

August 2014

Safe Routes to School Audit Report Nims Middle 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 Nims Middle 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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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

Nims Middle School is located at 723 West Orange Avenue, Tallahassee, 32310 in Leon County, Florida. It is part of the Leon County Public Schools system. The school was established in 1960 as a junior high school. Then, in 1969, it became a true middle school. The school is named after Robert Frank Nims who served as an educator and administrator in Leon County. Regular school hours are from 9:30am to 3:50pm. A before school program is offered from 8:00am to 8:50am. In addition, an after school program is available from 3:50pm to 6:00pm.

The number of students enrolled at the school, for the 2013 school year, was 333. The school has a current capacity for 952 students. The school includes grade levels 6th to 8th grade.

Students attending this school feed from Bond, Oak Ridge, Pineview, Sabal Palm, and Woodville Elementary Schools and into Godby, Leon, or Rickards High Schools.

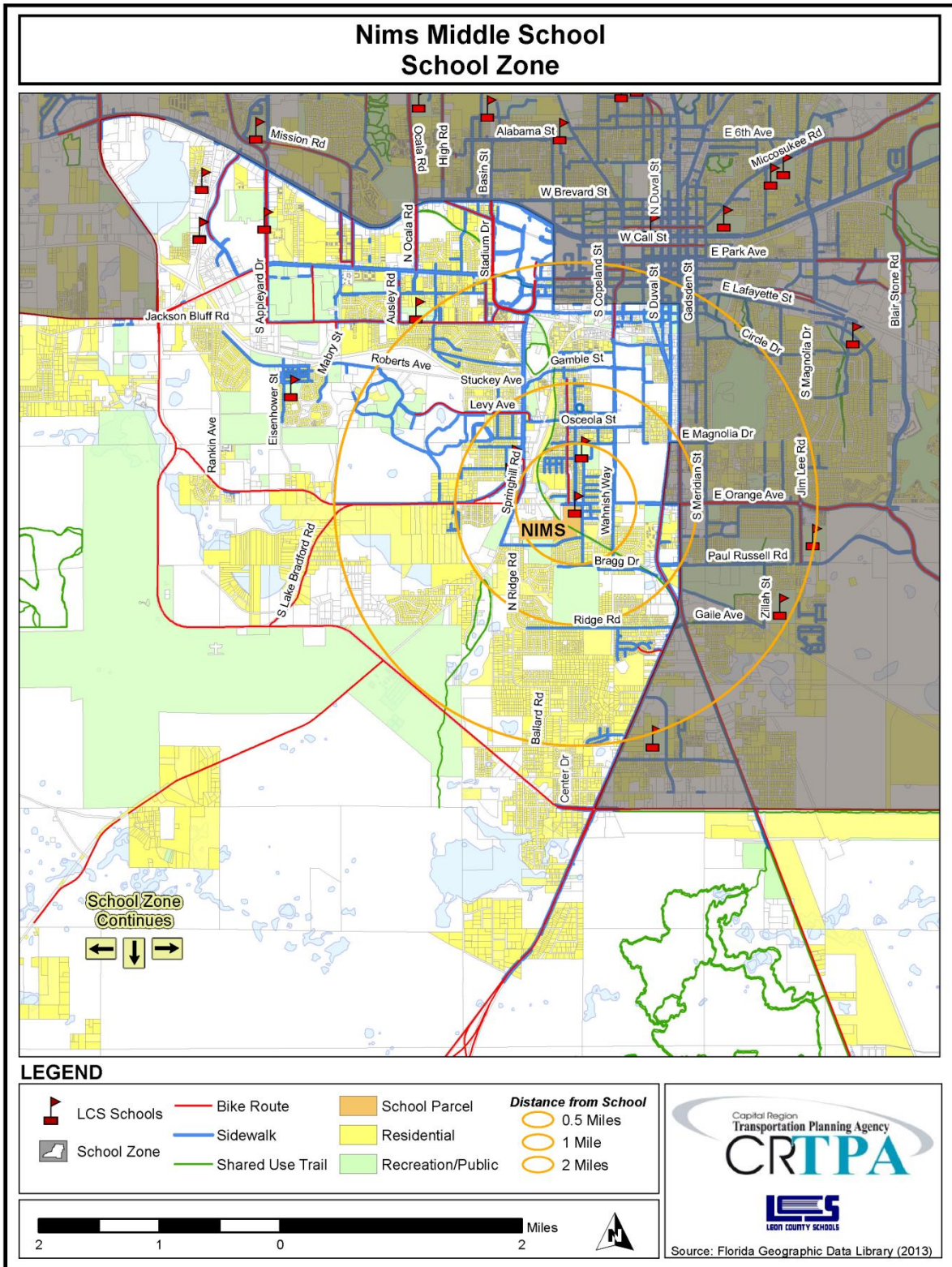
School Zone

The Nims Middle school zone, located in southern Leon County, encompasses the neighborhoods of Seminole Manor, Lake Bradford, Liberty Park, Tuskegee, and Wilson Green. Tallahassee Community College is located northeast of Nims Middle School. Additionally, Florida State University and Florida Agricultural & Mechanical University are located just north of Nims Middle School. In addition to the college and universities, land uses in the school zone consist of mostly residential, recreational, and community service-type uses. The presence of a college and two major universities in the neighborhood influences the demographic makeup of the area, with a significant amount of housing occupied by college students. Additionally, the Tallahassee Regional Airport and Apalachicola National Forest take up a significant portion of the Nims zone just south of Capital Circle.

The Nims school zone includes five major roadways. West Tennessee Street runs east to west and borders the zone on the north. Crawfordville Road/South Adams Street runs slightly southwest to northeast and borders the zone on the east. West Orange Avenue runs east to west through the central portion of the zone. Capital Circle runs mostly east to west and bisects the zone into north and south.

