

August 2014

Safe Routes to School Audit Report Cobb Middle School



Leon County
Public Schools



Table of Contents

Acknowledgements.....	iii
Chapter 1: Introduction	1
Project Purpose.....	1
School Overview	1
School Zone.....	1
Chapter 2: On-Site Meeting and Inventory.....	3
Date and Weather Conditions	3
Highlights and Key Observations of On-Site Meeting.....	3
Circulation	3
Inventory Map.....	4
Issues and Opportunities	6
Chapter 3: Student Travel Survey – Summary of Results	7
Chapter 4: Parent Survey – Summary of Results	8
Chapter 5: Neighborhood Field Review	9
Character of Neighborhood Area.....	9
Crash Data	9
Neighborhood Assessment	13
Walk/Bike Shed	13
Methodology	13
Evaluating Roadways	14
Evaluating Other Factors and Barriers	15
Chapter 6: Findings and Recommendations	17
Infrastructure Improvements	17
On-Site Recommendations	19
Off-Site Recommendations.....	19
Programs	21
Policies	21
Planning-Level Cost Estimates	23
Chapter 7: Conclusion	24
Appendix A: Student Travel Survey.....	26

Appendix B: Student Travel Survey – Detailed Analysis 27

Appendix C: Parent Survey..... 29

Appendix D: Parent Survey – Detailed Analysis..... 31

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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

Cobb Middle School is located at 915 Hillcrest Street, Tallahassee, 32308 in Leon County, Florida. It is part of the Leon County Public Schools system. Cobb is one of the oldest schools in Leon County and is named after Miss Elizabeth Cobb, who served Leon County for many years as both a teacher and principal. The school opened its doors in 1954. Regular school hours are from 9:30am to 3:50pm.

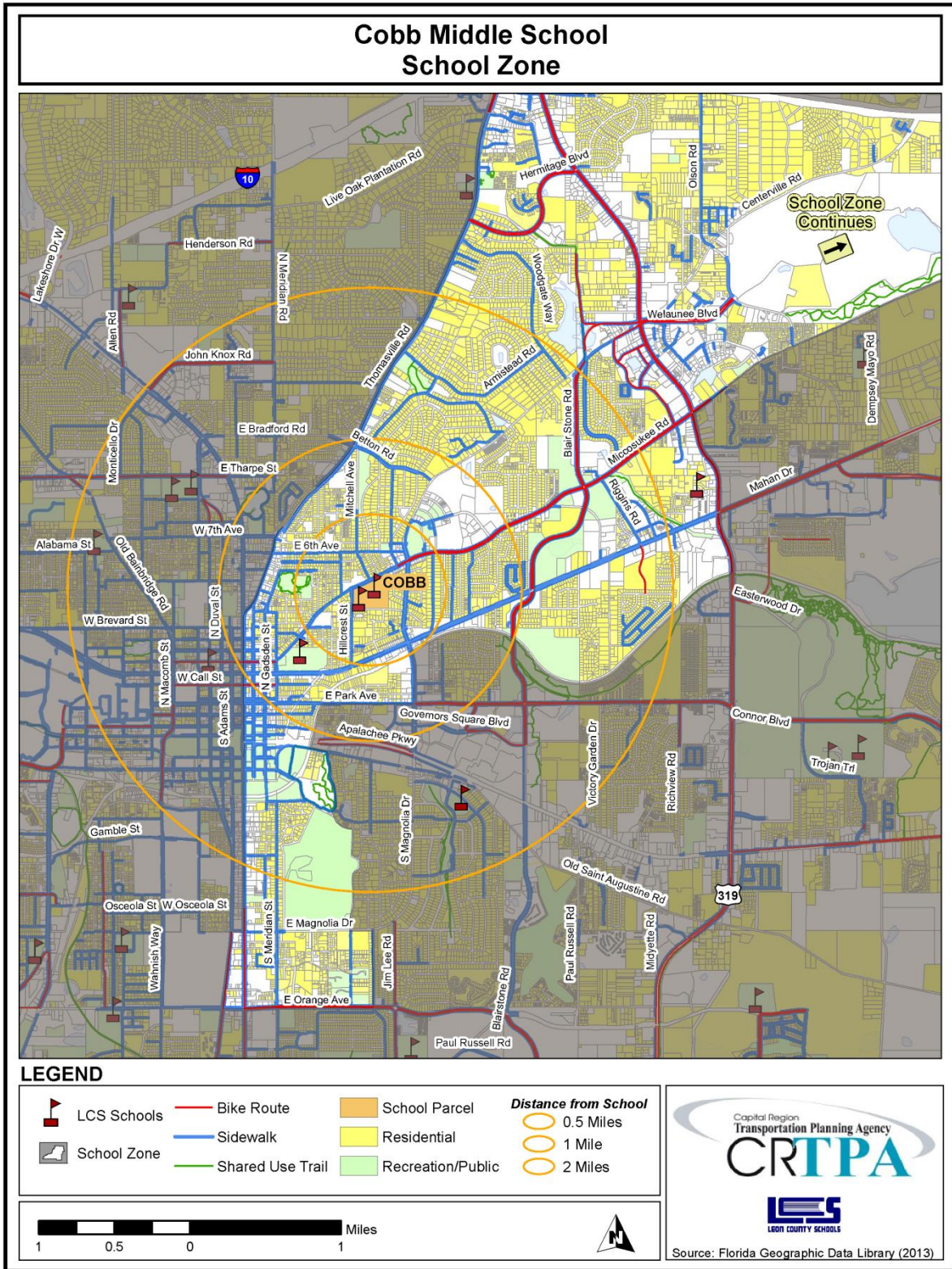
The number of students enrolled at the school, for the 2013 school year, was 781. The school has a current capacity for 950 students. The school includes grade levels 6th-8th grade.

