MIDBLOCK CROSSINGS FOR NON-MOTORIZED USER SAFETY

UPWP Task 5.2

Summary

This project's objectives were to

(1) Establish a prioritization process for systemic implementation of midblock crossing treatments in the City of Jacksonville to reduce the risk of these crashes occurring and the severity of pedestrian crashes
(2) Develop design concepts and cost estimates for the priority locations identified

Data on existing roadway conditions, crash history, demand for bicyclists and pedestrians, traffic volumes, and related land uses was collected from Florida Department of Transportation (FDOT), City of Jacksonville, Replica, and the North Florida Transportation Planning Organization (TPO). The data was used to create a ranking system to identify candidate locations where mid-block pedestrian improvements are needed. The network considered all public roads in Duval County.

These candidate locations and the location of each pedestrian fatality or serious injury crash that occurred in 2019 through May 2025 were reviewed to determine if the sites were viable candidates for new or modified mid-block crossings. Other pedestrian safety measures were also identified at these locations if appropriate.

The prioritization process also leveraged proven approaches to countermeasures proposed by the Federal Highway Administration in the (FHWA)'s Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations to propose an expert system for the identification and selection of candidate strategies. The proposed implementation strategies were then refined. Candidate locations were identified on state and city roads. Concept layouts and cost estimates were developed for the top tier priorities for locations on city roads. The priority locations and costs for improvements on City roads are summarized on Exhibit 1 and shown on

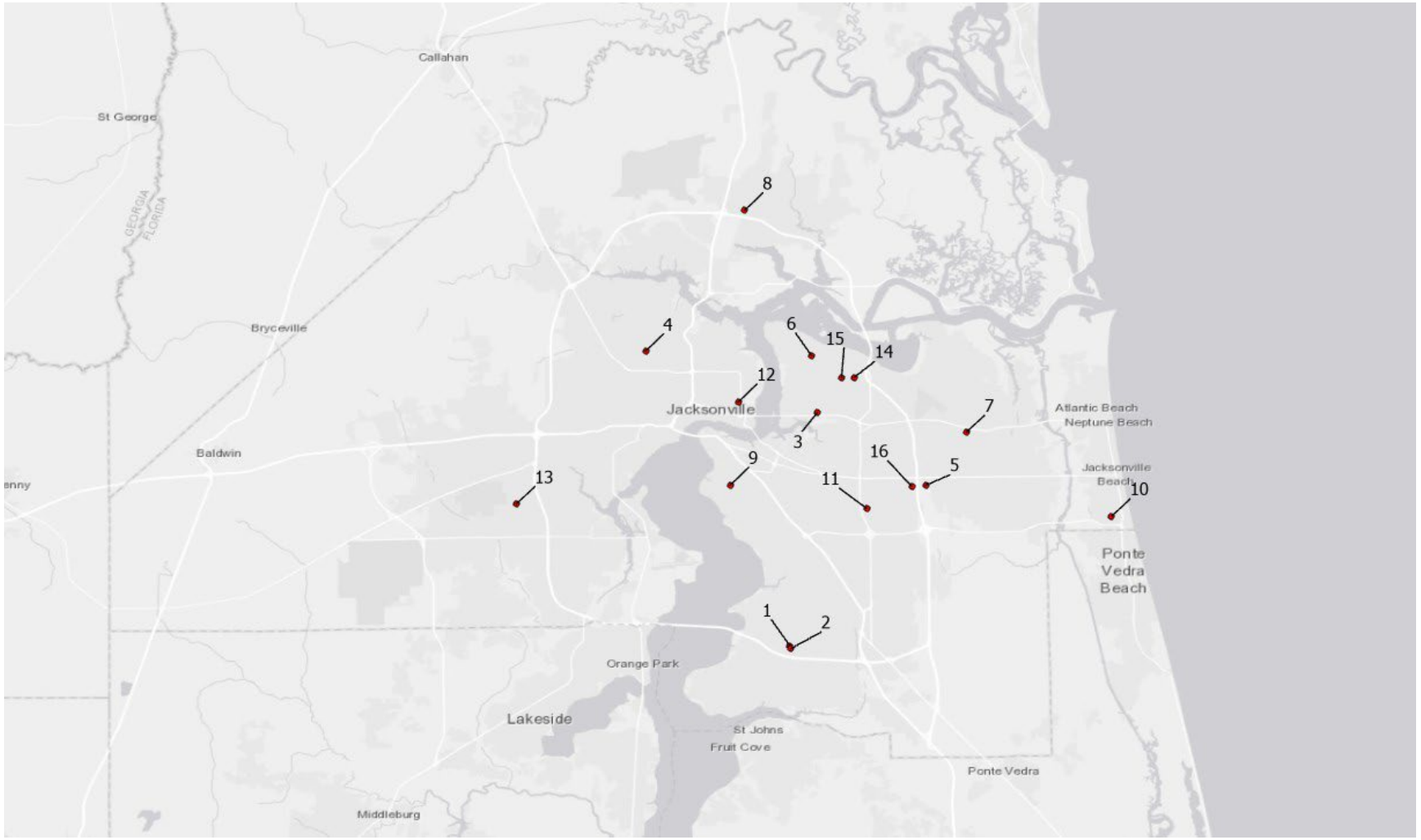
Exhibit 2.

A customized reporting system was developed within ArcGIS based on the prioritization system that will allow the City to respond to requests to consider new mid-block crossings in the future.

Exhibit 1. Summary of Priority Projects and Costs on City Roads

Map ID	Location	Description	Estimated Construction Costs
1	Old St. Augustine Road at Livingston Road	Construct special emphasis crosswalks on Old St. Augustine Road	$6,528.70
2	Old St. Augustine Road near Mandarin Central Shopping Center	Construct raised crosswalk with Pedestrian Hybrid Beacon (PHB) on Old St. Augustine Road	$549,571.63
3	Arlington Road near College Park Shopping Center	Construct new crossing with a raised median and PHB on Arlington Road	$561,792.75
4	Avenue B near W 43rd Street	Construct new crossing and RRFB on Avenue B at W 43rd Street	$119,051.14
5	Central Parkway between St. Johns Bluff Road and Beach Boulevard	Construct new crossing and RRFB on Central Parkway and add pavement markings on driveways	$218,447.08
6	Fort Caroline Road near Arlington Little League	Construct new crossing and PHB on Fort Caroline Road	$549,764.38
7	Kernan Boulevard at Vista Point Circle	Construct special emphasis crosswalks and a traffic separator fencing to deter pedestrians from making mid-block crossings on Kernan Boulevard	$127,224.05
8	New Berlin Road at US 17 Main Street	Construct special emphasis crosswalks, sidewalk for connectivity, and ADA ramps on New Berlin Road. Add new pedestrian crossing of US 17 Main Street at the signal.	$181,347.02
9	St. Augustine Road at Brewster Road	Construct new raised mib-block crossing and PHB on St. Augustine Road	$546,972.85
10	South Beach Parkway at Rip Tide Boulevard	Construct special emphasis crosswalks on Rip Tide Boulevard and Ocean Cay Circle and add signing to alert drivers of the crossing of South Beach Parkway	$42,935.69
11	Deer Lake Court between Southside Boulevard and Touchton Road	Construct new crossing with a median and RRFB on Deerk Lake Court	$236,975.35
12	E 1st Street between Milnor Street and Bridier Street	Construct new mid-block crossing with RRFB on E 1st Street	$138,823.56
13	Wilson Boulevard west of Longleaf Forest Lane	Construct new mid-block crossing with RRFB on Wilson Boulevard and signing on Longleaf Forest Lane	$146,094.81
14	Merrill Road at Strawberry Creek	Construct new mid-block crossing with a median and PHB on Merrill Road	$584,275.37
15	Merrill Road between Wycombe Drive and Kingstree Drive	Construct new mid-block crossing with a median and PHB signal on Merrill Road	$571,775.34
16	St. Johns Bluff Road at Central Parkway and St. Johns Industrial Parkway	Construct crosswalk of St. Johns Bluff Road, Central Parkway and St. Johns Industrial Parkway at existing signal	$199,982.70
		TOTAL CONSTRUCTION COSTS	**$4,781,562.42**

Exhibit 2. Priority Locations on City Roads



Contents

Figures

Tables

Appendices

Document Control

File Name	Midblock Crossings Report 25-09-26.docx
Version	2.1
Date	09/27,25
Prepared by	Shaw, T
Reviewed by	McDermet, J
Verified/Addressed by	Shaw, T

Introduction

In the calendar years 2019-2024 and January through May of 2025 there were 1,727 pedestrian crashes in the City of Jacksonville that included

- Fatalities 247
- Serious Injuries 302
- Injury 1,148
- No injury 30

This project's purpose is to establish a prioritization process for implementation of midblock crossing treatments in the City of Jacksonville to reduce the risk of these crashes occurring and the severity of pedestrian crashes.

A midblock crossing is defined as any location where pedestrians cross a street between intersections. These locations are marked and can vary from simple high-emphasis marked crosswalks to complex combinations of high-emphasis crosswalks, traffic signals, and pedestrian refuge islands. Figure 1 shows the location of existing mid-block crossings in the City of Jacksonville. Figure 2 shows examples of midblock crossings.

The City's planning department and traffic engineering office receive requests from elected officials, residents and business owners to consider midblock crossings throughout the year. They have established a policy and procedure for considering new requests based on warrants provided in the Florida Department of Transportation (FDOT) Manual of Uniform Traffic Studies and the Federal Highway Administration (FHWA) Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations. This procedure was used as the basis for the methodology in this study.

Figure 1. Existing Midblock Crossings

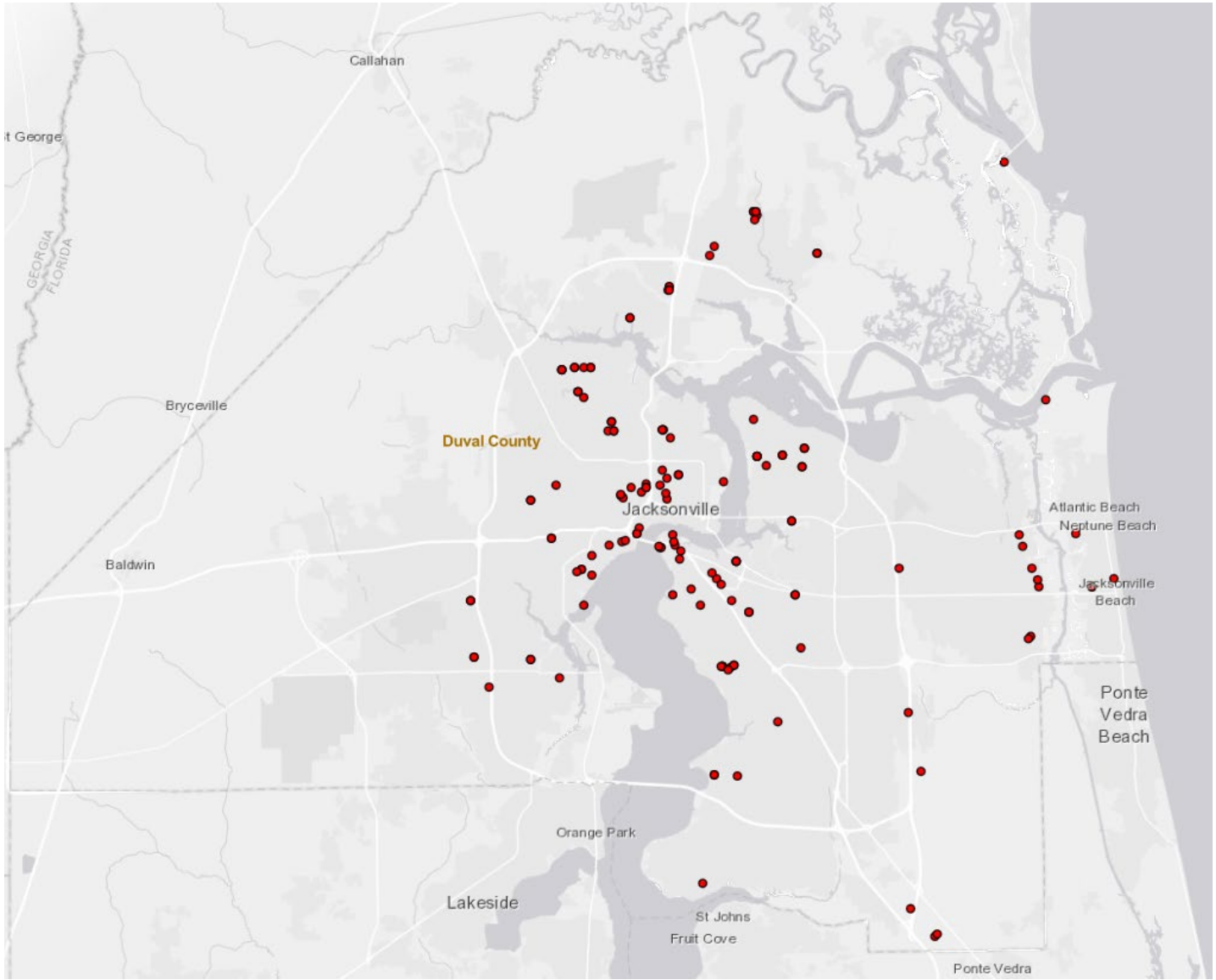


Figure 2. Examples of Midblock Crossings

High Visibility Crosswalk, Lomax St Five Points

Rectangular Rapid Flashing Beacon, Hendricks Ave at Louisa St

Signalized Midblock, Atlantic Boulevard near Camden Avenue

Pedestrian Hybrid Beacon (PHB), SR-A1A 3rd St at Bay Street

Methodology

Data Collection

The methodology used consisted of compiling existing data from the following sources to understand the safety concerns and demand for implementing controlled pedestrian crossings or improving existing midblock crossings.

Road Condition Data

- Existing Sidewalks, Trails and Bike Lanes - Trails, sidewalks, and bike lanes were used to evaluate crossings connections with both pedestrian and cyclist infrastructure. This also helps to identify areas of high pedestrian and cyclist traffic. Trail data was provided by the North Florida TPO. Replica data on sidewalks was used. The network is shown on Figure 3.
- Existing Signals – Signals are the primary traffic control device pedestrians use to cross busy roadways today. The presence of a signal was used to determine if a new crossing control strategy was needed and if modifications to the existing signals are needed to better serve pedestrians. Data was provided by the City of Jacksonville. Figure 4 shows the location of existing signals.
- Number of Lanes – The number of travel lanes on a roadway were used to assess potential control strategies and are shown on Figure 5.
- Speed Limit - high-speed areas present greater risk for pedestrians. Knowing the speeds also helps assess the safety measures to be considered to mitigate risk. Figure 6 shows the speed limit.
- Bus Stop (JTA) and School Bus Stop Locations – transit stop locations were identified to enhance safety for pedestrians trying to reach these critical links in the transportation system. The bus stops and school zones are shown in Figure 7.

