August 2014

Safe Routes to School Audit Report
Leon High School

Leon County Public Schools

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Acknowledgements

Renaissance Planning Group and Wendy Grey Land Use Planning, LLC would like to thank the following organizations for their input, guidance, and resources in developing this Safe Routes to School Audit report for Leon High School.

Capital Region Transportation Planning Agency (CRTPA)

Safe Routes to School (SRTS) National Partnership

Leon County Public Schools (LCS)

Florida Department of Transportation (FDOT)

Leon County Sheriff's Office (LCSO)

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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 polices. 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 parent self-reported surveys, on-site meetings with school officials, and field reviews.

School Overview

Leon High School is located at 550 East Tennessee Street, Tallahassee, 32308 in Leon County, Florida. It is part of the Leon County Public Schools system. The school is one of the oldest high schools in the country and is on the U.S. National Register of Historic Places. It was originally founded in 1831 as *Leon Academies* then became the Leon County Graded and High School in 1903. In 1911, the current school building was constructed and became Leon High School. The school offers honors, Advanced Placement courses, as well as, vocational programs. In addition the school offers around 34 athletic groups and over 44 clubs. Regular school hours are from 7:30am to 1:50pm.

The number of students enrolled at the school, for the 2013 school year, was 1,845. The school has a current capacity for 1,942 students. The school includes grade levels 9th to 12th grade.

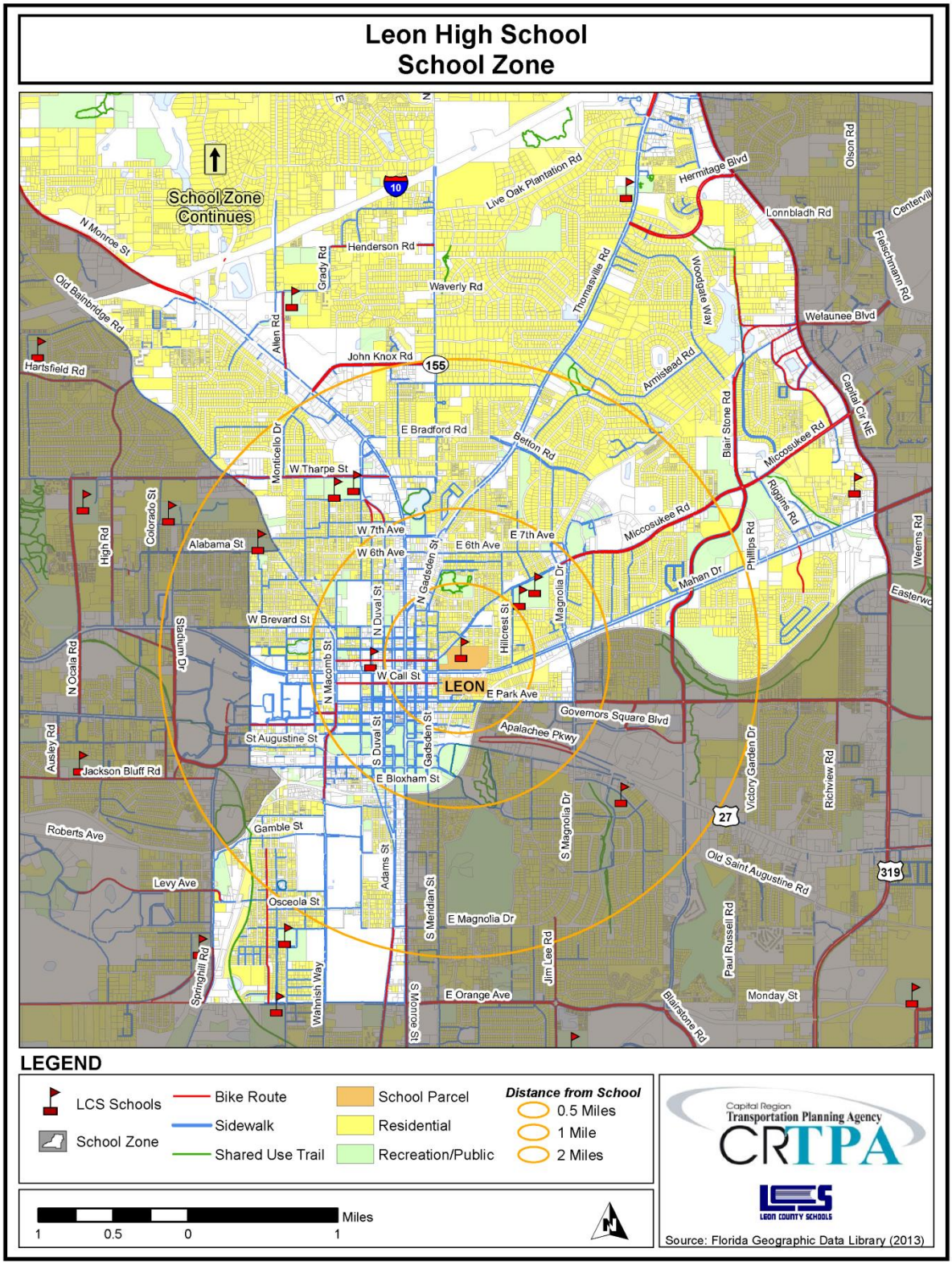
Students attending this school feed from Bond, Canopy Oaks, Gilchrist, Hartsfield, Kate Sullivan, Pineview, Riley, Ruediger, and Sealey Elementary Schools and Cobb, Griffin, Nims, and Raa Middle Schools.

School Zone

The Leon High school zone, located in central Leon County, encompasses the neighborhoods of Frenchtown, Midtown West, Town and Country, Lakeshore, Maclay Hammock, Live Oak Plantation, Betton Hills and other neighborhoods near downtown Tallahassee. Florida State University and Florida Agricultural & Mechanical University are encompassed in the southern portion of the school zone. In addition to Florida State University and Florida Agricultural & Mechanical University, land uses in the school zone consist of mostly residential and recreational. The presence of the universities near the school influences the demographic makeup of the area, with a significant amount of housing occupied by college students. The area north of Interstate-10 is mostly part of unincorporated Leon County.

