



PALM BEACH
Transportation
Planning Agency

Transit Access Plan

Butts Road at Town Center Road

Boca Raton, FL

2019



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Location Overview

Butts Road at Town Center Road 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 Boca Town Center Mall, with a monthly average of 21,253 riders. The evaluation included a field visit with key stakeholders, including representatives from Palm Tran, Palm Beach County and the City of Boca Raton 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:

1. ADA compliant curb ramps
2. Pedestrian- level lighting
3. Signage along the route to indicate bicycle lanes and routes
4. Reducing lane widths to 11 feet
5. Bringing bus stops to ADA compliance (level with landing pad of 5'X 8' or greater)
6. Making intersection crosswalks high emphasis with countdowns
7. If a bicycle share system is desired, Sky Bike is recommended, and the destination locations should be prioritized to hold a station: the mall and the proposed Tri-Rail Station (once developed). A recommendation for a successful program is to extend the service to Florida Atlantic University and place a station on campus, as well as at the Spanish River Athletic Park and the El Rio Trail to create a network.

Priorities on Military Trail:

1. Add lighting under overpass to add visibility to cyclists and pedestrians while traveling on Military Trail especially considering that the new Tri-Rail station is soon to be located nearby creating more foot-traffic along the route
2. Create a buffered bicycle lane along Military Trail to allow cyclists to safely travel along the corridor
3. Add pedestrian access from sidewalks and bus stops to adjacent land uses since there are many locations along route
4. Update all bus stops to include seating, trash receptacles, maps, and shelters
5. Add pedestrian connection to Glades Rd from Military Trail to add more pedestrian access to land uses and entice more residents to walk to destinations due to the ease of access. The connection may make travel to Florida Atlantic University and the high school from Military Trail (and the proposed train station) more feasible.

Priorities on Town Center Road:

Location:
Butts Rd @ Town Center Rd
Boca Raton, Florida
Palm Tran Stop: 746

Legend:

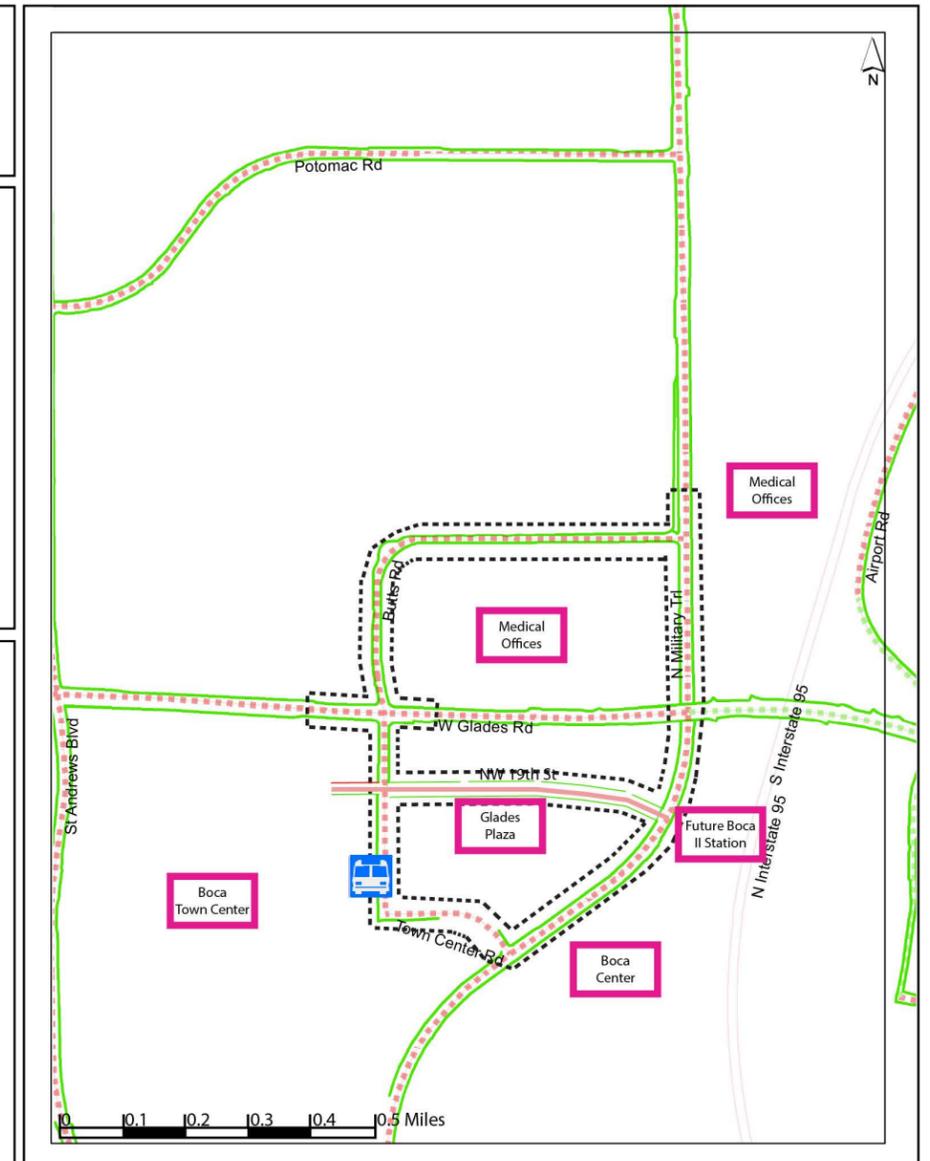
-  Top Ridership Stop
-  Existing Bicycle Facilities
-  No Bicycle Facilities
-  Existing Sidewalks
-  No Sidewalks
-  Study Area

Background:
Roadway Owner(s):
Military Trail - County
Butts Road - City of Boca Raton
Glades Road - FDOT
Municipality: *Boca Raton*

Speed Limit: *Military Trail - 45 MPH*
Butts Road - 30 MPH
Town Center Road - 30 MPH

