

August 2014

Safe Routes to School Audit Report Springwood Elementary School



Leon County
Public Schools



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Prepared By:



RENAISSANCE PLANNING GROUP

WENDY GREY LAND USE PLANNING LLC



Chapter 1: Introduction

Project Purpose

The purpose of this Safe Routes to School (SRTS) audit report is to provide recommendations to improve student walking and bicycling rates to and from school. In addition, this report addresses other enhancements to improve the overall travel safety and convenience for students, parents and the school. Improvement recommendations are provided in the following categories: infrastructure, programs, and policies. This SRTS audit includes an array of considerations formulated from a range of research and analytical tools employed to better understand and comprehend the issues and concerns affecting current walking and bicycling rates of student to and from school. This report highlights a summary of students' school travel patterns through in-class student travel surveys, parent self-reported surveys, on-site meetings with school officials, and field reviews.

School Overview

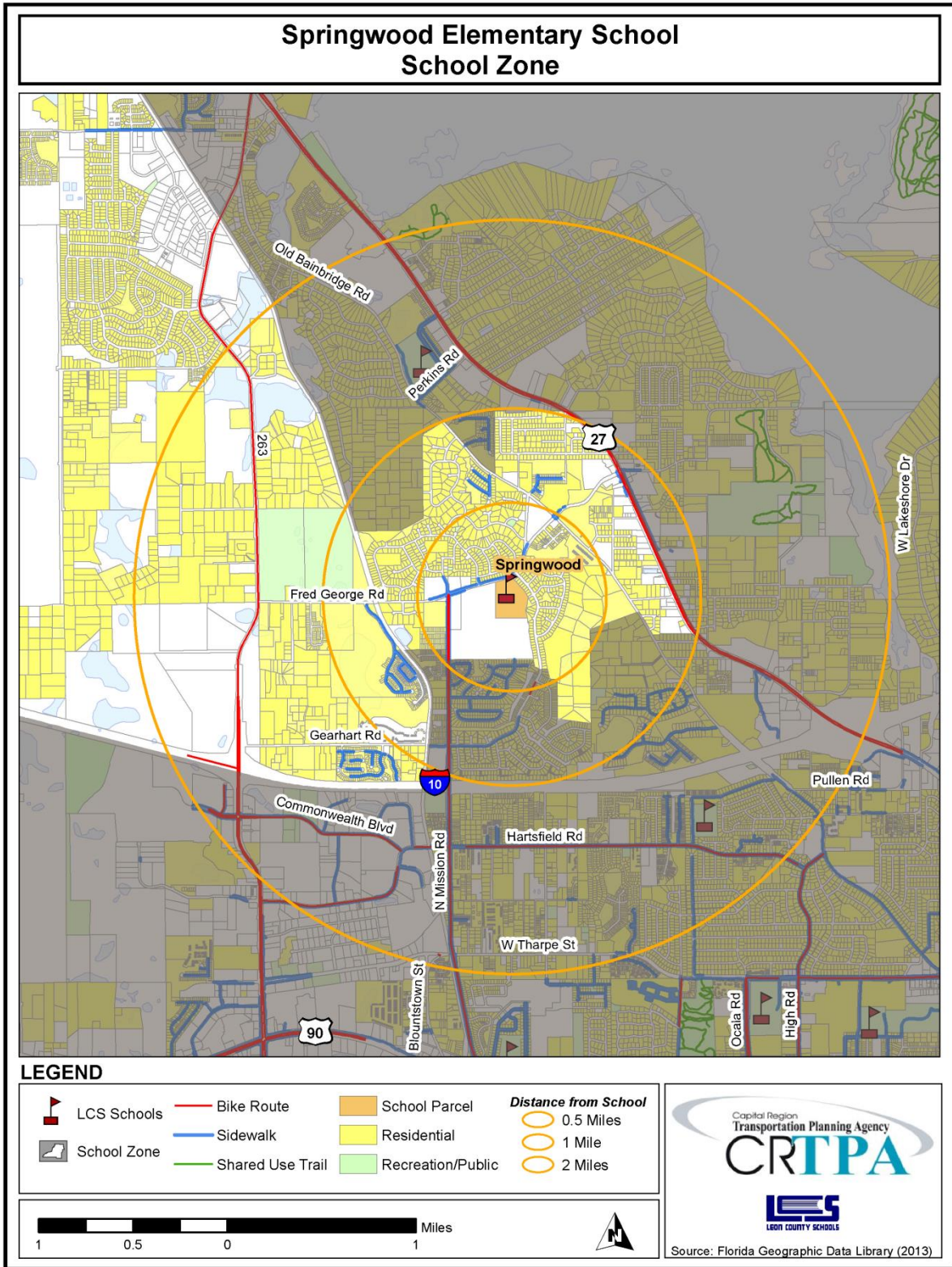
Springwood Elementary School is located at 3801 Fred George Road, Tallahassee, 32303 in Leon County, Florida. It is part of the Leon County Public Schools system. The school was established in 1987. Regular school hours are from 8:30am to 2:50pm. A before school program is available from 7:00am to 8:00am. Additionally, an after school program is available from the end of the school day until 6:00pm.

The number of students enrolled at the school, for the 2013 school year, was 611. The school has a current capacity for 691 students. The school includes grade levels Pre-Kindergarten to 5th grade.

Students attending this school feed into Griffin Middle School and Godby High School.

School Zone

The Springwood Elementary school zone, located in northwestern Leon County, encompasses the neighborhoods of Huntington Estates, Settlers Creek, Settlers Springs, Camellia Springs, and Hartsfield Plantation. The Lake Talquin State Recreation Area encompasses a significant portion of the school zone on the western side. The land uses in the school zone are almost entirely residential with some areas of recreation. There is a CSX railroad line that runs mostly north to south through the central portion of the zone. The Springwood school zone includes three major roadways. Interstate-10 runs mostly east to west and borders the zone on the south. Capital Circle NW runs north to south and bisects the zone into east and west. North Monroe Street runs northwest to southwest and borders the zone on the east. Recreational facilities within the school zone include Stoneler Road County Park and Northwest Park.



Chapter 2: On-Site Meeting and Inventory

Date and Weather Conditions

The on-site inventory meeting was conducted on February 20th, 2013 with temperatures in the 50 degrees Fahrenheit.

Highlights and Key Observations of On-Site Meeting

During this visit, Springwood Elementary School representatives provided insight about students' travel to and from school and discussed what was working, or not working well. The meeting began by discussing current policies, programs, and administration related to students' travel to and from school. Examples of safety education programs discussed include crossing guards, safety patrols, and traffic education. Additionally, before- and after-school programs provided for students were discussed.

It was noted that overhead signs and flashing lights are located along Fred George Road. There are several restrictive access gates around campus for added safety and security. Students are permitted to arrive to school as early as 7:00am and there are after school programs available until 6:00pm. School representatives expressed their concerns for students walking or bicycling on Fred George Road before and after normal school commuting hours. It was also noted that students are taught bicycle safety as part of their Physical Education (P.E.) curriculum annually. However, parents have expressed their concern with children's safety due to high volumes of traffic on roadways, especially on Old Bainbridge Road.

There is one designated crossing guard located at the crosswalk in front of the school along Fred George Road. School staff and administrators serve as ushers for students at both the automobile drop-off/pick-up and school bus zones. Additionally, there are approximately 20 student safety patrols that assist with these functions as well as walk other children to and from class. During school commuting hours, temporary traffic control devices such as cones and signs are used for walkers as well as in the automobile zone.

Circulation

During a tour of the school, school representatives provided explanations of school circulation patterns as to where and how children were entering and exiting school grounds via walking or bicycle and arriving and departing by automobile or school bus.

The school is located in a newer residential area where the surrounding street patterns connect in way that doesn't allow many through connections between neighborhoods to the school. As a result, there are a limited number of students that walk or bicycle to/from school, as many must rely heavily on school busing and automobile rides. Walkers and bicyclists may enter campus from two locations; first, along Fred George Road and second, from the southeast corner of campus where there is a gated path that connects to North Settlers Boulevard via Brentshire Drive. School representatives estimate that approximately 26-30 students walk or bicycle to school. The school has two outdoor bicycle racks. The first is located near the main entrance of the school and has space for approximately 32 bicycles. The

second is located in the rear of the school and has space for approximately 15 bicycles. There were no bicycles parked during the site visit.

The school bus drop-off and pick-up zone functions adequately. There are ushers to help guide students arriving and departing school with minimal difficulty and conflict. The zone for arrival and departure is covered and leads directly to a walking facility. Additionally, there are multiple bus lanes to accommodate the five school buses in the mornings and the six school buses in the afternoons, as well as, the ten after school program vans. School representatives noted that a large portion of the students at the school ride school buses. Also, a few students commute by Star Metro public transit, whose stops are located in front of the school along Fred George Road.

