



# Transit Initiatives



# TPA Transit Overview

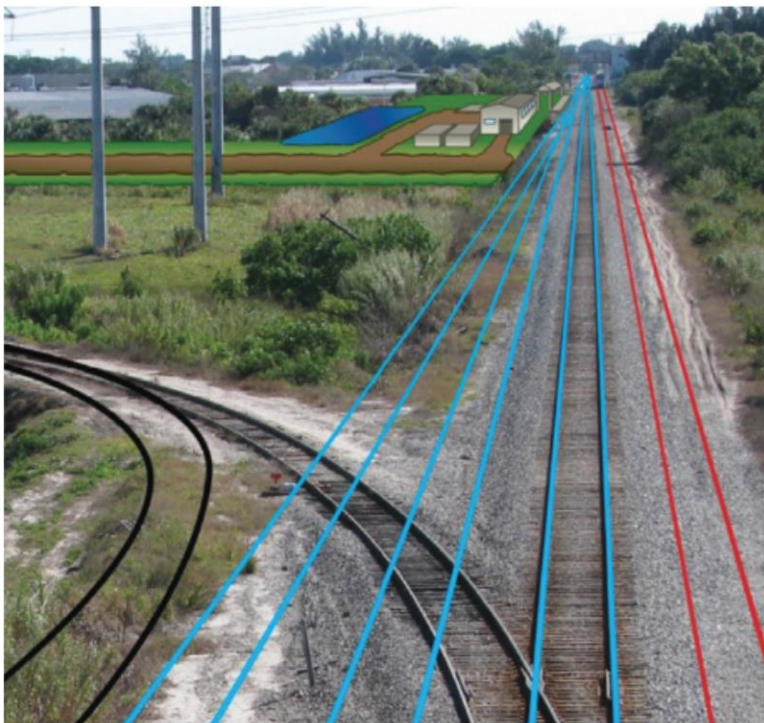
- Capital Projects
- Transit Planning Initiatives
- Challenges





# Tri-Rail Layover Facility, New Boca Station

- Northern Layover Facility - \$28.7 M; Completion in 2023
- Boca II Tri-Rail Station - \$8.5 M; Construction TBD







# Palm Tran Fare Interoperability

- Total cost of \$6M, TPA provided \$5.3M
- Implementation in late 2019







# Trolleys, Shelters, Facilities

- Palm Tran Delray Maintenance/Admin Facility - \$1.5M
- Palm Tran Bus Shelters FY18 \$600K; FY23 \$800K
- WPB Shelters \$571K & Trolleys \$1.5M
- Delray Trolleys \$860K



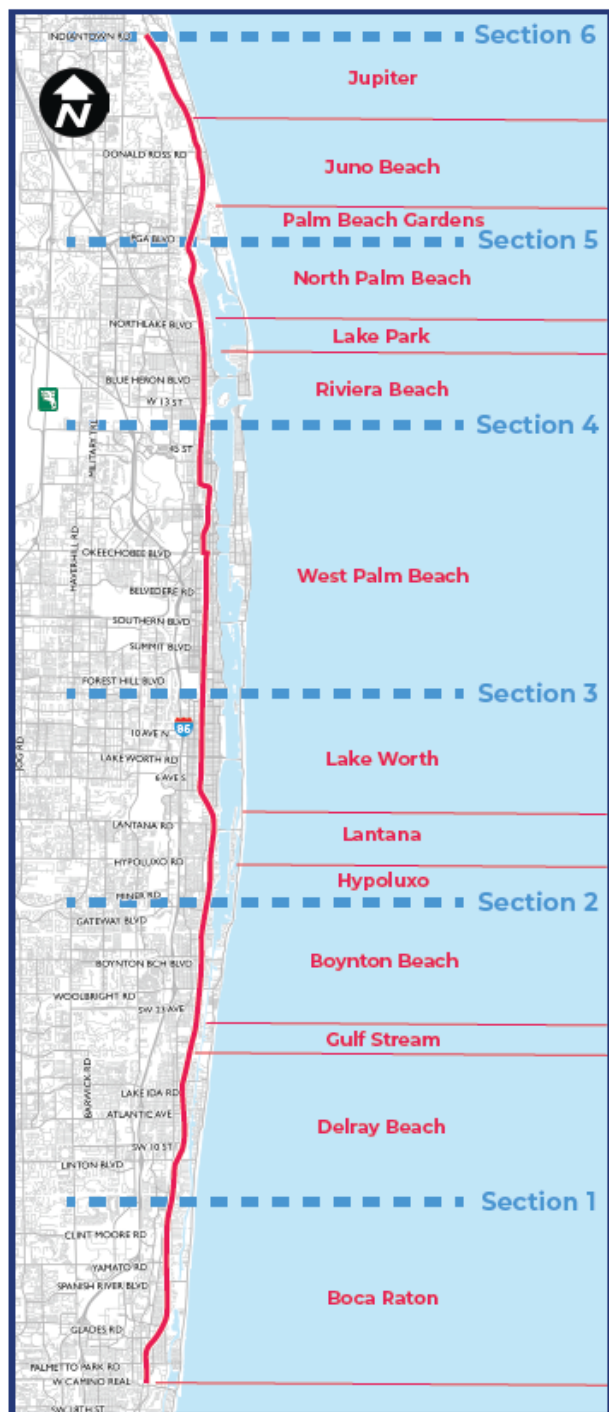


# Current Transit Planning Initiatives

- US-1 Multimodal Corridor Study
- Transit Density Maps
- Transit Access Study
- Tri-Rail Coastal Link Steering Committee
- Palm Tran Route Performance Maximization
- Palm Tran Transit Development Plan
- SR80 Premium Transit / TOD Workshop







# US-1 Multimodal Corridor Study

- Develop a comprehensive plan to identify multimodal improvements that increase safety and access for all users
- Evaluate the potential for premium bus service
- Improve Public Health through Transportation Design





# Health Impact Assessment



- Working Group
- Stakeholder Interviews
- Charrettes/Workshops
- Quality of Life Survey
- Available Mapping Data





# Project Website and Innovative Outreach

**US-1 Multimodal Corridor Study**

CONNECTING COMMUNITIES  
In Palm Beach County

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**

Mode	Percentage
7.0% WORK AT HOME	COUNTY: 6.1%
2.5% WALK	COUNTY: 1.5%
1.4% BICYCLE	COUNTY: 0.7%
3.3% TRANSIT	COUNTY: 2.0%
10.3% CARPOOL	COUNTY: 5.1%
74.0% DRIVE ALONE	COUNTY: 75.5%
1.5% OTHER	COUNTY: 1.4%

