

# ***US-1 Multimodal Corridor Study***



**CONNECTING**COMMUNITIES

*In Palm Beach County*

Lake Worth Beach

December 15, 2022



**PALM BEACH**  
Transportation  
Planning Agency





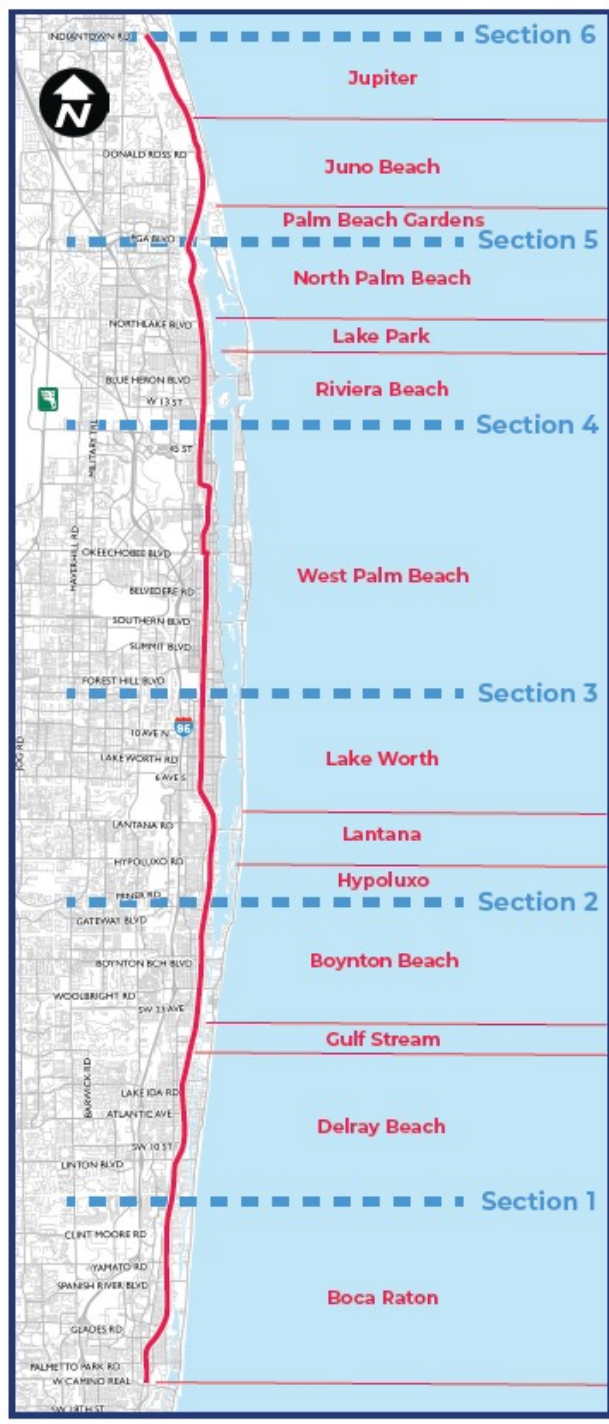
## MISSION

To collaboratively plan, prioritize,  
and fund transportation

## VISION

A safe, efficient, and connected  
multimodal transportation system





# US-1 Corridor Study



- 2017-2018
- 42 miles from Boca Raton to Jupiter
- **Enhanced transit service** & connected multimodal facilities that **increase safety and access** for all roadway users
- TPA Priority Project





# Overview of Study

- Health Impact Assessment
- Transit Assessment
- Roadway Assessment







# Transit Rider Conditions

Physical-Related Issues for IJS-1 Corridor Residents



**90%**

of Route 1 riders  
**WALK** to their  
Stop

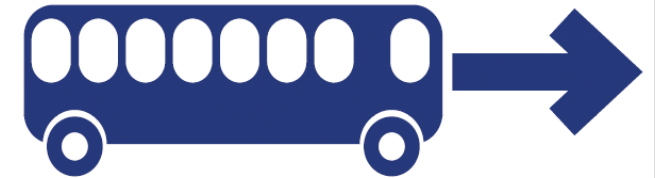
**Highest  
Ridership Route  
in the County**