Students attending this school feed from Bond, Gilchrist, Hartsfield, W.T. Moore, and Kate Sullivan Elementary School and to Leon, Lincoln, and Rickards High Schools.

School Zone

The Cobb Middle school zone, located northeast of Florida State University and Florida Agricultural & Mechanical University, encompasses the neighborhoods of Hillcrest Court, Capital Hills, Midtown, Betton Hills, and other residential areas near the north end of downtown Tallahassee. Land uses in the school zone consist of mostly residential, recreation, and institutional medical service-type uses. The presence of two major universities near the school influences the demographic makeup of the area, with a significant amount of housing occupied by college students.

The Cobb school zone includes four major roadways. Thomasville Road and Capital Circle run north to south along the western side and eastern sides of the zone, respectively. Miccosukee Road and Mahan Drive run southwest to northeast, mostly parallel, and bisect the zone into north and south. Kate Sullivan Elementary School and Leon High School fall within the Cobb school zone on Miccosukee Road and East Tennessee Street, respectively. Important recreation facilities within the school zone include Cascades Park, Myers Park, Lafayette Park, Governors Park, and Guyte P. McCord Park. There are a variety of shared-use trails and bike routes that are important non-motorized shared-use transportation amenities that traverse the eastern side of the school zone, connecting the school to areas north and south of the area.



Chapter 2: On-Site Meeting and Inventory

Date and Weather Conditions

The on-site inventory meeting was conducted on February 7th, 2013. The weather was cool with temperatures in the mid 50 degrees Fahrenheit.

Highlights and Key Observations of On-Site Meeting

During this visit, Cobb 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 both Hillcrest Street and Miccosukee Road. Also, there are traffic calming chicanes along Lucy Street. Students are permitted to arrive to school as early as 7:30am and there are after school programs and sports available until 6:00pm. It was also noted that there are after school programs available at East Hill Baptist Church, immediately north of the school.

There are two designated crossing guards available, directly in front of Kate Sullivan Elementary School, at the intersection of Miccosukee Road & Mitchell Avenue and near the intersection of Miccosukee Road & Crestview Avenue. Additionally, there are crossing guards available at the intersection of Magnolia Drive & Miccosukee Road, which can sometimes be challenging to students walking or biking to school. School representatives noted that there are some issues with students crossing midblock along Miccosukee Road.

Circulation

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

The school is located in an older neighborhood and has a fairly well-connected pattern of streets which offer good bike-ped connectivity. As such, a fair amount of children walk, bike, and sometimes skateboard to school. School representatives estimate that approximate 100 students walk, 20 students bike, and only a handful skateboard to school. However, it was noted that since the school is a magnet-choice school there are many students who do not live in the school zone and as such, are not able to walk or bike to school. Existing sidewalks tend to have curbs but there are some areas that lack sidewalks completely. Walkers and bicyclists can enter campus from several points along Miccosukee Road as well as from Hillcrest Street. There is an outdoor bicycle parking rack available at the school with spaces for approximately 15 bicycles; however, during the site visit there was only one bicycle parked. Parents have expressed some general concerns in regard to security issues related to walking and biking.

The school bus drop-off and pick-up zone is supervised and functions adequately. The zone for arrivals and departures is covered, which helps during times of inclement weather, and leads directly to a walking facility. There are two circulation lanes to accommodate the ten buses that use the zone in both the mornings and afternoons. School staff noted that there are approximately 30 students riding on each bus during school commuting hours. Additionally, it was noted that there a few students who ride Star Metro buses to/from school.