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Springhill Road runs slightly southwest to northeast and bisects the zone into east and west. There are approximately six other Leon County schools within the Nims school zone. Recreational facilities within the zone include Rex Sportsplex, Mabry Park, Seminole golf course, Springsax Park, Silver Lake Park, Jake Gaither golf course, Walker Ford Center & Pool, Lake Elberta Park, Palmer Munroe Center, and James Messer Fields Park.



Chapter 2: On-Site Meeting and Inventory

Date and Weather Conditions

The on-site inventory meeting was conducted on March 5th, 2013 with temperatures in the mid 60 degrees Fahrenheit.

Highlights and Key Observations of On-Site Meeting

During this visit, Nims Middle 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 flashing lights (i.e. school zone warning lights) are located along West Orange Avenue. However, do not always obey the signs/signals. West Orange Avenue is a major east-west connector and a variety of vehicles including trucks, cars, ambulances, and buses traverse the roadway each day. There is major concern with speeding automobiles and distracted drivers along Orange Avenue. Generally, motorcycle police officers from the City monitor the school once or twice a week. Additionally, Capitol Police officers are present, just east of the school, by Florida Agricultural & Mechanical University's (FAMU) DRS School watching for speeders. Also, the school's principal makes it a point to be out each morning on the corner of West Orange Avenue and Pasco Street to encourage students to use crosswalks instead of making mid-block crossings and to discourage speeders, which both tend to work well. It was also noted that there are speed humps along Pasco Street, both north and south of West Orange Avenue, to deter speeding in the area. Students are permitted to arrive to school as early as 8:30am and there are after school programs and sports available on campus until around 6:30pm.

There is one designated crossing guard at the intersection of West Orange Avenue and Pasco Street. It was noted that students do not always cross the street at designated crosswalks. School staff stated that there are no special programs or policies in place to teach students about safe bicycle and pedestrian behaviors as these topics are drilled into students at the elementary school level. Additionally, it was noted that there are multiple, wide driveway cuts along West Orange Avenue that pose as potential dangers to students trying to cross them. Students at Nims Middle School that have younger siblings that attend Bond Elementary School, often walk their siblings to and from school each day.

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 fairly dense, established residential neighborhood, there are few students who walk or bicycle to school since many live more than two miles away from school. Walkers and bicyclists can enter campus from a gate along West Orange Avenue near the east parent drop-off/pick-up driveway. There are some issues with students cutting through the front parking lot

arriving/departing from destinations west of the school. The school has one bicycle rack located near the school bus zone that has space for approximately 11 bicycles. It was noted by school staff that one student gave up bicycling to school after being teased about it.

The school bus drop-off and pick-up zone is covered but functions inadequately. School staff stated that the major problem is not having two fully functional thru lanes. There have been minor accidents between buses with side mirrors being clipped due to the narrowness of the lanes. Additionally, the queue of buses tends to extend onto West Orange Avenue, creating delays for thru traffic. Students who ride the bus in the afternoons must first go to the cafeteria, where they are then dismissed bus-by-bus. Girls are dismissed first to the buses, followed by the boys.

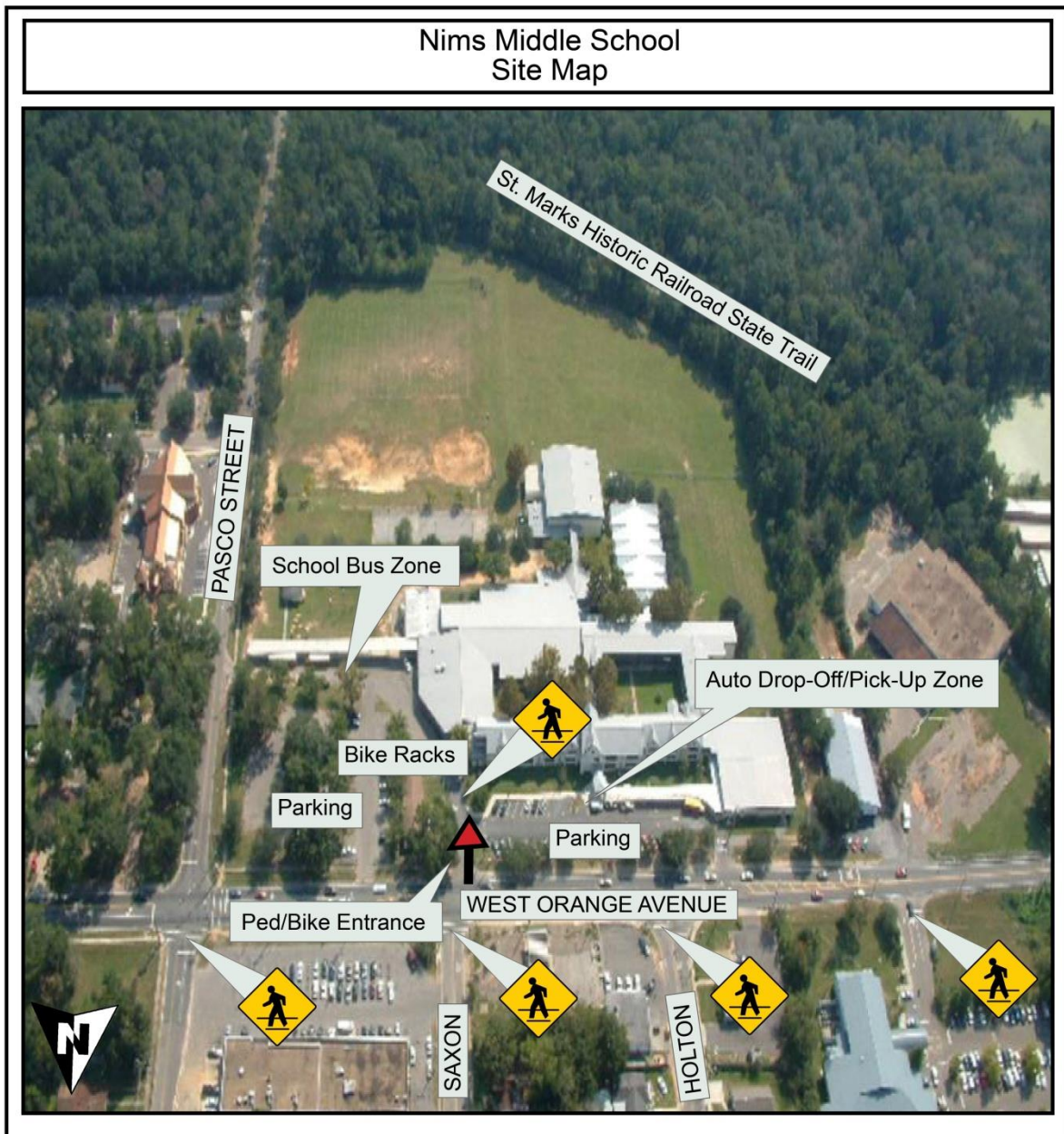
The parent drop-off and pick-up appears to function adequately to accommodate the volume of automobiles entering and exiting the site, despite its small size. Some 20-25 drivers reportedly drop-off students at undesignated locations just off campus, leaving students to walk through potentially unsafe conditions. While no other issues were cited by school staff, it was noted that the entrance and exit driveways of the parent drop-off/pick-up are oddly placed. Instead of having parents enter the zone from the west driveway, they must enter from the east driveway. This configuration means that those dropping-off/picking-up students have to wait to turn into the driveway, or else block traffic on the eastbound lane of West Orange Avenue.