**50%**

**ARE Transit  
Dependent**

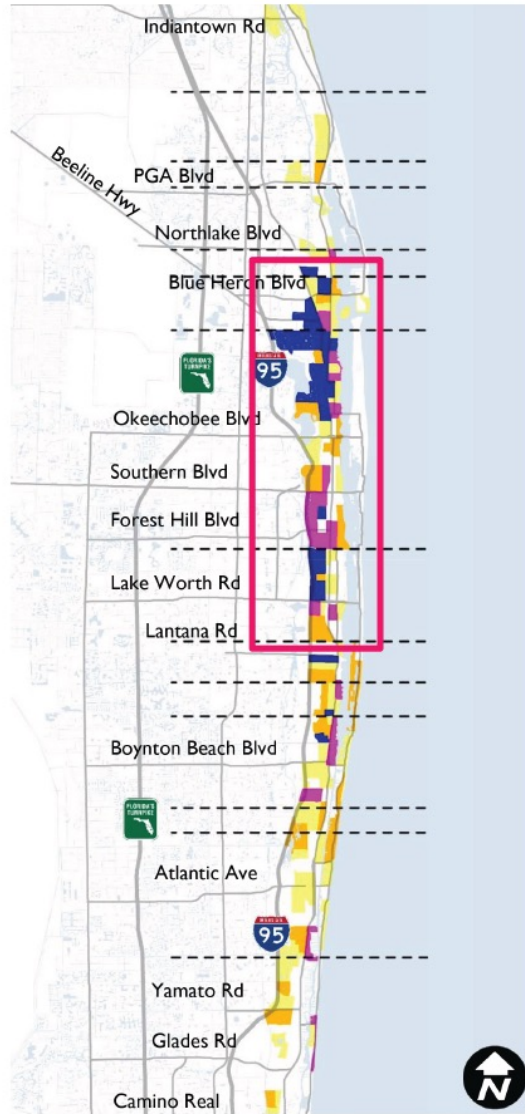
**65%**



of Route 1 riders do  
**NOT** transfer buses



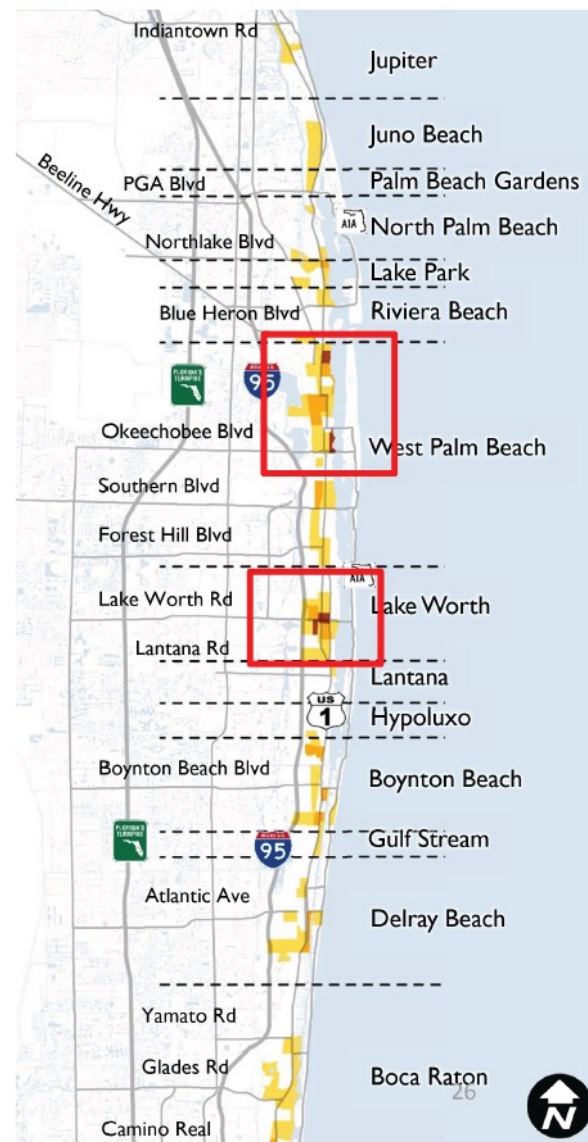
## Median Household Income



Median Household Income

- \$0 - \$26,945 (50% AMI)
- \$26,946 - \$32,333 (60% AMI)
- \$32,334 - \$43,111 (80% AMI)
- \$43,112 - \$58,970 (100% AMI)

## Households without Access to a Vehicle



Households Without Access to a Vehicle

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

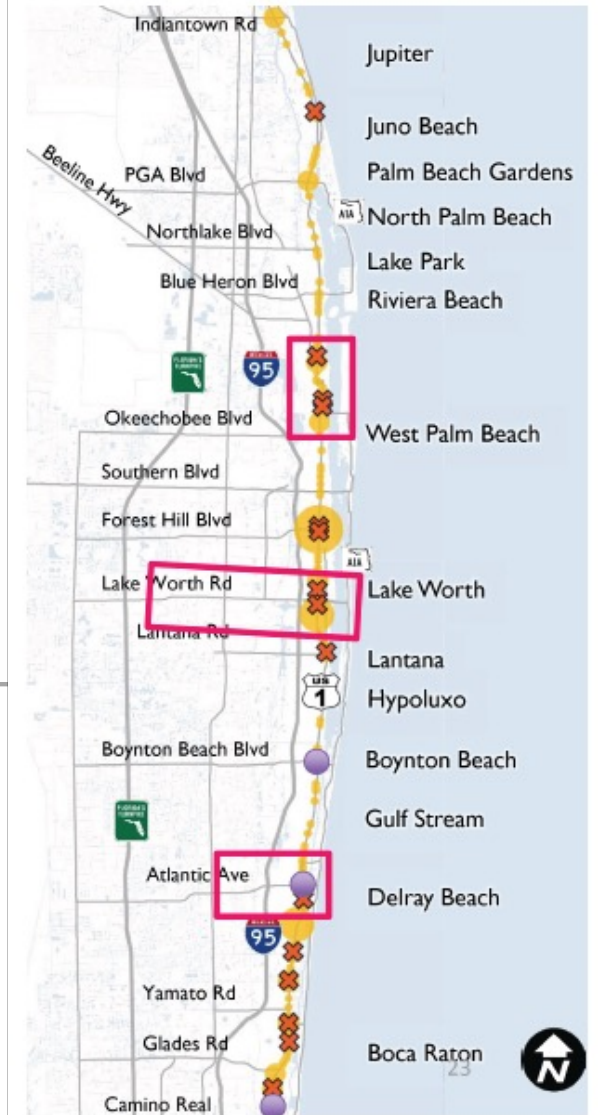
## Pedestrian and Bicycling Facilities



Walking and Bicycling Facilities

- Bicycle Facility Gap
- Sidewalk Gap

## Pedestrian and Bicycle Crashes

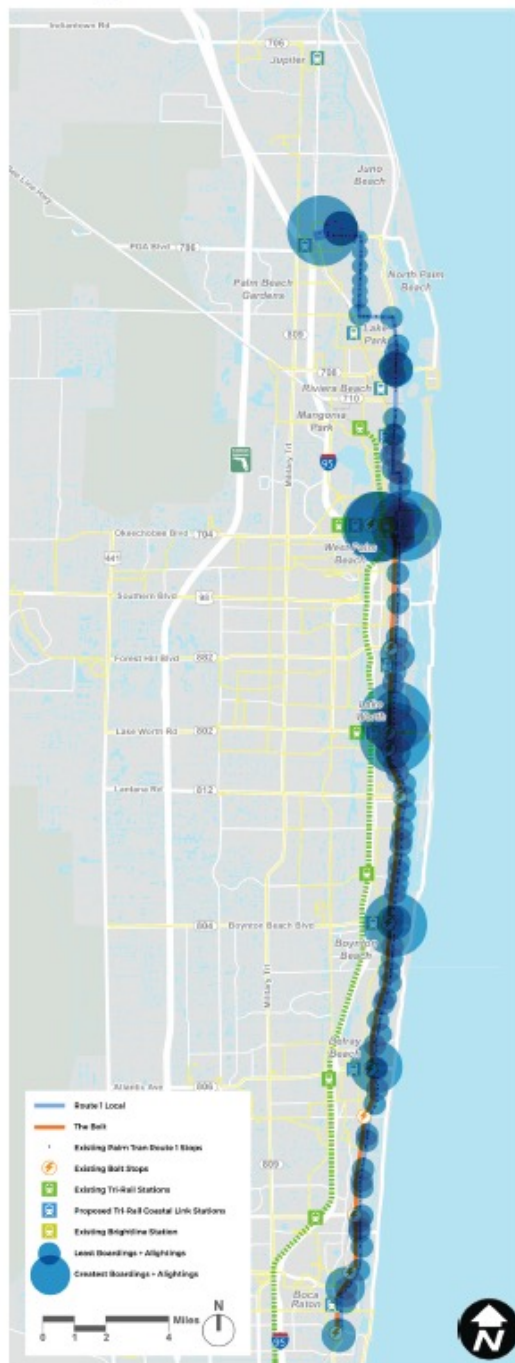



Ped / Bike Crashes

- Least
- Greatest
- ★ Fatality
- Crash Hot Spot
- ▭ High Crash Corridor



## Existing Transit Conditions



 **90%**  
of Route 1  
riders **WALK** to  
their Stop<sup>2</sup>

### Top Ten Route 1 Stops

	HIGHEST RIDERSHIP STOPS	AVERAGE WEEKDAY BOARDINGS
1	West Palm Beach Intermodal Transfer Center	885
2	Downtown Lake Worth (Dixie Hwy @ Lucerne Ave)	236
3	Downtown Lake Worth (Dixie Hwy @ 2nd Avenue N)	219
4	Downtown Boynton Beach (Federal Hwy @ Boynton Beach Blvd)	173
5	Downtown West Palm Beach (Quadrille Blvd @ Evernia St)	163
6	Downtown Boca Raton (Dixie Hwy @ E Camino Real)	151
7	The Gardens Mall	137
8	Riviera Beach @ Blue Heron	126
9	Downtown West Palm Beach (Quadrille Blvd @ Banyan Blvd)	98
10	Downtown Delray Beach (Federal Hwy @ SE 7th St)	91