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

**PROJECT TIMELINE**

Phase	Year
RESEARCH	SPRING 2017
OUTREACH	SUMMER-FALL 2017
REPORT	WINTER 2018
OUTREACH	SPRING 2018

**450+** attendees at Workshops and Open Studio Charrettes/Open Streets Event

**18** Open Studio Charrette Days

**6** Workshops

**1** Open Streets Event

**100+** interactive Priority Pyramid Responses

**9** comments to [info@US1PBCorridorStudy.com](mailto:info@US1PBCorridorStudy.com)

**260+** likes and **130+** comments on online Comment Map

**100+** Stakeholder Interviews

**100+** survey responses

**16+** personal interviews

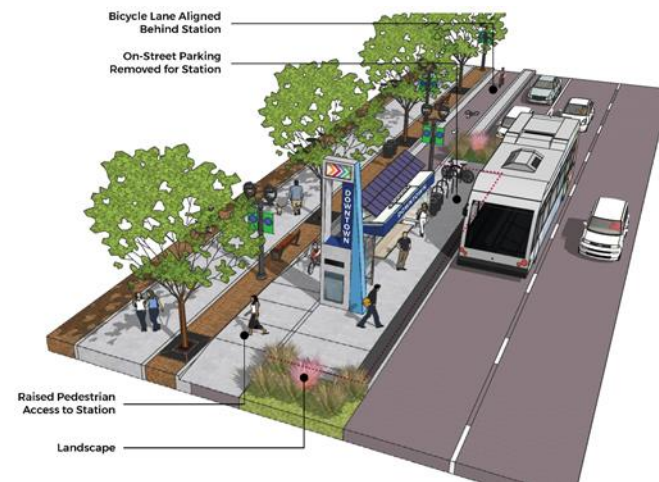
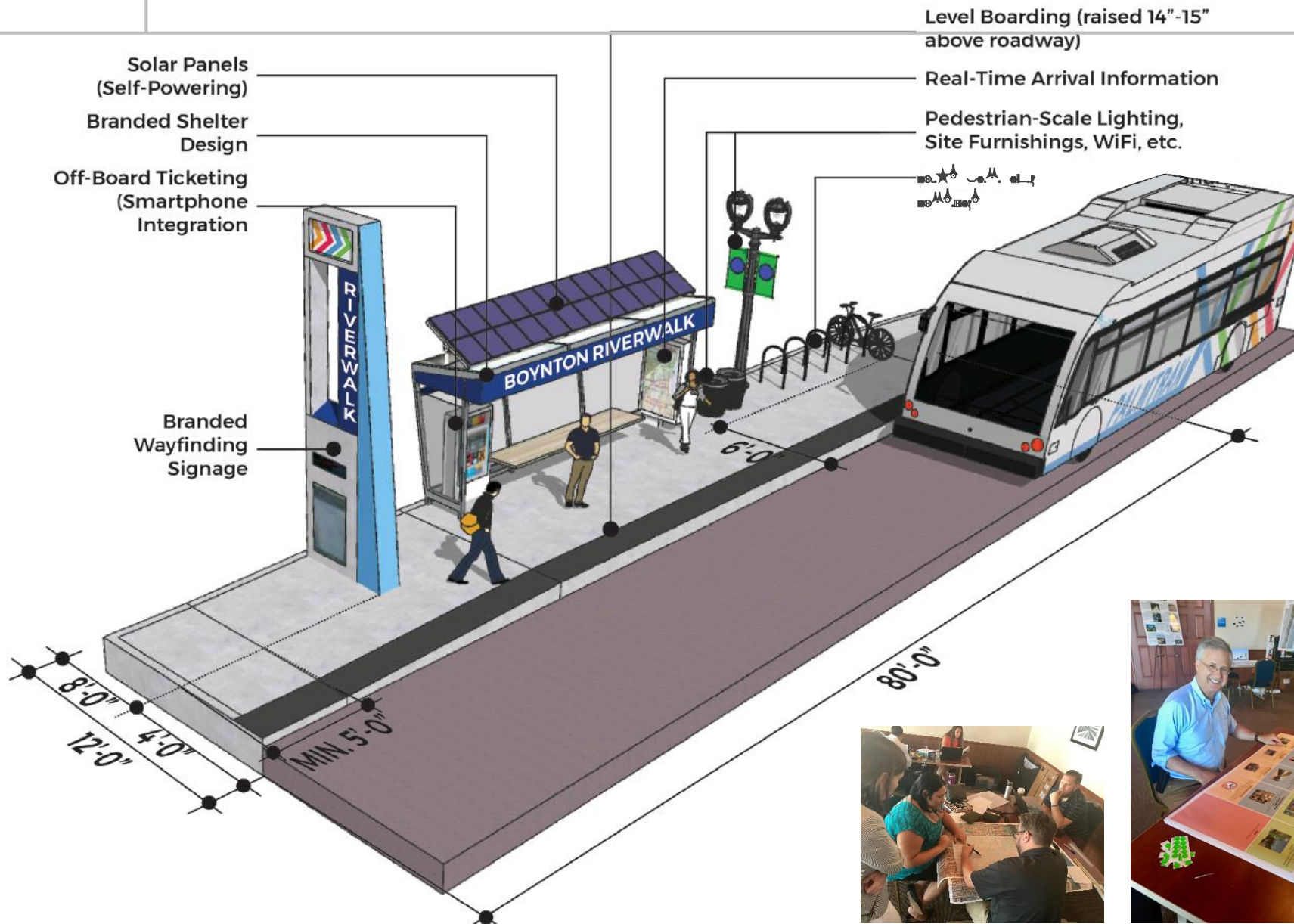
Social Media included Project Facebook Page and Instagram







# Transit Station Design







# Stories from the Corridor



MIKE

## MIKE IN WEST PALM BEACH

Mike noted that bicycling would be much easier than driving and trying to find a parking space, especially when visiting restaurants and nightlife Clematis Street. In his opinion and perception, the absence of pedestrian safety features or dedicated bike lanes makes it tough to consider exclusively biking here. He has used the Trolley in the past and agrees it is convenient, but given the time savings of driving, Mike does not really consider using the fixed route system.



PEDRO

## PEDRO IN BOYNTON BEACH

Pedro is a certified nursing assistant (CNA) employed by Bethesda East Hospital in Boynton Beach. Each morning at 4:30 AM he walks, in the dark, to the West Palm Beach Intermodal Center from his home west of downtown. With the lack of pedestrian lighting on his path, he is very concerned for his personal safety and "fears [he] will be a target" for crime.

Pedro's roundtrip journey to work takes a little over four hours each day. Because of his safety concerns, he sometimes rides Tri-Rail in the morning, however, he uses the bus on the return trip due to the cost. He usually purchases a weekly bus pass, but on the day he was interviewed his weekly pass had expired and he was forced to purchase a single pass because of personal financial issues. Pedro felt that the cost for a weekly pass was too much for a trip that would normally take about 20 minutes by car.