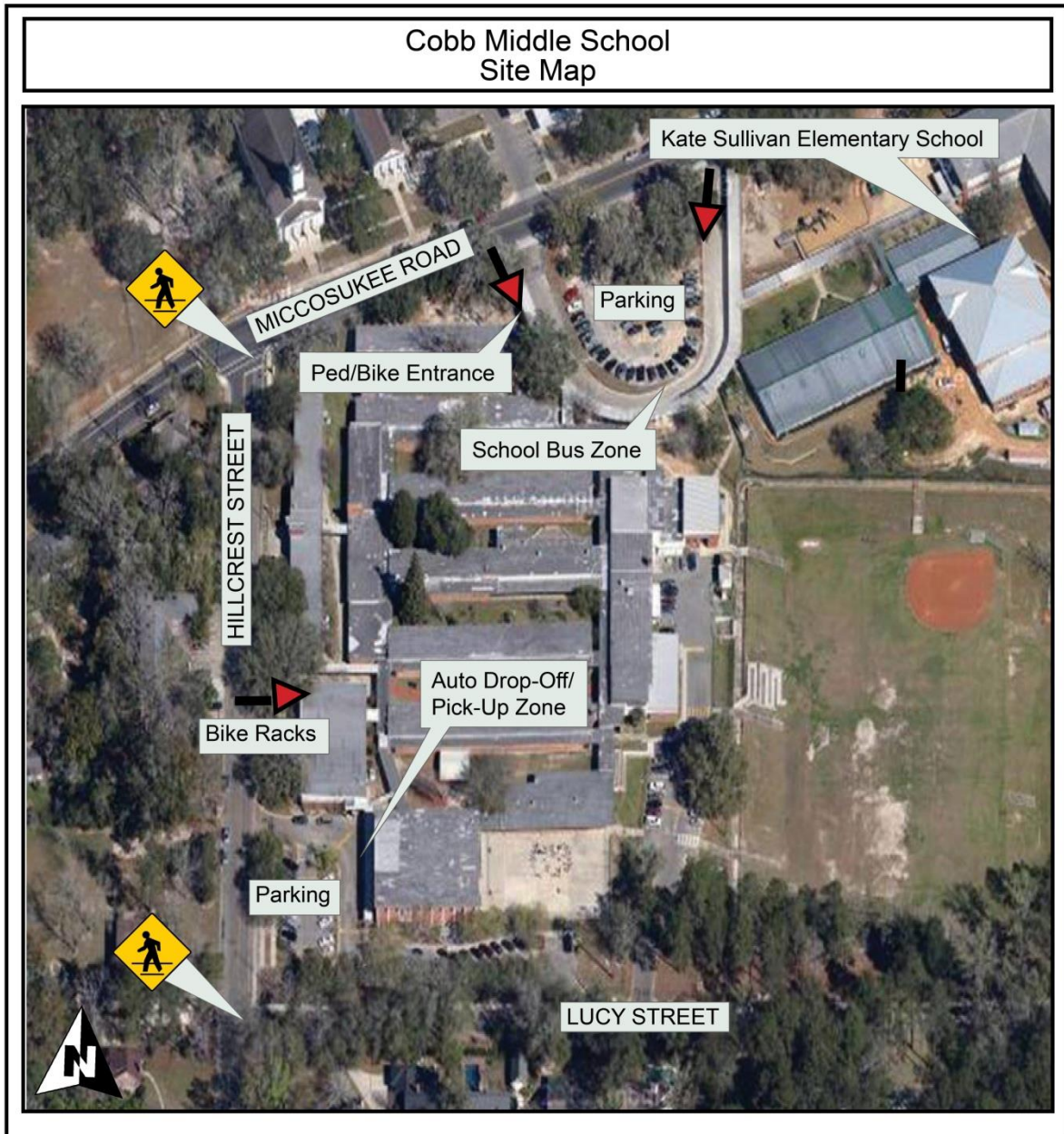
The covered parent drop-off and pick-up zone functions adequately to accommodate the volume of automobiles entering and exiting the site; however, school representatives noted that there is some confusion with student drop-off and pick-up. The main concern is the overall design/layout of the school. The school fronts Hillcrest Street; however, the front entrance to the school is not a present feature of the campus since the automobile zone entrance is along Lucy Street. Additionally, it was noted that while school staff discourages loading/unloading students along Miccosukee Road, the yellow curb on the school side of the street implies to parents that it is a loading/unloading zone. There are no pull-out bays or on-street parking spots to facilitate this type of loading/unloading, which can hinder through traffic on the roadway. It is estimated that about half of the students attending the school arrive and depart from school via an automobile.

Inventory Map

An aerial photograph showing Cobb Middle School is located on the following page. As shown in the photo, the school fronts Hillcrest Street and Miccosukee Road. Students can access campus from either of these streets. Bicycle parking racks are located near the main entrance of the school along Hillcrest Street.

Standard width sidewalks are available along the school-side of Lucy Street and Hillcrest Street. As Hillcrest Street nears Miccosukee Road, standard width sidewalks are available along both sides of the street. Along the school property of Miccosukee Road, standard width sidewalks are also available on both sides. There are several midblock crosswalks available around the school along Miccosukee Road and Hillcrest Street.

The automobile pick-up and drop-off zone is located directly in front of the school's main entrance near Lucy Street. Automobiles enter the zone from Lucy Street and exit onto Hillcrest Street. Parking spaces are located in this area as well. The bus drop-off and pick-up zone is separately located along Miccosukee Road. Buses enter the zone from and exit onto Miccosukee Road. Additional parking spaces are located in this area as well.



Issues and Opportunities

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

Geography appears to be an issue with students' ability to walk or bicycle to school. While the area near the school has well-connected street and bike-ped infrastructure, further out from campus there are wide, busy roadways that may not be appropriate for crossing by middle school children. Additionally, since Cobb Middle School is a magnet-choice program, students may live outside of the regular school zone boundaries, and thus, rely upon busing or automobile rides. These kinds of external factor 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 Hillcrest Street and roadways leading to Miccosukee Road. Traffic calming measures should be explored on additional neighborhood streets to reduce automobile speeds and increase awareness of children in the area, especially during school commuting times. Also, school-related and –supportive committees such as the Parent/Teacher Organization (PTO) 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 remind other parents about the importance of following appropriate behavior and protocol within the parent drop-off/pick-up zone so that it continues to function adequately. Furthermore, with specific regard to student drop-off/pick-up, the school should explore different ways to communicate to parents that drop-off/pick-up along Miccosukee Road instead of the automobile zone is discouraged due to the lack of supervision and concern for student safety in this area.

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 Cobb Middle School – approximately three out of five students – are dropped-off at school by car. Riding a school bus and walking to school ranked a distant second and third place at approximately 62 percent and eight percent, respectively. A low percentage of students, only one percent, arrived to school by public bus and less than one percent of the students reporting biking. (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	8 %	<1 %	62 %	30 %	1 %

Chapter 4: Parent Survey – Summary of Results

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

Parent survey results were counted and analyzed by grade level groupings of 6th-8th Grade. (A detailed description of results from the parent surveys can be found in **Appendix D.**)

The surveys of students living within two miles from the school indicate that a greater percentage of Cobb Middle School students arrive by car in the morning, while fewer return home by the same modes in the afternoon. The car-to-school average for a typical week is 61% in the morning and 52% in the afternoon. In the afternoon, there are greater percentages of students returning home by school walking. Overall, approximately one-quarter of students in the morning and one-third of students in the afternoon commute to and from school by walking or biking. The walk-to-school and bike-to-school average for a typical week are 26% and 0% in the morning, and 35% and 0% in the afternoon, respectively. The school bus-to-school average for a typical week is 13% in both the morning and afternoon. None of the students rode a public bus or used an alternative commute mode in the morning or afternoon.

