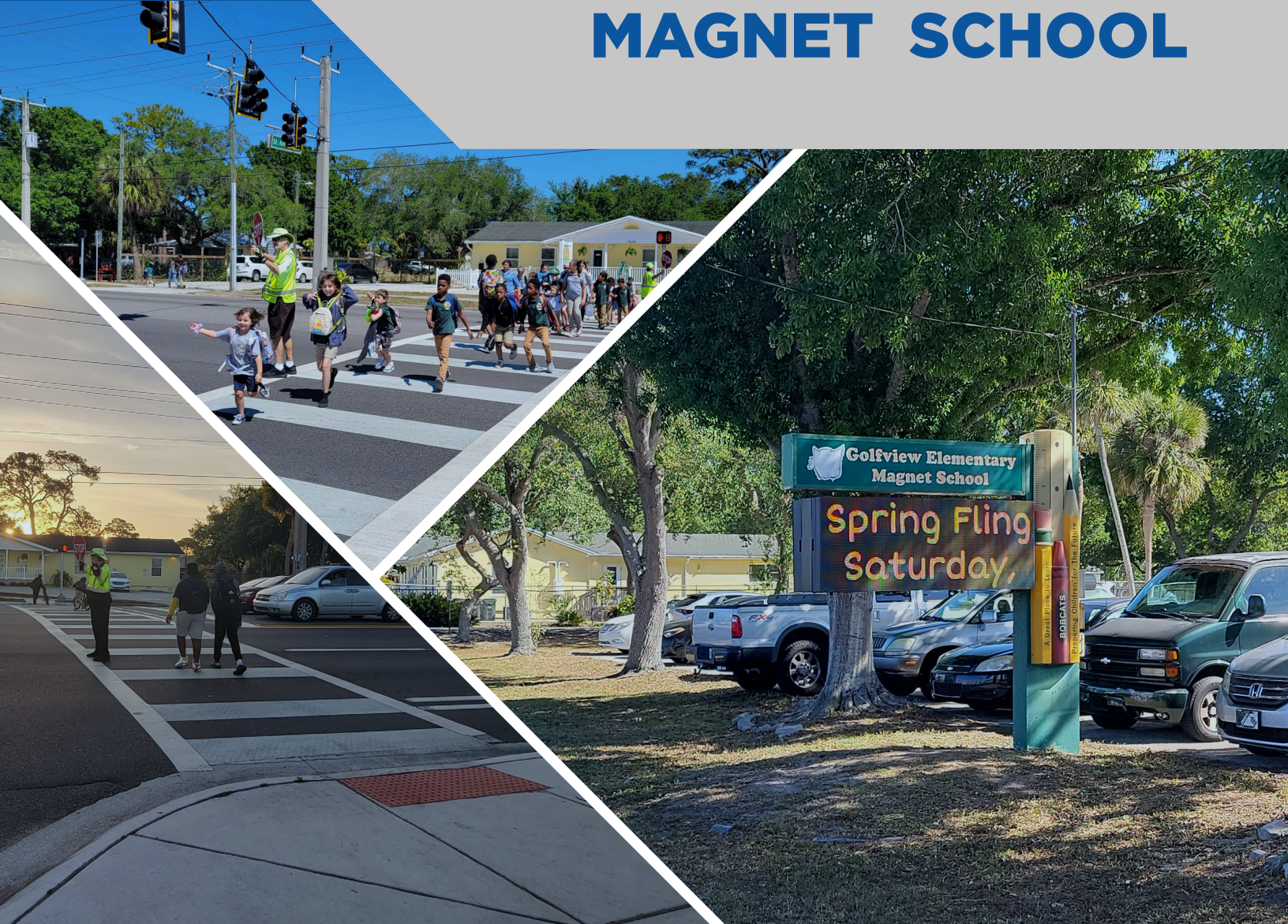


SCHOOL ROUTES ANALYSIS

GOLFVIEW ELEMENTARY MAGNET SCHOOL



ASSESSMENT & IMPLEMENTATION REPORT

JULY 2023



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School Routes Analysis

Golfview Elementary Magnet School

Rockledge, FL

Assessment and Implementation Report

July 2023

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Hand symbol on traffic light

STOP sign

CROSSING GUARD

Executive Summary

Space Coast Transportation Planning Organization (SCTPO) with assistance from Kittelson & Associates, Inc. (KAI) documented existing conditions and developed Safe Routes to School (SRTS) recommendations for nine schools as part of this School Routes Analysis (SRA) project. The nine study schools were selected by the cities of Rockledge and Cocoa prior to this project. The analysis reviewed the 'study areas' that were identified based on walk zones and attendance boundaries around the nine study schools. This SRA follows the methodology of the pilot assessment conducted for the cities of Melbourne and Palm Bay in 2020. This report documents the assessment of the existing conditions and lists recommendations for Golfview Elementary Magnet School located at 1530 Fiske Boulevard, Rockledge, Florida 32955.

Purpose

The purpose of this project is to provide safety and mobility improvements within these study areas to improve walking and bicycling routes and safe access to schools for all modes. The goal for the assessment phase of the SRA is to document the observed vehicular, pedestrian, and bicycle circulation routes adjacent to the school site, identify issues associated with pedestrians and bicyclists within the study area, and make recommendations for improvements. The goal for the implementation phase of this study is to develop recommendations from the assessment phase to create a safer environment for students who live within the walk zone and choose to walk or bike to and from the school.

Many local, state, and federal laws require transportation agencies to focus on pedestrian and bicyclist infrastructure as part of the overall transportation network. The Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) of 2005 established the SRTS program that explicitly focused on funding projects to enhance pedestrian and bicyclist infrastructure near schools. Fixing America's Surface Transportation Act (FAST) of 2015 reinforced the SRTS program. Federal funding from the FAST Act expired in 2020 and funding for the State of Florida was renewed by the Florida Department of Transportation (FDOT). In 2021, the Infrastructure Investment and Jobs Act reinforced the SRTS program and expanded it to include High Schools. The program is currently funded through the Safe Streets and Roads for All program and includes \$1 Billion per year to address roadway safety concerns. The analysis in the report is to identify projects that could be funded by the State of Florida's SRTS program, a Safe Streets and Roads for All grant, or other sources of transportation funding.

Study Process

A study area was identified for the school based on the respective school's two-mile walk zone and overall attendance boundary. The study area is meant to reflect where students walk and bike on their way to or from school. Many of the nine study schools are close to one another and

have walk zones and attendance boundaries that overlap one another. To prevent overlap between school study areas, study areas were split at major roadways.

In the assessment phase of the project, existing conditions, crash data, and student/parent travel survey data were analyzed and/or mapped. A school coordination meeting was held where representatives from the SCTPO, City of Rockledge, Brevard County Public Works, Brevard Public Schools, Golfview Elementary School, and FDOT were invited to share how students travel to/from school and identify issues and opportunities on the school campus and within the study area. Next, a field review was conducted to observe morning and afternoon peak drop-off/pick-up times and tour the major roadways in the study area to review current pedestrian and bicyclist infrastructure and behaviors.

In the implementation phase of the project, a list of issues and recommendations were developed. Recommendations were based on the input received at the school coordination meeting and observations from the field review. The list of recommendations was revised and finalized based on feedback received from project stakeholders. Planning-level cost estimates were calculated for each proposed recommendation. The study process is shown in **Figure 1**. Recommendations for the school campus and study area surrounding Golfview Elementary School are summarized in **Table 1**.

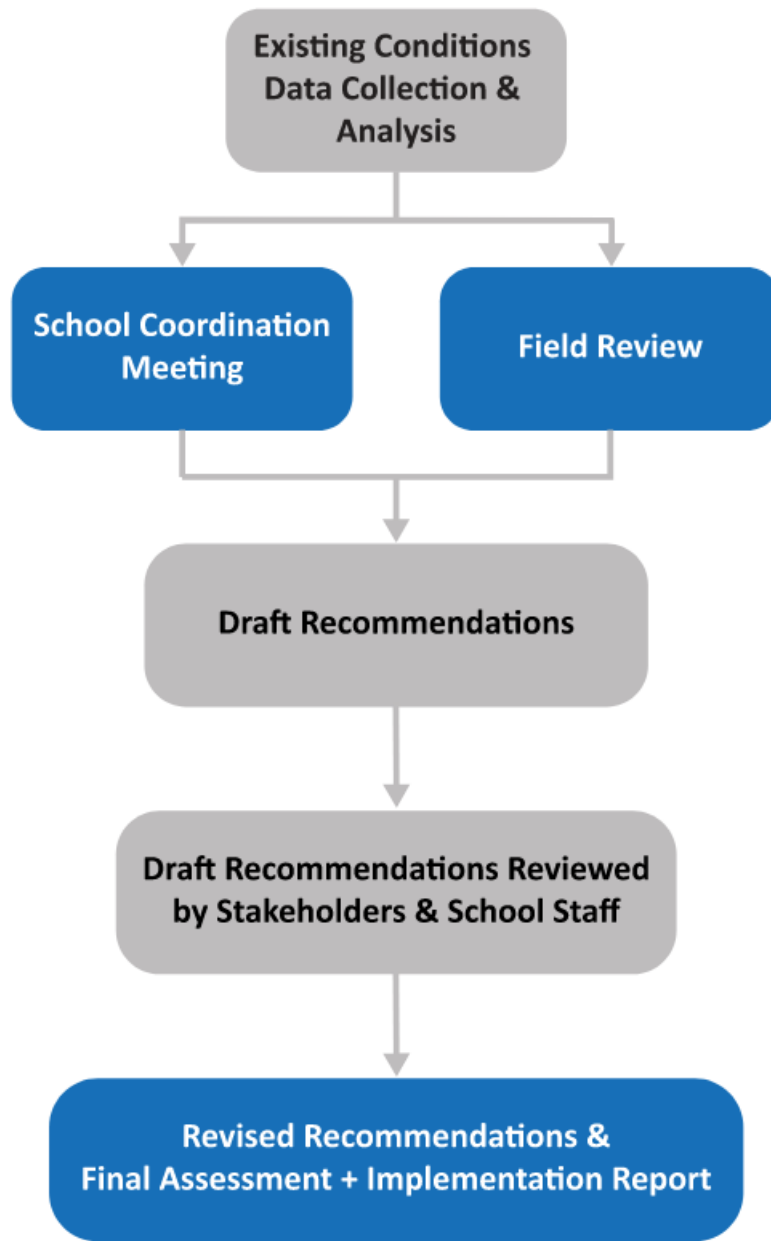


Figure 1: Study Process

School Campus Recommendations

No.	Location	Recommendation	Type	Time-Frame	Cost Estimate
1	School Campus	Consider improving school security by installing an interior fence around the school buildings so that if anyone breaches the exterior fence, they will not have access to the school buildings. Leave the gate at the southern driveway to the school campus open throughout the school day to provide for deliveries and reduce queueing on SR 519 (Fiske Boulevard) during parent pick-up times.	Sign/Signal	Near-Term	Further Study Required to Evaluate School Security System
2	School Campus	In the afternoon peak-period open the gate at 1:30 PM to reduce queueing on SR 519 (Fiske Boulevard).	Maintenance	Maintenance	None
3	School Campus	Add more paved staff parking and lighting at the southeast corner of the school campus.	Roadway	Long-Term	\$275,000 to \$325,000
4	School Campus	Enhance pavement markings and add signage to discourage wrong way driving behavior at the two drop-off/pick-up loops.	Sign/Signal	Maintenance	<\$10,000

Study Area Recommendations

No.	Location	Recommendation	Type	Time-Frame	Cost Estimate
5	St. Andrews Drive	Fill sidewalk gaps on the north side of St. Andrews Drive from Wentworth Circle to Naples Circle and on the south side of St. Andrews Drive from Wentworth Circle to SR 519 (Fiske Boulevard).	Sidewalk	Long-Term	\$365,000 to \$430,000
6	St. Andrews Drive	Add flashing beacon signage for the school zone along St. Andrews Drive. Restripe pavement markings, add advance school zone warning signs, and add "End School Zone" signage.	Sign/Signal	Near-Term	\$30,000 to \$40,000
7	Barton Boulevard & Barrington Circle	Add a rapid rectangular flashing beacon (RRFB) at the existing crosswalk.	Sign/Signal	Near-Term	\$45,000 to \$60,000

Table 1: Recommendations Summary

School Routes Analysis Golfview Elementary School



Study Area Recommendations

No.	Location	Recommendation	Type	Time-Frame	Cost Estimate
8	Barton Boulevard and St. Andrews Drive	<p>Install/upgrade pedestrian ramps to meet current standards along:</p> <ul style="list-style-type: none"> Barton Boulevard from Bluegrass Lane to US 1; and St. Andrews Drive from just west of Naples Circle to SR 519 (Fiske Boulevard). 	Sidewalk	Long-Term	\$100,000 to \$120,000
9	School Campus	Add high-visibility crosswalks at school driveways.	Crossing	Maintenance	<\$10,000
10	SR 519 (Fiske Boulevard) & St. Andrews Drive	Conduct a signal timing study to evaluate the feasibility of increasing the pedestrian crossing time to allow all bicyclists and pedestrians to cross.	Sign	Maintenance	Further Study Required for Signal Timing Study
11	SR 519 (Fiske Boulevard) & Northern and Southern School Campus Driveways	<p>Restrict left turn traffic at the northern school driveway by:</p> <ul style="list-style-type: none"> Installing a traffic separator in the SR 519 (Fiske Boulevard) median between the inside southbound travel lane and the northbound left turn lane at St. Andrews Drive; Constructing a “porkchop” island for the northernmost driveway, forcing vehicles to make a right turn only; Recirculating the bus/daycare van/Pre-K loop back through the staff parking area and loop those vehicles to exit out of the middle driveway if they want to left turn onto SR 519 (Fiske Boulevard); and Widening the roadway leading from/to the middle driveway so it can accommodate two-way traffic, including the wider turning movements for buses. <p>Employ two crossing guards at the middle driveway to facilitate the left turn movement.</p>	Roadway/ Enforcement	Near-Term	Further Study Required for Roadway Design

Table 1: Recommendations Summary Cont.
 School Routes Analysis
Golfview Elementary School



Study Area Recommendations

No.	Location	Recommendation	Type	Time-Frame	Cost Estimate
12	SR 519 (Fiske Boulevard)	Add "No Parking or Standing" signage on the east side of SR 519 (Fiske Boulevard) from Palmer Street to the southern driveway to the school	Sign	Maintenance	<\$10,000
13	SR 519 (Fiske Boulevard)	Conduct a school zone analysis to determine if a school zone is justified along SR 519 (Fiske Boulevard) near the school campus. If justified, add flashing beacon signage along SR 519 (Fiske Boulevard). Restripe pavement markings and add advance school zone warning signs.	Sign	Near-Term	Further Study Required for School Zone Analysis

Table 1: Recommendations Summary Cont.
 School Routes Analysis
Golfview Elementary School



Assessment

This section of the report documents the existing conditions within the Golfview Elementary School study area. Summaries of existing pedestrian and bicycle conditions, student and parent survey data, crash analysis, school coordination meeting, and observations from the field review are presented.

A study area was developed for each school. The study area is the walk zone defined as the two-mile walking radius within the school's attendance boundary around the school where no school bus service is provided. The study area excludes areas that have been identified as a hazardous walking condition within the two-mile walking radius. Pedestrian hazardous areas are generally identified as areas that are separated from the school by major physical barriers such as highways or rivers or where a student would be required to walk on the roadway surface with a posted speed limit of 50 miles per hour or more. Many of the nine study schools are close to one another and have walk zones and attendance boundaries that overlap one another. To prevent overlap between school study areas, study area boundaries were drawn at major roads.

Existing Conditions Mapping and Analysis

A series of maps were prepared to show the existing conditions within the Golfview Elementary School study area including existing and proposed pedestrian and bicycle infrastructure, traffic data, crash data, and school circulation patterns. These maps were developed through GIS data collection, review of previous studies and plans, aerial satellite imagery, input from the stakeholders, and observations from the field visit.