Inventory Map

An aerial photograph showing Nims Middle School is located on the following page. As shown in the photo, the school fronts West Orange Avenue. Students can access campus from this street at a gated entry near the east parent drop-off/pick-up driveway. Bicycle parking racks are located near the front entrance of the school.

Standard width sidewalks are located along both sides of West Orange Avenue until just west of Holton Street where it transitions to only one side on the school-side of the street. There are crosswalks along the north side of West Orange Avenue. However, there are no midblock crosswalks along this street that connect to the school campus. Standard width sidewalks are available along both sides of Pasco Street from West Orange Avenue south to Pasco Court, near the church property.

The automobile pick-up and drop-off zone is located directly in front of the school's main entrance. Automobiles enter the zone along West Orange Avenue at Saxon Street and exit along West Orange Avenue near Holton Street. Parking spaces are located in this area as well. The bus drop-off and pick-up zone is separately located along the side of the school on Pasco Street. Buses enter the zone from West Orange Avenue and exit onto Pasco Street. 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 appears to be the primary issue with students' ability to walk and bicycle to school. Since middle school zones are so large in size, students often live more than two miles away from their school which can create a distance that is too long to walk or bicycle to school within a reasonable amount of time. Additionally, 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 West Orange Avenue. Traffic calming measures should be explored to reduce automobile speeds and increase awareness of students in the area, especially during school commuting times. School staff suggested exploring the possibility of overhead signs to make drivers more aware of the school zone. 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 West Orange Avenue. Furthermore, these groups can help emphasize the importance of crossing the street at a signal instead of mid-block, to students. During the site-visit the SRO recommended reversing the circulation pattern of the school bus zone to help alleviate the queue of that forms along West Orange Avenue. Additionally, it was suggested that the sidewalk near the west parent drop-off/pick-up driveway be improved and extended so that pedestrians/bicyclists may enter from this direction without having to cut through the parking lot. These possibilities should both be explored further.

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 6th to 8th 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.**)

The survey indicates that the vast majority of students at Nims Middle School – approximately three out of five students – arrived by school bus. Riding in an automobile and walking to school ranked a distant second and third place at approximately 26 percent and 13 percent of students, respectively. A low percentage of students, only two percent, arrived to school by public bus and none reported biking to school. (A detailed description of the analysis by mode can be found in **Appendix B.**)

SUMMARY OF SCHOOL-WIDE RESULTS

	Walk	Bicycle	Automobile	School Bus	Public Bus
Average Overall	13 %	0 %	26 %	59 %	2 %

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 6th-8th Grade. (A detailed description of results for the parent surveys can be found in **Appendix D.**)

The small survey sample of students living within two miles from the school indicate that an equal percentage of Nims Middle School students arrive to school by either school bus or walking in the morning and afternoon. The school bus-to-school and walk-to-school averages for a typical week are 50% in both the morning and afternoon, respectively. None of the parents surveyed reported their children arriving to school by car, bicycle, public bus, or an alternative mode of transportation in the morning or afternoon.

Neighborhood safety concerns for parents of middle-school-aged (6th-8th) children included one main concern of crime. There were three comments of concern regarding issues with crime. General concerns include adult men drinking near the front of the school, bullies waiting across the street from school, and a known crime area on Holton Street.

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 separated bicycle/pedestrian pathways, living closer to school, marking school speed zones with flashing signs, and having a secure place to store bicycles were agreed upon by parents from 6th-8th grade.

Chapter 5: Neighborhood Field Review

A neighborhood field review was conducted on April 12th, 2013. The review consisted of an assessment of accessibility, connectivity and safety along neighborhood roadways within proximity to Nims Middle 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 Nims Middle School.

