



Bartholomew Consolidated School Corporation Safe Routes to School Plan

PREPARED BY:
Alta Planning + Design

with Burgess & Niple

February 2012



BURGESS & NIPLE



This page intentionally left blank.

Acknowledgments

Safe Routes to School Committee

Kent Anderson - Columbus Area Metropolitan Planning Director
Jeff Bergman – City/County Planning Department
Monica Coburn - BCSC Transportation Director
Becky Douglas - City Engineer's Office
Diane Doup - Lincoln Central Neighborhood Family Center

Laura Garrett - Healthy Communities
Judy Johns-Jackson – City Community Development Dept.
Jim Lemke - City Parks & Rec Dept.
Joe Richardson - City Police Dept.
Rae-Leigh Stark – City/County Planning Department
Kelli Thompson - Healthy Communities

Karen Wetherald - BCSC Safety Manager
Lisa Williams – City Police Department
Dave Hayward - City Engineer

Safe Routes to School Task Forces

CSA Lincoln / Central Middle School

Jeff Friedgood - Central Middle School
Jill Garris - Staff
Tim Hillenburg - CSA Lincoln Asst Principal
Jay Payne - Central Asst. Principal
Chad Phillips - Lincoln Principal
Trent & Cindy Wirth - Parents

Parkside Elementary

Eric Abendroth - PTO/Parent
Kelly Geckler - Parent
Susan Hashagan - Parent
Kelly Lemley - Co-Chair PTO
Sean McAlister - Parent
Julie Owings - Parent
Christopher Smith - Principal

Richards Elementary

Cindy Bolte - Parent/TA
Pastor Dan & Lori Cash - Neighbor/Parent
Amparo Caudell - Neighbor
Richard Chisholm - Parent
Gary & Cindy Felsten - Neighbor
Cynthia Frost - Principal
Kelly Harmon - Parent/PTO President
Tami Hebert - Parent/Staff

Heidi Jones - Parent
Isabelle Sciutto - Parent/staff
Lorenda Weddle - Parent

Schmitt Elementary/ Northside Middle School

Jill Bless - Schmitt Teacher/Neighbor
Brett Boezeman - Northside Asst. Principal
Lynn Cain - Northside Librarian
Shirley Carr - Schmitt Staff/Neighbor
David Clark - CNHS Principal
Ben & Amy Davis - St. Bartholomew's School Parents
Deb Davis - Schmitt Asst. Principal
Teresa Heiny - Schmitt Principal
Dick Johnson - Northside Teacher
Laura McCracken - Northside Teacher
Kristin Munn - Neighbor/Healthy Communities
Karen Scarbrough - Schmitt Parent/Staff/Neighbor
Kathy Schubel - St. Bartholomew's School Principal
Gabriel Woon - Parent

Smith Elementary

Angela Conrad
Laura Hack - Principal
Tara Hagan - Healthy Communities/Neighbor
Therese Hawkins - Parent
Josh Knight - neighbors
Deborah Minnefield - Grandparent/Neighbor
Bethany Sedziol - Parent

Southside Elementary

Tom Green - PE Teacher
Joel Metzler - Principal
Kari Nusterer - Parent
Angela Rossi - PTO President
Rich Stenner - Parent, School Board Member

Taylorsville Elementary

Ben Wagner – Parent / City Parks & Recreation Dept.
Becky Douglas - Resident/Engineer's Office
Tonya Embree
Sally Riddle - School Nurse
Steve Souder - PE Teacher
Karen Turner - Principal

This page intentionally left blank.

Table of Contents

Executive Summary	I
Project Overview.....	I
1 Introduction.....	1-1
1.1 National Trends.....	1-2
1.2 Local Trends.....	1-5
1.3 The 5 E’s – Engineering, Enforcement, Education, Encouragement, Evaluation	1-8
1.4 Plan Process.....	1-8
1.5 Plan Goals, Objectives and Vision	1-10
2 General Issues and Communitywide Recommendations.....	2-1
2.1 General Issues	2-1
2.2 Communitywide Recommendations.....	2-1
2.3 Key Issues Discussion	2-9
2.4 School Specific Recommendations	2-10
3 CSA - Lincoln/Central Middle School Campus	3-1
3.1 Key Issues	3-1
3.2 Lincoln/Central Middle School Campus Recommendations.....	3-7
3.3 Lincoln/Central Middle School One Year Action Plan.....	3-15
4 Parkside Elementary School.....	4-1
4.1 Key Issues	4-1
4.2 Parkside Elementary Recommendations.....	4-7
4.3 Parkside Elementary One Year Action Plan.....	4-13
5 W D Richards Elementary	5-1
5.1 Key Issues	5-1
5.2 W D Richards Elementary Recommendations	5-7
5.3 W D Richards Elementary One Year Action Plan	5-13
6 Lillian Schmitt Elementary/Northside Middle School Campus.....	6-1
6.1 Key Issues	6-1

Table of Contents

6.2	Schmitt/Northside Middle School Campus Recommendations.....	6-7
6.3	Schmitt/Northside Middle School Campus One Year Action Plan.....	6-17
7	L Francis Smith Elementary (Smith).....	7-1
7.1	Key Issues	7-1
7.2	L. Francis Smith Elementary Recommendations.....	7-7
7.3	L Francis Smith Elementary One Year Action Plan	7-13
8	Southside Elementary School	8-1
8.1	Key Issues	8-1
8.2	Southside Elementary Recommendations.....	8-5
8.3	Southside Elementary One Year Action Plan	8-11
9	Taylorsville Elementary	9-1
9.1	Key Issues	9-1
9.2	Taylorsville Elementary Recommendations	9-7
9.3	Taylorsville Elementary One Year Action Plan.....	9-13
	Appendix A Regional Policies, Plans and Existing Conditions Review.....	A-1
A.1	City of Columbus Plans and Policies	A-2
A.2	Comprehensive Plan Thoroughfare Plan Element	A-6
A.3	Comprehensive Plan Bicycle & Pedestrian Plan Element.....	A-9
A.4	Subdivision Control Ordinance.....	A-10
A.5	City of Columbus and Bartholomew County Zoning Ordinance	A-12
A.6	Bartholomew County Plan and Policies	A-15
A.7	State of Indiana Related Policies.....	A-15
A.8	Bartholomew Consolidated School Corporation Plans and Policies.....	A-16
	Appendix B General Recommendations	B-1
B.1	Engineering Measures	B-1
B.2	Enforcement Measures.....	B-6
B.3	Educational and Encouragement Measures.....	B-10
B.4	Evaluation.....	B-19

Appendix C Signing for School Area Traffic Control.....C-1

C.1 School Zone Designation..... C-1

C.2 School Area Signage..... C-1

C.3 Pavement Markings..... C-2

Appendix D Safe Routes to School Resources..... D-1

Appendix E SRTS Fun Facts for BCSC School Newsletters..... E-1

Appendix F Crossing Guard Locations Map..... F-1

List of Tables

Table 1-1. 2009-2010 SRTS State Funded Projects 1-7

Table 4-1. Parkside Parent Survey and Student Talley Results.....4-2

Table A-1. Existing Plans and Adoption Dates A-2

Table A-2. Relevant Comprehensive Plan Goals and Policies..... A-3

Table B-1 Safe Routes to School Engineering StrategiesB-1

Table B-2. Common Unsafe Road User Behaviors.....B-8

Table B-3: Sample Education Materials by Audience B-11

Table B-4. Evaluation Metrics for Safe Routes to School Programs B-19

List of Figures

Figure 1-1. Obesity prevalence among U.S. children and adolescents by Age and Time Frame, 1963-2004(CDC)	1-2
Figure 1-2. Active transportation to school among youth 5 to 8 years of age	1-3
Figure 2-1. Sample decal.....	2-6
Figure 3-1. 6 th Street and Lafayette Avenue Intersection Recommendations.....	3-11
Figure 6-1. Maple Street and 27 th Street Intersection Recommendation.....	6-13
Figure 6-2. Street “Road Diet” Concept	6-15
Figure 6-3. Home Avenue “Learning Corridor” Concept.....	6-16
Figure 7-1. Taylor Road and Waycross Drive Intersection Recommendation.....	7-9
Figure F-1. Crossing Guard Locations Map.....	F-3