Previous and Ongoing Studies

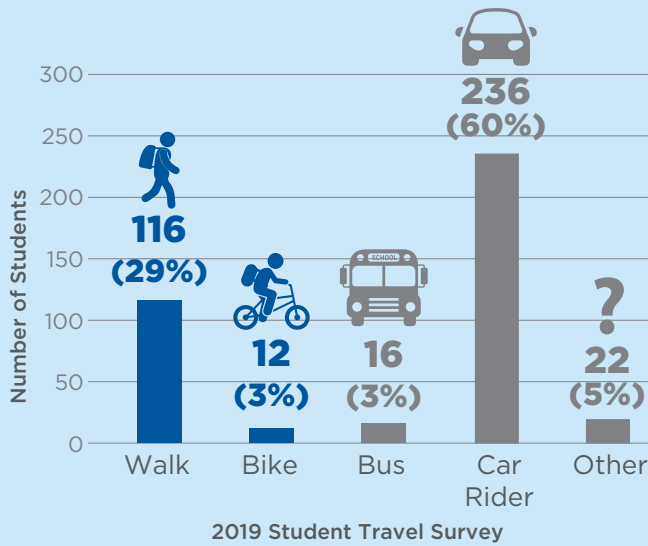
Previous and ongoing studies within the study area were reviewed and the following projects were identified:

- SR 519 (Fiske Boulevard)
 - Concept development study to advance the long-term vision of the corridor to address the safety and mobility needs of the community, including for vehicle, transit, bicycle, and pedestrian modes.
 - Construct six-foot-wide sidewalks where possible, extend the Brevard Zoo trail, and tighten turning radii where possible.
 - Construct curb & gutter north of Barbara Jenkins Street and conduct an areawide drainage study.
- 2019 SCTPO Bicycle & Pedestrian Master Plan
 - The 2019 SCTPO Bicycle & Pedestrian Master Plan includes filling sidewalk and bicycle facility gaps throughout the county.

- Near Golfview Elementary School, this includes a proposed alignment of the East Coast Greenway along the west side of US 1 and filling sidewalk gaps along Pluckebaum Drive.
- The 2018 Space Coast Area Transit Bus Stop Accessibility Study prioritized accessibility and safety improvements needed at each bus stop.

Figure 2 is an infographic summarizing the main background information collected as part of the existing conditions analysis. The student survey, crash data, and existing infrastructure data are discussed later in the report.

Student Travel Modes (2019)



Total Bicycle & Pedestrian Crashes within Study Area

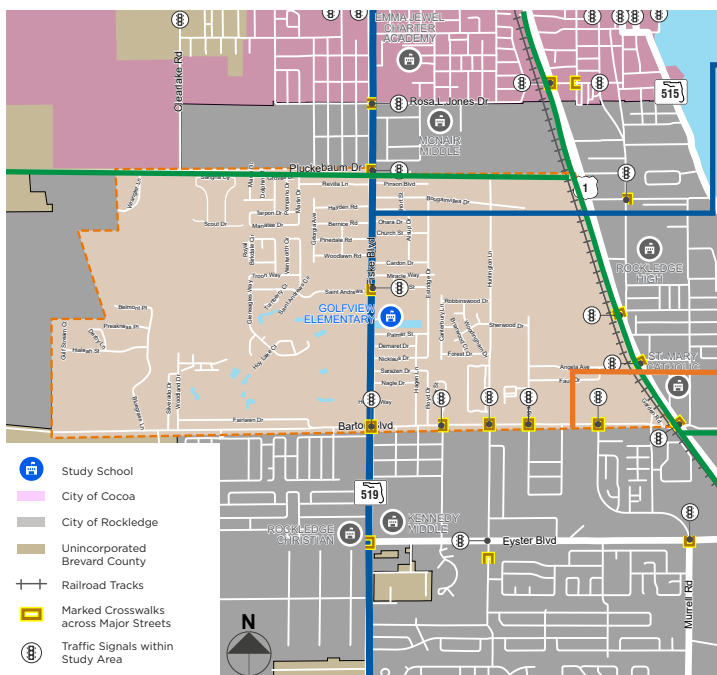


School Aged Bicycle & Pedestrian Crashes within Study Area



August 2016 to July 2022 Crashes from University of Florida's Signal Four Analytics Database

Signals and Crossings within Study Area



Previous & Ongoing Plans

SR 519 (Fiske Boulevard)

- Concept development study to advance the long term vision of the corridor to address the safety and mobility needs of the community, including for vehicle, transit, bicycle and pedestrian modes.
- Construct six foot wide sidewalks where possible, extend the Brevard Zoo Trail, and tighten turning radii where possible.
- Construct curb & gutter north of Barbra Jenkins Street and conduct an areawide drainage study.

2018 SCTPO Transit Bus Stop Accessibility Study

- The 2018 Space Coast Area Transit Bus Stop Accessibility Study prioritized accessibility and safety improvements needed at each bus stop.

2019 SCTPO Bicycle & Pedestrian Master Plan

- The 2019 SCTPO Bicycle & Pedestrian Master Plan includes filling sidewalk and bicycle facility gaps throughout the county.
- Near Golfview Elementary School, this includes a proposed alignment of the East Coast Greenway along the west side of US 1 and filling sidewalk gaps along Pluckebaum Drive.

Figure 2: Background Information

School Routes Analysis Golfview Elementary School

Existing and Planned Pedestrian and Bicycle Facilities

Existing and planned pedestrian and bicycle facilities including sidewalks, bike lanes, trails, crosswalks, signals, and crossing guard locations were mapped and analyzed. The datasets were mapped using GIS data provided by the SCTPO as well as utilizing aerial satellite imagery and field review observations. SR 519 (Fiske Boulevard), just east of the school, has sidewalks along both sides of the roadway throughout the study area. St. Andrews Drive, just north of the school has sidewalks along the north side of the roadway from SR 519 (Fiske Boulevard) to west of Naples Circle. Barton Boulevard, just south of the school, has sidewalks along the north side of the roadway from SR 519 (Fiske Boulevard) to Bluegrass Lane and along both sides of the roadway from SR 519 (Fiske Boulevard) to US 1. Pluckebaum Drive, just north of the school has intermittent sidewalks along both sides of the roadway and filling these gaps is prioritized in the 2019 SCTPO Bicycle & Pedestrian Master Plan. Most of the local streets to the west of the school are missing sidewalks.

There are dedicated seven-foot wide buffered bicycle lanes along SR 519 (Fiske Boulevard). There are also dedicated four-foot-wide bicycle lanes along US 1. The current alternative alignment for the East Coast Greenway is proposed along US 1.

Signalized intersections and marked crosswalks across major streets were mapped using data from aerial satellite imagery and verified via field review observations. There is one signalized intersection within the study area at SR 519 (Fiske Boulevard) & St. Andrews Drive. Nine signalized intersections are located along the study area boundary at:

- SR 519 (Fiske Boulevard) & Barton Boulevard;
- SR 519 (Fiske Boulevard) & Pluckebaum Drive;
- Barton Boulevard & Cedar Street;
- Barton Boulevard & Huntington Lane;
- Barton Boulevard & Cogswell Street;
- Barton Boulevard & Murrell Road;
- Barton Boulevard & US 1;
- US 1 & Longwood Avenue; and
- US 1 & Florida Avenue.

There are no unsignalized marked crosswalks across major roads.

There are five crossing guards present near Golfview Elementary School:

- Two at the southern driveway to the school campus; and
- Three at SR 519 (Fiske Boulevard) & St. Andrews Drive.

Figure 3 shows the existing and planned pedestrian and bicycle facilities within the study area. **Figure 4** shows the existing planned pedestrian and bicycle facilities within the immediate area surrounding the school campus.

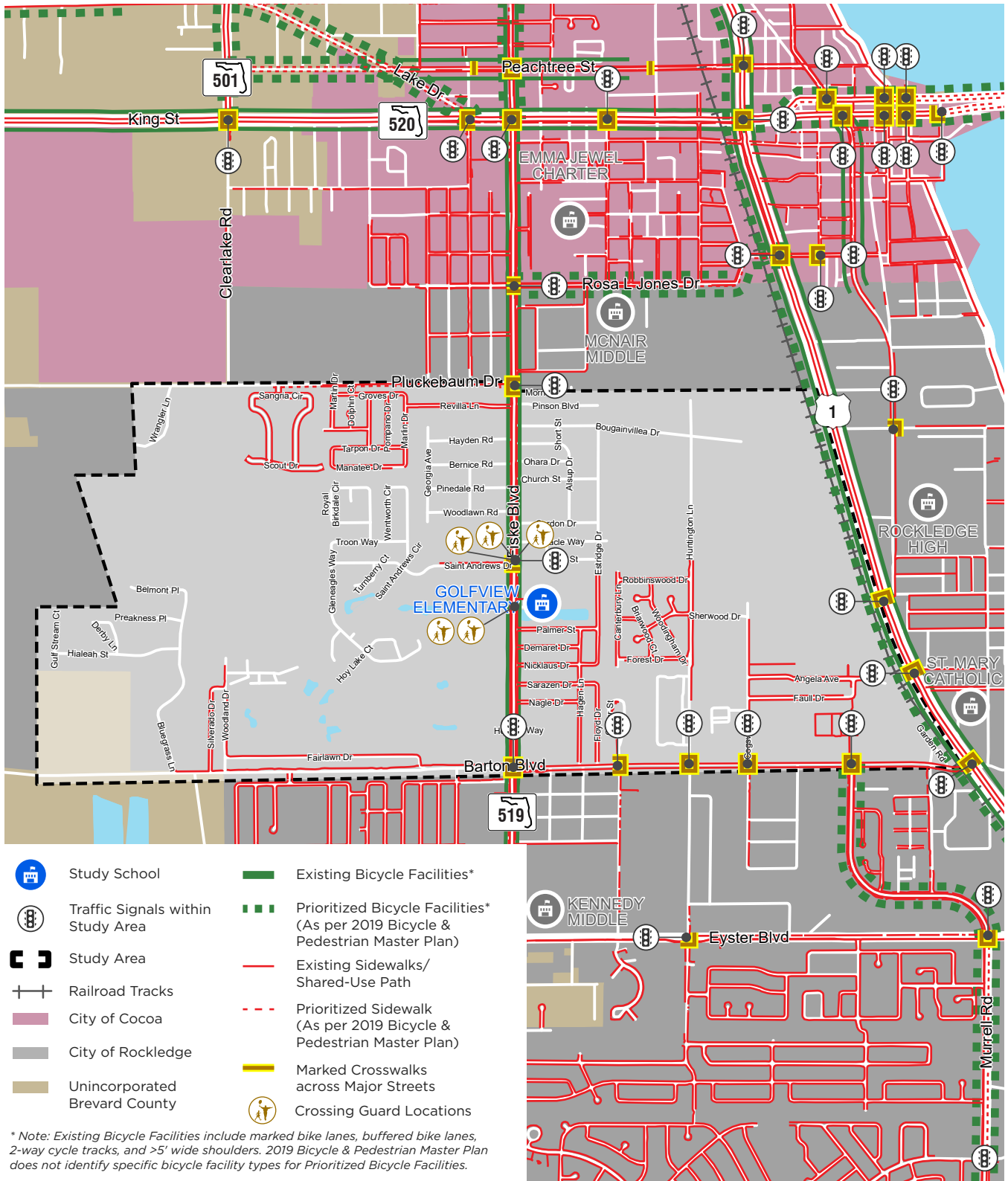


Figure 3: Existing and Planned Pedestrian and Bicycle Facilities
 School Routes Analysis
Golfview Elementary School



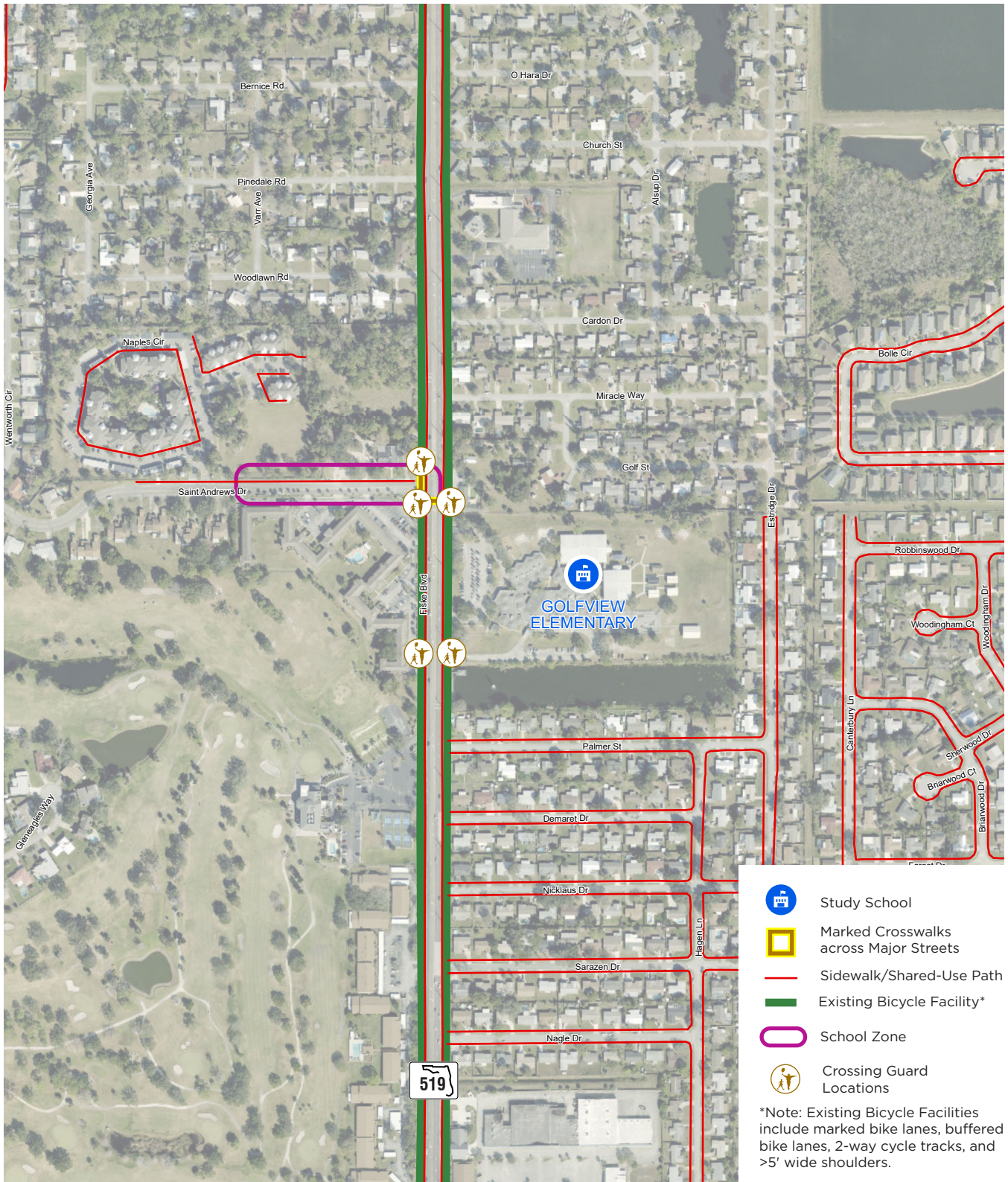


Figure 4: School Context Aerial
School Routes Analysis
Golfview Elementary School



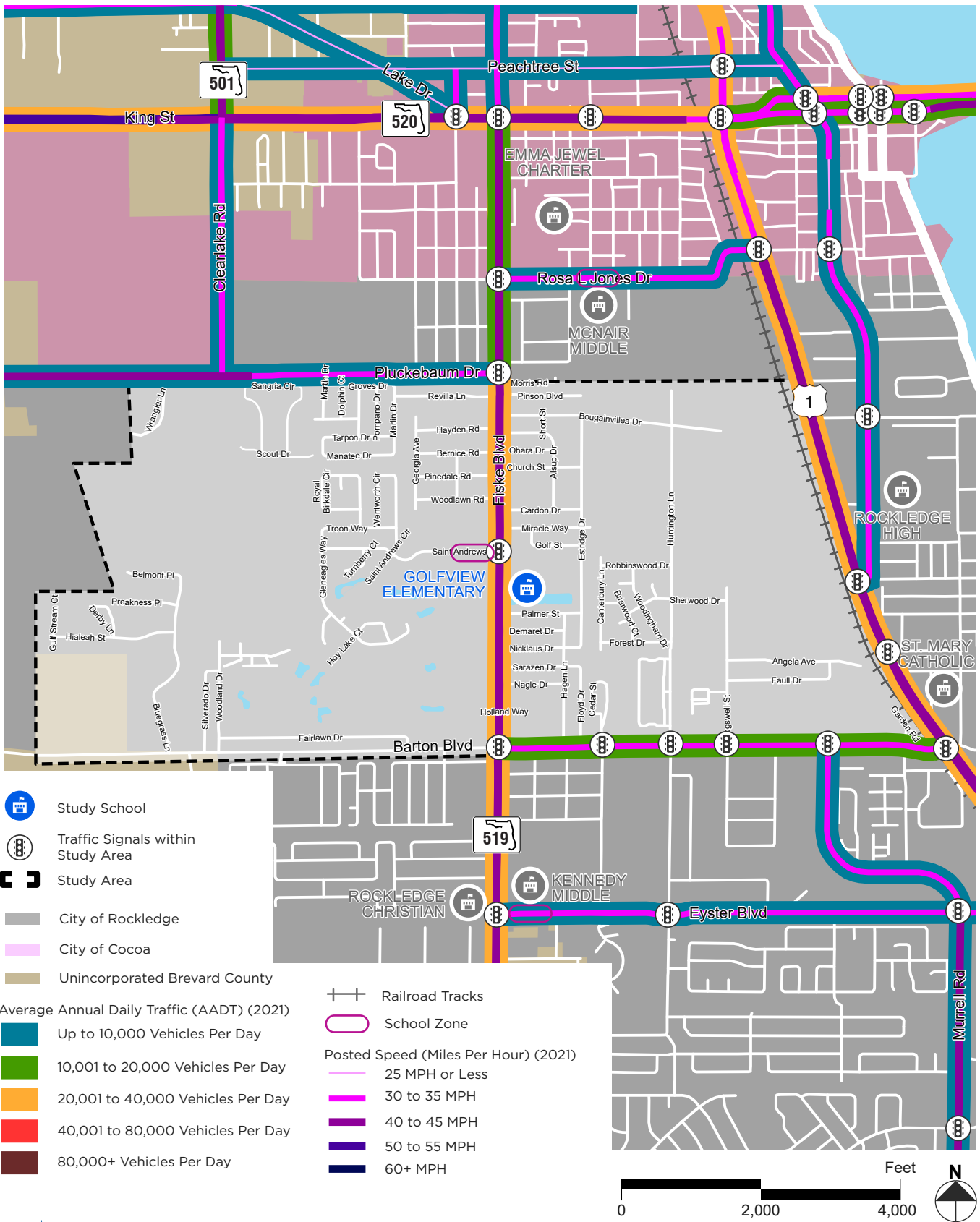
Existing Conditions Traffic Data

Posted speeds, annual average daily traffic (AADT), and school zones were mapped as part of existing conditions traffic data analysis. Speed limit and AADT information was mapped using data from FDOT and the SCTPO's 2021 State of the System Report. Roadways near the school campus had the following speed limits:

- SR 519 (Fiske Boulevard) is 40 miles per hour (MPH);
- St. Andrews Drive is 20 MPH;
- Barton Boulevard is 35 MPH; and
- Pluckebaum Drive is 35 MPH.