PAT

## PAT IN LAKE WORTH

Pat offers support and outreach to transit riders at the Palm Tran Route 1 Bus Stop adjacent to the CVS at North Dixie Highway and Lucerne Avenue in downtown Lake Worth. She noted that the accumulation of garbage and the perceived lack of stewardship at many bus stops gives a negative impression of "her" community. She and her friend, Eileen, bring trash bags to clean up the debris at various bus stops when they are out and about.

*"This is a thoroughfare where people come from outside our area and they see all this filth around the bus stops. That to me is a disgrace."*

*People come to these bus stops and they are looking at what Lake Worth is like, and the view leaves a bad taste in their mouth."*



DREW

## DREW IN NORTH PALM BEACH & JUPITER

A Jupiter resident, Drew works in North Palm Beach and commutes via bicycle. He feels US-1 is not safe for bicyclists and pedestrians because of the high-speed conditions and buildings that are set back from the roadway. He has nearly been hit by turning motorists, unaware of his presence in the bicycle lane or on the sidewalk.

Drew grew up in Jupiter but also lived in California, before returning to the area to build his life. While away, he was struck by the culture of "healthy living." He noted many people bicycle and walk to work on a regular basis. He hoped that could eventually be the case in both Jupiter and North Palm Beach.



BEETHOVEN

## BEETHOVEN IN RIVIERA BEACH

Beethoven is the owner and operator of a popular cafe and co-working space in Riviera Beach. Relocating a few years ago from Connecticut, Beethoven is committed to being part of the "future renaissance" in Riviera Beach.

For Beethoven, the US-1 Corridor in Riviera Beach is the gateway to the City and an opportunity to enhance business development. He would like to see more on-street parking and better pedestrian crossings to support walkable access to local businesses that front US-1.

"Man, this place is a destination! We need more people to come to Riviera Beach, not through."



TODD

## TODD-WEST PALM BEACH

As the manager of a major hotel property in the heart of Downtown West Palm Beach, Todd is a local ambassador to the visitors that stay in his hotel each night.

When asked about where he would direct visitors who are not driving to visit the City, he said that they should "Uber" over to Palm Beach to rent a bicycle and ride on A1A to see the gorgeous mansions or along the beachfront. When asked about suggesting visitors use the local bikeshare to travel short distances along US-1 to shop at CityPlace or visit other downtown locations, he was quick to respond, "No. Never. It isn't safe enough, especially for my folks that have never been here before."



THE DAVISES

## THE DAVIS'S 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 Davis's can be seen traversing the US-1 Corridor with their automatic wheelchairs. They rely on Palm Tran Transit 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 bike lane because of the lack of continuous sidewalks and those inconsistencies create physical problems for their wheelchairs. Mr. Davis also 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.



JOE









# Vulnerable Populations

## ■ Boynton Beach

- High percentage of racial & ethnic minorities population
- Food desert
- Hypertension rate (45.5%)

## ■ Lake Worth

- Depression rate (18.7%)
- Obesity rate (31.1%)
- Bicycle/Ped Incident/Mile (3.8)

## ■ West Palm Beach

- High transit-dependent households
- Bicycle/Ped Incident/Mile (3.1)
- Multimodal Split: 10.0%

## ■ Riviera Beach

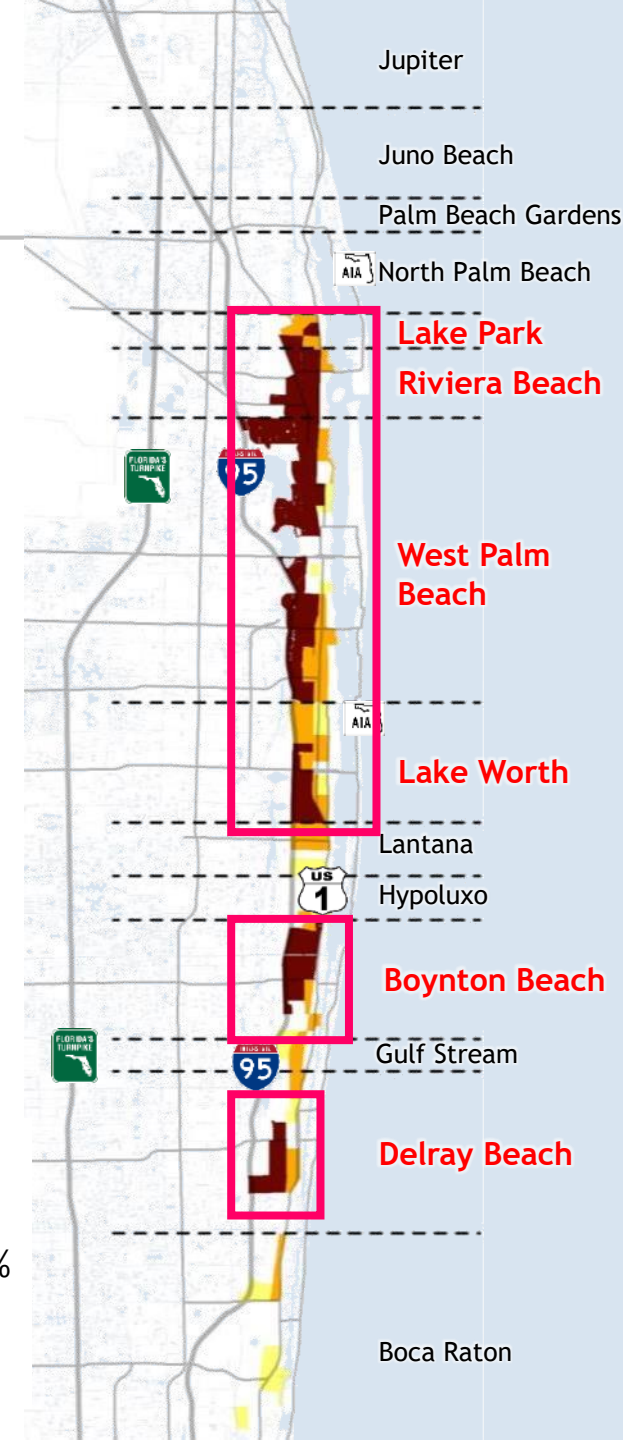
- Hypertension (45.6%)
- Obesity: 34.1%
- Asthma: 9.7%

## ■ Lake Park

- Obesity: 33.0%
- Multimodal Split: 9.4%
- Asthma: 9.3%

### Concentration of Vulnerable Populations

- 38% (County Avg) - 50%
- 51% - 75%
- 76% - 100%







# Transit Recommendations

**PTX Yellow + PTX Blue + PTX Green**

(City of Boca Raton to Town of Jupiter)