Neighborhood safety concerns for parents of middle-school-aged (6th-8th) children include four main concerns including issues with speeding vehicles, sidewalks/walking, the parent drop-off/pick-up area of school, and transportation outside of the school zone. There were approximately five comments of concern regarding issues with speeding vehicles. Specific locations where high-speed vehicles tend to be a problem are Miccosukee Road, Hillcrest Street, and Alachua Avenue. Additionally, there were five comments of concern regarding sidewalks and walking. General concerns include the lack of sidewalks, incomplete sidewalks, and sidewalks that are slippery because they are littered with leaves. There were also three comments of concern regarding the parent pick-up/drop-off area of school. General concerns include the slowness of the pick-up line due to parents waiting for children who are not ready and the inability to “store” those vehicles in an alternate line while waiting, as well as, parents using Hillcrest Street as an undesignated pick-up/drop-off for students. Lastly, there were approximately three comments of concern regarding issues with transportation outside of the school zone. Concerns include roads flooding when it rains, students having to cross major highway to get to a bus stop, and the complexity of the crosswalks at the intersection of Miccosukee Road and Hillcrest Street.

Parents of middle-school aged children agreed that the top five influential factors to allow their child to walk or bicycle to school more often included factors related to having continuous and separated bicycle/pedestrian pathways, availability of crossing guards, enforcing speed limits in school zones, and having a secure place to store bicycles.

Chapter 5: Neighborhood Field Review

A neighborhood field review was conducted on April 11th, 2013. The review consisted of an assessment of accessibility, connectivity and safety along neighborhood roadways within proximity to Cobb Middle School. On the day of the field review, temperatures were in the 70's 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 Cobb Middle School.

Character of Neighborhood Area

Cobb Middle 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 south of the school zone.

Major roadways in the school zone include:

- 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.

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.

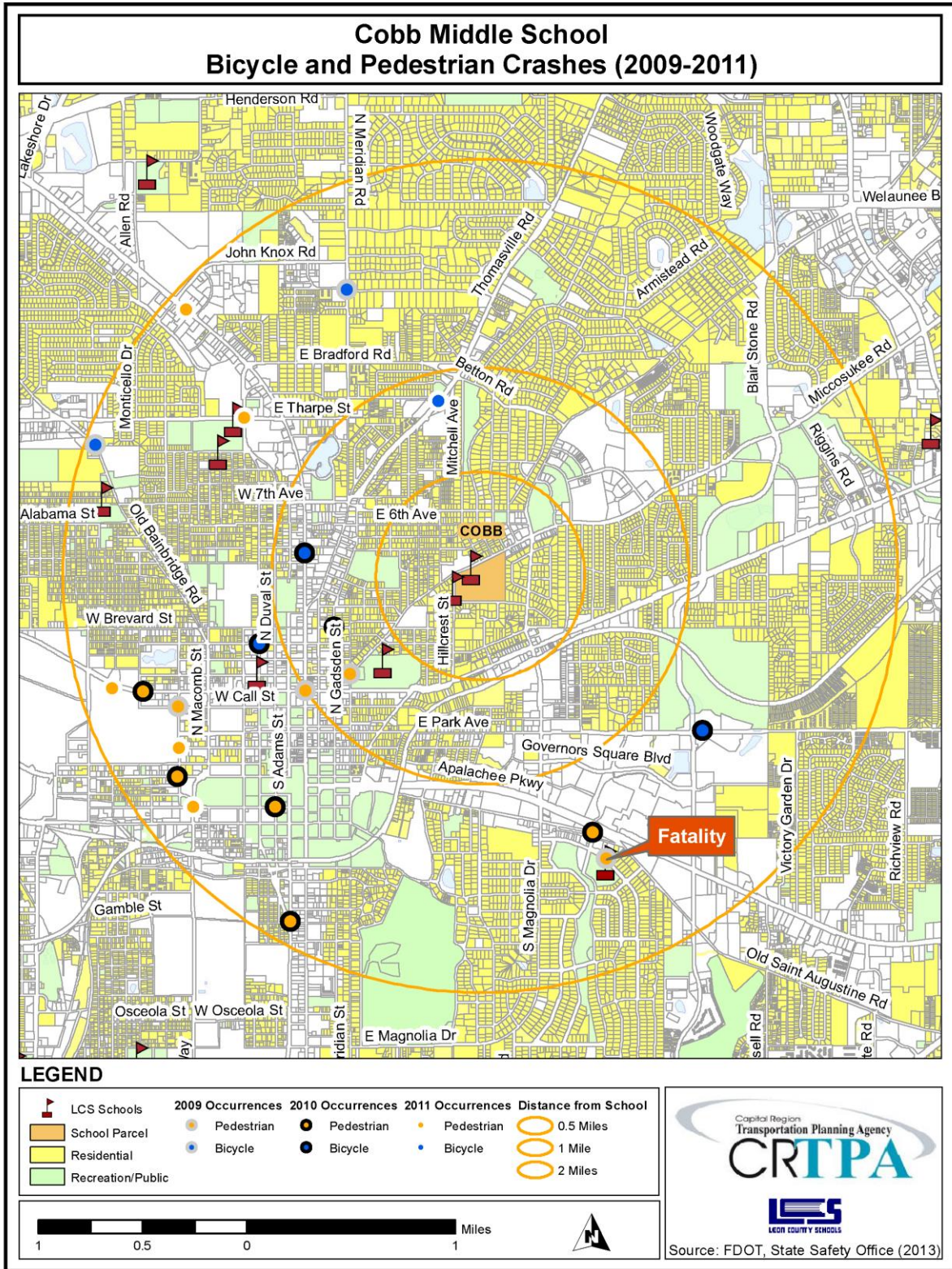
There were a total of 22 bicycle and pedestrian crashes that occurred within the theoretical two-mile walk/bike radius of Cobb Middle School. Of those total crashes, 7(32%) occurred during the morning hours and 15 (68%) occurred during the afternoon hours. A vast majority of the crashes involved adult pedestrians and bicyclists. However, there were a few incidents of crashes involving child pedestrian and bicyclists. Injuries were reported in all crashes except for one. In addition, one crash resulted in a child fatality.