School zones were mapped using data from aerial satellite imagery and field review observations. A school zone is an area of a roadway where the legal speed limit is lowered to 15 MPH or 20 MPH during morning and afternoon school peak-hours. There is a 15 MPH school zone along St. Andrews Drive from east of St. Andrews Drive & Naples Circle to St. Andrews Drive & SR 519 (Fiske Boulevard).

Figure 5 shows the existing conditions of traffic data.



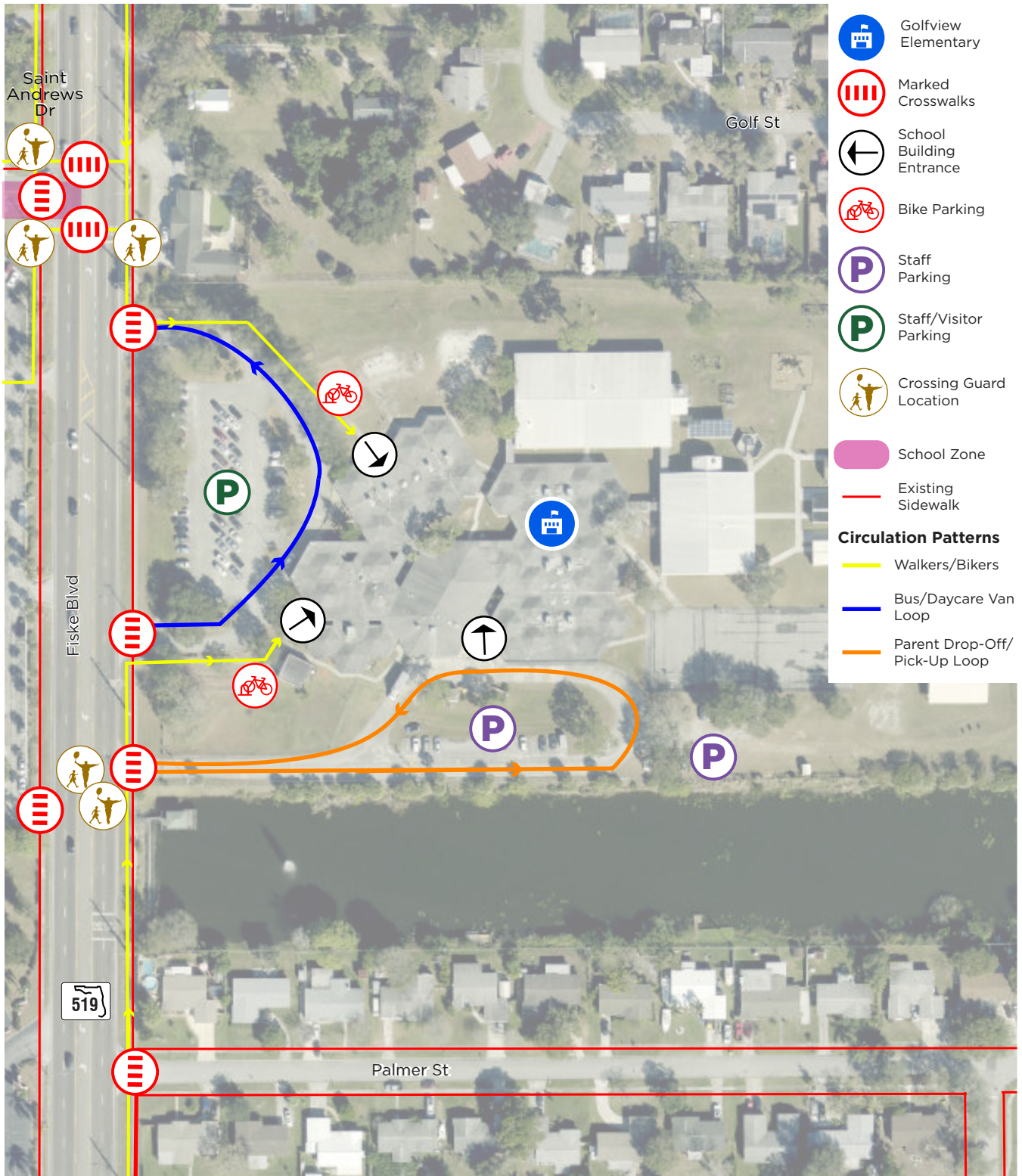
**Figure 5: Existing Conditions Traffic Data
School Routes Analysis
Golfview Elementary School**

School Campus Circulation

Circulation patterns for students, staff, and parents were gathered during the school coordination meeting and field review. There are three driveways to the school campus on SR 519 (Fiske Boulevard). There are three parking areas on the school campus for staff and visitor parking.

The southernmost driveway is the entrance/exit for the Kindergarten through Grade 6 parent drop-off/pick-up loop and two staff parking areas. The middle driveway serves as the entrance for the bus, daycare vans, Pre-K drop-off/pick-up, and staff/visitor parking area. There is one school bus and five daycare vans that serve the school. The northernmost driveway serves as the exit for the bus, daycare vans, Pre-K drop-off/pick-up, and staff/visitor parking area. Students walking and biking from the south use the middle driveway to access the main school entrance. Students walking and biking from the north use the northernmost driveway to access the main school entrance.

Figure 6 shows various circulation patterns within the school campus. More detail on existing circulation patterns is provided in the field review section.



- Golfview Elementary
- Marked Crosswalks
- School Building Entrance
- Bike Parking
- Staff Parking
- Staff/Visitor Parking
- Crossing Guard Location
- School Zone
- Existing Sidewalk
- Circulation Patterns**
- Walkers/Bikers
- Bus/Daycare Van Loop
- Parent Drop-Off/Pick-Up Loop

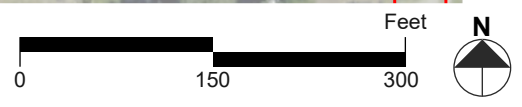


Figure 6: Existing School Circulation Map
 School Routes Analysis
Golfview Elementary School



Transportation Disadvantaged Communities

The SCTPO published a Transportation Resiliency Master Plan in April 2023 to define potential transportation-specific shocks and stressors, identify vulnerable corridors in Brevard County, and recommend strategies to improve the adaptability/recoverability of the system. As a part of this work, transportation disadvantaged communities were identified at the census tract level. The following population groups were considered in the analysis:

- Overburdened renters, or people that pay 40% or more of their household income on rent;
- Population under age 18 in a single-parent household;
- Population with a disability;
- Population under age 10;
- Population over age 75;
- Workers without vehicle access;
- Population with limited English proficiency;
- Low-income population, or residents whose income is less than 200% of the Federal Poverty Guidelines; and
- Communities of Color (CoC) (all races and ethnicities other than White, non-Hispanic).

Each of these factors were considered to create a transportation disadvantaged index. The scale ranges from zero to more than 2.0 depending on the number of factors present for each household as compared to other areas within Brevard County, with zero being the least transportation disadvantaged and more than 2.0 being the most transportation disadvantaged. Golfview Elementary School is in a census tract with a transportation disadvantaged index score of 1.3, meaning that it is in a less transportation disadvantaged area as compared to other areas in Brevard County.

School Student and Parent Survey Summary

The SCTPO conducts student and parent surveys to assess how students get to/from school and what factors affect parent's decisions to allow or not allow their child to walk or bike to school. The latest Student Travel Mode Survey for Golfview Elementary School was conducted in 2019 and the latest Parent Survey for Brevard County was conducted in 2018. This section summarizes the results of these surveys for Golfview Elementary School. The survey results are based on who responded thus they may not fully represent the daily average mode split. Variables such as weather, day of week, or time of year when the survey is offered may affect the results.

Student Travel Mode Survey

Students at Golfview Elementary School were surveyed about how they traveled to and from school. **Figure 7** shows the total number and percentage of students who walked or biked to

school from 2000 to 2019. **Figure 8** shows the total number and percentage of students who walked or biked to school in 2019 in the morning and afternoon peak-periods.

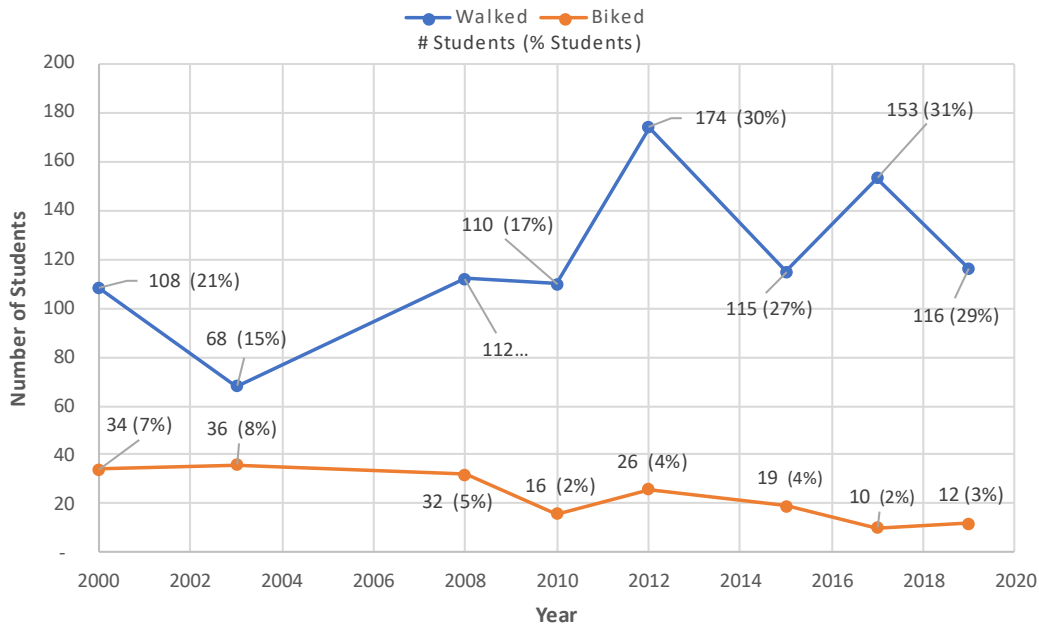


Figure 7: Total Number and Percentage of Students Who Walked or Biked to Golfview Elementary School from 2000 to 2019

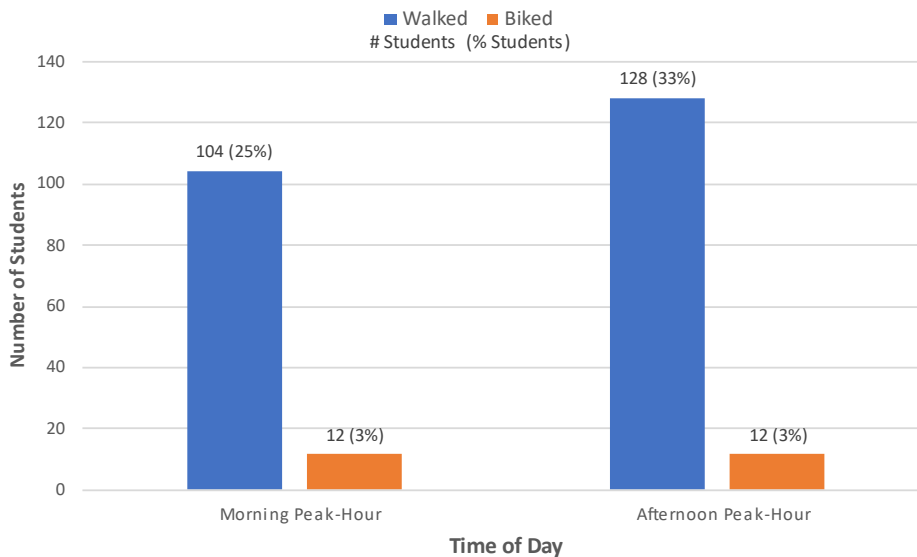


Figure 8: Total Number and Percentage of Students Who Walked or Biked to Golfview Elementary School in 2019 in the Morning and Afternoon Peak-Hours

Summary of the Student Travel Mode Survey

- Based on the survey data from 2000 to 2019, on average approximately 29 percent of total students traveled to Golfview Elementary School by walking (24 percent) or biking (five percent).
- The total number of students who walked to school was highest in 2012 and has fluctuated since.
- The number of students who biked to school has declined since 2000.

Parent Survey

The following data shows the results from a survey offered to parents of children attending the 104 Brevard Public Schools. There was not enough data from each individual school to draw reasonable conclusions, so the data presented here summarizes responses from all schools.

Figure 9 shows issues reported to affect parents’ decision to allow a child to walk or bike to and from school. **Figure 10** shows parent opinions about how healthy walking and biking to and from school is for their child. **Figure 11** shows how much walking or biking is encouraged by schools based on parent opinions.

