Duval Schools Walkability Study

North Florida TPO
Transportation Planning Organization
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2018

Duval Schools Walkability Study

Prepared for:

North Florida Transportation Planning Organization
960 North Jefferson Street
Jacksonville, FL 32209
(904) 306-7500 | www.northfloridatpo.com

Prepared by:

ATKINS
Member of the SNC-Lavalin Group

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Cover Photo Credit: Top right photo (school children), www.pedbikeimages.org, Tony Hull. The remaining cover photos were taken by the project team.

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1.0 Introduction

A Duval County Schools Walkability Study (Study) was conducted on behalf of the North Florida Transportation Planning Organization (TPO) in partnership with the City of Jacksonville. The purpose of the Study was to develop a methodology for conducting a context sensitive school walkability analysis that can be replicated for schools throughout the region. The results of the walkability analysis will identify the barriers to pedestrian access to schools with a focus on infrastructure and safety improvements.

In addition to the development of the methodology, a walkability analysis of a selection of Duval County schools was included as part of the study as a way to develop and field verify the walkability analysis methodology. The results of the analysis are presented as a profile for each school detailing the existing walking conditions and identifying improvements to address walkability and pedestrian safety deficiencies. Furthermore, planning-level cost estimates was included to serve as guidance for executing the recommended improvements.

Source: Project Team, February 2018.

This report is organized into the following sections:

1.0 Introduction: Provides an overview of the study.

2.0 Study Methodology: Describes the methodology used to perform the walkability and pedestrian safety analysis for the seven pilot schools.

3.0 School Profiles: Presents the results of the walking conditions inventory.

4.0 Network Recommendations: Describes the recommended network improvement and planning-level cost estimates for each school.

5.0 Walkability Analysis Recommendations: Presents the final methodology developed as a result of this study.

1.1 Walkability

What is Walkability?

Walkability is a description of how friendly an area is to walking. In the context of this study, walkability predominantly refers to the walking environment and walking safety of roadways serving as access to schools.

How is Walkability Measured?

Walkability is measured by conducting an inventory of existing facilities and an analysis of walking safety. For this study, walkability was determined by conducting walking conditions inventories of the existing sidewalks and crosswalks within 0.25 to 0.5 miles of each school coupled with a pedestrian safety inventory for each school.

The walking conditions inventory included documenting the location, condition, and maintenance of existing sidewalks. The pedestrian safety inventory included an analysis of pedestrian crash data, pedestrian roadway crossings, and curb ramps.

Americans with Disabilities Act (ADA)

A major factor to consider during this study is the Americans with Disabilities Act (ADA). ADA was enacted in July 1990 and became effective in January 1992. ADA criteria are to be considered whenever a project impacts pedestrian facilities such as sidewalks, curb ramps, and crosswalks. Every new construction or alteration project must include accessible elements and features to ensure pedestrian facilites are accessible and usable by people with disabiliites. Therefore, a key component of the walkability analysis was to include a high-level ADA evaluation of the existing infrastructure, with a focus on existing curb ramps.

International Walk to School Day, 2016. Students supported by Jacksonville Sheriff's Office. Source: FDOT Northeast.

1.2 School Selection

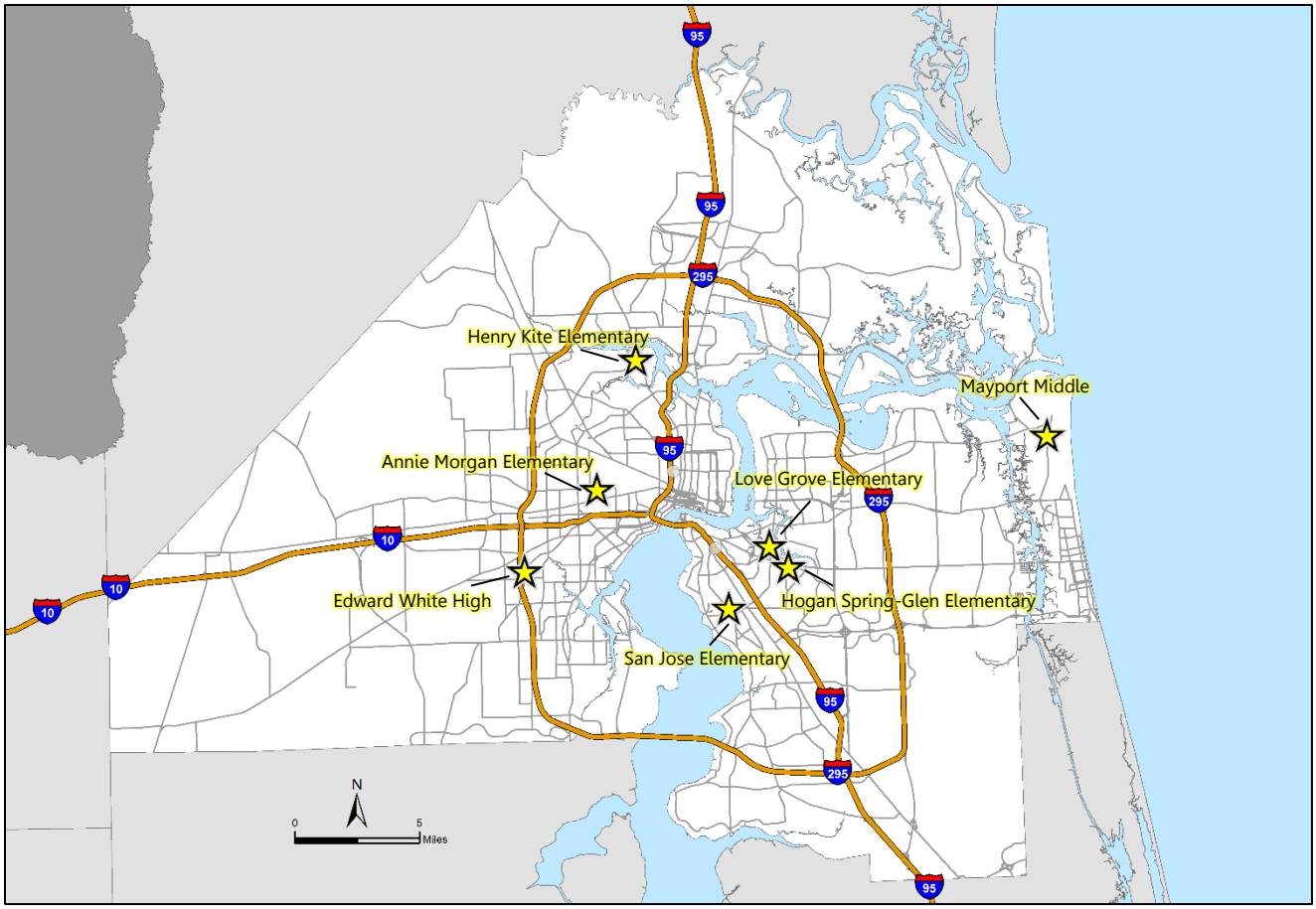
The City of Jacksonville identified the schools included in the Study using spatial analysis with a focus on schools near low income households and schools near high speed roads. All Duval County schools (public, private, charter) were included in the analysis. The specific criteria used in school selection were:

- Schools located within a 500-foot radius of a high-speed road (greater than or equal to 40 mph).
- Schools located within a census block group where at least 51% of households have incomes at or below 80% of the area median income, as determine by the U.S Department of Housing and Urban Development (HUD).

The final selection yielded the schools listed below and displayed in **Figure 1-1**.

- Henry F. Kite Elementary
- Annie R. Morgan Elementary
- Edward White High
- Love Grove Elementary
- Hogan Spring-Glen Elementary
- San Jose Elementary
- Mayport Middle

FIGURE 1-1 SCHOOL SELECTION



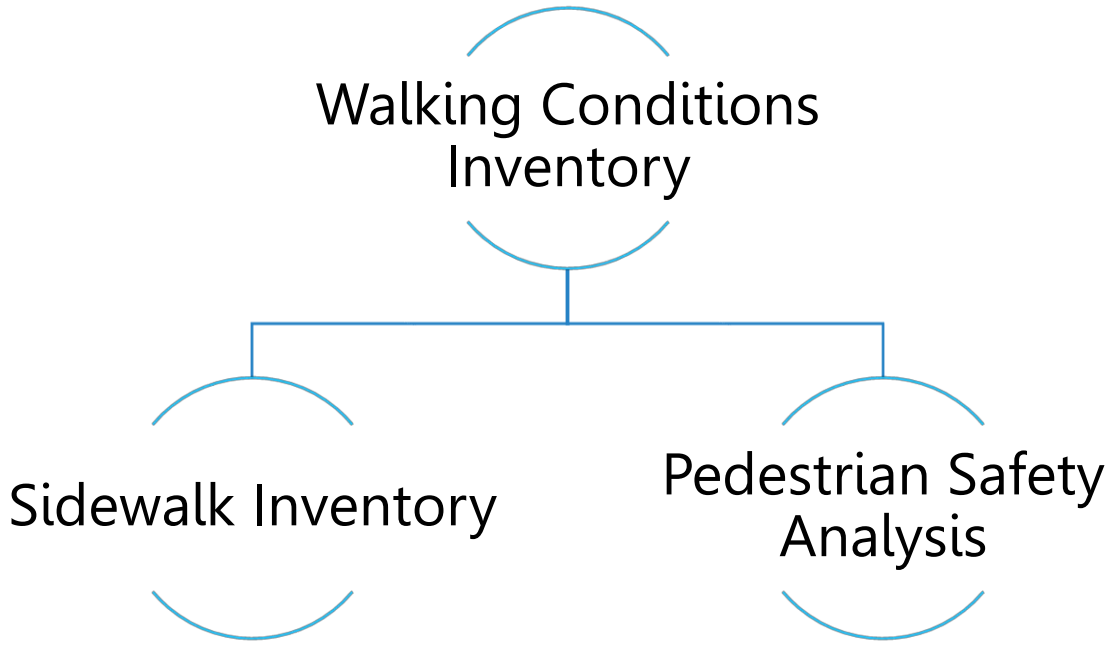
2.0 Methodology

The methodology used to determine school walkability resulted in a five-step approach that was developed from examples of other recent walkability studies around the country. The goal of the walkability methodology was to establish a general inventory of walking conditions around each school, and then identify and prioritize walkability improvements.

The walking conditions inventory was segmented into two categories: sidewalk inventory and pedestrian safety analysis. The sidewalk inventory included documenting sidewalk location and general condition; the pedestrian safety analysis included an overview of the crosswalks, curb cuts, and crash data.

Additionally, the walking conditions inventory was conducted in a two-part process. The first part was establishing the initial conditions via a Desktop Inventory using Google Maps, and documenting those conditions spatially using ArcGIS. Once the initial conditions were established, the second part of the process was the field inventory, in which field visits were conducted for each selected roadway to ground-truth and/or modify the initial conditions previously documented. When the field inventory was complete, the data tables were updated to reflect the results of the walking conditions inventory, and the final existing conditions maps were created.

The results of the walkability analysis were used to develop the recommendations for each school, which are detailed in Section 4.



2.1 Walking Conditions Inventory

The walking conditions inventory provided the existing conditions profile for each school. The inventory provided insight to the following questions:

- Where are the sidewalks, and where are they not? Where are the missing connections?
- Where do sidewalks exist, and what condition are they are in?
- Is the pavement cracked and uneven?
- Is the vegetation maintained? Are there overhanging bushes or limbs; is the sidewalk overgrown and need to be edged?
- Are there crosswalk markings when the sidewalk crosses a driveway or intersection? What is the condition of these markings?
- Are there curb ramps? What is their condition? Are they ADA compliant?
- Are there many obstructions along the sidewalk such as utility poles and benches? Is the sidewalk ADA compliant?
- Are there direct sidewalks and crosswalks to the school entrance? What is their condition?
- What is the crash history of the area? What is the number of pedestrian crashes, fatalities, and injuries?

The inventory was conducted using the following steps:

1) **Establishing study roadways for each school**. All interconnected roadways were reviewed within 0.25 miles of elementary and middle schools and within 0.5 miles of high schools. Roadways beyond the initial study radius were included to extend to larger 'logical bounds' around the school to capture potential walking routes. Local roads were included in the school study area, but roads only serving a single neighborhood with limited connectivity were omitted.

2) **Conducting preliminary 'desktop' inventory**. The roads identified in Step 1 were then surveyed using streetview in Google Maps. Various walking criteria were reviewed and documented using ArcGIS. Crash data was also evaluated and documented at this stage.

3) **Creating initial maps for field review**. The results of the desktop inventory were then presented spatially on maps to be utilized in the field review. Maps for each school were created for the individual walkability characteristics on a red, yellow, and green scale.

4) **Field review**. A field review of each roadway was conducted. The results of the initial analysis were either confirmed or modified based on the actual conditions observed. A geo-referenced photolog was also taken during the field review.

5) **Post field review**. Inventory data was updated to reflect the results of the field review.

Step 1: Establish Study Roadways

Every school location is unique. It was important to establish a site-specific context for the review of each school. Therefore, the first step for conducting the walking conditions inventory was determining which roadways were to be studied for each school. The roadways were selected by: establishing an initial study radius for each school, expanding it to include 'logical bounds' of typical routes to the school, and determining which interconnected roads should be considered.

Establishing Initial Study Radius

The initial study radius was determined to be 0.25 miles for elementary and middle schools and 0.5 miles for high schools. Larger areas were considered for the elementary and middle schools, but they tended to reach beyond the limits of the school zoning district lines. This was particularly problematic for the elementary schools.

Extending Logical Bounds

Once the initial radius was applied, a 'logical boundary' was established to the closest arterial or collector roads to the study radius. This logical boundary was meant to encompass typical or logical routes that people walking would take to school.

Selecting Interconnected Roads

This step allowed for a final, objective selection of study roads based on the characteristics of the built environment. Interconnected roads are those that serve the study area as a whole, are not solely inclusive to a neighborhood or other commercial development (such as hospital), and also provide logical connections to school routes. For example, a more urbanized study area based on a grid likely had all roads included within the logical bounds. However, a more suburban area with disconnected neighborhood roads may not have been included.

Lessons Learned: Roadway Selection

A larger radius of 1.5 miles was initially considered, but this only included collector and arterial roads. At the first site visit, it was evident that many local roads directly adjacent and connecting to the school were utilized for walking to school, but were not included in the initial selection. Additionally, the collector and arterial roads tend to be better maintained with established sidewalks and proper crosswalks and connections. It was then decided to shrink the study area to review all roads directly around the school to focus objectives and better serve the intention of the study. However, a larger radius was used for high schools due to the size of the campus; 0.25 miles did not provide much area for review.

Step 2: Desktop Inventory

Step 2 established the outline for the data collection. Two ArcGIS shapefiles were created at this stage; a line shapefile to demonstrate and document the sidewalk locations and conditions, and a point shapefile for the intersections and crosswalks. Scores were assigned to each attribute reviewed, ranging from 0 (best) – 2 (worst). The sidewalk and intersection/crosswalk attribute tables are described in **Tables 1 and 2.**

TABLE 1. SIDEWALK INVENTORY ATTRIBUTE TABLE

Attribute	Attribute Description	Input	Definition
School	School name	XX	2-letter school abbreviation
Roadway	Roadway reviewed	Name	Name of roadway
Roadway Type	FDOT roadway classification	0	Local Road
		1	Collector Road
		2	Arterial Road
Sidewalks	Existence of sidewalks	0	No sidewalks
		1	Sidewalks on one side
		2	Sidewalks on both sides
Location	Sidewalk location	E/W/N/S	Which side of the road sidewalk are located.
Maintenance	Landscaping, edging, vegetation encroachment	0	Minimal or no instances
		1	Few instances
		2	Many instances
Condition	General sidewalk condition. Includes cracking and unevenness.	0	Good; minimal or no instances
		1	Fair; few instances
		2	Poor; many instances
Obstructions	Light poles, benches, other permanent objects obstructing sidewalk	0	Minimal or no instances
		1	Few instances
		2	Many Instances
Notes	Miscellaneous notes	Text	Place to include further explanations or observations.

TABLE 2. INTERSECTION/CROSSWALK ATTRIBUTE TABLE

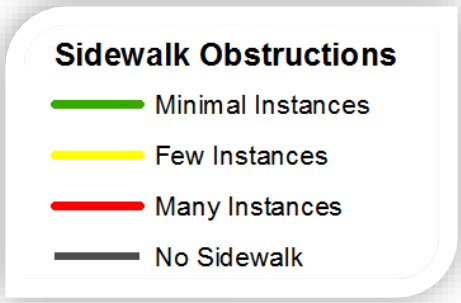
Attribute	Attribute Description	Input	Definition
School	School Name	XX	2-letter school abbreviation
Signalized	Is the intersection signalized?	Y/N	Y, signalized; N, unsignalized
Marked Crossing	Are there crosswalk markings?	Y/N	Y, markings; N, no markings
Marking Condition	What condition are the crosswalks markings?	0	Good; little or no fading
		1	Fair; partially faded/worn
		2	Poor; very faded/worn
		N/A	No markings present
Pedestrian Signal	Are there pedestrian signals?	#/#	# of signals present/# locations
		N	No signals present
Curb Ramps	Are there curb ramps?	#/#	# present/# applicable locations
		N/A	No sidewalks present
Curb Ramp Condition	What is the condition of the curb ramps? Are there blatant ADA compliance issues?	0	Good; generally no issues.
		1	Fair; minor issue(s). Minor cracks, steep, and/or narrow. ADA compliance issues.
		2	Major issues. Severe cracks, uneven, steep, and/or narrow. ADA compliance issues.
		N/A	No sidewalk.
Notes	Miscellaneous notes.	Text	Place to include further explanations or observations.

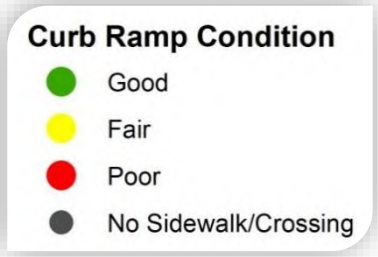
Lessons Learned: Desktop Inventory

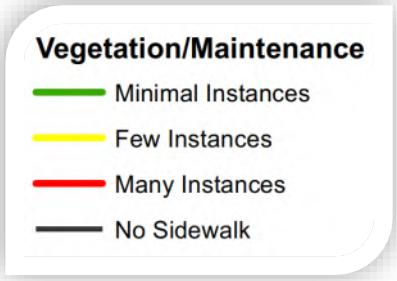
The inputs were originally conceptualized as text and note based. For example, instead of ranking an element from 0-2, it was ranked as 'good', 'fair', or 'poor'. Although this method would achieve the same visual results of red, yellow, and green on the maps, it would not yield as much of an opportunity for analysis. By assigning the inputs a number versus a word, it facilitated a more effective quantitative output to be used for recommendations and prioritization.

Step 3: Pre-Field Review Maps

Once the desktop inventory was complete and the attribute tables were completed for each segment a series of eight base maps were created for each school depicting the elements reviewed in the desktop inventory. The base maps depicted the following data over an aerial image:







The pre-field review maps allowed the field reviewers to have the initial information for each roadway with them while in the field signifying where walking elements were and what condition they were in. The reviewer could then verify the initial review by checking them off as they go, or by modifying the initial review by noting it on the map.

Lessons Learned: Pre-Field Review

This step became evident after the first attempt at a field review. Initially, a walking checklist was created for the field reviewers to complete on the ground. However, this method proved to be time-consuming, spatially inaccurate, and ineffective. For example, a significant amount of writing was involved to describe the specific location that was being reviewed, let alone notating all of the attributes and characteristics in a uniform way. It was determined that it would be better to conduct the field review once it was known where the infrastructure was (or was not), and an initial conditions determination. The pre-field maps gave the field reviewers a key tool for accurately reviewing and notating conditions.

Step 4: Field Review

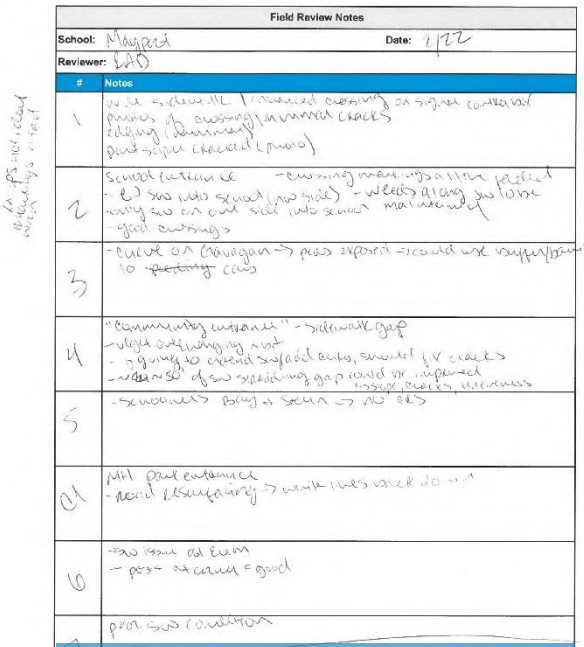
The field review step verifies the actual on-site conditions for the walking conditions inventory. The field review was conducted with a minimum of two reviewers observing each study area location. The field review was executed using the following tools: pre-field review maps, a field review note form, and a photo log using a GPS-enabled camera.

Pre-Field Review Maps

The pre-field review maps allowed the field reviewer to physically 'check' the existing conditions on the map, or write small notes for changes. For instance, if the desktop review indicated a segment was 'yellow' for vegetation/maintenance, but the field review yielded 'green' conditions, the reviewer could write 'green' on top of the yellow line.

Field Review Note Form

For more detailed comments or notes, the field review comment form was used in combination with the maps. When the field reviewer had a comment or observation to note during the review, they would place a number for the note location on the map, then fill out the comment number and notes column accordingly.



Field Review Notes

School: Mayport Date: 7/22

Reviewer: [illegible]

#	Notes
1	[illegible]
2	[illegible]
3	[illegible]
4	[illegible]
5	[illegible]
6	[illegible]
7	[illegible]
8	[illegible]

Field Review note form.

Photo Log

Additionally, a photo log using a GPS-enabled camera was created during each field review. The purpose of the photo log was to document the typical characteristics of the study area around each school as well as notate specific locations to be addressed. The GPS-enabled camera (found in most smartphones) allow for the photos to be uploaded and geo-referenced on a map for accuracy.

Step 5: Post Field Review

Once the field review was complete, the attribute tables were updated to reflect any revisions and notes. Photos were uploaded and documented. Final existing conditions maps were created.

3.0 School Profiles

A profile was created for each school to present the results of the walking conditions inventory.

3.1 Henry Kite Elementary

Henry Kite Elementary is located near the northern part of Duval county, south of the I-295 loop and west of I-95. Entrances to the school are along Lem Turner Road and Highland Avenue. The surrounding area is primarily single-family residential. 17.5 miles of roads were surveyed for this school, including Lem Turner Road and Soutel Drive as the arterials. The results of the walking conditions analysis are displayed in **Figures 3-1 through 3-8**, and summarized below.

- Sidewalks are present on both sides of the arterial roads surveyed (Lem Turner Road and Highland Avenue). Sidewalks along the arterial roads were generally well maintained and in good condition.
- Most of the local roads surveyed did not have any sidewalks. Of the sidewalks present, about 20% had poor pavement condition and many instances of edging and vegetation issues. The Highland Avenue sidewalks, which provide direct access to the school, were in notably poor condition.
- Of the 11 marked crosswalks, 5 were in poor condition. The 2 crosswalks closest to the school were in fair condition. Some of the crosswalks providing access to the school did not have curb ramps.

FIGURE 3-1 HENRY KITE LOCATION

Sidewalk Inventory Results

Sidewalk Locations

Of the 17.5 miles of roads surveyed, approximately 16 miles (90%) were local roads and the remaining 1.5 miles (10%) were arterial roads.

- *Arterial roads:* 100% of surveyed arterial roads (Lem Turner Road and Soutel Drive) had sidewalks on both sides.
- *Local roads:* Approximately 4% of the local roads had sidewalks on both sides (found on 1st Avenue, Ribault Avenue, and Highland Avenue); about 25% had sidewalks on one side; nearly 75% had no sidewalks.

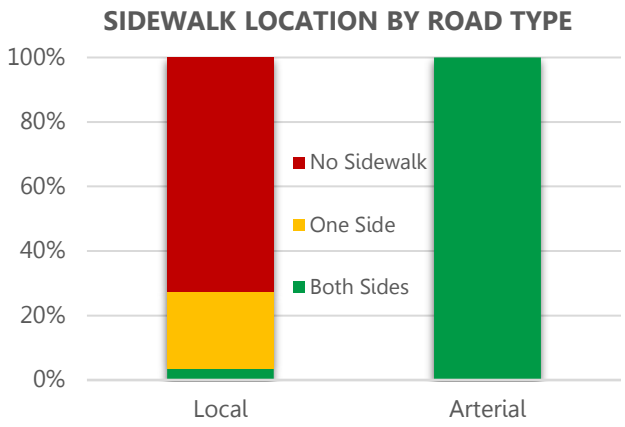
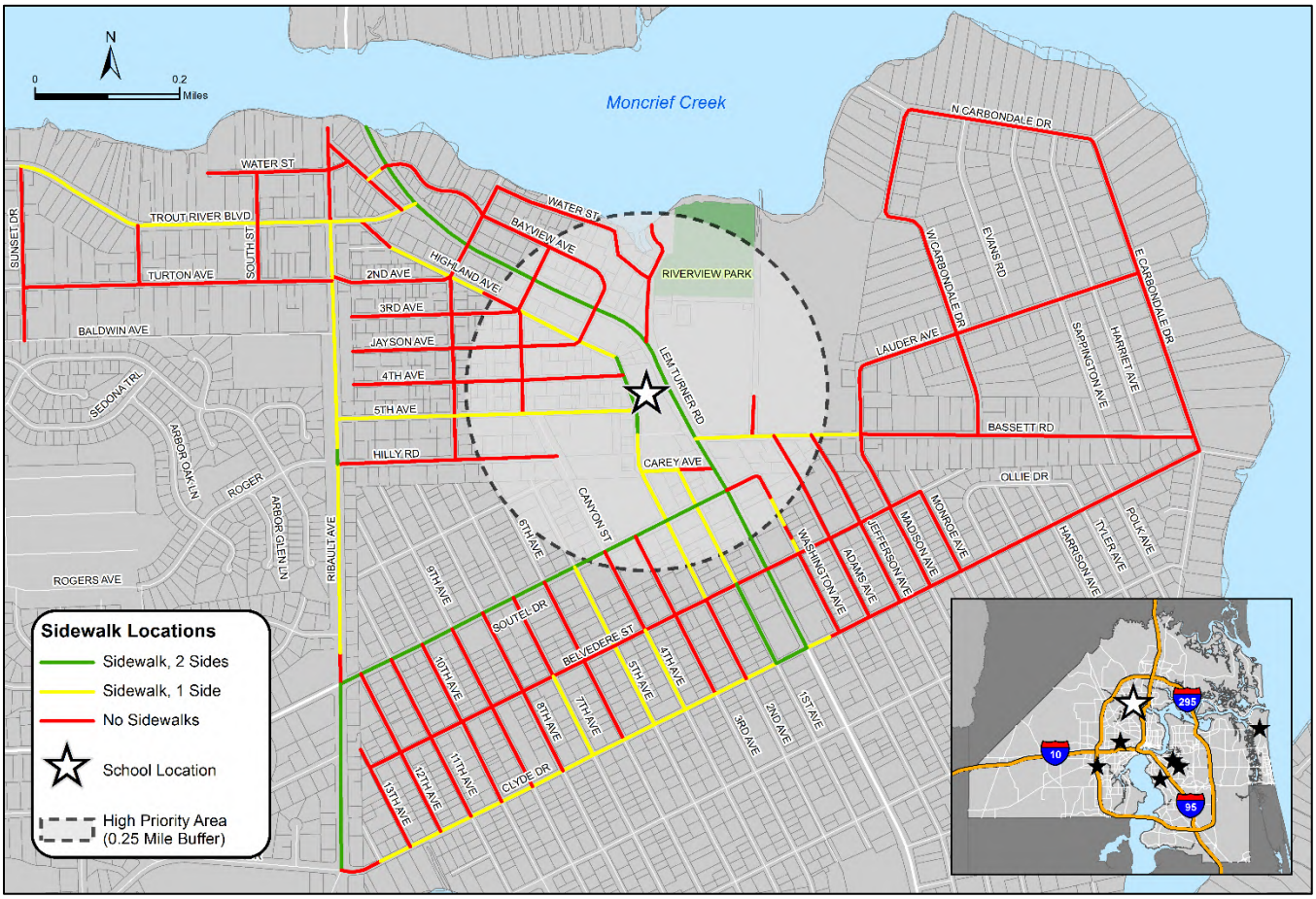


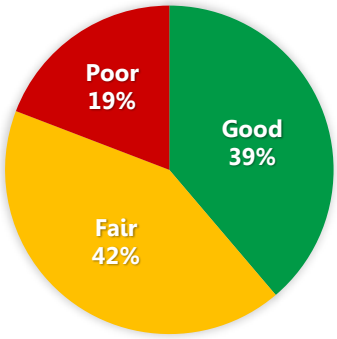
FIGURE 3-2 HENRY KITE SIDEWALK LOCATIONS



Sidewalk Pavement Condition

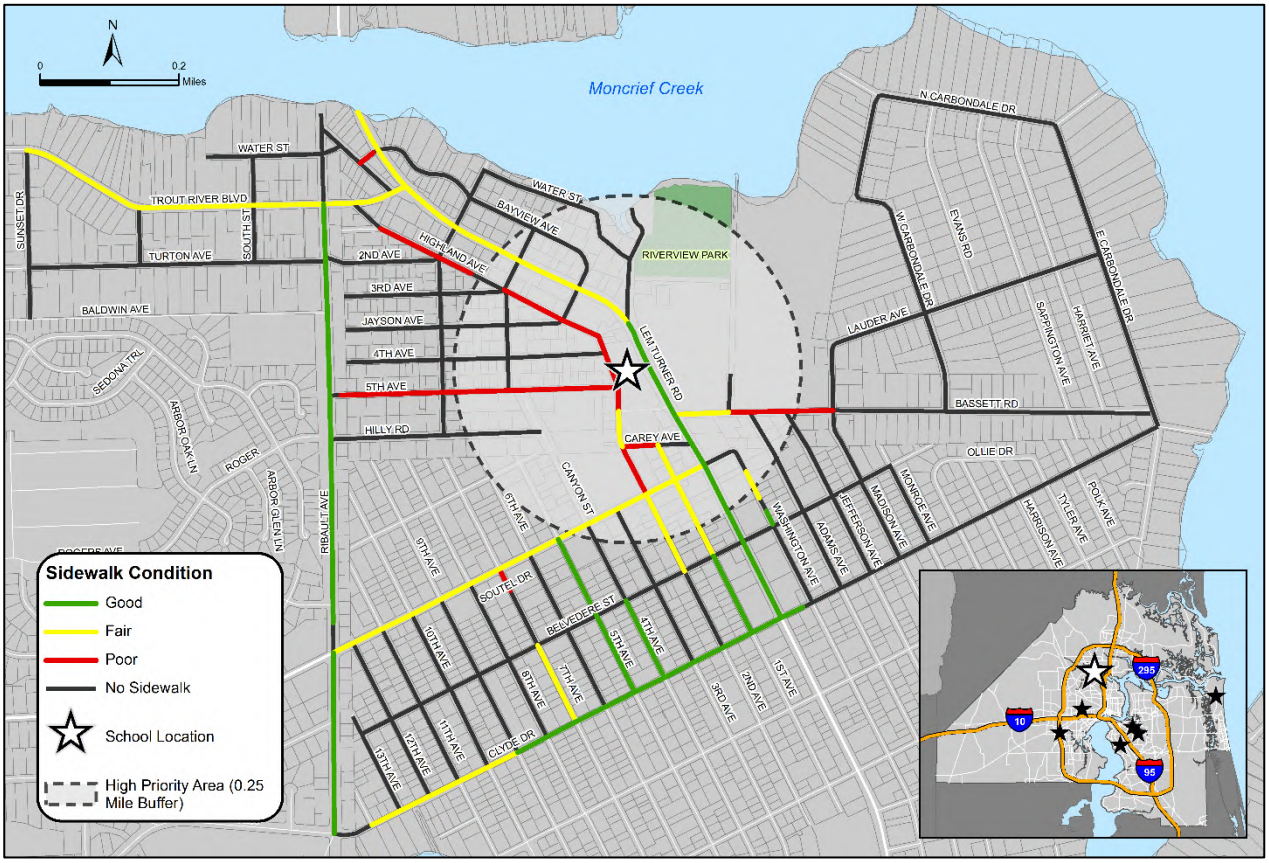
A majority of the sidewalks surveyed were determined to be either in Fair (42%) or Good (39%) condition. Less than 20% of the sidewalks were classified as Poor condition. The sidewalks in Poor condition were concentrated along Highland Avenue (which provides direct access to the school), 5th Avenue, and Basset Avenue.

'Good' pavement condition along Lem Turner Road. Source: Project Team, February 2018.



'Poor' pavement condition along Carey Avenue. Source: Project Team, February 2018.

FIGURE 3-3 HENRY KITE SIDEWALK CONDITION



Sidewalk Vegetation and Maintenance

Over 75% of the sidewalks surveyed had minimal or few instances of sidewalk edging needs or vegetation encroachment. The areas with many instances were along Highland Avenue, the northern portion of Lem Turner Road, and 5th Avenue.

Many instances of edging and vegetation on Highland Avenue. Source: Project Team, February 2018.

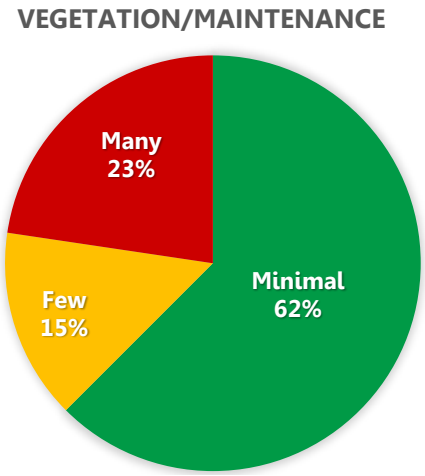
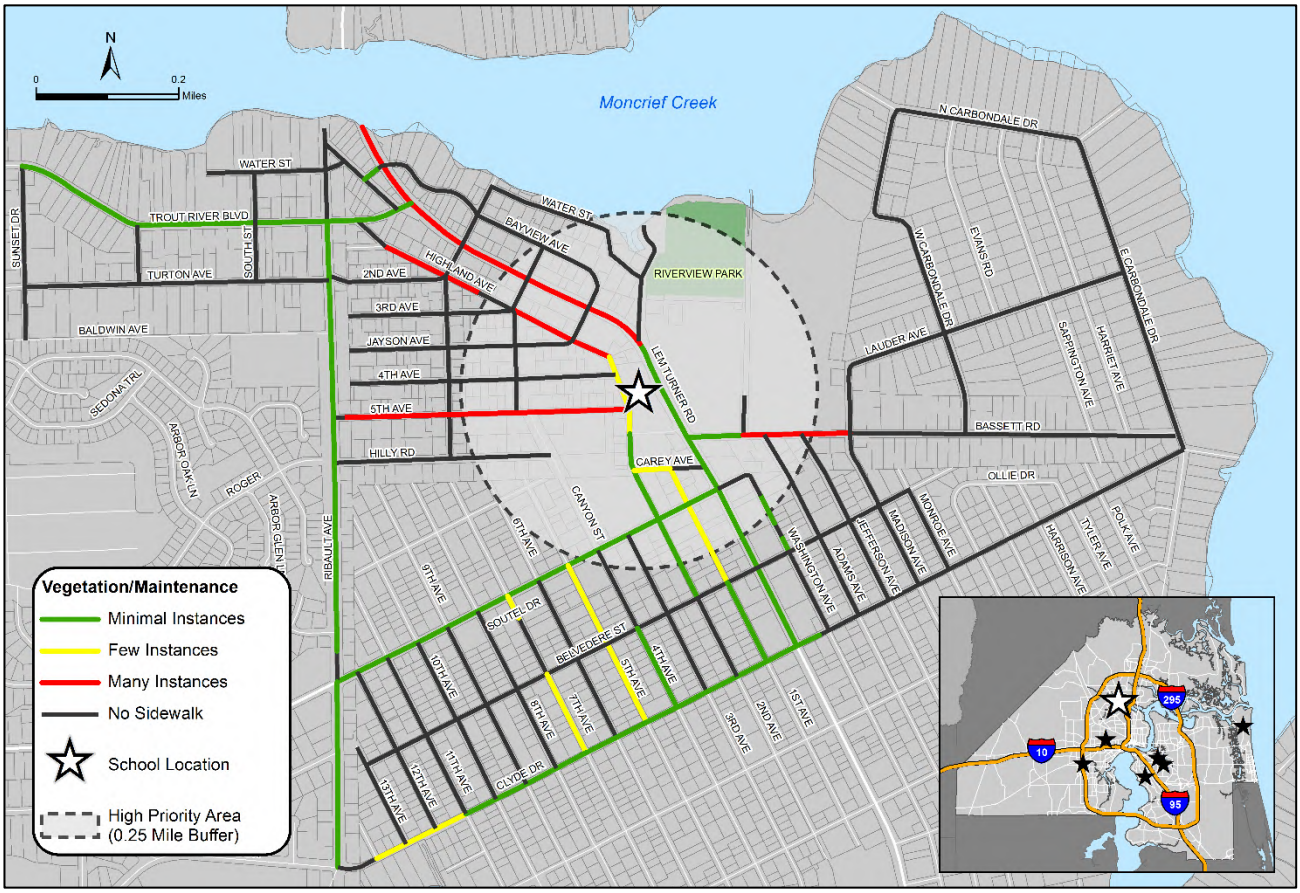


FIGURE 3-4 HENRY KITE VEGETATION AND MAINTENANCE



Sidewalk Obstructions

Approximately 2% of the sidewalks had few instances of sidewalk obstructions. The obstructions primarily consisted of light poles or benches along Highland Avenue near the school entrance.

Light pole obstruction on Highland Avenue
Source: Google Maps 2015.