Figure 3. Sidewalks, Trails, and Bike Lanes

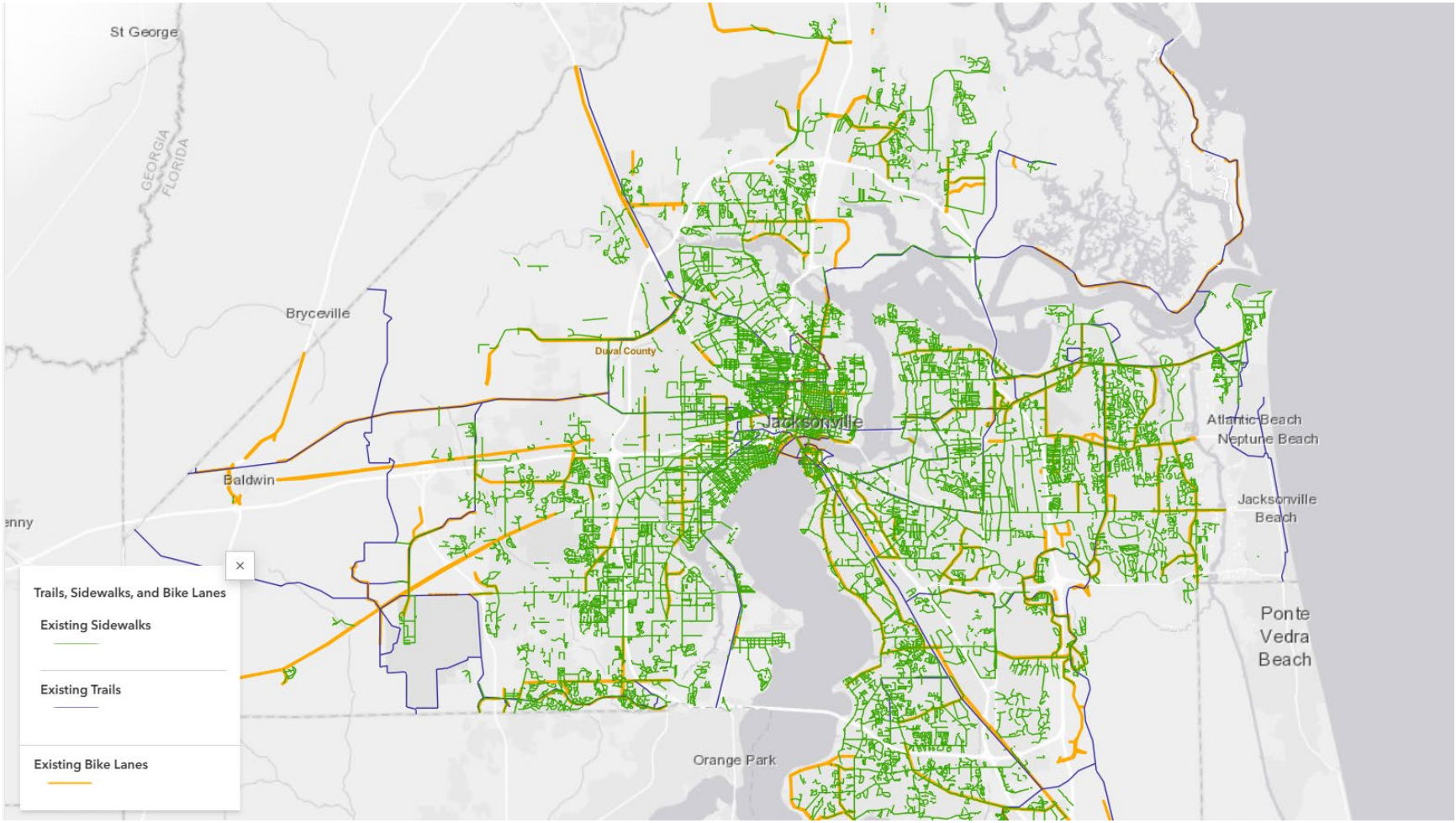


Figure 4. Traffic Signals

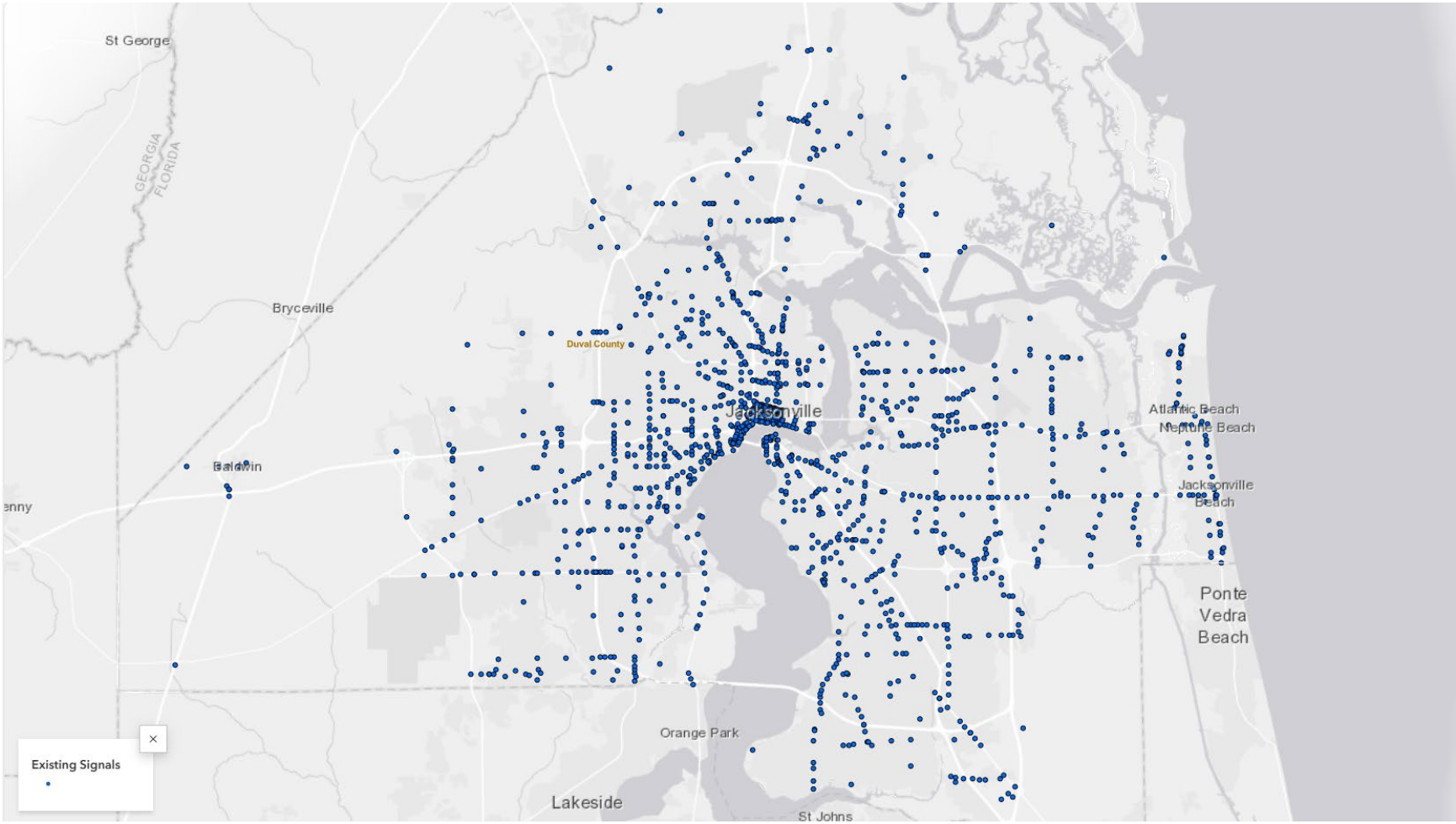


Figure 5. Number of Lanes

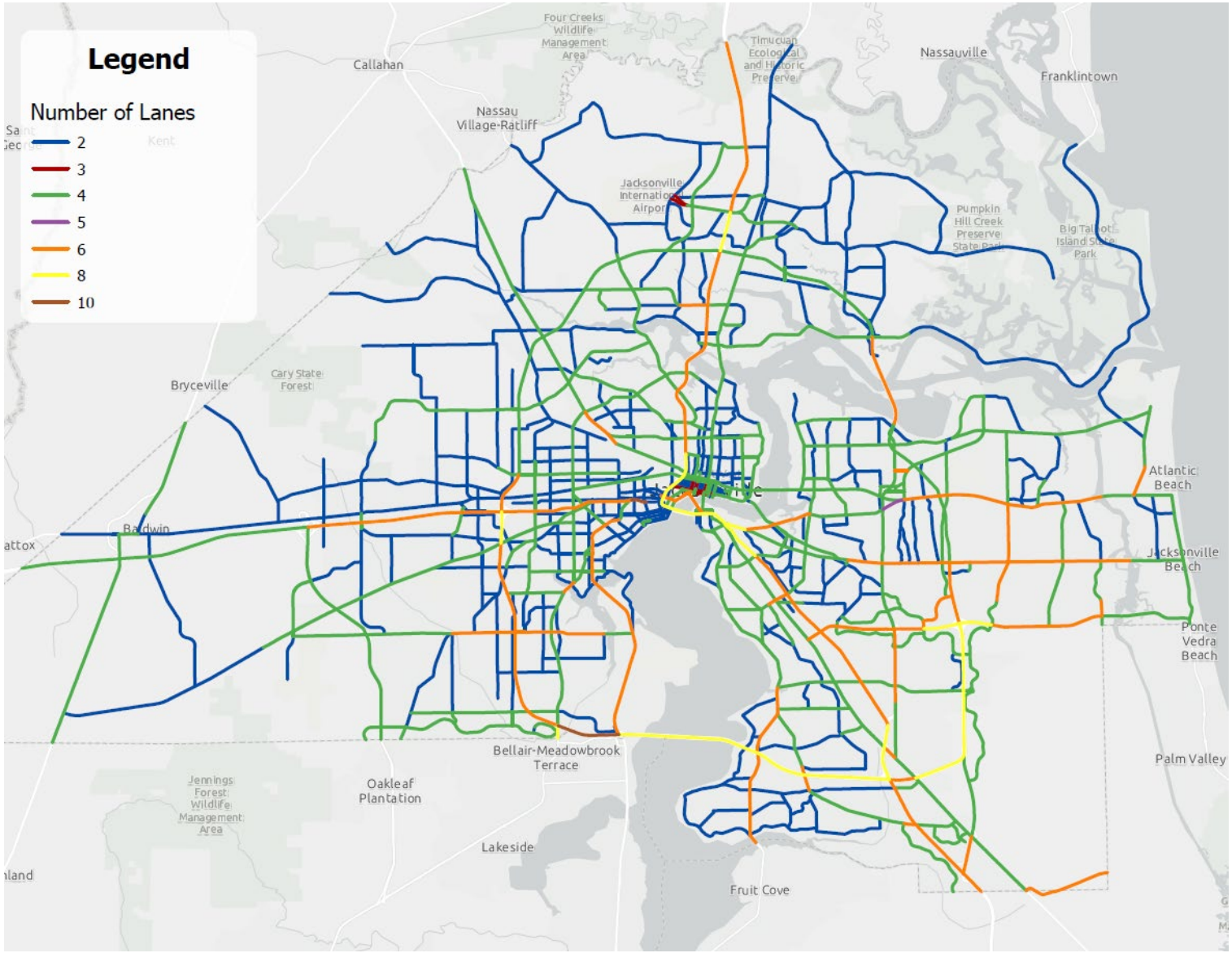


Figure 6. Speed Limits

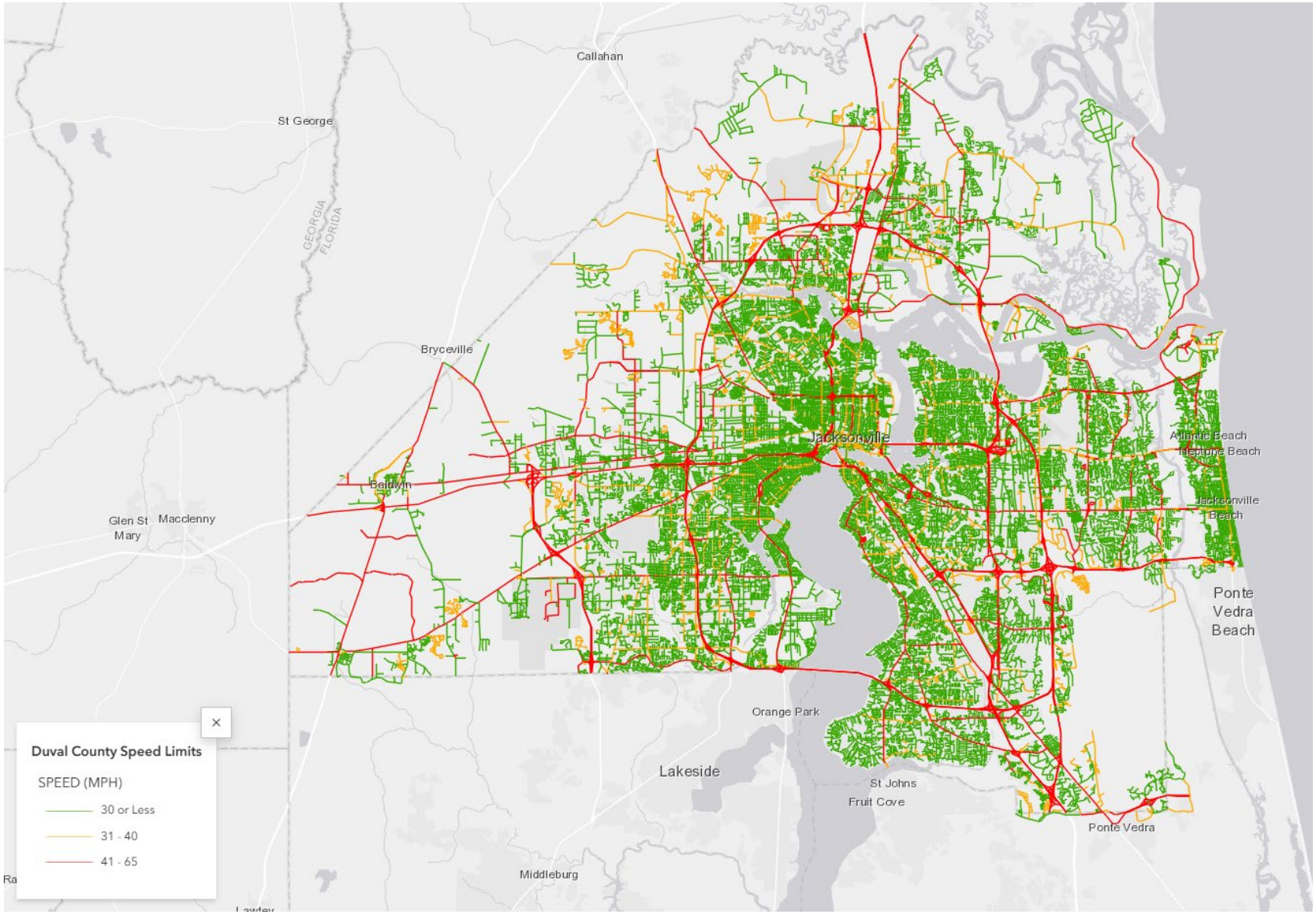
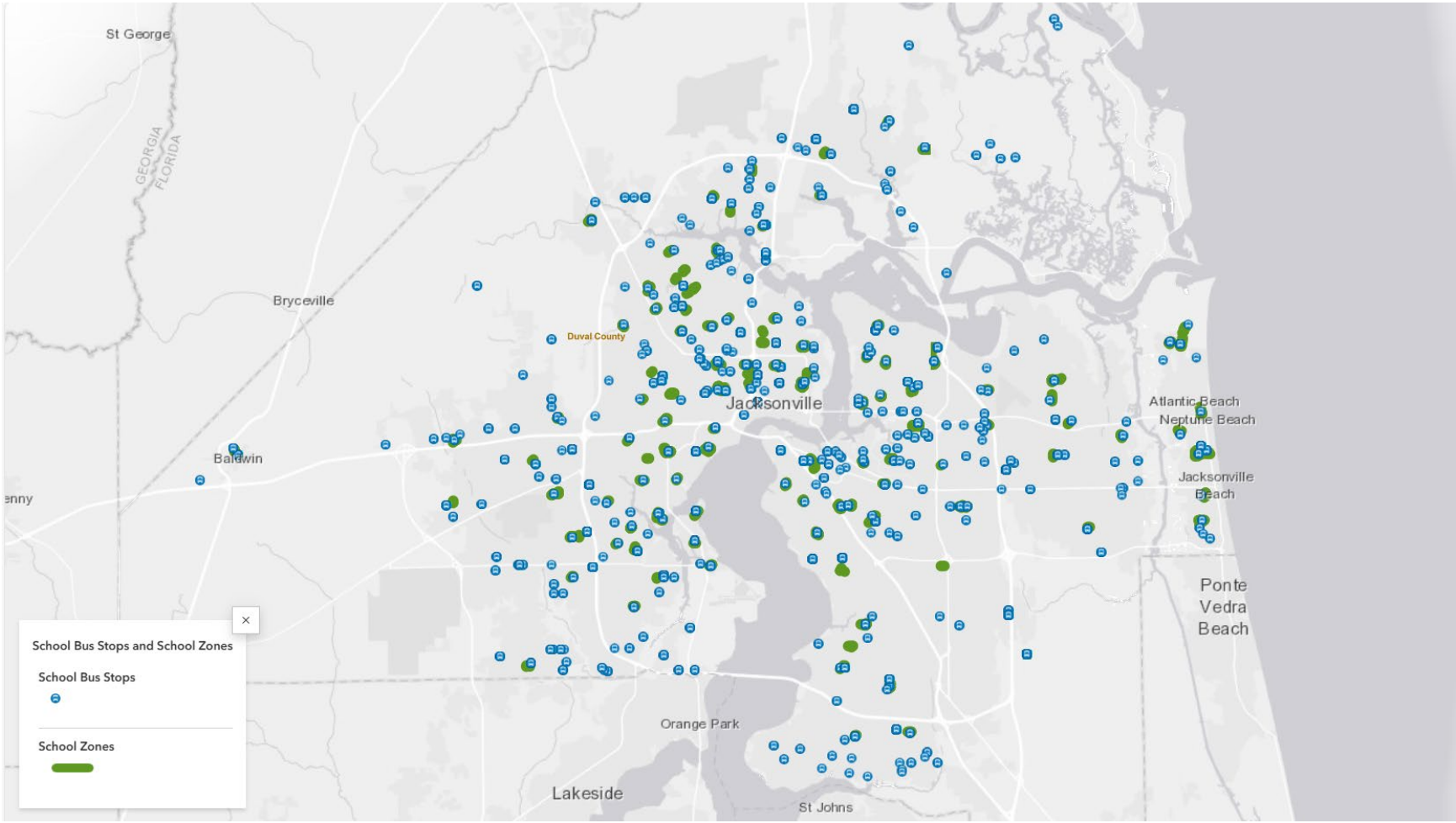


Figure 7. Bus Stops and School Zones



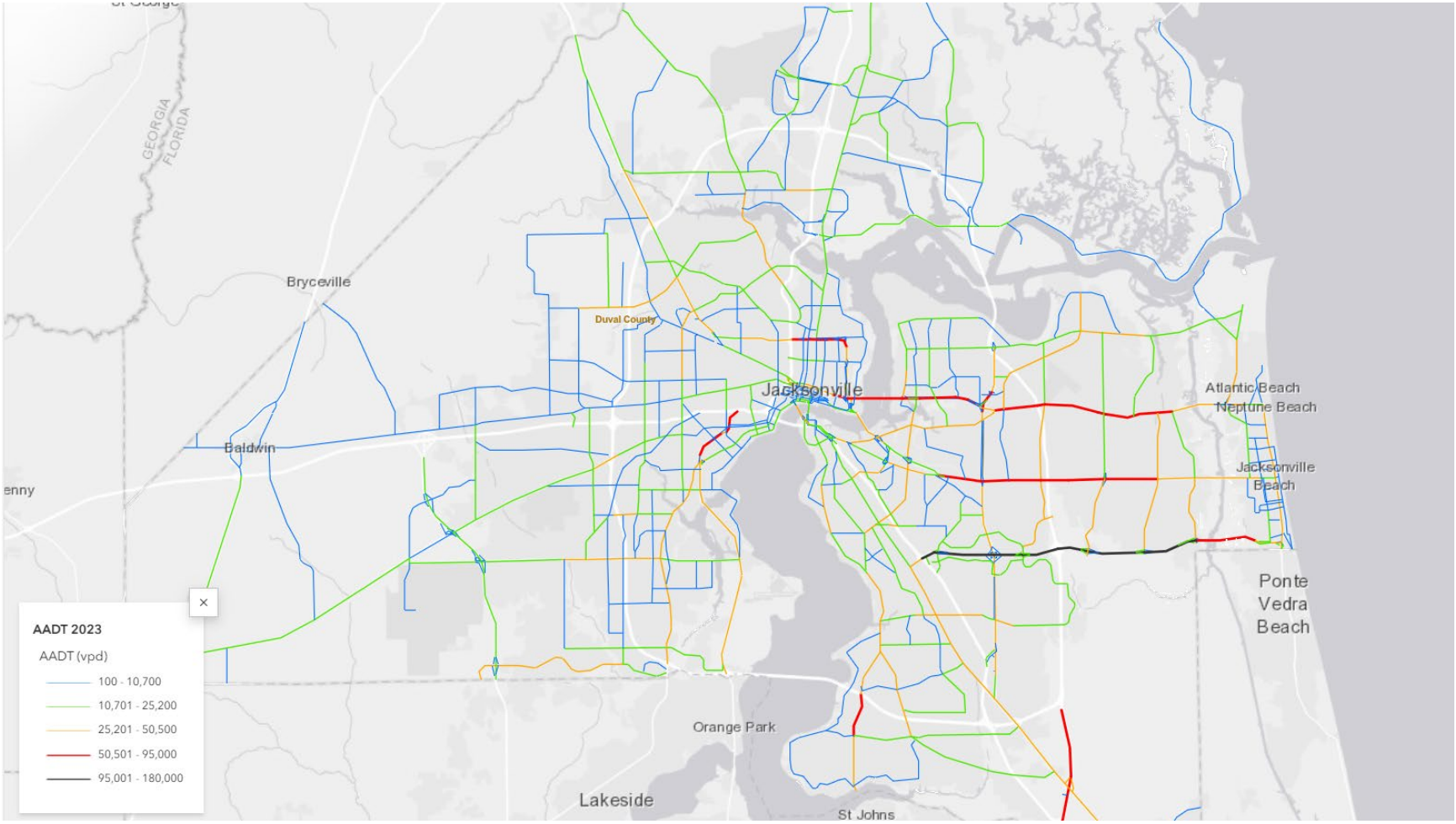
When reviewing site conditions, Google Streetview was used to consider the following factors when segments were evaluated.

- Median Type – the median type (undivided, grassed, or continuous-two-way-left-turn lanes) were needed to assess the potential control strategy and costs. Neither Open Street Map or Replica data provided median type for non-state roads.
- School Zones – school zones are areas where pedestrians are particularly vulnerable and were considered as part of the needs analysis.
- Lighting – the need for lighting was identified as part of the analysis but no mapping data was available.

Demand-Related Data

- Traffic Volumes – Annual Average Daily Traffic (AADT) volumes identify roadways with high traffic volume where crossings may be the most needed for pedestrian safety. Interstates and other "freeways" where pedestrians are prohibited were excluded from this analysis. Data was obtained from FDOT and volume estimates from Replica where FDOT data was not available, which was on minor collector, and neighborhood streets. Replica uses the methodology summarized in the following link: Replica Auto and TNC Trips. Traffic volumes are shown on Figure 8.
- Walking and Cycling Demand – identifying the areas where pedestrians are generating the most foot traffic. This ensures that resources are allocated to areas with high pedestrian activity. Replica estimates of demand were used and more information is available about the methodology they use is available at this link: Replica Active Transportation Trips. The higher of the walk demand for a typical Thursday or the walk demand for a typical Saturday was used when ranking the facilities based on demand. Typical walk demand on a Thursday is shown in Figure 9. Typical Thursday cycling demand is shown on Figure 10.

Figure 8. Traffic Volumes



Note: Freeways and expressways are not included.