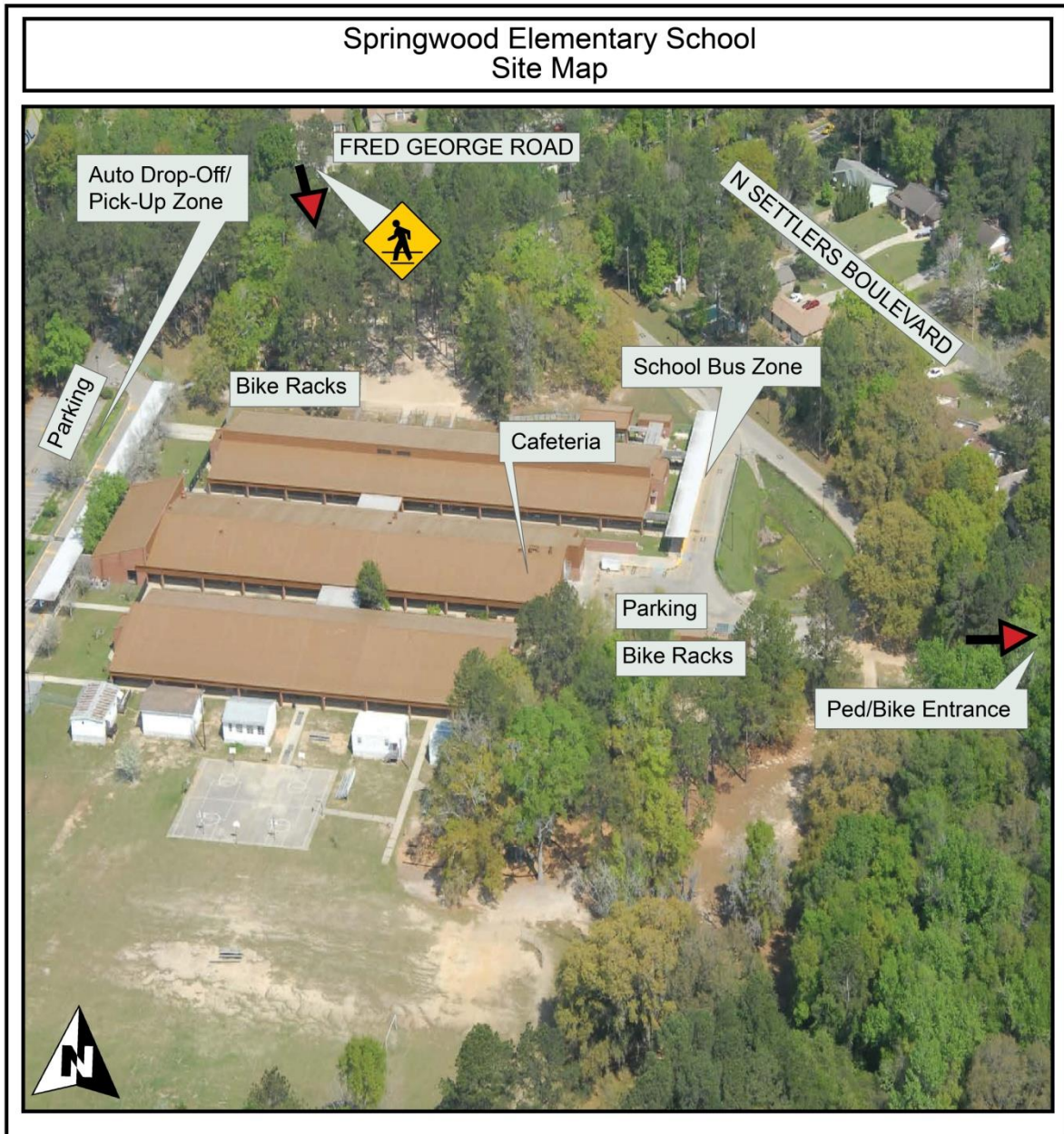
School representatives estimate that more than half of the students at the school arrive and depart by automobile each day. The parent drop-off and pick-up zone functions adequately to accommodate the volume of automobiles entering and exiting the site. Also, there is short-term parking available for those that want to walk their children to class. There is a covered holding area, with benches, for students waiting to be picked up. It was noted that some drivers reportedly drop-off students along the side of Fred George Road instead of going through the automobile zone. It was also observed, that no left turns are allowed at the exit of the automobile zone.

Inventory Map

An aerial photograph showing Springwood Elementary School is located on the following page. As shown in the photo, the school fronts Fred George Road. Students can access campus from either Fred George Road as well as Brentshire Drive (not pictured), southeast of the campus. Bicycle parking racks are located near the front entrance of the school as well as the southeast part of the campus.

Standard width sidewalks are located along the non-school side of Fred George Road and there is a midblock crosswalk that connects directly to a sidewalk that enters onto campus. There are no sidewalks along North Settlers Boulevard, a residential neighborhood east of campus.

The automobile pick-up and drop-off zone is located west of the school's main entrance. Automobiles both enter and exit the zone at a shared driveway along Fred George Road. Parking spaces are located in this area as well. The bus drop-off and pick-up zone is separately located along the east side of school. Buses both enter and exit the zone at a shared driveway along Fred George Road. Additional parking spaces are located in this area as well.



Issues and Opportunities

School-specific issues, opportunities, and impediments concerning the SRTS program were discussed.

Geography and parents' concerns with student safety appear to be the primary issues with students' ability to walk and bicycle to school. The neighborhoods surrounding the school are not well connected to the school due to the presence of cul-de-sacs and limited through streets. Further out from campus there are busy roadways that may not be appropriate for crossing by elementary school children, especially those at lower grade levels. These kind of external factors are often too difficult to overcome, at least in the short term.

With what opportunities that do exist to increase walking and bicycling, including student safety, consideration should be given to Fred George Road and Old Bainbridge Road. Traffic calming measures should be explored to reduce automobile speeds and increase awareness of children in the area, especially during school commuting times. Also, school-related and –supportive committees such as the Parent/Teacher Organization (PTO) or the Watch D.O.G.S. (Dads of Great Students) can be used to help educate parents on the opportunities and benefits to having their children walk or bicycle to school, where such options are feasible.

These groups can also help get the word out to parents concerning on-campus issues, such as appropriate behavior and protocol within the parent drop-off/pick-up zone, like not dropping off students along Fred George Road. Furthermore, these groups could help coordinate walking/bicycling groups before and after school to ease parents' and school staff's concerns with safety.

Chapter 3: Student Travel Survey – Summary of Results

School administrators carried out a school-wide travel survey to evaluate the ways in which students from Kindergarten through 5th Grade traveled to their school from home during a one week period. (A copy of the student travel survey can be found in **Appendix A.**)

Student travel survey results were counted and grouped by grade level. They were analyzed for the school as a whole as well as by grade level groupings of Kindergarten through 2nd Grade, and 3rd Grade through 5th Grade, respectively. (A detailed description of the analysis by mode for the two grade level groupings can be found in **Appendix B.**)

The survey indicates that the vast majority of students at Springwood Elementary School – approximately two out of three students – are dropped-off at school by car. The percentage rises slightly for younger-aged children, which is not uncommon. Riding a school bus and walking to school ranked a distant second and third place at approximately 29 percent and three percent of students, respectively. Of those commuting by school bus, about one-and-a-half times as many were older students from 3rd, 4th, and 5th grades. Surprisingly, the percentage of younger students walking was slightly higher than that of older students. A low percentage of students surveyed, only one percent each, arrived to school by biking or public bus. Of those biking and riding a public bus to school, three times as many were older-aged students.

SUMMARY OF SCHOOL-WIDE RESULTS

	Walk	Bicycle	Automobile	School Bus	Public Bus
Average Overall	3 %	1 %	66 %	29 %	1 %

Chapter 4: Parent Survey – Summary of Results

School administrators carried out a school-wide survey to better understand the neighborhood safety issues and concerns of parents and the factors influencing their decision to allow their children to walk or bicycle to school. (A copy of the parent survey can be found in **Appendix C.**)

Parent survey results were counted and analyzed by grade level groupings of Kindergarten through 2nd Grade and 3rd Grade through 5th Grade, respectively. (A detailed description of the parent surveys for the two grade level groupings can be found in **Appendix D.**)

The surveys of students living within two miles from the school indicate that a greater percentage of Springwood Elementary School students are dropped off by car to school in the morning, while fewer return home by the same mode in the afternoon. In the afternoon, there are greater percentages of students returning home by school bus, walking, or another mode not described specifically in the survey such as an after-school program van. Overall, a total of approximately 7% to 15% of students commutes to and from school by walking.

With regard to neighborhood safety, the concerns were generally agreed upon by parents from both Kindergarten through 2nd and 3rd through 5th. Survey respondents overall showed concerns for the condition and/or lack of sidewalks, as well as, the behavioral patterns of automobile drivers, generally, in terms of excessive driving speeds. As for speeding complaints, specific problem locations cited include Old Bainbridge Road and Fred George Road.