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

2040 Peak Traffic Volume: *27,060 vphpd*
ROW Width: *120 ft*
Bus Route(s): *2, 3, 91, 92*



1. Add bicycle lanes to Town Center Road to connect hotels and Military Trail with the mall and highest ridership bus stop with green paint to indicate conflict zones
2. Eliminate a lane, both east and westbound to accommodate the bicycle facilities and slow traffic
3. Move stop 8544 to location indicated on the map (Corner of Town Center Road and Military Trail) due to a safety
4. Extend sidewalk to allow access from mall to Military Trail along Town Center Road adjacent to eastbound lane

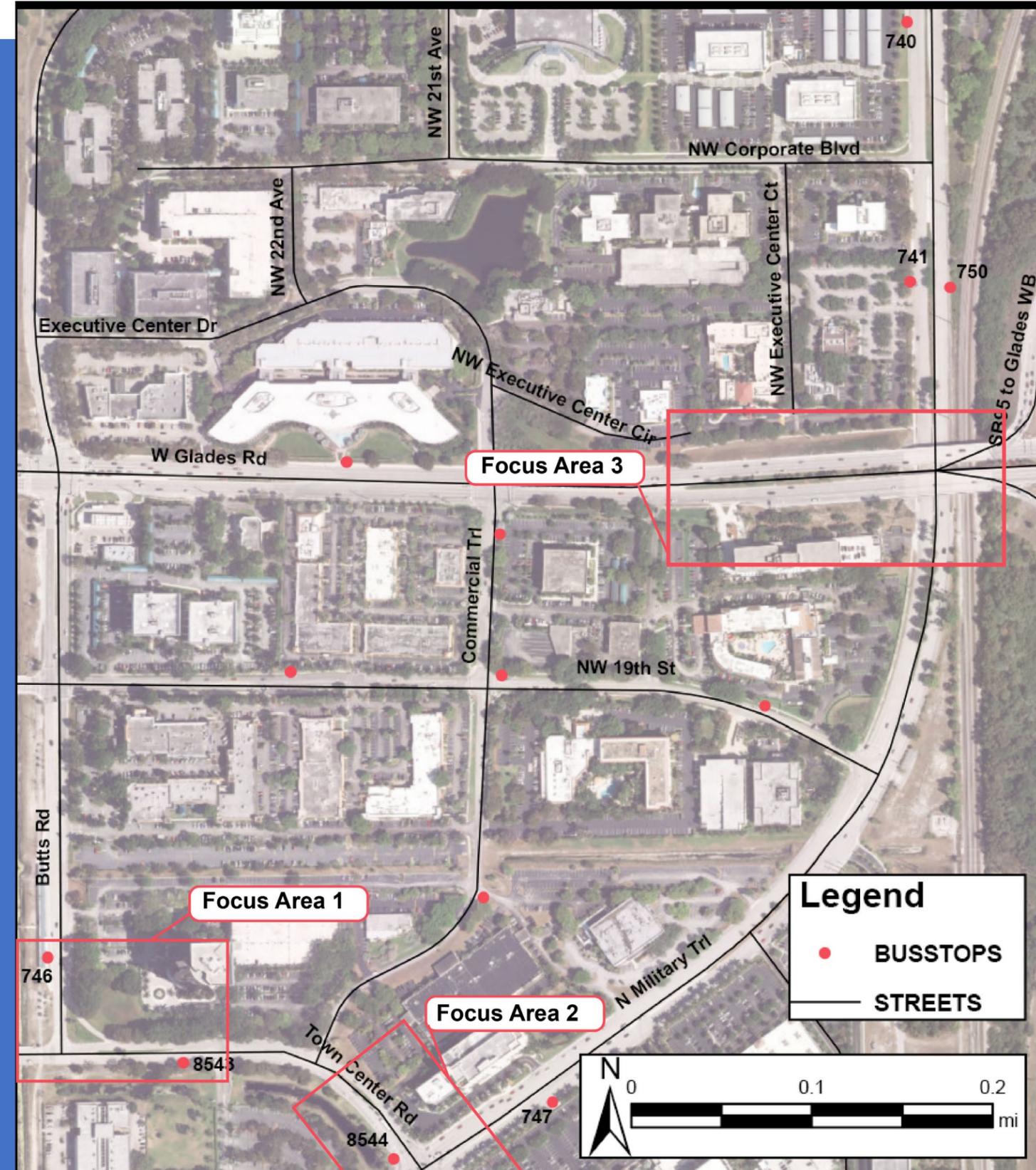
Priorities on Butts Road:

5. Fix incorrect bicycle signage on northern section of Butts Road going west
6. Address broken sidewalks due to tree roots along northern sections of Butts Road
7. Add 10-foot shared-use path to northern sidewalk to provide walking access to and from office spaces along corridor