The Leon school zone includes six major roadways. Interstate-10 runs east to west and bisects the zone into north and south. Thomasville Road runs mostly north to south through downtown Tallahassee. Miccosukee and Mahan Drive run mostly parallel southwest to northeast in the southern portion of the

zone. Capital Circle Northeast runs mostly north to south and borders the zone to the east. North Monroe Street runs northwest to southeast and borders the zone to the west. There are approximately ten other Leon County schools within the Leon school zone. Important recreational facilities within the school zone include Myers's Park, Governor's Park, Lafayette Park, Winthrop Park, Guyte P. McCord Park, Lake Jackson Mounds Park, Alfred B. Mcclay State Park, Dorothy B. Oven Park, and Waverly Pond Park. There are a variety of shared-use trails and bike routes that are important non-motorized shared-use transportation amenities that traverse throughout the school zone, connecting the school to areas throughout downtown Tallahassee and nearby neighborhoods.


Leon High School
School Zone
School Zone Continues
N Monroe St
Old Bainbridge Rd
Hartsfield Rd
Henderson Rd
Waverly Rd
Grady Rd
Allen Rd
John Knox Rd
155
Live Oak Plantation Rd
Hermitage Blvd
Olson Rd
Lonnbladh Rd
Centerville
Fleischmann Rd
Welaunee Blvd
Thomasville Rd
Woodgate Way
Armistead Rd
Capital Cir NE
Blair Stone Rd
Miccosukee Rd
Riggins Rd
Phillips Rd
Weems Rd
Monticello Dr
E Bradford Rd
Betton Rd
W Tharpe St
W 7th Ave
W 6th Ave
E 6th Ave
E 7th Ave
Alabama St
High Rd
Colorado St
N Gadsden St
Magnolia Dr
Mahan Dr
W Brevard St
N Duval St
Hillcrest St
Stadium Dr
N Ocala Rd
W Call St
LEON
E Park Ave
N Macomb St
Governors Square Blvd
Apalachee Pkwy
St Augustine St
S Duval St
Gadsden St
Ausley Rd
Jackson Bluff Rd
E Bloxham St
Victory Garden Dr
Richview Rd
27
Roberts Ave
Gamble St
S Magnolia Dr
Old Saint Augustine Rd
319
Levy Ave
Osceola St
Adams St
S Meridian St
E Magnolia Dr
Paul Russell Rd
Springhill Rd
Wahnish Way
Jim Lee Rd
S Monroe St
E Orange Ave
Monday St
Blairstone Rd
LEGEND
LCS Schools
School Zone
Bike Route
Sidewalk
Shared Use Trail
School Parcel
Residential
Recreation/Public
Distance from School
0.5 Miles
1 Mile
2 Miles
Miles
1
0.5
0
1
Capital Region Transportation Planning Agency
CRTPA
LEON COUNTY SCHOOLS
Source: Florida Geographic Data Library (2013)

Chapter 2: On-Site Meeting and Inventory

Date and Weather Conditions

The on-site inventory meeting was conducted on February 26th, 2013 with temperatures in the mid 60 degrees Fahrenheit.

Highlights and Key Observations of On-Site Meeting

During this visit, Leon High 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 and traffic education. Additionally, before- and after-school programs provided for students were discussed.

It was noted that there courses available that teach students about automobile safety (Driver's Education) and the importance of staying active (Physical Education and Health). Students arrive to school as early as 6:30am, even though staff supervision does not officially begin until 7:00am. After-school programs, clubs, and sports are available until 6:30pm-7:00pm. The school's Safety Resource Officer (SRO) stated that there is an issue with speeding automobiles on Tennessee Street.

Additionally, school staff noted that there are issues with students crossing mid-block along Tennessee Street instead of crossing at a signal, even though there are multiple signs around the area on campus that state "Please Use Crosswalk." There is also a conflict between eastbound traffic on Tennessee Street turning north when pedestrians are trying to cross the street.

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.

While the school is located in a dense, established residential neighborhood, there are few students who walk or bicycle to school either due to the distance from their homes to school, since high school zones are so large in size, or because of the dignified "rite-of-passage" of being able to drive themselves to school. Walkers and bicyclists can enter campus from two points along East Tennessee Street as well as one entrance, behind the school, along East Georgia Street. The school has one bicycle rack located between buildings near the school bus zone that has space for approximately 11 bicycles. It was noted by school staff that only 2-3 students bike to school.

The school bus drop-off and pick-up zone functions with minimal difficulty or conflict despite its narrowness and alley-like design. A total of 13 school buses use the uncovered zone daily. In the afternoons, school buses are loaded and clear out within about 10 minutes of the school day ending. It was also noted that there are approximately 30-50 students that ride Star Metro buses daily.

While a majority of the students drive themselves to school, there are two main parent drop-off and pick-up zones at the school. Additionally, there is a small drop-off and pick-up area on the northeast side