Character of Neighborhood Area

Nims Middle is located in an established neighborhood primarily comprised of higher density 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 sidewalk infrastructure make this area a comfortable space to walk and bike. Because of the schools proximity to the Florida Agricultural & Mechanical University (FAMU) campus, there is a strong university student presence on residential streets near Nims. This results in longer travel distances for many children attending Nims because they live further away. A historic railway, which has been converted into a shared use trail, is located just west of the school and runs in a northwest-southeast direction.

Major roadways in the school zone include:

- Orange Avenue, a heavily traveled two-lane, east-west roadway with a posted speed limit of 35mph or less.
- West Tennessee Street, also a heavily traveled 4-6 lane, east-west roadway with a posted speed limit between 30-45mph.
- Adams Street, a north-south roadway with a posted speed limit between 30-55mph. It transitions from two lanes to four lanes south of Orange Avenue.
- Monroe Street, a north-south four-lane roadway with a center turning lane and a posted speed limit of 35mph or less.
- Springhill Road, a southwest-northeast roadway with a posted speed limit between 30-45mph. It transitions from four to two lanes south of Orange Avenue.

Crash Data

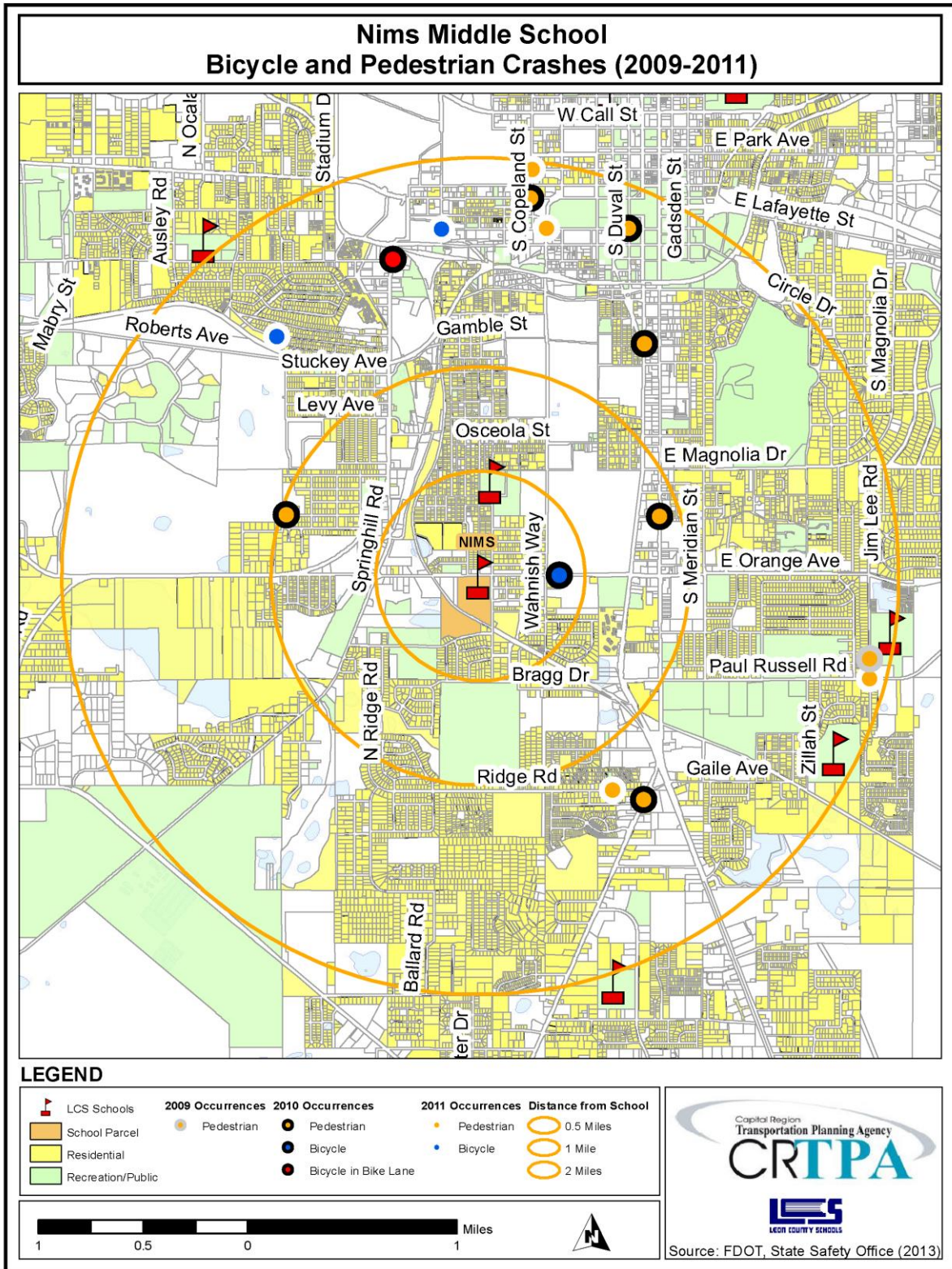
Crash data were collected from the Florida Department of Transportation's (FDOT) State Safety Office for years 2009-2011. Crashes reported include any crashes within Leon County and on any local and major roadways. The data were collected for a typical school year, August 15th to May 30th. Additionally, 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 16 bicycle and pedestrian crashes that occurred within the theoretical two-mile walk/bike radius of Nims Middle School. Crashes were split 50/50 between the morning and 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 one crash.

Most of the crashes were approximately one to two miles northwest of Nims Middle School, in an area mainly comprised of downtown Tallahassee and Florida State University campus. Streets where crashes tend to be a problem are Madison Street and Monroe Street North. Other streets where crashes tend to be a problem are Crawfordville Road, Ridge Road, and the intersection of Jim Lee Road & Paul Russell Road. Orange Avenue, immediate near Nims Middle School, also had a crash occurrence.