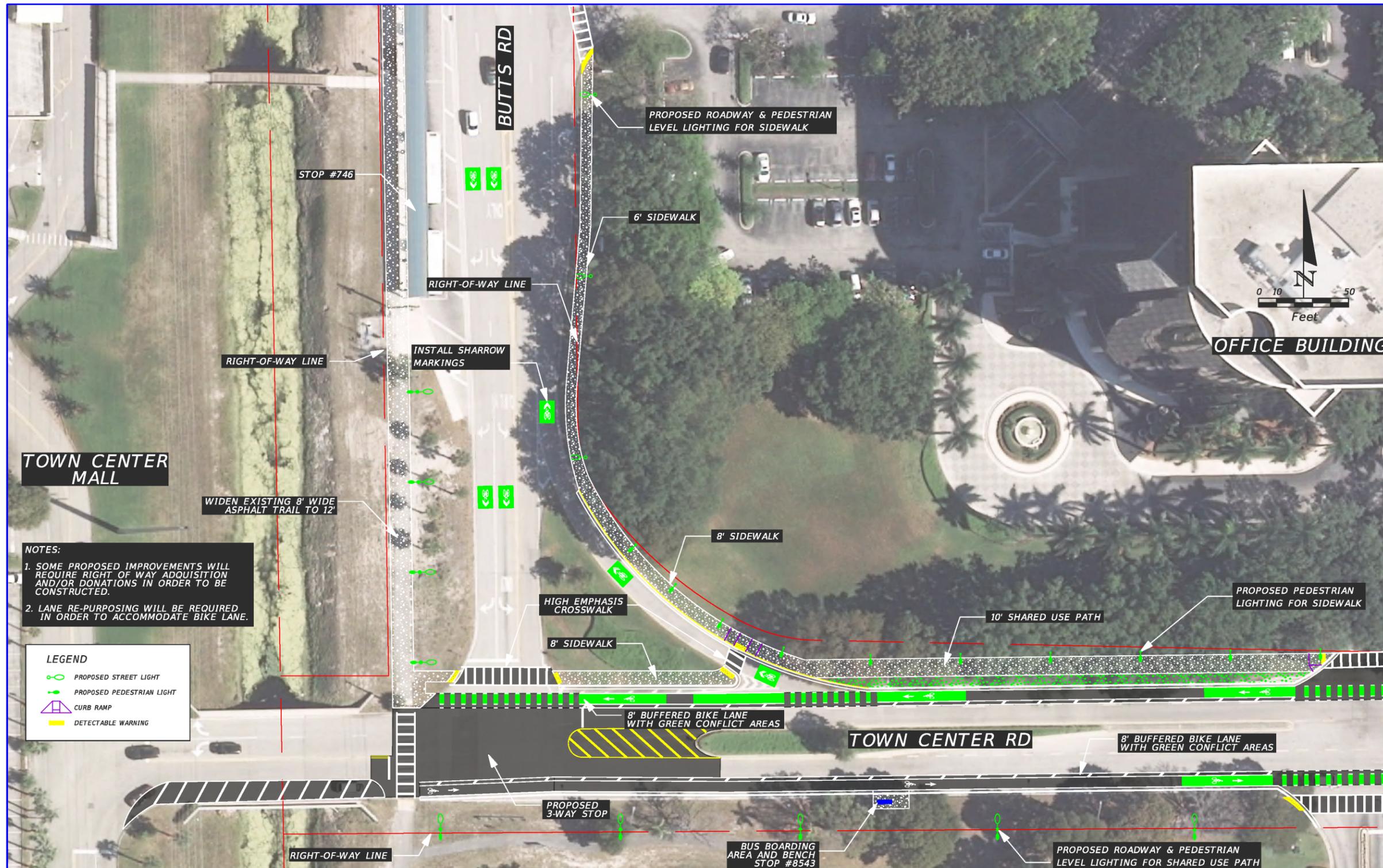
Location Aerial



Map of focus areas and bus stops; Created by: CTS Engineering, Inc.



Map of focus areas and bus stops; Created by: CTS Engineering, Inc.



Boca Raton: Focus Area 1

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

High emphasis crosswalk, buffered bike lane with bright green at conflict zones, pedestrian lighting additions, bus stop improvements, shared lane markings onto Butts Rd, 3-way stop, shared-used path and sidewalk