List of Maps

Map 3-1. CSA – Lincoln/Central Middle School Campus – Key Issues	3-5
Map 3-2A. CSA – Lincoln/Central Middle School Campus – Recommended Improvements	3-13
Map 3-2B: CSA – Lincoln/Central Middle School Campus – Recommended Improvements	3-14
Map 4-1. Parkside Elementary – Key Issues.....	4-5
Map 4-2A. Parkside Elementary – Recommended Improvements.....	4-11
Map 4-2B. Parkside Elementary – School Property Recommended Improvements	4-12
Map 5-1. WD Richards Elementary – Key Issues.....	5-5
Map 5-2A. WD Richards Elementary – Recommended Improvements	5-11
Map 5-2B. WD Richards Elementary – School Property Recommended Improvements.....	5-12
Map 6-1. Lillian Schmitt Elementary and Northside Middle School – Key Issues	6-5
Map 6-2A. Lillian Schmitt Elementary and Northside Middle School – Recommended Improvements.....	6-11
Map 6-2B. Lillian Schmitt Elementary and Northside Middle School – School Property Recommended Improvements	6-12
Map 7-1. L Francis Smith Elementary– Key Issues.....	7-5
Map 7-2A. L Francis Smith Elementary – Recommended Improvements.....	7-11
Map 7-2B. L Francis Smith Elementary – School Property Recommended Improvements.....	7-12
Map 8-1. Southside Elementary – Key Issues.....	8-3
Map 8-2A. Southside Elementary – Recommended Improvements.....	8-9
Map 8-2B. Southside Elementary – School Property Recommended Improvements	8-10
Map 9-1. Taylorsville Elementary – Key Issues	9-5
Map 9-2A. Taylorsville Elementary – Recommended Improvements	9-11
Map 9-2B. Taylorsville Elementary – School Property Recommended Improvements.....	9-12

Executive Summary

Project Overview

In early 2011 Alta Planning + Design, in partnership with Burgess and Niple began work on the Bartholomew Consolidated School Corporation Safe Routes to School (SRTS) project. The plan focused on nine schools on seven campuses: CSA-Lincoln Elementary, Parkside Elementary, Richards Elementary, Schmitt Elementary, Smith Elementary, Southside Elementary, Taylorsville Elementary and Central and Northside Middle schools. Working with the SRTS committee and local task forces representing each school in the study, the consultant team developed a plan to improve conditions for walking and biking for the nine schools and ideas to encourage students to use active transportation for school trips.

Though this report focuses exclusively on these schools, recommended improvements will also have a positive impact on safety for other students and area residents. Enrollment for the participating schools totaled 5,988 students for the 2009-10 school year.

Safe Routes to School programs directly benefit schoolchildren, parents and teachers by creating a safer travel environment near schools and reduce motor vehicle congestion at school drop-off and pick up locations. Students who choose to walk or bike to school are rewarded with the health benefits associated with a more active lifestyle, as well as learning responsibility and gaining the independence that comes from making decisions on the way they travel to school. SRTS programs offer additional benefits to neighborhoods by helping slow traffic and by providing infrastructure improvements that facilitate walking and biking for everyone.

In addition to safety improvements, a Safe Routes to School program helps integrate physical activity into the everyday life of schoolchildren. Since the mid 1970's, the number of children who are overweight in the U.S. has roughly tripled from five percent to almost 17 percent. Health concerns related to sedentary lifestyles have become the focus of statewide and national efforts to reduce health risks associated with being overweight. Children who walk or bike to school have an overall higher activity level than those who receive rides to school, even though the journey to school makes only a small contribution to activity levels.

This report provides descriptions of existing conditions at nine Bartholomew Consolidated School Corporation schools in the City of Columbus, Bartholomew County and BCSC, makes specific infrastructure recommendations to improve conditions for biking and walking and provides descriptions of many promising programs that both the city of Columbus and BCSC may want to consider. Safe Routes to School programs are developed using five complementary strategies, referred to as the “Five E’s”:

- **Engineering** – Design, implementation and maintenance of signage, striping, and infrastructure improvements designed to improve the safety of pedestrians, bicyclists, and motorists along school commute routes.
- **Enforcement** – Strategies to deter the unsafe behavior of drivers, bicyclists and pedestrians, and encourage all road users to obey traffic laws and share the road.
- **Education** – Educational programs that teach students bicycle, pedestrian, and traffic safety skills, and teach drivers how to share the road safely.

Executive Summary

- **Encouragement** – Special events, clubs, contests and ongoing activities that encourage more walking, bicycling, or carpooling through fun activities and incentives.
- **Evaluation** – Evaluating the projects and programs is fundamental to assessing successes of each of the “E’s” above and helps to determine which programs were most effective and helps to identify ways to improve programs.

After numerous Steering Committee meetings, Local Task Forces meetings and two community meetings, recommendations for each school in the plan were developed. Communitywide recommendations included the establishment of school zones around each school, a BCSC Parent Pledge programs and a No Idling program.

Highlights of the individual school recommendations are as follows:

CSA-Lincoln Elementary/Central Middle School

- Program: Promote carpooling for CSA-Lincoln parents and continue the Husky Hike programs for CSA-Lincoln and add a similar program for Central Middle School
- Infrastructure: Add a 4” wide yellow stripe two feet from the curb face in both the CSA-Lincoln and Central bus loading areas to provide a visual guide for staff and students regarding a safe distance from the buses; add pedestrian scale lighting to the fire lane adjacent to CSA-Lincoln to accommodate students traveling through that area

Parkside Elementary

- Program: Implement walking and biking school buses from surrounding neighborhoods; replace and upgrade existing bike racks
- Infrastructure: Construct a sidewalk that allows students to circumvent the school driveway as they approach from the east side of the school; construct a sidewalk on the west side of Westenedge Drive from US 31/ National Road to Parkside Drive

Richards Elementary

- Program: Implement a “Drive 25 – Keeps Kids Alive” campaign in the neighborhoods with wider streets and speeding problems; create a parent support network for those families living within the Walk Zone
- Infrastructure: Construct a 6’ wide asphalt path on the east side of Parr 3 Drive from Fairlawn Drive to Rocky Ford Road; restripe the crosswalk on Fairlawn Drive, south of the church driveway, with a ladder pattern and add an arrow sign (MUTCD W16-7P) to the existing crosswalk signage

Schmitt Elementary/Northside Middle School

- Program: Organize walking and biking school buses from surrounding neighborhoods at Schmitt; consider the use of a safety patrol to assist with arrival/dismissal and safe crossing behaviors at Northside
- Infrastructure: Create a No Parking Zone in front of Schmitt on California Street during arrival and dismissal times; stripe a crosswalk and install curbcuts in the parent access driveway at Northside

Smith Elementary

- Program: Organize a walking school bus from the neighborhood to the east of the school utilizing the pedestrian easement; periodic police enforcement of speed limits and rules of the road near the school
- Infrastructure: Improve the pedestrian easement located between the school and Dawnshire Drive by striping crosswalks, installing curbcuts and replacing depressed areas where water tends to pool

Southside Elementary

- Program: Encourage carpooling from surrounding neighborhoods; consider consolidating bus stops in each subdivision
- Infrastructure: Formalize the northern connection from the Cross Creek subdivision and connect it to school property; maintain the crosswalk on Spear Street from the fairgrounds entrance to the school

Taylorville Elementary

- Program: Institute a walk/bike/bus to school day at least once a quarter to encourage alternate transportation uses; create a support group for families living within the walk zone
- Infrastructure: Add crosswalks at south side driveways, along with sidewalk segments and curb cuts; add signage at south driveway “Do Not Block Driveway” and “Drop-off Only in AM” at front loop drive

To implement the recommendations of the Bartholomew Consolidated School Corporation Safe Routes to School Plan, the city and the school corporation should utilize the action plans created for each school. They are based on a one year forecast of reasonably attainable goals as determined by the Task Force for each school. The Action Plan is meant to complement the recommendations discussed in Chapters 3-9 and should be updated periodically with new goals as the previous goals are met or new opportunities arise.

