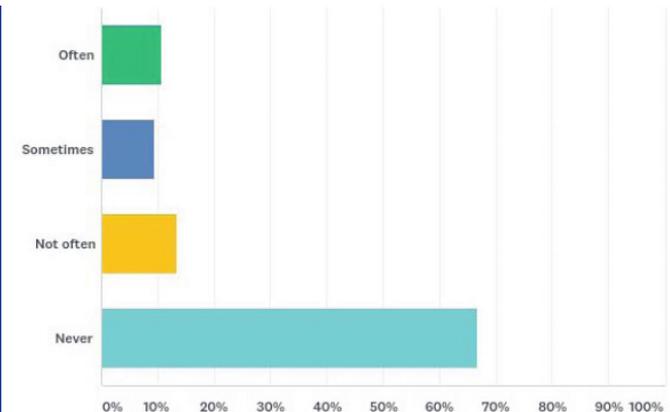
Quality of life is defined by the World Health Organization as “an individual’s personal satisfaction with the cultural or intellectual conditions under which they live.” Quality of life is affected by the degree that people have access to employment, health care, food sources, and educational facilities and that access influences the quality and quantity of lifestyle choices made.

In an effort to gauge the population in the study area, a “Quality of Life and Transit” Survey was conducted. This was available via the project website, as well as through impromptu discussions and filling out the survey via an iPad with random transit riders on the bus in the various sections of the US-1 Corridor. The Quality of Life and Transit Survey showed that approximately 35% individuals do not feel connected to their community and neighbors. In addition, 20% of respondents have been “sometimes” or “often” unable to get to work or health care services along the US-1 Corridor due to public transportation issues. These results indicate a need for respondents to have multimodal options. Research shows that high quality public transit can reduce emotional stress by improving access to education and employment activities, improving community cohesion, improving access to social and recreational activities, and reduce stress levels of commuters that no longer need to drive.

“How Connected Do Respondents Feel To Their Community And Neighbors Along US-1?”



“How often have you been unable to get to work or health care services along US-1 due to public transportation issues?”





US-1 Health Impact





Assessment Summary

US-1 Health Impact Assessment Summary

What is an HIA?

A Health Impact Assessment (HIA) is a process that analyzes and quantifies how a policy or investment influences people's health.

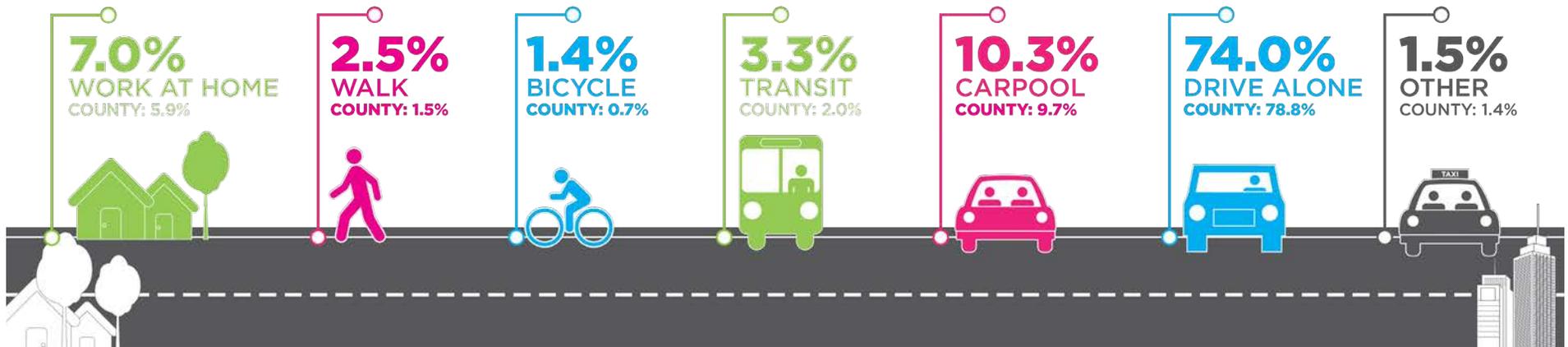
Goals of the HIA

- Improve access to jobs and education
- Improve access to health and community service
- Improve safety for pedestrians and bicyclists
- Support development / redevelopment along the corridor

How to use the HIA

An HIA helps decision-makers understand how pedestrian, bicycle, and transit investments can benefit or impact the health of the communities along the US-1 Corridor and help decision-makers prioritize these investments and inform public policy changes.

How do residents within 1/2 mile of US-1 get to work?



US-1 Links the County in Multimodal Ways

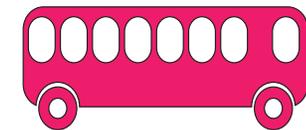


68,000 Residents
(13% of County Residents)

102,000 Workers
(19% of County Jobs)



11,000 to 32,000
Daily Vehicle Trips



8,600 Daily Transit Riders
#1 Ridership Route in the County

Pedestrian and Bicycle Safety is a concern Along US-1 throughout the County

82%

Bicycle Crashes Occurring
in Locations with No Bicycle
Lane

15

Fatalities; All Occurred in
Dark or Dusk (*Between 2011-2016*)

The US-1 corridor is a critical roadway for Palm Beach County's Residents

How can planning for enhanced transit and Complete streets impact health?

- Accessible Healthy Food Sources
- Physical Activity
- Mental Health and Chronic
- Bicycle and Pedestrian Crash Rates
- Economic Health
- Access to Transportation



High quality public transportation increases access to healthy food sources, especially for physically or economically disadvantaged (Victoria Transport Policy Institute, 2010)



Transit availability **encourages** an extra **20 blocks walked** per month (Cambridge, 2015)

Longer walking distances are associated **with riding BRT** versus the local bus (Journal of Physical Activity and Health, 2014)



Researchers observed a **42% lower risk of hypertension** among those that moved from low to high **walkability** neighborhood (Chiu, 2015)



Adding bicycle facilities on a street **increases safety for all users** (Injury & Prevention, 2003).



Enhanced transit is capitalized into land value, as **residents and businesses are willing to pay more to be closer to transit stations.**

In an auto-dependent environment, families spend an average of 25% of their budget on transportation. In a walkable environment, they spend 9%. (Center for Transit Oriented Development, 2008)



Lack of access to transportation **reduces health care utilization among children, seniors, low-income people, and people with disabilities.** (Statistic Brain, 2017)

2

Food Deserts in the US-1 Corridor
(Boynton Beach + Riviera Beach)

30%

Residents in the US-1 Corridor who have had **obesity-related health issues**

43%

The **hypertension** rate in the US-1 Corridor: Higher than the County, State, and National averages

20%

Survey respondents indicated they were **unable to get to work or health care services** along US-1 **due to public transportation issues**

14%

Residents in the US-1 Corridor who have had **diabetes-related issues**

How are US-1 corridor users affected?



The Davises in Boynton Beach

Mr. Davis (who was permanently injured in an accident 20 years ago) and his wife, who is also disabled, are grateful for their degree of independence. Because they do not own a personal vehicle, the Davises can be seen traversing the Corridor with their automatic wheel chairs. They rely on **Palm Tran for nearly all of their daily trips**: playing bingo, visiting the beach, shopping, medical appointments, and visiting nearby parks to feed the ducks.

They live just two blocks from the Palm Tran stop at US-1 and 6th Avenue, however, Mr. Davis noted that they both need to ride their wheelchairs in the bicycle lane because of the **lack of continuous sidewalks**. Mr. Davis noted that, while he is riding in the street, he has been told by local authorities to use the sidewalk or face getting a ticket. There is no sidewalk.

How are US-1 corridor users affected?

Complete Streets



Enhanced Transit

	Health Indicator	Distribution of Impact
	Access to Health Care & Healthy Food	High likelihood of positive impact to vulnerable populations and the overall reduction of food deserts
	Mental Health & Depression	Positive impact on elderly populations and auto-dependent communities
	Chronic Illness (Diabetes, Hypertension, Asthma)	Positive impact to auto-dependent communities
	Obesity	High likelihood of positive impact to vulnerable populations and auto-dependent communities
	& Pedestrian Crash Rates	High likelihood of positive impact to all users of the US-1 Corridor - especially high-speed areas
	Taxable Land Value	Moderate positive impacts to areas of likely development and redevelopment Possible negative impacts to vulnerable populations (displacement mitigation)

Primary HIA Recommendations

Advance Alternatives and implement Bus Rapid Transit service on the US-1 Corridor

Lead Agency:

- Palm Tran

Partnering Agencies:

- Palm Beach TPA
- US FTA
- Municipalities along US-1 Corridor

Implement the Complete Streets Enhancements on the US-1 Corridor

Lead Agency:

- FDOT

Partnering Agencies:

- Palm Beach TPA
- Municipalities along US-1 Corridor
- Palm Beach County
- Palm Tran

Secondary HIA Recommendations

The secondary recommendations focused on specific issues on the US-1 Corridor. Those issues were categorized into **five typologies**: policy, transportation, land use, education, and marketing.

Policy

Transportation

Land Use

Education

Marketing

Monitoring, Evaluation, and Follow-Up

The Palm Beach TPA will track and documents the impact of the implementation of the US-1 Multimodal Corridor Study as it relates to the health indicators described in the US-1 HIA Appendix Report. It is recommended that the HIA Monitoring Plan that determines the following:

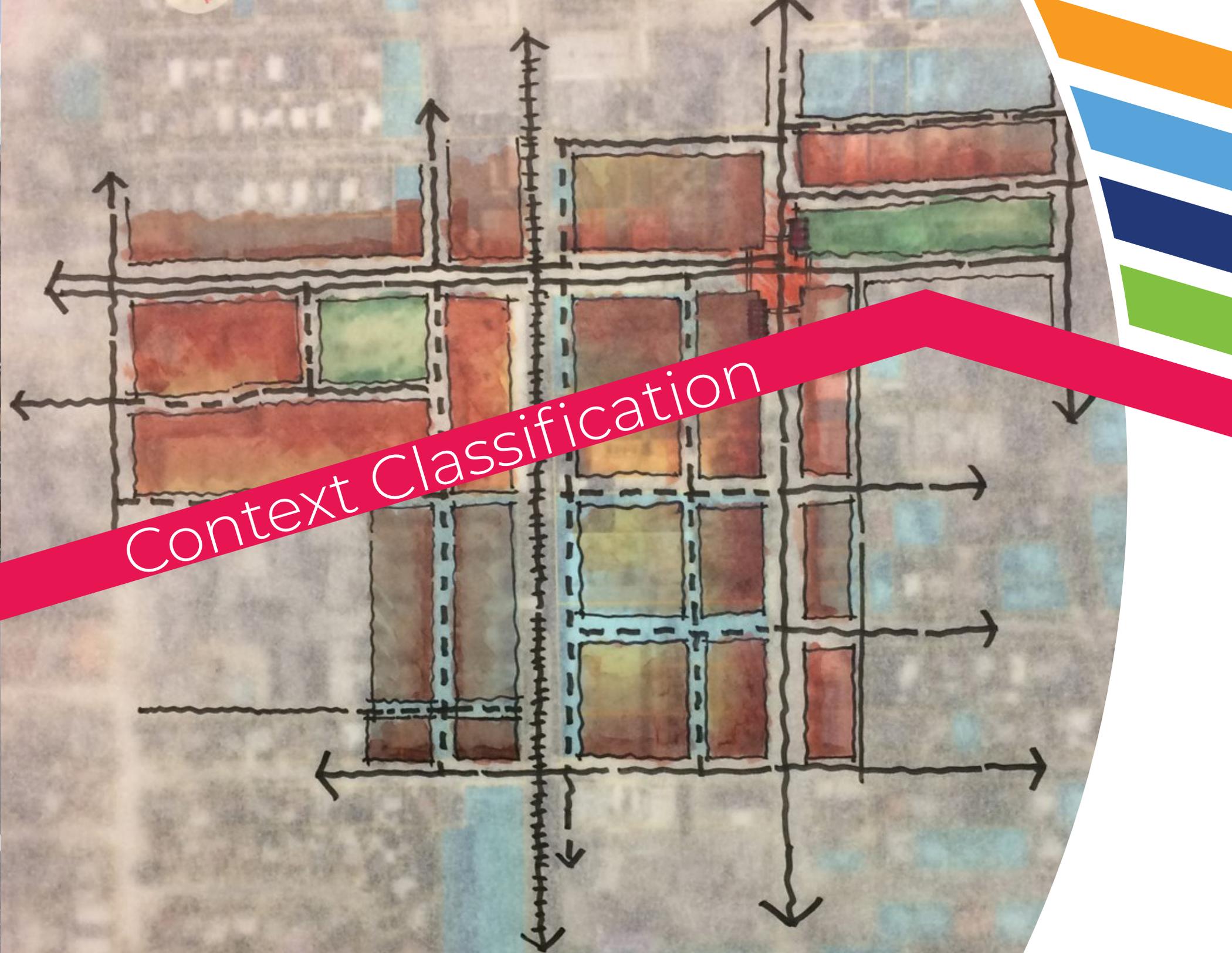
1 Which recommendations in this HIA have been enacted to promote and improve health along the US-1 Corridor?