SUMMARY OF CRASH REPORTS (2009-2011)

Date	Time	Day	On Road	Nearest Intersection	Injury or Fatality?	Type of Crash	Person(s) Involved
04/27/09	7:48am	Monday	Jim Lee Rd.	Paul Russell Rd.	Injury	Pedestrian	Adult
03/16/10	9:09am	Tuesday	Daniel St.	Bruce Ln.	Serious Injury	Pedestrian	Adult
05/27/10	8:06am	Thursday	Madison St.	Duval St.	Injury	Pedestrian	Adult
08/26/10	8:03am	Thursday	Orange Ave.	Wahnish Way	Injury	Bicyclist	Adult
10/04/10	2:14pm	Monday	Lake Bradford Rd.	Jackson Bluff Rd.	No Injury	Bicyclist in Bike Lane	Adult
10/20/10	7:10am	Wednesday	Crawfordville Rd.	Gaile Ave.	Injury	Pedestrian	Child
10/26/10	3:46pm	Tuesday	Pensacola St.	Copeland St. S	Injury	Pedestrian	Adult
12/03/10	3:32pm	Friday	Putnam Dr.	Monroe St.	Injury	Pedestrian	Adult
12/29/10	3:12pm	Wednesday	Adams St.	Jennings St.	Serious Injury	Pedestrian	Adult
01/18/11	2:40pm	Tuesday	Glenda Dr.	Pepper Dr.	Injury	Bicyclist	Adult
01/19/11	3:43pm	Wednesday	Copeland St.	College Ave.	Injury	Pedestrian	Adult
02/08/11	3:32pm	Tuesday	Madison St.	Railroad Ave.	Injury	Pedestrian	Adult
02/16/11	4:05pm	Wednesday	Madison St.	Woodward Ave.	Injury	Bicyclist	Adult
03/17/11	7:24am	Thursday	Jim Lee Rd.	Paul Russell Rd.	Injury	Pedestrian	Child
04/29/11	8:10am	Friday	Duval St.	Madison St.	Injury	Pedestrian	Adult
09/09/11	8:07am	Friday	Ridge Rd.	State St.	Injury	Pedestrian	Child



Neighborhood Assessment

The overall neighborhood layout surrounding Nims Middle 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, but it is beginning to show its age and could use general repair and updating throughout. Further away from Nims, the sidewalk network generally continues on at least one side of the road uninterrupted to most nearby residential areas. 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 Nims Middle School walk/bike shed map is included on the following page.

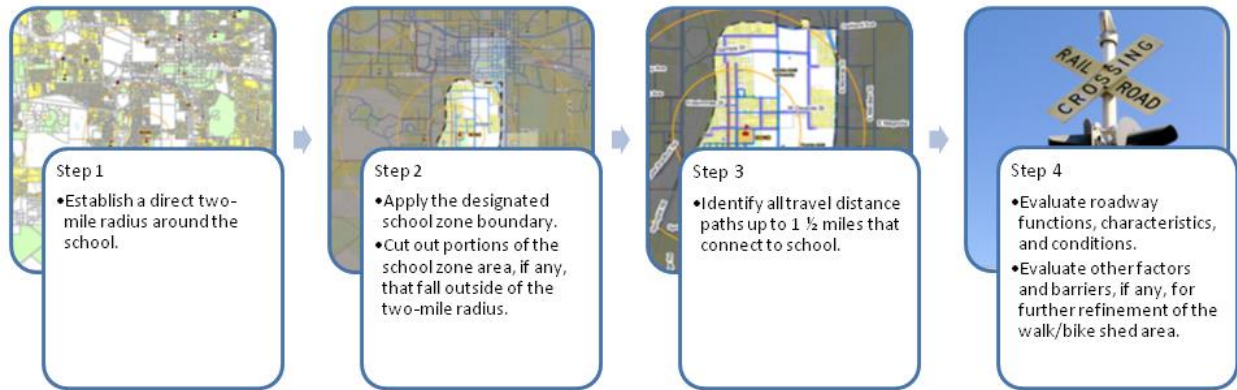
The walk/bike shed area and associated map are not meant to suggest that middle school students of all ages, maturity level, and experience should commute to and/or from school within the area delineated. Certainly, all students are not expected to walk or bike to school from practically any distance without the accompaniment of either a parent or older sibling. Also, 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 Nims Middle School extends just over one mile in the north, south, and northwest direction of the school. Adams Streets with its four undivided lanes of traffic forms the eastern limits of the walk/bike shed. A lack of bicycle and pedestrian accommodations along the entire length of Springhill Road excludes the roadway as well as the area north and southwest from the limits of the walk/bike shed. Sidewalk connections along Kissimmee Street westward to Lake Bradford Road allow a small area north and south of Levy Avenue to also be included in the walk/bike shed limits. There is an active railroad line approximately one-and-a-half miles north of the school. The associated railroad tracks combined with the few residential land uses to the north combine to make the northern 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 middle 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.

