



# PALM BEACH Transportation Planning Agency

## Transit Access Plan

Palm Beach Lakes Boulevard  
West Palm Beach, FL  
2019



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## Location Overview

Palm Beach Lakes Blvd. was selected by the Palm Beach Transportation Planning Agency (TPA) to conduct a transit access evaluation due to the high ridership Palm Tran bus stop located at the Palm Beach Outlets Mall, with a monthly average of 12,659 riders. The evaluation included a field visit with key stakeholders, including representatives from Palm Tran, Palm Beach County and the City of West Palm Beach that identified safety and transit accessibility concerns and potential countermeasures. In order to create a safe, efficient and connected transportation system, we must provide safe access to transit for users of all ages and abilities.

The following pages include key findings with recommendations and cost estimates, including street planviews. Next steps will be to meet with key stakeholders and right-of-way (ROW) owners to discuss implementation of the proposed recommendations.

### Overall Recommendations:

- ADA compliant curb ramps
- Intersections with high emphasis crosswalks on all ends and countdown signals
- Bus stop ADA compliance (level with landing pad of 5'X 8' or greater)
- Reduce vehicle lane widths to 11 feet
- Pedestrian scale lighting along corridor especially at intersections
- Signage along the route to indicate bicycle lanes and routes

### Priorities on Palm Beach Lakes Blvd. west of Lake Mangonia Bridge:

- Widen sidewalks to shared use paths on both sides of the street to improve safety and comfort
- Add continuous buffered bicycle lanes with green paint at conflict zones

### Priorities on Palm Beach Lakes Blvd. east of Lake Mangonia Bridge:

- Update bus stops to have sidewalk access and to be ADA accessible
- Add a signalized midblock crossing to accommodate the pedestrians, cyclists, and transit users
- Divert cyclists to frontage roads with shared lanes for added safety where ROW is limited

**Location:**  
Palm Beach Lakes Blvd. @ N Congress Ave.  
West Palm Beach, Florida  
Palm Tran Stop: 603

**Legend:**

-  Top Ridership Stop
-  Existing Bicycle Facilities
-  No Bicycle Facilities
-  Existing Sidewalks
-  No Sidewalks
-  Study Area

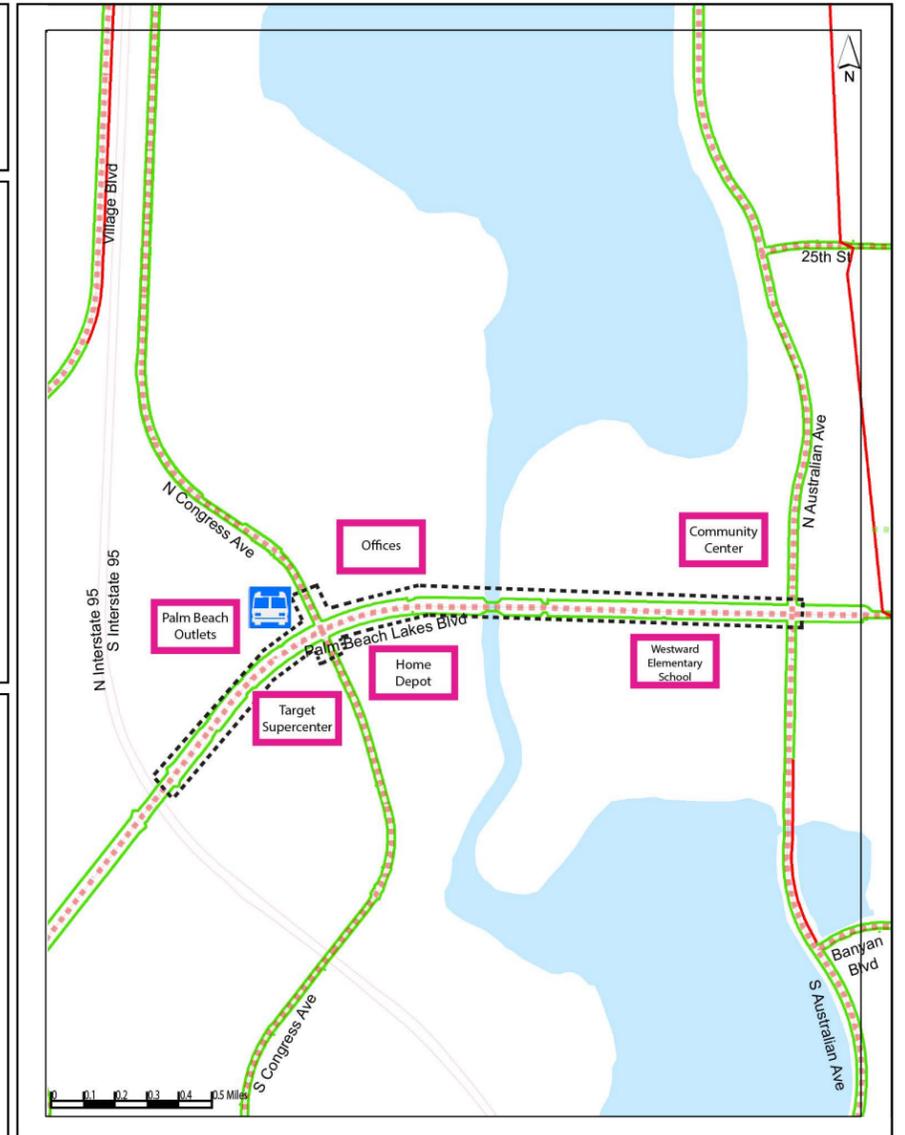
**Background:**  
Roadway Owner(s): *County*  
Municipality: *West Palm Beach*