2 As a direct result of the US-1 HIA's primary recommendations, what is the evidence showing the change in the overall community health along the US-1 Corridor?

3 As a direct result of the US-1 HIA's Secondary recommendations, what is the evidence showing change in the overall community health along the US-1 Corridor?



US-1 Corridor



Context Classification

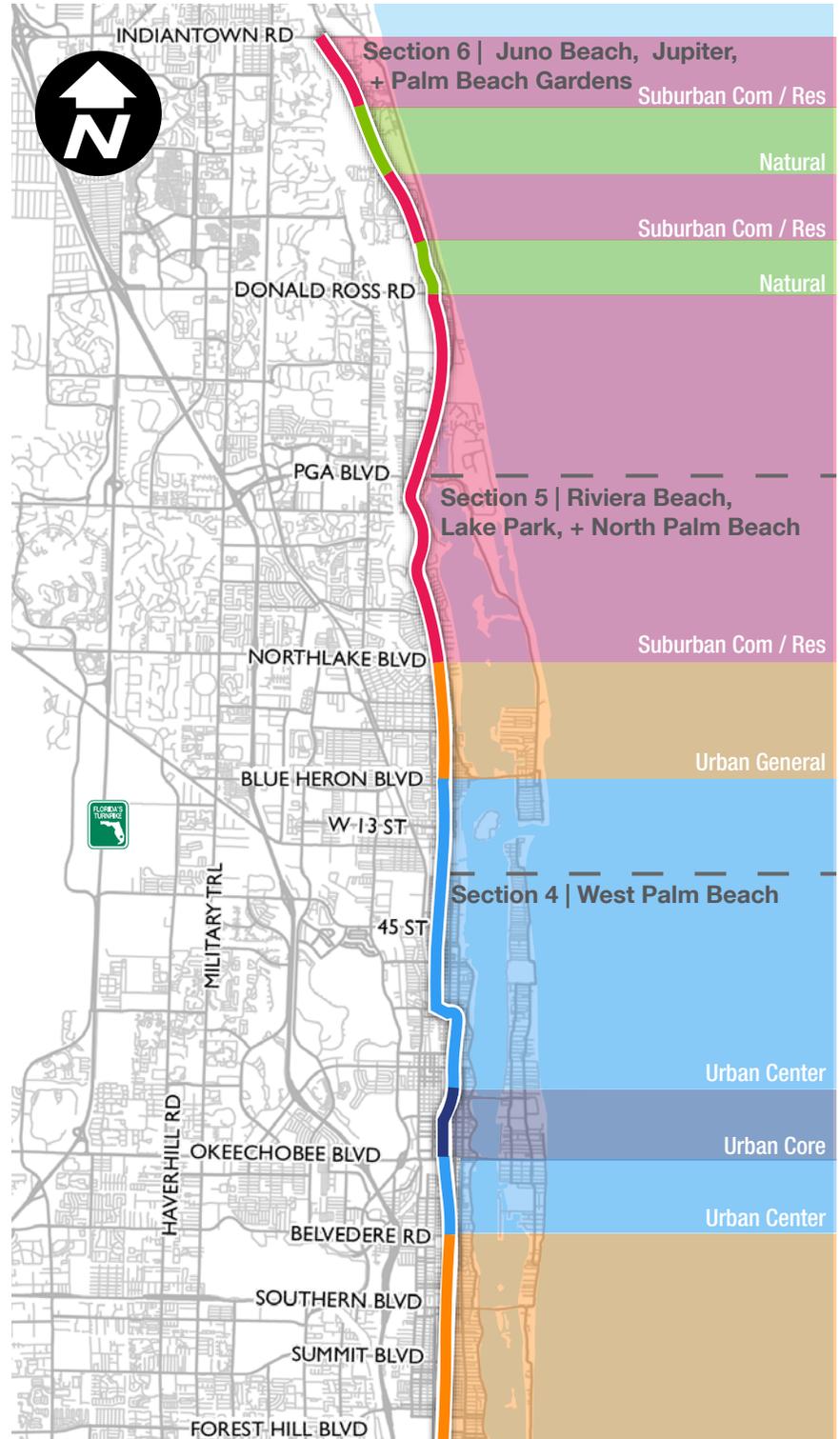
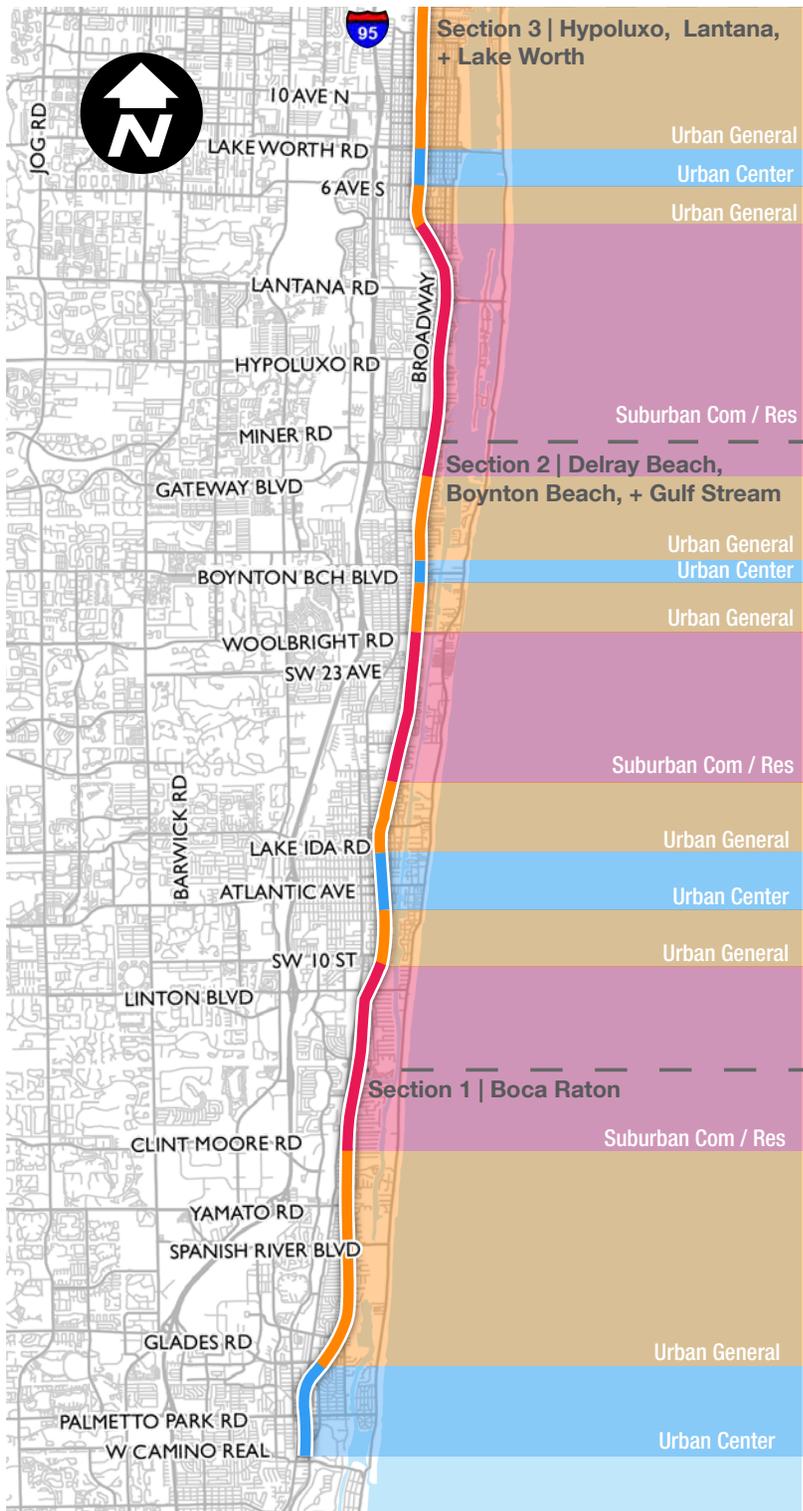
Context Classification

When considering the existing roadway conditions, character, and land uses, trends begin to emerge that tell the story of the corridor and its intended use. Certain areas, for example, are more rural and others are clearly commercial cores. In order to facilitate the definition of areas based on their context, needs, and desires, FDOT has developed a Context Classification system that defines eight different character types.

In support of FDOT’s context classification guidance, the Palm Beach TPA developed a context classification guidebook to help the TPA guide street design in the county, both state and local roads. The TPA’s context classification is flexible to incorporate the identified context classification for the corridor and will help ensure consistency and connectivity between state and local roads.

www.palmbeachtpa.org/CompleteStreets

C1-Natural	Lands preserved in a natural or wilderness condition, including lands unsuitable for settlement due to natural conditions.
C2-Rural	Sparsely settled lands; may include agricultural land, grassland, woodland, and wetlands.
C2T-Rural Town	Small concentrations of developed areas immediately surrounded by rural and natural areas; includes many historic towns.
C3R-Suburban Residential	Mostly residential uses within large blocks and a disconnected or sparse roadway network.
C3C-Suburban Commercial	Mostly non-residential uses with large building footprints and large parking lots within large blocks and a disconnected or sparse roadway network.
C4-Urban General	Mix of uses set within small blocks with a well-connected roadway network. May extend long distances. The roadway network usually connects to residential neighborhoods immediately along the corridor or behind the uses fronting the roadway.
C5-Urban Center	Mix of uses set within small blocks with a well-connected roadway network. Typically concentrated around a few blocks and identified as part of a civic or economic center or a community, town, or city.
C6-Urban Core	Areas with the highest densities and building heights, and within FDOT classified Large Urbanized Areas (population>1,000,000). Many are regional centers and destinations. Buildings have mixed uses, are built up to the roadway, and are within a well-connected roadway network.





Prioritization of Proposed

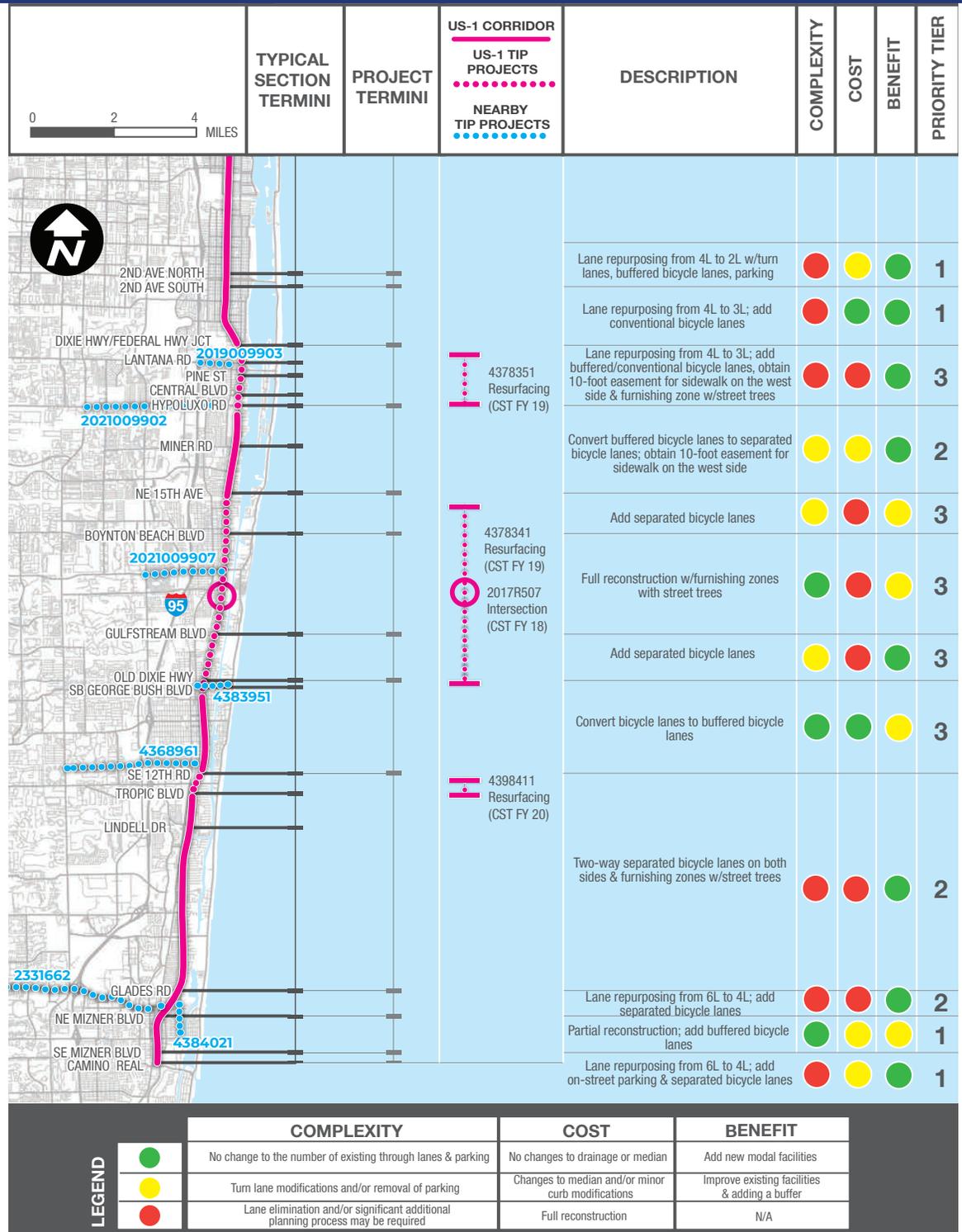




Multimodal Improvements

Prioritization of Proposed Multimodal Improvements

The prioritization of proposed multimodal improvements is based on a review of the FDOT Work Program, TPA goals/objectives, and three priority tiers that account for complexity, cost, and benefit. The project termini may include multiple typical section termini based on logical grouping.