With regard to factors that might influence their decision to allow their child to walk or bike to school, survey responses indicate that factors such as having a greater adult presence along routes to school and enforcing speed limits in school zones were mutually agreed upon by parents from both Kindergarten through 2nd and 3rd through 5th.

Chapter 5: Neighborhood Field Review

A neighborhood field review was conducted on February 21st, 2013. The review consisted of an assessment of accessibility, connectivity and safety along neighborhood roadways within proximity to Springwood Elementary School. On the day of the field review, temperatures were in the mid 50 degrees Fahrenheit. Following the field review, a walk/bike shed area was delineated on a map within the school zone, surrounding the school. This chapter includes a Walk/Bike Shed section describing the approach to defining the area and an associated map for Springwood Elementary School.

Character of Neighborhood Area

Springwood Elementary is located an area comprised of mostly newer, larger lot single family residences and a few area of multifamily housing. However, the area west of Capital Circle NW is sparsely populated. The neighborhood street pattern throughout the residential areas is mostly cul-de-sacs and curved streets that rarely connect in any sort of gridded network. Where bicycle lanes and sidewalks do exist, they tend to only be located on one side of the street. Overall bicycle and pedestrian infrastructure could be improved in the area by providing new facilities along key routes to school and filling in the gaps of existing bike-ped infrastructure to provide better connectivity. However, it may be difficult to build bike-ped infrastructure along roads east of Old Bainbridge Road due to the narrowness of the streets and the presence of ditches on both sides of street. Interstate-10 serves as a major transportation barrier for younger children who live south of the roadway. Additionally, Capital Circle NW is a bike-ped barrier due to its complete lack of bike-ped infrastructure and high speeds.

Major roadways in the neighborhood include:

- Interstate 10, a mostly east-west, six lane roadway with a posted speed limit of 70mph.
- Monroe Street, a mostly north-south, 4-5 lane roadway with a posted speed limit between 40-45mph.
- Capital Circle NW, a two lane roadway that transitions to six lanes, as it nears Interstate-10, with a posted speed limit of 45mph.
- Old Bainbridge Road, a mostly north-south, two-lane roadway with a posted speed limit of 35mph or less.
- Fred George Road, an east-west, two lane roadway that transitions to four lanes east of St. Louis Church Way with a posted speed limit between 30-45mph.

Crash Data

Crash data were collected from the Florida Department of Transportation's (FDOT) State Safety Office for years 2009-2011. Crashes reported include any crashes within Leon County and on any local and major roadways. The data were collected for a typical school year, August 15th to May 30th. Additionally, only bicycle and pedestrian crashes that occurred during typical school commute hours, 7:00am to 9:30am and 1:50pm to 4:20pm, and school days, Monday to Friday, were examined.

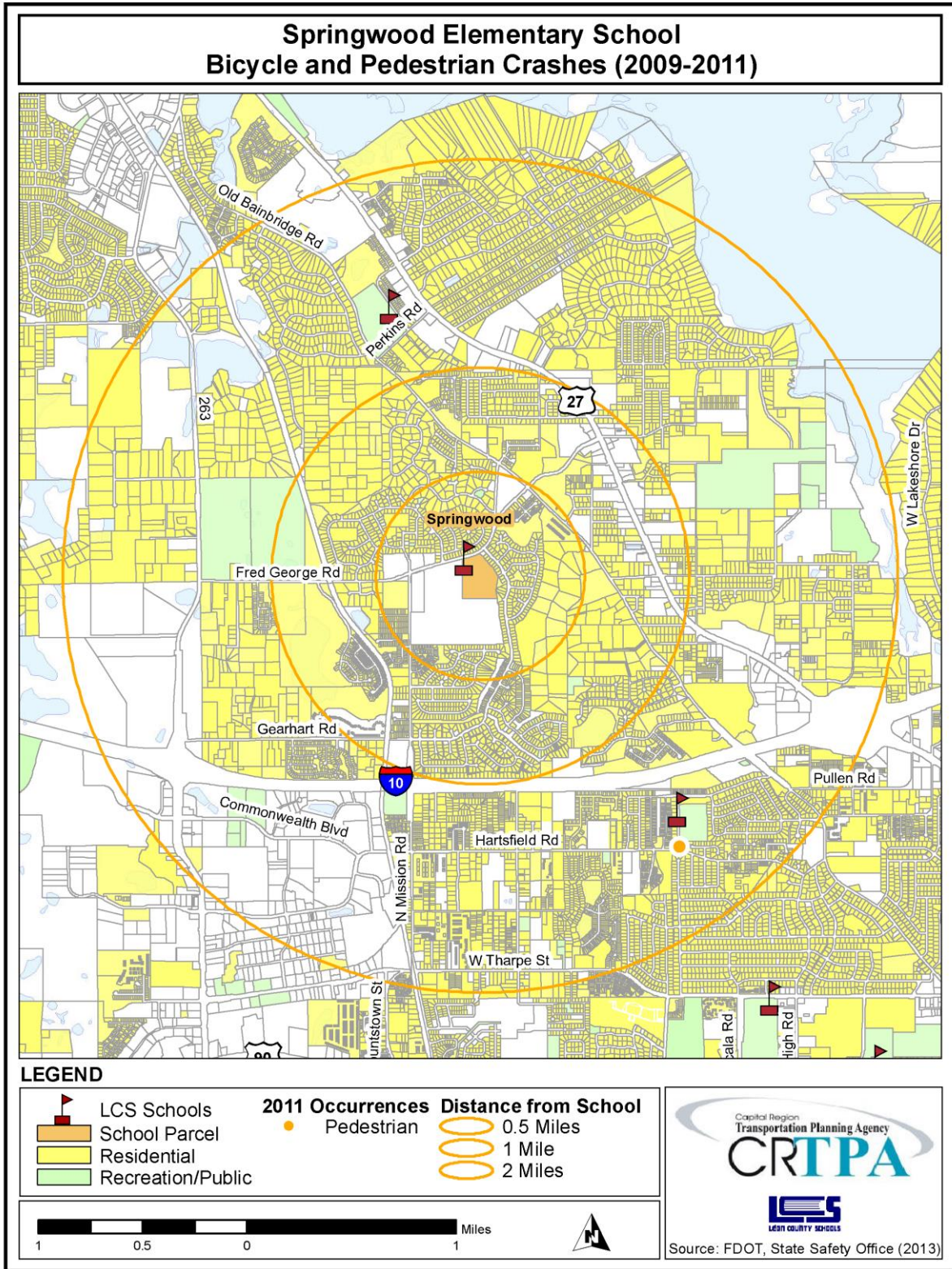
There was a total of one pedestrian crash that occurred within the theoretical two-mile walk/bike radius of Springwood Elementary School. The crash involved a pedestrian child on Atlas Road, approximately

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one and a half miles away from Springwood Elementary School, during the afternoon hours. Injuries were reported.

SUMMARY OF CRASH REPORTS (2009-2011)

Date	Time	Day	On Road	Nearest Intersection	Injury or Fatality?	Type of Crash	Person(s) Involved
11/16/11	4:10pm	Wednesday	Atlas Rd.	Hartsfield Rd.	Injury	Pedestrian	Child



Neighborhood Assessment

The overall neighborhood layout surrounding Springwood Elementary School does not lend itself particularly well to walkability. The presence of cul-de-sacs and limited through streets in the area reduce the amount of available route choices to access the school. Sidewalks and bicycle infrastructure are available on Fred George Road and North Mission Road, immediate near the school; however, there is a lack of sidewalk and bicycle infrastructure throughout the immediate adjacent residential neighborhood streets. Project-specific recommendations can be found in the Findings and Recommendations chapter of this report.

Walk/Bike Shed

As mentioned previously, a walk/bike shed area was delineated on a map within the school zone, surrounding the school. The Springwood Elementary School walk/bike shed map is included at the end of this chapter.