Safe Routes to School Audit Report

Most of the crashes occurred approximately 1 ½ to 2 miles southwest of Cobb Middle School, in an area mainly comprised of downtown Tallahassee and Florida State University campus. Streets in this area that tend to have high numbers of reported crashes are North Monroe Street and West Tennessee Street. Other streets where crashes tend to be a problem are Pensacola Street, Lafayette Street, Bronough Street North, and other smaller, local roads.

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. N	Injury	Pedestrian	Adult
05/05/09	4:07pm	Tuesday	Old Bainbridge Rd.	Knots Ln.	Injury	Bicyclist	Adult
09/23/09	3:13pm	Wednesday	South Ride	Meridian Rd. N	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. N	4 th Ave.	Injury	Bicyclist	Child
10/26/10	3:46pm	Tuesday	Pensacola St.	Copeland St.	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	Blair Stone 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	N Monroe St.	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
02/08/11	3:32pm	Tuesday	Madison St.	Railroad Ave.	Injury	Pedestrian	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



Neighborhood Assessment

The overall neighborhood layout surrounding Cobb 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; 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

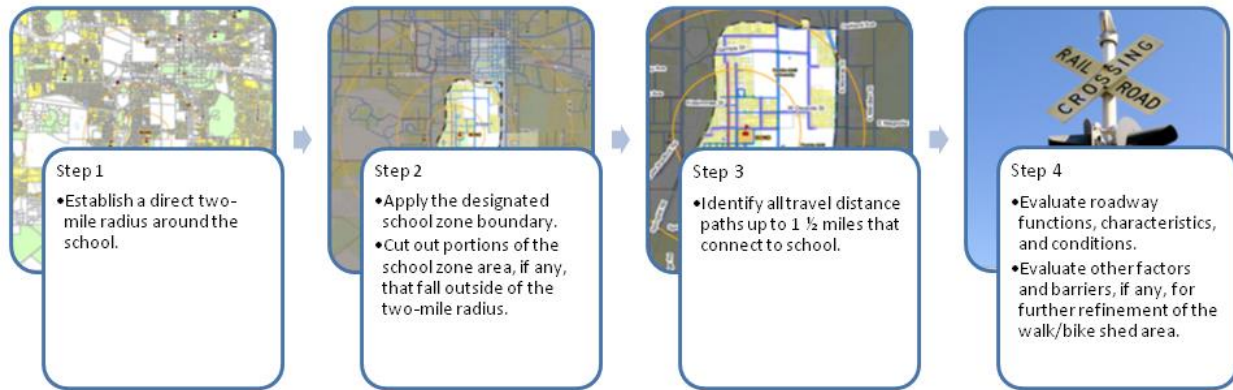
As mentioned previously, a walk/bike shed area was delineated on a map within the school zone, surrounding the school. The Cobb Middle School walk/bike shed map is included at the end of this chapter.

The walk/bike shed area and associated map are not meant to suggest that 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 Cobb Middle 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 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.