Figure 9. Estimated Walk Demand

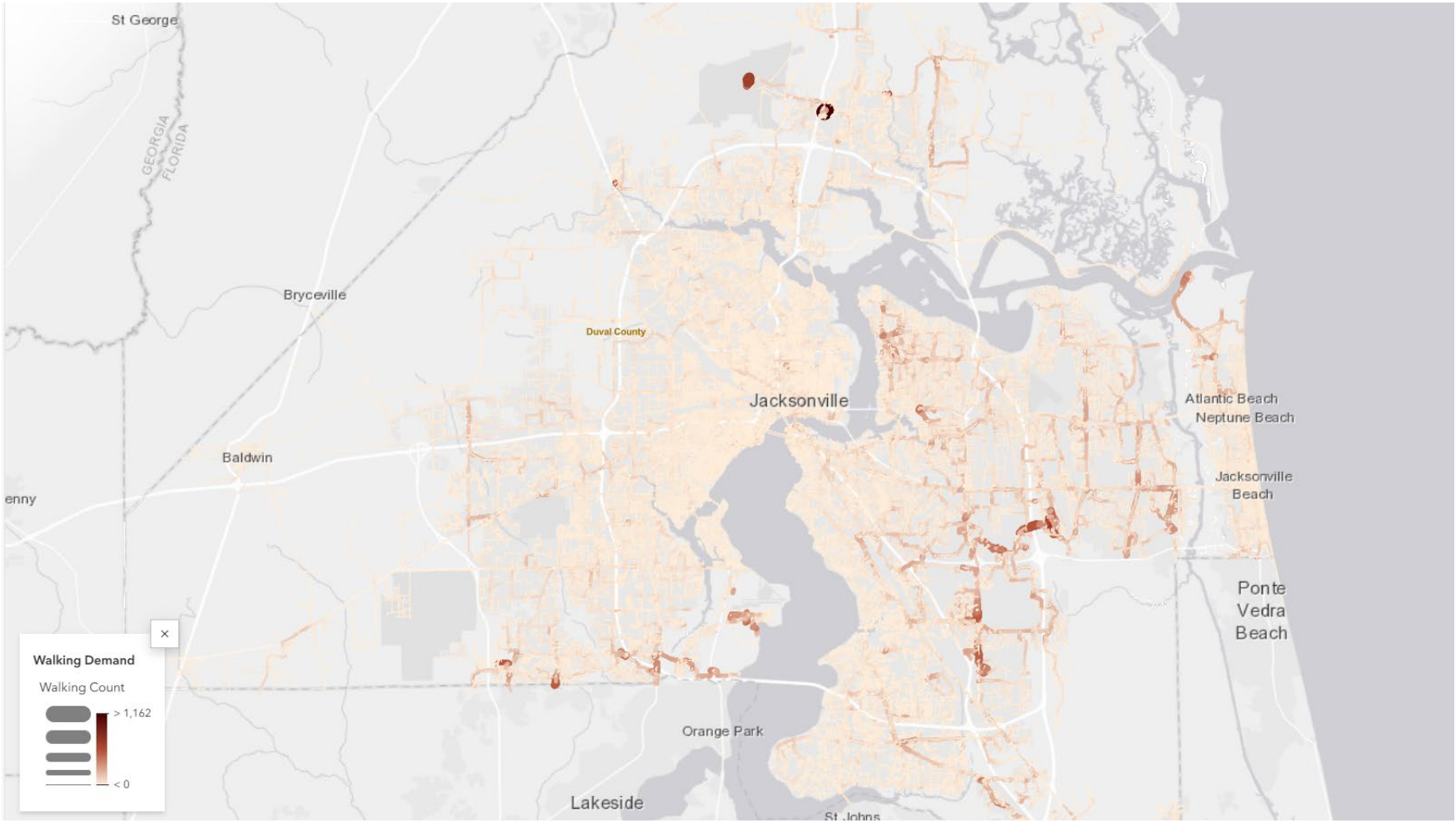
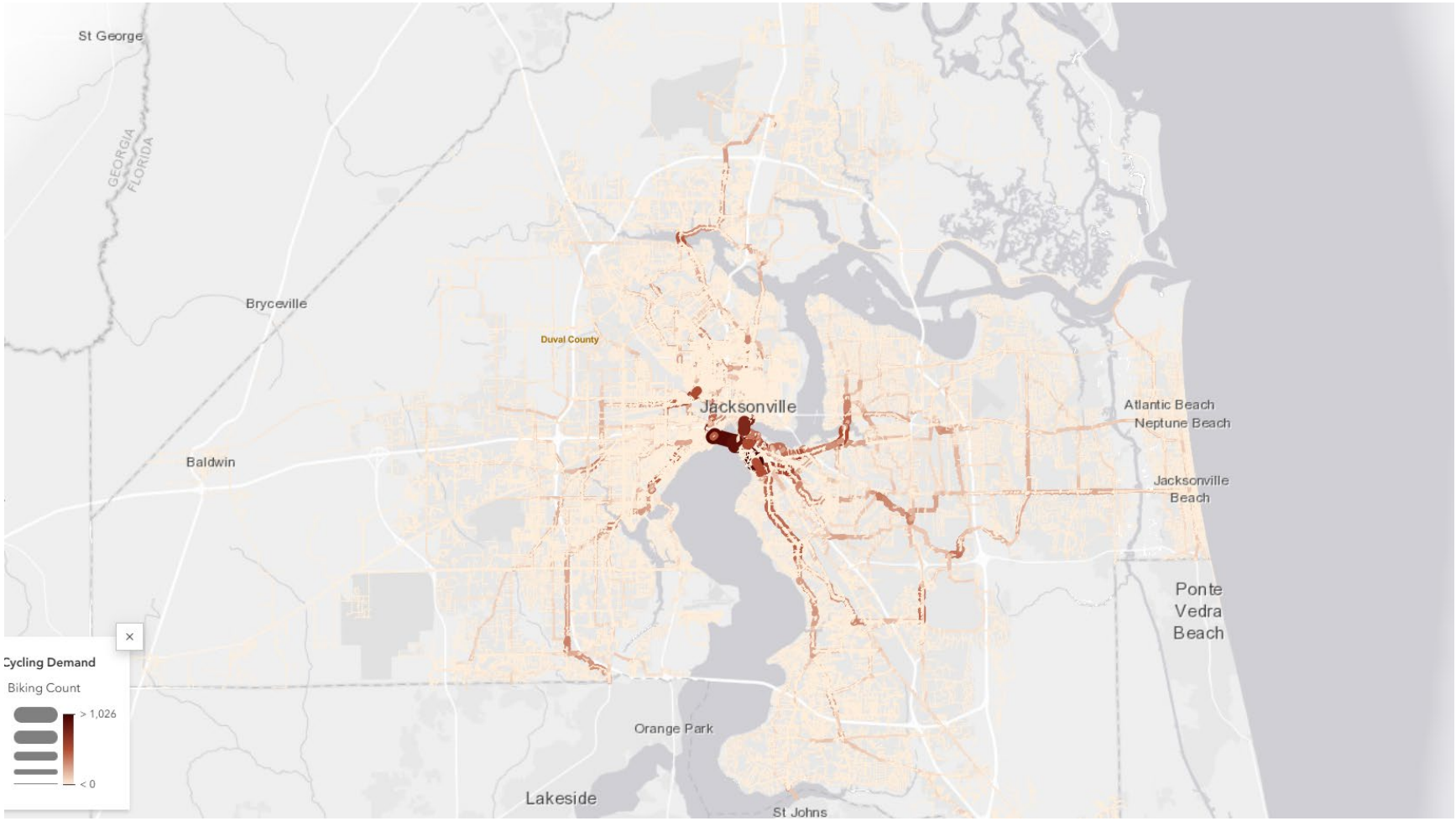


Figure 10. Estimated Cycling Demand



Safety Data

Signal4Analytics crash data for the years 2019-2024 and the first five months of 2025 (Jan-May) was obtained and analyzed. Crashes were included based on the level of severity for

- Pedestrian Fatal
- Pedestrian Serious Injury
- Pedestrian Injury
- Pedestrian No Injury
- Bicyclist Fatal
- Bicyclist Serious Injury
- Bicyclist Injury
- Bicyclist No Injury

Appendix A includes a table that summarizes the evaluation for each fatal and serious injury crash location to determine if it is a candidate for a project.

The locations are shown on Figure 11 and Figure 12.

Figure 11. Fatal and Serious Injury Pedestrian Crashes on State Roads

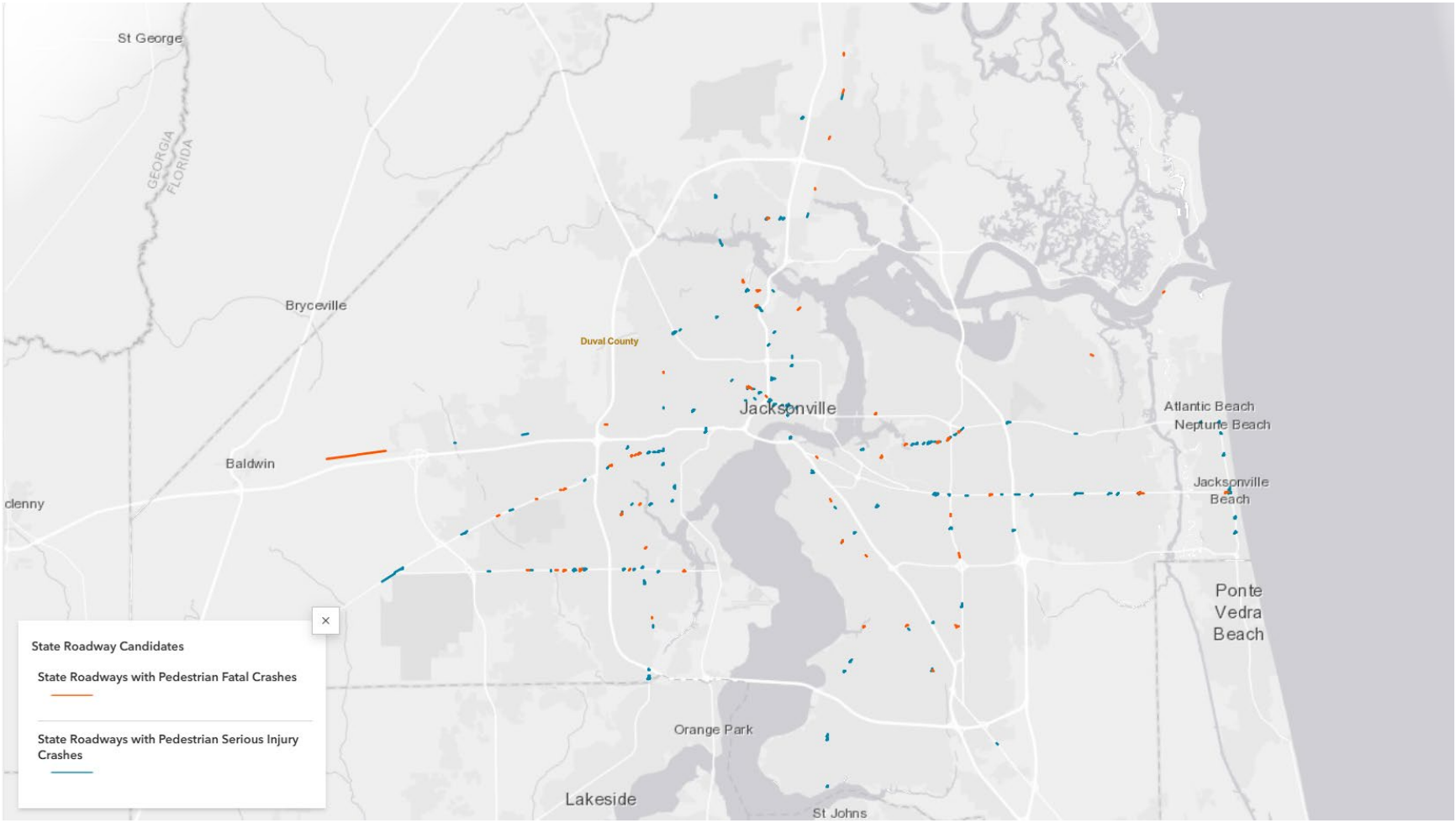
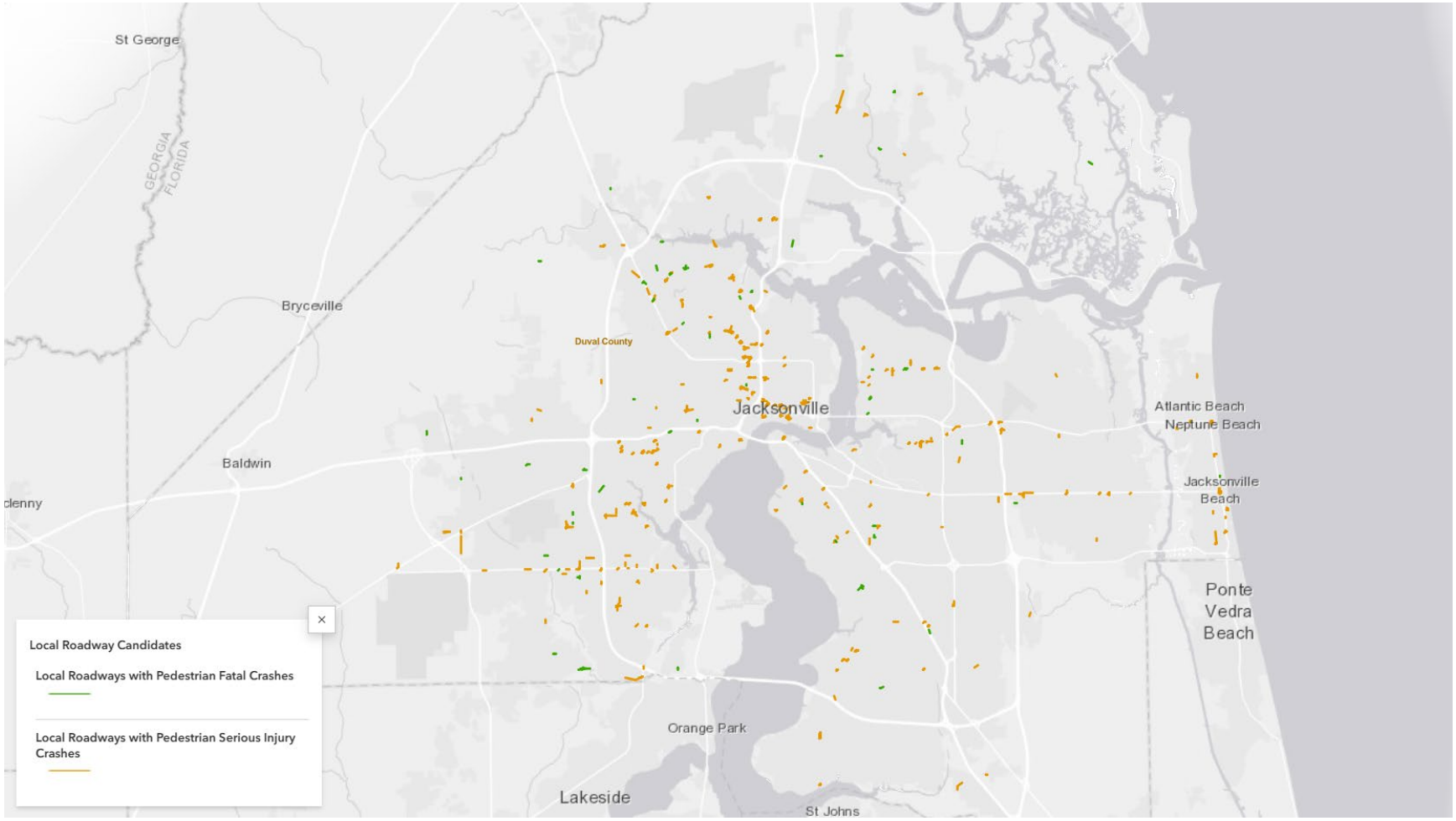


Figure 12. Fatal and Serious Injury Crashes on Local Roads



Community Resources

Community resources such as parks, libraries, and community centers attract pedestrians. Considering the proximity of these important resources was used in identifying the need for improvement. Mapping them ensures that midblock crossings improve accessibility.

- Park
- Library
- Community Center
- EV Charging
- Assisted Living Centers
- Hospital

Community features are shown on Figure 13 and health-related facilities are shown on Figure 14.

Figure 13. Parks, Libraries, and Community Centers

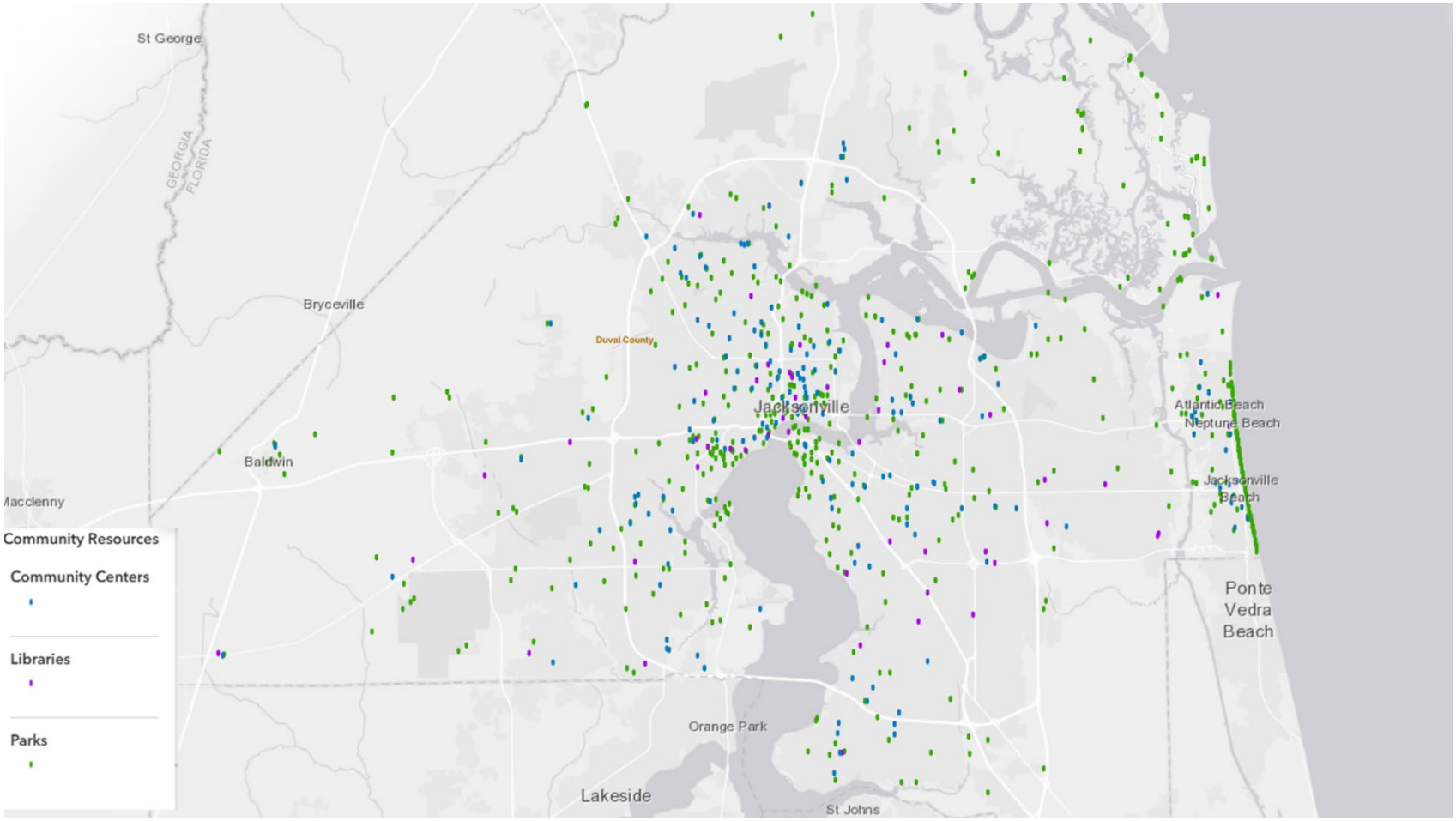
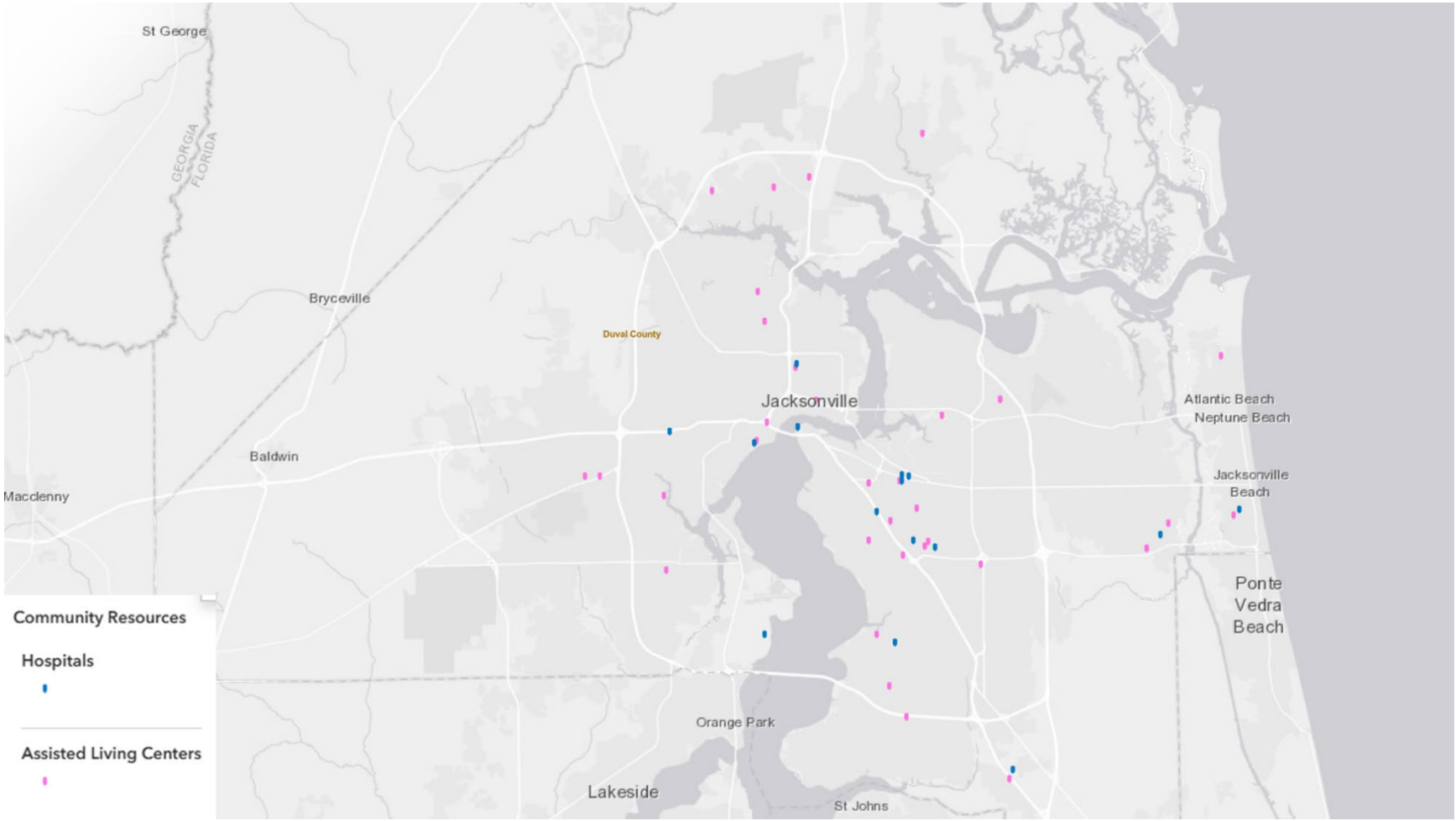


Figure 14. Hospitals and Assisted Living Centers



Prioritization

Candidate roadway segments were scored and then ranked based on need. The scoring system is shown below. Each category for a roadway segment receives a point value and all categories are then summed for a final score. Roadway segments without sidewalks and with existing midblock crossings were excluded except where a pedestrian fatality or serious injury occurred.