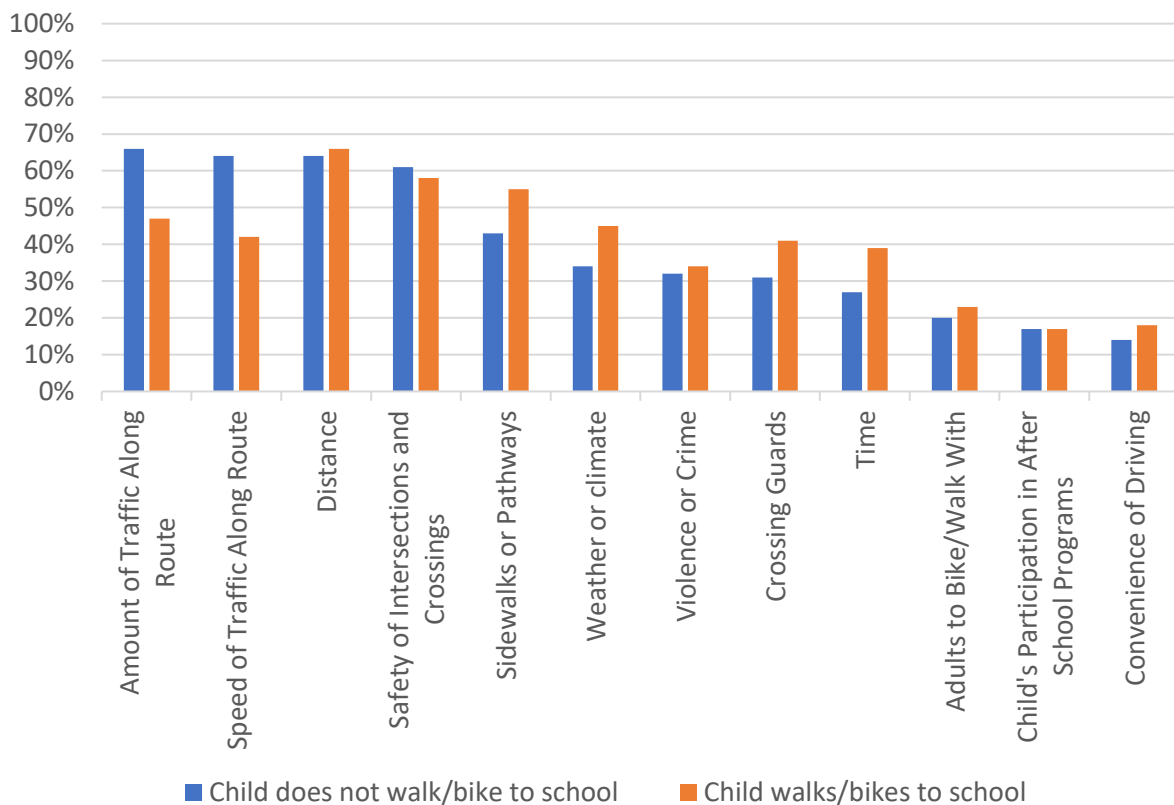


Figure 9: Issues Reported to Affect Parents’ Decision to Allow a Child to Walk or Bike to and from School (All Brevard Public Schools, 2018)

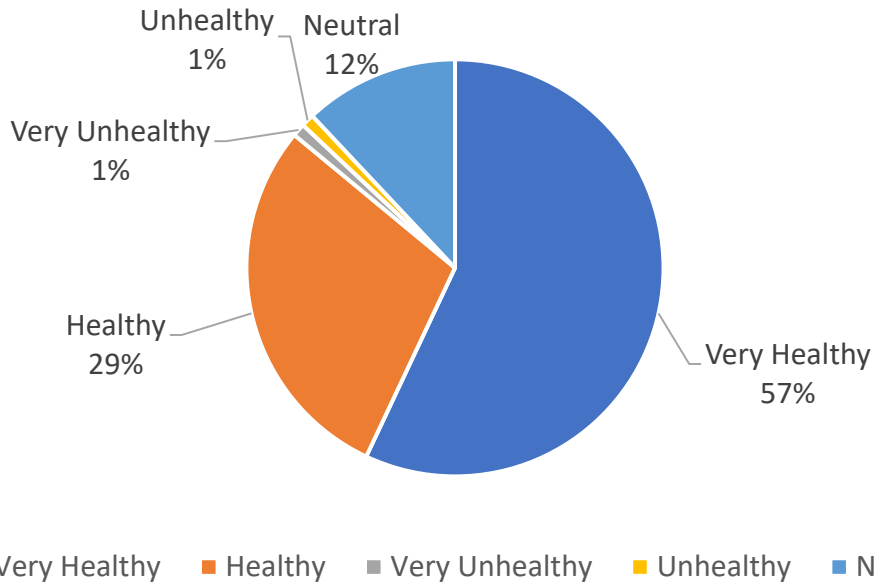


Figure 10: Parents’ Opinions about How Healthy Walking and Biking to and from School is for Their Child (All Brevard Public Schools, 2018)

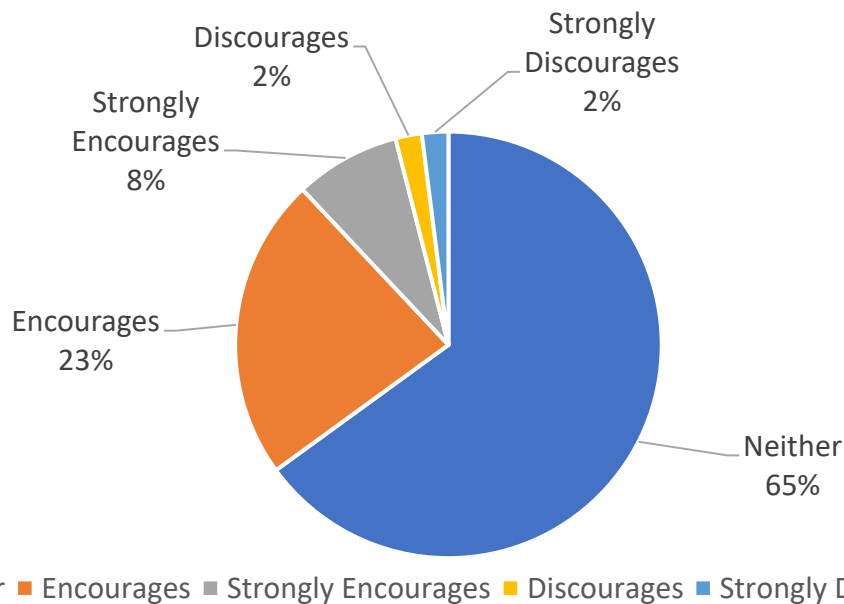


Figure 11: How Much Parents Feel Walking or Biking is Encouraged or Discouraged by Their Child’s School (All Brevard Public Schools, 2018)

Main Takeaways from the Parent Survey

- The most common issues that affect parents’ decision to allow their student to walk or bike to and from school are:
 - The amount of traffic along the route;

- The speed of traffic along the route;
 - The distance of the route;
 - The safety of intersections and crossings; and
 - Lack of sidewalks or pathways.
- Most parents responded that walking or biking to school is very healthy for their child.

The SCTPO can be contacted for student and/or parent survey data.

Crash Data Analysis

Crash records were obtained for the Golfview Elementary School study area for the most recent six-year period on record (August 2016 through July 2022) from the University of Florida's Signal Four Analytics Database. Data was pulled for six-years instead of five to account for irregular traffic patterns in 2020 caused by the COVID-19 Pandemic. School aged pedestrian and bicycle crashes were analyzed during student travel hours on weekdays, August through May, from 7:00 AM to 6:30 PM. This section summarizes school aged pedestrian and bicycle crashes and non-school aged pedestrian and bicycle crashes in the Golfview Elementary School study area.

Pedestrian and Bicycle Crash Statistics

There were 24 total pedestrian and bicycle crashes within the study area (15 pedestrian and nine bicycle). Ten of the crashes were property damage only, 14 of the crashes resulted in injury, and none of the crashes resulted in a fatality. Seventy one percent of crashes occurred during the day and two of the crashes occurred under wet conditions. There were three school aged pedestrian crashes and two school aged bicycle crashes within the study area. The reported crashes are displayed by different measures of time (year, month, day, and hour) in **Figure 12**, **Figure 13**, **Figure 14**, and **Figure 15**.

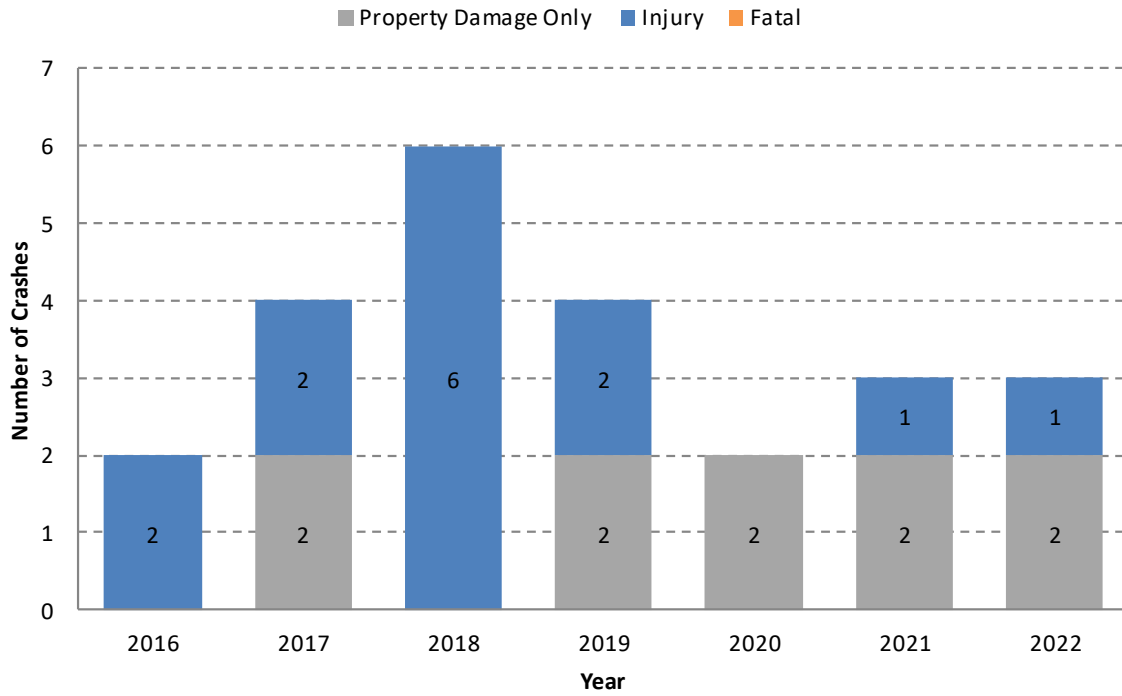


Figure 12: Pedestrian and Bicycle Crashes by Year and Severity

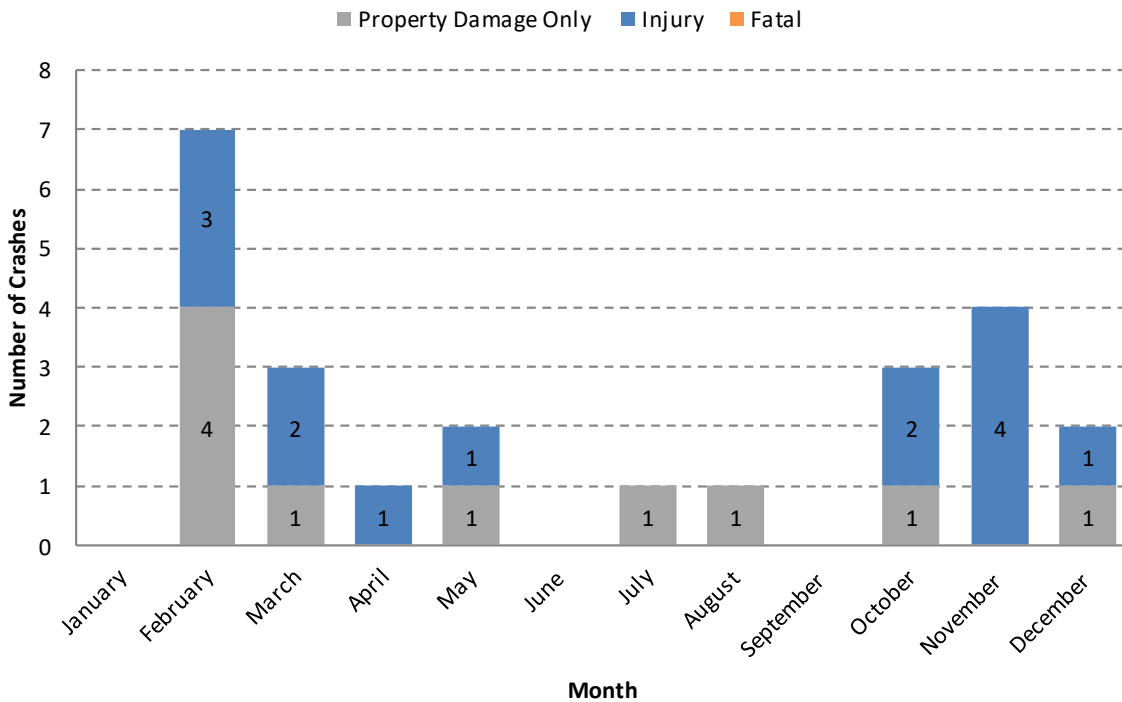


Figure 13: Pedestrian and Bicycle Crashes by Month and Severity

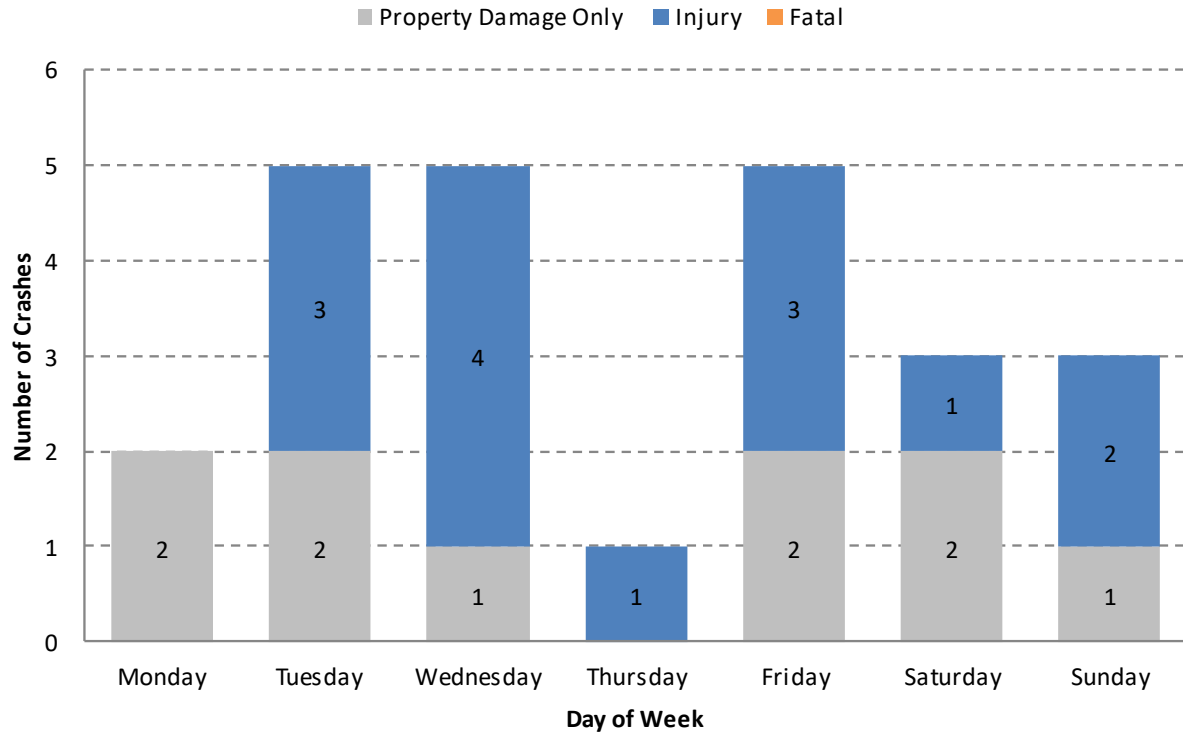


Figure 14: Pedestrian and Bicycle Crashes by Day of Week and Severity

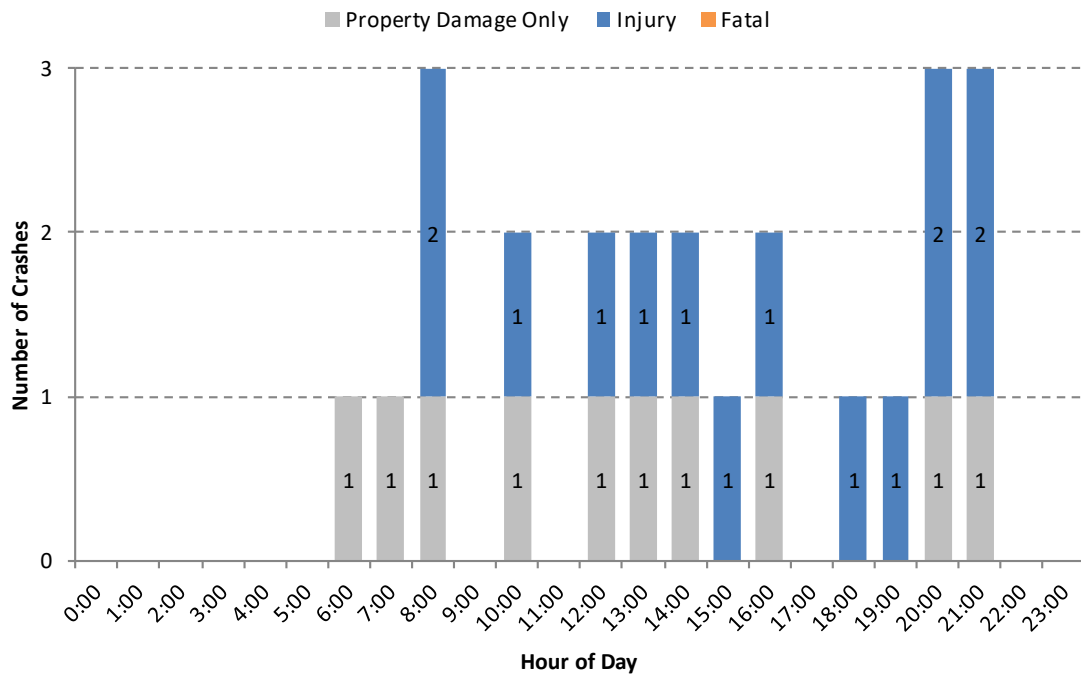


Figure 15: Pedestrian and Bicycle Crashes by Hour of Day and Severity

The highest number of crashes occurred in 2018 (six) and February was the highest crash month (seven). Tuesday, Wednesday, and Friday were the most common days of the week when crashes occurred (average of five/day). By time of day, the highest crash hour was from 8:00 AM to 9:00 AM (three) and 8:00 PM to 10:00 PM (average three per hour).