Executive Summary

This page intentionally left blank.

1 Introduction

Safe Routes to School (SRTS) began as a European phenomenon thirty years ago spurred by high pedestrian-vehicle crash rates. In the 1970s, Denmark had Europe's highest child pedestrian-vehicle crash rate. Implementing the first Safe Routes to School program, planners in Denmark identified specific road dangers leading to the country's schools and took steps to remedy these hazards. Today, the child pedestrian-vehicle crash rate has dropped by 80% in Denmark since 1970.

Denmark's successful program migrated through Canada to New York City in 1997. Based on the initial success of U.S. pilot programs in New York, Marin County, California and Florida, Safe Routes to School became a nationwide effort in 2005, when Congress included a national SRTS program in the reauthorization of Federal highway legislation. The 2005 passage of the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU) institutionalized Safe Routes to School programs by allocating \$612 million among the fifty states. These funds have been distributed to states based on student enrollment, with no state receiving less than \$1 million per year. SRTS funds can be used for both infrastructure projects and non-infrastructure activities. In Indiana, this funding has amounted to almost \$12 million for program years 2005 through 2009.

Alta Planning + Design (Alta), in partnership with Burgess and Niple and local task forces, has been charged with developing the Safe Routes to School plans for nine Bartholomew Consolidated School Corporation (BSCS) schools. These schools are:

- Columbus Signature Academy – Lincoln Campus
- Parkside Elementary School
- Richards Elementary School
- Schmitt Elementary School
- Smith Elementary School
- Southside Elementary School
- Taylorsville Elementary School
- Central Middle School
- Northside Middle School

Though this report focuses exclusively on these schools, recommended improvements are likely to also have a positive impact on safety for other students and area residents. Enrollment for the participating schools totaled 5988 students for the 2009-10 school year.



Walk to School Day, Columbus IN 2010.

1.1 National Trends

Safe Routes to School programming is gaining popularity across the country largely as a result of national trends in health, safety, the environment, and land use.

1.1.1 Health

In less than a generation, the percentage of children age six to nineteen that are considered severely overweight has tripled, according to the National Health and Nutrition Examination Survey (NHANES). Likewise, even among the youngest children, ages 2 to 6, the rate of severely overweight children has doubled in the last thirty years.¹

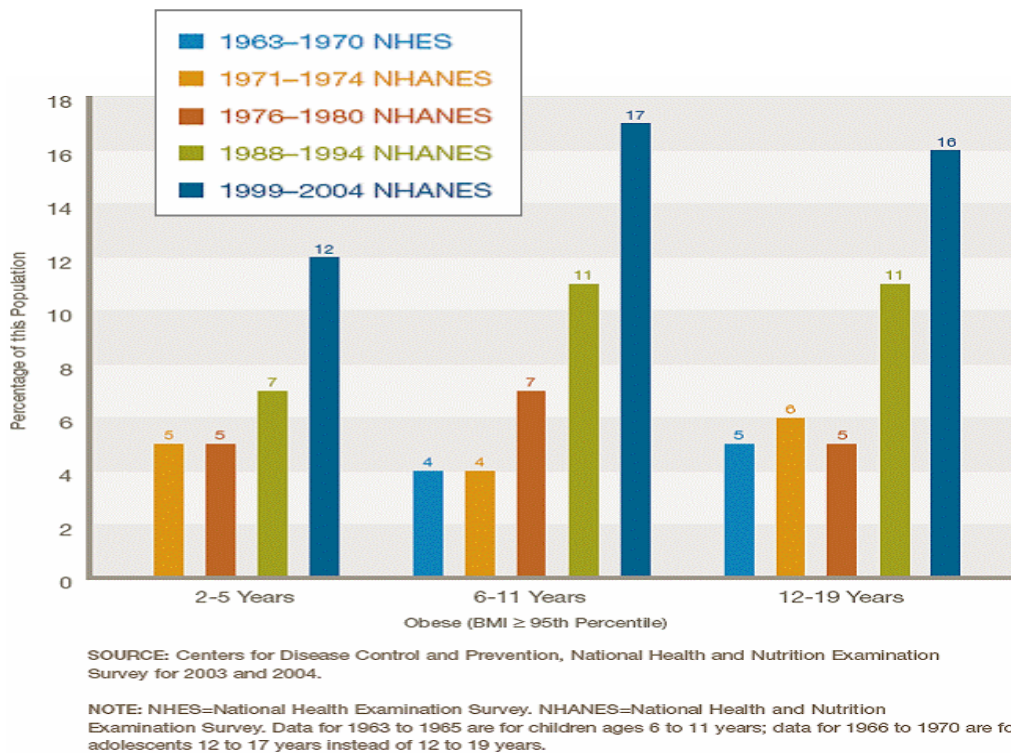


Figure 1-1.
Obesity prevalence among U.S. children and adolescents by Age and Time Frame, 1963-2004(CDC)

Obese children are at a higher risk of Type II diabetes, aggravated existing asthma, sleep apnea, and decreased physical functioning. Obesity may damage students in other intangible ways as well. Many obese children experience social stigmas and discrimination, which are believed to lead to low self-esteem and symptoms of depression. In addition, poor health and fitness impacts army recruits, and the U.S. Army has noted, “a downward trend in physical capability of our [new] soldiers,” attributed to obesity and inactivity.²

¹ U.S. Centers for Disease Control and Prevention: Overweight and Obesity. Available: <http://www.cdc.gov/nccdphp/dnpa/obesity/index.htm> Accessed: April 17, 2008.

² Cavallaro, Gina. 2009. *PT ranks No. 1 on training chief's list of things to change*. Army Times, Oct. 19.

Contributing to the obesity epidemic, recent studies have demonstrated that most children are not getting the exercise they need. Among 9 to 13 year-olds, 61.5 percent do not engage in organized physical activity during non-school hours; 22.6% do not participate in any free-time physical activity at all.³ These statistics become even more dismal as children get older. As age increases, physical activity participation drastically declines.

According to the U.S. Centers for Disease Control and Prevention (CDC), in 1969, 42 percent of children 5 to 18 years of age walked or bicycled to school. By 2001, this dropped to 16 percent—two and one half times less than the percentage of kids who walked or biked to school in 1969.

Even when the distance to school remained constant, fewer kids were walking and biking to school. In 1969, 87 percent of children 5 to 18 years of age who lived within one mile of school walked or bicycled to school. By 2001, only 63 percent of children who lived within one mile of school walked or bicycled to school.⁴

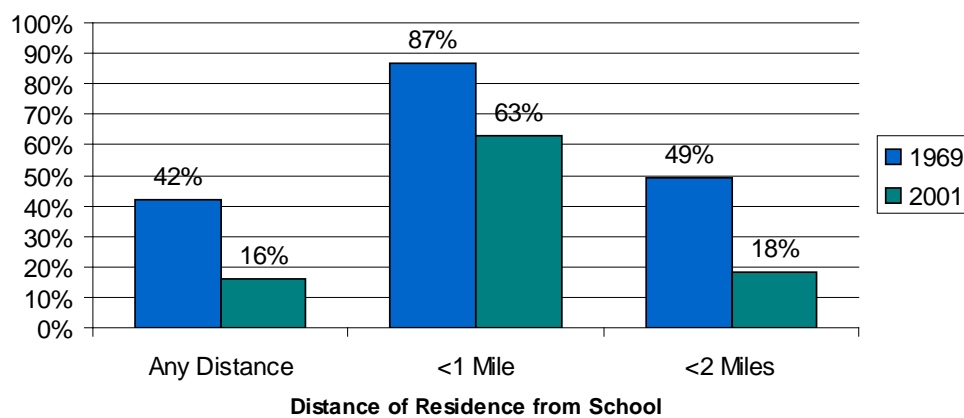


Figure 1-2. Active transportation to school among youth 5 to 8 years of age

Experts recommend that children get at least 60 minutes of physical activity or movement on most, preferably all, days of the week. Convincing or allowing students to walk or bicycle to school is one method to increase physical activity among young people and help reverse the detrimental childhood health trends of the last thirty years.