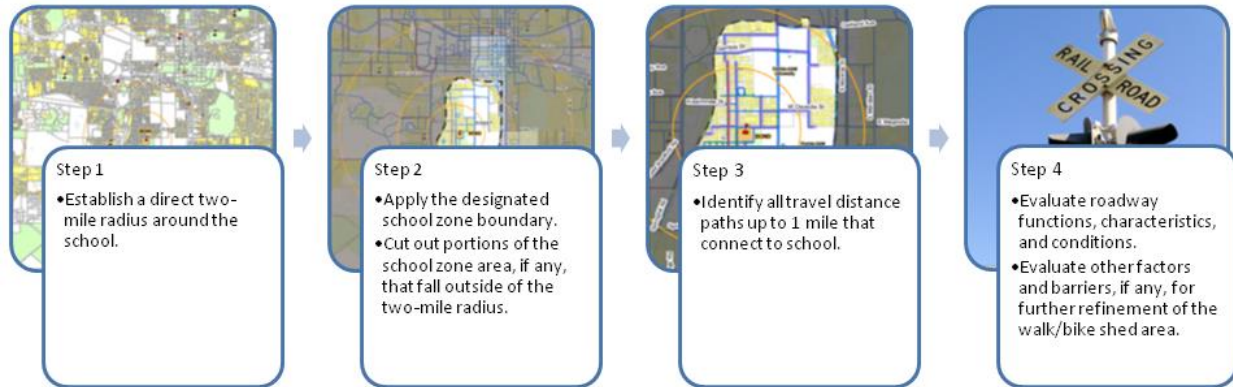
The walk/bike shed area and associated map are not meant to suggest that elementary school students of all ages, maturity level, and experience should commute to and/or from school within the area delineated. Certainly, younger children such as kindergarten students are not expected to walk or bike to school from practically any distance without the accompaniment of either a parent or much older sibling. Also, older children such as 5th graders without the appropriate experience or maturity level will likewise be more limited in their accessibility to school. Therefore, the walk/bike shed map functions more as a guide for parents, school administrators and students to evaluate and identify areas potentially commutable and conducive to walking and bicycling to school. The final decision to walk or bicycle to school is still at the discretion of the parents.

The walk/bike shed for Springwood Elementary School mostly extends north and west of the school. Old Bainbridge Road with its lack of bicycle and pedestrian accommodations forms the northeastern limits of the walk/bike shed, excluding one neighborhood just east of the roadway near Fred George Road. There is a railroad line just over one-half mile west of the school that contributes to the western limits of the walk/bike shed. The area south of the school is excluded from the walk/bike shed due to the lack of bicycle and pedestrian thru connections and limited residential land uses. Similarly, the area north of the Huntington Estates neighborhood is excluded from the walk/bike shed due to the lack of bicycle and pedestrian thru connections.

It should be noted that certain improvement recommendations could potentially expand the potential walk/bike shed area, due to improved conditions for walking and bicycling.

Methodology

Many factors were evaluated to ultimately determine the limits of the walk/bike shed area. The general methodology for identifying the shed included the following steps:



Evaluating Roadways

Four types of safety hazards were evaluated pertaining to roadways. They include:

- Sidewalks along roadways
- Roadways without sidewalks
- Roadway crossing points
- Railroad crossing points (along roadways)

Primary hazard conditions include, but are not necessarily limited to factors such as:

- Sidewalk width (where present)
- Separation between the walking/bicycling space and the vehicular travel space
- Intersection control measures for crossing
- Number of rail tracks (for railroad crossings)
- Traffic volume
- Traffic speed
- Roadway geometry
- Length of a hazardous condition present

Multiple factors are no doubt present for each hazard. And no two factors or situations are the same. This makes evaluation as much of an art as a science. Nonetheless, there are certain conditions in and of themselves that are considered decisive limitations to elementary school children walking and/or bicycling to school. Such conditions where walking and/or bicycling are deemed hazardous include the following. It should be noted that only one condition from either table needs to be met for a situation to be deemed hazardous.

Travel Along Roadways				
Sidewalk Type	Hazardous Conditions			
	Type of Road	Posted Speed Limit	Peak Hour Traffic	Length
< 2' wide sidewalk OR without sidewalk	All roadways other than local, neighborhood streets	N/A	N/A	Exceeding 0.5 miles in length
<= 3' wide sidewalk OR <= 4' separation from traffic	More than 2 travel lanes	Greater than 35 mph	Greater than 2,000	Exceeding 1 mile in length
> 4' wide sidewalk AND >= 4' separation from traffic	More than 4 travel lanes	Greater than 45 mph	Greater than 3,500	Exceeding 2 miles in length

Roadway Crossing Points				
Crosswalk Type	Hazardous Conditions			
	Type of Road	Posted Speed Limit	Peak Hour Traffic	Length
Unmarked Crosswalk	More than 2 travel lanes	Greater than 25 mph	Greater than 1,500	N/A
Unsignalized Crosswalk				
Marked Crosswalk	Greater than 4 travel lanes	Greater than 40 mph	Greater than 2,000	N/A
Signalized Crosswalk				

Hazardous Walking Conditions, as defined per Florida Statute

Section 1006.23 of the Florida Statutes defines hazardous walking conditions for elementary school-aged students commuting to and from school. While these guidelines are useful, the scope and intent of the State's language are fairly general and broad. The standards are mostly liberally applied to extreme situations. For example, a four-foot wide 'surface sufficient for walking' that is only three feet in distance from the edge of a curb-less roadway with a 55 mph posted speed limit would likely not meet the required criteria, per State Statute, for hazardous walking conditions for elementary-aged students walking to or from school. Most experts would agree that such conditions as described are likely too challenging for elementary students to handle.

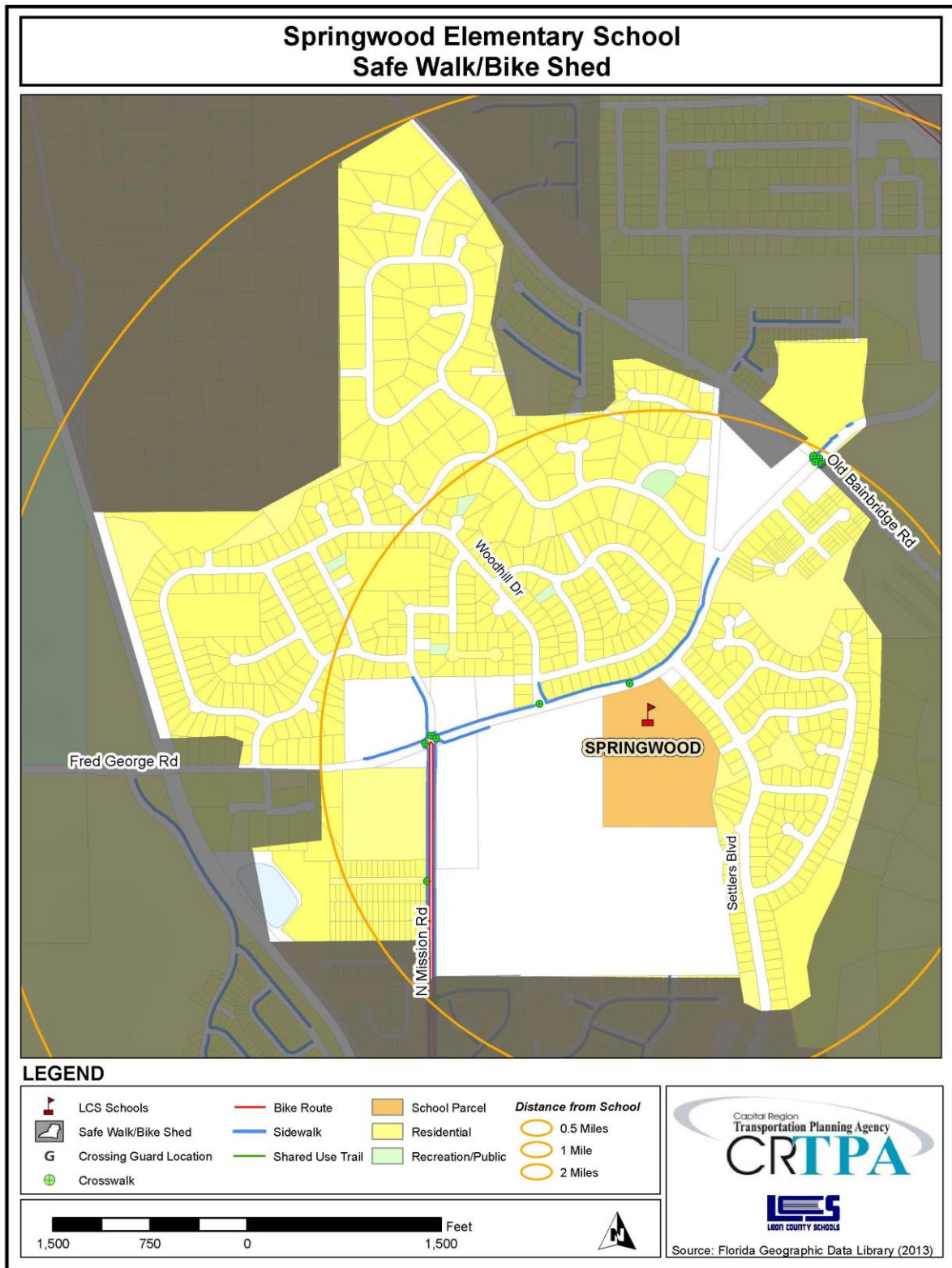
In determining a safe walking and bicycling area, this report applies a methodology and criterion that is more stringent than State standards and more in line with existing studies, research and opinions collected from numerous experts in the fields of pedestrian and bicycle transportation and safe routes to school planning. In addition, this report goes much further than simply identifying sidewalk/pathway

deficiencies; it also considers intersection conditions, pavement markings, signage, and a number of other attributes that can impact safe routes to school.