## Vulnerable Populations

This overall lack of multimodal options isolate many disadvantaged residents within a community from jobs and educational opportunities. The increased distances between housing and jobs, as well as educational opportunities, has created barriers for those disadvantaged groups. As defined in Appendix A, US-1 Multimodal Corridor Health Impact Assessment Study, those disadvantaged groups were clarified as vulnerable populations defined as those who:

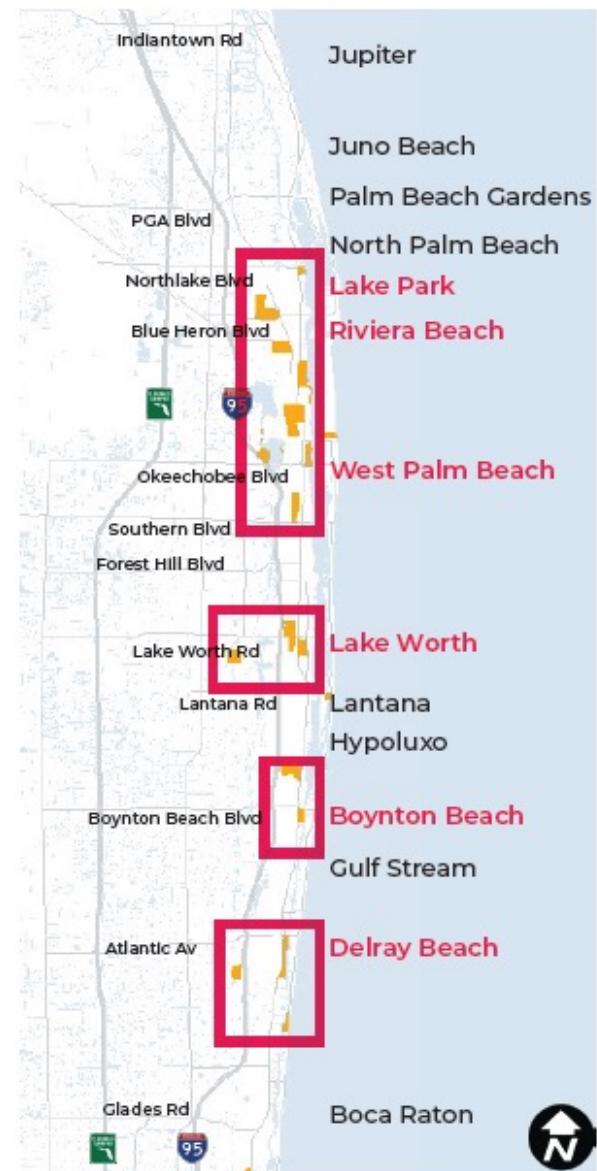
- Live In Households without Access to Automobiles
- Are In Poverty
- Are Age 65 or Older
- Are Disabled



Many physically and economically **disadvantaged** people **depend on public transportation** to access **medical services** and to obtain **healthy, affordable food**.

*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*

## Vulnerable Populations





# US-1 Crashes (N Federal Hwy to Gregory Rd ~3.7 Miles)

2015-2019 – Florida Signal Four Analytics Data

38 total pedestrian crashes, and 24 total bicycle crashes

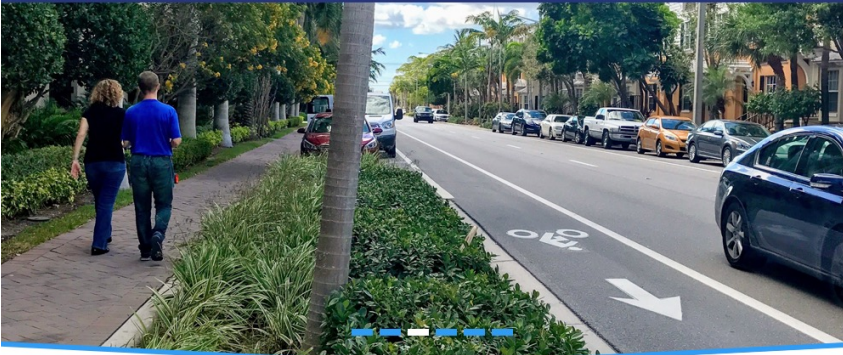
# ped fatalities	8
# ped serious injuries	7
# ped total crashes	38
# bike fatalities	1
# bike serious injuries	3
# bike total crashes	24
# of car crashes	1,476
# of car rear end crashes	423



## US-1 Multimodal Corridor Study



HOME ABOUT GET INVOLVED PROJECT DOCUMENTS HEALTH & TRANSPORTATION FAQs

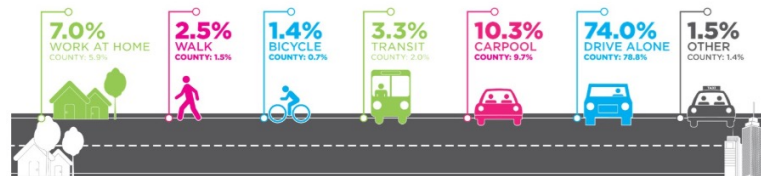


### US-1 MULTIMODAL CORRIDOR STUDY

In early 2017 the Palm Beach TPA kicked off a US-1 Multimodal Corridor Study to examine the potential for new express bus service as well as facilities to improve pedestrian and bicycle safety and connectivity along the corridor. The study encompassed 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. The project corridor is approximately 42 miles in length and runs north-south across 14 local municipalities. This effort included a kickoff outreach event and 6 months of public workshops and charrettes. The project also included a Health Impact Assessment (HIA) and HIA working group with local health partners to help inform the study's recommendations and potential impacts to community health. This project is included in the Palm Beach TPA's [Priority Projects List](#) for the [Transportation Improvement Program \(TIP\)](#).