1.1.2 Safety

Americans are driving more than ever before. According to the National Highway Traffic Safety Administration (NHTSA), over the past twenty years, the number of miles Americans travel on highways has nearly doubled. This includes increased automobile trips to school. In fact, as part of the Marin County, California SRTS pilot program, the county's congestion management agency determined parents driving their children to school accounted for 20-25 percent of all morning rush-hour traffic⁵. Paradoxically, as motor

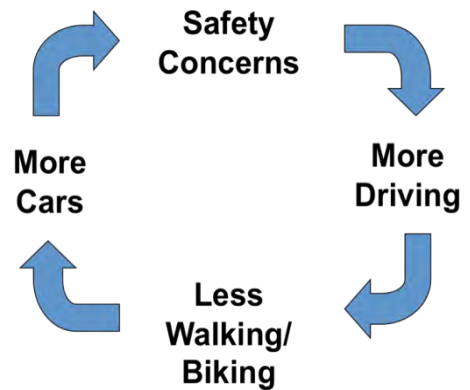
³ U.S. Centers for Disease Control and Prevention: Child and Adolescent Health. Available: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5233a1.htm> Accessed: April 17, 2008.

⁴ U.S. Centers for Disease Control and Prevention: Then and Now – Barriers and Solutions. Available: http://www.cdc.gov/nccdphp/dnpa/kidswalk/then_and_now.htm Accessed: April 17, 2008.

⁵ USDOT National Highway Traffic Safety Administration: Safe routes to School Overview. Available: <http://www.nhtsa.dot.gov/people/injury/pepbimot/bike/Safe-Routes-2002/overview.html#back2>. Accessed April 22, 2008.

vehicle traffic increases, parents often become more convinced that it is unsafe for their children to walk or bike to school so more parents drive their children to school, thereby increasing the amount of traffic experienced and justifying their perception.

Additional safety concerns about walking or biking to school were identified in a 2004 CDC nationwide survey⁶. The survey revealed the most commonly reported barrier was distance to school (62 percent), followed by traffic-related concerns (30 percent), and weather (19 percent).



1.1.3 Air Quality

Children are particularly vulnerable to air pollution because they breathe faster than adults and inhale more air per pound of body weight (up to 50 percent more). Exposure to fine particulates, from fossil fuel combustion, is associated with increased frequency of childhood illnesses including asthma. Stand outside almost any elementary school at arrival and dismissal times and you are likely to witness parents and caregivers converging in their vehicles around the school, many parked with their engines running and increasing the amount of fine particulates within the school zone.



Exhaust from idling car.

The US Environmental Protection Agency’s “Clean School Bus USA” program identified idling school buses as contributing to air pollution outside and inside of schools. Vehicle emissions can enter school buildings through air intakes, doors, and open windows⁷. Instructing bus drivers to shut off their buses also saves money. According to the Indiana

Department of Environmental Management (IDEM) a typical school bus engine burns approximately one gallon of fuel per hour. School districts that eliminate unnecessary idling can also save significant dollars in fuel costs each year, but a greater benefit to reducing vehicle emissions in the school zone is increased school attendance. Asthma is the most common chronic illness in children and the cause of most school absences. It is also the third leading cause of hospitalization among children under the age of 15.

1.1.4 Land Use Patterns

Parents who drive their children to school are reacting, in part, to decades of auto-oriented land use patterns that have neglected pedestrians and bicyclists as users of the transportation system. In many areas, auto-oriented development has hindered the creation of walkable communities. These new developments lack sidewalks or bicycle facilities and may be located too far away to make bicycling or walking practical.

⁶ U.S. Centers for Disease Control and Prevention: Barriers to Children Walking to or from School – United States, 2004. Available: <http://www.cdc.gov/MMWR/preview/mmwrhtml/mm5438a2.htm>. Accessed: April 22, 2008.

⁷ U.S. Environmental Protection Agency: National Idle-Reduction Campaign. Available: <http://www.epa.gov/otaq/schoolbus/antiidling.htm>. Accessed: April 22, 2008.

Traditionally, schools were located in the center of communities, and this close proximity to residential areas contributed to high rates of walking and bicycling to school. Beginning in the 1970s, rather than renovating existing schools or building schools within existing residential communities, most new schools were built on the edges of communities where the land costs were lower. School siting policies may also dictate a certain acreage minimum that precludes many inner-community locations. Peripheral school siting means fewer kids live close enough to these facilities to make walking or biking to school practical.

School consolidation that closes small centrally-located schools in lieu of one newer and larger facility has also meant that these small walkable schools are abandoned in neighborhoods where they were ideally situated for walking and biking.

1.1.5 Learning and Behavior

SRTS plans can help improve students' attention and behavior by increasing physical activity levels. Studies have found a significant positive relationship between physical activity and cognitive functioning in children.⁸ An examination of students who had the highest scores on standardized academic achievement tests found that the students who had the highest average scores were physically fit at both the start and the end of the study. Other studies have indicated that overweight and obese students tend to struggle in school, which can be alleviated with regular exercise. Other negative behaviors such as higher rates of school absences, detentions, violence and drug use are also more closely associated with obese and overweight students.⁹

This connection between physical activity and academic achievement may be both physical and psychological. The physical basis of the connection is related to how exercise increases oxygen and the amount of blood flowing to the brain, which has been shown to have “positive effects on concentration, planning, abstract thinking, self control and verbal and mathematical competencies.”¹⁰ Psychologically, physical activity is associated with mental health and good relationships.¹¹ By providing the opportunity to walk or bike to school, SRTS programs are able to increase the physical activity levels of students and thereby offset some of the negative effects of inactivity on the learning environment.

1.2 Local Trends

1.2.1 Bartholomew County

The Bartholomew County Safe Routes to School Committee was formed in 2007 and is composed of representatives from the City of Columbus – Bartholomew County Planning Department, Columbus City Engineer's Office, Columbus Area Metropolitan Planning Organization, Columbus Parks Department,

⁸ Sibley BA and Etnier JL. (2003). The relationship between physical activity and cognition in children: A meta-analysis. *Pediatric Exercise Science*, 15: 243-256. <http://peandhealth.wikispaces.com/file/view/Sibley+and+Etnier+2003.pdf>

⁹ Welk, G. (2009). Cardiovascular fitness and body mass index are associated with academic achievement in schools. Cooper Institute, Dallas, TX.). <http://www.cooperinstitute.org/youth/documents/fitnessresults09.pdf>

¹⁰ Safe Routes to School National Partnership. 2010. Getting Students Active through Safe Routes to School. <http://www.saferoutespartnership.org/media/file/EducatorsGuide.pdf>

¹¹ Field, T., Diego, M., & Sanders, C.E. (2001). Exercise is positively related to adolescents' relationships and academics. *Adolescence*, 36, (141), 105-109. <http://www.ncbi.nlm.nih.gov/pubmed/11407627>

Healthy Communities Initiative, and the Bartholomew Consolidated School Corporation Transportation Department and elementary school principals.

In 2007, the committee received a grant from Indiana Department of Transportation to create a Safe Routes to School program in Bartholomew County. This program was created to both encourage and educate schools, parents and children on the many benefits of walking and biking to school where it is considered safe to do so. This money was used to raise awareness, gather volunteers and purchase safety gear for students that lived within the walk zone of a school.

As part of the encouragement program, a Safe Routes to School Punchcard was created. These cards have been actively used by five schools: Schmitt, Smith, Parkside, and Taylorsville Elementary Schools and also piloted at Northside Middle School. The punchcards were designed for students to track how many days they walk or bike to school and to reward them for doing so. To complete the card, the students complete thirty round trips to school; the card is then turned in to the office and prizes are awarded. Over 450 cards have been punched by students currently living within the BSCS designated walk zones at the participating schools. Prizes range from reflective zipper pulls for backpacks and reflective shoelaces to LED safety lights.