- Fatal Crash: 10 points
- Serious Injury Crash: 5 points
- Other Injury Crash: 3 points
- No injury/PDO Crash: 1 point
- Within 50 ft of a School Zone: 1 point for Yes, 0 points for No
- Within 50 ft of a Bus Stop: 1 point for Yes, 0 points for No
- Within ¼-mi of a Park: 1 point for Yes, 0 points for No
- Within ¼-mi of a Library: 1 point for Yes, 0 points for No
- Within ¼-mi of a Community Center: 1 point for Yes, 0 points for No
- Within ¼-mi of a Public EV Charging Station: 1 point for Yes, 0 points for No
- Within ¼-mi of an Assisted Living Facility: 1 point for Yes, 0 points for No
- Within ¼-mi of a Hospital: 1 point for Yes, 0 points for No

When assessing the relative demand based on AADT or estimates of walkers or cyclists, the data was assigned a score based on the normal distribution statistic Z. Using the Z value makes an average value a 1.0 and allows these larger numbers to be added into a scale proportionate to the other scores assigned. The Z statistic is calculated as shown in the equation below.

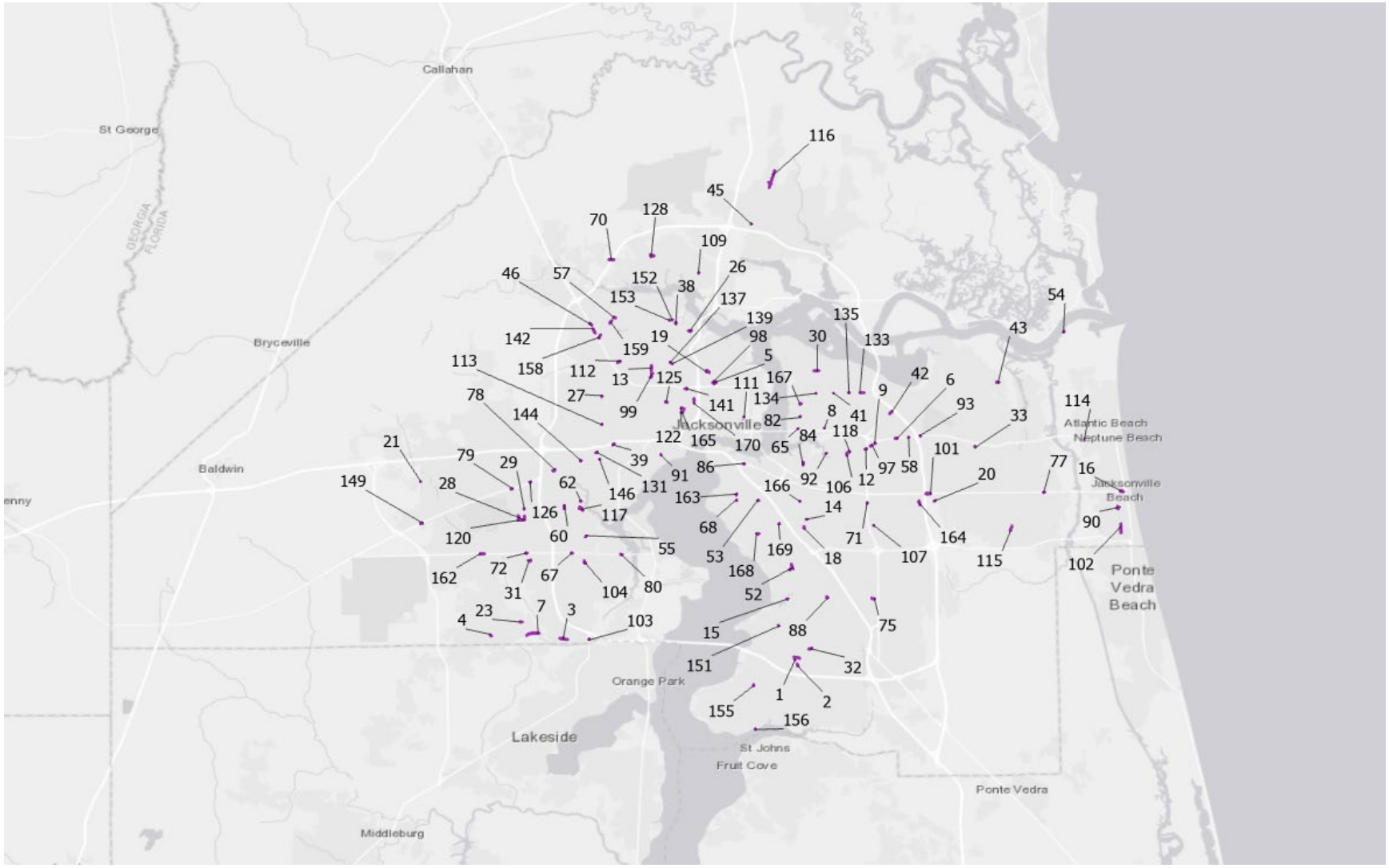
$$Z = \frac{Absolute\ Value\ (X - Mean(X))}{Standard\ Deviation\ (X)}$$

Prioritization Results – Candidate Projects

Appendix B is a summary of the candidate locations identified using the prioritization data. This analysis is also provided electronically in ArcGIS files.

A total of 168 locations were identified as candidates for midblock crossings based on the data collected in the prioritization system and review of fatal and serious injury crash locations. Table 1 summarizes the candidate locations on state roads and Table 2 summarizes the locations on city roads. These candidate projects are listed in rank order based on the prioritization score. All projects are viable. Rank order should not be the sole consideration when selecting projects for advancement. Budget constraints, construction impacts and other factors may make a lower ranked project advance before project ranked higher in this score system.

Figure 15. Candidate Projects



Labels correspond to the Map ID in Table 1 and Table 2.

Table 1. Candidates for Improvements on State Roads

Rank	Map ID	SR	ROAD	FROM	TO	PROPOSED IMPROVEMENT NOTES	PROPOSED STREETVIEW
1	109	SR-104	Dunn Ave	Briarcliff Rd	Biscayne Blvd	Midblock or signal at Haversford Rd. Study underway	Click for Map
2	16	SR-212	Beach Blvd	SR-A1A	9th St	Midblock or signal near 5th Street. Proposed median is in design with 3R project.	Click for Map
2	15	SR-152	Baymeadows Rd	Craven Rd	SR-13	Midblock or signal near Godby's Drive. May be a candidate project by FDOT.	Click for Map
4	71	SR-115	Southside Blvd	Cargal St		FDOT Project 209664-4/5 ongoing. Consider integrating into that project.	Click for Map
5	162	SR-134	103rd St	Connie Jean Rd	Rockola Rd	Midblock or signal near Vivian	Click for Map
6	67	SR-134	103rd St	Harlow Blvd	Jammes Rd	Midblock near bus stops	Click for Map
7	77	SR-212/US-90	Beach Blvd	Suni Pines Dr	San Pablo Rd	Midblock at BRT Station	Click for Map
8	75	SR-152	Baymeadows Rd	Old Baymeadows Rd	Southside Blvd	Midblock or other improvement. FY 28 Candidate Project for design	Click for Map
9	72	SR-134	103rd St	Valdura Ave	McManus Dr/Hilman Dr	Midblock or signal near California Ave	Click for Map
10	155	SR-134	San Jose Blvd	Loretto Rd	Ricky Dr	Midblock or signal near Addie Rd	Click for Map
11	122	SR-15/US-1/US-23	Kings Rd	Tyler St	Myrtle Ave	Midblock near Barnes St. FDOT project ongoing in area	Click for Map
12	46	SR-5/US-23	New Kings Rd	Moncrief Rd	I-295	Midblock - school zone (PHB) and senior center.	Click for Map
13	86	SR-10/US-90	Atlantic Blvd	Kingman Ave	Ridgewood Plaza	Midblock near median cut	Click for Map
14	53	SR-5/US-1	Philips Hwy	Walmart Shopping Center	Emerson St	Midblock new	Click for Map
15	88	SR-5/US-1	Philips Hwy	Baymeadows Way	Baymeadows Rd	Midblock new	Click for Map
16	78	SR-228	Normandy Blvd	POW Memorial Park Rd	LaMarche Dr	Midblock near La Brun Dr	Click for Map
17	144	SR-228	Normandy Blvd	Lane Ave	Ellis Rd	Midblock at bus stop	Click for Map
18	168	SR-109	University Blvd	Suwanee Rd/Graywood Rd	St. Augustine Rd	Midblock. Prior study performed for median.	Click for Map
19	81	SR-15/US-1	20th St Expwy	Fairfax St	Myrtle Ave	Midblock or signal near Wilson St	Click for Map
20	60	SR-103	Lane Ave	Wiley Rd	Wilson Blvd	Midblock near Miss Muffet Ln. Project in design.	Click for Map
21	150	SR-228	Normandy Blvd	Fouraker Rd	Normandy Village Pkwy	Feasibility needed to determine	Click for Map
22	113	SR-111	Edgewood Ave	Beaver St	Broadway Ave	Midblock at Shopping Center	Click for Map
23	26	SR-111	Edgewood Ave	Lem Turner Rd	I-95	Midblock or signal near Pickett St	Click for Map
24	149	SR-228	Normandy Blvd	Chaffee Road		Add sidewalk within intersection limits and ped phases	Click for Map
25	6	SR-10/US-90	Atlantic Blvd	Anniston Rd	Leon Rd	Midblock for shopping center.	Click for Map
26	92	SR-10/US-90	Atlantic Blvd	Arlington Rd	Glynlea Rd	Midblock or signal near Aderhold Ave (Staff Force)	Click for Map
27	12	SR-10/US-90	Atlantic Blvd	Caravan Trail	Southside Blvd	Midblock near Alton Rd. Consider adding crosswalk at Southside Blvd.	Click for Map
28	169	SR-109	University Blvd	Philips Hwy	Richard St	Midblock needed	Click for Map
29	156	SR-134	San Jose Blvd	Julington Creek Bridge	Julington Creek Rd	Feasibility study is needed.	Click for Map
30	58	SR-10/US-90	Atlantic Blvd	Leon Rd	I-295	Midblock near median cut.	Click for Map
31	97	SR-10/US-90	Atlantic Blvd	Southside Blvd	Regency Pk Shopping Center	Midblock near Bus Stop	Click for Map
32	43	SR-116	Mount Pleasant Rd	Pleasant Point	Longleaf Pine	Midblock near Mauva Juan Rd	Click for Map
33	79	SR-228	Normandy Blvd	Hammond Blvd	Fouraker Rd	Midblock near Healthcare and bus stop. Sidewalks needed.	Click for Map
34	54	SR-A1A	Ocean St	Safe Harbor Rd	Ferry Entrance MBX	Midblock at bus stop	Click for Map
35	112	SR-111	Edgewood Ave	New Kings Rd	Cleveland Rd	Midblock at Bus Stops	Click for Map
36	27	SR-111	Edgewood Ave	Norman Thagard Blvd/5th St	12th St	Midblock in School Zone	Click for Map
37	128	SR-115	Lem Turner Rd	Dunn Ave	Walmart Shopping Center	Midblock near Garden City Park	Click for Map
38	93	SR-10/US-90	Atlantic Blvd	St. John Bluff Rd	I-295	Midblock needed	Click for Map

Rank	Map ID	SR	ROAD	FROM	TO	PROPOSED IMPROVEMENT NOTES	PROPOSED STREETVIEW
39	70	SR-104	Dunn Ave	Robert Masters Blvd	Baptist Hospital	Add S/W and crossing at YMCA/Baptist N	Click for Map
40	9	SR-10/US-90	Atlantic Blvd	Regency Pk Shopping Center	Atlantic Blvd	Midblock near Bus Stop 9439 Atlantic Blvd. Directional median project in design.	Click for Map
41	62	SR-128	San Juan Ave	Hyde Park Rd	Lake Shore Blvd	Midblock needed	Click for Map
42	103	SR-21	Blanding Blvd	Wells Rd	Youngerman Cir	Add Ped Phase to Argyle Forest or construct midblock.	Click for Map
43	142	SR-5/US-23	New Kings Rd	MLK Jr Dr	Moncrief Rd	Midblock near JFK Dr	Click for Map
44		SR-212/US-90	Beach Blvd	Anniston Rd	DeSalvo Rd	Midblock at BRT Station. Directional median in design.	Click for Map
45	19	SR-117	Brentwood Ave	Golfair Blvd	Alder St	Midblock	Click for Map
46	84	SR-109	University Blvd	Bartram Rd	Atlantic Blvd	Midblock near bus stops	Click for Map
47	38	SR-115	Lem Turner Rd	Prospect St	Lake Forest Blvd	Midblock near Riverview St	Click for Map
48	55	SR-21	Blanding Blvd	103rd St	Wesconnett Blvd (N)	Midblock	Click for Map
49	104	SR-21	Blanding Blvd	Wesconnett Blvd (S)	105th St	Flea Market Midblock	Click for Map
50	101	SR-212	Beach Blvd	Beachwood Blvd	St. Johns Bluff Rd	Midblock	Click for Map
51	146	SR-228	Normandy Blvd	Lenox Ave	Cassatt Ave	Midblock at bus stop	Click for Map
52	118	SR-10/US-90	Atlantic Blvd	Bowlan St	Century 21 Dr	Midblock for shopping center	Click for Map
53	80	SR-134	Timuquana Rd	Catoma Rd	Ortega Farms Blvd	Midblock near bus stops	Click for Map
54	125	SR-15/US-1/US-23	Kings Rd	Kings Park Dr	Spires Ave	Near University St	Click for Map
55	143	SR-5/US-23	New Kings Rd	R/R Overpass	45th St	Add Ped Phase and crossing to signal	Click for Map

Rank is included for information only. All candidate projects are viable and the rank is based on the relative score calculated using the prioritization method previously discussed.

FDOT has project that is in design at SR-103 and Lane Ave south of Manotak Ave which is in design and is a candidate for construction that is not shown on the map Click for Map.

Table 2. Candidate Projects on Local Roads

Rank	Map ID	ROAD	FROM	TO	PROPOSED MID-BLOCK LOCATION	PROPOSED STREETVIEW
1	163	St Augustine Rd	Emerson St	Inwood Ter	Midblock	Click for Map
2	2	Old St. Augustine Rd	Losco Rd	Livingston Rd	Midblock to shopping center	Click for Map
2	98	Pearl St	21st St	Golfair Blvd	Midblock near 24th St	Click for Map
4	152	Prospect St	10th Ave	Lem Turner Rd	Traffic calming	Click for Map
5	18	Bowden Rd	Southpoint Pkwy	Salisbury Rd	Midblock or signal near Eman Dr	Click for Map
6	32	Hood Rd	Old St. Augustine Rd	Hornets Nest	Midblock or signal near Ilah St	Click for Map
7	151	Old St. Augustine Rd	Crown Point Rd	San Jose Blvd	Midblock or signal near Pritmore Rd	Click for Map
8	1	Old St. Augustine Rd	Livingston Rd	Hood Rd	Midblock or signal near Windergate Rd	Click for Map
9	52	Old Kings Rd	Baymeadows Rd	Powers Ave	Improve Exist Crossing	Click for Map
10	20	Central Pkwy	St. John Bluff Rd	Beach Blvd	Midblock	Click for Map
11	131	Lenox Ave	Cassatt Ave	Normandy Blvd	Midblock near Garth Shopping Center	Click for Map
12	23	Collins Rd	Shindler Dr	Westport Rd	Midblock at Settlers Landing Park	Click for Map
13	30	Ft Caroline Road	University Club Rd	Rogero Rd	Midblock near Arlington Little League	Click for Map
14	21	Chaffee Road	Pather Creek Pkwy	Crystal Springs Rd	Connect S/W to Library	Click for Map
15	111	1st St	A P Randolph St	Haines St	Midblock or signal near Milnor St	Click for Map
16	14	Barnes Rd	Knights Ln	Parental Home Rd	Midblock or signal near Knights Ln	Click for Map
17	68	St Augustine Rd	Sessions Ln	Emerson St	Midblock near bus stop, school zone	Click for Map
18	45	New Berlin Rd	Main St	Sago Ave	Add Ped Phase and crossing to signal	Click for Map
19	82	University Blvd N	Wiltshire St	Arlington Rd	Midblock near Ansley St	Click for Map
20	7	Argyle Forest Blvd	Westport Rd	Rampart Rd	Midblock or signal near Loch Highlands Blvd	Click for Map
21	57	Soutel Dr	Bob Hayes Sports Center	MBX at shopping center	Midblock a bus stop	Click for Map
22	33	Kernan Blvd	Vista Point Cir	Atlantic Blvd	Midblock	Click for Map
23	65	University Blvd N	Arlington Exp	Town Center Shopping Center	Mid Black at south entrance Matanzas Way	Click for Map
24	13	Avenue B	CSX R/R	45th St	Midblock	Click for Map
25	99	Avenue B	30th St	33rd St	Midblock or signal near 33rd St	Click for Map
26	134	Merrill Rd	Red Oak	Rogero Rd	Midblock	Click for Map
27	17	Avenue B	CSX R/R	45th St	Midblock	Click for Map
28	107	Deer Lake Ct	Southside Blvd	Touchton Rd	Midblock with S/W improvements at schools and bus stop	Click for Map
29	4	Staples Mill Dr	Trappers Creek Dr	Irongate Dr	Enhance existing MBX and add sidewalk	Click for Map
30	116	Duval Station Rd	Main St	Bradley Cove	Complete S/W and construct Midblock near Holings St	Click for Map
31	41	Merrill Rd	Rogero Rd	Townsend Rd	Midblock near Arlex Dr	Click for Map
32	159	Soutel Dr	Leander J Shaw	Bob Hayes Sports Center	Midblock near shopping center	Click for Map
33	106	Century 21 Dr	Boat House Ap	Atlantic Blvd	Midblock or signal near Teclo Way	Click for Map
34	42	Monument Rd	Tredinnick Pkwy	I-295	Midblock near Lantern St	Click for Map
35	158	Soutel Dr	New Kings Rd	Moncrief Rd	Midblock near Washington Heights	Click for Map
36	137	Moncrief Rd	45th St	Ped overpass	Pedestrian channelizing strategies	Click for Map
37	171	Wonderwood Dr	35th St	Campground Dr	In Hannah Park	Click for Map
38	39	Lenox Ave	Edgewood Ave	Luna St	Midblock near bus stop	Click for Map
39	139	Moncrief Rd	Ped overpass	R/R	Midblock near Glenvale Rd	Click for Map
40	28	Fouraker Rd	Wilson Blvd	Herlong Rd	Midblock near Fabray	Click for Map
41	133	Merrill Rd	Wedgefield Blvd	Hartsfield Rd	Midblock near bus stop	Click for Map
42	69	Staples Mill Dr	Trappers Creek Dr	Irongate Dr	Enhance existing MBX and add sidewalk	Click for Map