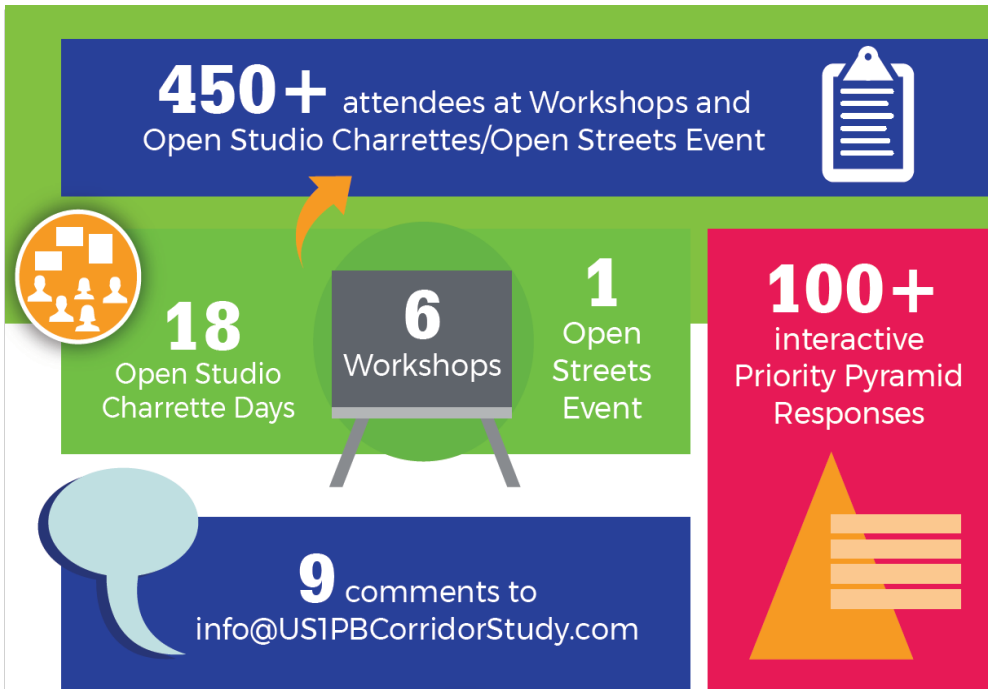
The US-1 Multimodal Corridor Study draft documents are available under the "Project Documents" tab and at: [www.PalmBeachTPA.org/US1](http://www.PalmBeachTPA.org/US1)

### PROJECT STATS

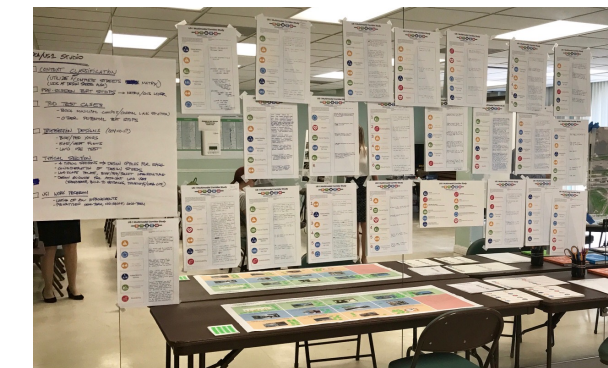


Source: U.S. Census Bureau 2011-2015 5-Year Estimates; Robert Wood Johnson Foundation County Health Rankings

### PROJECT TIMELINE



Social Media included Project Facebook Page and Instagram





# Lake Worth – US-1





# Lake Worth – US-1





# Lake Worth – US-1







# Why Multimodal Improvements?

**Increase safety for walking, bicycling, and transit**

**Relieve congestion through mode shift and better road operations**

**Access to Jobs and Education**



**Access to Health and Community Services**



**Economic Development**



**Bicycle and Pedestrian Safety**

# Increase Transit Service + Access



## PTX Yellow + PTX Blue + PTX Green

(City of Boca Raton to Town of Jupiter)

Compared to “The Bolt” limited stop service:

# 229,000

Additional Riders per Year

# 138%

Increase in Households and  
Jobs Locations that have access  
to Transit

Within a 10-Minute  
Walk

# 45



Schools

# 217



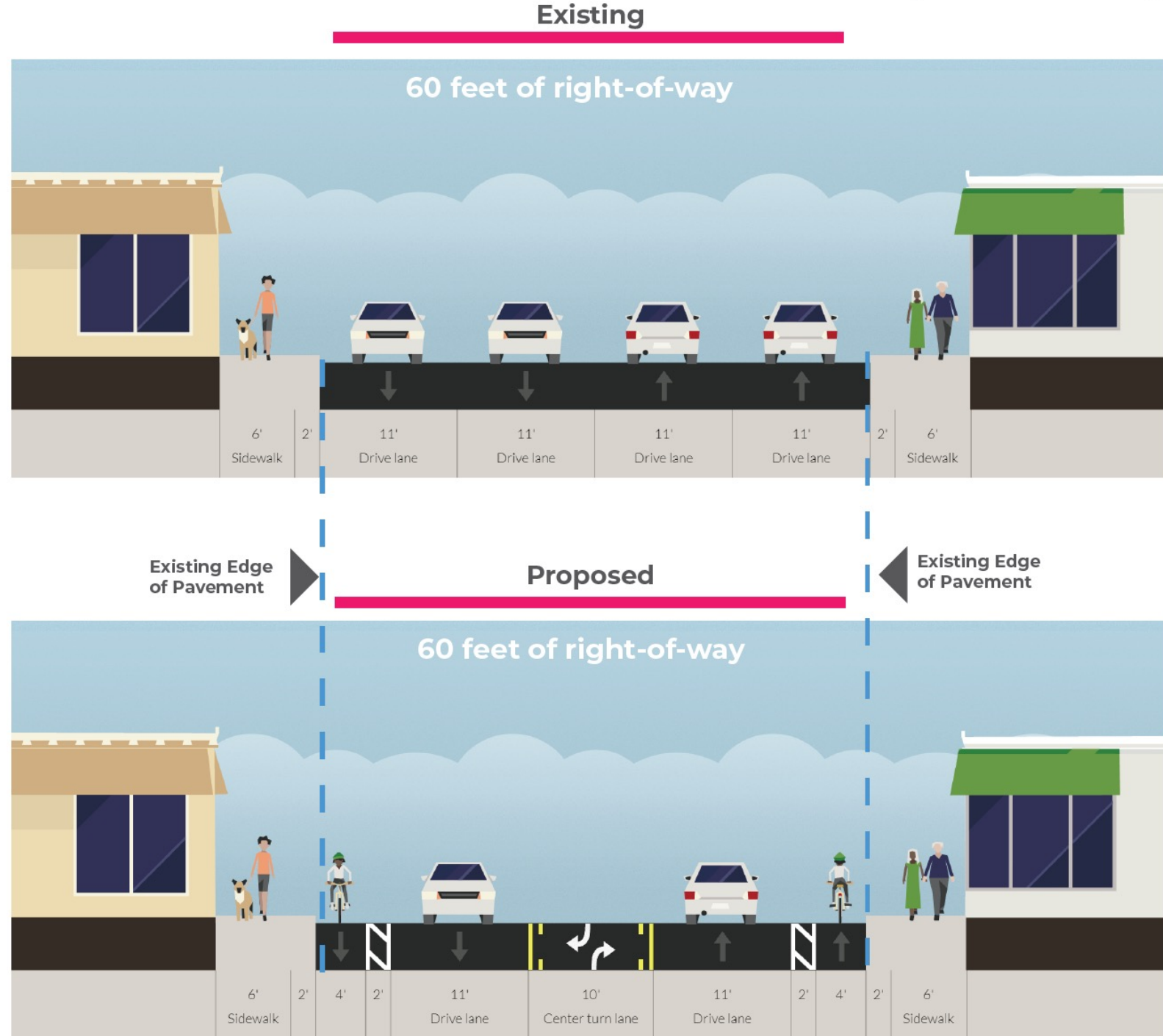
Healthcare  
Facilities





# Roadway

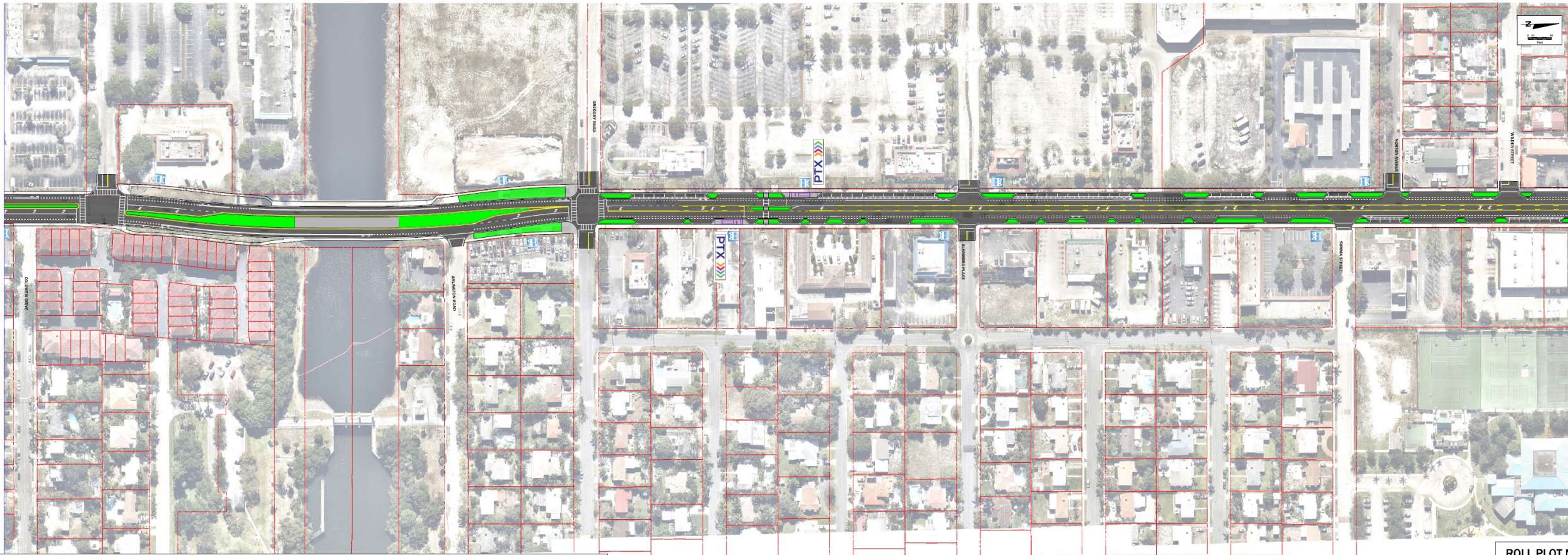
- Repurposing Option





# Roadway

- Continuous Plan View







US-1 @ Lake Ave  
Existing





**US-1 @ Lake Ave  
Proposed**



# Why Repurpose?

## FHWA Proven Safety Countermeasure

Many agencies implement to:

- Reduce crashes
- Rebalance the service among travel modes
- Support economic enhancement goals
- Support community goals to improve quality and health



### **Road Diets (Roadway Reconfiguration)**

A "Road Diet," or roadway reconfiguration, can improve safety, calm traffic, provide better mobility and access for all road users, and enhance overall quality of life.

#### **SAFETY BENEFIT:**

**4-Lane → 3-Lane**

**Road Diet Conversions**

**19-47%**

Reduction in total crashes

Source: *Evaluation of Lane Reduction "Road Diet" Measures on Crashes*, FHWA-HRT-10-053.





# Why Repurpose?

## Safety, Separation, Mobility, Beautification

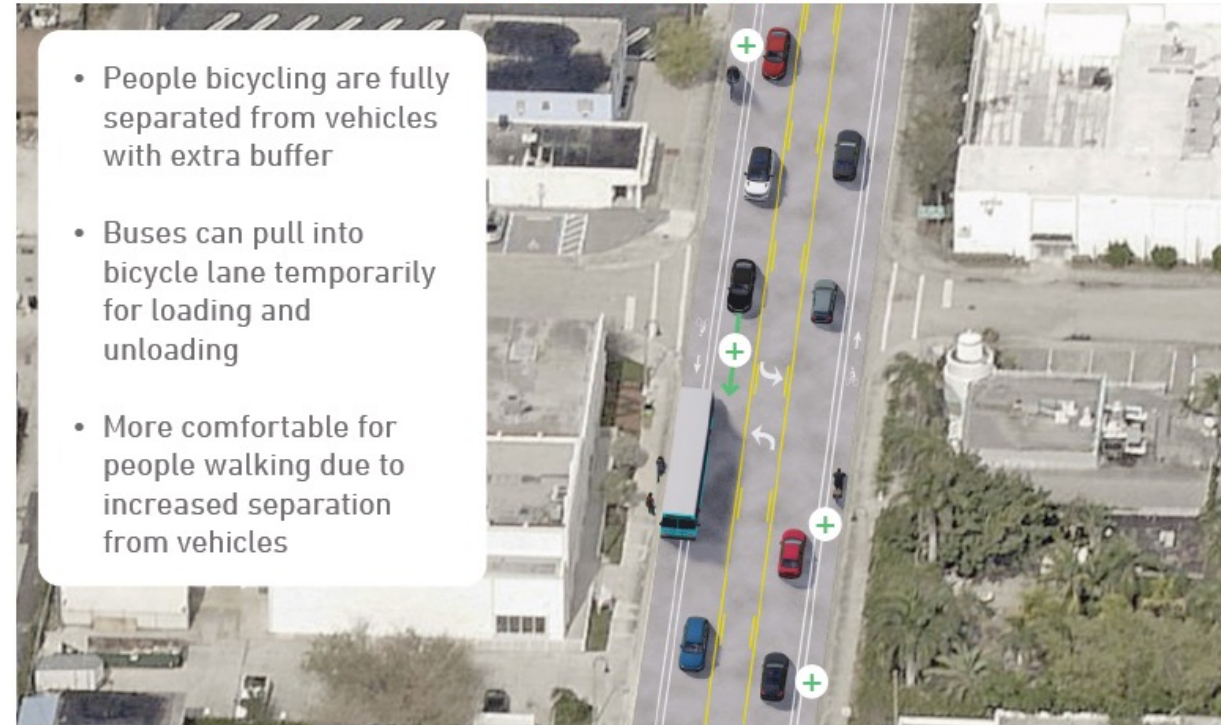
### EXISTING CONFIGURATION

- All modes of transportation are in the same travelway - no separation
- Buses block through traffic in right lane
- Low level of comfort for people bicycling in the roadway
- Low amount of separation for people walking with sidewalk adjacent to through lane