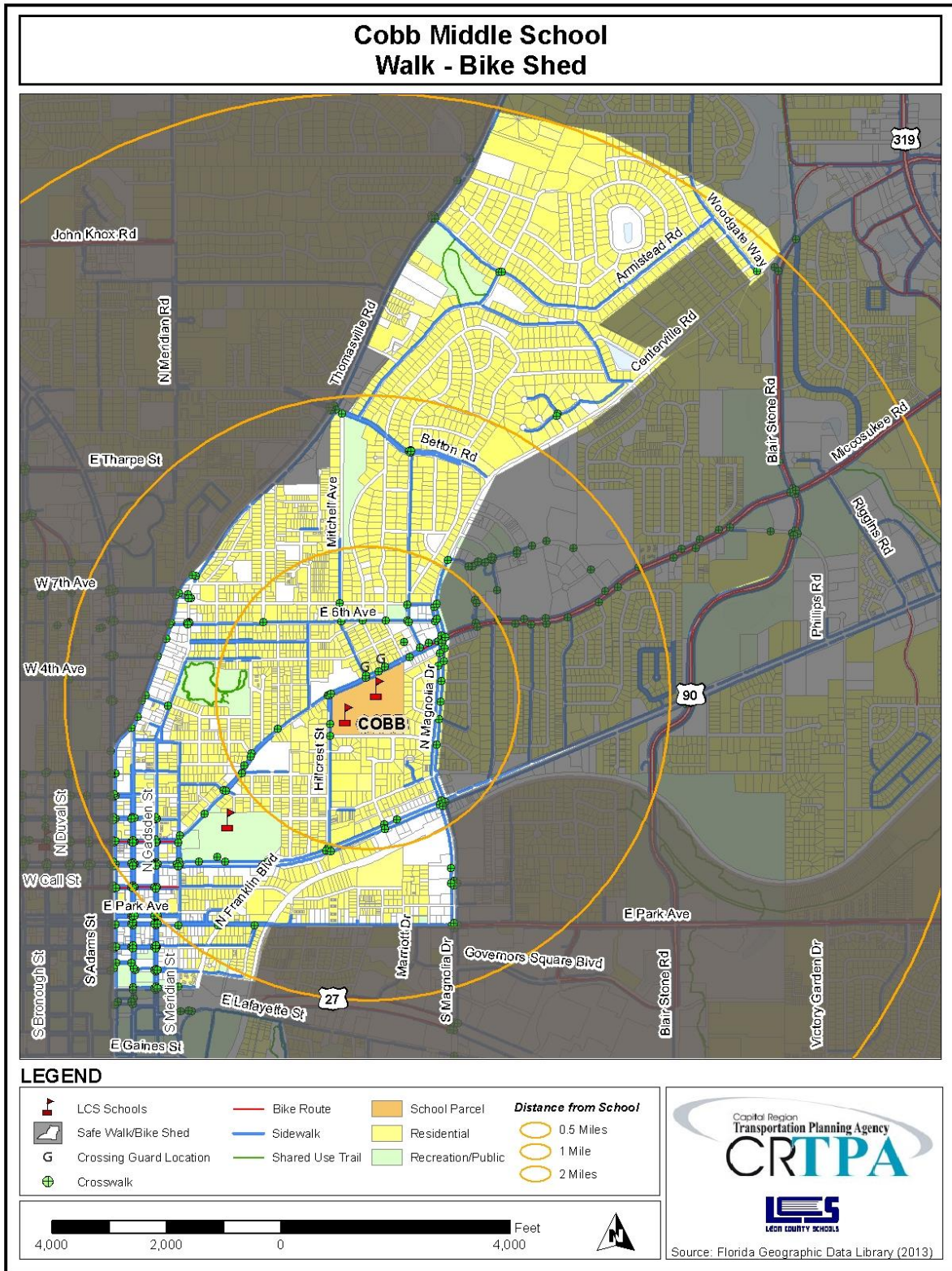
Travel Along Roadways				
Sidewalk Type	Hazardous Conditions			
	Type of Road	Posted Speed Limit	Peak Hour Traffic	Length
< 2' wide sidewalk OR without sidewalk	All roadways other than local, neighborhood streets	N/A	N/A	Exceeding 0.5 miles in length
<= 3' wide sidewalk OR <= 4' separation from traffic	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 three existing points of access for walkers and bicyclists to Cobb Middle School provide efficient access onto campus from all directions; however the campus is very open and could use improvements to further define ingress/egress points around campus. For those requiring automobile access the existing automobile zone is adequate; however, there are some issues with undesignated pick-ups/drop-offs of students on roadways surrounding the campus. Recommendations are limited here to the policy realm. 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 Cobb 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 Cobb Middle School. They include both on- and off-site improvements as follows:

Cobb Middle School On- and Off-Site Recommendations

	Improvement: On-Site	Location	From	To	Geography	Direction	Length	Comments
A1	Student Pick-Up/Drop-Off Signage	Hillcrest Street; Miccosukee Road	On Existing Fencing		East side of Hillcrest Street	--	--	

	Improvement: Off-Site	Location	From	To	Geography	Direction	Length	Comments
B1	Stripe existing crosswalks	Miccosukee Road	At Mitchell Avenue; At West of Crestview Avenue		In front of main school entrance	NW-SE	Approx. 30 feet	
B2	Add sidewalk curb separator	Miccosukee Road	Crestview Avenue	Marion Avenue	South side of Miccosukee Road	E-W	Approx. 350 feet	
B3	Mark striped crosswalk	Hillcrest Street	At automobile zone driveway exit		East side of Hillcrest Street	N-S	Approx. 30 feet	
B4	Mark striped crosswalk	Lucy Street	At automobile zone driveway entrance		North side of Lucy Street	E-W	Approx. 30 feet	
B5	New Sidewalk	Alachua Avenue	Approx. 380' SW of Short Street	Magnolia Street	South side of Alachua Avenue	SW-NE	Approx. 1,440 feet	
B6	Remark Crosswalks (4)	East Tennessee Street	At North Meridian Street		All four sides	--	Approx. 30 feet each	
B7	Stripe Existing Crosswalks	East Tennessee Street	At Franklin Blvd./Terrace Street		North, west, and south sides	--	Approx. 30 feet each	
B8	Stripe Existing Crosswalks	North Meridian Street	At Virginia Street; At Miccosukee Road		--	E-W	Approx. 30 feet each	
B9	Traffic Calming	Miccosukee Road	Within School Zone		--	E-W	--	Chicanes