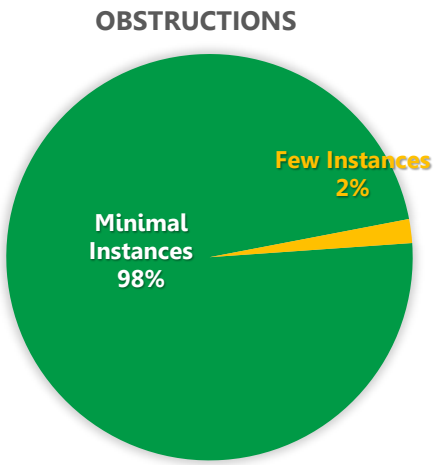
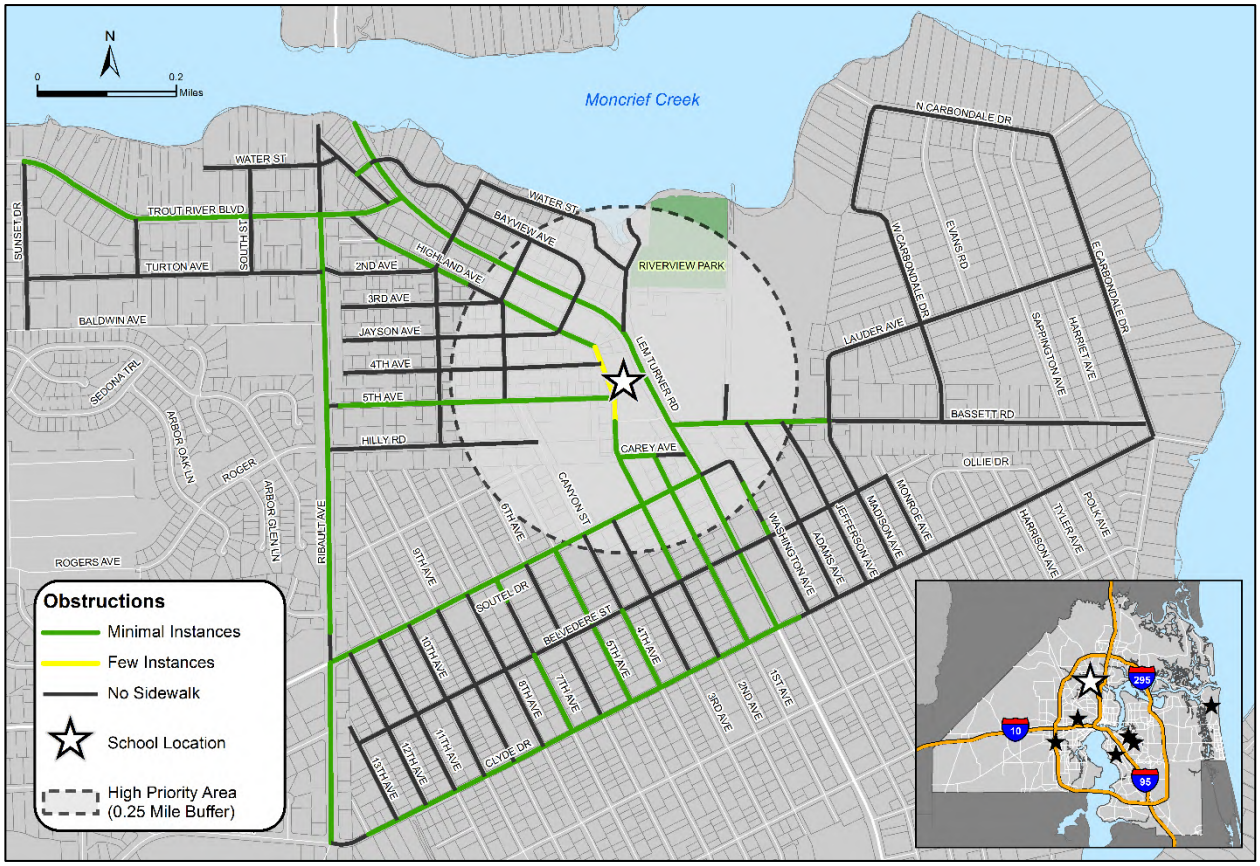


FIGURE 3-5 HENRY KITE OBSTRUCTIONS



Pedestrian Safety Evaluation Results

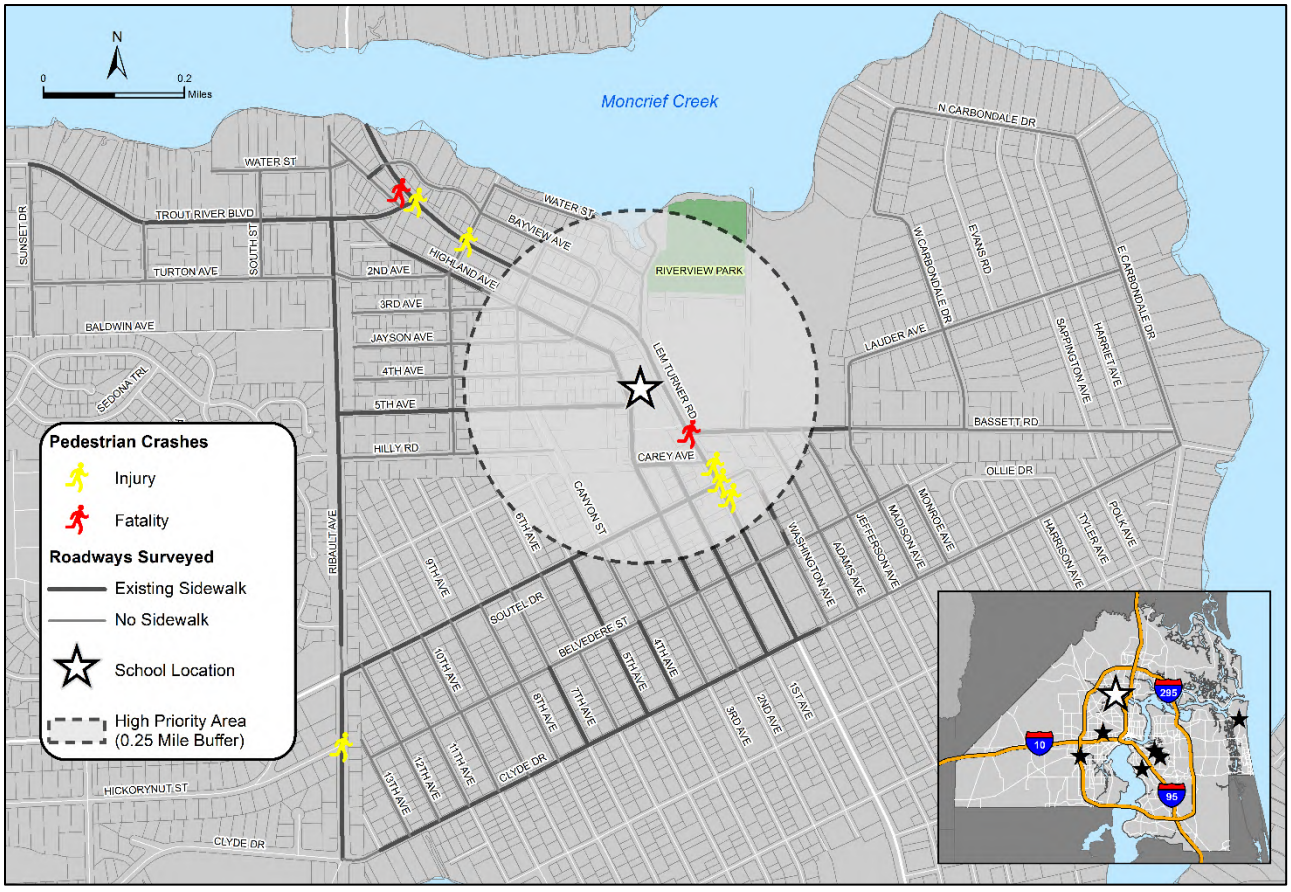
Crash Data

There were 8 pedestrian crashes along the surveyed roads between January 2013 and January 2018. Two of the crashes resulted in fatalities. Both fatalities (shown in red in the table and the map) occurred between 8:00 PM and 12:00 AM; one was alcohol related. The crashes primarily occurred along Lem Turner Road at the intersections of Trout River Boulevard and Basset Road. 6 of the 8 crashes occurred in the evening between 6:00 PM and 12:00 AM. The crash locations are displayed in the map and detailed in the table below, and listed in **Appendix A.**

#	Crash Date	Crash Time	Crash Location	Alcohol	Distracted	Type
1	12/27/2017	07:55 PM	Lem Turner/Bayview	N	N	Front to Rear
2	11/19/2016	11:34 PM	Trout River Boulevard	Y	N	Other
3	7/2/2016	06:05 AM	Lem Turner/Basset Road	N	N	Front to Rear
4	2/17/2016	07:00 PM	Lem Turner	N	N	Sideswipe
5	1/6/2016	06:45 PM	Parking Lot	N	N	Other
6	10/18/2015	08:35 PM	Lem Turner/Basset Road	N	N	Other
7	8/4/2014	12:30 PM	Lem Turner/Trout River Blvd.	N	N	Front to Rear
8	2/13/2014	06:36 PM	Ribault/Soutel	N	N	Front to Rear

Note: Fatalities are shown in red.

FIGURE 3-6 HENRY KITE PEDESTRIAN CRASHES



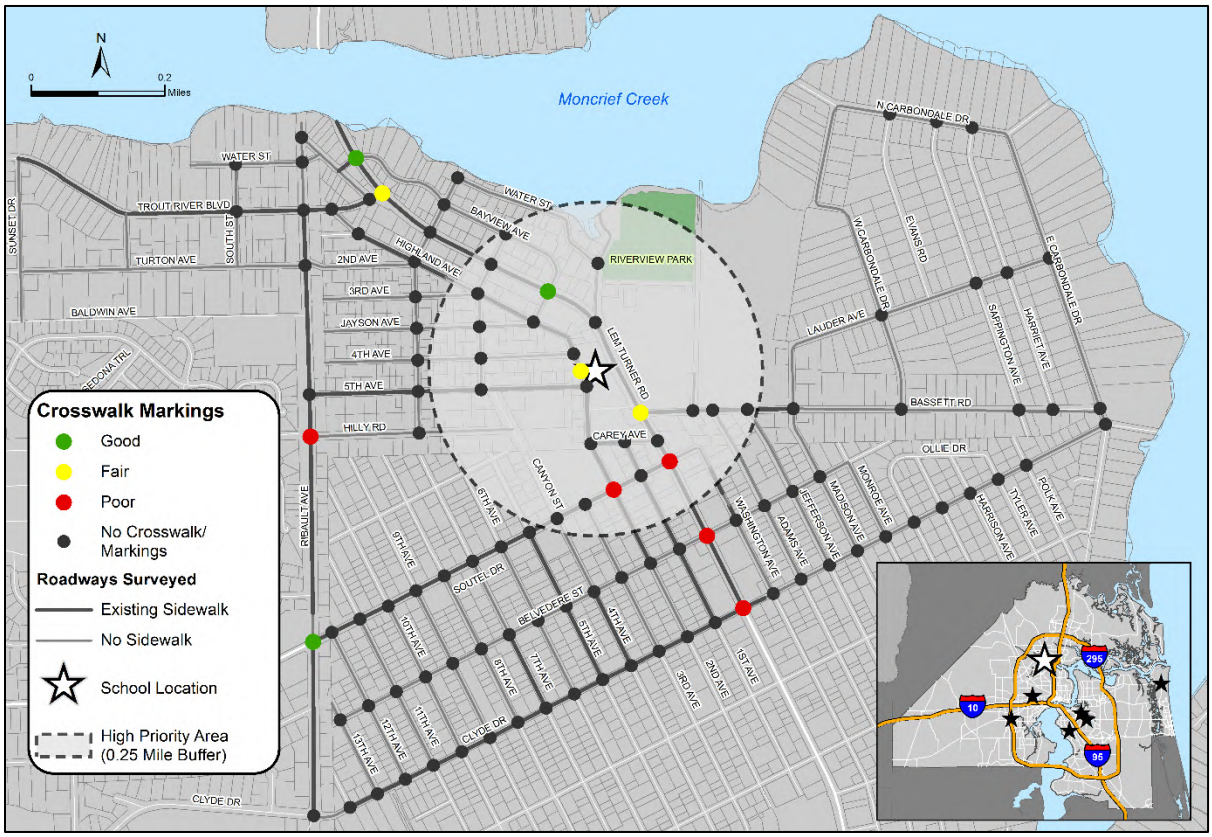
Crosswalks

There were 11 marked crosswalks along the roadways surveyed. A majority of them were at intersections along Lem Turner Road, with the remaining along Soutel Drive and Ribault Avenue. There was one midblock crosswalk near the entrance of the school on Highland Avenue between 4th Avenue and 5th Avenue. About half of the crosswalk markings (6 of the 11 instances) are considered to be in Fair or Excellent condition. Five of the crosswalks have Poor marking conditions, three of which are located along Lem Turner Road south of Bassett Road.

No markings near school on Highland Avenue. Source: Project Team 2018.

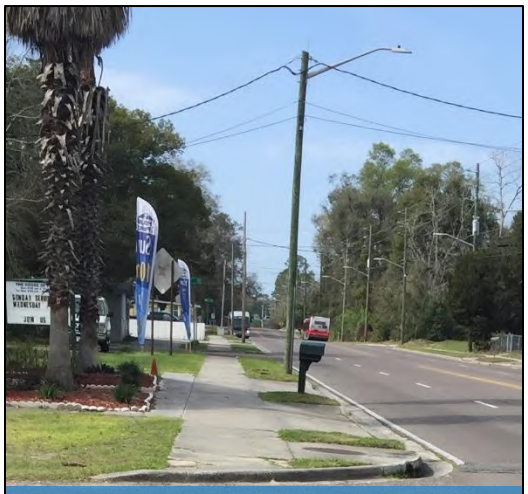
'Fair' condition midblock crossing near school on Highland Avenue. Source: Project Team 2018.

FIGURE 3-7 HENRY KITE CROSSWALK CONDITIONS



Curb Ramps

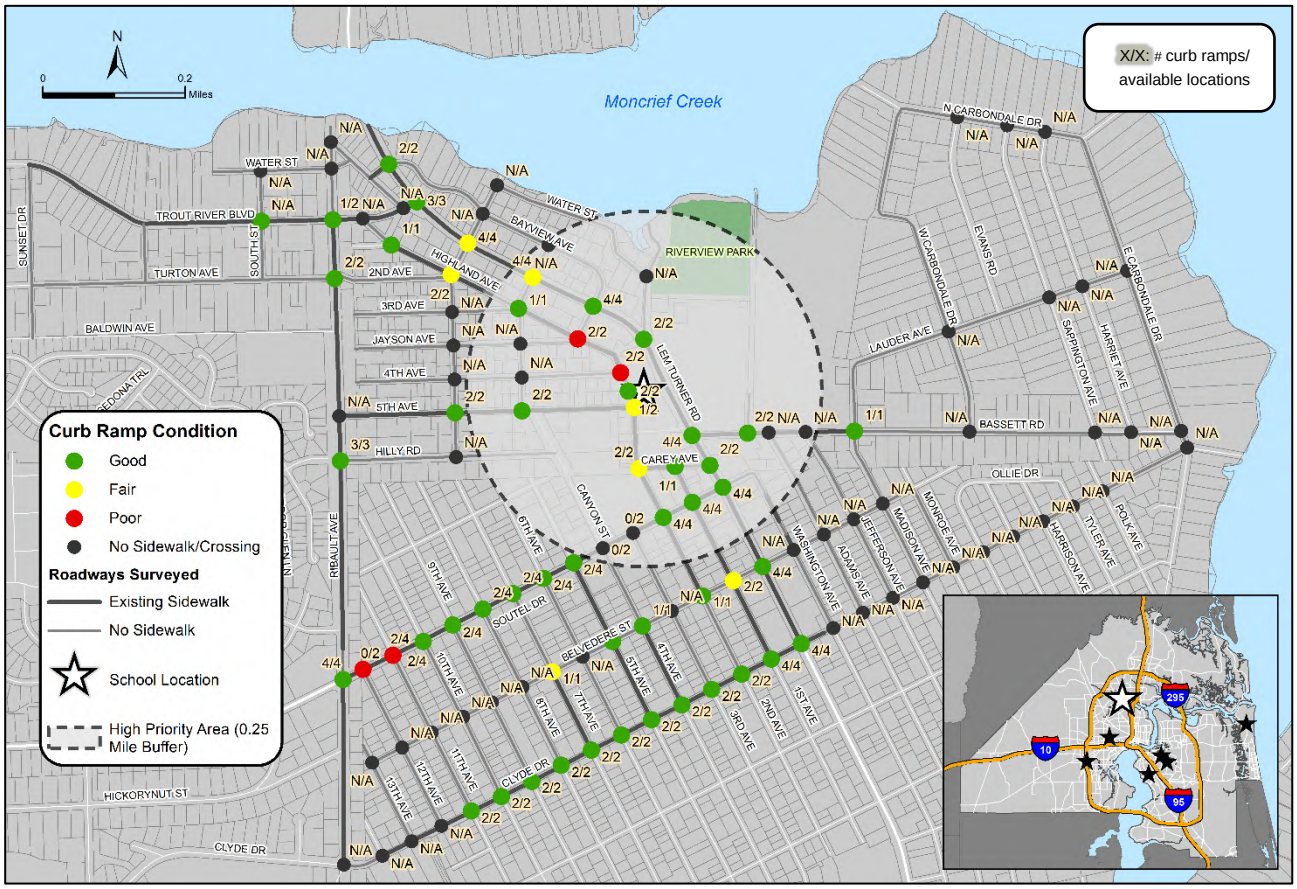
The majority of the curb ramps were in Good condition. However, several of the curb ramps adjacent to the school access were in Fair or Poor condition. Additionally, there were many missing curb ramps along the north side of Soutel Street.



Missing curb ramp on Soutel/6th.
Source: Project Team, February 2018.

'Poor' condition curb ramp at Highland/ Jayson.
Source: Project Team, February 2018.

FIGURE 3-8 HENRY KITE CURB RAMPS

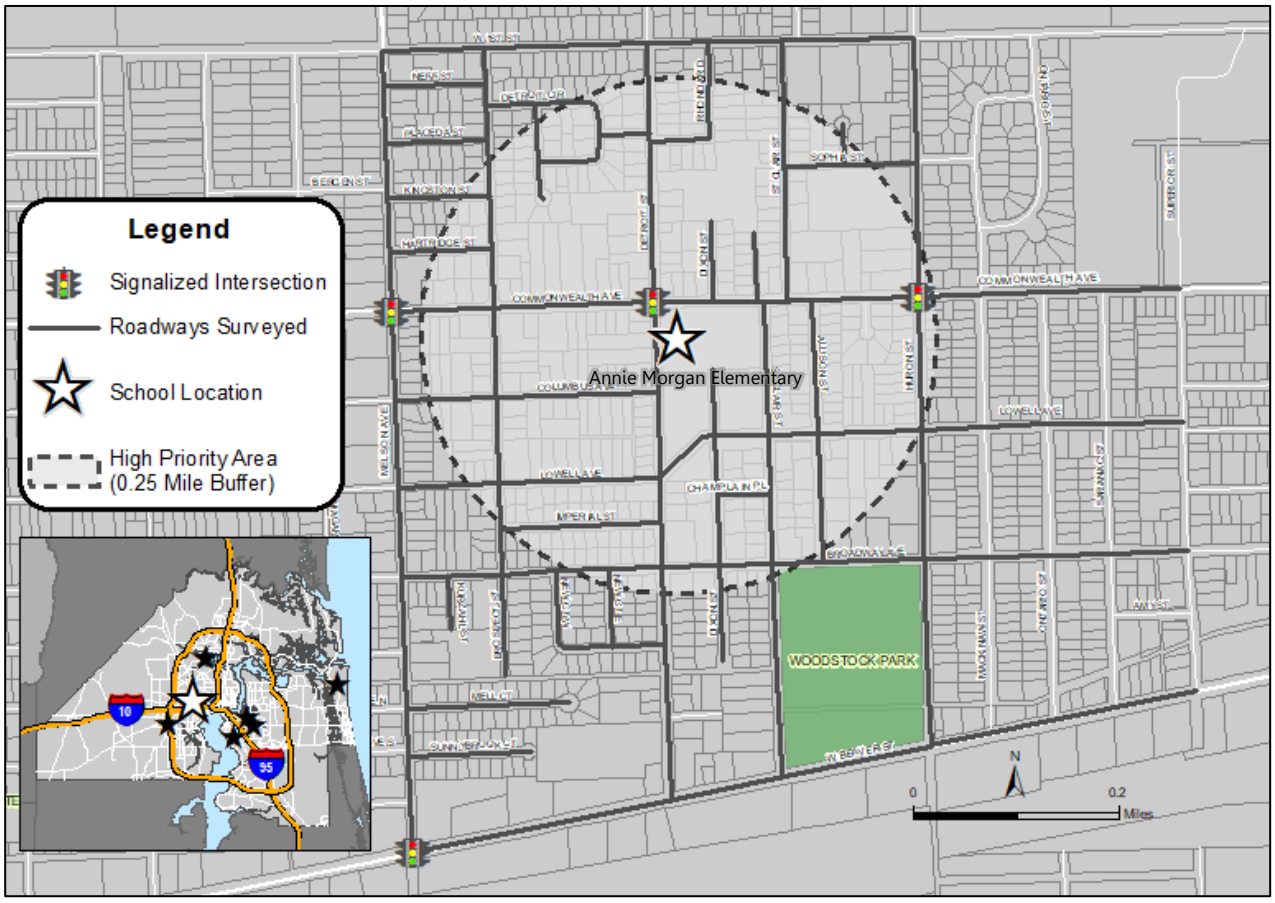


3.2 Annie Morgan Elementary

Annie Morgan Elementary (Annie Morgan) is located near the central part of Duval County, about one mile north of I-10 and 2.5 miles west of I-95. The front entrance to the school is on St. Clair Street. The school is also bordered by Commonwealth Avenue to the north, Detroit Street to the west, and Lowell Avenue to the south. The area surrounding the school is primarily single-family residential. 9.9 miles of roadways were surveyed for Annie Morgan. The results of the walking conditions analysis are displayed in **Figures 3-9 through 3-16**, and summarized below.

- The sidewalk network is virtually complete surrounding the school with sidewalks on at least one side of adjacent, interconnected roads. However, there are some locations where the sidewalk does not continue to the intersection.
- Many of the sidewalks surveyed were in poor condition, but the ones closest to the school were generally in fair or good condition. The sidewalks along Beaver Street were in the best condition and well maintained.
- Most of the curb ramps surveyed were in fair or good condition. There were no poor condition curb ramps adjacent to the school. There were several missing curb ramps along Melson Avenue.
- The crosswalks near the school were generally in fair or poor condition.

FIGURE 3-9 ANNIE MORGAN LOCATION



Sidewalk Inventory Results

Sidewalk Locations

Of the 9.9 miles of roads surveyed, approximately 7.6 miles (77%) were local roads, 0.8 miles (8%) were collector roads (Melson Avenue), and the remaining 1.5 miles (16%) were arterial roads (Beaver Street and Commonwealth Avenue). A majority of the roads directly adjacent to the school had sidewalks on at least one side. The sidewalk locations are displayed in **Figure 3-10.**

- *Arterial and collector roads:* 100% of the arterial and collector roads have sidewalks on both sides.
- *Local roads:* Nearly 25% of the local roads had sidewalks on both sides; 34% had sidewalks on one side; 42% had no sidewalks.

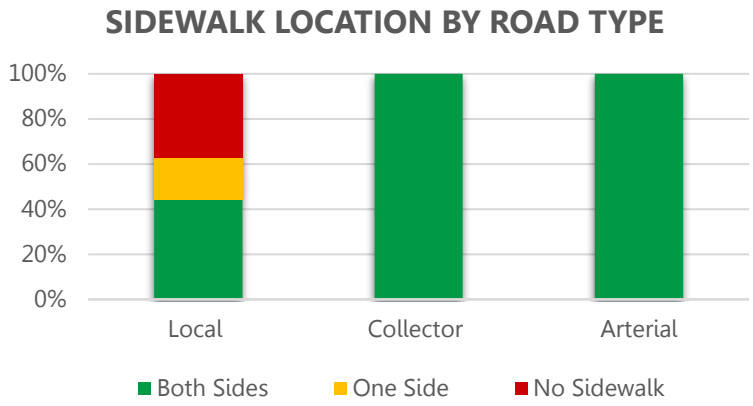
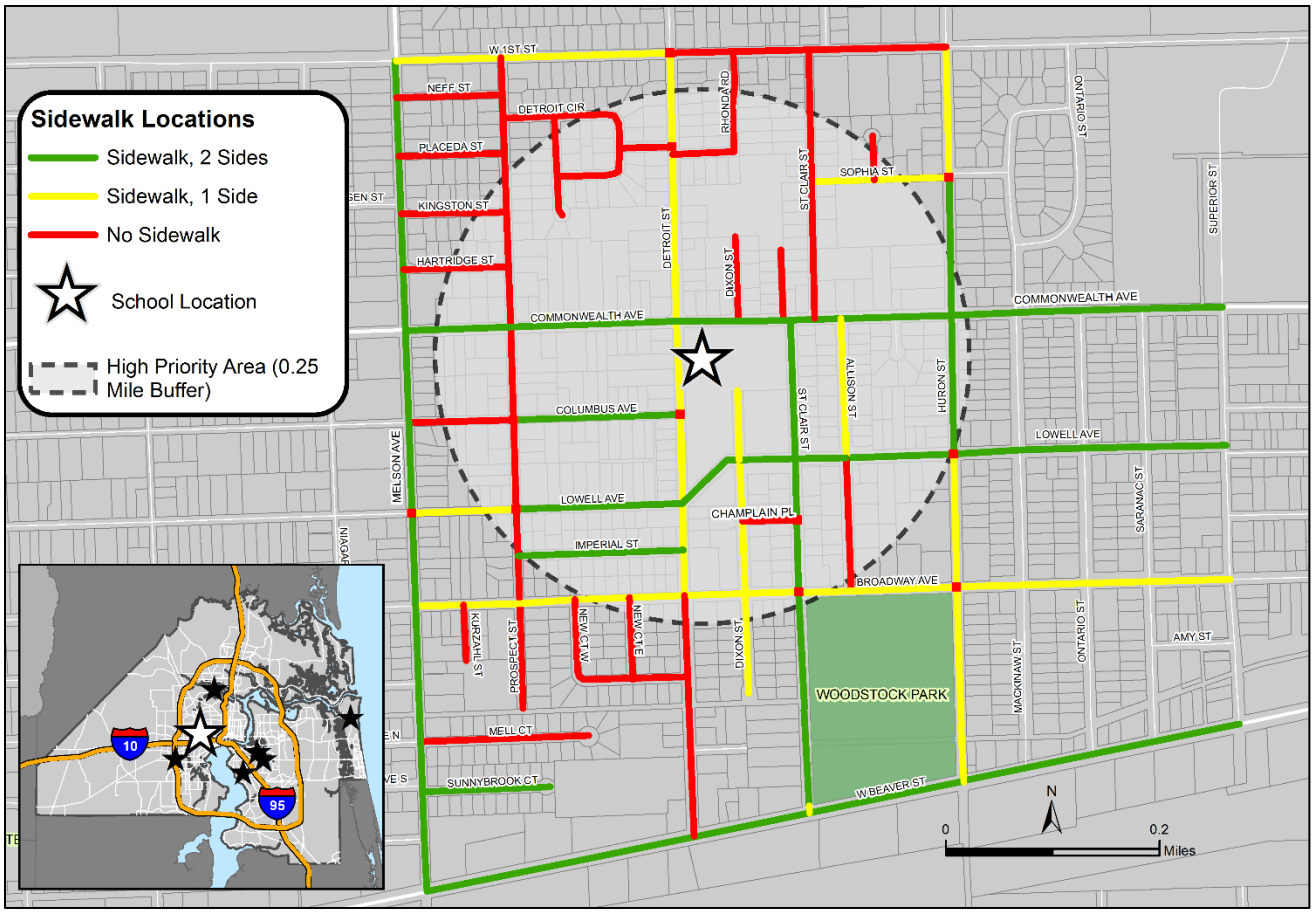
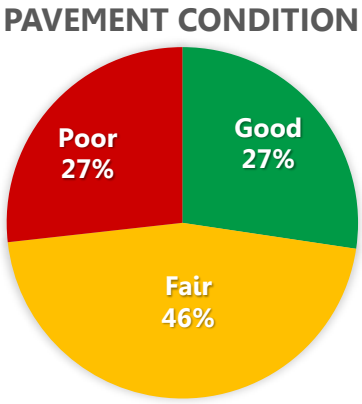


FIGURE 3-10 ANNIE MORGAN SIDEWALK LOCATIONS



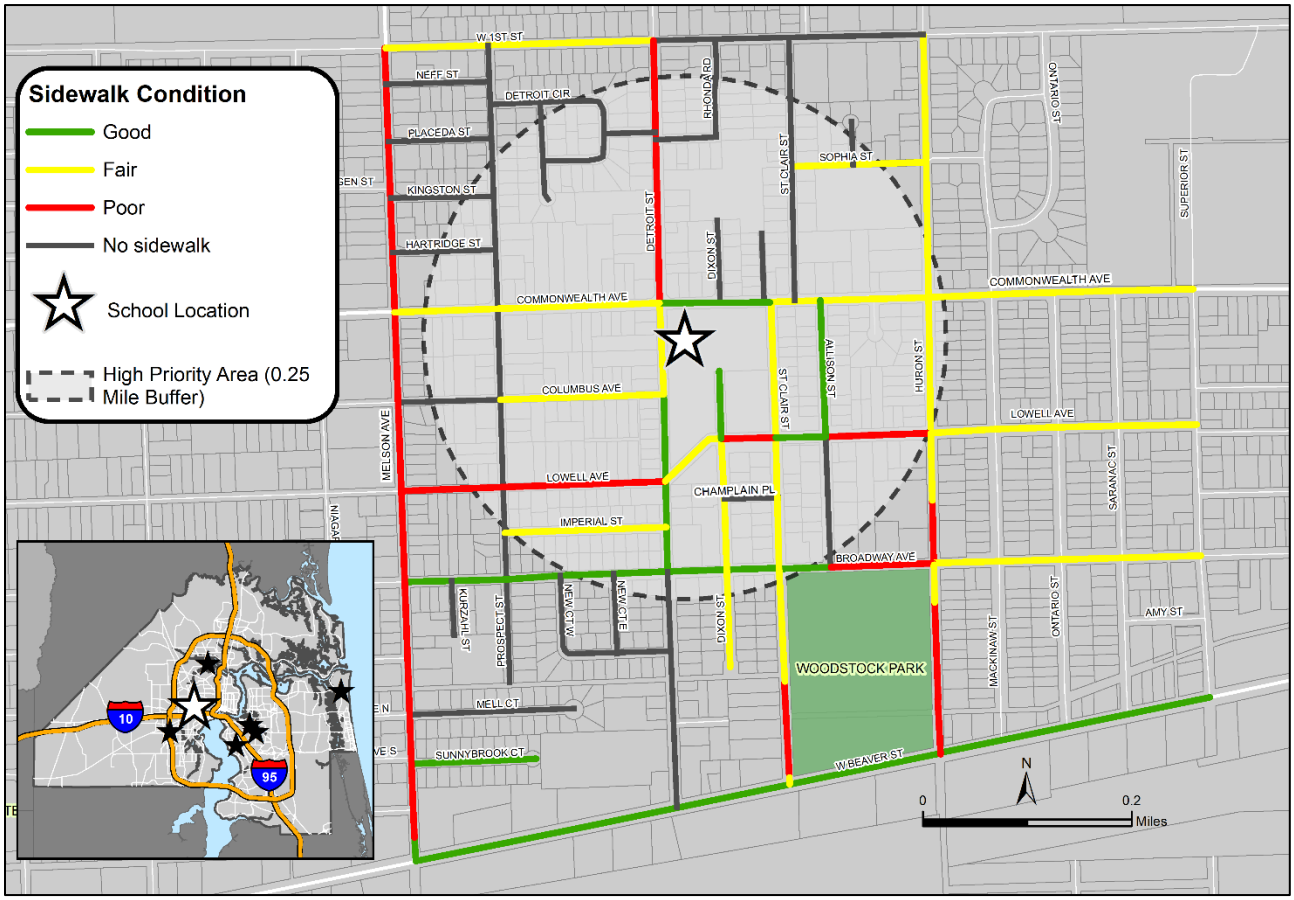
Sidewalk Pavement Condition

Over 25% of the sidewalks were rated as Poor condition. The Poor condition sidewalks were located along Melson Avenue, parts of Lowell Avenue, the northern portion of Detroit Avenue, and the sidewalks near Woodstock Park. Approximately half of the sidewalks were considered to be in Fair condition, and about 25% were classified as Good condition (including all of the sidewalks along Beaver Street).



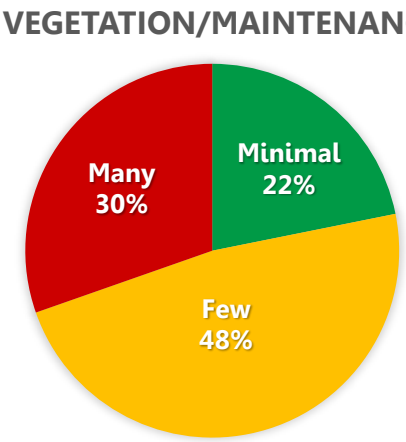
'Poor' condition pavement along St. Clair adjacent to Woodstock Park. Source: Project Team, February 2018.

FIGURE 3-11 ANNIE MORGAN SIDEWALK CONDITION



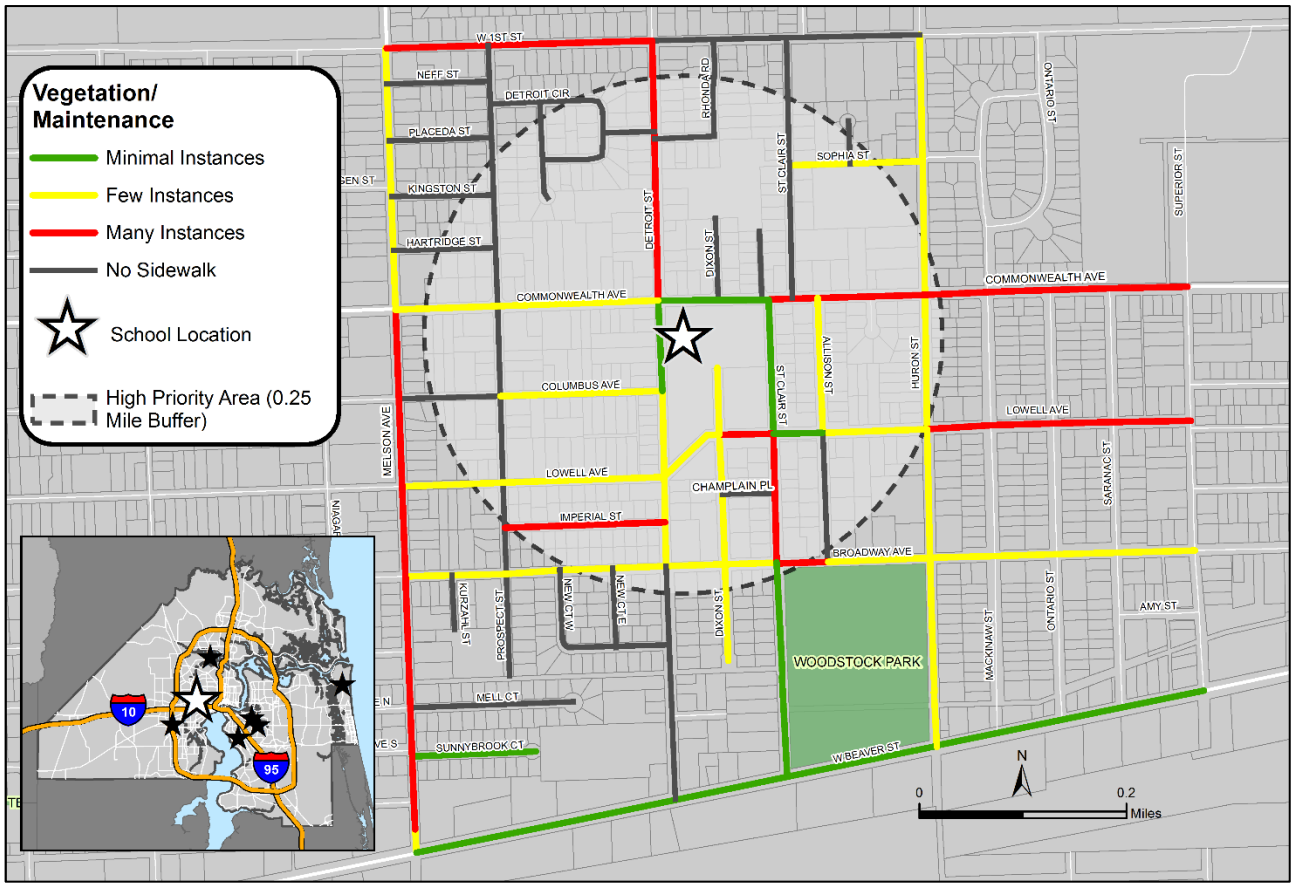
Sidewalk Vegetation and Maintenance

About 30% of the sidewalks had many instances of the need for maintenance due to edging and vegetation issues. Primarily, the sidewalks adjacent to the school and along Beaver Street had minimal or few edging and vegetation issues. Melson and Commonwealth Avenues had large concentrations of edging and vegetation issues.



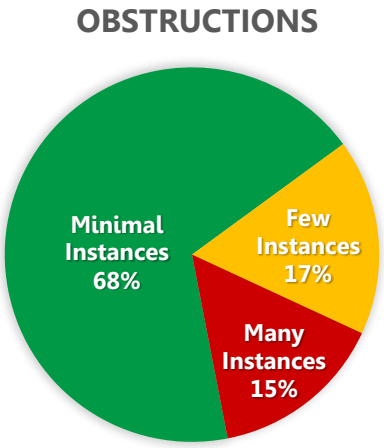
'Many' edging and vegetation instances along Lowell Avenue. Source: Project Team, February 2018.

FIGURE 3-12 ANNIE MORGAN VEGETATION/MAINTENANCE



Sidewalk Obstructions

A majority of the sidewalks (68%) had minimal non-vegetative obstructions. About 15% of the sidewalks had many obstructions, including parts of Commonwealth Avenue, Detroit Street, and Lowell Avenue. These obstructions were generally light poles or benches on the sidewalk.



Bench obstruction on Commonwealth Avenue. Source: Project Team, February 2018.

FIGURE 3-13 ANNIE MORGAN OBSTRUCTIONS

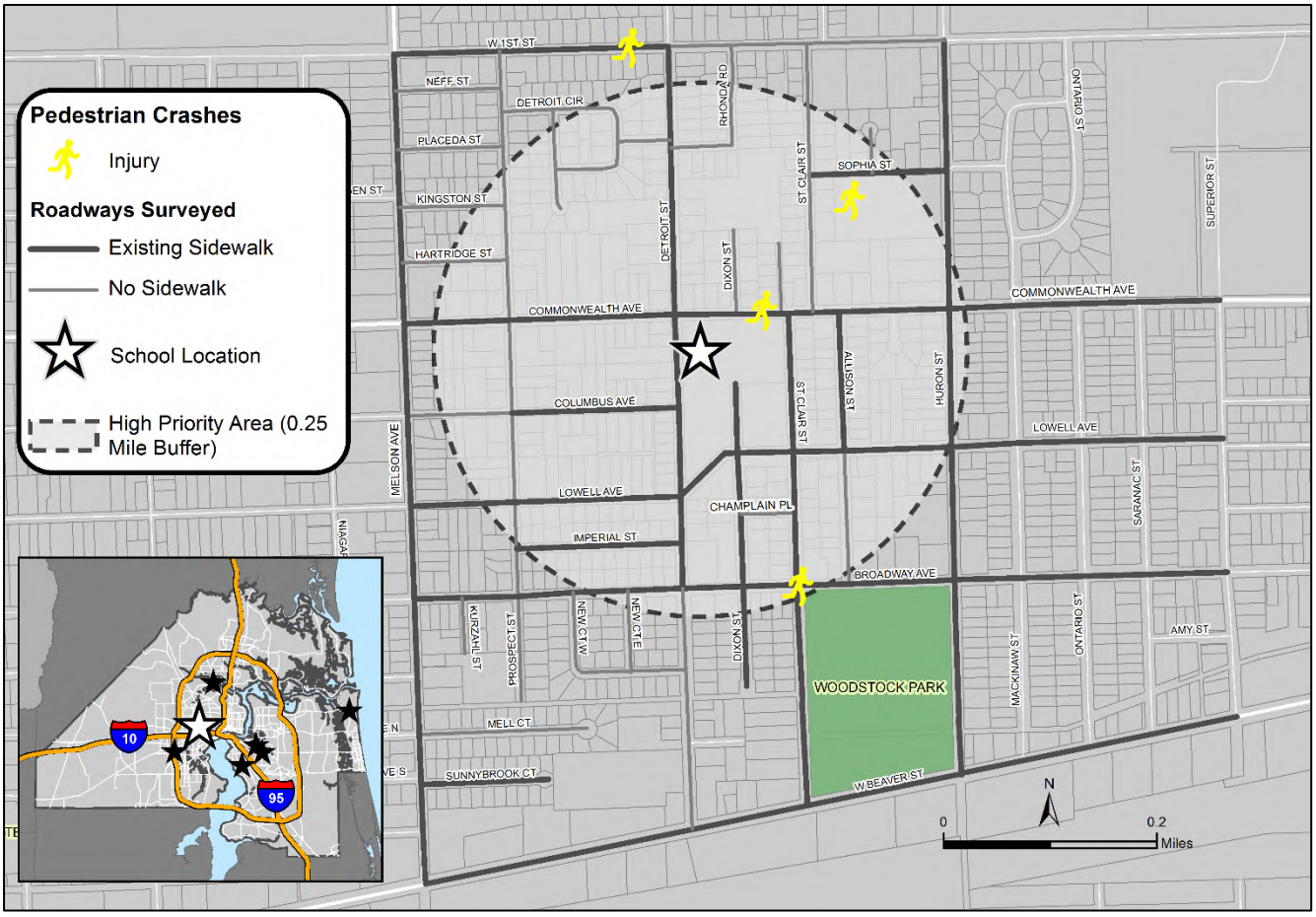
Pedestrian Safety Evaluation Results

Crash Data

There were 4 pedestrian crashes along the surveyed roads between January 2013 and January 2018. None of the crashes resulted in fatalities. 2 of the crashes occurred in the afternoon (between 1:00 PM and 4:00 PM), and the remaining 2 occurred in the 6:00 PM hour. The crash in 2014 occurred near the entrance of the school along Commonwealth Avenue. The crash locations are displayed in **Figure 3-14** and detailed in the table below. The full crash data is provided in **Appendix A**.

#	Crash Date	Crash Time	Crash Location	Alcohol	Distracted	Collision Type
1	12/25/2015	6:27 PM	1st Street/Detroit Street	N	N	Other
2	5/30/2014	3:10 PM	Commonwealth/St. Clair	N	N	Angle
3	8/10/2013	6:15 PM	Broadway/St. Clair	N	N	Other
4	4/7/2013	1:13 PM	Sophia Street Parking Lot	N	N	Angle

FIGURE 3-14 ANNIE MORGAN PEDESTRIAN CRASHES



Crosswalks

There were 8 marked crosswalks along the roadways reviewed. A majority of were along Commonwealth Avenue, with the remaining along Beaver Street and Lowell Avenue. Most of the crosswalk markings (6 of the 8 instances) were considered to be in Fair or Good condition. The two crosswalks with Poor marking condition were located at Commonwealth Avenue/Dixon Street and Beaver Street/Melson Avenue.

'Poor' crosswalk markings at Commonwealth/ Dixon. Source: Project Team, February 2018..

'Fair' crosswalk markings at Lowell/Dixon. Source: Project Team, February 2018.