In November of 2009 the committee received an additional grant to create a Safe Routes to School Plan for nine BCSC schools (CSA Lincoln, Richards, Parkside, Schmitt, Smith, Southside, and Taylorsville Elementary Schools and Central and Northside Middle Schools). These plans will identify areas around the school that are in need of infrastructure improvements such as intersection upgrades, sidewalk repair, bicycle facilities, enhanced lighting or traffic control and to help prioritize future projects.

The SRTS committee held events for International Walk to School Day in 2010 at four local elementary schools. Bartholomew County SRTS Committee members and national Safe Routes to School sponsor, Fed Ex handed out safety booklets and stickers for walking or biking to school that day. Approximately 200 students participated. The committee has distributed almost 2,000 LED safety lights to students and 200 bicycle helmets. The committee also hosted its first annual Bike Rodeo in May 2010 to teach kids important safety skills associated with riding a bike. The second Bike Rodeo was held in August of 2010.

1.2.2 Bartholomew Consolidated School Corporation

All schools in the BCSC have developed arrival/dismissal plans for traffic control. Southside Elementary and Taylorsville Elementary have also developed a brochure for parents use that explains the arrival/dismissal procedures. These plans organize the school site in order to separate the various modes of traffic that are typically found at a school. Bus traffic and automobile traffic are physically separated to decrease congestion. These plans often work in conjunction with staggered release times for bikers and walkers, bus riders and car riders.

1.2.3 State of Indiana

Federal SRTS funding is distributed through the Indiana Department of Transportation (INDOT)¹². The SRTS program distinguishes between infrastructure and non-infrastructure items. Infrastructure elements include sidewalk improvements, traffic calming and speed reduction measures, bicycle and pedestrian crossing

¹² <http://www.in.gov/indot/2956.htm>

improvements and traffic diversion improvements in school neighborhoods. Non-infrastructure activities include all items not considered to be engineering projects, including the creation of promotional materials, SRTS training workshops, small incentives for SRTS contests and the creation of SRTS plans. Table 1-1 illustrates the various programs and improvements being employed throughout the state of Indiana. The projects are all being funded by the National SRTS program.

Table 1-1. 2009-2010 SRTS State Funded Projects

Project Type	Year	City	County	Project Summary	Schools involved
Infrastructure	2010	Delphi	Carroll	Shared use paths, crosswalks, curb ramps, signs, speed feedback signs	2
Infrastructure	2010	Galveston	Cass	Sidewalks, crosswalks, curb ramps, signs, school flashers	1
Infrastructure	2010	Brownsburg	Hendricks	Shared use paths, crosswalks, curb ramps, signs	2
Infrastructure	2010	Franklin	Johnson	Sidewalk, pedestrian bridge	2
Infrastructure	2010	Crown Point	Lake	Sidewalks, crosswalks, curb ramps	1
Infrastructure	2010	Lawrence	Marion	Sidewalks, shared use path, crosswalks, signals	4
Infrastructure	2010	Culver	Marshall	Sidewalks, crosswalks, curb ramps, flashing beacons	2
Infrastructure	2010	Angola	Steuben	Sidewalks, curb ramps	1
Non-infrastructure	2010	Delphi	Carroll	SRTS Plan, education and training, incentives	2
Non-infrastructure	2010	Winamac	Pulaski	SRTS Plan, training, incentives, encouragement, promotion, enforcement, equipment	2
Non-infrastructure	2009	Carmel	Hamilton	SRTS Plan, encouragement, outreach, education, enforcement, equipment, incentives	5
Non-infrastructure	2009	Indianapolis	Marion	SRTS Plan, encouragement, outreach, enforcement, equipment, incentives	1

1.3 The 5 E's – Engineering, Enforcement, Education, Encouragement, Evaluation

Safe Routes to School includes a variety of programs aimed at increasing the number of students walking and biking to school. Such programs and projects improve traffic safety and air quality around school areas through education, encouragement, increased law enforcement and engineering measures. The best Safe Routes to School programs typically involve partnerships between municipalities, school districts, community members, parent volunteers and law enforcement agencies.

Safe Routes to School programs are developed using five complementary strategies, referred to as the “Five E’s”:

- **Engineering** – Design, implementation and maintenance of signage, striping, and infrastructure improvements designed to improve the safety of pedestrians, bicyclists, and motorists along school commute routes.
- **Enforcement** – Strategies to deter the unsafe behavior of drivers, bicyclists and pedestrians, and encourage all road users to obey traffic laws and share the road.
- **Education** – Educational programs that teach students bicycle, pedestrian, and traffic safety skills, and teach drivers how to share the road safely.
- **Encouragement** – Special events, clubs, contests and ongoing activities that encourage more walking, bicycling, or carpooling through fun activities and incentives.
- **Evaluation** – Evaluating the projects and programs is fundamental to assessing successes of each of the “E’s” above and helps to determine which programs were most effective and helps to identify ways to improve programs.

1.4 Plan Process

Formation of the SRTS program for the County was a community-driven effort with planners from the Alta team working in tandem with the SRTS Task Force at each school, the Bartholomew County SRTS Committee and community members. Development of the plan entailed collecting and analyzing information, identifying community needs and priorities and recommending steps to remedy existing problems and accomplish community goals and visions.

The process included various Task Force reviews at key benchmarks in the process. Over a 6-month period, there were four Bartholomew County SRTS Committee meetings, four local SRTS Task Force working meetings and two community meetings. The plan was prepared using this outline:

- Start Up and Visioning; Existing Conditions and Current Issues
 - SRTS Plan Start Up
 - Meetings Round #1 (held February 29 – March 3, 2011)
 - Collect and Review Existing Information
 - Conduct Walking/Biking School Site Tours
 - Meetings Round #2 (April 2011)

- Draft and Final Plans
 - Develop Recommendations
 - Meetings Round #3 (review draft plan and recommendations, May 2011)
 - Meetings Round #4 (review final plan, December 2011)
 - Finalize SRTS Plan (February 2012)

1.4.1 Roles of Various Groups in the BCSC Safe Routes to School Process

The goal of this project is to craft Safe Routes to School Plans that each school team can use to be successful in increasing the number of students biking and walking to school, both in the short and long term. Included with each recommended project or program in this document will be recommendations for school team members and their roles to help ensure its success. The basic groups with a stake and role in the Safe Routes to School planning process and implementation are listed below.

School Administrators

School administrators and teachers play an important role in implementing the recommendations contained within each Safe Routes to School Plan. School administrators and the School Board are the key stakeholders in a Safe Routes to School program and have the responsibility for keeping the program active over time. With the direction of the school administration, the individual principals must be the force for change and improvement. School administrators and teachers can help make policy and procedural changes to projects that are within school grounds and have the responsibility to distribute informational materials to parents within school publications. Teachers also have the opportunity to incorporate the programmatic recommendations of the Safe Routes to School Plan into their teaching curriculum and can have a dramatic effect on student's enthusiasm for walking and bicycling.

Parents / Residents / PTO

Parents and local residents play an important role in the Safe Routes to School process. It is the energy and involvement of this group that will keep the recommended projects within this plan visible to School Administrators and the City and County. This group, including the Parent Teacher Organization (PTO), has the ability and the responsibility to maintain momentum and help implement most of the recommendations suggested in this plan. This group can also help fundraise for smaller projects and programs that can be implemented without large expenditure of public resources.

Bartholomew County Safe Routes to School Committee

The Bartholomew Safe Routes to School Committee formed in 2007 and was instrumental in securing funding to create this plan. They have initiated many of the existing encouragement programs and should continue to be involved in district-wide initiatives. This committee should continue to include parents, school neighbors, county staff, city staff, school staff, public health professionals, elected officials and a law enforcement representative and an engineer.

Safe Routes to School Local School Taskforces

Members of the individual school task forces have been involved throughout the SRTS planning process, but should be formally organized to focus future Safe Routes efforts. Each task force, as a group, provides continuity and communication between the schools and the school corporation and acts as an information resource on Safe Routes to School. The task force should be at least minimally involved in all projects resulting from this plan.