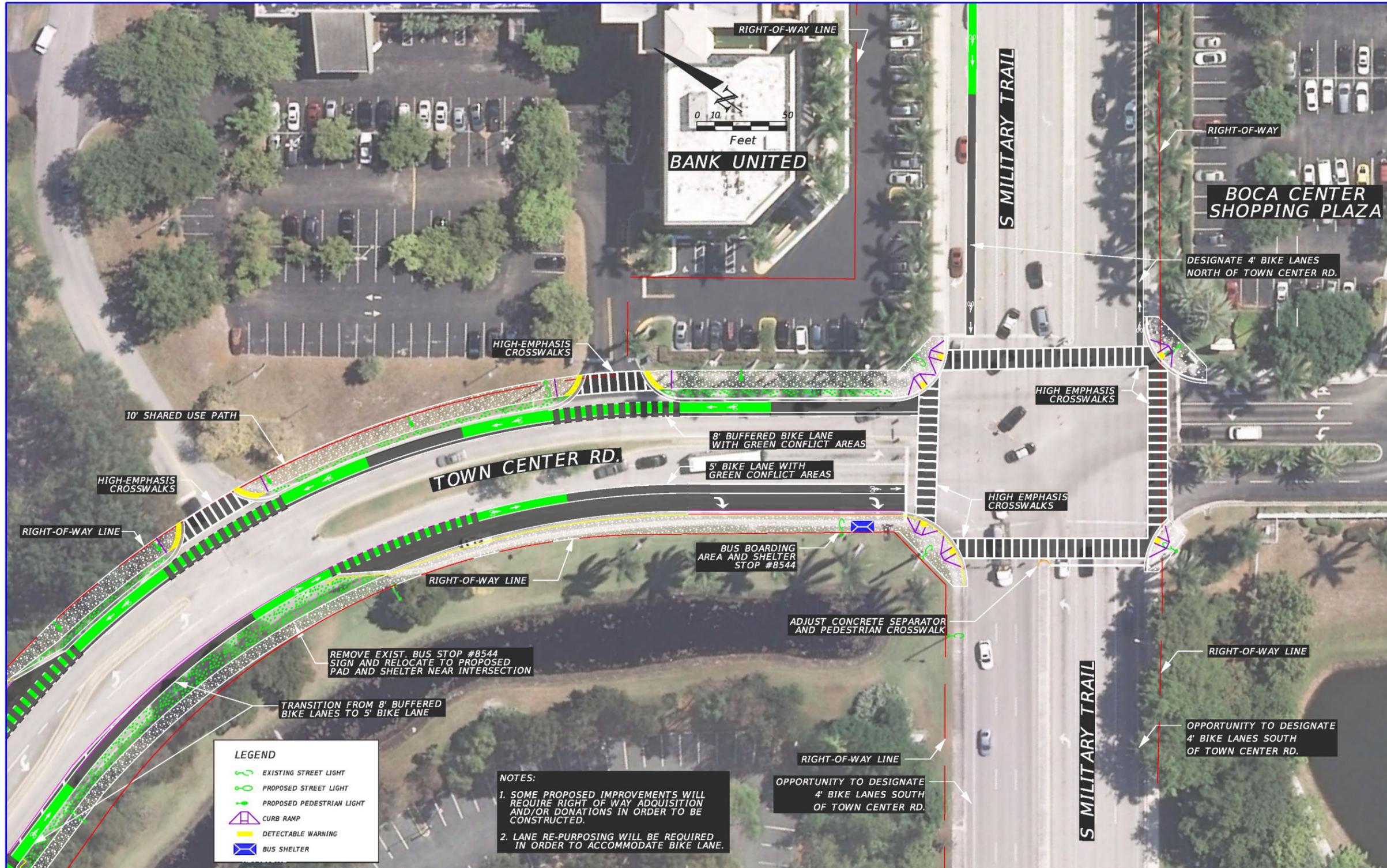
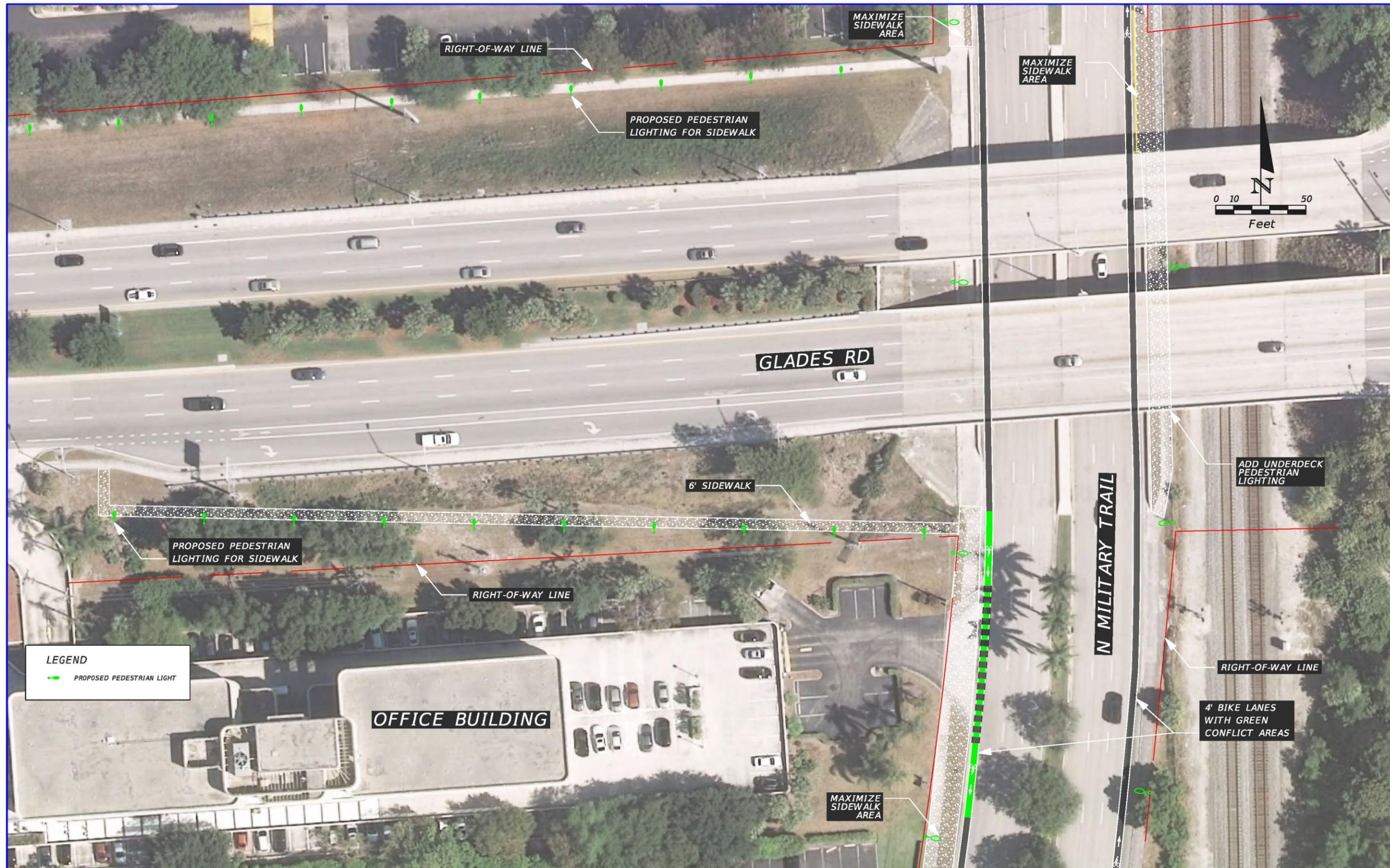