FIGURE 3-15 ANNIE MORGAN CROSSWALK CONDITIONS

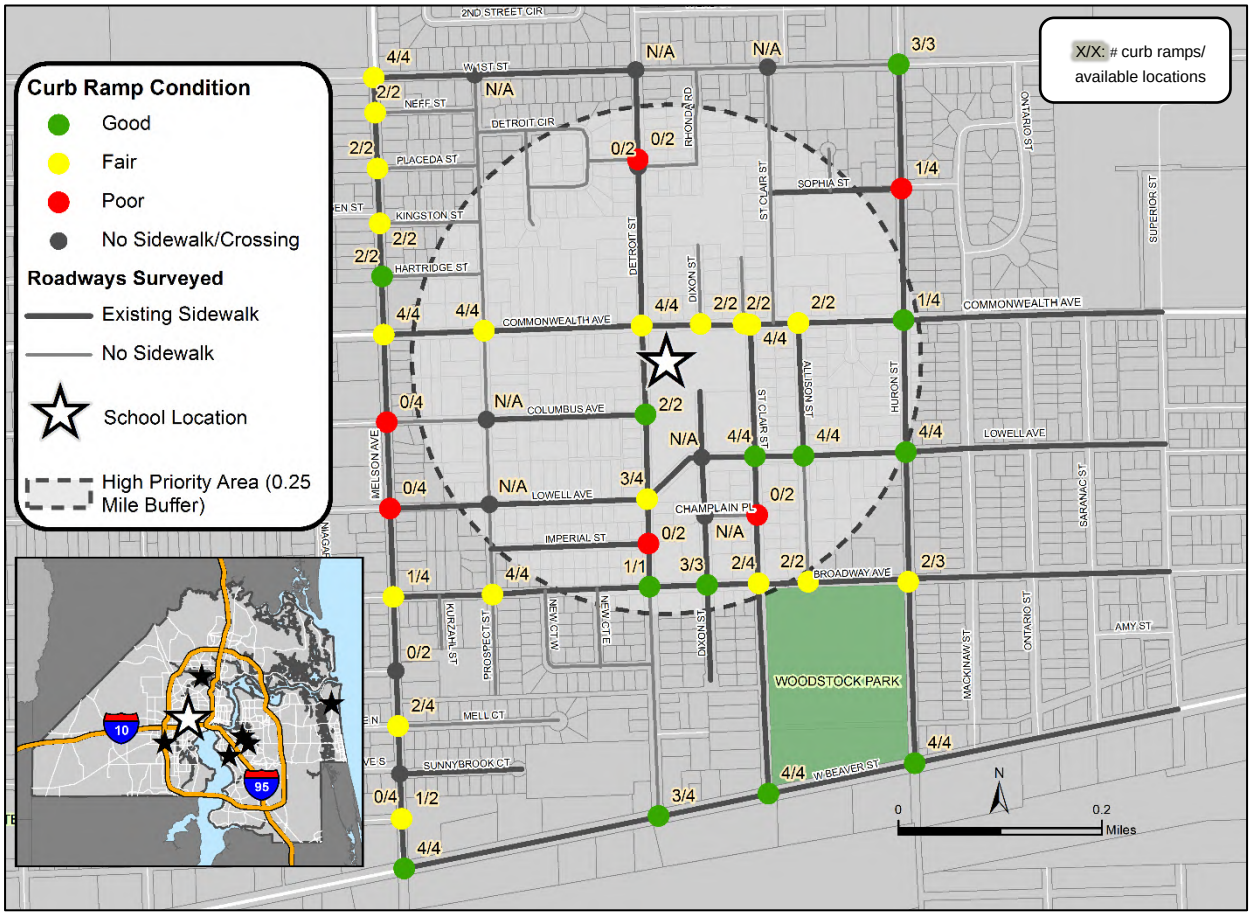
Curb Ramps

The majority of the curb ramps were in Good or Fair condition. There were no Poor curb ramps directly adjacent to the school. Several of the crossings along Melson Avenue had missing curb ramps.

'Good' curb ramps at St. Clair/Lowell. Source: Project Team, February 2018.

'Fair' curb ramps at St. Clair/Broadway. Source: Project Team, February 2018.

FIGURE 3-16 ANNIE MORGAN CURB RAMPS

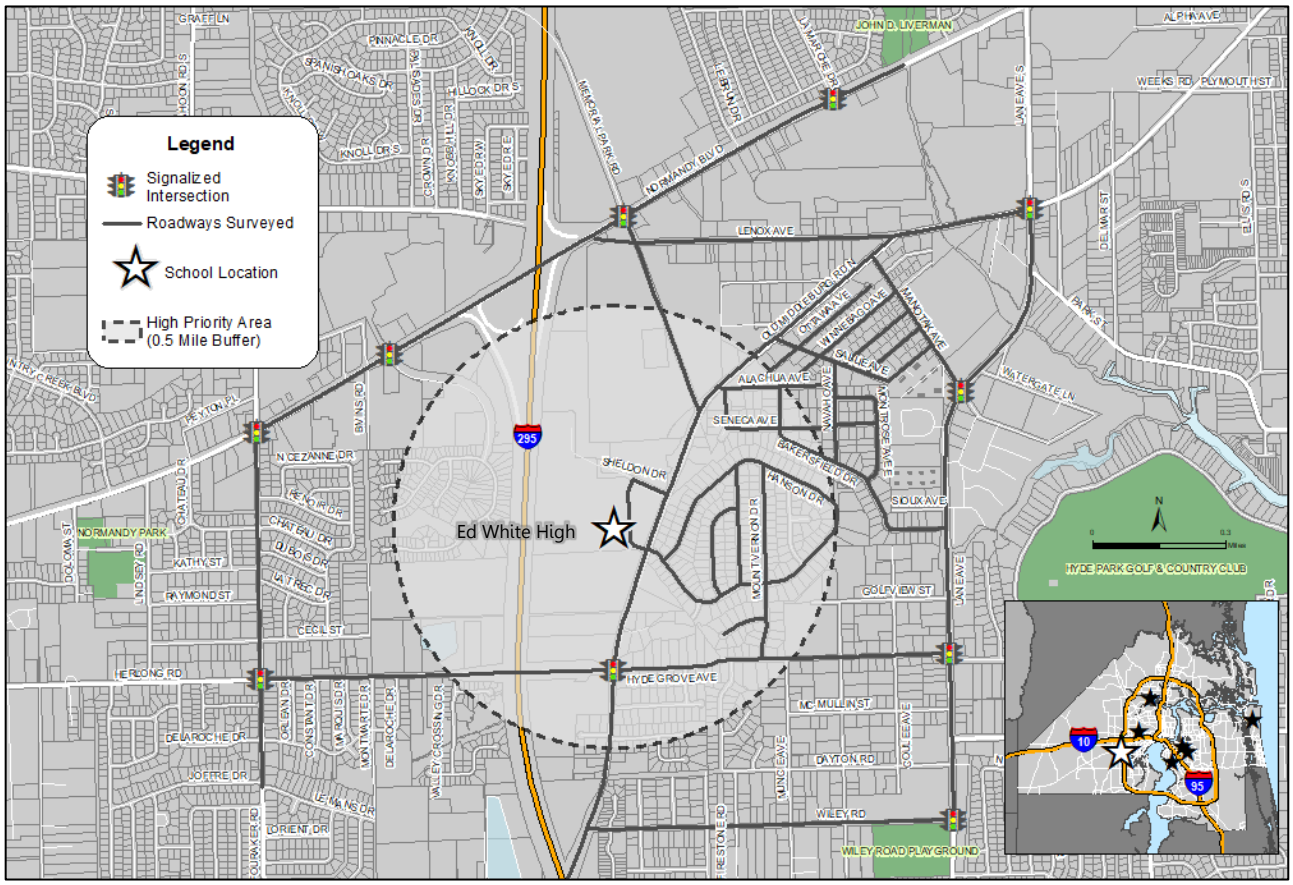


3.3 Edward White High

Edward White High School (Ed White) is located in the western part of Duval County, southeast of I-295 and Normandy Boulevard. The front entrance to the school is on Old Middleburg Road. The land surrounding the school is generally undeveloped to the north and south, single family residential across Old Middleburg to the east, and adjacent to I-295 to the south. An initial radius of 0.5 miles instead of 0.25 miles was used for Ed White to make up for the size of the campus yielding 15.8 miles of roadways surveyed. The results of the walking conditions analysis are displayed in **Figures 3-17 through Figure 3-24** and summarized below.

- The sidewalks along the arterials are incomplete. Generally. Normandy Boulevard has sidewalks on one side and has gaps near Fouraker Road.
- The sidewalks along the collector roads are complete with sidewalks on at least one side, and are generally in good condition and well maintained.
- The sidewalks providing access to the school along Old Middleburg Road are present and in good condition, there are no crosswalks available within 0.5 miles of the school. Additionally, there is not a sidewalk to get from Old Middleburg Road to the school access road; a student walking would have to use the road or walk through the grass to access the school.

FIGURE 3-17 ED WHITE LOCATION



Sidewalk Inventory Results

Sidewalk Locations

Of the 15.8 miles of roads surveyed, approximately 8 miles (51%) were local roads, 4.7 miles (29%) were collector roads (Fouraker Road, Herlong/Hyde Grove Road, Old Middleburg Road, Lenox Avenue), and the remaining 3.1 miles (20%) were arterial roads (Normandy Boulevard and Lane Avenue). The sidewalk locations are displayed in **Figure 3-18.**

- *Arterial and collector roads:* 60% of the arterial roads and 53% of the collector roads have sidewalks on both sides. Less than 10% of the arterials and collectors have no sidewalks. Normandy Boulevard has an inconsistent sidewalk network for an arterial road.
- *Local roads:* Nearly 60% of the local roads have no sidewalks; 30% had sidewalks on one side; 10% had sidewalks on both sides.

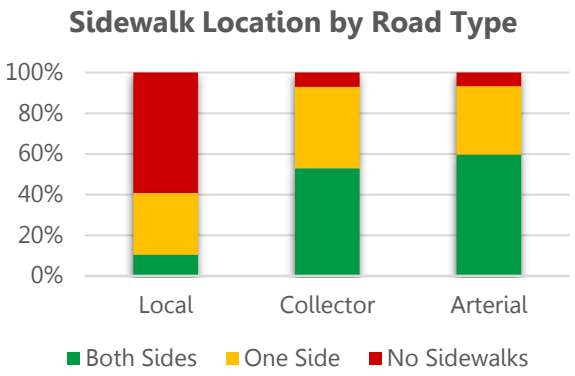
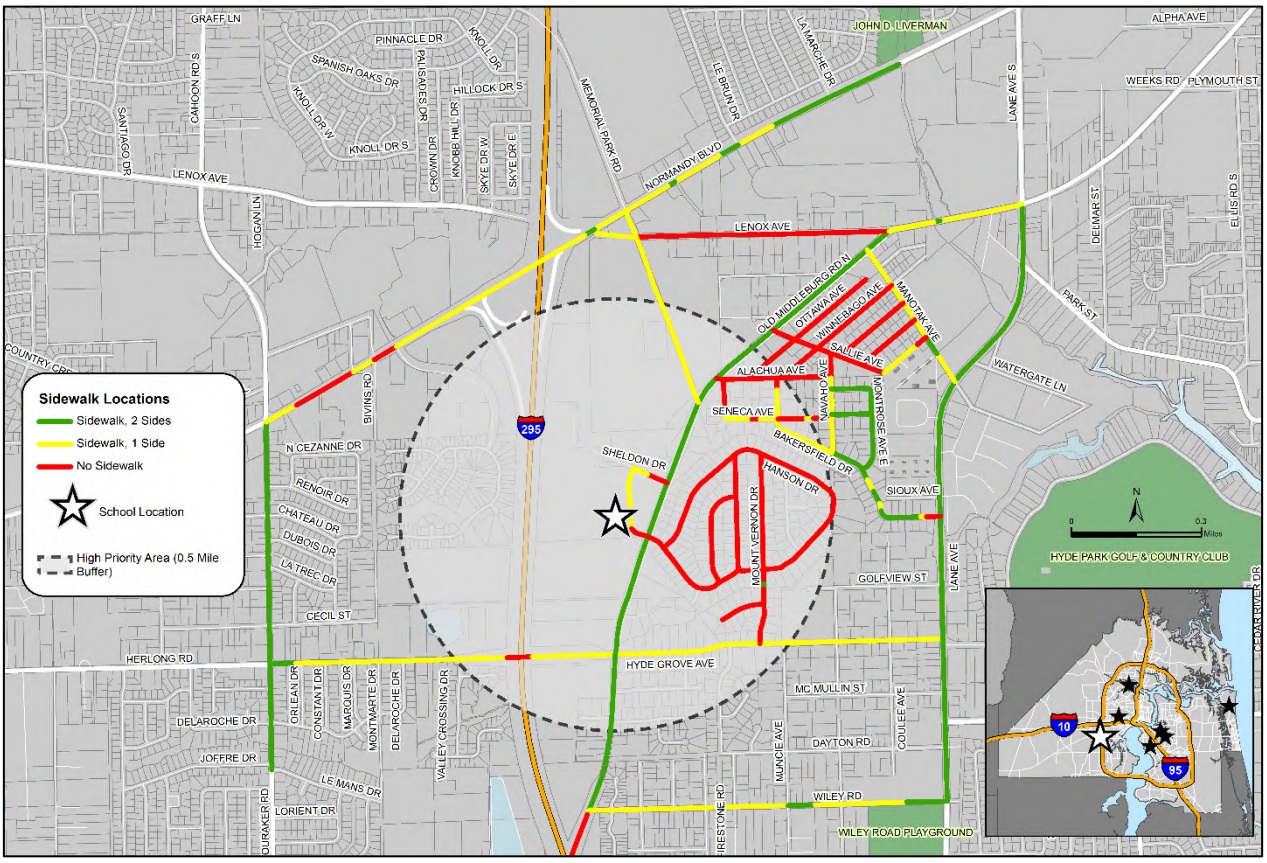
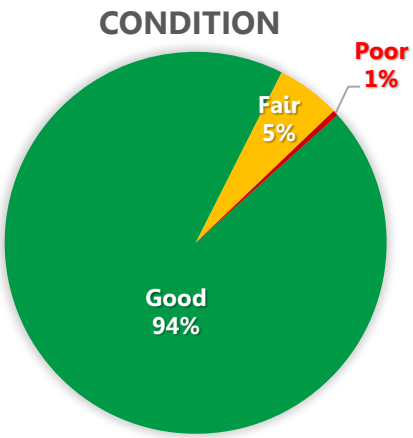


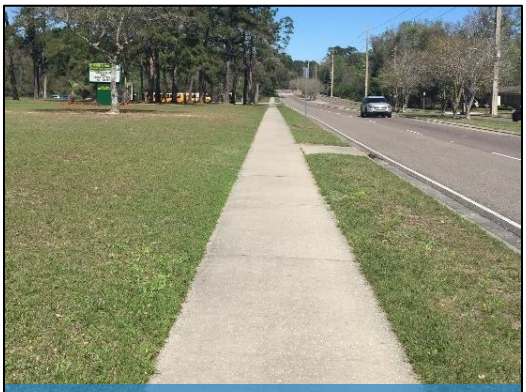
FIGURE 3-18 ED WHITE SIDEWALK LOCATIONS



Sidewalk Pavement Condition

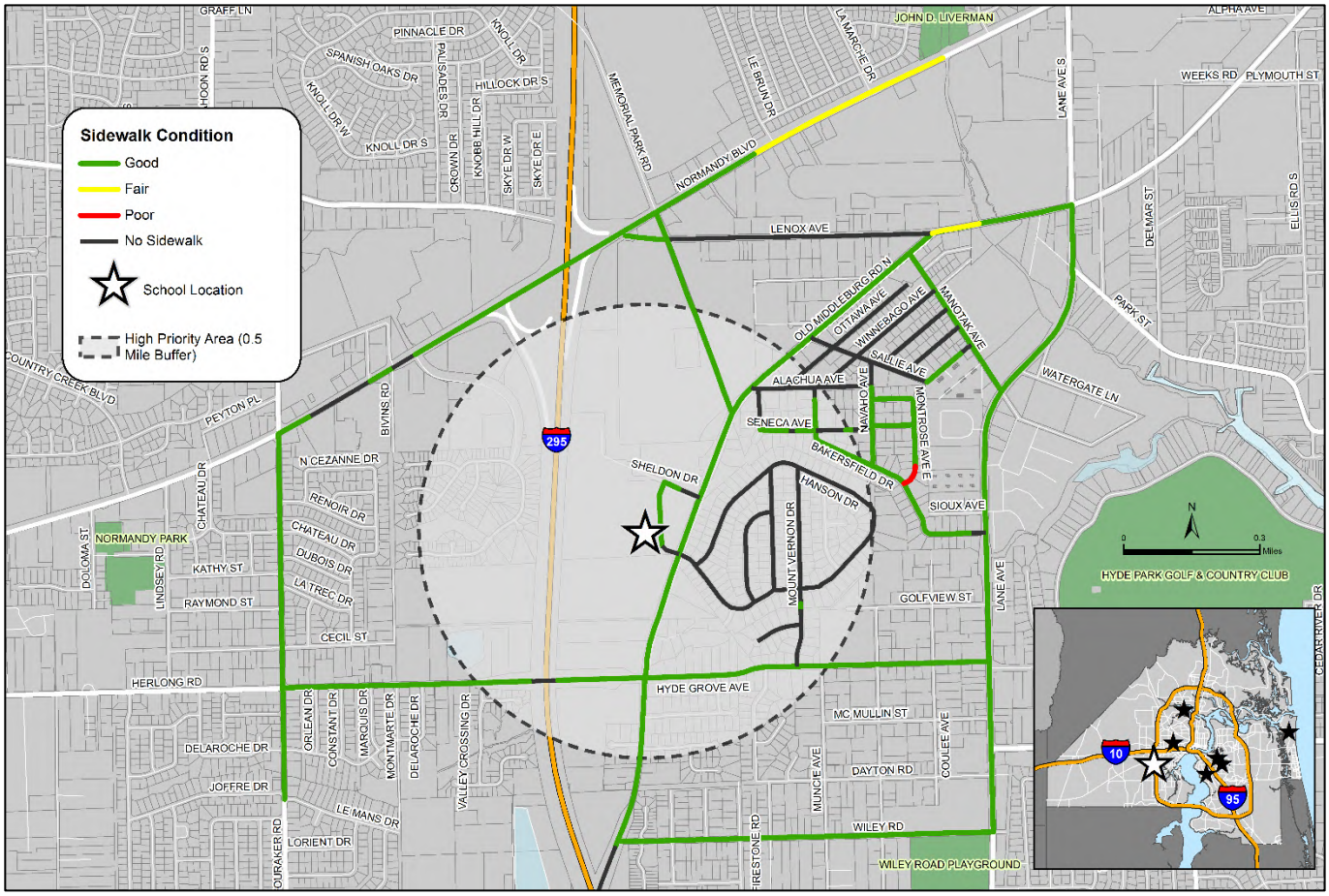
Less than 1% of the sidewalks were rated as Poor condition. Approximately 5% of the sidewalks were considered to be in Fair condition, and the remaining 94% were classified as Good condition. The Poor condition sidewalks are located along local roads near Bakersfield Drive and Montrose Avenue. The Fair condition sidewalks are located on Normandy Boulevard east of Memorial Park Road and near Lenox Avenue and Old Middleburg Road.





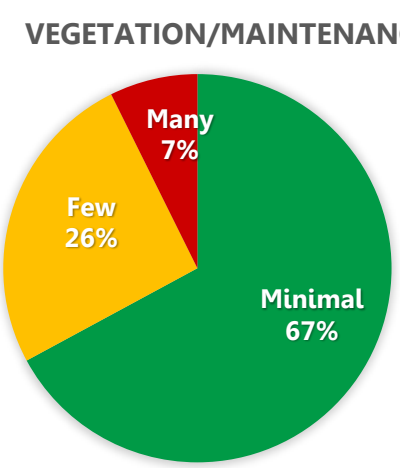
'Good' condition sidewalks on Old Middleburg Road in front of school.
Source: Project Team, March 2018.

FIGURE 3-19 ED WHITE SIDEWALK CONDITION



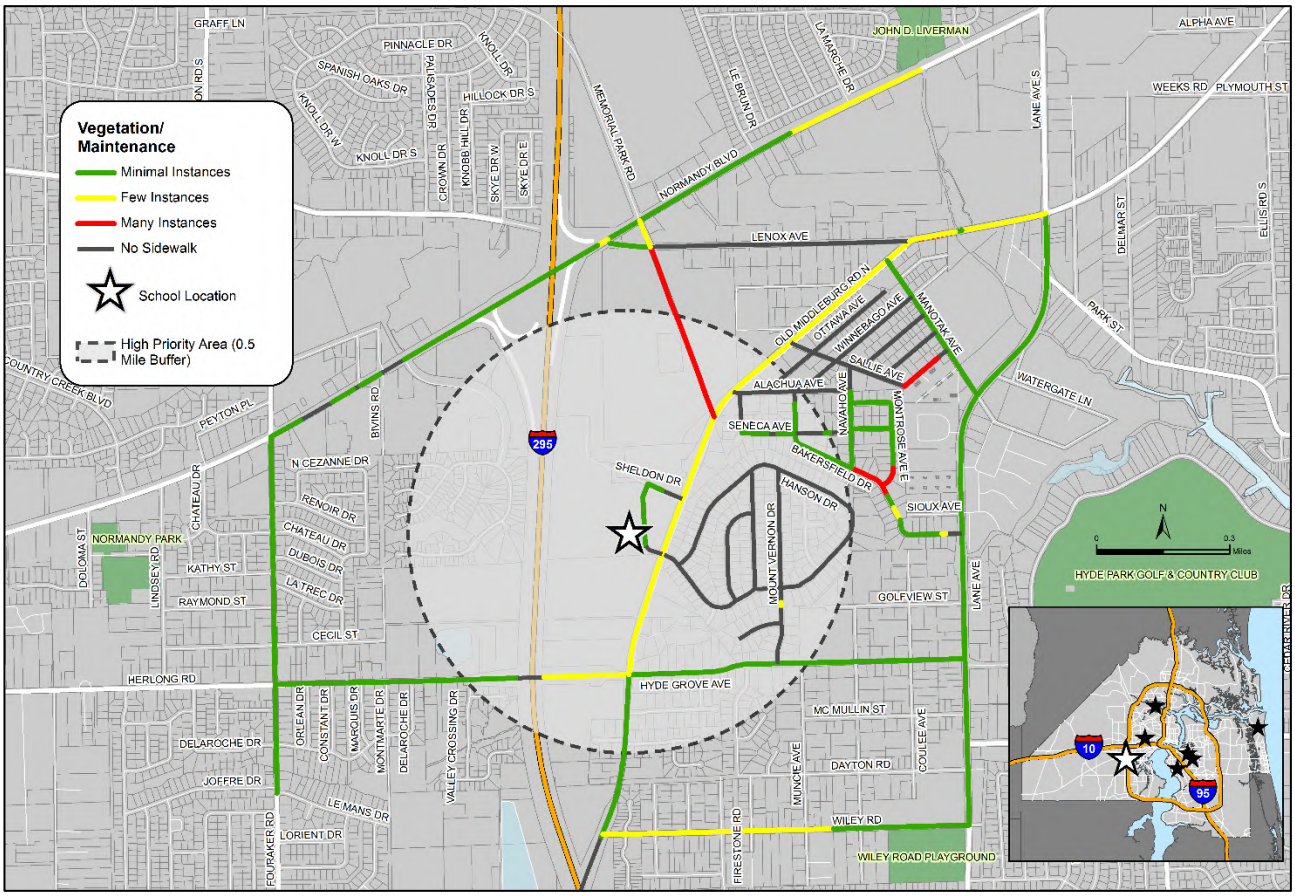
Sidewalk Vegetation and Maintenance

About 33% of the sidewalks had many or few instances of edging and vegetation issues. Memorial Park Road south of Lenox Avenue had the majority of the 'Many' instances. The sidewalks along the arterials (Normandy Boulevard and Lane Avenue) generally had minimal vegetation maintenance issues.



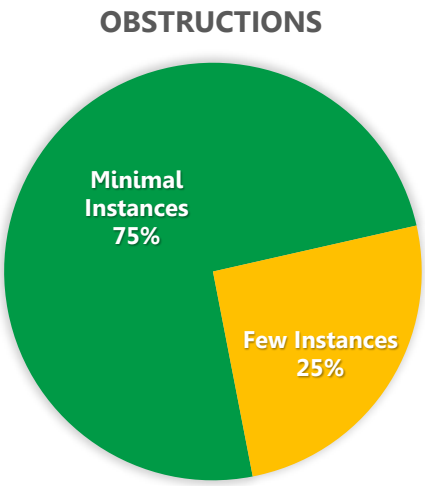
'Few' edging/vegetation needs on Old Middleburg Road approaching the school. Source: Project Team, March 2018.

FIGURE 3-20 ED WHITE VEGETATION AND MAINTENANCE



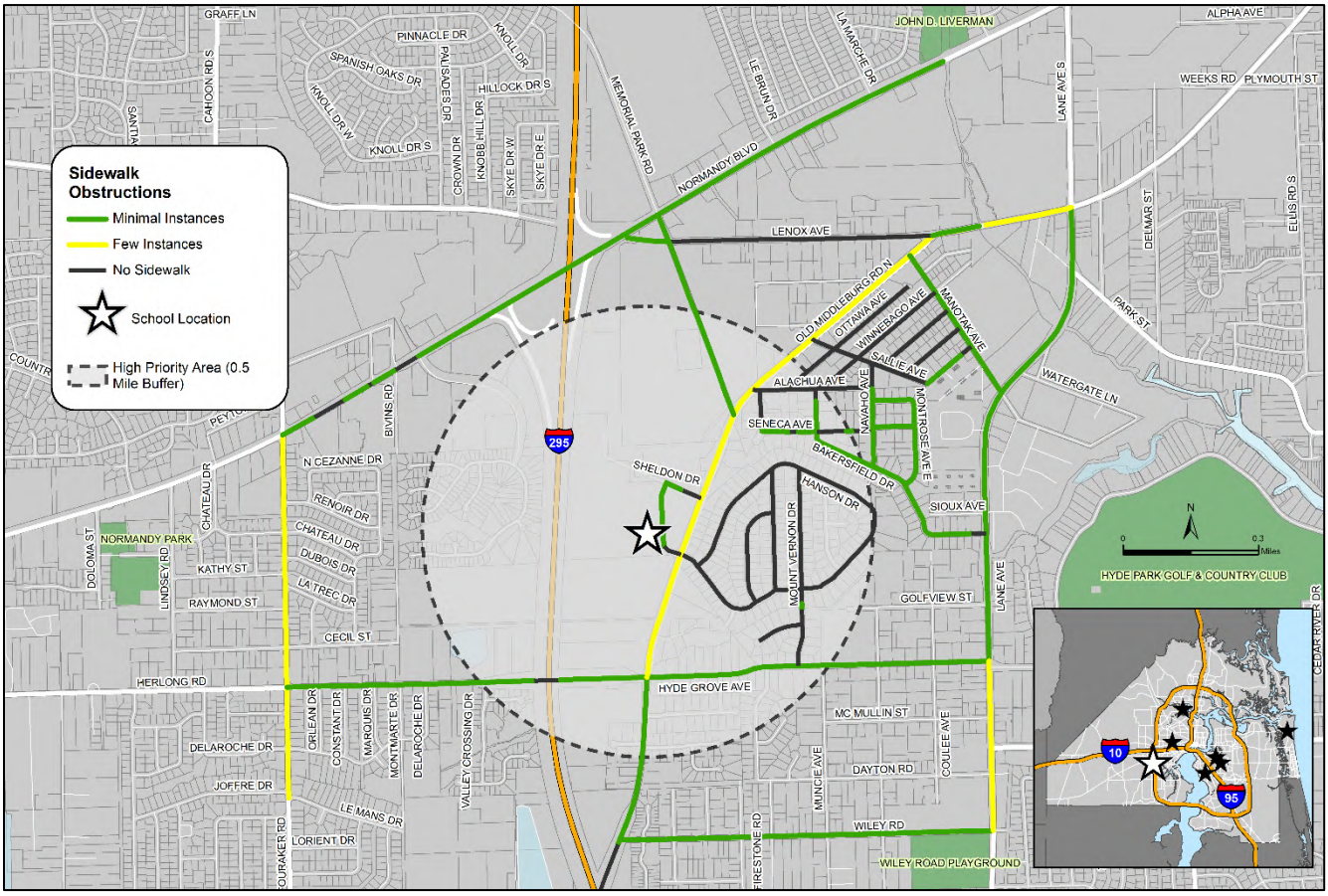
Sidewalk Obstructions

A majority of the sidewalks (75%) had minimal obstructions. The sidewalks with Few obstructions are located along Old Middleburg Road, Fouraker Road, Lenox Avenue, and Lane Avenue. These sidewalks typically had light pole encroachment, tree roots, or benches on the sidewalk.



Light pole encroachment Old Middleburg Road in front of school. Source: Project Team, March 2018.

FIGURE 3-21 ED WHITE OBSTRUCTIONS



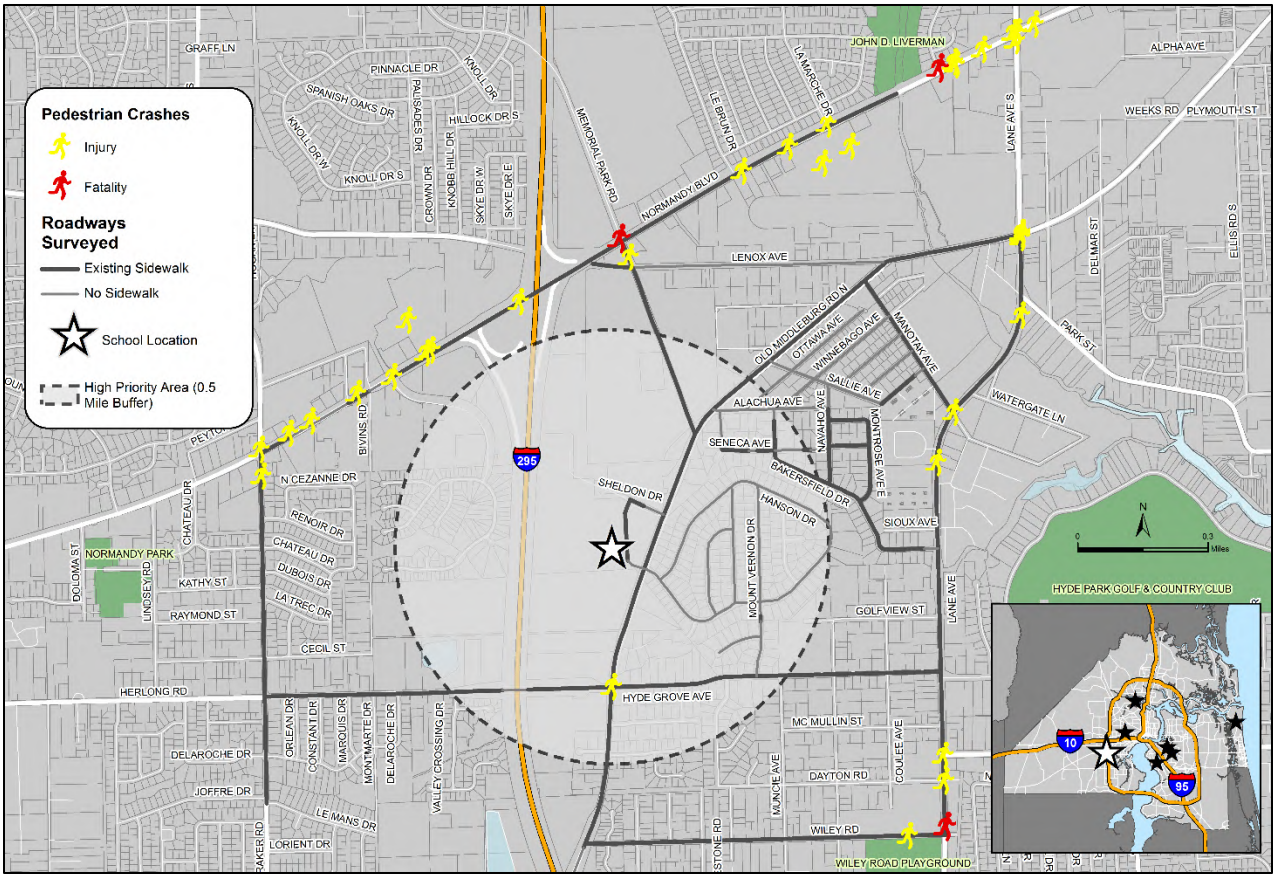
Pedestrian Safety Evaluation Results

Crash Data

A summary of the crash data is provided below. The full crash data is detailed in **Appendix A**.

- There were 37 pedestrian crashes between January 2013 and January 2018.
- No pedestrian crashes occurred within 0.25 miles of the school.
- 1 crash occurred within 0.5 miles of the school at the intersection of Hyde Grove Avenue and Old Middleburg Road.
- 3 of the crashes resulted in fatalities. 2 were along Normandy Boulevard, and 1 was Lane Avenue and Wiley Road. All 3 crashes occurred between 8:00 PM and 11:30 PM; 1 crash was reported to be drug/alcohol related.
- 10 of the crashes occurred between 5:00 AM and 12:00 PM; 6 crashes occurred between 12:00 PM and 4:00 PM, and the remaining 21 crashes occurred between 4:00 PM and 11:30 PM.

FIGURE 3-22 ED WHITE CRASH

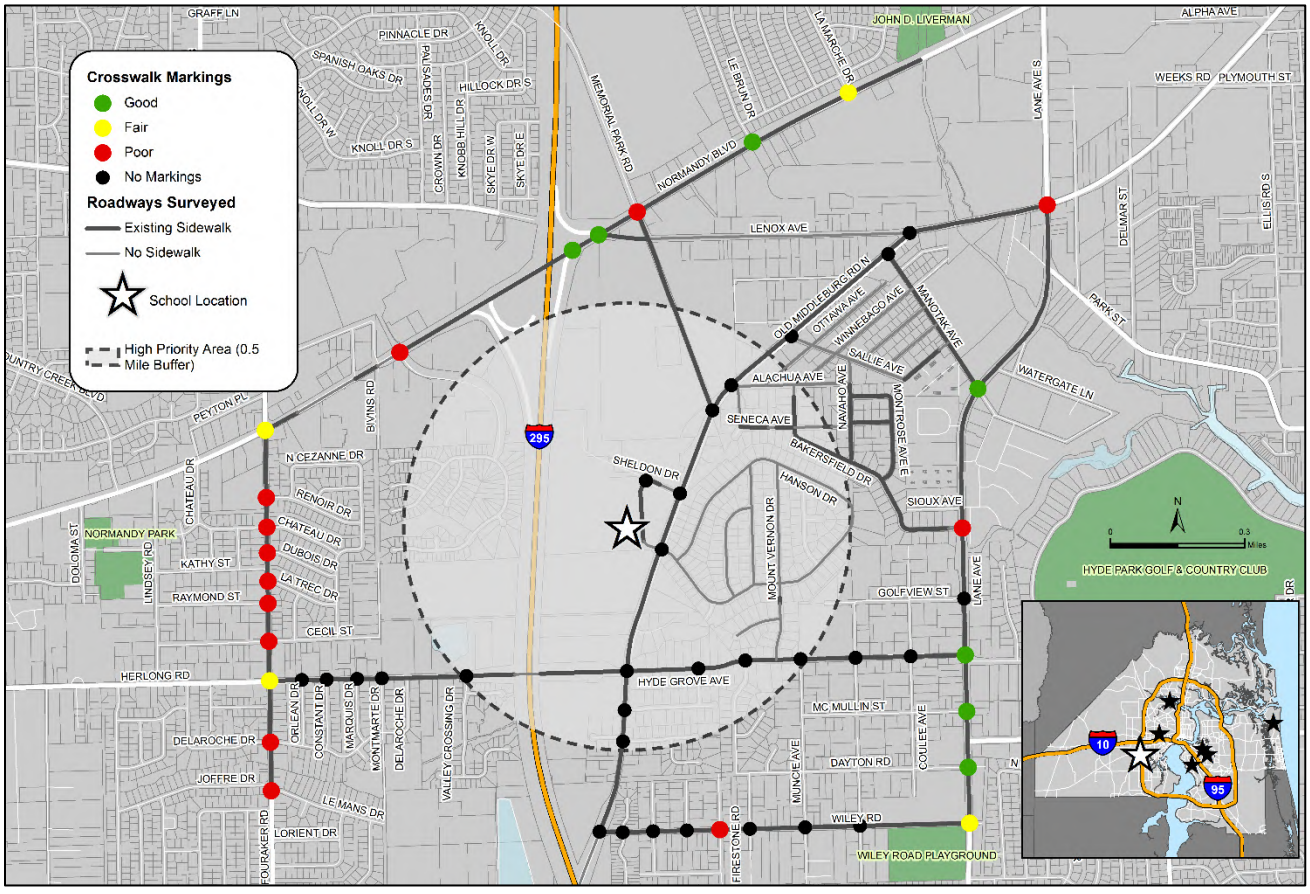


Crosswalks

There were 23 marked crosswalks along the roadways reviewed. About half of the marked crosswalks were located across neighborhood entrance roads along Foraker Road, most of which were in Poor condition. The crosswalks along Normandy and Lane Avenue vary from Good to Poor condition. **There were no marked crosswalks within 0.5 miles of the school.**

'Good' crosswalks at Hyde Grove Avenue/Lane Avenue. Source: Google Maps, January 2017.

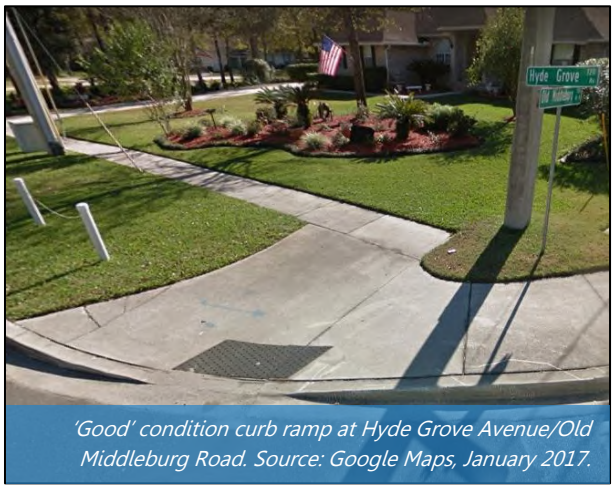
FIGURE 3-23 ED WHITE CROSSWALK CONDITIONS



Curb Ramps

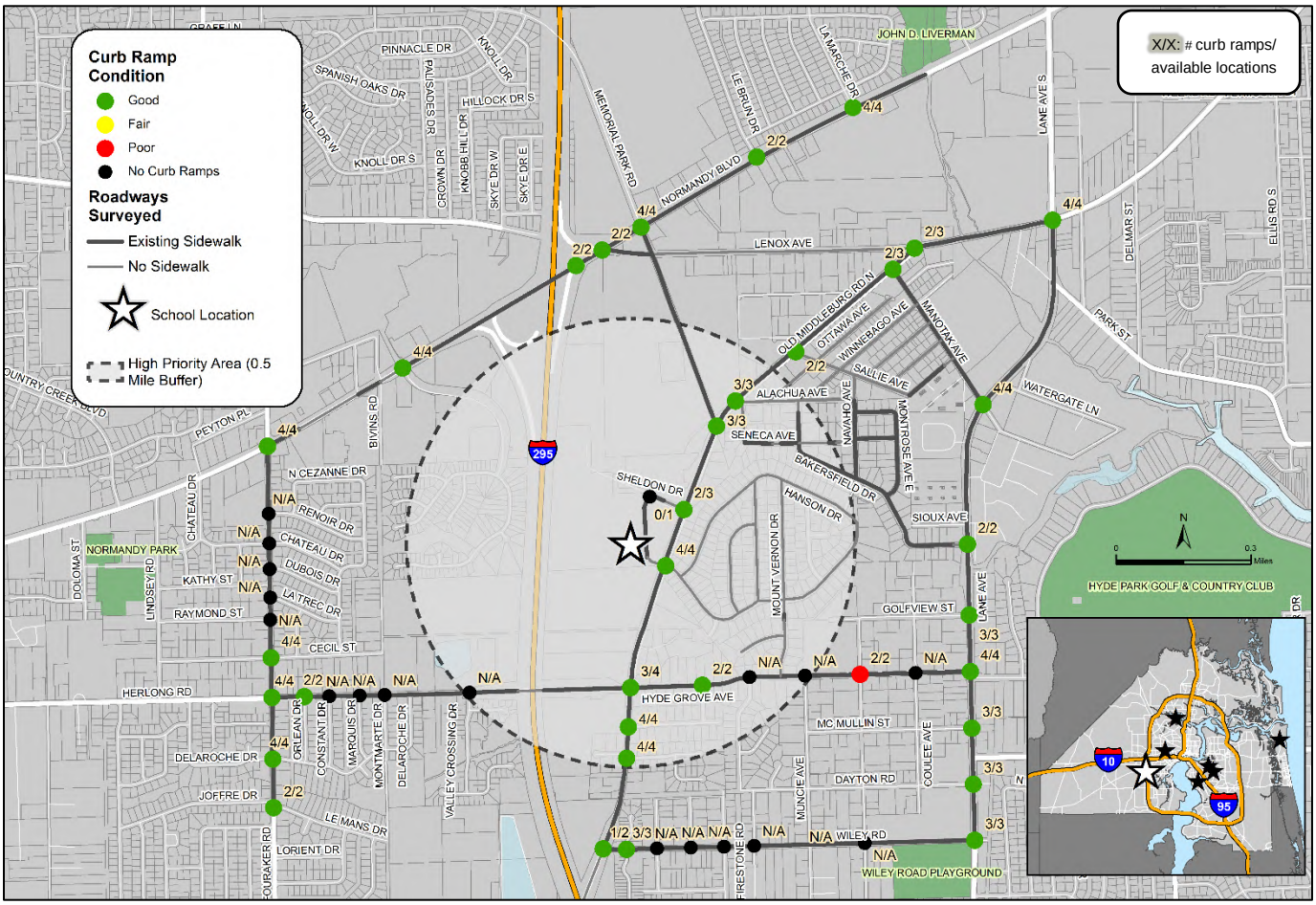
All of the curb ramps observed were considered to be in Good condition, with the exception of one curb ramp on Hyde Grove Road and Navaho Road. Additionally, there were few missing curb ramps along the roads surveyed.

'Good' condition curb ramp near Old Middleburg/Wiley Road. Source: Project Team, March 2018.



'Good' condition curb ramp at Hyde Grove Avenue/Old Middleburg Road. Source: Google Maps, January 2017.