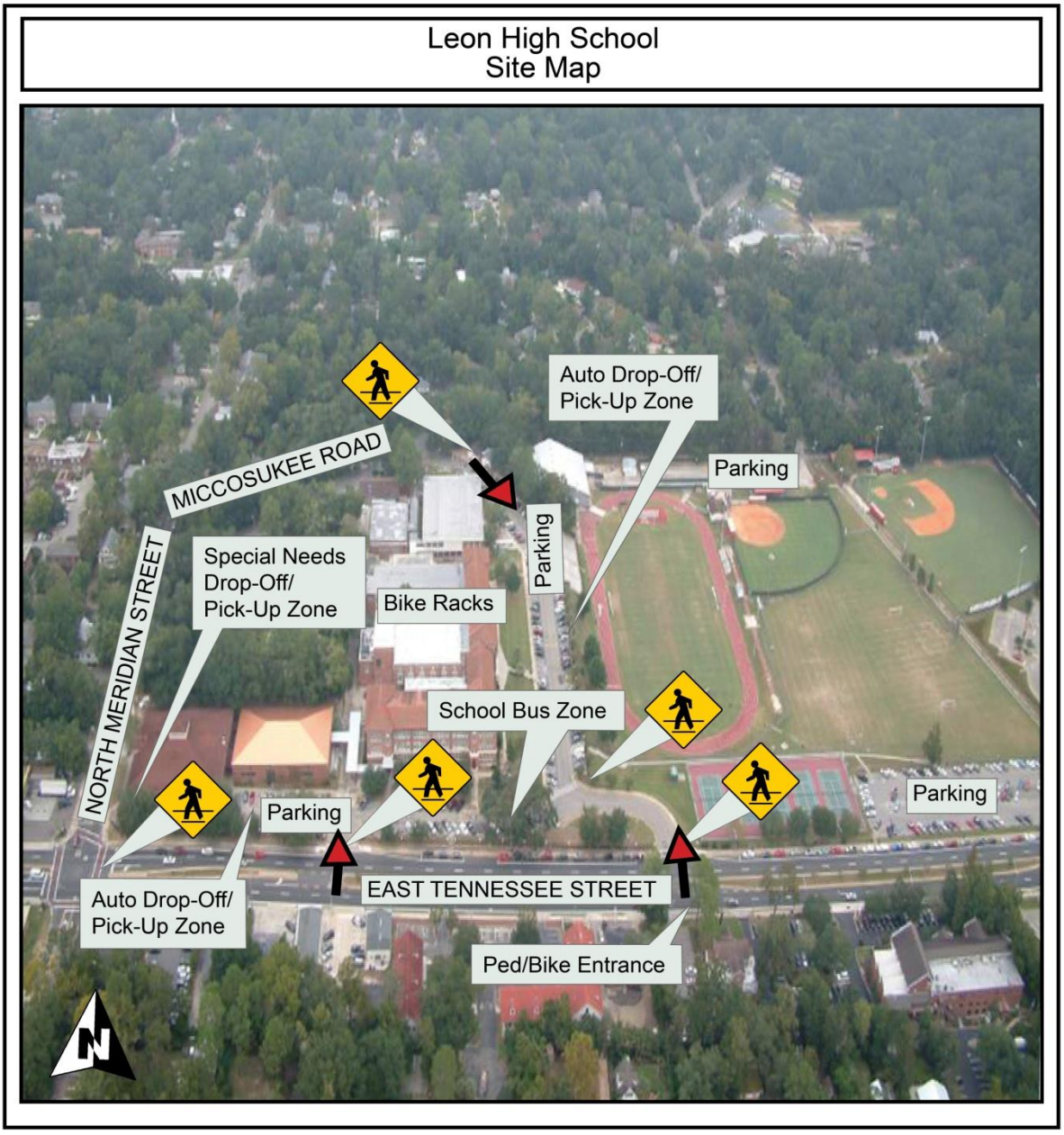
of North Meridian Street & Tennessee Street dedicated to special needs students. The main parent drop-off and pick-up zones are located near the school bus ramp and teacher parking area. These areas are uncontrolled and there is no holding area for students waiting to be picked-up in the afternoons. There have been some issues with parents dropping off students at the special needs students' loading/unloading area along North Meridian Street. Additionally, there have been some complaints by surrounding neighbors in regards to parking issues.

Inventory Map

An aerial photograph showing Leon High School is located on the following page. As shown in the photo, the school fronts East Tennessee Street. Students can access campus from this street as well as from East Georgia Street, behind the school. Bicycle parking racks are located between buildings, off the bus alley-way.

Standard width sidewalks are located along both sides of East Tennessee Street. Additionally, there are sidewalks along both sides of North Meridian Street until Miccosukee Road where it transitions to just one side of the street. Along Miccosukee Road, there are standard width sidewalks available on the school-side of the street. There are no sidewalks present along either side of East Georgia Street, in the rear of the school. There are also several crosswalks surrounding the school property.

There are two automobile pick-up and drop-off zones located at the school. These are located near the school bus ramp and teacher parking area. There is also a small pull-out bay where automobiles may enter and exit along North Meridian Street to drop-off and pick-up special needs students. The bus drop-off and pick-up zone is separately located along the main entrance of the school along East Tennessee Street. Buses both enter and exit from separate driveways to East Tennessee Street. Parking spaces are located in this area as well. Additional parking spaces are located east of the school, near the tennis courts, and in the rear of the school.


Leon High School
Site Map
MICCOSUKEE ROAD
NORTH MERIDIAN STREET
Auto Drop-Off/
Pick-Up Zone
Parking
Parking
Special Needs
Drop-Off/
Pick-Up Zone
Bike Racks
School Bus Zone
Parking
Parking
Auto Drop-Off/
Pick-Up Zone
EAST TENNESSEE STREET
Ped/Bike Entrance
N

Issues and Opportunities

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

Geography and a teenage "rite-of-passage" appear to be the primary issues with students' ability to walk and bicycle to school. Since high school zones are so large in size, students often live more than two miles away from their home which can create a distance that is too long to walk or bicycle to school within a reasonable amount of time. Additionally, many students tend to enjoy being able to drive themselves to school since they have never been able to in the past and had to rely upon others. Many students also participate in after-school clubs and sports that require them to bring additional items from home. Thus, it may be harder to walk or bicycle with these extra items. These kind of external factors are often 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 Tennessee Street. Traffic calming measures should be explored to reduce automobile speeds and increase awareness of students in the area, especially during school commuting times. Also, school-related and –supportive committees such as the Parent/Teacher Organization (PTO) 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 protocol for dropping-off and picking-up students, as well as the importance of following speed limits especially along Tennessee Street. Furthermore, these groups can help emphasize the importance of crossing the street at a signal instead of mid-block, to students. Education and enforcement during the morning and afternoon commuting hours are critical.

Chapter 3: 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 A**.)

Parent survey results were counted and analyzed by grade level groupings of 9th through 12th Grade. (A detailed description of results for the parent surveys can be found in **Appendix B**.)

The surveys of students living within two miles from the school indicate that a greater percentage of Leon High School students arrive by car in the morning, while fewer return home by the same mode in the afternoon. The car-to-school average for a typical week is 70% in the morning and decreases to 63% in the afternoon. In the afternoon, there are greater percentages of students returning home by walking school bus. Overall, approximately one-tenth of students in the morning and one-fifth of students in the afternoon commute to and from school by walking or biking. The school bus-to-school average for a typical week is 15% in the morning and 11% in the afternoon. The walk-to- school and bike-to-school averages for a typical week are 7% and 2% in the morning and 17% and 2% in the afternoon, respectively. The public bus-to-school average for a typical week is 2% in both the morning and afternoon. None of the students used an alternative commute mode in the morning or afternoon.

Neighborhood safety concerns for parents of high-school-aged (9th-12th) children include two main concerns including issues with speeding vehicles and crime. There were approximately six comments of concern regarding issues with speeding vehicles. Specific locations where high-speed vehicles tend to be a problem are North Monroe Street and in the school zone. Additionally, there were four comments of concern regarding issues with crime. General concerns include gangs, wild dogs, known crime areas, and the isolation of the streets in the back of the school. A specific location where crime tends to be a problem is East 4th Avenue.