### PROPOSED CONFIGURATION

- People bicycling are fully separated from vehicles with extra buffer
- Buses can pull into bicycle lane temporarily for loading and unloading
- More comfortable for people walking due to increased separation from vehicles







# Why Repurpose?

## Safety, Separation, Mobility, Beautification

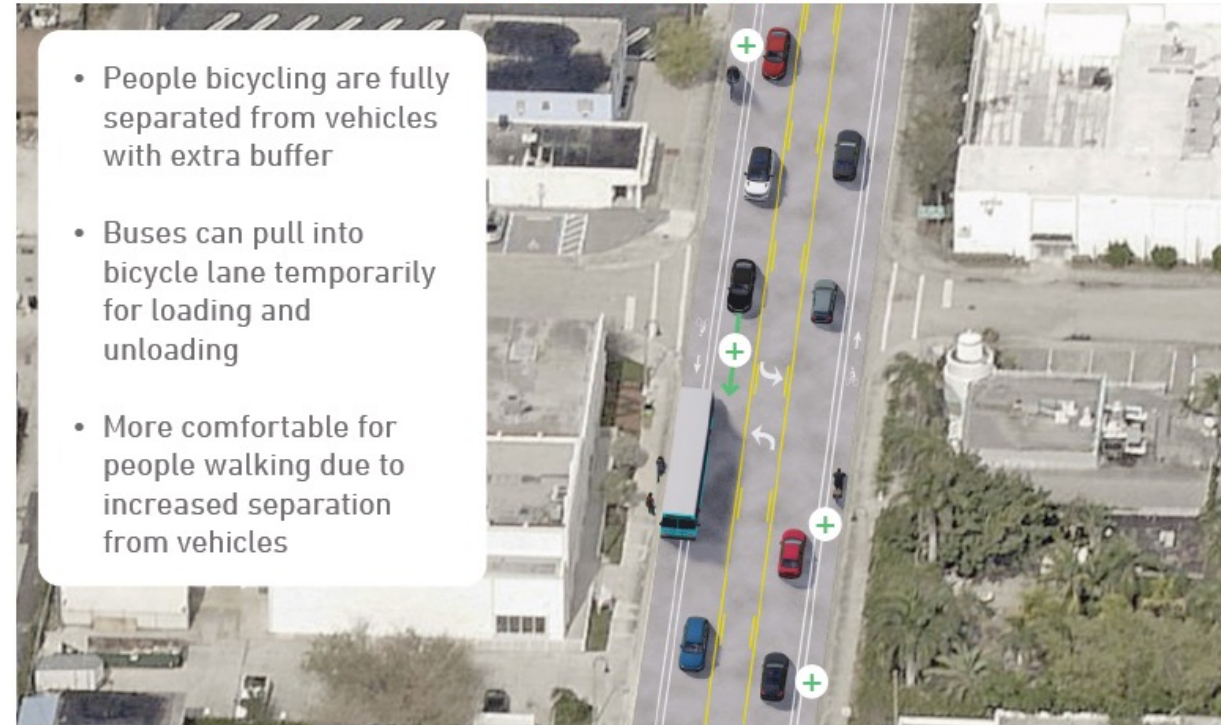
### EXISTING CONFIGURATION

- All modes of transportation are in the same travelway - no separation
- Buses block through traffic in right lane
- Low level of comfort for people bicycling in the roadway
- Low amount of separation for people walking with sidewalk adjacent to through lane



### PROPOSED CONFIGURATION

- People bicycling are fully separated from vehicles with extra buffer
- Buses can pull into bicycle lane temporarily for loading and unloading
- More comfortable for people walking due to increased separation from vehicles





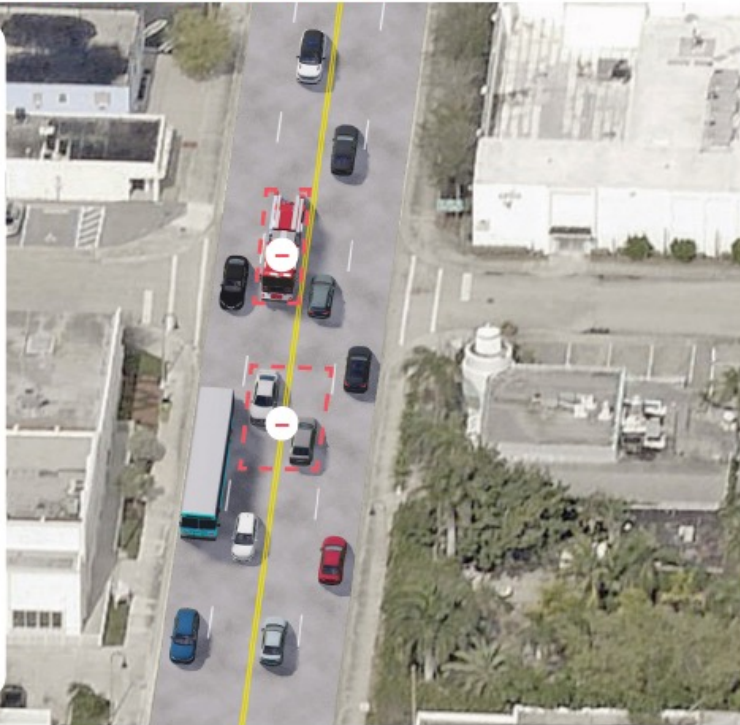
# Why Repurpose?