**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





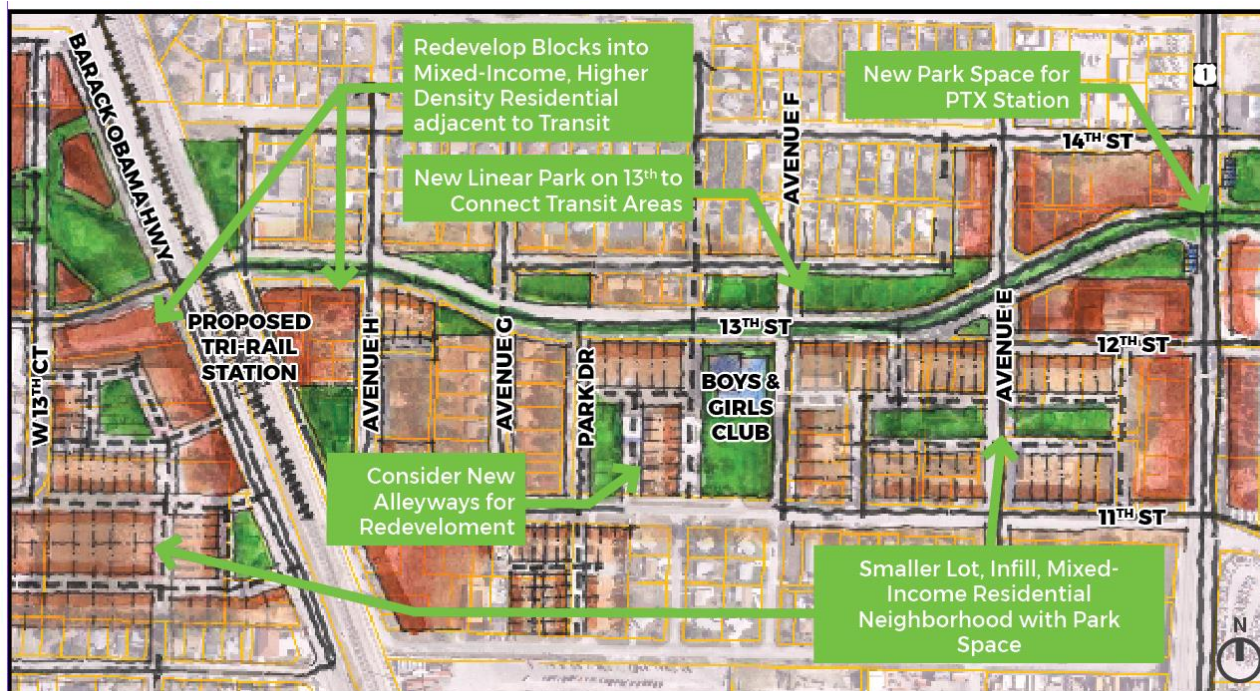


# TOD Opportunity Sites

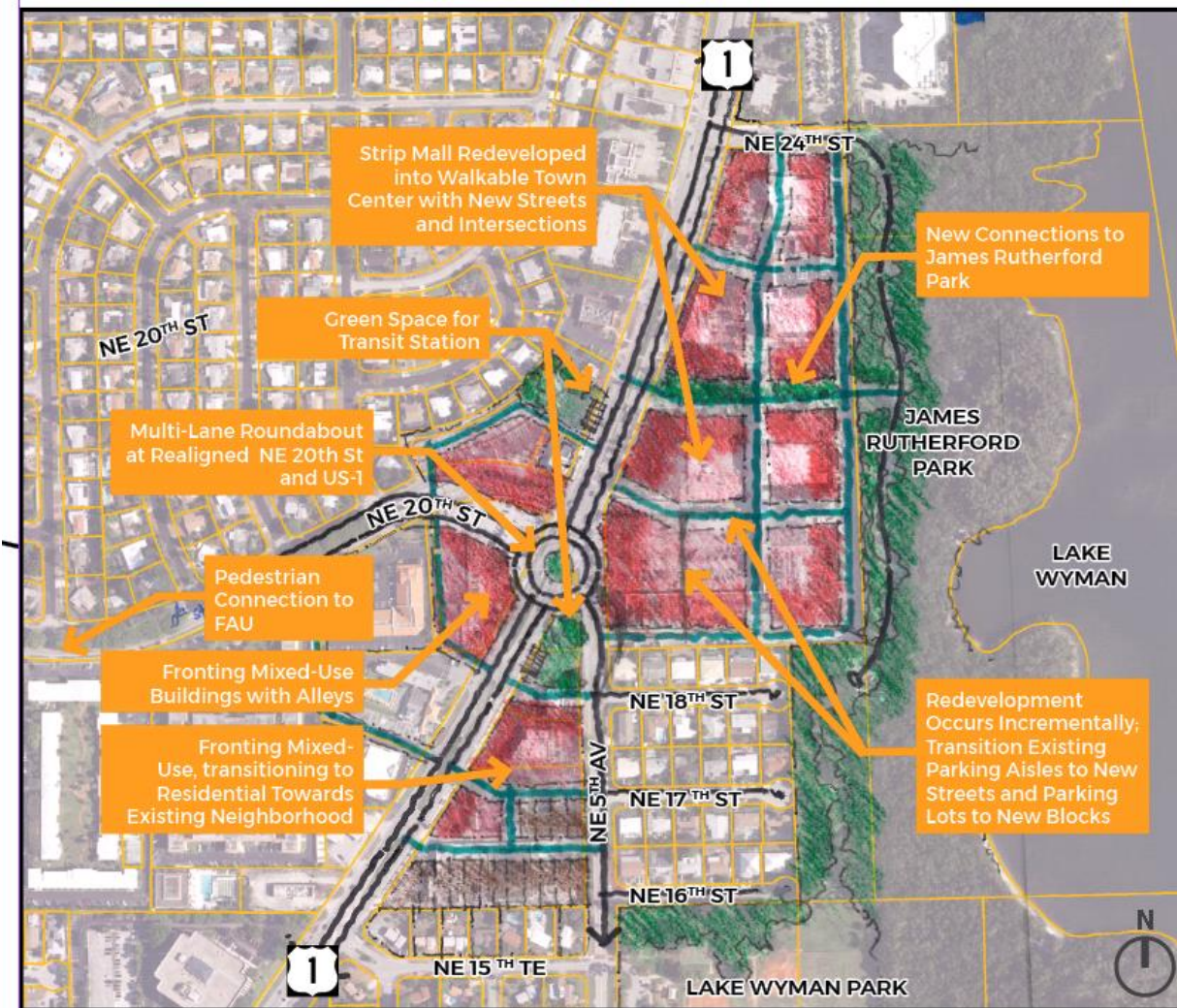
## Transit-Oriented Development

# 42 Station Areas

Examined Potential Development Scenarios around PTX Stations



13TH STREET



NE 20TH STREET (FLORIDA ATLANTIC UNIVERSITY)