Evaluating Other Factors and Barriers

In addition to that identified above, information collected from the field review, anecdotal comments from parent surveys, discussions with school administrators and staff, and general research findings were applied to determine the ultimate walk/bike shed area commuting limits for the school. Such additional information evaluated included the following:

- Barriers such as water bodies and high-speed, restricted access highways
- Historic travel accident patterns
- Poor quality pedestrian infrastructure along routes
- Pathways of excessive length through nonresidential areas as well as excessive intersecting vehicular access drives



Chapter 6: Findings and Recommendations

The two existing points of access for walkers and bicyclists to Springwood Elementary School provide efficient access onto campus from all directions; however, there is the potential to add new sidewalks throughout the immediate neighborhood surrounding the school. While the streets are fairly well-connected they lack pedestrian and bicycle infrastructure to facilitate non-motorized commutes to/from Springwood. For those requiring automobile access, the current automobile circulation layout is adequate to accommodate the amount of vehicles entering and existing the school daily. Additional policy and programmatic recommendations that might help to increase safe walking and bicycling to and from school are also included for the school's consideration.

Infrastructure Improvements

The following recommendations supplement the current walk/bike shed area as delineated on the map, addressing infrastructure needs and improvements that would enhance walking and bicycling safety and convenience to and from Springwood Elementary School. They include both on- and off-site improvements as follows:

Springwood Elementary School On- and Off-Site Recommendations

Improvement: On-Site		Location	From	To	Geography	Direction	Length	Comments
A1	New sidewalk to Bike/Ped Gate	Rear of School	Existing sidewalk near basketball court	Brentshire Drive	Southeast side of campus	SW-NE	Approx. 490 feet	

Improvement: Off-Site		Location	From	To	Geography	Direction	Length	Comments
B1	Stripe Existing Crosswalk	Fred George Road	N/A		Directly in front of school	N-S	N/A	
B2	Remark Existing Crosswalk	Fred George Road	At Mission Road		South Crosswalk	E-W	N/A	Crosswalk is almost completely faded.
B3	New Sidewalk	North Settlers Blvd.	Fred George Road	Dead end of North Settlers Blvd.	West side of North Settlers Blvd.	N-S	Approx. 2,737 feet	
B4	New Sidewalk	Fred George Road	St. Louis Church Way	Stewart Way	North side of Fred George Road	SW-NE	Approx. 580 feet	Note: Included in County's Pedestrian Master Plan
B5	New Crosswalk	Fred George Road	At St. Louis Church Way		North side of Fred George Road	SW-NE	N/A	In conjunction with B4
B6	Speed Enforcement Device	Fred George Road	East of Woodhill Drive; East of North Settlers Drive		Eastbound; Westbound	N/A	N/A	Note: City responsibility
B7	Bus Stop Improvement	Fred George Road	At Star Metro bus stop near existing crosswalk		South side of Fred George Road	N/A	N/A	Install a bench
B8	Stripe Existing Crosswalks (4)	Fred George Road	At Old Bainbridge Road		N/A	N/A	N/A	

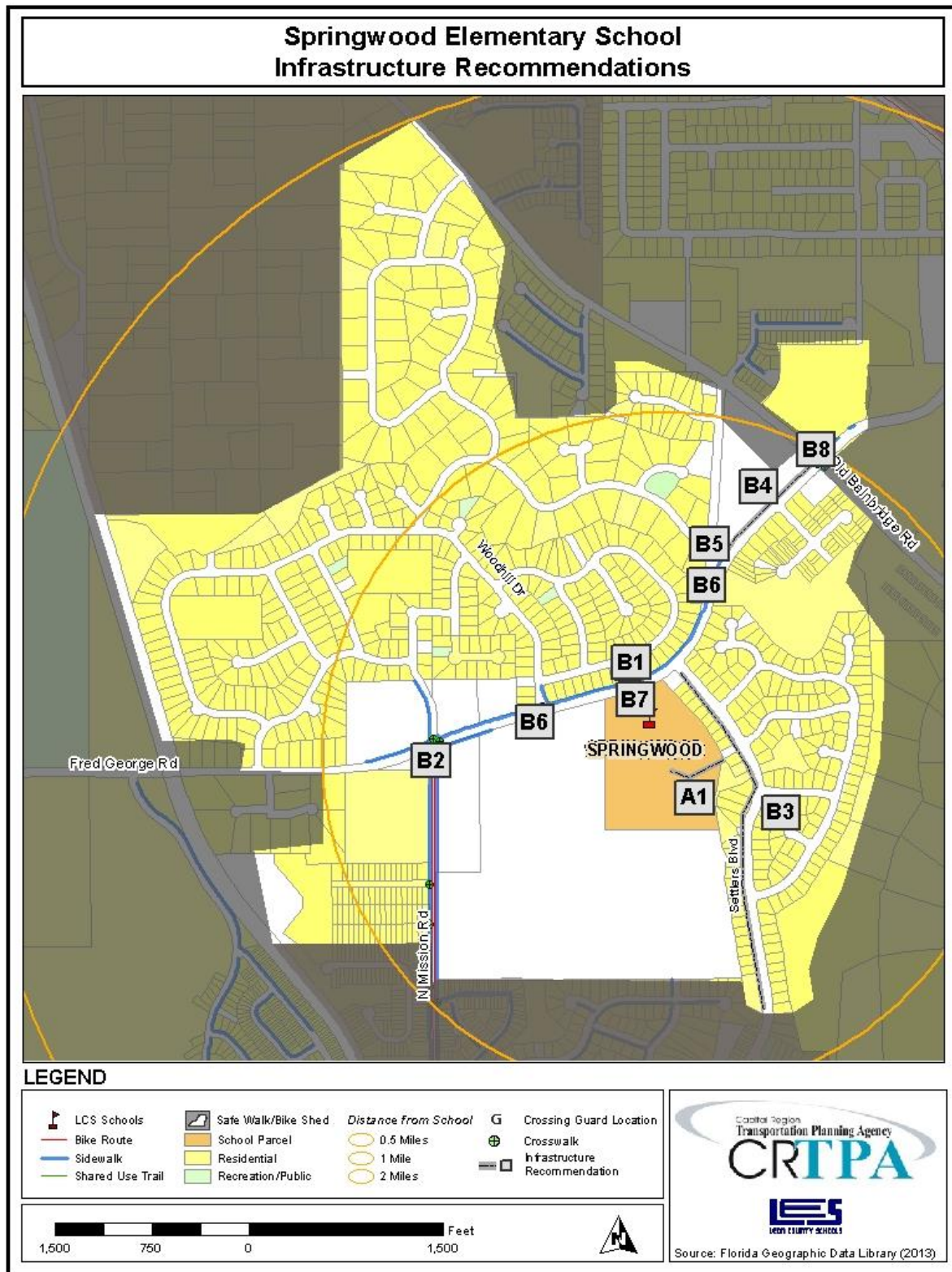
The table, above, corresponds to an infrastructure recommendations map on the following page.

On-Site Recommendations

- A1) Construct a new sidewalk from the existing campus sidewalk to the Brentshire Drive bicycle/pedestrian gate to aid those students who use this path to/from school.

Off-Site Recommendations

- B1) Stripe the existing crosswalk in front of the school along Fred George Road to help make motorists more aware of pedestrians/bicyclists who may be trying to cross the road.
- B2) Remark the existing crosswalk, on the south side, at the intersection of Fred George Road & Mission Road. The crosswalk is almost completely faded and difficult for motorists to see.
- B3) Construct a new sidewalk on North Settlers Boulevard from Fred George Road to the dead-end of North Settlers Boulevard. This will aid students who use the Brentshire Drive bike/ped gate to access the neighborhood east of the school.
- B4) Construct a new sidewalk on Fred George Road from St. Louis Church Way to Stewart Way. This project will connect the existing sidewalks on either side of this segment along Fred George Road.
- B5) **(In conjunction with B4)** Add a new crosswalk on the north side of the Fred George Road & St. Louis Church Way intersection to aid students using this route to/from school.
- B6) Install a speed enforcement device along Fred George Road, alternately, East of Woodhill Drive and East of North Settlers Drive to make drivers more aware of their speeds in the school zone and address parent's concerns of speeding vehicles along the roadway.
- B7) Improve the existing bus stop directly in front of the school along Fred George Road by adding a bench for students to sit on while they wait for the bus in the afternoons. Student surveys revealed that there are students at the school who use Star Metro bus service to commute home in the afternoons.
- B8) Stripe the existing four crosswalks at the intersection of Fred George Road & Old Bainbridge Road to help make motorists more aware of pedestrians/bicyclists who may be trying to cross the road.