## Emergency Vehicle Access



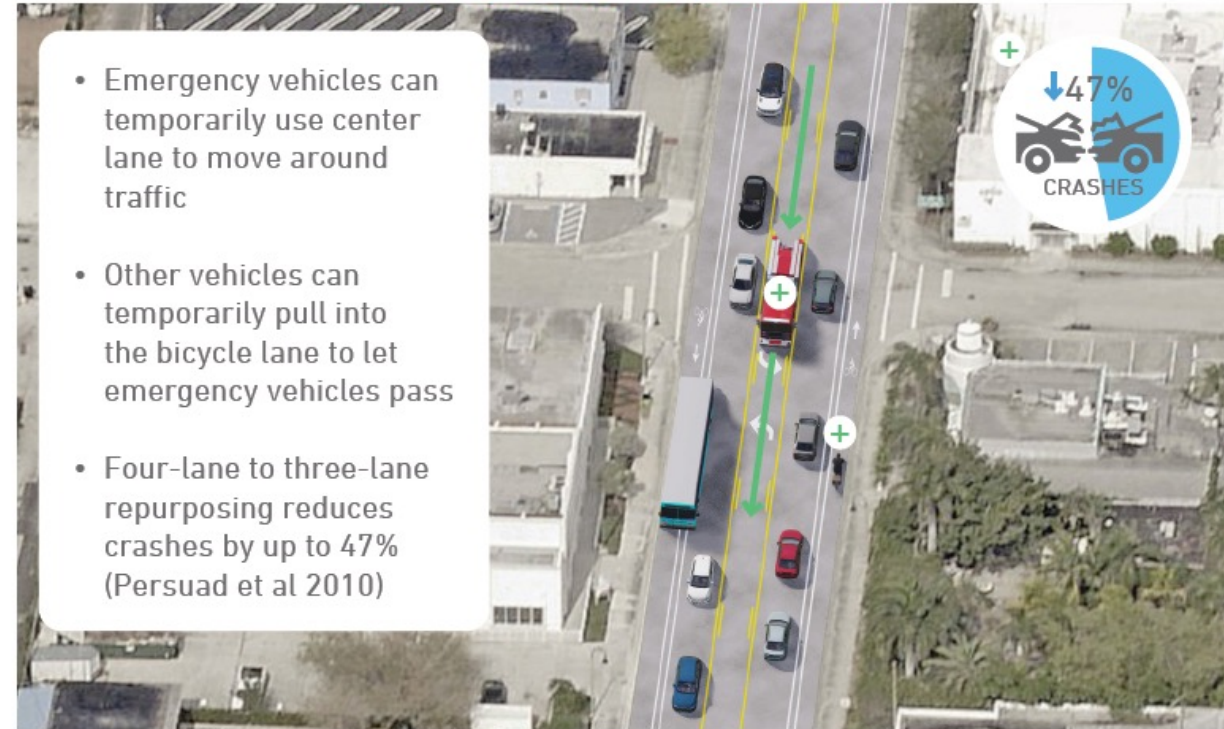
### EXISTING CONFIGURATION

- Emergency vehicles must travel in through lanes, possibly blocked by cars during peak volume periods
- Other vehicles don't have room to pull out of through lane for emergency vehicles
- Left turns at this configuration have higher potential for rapid stops and rear-end or angled crashes



### PROPOSED CONFIGURATION

- Emergency vehicles can temporarily use center lane to move around traffic
- Other vehicles can temporarily pull into the bicycle lane to let emergency vehicles pass
- Four-lane to three-lane repurposing reduces crashes by up to 47% (Persuad et al 2010)





# Florida Examples



13<sup>th</sup> St. (Fort Lauderdale)



*Before*

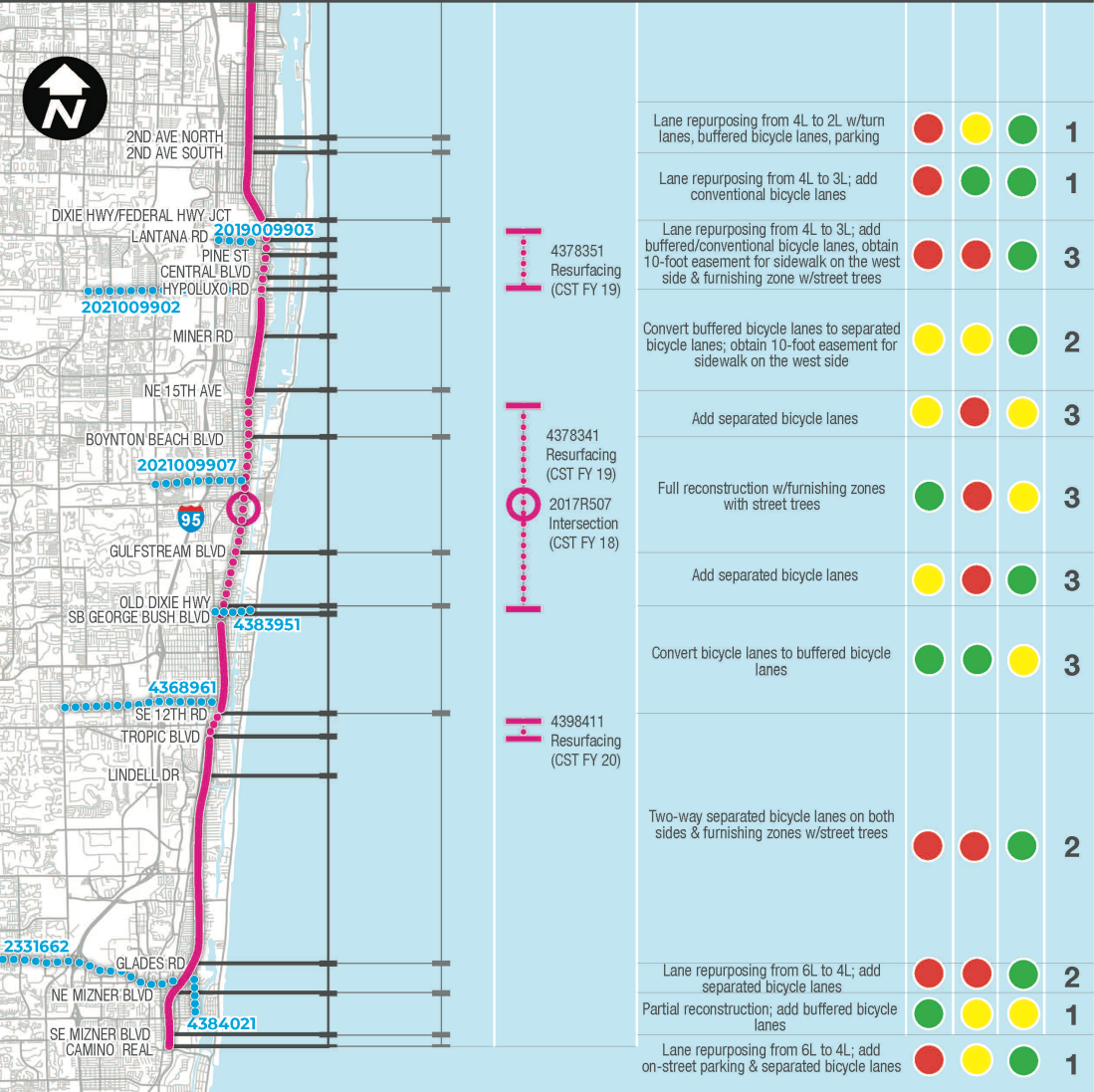


*After*

Edgewater Dr. (Orlando)