# Roadway

## Typical Sections



Roll Plot No. 60-68

Ocean Drive to Indiantown Road

Existing



Existing Edge of Pavement

Proposed

Existing Edge of Pavement



**FDOT Context Classification:** C1-Natural & C3-Suburban

**Existing Speed Limit:** 45 mph

**Length:** 5.4 miles

**Proposed Recommendations:** Shoulder widening with separated bicycle lanes; add furnishing zones with street trees







# Roadway

## ■ Continuous Plan Views















# US-1 Multimodal Corridor Study Next Steps

- FDOT Design Feasibility
- Palm Tran Perform Detailed Analysis & Pursue Funding
- Work with Communities & FDOT to Implement Improvements





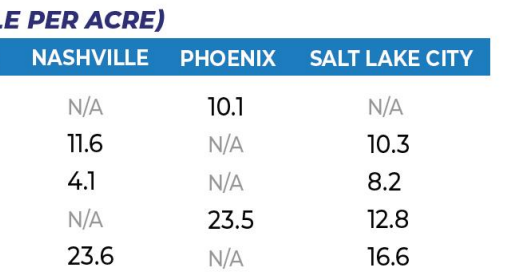
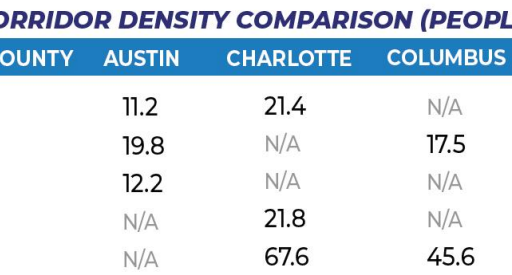
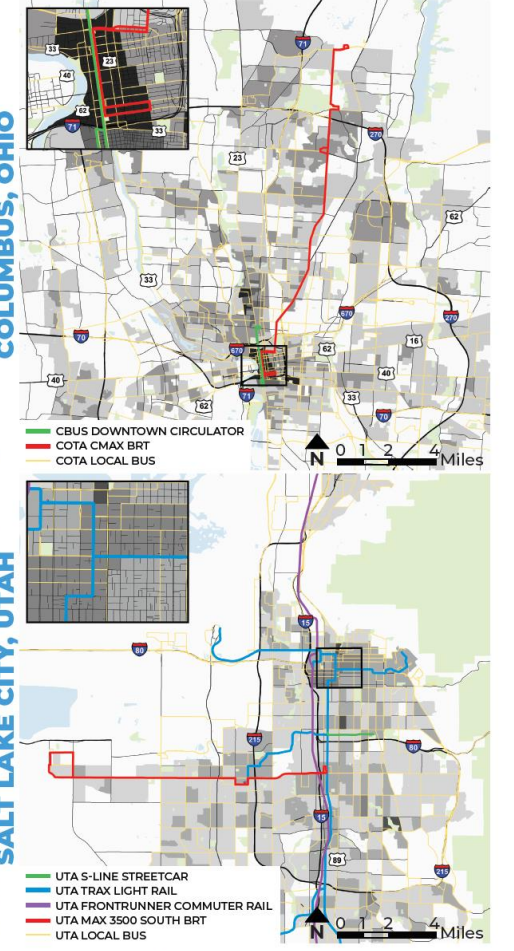
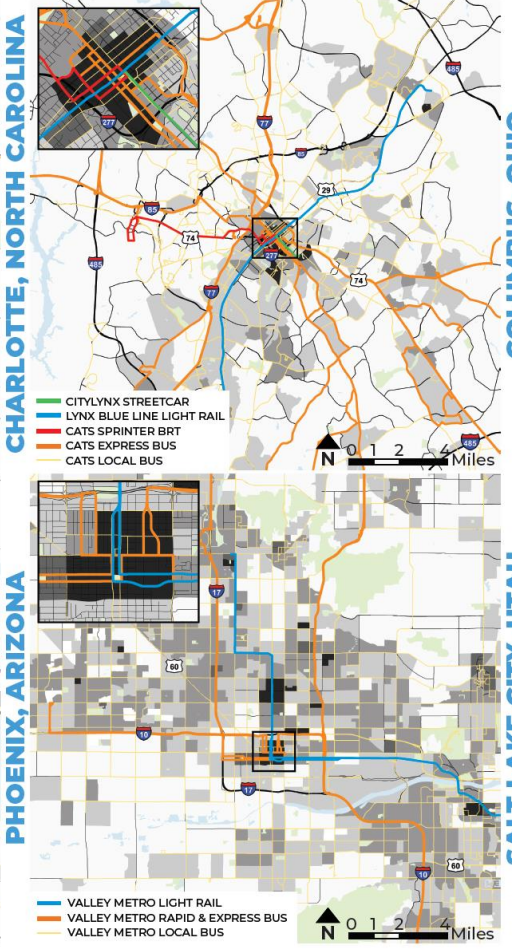
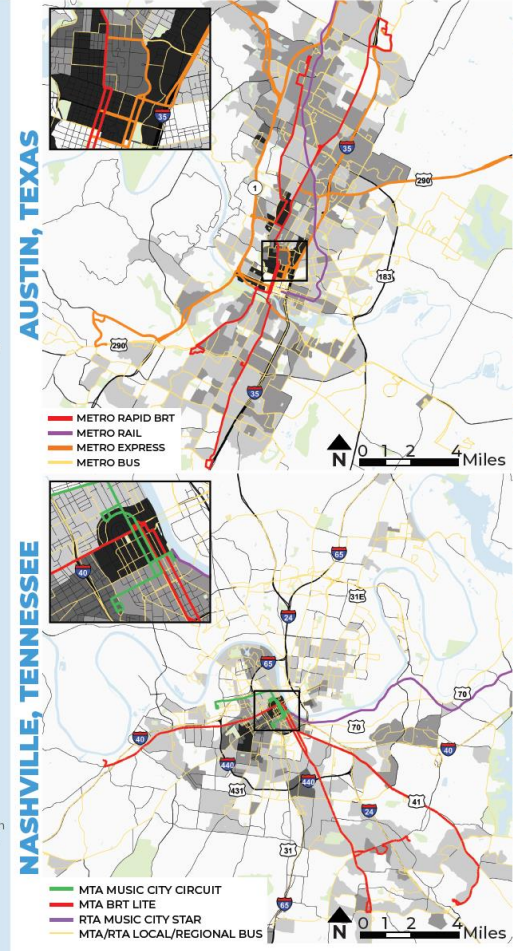
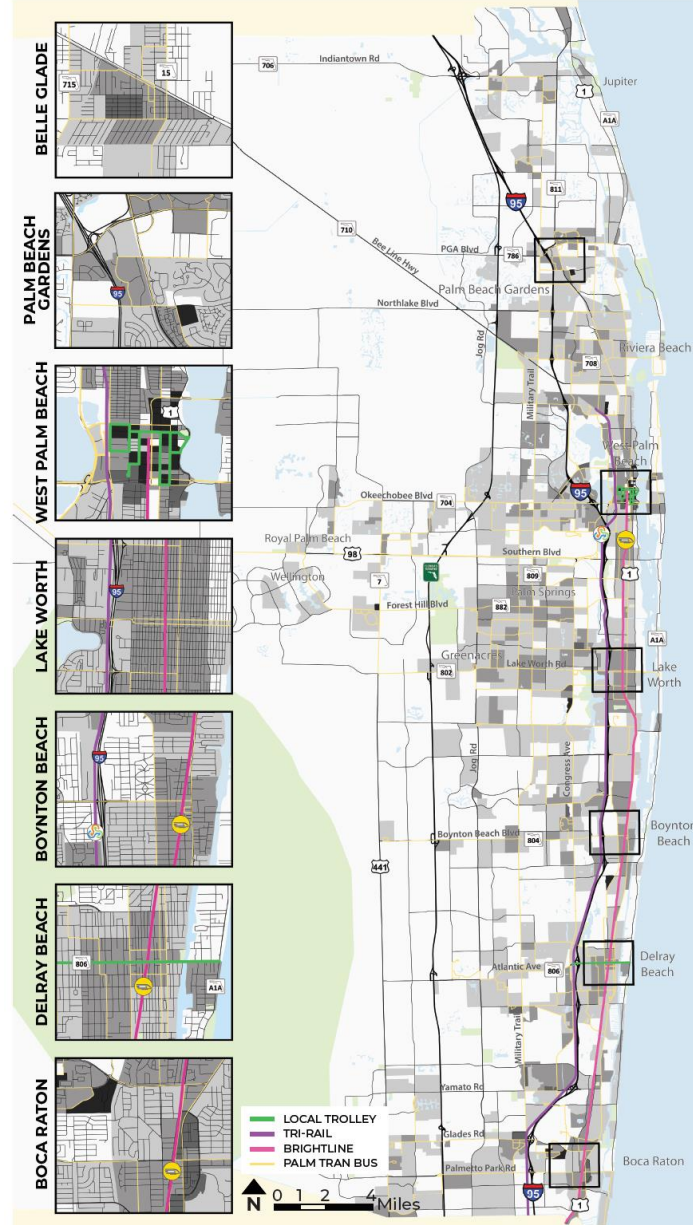
# TRANSIT DENSITY COMPARISON