Figure 3: Location 4, Focus Area 2; Map Creator: CTS Engineering, Inc

Boca Raton: Focus Area 2

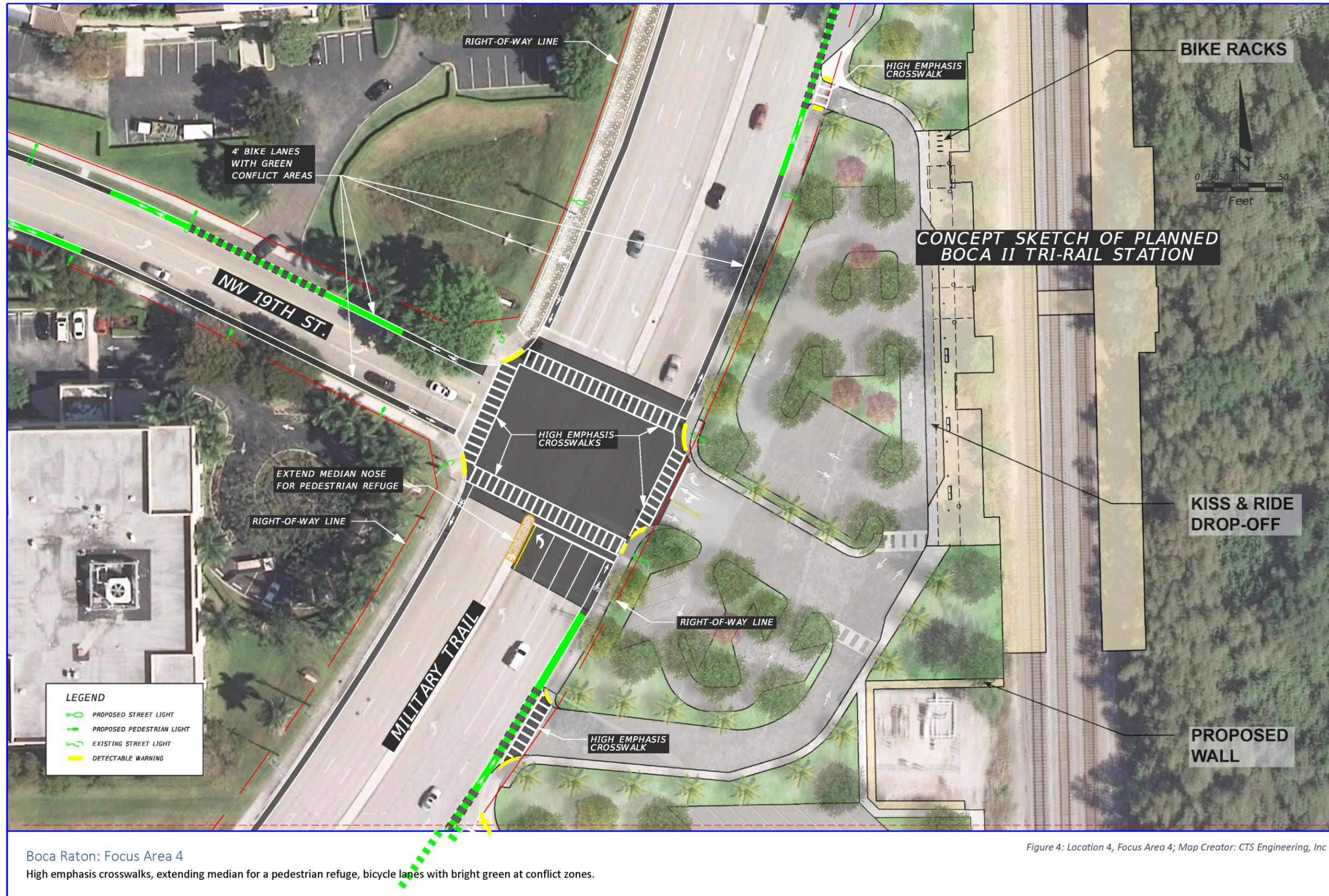
High emphasis crosswalks, buffered bike lane with bright green at conflict zones, pedestrian lighting additions, bus stop improvements and stop relocation, shared-used path and sidewalk, designating shoulder as bike lane



Boca Raton: Focus Area 3

Creating sidewalk access to Glades Rd, pedestrian lighting additions under bridge and along sidewalks, maximizing sidewalk area

Figure 4: Location 4, Focus Area 3; Map Creator: CTS Engineering, Inc



Boca Raton: Focus Area 4

High emphasis crosswalks, extending median for a pedestrian refuge, bicycle lanes with bright green at conflict zones.

Cost Estimates

Location	Roadway Owner	Recommendation	Description	Cost Estimate	ROW Needed?
Southwest quadrant of Military Trail and Glades Road overpass	State	1	Provide sidewalk connection from Military Trail just south of the Glades Road overpass to Glades Road sidewalk. This is similar to the connection existing on the north side of the overpass. Add lighting to both sidewalk connections and also under the overpass.	\$190,000	No
Military Trail from Town center Road to NW 19 th Street	County	2	Restripe lanes to 11' and provide 4' designated bicycle lane. South of Town Center Road there seems to be enough pavement width to do this same treatment. North of NW 19th St does not have enough pavement width and bikes should be routed onto the sidewalks.	\$235,000	
All throughout study limits at the signalized intersections	City, County	3	Install special emphasis crosswalk markings at all signalized intersections.	\$170,000	
Town Center Road from Butts Road to Military Trail	City	4	Repurpose a lane in the eastbound and westbound direction to provide 8' buffered bicycle lanes and connect to existing north/south shared use path on west side of Butts Rd.	\$140,000	No (south of Glades Road may need some right of way to complete work)
Butts Road path along north/west side		5	Consider reconstructing existing 8' path to a 12' shared-use path. The minimum width for a shared-use path is 10', however, 12' is preferable if space is available. Also consider adding landscaping to provide shade along the path.	\$355,000	
Town Center Road and Butts Road		6	Install 8' to 10' sidewalk along north/west side of roadway. Install crossing at intersection of Butts and Town Center Rd. Includes lighting.	\$255,000	
Bus stop upgrades within study limits		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. Includes relocation of stop 8544	\$280,000	
*Cost estimate does not include ROW acquisition or drainage				Total Cost: \$ 1,625,000	Yes (some areas)