Programs

- C1) Walk and bicycle encouragement literature – Send home literature to parents, as well as make it available on the school website, about the benefits of children walking and bicycling to school. Information and statistics from the National Safe Routes to School organization can be used to highlight health and safety benefits. The literature provided to parents should highlight some specific examples of how parents and the community can make walking and bicycling to school safe and fun. Examples of programs to promote walking and bicycling include encouraging parents to coordinate with other parents to establish walking and bicycling groups (i.e. buddy programs and walking school buses) to help ease safety concerns; participating in Walk/Bike to School Days; or creating a mileage club where students or entire classrooms keep track of how much they walk or bike to school to compete for prizes or certificates.
- C2) Bicycle safety and accessibility workshop – While bicycle safety is taught through Physical Education (P.E.) curriculum, it would be beneficial to organize and hold a workshop or a bike rodeo that demonstrates bicycle safety topics, catered to younger children, such as bicycle hand signals, how to properly wear a bicycle helmet, and properly obeying traffic signs/signals. Parents and students should be reminded that under Florida Law, anyone under the age of 16 must wear a bicycle helmet. An on-campus bicycle obstacle course that covers skills such as avoiding obstacles, balancing at slow speeds, turning, and making emergency stops can be very helpful for young riders. Additionally, a group bicycle ride, through the neighborhood surrounding the school, can be a safe and fun way to get children more comfortable with their built environment and any obstacles they may encounter en route to school. Local community groups, as well as, university clubs and organizations, Leon County Sheriff's Office, and Leon County Public Schools may be willing to donate time and/ or supplies such as bikes, helmets, and locks for workshops and rodeos if contacted.
- C3) Parent drop-off/pick-up zone protocol encouragement– Send home literature to parents, as well as make it available on the school website, about the proper drop-off and pick-up process for the school, particularly at the start of a new school year or after an extended school break. Maps of the drop-off/pick-up zone, as well as, the traffic flow pattern can be very helpful to parents. The literature available to parents should remind them to be patient and courteous to other parent drivers and clearly discourage parents from letting children out in the parking lot before the drop zone or releasing them on the side of Fred George Road. Providing small rewards, such as stickers or pencils, to students whose parents follow the proper drop-off/pick-up process is typically more beneficial than punishing improper behavior.
- C4) Additional crossing guards- While a crossing guard is available at the crosswalk directly in front of the school, it would also be helpful to have crossing guards available at the intersection of Fred George Road & Mission Road as well as at Fred George Road & Old Bainbridge Road.

Policies

- D1) Bike check and security – School policies to encourage bicycle riding could include having a school official or parent volunteer at the bike rack in the morning and afternoon to check-in and

check-out students parking their bikes. The adult assigned to handle check-in and check-out will assist with locking the bike in the morning and will unlock the bike for the students in the afternoon. The existing bike rack is in a relatively secure, visible spot; however, theft is still a concern. The school should consider investing in basic, school-owned bike locks that can be applied when students check-in. By having locks available at school, students do not need to remember to bring one each day. Basic locks can be purchased fairly cheap.

- D2) Supervision at ped/bike entrance/exit – The ped/bike gate to/from Brentshire Drive provides a good connection to the neighborhood immediately east of the school. However, it is partially wooded and somewhat hidden. Having a school official or parent volunteer near the bike/ped entrance may encourage more students to use this connection to/from school.

Planning-Level Cost Estimates

Planning-level cost estimates are included in the table, below. They are intended to be used as a guide. Specific, detailed cost estimates for individual projects will require closer assessment of project conditions and constructability at the time of improvement.

General Unit Cost Estimates¹

Item	Assumptions	Unit	Average Unit Cost (\$)
sidewalk	concrete sidewalk (5' wide)	linear foot	32
sidewalk	concrete sidewalk + curb (5' wide)	linear foot	150
shared-use path	multi-use trail – paved (at least 8' wide)	mile	481,140
shared-use path	multi-use trail – unpaved (at least 8' wide)	mile	121,390
pavement symbol	pedestrian crossing	Each	360
pavement symbol	shared lane/bicycle marking	each	180
pavement symbol	school crossing	each	470
paved shoulder	asphalt material	square foot	5.56
crosswalk	high visibility crosswalk (ladder or zebra striping)	each	2,540
crosswalk	standard parallel lines crosswalk	each	770
signage	bike route sign	each	160
signage	stop/yield sign	each	300
signage	no turn on red (standard metal sign)	each	220
signage	no turn on red (electronic sign)	each	3,200
signage	trail regulation sign	each	160
flashing beacon	standard beacon (system + labor/materials)	each	10,010
flashing beacon	rectangular rapid flashing beacon (system + labor/materials)	each	22,250
ped hybrid beacon	high intensity activated crosswalk (HAWK) signal	each	57,680
ped/bike detection	push button	each	350
signal	audible pedestrian signal	each	800
signal	countdown timer module	each	740

¹ Bushell, M. A., Poole, B. W., Zegeer, C. V., & Rodriuez, D. A. (2013). *Costs for Pedestrian and Bicyclist Infrastructure Improvements: A Resource for Researchers, Engineers, Planners, and the General Public*. Federal Highway Administration.

Chapter 7: Conclusion

While the neighborhood immediately surrounding Springwood Elementary School enjoys a fairly well-connected roadway network consisting mostly of low-volume residential streets, it doesn't correlate to high walking and bicycling commuting rates for students. Overall, approximately three percent of students commute to and from school by walking, while about one percent commutes to and from school by bicycle. The reasons for low walking and bicycling rates to school were revealed from information garnered from the parent survey results as well as meetings with school representatives. Overall, when it comes to allowing their children to walk or bicycle to and from school, parents primarily expressed concerns with the condition and/or lack of sidewalks as well as speeding vehicles on Old Bainbridge Road and Fred George Road. However, parents indicated that having a greater adult presence along routes to school and enforcing speed limits in school zones were factors that might influence their decision to allow their children to walk or bicycle to school.

Opportunities to improve student walking and bicycling rates are rooted primarily in informational and educational programmatic solutions included in this audit report. For students who will continue to commute by automobile as well as those outside of a safe walking and bicycling distance, suggested literature for proper drop-off and pick-up process at the school has been provided. Recommended infrastructure improvements are centered primarily on sidewalk projects and crosswalk improvements along key roadways.

Springwood Elementary School has a sizeable student population within a reasonable walking and bicycling distance. With the suggested program and infrastructure measures, the school should be able to improve walking and bicycling safety and increase non-motorized commuting rates.

Appendices

Appendix A: Student Travel Survey

Leon County Schools

STUDENT TRAVEL SURVEY

NAME OF SCHOOL: _____

Dear Teacher:

Your help is needed to assist with a school-wide survey of how students travel to and from school each day. Beginning Monday, for each day of that week, please record the number of children in your class that came to school by school bus, city bus, car, bicycle, or by walking. Please send the results back to the office on this form, along with your name and class grade, and number of students present each day.

Please follow the script below to gather the information from your students. (The students should only be raising their hands for one mode of travel):

- 1) If you walked to school today, raise your hand.
- 2a) If you rode a bicycle to school today, raise your hand.
 - b) If you used a bicycle helmet today, raise your hand.
- 3a) If you came in a car, with either your parents or with someone else, raise your hand.
 - b) If you used your seat belt in a car today, raise your hand.
- 4) If you came by school bus, raise your hand.
- 5) If you came by city bus, raise your hand.

Day of Week	Number of Students					
	Question 1	Question 2a/b		Question 3a/b		Question 4
Day 1						
Day 2						
Day 3						
Day 4						
Day 5						

TEACHER'S NAME: _____ GRADE: _____

DATE: _____ NUMBER OF STUDENTS IN CLASS TODAY: _____

Please complete and return this form to the principal's office FRIDAY. This information will allow us to better plan ways for our children to get to and from school each day.

Note to Principals:

Please reproduce and distribute this form to all homeroom or 1st period teachers at your school. It is important that **all classes are surveyed on the same day**. Project consultants will collect all survey forms the following week. THANK YOU.

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Appendix B: Student Travel Survey – Detailed Analysis

The survey consisted of a one-page sheet with a script of questions for homeroom teachers to read to students as they took morning attendance. Surveys were conducted each morning during a typical week of the school year for a total of five straight days, Monday to Friday. The script prompted teachers to ask and record the number of children in their class that came to school by walking, bicycling, car, school bus, or city bus. The student travel survey was conducted in February, 2013. Twenty-five classrooms participated in the survey for a total of 448 student responses recorded. In a few instances, surveys were conducted within overlapping multiple grade level classrooms. Those instances are noted where relevant to the data results.

SUMMARY OF STUDENT TRAVEL SURVEY POPULATION

Total Number of Participating Classrooms	25
Total Students Surveyed (K-5th)	448
Total K-2nd Students Surveyed	223
Total 3rd-5th Students Surveyed	225

Walking and Bicycling

Students were first asked if they walked to school. Then students were asked if they rode a bicycle to school. Students that rode their bike to school were further asked if they wore a bicycle helmet.