## PALM BEACH COUNTY // SIX CITIES

Density Data Sources: 2015 Palm Beach County Travel Demand Model for Palm Beach County; 2015 American Community Survey 5-Year Estimates and 2015 Longitudinal Employer-Household Dynamics for comparison cities  
Density by Transit Technology Comparison Source: Federal Transit Administration, Planning for Transit-Supportive Development, A Practitioner's Guide, June 2014.  
The FTA ranges from the Practitioner's Guide were adapted based on local knowledge and to accommodate a persons per acre methodology.

### POPULATION AND JOB DENSITY (PEOPLE PER ACRE) FOR TYPICAL TRANSIT SYSTEMS

1 - 8	LOCAL BUS	BUS RAPID TRANSIT (BRT)
9 - 15	EXPRESS & ENHANCED BUS	INTERCITY EXPRESS RAIL
16 - 40	BUS RAPID TRANSIT (BRT)	LIGHT RAIL
41 - 60	COMMUTER RAIL	
61+	STREETCAR & TROLLEY CIRCULATOR	



### TRANSIT CORRIDOR DENSITY COMPARISON (PEOPLE PER ACRE)

Transit Technology	PALM BEACH COUNTY	AUSTIN	CHARLOTTE	COLUMBUS	NASHVILLE	PHOENIX	SALT LAKE CITY
Express & Enhanced Bus	N/A	11.2	21.4	N/A	N/A	10.1	N/A
Bus Rapid Transit (BRT)	N/A	19.8	N/A	17.5	11.6	N/A	10.3
Commuter Rail	9.7	12.2	N/A	N/A	4.1	N/A	8.2
Light Rail	N/A	N/A	21.8	N/A	N/A	23.5	12.8
Streetcar & Trolley Circulator	26.0	N/A	67.6	45.6	23.6	N/A	16.6