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 continuous and separated bicycle/pedestrian pathways, the availability of crossing guards, and marking school speed zones with flashing signs were agreed upon by parents from 9th-12th grade.

Chapter 4: Neighborhood Field Review

A neighborhood field review was conducted on April 10th, 2013. The review consisted of an assessment of accessibility, connectivity and safety along neighborhood roadways within proximity to Leon High School. On the day of the field review, temperatures were in the 70 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 Leon High School.

Character of Neighborhood Area

Leon High is located in a dense, established residential area primarily comprised of single-family homes. The neighborhood has a well-connected pattern of mostly gridded streets which contributes to the school's accessibility. In the area directly surrounding the school, bike-ped connectivity is good. The grid layout, slower speed limits, and bike-ped infrastructure make this area a comfortable space to walk and bike. Because of the school's proximity to Florida State University and Florida Agricultural & Mechanical University, there is a strong university student presence in the area south portion of the school. A CSX railroad line south of Mahan Drive presents a significant barrier to walking and biking to neighborhoods southeast of the school zone.

Major roadways in the school zone include:

- Interstate-10, a heavily traveled east-west six lane roadway with a posted speed limit of 70mph.
- Capital Circle, a heavily traveled north-south roadway with six lanes and a posted speed limit between 40-45mph.
- Thomasville Road, a north-south two lane roadway with a center turn lane, with a posted speed limit between 40-45mph.
- Miccosukee Road, a southwest-northeast two lane roadway with a posted speed limit of 35mph or less.
- Tennessee Street, which turns into Mahan Drive, is a mostly east-west roadway that transitions from a four lane less than 35mph roadway to a six lane 40-45mph east of Magnolia Drive.
- North Monroe Street, a northwest-southeast four lane roadway with a posted speed limit of 35mph or less.

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 were a total 27 bicycle and pedestrian crashes that occurred within the theoretical two-mile walk/bike radius of Leon High School. Of those total crashes, 8 (30%) occurred during the morning hours and 19 (70%) occurred during the afternoon hours. A vast majority of the crashes involved adult

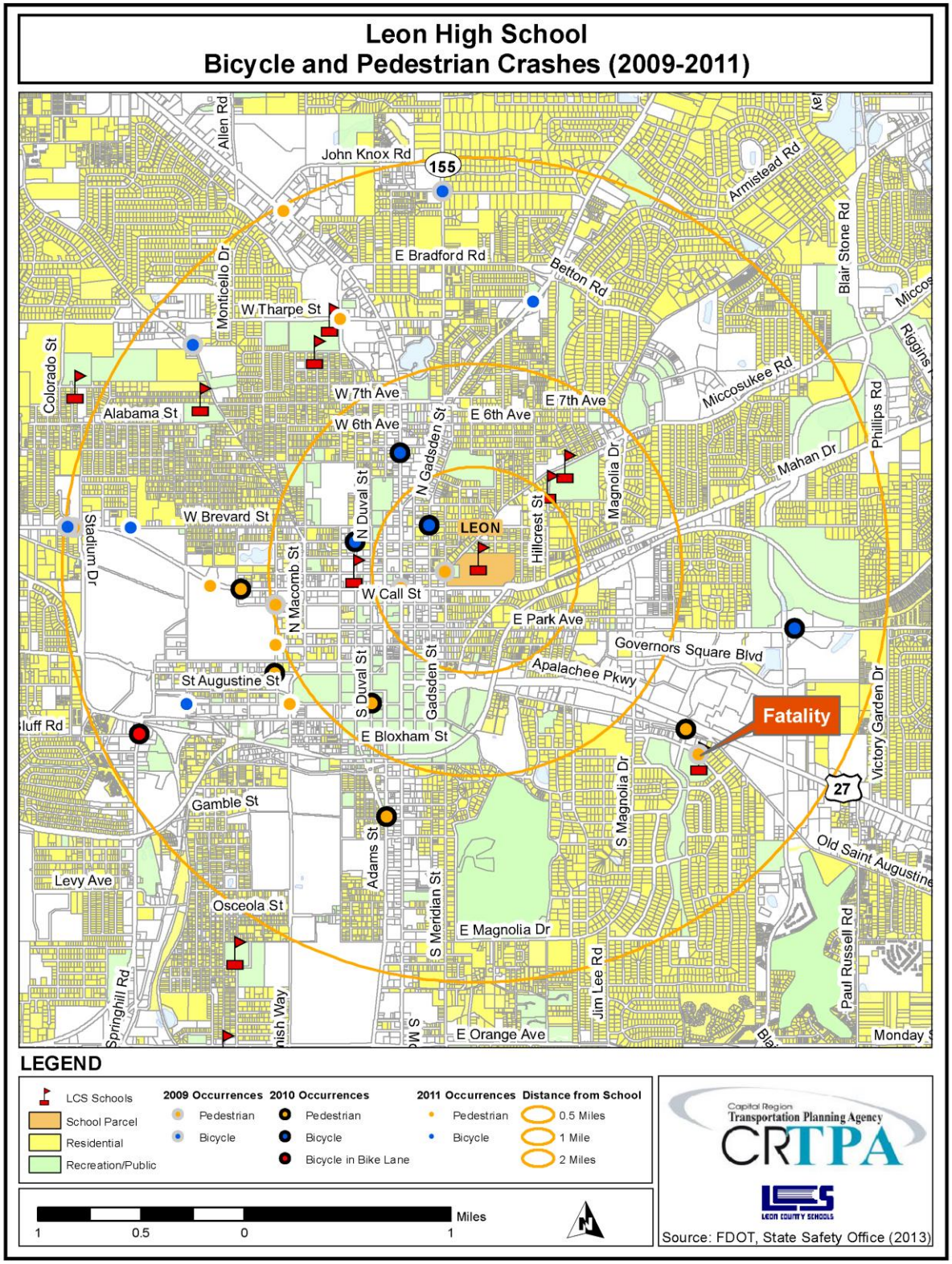
pedestrians. However, there were a few incidents of crashes involving bicyclists and children. Injuries were reported in all but three crashes. Additionally, one crash resulted in a child fatality.