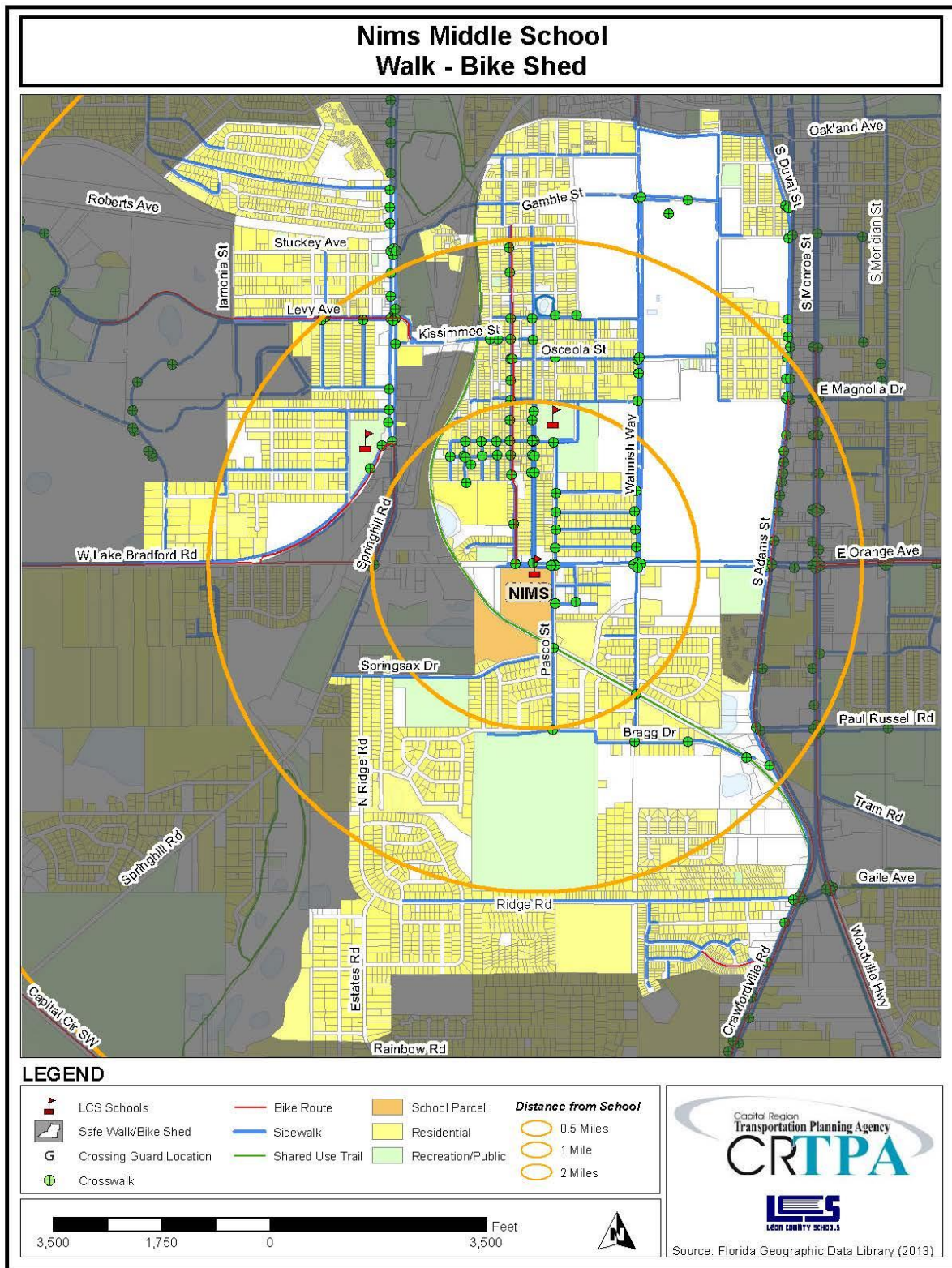
Travel Along Roadways				
Sidewalk Type	Hazardous Conditions			
	Type of Road	Posted Speed Limit	Peak Hour Traffic	Length
< 2' wide sidewalk OR without sidewalk	All roadways other than local, neighborhood streets	N/A	N/A	Exceeding 0.5 miles in length
<= 3' wide sidewalk OR <= 4' separation from traffic	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				

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 existing point of access for walkers and bicyclists to Nims Middle School provide efficient access onto campus from all directions. For those requiring automobile access, the situation could use improvement. Additionally, the school bus zone could use some safety improvements but due to property constraints and configuration there are no recommendations at this time. However, school representatives should look into possible ways of reconfiguring the school bus to allow wider lanes for the buses during school commuting hours. 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.

The neighborhood surrounding Nims Middle 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 grade level and 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 Nims Middle School. They include both on- and off-site improvements as follows:

Nims Middle School On- and Off-Site Recommendations

Improvement: On-Site		Location	From	To	Geography	Direction	Length	Comments
A1	New Striped Crosswalks (3)	West Orange Avenue	At the parent pick-up/drop off entrance and exit; school bus entrance driveway		South side of West Orange Avenue	E-W	N/A	
A2	Reverse Circulation of Parent Pick-Up/Drop-Off Zone	Parent Pick-Up/Drop-Off Zone	N/A		N/A	N/A	N/A	Would also need to change angle of parking spaces

Improvement: Off-Site		Location	From	To	Geography	Direction	Length	Comments
B1	Stop Bar (restripe)	Campbell Street	Campbell Street and Saxon Street		West side of Saxon St	N/A	N/A	
B2	Crosswalk (incl signage)	Campbell Street	Campbell Street and Saxon Street		West side of Saxon St	N - S	N/A	Standards school crossing signage on both sides of Campbell St
B3	New Sidewalk	Campbell Street	East side of Saxon Street	West side of Main Street	North side of Campbell St	E - W	approx 900 feet	
B4	Crosswalk (incl signage)	Campbell Street	Approximately 300 feet west of Main Street		West of Main St	N - S	N/A	
B5	Sidewalk extension to multi-use trail	Taylor Street	St. Marks Historic Railroad State Trail	Taylor Street	North side of Taylor St. at western terminus of existing sidewalk	E - W	approx 20 feet	Sidewalk extension to multi-use trail
B6	New Sidewalk	Taylor Street	East of St. Marks Street	West of Saxon Street	North Side of Taylor St	W - E	approx 900 feet	
B7	New Sidewalk	Wahnish Way	North of Dupont Drive	South of Orange Avenue	East side of Wahnish Way	N - S	approx 560 feet	
B8	New Sidewalk	Orange Avenue	East of Walnut Street	West of Wahnish Way	South side of Orange Ave	E - W	approx 930 feet	
B9	Crosswalk (incl signage)	Medical Commons Court	Medical Commons Court and Holton Street		West of Holton St	N - S	N/A	