School Aged Pedestrian and Bicycle Crash Summary

There were three school aged pedestrian and two school aged bicycle crashes within the study area during student travel hours. The five crashes resulted in one property damage only crash, one non-incapacitating injury, and three possible injury crashes. All of the crashes occurred under dry conditions during the day. Below is a summary of the five school aged pedestrian and bicycle crashes:

1. Crash Report Number: 86942092
 - On October 27, 2017 at 4:26 PM, a crash involving a bicyclist occurred at the intersection of Barton Boulevard & Murrell Road/Barton Commons shopping center. The bicyclist was traveling westbound along the north crosswalk when a southbound vehicle leaving the Barton Commons shopping center and turning left onto Barton Boulevard struck the bicyclist. The crash resulted in a non-incapacitating injury. The crash occurred under dry conditions at night.
2. Crash Report Number: 87592183
 - On February 28, 2018 at 3:34 PM, a crash involving a pedestrian occurred on St. Andrews Drive just west of SR 519 (Fiske Boulevard). The pedestrian was standing between two parked vehicles on the south side of St. Andrews Drive then darted north into the roadway when a vehicle traveling eastbound on St. Andrews Drive struck the pedestrian. The crash resulted in a possible injury. The crash occurred under dry conditions during the day.
3. Crash Report Number: 87592203
 - On March 21, 2018 at 6:30 PM, a crash involving a bicyclist occurred along Angela Avenue near Cogswell Street. A bicyclist was traveling southbound across Angela Avenue when a vehicle traveling eastbound on Angela Avenue struck the bicyclist. The crash resulted in a possible injury. The crash occurred under dry conditions during the day.
4. Crash Report Number: 88796265
 - On April 6, 2019 at 2:55 PM, a crash involving a pedestrian occurred at the intersection of Barton Boulevard & Cedar Street. The pedestrian was crossing Barton Boulevard in the east crosswalk when a vehicle traveling westbound on Barton Boulevard struck the pedestrian. The crash resulted in a possible injury. The crash occurred under dry conditions during the day.

5. Crash Report Number: 89471768

- On February 25, 2020 at 2:42 PM, a crash involving a pedestrian occurred at the intersection of Barton Boulevard & Cedar Street. The pedestrian traveling eastbound was crossing Cedar Street in the north crosswalk when a vehicle traveling southbound out of the park exit to turn left onto Barton Boulevard struck the pedestrian. No injuries were reported. The crash occurred under dry conditions during the day.

The location of these crashes is shown in **Figure 16**.

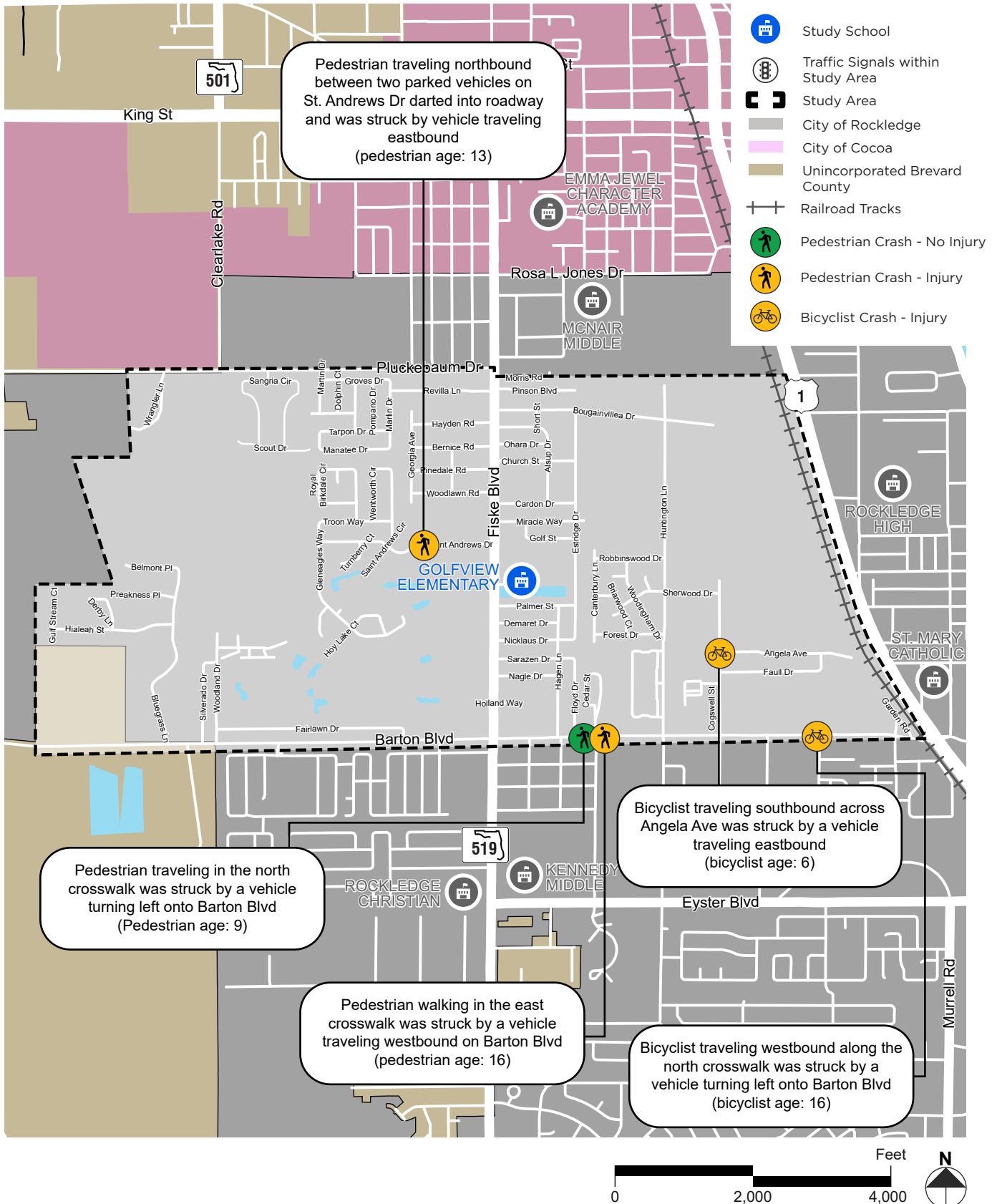


Figure 16: School Aged Pedestrian and Bicycle Crashes (August 2016 to July 2022)

School Routes Analysis

Golfview Elementary School

School Coordination Meeting

A coordination meeting was held on March 10, 2023, at Golfview Elementary School to bring stakeholders together and discuss issues and opportunities related to walking, biking, and other forms of transportation within the Golfview Elementary School study area. Members from Brevard Public Schools, Golfview Elementary School, SCTPO, and KAI were present at this meeting. Existing conditions data that had been collected and mapped was verified at the meeting. The meeting also enabled the Study Team, SCTPO, and KAI staff, to gather additional location-specific concerns and prepare for the field review.

General Notes

Debbie Flynn, with SCTPO began the meeting with a short background about the project and initiated introductions. After brief introductions by the attendees, Travis Hills, with KAI began the discussion with an overview of the project and work conducted to date. He briefly reviewed the meeting materials included in the attendee handout package. The materials shared with attendees includes the following documents:

- Summary Infographic:
 - Student travel mode split (based on the Student Travel Survey, 2019);
 - Summary of pedestrian and bicycle crashes;
 - Information regarding signals and crossings with the study area; and
 - Summary of previous and ongoing plans within the study area.
- Maps:
 - Existing and planned pedestrian and bicycle facilities;
 - Existing conditions of traffic data; and
 - Bicycle and pedestrian crashes (August 2016 – July 2022).

School Hours and Peak Traffic

The school hours are 8:00 AM to 2:30 PM Monday through Thursday and 8:00 AM to 1:15 PM on Friday.

- The school allows students to enter the cafeteria for breakfast starting at 7:30 AM.
- The peak period of students arriving in the morning is from 7:30 AM to 8:00 AM with parent drop-off beginning as early as 7:15 AM.
- Parents begin to queue around 12:00 PM for afternoon pick-up.

School Entrances, Parking Lots, and Circulation

The subsequent sections discuss the school entrances, parking areas, and circulation.

School Entrances

- There are three driveways to the school campus along SR 519 (Fiske Boulevard):
 - The southernmost driveway is the entrance/exit for the Kindergarten through Grade 6 parent drop-off/pick-up loop and two staff parking areas.
 - The middle driveway serves as the entrance for the bus/daycare van/Pre-K loop and staff/visitor parking area.
 - The northernmost driveway serves as the exit for the bus/daycare van/Pre-K loop and staff/visitor parking area.
- Students walking/biking from the south will use the middle driveway to access the main school entrance. Students walking/biking from the north will use the northernmost driveway to access the main school entrance.

Staff, Student, and Visitor Parking

- Staff parking areas include:
 - The parking lot west of the main school entrance adjacent to SR 519 (Fiske Boulevard).
 - The parking lot located within the parent drop-off/pick-up loop.
 - The parking lot along the southeast corner of the school campus east of the parent drop-off/pick-up loop. This parking area has no lighting and has a sand pit where vehicles occasionally get stuck.
- Visitor parking is located west of the main school entrance adjacent to SR 519 (Fiske Boulevard).
- There were noted concerns with lack of formal paved parking capacity, as the staff are currently parking in an area that is not meant to be a parking area.

Bus and Daycare Vans Drop-Off/Pick-Up

- The school is served by one exceptional student education (ESE) school bus and five daycare vans.
- The primary bus/daycare van loop is on the west side of the school. The bus and daycare vans enter via the middle driveway along SR 519 (Fiske Boulevard) and exit back onto SR 519 (Fiske Boulevard) from the northernmost driveway.
- The bus drops off/picks up students in front of the main school entrance.
- The daycare vans drop off/pick up students just south of the main school entrance.

Parent Drop-Off/Pick-Up Loop

- The Kindergarten through Grade 6 parent drop-off/pick-up loop begins at the southernmost driveway entrance to the school and continues east along the south side of the school campus before looping in front of the drop-off/pick-up area on the south side of the school.
 - Vehicle flow for drop-off/pick-up is counterclockwise. Two crossing guards are present at the southernmost school driveway along Fiske Boulevard to help direct traffic for parent loop who want to turn left onto SR 519 (Fiske Boulevard).
 - In the afternoon, parents begin queueing for student pick-up around 12:00 PM. Parents will idle in the bicycle lane/outside travel lane along SR 519 (Fiske Boulevard) prior to afternoon pick-up, creating a conflict with northbound vehicles traveling along SR 519 (Fiske Boulevard). The School Resource Officer (SRO) and City of Rockledge police have tried discouraging this behavior but are unable to write citations due to lack of enforceable signage along SR 519 (Fiske Boulevard).
 - The gate for the parent drop-off/pick-up loop is open from 6:30 AM to 8:10 AM in the morning and 2:00 PM to whenever the parent pick-up is complete in the afternoon.
- The Pre-K parent loop is the same as the bus and daycare van loop. There are approximately 40 to 50 Pre-K car riders.
 - There are safety concerns with buses/daycare vans/Pre-K parent vehicles exiting this loop and attempting to turn left onto SR 519 (Fiske Boulevard) to head south.
 - Due to the proximity to the St. Andrews Drive signal, there is no center two-way left-turn lane (TWLTL) for left turning vehicles to “stage” in prior to merging with southbound SR 519 (Fiske Boulevard) traffic.
 - There are conflicts between northbound left turners utilizing the center TWLTL and the northbound left turn lane at St. Andrews Drive and vehicles attempting to make the left turn from the school driveway.
 - Staff noted that it is extremely difficult to make this left turn movement onto SR 519 (Fiske Boulevard) across 3 to 4 lanes of traffic so close to a signalized intersection. In some cases, drivers are making the left turn movement with small gaps in traffic.
 - School staff noted there have been numerous vehicle crashes at the northernmost driveway to the school during recent years. The Study Team obtained crash data for the most recent six-year period on record (August 2016 through July 2022) from the University of Florida’s Signal Four Analytics Database. There were 13 total crashes. Eleven of the crashes

were property damage only, two of the crashes resulted in injury, and none of the crashes resulted in a fatality. The most common crash types were rear-end (seven crashes), angle (two crashes), and sideswipe (two crashes).

Space Coast Area Transit

- There are two Space Coast Area Transit stops at the intersection of SR 519 (Fiske Boulevard) & St. Andrews Drive.
- Space Coast Area Transit Route 1 and 6 has a bus stop on the west side of SR 519 (Fiske Boulevard) just south of St. Andrews Drive. Space Coast Area Transit Route 1 has a bus stop on the east side of SR 519 (Fiske Boulevard) just south of St. Andrews Drive. School staff noted that no staff or students use Space Coast Area Transit.

Main Walking and Biking Routes

- The assistant principal noted the mode split reported in the 2019 survey was generally reflective of the current travel patterns for students coming to/from school. Approximately 20 percent of the students walk/bike and 80 percent of the students are car riders.
- Most of the students live in the residential neighborhoods west of SR 519 (Fiske Boulevard) across from the school.
- Students walking/biking from the south will use the middle driveway to access the main school entrance. Students walking/biking from the north will use the northernmost driveway to access the main school entrance.
- Two bicycle racks are located in front of the school, one on the south side of the school campus and one on the north side.
- Three crossing guards are present at SR 519 (Fiske Boulevard) & St. Andrews Drive. School staff noted that up to three teachers will also walk out to this intersection to help students cross SR 519 (Fiske Boulevard).
- Two crossing guards are present at the southernmost school driveway along SR 519 (Fiske Boulevard):
 - Allows children to cross north-south at the driveway; and
 - Directs traffic for parent loop vehicles turning left onto SR 519 (Fiske Boulevard).

Recent and Planned Projects

- SR 519 (Fiske Boulevard)
 - Concept development study to advance the long-term vision of the corridor to address the safety and mobility needs of the community, including for vehicle, transit, bicycle, and pedestrian modes.
 - Construct six-foot-wide sidewalks where possible, extend the Brevard Zoo trail, and tighten turning radii where possible.
 - Construct curb & gutter north of Barbara Jenkins Street and conduct an areawide drainage study.
- 2019 SCTPO Bicycle & Pedestrian Master Plan
 - The 2019 SCTPO Bicycle & Pedestrian Master Plan includes filling sidewalk and bicycle facility gaps throughout the county. Near Golfview Elementary School, this includes a proposed alignment of the East Coast Greenway along the west side of US 1 and filling sidewalk gaps along Pluckebaum Drive.
- The 2018 Space Coast Area Transit Bus Stop Accessibility Study prioritized accessibility and safety improvements needed at each bus stop.

Other Issues/Comments

- The school campus serves Pre-K through Grade 6 students.
- According to the principal, the school has approximately 500 students.
- There are concerns with wrong way drivers in both the bus/daycare van/Pre-K and Kindergarten to Grade 6 parent drop-off/pick-up loops.
- The assistant principal noted that school security is a concern. There is an exterior fence around the entire school campus that connects to a fence that runs along the west side of the school buildings. But once you are inside the exterior fence, there is no secondary interior fence around the south, east, or north sides of the school buildings.
 - This is primarily a concern as it relates to the southernmost driveway. Every time the school has a delivery/trash pickup/yard work, the vendor opens the chain link gate at this driveway and leaves it open until they are finished. School staff noted that at these times, someone could enter at this driveway while the gate is open and have access to the entire school campus.
 - Karen Black is going to review the school's site plan to determine the best method to enclose the school, so the gate does not have to be constantly opened and closed throughout the day.

Potential Opportunities and Requests from School Staff

- To address parent parking along SR 519 (Fiske Boulevard) prior to pick-up in the afternoon, install “No Parking or Standing” signage between Palmer Street and the southernmost school driveway.
- Pave and light a new parking lot for staff in the southeast corner of the school campus.
- At the northernmost driveway to the school campus:
 - Install a traffic separator in the median between the inside southbound travel lane and the northbound left turn lane at St. Andrews Drive;
 - Construct a “porkchop” island for the northernmost driveway, forcing vehicles to make a right turn only;
 - Recirculate the bus/daycare van/Pre-K loop back through the staff parking area and loop those vehicles to exit out of the middle driveway if they want to left turn onto SR 519 (Fiske Boulevard); and
 - Employ two additional crossing guards at the middle driveway to facilitate the left turn movement, similar to what is being done at Andersen Elementary School.
- Enhance pavement markings and add signage to discourage wrong way driving behavior in the two drop-off/pick-up loops.
- To address the school security concerns, consider installing an interior fence around the school buildings so that if anyone breaches the exterior fence, they will not have access to the school buildings. This would also allow for the gate for the southernmost driveway to be open all day without concern of someone being able to access the school buildings.

Field Review

A field review was conducted on the morning and afternoon of March 23, 2023 by the Study Team led by SCTPO and KAI. The weather conditions were warm with clear skies and the temperatures ranged from the mid-70s to mid-80s. The field review observed the drop-off activity from 7:15 AM to 8:15 AM and pick-up activity from 2:00 PM to 3:00 PM. The field review also included observing and documenting conditions within the school’s study area.