	TYPICAL SECTION TERMINI	PROJECT TERMINI	US-1 CORRIDOR 	DESCRIPTION	COMPLEXITY	COST	BENEFIT	PRIORITY TIER
			US-1 TIP PROJECTS 					

TYPICAL SECTION TERMINI	PROJECT TERMINI	DESCRIPTION	COMPLEXITY	COST	BENEFIT	PRIORITY TIER
INDIANTOWN RD 4328833		Convert bike lanes to separated bicycle lanes; add furnishing zones w/street trees	●	●	●	2
OCEAN DR		Add two-way separated bicycle lanes; shoulder widening to add buffered bicycle lane; add furnishing zones w/street trees	●	●	●	2
PGA BLVD		Convert bicycle lanes to separated bicycle lanes	●	●	●	2
NPB DRAWBRIDGE		Lane repurposing from 6L to 4L with separated lanes and Furnishing zones	●	●	●	1
NORTHLAKE BLVD PALMETTO DR		Add conventional bicycle lanes	●	●	●	1
SILVER BEACH RD	2297444* Lighting (CST N/A)	Add conventional bicycle lanes	●	●	●	1
11TH ST 59TH ST		Separated bicycle lanes	●	●	●	1
2018571302 25TH ST	4394041* 4L to 3L w/shared-use path & bicycle lanes CST FY 23	Lane repurposing from 4L to 3L; add buffered bicycle lanes & street trees	●	●	●	2
2022009905 3RD ST CLEMATIS ST		Lane repurposing from 4L to 3L; add buffered bicycle lanes & street trees	●	●	●	1
2018571304 OKEECHOBEE BLVD		Lane repurposing from 4L to 2L; add separated bicycle lanes	●	●	●	2
BELVEDERE RD ALBEMARLE RD	4400421 4L to 3L divided w/ multimodal improvements (CST FY 21)	---	FUNDED			
FOREST HILL BLVD GREGORY RD		Lane repurposing from 4L to 3L; add buffered bicycle lanes	●	●	●	2
2ND AVE NORTH 2ND AVE SOUTH		Lane repurposing from 4L to 3L; add buffered bicycle lanes	●	●	●	1

PRIORITY TIER		
1 – Build in 5-7 Years	2 – Build in 7-9 Years	3 – Build in 10+ years

*Source: Palm Beach TPA Draft Fiscal Year 2019-2023 Transportation Improvement Program (TIP)



Complete Streets

Highlighted in this section are the Priority Tier 1 projects that includes the existing and proposed typical section and segments of the plan view. The project website includes the plan view for the entire project.

www.us1pbcorridorstudy.com/project-documents

Priority Tier 1 Projects



Camino Real to SE Mizner Boulevard in

Existing

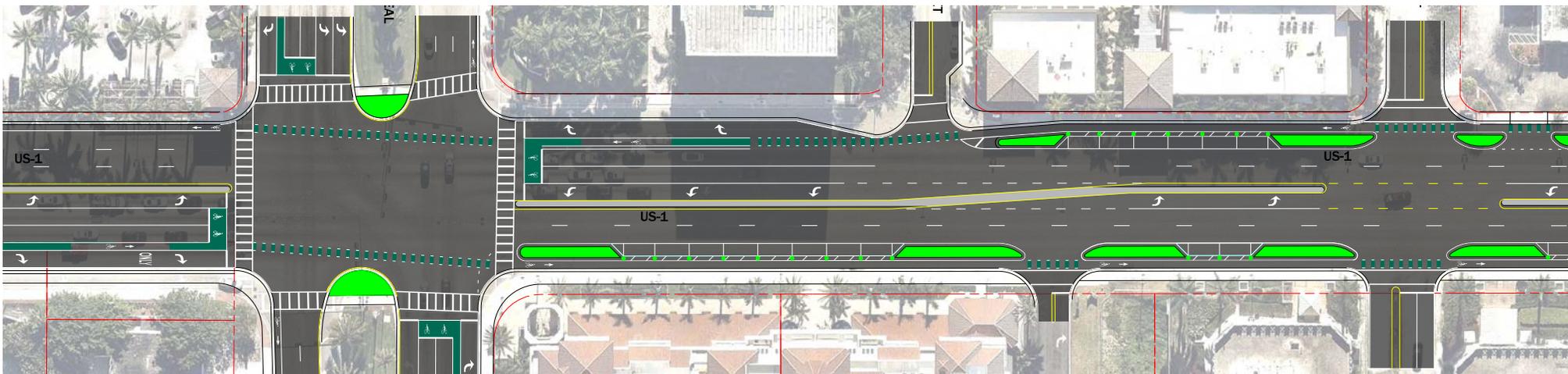


FDOT Context Classification: C5-Urban Center

Existing Speed Limit: 35 mph

Length: 0.3 miles

Projected 2040 Max Peak Hour Traffic Volume: 1,400 vehicles per hour per direction (vphpd)



Boca Raton

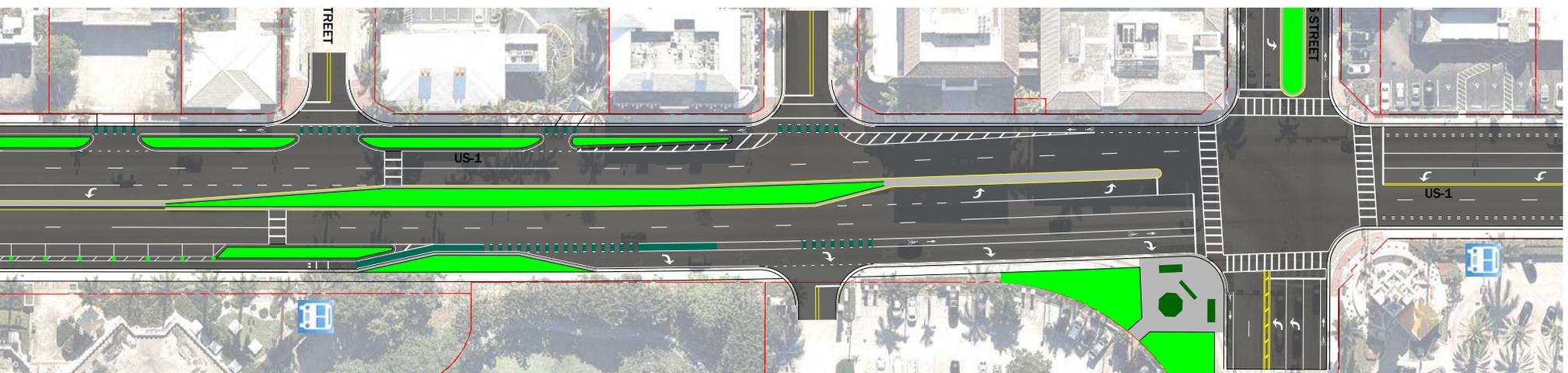
Roll Plot No. 1

Proposed



Proposed Recommendations: Partial reconstruction and lane repurposing from 6L to 4L; add on-street parking and separated bicycle lanes

Ongoing Efforts: The City of Boca Raton has expressed a preference for an alternate mobility strategy of converting US-1 and Dixie Highway through Downtown Boca Raton to a one-way pair concept from SW 18th Street/Royal Palm Way to NE 8th Street/NE Mizner Boulevard. Implementation would require conversion of the existing US-1 right-of-way into the northbound lanes of the one-way pair concept while using the County's Dixie Highway right-of-way for the southbound lanes.



SE Mizner Boulevard to NE Mizner Boulevard in

Existing

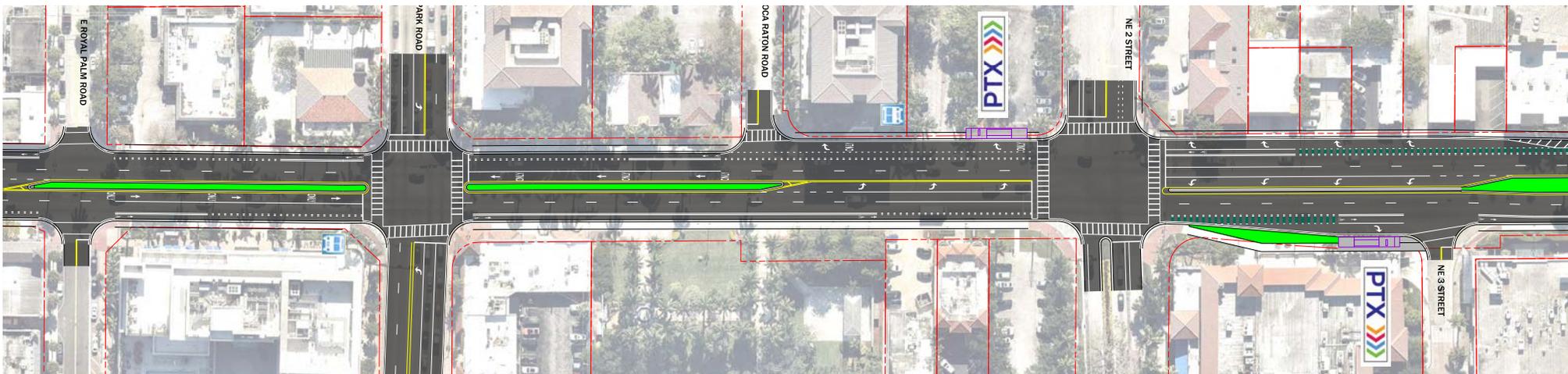


FDOT Context Classification: C5-Urban Center

Existing Speed Limit: 35 mph

Length: 0.9 miles

Proposed Recommendations: Partial reconstruction (inside widening); add buffered bicycle lanes



Boca Raton

Roll Plot No. 1-2

Proposed

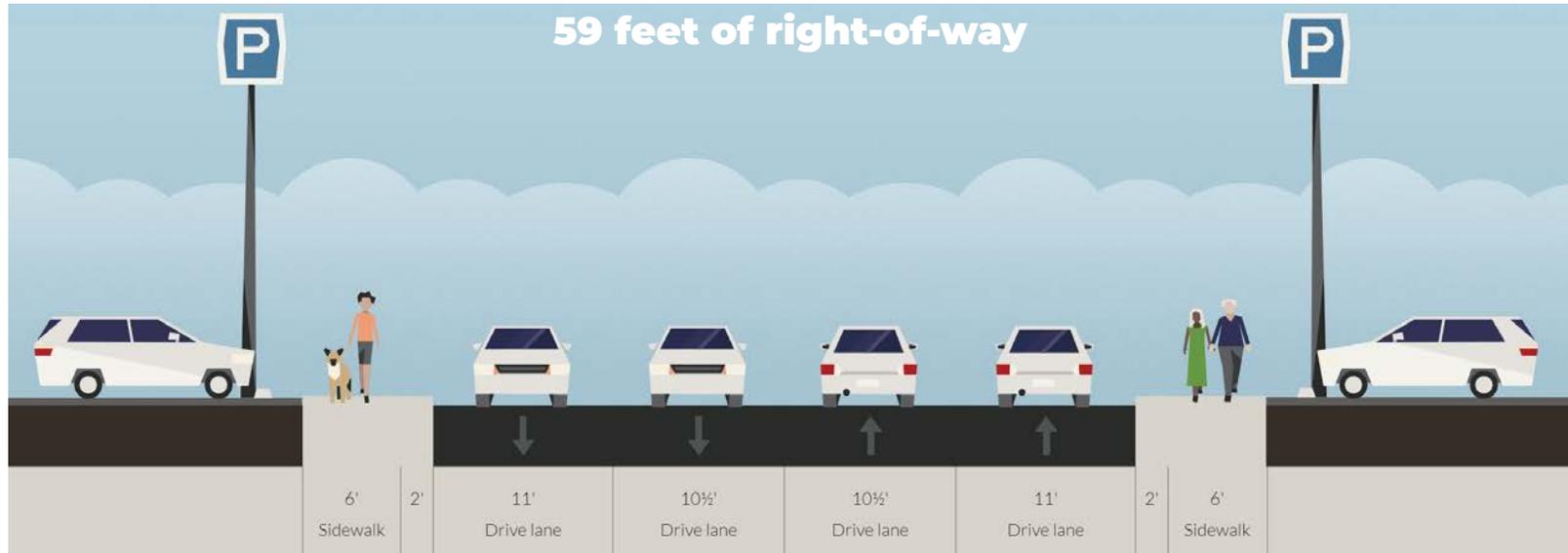


Ongoing Efforts: The City of Boca Raton has expressed a preference for an alternate mobility strategy of converting US-1 and Dixie Highway through Downtown Boca Raton to a one-way pair concept from SW 18th Street/Royal Palm Way to NE 8th Street/NE Mizner Boulevard. Implementation would require conversion of the existing US-1 right-of-way into the northbound lanes of the one-way pair concept while using the County's Dixie Highway right-of-way for the southbound lanes.