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

On-Site Recommendations

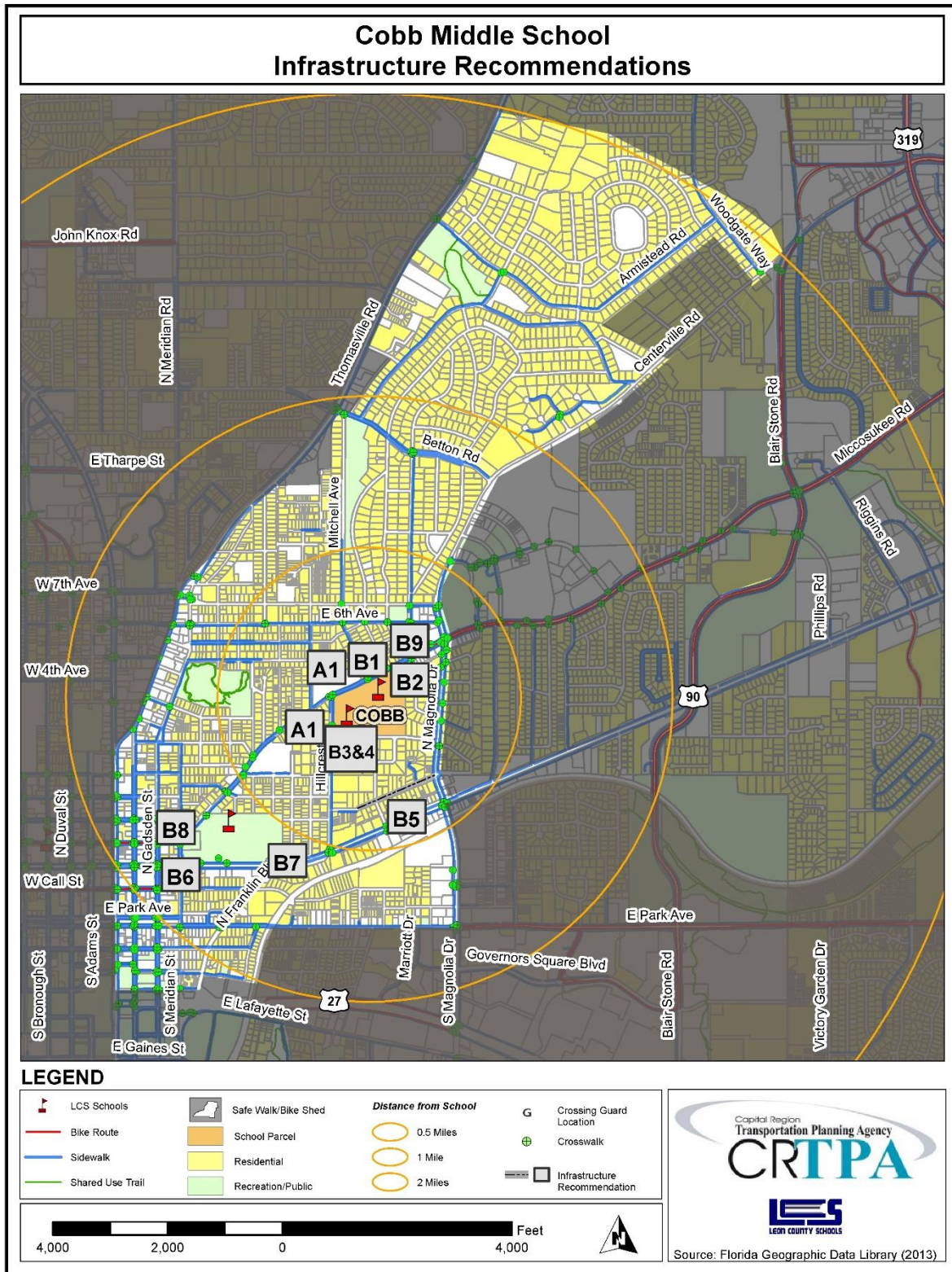
- A1) Add signage on the existing fencing along Hillcrest Street and Miccosukee Road that state student drop-off/pick-up occurs on Lucy Street. Parents expressed confusion about where to drop-off/pick up their children due to the way the school fronts three different roadways.

Off-Site Recommendations

- B1) Stripe existing crosswalks – on Miccosukee Road at Mitchell Avenue as well as the crosswalk west of Crestview Avenue.
- B2) Add a sidewalk curb separator along Miccosukee Road from Crestview Avenue to Marion Avenue. Currently, there is a portion of on-street parking that is directly adjacent to the sidewalk which can create difficult situations for students using the sidewalks if vehicles park on top of the sidewalk.
- B3) Mark a striped crosswalk along Hillcrest Street at the automobile zone driveway exit.
- B4) Mark striped crosswalk along Lucy Street at the automobile zone driveway entrance.
- B5) Construct a new sidewalk along Alachua Avenue from approximately 380' west of Short Street to Magnolia Street.
- B6) 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.
- B7) Stripe the existing crosswalks at the intersection of East Tennessee Street & Franklin Boulevard/Terrace Street.
- B8) Stripe the existing crosswalks at North Meridian Street & Virginia Street as well as North Meridian Street & Miccosukee Road.
- B9) Construct traffic calming chicanes within the school zone along Miccosukee Road. Chicanes should be constructed just east of Crestview Avenue, where the on-street parking ends, and where otherwise appropriate. An example of the type of chicane style recommended is shown¹. Additionally, the median along Miccosukee Road should be raised where appropriate.