The following sections summarize the observations from the field reviews.

Crossing Guards

- There are five crossing guards at Golfview Elementary School. Two are present at the intersection of SR 519 (Fiske Boulevard) & the parent drop-off/pick-up loop and three are present at SR 519 (Fiske Boulevard) & St. Andrews Drive. Crossing guards at SR 519 (Fiske Boulevard) & St. Andrews Drive are stationed on the northwest, southwest, and southeast corners of the intersection.

School Campus

- The school campus is bordered by SR 519 (Fiske Boulevard) to the west, a retention pond to the south, and residential development to the north and east.
- School circulation patterns are designed such that students who walk/bike to school utilize SR 519 (Fiske Boulevard).
- Most commonly, students were observed entering the school campus via two paths to the main entrance of the school:
 - The sidewalk on the north side of the school campus connecting the intersection of St. Andrews Drive & SR 519 (Fiske Boulevard); and
 - The sidewalk on the south side of the school campus connecting the east side of SR 519 (Fiske Boulevard) to the school campus.

Study Area

- There is a sidewalk gap along the south side of St. Andrews Drive. Students were observed walking in the street along the south side of St. Andrews Drive and through the Rockledge Villas Apartments parking lot. There is a fence that was recently installed to block students walking through the parking lot so many of them are forced to walk in the street. St. Andrews Drive consists of a 4-foot paved shoulder on the north side of the roadway, two 18.5-foot travel lanes, and 2-foot valley gutter on both sides.
- There is a curb ramp west of Naples Circle on the north side of St. Andrews Drive that leads pedestrians into the roadway with no crossing or sidewalk.
- There is a 7-foot buffered bicycle lane on both sides of SR 519 (Fiske Boulevard). Students were observed using the sidewalk, rather than the bicycle lane.
- Space Coast Area Transit Route 1 and Route 6 have a southbound transit stop at SR 519 (Fiske Boulevard) & St. Andrews Drive. Route 1 has a northbound stop at SR 519 (Fiske Boulevard) & St. Andrews Drive. Both stops meet current standards and have an expanded landing pad, transit stop sign, and a bench. The transit stop on the west side of SR 519 (Fiske Boulevard) at St. Andrews Drive was heavily utilized during the morning and afternoon field reviews.
- There are flashing pedestrian warning signs (25 MPH) along SR 519 (Fiske Boulevard). However, these signs are not enforceable for vehicles traveling over 25 MPH.
- There is a school zone (15 MPH) eastbound on St. Andrews Drive approaching SR 519 (Fiske Boulevard). The school zone is marked with a sign and lacks a flashing beacon.
- Crossing guards observed flooding issues at the northwest and southwest corners of St. Andrews Drive & SR 519 (Fiske Boulevard).

- The crossing guards noted that they do not have enough time to cross the large groups of students at SR 519 (Fiske Boulevard) & St. Andrews Drive in both the morning and afternoon peak-periods.
- Parents exiting left out of the bus loop onto SR 519 (Fiske Boulevard) turn into the northbound left turn lane and center two-way left-turn lane (TWLTL) before merging with southbound traffic along SR 519 (Fiske Boulevard). This creates conflicts with northbound traffic and any vehicles making the northbound left turn at St. Andrews Drive.
 - Numerous instances were observed where drivers had to navigate between queued northbound vehicles stopped at the SR 519 (Fiske Boulevard) & St. Andrews Drive intersection to make the left turn movement.

Morning Field Review

- Parents began dropping off students at 7:15 AM with a steady flow from both north and south of the school.
- Approximately 25 students were observed walking and biking from south of the school. Approximately 60 students were observed walking and biking from north of the school. Most students were observed walking/biking from St. Andrews Drive and crossing SR 519 (Fiske Boulevard).
- One student was observed getting to school on a skateboard.
- The first crossing guard left the parent drop-off loop at 7:45 AM and the second crossing guard left the parent drop-off loop at 7:47 AM.
- Students crossed at the traffic signal at SR 519 (Fiske Boulevard) & St. Andrews Drive to enter the northwest corner of the school campus using the sidewalk along the east side of SR 519 (Fiske Boulevard). Approximately $\frac{1}{4}$ of the students had their parents walk them across the intersection.
- One bus was observed turning into the middle driveway on SR 519 (Fiske Boulevard) to proceed into the bus drop-off loop on the west side of the school building at 7:33 AM. The bus had at least one ESE student. This bus was observed turning right out of the bus loop and traveling north on SR 519 (Fiske Boulevard).
- Vehicles were observed entering the middle driveway along SR 519 (Fiske Boulevard) to drop-off Pre-K students. Both parents and daycare vans use this entrance to drop off Pre-K students. The longest queue observed in the TWLTL to enter the middle driveway was five vehicles.
- Approximately 45 vehicles exited from the northern school driveway onto SR 519 (Fiske Boulevard) with 21 turning right to travel north, 20 turning left to travel south, and four turning right into the northbound left turn lane at SR 519 (Fiske Boulevard) & St. Andrews Drive to travel west along St. Andrews Drive.

- One daycare van was observed turning left out of the bus loop and travelling south on SR 519 (Fiske Boulevard).
- Vehicles in the parent drop-off/pick-up loop cleared at 8:04 AM. Staff then closed and locked the gate.
- Parents were observed walking students to school and then riding Space Coast Area Transit.

Afternoon Field Review

- Peak traffic occurred between 2:15 PM and 2:30 PM. Vehicles were observed queueing in the northbound bicycle lane along SR 519 (Fiske Boulevard) approximately 250 feet south of the parent drop-off/pick-up loop driveway. Parents began queueing for student pick-up at the south entrance to the school at approximately 1:50 PM. The car loop gate was opened by school staff at 2:00 PM.
- Approximately 100 students were observed walking out of the school.
- Approximately 80 students walked out of the school's main entrance and travelled north and west along SR 519 (Fiske Boulevard) & St. Andrews Drive. Approximately 7 bicyclists were also observed at this location. Pedestrian signal timing at this intersection was as follows:
 - The west leg included a nine second walk and 17 second flashing don't walk;
 - The south leg included a ten second walk and 21 second flashing don't walk; and
 - All crossing guards noted this does not give them enough time to navigate the intersection.
- One student was observed riding their skateboard home.
- Approximately 15 students were observed walking out of the school's main entrance and travelled south along SR 519 (Fiske Boulevard). A large group of students travelled together at 2:30 PM.
- Informal parent pick-up was also observed along St. Andrews Drive.
- Approximately 30 vehicles exited from the northern driveway onto SR 519 (Fiske Boulevard) with approximately 15 turning right to travel north, approximately 15 turning left to travel south, and approximately two turning right into the northbound left turn lane at SR 519 (Fiske Boulevard) & St. Andrews Drive to travel west along St. Andrews Drive.
- One school bus arrived at 2:02 PM and left at 2:25 PM. The bus turned left to travel south on SR 519 (Fiske Boulevard) and pulled into a gap in traffic, using its horn to alert vehicles. Vehicles would slow and give the bus the right-of-way.
- Two daycare vans made a left turn to travel south on SR 519 (Fiske Boulevard) and one made a right turn to travel north on SR 519 (Fiske Boulevard).

Opportunities for Improvement

- Due to the high volume of students crossing the intersection of SR 519 (Fiske Boulevard) & St. Andrews Drive, consider increasing the pedestrian walk time during school morning and afternoon peak hours to provide more crossing time for students.
- Crossing guards stay at their post until 8:00 AM, so parents utilizing the parent drop-off/pick-up loop can have assistance turning left onto SR 519 (Fiske Boulevard) after dropping off their students.
- Consider adding school zone signage along SR 519 (Fiske Boulevard) that reduces the posted speed during school morning/afternoon times and is legally enforceable. Install flashing beacon school zone speed limit signs along St. Andrews Drive.
- Encourage students on bikes, scooters, and skateboards to wear helmets.
- Consider opening the gate to the parent pick-up loop earlier in the afternoon peak-period to reduce queuing on SR 519 (Fiske Boulevard). Consider adding “No Parking or Waiting” signage along the east side of SR 519 (Fiske Boulevard) to prohibit vehicles from queueing on SR 519 (Fiske Boulevard).

Implementation

This section of the report recommends improvements for the school study area based on the analysis and observations documented in the assessment section. The purpose of this section is to list and describe the issues and recommendations identified for the Golfview Elementary School study area. Planning-level cost estimates, implementation timeframes, and responsible agencies were also listed for the recommendations.

List and Maps of Recommendations

A list of issues and recommendations was developed based on the input received at the school coordination meeting and field review observations. Recommendations on the school campus and larger study area are listed in **Table 2**. Maps showing the locations of these recommendations are shown in **Figure 17** and **Figure 18**.

School Campus Recommendations

No.	Location	Recommendation	Type	Time-Frame	Cost Estimate
1	School Campus	Consider improving school security by installing an interior fence around the school buildings so that if anyone breaches the exterior fence, they will not have access to the school buildings. Leave the gate at the southern driveway to the school campus open throughout the school day to provide for deliveries and reduce queueing on SR 519 (Fiske Boulevard) during parent pick-up times.	Sign/Signal	Near-Term	Further Study Required to Evaluate School Security System
2	School Campus	In the afternoon peak-period open the gate at 1:30 PM to reduce queueing on SR 519 (Fiske Boulevard).	Maintenance	Maintenance	None
3	School Campus	Add more paved staff parking and lighting at the southeast corner of the school campus.	Roadway	Long-Term	\$275,000 to \$325,000
4	School Campus	Enhance pavement markings and add signage to discourage wrong way driving behavior at the two drop-off/pick-up loops.	Sign/Signal	Maintenance	<\$10,000

Study Area Recommendations

No.	Location	Recommendation	Type	Time-Frame	Cost Estimate
5	St. Andrews Drive	Fill sidewalk gaps on the north side of St. Andrews Drive from Wentworth Circle to Naples Circle and on the south side of St. Andrews Drive from Wentworth Circle to SR 519 (Fiske Boulevard).	Sidewalk	Long-Term	\$365,000 to \$430,000
6	St. Andrews Drive	Add flashing beacon signage for the school zone along St. Andrews Drive. Restripe pavement markings, add advance school zone warning signs, and add "End School Zone" signage.	Sign/Signal	Near-Term	\$30,000 to \$40,000
7	Barton Boulevard & Barrington Circle	Add a rapid rectangular flashing beacon (RRFB) at the existing crosswalk.	Sign/Signal	Near-Term	\$45,000 to \$60,000

Table 2: Recommendations Summary

School Routes Analysis Golfview Elementary School



Study Area Recommendations

No.	Location	Recommendation	Type	Time-Frame	Cost Estimate
8	Barton Boulevard and St. Andrews Drive	<p>Install/upgrade pedestrian ramps to meet current standards along:</p> <ul style="list-style-type: none"> Barton Boulevard from Bluegrass Lane to US 1; and St. Andrews Drive from just west of Naples Circle to SR 519 (Fiske Boulevard). 	Sidewalk	Long-Term	\$100,000 to \$120,000
9	School Campus	Add high-visibility crosswalks at school driveways.	Crossing	Maintenance	<\$10,000
10	SR 519 (Fiske Boulevard) & St. Andrews Drive	Conduct a signal timing study to evaluate the feasibility of increasing the pedestrian crossing time to allow all bicyclists and pedestrians to cross.	Sign	Maintenance	Further Study Required for Signal Timing Study
11	SR 519 (Fiske Boulevard) & Northern and Southern School Campus Driveways	<p>Restrict left turn traffic at the northern school driveway by:</p> <ul style="list-style-type: none"> Installing a traffic separator in the SR 519 (Fiske Boulevard) median between the inside southbound travel lane and the northbound left turn lane at St. Andrews Drive; Constructing a “porkchop” island for the northernmost driveway, forcing vehicles to make a right turn only; Recirculating the bus/daycare van/Pre-K loop back through the staff parking area and loop those vehicles to exit out of the middle driveway if they want to left turn onto SR 519 (Fiske Boulevard); and Widening the roadway leading from/to the middle driveway so it can accommodate two-way traffic, including the wider turning movements for buses. <p>Employ two crossing guards at the middle driveway to facilitate the left turn movement.</p>	Roadway/ Enforcement	Near-Term	Further Study Required for Roadway Design

Table 2: Recommendations Summary Cont.
 School Routes Analysis
Golfview Elementary School

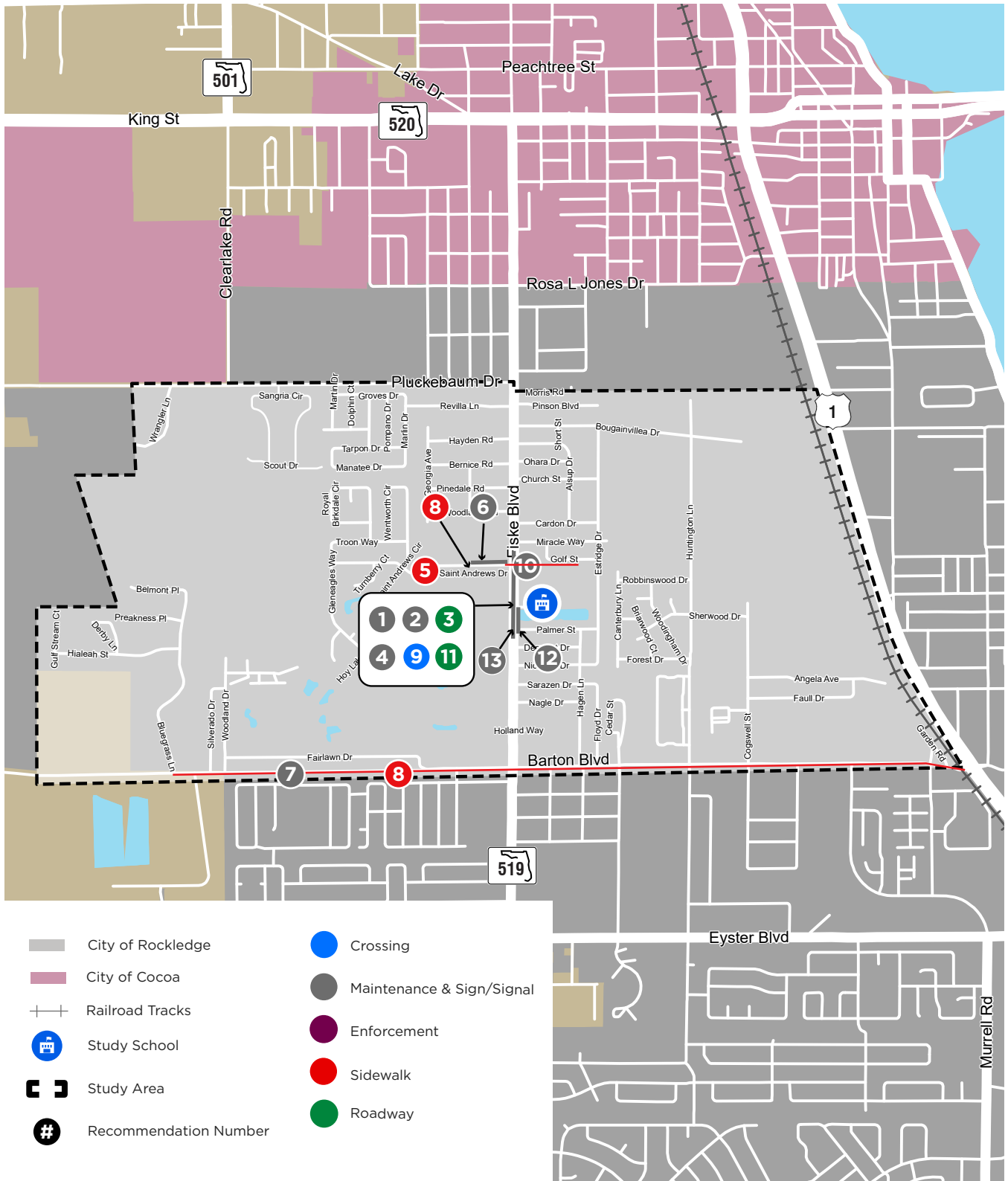


Study Area Recommendations

No.	Location	Recommendation	Type	Time-Frame	Cost Estimate
12	SR 519 (Fiske Boulevard)	Add “No Parking or Standing” signage on the east side of SR 519 (Fiske Boulevard) from Palmer Street to the southern driveway to the school	Sign	Maintenance	<\$10,000
13	SR 519 (Fiske Boulevard)	Conduct a school zone analysis to determine if a school zone is justified along SR 519 (Fiske Boulevard) near the school campus. If justified, add flashing beacon signage along SR 519 (Fiske Boulevard). Restripe pavement markings and add advance school zone warning signs.	Sign	Near-Term	Further Study Required for School Zone Analysis

Table 2: Recommendations Summary Cont.
School Routes Analysis
Golfview Elementary School





Plan does not identify specific bicycle facility types for Prioritized Bicycle Facilities.