Most of the crashes were approximately one-half to two miles west of Leon High School, in an area mainly comprised of downtown Tallahassee and Florida State University campus. Streets where crashes tend to be a problem are Monroe Street North, Tennessee Street, Duval Street, and Georgia Street. Other streets that tend to be a problem in the immediate vicinity of the school include North Meridian Street and Brevard Street. The child fatality occurred on Chowkeebin Nene.

SUMMARY OF CRASH REPORTS (2009-2011)

Date	Time	Day	On Road	Nearest Intersection	Injury or Fatality?	Type of Crash	Person(s) Involved
01/09/09	7:06am	Friday	1414 Chowkeebin Nene	N/A	Fatality	Pedestrian	Child
01/09/09	3:02pm	Friday	Tennessee St.	Monroe St.	Injury	Pedestrian	Adult
02/10/09	3:20pm	Tuesday	Meridian Rd.	Virginia St.	Injury	Pedestrian	Child
04/22/09	8:15am	Wednesday	Call St. W	Copeland St.	Injury	Pedestrian	Adult
04/29/09	8:27am	Wednesday	Tennessee St.	Bryan St.	Injury	Pedestrian	Adult
05/05/09	4:07pm	Tuesday	Old Bainbridge Rd.	Knots Ln.	Injury	Bicyclist	Adult
09/16/09	4:11pm	Wednesday	Tennessee St.	Campus Cir.	Injury	Bicyclist	Adult
09/23/09	3:13pm	Wednesday	S Ride	Meridian Rd.	Injury	Bicyclist	Adult
01/06/10	8:09am	Wednesday	Lafayette St.	Indianhead Dr.	Injury	Pedestrian	Adult
03/01/10	2:51pm	Monday	Gadsden St. N	Brevard St. E	Injury	Bicyclist	Adult
05/27/10	8:06am	Thursday	Madison St.	Duval St.	Injury	Pedestrian	Adult
09/06/10	2:09pm	Monday	Tennessee St.	Dewey St. N	Injury	Pedestrian	Adult
09/09/10	3:54pm	Thursday	Monroe St.	4th Ave.	Injury	Bicyclist	Child
10/04/10	2:14pm	Monday	Lake Bradford Rd.	Jackson Bluff Rd.	No Injury	Bicyclist in Bike Lane	Adult
10/26/10	3:46pm	Tuesday	Pensacola St.	Copeland St. S	No Injury	Pedestrian	Adult
11/17/10	3:35pm	Wednesday	Bronough St. N	Georgia St. W	Injury	Bicyclist	Adult
11/19/10	8:27am	Friday	Park Ave. E	Blairstone Rd. S	Serious Injury	Bicyclist	Adult
12/29/10	3:12pm	Wednesday	Adams St.	Jennings St.	Serious Injury	Pedestrian	Adult
01/07/11	2:15pm	Friday	US 27	Silver Slipper Ln.	Injury	Pedestrian	Adult
01/11/11	2:35pm	Tuesday	Academic Way	Territory Way	Injury	Pedestrian	Adult
01/19/11	3:43pm	Wednesday	Copeland St.	College Ave.	Injury	Pedestrian	Adult

Date	Time	Day	On Road	Nearest Intersection	Injury or Fatality?	Type of Crash	Person(s) Involved
02/08/11	3:32pm	Tuesday	Madison St.	Railroad Ave.	Injury	Pedestrian	Adult
02/14/11	2:15pm	Monday	Brevard St.	Richmond St.	No Injury	Bicyclist	Adult
02/16/11	4:05pm	Wednesday	Madison St.	Woodward Ave. S	Injury	Bicyclist	Adult
03/01/11	3:40pm	Tuesday	Thomasville Rd.	Glenview Rd.	Injury	Bicyclist	Adult
04/29/11	8:10am	Friday	Duval St.	Madison St.	Injury	Pedestrian	Adult
08/22/11	8:35am	Monday	W Tharpe St. Rd.	MLK Blvd.	Injury	Pedestrian	Adult


Leon High School
Bicycle and Pedestrian Crashes (2009-2011)
John Knox Rd
155
Allen Rd
Monticello Dr
E Bradford Rd
Betton Rd
Armistead Rd
Blair Stone Rd
W Tharpe St
Colorado St
Alabama St
W 7th Ave
W 6th Ave
E 6th Ave
E 7th Ave
Miccosukee Rd
Phillips Rd
Mahan Dr
N Gadsden St
N Duval St
Magnolia Dr
Hillcrest St
W Brevard St
Stadium Dr
LEON
W Call St
N Macomb St
E Park Ave
Governors Square Blvd
Apalachee Pkwy
St Augustine St
S Duval St
Gadsden St
E Bloxham St
Fatality
Victory Garden Dr
27
Gamble St
S Magnolia Dr
Old Saint Augustine
Levy Ave
Adams St
Osceola St
S Meridian St
E Magnolia Dr
Springhill Rd
Jim Lee Rd
Paul Russell Rd
E Orange Ave
Monday
LEGEND
LCS Schools
School Parcel
Residential
Recreation/Public
2009 Occurrences
Pedestrian
Bicycle
2010 Occurrences
Pedestrian
Bicycle
Bicycle in Bike Lane
2011 Occurrences
Pedestrian
Bicycle
Distance from School
0.5 Miles
1 Mile
2 Miles
Miles
1
0.5
0
1
Capital Region Transportation Planning Agency
CRTPA
LEON COUNTY SCHOOLS
Source: FDOT, State Safety Office (2013)

Neighborhood Assessment

The overall neighborhood layout surrounding Leon High School lends itself well to walkability. The well connected gridded street network allows for multiple route choices to access the school. In addition, there is a fairly comprehensive existing sidewalk infrastructure throughout the immediately adjacent neighborhood streets; however, there are still many residential streets without sidewalks and bicycle infrastructure is only available along Miccosukee Road. Although the infrastructure reaches some neighborhoods further away, much of it is along the major roadways and, thus, poses, safety concerns for students walking and bicycling. Project-specific recommendations can be found in the Findings and Recommendations chapter of this report.