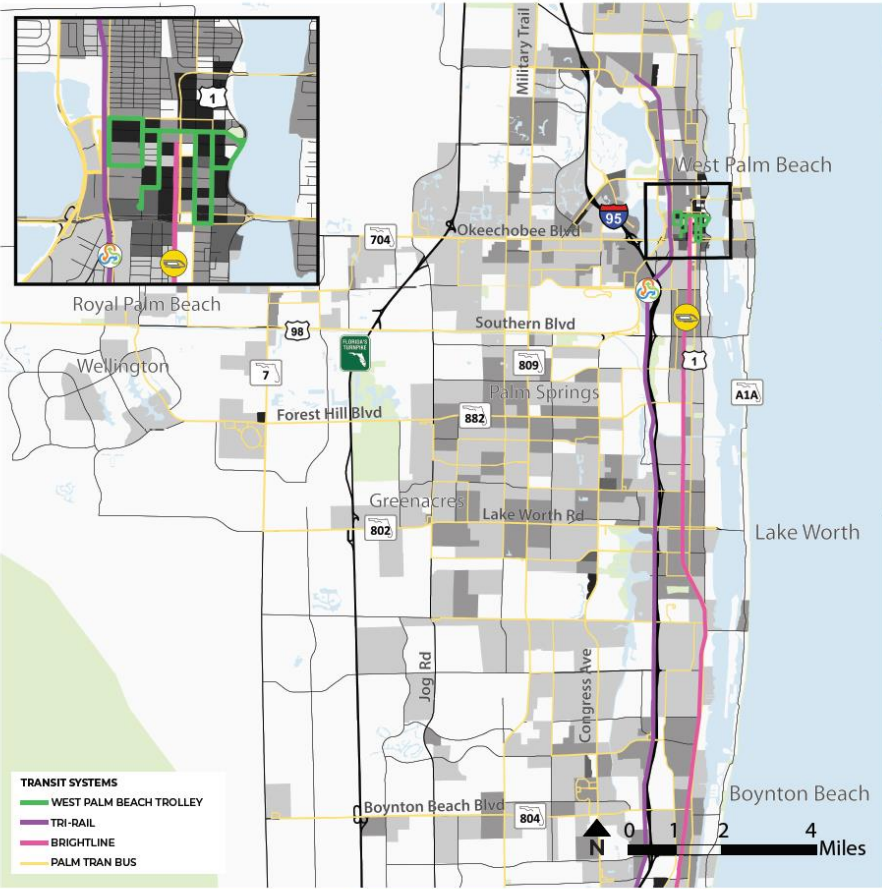
# TRANSIT DENSITY COMPARISON

POPULATION AND JOB DENSITY (PEOPLE PER ACRE) FOR TYPICAL TRANSIT SYSTEMS

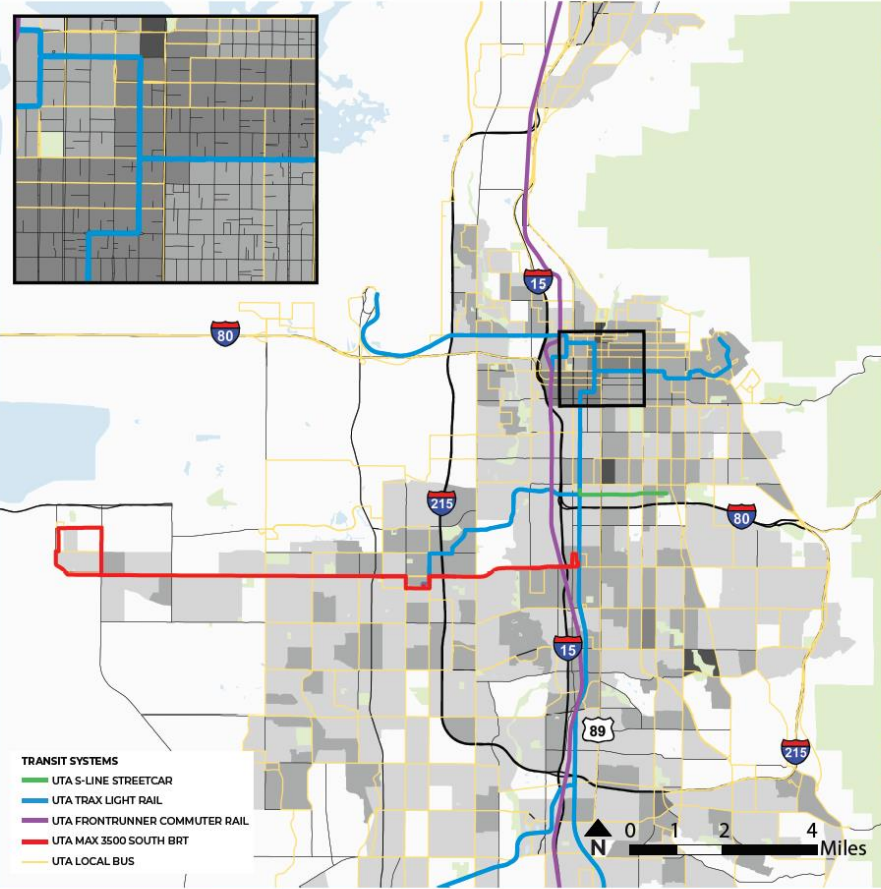
1 - 8	LOCAL BUS
9 - 15	EXPRESS & ENHANCED BUS
16 - 40	BUS RAPID TRANSIT (BRT)
41 - 60	COMMUTER RAIL
61+	STREETCAR & TROLLEY CIRCULATOR



## CENTRAL PALM BEACH COUNTY



## SALT LAKE CITY, UTAH



## STREETCAR



## LIGHT RAIL



## COMMUTER RAIL



## BRT



Transit System	WPB Trolley	Tri-Rail	Brightline	S-Line Streetcar	TRAX Light Rail	FrontRunner	MAX 3500 South
Year Started or Built	2000	1989	2018	2013	1999 - 2011	2008	2008
Average Service Area Density (people per acre)	26.0	9.7	12.1	16.6	12.8	8.2	10.3
Number of Lines / Total Mileage	3 lines / 35 miles	1 line / 34 miles	1 line / 27 miles	1 line / 2 miles	3 lines / 45 miles	1 line / 88 miles	1 line / 10 miles
Annual Operating Costs	\$1.3M	\$91M	\$115M (estimated)	Not reported separately	\$65M	\$34M	Not reported separately
Project Capital Cost	\$2M	\$345M	\$2B	\$55M	\$509M (10-mi extension)	\$614M	\$7M (Phase I)

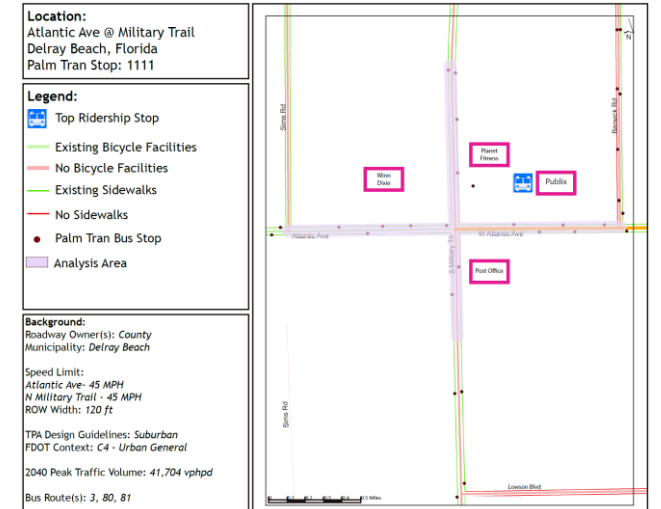
Density Data Sources: 2015 Palm Beach County Travel Demand Model for Palm Beach County; 2016 American Community Survey (ACS) 5-Year Estimates and 2015 Longitudinal Employer-Household Dynamics (LEHD) for comparison cities  
Density to Transit Technologies Comparison Source: Federal Transit Administration, Planning for Transit-Supportive Development: A Practitioner's Guide, June 2014. \*The FTA ranges from the Practitioner's Guide were adapted based on local knowledge and to accommodate a persons per acre methodology.