Speed Limit:  
*Palm Beach Lakes Blvd. - 40 MPH*  
ROW Width: *120 ft*

TPA Design Guidelines: *Suburban*  
FDOT Context: *C4 - Urban General*

2040 Peak Traffic Volume: *32,580 vphpd*

Bus Route(s): *2, 33, 49*

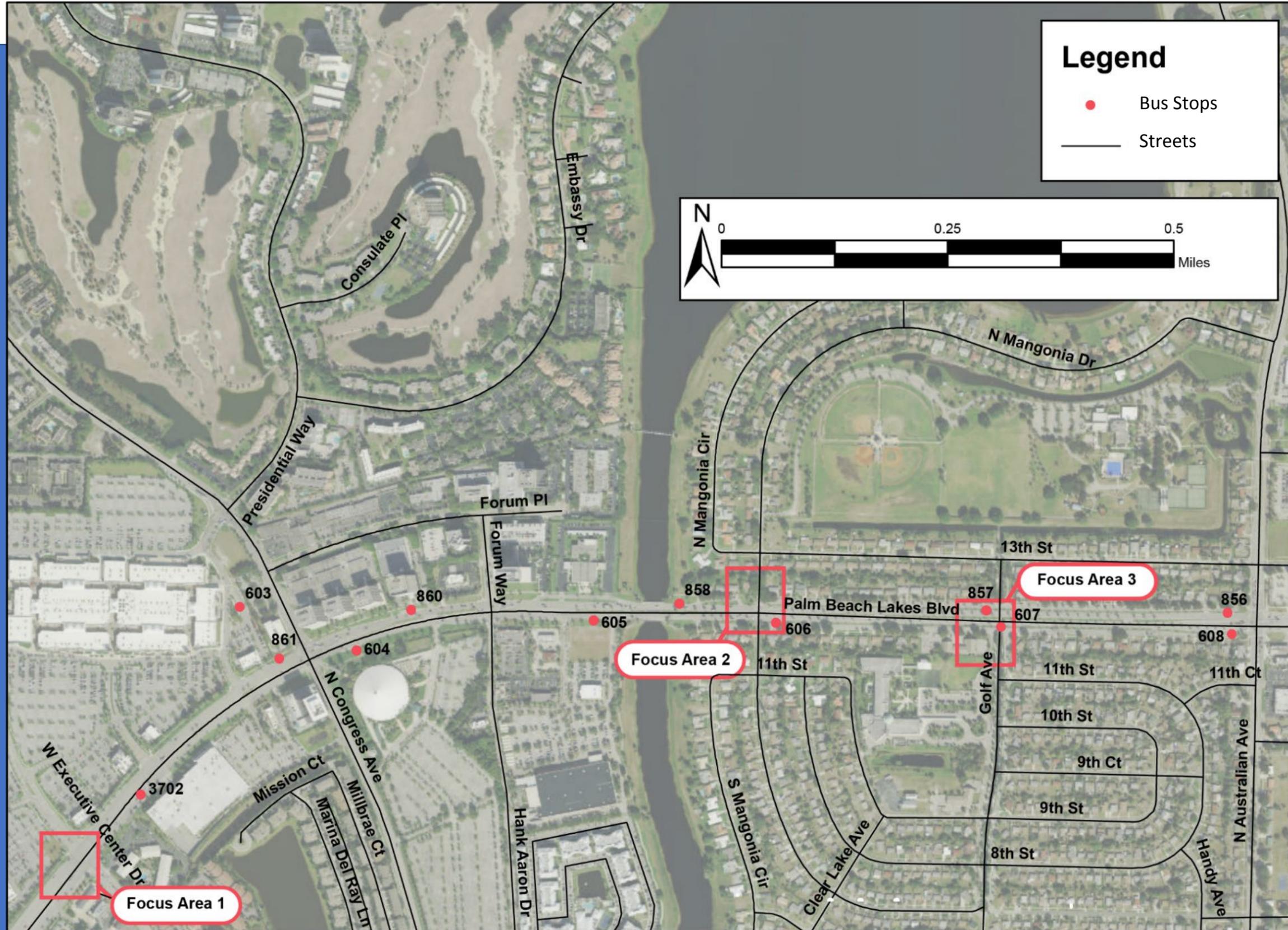


Palm Beach Lakes Boulevard; Photo by: CTS Engineering, Inc.