Appendices

Appendix A: Field Observations

Road Users Observed during Visit		
A few pedestrians and bicyclists were observed along the corridor including a woman walking with a baby stroller. Most of the road users were adults	Road users included both pedestrians and bicyclists	
Observations of Things that Worked		
The corridor included a multiuse path that was nicely shaded by trees	Most of the corridor (except for a portion of Town Center Rd) had sufficient sidewalks	The high ridership bus stop (on Butts Rd by the Town Center Mall entrance) had the best facilities of all visited sites. The stop included a long stretch of covered seating, an electronic bus sign, pedestrian lighting, trash receptacles, and bicycle racks
Most of the plazas along the corridor had PED connections from the street/sidewalk to directly into the plaza	One stretch of the corridor included both a bicycle trail and separate sidewalk for pedestrians	

Observed Deficiencies				
Sidewalks & Crosswalks	ADA	Bicycle Facilities	Lighting	Bus Stops
Enhanced crosswalks needed	Better ADA amenities and access	Implementation of continuous bicycle lanes throughout the corridor		
Continuous sidewalks along Town Center Rd to Military Trail from the high ridership bus stop	ADA pads could be implemented at smaller intersections	The current 4' shoulder could be designated for bicycle lanes		
Small-scale improvements could be made at the main intersection (Town Center Rd and Military Trail) for striped and countdown crosswalks				

Potential Pedestrian Perils	Potential Bicyclist Perils
Poor pedestrian lighting; between NW 19 th St & Banyan Trail, no lighting is offered to pedestrians and transit users waiting for the bus	Lack of any bicycle facilities besides the multi-use path along a small portion of the corridor
Broken sidewalks/ tree roots breaking through the sidewalk (broken sidewalk along the corridor at NW 19 th St intersection)	The Banyan Trail bicycle path has a lot of cracked pavement due to the uprooting of adjacent trees
Inadequate shade and seating at bus stops excluding the high-ridership stop (need for bus shelters and benches)	
A utility pole obstruction in the sidewalk (between Town Center Rd & NW 19 th St). The utility pole could use an easement within the sidewalk	

Top Priorities Recommended from Site Visit by PB TPA	Easy Fixes by Location	Difficult Fixes by Location
Implementation of a continuous bicycle facility throughout the corridor	Pedestrian scale lighting throughout the corridor	Implementation of a continuous bicycle facility throughout the corridor
Pedestrian-scale lighting throughout the corridor (between NW 19 th St & Banyan and under Glades Road bridge)	Broken pavement on the Banyan Trail bicycle path	Implementing shelters at bus stops (750, 751, 752, 753, 754, 737 S bound, 738, 8544)
Shelters and benches at bus stops, assuming they meet the ridership quotas on each		Palm Tran bridge connector outside of the Town Center Mall has eroding soil from runoff creating a potential hazard for pedestrians especially at night
Sidewalks/ shared-use-path fixed to better the conditions and stop the trees from lifting them		The transit hub plaza could use a PED crossing
Most bus stops included in our study were not sheltered nor offered benches for transit users. The majority offered very little lighting as well		Sidewalk along Butts Rd could be widened to a multi-use path
A few stops are just the bus stop pole in the grass		

Other Observations
Town Center Road does not have a continuous sidewalk and encourages pedestrians to either walk in the street or along the grass to reach Military Trail. Due to this being a direct connect to the high-ridership stop, this should be addressed

Site Visit: June 26, 2018



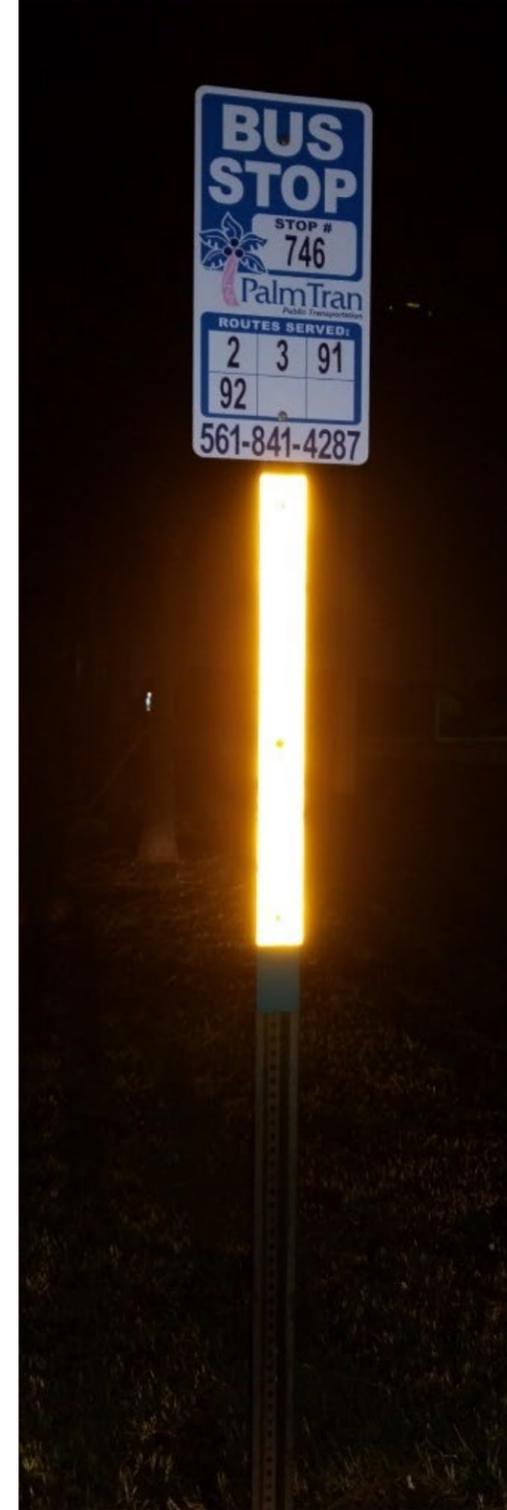
Shelter well-lit at stop 746, may benefit from street lighting; Photo by: CTS Engineering, Inc.