Healthy Communities

Healthy Communities is a local collaborative that promotes healthy lifestyles as one of its goals and has served on the Bartholomew County SRTS committee since its inception. This organization should play a supportive role in efforts led by individual schools, the Bartholomew County SRTS steering committee and the Safe Routes to School task forces, and assist where appropriate with grant applications, promoting encouragement and educational activities, and evaluating the SRTS program.

Local Government

Columbus City Council, administrative staff, the Police, Parks and Recreation, Planning and Engineering Departments should play a supportive role in efforts led by the individual schools and the Safe Routes to School task forces. The City should assist where appropriate with spot improvements (budget allowing), grant applications, cost estimates, and implementation once funding is secured.

Ideally, the County and the City should add the infrastructure projects in this Plan to their Capital Improvement Projects list (CIP). Minimally, the County and the City should review the Safe Route to School plans periodically, and specifically during proposed development review or if there is upcoming road work to be done at, or near the school. For example, if major road or sidewalk work is to be performed near a school, the City should reference this document to determine if there are any projects recommended for the same location, and add them to the work to be performed. Where roadway jurisdiction varies from street to street the City should work with the county and state transportation agencies to add the school project to the proposed street project.

The Columbus Police Department will be instrumental to the success of some of the enforcement policies proposed in this plan. The Police Department will also have roles and responsibilities in working with school administration and the Safe Routes to School task forces in providing officers and assistance to some of the proposed education and encouragement programs.

1.5 Plan Goals, Objectives and Vision

Vision Statement

Bartholomew Consolidated School Corporation and the Bartholomew County Safe Routes to School Committee are committed to ensuring that our students can utilize physically active transportation, such as walking and bicycling, for a safe and enjoyable trip to school. This Safe Routes to School Plan aims to address the issues that impede active transportation and seeks to strategically solve these problems by implementing a Safe Routes to School program.

Goals

Goals are general, broad statements that express the overall focus of this Safe Routes to School Plan. Goal statements answer the question, “What do we want to achieve?”

Objectives

Objectives are specific, measurable activities that answer the question, “How will I meet my goal?”

Goal 1. Prioritize transportation infrastructure construction projects that enable more children to walk to school

Objectives

1. Using information gathered from the current condition observations, create a priority list for street and sidewalk improvement programs focusing on sidewalk access to school campuses.
2. Coordinate the efforts with the City’s Comprehensive Plan, subdivision regulations and street and sidewalk improvement programs
3. Educate public officials on the roles of sidewalks/complete streets in creating a comfortable environment for non-motorized transportation users
4. Prioritize the good of the entire neighborhood vs. localized improvements
5. Recognize and address property owner concerns and engineering issues related to sidewalk installation in existing neighborhoods
6. Create, clarify and enforce sidewalk maintenance responsibilities, such as vegetation trimming and snow removal

Goal 2. Educate parents and students about the rules of the road for pedestrians, bicyclists and motorists, especially in school zones

Objectives:

1. Integrate bicycle and pedestrian issue education into elementary and middle school curriculum
2. Develop school-based programs that educate students and their parents on safe walking and bicycling practices
3. Continue to build, maintain and encourage partnerships that support active transportation

Goal 3. Increase the levels of community-wide awareness of the school zone environment – i.e. congestion, pollution, safety concerns, safe driving etc.

Objectives

1. Create a unified, recognizable “school zone” for Bartholomew Consolidated School Corporation schools
2. Educate community members on the rights and responsibilities of motorists, bicyclists and pedestrians

Chapter 1

3. Develop enforcement programs that maximize compliance with laws that apply to bicyclists, pedestrians and motorists, especially in school zones

Goal 4. Improve arrival/dismissal procedures and locations at schools to reduce congestion and increase safety conditions for those children who are walking and biking to school

Objectives

1. Increase the number of children who walk or bike to and from school as a result of increased traffic safety of school zones
2. Implement a “No Idling” campaign at each school
3. Analyze traffic patterns to ensure maximum separation of motorized and non-motorized transportation modes

2 General Issues and Communitywide Recommendations

2.1 General Issues

Safe Routes to School (SRTS) refers to a variety of multi-disciplinary programs aimed at increasing the number of students walking and bicycling to school. Such programs and projects are developed with the intent to improve traffic safety, air quality around school areas and the health of school children by increasing the options for daily physical activity. This is accomplished through engineering measures as well as a variety of education, encouragement, enforcement, and evaluation programs intended to foster human behavior that supports walking and bicycling to school.

Before developing the programs, it is important to understand the underlying issues that are common to most school area traffic problems that present barriers to active travel to school by children. The issues are generally a result of infrastructure and human behavior that are inconsistent with conditions that foster safe and convenient walking and bicycling.

This chapter addresses the issues and opportunities observed by school staff, the Bartholomew County Safe Routes to School Committee, Task Force members, parents and the consultant team throughout the development of this plan. This chapter presents possible solutions to alleviate, improve or diminish existing concerns and to use the best practices available for increasing non-motorized active transportation options for each school in the plan.

The recommendations in this chapter have been developed around the 5 E's for Safe Routes to School. The 5 E's are as follows:

- Engineering
- Enforcement
- Education
- Encouragement
- Evaluation

2.2 Communitywide Recommendations

Communitywide recommendations are more generalized activities and actions that should take place throughout the school corporation to consistently promote the 5 E's. The school-specific walk zone and neighborhood recommendations found in later chapters include facility suggestions and programs to improve conditions for walking and biking at each school site and in its vicinity. Both sets of recommendations should occur in tandem to enhance their effectiveness.

A review of the commonly used approach to SRTS planning – a variety of multi-disciplinary programs and facility improvements centered around five core areas – Engineering, Enforcement, Education, Encouragement and Evaluation can be found in Appendix A – General Recommendations. These various programs and

improvements comprise the toolbox from which a community can implement the goal of increasing the number of students who walk or bike to school. The following recommendations are based on issues identified during the data collection phase of the project. Data was compiled from site visits, sidewalk and intersection inventories, task force and SRTS committee involvement, SRTS surveys and public comment.

These recommendations will be most effective when applied concurrently with the school-specific and neighborhood recommendations located in subsequent chapters. The following table lists the key infrastructure issues of the community and school corporation.

**Table 2-1.
Communitywide Engineering/Infrastructure Issues**

Communitywide Engineering/Infrastructure Issues	
School Zone	
<ol style="list-style-type: none"> 1. Lack of easily identified school zone 2. Lack of consistent school zone signage 3. Lack of consistent speed limits within school zones 4. School campus is not designed with bicycling and walking in mind 	
Surrounding Neighborhood	
<ol style="list-style-type: none"> 1. Missing curb ramps 2. Lack of sidewalk in some areas, gaps and poorly maintained sidewalk in other areas 3. Insufficient street lighting in some areas 4. Gaps in multi-use paths that lead to the schools 5. Crosswalks are often not marked or the paint is faded 6. Lack of high visibility treatments at high volume intersections near schools such as zebra striped crosswalks 7. Parking is permitted near the schools and intersections which diminishes sight lines 8. Lack of pedestrian components to traffic lights 9. Missing connections within the surrounding neighborhood 	

2.2.1 School Zone Issues

A School Zone is identified as either the streets that abut a school property or streets where an established school crossing is appropriately signed to define the area. Traffic speeds are reduced in the zone during arrival and dismissal times, signaling to motorists that vulnerable road users may be present.

Recommendations

1. Work with the School Corporation and the appropriate local government to create a School Zone around each school in the corporation. Reduced speed and related signage should be in compliance with local ordinances and the MUTCD. Speed and signage designating the School Zone should be consistent within the City and the Corporation. All existing school zone signage should be removed or reused to be in compliance with MUTCD standards.

2. Stripe or restripe all crosswalks that abut a school property with a high visibility treatment such as zebra striping.
3. Educate parents, motorists and the general public to the presence of the School Zone and encourage motorists to slow down and look for students walking and biking to school. This can be achieved through the use of a School Zone Traffic Safety Campaign. The campaign can also include a pledge for parents and bus drivers which commit parents and bus drivers to driving more slowly in school zones and can help educate parents about new policies such as drop-off/pick-up procedures. The campaign can kick off at the start of each school year or in conjunction with special events or policy changes.
4. Consider developing a safety patrol program that utilizes older students in assisting pedestrians and bicyclists across intersections; these programs are not intended to replace crossing guards but rather to supplement their efforts. The presence of the safety patrol can further define the concept of a School Zone.