Rank	Map ID	ROAD	FROM	TO	PROPOSED MID-BLOCK LOCATION	PROPOSED STREETVIEW
43	40	Merrill Rd	Rogero Rd	Townsend Rd	Midblock near Arlex Dr	Click for Map
44	83	University Blvd N	Wiltshire St	Arlington Rd	Midblock near Ansley St	Click for Map
45	136	Moncrief Rd	Ped overpass	R/R	Midblock near Glenvale Rd	Click for Map
46	141	Myrtle Ave N	R/R	MLK Jr. Pkwy	Midblock at bus stop	Click for Map
47	5	N. Pearl St	21st St	27th St	Ped signal at 23rd St	Click for Map
48	153	Prospect St	10th Ave	Lem Turner Rd	Traffic calming	Click for Map
49	135	Merrill Rd	Townsend Blvd	Wedgefield Blvd	Midblock near bus stop	Click for Map
50	8	Arlington Rd N	Arlington Exp	Lillian Rd	Midblock for shopping center	Click for Map
51	31	Hillman Dr	Tempest St	103rd St	Midblock near Renault Dr	Click for Map
52	100	Barnes Rd	Knights Ln	Parental Home Rd	Midblock or signal near Knights Ln	Click for Map
53	140	Moncrief Rd	45th St	Ped overpass	Pedestrian channelizing strategies	Click for Map
54	138	Moncrief Rd	Ped overpass	R/R	Midblock near Glenvale Rd	Click for Map
55	29	Fouraker Rd	Wilson Blvd	Herlong Rd	Midblock near Winterwood Ln	Click for Map
56	114	Florida Blvd	Kings Rd	Atlantic Blvd	Add S/W and crossing	Click for Map
57	3	Argyle Forest Blvd	Rampart Rd	Youngerman Cir	Midblock or signal near Meadow Bend Dr	Click for Map
58	117	Hyde Park Rd	Blanding Blvd	San Juan Ave	Sidewalk on one side only. Cherry Laurel Dr	Click for Map
59	90	9th St S	13th Ave	3rd Ave	Midblock or signal near 10th Ave S	Click for Map
60	160	Soutel Dr	Bob Hayes Sports Center	MBX at shopping center	Midblock a bus stop	Click for Map
61	166	University Blvd N	Terry Rd	Kennerly Rd	Midblock near bus stops	Click for Map
62	102	S Beach Pkwy	Ocean Cay Cr	Osceola Ave	Improve Exist Crossing	Click for Map
63	164	St Johns Bluff Rd	Central Pkwy	Atlantic Blvd	Add ped phase to Central Pkwy signal or Midblock north of signal	Click for Map
64	91	Acosta St	Park St	Forbes St	Midblock for visibility with parking	Click for Map
65	170	W 8th St	Myrtle Ave	I-95	Midblock near Eaverson St	Click for Map
66	165	State St	Tyler St	Myrtle Ave	Midblock near Davidson Rd	Click for Map
67	167	University Blvd N	Gable Ln	Lake Lunina Dr	Add 2nd ped crossing at signal	Click for Map
68	115	Hodges Blvd	Sutton Park Blvd	Glen Kernan Pkwy	Midblock between signals	Click for Map
69	120	Wilson Blvd	Spring Lake Rd	Fouraker Rd	Sidewalk on one side only.	Click for Map

Rank is included for information only. All candidate projects are viable and the rank is based on the relative score calculated using the prioritization method previously discussed.

Identification of Potential Countermeasures

If the location is a candidate for improvement, the Federal Highway Administration (FHWA)'s Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations was used to identify potential strategies based on the roadway conditions as summarized in Table 3. This table of potential countermeasure strategies was converted to an "expert-system" where the applicable potential countermeasures were identified based on the data collected in the prioritization system.

The locations were screened based on factors like the proximity to an existing signal or midblock crossing. If modifications such as enhanced pedestrian crossing markings or adding a crossing to the nearest approach to the adjacent signal were needed, this was identified as a potential strategy. Generally, a nearby signal or midblock crossing was considered adequate to meet the demand if it was 400-ft or less.

Priority Projects

Based on this analysis, concept layouts were developed and cost estimates prepared for the highest priority locations. The proposed improvement and costs are summarized in Table 4. The locations are shown on Figure 16.

Table 3. FHWA Countermeasures

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	● 2 4 5 6	● 5 6 7 9	○ 5 6 ● 9	● 4 5 6	● 5 6 7 9	○ 5 6 ● 9	● 4 5 6 7 9	○ 5 6 7 9	○ 5 6 ● 9
3 lanes with raised median (1 lane in each direction)	● 2 3 4 5	● 5 7 9	○ 5 ● 9	○ 3 4 5 7 9	○ 3 5 ● 9	○ 3 5 ● 9	○ 3 4 5 7 9	○ 3 5 ● 9	○ 3 5 ● 9
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	● 2 3 4 5 6 7 9	● 5 6 7 9	○ 5 6 ● 9	○ 3 4 5 6 7 9	○ 3 5 6 ● 9	○ 3 5 6 ● 9	○ 3 4 5 6 7 9	○ 3 5 6 ● 9	○ 3 5 6 5 6 ● 9
4+ lanes with raised median (2 or more lanes in each direction)	● 3 5 7 8 9	● 5 7 8 9	○ 5 8 ● 9	○ 3 5 7 8 9	○ 3 5 ● 8 9	○ 3 5 ● 8 9	○ 3 5 ● 7 8 9	○ 3 5 ● 8 9	○ 3 5 ● 8 9
4+ lanes w/o raised median (2 or more lanes in each direction)	● 3 5 6 7 8 9	○ 3 5 ● 6 7 8 9	○ 3 5 ● 6 8 ● 9	○ 3 5 ● 6 7 8 9	○ 3 5 ● 6 8 ● 9	○ 3 5 ● 6 8 ● 9	○ 3 5 ● 6 7 8 9	○ 3 5 ● 6 8 ● 9	○ 3 5 ● 6 8 ● 9

Given the set of conditions in a cell,

- \# Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- ● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- ○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
2 Raised crosswalk
3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4 In-Street Pedestrian Crossing sign
5 Curb extension
6 Pedestrian refuge island
7 Rectangular Rapid-Flashing Beacon (RRFB)**
8 Road Diet
9 Pedestrian Hybrid Beacon (PHB)**

*Refer to Chapter 4, 'Using Table 1 and Table 2 to Select Countermeasures,' for more information about using multiple countermeasures.

**It should be noted that the PHB and RRFB are not both installed at the same crossing location.

This table was developed using information from: Zegeer, C.V., J.R. Stewart, H.H. Huang, P.A. Lagerwey, J. Feaganes, and B.J. Campbell. (2005). Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines. FHWA, No. FHWA-HRT-04-100, Washington, D.C.; FHWA. Manual on Uniform Traffic Control Devices, 2009 Edition. (revised 2012). Chapter 4F, Pedestrian Hybrid Beacons. FHWA, Washington, D.C.; FHWA. Crash Modification Factors (CMF) Clearinghouse. http://www.cmfclearinghouse.org/; FHWA. Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE). http://www.pedbikesafe.org/PEDSAFE/; Zegeer, C., R. Srinivasan, B. Lan, D. Carter, S. Smith, C. Sundstrom, N.J. Thirsk, J. Zegeer, C. Lyon, E. Ferguson, and R. Van Houten. (2017). NCHRP Report 841: Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments. Transportation Research Board, Washington, D.C.; Thomas, Thirsk, and Zegeer. (2016). NCHRP Synthesis 498: Application of Pedestrian Crossing Treatments for Streets and Highways. Transportation Research Board, Washington, D.C.; and personal interviews with selected pedestrian safety practitioners.

The concept layouts for each location are provided in Figure 17 through Figure 32. The bases of the cost estimates are provided in Appendix C.

Table 4. Priorities for Improvements on City Roads

MAP ID	ROAD	FROM	TO	PROPOSED MBX LOCATION	PROPOSED STREETVIEW	CONSTRUCTION COST ESTIMATE
1	Old St. Augustine Road	Losco Rd	Livingston Rd	Construct special emphasis crosswalks on Old St. Augustine Road at Livingston Road	Click for Map	$6,528.70
2	Old St. Augustine Road	Losco Rd	Livingston Rd	Construct raised crosswalk with Pedestrian Hybrid Beacon (PHB) on Old St. Augustine Road near Mandarin Central Shopping Center	Click for Map	$549,571.63
3	Arlington Road	Arlington Expressway	Lillian Road	Construct new crossing with a raised median and PHB on Arlington Road at College Park Shopping Center	Click for Map	$561,792.75
4	Avenue B	CSX R/R	W 45th Street	Construct new crossing and RRFB on Avenue B at W 43rd Street	Click for Map	$119,051.14
5	Central Parkway	St. John Bluff Road S	Beach Boulevard	Construct new crossing and RRFB on Central Parkway and add pavement markings on driveways	Click for Map	$218,447.08
6	Fort Caroline Road	University Club Boulevard	Rogero Road	Construct new crossing and PHB on Fort Caroline Road at Arlington Little League park	Click for Map	$549,764.38
7	Kernan Boulevard	Vista Point Cir	Atlantic Blvd	Construct special emphasis crosswalks and a traffic separator fencing to deter pedestrians from making mid-block crossings on Kernan Boulevard	Click for Map	$127,224.05
8	New Berlin Road	N Main Street	Sago Avenue	Construct special emphasis crosswalks, sidewalk for connectivity, and ADA ramps on New Berlin Road. Add new pedestrian crossing of US 17 Main Street at the signal.	Click for Map	$181,347.02
9	St. Augustine Road	Sessions Lane	Emerson Street	Construct new raised mib-block crossing and PHB on St. Augustine Road at Brewster Road	Click for Map	$546,972.85
10	S Beach Parkway	Ocean Cay Circle	Osceola Avenue	Construct special emphasis crosswalks on Rip Tide Boulevard and Ocean Cay Circle and add signing to alert drivers of the crossing of South Beach Parkway	Click for Map	$42,935.69
11	Deer Lake Court	Southside Boulevard	Touchton Road	Construct new crossing with a median and RRFB on Deerk Lake Court	Click for Map	$236,975.35
12	E 1st Street	A Philip Randolph Boulevard	Haines Street	Construct new mid-block crossing with RRFB on E 1st Street between Milnor Street and Bridier Street	Click for Map	$138,823.56
13	Wilson Blvd	Spring Lake Road	Fouraker Road	Construct new mid-block crossing with RRFB on Wilson Boulevard and signing on Longleaf Forest Lane	Click for Map	$146,094.81
14	Merrill Road	Townsend Blvd	Wedgefield Blvd	Construct new mid-block crossing with a median and PHB on Merrill Road at Strawberry Creek	Click for Map	$584,275.37
15	Merrill Road	Wedgefield Boulevard	Hartsfield Road	Construct new mid-block crossing with a median and PHB signal on Merrill Road at Kingstree Drive	Click for Map	$571,775.34
16	St. Johns Bluff Road	Central Parkway	Atlantic Boulevard	Construct crosswalk of St. Johns Bluff Road, Central Parkway and St. Johns Industrial Parkway at existing signal	Click for Map	$199,982.70
				TOTAL CONSTRUCTION COSTS		**$4,781,562.42**