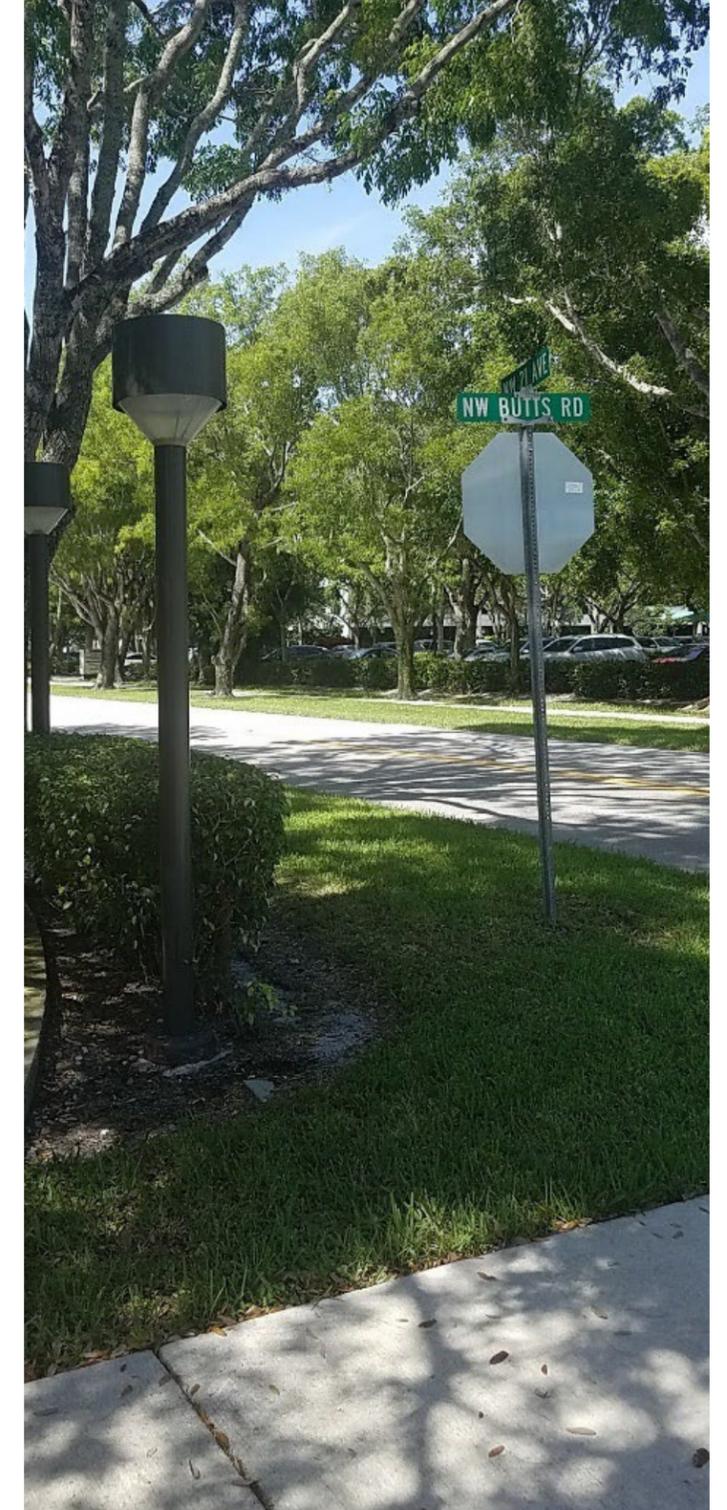
Mall and stop shelter well-lit on Butts Rd; Photo by: CTS Engineering, Inc.



Street lights seen at intersection of Military and Town Center; Photo by CTS Engineering, Inc.



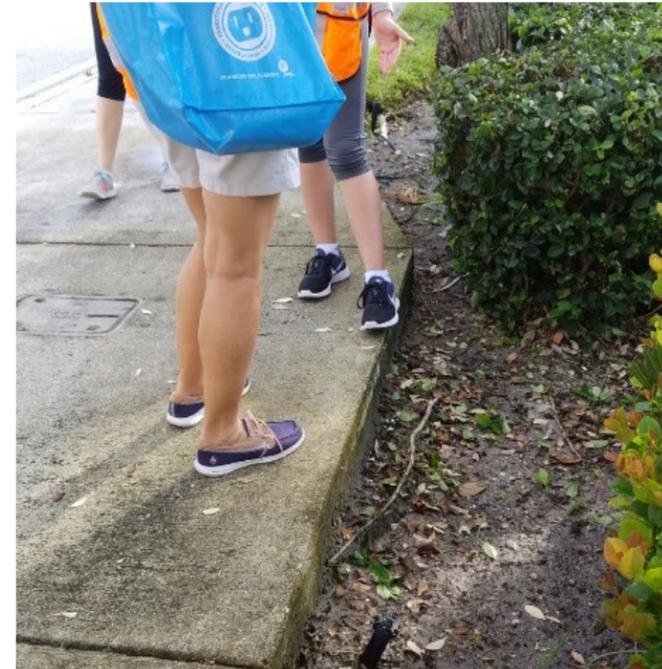
Lighting reflecting off of sign at stop 746 on Butts Rd; Photo by: CTS Engineering, Inc.



Pedestrian level lighting at corner of Butts Rd and NW 21 Ave; Photo by: CTS Engineering, Inc.



Sidewalk access to nearby uses near stop 747; Photo by: CTS Engineering, Inc.



Drop off NE of stop 747 along Military Trail; Photo by: CTS Engineering, Inc.



Sidewalk on N. Military Trail near stop 747; Photo by: CTS Engineering, Inc.



Tree shade over sidewalk along Butts Rd near NW 21st Ave; Photo by: CTS Engineering, Inc.



Wide shared use path on Military South of Potomac; Photo by: CTS Engineering, Inc.



Broken sidewalk near stop 747 along Military Trail; Photo by: CTS Engineering, Inc.