Walking and Bicycling School-Wide Travel Patterns

The school-wide student travel surveys indicate that the walk-to-school average for the week ranged from 2% to 3%, with an overall average of 3%. Overall, the bike-to-school average for the week ranged from 0% to 3%, with an overall average of 1%. Of the students that bike to school, an overall average of 48% wore a bicycle helmet. In total, the combined walk-bike average for the week ranged from 2% to 6%, with an overall average of 4%.

SUMMARY OF WALKING AND BICYCLE SCHOOL-WIDE TRAVEL PATTERNS

	Walk	Bicycle	Helmet Use	Total Walk + Bike
Average Overall	3 %	1 %	48 %	4 %
Highest Day	3 %	3 %	100 %	6 %
Lowest Day	2 %	0 %	8 %	2 %

Walking and Bicycling Travel Patterns of Younger-Aged Children (K – 2nd Grade)

The younger-aged (K-2nd) children student travel surveys indicate that the walk-to-school average for the week ranged from 3% to 3%, with an overall average of 3%. None of the students surveyed reported biking to school. In total, the combined walk-bike average for the week ranged from 3% to 3%, with an overall average of 3%.

SUMMARY OF YOUNGER-AGED CHILDREN WALKING AND BICYCLE TRAVEL PATTERNS (K-2nd)

	Walk	Bicycle	Helmet Use	Total Walk + Bike
Average Overall	3 %	0 %	N/A	3%
Highest Day	3 %	0 %	N/A	3 %
Lowest Day	3 %	0 %	N/A	3 %

Walking and Bicycling Travel Patterns of Older-Aged Children (3rd – 5th Grade)

The older-aged (3rd-5th) children student travel surveys indicate that the walk-to-school average for the week ranged from 1% to 3%, with an overall average of 2%. Overall, the bike-to-school average for the week ranged from 0% to 6%, with an overall average of 3%. Of the students that bike to school, an overall average of 48% wore a bicycle helmet. In total, the combined walk-bike average for the week ranged from 1% to 8%, with an overall average of 5%.

SUMMARY OF OLDER-AGED CHILDREN WALKING AND BICYCLE TRAVEL PATTERNS (3rd-5th)

	Walk	Bicycle	Helmet Use	Total Walk + Bike
Average Overall	2 %	3 %	48 %	5 %
Highest Day	3 %	6 %	100 %	8 %
Lowest Day	1 %	0 %	8 %	1 %

Bus and Automobile Drop-Off

Students were asked if they arrived to school by automobile, with either their parents or someone else. Students that arrived by automobile to school were further asked if they had wore their seat belt. Additionally, students were asked if they arrived to school by bus, including either Leon County School buses or Star Metro public transit buses.

Bus and Automobile School-Wide Travel Patterns

The school-wide travel surveys indicate that the automobile-to-school average for the week ranged from 63% to 70%, with an overall average of 66%. Of the students that ride to school in an automobile, an overall average of 82% wore a seatbelt. Overall, the school bus-to-school average for the week

ranged from 27% to 30%, with an overall average of 29%. The public bus-to-school average for the week ranged from 0% to 3%, with an overall average of 1%.

SUMMARY OF BUS AND AUTOMOBILE DROP-OFF SCHOOL-WIDE TRAVEL PATTERNS

	Automobile	Seat Belt	School Bus	Public Bus
Average Overall	66 %	82 %	29 %	1 %
Highest Day	70 %	84 %	30 %	3 %
Lowest Day	63 %	78 %	27 %	0 %

Bus and Automobile Travel Patterns of Younger-Aged Children (K – 2nd Grade)

The younger-aged (K-2nd) children student travel surveys indicate that the automobile-to-school average for the week ranged from 72% to 73%, with an overall average of 73%. Of the students that ride to school in an automobile, an overall average of 78% wore a seatbelt. Overall, the school bus-to-school average for the week ranged from 24% to 25%, with an overall average of 24%. None of the students surveyed reported riding a public bus to school.

SUMMARY OF YOUNGER-AGED CHILDREN BUS & AUTOMOBILE DROP-OFF TRAVEL PATTERNS (K-2nd)

	Automobile	Seat Belt	School Bus	Public Bus
Average Overall	73 %	78 %	24 %	0 %
Highest Day	73 %	81 %	25 %	0 %
Lowest Day	72 %	76 %	24 %	0 %

Bus and Automobile Travel Patterns of Older Children (3rd – 5th Grade)

The older-aged (3rd-5th) children student travel surveys indicate that the automobile-to-school average for the week ranged from 53% to 65%, with an overall average of 59%. Of the students that ride to school in an automobile, an overall average of 87% wore a seatbelt. Overall, the school bus-to-school average for the week ranged from 29% to 35%, with an overall average of 34%. The public bus-to-school average for the week ranged from 0% to 5%, with an overall average of 3%.

SUMMARY OF OLDER-AGED CHILDREN BUS & AUTOMOBILE DROP-OFF TRAVEL PATTERNS (3rd-5th)

	Automobile	Seat Belt	School Bus	Public Bus
Average Overall	59 %	87 %	34 %	3 %
Highest Day	65 %	89 %	35 %	5 %
Lowest Day	53 %	84 %	29 %	0 %

Appendix C: Parent Survey

Leon County Schools

PARENT SURVEY

Dear Parents: In an effort to improve traffic safety in and around our schools, we are looking for ways to reduce the amount and speed of cars, improve walking and bicycling conditions and encourage enforcement and safety education programs. Please help us by providing your opinions to the following questions. **The name of my child's school is:** _____.

1. Please provide the sex, age and grade of your child:

Sex: Male Female

Age: _____

Grade: _____

2. Approximately how far do you live from your child's school? (*circle closest answer*):

- 1. 1/2 mile or less
- 2. 1/2 mile to 1 mile
- 3. between 1 and 2 miles
- 4. over 2 miles

If you live over two miles from the school, please stop here and turn in your survey. Thank you for participating. If you live within two miles of the school, please help us by completing the questions on the following pages.

3. How does your child usually go to and from school: (*place a check on the appropriate line*)

	In the morning?	In the afternoon?
a. School bus	_____	_____
b. Car	_____	_____
c. Walk	_____	_____
d. Bicycle	_____	_____
e. City bus	_____	_____
f. Other (please explain)	_____	_____

4. Please identify specific safety problems of concern to you in your neighborhood or around your child's school (*i.e. broken sidewalks, crime areas, high-speed vehicles, etc.*) and indicate the street locations:

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5. Which of the following factors would influence your decision to allow your child to walk or bicycle to school. On a scale of 1 to 5 (1= not important to 5= very important), please rate each statement's importance as it applies to your child. If the statement does not apply, circle "NA".

I would allow my child to walk or bicycle to school more often if:	Not Important			Very Important		Not Applicable
a) Accompanied by other children	1	2	3	4	5	NA
b) Accompanied by myself or other parents	1	2	3	4	5	NA
c) Schools provided more walking and bicycling safety training for students	1	2	3	4	5	NA
d) Additional crossing guards were provided at busy intersections	1	2	3	4	5	NA
e) Crossing guards were more effective	1	2	3	4	5	NA
f) There were continuous sidewalks or bike paths from my neighborhood to school	1	2	3	4	5	NA
g) There were bicycle/pedestrian pathways separated from traffic from the neighborhood to the school	1	2	3	4	5	NA
h) We lived closer to school	1	2	3	4	5	NA
i) Speed limits were strictly enforced in school speed zones	1	2	3	4	5	NA
j) School speed zones were marked with flashing signs	1	2	3	4	5	NA
k) School speed zones were a greater distance surrounding school	1	2	3	4	5	NA
l) The school provided a secure place for storing bicycles	1	2	3	4	5	NA
m) There was a greater adult presence of parent volunteers or police officers along walk routes to school	1	2	3	4	5	NA
n) There was better street lighting along walk routes to school	1	2	3	4	5	NA
o) Please write below any additional factors that might influence you to let your child walk or bicycle to school more often:						

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Appendix D: Parent Survey – Detailed Analysis

The survey consisted of a one-page double-sided sheet of paper with five questions for parents to answer. Survey copies were sent home with students early in the week. They were instructed to deliver the survey to their parents (or guardians), asking them to complete the survey and send it back with their children by the end of the week.

Parents were first asked general demographic questions pertaining to the sex and age of their child, as well as grade level. Then, parents were asked approximately how far they lived from their child's school. Families living over two miles from school were instructed to return the survey without completing the remainder of questions pertaining to walking and bicycling to school. Those claiming to reside within two miles were asked, next, how their child typically gets to and from school (for morning and afternoon, respectively). Then, they were asked to identify any safety problems of concern in their neighborhood. Finally, parents were asked to consider a range of safety and convenience factors, and how each factor might influence their decision to allow their child to walk or bike to school.

The parent surveys were conducted during the winter/spring semester of 2013. There were 84 parent surveys returned. Of those, 54 (64%) claimed to reside within the theoretical two-mile walk/bike radius of the school. Surveys from families residing within the theoretical two-mile walk/bike radius were split nearly 65/35 by grade level grouping, with 35 students representing Kindergarten through 2nd Grade, and 19 students representing 3rd Grade through 5th Grade.