Dixie Highway/Federal Highway Junction to

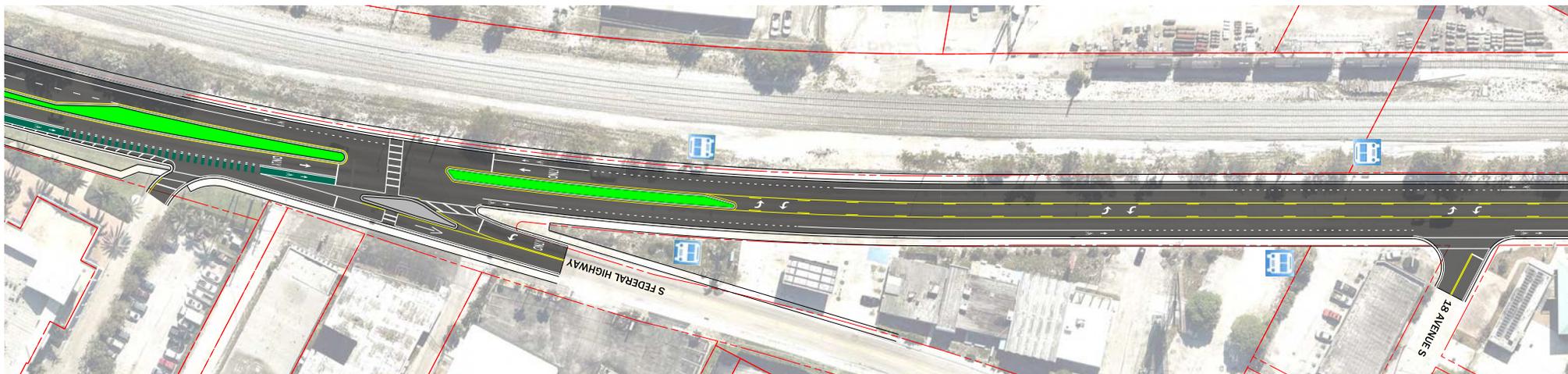
Existing



FDOT Context Classification: C4-Urban General

Existing Speed Limit: 35 mph

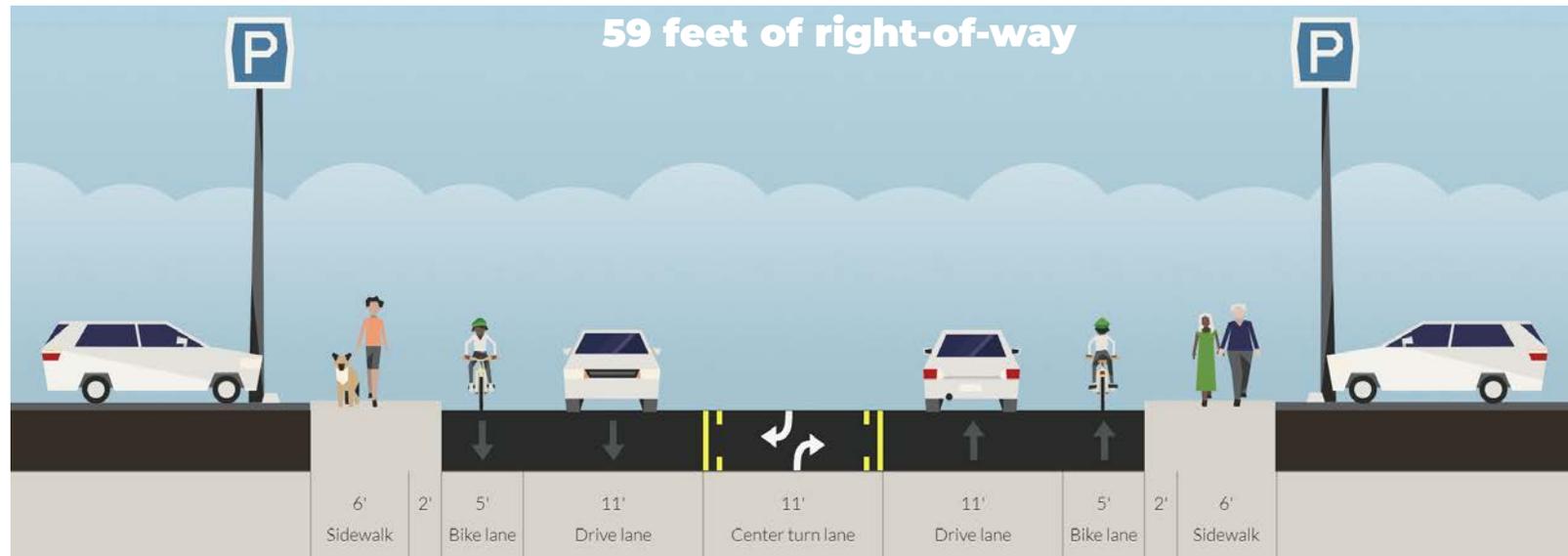
Length: 1.5 miles



2nd Avenue South in Lantana/Lake Worth

Roll Plot No. 28-29

Proposed



Projected 2040 Max Peak Hour Traffic Volume: 1,200 vphpd

Proposed Recommendations: Resurfacing and lane repurposing from 4L to 3L; add conventional bicycle lanes



2nd Avenue South to 2nd Avenue North in

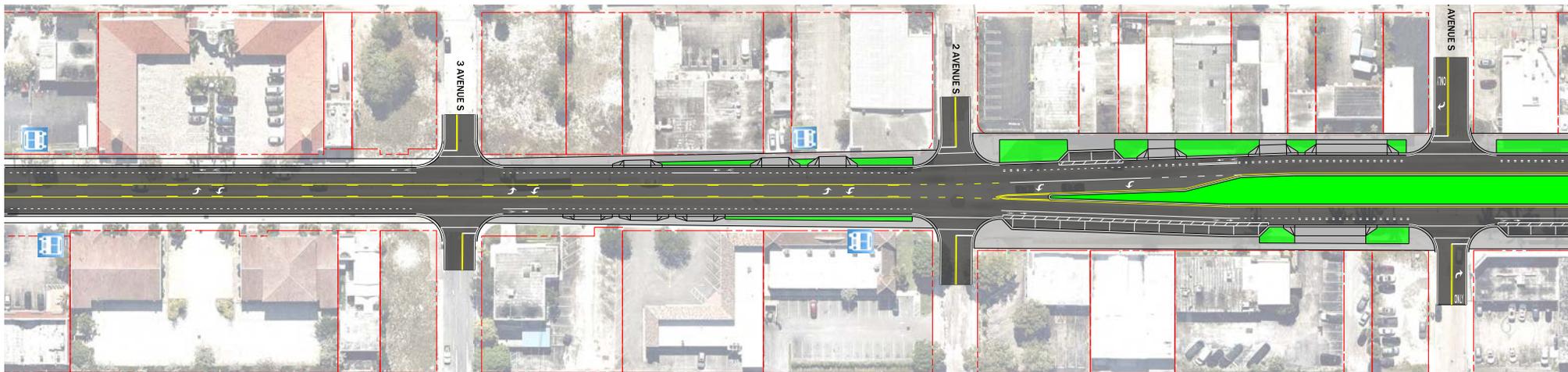
Existing



FDOT Context Classification: C4-Urban General

Existing Speed Limit: 35 mph

Length: 1.5 miles



Lake Worth

Proposed

Roll Plot No. 31-32



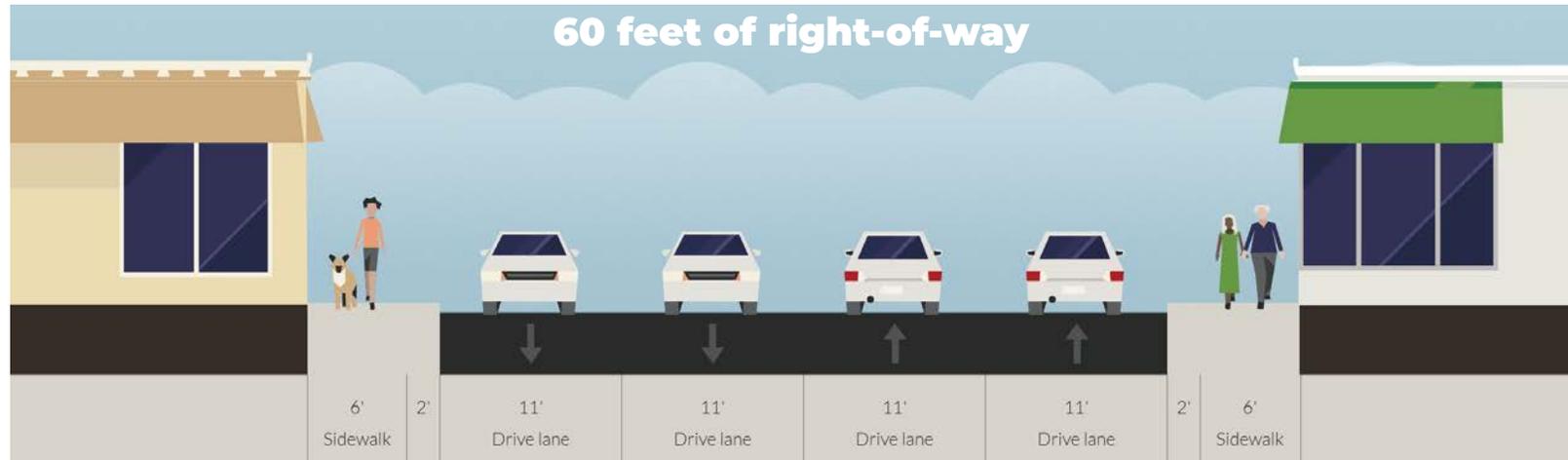
Projected 2040 Max Peak Hour Traffic Volume: 1,200 vphpd

Proposed Recommendations: Resurfacing and lane repurposing from 4L to 3L; add conventional bicycle lanes