Walk/Bike Shed

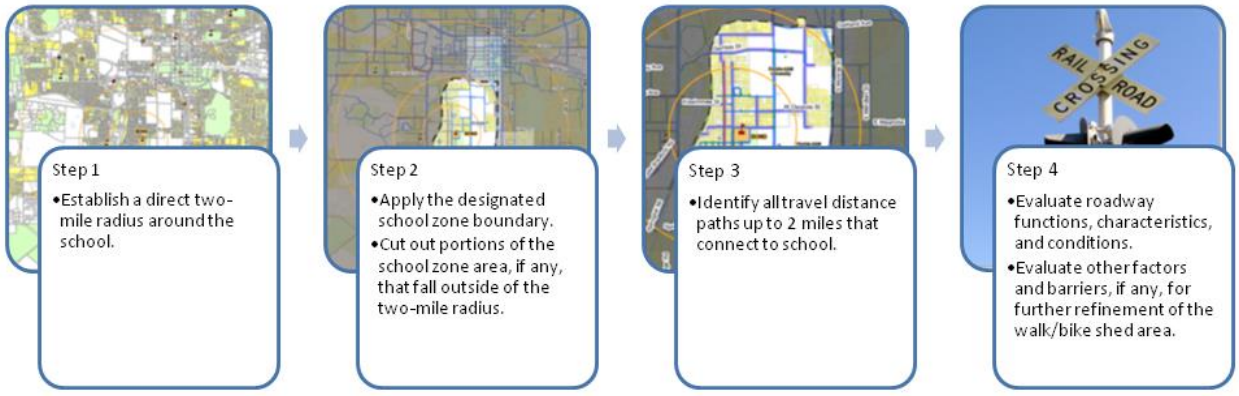
As mentioned previously, a walk/bike shed area was delineated on a map within the school zone, surrounding the school. The Leon High School walk/bike shed map is included at the end of the chapter.

The walk/bike shed area and associated map are not meant to suggest that high school students of all ages, maturity level, and experience should commute to and/or from school within the area delineated. Certainly, all students are not expected to walk or bike to school from practically any distance. Students 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 Leon High School mostly extends to the northeast and southwest of the school. North Monroe Street and Thomasville Road with their high speeds, wide roadway widths, and lack of separation from traffic forms the western limits of the walk/bike shed. There is a railroad line approximately one-half mile south of the school that contributes to the southern limits of the walk/bike shed. Centerville Road contributes to the eastern limits of the walk/bike shed. 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 students 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.

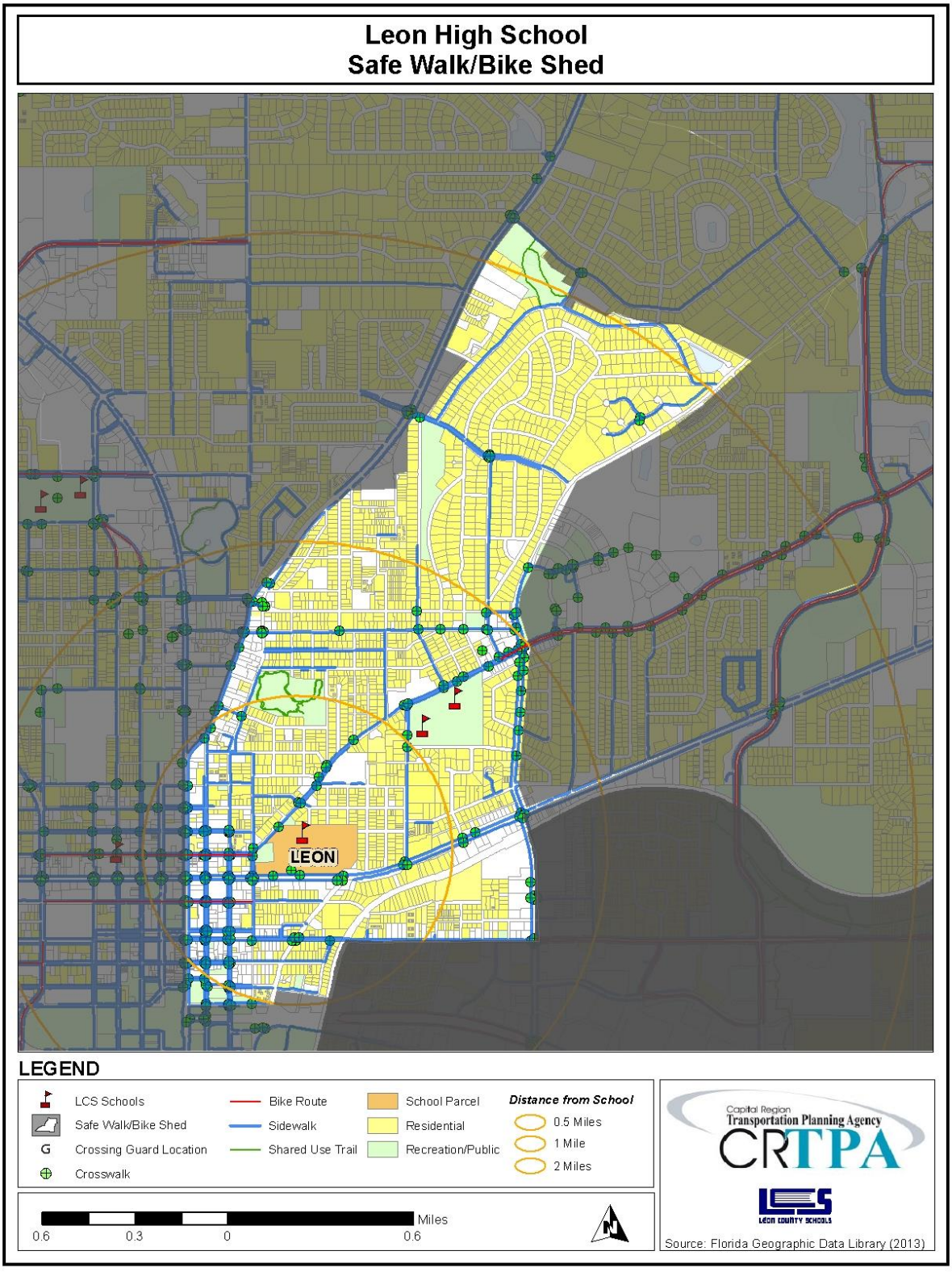
Travel Along Roadways				
Sidewalk Type	**Hazardous Conditions**			
	Type of Road	**Posted Speed Limit**	**Peak Hour Traffic**	**Length**
< 2' wide sidewalk OR without sidewalk	All roadways other than local, neighborhood streets	N/A	N/A	Exceeding 0.5 miles in length
</= 3' wide sidewalk OR </= 4' separation 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 Unsignalized Crosswalk	More than 2 travel lanes	Greater than 25 mph	Greater than 1,500	N/A
Marked Crosswalk Signalized Crosswalk	Greater than 4 travel lanes	Greater than 40 mph	Greater than 2,000	N/A