Palm Beach Lakes Boulevard; Photo by: CTS Engineering, Inc.

Location Aerial



Bus stops and focus areas; Map Creator: CTS Engineering, Inc.

Focus Areas

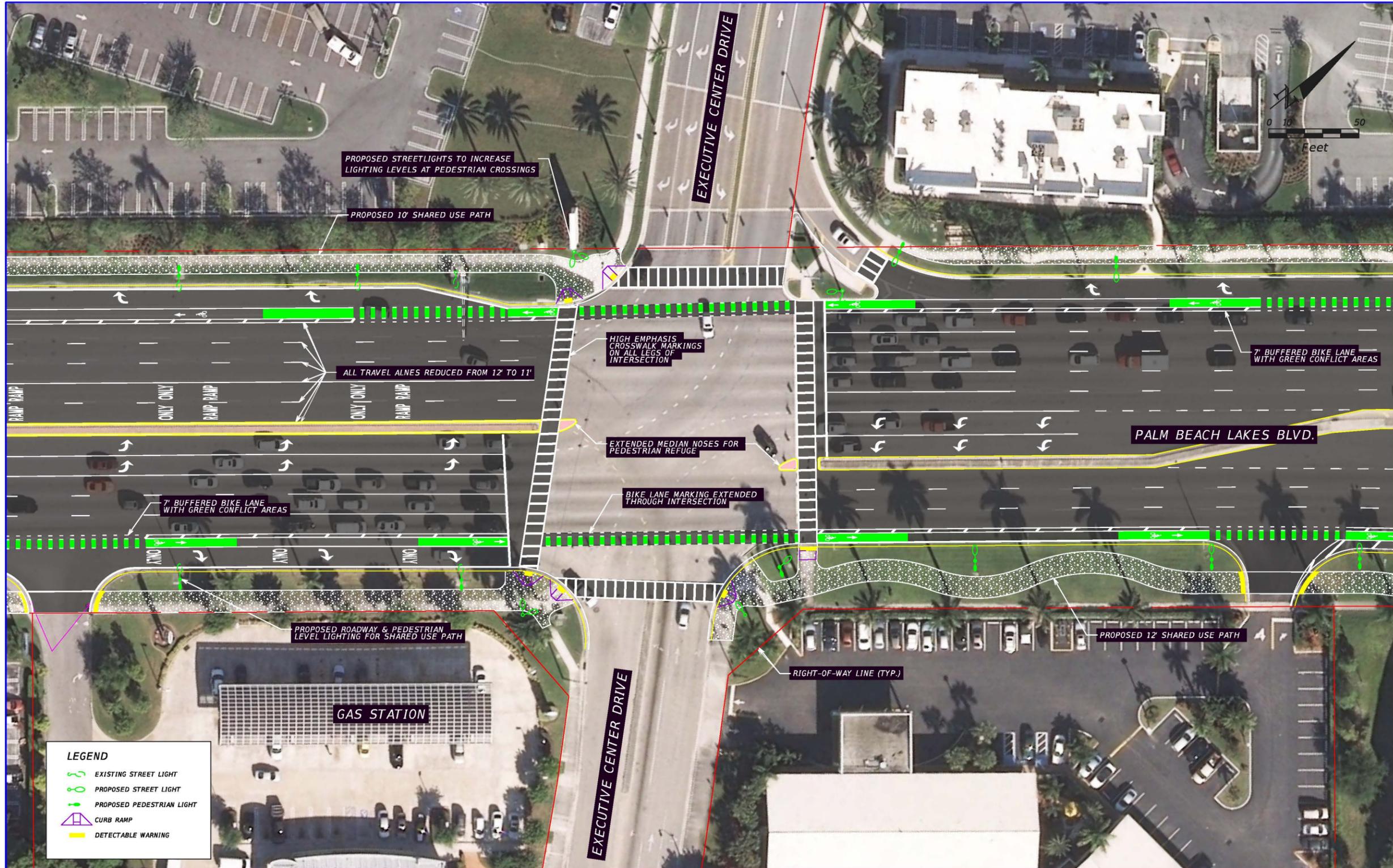
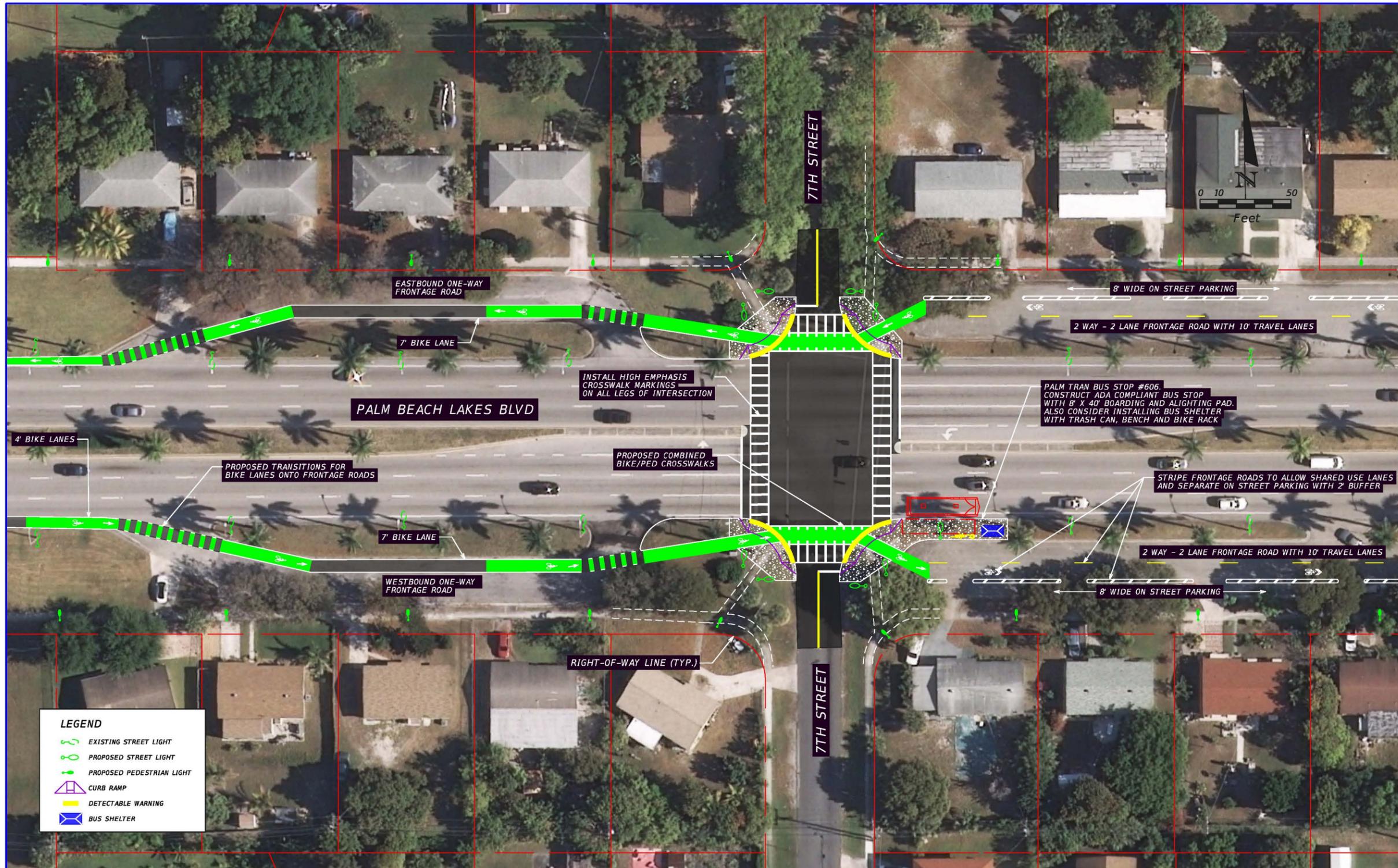


Figure 3: Location 1, Focus Area 1; Map Creator: CTS Engineering, Inc.