2.2.2 Surrounding Neighborhood Issues

Surrounding Neighborhood Issues have been divided into four categories: Deficiencies in the sidewalk network, lack of connection between nearby existing multi-use paths and school properties, lack of pedestrian accommodation at signalize intersections and lack of parking restrictions.

Deficiencies in the sidewalk network

Gaps in the sidewalk network can make it difficult for students to walk to school, as they must either walk in the street with other traffic if no sidewalk is available, or cross to the other side if sidewalk is available on only one side of the street. Additionally, sidewalks in disrepair, missing curb ramps, street lighting and lack of marked crosswalks due to either fading or non-existent paint further erode the pedestrian environment.

Recommendations

1. Work with the appropriate jurisdiction to establish a sidewalk replacement policy and prioritize segments for construction or replacement. This priority list could be used to fill in gaps within a school's walking zone first.
2. Enforce the existing sidewalk maintenance/snow removal ordinance within the city to ensure that existing sidewalks are available for student use. Educate the public on this ordinance and the importance of sidewalk snow removal via newsletters, utility bill insertions and seasonal marketing efforts.
3. Install curb ramps at critical intersections within the city, prioritizing those within the current walk zone of each school first.
4. Install or replace insufficient street lighting. Priority should be given to areas within the current walk zone of each school.
5. Paint or repaint all crosswalks on arterials or on collector streets with high pedestrian volumes. Priority should be given to those crosswalks located within the current walk zone of each school.

Lack of connection between nearby existing multi-use paths and school properties

People Trail and other paths and public sidewalks assist with connectivity in neighborhoods. Currently, many of these facilities are present but not connected through the school property to a school building entrance.

Recommendations

1. Work with the School Corporation and corresponding municipality to construct multi-use paths or sidewalk connector segments that will connect existing facilities with a school entrance.
2. Alert students and their parents to the presence of these connections once constructed. This can be achieved via a Bike or Walk to School day or with a ribbon cutting once construction is complete.

Lack of pedestrian accommodations at signalized intersections

There are several location in the City of Columbus where signalized intersections lack pedestrian accommodations. Usually at these locations, pedestrians cannot activate a signal in order to cross a street.

Recommendations

1. Install pedestrian push buttons and countdown timer pedestrian signal heads on all legs of crossings located near schools.
2. Include Leading Pedestrian Interval (LPI) in signal timing when a pedestrian signal is activated. Three to five seconds will allow pedestrians to leave the curb and gain visibility within the intersection before parallel traffic receives a green signal.
3. Upgrade pedestrian crossing markings to zebra style for crossings within close proximity to a school.

Lack of parking restrictions

Currently there are few parking restrictions in residential neighborhoods and school zones within Columbus. Motorists often park directly in front of the schools on adjacent streets or very close to intersections, which can diminish sight lines.

Recommendations

1. Work with the City and the BCSC to restrict parking on school grounds and on adjacent streets in front of school entrances to “No Parking on School Days”. Enforce these restrictions periodically via ticketing and police involvement.
2. Restrict parking at intersection to increase pedestrian sight distance.

**Table 2-2.
Communitywide Human Behavior Issues**

Communitywide Human Behavior Issues	
A. Parent Drivers	Failure to follow arrival/dismissal procedures
	Distracted driving
	Speeding on school grounds or in school zone
	Idle cars for extended periods
B. General Public Drivers	Failure to yield to bicyclists and pedestrians
	Disregard for speed limits, signs and signals
	Distracted driving
	Failure to follow crossing guard's instructions
C. Pedestrians	Failure to follow directions of the crossing guards
	Crossing the street mid-block without the benefit of a crosswalk
	Darting between parked cars
	Wearing dark clothes when natural light is low
D. Bicyclists	Darting onto the street without looking left and right
	Riding in traffic without paying attention to traffic rules
	Riding on the sidewalk without giving pedestrians the right-of-way
	Not wearing high visibility clothing and having a light on their bike at dusk or dawn
	Not wearing a bike helmet
E. Neighbors	Failure to maintain landscaping to keep the sidewalk clear
	Failure to remove snow and ice from sidewalks
	Lack of yielding to bicyclists and pedestrians
	Parking vehicles in front of home that block sidewalks, placing trash receptacles in the middle of the sidewalk on collection day

2.2.3 Human Behavior Issues – Parent Drivers

Automobiles are the biggest danger posed to most bicyclists and pedestrians. While Columbus maintains an efficient system of roadways for motorized vehicles, conflicts emerge when other modes are introduced into the system, especially at intersections. When pedestrians cross the street and bicyclists utilize local roadways, they share the transportation network with automobiles. A major concern, therefore, is the behavior of motorists, especially in school zones or where they encounter crosswalks communitywide. This problem with motorists extends beyond city streets and onto the school campuses themselves, where the confusion of student drop-off and pick-up puts bicyclists and pedestrians at risk. Distracted driving is commonplace, with motorists talking or texting on cell phones, eating or applying makeup while operating their vehicles.

Recommendations

1. Implement a School Zone Safety Campaign (Figure 2-1)
2. Enforce speed limits within the school zones with periodic police patrol
3. Distribute a Parent Pledge at the beginning of the school year that asks parents to commit to a designated set of rules such as:
 - Slow down
 - Be alert
 - Be patient
 - Review and know your school rules and procedures
 - Cross only at crosswalks
 - Stay off cell phones
 - Stop the car completely when loading/unloading your children
 - Watch for hazardous/slippery road conditions
 - Enjoy the time with your children



Figure 2-1.
Sample decal.

Once the pledge is signed and returned, parents are issued a decal for display in their vehicle.

4. Implement a “Back to School Blitz.” Typically a “Back to School Blitz” is held at the beginning of the school year to promote busing, carpooling, walking and biking as school transportation options. They are usually held at individual schools, but events can be combined at schools in close proximity to each other. The “Back to School Blitz” program is discussed in detail in Appendix B.
5. Implement a “No Idling” campaign where parents commit to turning off their vehicles while waiting in the queue at dismissal time. Participants can receive bumper stickers, rearview mirror hangers or placards for their vehicles.

2.2.4 Human Behavior Issues – General public drivers

Motorists often feel they are the only users with rights to the road. Commonly observed behaviors in Columbus include speeding, distracted driving, failure to yield to pedestrians and failure to follow the rules of crossing guards. Addressing these concerns will greatly improve the environment for pedestrians and bicyclists throughout the community.

Recommendations

1. Implement targeted speed enforcement programs at the beginning of the school year and then sporadically through the school year near and in school zones.
2. Position a police officer at locations where motorists repeatedly ignore or endanger the crossing guards.

3. Consider the use of speed trailers to alert motorists to their current speed in the school zone. Trailers should be moved periodically from school to school and should not be positioned too long in one location at they become less “visible” with time.
4. Utilize occasional pedestrian sting programs where police officers act as pedestrians crossing the street in marked crosswalks near schools or in locations known to be problematic. Motorists who fail to yield the officer are issued warnings at first and citations if they continue to violate the law.
5. Hold regular traffic safety days. These special events, sponsored by the City and County with School Corporation involvement are intended to alert parents and other motorists about the importance of pedestrian and driver safety in school areas and to encourage children to walk or bicycle. Participants should include school officials, parents, police and community volunteers. Transportation professionals can assist by monitoring crosswalks and roadways to observe traffic, parking or other safety problems.

2.2.5 Human Behavior Issues – Pedestrians

Students may not realize that behaviors such as jaywalking, crossing midblock or wearing dark clothing in poor lighting conditions may put them at higher risk for a vehicle collision. Pedestrian and bicycle safety education makes sure that each student understands basic traffic laws and safety rules. Pedestrian safety education teaches children basic traffic safety rules, sign identification and decision-making tools. Pedestrian training is typically recommended for first- and second-graders, and teaches basic lessons such as “look left, right, and left again,” “walk with your approved walking buddy,” “stop, look, and listen,” and “lean and peek around obstacles before crossing the street.”