FIGURE 3-24 ED WHITE CURB RAMPS

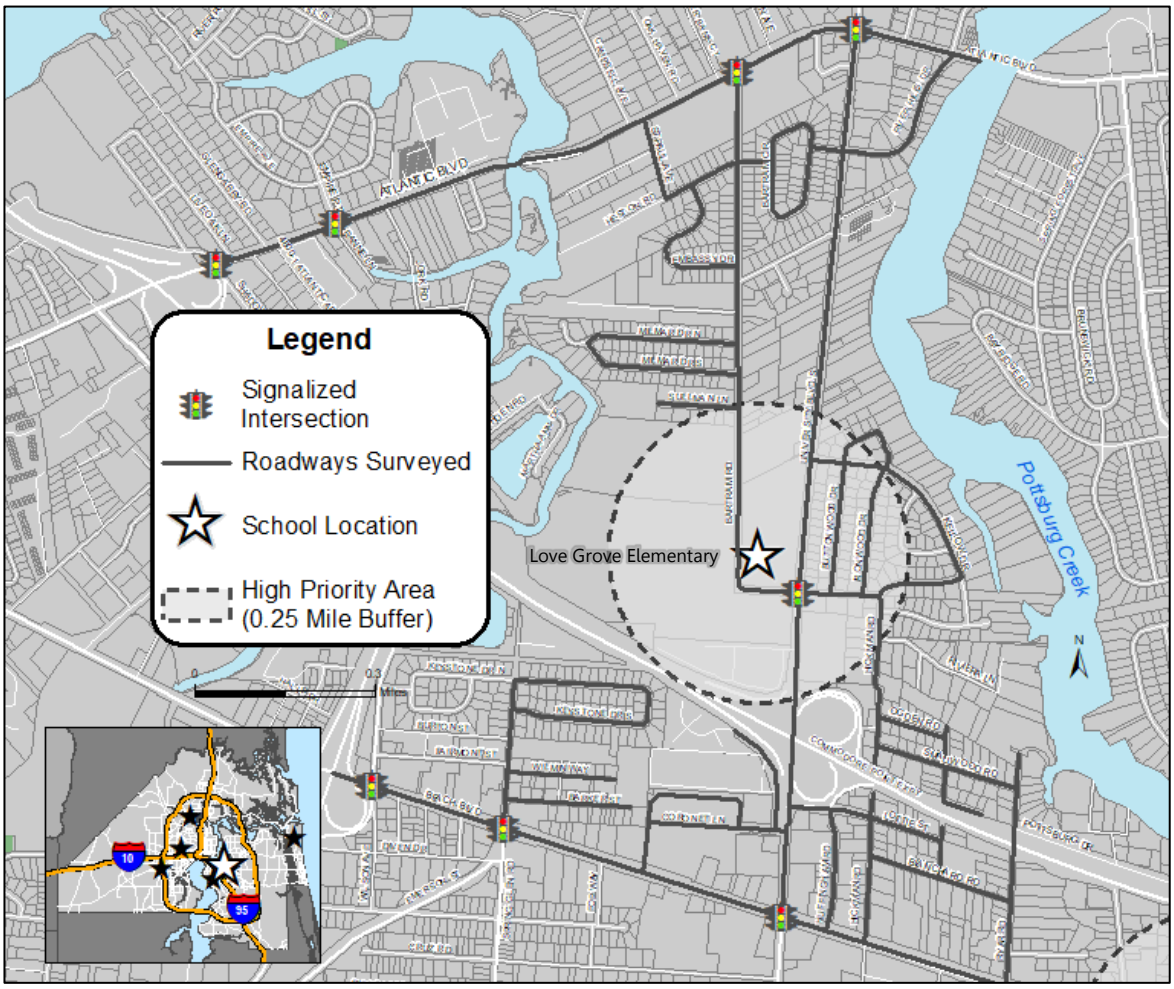


3.4 Love Grove Elementary

Love Grove Elementary School (Love Grove) is located near central Duval County, southeast of the St. Johns River. The school is bordered by University Boulevard to the east and Bartram Road to the west and south. The main vehicular entrance to the school is on Bartram Road. An additional pedestrian entrance is on University Boulevard. The land adjacent to the school is generally undeveloped with the exception of two small businesses. The surrounding area is a mix of residential and commercial. 11.9 miles of roadways were surveyed for Love Grove. The results of the walking conditions analysis are displayed in **Figures 3-25 through 3-32**, and summarized below.

- The arterial sidewalk network is complete with sidewalks on both sides. These sidewalks are generally in good condition and well maintained.
- There is a vital section of sidewalk missing along the bend of Bartram Road near the entrance to the school.
- The crosswalks serving the school are in fair and poor condition.
- Curb ramps are present and in good condition along the roads surveyed.

FIGURE 3-25 LOVE GROVE LOCATION



Sidewalk Inventory Results

Sidewalk Locations

Of the 11.9 miles of roads surveyed, approximately 7.9 miles (66%) were local roads, and 4 miles (4%) were arterial roads (Atlantic Boulevard, University Boulevard, Beach Boulevard). Notably, there is a missing sidewalk segment along the southern bend of Bartram Road adjacent to the school. Sidewalk locations are displayed in the map below.

- *Arterial roads:* 100% of the arterial roads have sidewalks on both sides.
- *Local roads:* A majority of the local roads had no sidewalks (84%); 12% had sidewalks on one side (mostly along Bartram Road); 4% had sidewalks on both sides (northern end of Bartram Road near Atlantic Boulevard).

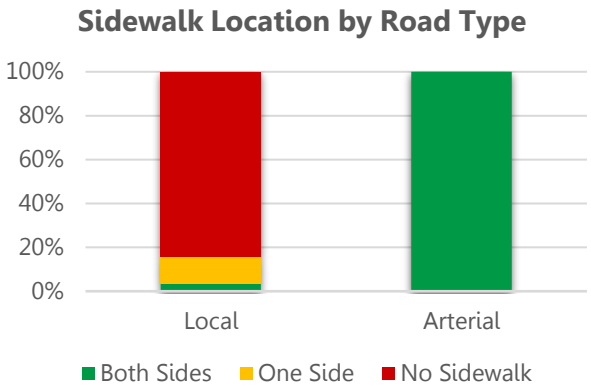
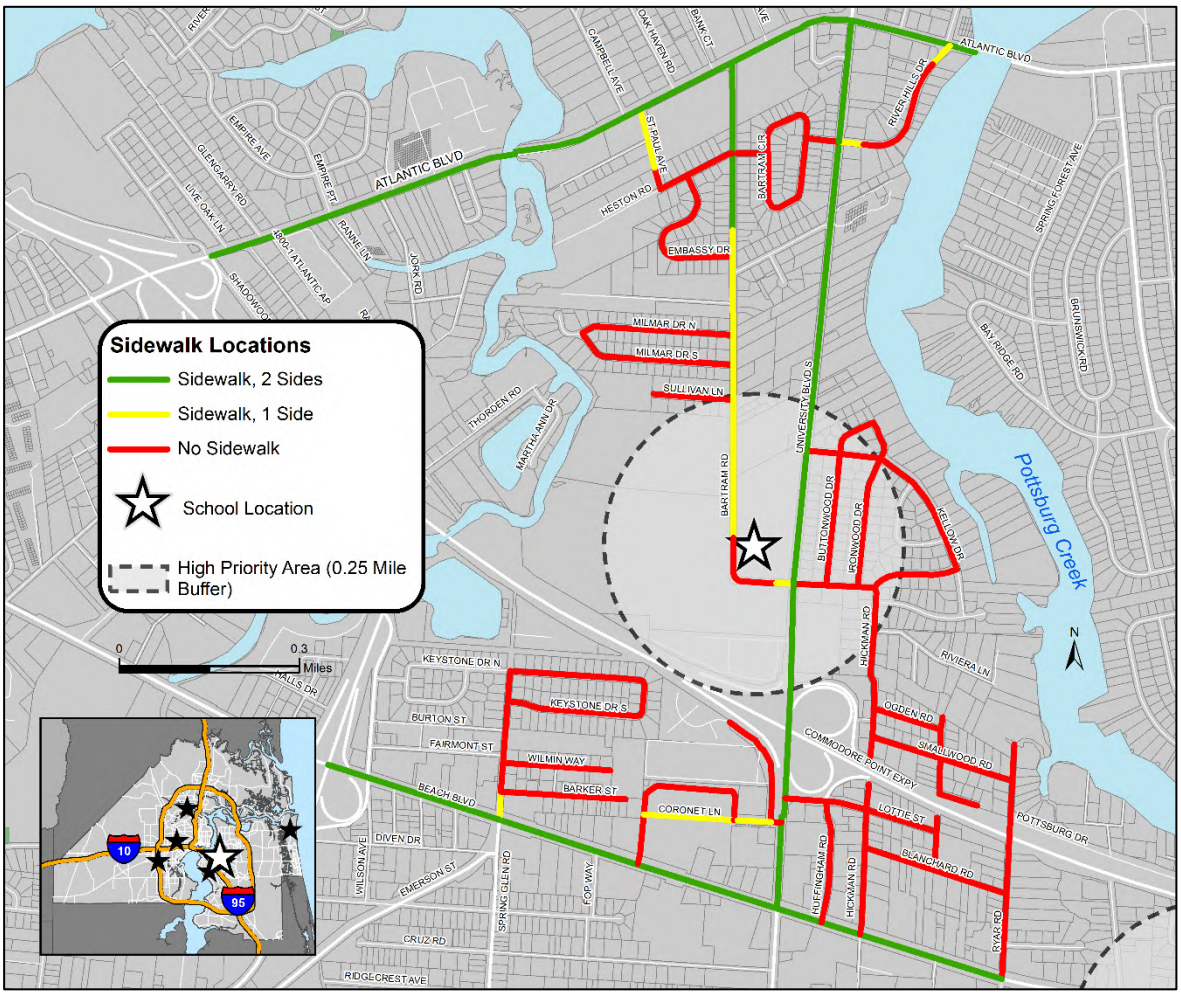
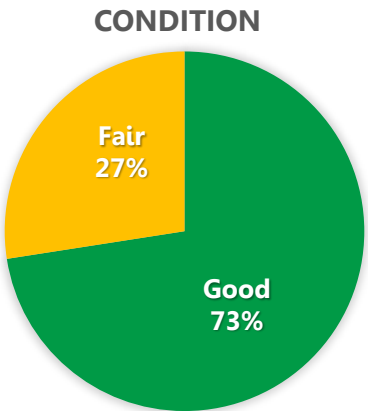


FIGURE 3-26 LOVE GROVE SIDEWALK LOCATIONS



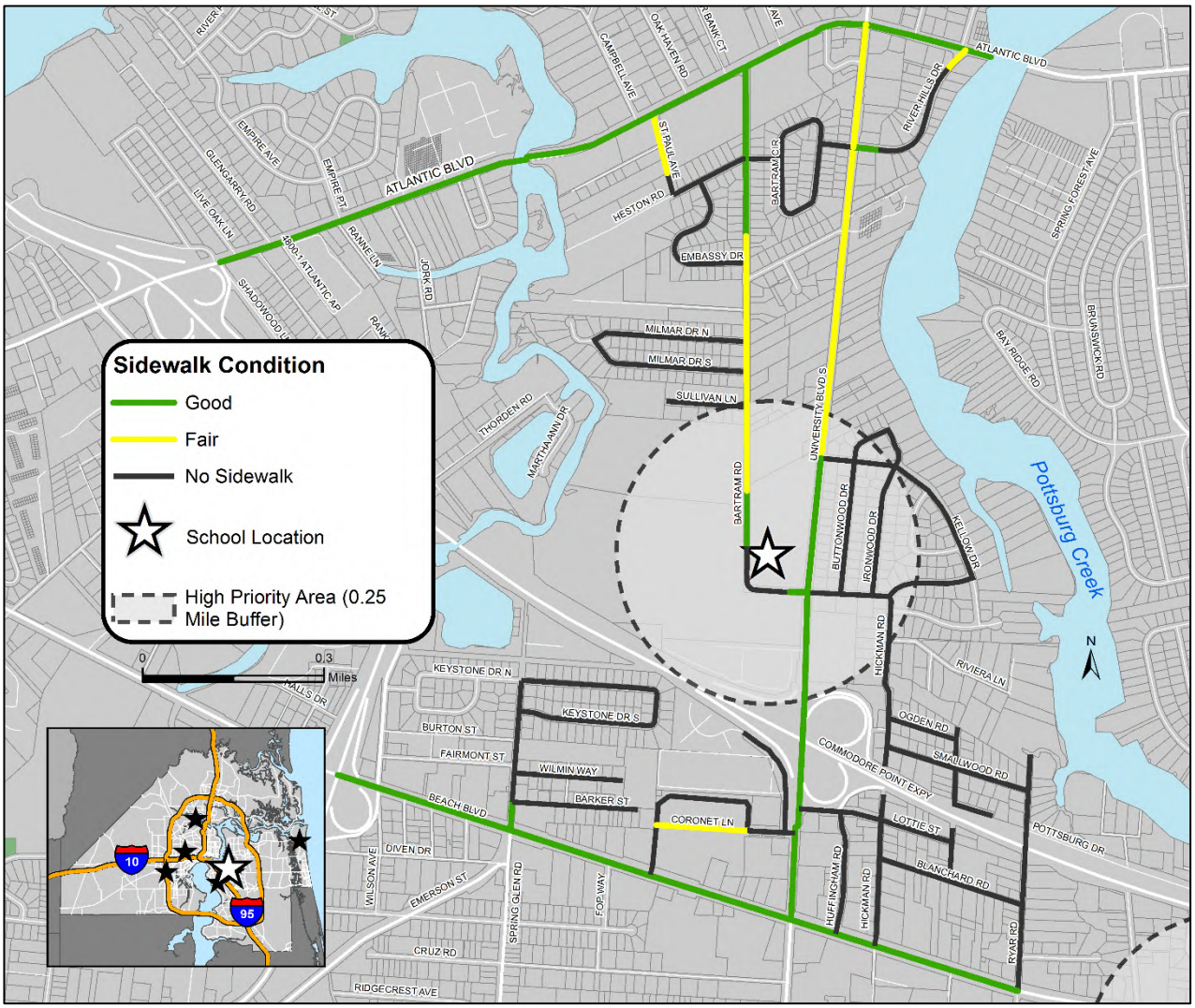
Sidewalk Pavement Condition

A majority of the sidewalks were rated as Good condition (73%), which includes the length of the sidewalk reviewed for Atlantic and Beach Boulevards. The remaining sidewalks (27%) were rated as Fair condition, including portions of Bartram Road and the northern segment of University Boulevard. No sidewalks were considered to be in Poor condition.



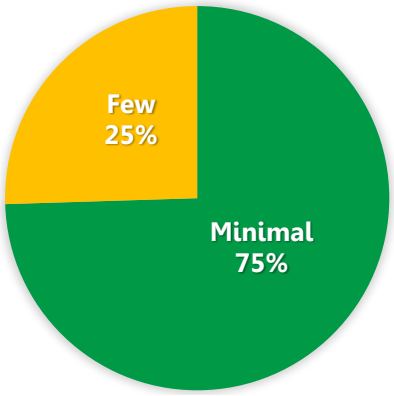
'Good' condition sidewalk pavement along University Boulevard.
Source: Project Team, March 2018.

FIGURE 3-27 LOVE GROVE SIDEWALK CONDITION



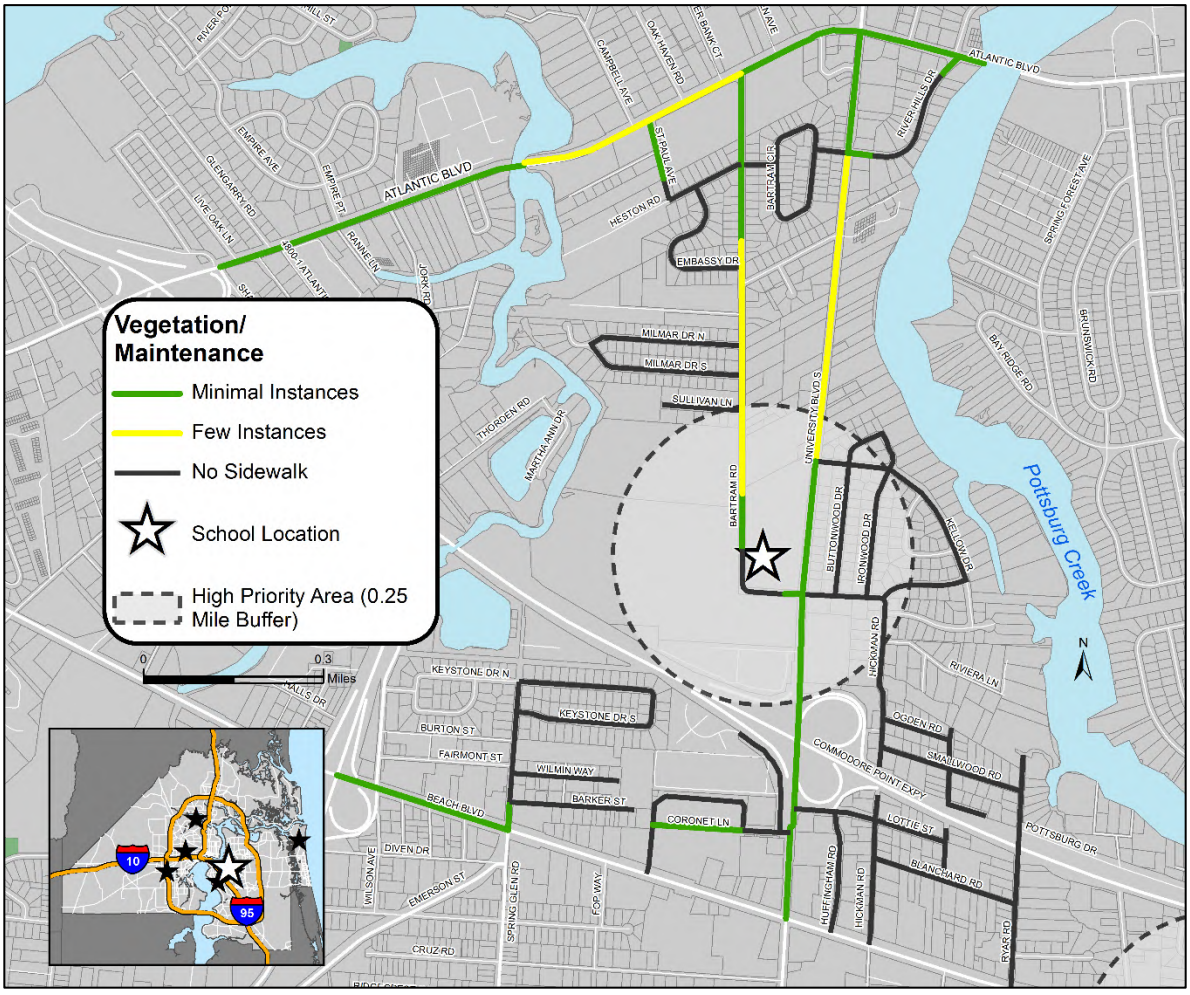
Sidewalk Vegetation and Maintenance

All of the sidewalks had minimal or few instances of edging and vegetation encroachment. Similar to pavement condition, sections of Bartram Road and University Boulevard had Few instances of edging and vegetation issues, along with a section on Atlantic Boulevard. The sidewalks closest to the school had minimal edging and vegetation encroachment.



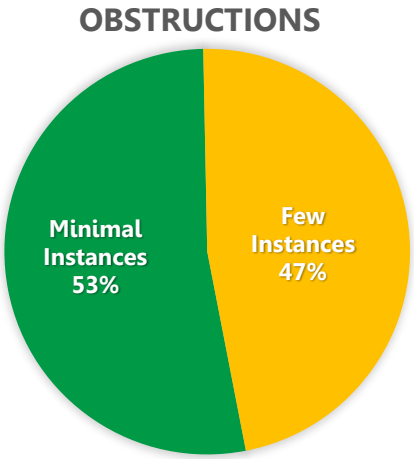
'Minimal' instances of edging and vegetation issues along Bartram Road near school entrance. Source: Project Team, March 2018.

FIGURE 3-28 LOVE GROVE VEGETATION AND MAINTENANCE



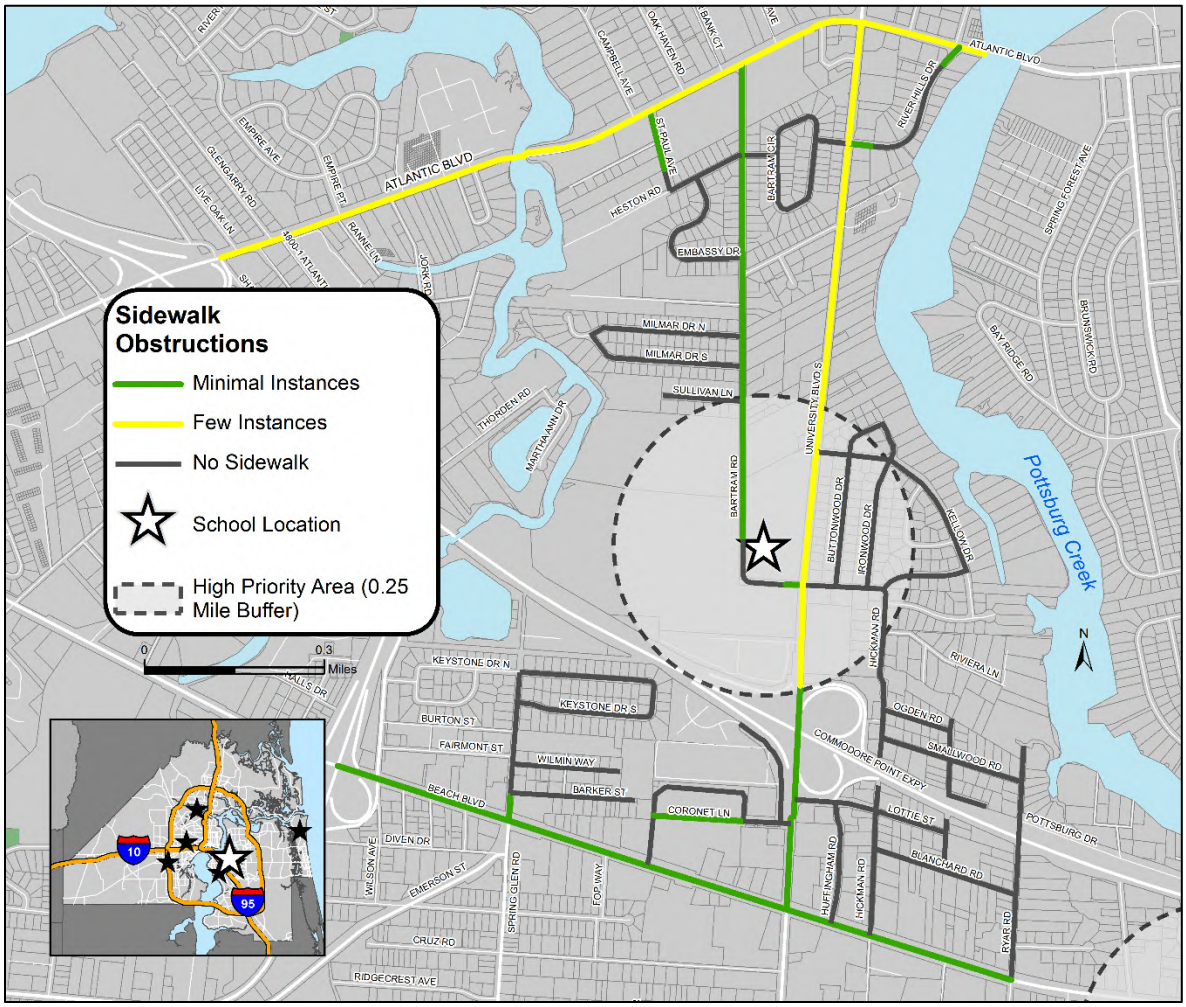
Sidewalk Obstructions

About half of the sidewalks (47%) had few instances of non-vegetative sidewalk obstructions. These instances were primarily sidewalk light poles and benches encroaching the walkway along Atlantic and Beach Boulevards.



Light pole obstruction on University Boulevard near school entrance.
Source: Google Maps, January 2017.

FIGURE 3-29 LOVE GROVE OBSTRUCTIONS



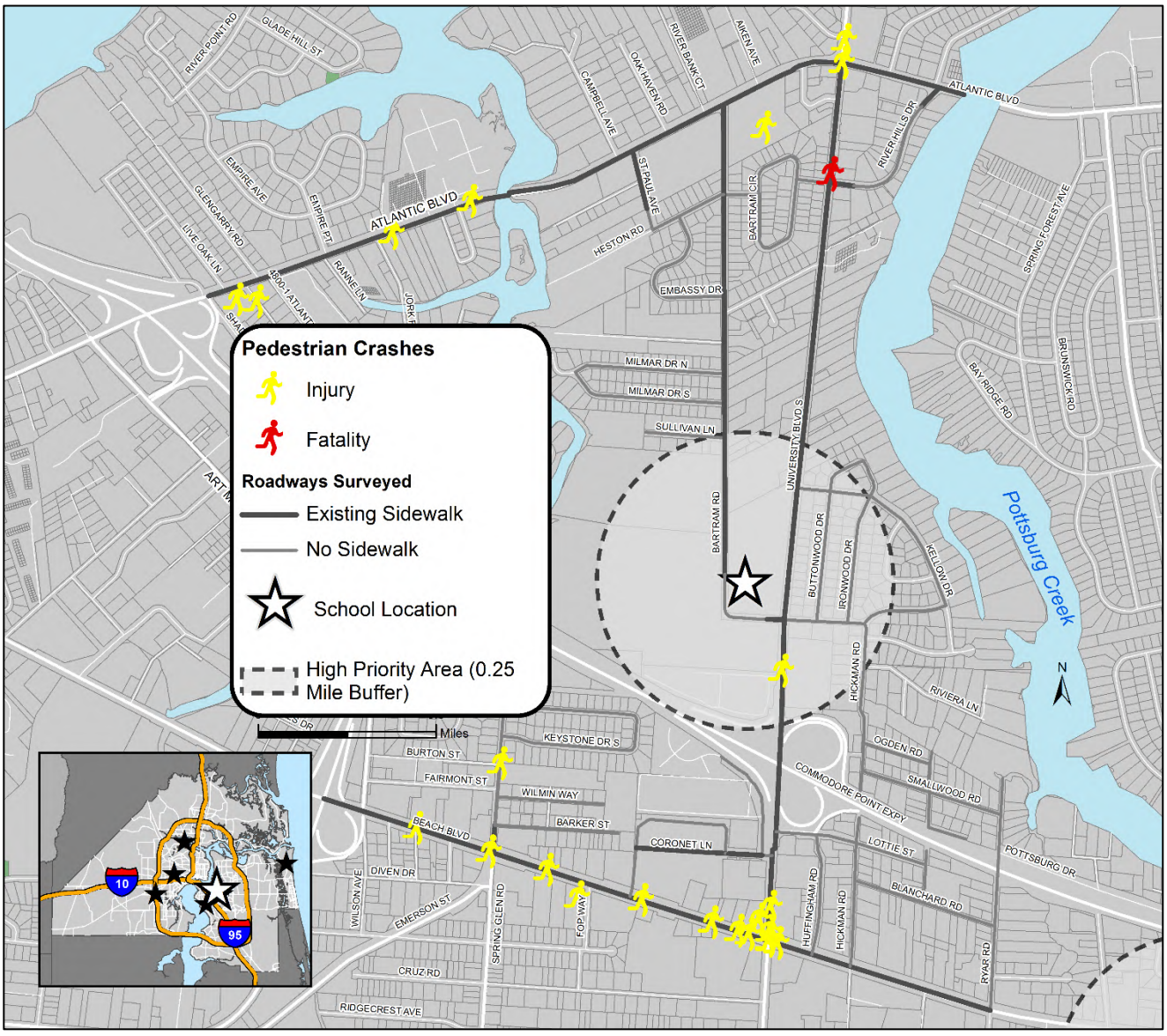
Pedestrian Safety Evaluation Results

Crash Data

A summary of the crash data is provided below. The full crash data is detailed in **Appendix A.**

- There were 26 pedestrian crashes between January 2013 and January 2018.
- 1 pedestrian crash occurred within 0.25 miles of the school along University Boulevard between Bartram Road and Commodore Point Expressway. The crash occurred at 11:30 AM during rainy weather conditions.
- 1 crash resulted in a fatality at University Boulevard and River Hills Drive. The crash occurred at 9:14 PM, and was not reported to be alcohol or drug related.

FIGURE 3-30 LOVE GROVE CRASH

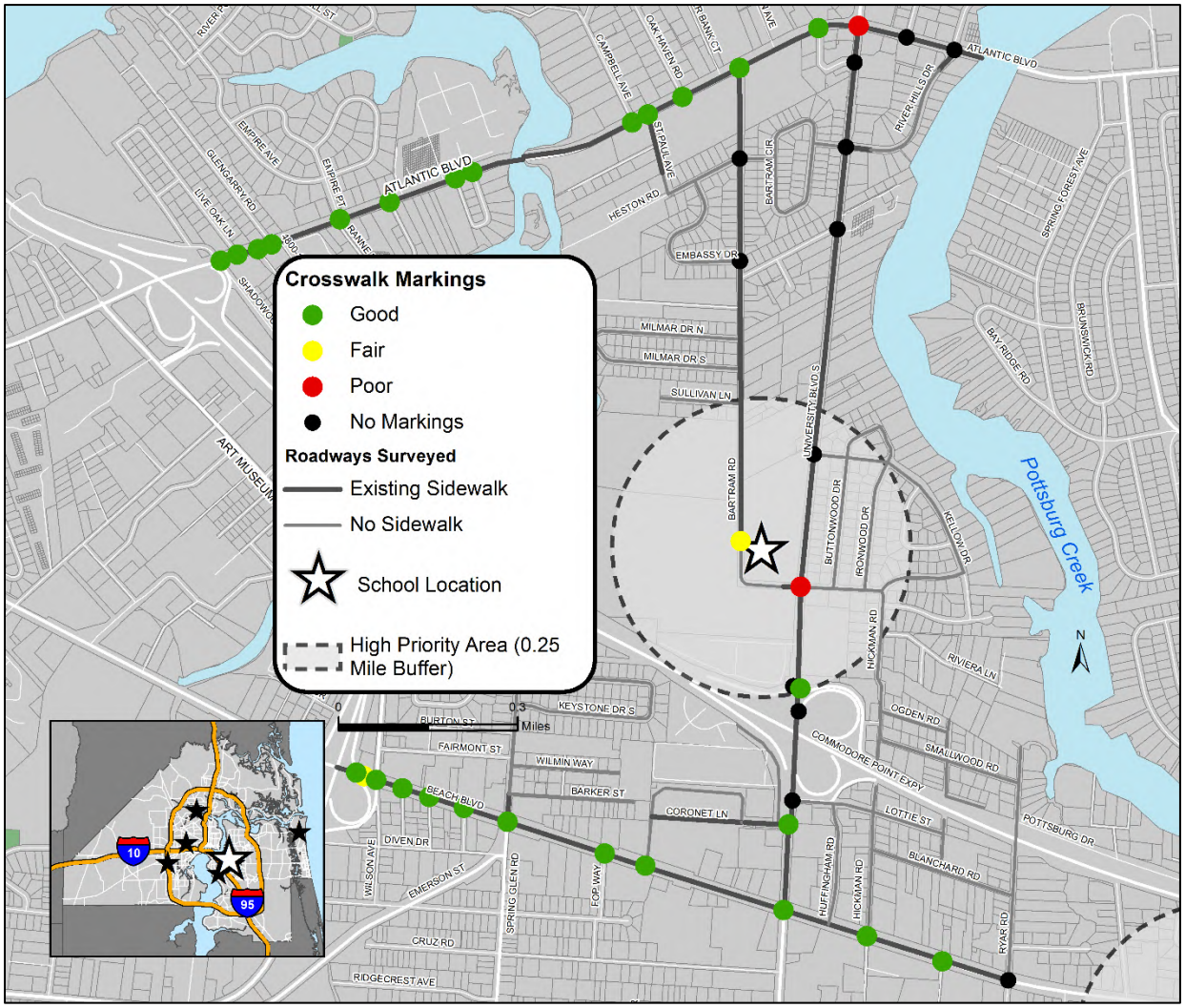


Crosswalks

There were 30 marked crosswalks along the roads surveyed, 3 of which were within 0.25 miles of the school. The 2 marked crosswalks closest to the school were in Fair and Poor condition. For the most part, the marked crossings along two of the arterials (Atlantic and Beach Boulevards) were in Good condition. However, 2 of the 5 marked crosswalks along University Boulevard were in Poor condition.

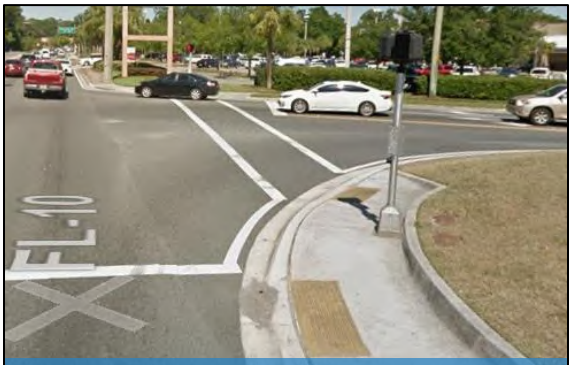
'Poor' condition crosswalk markings at University Boulevard/Bartram Road. Source: Project Team, March 2018.

FIGURE 3-31 LOVE GROVE CROSSWALK CONDITIONS



Curb Ramps

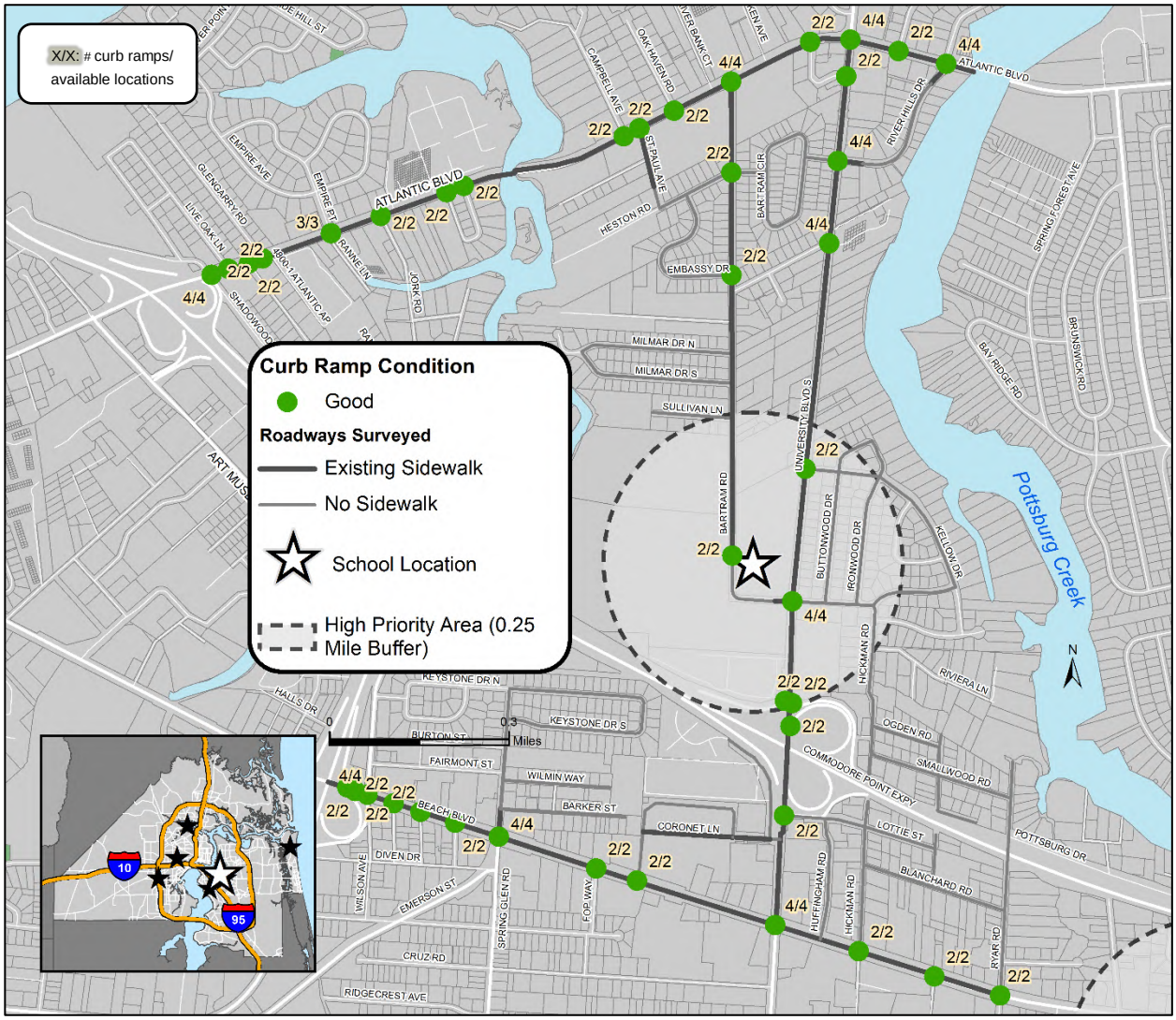
All curb ramps surveyed were considered to be in 'Good' condition. Many of the curb ramps were brand new, especially along Beach Boulevard.



'Good' condition curb ramps at Atlantic/Bartram Road. Source: Google Maps, May 2017.

'Good' condition curb ramp near school on Bartram Road. Source: Project Team, March 2018

FIGURE 3-32 LOVE GROVE CURB RAMPS

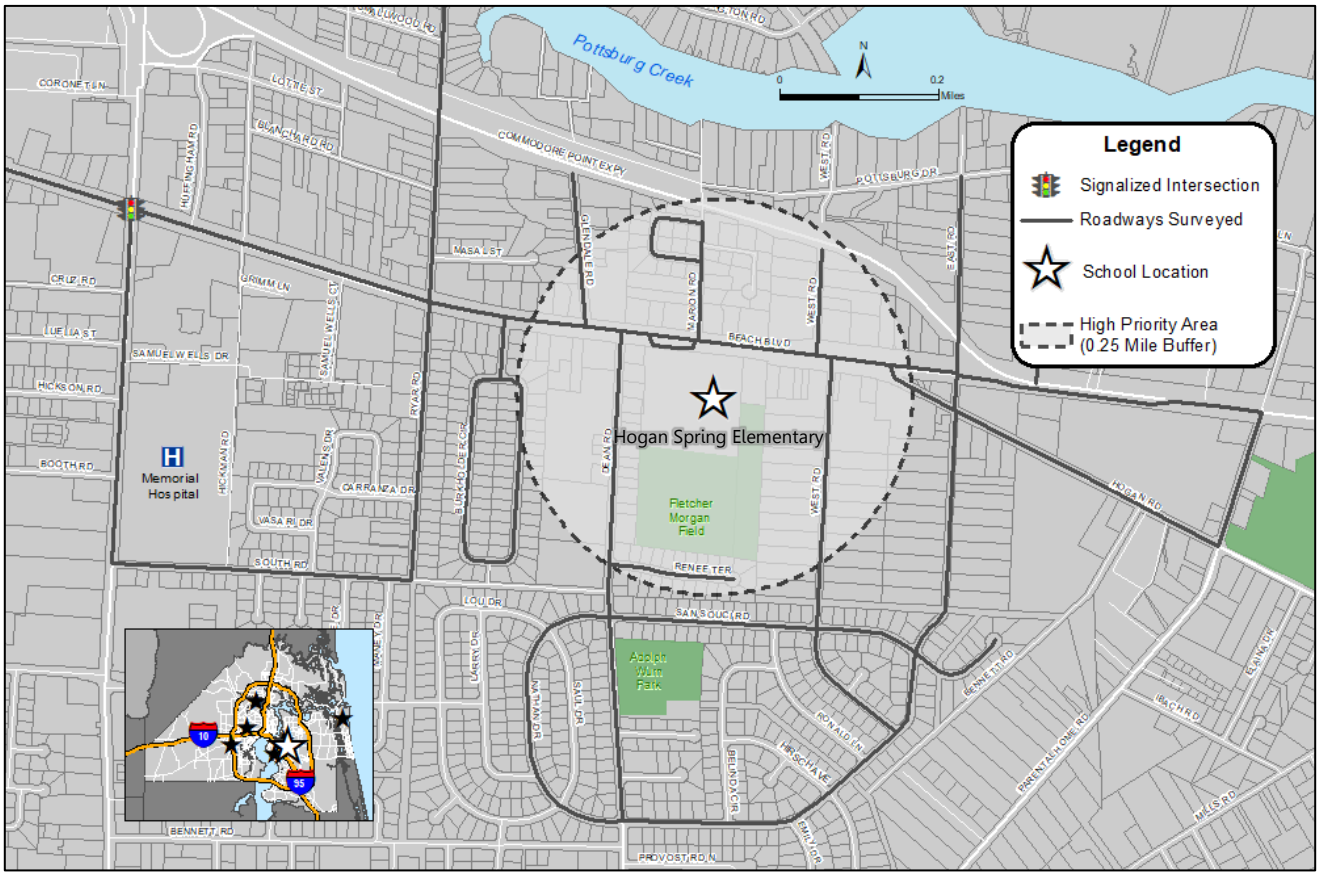


3.5 Hogan Spring-Glen Elementary

Hogan Spring-Glen Elementary School (Hogan Spring) is located near central Duval County, southwest of the St. Johns River. The front entrance to the school is on an access road off of Beach Boulevard near Dean Road. The school is adjacent to single family residential to the south and east and commercial to the north and west. 7.9 miles of roadways were surveyed for Hogan Spring. The results of the walking conditions analysis are displayed in **Figures 3-33 through 3-40**, and summarized below.