Palm Beach Lakes Blvd: Focus Area 1

Crosswalk enhancements with median refuges, shared use paths, buffered bike lanes with conflict zones marked in green, pedestrian lighting enhancements



Palm Beach Lakes Blvd: Focus Area 2

Crosswalk enhancements, diverting cyclists to bike lanes/shared lanes on frontage roads, pedestrian lighting; bus stop enhancements with shelter, landing pad, & sidewalk access

Figure 4: Locations 1, Focus Area 2; Map Creator: CTS Engineering, Inc

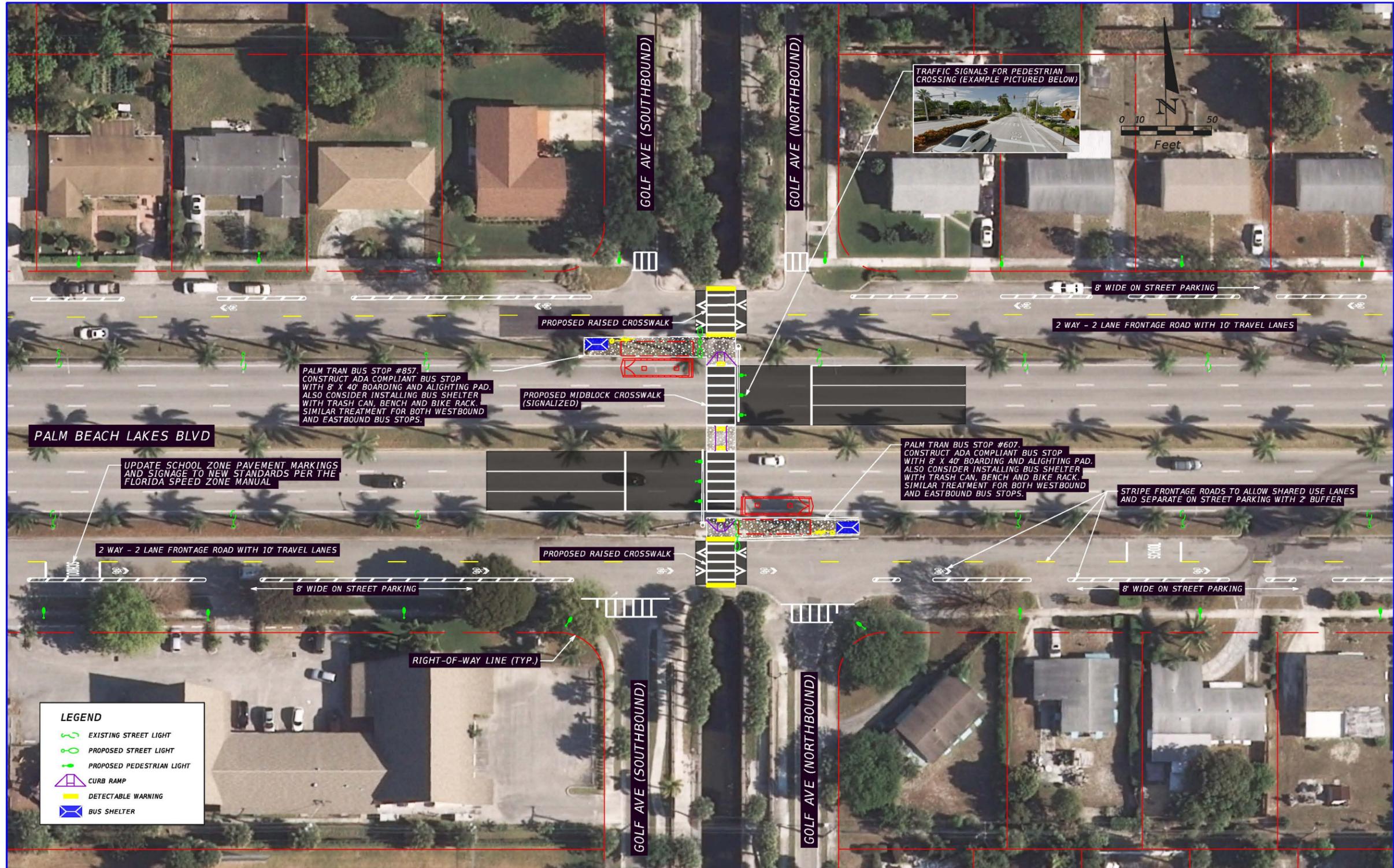


Figure 5: Locations 1, Focus Area 3; Map Creator: CTS Engineering, Inc

Palm Beach Lakes Blvd: Focus Area 3

Midblock signalized crosswalk (raised), Shared lanes on frontage roads for cyclists; pedestrian lighting; bus stop enhancements with shelter, landing pad, & sidewalk access; buffering on-street parking