2nd Avenue North to Gregory Road in

Existing



FDOT Context Classification: C4-Urban General

Existing Speed Limit: 35 mph

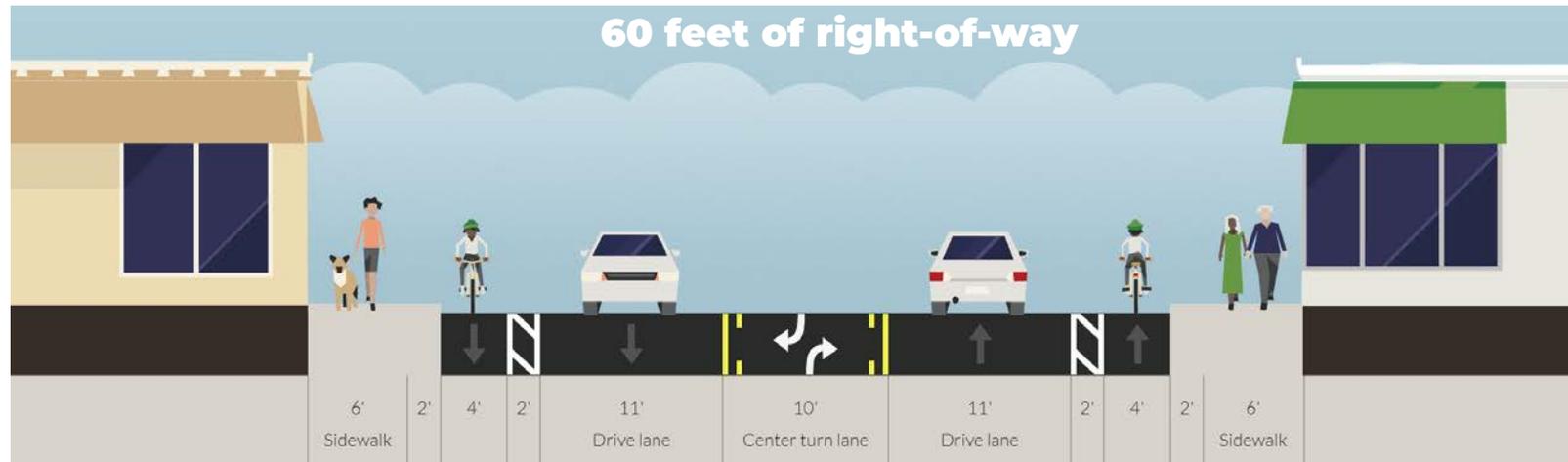
Length: 2.0 miles



Lake Worth/West Palm Beach

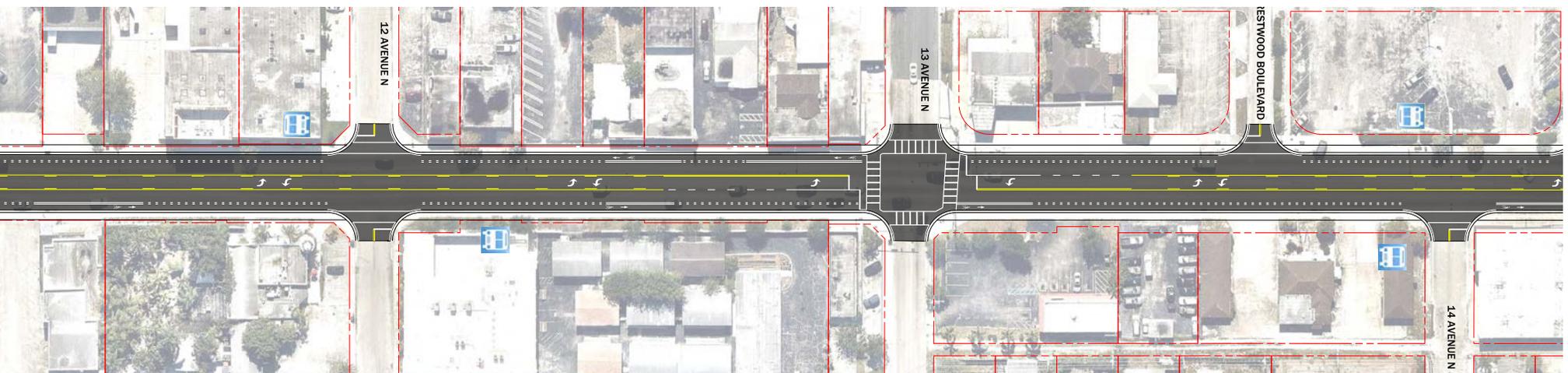
Roll Plot No. 32-35

Proposed



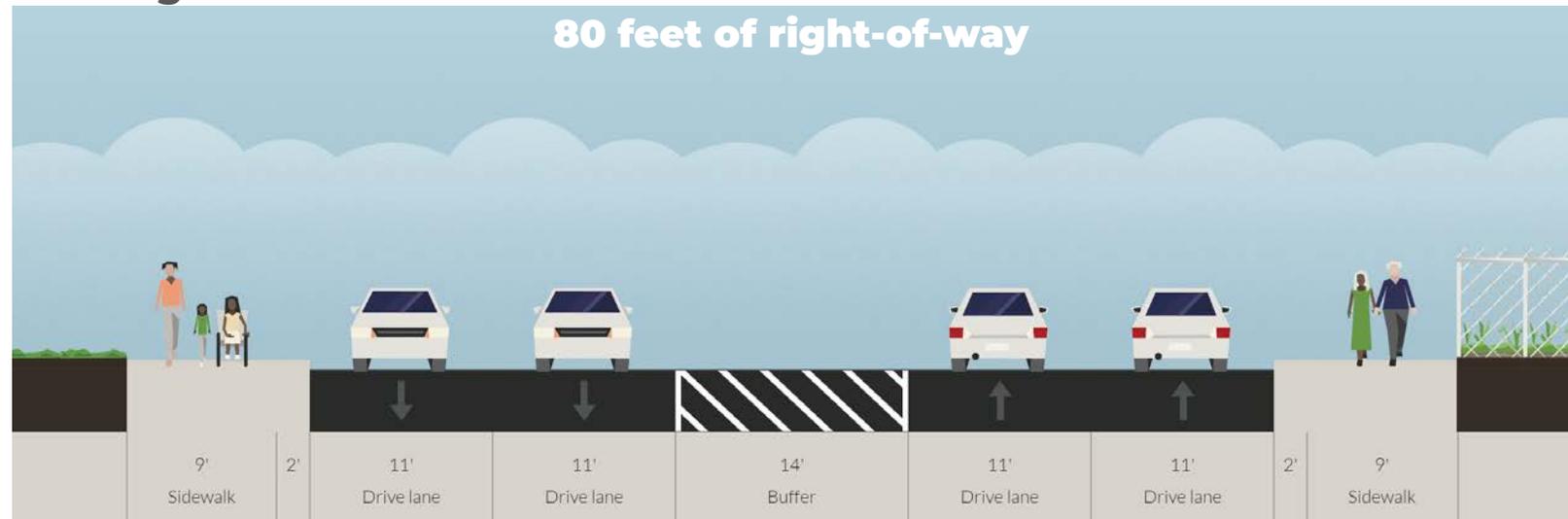
Projected 2040 Max Peak Hour Traffic Volume: 1,300-1,400 vphpd

Proposed Recommendations: Resurfacing and lane repurposing from 4L to 3L; add buffered bicycle lanes



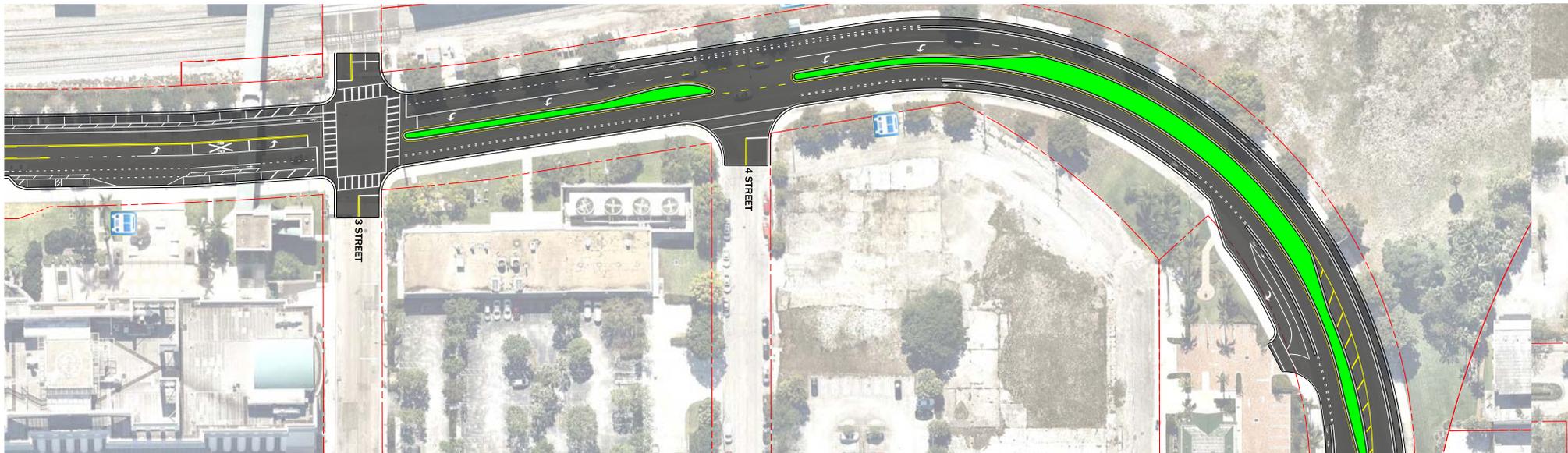
3rd Street to N Dixie Highway/Quadrille Street in

Existing



FDOT Context Classification: C5-Urban Center

Existing Speed Limit: 30 mph



West Palm Beach

Roll Plot No. 43

Proposed



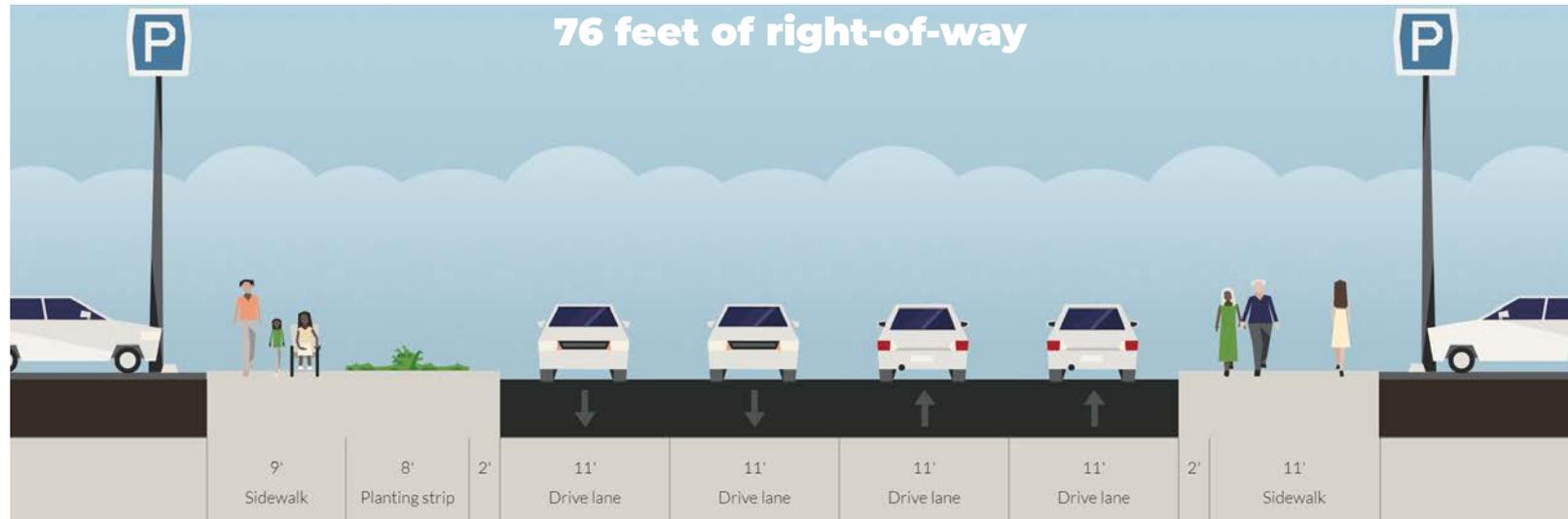
Length: 0.2 miles

Proposed Recommendations: Lane repurposing from 4L to 2L; add separated bicycle lanes and furnishing zones with street trees.



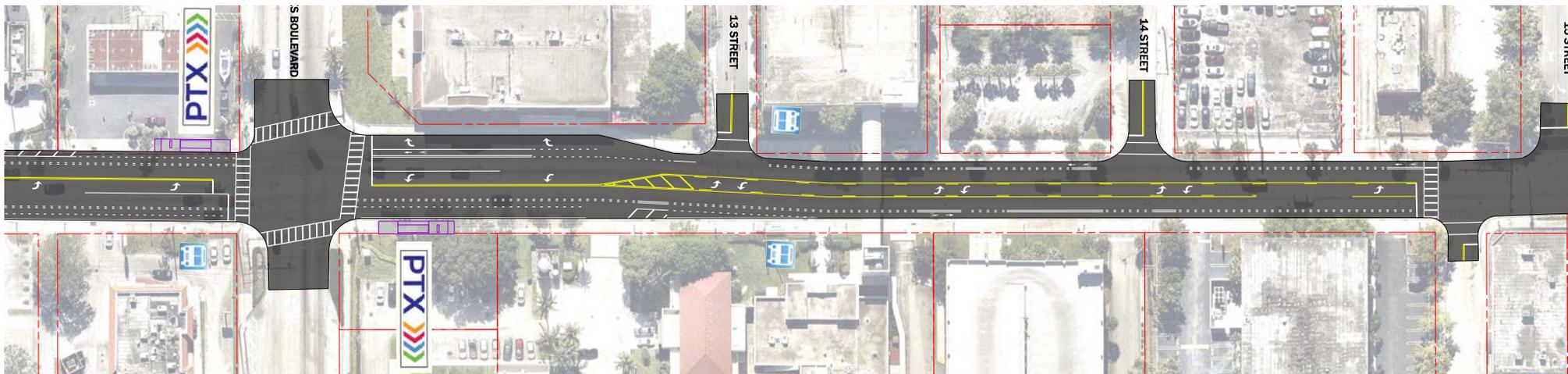
N Dixie Highway/Quadrille Street to 25th Street