- The sidewalk network is complete along the arterials and collectors surrounding the school with sidewalks on both sides for arterials and one side for collectors. These sidewalks are generally in good condition and well maintained.
- Sidewalk gaps exist between the school entrance road and Beach Boulevard.
- The sidewalks on local streets are in mostly good condition with the exception of the sidewalks along West Road.
- There are many marked crosswalks along the surveyed roads, all of where were considered to be in good condition.
- Curb ramps were present at all applicable locations and were in good condition.

FIGURE 3-33 HOGAN SPRING LOCATION



Sidewalk Inventory Results

Sidewalk Locations

Of the 7.9 miles of roads surveyed, approximately 5.1 miles (65%) were local roads, 1.3 miles (16%) were collector roads (Hogan Road, Parental Home Road, Dean Road), and the remaining 1.5 miles (19%) were arterial roads (Beach Boulevard, Atlantic Boulevard). The sidewalk locations are displayed below.

- *Arterial and collector roads:* 100% of the arterial roads have sidewalks on both sides. A majority of the collector roads have sidewalks on one side (75%); 23% have sidewalks on both sides; 1% have no sidewalks.
- *Local roads:* 65% of the local roads had no sidewalks; 33% had sidewalks on one side; 2% had no sidewalks.

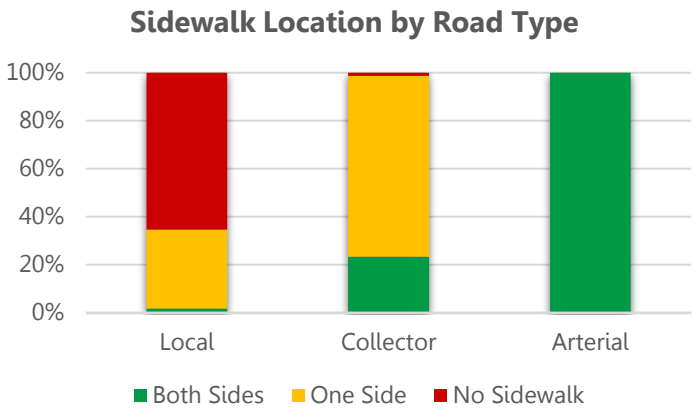
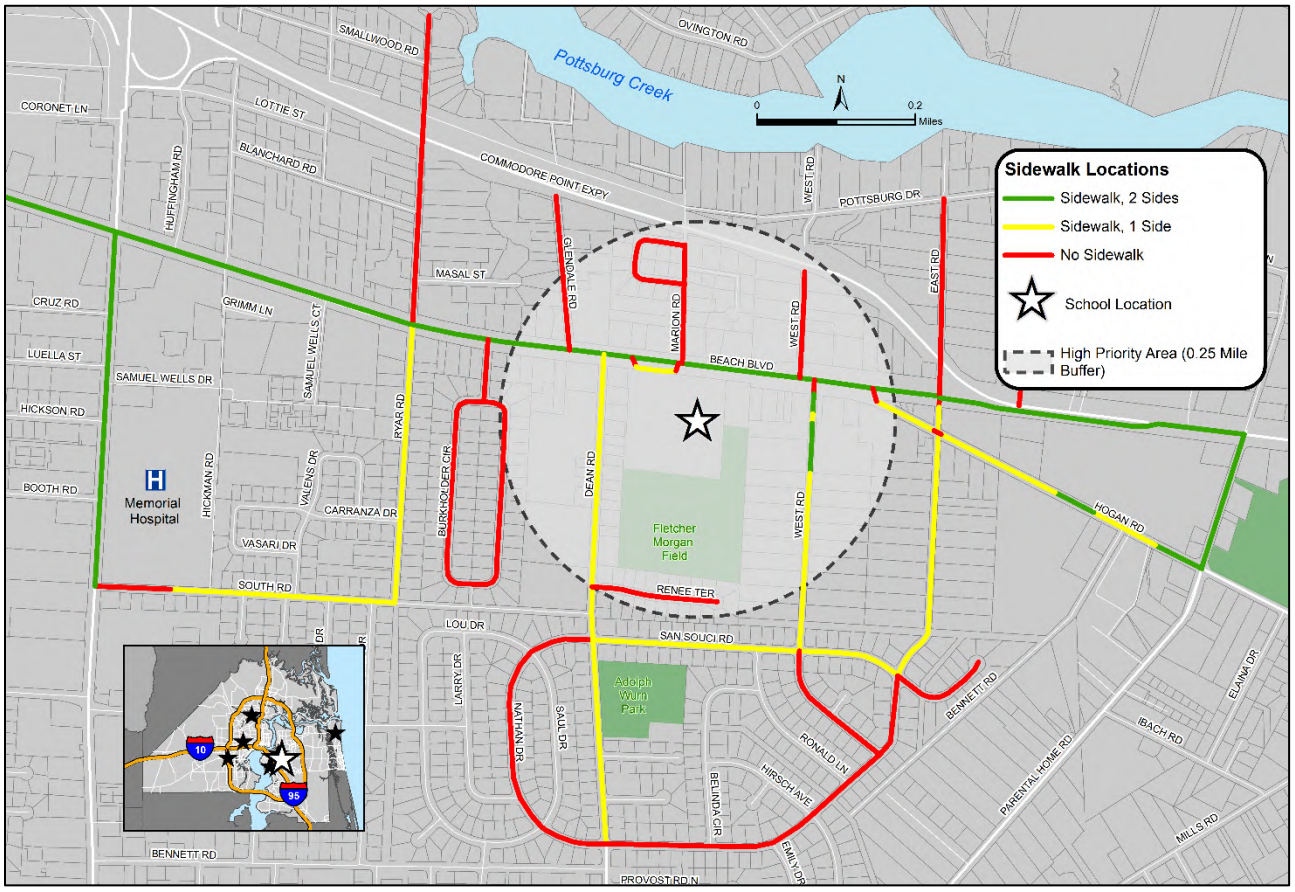
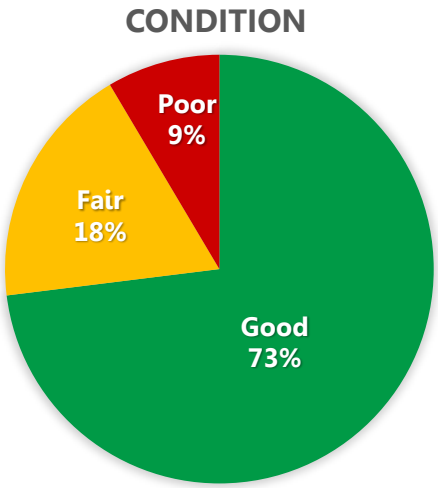


FIGURE 3-34 HOGAN SPRING SIDEWALK LOCATIONS



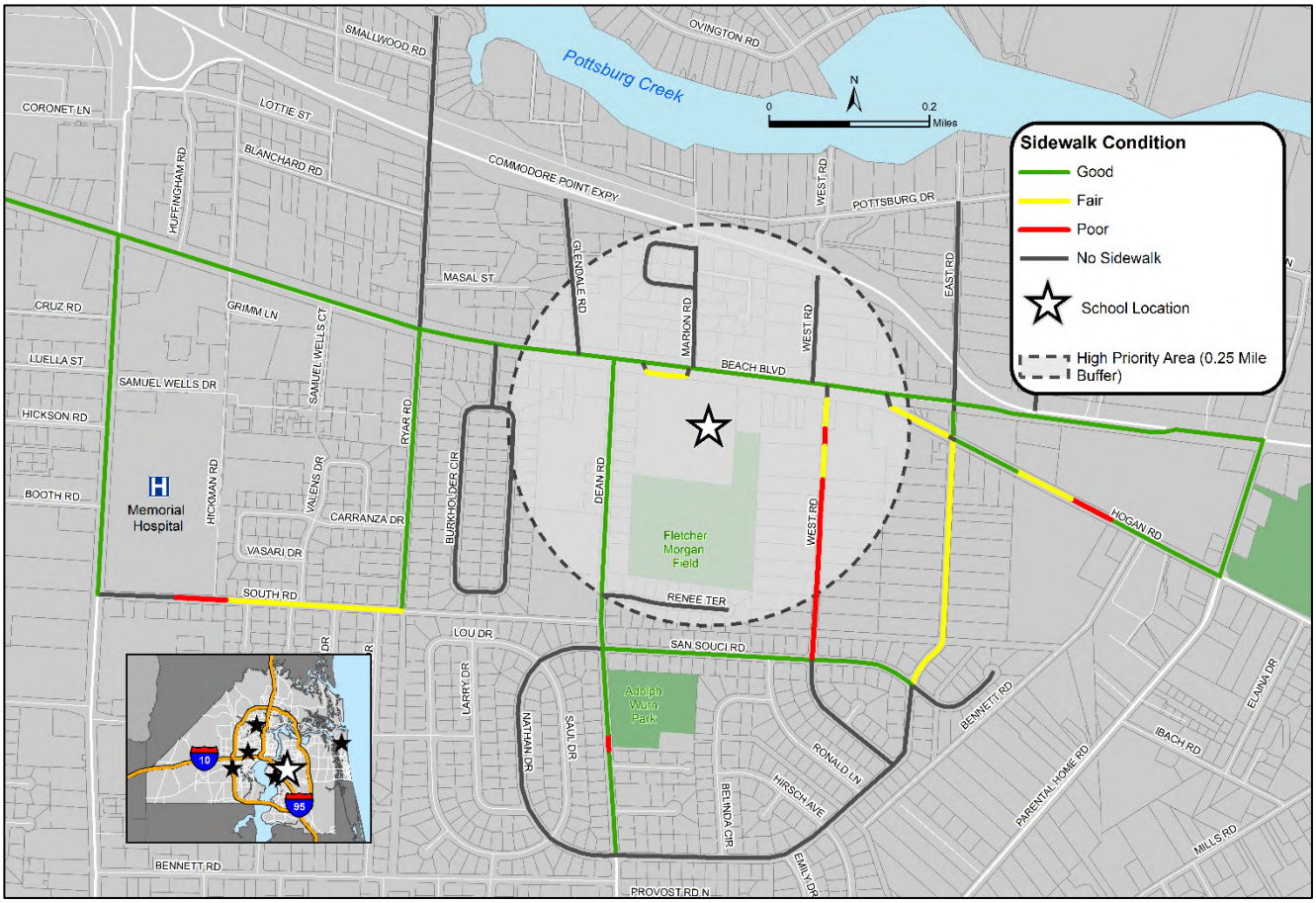
Sidewalk Pavement Condition

A majority of the sidewalks were considered to be in Good or Fair condition (91%). Less than 10% of the sidewalks were in Poor condition. The Poor condition sidewalks were primarily located along local roads (South Road, West Road), with small sections along collectors (Dean Road, Hogan Road).



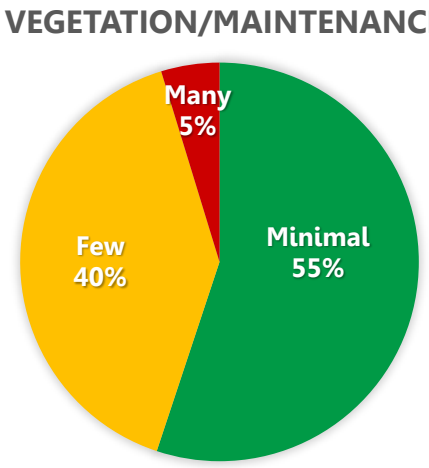
'Good' condition sidewalks along Beach Boulevard near Dean Road. Source: Project Team, March 2018.

FIGURE 3-35 HOGAN SPRING SIDEWALK CONDITIONS



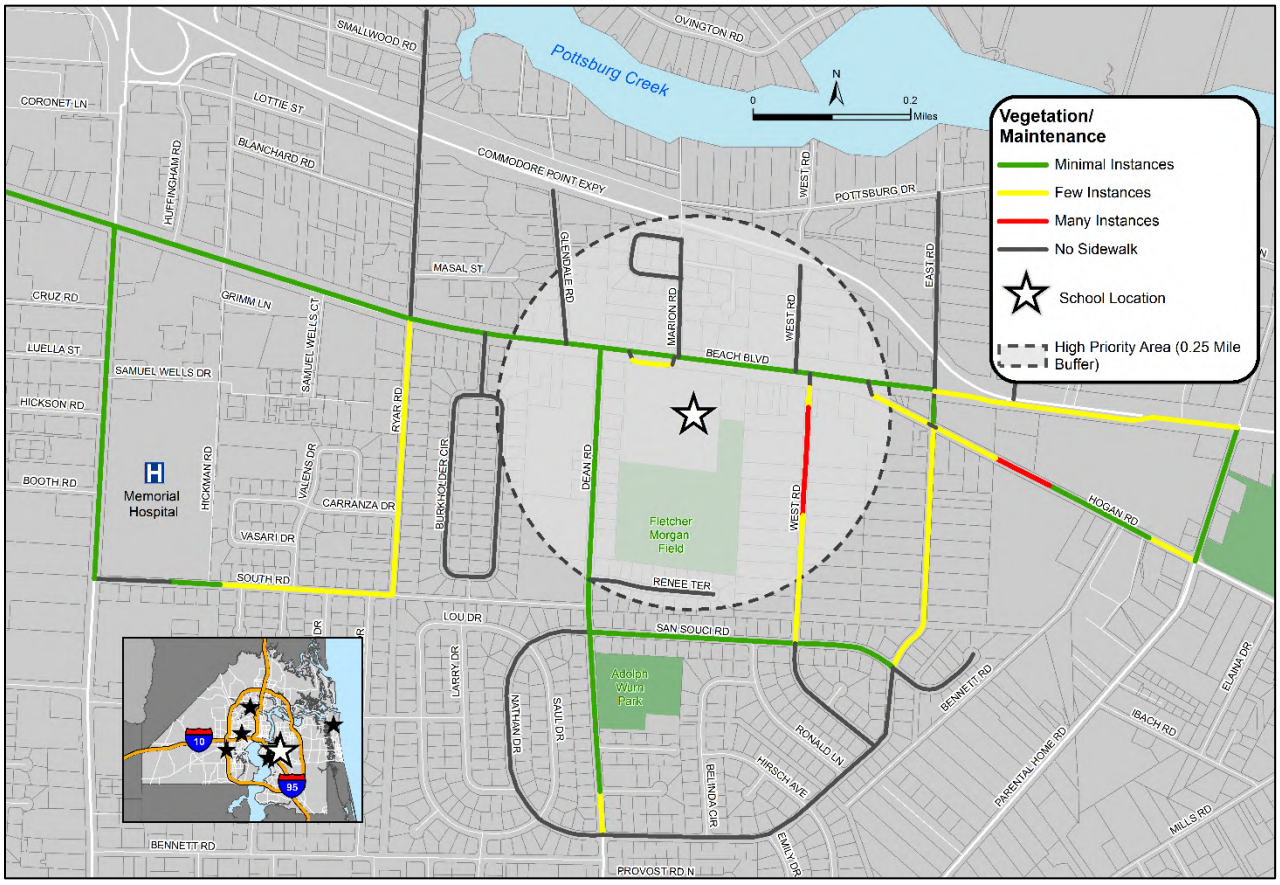
Sidewalk Edging and Vegetation

A majority of the sidewalks had minimal or few instances of edging and vegetation issues (95%). The areas with 'Many' issues were located along the northern segment of West Road and the central segment of Hogan Road.



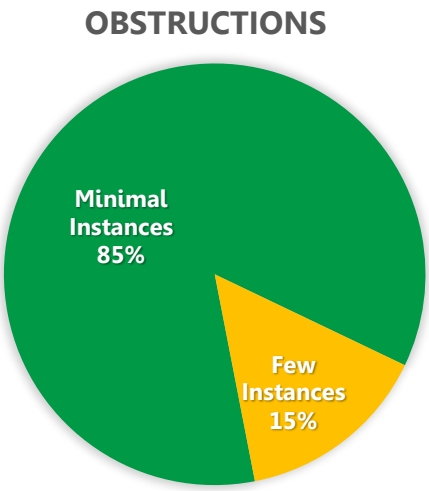
'Minimal' edging and vegetation issues along Beach Boulevard near Dean Road. Source: Project Team, March 2018.

FIGURE 3-36 HOGAN SPRING VEGETATION AND MAINTENANCE



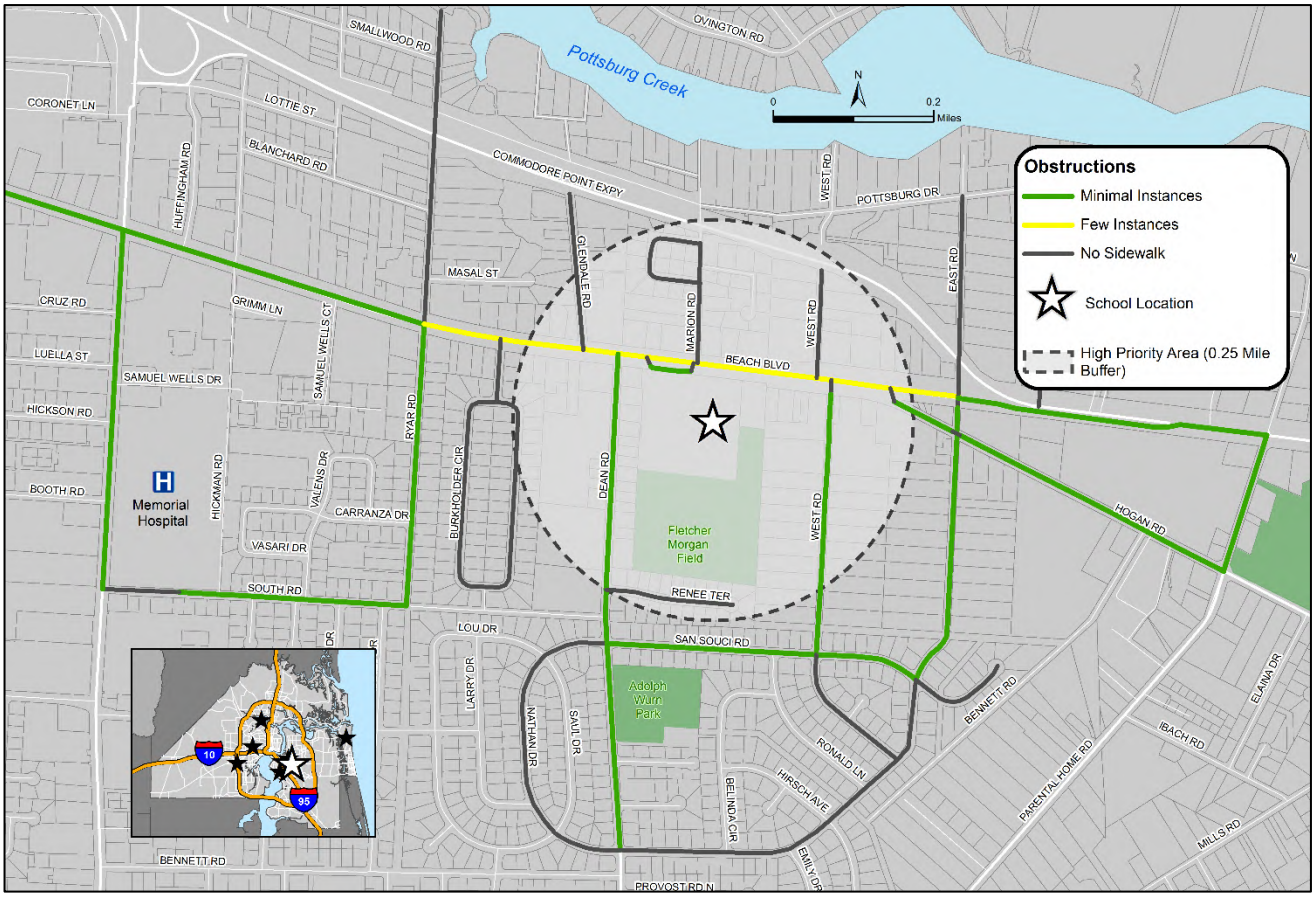
Sidewalk Obstructions

A majority of the sidewalks (85%) had minimal non-vegetative obstructions. About 15% of the sidewalks had few obstructions. The obstructions were primarily light poles and benches along Beach Boulevard.



'Few' obstructions along Beach Boulevard near Marion Road. Source: Project Team, March 2018.

FIGURE 3-37 HOGAN SPRING OBSTRUCTIONS



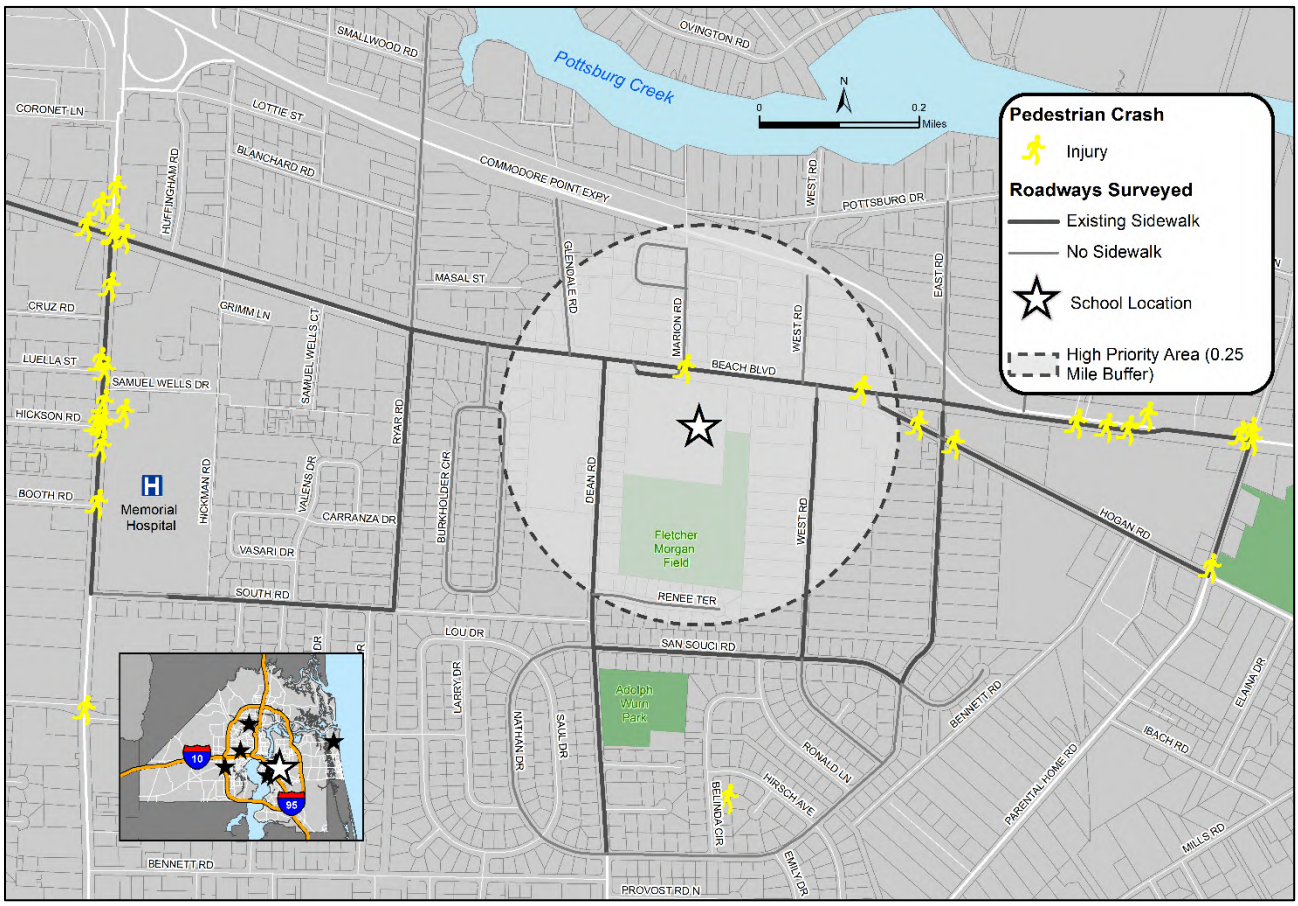
Pedestrian Safety Evaluation Results

Crash Data

A summary of the crash data is provided below. The full crash data is detailed in **Appendix A**.

- There were 32 pedestrian crashes between January 2013 and January 2018.
- 2 crashes occurred within 0.25 miles of the school:
    - 1 of these crashes was close to the school entrance on Beach Boulevard and the school access road. This crash occurred on a school day at 7:30 AM in October 2013 during clear conditions.
    - The second crash occurred on Beach Boulevard near Hogan Road at 3:40 AM in April 2014.
- Crashes are generally concentrated along University Boulevard around the entrance of Memorial Hospital and at the intersection of Beach Boulevard.
- A majority of the pedestrian crashes (24 of the 32) occurred between 2013 and 2015, leaving 8 crashes occurring in 2016 and 2017.

FIGURE 3-38 HOGAN SPRING PEDESTRIAN CRASHES



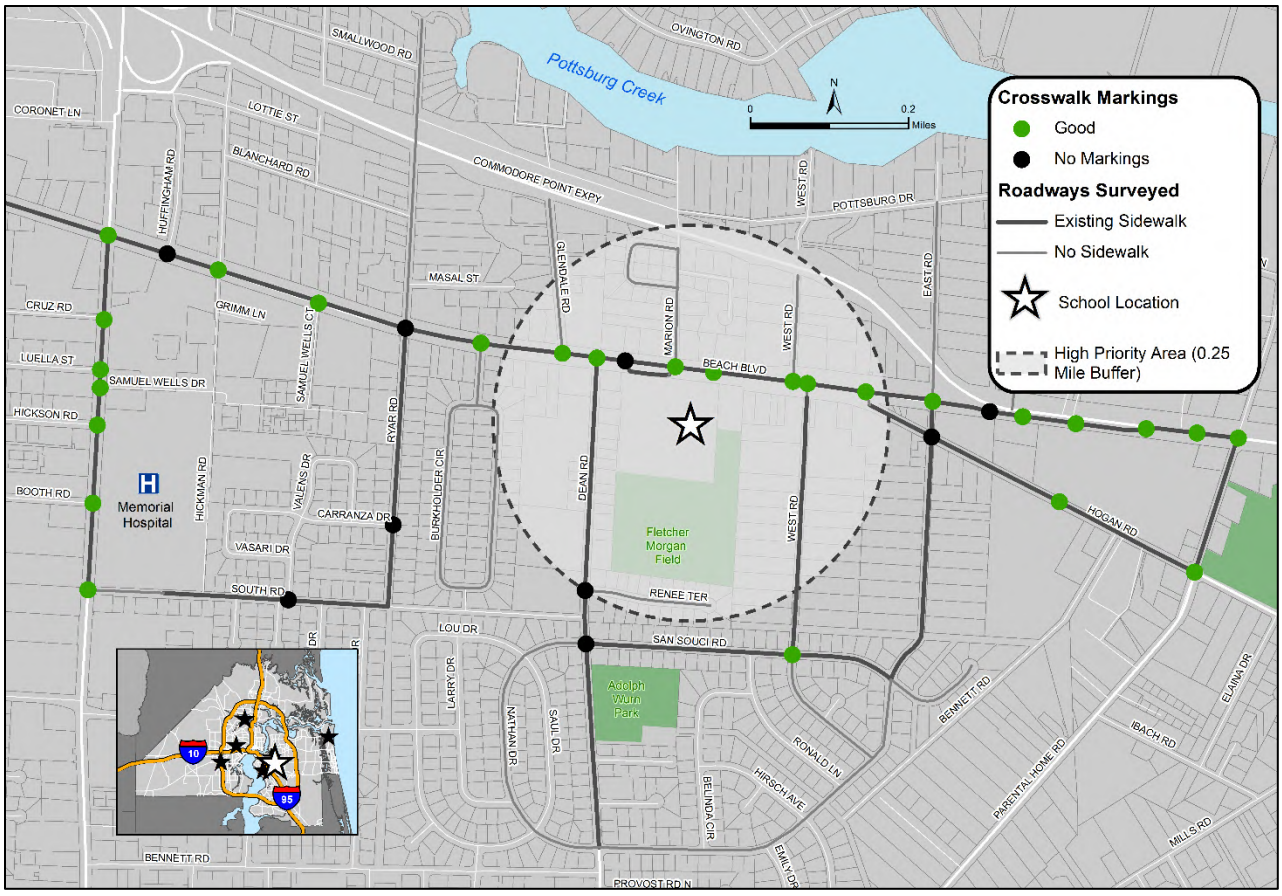
Crosswalks

There were 26 marked crosswalks along the roads surveyed, 7 of which were within 0.25 miles of the school. All of the crosswalk markings surveyed were considered to be in Good condition. Additionally, the crosswalk in front of the school signalized and the markings notably visible.

'Good' condition crosswalks on Beach Boulevard near school entrance. Source: Project Team, March 2018.

'Good' condition crosswalks on Beach Boulevard near school entrance. Source: Project Team, March 2018.

FIGURE 3-39 HOGAN SPRING CROSSWALKS

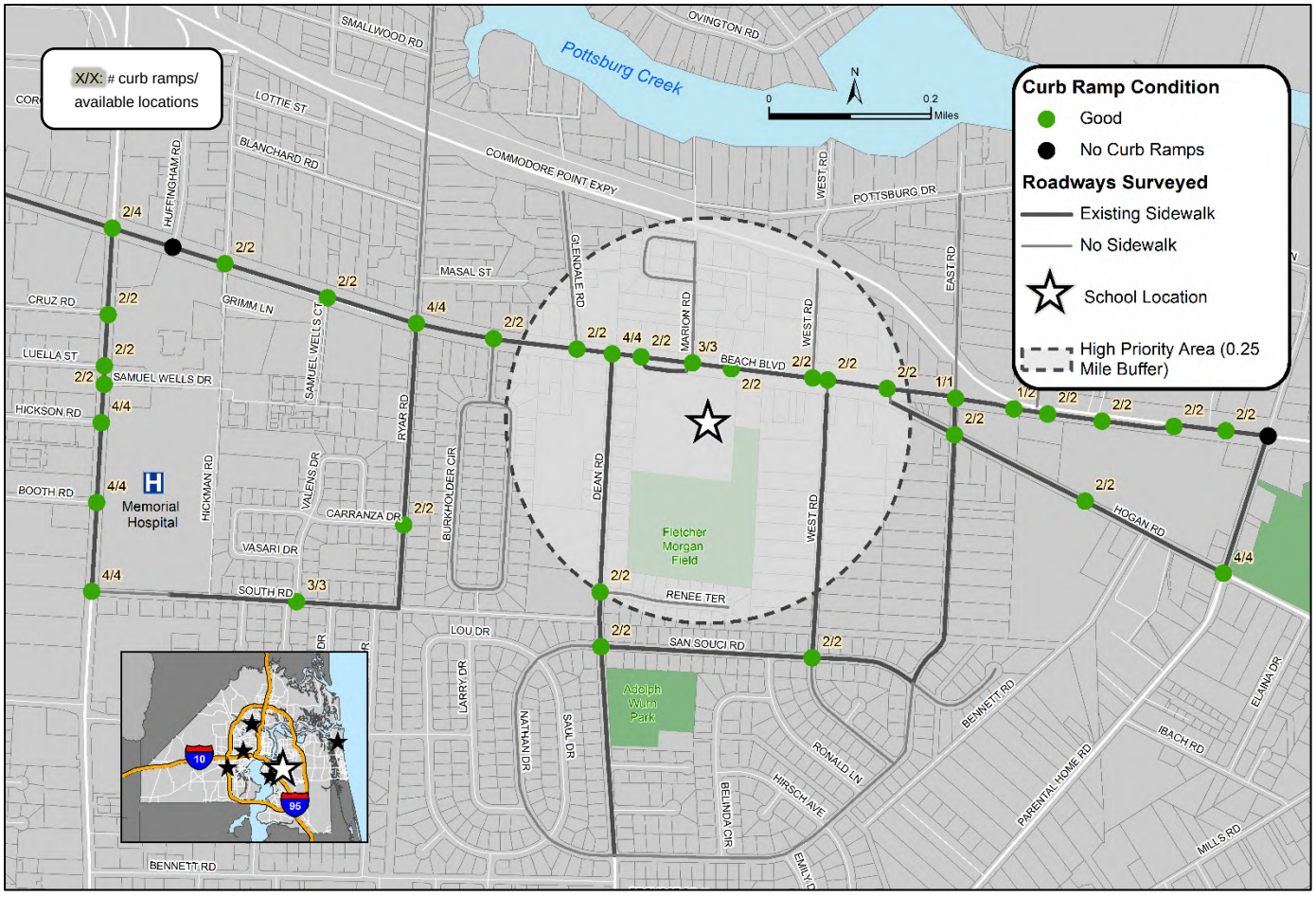


Curb Ramps

All curb ramps surveyed were considered to be in 'Good' condition and well maintained and ADA compliant.

'Good' curb ramps at Beach Boulevard/Dean Road. Source: Google Maps, June 2017.

FIGURE 3-40 HOGAN SPRING CURB RAMPS

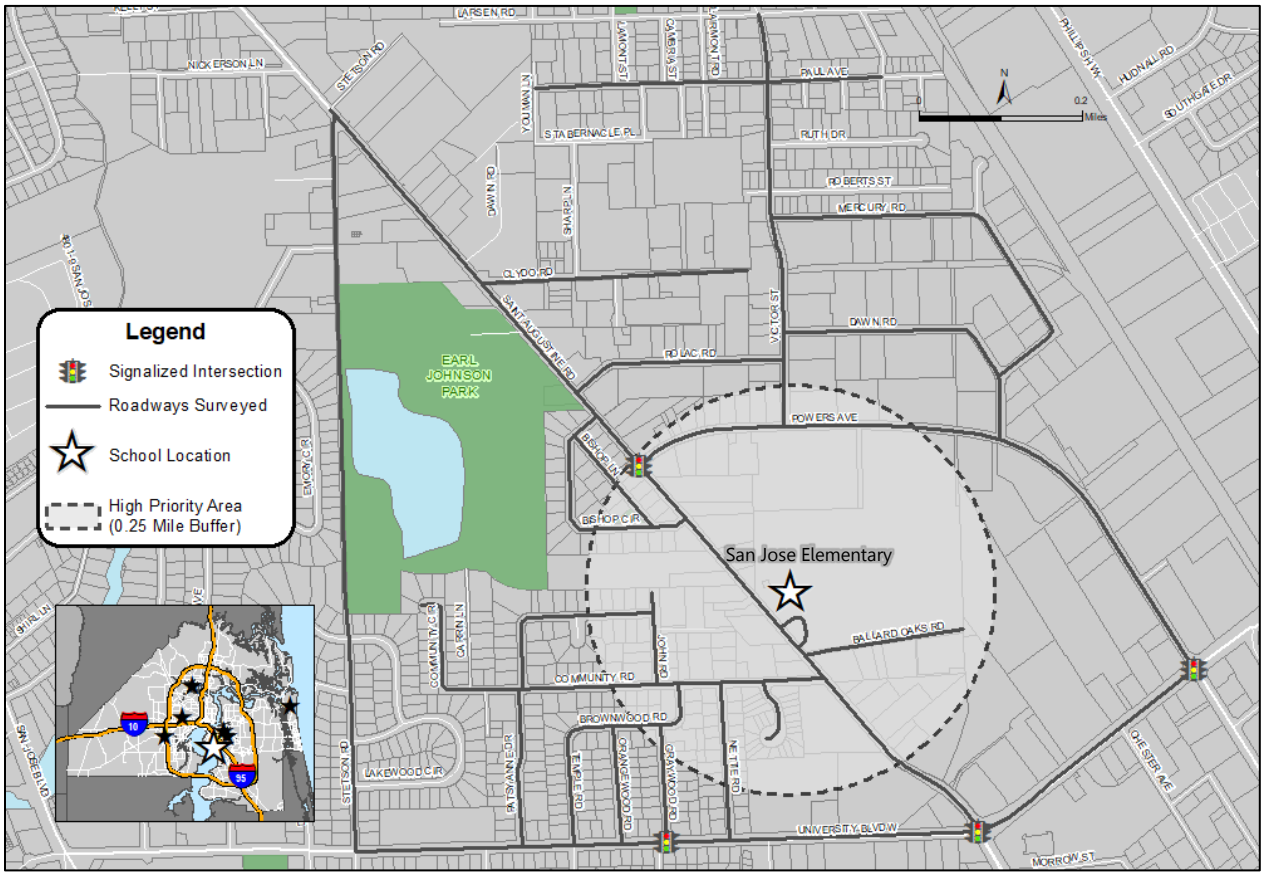


3.6 San Jose Elementary

San Jose Elementary School (San Jose) is located near the intersection of St. Augustine Road and University Boulevard in the central part of Duval County, east of the St. Johns River and west of I-95. The front entrance to the school is on an access road from St. Augustine Road. The school is bordered by St. Augustine Road to the west and Ballard Oaks road to the south. The area surrounding the school is partially developed with commercial, industrial, and single-family residential. 7.9 miles of roadways were surveyed for San Jose. The results of the walking conditions analysis are displayed in **Figures 3-41 through 3-48**, and summarized below.

- The sidewalk network is complete along the arterial and collector roads (University Boulevard and St. Augustine Road).
- The sidewalk condition is generally good except for a small section on St. Augustine across the street from the school entrance.
- The sidewalks had few or minimal edging and vegetation issues.
- All four crosswalks within 0.25 miles of the school along St. Augustine Road were in poor condition
- Curb ramps were present and in good condition at nearly every location.

FIGURE 3-41 SAN JOSE LOCATION



Sidewalk Inventory Results

Sidewalk Locations

Of the 7.9 miles of roads surveyed, approximately 6.9 miles (87%) were local roads, 1.2 miles (15%) were collector roads (St. Augustine Road), and the remaining 1.1 miles (14%) were arterial roads (University Boulevard). The sidewalk locations are displayed in below.

- *Arterial and collector roads:* 100% of the arterial and collector roads have sidewalks on both sides.
- *Local roads:* A majority of the local roads had no sidewalks (76%); 24% had sidewalks on one side. None of the local roads had sidewalks on both sides.