Crosswalks



Crosswalk across Military at intersection with NW 19th; Photo by: Palm Beach TPA



No crosswalk across Butts Road North and parallel to Glades; Photo by: Palm Beach TPA



Narrow crosswalk and possible visibility issue due to sign on Military South of Glades; Photo by: CTS Engineering, Inc.



Crosswalk near stop 747 along Military; Photo by: CTS Engineering, Inc.



Crosswalk markings needed across Butts Rd North and parallel to Glades; Photo by: Palm Beach TPA



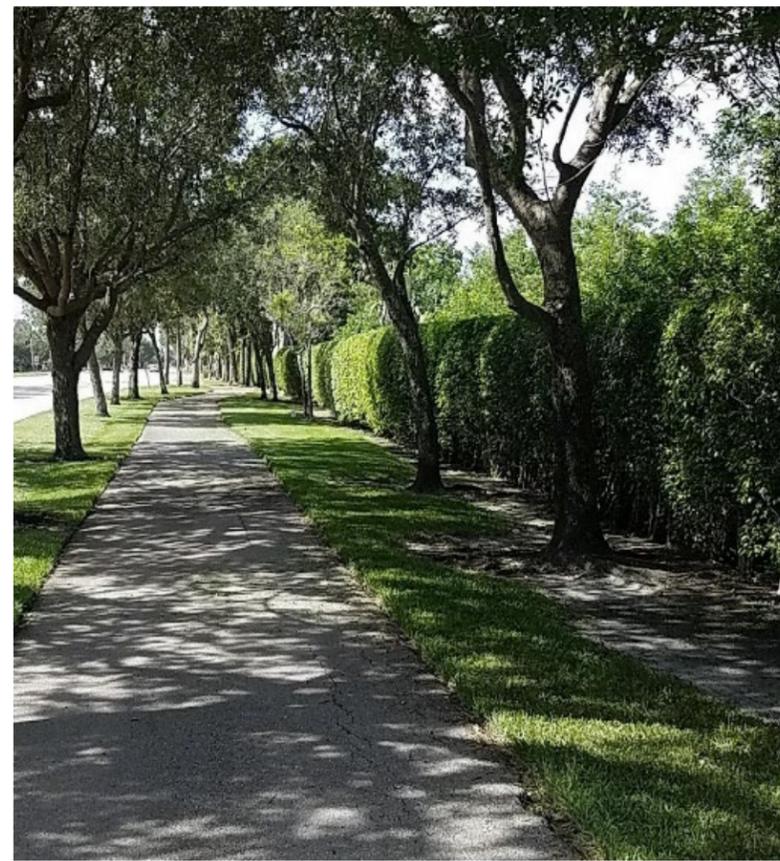
Bicycle rack at stop 746 on Butts Rd; Photo by: CTS Engineering, Inc.



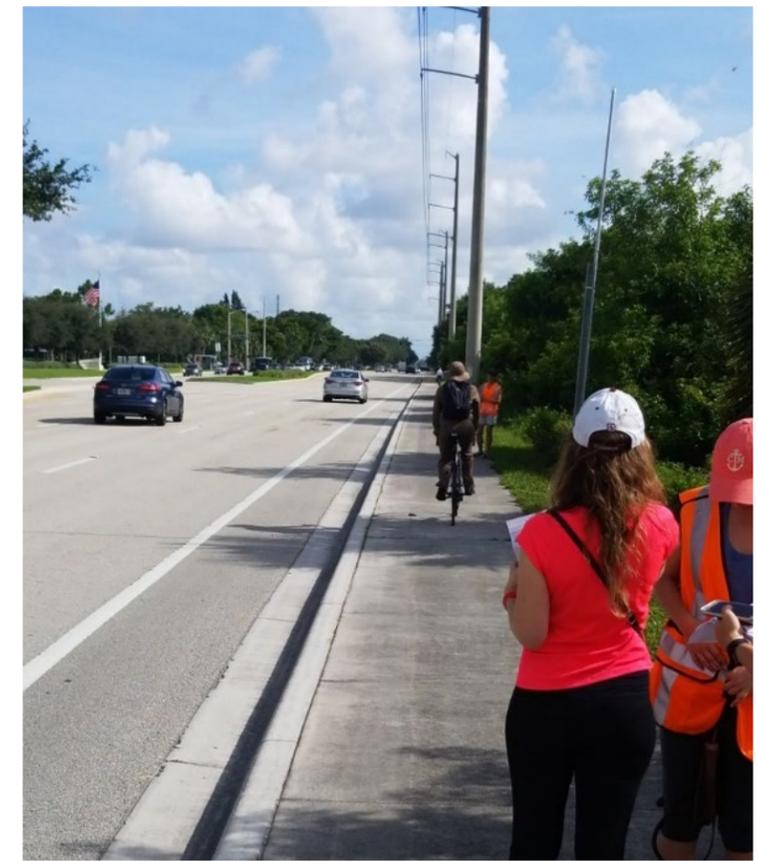
Incorrect signage on Butts Rd North of Glades; Photo by: CTS Engineering, Inc.



Designated bicycle path separate from sidewalk on Military Trail south of Potomac; Photo by: CTS Engineering, Inc.



Scenic bicycle path on Military Trail south of Potomac; Photo by: CTS Engineering, Inc.



Cyclist on sidewalk NE of stop 750 on Military; Photo by: CTS Engineering, Inc.

Bus Stops



Hazardous location of stop 8544 (at intersection with Commercial Trail); Photo by: CTS Engineering, Inc.



Early morning riders at stop 746 on Butts Rd; Photo by: CTS Engineering, Inc.



Stop 738 on N. Military Trail potentially benefiting from shelter or shading; Photo by: CTS Engineering, Inc.



Stop 753 with an attached seat; Photo by: CTS Engineering, Inc.



Unique bus stop design at stop 740 on Military South of Butts Rd; Photo by: CTS Engineering, Inc.



Rider getting off of bus at stop 747 on Military; Photo by: CTS Engineering, Inc.