# Transit Access Study

- 6 High Ridership Locations
- Improve accessibility & safety

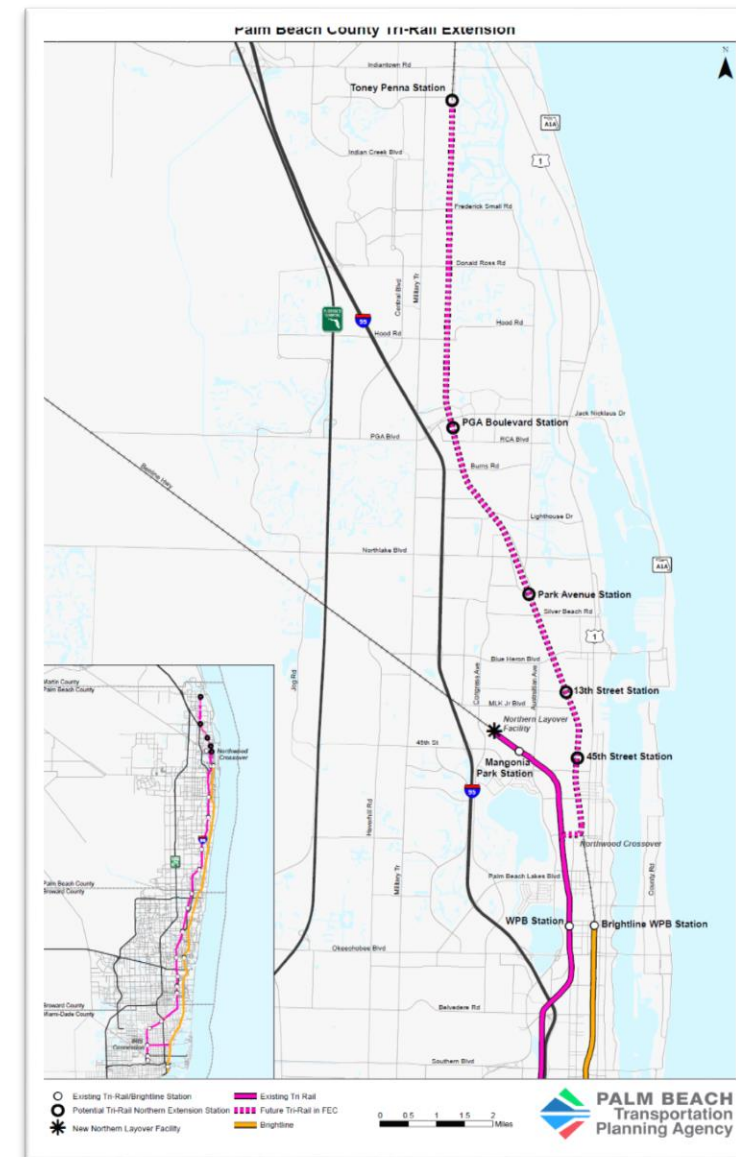
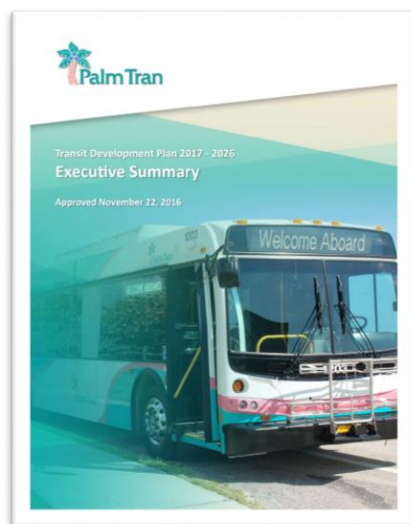






# Transit Initiatives & Collaboration

- Tri-Rail Coastal Link Steering Committee
- Palm Tran Route Performance Maximization
- Transit Development Plan
- SR80 Premium Transit / TOD Workshop







# Transportation Disadvantaged (TD)

- ~\$3.5M/yr. CTD for Palm Tran TD Service
- \$50K to TPA Designated Official Planning Agency
- TD Local Coordinating Board
- Transportation Disadvantaged Service Plan
- CTC Evaluation

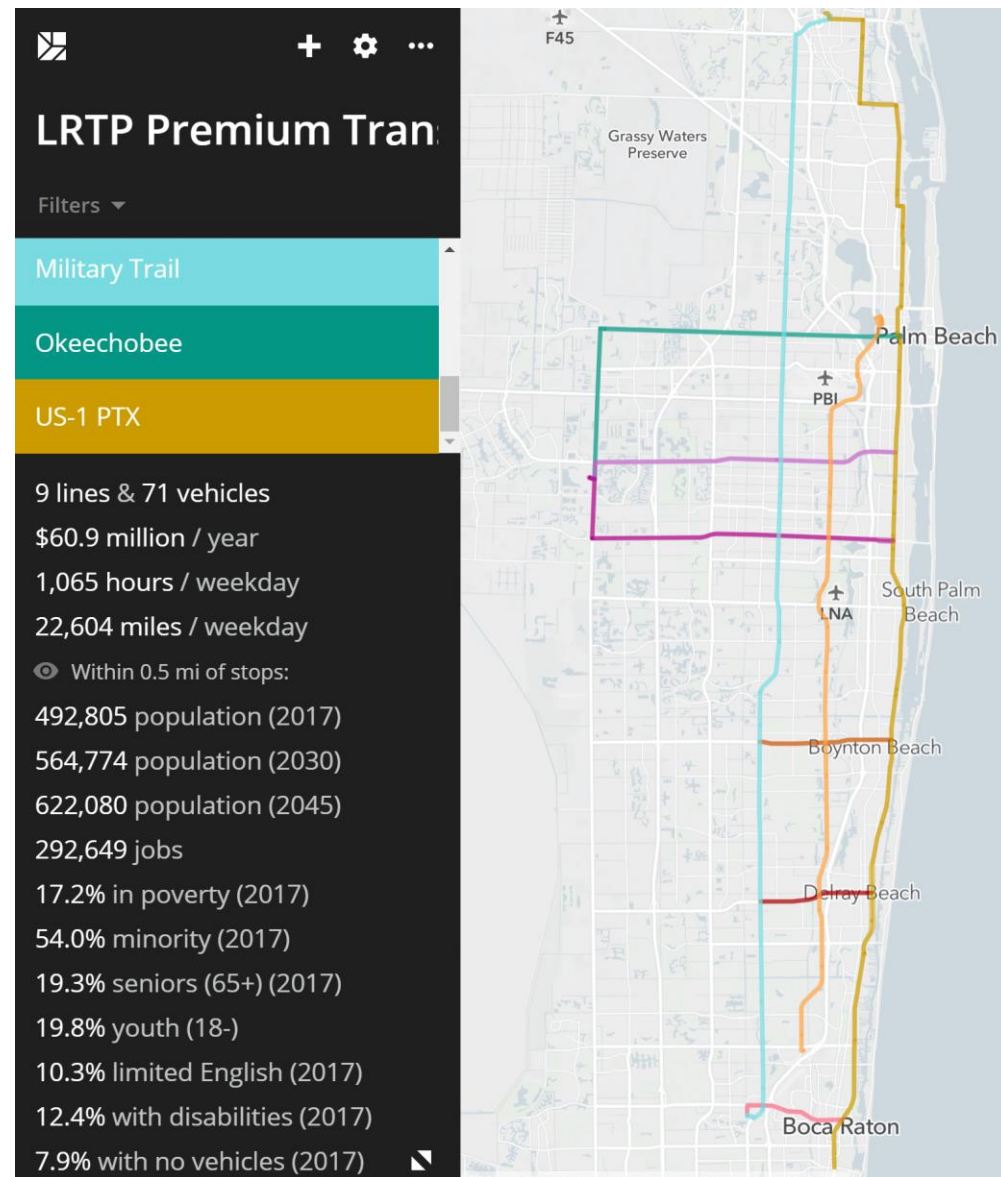






# Upcoming Transit Initiatives

- Okeechobee Blvd Corridor Study
- Local Transit Shelter Design Guide
- LRTP premium transit corridors and funding options
- FHWA Peer Exchange Program







# Future Transit Challenges

---

- Transit readiness to implement funded projects
- Transit Funding Source for O&M
- Transit & Complete Streets Improvements Coordination
- Buy-in for Premium Transit - Land Use - Which comes first?