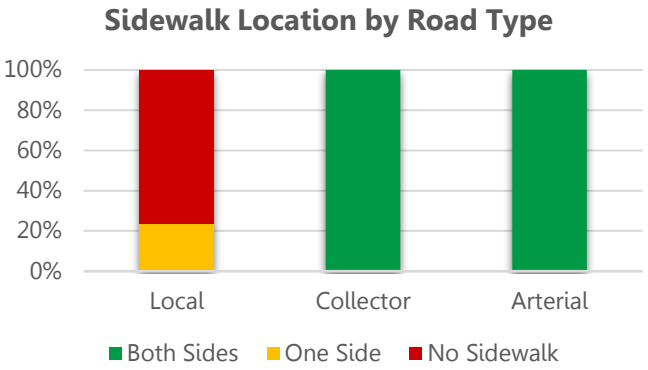
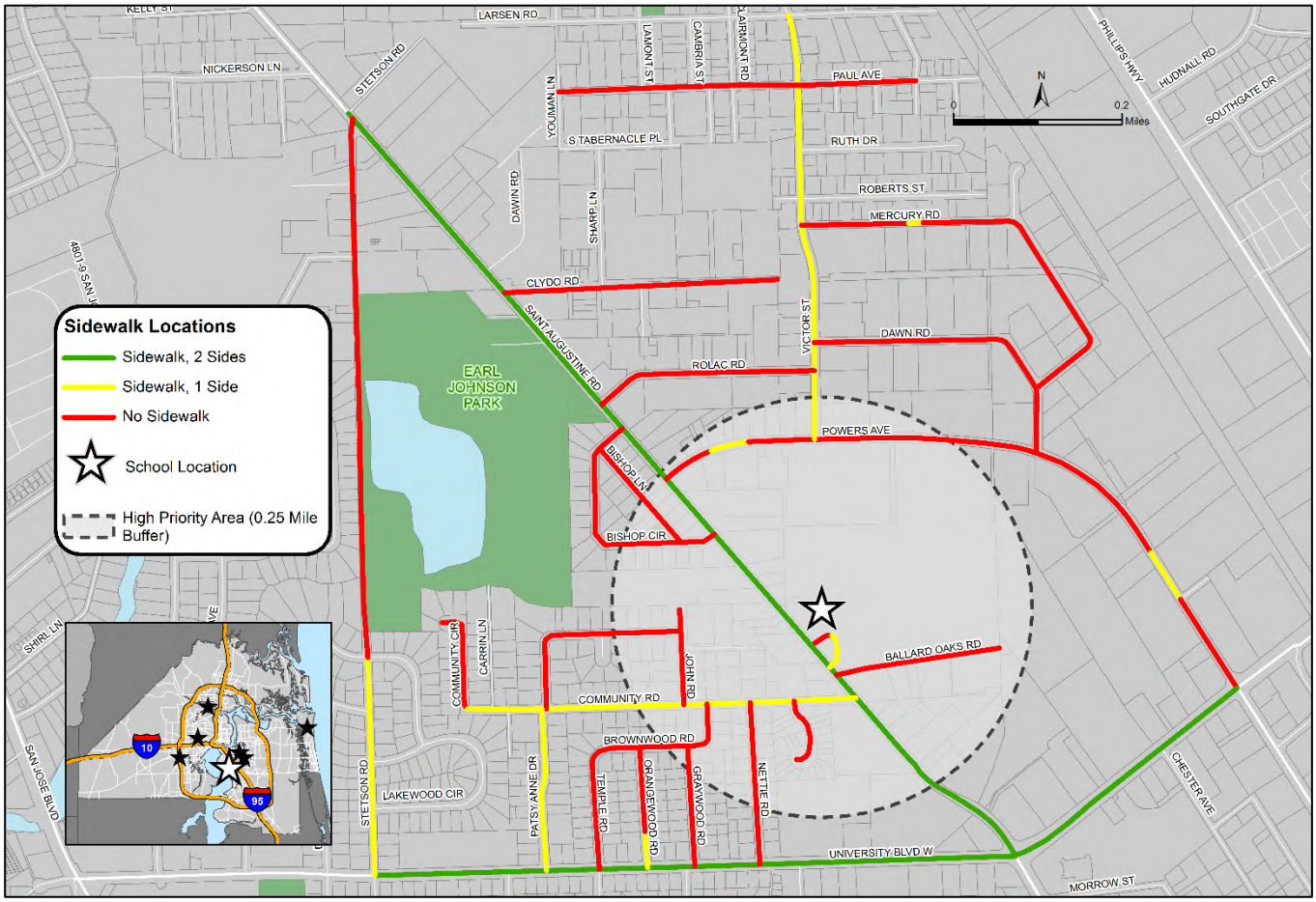
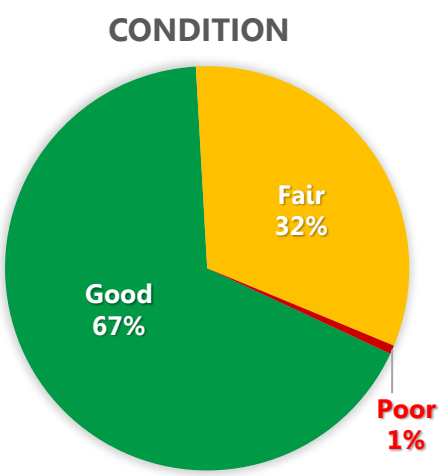


FIGURE 3-42 SAN JOSE SIDEWALK LOCATIONS



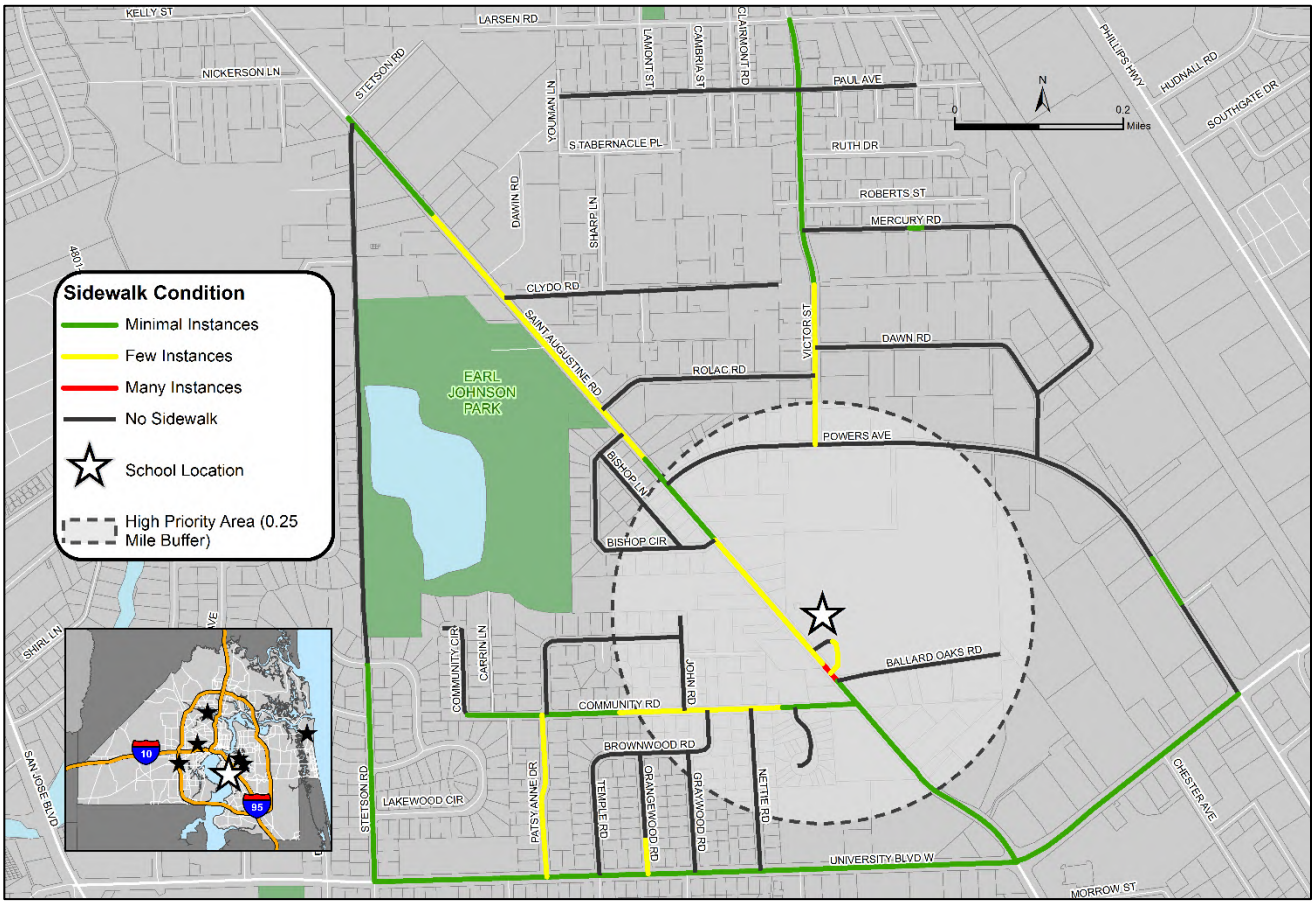
Sidewalk Pavement Condition

Only 1% of the sidewalks were rated as Poor condition. This small section of Poor sidewalk is located on Saint Augustine Road near the school entrance. Approximately 67% of the sidewalks were rated as Good condition, and 32% were in Fair condition.



'Poor' pavement condition on St. Augustine Road near school entrance.
Source: Project Team, February 2018.

FIGURE 3-43 SAN JOSE SIDEWALK CONDITIONS



Sidewalk Vegetation and Maintenance

A majority of the sidewalks had minimal instances of edging and vegetation issues (86%). Less than 15% of sidewalks had few instances of edging and vegetation encroachment. The sidewalks with few instances include a portion of St. Augustine Road near the school entrance, the eastern segment of Community Road, and the northern segment of Victor Street.

'Minimal' vegetation/maintenance issues on school access sidewalk. Source: Project Team, February 2018.

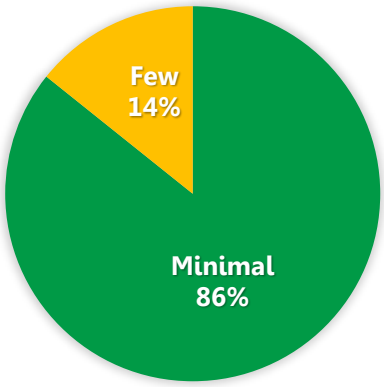
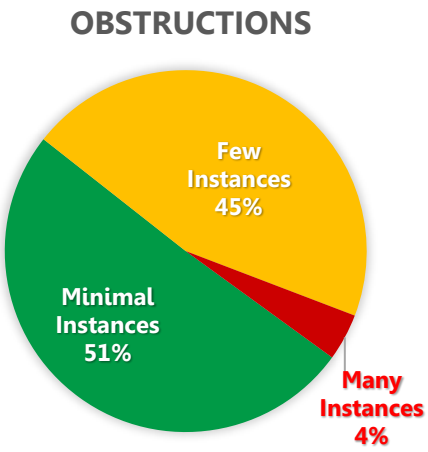
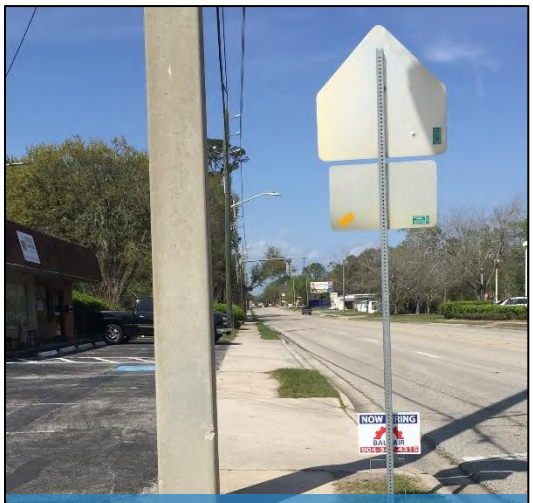


FIGURE 3-44 SAN JOSE VEGETATION AND MAINTENANCE

Sidewalk Obstructions

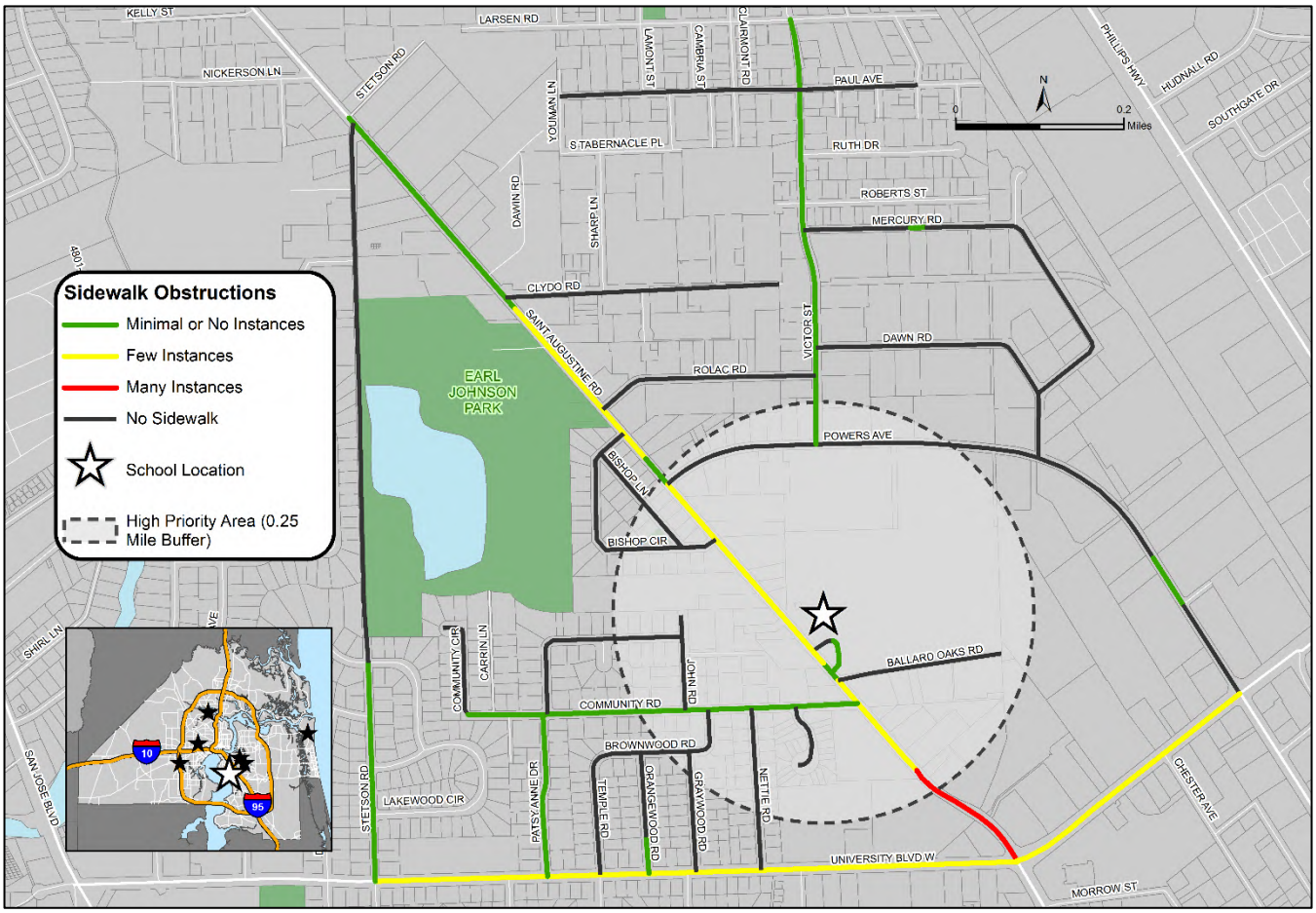
Approximately 51% of the sidewalks had minimal obstructions, and 45% had few instances. About 4% of the sidewalks had many obstructions, which were light poles on the sidewalk on the southern segment of St. Augustine Road.





Sidewalk obstruction on Old St. Augustine Road near school entrance. Source: Project Team, February 2018.

FIGURE 3-45 SAN JOSE OBSTRUCTIONS



Pedestrian Safety Evaluation Results

Crash Data

A summary of the crash data is provided below. The full crash data is detailed in **Appendix A**.

- There were 20 pedestrian crashes between January 2013 and January 2018.
- A majority of the crashes occurred along University Boulevard, with concentrations near University Boulevard/Chester Avenue and University Boulevard/Powers Road.
- 1 crash occurred within 0.25 miles of the school at the intersection of St. Augustine Road and Powers Road in December 2017 at 8:45 AM during wet road conditions.
- 1 pedestrian crash resulted in a fatality on University Boulevard west of the Powers Road intersection. The crash occurred in December 2015 at 7:35 PM.
- 2 of the crashes occurred before 12:00 PM. A majority of the crashes occurred between 4:00 PM and 11:00 PM.

FIGURE 3-46 SAN JOSE PEDESTRIAN CRASHES

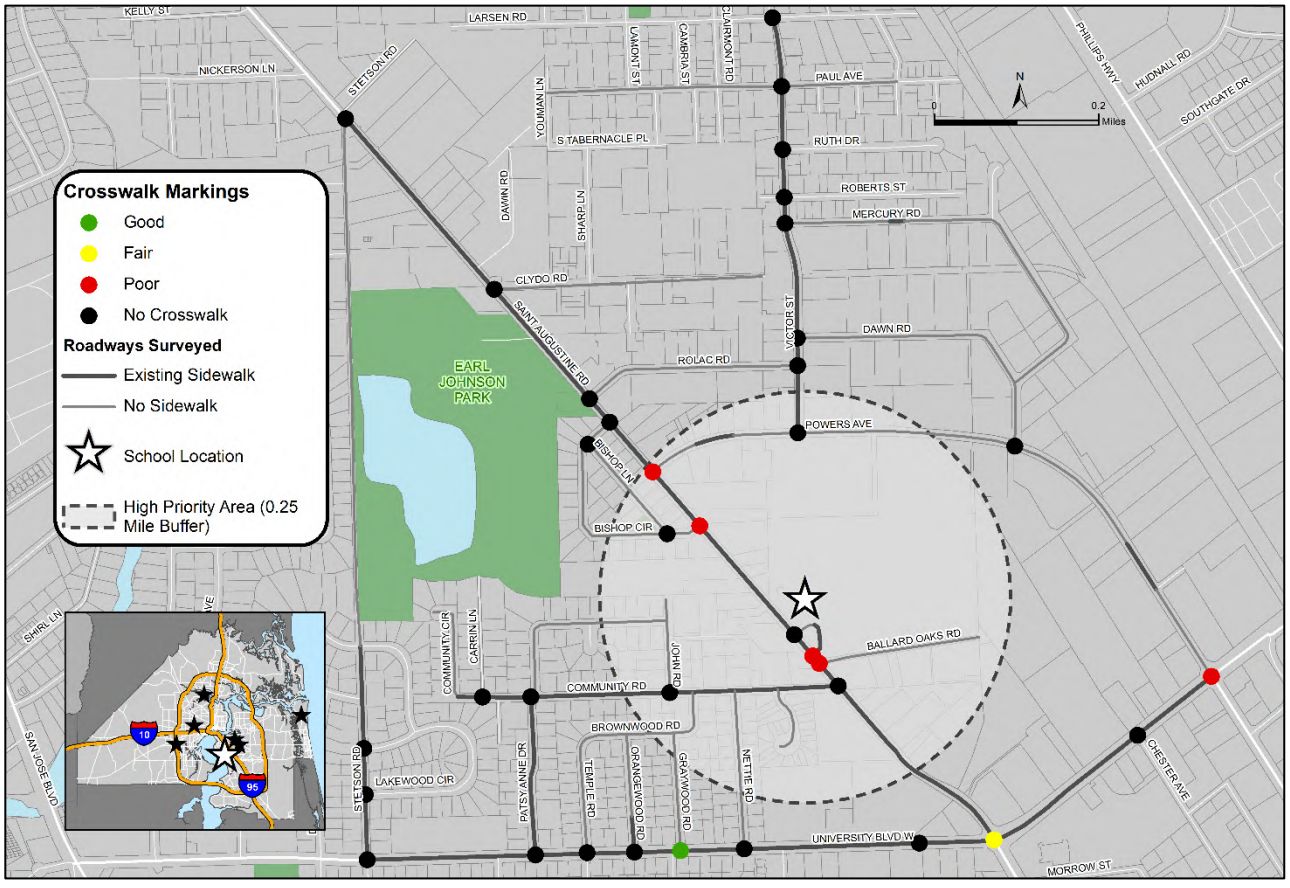
Crosswalks

There were 7 marked crosswalks along the roads surveyed, 4 of which were within 0.25 miles of the school. All 4 crosswalks near the school were considered to be in Poor condition. The remaining 3 marked crosswalks were along University Boulevard and varied in condition.

'Poor' crosswalk markings on St. Augustine Road near school entrance. Source: Project Team, February 2018.

'Poor' crosswalk markings on St. Augustine Road near school entrance. Source: Project Team, February 2018.

FIGURE 3-47 SAN JOSE CROSSWALK CONDITIONS



Curb Ramps

All curb ramps surveyed were considered to be in 'Good' or 'Fair' condition and appeared to be ADA compliant.

'Good' curb ramps on St. Augustine Road near school entrance. Source: Project Team, February 2018.

'Good' curb ramps on St. Augustine Road near school entrance. Source: Project Team, February 2018.

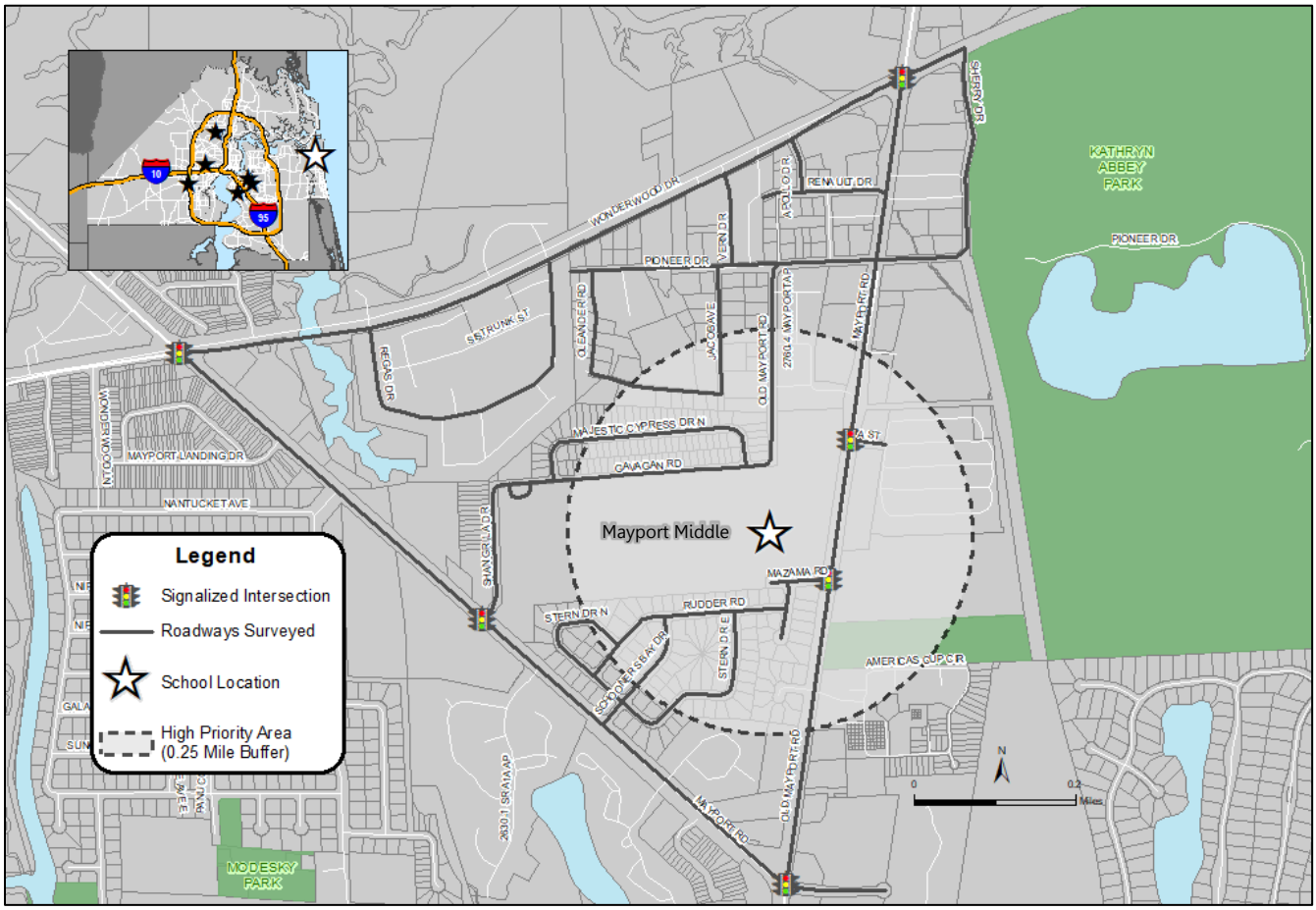
FIGURE 3-48 SAN JOSE CURB RAMPS

3.7 Mayport Middle School

Mayport Middle School (Mayport) is located in the eastern part of Duval County, south of Mayport Naval Station and north of Atlantic Beach. The front entrance to the school is on Mayport Road. The area surrounding the school is primarily single family residential and commercial. 7.4 miles of roadways were surveyed for Mayport. The results of the walking conditions analysis are displayed in **Figures 3-49 through 3-56**, and summarized below.

- The sidewalk network is mostly complete along the arterials with sidewalks on the arterial roads and are in good condition.
- The sidewalk behind the school serving the surrounding neighborhoods on Gavagan/Old Mayport Road had some instances of poor pavement condition and maintenance issues.
- All crosswalks surveyed were in good condition. Some locations (Wonderwood/A1A and A1A/Mayport) appear to be recently updated.
- Curb ramps were present at all locations and were considered to be in fair or good condition.

FIGURE 3-49 MAYPORT LOCATION



Sidewalk Inventory Results

Sidewalk Locations

Of the 7.4 miles of roads surveyed, 4.4 miles (60%) were local roads and the 3 miles (40%) were arterial roads (Wonderwood Connector, Mayport Road, SR A1A). The sidewalk locations are displayed on the map below.

- *Arterial roads:* All of the arterial roads had sidewalks on at least one side. 83% had sidewalks on both sides, and 17% had sidewalks on one side.
- *Local roads:* Nearly 50% of the local roads had no sidewalks. However, 30% had sidewalks on both sides, and 24% had sidewalks on one side.

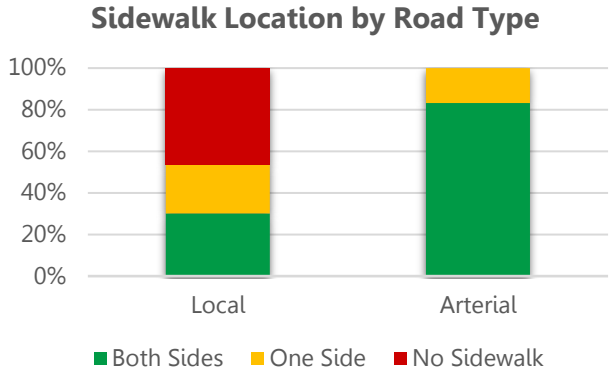
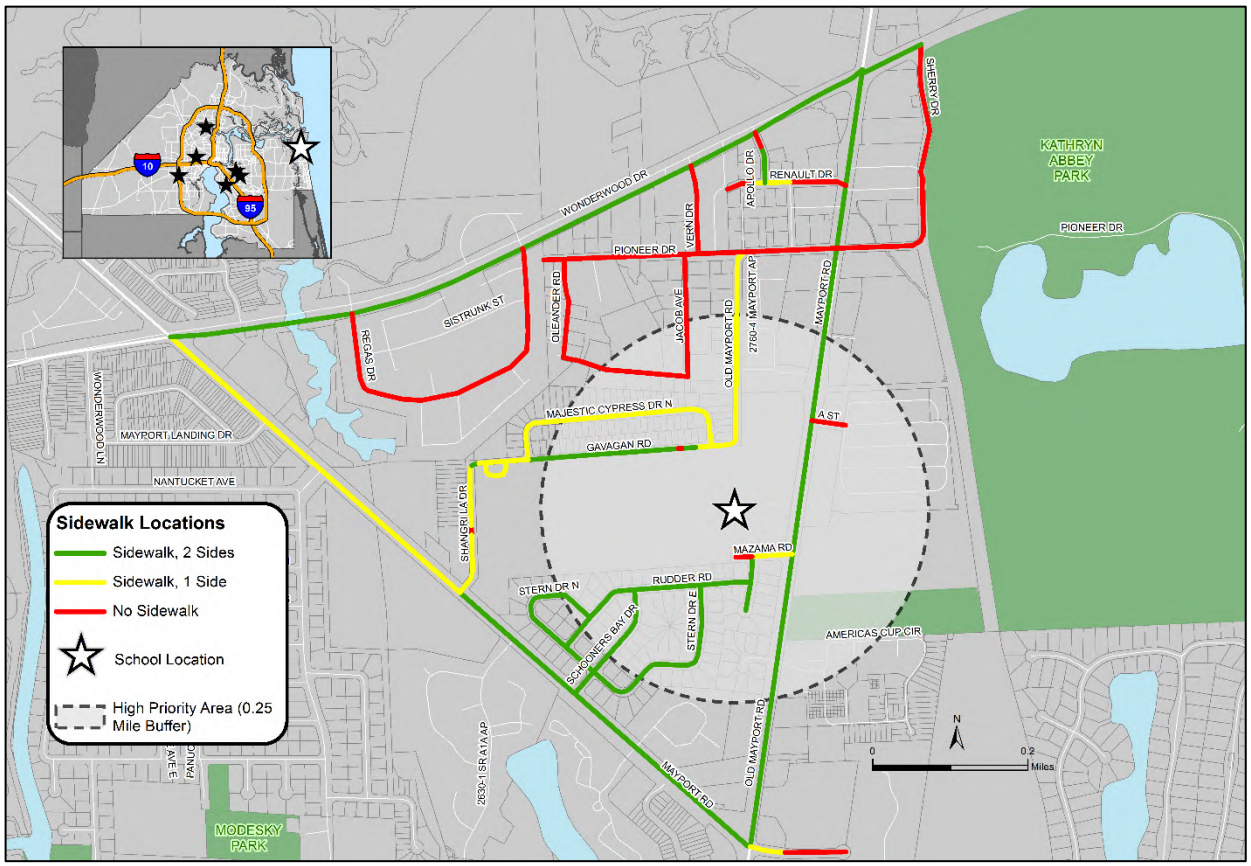
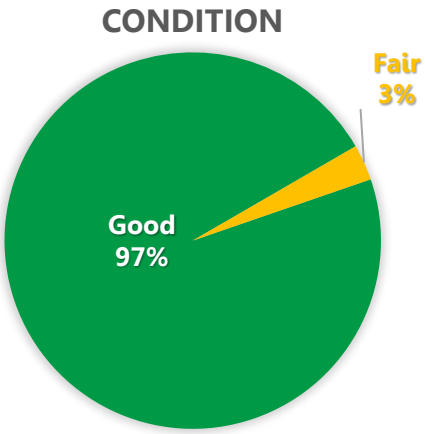


FIGURE 3-50 MAYPORT SIDEWALK LOCATIONS



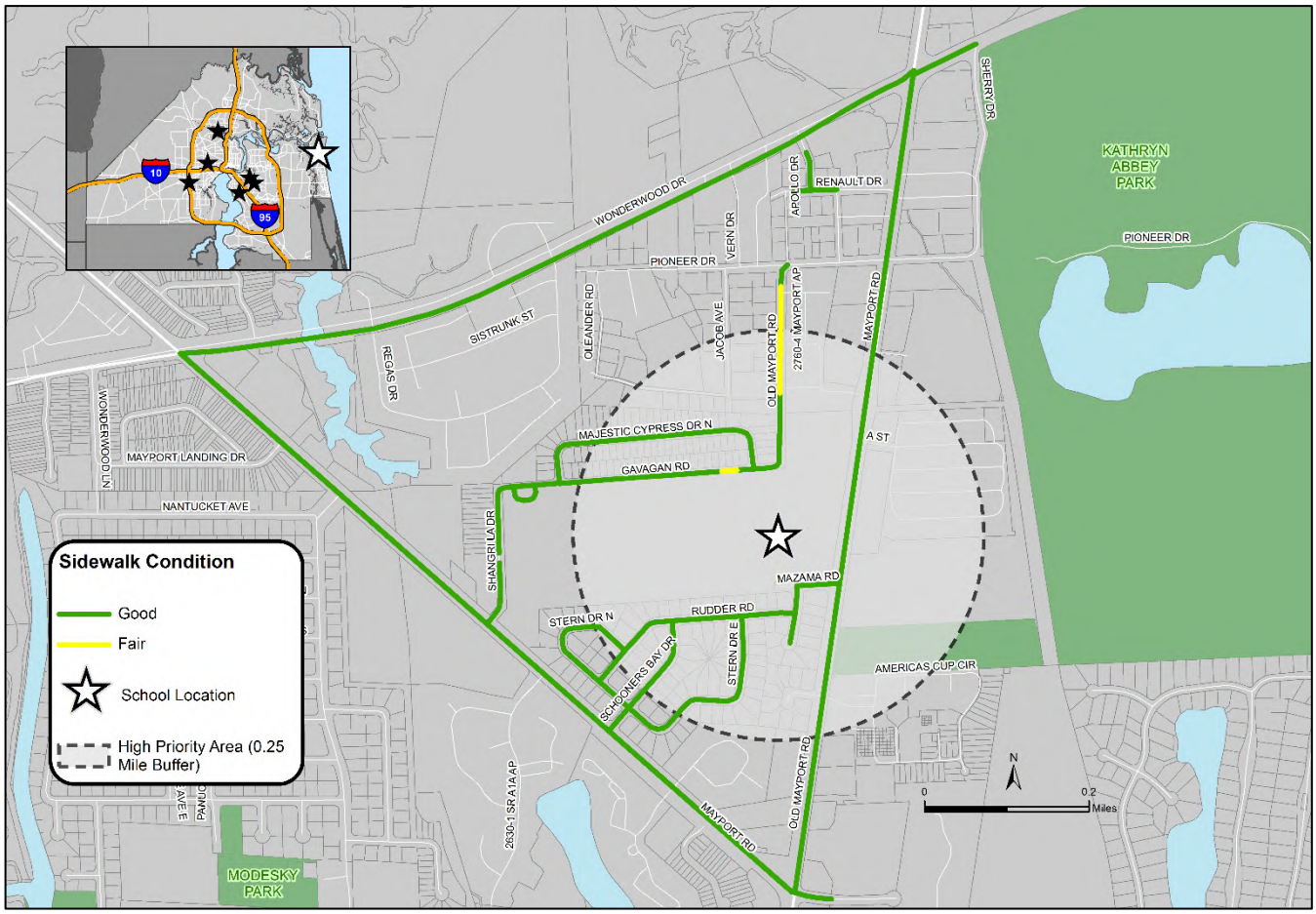
Sidewalk Pavement Condition

Nearly all of the sidewalks (97%) were rated as Good condition. The remaining 3% were in Fair condition, which are located along Gavagan Road and Old Mayport Road. The sidewalks leading up to the school appeared to be recently updated.



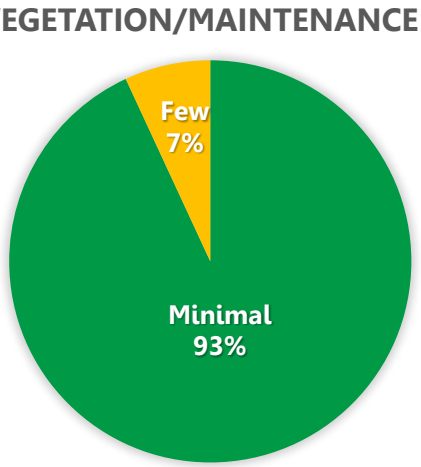
'Good' sidewalk leading up to school. Source: Project Team, February 2018.

FIGURE 3-51 MAYPORT SIDEWALK CONDITION



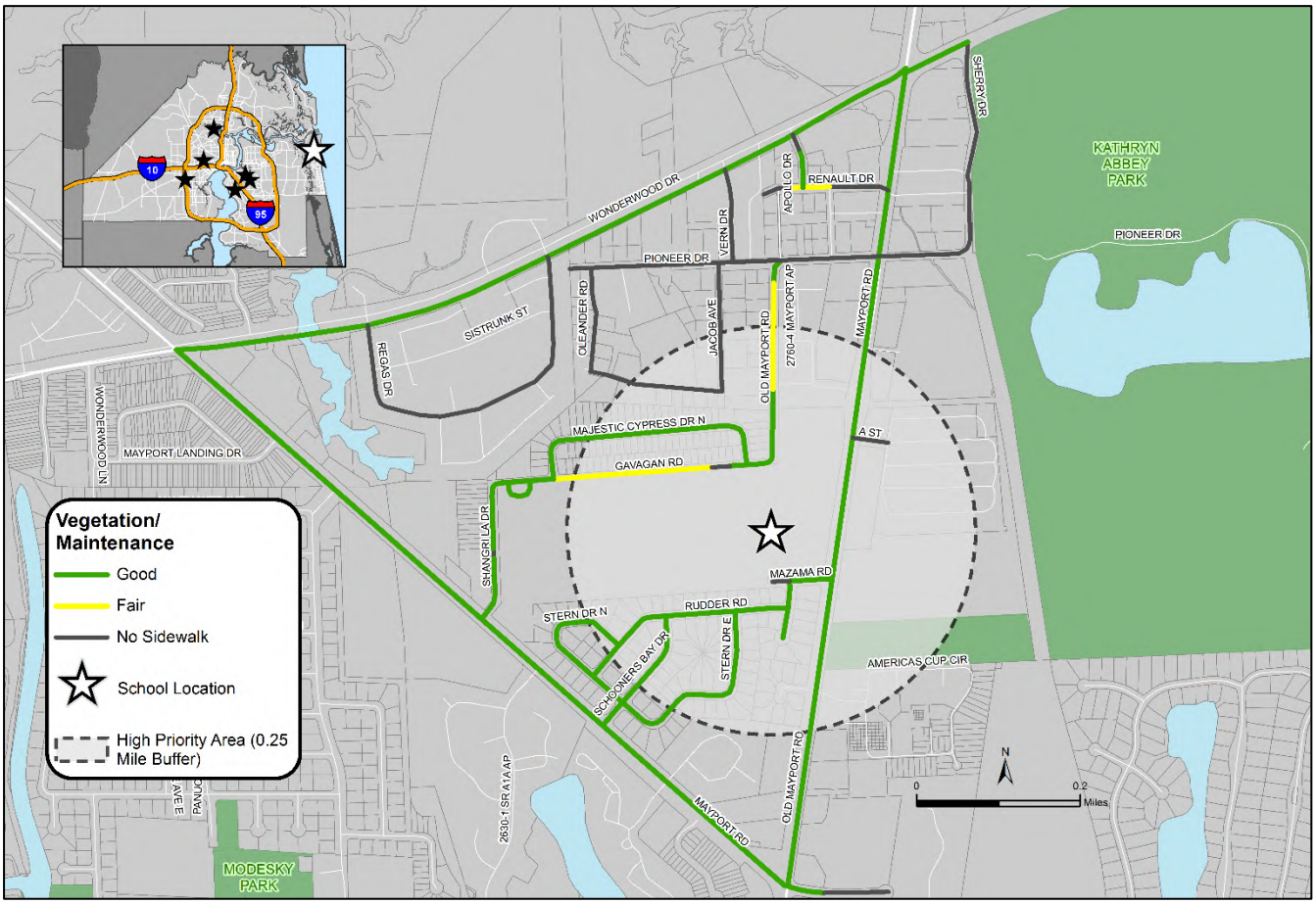
Sidewalk Vegetation and Maintenance

93% of the sidewalks had minimal instances of edging and vegetation issues. Segments of Gavagan road, Old Mayport Road, and Renault Drive had few instances of edging and vegetation encroachment.



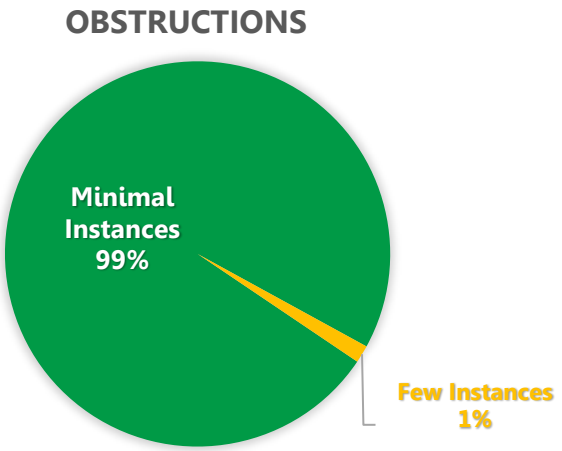
'Few' instances of sidewalk vegetation/ maintenance on Old Mayport Road. Source: Project Team, February 2018.

FIGURE 3-52 MAYPORT VEGETATION AND MAINTENANCE



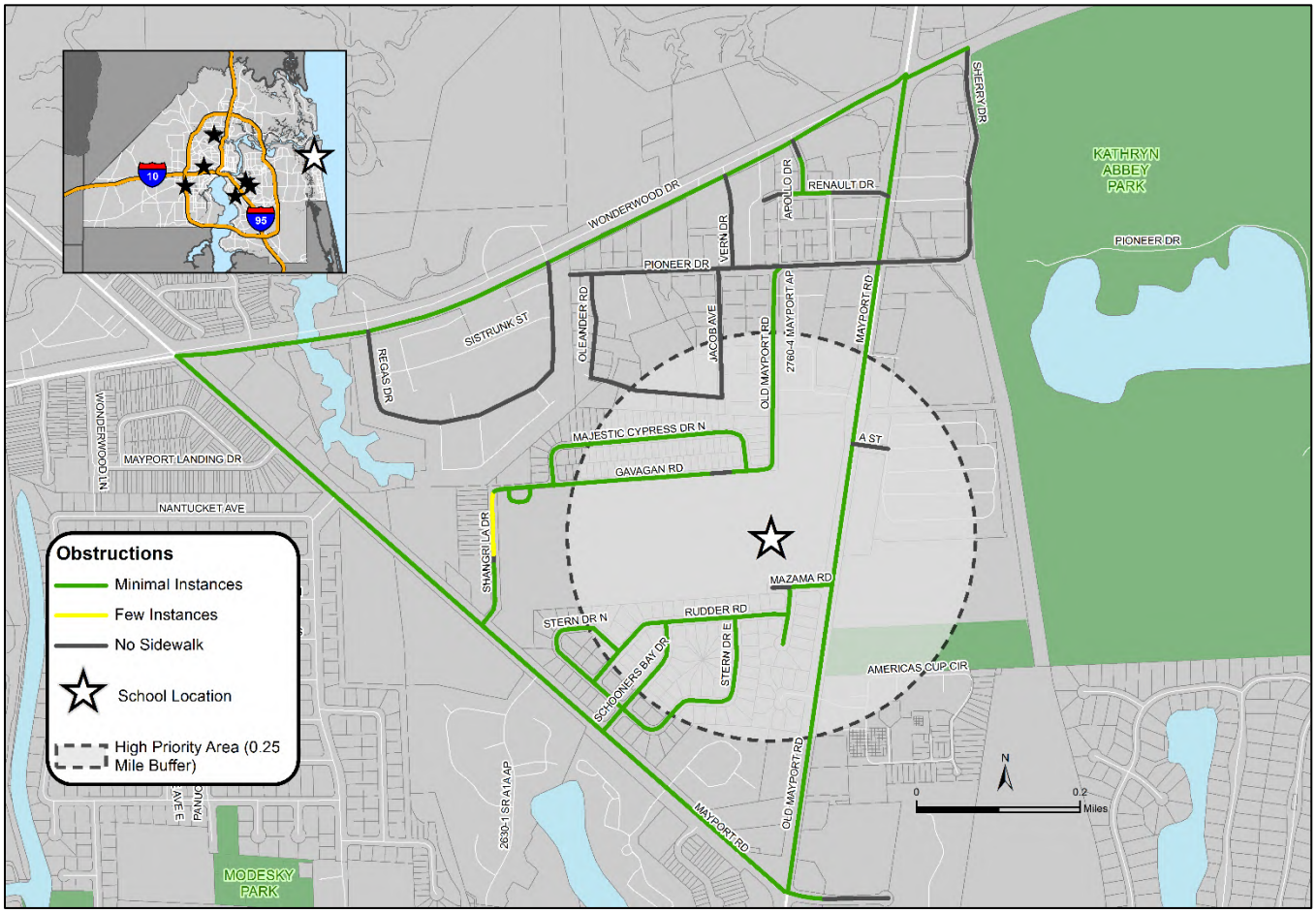
Sidewalk Obstructions

Nearly all of the sidewalks (99%) had minimal non-vegetative sidewalk obstructions. There were light pole encroachments on the northern segment of Shangri La Drive.