Figure 16. Priority Locations

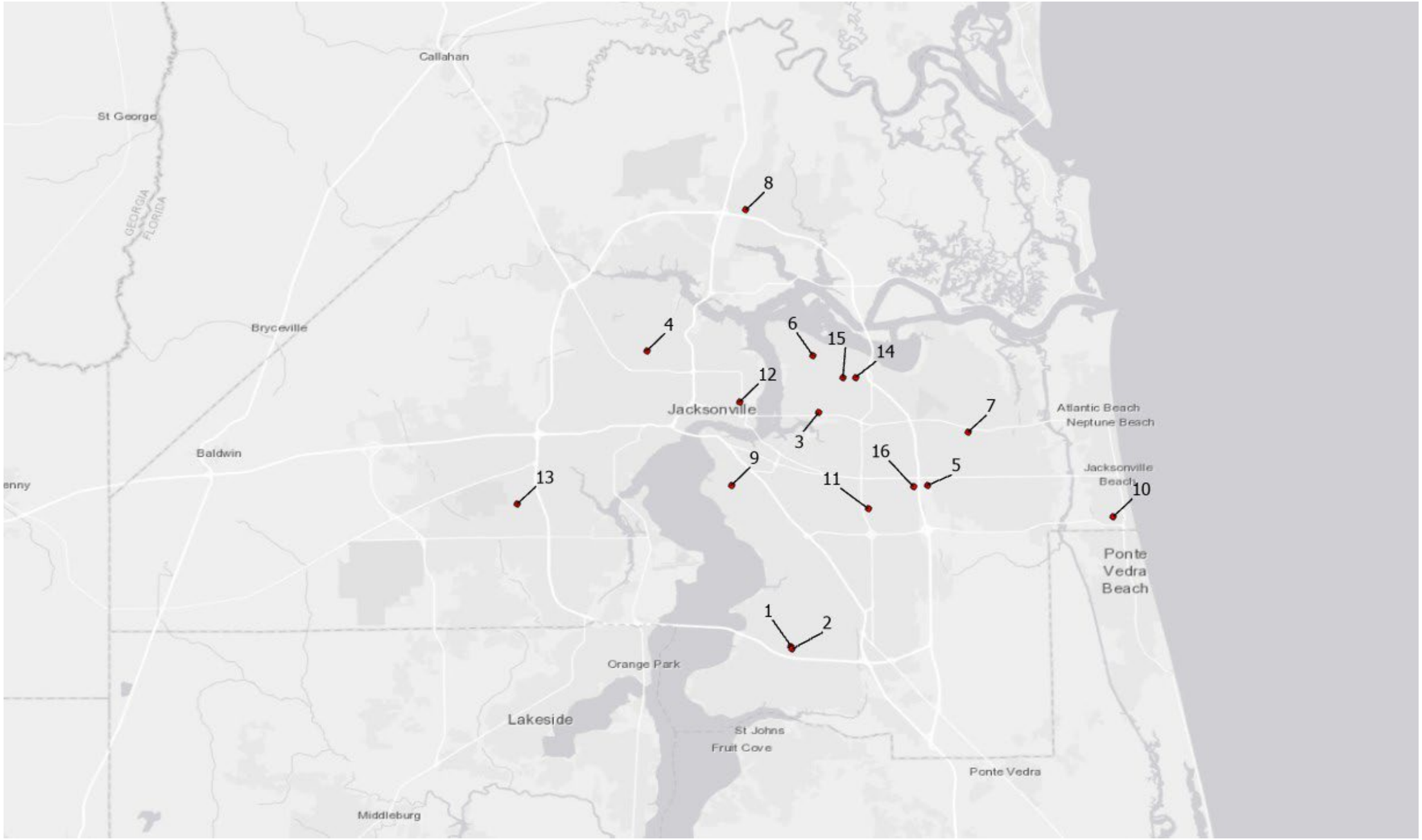


Figure 17. Old St. Augustine Road at Livingston Road

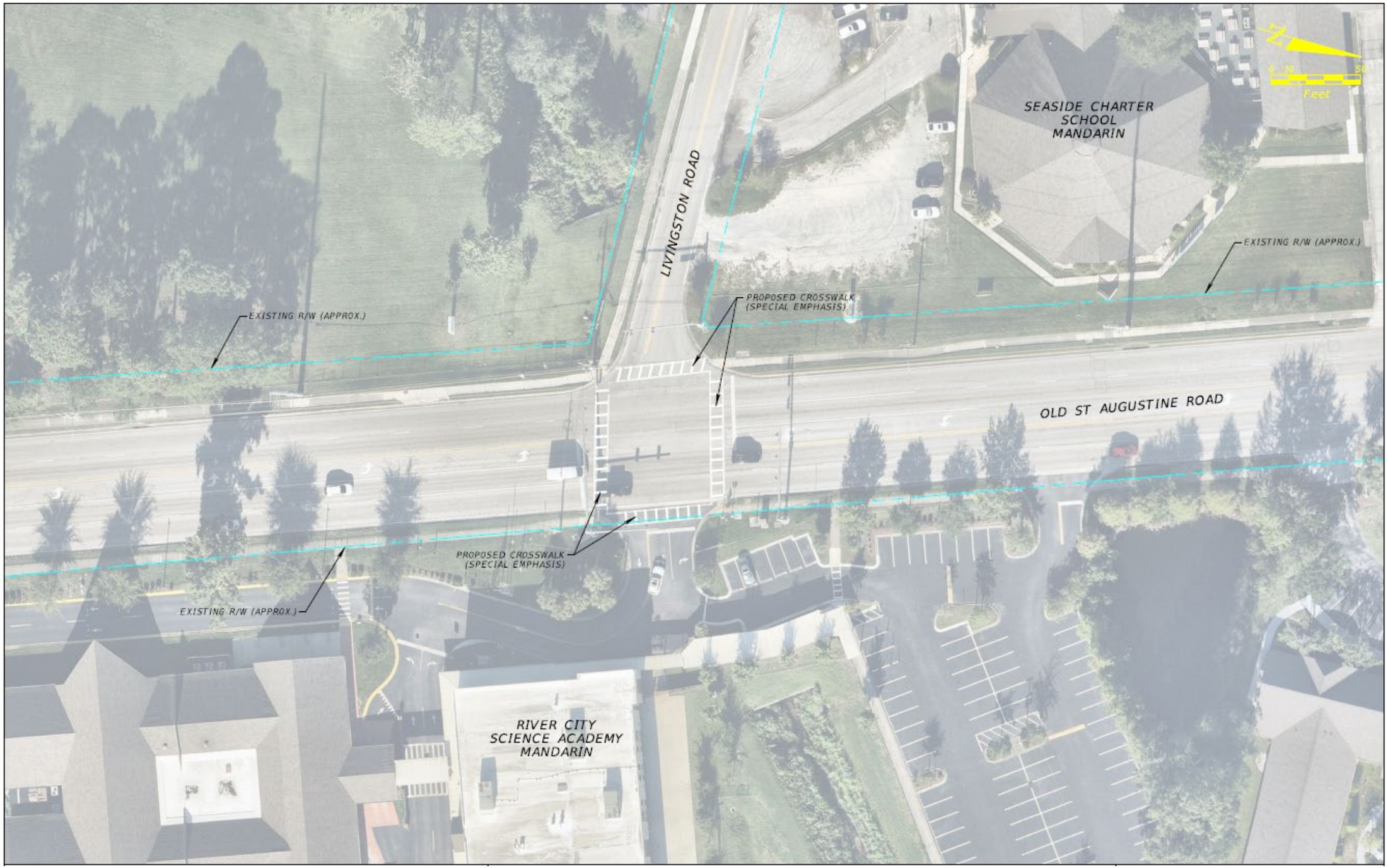


Figure 18. Old St. Augustine Road at Mandarin Central Shopping Center

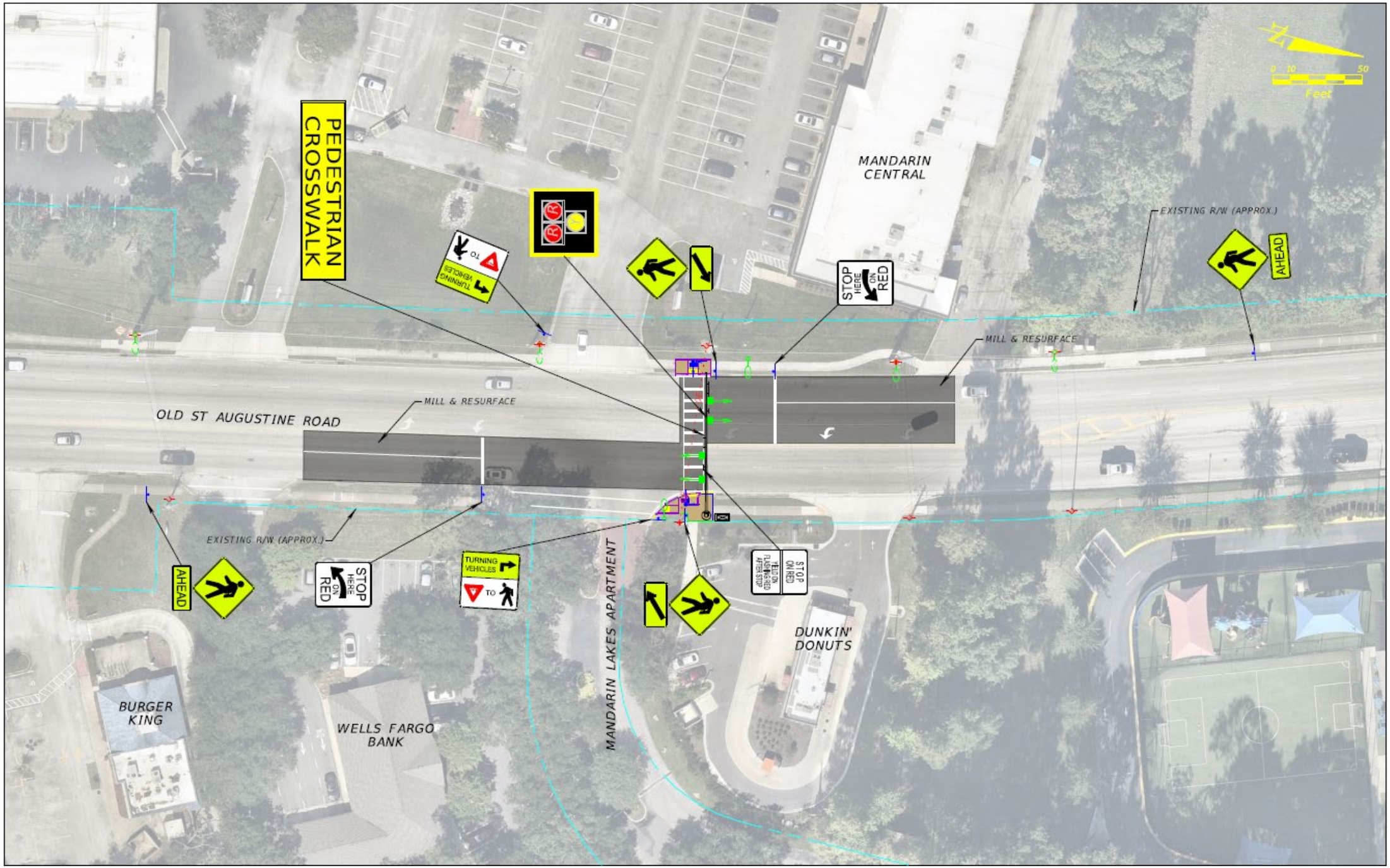
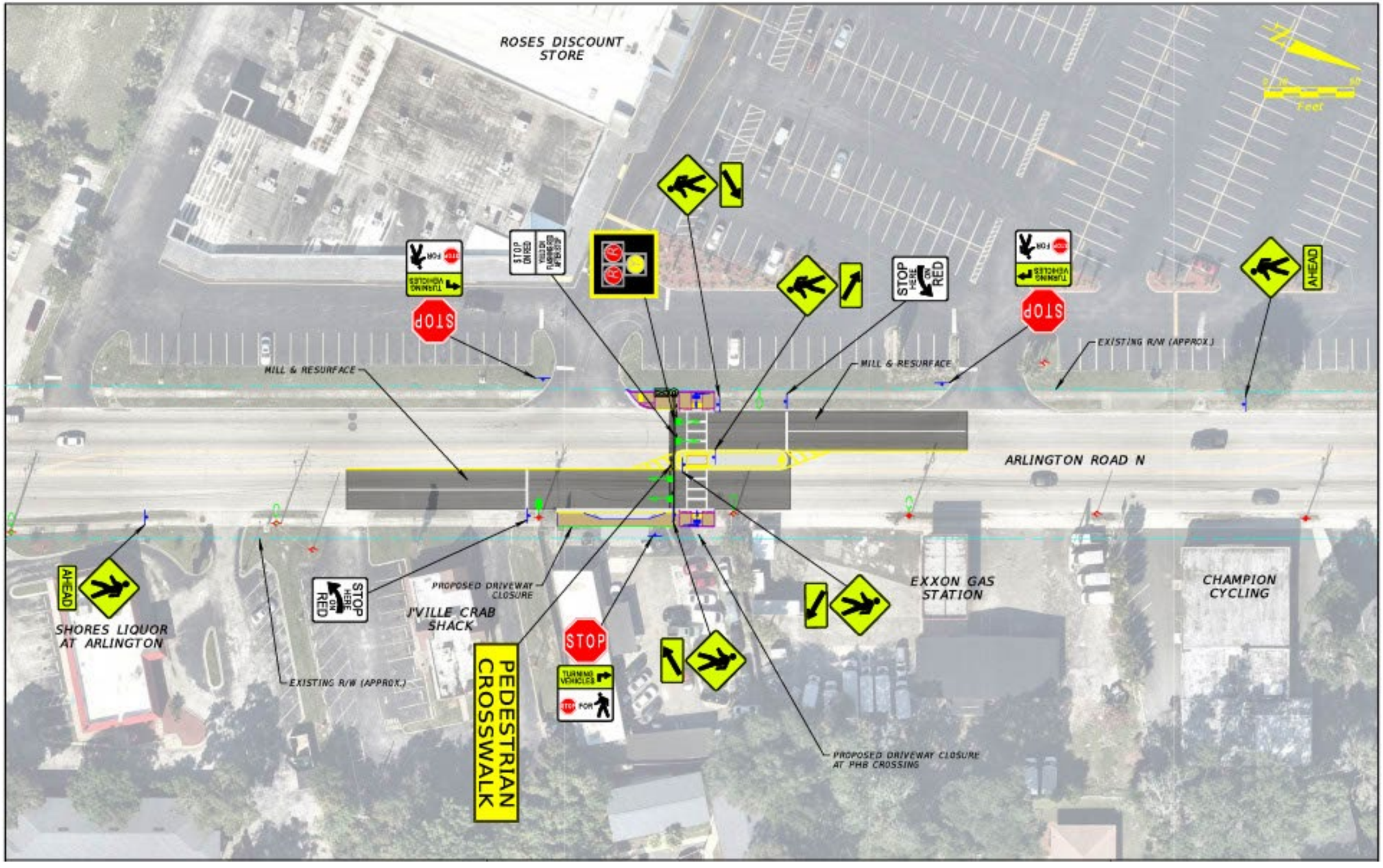
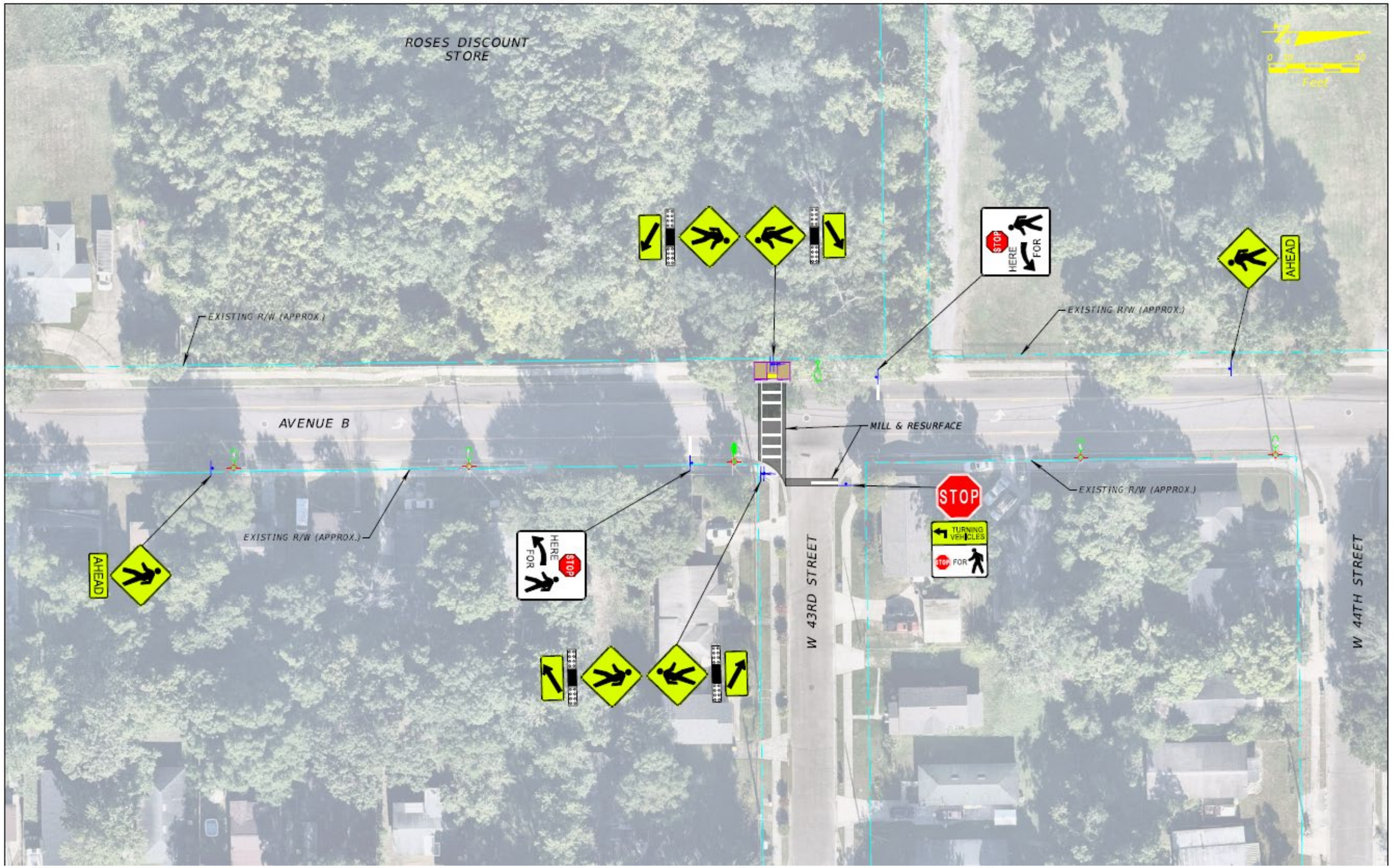


Figure 19. Arlington Road near College Park Shopping Center




ROSES DISCOUNT STORE
EXISTING R/W (APPROX.)
AVENUE B
AHEAD
EXISTING R/W (APPROX.)
HERE FOR STOP
MILL & RESURFACE
EXISTING R/W (APPROX.)
STOP
TURNING VEHICLES
STOP FOR
AHEAD
W 43RD STREET
W 44TH STREET
0 25 50
Feet