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B10	New Sidewalk	Callen Street	Pottsdamer Street	Gunn Street	South side of Callen Street	E-W	Approx. 803 feet	
B11	New Crosswalk	Lake Bradford Road	At Walcott Street		North side of Lake Bradford Road	SW-NE	N/A	
B12	New Sidewalk	Callen Street	Thomas Street	Walcott Street	South side of Callen Street	E-W	Approx. 1,954 feet	
B13	New Sidewalk	Bethune Street	Coleman Street	Callen Street	West side of Bethune Street	N-S	Approx. 1,320 feet	
B14	New Sidewalk	James Street	Coleman Street	Callen Street	West side of James Street	N-S	Approx. 1,320 feet	

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

On-Site Recommendations

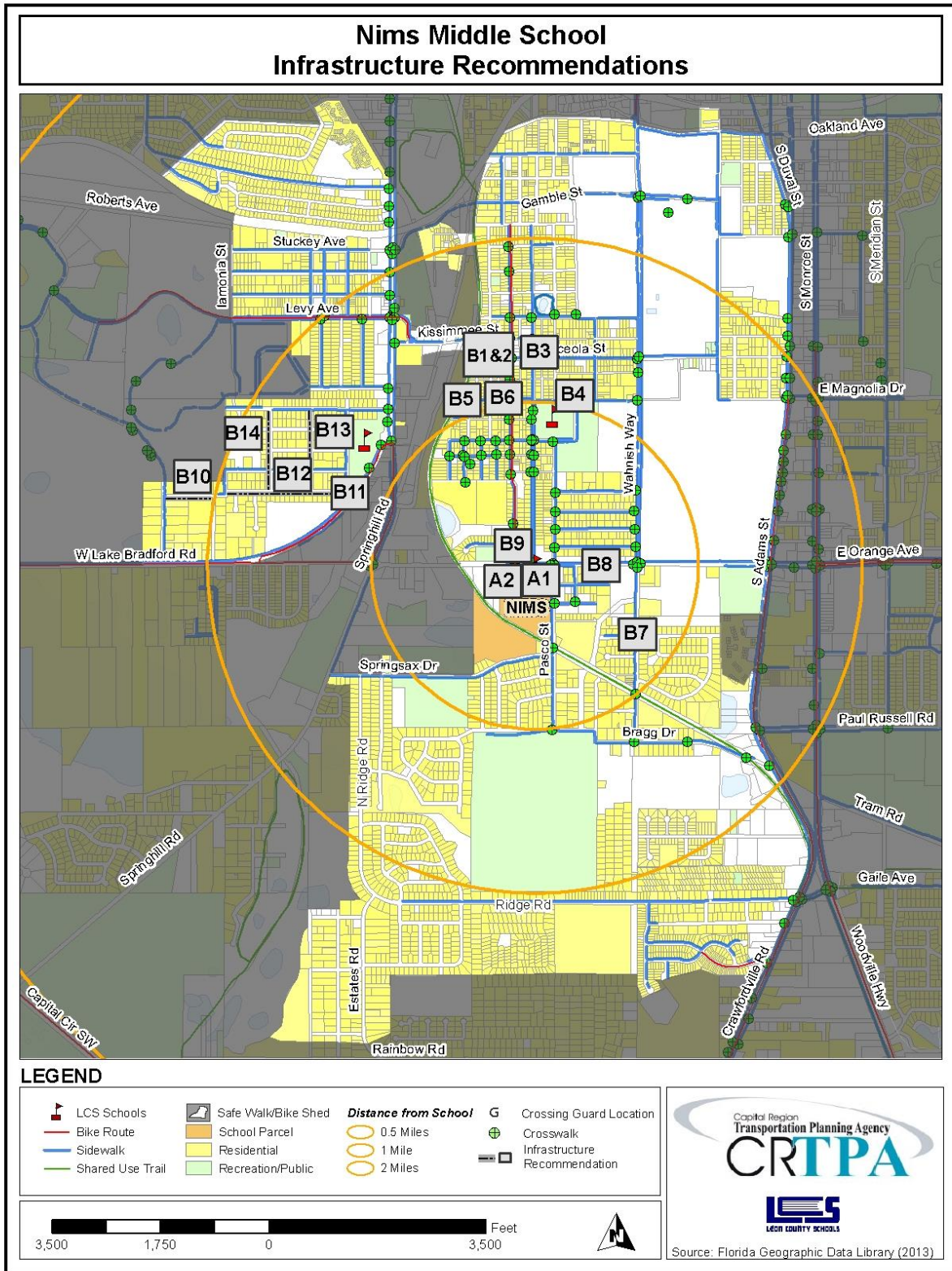
- A1) Stripe three new crosswalks along West Orange Avenue at the parent pick-up/drop-off entrance and exit driveways as well as the school bus zone driveway. This will help make motorists more aware of pedestrians who may be trying to cross the wide driveways.
- A2) Reverse the current parent pick-up/drop-off zone along West Orange Avenue. As it currently exists, the configuration promotes queues along West Orange Avenue near the school bus zone, where school representatives stated there are already concerns with the school buses queuing. However, it should be noted that the angle of existing parking spaces would also need to be reversed to accommodate the new circulation pattern.