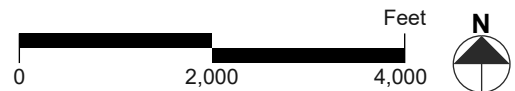


Figure 17: Recommendations
 School Routes Analysis
Golfview Elementary School



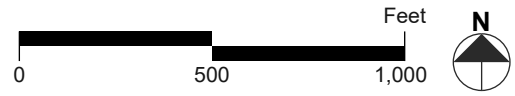
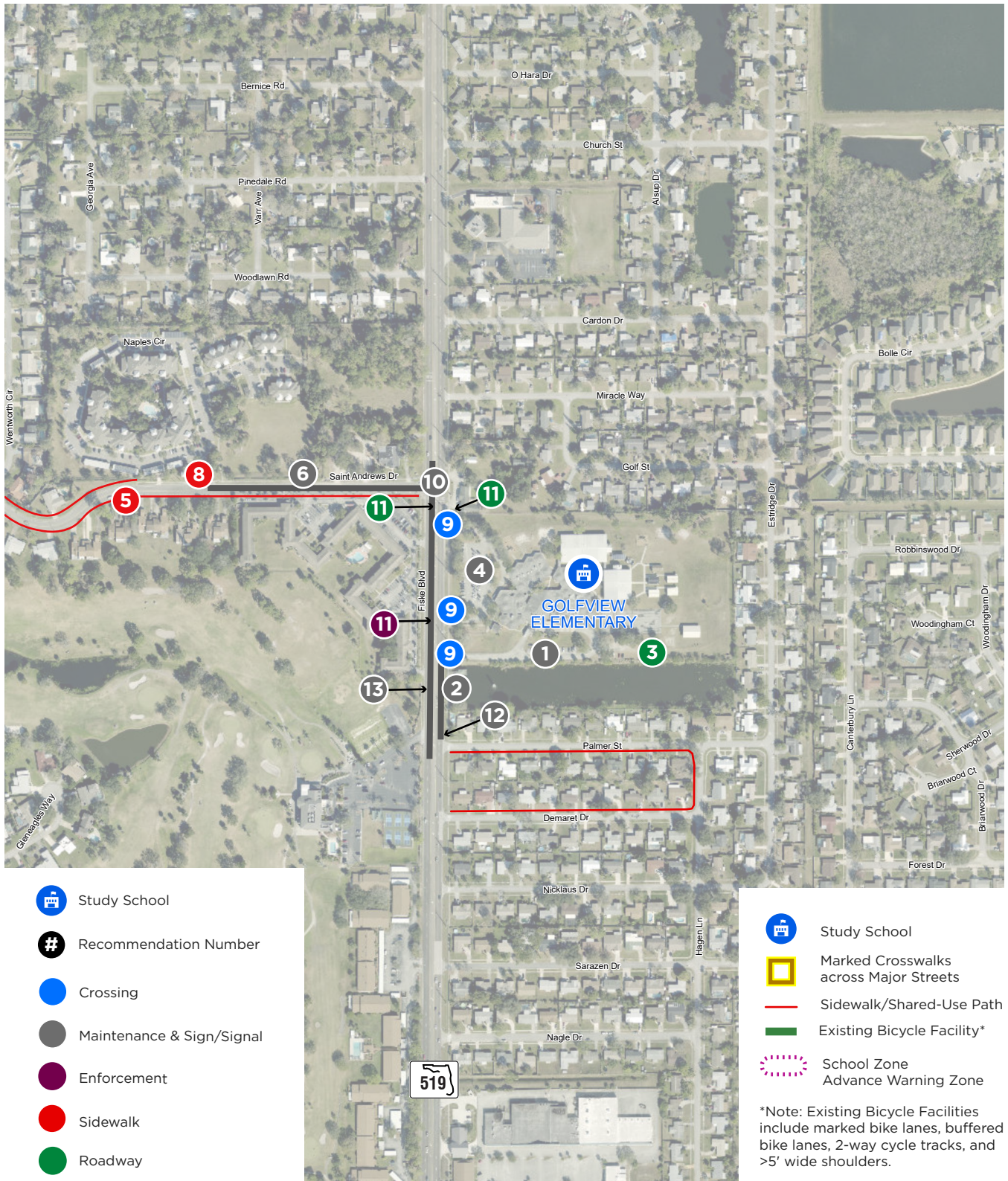


Figure 18: Recommendations: School Context Aerial
School Routes Analysis
Golfview Elementary School



Detailed Recommendations

This section lists details for each recommendation including its location, type, issue, recommendation, implementation timeframe, estimated project cost, if right-of-way is needed, if there is anticipated drainage or utility impact, and the responsible agency. The implementation timeframe is listed as “Maintenance”, “Near-Term”, or “Long-Term” and describes the estimated amount of time it will take for a project to be complete. The responsible agency is the public agency that will be responsible for the implementation of the recommendation.

Methodology to Calculate Cost Estimates

Cost estimates were calculated for the recommended projects in this section, unless otherwise noted. Cost estimates were not prepared for projects where more information was needed, or further follow up study should be undertaken. The bullets below describe the assumptions made for the cost estimating of the recommended projects:

- Pay items and pay item unit costs were obtained from the FDOT Historical Cost website: <https://www.fdot.gov/programmanagement/estimates/historicalcostinformation/historicalcost.shtm>
 - The most current 12 month (January 1, 2022 to December 31, 2022) moving Statewide and Area 8 (which includes Brevard County) pay item average unit costs were utilized.
- Maintenance of traffic was assumed to be 10 percent to 15 percent of the construction cost, depending on the level of impact the recommendation has on adjacent roadway traffic. Maintenance of traffic was assumed to be zero percent for recommendations on the school campus.
- The mobilization of construction equipment to the work site was assumed to be 15 percent of the construction + maintenance of traffic cost.
- Concepts were not prepared for these recommendations so there is a high degree of unknowns that may affect the project cost once it is designed. To account for these unknowns, a 20 percent and 40 percent “contingency/unknowns” cost was calculated for each project to provide a cost estimate “range” for each project. These contingency/unknown calculations were based on the construction + maintenance of traffic + mobilization cost.
- Design and construction engineering inspection (CEI) were assumed to be 15 percent each. These costs were calculated based on the construction + maintenance of traffic + mobilization + contingency/unknowns (20 percent) cost and the construction + maintenance of traffic + mobilization + contingency/unknowns (40 percent) cost.
- The total lower range cost estimate for each recommendation was calculated as construction + maintenance of traffic + mobilization + contingency/unknowns (20

percent) + design (based on 20 percent contingency/unknowns) + CEI (based on 20 percent contingency/unknowns). The total upper range cost estimate for each recommendation was calculated as construction + maintenance of traffic + mobilization + contingency/unknowns (40 percent) + design (based on 40 percent contingency/unknowns) + CEI (based on 40 percent contingency/unknowns).

- The final lower and upper range were rounded up to the nearest \$5K or \$10K to provide a conservative estimate of the total project cost.
- Drainage, right-of way, and utility considerations were not included in cost estimates.

Figure 19 below shows an example of the cost estimate process described above.

Item No.	Description	Unit	Total Quantity	Weighted Average Unit Price	Total Amount
Roadway Items					
110-1-1	CLEARING & GRUBBING	AC	0.27	\$9,219.13	\$2,516.82
522-1	SIDEWALK CONCRETE, 4" THICK	SY	570.00	\$44.53	\$25,382.10
Subtotal					\$27,898.92
102-1	MAINTENANCE OF TRAFFIC	LS	15%		\$4,184.84
Subtotal					\$32,083.76
101-1	MOBILIZATION	LS	15%		\$4,812.56
Subtotal					\$36,896.32
	CONTINGENCY	LS	20%		\$7,379.26
	CONTINGENCY	LS	40%		\$14,758.53
Total Construction Cost (20%)					\$44,275.58
Total Construction Cost (40%)					\$51,654.85
	DESIGN (20%)	LS	15%		\$6,641.00
	DESIGN (40%)	LS	15%		\$7,748.00
	C.E.I (20%)	LS	15%		\$6,641.00
	C.E.I (40%)	LS	15%		\$7,748.00
Total Cost (20%)					\$57,557.58
Total Cost (40%)					\$67,150.85
Total Cost (20%) - Rounded					\$60,000.00
Total Cost (40%) - Rounded					\$70,000.00





Figure 19: Example Cost Estimate Process

Project 1: Improve school security with interior fence

Location	School Campus
Type	Sign/Signal
Issues	There are security concerns at the southernmost driveway along SR 519 (Fiske Boulevard). School staff noted that when the gate is open at this driveway for deliveries, someone could enter and have access to the school campus. Parents were also observed queueing on SR 519 (Fiske Boulevard) for student pick-up in the afternoon.
Recommendations	Consider improving school security by installing an interior fence around the school buildings so that if anyone breaches the exterior fence, they will not have access to the school buildings. Leave the gate at the southern driveway to the school campus open throughout the school day to provide for deliveries and reduce queueing on SR 519 (Fiske Boulevard) during parent pick-up times.



Existing Southern Driveway with Gate

	Implementation Timeframe	Near-Term
	Estimated Project Cost	Further Study Required to Evaluate School Security System
	Right-of Way Needed?	No
	Drainage or Utility Impact?	No
	Responsible Agency	Brevard Public Schools

Project 2: Open southern driveway gate at 1:30 PM

Location	School Campus
Type	Maintenance
Issue	Queuing was observed on SR 519 (Fiske Boulevard) during afternoon pick-up peak-period.
Recommendation	In the afternoon peak-period open the gate at 1:30 PM to reduce queuing on SR 519 (Fiske Boulevard).

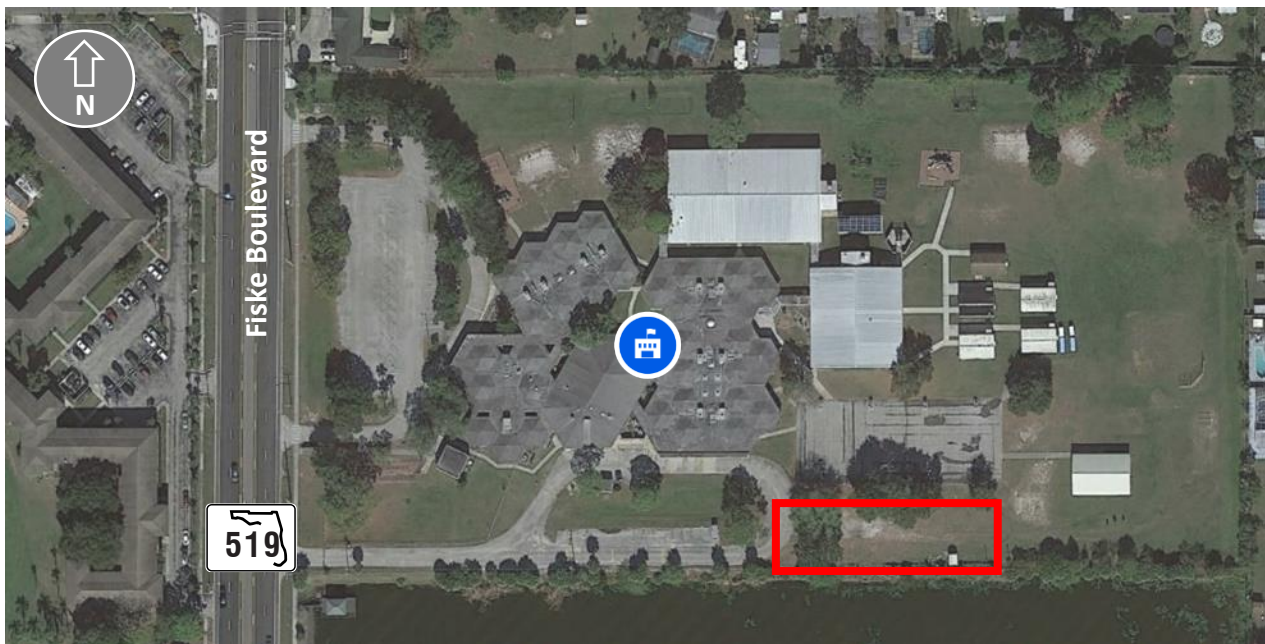


Observed Queuing in Bicycle Lane along SR 519 (Fiske Boulevard) at 1:50 PM

	Implementation Timeframe	Maintenance
	Estimated Project Cost	None
	Right-of Way Needed?	No
	Drainage or Utility Impact?	No
	Responsible Agency	Brevard Public Schools

Project 3: Add more staff parking and lighting

Location	School Campus
Type	Roadway
Issue	Staff were observed parking in the grass to the east of the parent drop-off/pick-up loop.
Recommendation	Add more paved staff parking and lighting at the southeast corner of the school campus.



Proposed Parking Lot Location

	Implementation Timeframe	Long-Term
	Estimated Project Cost*	\$275,000 to \$325,000
	Right-of Way Needed?	No
	Drainage or Utility Impact?	Yes
	Responsible Agency	Brevard Public Schools

* Drainage, right of way, and utility considerations were not included in cost estimates.

Project 4: Enhance pavement markings and add signage at school driveways

Location	School Campus
Type	Sign/Signal
Issue	There are concerns with wrong way drivers in both the bus/daycare van/Pre-K and K-6 parent drop-off/pick-up loops.
Recommendation	Enhance pavement markings and add signage to discourage wrong way driving behavior at the two drop-off/pick-up loops.



Existing “Do Not Enter” Signage at the Northernmost Driveway

	Implementation Timeframe	Maintenance
	Estimated Project Cost	<\$10,000
	Right-of Way Needed?	No
	Drainage or Utility Impact?	No
	Responsible Agency	Brevard Public Schools

Project 5: Fill sidewalk gaps along St. Andrews Drive

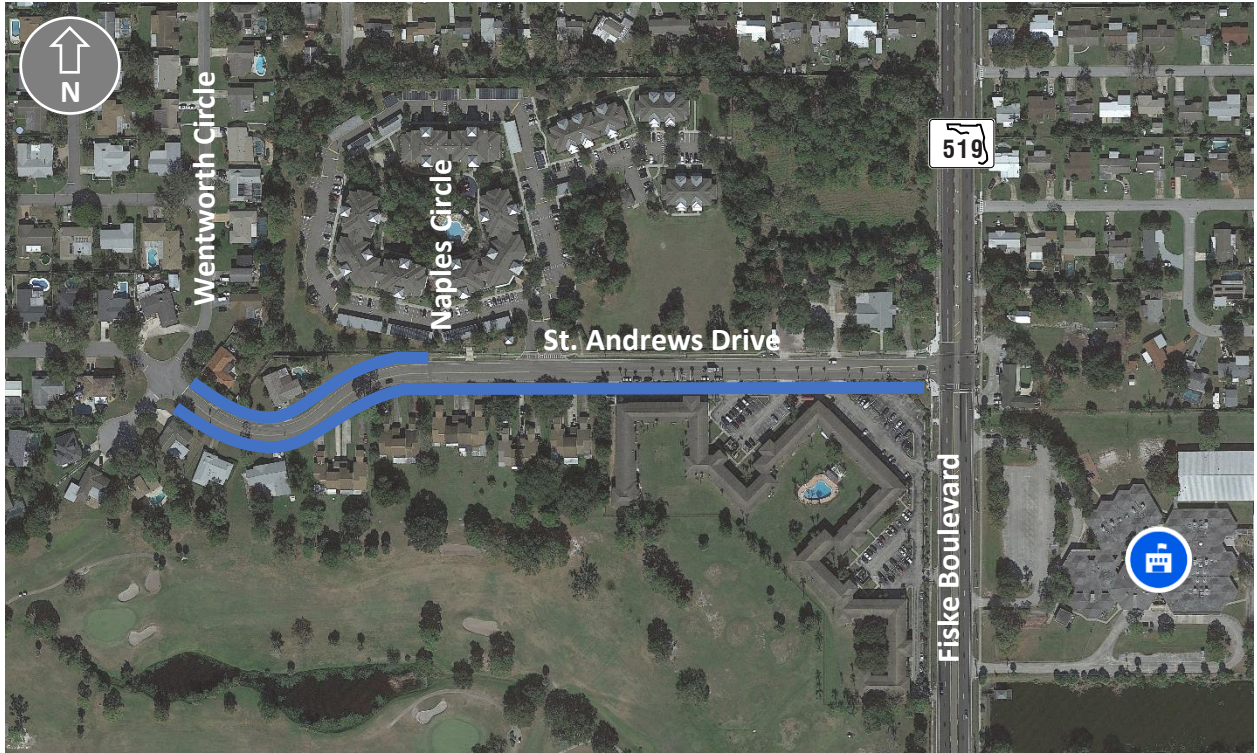
Location	St. Andrews Drive
Type	Sidewalk
Issue	There is a sidewalk gap along the south side of St. Andrews Drive. Students were observed walking in the street along the south side of St. Andrews Drive and through the Rockledge Villas Apartments parking lot. There is a fence that was recently installed to block students walking through the parking lot so many of them are forced to walk in the street.
Recommendation	Fill sidewalk gaps on the north side of St. Andrews Drive from Wentworth Circle to Naples Circle and on the south side of St. Andrews Drive from Wentworth Circle to SR 519 (Fiske Boulevard).