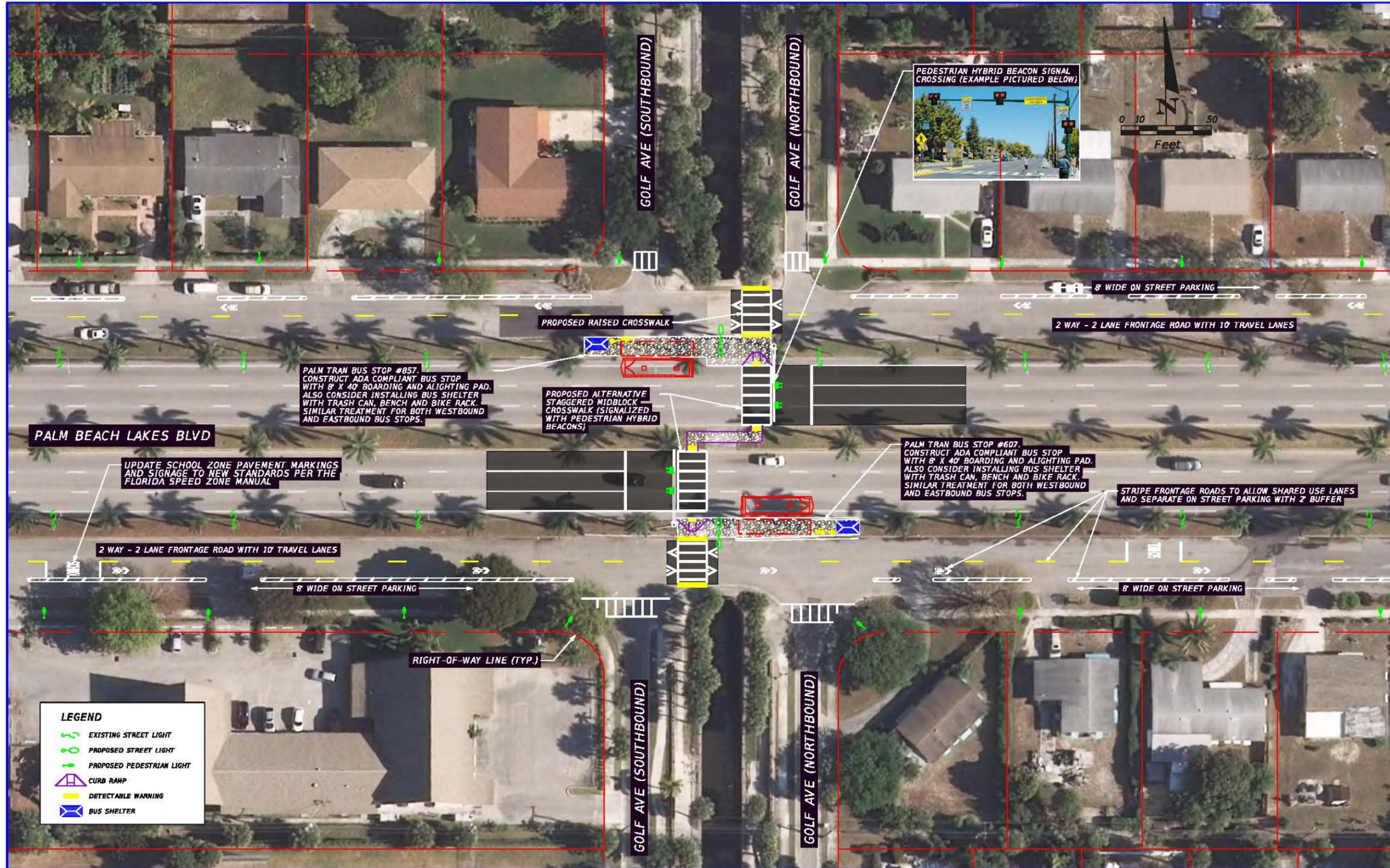


Figure 5A: Locations 1, Focus Area 3; Map Creator: CTS Engineering, Inc

Palm Beach Lakes Blvd: Focus Area 3 (Alternative Crosswalk Design)

Midblock staggered crosswalk with pedestrian hybrid beacon signals, shared lanes on frontage roads for cyclists; pedestrian lighting; bus stop enhancements with shelter, landing pad, & sidewalk access; buffering on-street parking