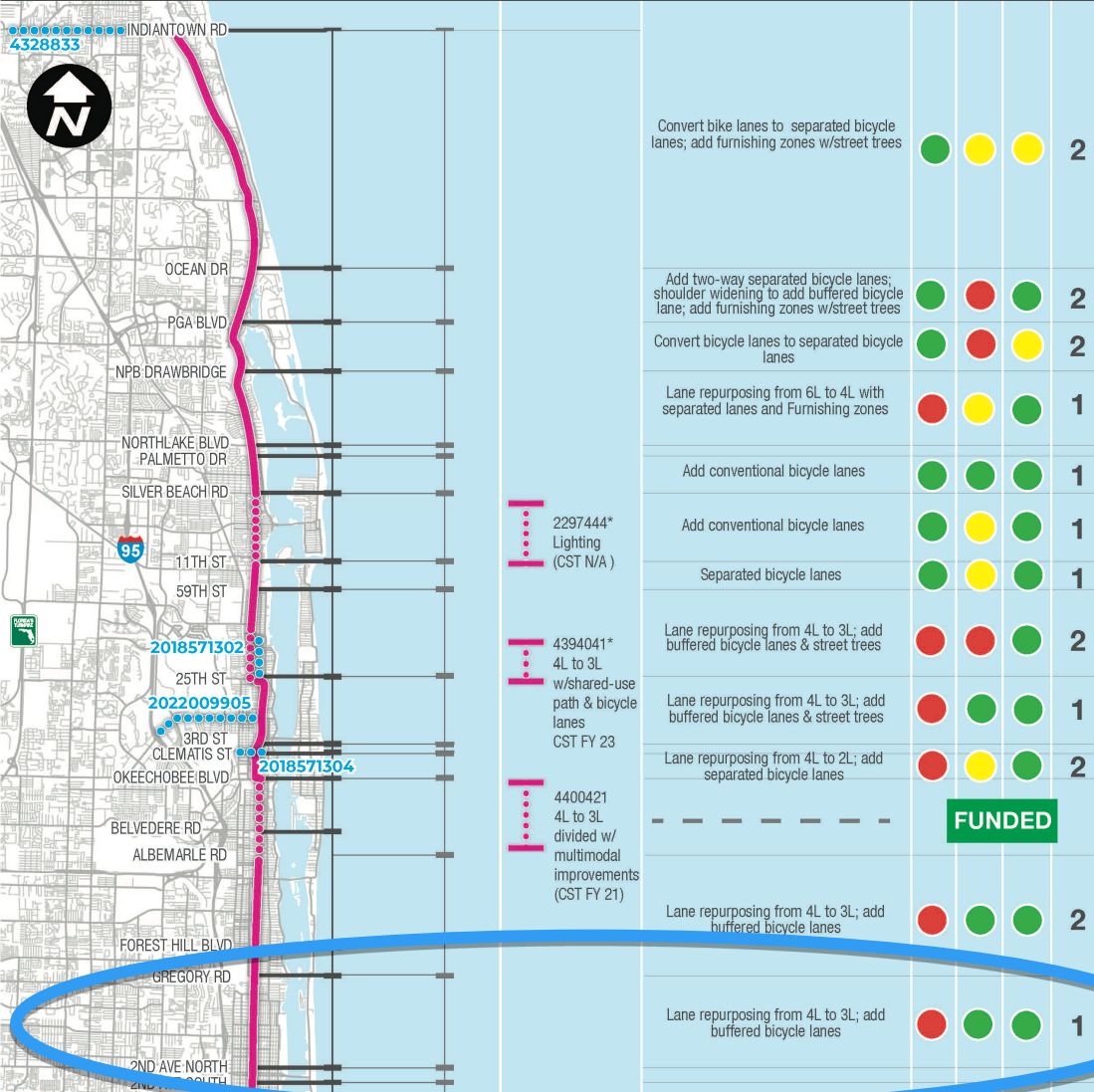


PRIORITIZATION OF PROPOSED MULTIMODAL IMPROVEMENTS	TYPICAL SECTION TERMINI	PROJECT TERMINI	US-1 CORRIDOR US-1 TIP PROJECTS NEARBY TIP PROJECTS	DESCRIPTION	COMPLEXITY	COST	BENEFIT	PRIORITY TIER
0 2 4 MILES								



LEGEND	COMPLEXITY			COST		BENEFIT	
	<span style="color: green;">●</span>	No change to the number of existing through lanes & parking			No changes to drainage or median		Add new modal facilities
	<span style="color: yellow;">●</span>	Turn lane modifications and/or removal of parking			Changes to median and/or minor curb modifications		Improve existing facilities & adding a buffer
	<span style="color: red;">●</span>	Lane elimination and/or significant additional planning process may be required			Full reconstruction		N/A

PRIORITIZATION OF PROPOSED MULTIMODAL IMPROVEMENTS	TYPICAL SECTION TERMINI	PROJECT TERMINI	US-1 CORRIDOR US-1 TIP PROJECTS NEARBY TIP PROJECTS	DESCRIPTION	COMPLEXITY	COST	BENEFIT	PRIORITY TIER
0 2 4 MILES								



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)



# Funding Available



**PALM BEACH**  
Transportation  
Planning Agency



**STATE ROAD MODIFICATIONS**  
Total Funds: ~\$20.4M/Year  
Funding Range: \$500K-\$5M  
Eligible On State Roads  
Project Examples:

- Complete Streets
- Traffic Calming
- Intersection Modifications

**LOCAL INITIATIVES**  
Total Funds: ~\$26M/Year  
Funding Range: \$250K-\$5M  
Eligible On Federal-Aid Roads  
Project Examples:

- Complete Streets
- Transit Capital
- Freight Efficiency

**TRANSPORTATION ALTERNATIVES**  
Total Funds: ~\$5.1M/Year  
Funding Range: \$250K-\$1.5M  
Eligible On and Off Roads  
Project Examples:

- Pedestrian & Bicycle Facilities
- Safe Routes to School
- Safety-Related Infrastructure

**Grant Application Workshop: November 3, 2022 from 2-4:30 p.m.**

**Applications Due: February 17, 2023 at 5 p.m.**

**[PalmBeachTPA.org/Funding](https://PalmBeachTPA.org/Funding)**

301 Datura Street, West Palm Beach, FL 33401

[Funding@PalmBeachTPA.org](mailto:Funding@PalmBeachTPA.org)





# Next Steps for City

- **Collect input on Lane Repurposing Application**
  - Lake Worth Beach Resolution of endorsement (RESOLUTION NO. 63-2022, September 6, 2022).
  - FDOT to evaluate traffic study with lane repurposing application
- **TPA Continues to work with FDOT to Prioritize Funds** for design, feasibility, & construction in 5 Year Work Program

[www.PalmBeachTPA.org/US1](http://www.PalmBeachTPA.org/US1)





# Questions?

## **Brian Ruscher**

Deputy Director of Multimodal Development

[Bruscher@PalmBeachTPA.Org](mailto:Bruscher@PalmBeachTPA.Org)

[www.palmbeachtpa.org/safety](http://www.palmbeachtpa.org/safety)

---

## **Jamie Brown**

Director, Public Works Department

[Jbrown@LakeWorthBeachFL.Gov](mailto:Jbrown@LakeWorthBeachFL.Gov)

[www.LakeWorthBeachFL.gov](http://www.LakeWorthBeachFL.gov)