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


Leon High School
Safe Walk/Bike Shed
LEON
LEGEND
LCS Schools
Safe Walk/Bike Shed
Crossing Guard Location
Crosswalk
Bike Route
Sidewalk
Shared Use Trail
School Parcel
Residential
Recreation/Public
Distance from School
0.5 Miles
1 Mile
2 Miles
Miles
0.6
0.3
0
0.6
Capital Region
Transportation Planning Agency
CRTPA
LEON COUNTY SCHOOLS
Source: Florida Geographic Data Library (2013)

Chapter 5: Findings and Recommendations

The three existing points of access for walkers and bicyclists to Leon High School provide efficient access onto campus from all directions. For those requiring automobile access the existing automobile zone is adequate; however, there are some issues with parents using the special needs pick-up/drop-up zone as well as parking in neighboring streets instead of using the on-campus parking. Policy and programmatic recommendations to address these issues as well as those that might help to increase safe walking and bicycling to and from school are also included for the school's consideration.

The neighborhood surrounding Leon High School has a well-connected street network. And while there are more streets without sidewalks than desirable, many of the streets are low-volume traffic resident streets that can be navigated by walkers and bicyclists with a fair amount of ease, depending in part on maturity. Still, there are a number of infrastructure recommendations that would provide much benefit toward improving existing conditions.

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 Leon High School. The off-site improvements include:

Leon High School Off-Site Recommendations

	Improvement: Off-Site	Location	From	To	Geography	Direction	Length	Comments
B1	Flashing School Zone Warning Lights	East Tennessee Street	Approximately 300' east and west of the school property		--	Eastbound and Westbound	--	
B2	Remark Crosswalks (4)	East Tennessee Street	At North Meridian Street		All four sides	--	Approx. 30 feet each	
B3	Stripe Existing Crosswalks	East Tennessee Street	At Franklin Blvd./Terrace Street		North, west, and south sides	--	Approx. 30 feet each	
B4	Stripe Existing Crosswalks	North Meridian Street	At Virginia Street; At Miccosukee Road		--	E-W	Approx. 30 feet each	
B5	New Sidewalk	Alachua Avenue	Approx. 380' SW of Short Street	Magnolia Street	South side of Alachua Avenue	SW-NE	Approx. 1,440 feet	

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

Off-Site Recommendations

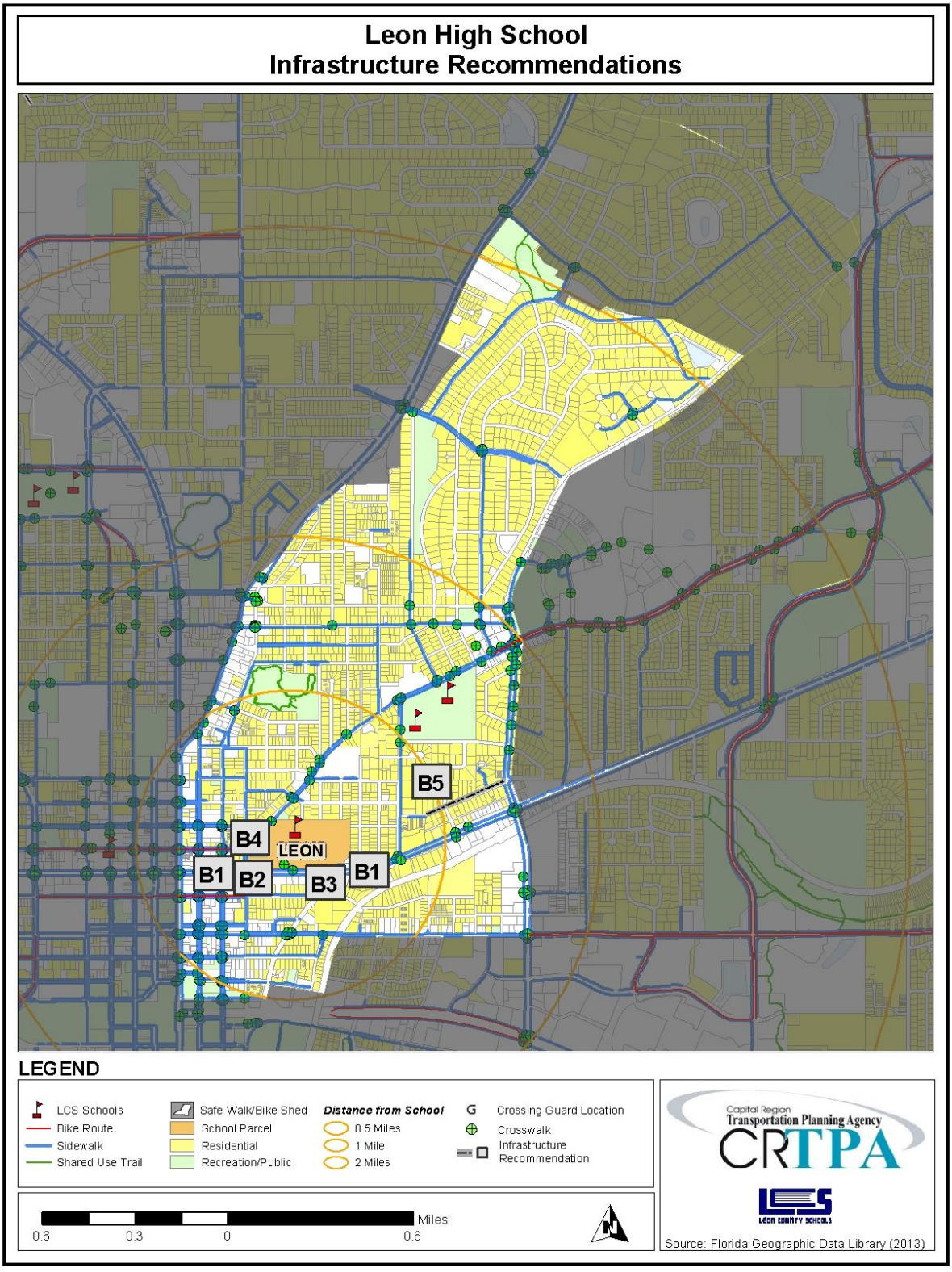
B1) Installing flashing school zone warning lights and associated signage approximately 300 feet east and west of the school property will help remind motorists to slow down for students who may be walking or bicycling in the area. This will help ease concerns from parents expressed in surveys regarding speeding vehicles.