**Cost Estimates**

Location	Roadway Owner	Recommendation	Description	Cost Estimate	ROW Needed?	
Palm Beach Lakes Blvd. from I-95 to Lake Mangonia Bridge	County	1	Install 7' buffered bicycle lanes by reducing all travel lanes to 11' and right turn lanes to 10' via a combination of restriping and minor widening. Highlight conflict areas in green color.	\$1,900,000	No	
		2	Reconstruct sidewalk to 10' wide shared-use path on the north side of roadway and 12' wide shared-use path on south side of roadway.	\$1,700,000		
		3	Add pedestrian level lighting. Consider retrofitting existing roadway lights with pedestrian lights. Reposition lights that are blocked by overhead signage to maximize illumination of crosswalk areas.	\$480,000		
Palm Beach Lakes Blvd. from I-95 to Australian Ave.		4	Install special emphasis crosswalk markings at all signalized intersections.	\$200,000		
Palm Beach Lakes Blvd. from Executive Center Drive to Forum Way		5	Extend median noses to create a pedestrian refuge area.	\$12,000		
Palm Beach Lakes Blvd. at Golf Ave.		6	Install a signalized midblock crossing Palm Beach Lakes Blvd. frontage roads and Palm Beach Lakes Blvd. to make a north south connection for the linear Westward Park within the median of Golf Ave. Use raised unsignalized raised crosswalks over the frontage roads.	\$240,000		
Bus Stops along Palm Beach Lakes Blvd. (From I-95 to Australian Ave.)		7	Install boarding and alighting pads, bus shelter pads, bus shelters, benches, route maps, bicycle racks and trash receptacles at all stops located along Palm Beach Lakes. Connect all bus stops to existing sidewalks and crosswalks.	\$155,000		
Sidewalks along Palm Beach Lakes Blvd. frontage roads (from Bridge over Lake Mangonia to Australian Ave.)		8	Fix broken, cracked and uneven sidewalks existing due to tree roots in close proximity to sidewalk areas. Consider flexible materials and flex joint systems for sidewalks in this area.	\$16,000		
Palm Beach Lakes Blvd. from Bridge over Lake Mangonia to Australian Ave.		City	9	Add pedestrian lighting along frontage road sidewalks.		\$370,000
			10	Transition bicycle lane onto frontage roads.		\$140,000
Palm Beach Lake Blvd. from 7 <sup>th</sup> Street to Australian Ave.			11	Install shared use lane markings along both frontage roads.		\$34,000
<b>Total Costs:</b>				<b>\$ 5,247,000</b>		

## Appendices

**Appendix A: Field Observations**

Road Users Observed during Visit			
People of all age groups but mostly younger to middle-aged adults were seen during the audits	Most road users (besides motorists) were pedestrians and bicyclists	The road users seen were utilizing the sidewalk for both walking and biking	Near the outlets, some bicyclists were seen using the bicycle lane. However, traveling East toward Austrian the bicycle lane and shoulder become nonexistent forcing cyclists onto the sidewalk
Observations of Things that Worked			
Signage for the bus stops were clear and descriptive regarding bus routes	The countdown crosswalks worked well at the outlet mall intersection, but further east on Palm Beach Lakes Blvd. the countdowns were lacking	The sidewalks systems worked well and were consistent throughout the studied corridor	

Observed Deficiencies				
Sidewalks & Crosswalks	ADA	Bicycle Facilities	Lighting	Bus Stops
The sidewalks are narrow and can be widened and be brought closer to the streets where the sidewalks meet the access roads	Many of the sidewalks were not ADA compliant making it difficult for someone in a wheelchair to get to the push-to-cross button	The corridor has no existing bicycle facilities could benefit greatly from adding facilities along Palm Beach Lakes Blvd	Street lighting needs improvement on most sections of Palm Beach Lakes Blvd. going east	The studied site lacks bus stop accessibility and lighting. Many of the stops lacked a concrete pad as well as a path allowing access to the stop. This shortcoming was more prevalent heading east on Palm Beach Lakes Blvd
"Goat trails" (areas where consistent, regular pedestrian traffic has led to erosion in landscaping) were common from one sidewalk to another	There is a need for ADA accessibility enhancements throughout the corridor			
The sidewalk needs improvement, as it was broken and not level in many places. These imperfections pose a risk and hardship to pedestrians, cyclists, strollers, and wheelchair users				

Potential Pedestrian Perils	Potential Bicyclist Perils
Where the sidewalks meet access roads, pedestrians have a hard time walking to the intersection only to return to the sidewalk	The bicycle lane suddenly ends in front of the outlets forcing cyclists into the traffic lanes without signage signaling the change. This occurs on Palm Beach Lakes Blvd. as it narrows
The sidewalks need improvement. In the current state, the sidewalks pose a risk to users due to cracks and slopes, as well as ends at an intersection	
Near the outlets, there are areas with missing crosswalks posing a risk to users  The lack of crosswalks may lead to jaywalking Palm Beach Lakes Blvd. which is dangerous due to the high traffic speeds and volume	

Priorities	Easy Fixes by Location	Difficult Fixes by Location
The lighting should be enhanced throughout the corridor, especially between Hank Aaron Dr. and Australian Ave, and pedestrian lighting especially near bus stops	The broken pavement on the sidewalk needs to be repaired on N. Congress Ave between Palm Beach Lakes Blvd. and Presidential Way	There is currently a light that is obstructed by the 1-95 sign at the intersection of the outlet mall; This light should be moved
ADA accessibility is needed throughout the studied corridor	Sidewalks should be repaired to be both level and continuous	The bicycle lane needs to be expanded to be continuous which would require widening the road or connecting or connecting current facilities with a multi-use path/ bicycle lane through the grassy area
A continuous bicycle land is needed throughout the corridor	Pedestrian scale lighting	
Bus stops should be made more accessible		