Obstruction on Shangri La Drive. Source: Project Team, February 2018.

FIGURE 3-53 MAYPORT OBSTRUCTIONS



Pedestrian Safety Evaluation Results

Crash Data

A summary of the crash data is provided below. The full crash data is detailed in **Appendix A**.

- There were 9 pedestrian crashes along the surveyed roads between January 2013 and January 2017.
- 3 crashes occurred within 0.25 miles of the school, one of which was a fatality.
- Three of the crashes resulted in fatalities (shown in red on the map).
  - One fatality occurred at 9:00 PM in May 2014 on Mayport Road north of A1A within 0.25 miles of the school.
  - The two other fatalities occurred on SR A1A. One occurred at 10:00 PM in July 2017. The other occurred at 8:35 AM in March 2017.

FIGURE 3-54 MAYPORT CRASH

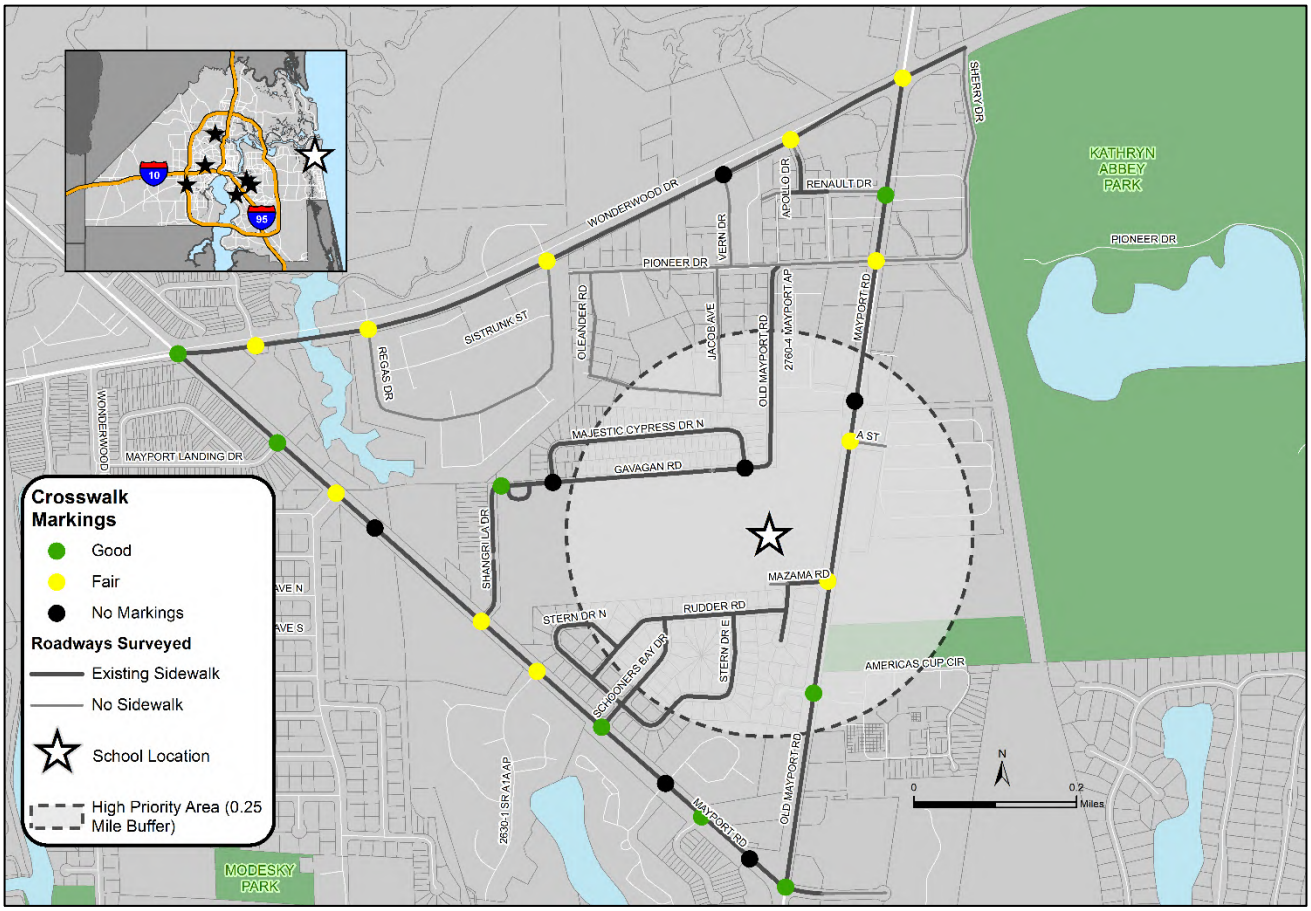
Crosswalks

There were 19 marked crosswalks along the roads surveyed, 3 of which were within 0.25 miles of the school. All crosswalks surveyed were considered to be in Good or Fair condition. Some of the crosswalks near the major intersections (Wonderwood/A1A and A1A/Mayport Road) appeared to be recently improved.

'Fair' crosswalk markings on Mayport Road near school entrance.
Source: Project Team, February 2018.

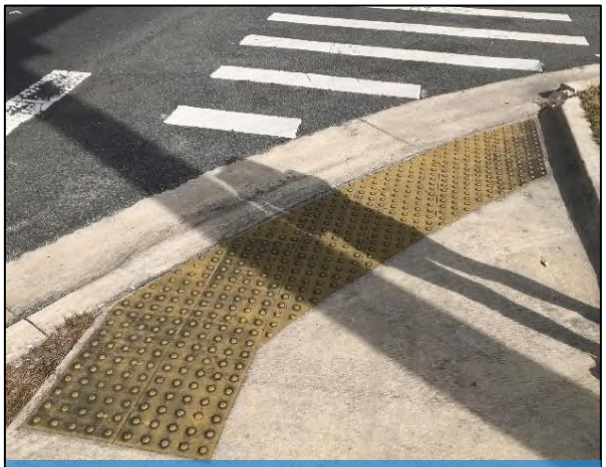
'Good' crosswalk markings on Gavagan Road.
Source: Project Team, February 2018.

FIGURE 3-55 MAYPORT CROSSWALKS



Curb Ramps

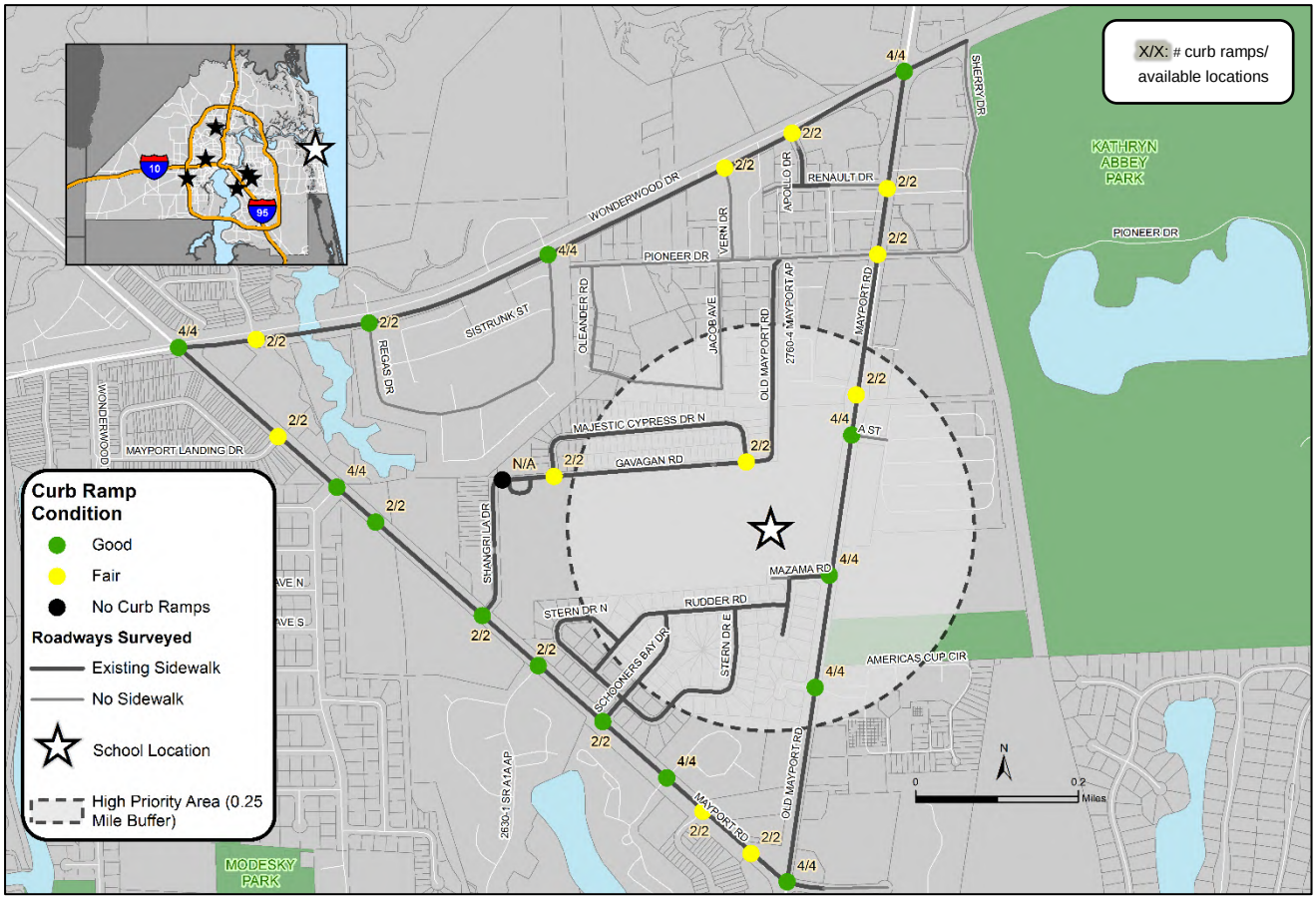
All curb ramps surveyed were considered to be in 'Good' or 'Fair' condition and ADA compliant.



'Good' curb ramp at SR A1A/Mayport Road. Source: Project Team, February 2018.

'Good' curb ramp at SR A1A/ Wonderwood. Source: Project Team, February 2018.

FIGURE 3-56 MAYPORT CURB RAMPS

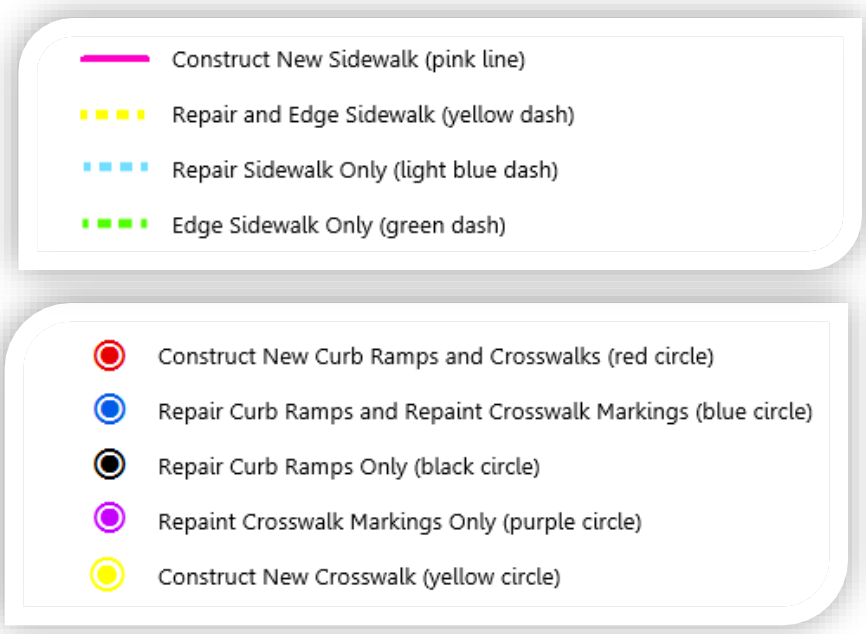


4.0 Network Recommendations

The network recommendations were developed based on the results of the existing conditions analysis. The goals of the recommendations are to address issues ranging from establishing a walking network, filling network gaps, and addressing safety concerns. The recommendations are organized by school and presented in map and tabular format. Additionally, planning-level cost estimates based on a variety of sources including FDOT, Federal Highway Administration (FHWA), and the City of Jacksonville.

Recommendation Maps

The recommendation maps for each school are displayed in **Figure 4-1 through 4-7.** The types of recommendations are displayed on the maps as follows:



Recommendation Tables

The recommendation tables are divided into sidewalk recommendations and crosswalk/curb cut recommendations. They are translated from the GIS input data tables into a plain language format. The sidewalk recommendations are displayed in the **green** tables and the crosswalk/curb recommendations are displayed in the **blue** tables.

Recommendation Prioritization

The recommendations should be prioritized based on proximity to the school. A high priority buffer was included on the maps to demonstrate where efforts should be initially focused, and a yes/no column was included in the recommendation tables to indicate if the recommendation is located within the radius.

Planning-Level Cost Estimates

The planning-level cost estimates were determined using FDOT and FHWA estimates. **Table 3** displays the estimate used for each improvement type (new sidewalks, sidewalk repair, sidewalk vegetation/maintenance, midblock crossings, crosswalk painting, new curb ramps, and curb ramp repair).

Two estimates were used for the crosswalk paintings to demonstrate the costs for a striped crosswalk (lower cost) and for a high visibility crosswalk (higher cost). Five estimates were used for midblock crossings to demonstrate the costs of several potential options.

The cost estimates for each school are displayed in the **grey** tables.

TABLE 3. PLANNING-LEVEL COST ESTIMATE BASE FIGURES

Type	Cost	Unit	Source
New Sidewalks (5')	$ 155,261.80	mile	FDOT Cost Estimate (2016)
Sidewalk Repair	$ 163,024.89	mile	FDOT Cost Estimate (2016) + 5% disassembly/removal
Sidewalk Vegetation/ Maintenance	-	mile	No additional cost; will be incorporated to the city's edging/maintenace budget.
New Curb Ramp	$852.00	each	FHWA average for wheelchair ramp + truncated dome/detectable warning (2013)
Curb Ramp Repair	$920.16	each	New curb ramp cost + 8% disassembly and removal fee
Crosswalk Painting	-	each	2 crosswalk painting options (FHWA)
Striped	$770.00	each	FHWA average for striped crosswalks (2013)
High Visibility	$2,540.00	each	FHWA average for high visibility crosswalk (2013)
Midblock Crossing	-	each	5 midblock crossing options
FDOT Pedestrian Signal	$120,051.93	each	FDOT Cost Estimate (2016)
Flashing Beacon	$10,010.00	each	FHWA average for flashing beacon (2013)
Rectangular Rapid Flashing Beacon (RRFB)	$22,250.00	each	FHWA average for RRFB (2013)
Pedestrian Hybrid Beacon (HAWK)	$57,680	each	FHWA average for HAWK (2013)
Pedestrian Refuge Island	$13,520.00	each	FHWA average for refuge island (2013)
Multi-Use Path, Paved	$481,140	Mile	FHWA average for multi-use path, paved (2013)

Note: The FDOT cost estimates were derived from long range estimates (LRE) cost per mile models. These models are generic in nature and not based on actual construction projects. They are for reference purposes only, and are not intended to predict or suppor future estimates.

The FHWA cost estimates generally includes engineering, design, mobilization, and furnish and installation costs. These costs will vary based on site condition, choice of contractor, and other factors.

*Further details about the cost estimates are in **Appendix B**.*

4.1 Henry Kite Recommendations

FIGURE 4-1 HENRY KITE RECOMMENDATIONS

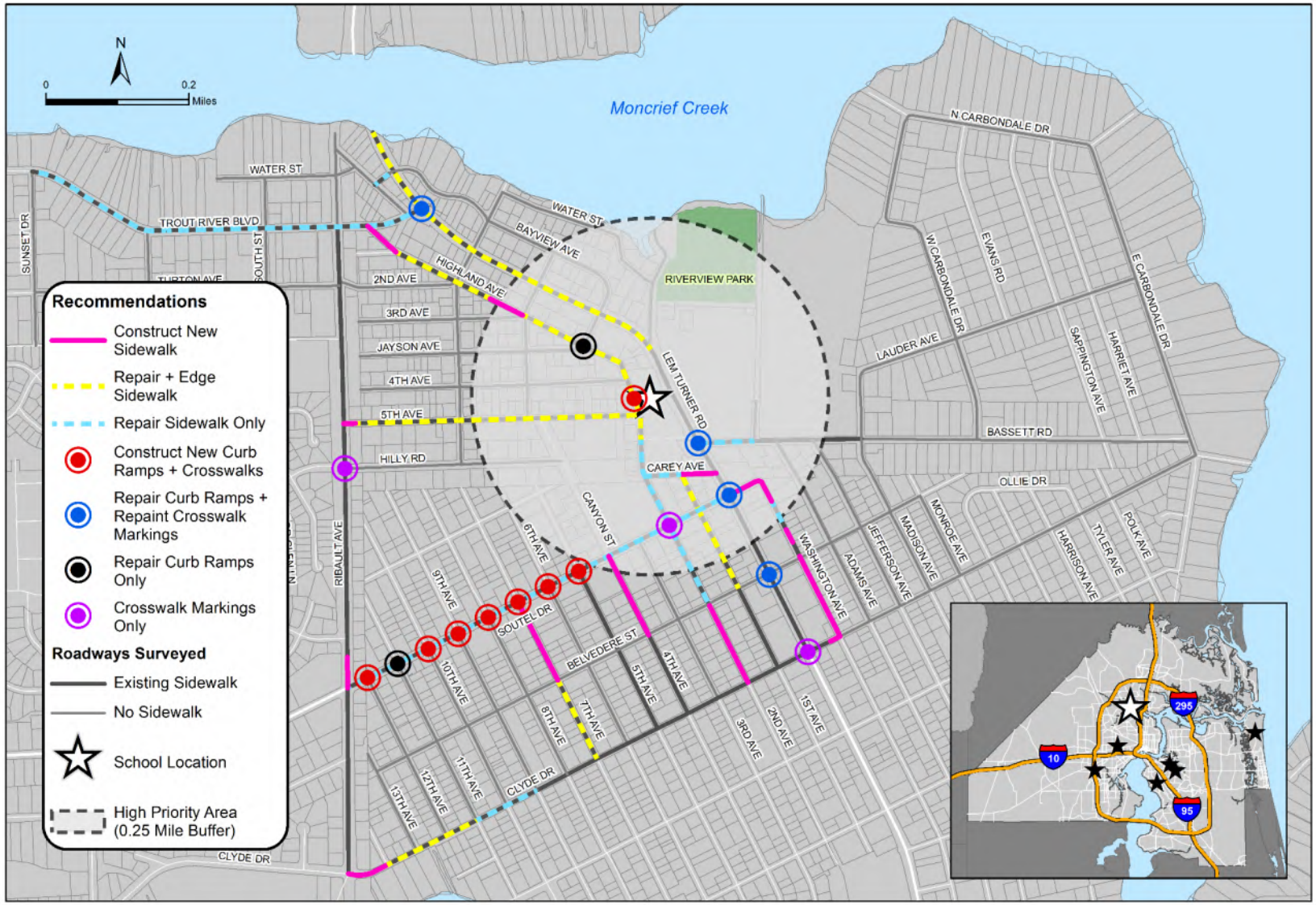


TABLE 4. HENRY KITE SIDEWALK RECOMMENDATIONS

Street	Recommendation	Recommendation Notes	Within 0.25 mi?	Road Type	Sides	Sidewalk Location	Length (ft)	Vegetation/ Maintenance	Pavement Condition
1st Avenue	Repair/Vegetation	Close to school.	Yes	Local	1	W	948	Few	Fair
2nd Avenue	Repair Only	Cracking at intersection.	Yes	Local	1	E	407	Minimal	Poor
2nd Avenue	Repair Only	Close to school.	Yes	Local	1	W	654	Minimal	Fair
5th Avenue	Repair/Vegetation	Some repairs/veg needed.	Yes	Local	1	N	2106	Many	Poor
5th Avenue	New Sidewalk	Small sidewalk gap.	No	Local	1	N	87	-	-
7th Avenue	Repair Only	Minor street; small piece.	No	Local	0	W	182	Few	Poor
7th Avenue	Repair/Vegetation	Few repairs/veg.	No	Local	1	W	650	Few	Fair
Bassett Road	Repair Only	Few repairs, close to school.	Yes	Local	1	N	414	Minimal	Fair
Bayview Ave.	Repair Only	Repairs needed.	No	Local	1	N	129	Minimal	Poor
Carey Avenue	New Sidewalk	Close to school.	Yes	Local	1	N	259	-	-
Carey Avenue	Repair Only	Severe cracks.	Yes	Local	1	N	268	Few	Poor
Clyde Drive	New Sidewalk	Fills sidewalk gap.	No	Local	1	S	304	-	-
Clyde Drive	Repair/Vegetation	Light repair/veg.	No	Local	1	S	739	Few	Fair
Clyde Drive	Repair Only	Light repair.	No	Local	1	S	499	Minimal	Fair
Highland Ave.	Repair/Vegetation	Direct route to school.	No	Local	1	S	769	Many	Poor
Highland Ave.	Repair/Vegetation	Direct route to school.	Yes	Local	1	S/SW	798	Many	Poor
Highland Ave.	Repair/Vegetation	Maintenance on west side.	Yes	Local	2	E/W	600	Few	Poor
Highland Ave.	Repair Only	Direct route to school.	Yes	Local	1	E	275	Minimal	Fair
Highland Ave.	New Sidewalk	Direct route to school.	Yes	Local	1	S	268	-	-
Highland Ave.	New Sidewalk	Direct route to school.	No	Local	1	S	283	-	-
Lem Turner Rd.	Repair/Vegetation	Mostly veg, some repairs.	Yes	Arterial	2	E/W	2682	Many	Fair
Ribault Avenue	New Sidewalk	Fills sidewalk gap.	No	Local	1	W	228	-	-
Soutel Drive	Repair Only	Some repairs needed on N side.	Yes	Arterial	2	N/S	3161	Minimal	Fair
Trout River Bvd.	Repair Only	Few repairs needed.	No	Local	1	N	648	Minimal	Fair
Trout River Bvd.	Repair Only	Few repairs needed.	No	Local	1	N	2371	Minimal	Fair
Washington Ave.	Repair Only	Few repairs.	Yes	Local	1	W	226	Minimal	Fair

Street	Recommendation	Recommendation Notes	Within 0.25 mi?	Roady Type	Sides	Sidewalk Location	Length (ft)	Vegetation/ Maintenance	Pavement Condition
7th Avenue	New Sidewalk	Fills sidewalk gap.	No	Local	1	W	648	-	-
4th Avenue	New Sidewalk	Fills sidewalk gap.	Partial	Local	1	E	654	-	-
Highland Ave.	New Sidewalk	Fills sidewalk gap.	No	Local	1	W	635	-	-
Washington Ave.	New Sidewalk	Fills sidewalk gap.	No	Local	1	W	105	-	-
Washington Ave.	New Sidewalk	Fills sidewalk gap.	Yes	Local	1	W	425	-	-
Washington Ave.	New Sidewalk	Fills sidewalk gap.	No	Local	1	W	662	-	
Clyde Drive	New Sidewalk	Fills sidewalk gap.	No	Local	1	N	78	-	-

TABLE 5. HENRY KITE CROSSWALK/CURB RAMP RECOMMENDATIONS

Location	Within 0.25 mi?	Recomm-endation	Recommendation Notes	Crosswalk Markings	Crosswalk Condition	Curb Ramps	Curb Ramp Condition
Highland Ave./Jayson Ave.	Yes	CR Repair	CR repair; poor condition	N	N/A	2/2	Poor
Highland Avenue/between 4th and 5th	Yes	New CR	Direct access to school; **midblock crossing.**	1/1	Fair	1/2	Good
Lem Turner/Basset Road	Yes	CR repair/ CW Markings	CR cracked and narrow; CW worn.	2/3	Fair	4/4	Good
Lem Turner/Belvedere Street	No	CR repair/CW Markings	CR repair; markings faded.	2/4	Poor	4/4	Good
Lem Turner/Clyde Street	No	CW Markings	CW faded.	4/4	Poor	4/4	Good
Lem Turner/Soutel Drive	Yes	CR repair/ CW Markings	Cr cracked and narrow, CW worn.	3/4	Poor	4/4	Good
Lem Turner/Trout River Boulevard	No	CR repair/ CW Markings	Curb ramp cracked; markings on W side of int.	2/3	Fair	3/3	Good
Ribault Avenue/Hilly Road	No	CW Markings	CW faded.	1/4	Poor	3/3	Good
Soutel Drive/10th Avenue	No	New CR	Missing CRs on south side.	N	N/A	2/4	Fair
Soutel Drive/11th Avenue	No	CR Repair	CR repair; poor condition.	N	N/A	2/4	Poor
Soutel Drive/12th Avenue	No	New CR	Missing CRs on south side.	N	N/A	0/2	Poor
Soutel Drive/5th Avenue	No	New CR	Missing CRs on south side.	N	N/A	2/4	Fair
Soutel Drive/6th Avenue	No	New CR	Missing CRs on south side.	N	N/A	2/4	Fair
Soutel Drive/7th Avenue	No	New CR	Missing CRs on south side.	N	N/A	2/4	Fair
Soutel Drive/8th Avenue	No	New CR	Missing CRs on south side.	N	N/A	2/4	Poor
Soutel Drive/9th Avenue	No	New CR	Missing CRs on south side.	N	N/A	2/4	Fair
Soutel Drive/Highland Ave.	Yes	CW Markings	CW faded/missing.	3/4	Poor	4/4	Good

TABLE 6. HENRY KITE COST ESTIMATES

Improvement	Miles/Locations	Estimated Cost
New Sidewalk	0.3 miles	**$42,020.67**
Sidewalk Repair/Vegetation	1.8 miles	**$286,899.11**
Sidewalk Repair Only	1.7 miles	**$285,108.30**
New Curb Ramps	15 locations	**$12,780**
Repair Curb Ramps	19 locations	**$17,483**
Crosswalk Painting	26 locations	Choose one option below
Striped	-	**$20,020**
High Visibility	-	**$66,040**
Midblock Crossing	1 location	Choose one option below
FDOT Pedestrian Signal	-	**$120,051.93**
Flashing Beacon	-	**$10,010.00**
Rectangular Rapid Flashing Beacon (RRFB)	-	**$22,250.00**
Pedestrian Hybrid Beacon (HAWK)	-	**$57,680**
Pedestrian Refuge Island	-	**$13,520.00**

4.2 Annie Morgan Recommendations

FIGURE 4-2 ANNIE MORGAN RECOMMENDATIONS

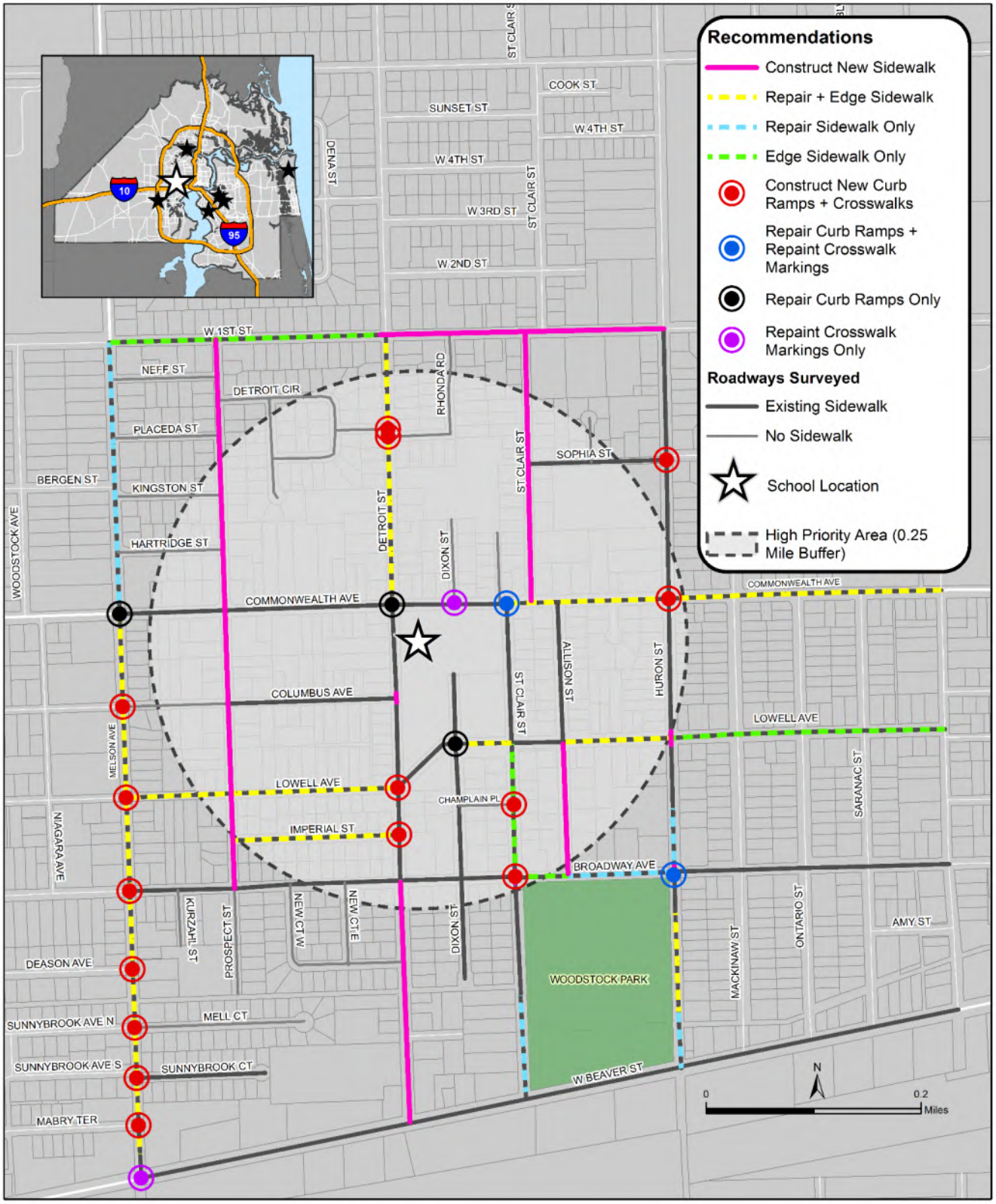


TABLE 7. ANNIE MORGAN SIDEWALK RECOMMENDATIONS

Street	Recommendation	Recommendation Notes	Within 0.25 mi?	Road Type	Sides	Sidewalk Location	Length (ft)	Vegetation/ Maintenance	Pavement Condition
1st Street	Edging Only	Edging needed. Some cracks.	No	Local	1	N	1352	Many	Fair
1st Street	New Sidewalk	New sidewalk along north side.	No	Local	0	N	61	-	-
Allison Street	New Sidewalk	New sidewalk	Yes	Local	0	-	638	-	-
Broadway Avenue	Edging Only	-	Yes	Local	1	N	256	Many	Good
Broadway Avenue	Repair Only	-	No	Local	1	N	517	Few	Poor
Broadway/St. Clair	New Sidewalk	Sidewalk intersection gap.	Yes	Local	0	-	62	-	-
Columbus/Prospect	New Sidewalk	Sidewalk intersection gap.	Yes	Local	0	-	2698	-	-
Commonwealth Ave.	Repair/Edging	Edging + repair	Yes	Arterial	2	N/S	2133	Many	Fair
Detroit Street	Repair/Edging	Edging + repair	Yes	Local	1	W	1314	Many	Poor
Detroit Street	New Sidewalk	Sidewalk intersection gap.	Yes	Local	0	-	51	-	-
Detroit Street	New Sidewalk	New sidewalk to Beaver Street.	Partial	Local	0	-	1179	-	-
Detroit/Columbus	New Sidewalk	Sidewalk intersection gap.	Yes	Local	0	-	45	-	-
Huron Street	Repair Only	Edging needed. Some cracks.	No	Local	1	W	314	Few	Poor
Huron Street	Repair Only	Pavement cracked and uneven.	No	Local	1	W	280	Few	Poor
Huron Street	Repair/Edging	Pavement cracked; tree root on sidewalk.	No	Local	1	W	486	Few	Poor
Huron/Broadway	New Sidewalk	Sidewalk intersection gap.	No	Local	0	-	51	-	-
Huron/Lowell	New Sidewalk	Sidewalk intersection gap.	Yes	Local	0	-	66	-	-
Huron/Sophia	New Sidewalk	Sidewalk intersection gap.	No	Local	0	-	40	-	-
Imperial Street	Repair/Edging	Edging on north side; some pavement cracking.	Yes	Local	2	N/S	817	Many	Fair
Lowell Avenue	Repair/Edging	Repair, some edging	Yes	Local	1	N	514	Few	Poor
Lowell Avenue	Repair/Edging	Repair, some edging	Yes	Local	2	N/S	822	Few	Poor
Lowell Avenue	Repair/Edging	Severe cracking, some edging	Yes	Local	2	N/S	530	Few	Poor
Lowell Avenue	Edging Only	Severe vegetation coverage.	No	Local	2	N/S	1346	Many	Fair
Lowell Avenue	Repair/Edging	S side worse than N.	Yes	Local	2	N/S	277	Many	Poor
Melson Avenue	Repair Only	Severe veg/maintenance. Few cracks.	No	Collector	2	E/W	1334	Few	Poor
Melson Avenue	Repair/Edging	Edging needed; some cracks.	No	Collector	2	E/W	2653	Many	Poor
Melson/Lowell	New Sidewalk	Sidewalk intersection gap.	No	Local	0	-	45	-	-

Street	Recommendation	Recommendation Notes	Within 0.25 mi?	Road Type	Sides	Sidewalk Location	Length (ft)	Vegetation/ Maintenance	Pavement Condition
St. Clair Street	Repair Only	Lots of cracking and uneven pavement.	No	Local	2	E/W	476	Minimal	Poor
St. Clair Street	Edging Only	-	Yes	Local	2	E/W	651	Many	Fair
St. Clair Street	New Sidewalk	New sidewalk	Yes	Local	0	-	1322	-	-
St. Clair/Champlain	New Sidewalk	Sidewalk intersection gap.	Yes	Local	0	-	47	-	-

TABLE 8. ANNIE MORGAN CROSSWALK/CURB RAMP RECOMMENDATIONS

Location	Within 0.25 mi?	Recomm-endation	Recommendation Notes	Crosswalk Markings	Crosswalk Condition	Curb Ramps	Curb Ramp Conditon
Beaver Street/Melson Avenue	No	CW Markings	Poor CW markings. Minor cracks on CRs.	2/3	Poor	4/4	Good
Broadway Avenue/Huron Street	No	CR Repair/CW	CR cracked; currently no markings.	0/4	N/A	2/3	Fair
Broadway Avenue/St. Clair Street	Yes	New CR/CW	2 CRS needed; currently no markings.	0/2	N/A	2/4	Fair
Commonwealth Ave./Detroit St	Yes	CR Repair	CRs steep/narrow; fair markings.	3/4	Fair	4/4	Fair
Commonwealth Ave./Huron St	Yes	New CR/CW	Markings worn, 3 CRs needed.	4/4	Fair	1/4	Good
Commonwealth Ave./Melson Ave.	No	CR Repair	CRs cracked/obstructed; markings fair.	2/4	Fair	4/4	Fair
Commonwealth Avenue/Dixon St	Yes	CW Markings	Faded CW markings. Fair CR.	4/4	Poor	2/2	Fair
Commonwealth Avenue/St. Clair	Yes	CR Repair/CW	CR narrow; 2 markings needed	2/4	Fair	4/4	Fair
Detroit Street/Detroit Circle	Yes	New CR/CW	CRs needed; currently no markings.	0/1	N/A	0/2	Poor
Detroit Street/Imperial Street	Yes	New CR/CW	2 CRs needed; currently no markings.	0/2	N/A	0/2	Poor
Detroit Street/Rhonda Road	Yes	New CR/CW	2 CRs needed; currently no markings.	0/2	N/A	0/2	N/A
Huron Street/Sophia Street	No	New CR/CW	3 CRs needed; currently no markings.	0/4	N/A	1/4	Poor
Lowell Avenue/Detroit Street	Yes	New CR/CW	1 CR needed; currently no markings.	0/1	N/A	3/4	Good
Lowell Avenue/Dixon Street	Yes	CR Repair	CRs cracked; fair markings.	4/4	Fair	4/4	Poor
Melson Ave./Broadway Ave.	No	New CR/CW	3 CRs needed; no markings present.	0/4	N/A	1/4	Fair
Melson Avenue/Columbus Ave.	No	New CR/CW	4 CRs needed; currently no markings.	0/4	N/A	0/4	Poor
Melson Avenue/Deason Avenue	No	New CR/CW	CRs needed; currently no markings.	0/1	N/A	0/2	N/A
Melson Avenue/Lowell Ave.	No	New CR/CW	4 CRs needed; no markings present.	0/4	N/A	0/4	Poor
Melson Avenue/Mabry Terrace	No	New CR/CW	CRs needed; currently no markings.	0/1	N/A	1/2	Fair
Melson Avenue/Mell Court	No	New CR/CW	CRs needed; currently no markings.	0/2	N/A	2/4	Fair
Melson Avenue/Sunnybrook Ct.	No	New CR/CW	CRs needed; currently no markings.	0/2	N/A	0/4	N/A
St. Clair Street/Champlain Place	Yes	New CR/CW	CRs needed; currently no markings.	0/1	N/A	0/2	Poor

TABLE 9. ANNIE MORGAN COST ESTIMATES

Improvement	Miles/Locations	Estimated Cost
New Sidewalk	1.2	**$185,402.59**
Sidewalk Repair/Vegetation	1.8	**$294,741.59**
Sidewalk Repair Only	0.6	**$90,188.58**
Sidewalk Vegetation/Maintenance Only	0.7	**$ -**
New Curb Ramps	23	**$19,596.00**
Repair Curb Ramps	39	**$35,886.00**
Crosswalk Painting	47 locations	Choose one option below
Striped	-	**$36,190.00**
High Visibility	-	**$119,380.00**

4.3 Ed White Recommendations

FIGURE 4-3 ED WHITE RECOMMENDATIONS

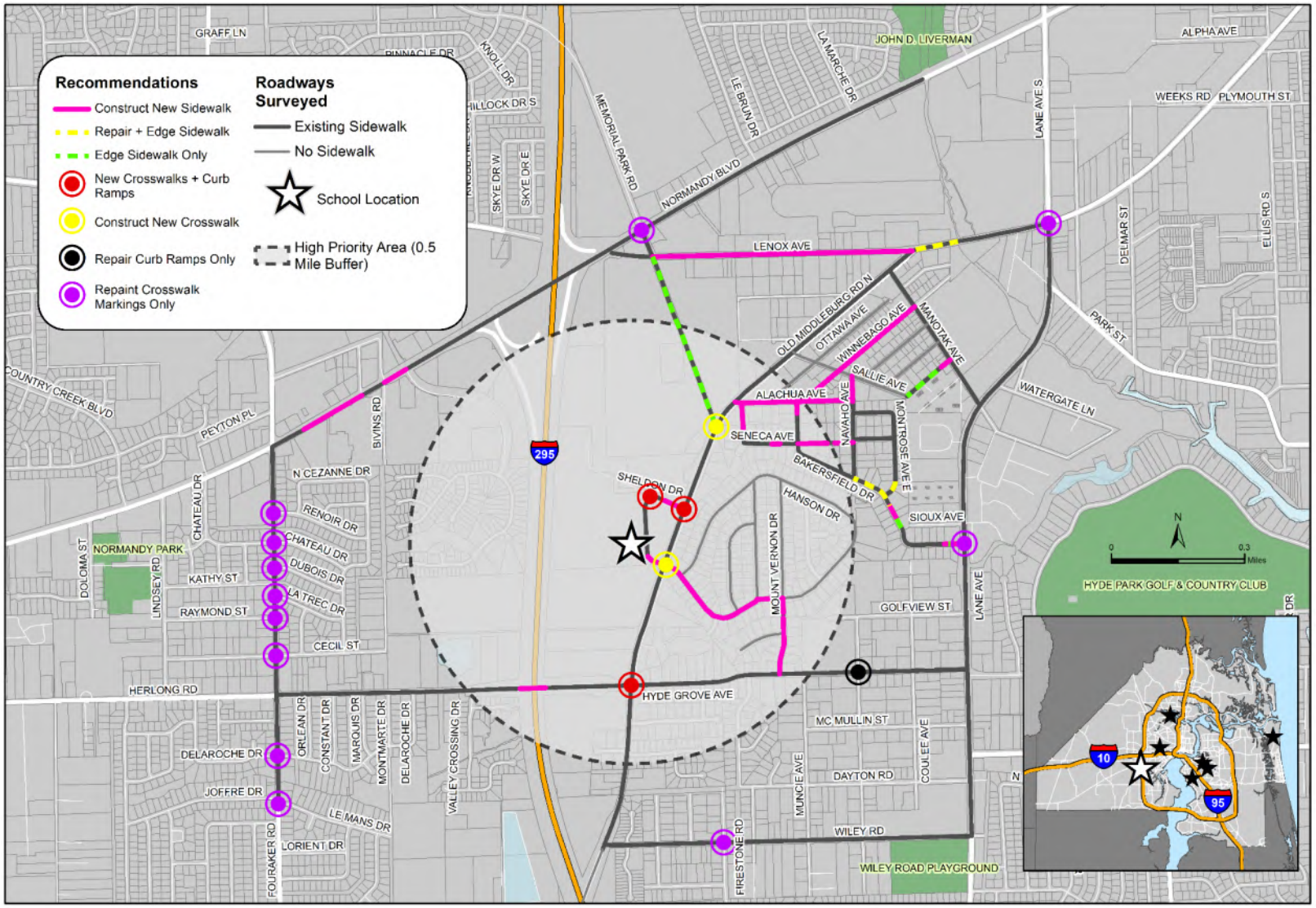


TABLE 10. ED WHITE SIDEWALK RECOMMENDATIONS

Street	Recommendation	Recommendation Notes	Within 0.5 mi?	Road Type	Sides	Sidewalk Location	Length (ft)	Vegetation/ Maintenance	Pavement Condition
Alachua Avenue	New Sidewalk	Connection to Old Middleburg.	Yes	Local	0	-	1400	-	-
Bakersfield Drive	Edging Only	Some edging needed.	No	Local	1	S	72	Few	Good
Bakersfield Drive	Repair/Edging	Repair/edging on N sidewalk.	No	Local	2	N/S	568	Many	Good
Bakersfield Drive	New Sidewalk	Fills gap.	No	Local	1	S	157	-	-
Bakersfield Drive	Edging Only	Some edging needed.	No	Local	2	N/S	170	Few	Good
Bakersfield Drive	New Sidewalk	Fills gap at Bakersfield/Lane.	No	Local	0	-	239	-	-
Bakersfield Drive	New Sidewalk	Fills gap.	Yes	Local	0	-	142	-	-
Delaware Avenue	New Sidewalk	Fills gap in network.	Yes	Local	0	-	101	-	-
Delaware Avenue	New Sidewalk	Fills gap in network.	Yes	Local	0	-	340	-	-
Ed White Access	New Sidewalk	Provides direct access to school.	Yes	Local	0	-	225	-	-
Hanson Drive	New Sidewalk	Provides new connections.	Yes	Local	0	-	1732	-	-
Herlong Road	New Sidewalk	Over I-295 bridge.	Yes	Collector	0	-	307	-	-
Lenox Avenue	Repair/Edging		No	Collector	1	N	559	Many	Fair
Lenox Avenue	New Sidewalk	Desire path on south side.	No	Collector	1	S	3089	-	-
Memorial Park Rd.	Edging Only	Lots of edging needed.	Partial	Local	1	W	2164	Many	Good
Montrose Avenue	Repair/Edging	Some repairs/edging needed.	No	Local	2	E/W	261	Many	Poor
Mt. Vernon Drive	New Sidewalk	Provides route to Hyde Grove	Yes	Local	0	-	673	-	-
Mt. Vernon Drive	New Sidewalk	Provides new connections.	Yes	Local	0	-	175	-	-
Navaho Avenue	New Sidewalk	Fills gap.	No	Local	0	-	302	-	-
Normandy Blvd.	New Sidewalk	Fills gap.	No	Arterial	2	N/S	802	-	-
Normandy Blvd.	New Sidewalk	Fills gap.	No	Arterial	2	N/S	303	-	-
Sallie Avenue	Edging Only		No	Local	1	S	537	Many	Good
Sallie Avenue	New Sidewalk	Fills gap.	No	Local	0	-	135	-	-
Seneca Avenue	New Sidewalk	Fills gap in network.	Yes	Local	0	-	350	-	-
Seneca Avenue	New Sidewalk	Fills gap.	No	Local	0	-	223	-	-
Sheldon Drive	New Sidewalk	Provides direct access to school.	Yes	Local	0	-	260	-	-
Winnebago Ave.	New Sidewalk	Connects two neighborhoods.	No	Local	0	-	1745	-	-