TEQUILAS D'ORO
MEXICAN RESTAURANT
JACKSONVILLE

Figure 21. Central Parkway between St. Johns Bluff Road and Beach Boulevard

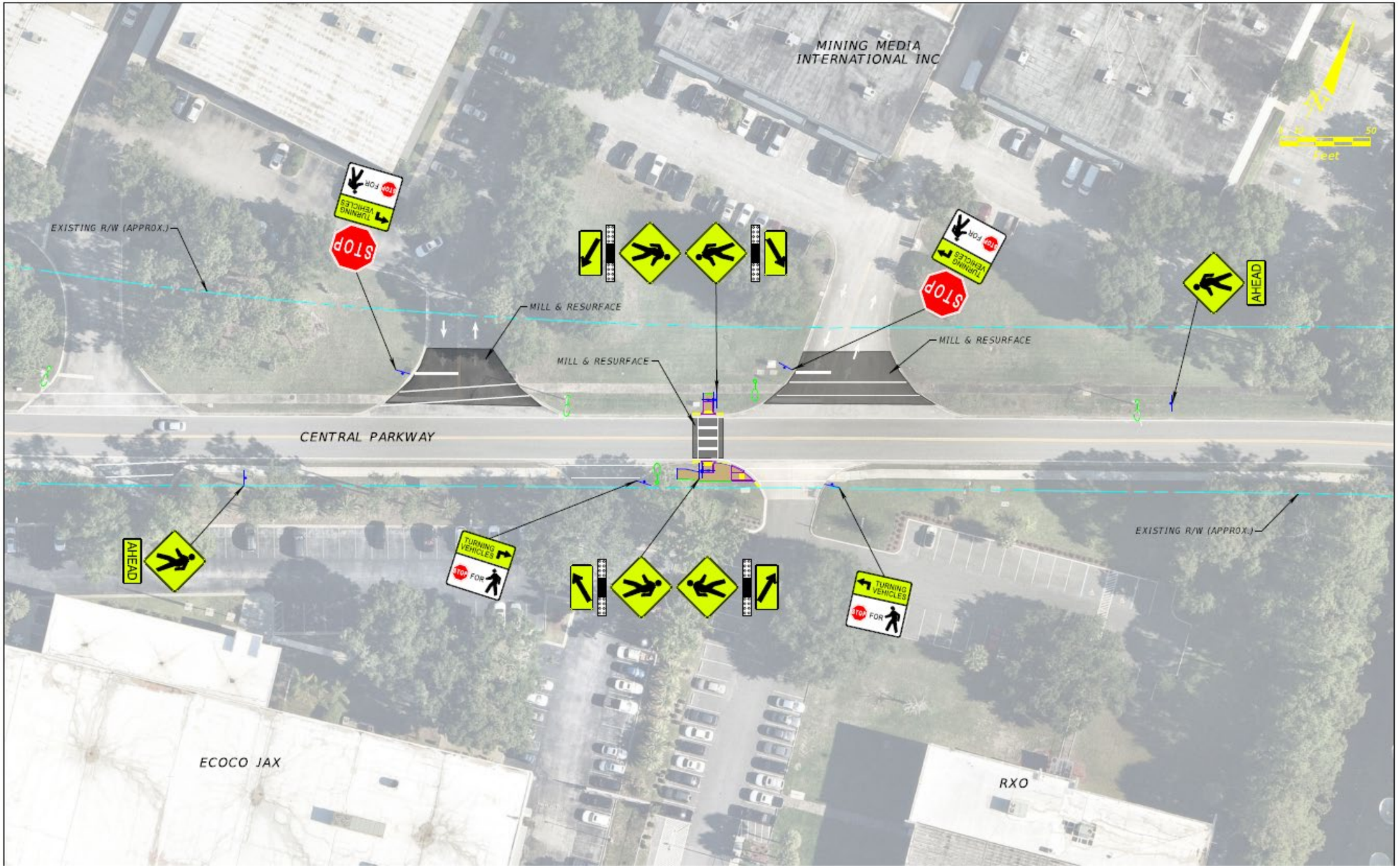


Figure 22. Fort Caroline Road near Arlington Little League

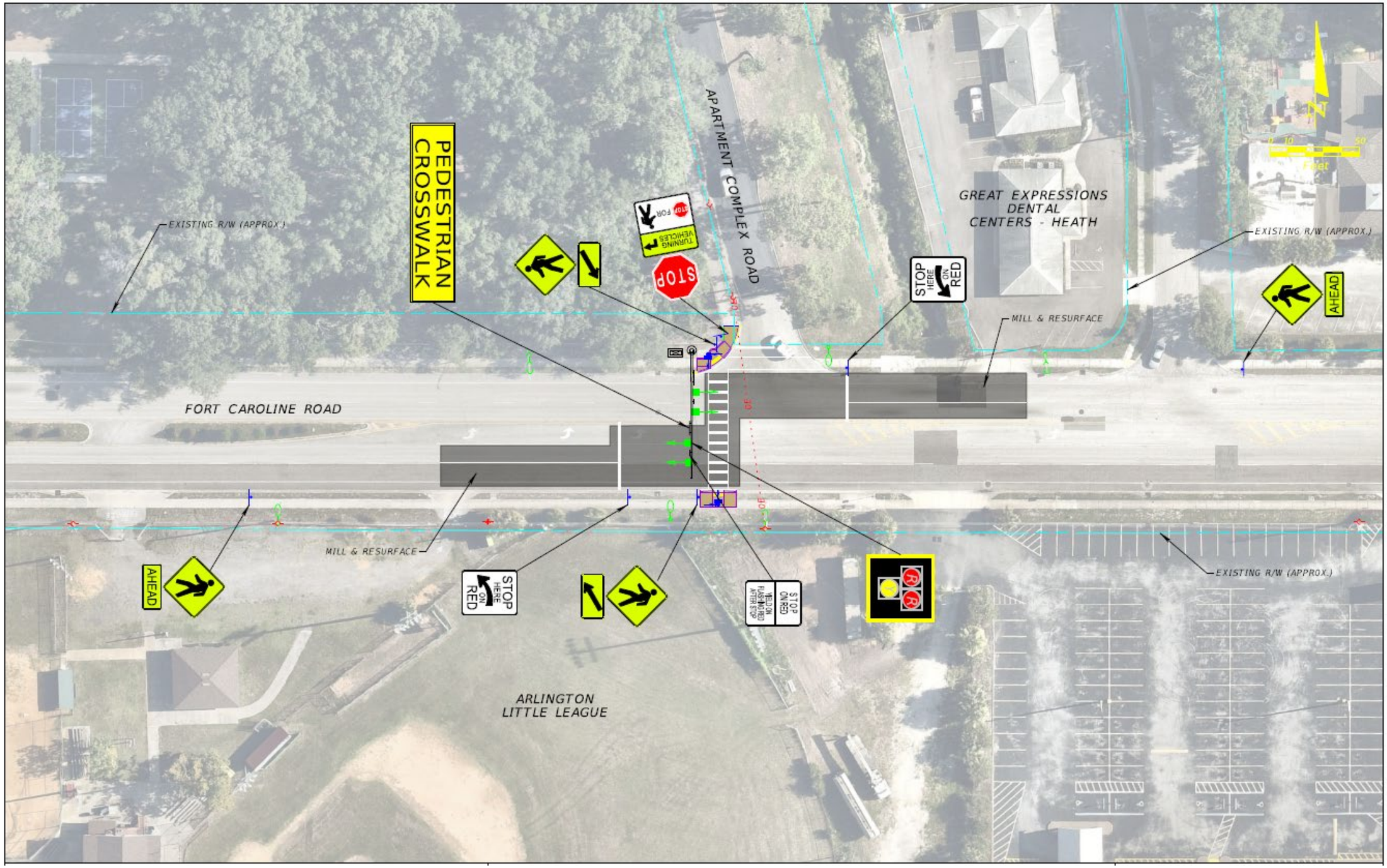


Figure 23. Kernan Boulevard near Vista Point Circle

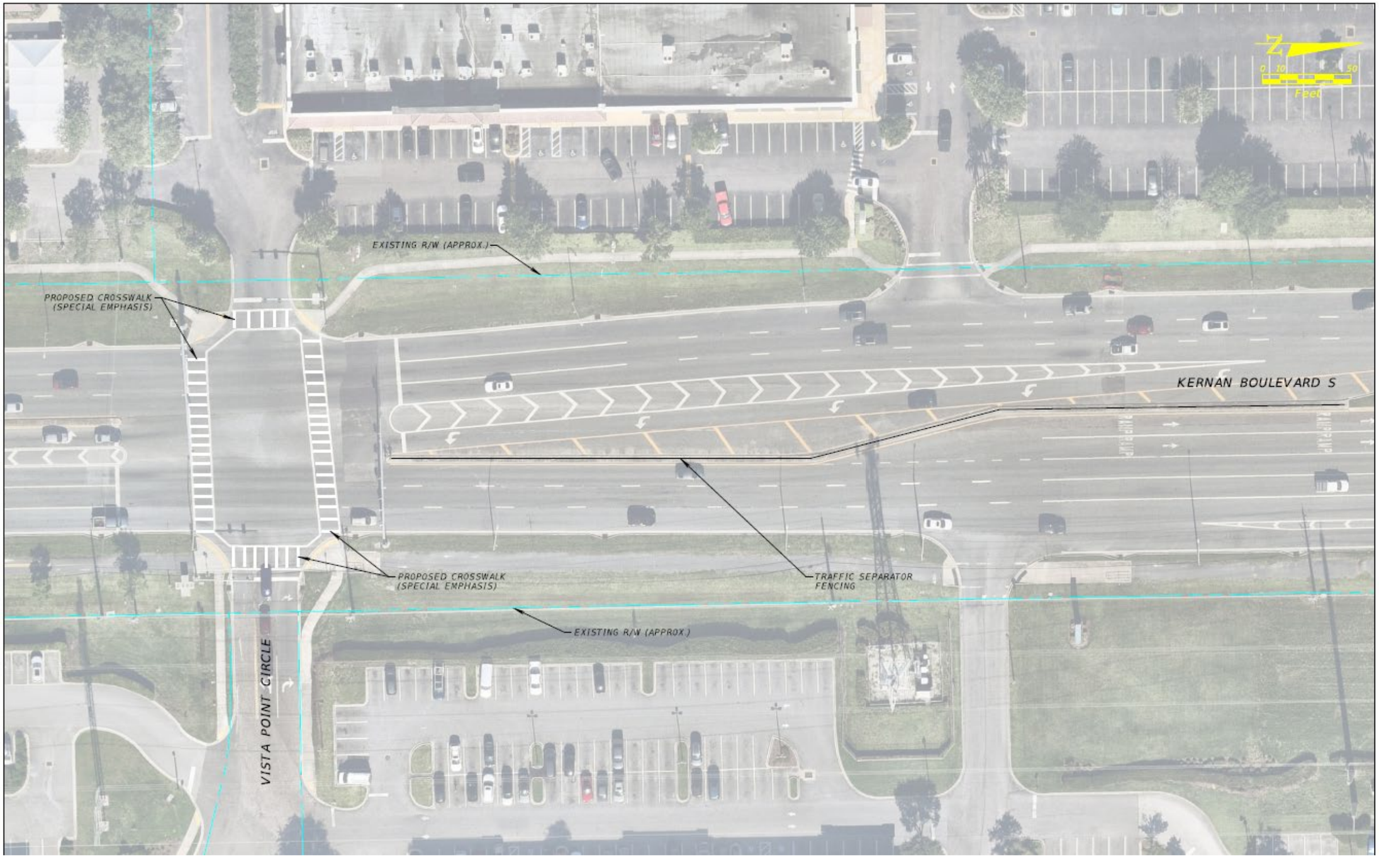


Figure 24. New Berlin Road at US-17 Main Street

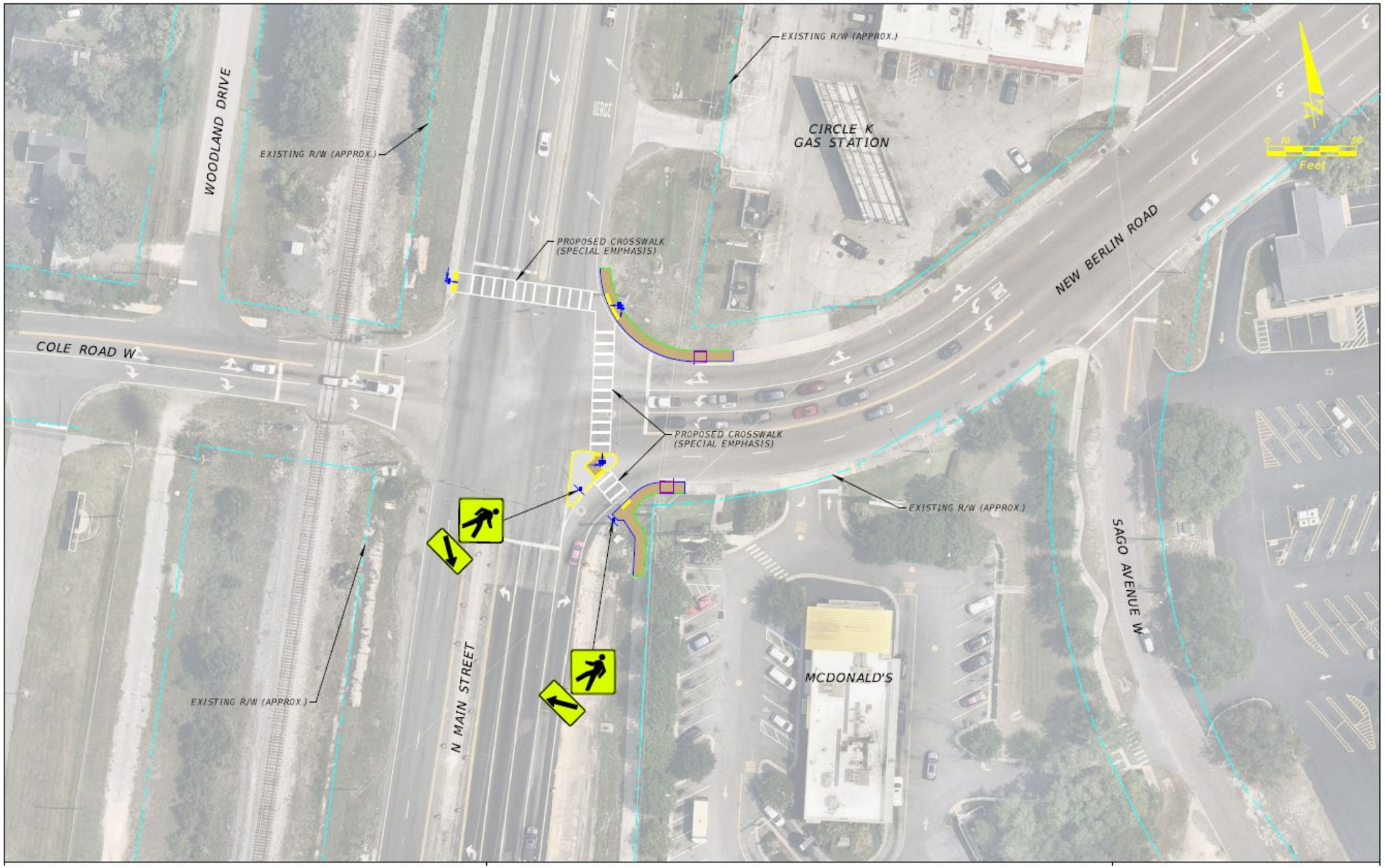


Figure 25. St. Augustine Road at Brewster Road

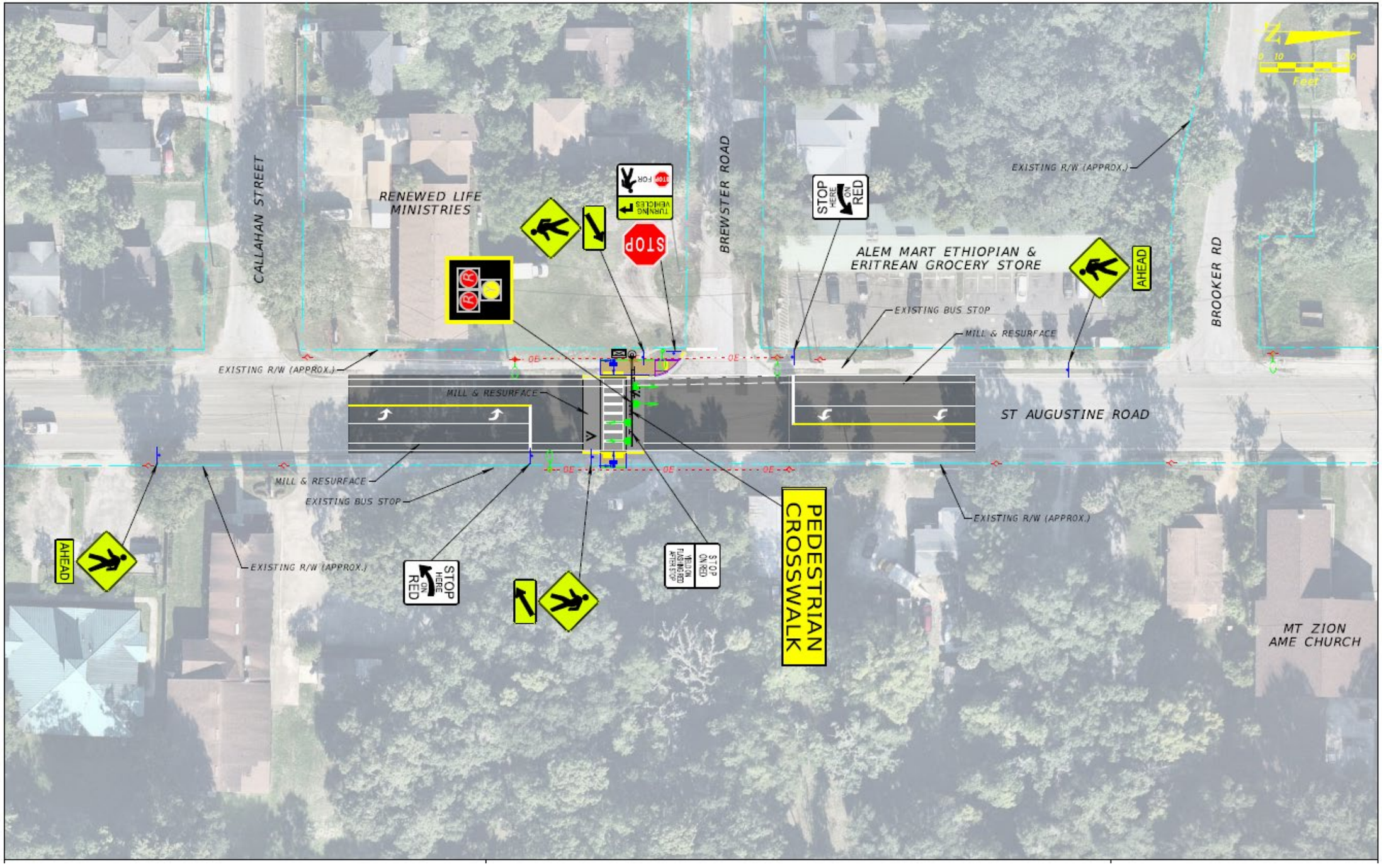


Figure 26. South Beach Parkway at Rip Tide Boulevard and Ocean Cay Circle

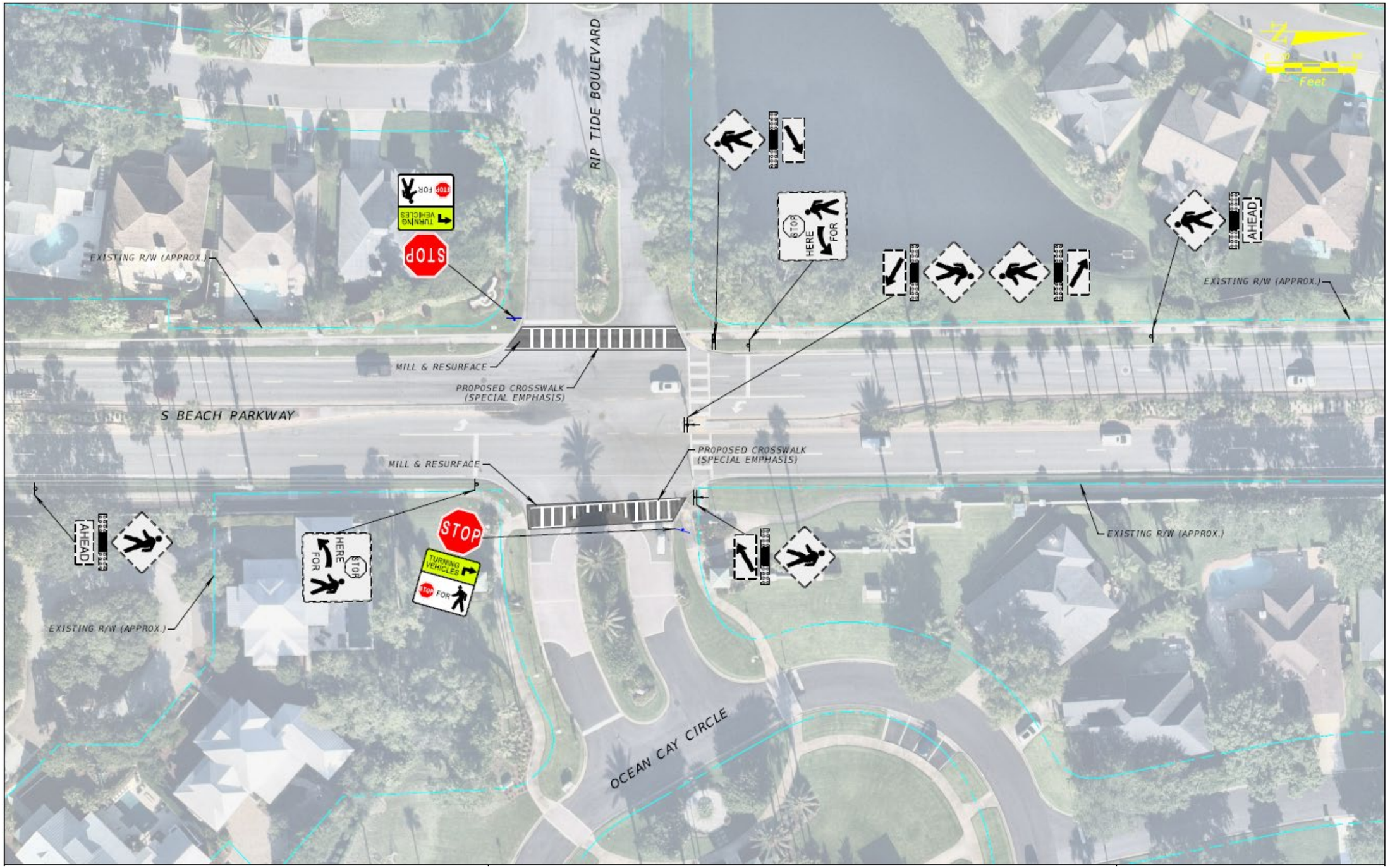


Figure 27. Deer Lake Court between Southside Boulevard and Touchton Road

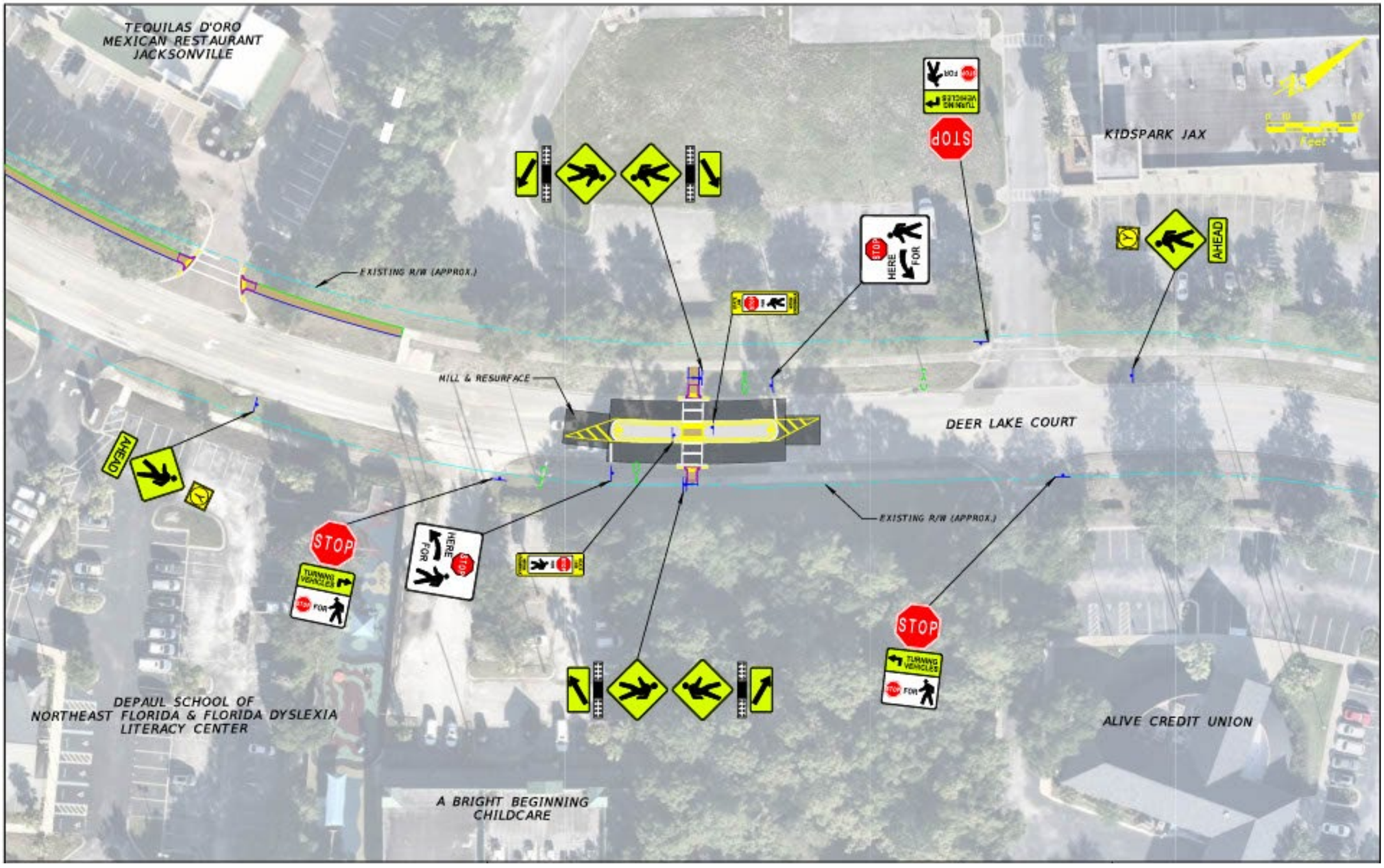


Figure 28. E 1st Street between Milnor Street and Bridier Street

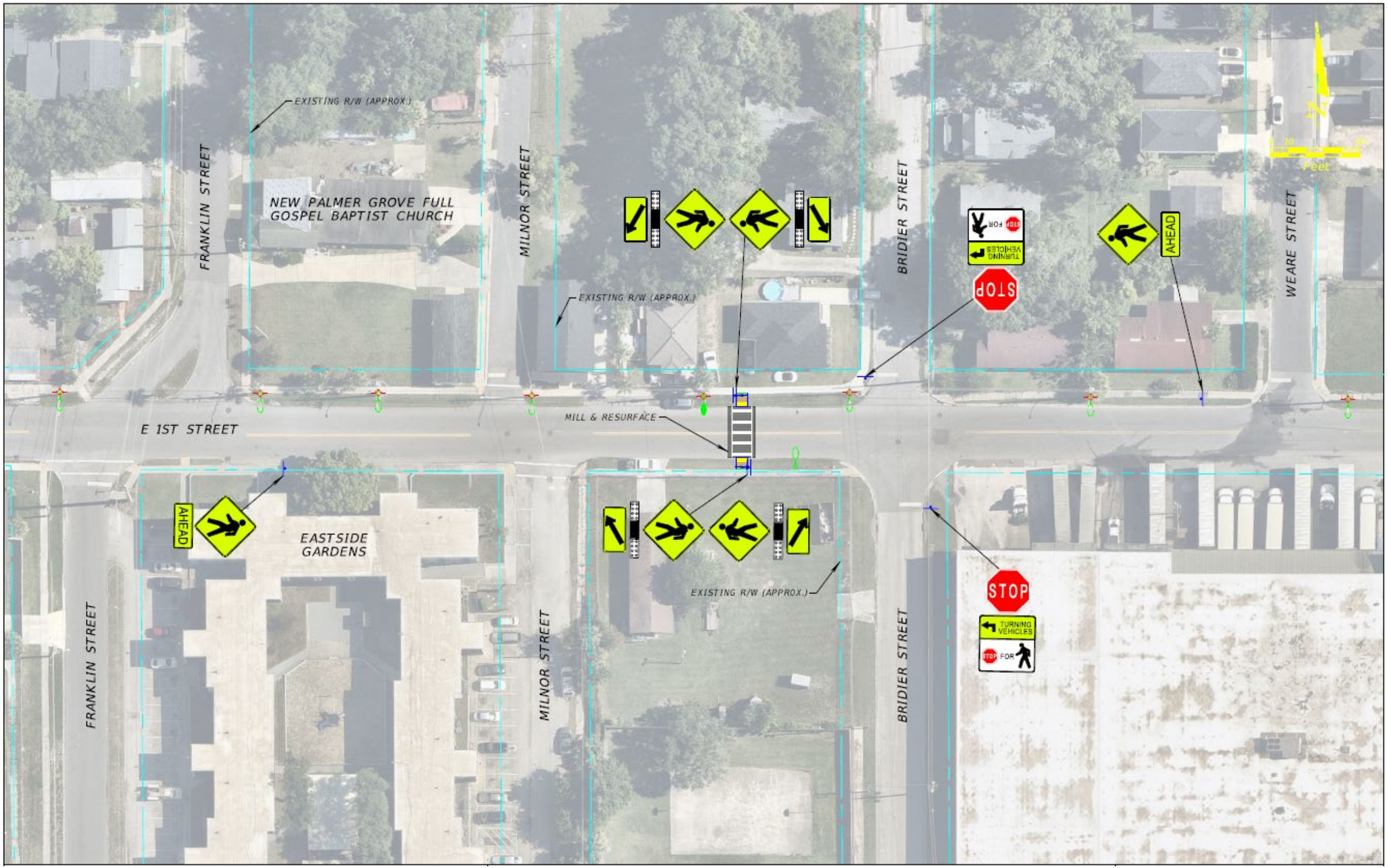


Figure 29. Wilson Boulevard near Longleaf Forest Lane

Figure 30. Merrill Road near Strawberry Creek

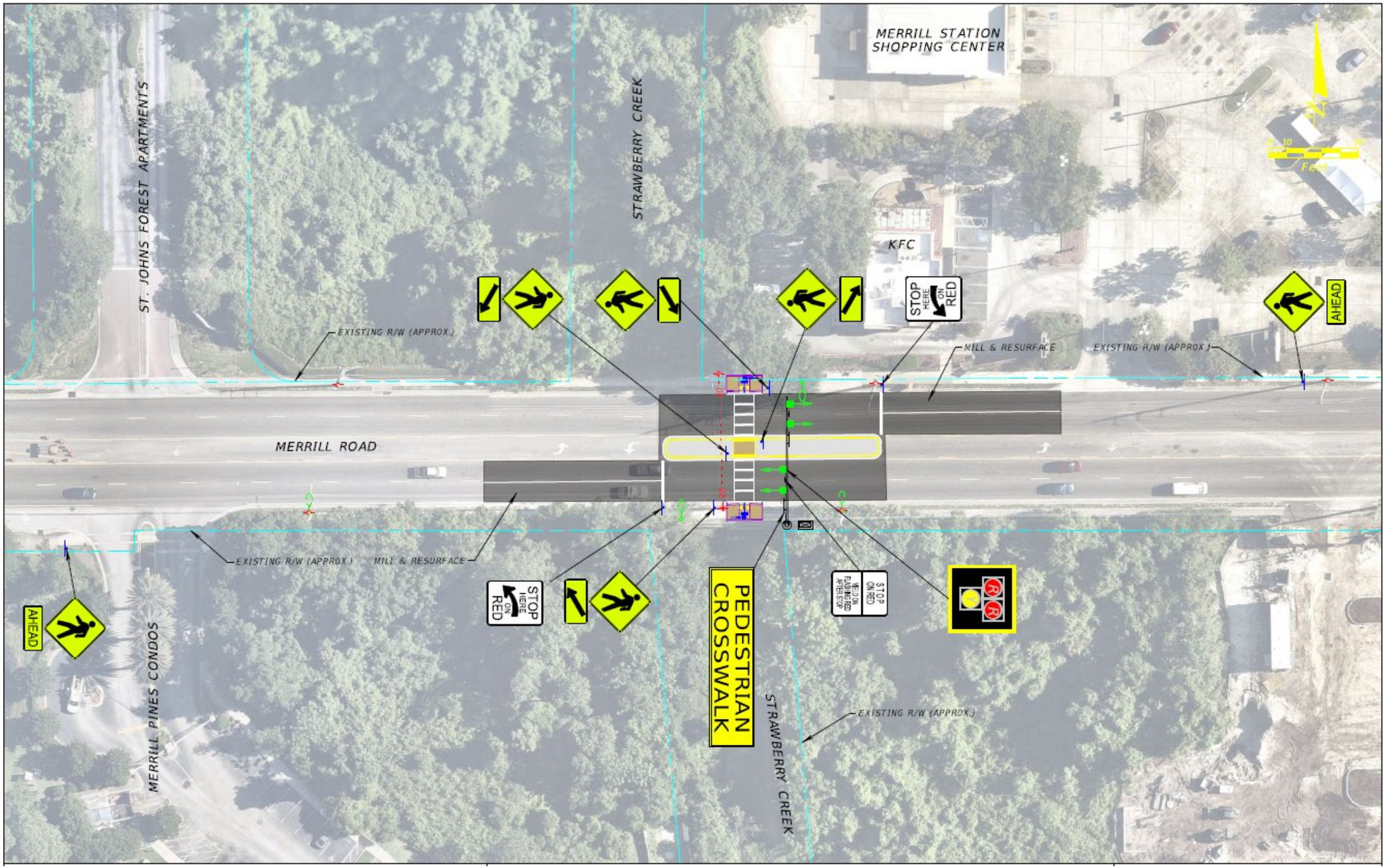


Figure 31. Merrill Road near Kingstree Drive

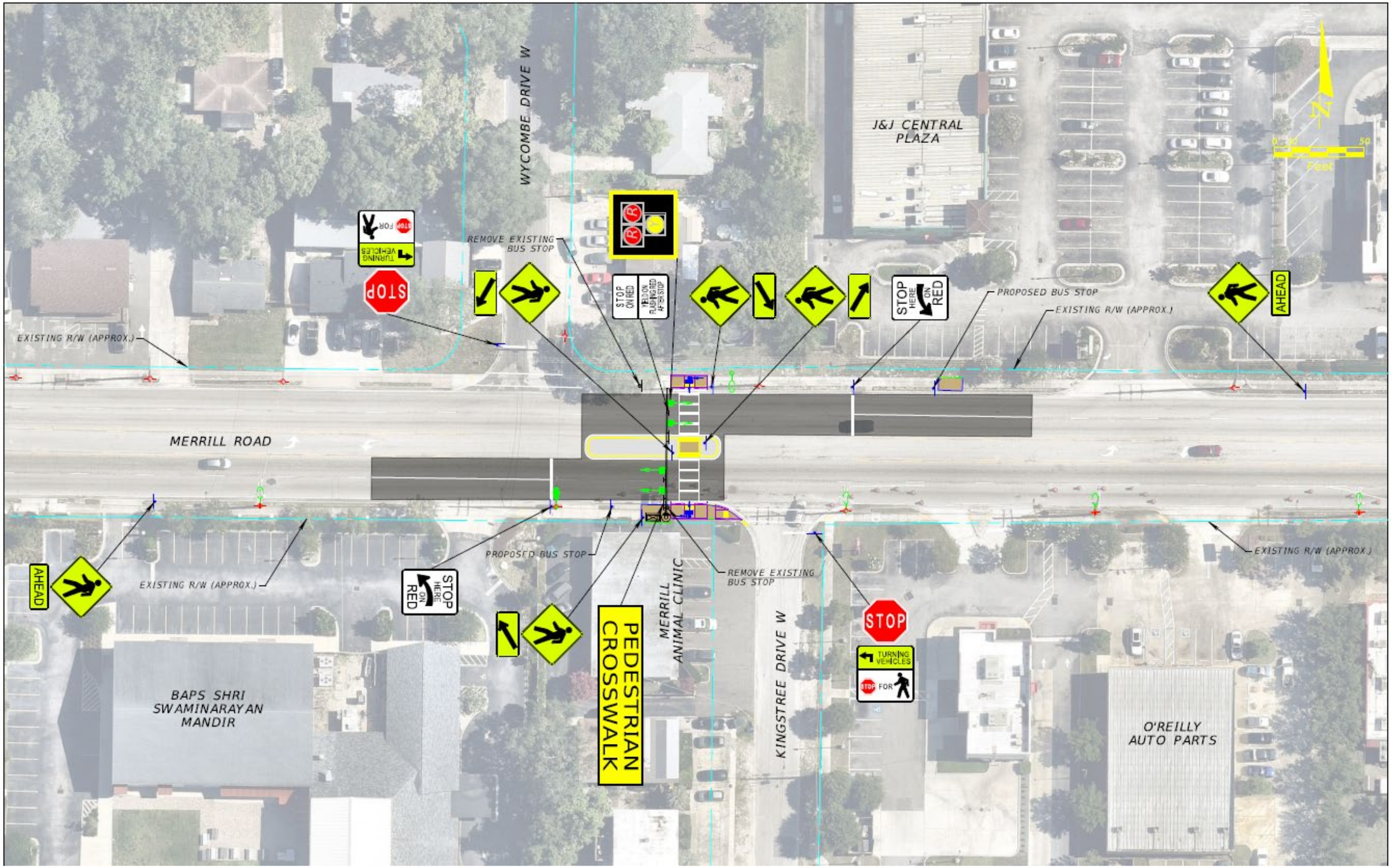
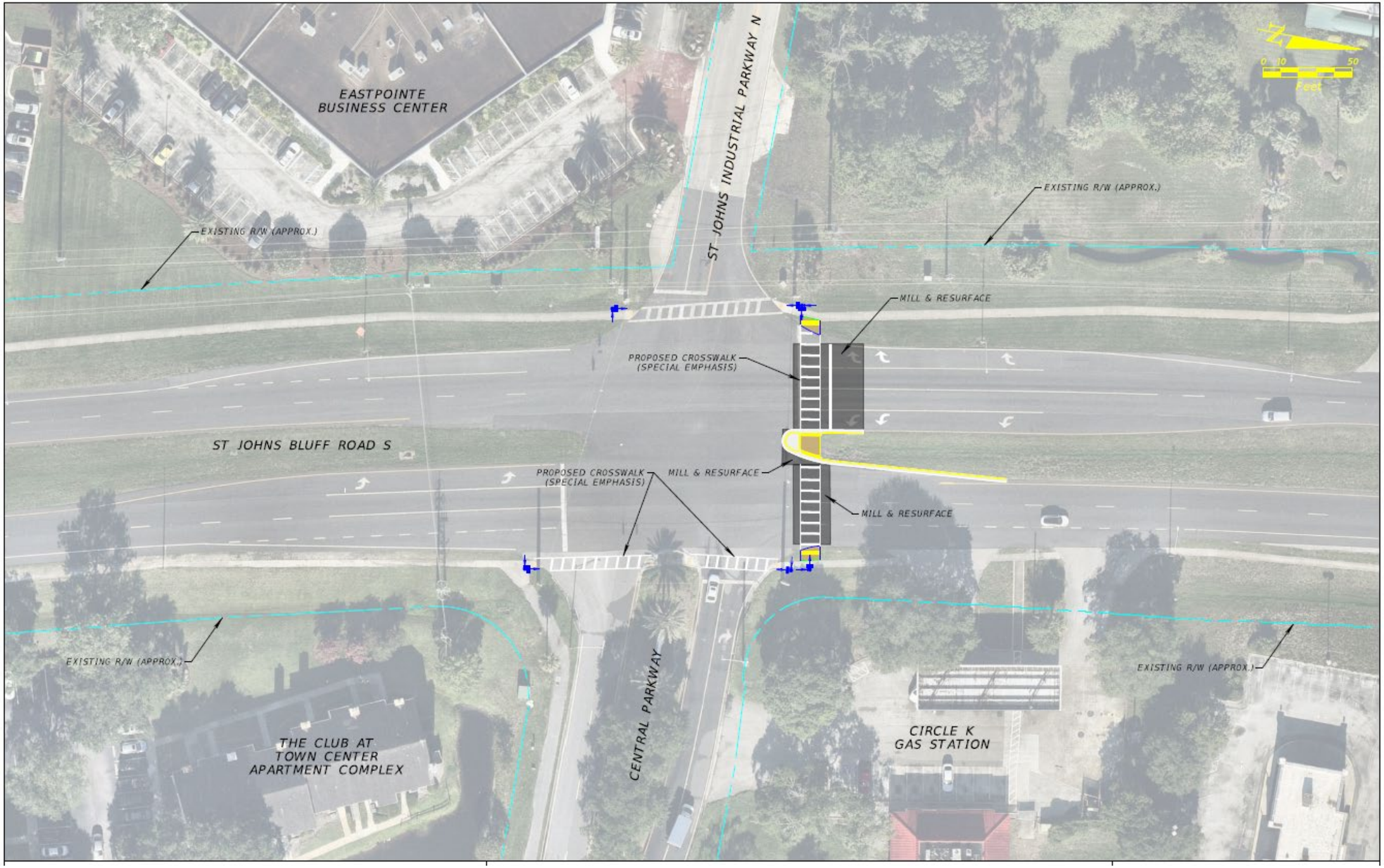


Figure 32. St. Johns Bluff Road at Central Parkway and St. Johns Industrial Parkway



Generalized Cost Model

One of the tasks in this project was to develop a generalized cost model that can be used for planning purposes for typical countermeasures and roadway configurations. This model is provided in Table 5. The costs were developed based on final pay items and 12-month moving average cost history for following FDOT District Two using two model design projects

- SR-212 at Kenneth Street – a signalized mid-block crossing that included construction of a median
- US-23 Kings Road at S-Line – an unsignalized pedestrian crossing

These estimates were then adjusted based on estimates using the design concepts prepared as part of this project.

Table 5. Generalized Cost Model

Lanes	Median	High-visibility Crosswalk with Advanced Yield	High-visibility Crosswalk with Refuge Island	High-visibility Crosswalk with Refuge Island and RRFB	Raised Crosswalk	Raised Crosswalk with RRFB	Signal without Refuge Island (Undivided)	Signal with Refuge Island for Divided Roads
2	CTWLTL	-	$34,500	$119,000	$88,500	$145,500	-	$533,000
2	Divided	-	$25,500	$107,000	$79,500	$136,500	-	$523,000
2	Undivided	$4,500	-	$73,000	$55,500	$111,000	$460,000	-
4	CTWLTL	-	$36,000	$120,000	$94,500	$150,000	-	$549,000
4	Divided	-	$24,000	$105,000	$103,500	$159,000	-	$539,000
4	Undivided	$5,000	-	$73,000	$63,000	$120,000	$476,000	-
6	CTWLTL	-	$36,000	$121,000	-	-	-	$581,000
6	Divided	-	$25,500	$106,000	-	-	-	$571,000
6	Undivided	$6,500	$34,500	$73,000	-	-	$508,000	-

CTWLTL = Continuous Two-Way Left Turn Lane

GIS Report Tool

A standard form and approach are used when the City of Jacksonville receives a request to consider a mid-block crossing. To assist planners and engineers in the analysis of these requests a customized GIS tool was developed using the data collected as part of this project to populate known conditions such as number of travel lanes, estimated walk demand, and traffic volumes. This report was provided to the City of Jacksonville as part of the project. An example of the report is provided in Figure 33.

Figure 33. Sample GIS Report Form

Kimley»Horn

Mid-Block Crossings

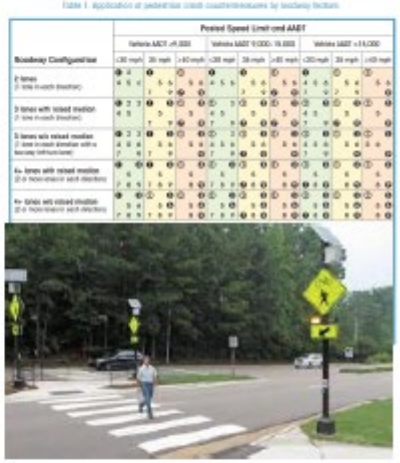
JACKSONVILLE.GOV
City of Jacksonville, Florida

Kimley-Horn and Associates, Inc. | Project: Mid-Block Crossings

Project Information

Client: City of Jacksonville, Florida | Date: April 15, 2025

Project Location and Countermeasure



Priority Ratings

No.	Item Description	Value	Yes/No	Category	Score
1	Ped Count Thurs	50			7.0
2	Ped Count Sat	60			7.0
3	Bicycle Count Thurs	25			5.0
4	Bicycle Count Sat	38			5.0
5	Sidwalk		1		10.0
6	No of Lanes	4			5.0
7	Speed Limit	25			5.0
8	Bus Stop		1		10.0
9	School Zone		0		0.0
10	Nursing Home		1		10.0
11	Classification	3			2.0
12	Land Use			Commercial	2.0
13	High Injury Network		0		7.0
				Total Score	75.0

Summary

This project's objectives were to

(1) Establish a prioritization process for systemic implementation of midblock crossing treatments in the City of Jacksonville to reduce the risk of these crashes occurring and the severity of pedestrian crashes