Other Observations
The pedestrian lighting outside of the Target store on Palm Beach Lakes Blvd. need to be enhanced

Site Visit: May 22, 2018

Transit Access Plan  
**Appendix B: Field Photographs**  
*Lighting Conditions*



*Light out at intersection; Photo by-CTS Engineering, Inc.*



*Early morning lighting along Palm Beach Lakes Boulevard; Photo by: CTS Engineering, Inc*



*Light blocked behind sign; Photo by: CTS Engineering, Inc*



*Lights under bridge; Photo by: CTS Engineering, Inc*

*Sidewalk Conditions*



*Wide sidewalk along main corridor; Photo by: CTS Engineering, Inc.*



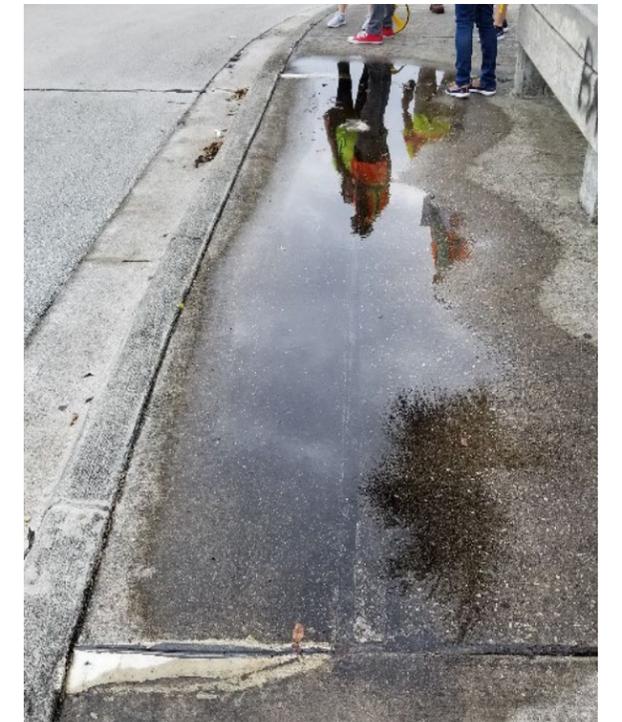
*Closed sidewalk along corridor; Photo by: Palm Beach TPA*



*Field auditors walking along cracked sidewalk along corridor; Photo by: CTS Engineering, Inc.*



*Narrow, broken sidewalk along corridor; Phot by: CTS Engineering, Inc.*



*Puddling water on sidewalk along corridor; Photo by: CTS Engineering, Inc.*

*Crosswalks*



*Tracks seen where people cross regularly without designation; Photo by: CTS Engineering, Inc.*



*Faded markings at intersection; Photo by: CTS Engineering, Inc.*



*Sign to assist pedestrians to cross during high-traffic periods; Photo by: CTS Engineering, Inc.*



*Refuges encouraging pedestrian crossing without crosswalk markings or signalization; Photo by: CTS Engineering, Inc.*



*Crossing unmarked with puddling along corridor; Photo by: CTS Engineering, Inc.*

*Bicycle Facilities*



*Bicyclist riding against traffic in shoulder; Photo by: CTS Engineering, Inc.*



*Bicyclist riding against traffic in turn lane on Palm Beach Lakes Boulevard; Photo by: CTS Engineering, Inc.*



*Bicyclist riding on sidewalk; Photo by: CTS Engineering, Inc.*



*A cyclist utilizing a crosswalk along corridor; Photo by: CTS Engineering, Inc.*



*A bicyclist riding just outside of crosswalk against traffic; Photo by: CTS Engineering, Inc.*



*An apparent bicyclist commuter on the sidewalk along corridor; Photo by: CTS Engineering, Inc.*

*Bus Stops*



Many of the bus stops are located off of the sidewalk requiring a separate pathway to connect such as this one; Photo by: CTS Engineering, Inc.



A handful of stops along the corridor currently lie on a grass median between the main road and frontage road; Photo by: CTS Engineering, Inc.



Certain stops have a signature shelter and bench like this one near the outlets; Photo by: CTS Engineering, Inc.



This stop near the outlets has emergency button among other convenient amenities; Photo by: CTS Engineering, Inc.



Bus users crossing the road mid-block; Photo by: CTS Engineering, Inc.

Appendix C: Conceptual Sketch of Palm Beach Lakes Blvd. at 7th Street