Existing



FDOT Context Classification: C5-Urban Center

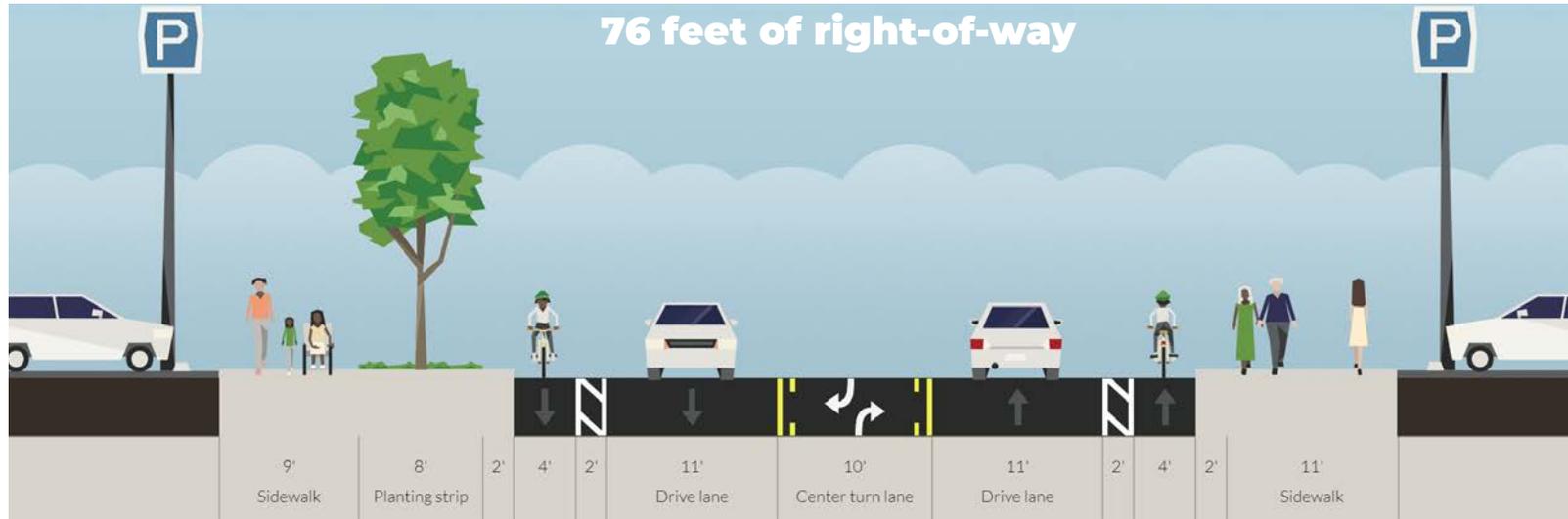
Existing Speed Limit: 30 mph



in West Palm Beach

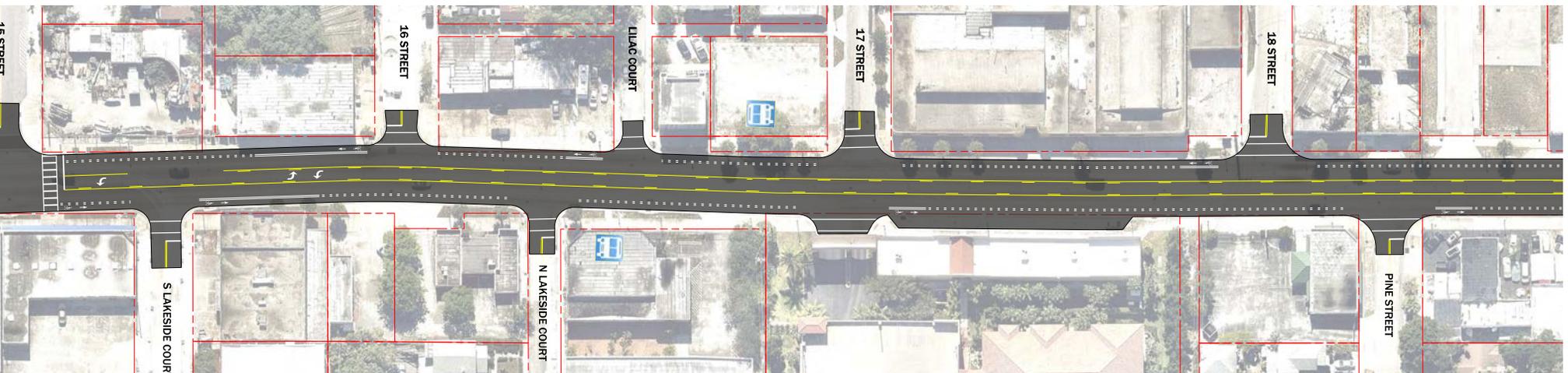
Roll Plot No. 43-45

Proposed



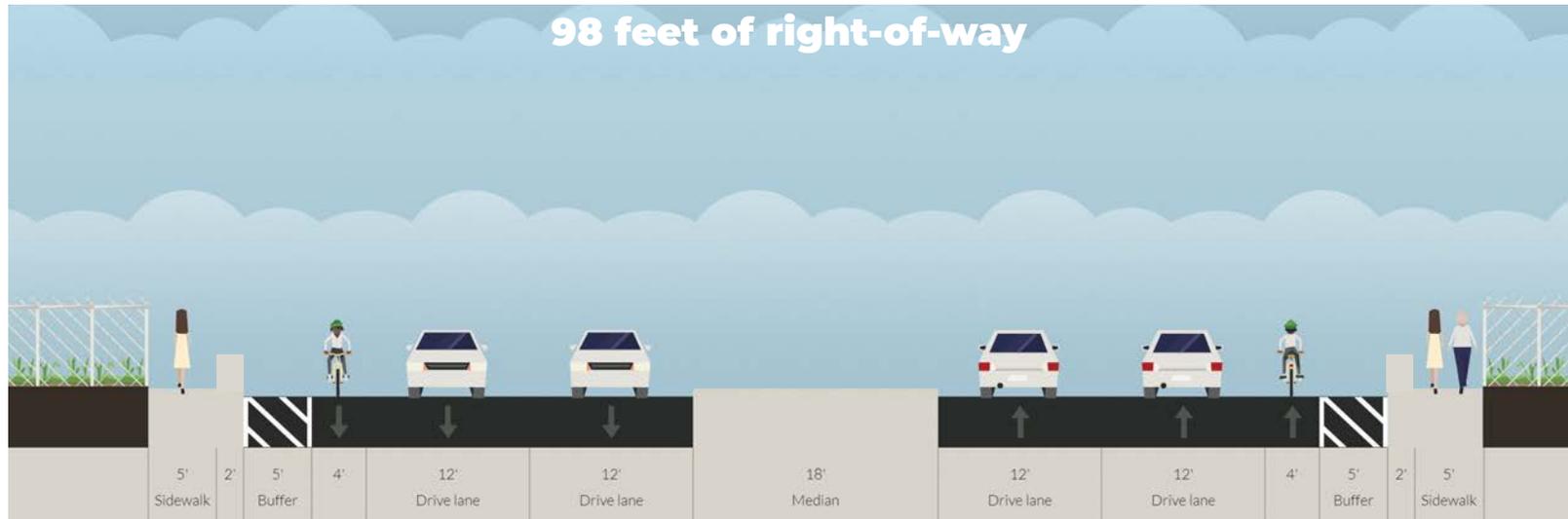
Length: 1.2 miles

Projected 2040 Max Peak Hour Traffic Volume: 1,000-1,100 vphpd



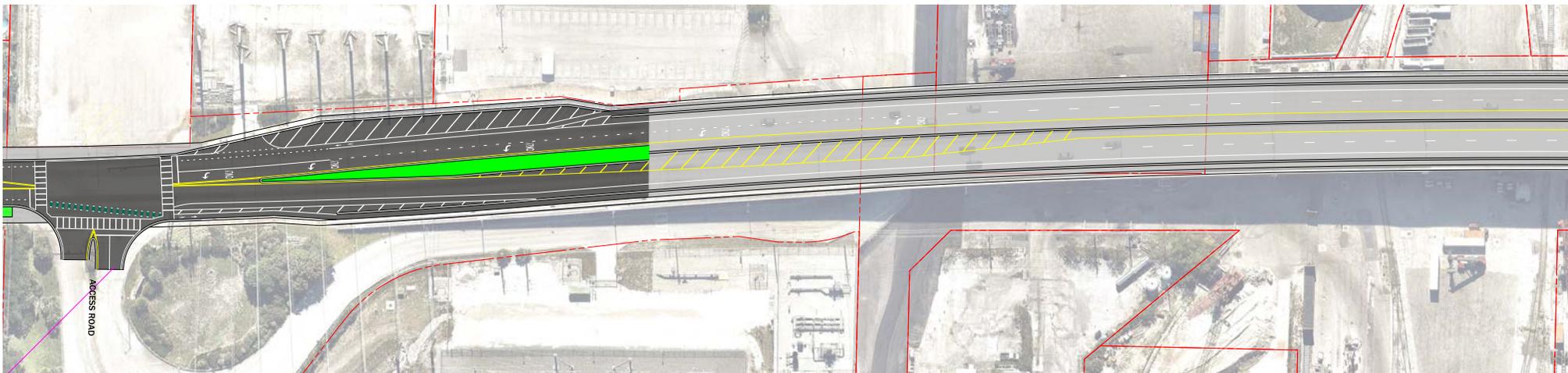
59th Street to 11th Street in Riviera Beach