B2) Remark all four crosswalks at the intersection of East Tennessee Street & North Meridian Street. The pavement treatments in the crosswalks are faded and may be difficult for motorists to see.

B3) Stripe the existing crosswalks at the intersection of East Tennessee Street & Franklin Boulevard/Terrace Street.

B4) Stripe the existing crosswalks at North Meridian Street & Virginia Street as well as North Meridian Street & Miccosukee Road.

B5) Construct a new sidewalk along Alachua Avenue from approximately 380’ west of Short Street to Magnolia Street.


Leon High School
Infrastructure Recommendations
B5
B4
LEON
B1
B2
B3
B1
LEGEND
LCS Schools
Bike Route
Sidewalk
Shared Use Trail
Safe Walk/Bike Shed
School Parcel
Residential
Recreation/Public
Distance from School
0.5 Miles
1 Mile
2 Miles
Crossing Guard Location
Crosswalk
Infrastructure Recommendation
Miles
0.6
0.3
0
0.6
Capital Region Transportation Planning Agency
CRTPA
LEON COUNTY SCHOOLS
Source: Florida Geographic Data Library (2013)

Programs

C1) Walk and bicycle encouragement literature – Send home literature to parents and students, as well as make it available on the school website, about the benefits of 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. Additionally, encourage students to coordinate with other students to establish walking and bicycling groups (i.e. buddy programs) to help ease safety concerns expressed by parents.

C2) Student carpool – Send home literature to parents and students about the benefits of carpooling to and from school. Additionally, suggest that students who live near each other try to carpool during morning and afternoon commuting hours.

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 three drop-off/pick-up zones can be helpful to parents. The literature available to parents that the pick-up/drop-off along North Meridian Street is designated for special needs students. Additionally, literature should remind parents to use the available on-campus parking instead of parking on nearby neighborhood streets.

C4) Crossing guards – While crossing guards are typically not provided to high schools, it would be beneficial to have crossing guards available at the intersections of North Meridian Street & East Tennessee Street as well as Franklin Boulevard/Terrace Street & East Tennessee Street.

C5) Establish a safe routes to school after-school club– Consider creating an after-school student club that works on identifying routes to school that would benefit from walking/bicycling improvements. During the on-site visit, visible signs of graffiti tag marking were present on signs around school. Students in the club could identify key locations around campus where crime or gang activity may be occurring and be able to report it to the School Safety Resource Officer as well as assist with removing graffiti tags, if interested.

Policies

D1) Bike security – School policies to encourage bicycle riding could include providing basic, school-owned bicycle locks that can be checked in and out of school. 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) School-specific safe routes coordinator/advisor – A school the size of Leon High School could benefit from having a safe routes coordinator to help accomplish projects, jumpstart programs and implement polices to improve and diversify student commuting options and increase student safety. This role would not require a fulltime staff commitment to safe routes-related issues and needs and, thus, could possibly be performed by an existing school administrator or staff member. The safe routes coordinator would also advocate for improvements and changes

before the School Board and other various agencies with transportation and funding responsibilities throughout the County. In addition, the safe routes coordinator could be assigned with seeking out potential funding sources and completing grant applications.

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 Estimates[1]

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 Leon High School enjoys a well-connected roadway network consisting of mostly low-volume residential streets, it doesn't correlate to high walking and bicycling commuting rates for students. Parent surveys suggest that approximately one-tenth of students in the morning and one-fifth of students in the afternoon commute to and from school by walking or biking. There appear to be two primary reasons for low non-motorized commute rates. First, outside of the immediate school area there tend to be major, busy roadways that are not conducive to walking/bicycling for students. While this is a difficult issue to fix, there are still plenty of opportunities to increase walking and bicycling for students closer to school.

The second reason for low walking and bicycling rates to school was 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 school, parents primarily expressed concerns with speeding vehicles and crime/environmental factors. However, parents indicated that having continuous and separated bicycle/pedestrian pathways, the availability of crossing guards, and marking school speed zones with flashing signs were factors that might influence their decision to allow their students to walk or bicycle to school.

For those students within a relatively safe walking and bicycling distance to school, opportunities to improve student walking and bicycling rates are rooted primarily in informational and educational programmatic solutions as well as policies that encourage non-motorized commuting. For students who will continue to commute by automobile as well as those outside of a safe walking and bicycling distance, policy suggestions are included in this audit report to address better parent enforcement within the parent drop-off/pick-up areas. Recommended infrastructure improvements are centered on remarking existing crosswalks, installing flashing warning lights, and constructing a new sidewalk. There are few recommendations due to the mostly already well-connected network of low-volume residential streets surrounding the school.

Appendices

Appendix A: 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:

_____
_____
_____

Capital Region Transportation Planning Agency

Leon County Schools

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 B: 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 165 parent surveys returned. Of those, 46 (28%) claimed to reside within the theoretical two-mile walk/bike radius of the school.

SUMMARY OF PARENT SURVEY PARTICIPATION

Total Enrollment	1,845
Total Number of Parent Surveys	165
Total Number within 2 Miles	46
Percentage of Surveys within 2 Miles	28 %

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	70 %
School Bus	15 %
Walk	7 %
Bicycle	2 %
Public Bus	2 %
Other	0 %
Afternoon	
Car	63 %
Walk	17 %
School Bus	11 %
Bicycle	2 %
Public Bus	2 %
Other	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.

SUMMARY OF TOP NEIGHBORHOOD SAFETY CONCERNS

Neighborhood Safety Concern	Number of Comments
Speeding Vehicles	6
Issues with Crime	4

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).

TOP RANKING INFLUENTIAL FACTORS FOR HIGH-SCHOOL-AGED CHILDREN

	SCALE	1	2	3	4	5	N/A
I would allow my child to walk or bicycle to school more often if:							
#1 There were bicycle/pedestrian pathways separated from traffic from the neighborhood to the school		*5*	*4*	*8*	*8*	*10*	8
#1 There were continuous sidewalks or bike paths from my neighborhood to school		*6*	*2*	*8*	*7*	*10*	10
#1 Additional crossing guards were provided at busy intersections		*6*	*7*	*6*	*6*	*10*	9
#1 School speed zones were marked with flashing signs		*7*	*2*	*12*	*3*	*10*	10