SUMMARY OF PARENT SURVEY PARTICIPATION

Total Enrollment	611
Total Number of Parent Surveys	84
Total Number within 2 Miles (K-2nd Grade)	35
Total Number within 2 Miles (3rd-5th Grades)	19
Percentage of Surveys within 2 Miles	64 %

Commuting to/from School

Parents were asked how their child usually traveled to and from school, in the morning and afternoon. Choices of travel modes included: school bus, car, walk, bicycle, public bus, and other (where they were asked to explain).

SUMMARY OF SCHOOL-WIDE COMMUTING RESULTS

Morning	Average Overall
Car	65 %
School Bus	24 %
Walk	7 %
Other	4 %
Bicycle	0 %
Public Bus	0 %
Afternoon	
Car	54 %
School Bus	30 %
Walk	15 %
Other	2 %
Bicycle	0 %
Public Bus	0 %

Commuting Patterns of Younger-Aged Children (K – 2nd Grade)

The surveys of parents of younger-aged (K-2nd grade) indicate that the car-to-school average for a typical week is 71% in the morning and decreases to 60% in the afternoon. The school bus-to-school average for a typical week is 20% in the morning and increases to 29% in the afternoon. The walk-to-school average for a typical week is 6% in the morning and increases to 9% in the afternoon. The alternative commute mode-to-school average for a typical week is 3% in both the morning and afternoon. None of the students rode a bicycle or public bus in the morning or afternoon.

COMMUTING PATTERNS OF YOUNGER-AGED CHILDREN (K-2nd)

Morning	Average Overall
Car	71 %
School Bus	20 %
Walk	6 %
Other	3 %
Bicycle	0 %
Public Bus	0 %
Afternoon	
Car	60 %
School Bus	29 %
Walk	9 %
Other	3 %
Bicycle	0 %
Public Bus	0 %

Commuting Patterns of Older-Aged Children (3rd – 5th Grade)

The surveys of parents of older-aged (3rd-5th grade) indicate that the car-to-school average for a typical week is 53% in the morning and decreases to 42% in the afternoon. The school bus-to-school average for a typical week is 32% in both the morning and afternoon. The walk-to-school average for a typical week is 11% in the morning and increases to 26% in the afternoon. The alternative commute mode-to-school average for a typical week is 5% in the morning. However, none of the students used an alternative commute mode in the afternoon. None of the students rode a bicycle or public bus in the morning or afternoon.

COMMUTING PATTERNS OF OLDER-AGED CHILDREN (3rd-5th)

Morning	Average Overall
Car	53 %
School Bus	32 %
Walk	11 %
Other	5 %
Bicycle	0 %
Public Bus	0 %
Afternoon	
Car	42 %
School Bus	32 %
Walk	26 %
Other	0 %
Bicycle	0 %
Public Bus	0 %

Neighborhood Safety Concerns

Parents were asked to identify specific safety problems of concern in their neighborhood or around their child's school including problems such as broken sidewalks, crime areas, high speed vehicles, etc.). They were also asked to indicate specific street locations, where possible. Parents provided answers anecdotally. Summaries of the top neighborhood safety concerns are provided. The table below includes the top neighborhood safety concerns expressed by survey respondents.

SUMMARY OF TOP RANKING NEIGHBORHOOD SAFETY CONCERNS

Neighborhood Safety Concern	Number of Comments
Issues with Sidewalks/Walking	12
Speeding Vehicles	12

Neighborhood Safety Concerns For Younger-Aged Children (K – 2nd Grade)

Neighborhood safety concerns for parents of younger-aged (K-2nd) children include three main concerns including issues with sidewalks/walking, speeding vehicles, and transportation outside of the school zone. There were approximately ten concerns regarding issues with sidewalks and walking. General concerns include the lack of sidewalks, broken sidewalks, and unmaintained trees on sidewalks. Specific locations where sidewalks and walking tend to be a problem are Fred George Road and North Monroe Street. Additionally, there were approximately nine comments of concern regarding issues with speeding vehicles. Specific locations where high-speed vehicles tend to be a problem are Old Bainbridge Road, Fred George Road, and North Monroe Street. Lastly, there were approximately four comments of concern regarding issues with transportation outside of the school zone. General concerns include high traffic volumes and bus stops located on major roads. Additionally, one parent mentioned problems with the walk signs at the intersection of Fred George Road & Old Bainbridge Road.

SUMMARY OF TOP NEIGHBORHOOD SAFETY CONCERNS (K-2nd Grade)

Neighborhood Safety Concern	Number of Comments
Issues with Sidewalks/Walking	10
Speeding Vehicles	9
Issues with Transportation Outside of School Zone	4

Neighborhood Safety Concerns For Older-Aged Children (3rd – 5th Grade)

Neighborhood safety concerns for parents of older-aged (3rd-5th) children include issues with speeding vehicles, sidewalks/walking, and crime. There were approximately three comments of concern regarding issues with speeding vehicles. Specific locations where speeding vehicles tend to be a problem are Old Bainbridge Road, Fred George Road, as well as, the Westover Subdivision. Additionally, there were two comments of concern regarding issues with sidewalks and walking. Specific concerns include the lack of sidewalks on Old Bainbridge Road and Fred George Road. Lastly, there were two comments of concern regarding issues with crime. General concerns include bullying at bus stops and areas that are wooded and unsupervised.

SUMMARY OF TOP NEIGHBORHOOD SAFETY CONCERNS (3rd-5th Grade)

Neighborhood Safety Concern	Number of Comments
Speeding Vehicles	3
Issues with Sidewalks/Walking	2
Issues with Crime	2

Factors Influencing Decisions to Allow Students to Walk or Bicycle to School

Parents were asked about 15 different factors related to their children walking or biking to school. Parents rated each statement's importance on a scale of 1 to 5 (1=Not Important to 5=Very Important), as it applied to their child, to determine what influenced their decision to allow their child to walk or bike to school. If statements did not apply, parents marked N/A (Not Applicable).

SUMMARY OF TOP RANKING SCHOOL-WIDE INFLUENTIAL FACTORS RESULTS

	SCALE	1	2	3	4	5	N/A
I would allow my child to walk or bicycle to school more often if:							
<i>#1 There was a greater adult presence of parent volunteers or police officers along walk routes to school</i>		1	0	1	2	28	8
<i>#2 Speed limits were strictly enforced in school speed zones</i>		1	0	2	3	27	7

Influential Factors for Younger-Aged Children (K – 2nd Grade)

Parents of children in Kindergarten through 2nd grade agreed that the top five influential factors to allow their child to walk or bicycle to school more often included factors related to accompanying children (by themselves/other parents), having a greater adult presence along routes to school, enforcing speed limits in school zones, having separate bicycle/pedestrian pathways from traffic, and the availability of crossing guards.

TOP RANKING INFLUENTIAL FACTORS FOR YOUNGER-AGED CHILDREN (K-2nd)

	SCALE	1	2	3	4	5	N/A
I would allow my child to walk or bicycle to school more often if:							
<i>#1 Accompanied by myself or other parents</i>		0	0	0	2	19	3
<i>#2 There was a greater adult presence of parent volunteers or police officers along walk routes to school</i>		0	0	1	2	17	4
<i>#3 Speed limits were strictly enforced in school speed zones</i>		0	0	2	3	16	3
<i>#3 There were bicycle/pedestrian pathways separated from traffic from the neighborhood to the school</i>		0	2	1	2	16	3
<i>#3 Additional crossing guards were provided at busy intersections</i>		0	1	1	2	16	4

Influential Factors for Older-Aged Children (3rd – 5th Grade)

Parents of children in 3rd through 5th grade agreed that the top six influential factors to allow their child to walk or bicycle to school more often included factors related to having a greater adult presence along routes to school, better street lighting, enforcing speed limits in school zones and marking zones with flashing signs, providing more walking and bicycling safety training for students, and having continuous bicycle/pedestrian pathways.

TOP RANKING INFLUENTIAL FACTORS FOR OLDER-AGED CHILDREN (3rd-5th)

	SCALE	1	2	3	4	5	N/A
I would allow my child to walk or bicycle to school more often if:							
<i>#1 There was a greater adult presence of parent volunteers or police officers along walk routes to school</i>		1	0	0	0	11	4
<i>#1 There was better street lighting along walk routes to school</i>		1	0	0	0	11	4
<i>#1 Speed limits were strictly enforced in school speed zones</i>		1	0	0	0	11	4
<i>#2 Schools provided more walking and bicycling safety training for students</i>		1	0	0	2	9	4
<i>#2 School speed zones were marked with flashing signs</i>		1	0	1	1	9	4
<i>#2 There were continuous sidewalks or bike paths from my neighborhood to school</i>		2	0	0	0	9	5