TABLE 11. ED WHITE CROSSWALK/CURB RAMP RECOMMENDATIONS

Location	Within 0.5 mi?	Recomm-endation	Recommendation Notes	Crosswalk Markings	Crosswalk Condition	Curb Ramps	Curb Ramp Condition
Fouraker Road/Cecil Street	N	CW Markings	Repaint CW markings.	2/4	Poor	4/4	Good
Fouraker Road/Chateau Drive	N	CW Markings	Repaint CW markings.	2/4	Poor	N/A	N/A
Fouraker Road/De La Roche Drive	N	CW Markings	Repaint CW markings.	2/3	Poor	4/4	Good
Fouraker Road/Dubois Drive	N	CW Markings	Repaint CW markings.	1/3	Poor	N/A	N/A
Fouraker Road/La Trec Drive	N	CW Markings	Repaint CW markings	1/3	Poor	N/A	N/A
Fouraker Road/Le Mans Drive	N	CW Markings	Repaint CW markings.	1/2	Poor	2/2	Good
Fouraker Road/Raymond Street	N	CW Markings	Repaint CW markings.	1/2	Poor	N/A	N/A
Fouraker Road/Renoir Drive	N	CW Markings	Repaint CW markings.	2/4	Poor	N/A	N/A
Hyde Grove Avenue/Navaho Avenue	N	CR Repair	W CR crumbling.	0/2	N/A	2/2	Poor
Lane Avenue/Bakersfield Drive	N	CW Markings	Repaint CW markings.	1/3	Poor	2/2	Good
Lenox Avenue/Lane Avenue	N	CW Markings	Repaint CW markings.	3/4	Poor	4/4	Good
Normandy Blvd/Memorial Park Road	N	CW Markings	Repaint CW markings.	4/4	Poor	4/4	Good
Old Middleburg Rd./Hanson Drive	Y	New CW	CW needed to school.	0/2	N/A	4/4	Good
Old Middleburg Rd./Hyde Grove Ave.	Y	New CW/CR	CW needed; SW CR repair.	0/4	N/A	4/4	Good
Old MIddleburg Rd./Memorial Park Rd.	Y	New CW	CW needed.	0/1	N/A	3/3	Good
Old Middleburg Rd./Sheldon Drive	Y	New CW/CR	CW needed to school.	0/1	N/A	2/3	Good
Sheldon Drive/School Access Road	Y	New CW/CR	CW/CR needed to cross internal school road.	0/1	N/A	0/1	N/A
Wiley Road/Firestone Road	N	CW Markings	Repaint CW markings.	2/4	Poor	N/A	N/A

TABLE 12. ED WHITE COST ESTIMATES

Improvement	Miles/Locations	Estimated Cost
New Sidewalk	2.4 miles	**$373,451.68**
Sidewalk Repair/Vegetation	0.3 miles	**$42,855.79**
Sidewalk Vegetation/Maintenance Only	0.6 miles	**$ -**
New Curb Ramps	2 locations	**$1,704.00**
Repair Curb Ramps	4 locations	**$3,680.64**
Crosswalk Painting	38 locations	Choose one option below
Striped	-	**$29,260.00**
High Visibility	-	**$96,520.00**
Midblock Crossing	1 location	Choose one option below
FDOT Pedestrian Signal	-	**$120,051.93**
Flashing Beacon	-	**$10,010.00**
Rectangular Rapid Flashing Beacon (RRFB)	-	**$22,250.00**
Pedestrian Hybrid Beacon (HAWK)	-	**$57,680**
Pedestrian Refuge Island	-	**$13,520.00**

4.4 Love Grove Recommendations

FIGURE 4-4 LOVE GROVE RECOMMENDATIONS

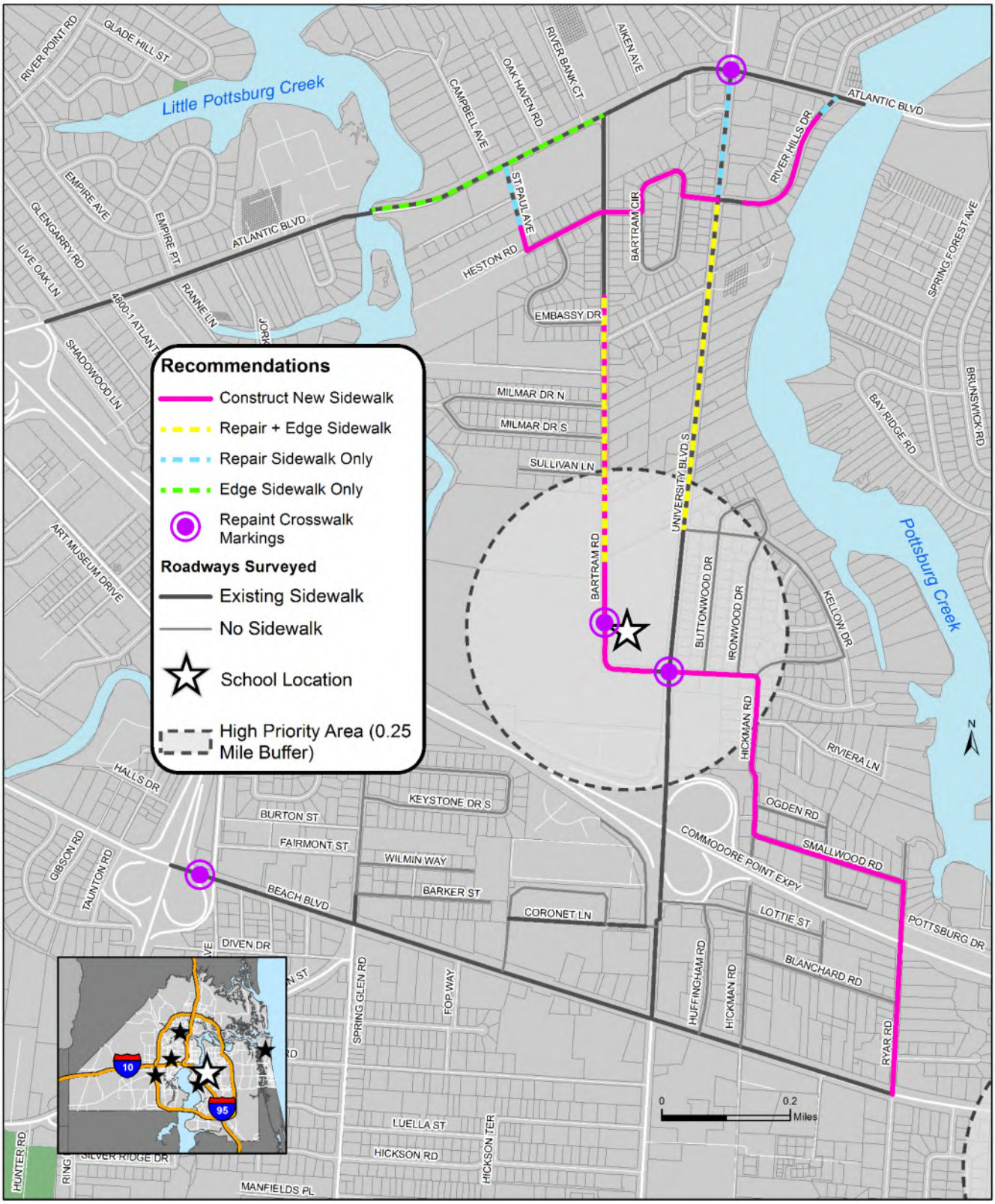


TABLE 13. LOVE GROVE SIDEWALK RECOMMENDATIONS

Street	Recommendation	Recommendation Notes	Within 0.25 mi?	Road Type	Sides	Sidewalk Location	Length (ft)	Vegetation/ Maintenance	Pavement Condition
Atlantic Blvd.	Edging Only	Light edging.	N	Arterial	2	N/S	2081	Fair	Good
Bartram Circle	New Sidewalk	New route.	N	Local	0	-	2299	-	-
Bartram Drive	New Sidewalk	New route.	N	Local	0	-	311	-	-
Bartram Road	New Sidewalk	Adjacent to school.	Y	Local	0	-	728	-	-
Bartram Road	New Sidewalk	New route.	Y	Local	0	-	715	-	-
Bartram Road	Repair/Edging	Light repair/edging.	Partial	Local	1	E	2223	Fair	Fair
Bartram Road	New Sidewalk	Network on both sides.	Partial	Local	1	W	2683	-	-
Heston Road	New Sidewalk	New route.	N	Local	0	-	709	-	-
Hickman Road	New Sidewalk	New route.	N	Local	0	-	1502	-	-
River Hills Drive	Repair Only	Light repair.	N	Local	1	E	224	Good	Fair
River Hills Drive	New Sidewalk	Fills gap.	N	Local	0	-	1050	-	-
Ryar Road	New Sidewalk	Overlap with HS.	N	Local	0	-	2067	-	-
Smallwood Rd.	New Sidewalk	Overlap with HS.	N	Local	0	-	1753	-	-
St. Paul Avenue	New Sidewalk	New route.	N	Local	0	-	197	-	-
St. Paul Avenue	Repair Only	Light repair.	N	Local	1	E	530	Good	Fair
University Blvd.	Repair/Edging	Light repair/edging.	Partial	Arterial	2	E/W	2730	Fair	Fair
University Blvd.	Repair Only	Light repair.	N	Arterial	2	E/W	1077	Good	Fair

TABLE 14. LOVE GROVE CROSSWALKS/CURB RAMP RECOMMENDATIONS

Location	Within 0.25 mi?	Recomm-endation	Crosswalk Markings	Crosswalk Condition	Curb Ramps	Curb Ramp Condition
Atlantic Boulevard/University Boulevard	N	CW Markings	4/4	Poor	4/4	Good
Bartram Road/School entrance	Y	CW Markings	1/1	Fair	2/2	Good
Beach Boulevard/Hart Expy On-Ramp	N	CW Markings	1/1	Fair	2/2	Good
University Boulevard/Bartram Road	Y	CW Markings	4/4	Poor	4/4	Good

TABLE 15. LOVE GROVE COST ESTIMATES

Improvement	Miles/Locations	Estimated Cost
New Sidewalk	2.1 miles*	**$319,698.16**
Sidewalk Repair/Vegetation	0.9 miles	**$152,928.46**
Sidewalk Repair Only	0.3 miles	**$56,533.82**
Sidewalk Vegetation/Maintenance Only	0.4 miles	**$ -**
Crosswalk Painting	10 locations	Choose one option from below
Striped	-	**$7,700.00**
High Visibility	-	**$25,400**

* 0.72 miles of new sidewalk overlap with Hogan Spring (Ryar Road/Smallwood Road)

4.5 Hogan Spring Recommendations

FIGURE 4-5 HOGAN SPRING RECOMMENDATIONS

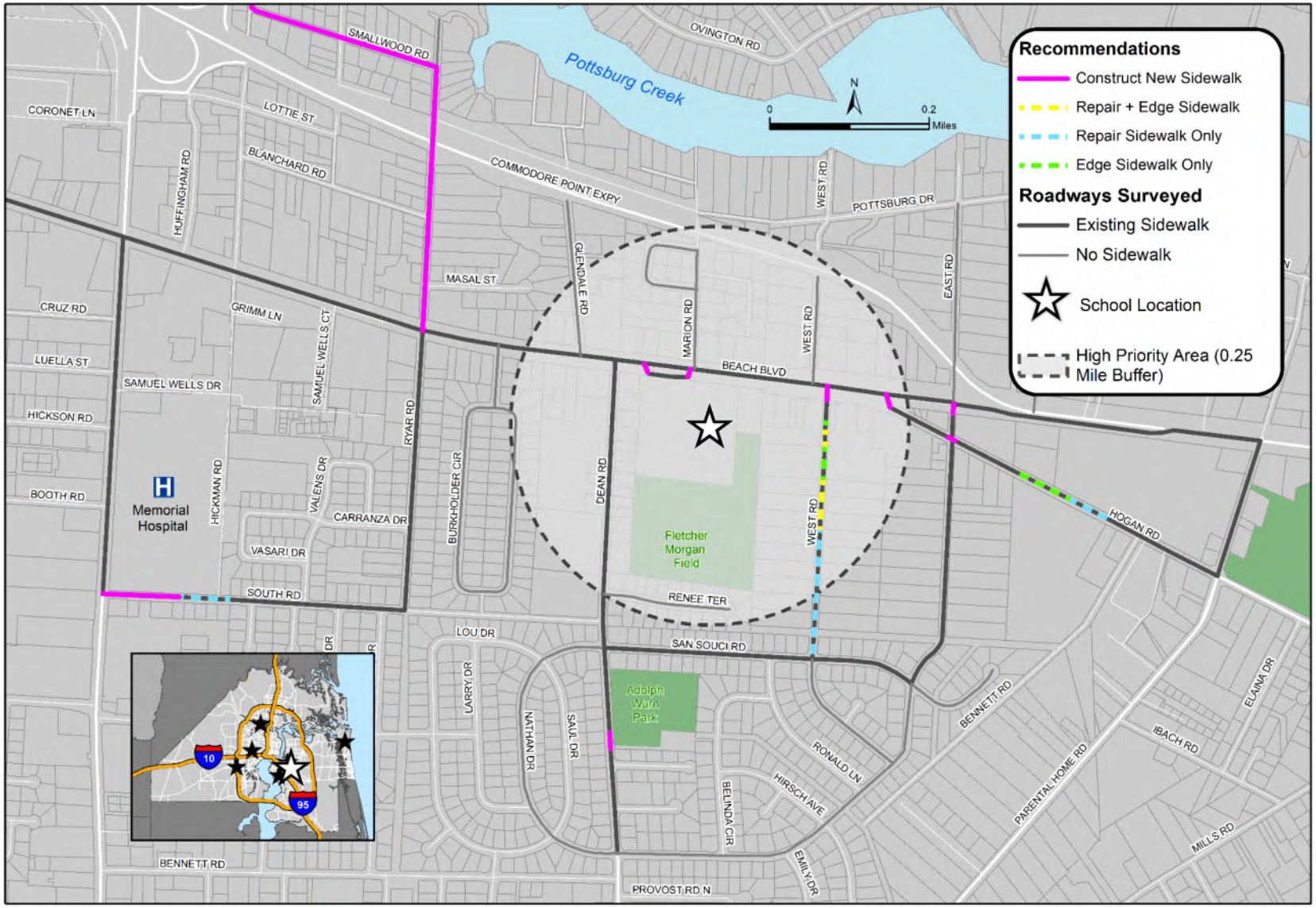


TABLE 16. HOGAN SPRING SIDEWALK RECOMMENDATIONS

Street	Recommendation	Recommendation Notes	Within 0.25 mi?	Road Type	Sides	Sidewalk Location	Length (ft)	Vegetation/ Maintenance	Pavement Condition
Dean Road	New Sidewalk	Fills gap.	No	Collector	1	E	106	Good	Poor
East Road	New Sidewalk	Fills gap.	No	Local	0	-	1393	-	-
Hogan Road	Repair Only	Cracks W of midblock.	No	Collector	2	N/S	291	Good	Poor
Hogan Road	Edging Only		No	Collector	1	N	404	Poor	Fair
Hogan Road	New Sidewalk	Fills gap.	Yes	Collector	0	-	90	-	-
Hogan Road	New Sidewalk	Fills gap.	No	Local	0	-	55	-	-
Hogan Spring Access	New Sidewalk	Fills gap at school.	Yes	Local	0	-	63	-	-
Hogan Spring Access	New Sidewalk	Fills gap at school.	Yes	Local	0	-	53	-	-
Ryar Road	New Sidewalk	Overlap with LG.	No	Local	0	-	2067	-	-
Smallwood Road	New Sidewalk	New route.	No	Local	0	-	1753	-	-
South	New Sidewalk	Fills gap.	No	Local	0	-	505	-	-
South Road	Repair Only		No	Local	1	S	339	Good	Poor
West Road	New Sidewalk	Fills gap.	Yes	Local	0	-	94	-	-
West Road	Edging Only		Yes	Local	1	W	61	Poor	Fair
West Road	Edging/Repair	Mainly on west side.	Yes	Local	2	E/W	115	Poor	Poor
West Road	Edging Only	Mainly on west side.	Yes	Local	2	E/W	221	Poor	Fair
West Road	Edging/Repair		Yes	Local	1	W	330	Poor	Poor
West Road	Repair Only	Crumbling near storm drains.	Yes	Local	1	W	326	Fair	Poor
West Road	Repair Only	Crumbling near storm drains	No	Local	1	W	533	Fair	Poor

TABLE 17. HOGAN SPRING COST ESTIMATES

Improvement	Miles/Locations	Estimated Cost
New Sidewalk	1.2 miles	**$ 181,697.47**
Sidewalk Repair/Vegetation	0.1 miles	**$ 13,739.79**
Sidewalk Repair Only	0.3 miles	**$ 45,974.25**
Sidewalk Vegetation/Maintenance Only	0.1 miles	**$ -**
* 0.72 miles of new sidewalk overlap with Love Grove (Ryar Road/Smallwood Road)		

4.6 San Jose Recommendations

FIGURE 4-6 SAN JOSE RECOMMENDATIONS

TABLE 18. SAN JOSE SIDEWALK RECOMMENDATIONS

Street	Recommendation	Recommendation Notes	Within 0.25 mi?	Road Type	Sides	Sidewalk Location	Length (ft)	Vegetation/ Maintenance	Pavement Condition
Community Road	Repair	-	Yes	Local	1	N	406	Minimal	Fair
Community Road	Repair/Edging	-	Yes	Local	1	N	224	Few	Fair
Community Road	Repair/Edging	Vegetation obstructing sidewalk.	Yes	Local	1	N	392	Few	Fair
Community Road	Edging		Yes	Local	1	N	466	Few	Good
Nettie Road	New Sidewalk	New route	Yes	Local	0	-	1017	-	-
Orangewood Road	Repair		No	Local	1	W	227	Minimal	Fair
Patsy Anne Drive	Repair	Uneven sidewalk	No	Local	1	W	1019	Minimal	Fair
Powers Avenue	New Sidewalk	Close gap	Yes	Local	0	-	334	-	-
Powers Avenue	New Sidewalk	Close gap	Yes	Local	0	-	2794	-	-
San Jose Elem. Access	New Sidewalk	Direct access to school	Yes	Local	0	-	148	-	-
St. Augustine Rd.	Repair	Severe cracking.	No	Collector	2	E/W	814	Minimal	Fair
St. Augustine Rd.	Repair/Edging	Frequent cracks/needs edging and sand blown off.	No	Collector	2	E/W	1247	Few	Fair
St. Augustine Rd.	Repair	Light repairs needed	Yes	Collector	2	E/W	655	Minimal	Fair
St. Augustine Rd.	Repair/Edging	Crumbling near storm drain.	Yes	Collector	2	E/W	142	Few	Poor
St. Augustine Rd.	Repair/Edging	Light repair/edging	Yes	Collector	2	E/W	372	Few	Fair
Victor Street	Edging	Light edging	No	Local	1	E	512	Few	Good
Victor Street	Repair	Light repair	No	Local	1	E	339	Few	Good
Victor Street	Edging	Light maintenance	No	Local	1	E	306	Few	Good
Victor Street	Repair	Crumbling near storm drains.	No	Local	1	E	691	Minimal	Fair
Victor Street	Repair	Light repair needed.	Yes	Local	1	E	311	Minimal	Fair

TABLE 19. SAN JOSE CROSSWALK/CURB RAMP RECOMMENDATIONS

Location	Within 0.25 mi?	Recomm-endation	Crosswalk Markings	Crosswalk Condition	Curb Ramps	Curb Ramp Condition
Community Road/Nettie Road	Yes	Markings	0/1	N/A	N/A	N/A
Community Road/Patsy Anne Drive	No	Markings	0/2	N/A	N/A	N/A
St. Augustine Road/Ballard Oaks Road	Yes	Markings	1/1	Poor	2/2	Good
St. Augustine Road/Bishop Circle	Yes	Markings	1/1	Poor	2/2	Good
St. Augustine Road/Powers Avenue	Yes	Markings	2/3	Poor	3/3	Good
St. Augustine Road/School Access	Yes	Markings/CR	1/1	Poor	0/2	N/A
University Boulevard/Powers Avenue	No	Markings	4/4	Poor	4/4	Good
University Boulevard/St. Augustine Road	No	Markings	4/4	Fair	4/4	Good

TABLE 20. SAN JOSE COST ESTIMATES

Improvement	Miles/Locations	Estimated Cost
New Sidewalk	0.8 miles	**$ 126,238.43**
Sidewalk Repair/Veget	0.5 miles	**$ 73,392.08**
Sidewalk Repair Only	0.5 miles	**$ 79,876.02**
Sidewalk Veg/Maintenance Only	0.2 miles	**$ -**
Repair Curb Ramps	2 locations	**$1,840.32**
Crosswalk Painting	21 locations	Choose one from below
Striped	-	**$14,484.00**
High Visibility	-	**$43,180.00**

4.7 Mayport Recommendations

FIGURE 4-7 MAYPORT RECOMMENDATIONS

TABLE 21. MAYPORT SIDEWALK RECOMMENDATIONS

Street	Recommendation	Recommendation Notes	Within 0.25 mi?	Sides	Sidewalk Location	Length (ft)	Vegetation/ Maintenance	Pavement Condition
A1A	New Sidewalk	Potential as a 10' multi-use path.	No	1	E	1,629	-	-
A1A to Hanna Park	Potential Multi-Use Path	Added per City of Jacksonville request.	Yes	1	E	5,563	-	-
Apollo Drive	New Sidewalk	Fills gap.	No	0	-	105	-	-
Gavagan Road	Edging Only	Vegetation trimming on S side.	Yes	2	N/S	970	Fair	Good
Gavagan Road	Repair Only	-	Yes	2	-	174	Fair	Fair
Gavagan Road	New Sidewalk	Fills gap.	Yes	0	-	23	-	-
Old Mayport Road	Edging/Repairs	-	Yes	1	E	688	Fair	Fair
Renault Dr	New Sidewalk	Fills gap.	No	0	-	385	-	-
Renault Drive	Edging Only	Light edging needed	No	1	N	277	Fair	Good
Shangri La Drive	New Sidewalk	Fills gap.	No	0	-	64	-	-
Shangri La Drive	Edging Only	-	No	1	W	412	Fair	Good

TABLE 22. MAYPORT CROSSWALK/CURB RAMP RECOMMENDATIONS

Location	Within 0.25 mi?	Recomm-endation	Crosswalk Markings	Crosswalk Condition	Curb Ramps	Curb Ramp Condition
Mayport Road/A Street	Yes	Markings	4/4	Fair	4/4	Good
Mayport Road/Mazama Road	Yes	Markings	3/3	Fair	4/4	Good
Mayport Road/Nantucket Avenue	No	Markings	2/2	Fair	4/4	Good
Mayport Road/Pioneer Drive	No	Markings	2/2	Fair	2/2	Fair
Mayport Road/Shangri La Drive	No	Markings	1/1	Fair	2/2	Good
Mayport Road/SR A1A AP	No	Markings	1/1	Fair	2/2	Good
Wonderwood Drive/Apollo Drive	No	Markings	1/1	Fair	2/2	Fair
Wonderwood Drive/Bayshore Drive	No	Markings	1/1	Fair	2/2	Fair
Wonderwood Drive/Mayport Road	No	Markings	4/4	Fair	4/4	Good
Wonderwood Drive/Regas Drive E	No	Markings	1/1	Fair	4/4	Good
Wonderwood Drive/Regas Drive W	No	Markings	1/1	Fair	2/2	Good

TABLE 23. MAYPORT COST ESTIMATES

Improvement	Miles/Locations	Estimated Cost
New Sidewalk	0.6 miles	**$94,274.49**
Potential Multi-Use Path	1.1 miles	**$506,928.38**
Sidewalk Repair/Vegetation	0.1 miles	**$21,242.64**
Sidewalk Repair Only	0.03 miles	**$5,372.41**
Sidewalk Vegetation/Maintenance Only	0.3 miles	**$ -**
Crosswalk Painting	21 locations	Choose one option from below
Striped	-	**$16,170.00**
High Visibility	-	**$53,340.00**

4.8 Summary Network Recommendations

Table 24 below provides a summary of the combined network recommendations and their associated cost estimates for all seven schools.

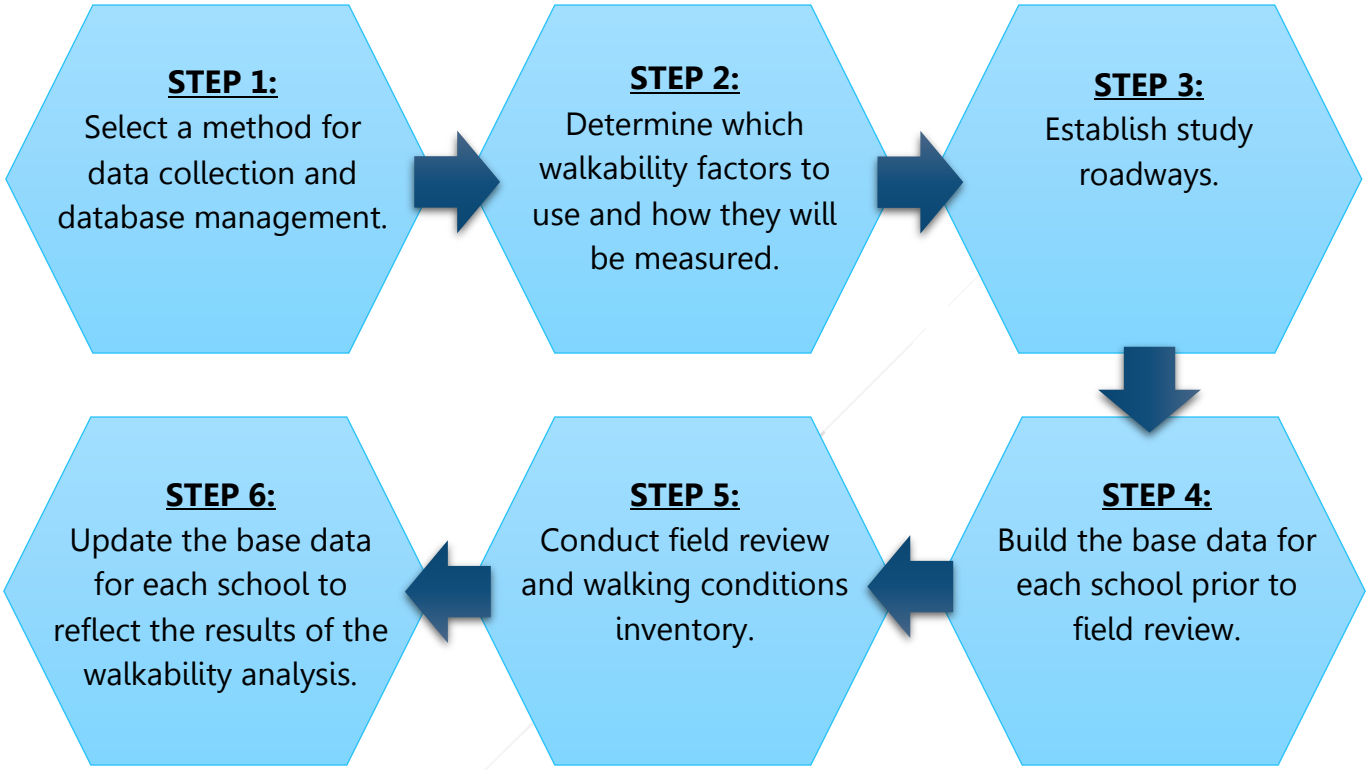
TABLE 24. SUMMARY NETWORK COST ESTIMATES

Type	Total Miles/Locations	Total Estimated Cost
New Sidewalks (5')	8.5 miles	**$1,322,783.49**
Sidewalk Repair/Vegetation	5.4 miles	**$880,334.41**
Sidewalk Repair Only	3.50 miles	**$570,587.12**
Sidewalk Vegetation/ Maintenance Only	2.3 miles	**$ -**
New Curb Ramp	40 locations	**$34,080.00**
Curb Ramp Repair	64 locations	**$58,890.24**
Crosswalk Painting	159 locations	options below
Striped	-	**$122,430.00**
High Visibility	-	**$403,860.00**
Midblock Crossing	2 locations	options below
FDOT Pedestrian Signal	-	**$240,103.86**
Flashing Beacon	-	**$20,020.00**
Rectangular Rapid Flashing Beacon (RRFB)	-	**$44,500.00**
Pedestrian Hybrid Beacon (HAWK)	-	**$115,360.00**
Pedestrian Refuge Island	-	**$27,040.00**
Potential Multi-Use Path	1.1 miles	**$506,928.38**

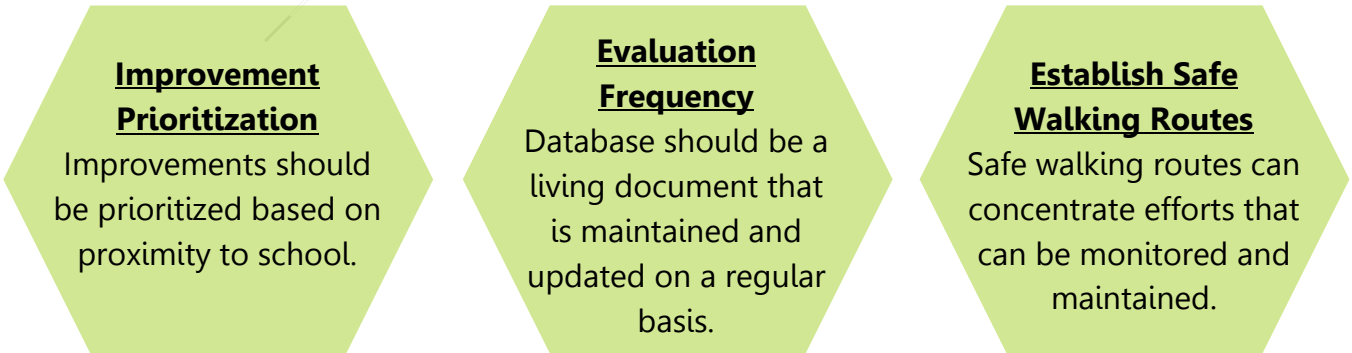
5.0 Walkability Analysis Recommedations

The purpose of this study was to develop and test a potential methodology for evaluating school walkability conditions that could be implemented region-wide. This section details the recommended methodology based on lessons learned throughout the study process.

The recommended methodology is listed below, and further detailed in this section:



In addition to the methodology, three other recommendations are included in this section:



5.1 Methodology Recommendations

Step 1) Select a method for data collection and database management.

The methods used to collect and manage data for the purposes of this pilot study utilized a basic pen-and-paper technique which was then developed into an ArcGIS database. However, digital data collection applications (apps) are also available that may be used for school walkability data.

For example, Esri features an app called Survey 123 that allows users to design surveys with predefined questions (such as sidewalk condition or curb ramp condition) that can be completed for data collection points in the field. Data can be captured using smartphones, laptops, or tablets in the field, and is then immediately available for analysis in ArcGIS. It is recommended that the data points and lines be collected for each school should be predefined/built into the database prior to field review to facilitate an efficient and accurate database.

Jacksonville Transportation Authority (JTA) recently used the Survey 123 app for three schools as part of a Safe Routes to School application in 2016. They created a series of questions to be answered for each data point to be collected during the field review. This project was focused on gathering point data for crosswalks and intersections within about 0.25 miles of the schools.

In addition, the City of Wauwatosa, Wisconsin used ArcGIS Collector (similar to Survey 123) as part of their school walkability efforts (full article about this project in **Appendix C**). The research team mapped features along school routes such as where street crossings were located and how safe or unsafe they were. During the field review, the research team documented attributes of all the street crossings such as: if it was a controlled or uncontrolled intersection, if pedestrian signs were present, stop signs, crosswalk markings, etc. Once the data was collected, the city assigned an overall safety score to each crosswalk based on its attribues. Finally, the crosswalk datasets were combined with student resident locations, traffic volume, and existing sidewalks to suggest safe walking routes to school.

Step 2) Determine which walkability factors will be evaluated and how they will be measured.

There are numerous variables along the roadways and existing infrastructure that influence walking conditions. At a minimum, the following walkability factors should be included: roadway type (FDOT roadway classification) sidewalk location, sidewalk pavement condition, sidewalk vegetation and maintenance, sidewalk obstructions, curb ramp location and condition, crosswalk locations and condition, general ADA compliance, and bicycle and pedestrian crash history. The infrastructure factors should be measured on a general three-tier scale (e.g. good, fair, poor).

Lessons Learned: Walkability Factors

The inputs were originally conceptualized as text and note based. For example, instead of ranking an element from 0-2, it was ranked as 'good', 'fair', or 'poor'. Although this method would achieve the same visual results of red, yellow, and green on the maps, it would not yield as much of an opportunity for analysis. By assigning the inputs a number versus a word, it facilitated a more effective quantitative output to be used for recommendations and prioritization.

Step 3) Establish study roadways.

Every school location is unique. It was important to establish a site-specific context for the review of each school. Therefore, the first step for conducting the walking conditions inventory was determining which roadways were to be studied for each school. The roadways were selected by: establishing an initial study radius for each school, expanding it to include 'logical bounds' of typical routes to the school, and determining which interconnected roads should be considered.

Establishing Initial Study Radius

The initial study radius was determined to be **0.25 miles for elementary and middle schools** and **0.5 miles for high schools**. Larger areas were considered for the elementary and middle schools, but they tended to reach beyond the limits of the school zoning district lines. This was particularly problematic for the elementary schools.

Extending Logical Bounds

Once the initial radius is applied, a 'logical boundary' should be established to the closest arterial or collector roads to the study radius. This logical boundary is intended to encompass typical or logical routes that people walking would take to school.

Selecting Interconnected Roads

This step allows for a final, objective selection of study roads based on the characteristics of the built environment. Interconnected roads are those that serve the study area as a whole, are not solely inclusive to a neighborhood or other commercial development (such as hospital), and also provide logical connections to school routes. For example, a more urbanized study area based on a grid likely had all roads included within the logical bounds. However, a more suburban area with disconnected neighborhood roads may not have been included.

Lessons Learned: Study Roadways

A larger radius of 1.5 miles was initially considered, but this only included collector and arterial roads. At the first site visit, it was evident that many local roads directly adjacent and connecting to the school were utilized for walking to school, but were not included in the initial selection. Additionally, the collector and arterial roads tend to be better maintained with established sidewalks and proper crosswalks and connections. It was then decided to shrink the study area to review all roads directly around the school to focus objectives and better serve the intention of the study. However, a larger radius was used for high schools due to the size of the campus; 0.25 miles did not provide much area for review.

Step 4) Build the base data for each school prior to field review.

Building the existing conditions database prior to field review improves the quality, efficiency, and accuracy of the field review. It is important for the field reviewers have base data of existing infrastructure to work from so they know what and where to specifically review.

Pen-and-Paper Method

To accomplish this using the pen-and-paper method, a series of maps would need to be created, exported, and printed for each walking element and their condition for the reviewers to use in the field.

Digital Method

To accomplish this digitally, the base data points and sidewalk segment locations would be pre-built into the app and uploaded to a smartphone or tablet to be utilized in the field.

Lessons Learned: Building the Base Data

This step became evident after the first attempt at a field review. Initially, a walking checklist was created for the field reviewers to complete on the ground. However, this method proved to be time-consuming, spatially inaccurate, and ineffective. For example, a significant amount of writing was involved to describe the specific location that was being reviewed, let alone notating all of the attributes and characteristics in a uniform way. It was determined that it would be better to conduct the field review once it was known where the infrastructure was (or was not), and an initial conditions determination.

Step 5) Conduct the field review and walking conditions inventory.

A minimum of two field reviewers should evaluate and update the existing infrastructure conditions in the field. The reviewers should have the base data in hand (whether on paper or electronically), a method to take notes, and a GPS-enabled camera for a photo log.

Pen-and-Paper Method

Using the pen-and-paper method for this study, the field reviewers had a series of maps signifying where walking elements were and what condition they were in. The reviewers would verify the base data by checking the conditions off as they went, or by modifying the initial review by notating on the map. The photo log was completed using a GPS-enabled camera in combination with a note-taking worksheet where notes could be added for photo locations.

Digital Method

The reviewers would bring a smartphone or tablet in the field equipped with the app. They would use the app to document characteristics of preestablished segments and data points. They also have the option to add additional data points. A photo log element can also be incorporated with the app.

Step 6) Update the base data for each school to reflect the results of the walkability analysis.

All databases should be updated with the results of the field review. This will identify deficiencies in the walking system for each school and direct funding resources for improvements.

5.2 Other Recommendations

Improvement Prioritization

Improvements should be prioritized based on proximity to the school. Ideally, efforts should be focused on establishing quality and complete walking infrastructure immediately adjacent to the school and within the first 0.25 mile radius before working on improvements further out. Priority rings could be established for funding and constructing infrastructure improvements starting. For example, improvements within a 0.25 mile ring (or radius) would be highest priority; improvements between the 0.25 mile ring and 0.5 mile ring would be medium priority, etc. Improvements further than the 1 mile radius may also be associated with a bicycle/pedestrian plan for the area as it is more of a typical biking distance than a walking distance.

Evaluation Frequency

The school walkability database should be a living document that is maintained and updated on a regular basis. Accurate walking infrastructure data can be an invaluable resource to the region to facilitate the efficient deployment of transportation funds and improvements, as well as improve the quality of life of residents.

Establish Safe Walking Routes

Establishing a walking network of safe walking routes for each school may help concentrate efforts for school walkability by defining safe walking routes for students. These safe walking routes could then be monitored, maintained, and distributed to students and parents.

5.3 Conclusion

Overall, a Duval Schools Walkability Study was conducted on behalf of the North Florida TPO in partnership with the City of Jacksonville with the pupose of developing a methodology to evaluate school walkability region-wide. The study resulted in a six-step process that should facilitate a context-sensitive data-driven process for documenting school walking needs.

In addition to the development of the methodology, seven pilot schools(Henry Kite Elementary, Annie Morgan Elementary, Edward White High, Hogan Spring-Glen Elementary, San Jose Elementary, and Mayport Middle School) were evaluated to determine their walkability needs and deficiencies, as well as provide recommendations and planning-level cost estimates for the recommended improvements.

International Walk to School Day, 2016. Source: FDOT Northeast.