(2) Develop design concepts and cost estimates for the priority locations identified

Data on existing roadway conditions, crash history, demand for bicyclists and pedestrians, traffic volumes, and related land uses was collected from Florida Department of Transportation (FDOT), City of Jacksonville, Replica, and the North Florida Transportation Planning Organization (TPO). The data was used to create a ranking system to identify candidate locations where mid-block pedestrian improvements are needed. The network considered all public roads in Duval County.

These candidate locations and the location of each pedestrian fatality or serious injury crash that occurred in 2020 through May 2025 were reviewed to determine if the sites were viable candidates for new or modified mid-block crossings. Other pedestrian safety measures were also identified at these locations if appropriate.

The prioritization process also leveraged proven approaches to countermeasures proposed by the Federal Highway Administration in the (FHWA)'s Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations to propose an expert system for the identification and selection of candidate strategies. The proposed implementation strategies were then refined. Concept layouts and cost estimates for the following priority locations were developed. The priority locations and costs for improvements on City roads are summarized in Table 6 and shown on

Figure 34. Candidate locations were also identified on state roads were also provided as a secondary outcome on the project.

A customized reporting system was developed within ArcGIS based on the prioritization system that will allow the City to respond to requests to consider new mid-block crossings in the future.

Table 6. Summary of Priority Projects

Map ID	Location	Description	Estimated Construction Costs
1	Old St. Augustine Road at Livingston Road	Construct special emphasis crosswalks on Old St. Augustine Road	$6,528.70
2	Old St. Augustine Road near Mandarin Central Shopping Center	Construct raised crosswalk with Pedestrian Hybrid Beacon (PHB) on Old St. Augustine Road	$549,571.63
3	Arlington Road near College Park Shopping Center	Construct new crossing with a raised median and PHB on Arlington Road	$561,792.75
4	Avenue B near W 43rd Street	Construct new crossing and RRFB on Avenue B at W 43rd Street	$119,051.14
5	Central Parkway between St. Johns Bluff Road and Beach Boulevard	Construct new crossing and RRFB on Central Parkway and add pavement markings on driveways	$218,447.08
6	Fort Caroline Road near Arlington Little League	Construct new crossing and PHB on Fort Caroline Road	$549,764.38
7	Kernan Boulevard at Vista Point Circle	Construct special emphasis crosswalks and a traffic separator fencing to deter pedestrians from making mid-block crossings on Kernan Boulevard	$127,224.05
8	New Berlin Road at US 17 Main Street	Construct special emphasis crosswalks, sidewalk for connectivity, and ADA ramps on New Berlin Road. Add new pedestrian crossing of US 17 Main Street at the signal.	$181,347.02
9	St. Augustine Road at Brewster Road	Construct new raised mib-block crossing and PHB on St. Augustine Road	$546,972.85
10	South Beach Parkway at Rip Tide Boulevard	Construct special emphasis crosswalks on Rip Tide Boulevard and Ocean Cay Circle and add signing to alert drivers of the crossing of South Beach Parkway	$42,935.69
11	Deer Lake Court between Southside Boulevard and Touchton Road	Construct new crossing with a median and RRFB on Deerk Lake Court	$236,975.35
12	E 1st Street between Milnor Street and Bridier Street	Construct new mid-block crossing with RRFB on E 1st Street	$138,823.56
13	Wilson Boulevard west of Longleaf Forest Lane	Construct new mid-block crossing with RRFB on Wilson Boulevard and signing on Longleaf Forest Lane	$146,094.81
14	Merrill Road at Strawberry Creek	Construct new mid-block crossing with a median and PHB on Merrill Road	$584,275.37
15	Merrill Road between Wycombe Drive and Kingstree Drive	Construct new mid-block crossing with a median and PHB signal on Merrill Road	$571,775.34
16	St. Johns Bluff Road at Central Parkway and St. Johns Industrial Parkway	Construct crosswalk of St. Johns Bluff Road, Central Parkway and St. Johns Industrial Parkway at existing signal	$199,982.70
		TOTAL CONSTRUCTION COSTS	$4,781,562.42

Figure 34. Priority Project Locations