¹ Source: <http://www.sinoconcept.com/blog/traffic-calming-practices-traffic-calming/>



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, 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 and making emergency stops can be very helpful for riders. Additionally, a group bicycle ride, through the neighborhood surrounding the school, can be a safe and fun way to get children more comfortable with their built environment and any obstacles they may encounter en route to school. Local community groups, as well as, university clubs/organizations, Leon County Sheriff's Office, and Leon County Public Schools may be willing to donate time and/ or supplies such as bikes, helmets, and locks for workshops and rodeos if contacted.
- C3) Parent drop-off/pick-up zone protocol encouragement– Send home literature to parents, as well as make it available on the school website, about the proper drop-off and pick-up process for the school, particularly at the start of a new school year or after an extended school break. Maps of the drop-off/pick-up zone, as well as, the traffic flow pattern can be very helpful to parents. The literature available to parents should remind them that the entrance for the parent pick-up/drop-off zone is along Lucy Street. Additionally, the literature should clearly discourage parents from letting children out on the side of Hillcrest Street and Miccosukee Road.

Policies

- D1) Bike check and security – School policies to encourage bicycle riding could include having a school official or parent volunteer at the bike rack in the morning and afternoon to assist students parking their bikes. The adult can assist with locking the bikes in the morning and unlocking the bikes 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) Parent drop-off/pick-up zone protocol – Setting protocol for the parent drop-off/pick-up process improves the traffic conditions and creates a safer environment for automobiles, as well as, pedestrians and bicyclists.

Drop-Off Procedures

- Please stay in vehicle and pull forward to the front of the parent drop-off/pick-up zone.
- Please continue to queue the line for parent drop-off along Lucy Street, but please do not block driveways.
- Please be prepared to promptly help your child(ren) exit the vehicle with their belongings upon arriving at the drop-off point. Someone will be outside to assist and direct children into school each morning.
- If you must enter the school, please park your vehicle in one of the available parking lots. Do not park in the parent drop-off/pick-up zone as this will delay others trying to drop-off their children.

Pick-Up Procedures

- Please stay in vehicle and pull forward to the front of the parent drop-off/pick-up zone.
- Please continue to queue the line for parent pick-off along Lucy Street, but please do not block driveways.
- As soon as your child(ren) are securely in the car with their belongings, pull forward and exit the drop-off/pick-up zone so that other cars may pull forward and pick up their children. Additionally, please be sure to remind your students to promptly head to pick-up area as vehicles waiting for students will delay the queue.
- If you must enter the school, please park your vehicle in one of the available parking lots. Do not park in the parent drop-off/pick-up zone as this will delay others trying to pick-up their children.

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 Estimates²

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

² 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 Cobb Middle 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. Overall, just eight percent of students commute to and from school by walking, while even fewer (less than one percent) commute to/from school by bicycle. There appear to be two primary reasons. First, outside of the immediate school area there tend to be major, busy roadways that are not conducive to walking/bicycling for middle-school aged children. 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 the condition/lack of sidewalks. However, parents indicated that having continuous and separated bicycle/pedestrian pathways, the availability of crossing guards, enforcing speed limits in school zones, and having a secure place to store bicycles were factors that 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, policy suggestions are included in this audit report to address better management and enforcement within the parent drop-off/pick-up area. Recommended infrastructure improvements are centered primarily on sidewalk projects and making existing crosswalks more visible. This is mostly due to the already well-connected network of low-volume residential streets surrounding the school.

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 February, 2013. Twenty-six classrooms participated in the survey for a total of 441 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	26
Total Students Surveyed (6th – 8th)	441

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 8% to 9%, with an overall average of 8%. Overall, the bike-to-school average for the week ranged from <1% to <1%, with an overall average of less than one percent. Of the students that bike to school, an overall average of 50% wore a bicycle helmet. In total, the combined walk-bike average for the week ranged from 8% to 9%, with an overall average of 8%.

SUMMARY OF WALKING AND BICYCLE SCHOOL-WIDE TRAVEL PATTERNS

	Walk	Bicycle	Helmet Use	Total Walk + Bike
Average Overall	8 %	<1 %	50 %	8 %
Highest Day	9 %	<1 %	100%	9 %
Lowest Day	8 %	<1 %	0 %	8 %

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 60% to 64%, with an overall average of 62%. Of the students that ride to school in an automobile, an overall average of 78% wore a seatbelt. Overall, the school bus-to-school average for the week ranged from 28% to 30%, with an overall average of 30%. The public bus-to-school average for the week ranged from <1% to 1%, with an overall average of 1%.

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

	Automobile	Seat Belt	School Bus	Public Bus
Average Overall	62 %	78 %	30 %	1 %
Highest Day	64 %	81%	30 %	1 %
Lowest Day	60 %	75 %	28 %	<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 81 parent surveys returned. Of those, 23 (28%) claimed to reside within the theoretical two-mile walk/bike radius of the school.

SUMMARY OF PARENT SURVEY PARTICIPATION

Total Enrollment	781
Total Number of Parent Surveys	81
Total Number within 2 Miles	23
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	61 %
Walk	26 %
School Bus	13 %
Bicycle	0 %
Public Bus	0 %
Other	0 %
Afternoon	
Car	52 %
Walk	35 %
School Bus	13 %
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 CONCERNS

Neighborhood Safety Concern	Number of Comments
Speeding Vehicles	5
Issues with Sidewalks/Walking	5
Issues with Parent Pick-Up/Drop Off Areas	3
Issues with Transportation Outside of School Zone	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	1	1	4	13	3
<i>#1 There were continuous sidewalks or bike paths from my neighborhood to school</i>		0	0	2	2	13	5
<i>#2 Additional crossing guards were provided at busy intersections</i>		0	2	1	4	12	3
<i>#3 Speed limits were strictly enforced in school speed zones</i>		2	1	2	4	11	2
<i>#4 The school provided a secure place for storing bicycles</i>		3	2	1	2	10	4