Existing Sidewalk Gaps along St. Andrews Drive

	Implementation Timeframe	Long-Term
	Estimated Project Cost*	\$365,000 to \$430,000
	Right-of Way Needed?	Potential
	Drainage or Utility Impact?	Potential
	Responsible Agency	City of Rockledge

* Drainage, right-of way, and utility considerations were not included in cost estimates.



Proposed Sidewalks along St. Andrews Drive

Project 6: Add flashing beacon signage and school zone pavement markings

Location	St. Andrews Drive
Type	Sign/Signal
Issue	The school zone signage/pavement markings along St. Andrews Drive does not meet current standards.
Recommendation	Add flashing beacon signage for the school zone along St. Andrews Drive. Restripe pavement markings, add advance school zone warning signs, and add “End School Zone” signage.



Existing School Zone on St. Andrews Drive



Proposed Flashing Beacon, Marked School Crossing, End School Zone, and School Pavement Markings

	Implementation Timeframe	Near-Term
	Estimated Project Cost	\$30,000 to \$40,000
	Right-of Way Needed?	No
	Drainage or Utility Impact?	No
	Responsible Agency	City of Rockledge

Project 7: Add RRFB at existing crosswalk

Location	Barton Boulevard & Barrington Circle
Type	Sign/Signal
Issue	There is a midblock crossing across Barton Boulevard in a residential neighborhood.
Recommendation	Add a rapid rectangular flashing beacon (RRFB) at the existing crosswalk.



Existing Crossing at Barton Boulevard & Barrington Circle

	Implementation Timeframe	Near-Term
	Estimated Project Cost*	\$45,000 to \$60,000
	Right-of Way Needed?	No
	Drainage or Utility Impact?	Potential
	Responsible Agency	City of Rockledge

* Drainage, right-of way, and utility considerations were not included in cost estimates.



Typical Midblock Crossing with RRFB

Project 8: Install and upgrade pedestrian ramps to meet current standards

Location	Barton Boulevard and St. Andrews Drive
Type	Sidewalk
Issue	Pedestrian ramps along Barton Boulevard and St. Andrews Drive do not meet current standards.
Recommendation	<p>Install/upgrade pedestrian ramps to meet current standards along:</p> <ul style="list-style-type: none"> • Barton Boulevard from Bluegrass Lane to US 1; and • St. Andrews Drive from just west of Naples Circle to SR 519 (Fiske Boulevard).



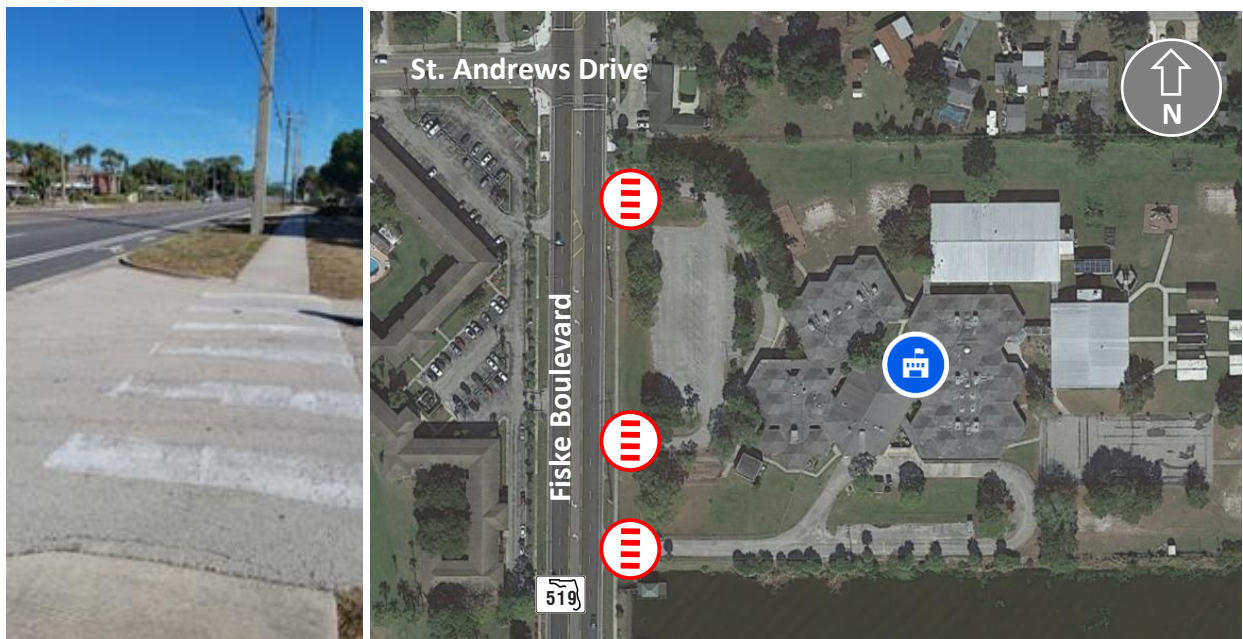
Existing Ramps on Barton Boulevard and St. Andrews Drive

	Implementation Timeframe	Long-Term
	Estimated Project Cost*	\$100,000 to \$120,000
	Right-of Way Needed?	No
	Drainage or Utility Impact?	Potential
	Responsible Agency	City of Rockledge and FDOT






* Drainage, right-of way, and utility considerations were not included in cost estimates.

Project 9: Add high visibility crosswalks at school driveways

Location	School Campus
Type	Crossing
Issue	Crosswalk markings at the school campus are faded and vehicles were observed stopping in the crosswalks.
Recommendation	Add high-visibility crosswalks at school driveways.

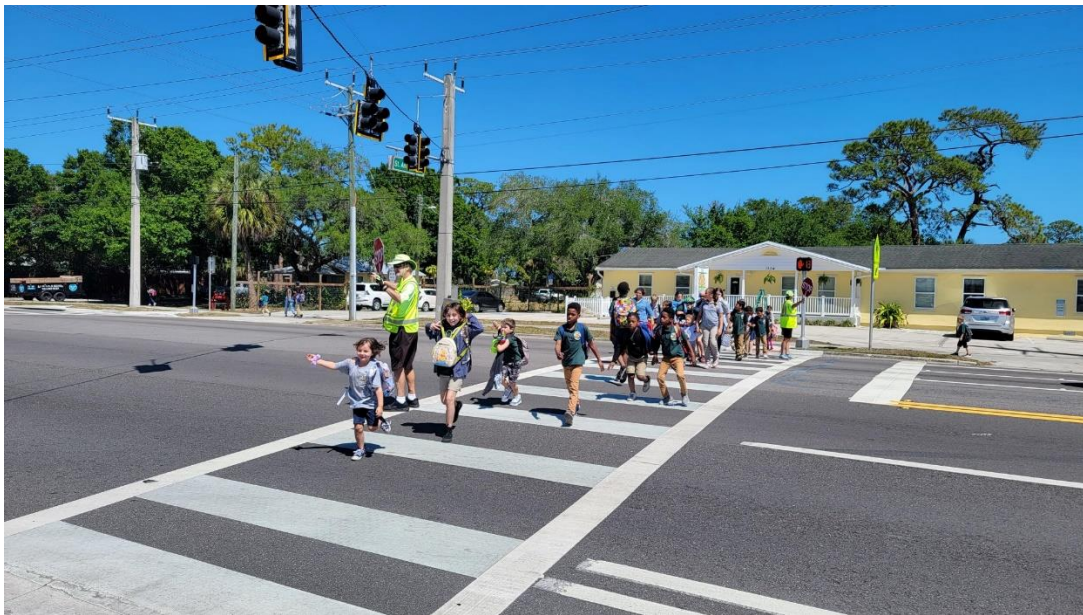


Existing Crosswalks at School Driveways and Proposed Crosswalk Locations






	Implementation Timeframe	Maintenance
	Estimated Project Cost	<\$10,000
	Right-of Way Needed?	No
	Drainage or Utility Impact?	No
	Responsible Agency	FDOT

Project 10: Conduct signal timing study

Location	SR 519 (Fiske Boulevard) & St. Andrews Drive
Type	Sign
Issue	Large groups of students were observed crossing SR 519 (Fiske Boulevard) & St. Andrews Drive. The crossing guards noted that students do not have enough time to cross in both the morning and afternoon peak-periods.
Recommendation	Conduct a signal timing study to evaluate the feasibility of increasing the pedestrian crossing time to allow all bicyclists and pedestrians to cross.



Students Crossing SR 519 (Fiske Boulevard) & St. Andrews Drive

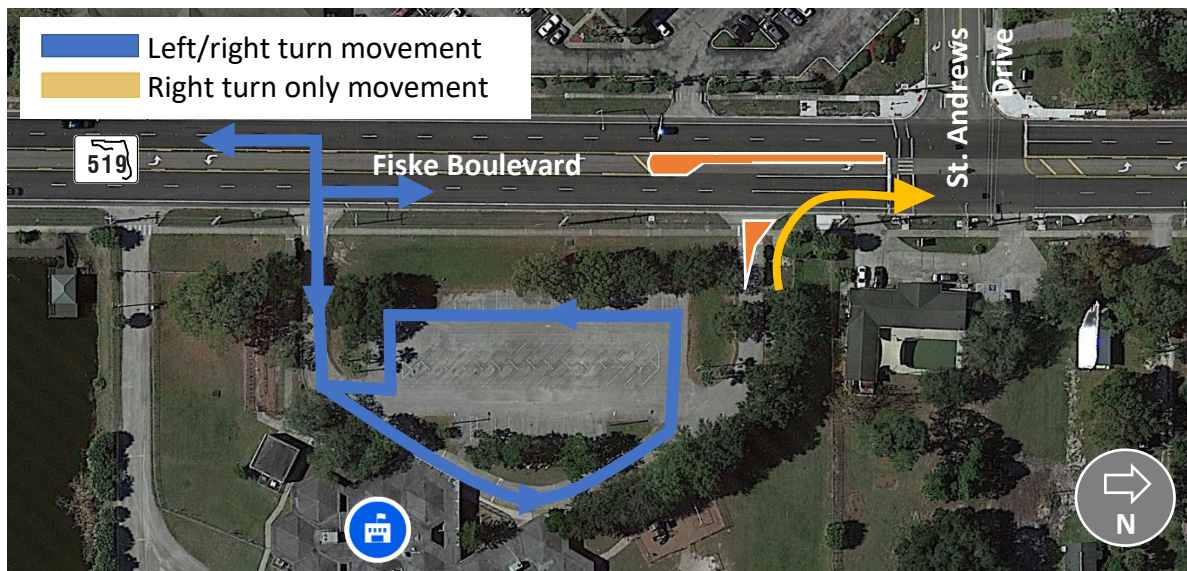
	Implementation Timeframe	Maintenance
	Estimated Project Cost	Further Study Required for Signal Timing Study
	Right-of Way Needed?	No
	Drainage or Utility Impact?	No
	Responsible Agency	FDOT

Project 11: Restrict turning movements at the northern school campus driveway and add crossing guards at middle school campus driveway


Location	SR 519 (Fiske Boulevard) & Northern and Southern School Campus Driveways
Type	Roadway/Enforcement
Issue	<p>Parents exiting left out of the northern school driveway onto SR 519 (Fiske Boulevard) turn into the northbound left turn lane and center two-way left-turn lane (TWLTL) before merging with southbound traffic along SR 519 (Fiske Boulevard). This creates conflicts with northbound traffic and any vehicles making the northbound left turn at St. Andrews Drive. Conflicts were also observed between vehicles turning into the middle driveway on SR 519 (Fiske Boulevard) and pedestrians and bicyclists crossing the school driveways.</p>
Recommendation	<p>Restrict left turn traffic at the northern school driveway by:</p> <ul style="list-style-type: none"> • Installing a traffic separator in the SR 519 (Fiske Boulevard) median between the inside southbound travel lane and the northbound left turn lane at St. Andrews Drive; • Constructing a “porkchop” island for the northernmost driveway, forcing vehicles to make a right turn only; • Recirculating the bus/daycare van/Pre-K loop back through the staff parking area and loop those vehicles to exit out of the middle driveway if they want to left turn onto SR 519 (Fiske Boulevard); and • Widening the roadway leading from/to the middle driveway so it can accommodate two-way traffic, including the wider turning movements for buses. <p>Employ two crossing guards at the middle driveway to facilitate the left turn movement.</p>



Vehicle Turning Left into TWLTL onto SR 519 (Fiske Boulevard) from the Northern Driveway

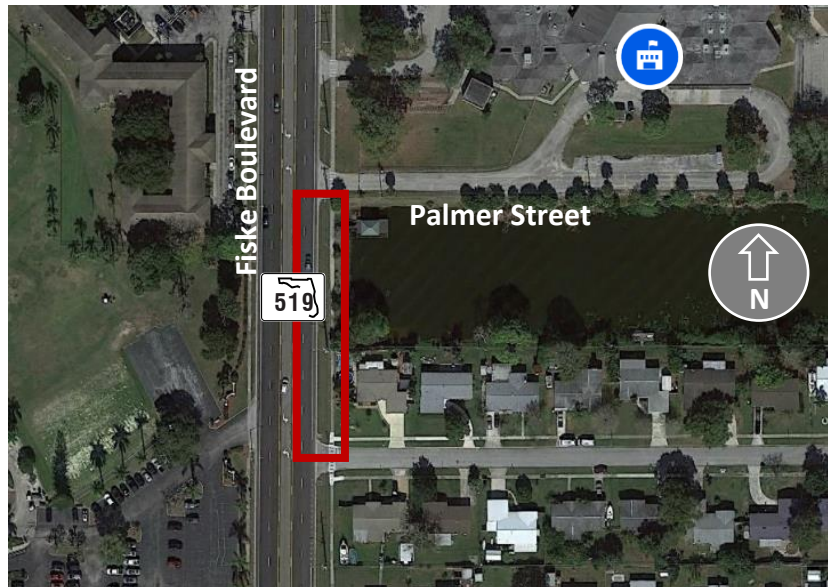


Proposed Circulation, Traffic Separator, and Porkchop





	Implementation Timeframe	Near-Term
	Estimated Project Cost	Further Study Required for Roadway Design
	Right-of Way Needed?	No
	Drainage or Utility Impact?	No
	Responsible Agency	Brevard Public Schools, City of Rockledge Police Department, & FDOT

Project 12: Add “No Parking or Standing” signage on the east side of SR 519 (Fiske Boulevard)

Location	SR 519 (Fiske Boulevard)
Type	Sign
Issue	Queueing was observed in the bike lane along SR 519 (Fiske Boulevard) waiting for parent pick-up in the afternoon peak period. This presents safety concerns for bicyclists and for other vehicles travelling north along the roadway.
Recommendation	Add “No Parking or Standing” signage on the east side of SR 519 (Fiske Boulevard) from Palmer Street to the southern driveway to the school.



“No Parking Anytime” Signs and Parking Sign Limits






	Implementation Timeframe	Maintenance
	Estimated Project Cost	<\$10,000
	Right-of Way Needed?	No
	Drainage or Utility Impact?	No
	Responsible Agency	FDOT

Project 13: Conduct school zone analysis

Location	SR 519 (Fiske Boulevard)
Type	Sign
Issue	There are flashing pedestrian warning signs (25 MPH) along SR 519 (Fiske Boulevard). However, these signs are not enforceable for vehicles traveling over 25 MPH. Students were observed walking and biking along and across SR 519 (Fiske Boulevard) during student drop-off/pick-up times.
Recommendation	Conduct a school zone analysis to determine if a school zone is justified along SR 519 (Fiske Boulevard) near the school campus. If justified, add flashing beacon signage along SR 519 (Fiske Boulevard). Restripe pavement markings and add advance school zone warning signs.



Existing Pedestrian Warning Signs along SR 519 (Fiske Boulevard)

	Implementation Timeframe	Near-Term
	Estimated Project Cost	Further Study Required for School Zone Analysis
	Right-of Way Needed?	No
	Drainage or Utility Impact?	No
	Responsible Agency	FDOT



Example of Flashing Beacon, Marked School Crossing, End School Zone, and School Pavement Markings

Recommendations for Education and Engagement

A key pillar of the SRTS program is education for and engagement with students, parents, teachers, and administrators on pedestrian and bicycle safety. Below are some ways to consider increasing education and engagement at Golfview Elementary School.

- Provide training to students on pedestrian and bicycle safety, rules of the road, and how to navigate through their community safely;
- Provide helmet fittings for students;
- Engage the community by painting decorative crosswalks, bicycle facility markings, and other pavement markings where feasible; and
- Provide education to parents on how their student can safely walk and/or bike to school in their community.

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