Existing

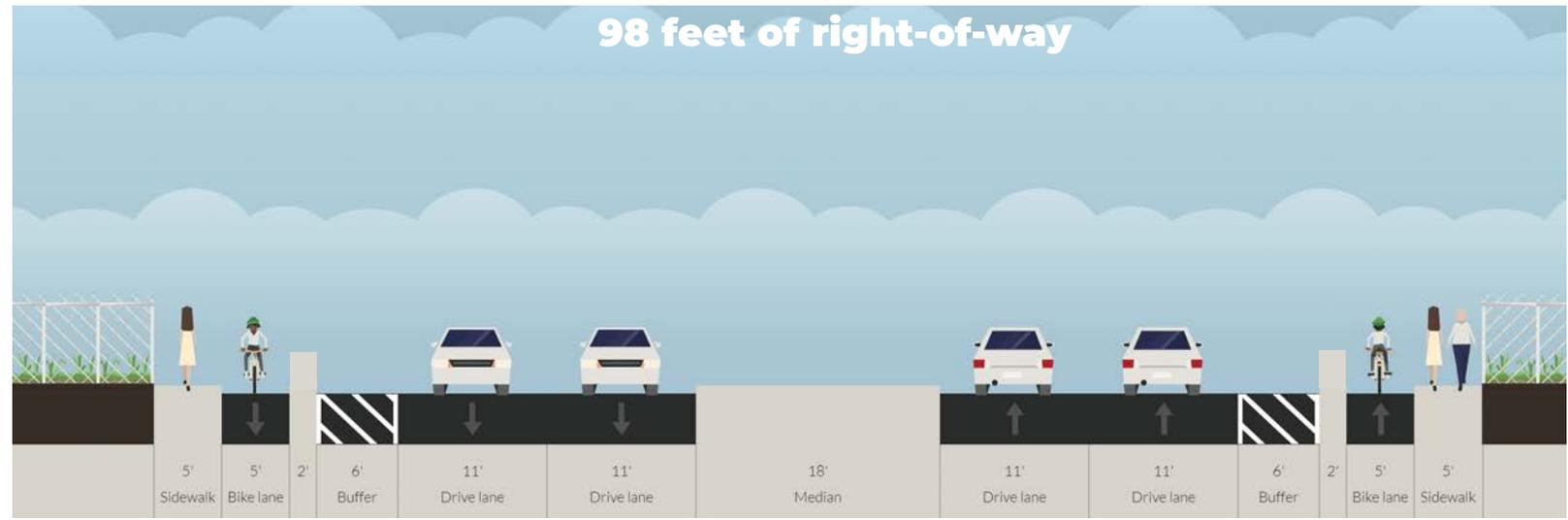


FDOT Context Classification: C4-Urban General

Existing Speed Limit: 35 mph

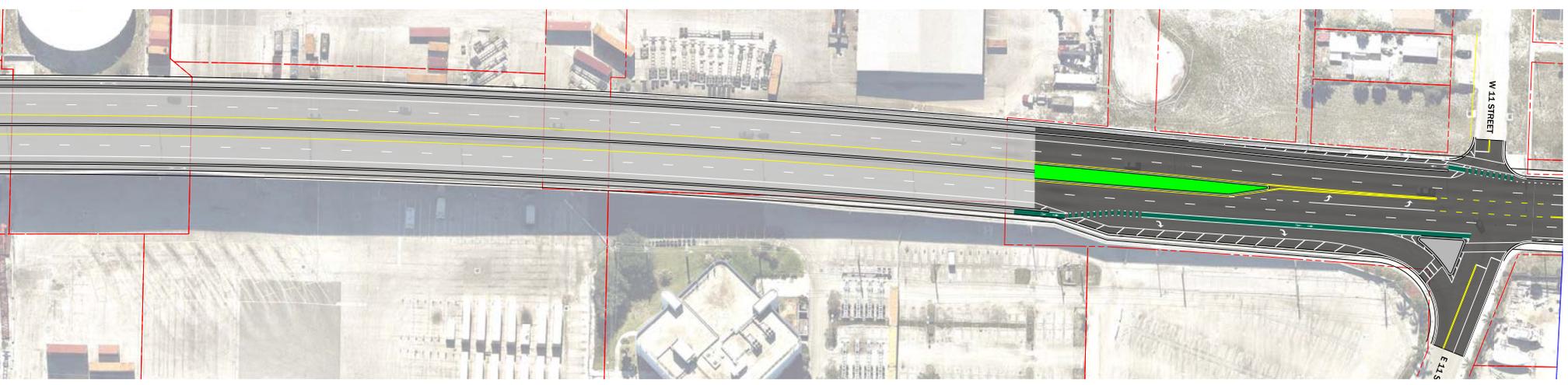


Proposed



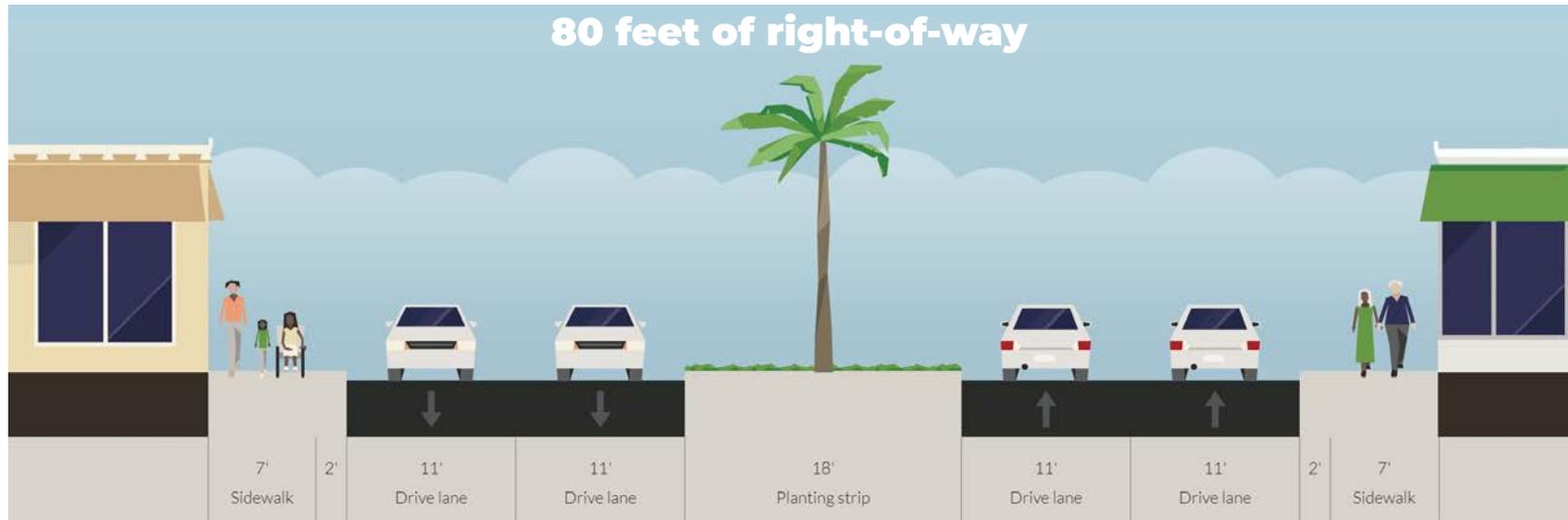
Length: 0.6 miles

Proposed Recommendations: Add separated bicycle lanes



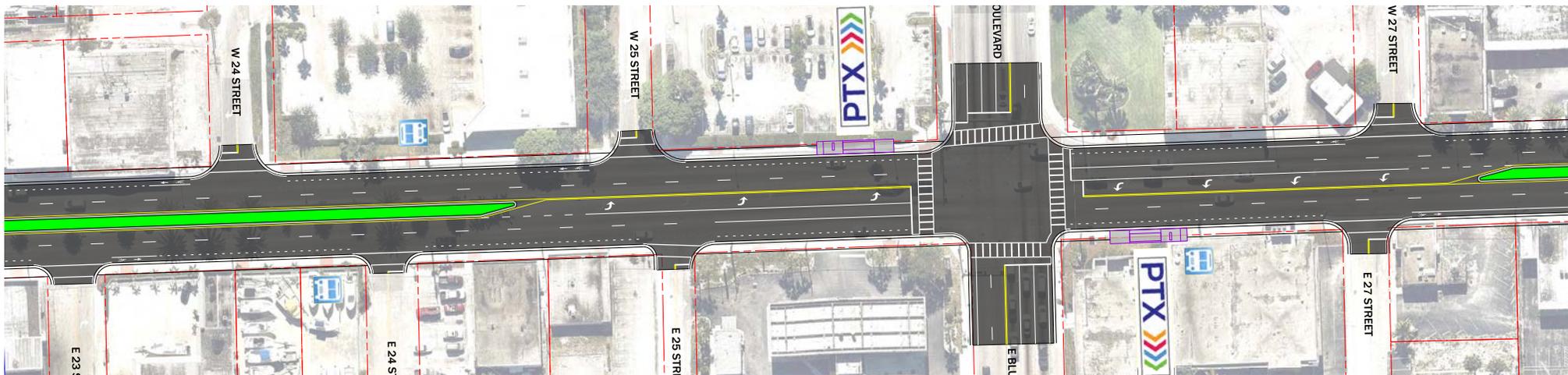
11th Street to Silver Beach Road in

Existing



FDOT Context Classification: C4-Urban General

Existing Speed Limit: 35 mph



Riviera Beach

Roll Plot No. 49-52

Proposed



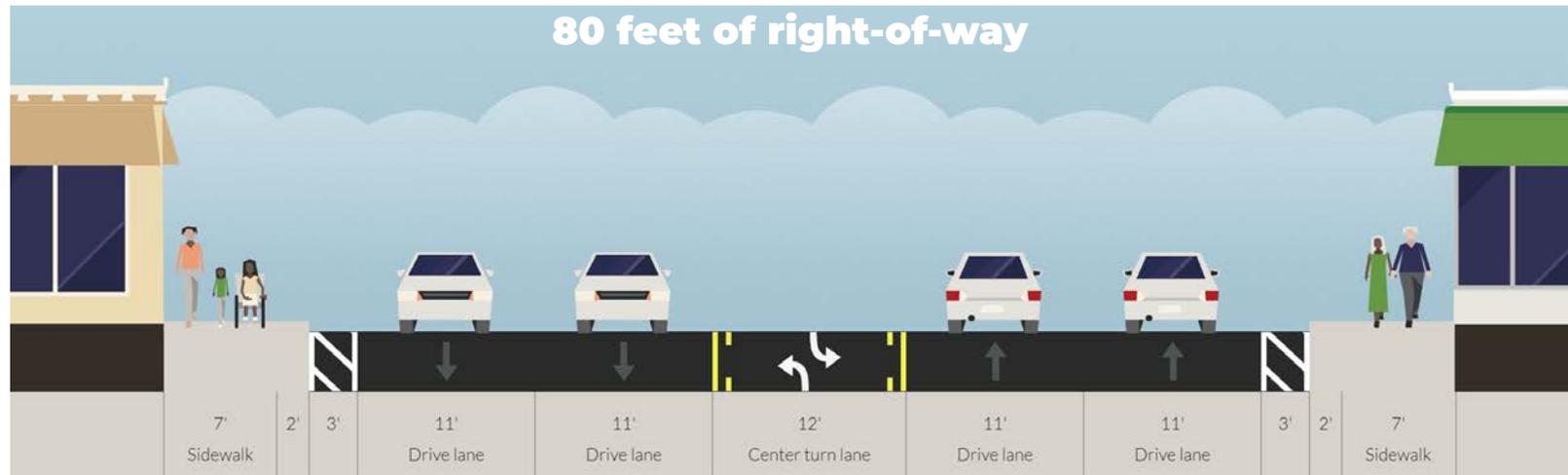
Length: 1.4 miles

Proposed Recommendations: Partial reconstruction (inside widening); add conventional bicycle lanes



Silver Beach Road to Palmetto Drive in

Existing

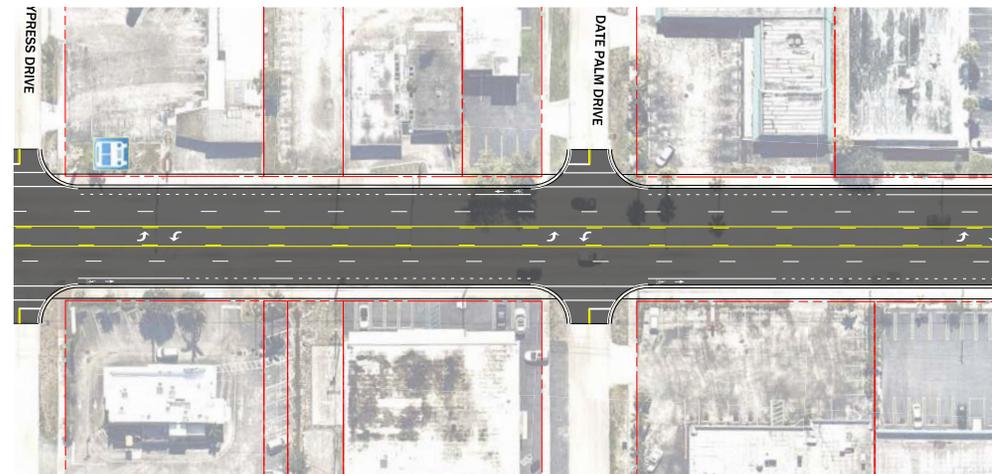
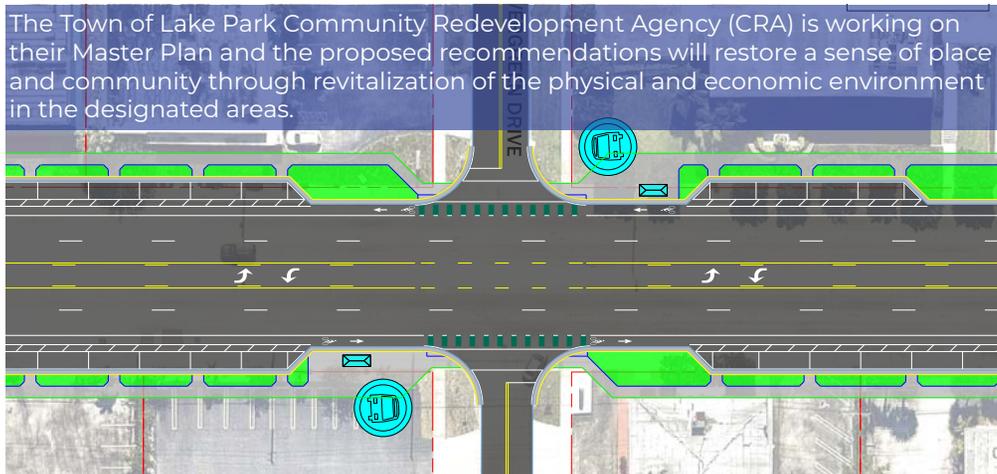


FDOT Context Classification: C4-Urban General

Existing Speed Limit: 35 mph

Length: 0.8 miles

The Town of Lake Park Community Redevelopment Agency (CRA) is working on their Master Plan and the proposed recommendations will restore a sense of place and community through revitalization of the physical and economic environment in the designated areas.



Lake Park

Roll Plot No. 52-53

Proposed



Ongoing Efforts: The Town of Lake Park is considering options for a mixed-use corridor that will enhance pedestrian, bicycle, and vehicular accessibility and connectivity. Recent proposed modifications include pedestrian and on-street parking improvements that may occur in setbacks as properties redevelop.

Proposed Recommendations: Partial reconstruction with conventional bicycle lanes



Northlake Boulevard to NPB Drawbridge in

Existing



FDOT Context Classification: C3-Suburban

Existing Speed Limit: 35-40 mph

Length: 1.7 miles

Projected 2040 Max Peak Hour Traffic Volume: 1,700 vphpd



North Palm Beach

Roll Plot No. 53-56

Proposed



Proposed Recommendations: Resurfacing with lane repurposing from 6L to 4L; add separated bicycle facilities and furnishing zones with street trees

Ongoing Efforts: The Village of North Palm Beach is reviewing implementation strategies related to the Village of North Palm Beach Master Plan, which includes recommendations to reduce the lane width of US-1 from six to four lanes and add buffered bicycle lanes. The Village is also developing a zoning code to implement the Master Plan recommendations.





BUS STOP
STOP # 251
PalmTran
Public Transportation
ROUTES SERVED:
1 91 92
561-841-4287

Transit Assessment





Palm Tran

Transit Assessment

Conceptual alignments were developed for different aspects of the proposed US-1 premium transit service, designated the Palm Tran Express (PTX) for the purposes of the US-1 Multimodal Corridor Study. The PTX service is envisioned to be mixed-traffic corridor-based premium transit service that supplements the existing Route 1 with modified headways and is planned to operate in place of the current limited stop service, The Bolt.

The travel market for the PTX service is expected to attract both reliant and choice transit riders with more efficient and reliable travel times due to focus on the high demand US-1 Corridor location (which is not currently served by Tri-Rail) and transit priority operating conditions proposed in cooperation with Palm Tran and Florida Department of Transportation.

The new branded service is planned to include additional rider amenities (such as on-board WiFi, real time tracking, etc.) that will further attract ridership. The following summarizes the existing conditions, the planning direction, and the conceptual planning and design outcomes.