Off-Site Recommendations

- B1) Restripe stop bar on Campbell Street, west of Saxon Street
- B2) Add a crosswalk with signage on Campbell Street, west of Saxon Street.
- B3) Add a new sidewalk on the north side of Campbell Street from east of Saxon Street to west of Main Street.
- B4) Add a crosswalk with signage on Campbell Street approximately 300 feet west of Main Street.
- B5) Extend sidewalk to multi-use trail on north side of Taylor Street, at western terminus of sidewalk, to St. Mark's Historic Railroad State Trail.
- B6) Add a new sidewalk on north side of Taylor Street from east of St. Marks Street to west of Saxon Street.
- B7) Add a new sidewalk on east side of Wahnish Way from north of Dupont Drive to south of Orange Avenue.
- B8) Add a new sidewalk on south side of Orange Avenue from east of Walnut Street to west of Wahnish Way.
- B9) Add a new crosswalk at the intersection of Medical Commons Court and Holton Street, west of Holton Street.
- B10) Construct a new sidewalk on the south side of Callen Street from Pottsdamer Street to Gunn Street.
- B11) Add a new crosswalk on Lake Bradford Road at Walcott Street
- B12) Construct a new sidewalk on the south side of Callen Street from Thomas Street to Walcott Street.

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- B13) Construct a new sidewalk on the west side of Bethune Street from Coleman Street to Callen Street.
- B14) Construct a new sidewalk on the west side of James Street from Coleman Street to Callen Street.



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 – Organize and hold a workshop or a bike rodeo that demonstrates bicycle safety topics, catered to middle-school 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, 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 groups, 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, releasing them on the side of the road, or parking on the side of the road (to wait for their child). 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) Carpooling – Due to the expansive size of the school zone, walking and bicycling may not be possible for all students. It would be beneficial to create a carpooling program that groups students together who live in the same neighborhoods. Parent volunteers could help coordinate the groups and also take turns driving students to/from school.

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 when students are parking their bikes. The adult assigned can assist with locking the bike in the morning and unlocking the bike for the students in the afternoon. 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) Pedestrian policies – School policies to encourage safe walking should include continued promotion of the use of crosswalks, where available. School representatives stated that students are known to cross at undesignated locations. This can be very dangerous for students especially on a heavily traveled roadway such as West Orange Avenue.

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 Nims Middle School enjoys a 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 13% of students commute to and from school by walking, while none reported commuting to/from school by bicycle. There appear to be two primary reasons. First, a sizeable cohort of students attending Nims Middle School likely live quite far from the school, outside of a safe, reasonable walking and bicycling distance due to the expansive size of the school zone. This is more of a system-wide transportation and geography issue outside the purview of this analysis. However, the issue could be further explored during any future school district boundary change considerations.

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 crime in the area. However, parents indicated that having separated bicycle/pedestrian pathways, living closer to school, and having a secure place to store bicycles might influence their decision to allow their children 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 bicycle commuting. For students who will continue to commute by automobile as well as those outside of a safe walking and bicycling distance, a reconfiguration of the existing automobile zone has been recommended for better circulation. Recommended infrastructure improvements are centered primarily on sidewalk infill projects and adding crosswalks. This is mostly due to the already well-connected network of low-volume resident streets surrounding the school.

While Nims Middle School likely has a sizeable student population outside of a safe, reasonable walking and bicycling distance, there are measures for which the school can take that will help 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.

Capital Region Transportation Planning Agency

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 April, 2013. Eighteen classrooms participated in the survey for a total of 246 student responses recorded. Student travel survey results were counted and analyzed for the school as a whole.

SUMMARY OF STUDENT TRAVEL SURVEY POPULATION

Total Number of Participating Classrooms	18
Total Students Surveyed (6th – 8th)	246

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 11% to 16%, with an overall average of 13%. None of the students surveyed reported biking to school. In total, the combined walk-bike average for the week ranged from 11% to 16%, with an overall average of 13%.

SUMMARY OF WALKING AND BICYCLE SCHOOL-WIDE TRAVEL PATTERNS

	Walk	Bicycle	Helmet Use	Total Walk + Bike
Average Overall	13 %	0 %	N/A	13 %
Highest Day	16 %	0 %	N/A	16 %
Lowest Day	11 %	0 %	N/A	11 %

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 student travel surveys indicate that the automobile-to-school average for the week ranged from 23% to 28%, with an overall average of 26%. Of the students that ride to school in an automobile, an overall average of 47% wore a seatbelt. Overall, the school bus-to-school average for the week ranged from 56% to 60%, with an overall average of 59%. The public bus-to-school average for the week ranged from 1% to 3%, with an overall average of 2%.

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

	Automobile	Seat Belt	School Bus	Public Bus
Average Overall	26 %	47 %	59 %	2 %
Highest Day	28 %	58 %	60 %	3 %
Lowest Day	23 %	42 %	56 %	1 %

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:

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 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 19 parent surveys returned. Of those, four (21%) claimed to reside within the theoretical two-mile walk/bike radius of the school.

SUMMARY OF PARENT SURVEY PARTICIPATION

Total Enrollment	333
Total Number of Parent Surveys	19
Total Number within 2 Miles	4
Percentage of Surveys within 2 Miles	21 %

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
School Bus	50 %
Walk	50 %
Car	0 %
Bicycle	0 %
Public Bus	0 %
Other	0 %
Afternoon	
School Bus	50 %
Walk	50 %
Car	0 %
Bicycle	0 %
Public Bus	0 %
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 CONCERN

Neighborhood Safety Concern	Number of Comments
Issues with Crime	3

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 MIDDLE-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:							
<i>#1 There were bicycle/pedestrian pathways separated from traffic from the neighborhood to the school</i>		0	0	0	2	2	0
<i>#1 We lived closer to school</i>		0	0	0	2	2	0
<i>#1 School speed zones were marked with flashing signs</i>		0	0	0	2	2	0
<i>#1 The school provided a secure place for storing bicycles</i>		0	0	0	2	2	0