Transit Context

The US-1 corridor supports north-south travel and traverses 14 of the county's eastern communities while connecting 100,000 jobs and over 250,000 residents. This represents nearly 19% of all jobs in Palm Beach County. The Corridor is served by Palm Tran's highest ridership bus route, Route 1. Of the 7,200+ daily riders on this existing local bus route, **50% are dependent** on this service.



Walking and Bicycling Safety

The history of crashes (University of Florida's SignalFour Analytics, 2011-2016) in the US-1 Corridor involving people who were walking and bicycling revealed that there were **321 crashes** involving non-motorist on the Corridor, with 15 resulting in fatalities. All of the fatalities occurred during dusk or at night. 110 of the 135 bicycle crashes (82%) occurred on segments of US-1 with no bicycle facilities.



Vulnerable Populations

This overall lack of multimodal options isolate many disadvantaged residents within a community from jobs and educational opportunities. As defined in the US-1 Multimodal Corridor Health Impact Assessment Study, those disadvantaged groups were clarified as vulnerable populations defined as those who live in households with no access to personal automobiles, are in poverty, are aged 65 or older, and are disabled. The areas within the US-1 Corridor with the highest vulnerable populations are Boynton Beach, Lake Worth, West Palm Beach, and Riveria Beach. The PTX alignments proposed are focused on serving these areas.

*Vulnerable populations are **far more dependent** on transit services and **far more affected** by the lack of pedestrian and bicycle connectivity, the spacing of stops or stations, and the overall availability and reliability of a transit service*

Transit Recommendations

Based on stakeholder discussions with Palm Tran and the TPA, as well as recommendations from US-1 Multimodal Corridor HIA, it is recommended to move the alignment **PTX Yellow** as a first phase of premium transit on US-1, followed by **PTX Blue and PTX Green** as future phase expansions. This assessment is intended to assist the TPA and Palm Tran in evaluating future alternative and determining the most appropriate phasing of the proposed PTX service.

Phase 1

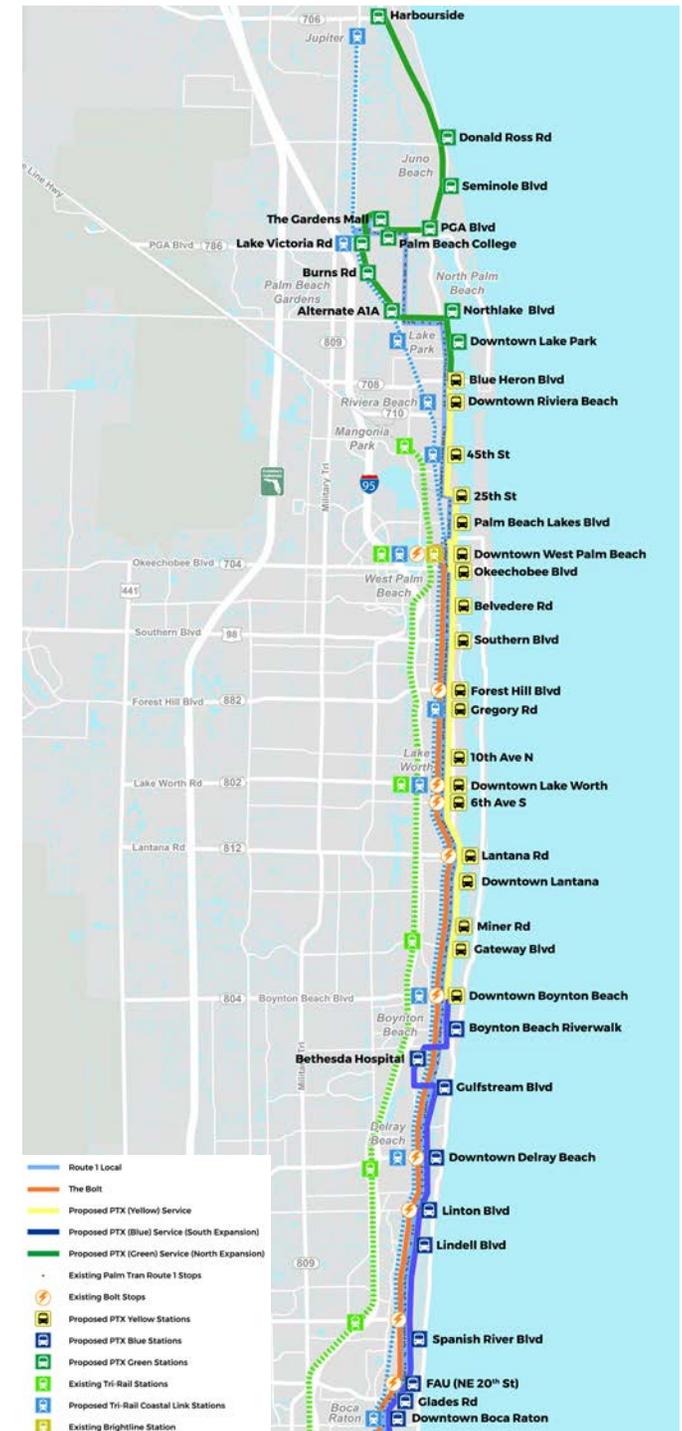
PTX YELLOW

- **Start Now** - The TPA recommends Palm Tran move forward with advancing PTX Yellow towards implementation through FTA's project implementation process.
- **Maximize Transit Benefit** - The PTX Yellow from Boynton Beach to Riviera Beach focuses transit services on the section of the corridor that has the highest existing ridership and contains the greatest concentration of vulnerable households.
- **Increased Transit Frequency** - The improved location of PTX stops allows the new service to run more frequently than the current limited stop service.

Future Phases

PTX BLUE AND GREEN

- **Start Now** - Along with PTX Yellow, the TPA recommends Palm Tran move forward with advancing PTX Blue and Green towards implementation through FTA's project implementation process.
- **Full Corridor Coverage** - Over time and with success of the PTX Yellow, the TPA recommends Palm Tran advance PTX Blue and Green to achieve full corridor coverage.
- **Maximize Transit Frequency** - PTX Blue and Green routes would run at 20-minute headways, but still provide higher frequency (10-minute headway) service in the segment between Boynton Beach and Riviera Beach as part of Phase 1 PTX Yellow. Future studies should examine modifying the 20-minute headways for higher transit frequency.

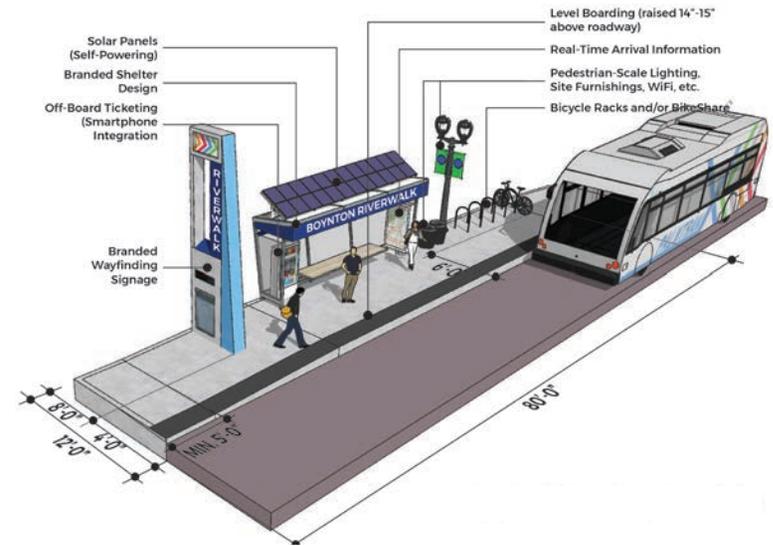


Station Amenities

During the US-1 Multimodal Corridor Workshops, attendees were asked their preference for various transit characteristics. The highest preference was for the ability to bicycle or walk safely and comfortably to a given transit location. Attendees felt strongly that a station need to be well-lit and clean with seating and shade.

The dependability and speed of the transit service was also preferred. Lastly, attendees felt they would be more likely to use transit if the service was well branded and included technologic aspects like real time tracking and payment methods available through their smartphone.

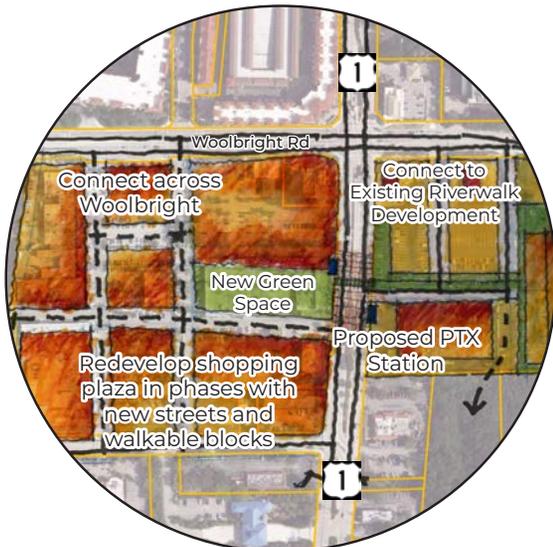
Based on this input, a typical station module to the right was generated.



Opportunity Sites

The transit analysis also analyzed the potential for transit-oriented development (TOD) at the PTX station in all the service phases. TOD's generally provides a mix of residential and commercial uses and is designed to make public transit successful, enhance the convenience and safety of walking and bicycling, and provide for a vibrant, livable community.

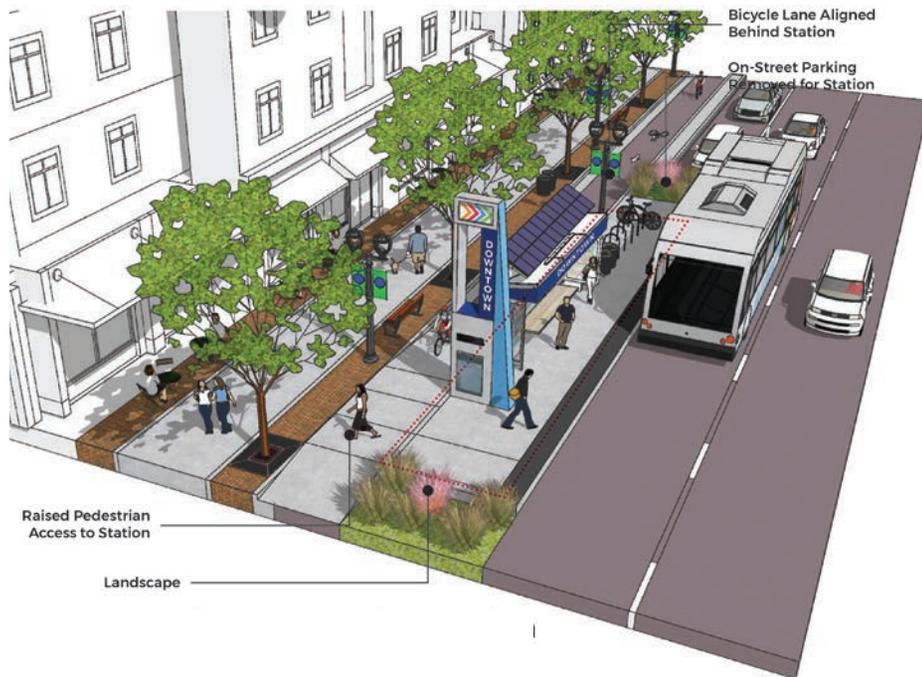
Conceptual-level TOD scenarios were generated for each PTX station location the scenarios are not meant to indicate any approved or proposed plans but to illustrate a possible and hypothetical development scenario and to understand how transit (both existing service and proposed service) and transit-supportive development interacts with land use planning and the Complete Streets investment.



Woolbright Station, Boynton Beach



13th Street Station, Riviera Beach



Station Area Types

The typical station module was combined with specific area types unique to the US-1 Corridor and formed four (4) typical site conditions:

- **Urban Section (curb/gutter)** - 10' and 12' wide PTX stations completely within the existing US-1 ROW;
- **Urban Section (curb/gutter)** - 10' wide PTX stations partially within Right-of-Way, partially requiring an easement;
- **Rural Section (no curb/gutter)** - 12' wide PTX station completely within Right-of-Way; and
- **Internal Stations** - PTX stations internal to a given public or private property (i.e. West Palm Beach "Tent Site," Harbourside Place, etc.)

Implementation Process

Implementing a premium transit system, like the proposed PTX, is a large and complex project that requires extensive coordination at all levels of government and a concerted effort over many years to implement.

There are two potential ways to implement PTX, (1) pursue a large-scale funding program such as FTA Small Starts to complete all elements at once or (2) phase-in improvements as funding becomes available.

SMALL STARTS PROJECT JUSTIFICATION

- Mobility, environmental benefits, congestion relief, economic development, land use, cost effectiveness

LOCAL FINANCIAL COMMITMENT:

- Acceptable degree of local financial commitment including evidence of stable and dependable financing sources

PTX Development Timeline (assumes expedited process)



US-1 Multimodal Corridor Study
Connecting Communities in Palm Beach County