Recommendations

1. As part of their regular enforcement, the Columbus Police Department should check that children walking to school are obeying traffic laws, and use enforcement as an opportunity to educate them on proper traffic behavior.
2. Education efforts should begin in kindergarten with safe walking basics, such as where to cross the street and looking “left, right, and then left again”.
3. Involve a multitude of sources such as teachers, parent volunteers, police & fire personnel and traffic safety advocates to implement educational lessons in to health, science, physical education and other class-lesson plans.
4. Encourage classroom teachers to use established pedestrian safety curriculum, such as the curriculum taught by the Bicycle Transportation Alliance¹ to make sure students know how and where to walk and cross the street.

¹http://www.bta4bikes.org/at_work/pedsafetyeducation.php

5. Use trained safety professionals to administer pedestrian safety in the classroom or gym class.
6. Additional resources for these programs are available from The National Safe Kids Campaign²

2.2.6 Human Behavior Issues– Bicyclists

Like student pedestrians, student cyclists may also be unclear on safe bicycling practices. Issues such as riding in traffic without adhering to rules, wearing dark clothing in poor lighting conditions, riding on the sidewalk without yielding to pedestrians and not wearing a helmet are common behaviors of student bicyclists in Columbus. Bicycle safety training is normally appropriate beginning in or after the third grade and helps children understand that they have the same responsibilities as motorists to obey traffic laws. The League of American Bicyclists offers an extensive bicycle safety curriculum called Kids II. This seven-hour class is aimed at 5th and 6th grade students and teaches necessary bicycle riding skills and how to pick safe bicycling routes. The curriculum is designed to have a League Certified Instructor (LCI) teach the class. There are three LCIs located in Bloomington and four LCIs located in Indianapolis.³ This program or a similar program can be used to teach students where and how to ride a bicycle.

Recommendations

1. Include lessons given by law enforcement officers or other trained professionals in the school curriculum or lessons developed by teachers. Example lessons include Helmet Safety, Rules of the Road for Bicycles, and Health and Environmental Benefits of Biking
2. Utilize sponsors for helmet giveaways and when distributed, educate students on the proper helmet fit
3. As part of their regular enforcement, the Columbus Police Department should encourage children bicycling to school to obey traffic laws and use enforcement as an opportunity to educate them on proper traffic behavior
4. Solicit volunteers or parents from the neighborhood familiar with the rules of the road to lead bike buses, so students can model appropriate bicycling behavior
5. Continue to host an annual bike rodeo and consider expanding the program to include more schools

2.2.7 Human Behavior Issues – Neighbors

Residents who live in the neighborhood of a local school may not realize the impact their behavior may have on students walking or biking to school. Overgrown vegetation, erratic parking patterns and failure to remove snow or ice from a sidewalk all make it more difficult for students to safely navigate their way to school. Additionally, some neighbors may also exhibit the characteristics mentioned above for drivers in general, such as failure to yield to pedestrians and distracted driving. Addressing the issues affecting walking

² www.safekids.org/members/unitedStates.html

³ <http://www.bikeleague.org/cogs/resources/findit/>

and biking to school will serve to make the neighborhood more bicycle and pedestrian friendly for all users of non-motorized transportation.

Recommendations

1. Remind neighbors of ordinances related to brush trimming and snow removal in newsletters, utility bill inserts and materials brought home from school
2. Periodically enforce traffic control measures in neighborhoods adjacent to schools
3. Enforce parking restrictions in neighborhoods adjacent to schools such as not parking too close to intersections or across sidewalks
4. Implement a neighborhood wide “Back to School” marketing campaign alerting neighbors to the presence of schoolchildren and how they can help to keep the neighborhood safe for them; consider doorhanger tags, yard sign campaigns and presentations at neighborhood association meetings

2.3 Key Issues Discussion

During the week of March 31, 2011 Alta Planning + Design conducted a series of meetings and site visits to nine schools in the BCSC. The purpose of the meetings and the site visits was to gather information from parents, staff and students at the schools and to witness arrival and departure at each of the schools. This work guided the SRTS Committee and the planning team in the development of recommendations to make the school properties and the surrounding neighborhoods safer for bicycling and walking to school. Recommendations for improving walking and bicycling conditions for students were also informed by the SRTS surveys administered at each school. The Parent Survey asks for information about what factors affect whether parents allow their children to walk or bike to school, the presence of key safety-related conditions along routes to school, and related background information. The Student In-Class Travel Tally was developed to help measure how students currently arrive and depart from school and whether the SRTS Program will have a measurable effect on trips to and from school in the future. Teachers use the tally sheet to record specific information about how children arrive and depart from school on two separate days during one week.

The following chapters contain issues discussion for each school. Recommendations are included based on the findings at each school. Each school discussion contains a list of specific infrastructure issues identified during the assessment of the area which should be considered for future improvements to increase the number of children walking and bicycling to the schools.

Data sources for these chapters include:

- Healthy Communities Sidewalk/Street/Intersection Data
- Task Force Meetings
- Community Meeting (Feb 28, 2011)
- Site Visits
- National Center for Safe Routes to Schools Surveys
- SRTS Committee Meetings

2.4 School Specific Recommendations

The recommendations found in the following chapters are based on the identification of key issues by residents, parents, school administrators and teachers, the SRTS committee and local task forces, and the consultant team. These recommendations are school-specific and are expected to facilitate the improvement of bicycling and walking conditions directly at the school site and within the immediate neighborhood or BCSC designated Walk Zone for each school.

Infrastructure categories for improvement include:

Connections – these are important links that will facilitate improved access for walking and bicycling to school. They should be constructed with either 5 foot wide sidewalks or an 8 foot wide asphalt path – depending upon the exact location. The city, county and/or school corporation will have to work with the landowner to acquire the ROW or get a permanent easement if necessary. Signage should also be added to highlight the connections to the surrounding neighborhood and its residents.

Sidewalks – these should be built in accordance with local ordinances.

School Property – these recommendations refer to those specifically located on school grounds.

Corridor of Importance – are streets that have higher traffic volumes and traffic speeds and are in close proximity to the school being discussed. Due to the likelihood of students using these streets to get to and from school these streets should receive a higher level of bicycle and pedestrian accommodation than they might otherwise. An incomplete list of design features to consider include, curb bump outs, pedestrian islands, longer walk phases in the signal phasing, bike lanes, sidewalks and high visibility cross walks. In all cases, they should be considered for ‘Complete Streets’ reconstruction when the opportunity arises.

Signing for School Area Traffic Control – these are the specific locations where school zone signage should be placed to designate the school zone.

Recommended Intersection Improvements – these are explained below.

“Recommended Treatment Levels “ are derived using the guidance described in Appendix C – Crossing Treatment Guide of the Columbus Indiana Bicycle and Pedestrian Plan. As with the installation of any traffic control device, engineering judgment is essential. All crosswalk pavement markings and signs shall be selected, designed and installed in conformance with the MUTCD.

3 CSA - Lincoln/Central Middle School Campus

CSA- Lincoln address: 750 5th Street, Columbus, IN 47201; enrollment: 287

Central Middle School address: 725 7th St, Columbus, IN 47201; enrollment: 911

3.1 Key Issues

CSA-Lincoln and Central Middle School share a campus between 5th Street and 7th Street from Pearl Street to Chestnut Street. CSA (Columbus Signature Academy) - Lincoln is a Project-Based Learning magnet school and therefore draws students corporation-wide. The report will refer to this school as “Lincoln”. The SRTS team visited the campus during dismissal on February 28th, 2011. It was a sunny but windy and cold day. Even with the temperatures in the low 30s, the SRTS team witnessed a few students walking and bicycling home.

3.1.1 Parent driver staging area

Lincoln: Parents use Pearl Street to access the 6th Street driveway which winds behind the school on the north side and exits onto 5th Street on the east side of the school through a fire lane. There were more than thirty cars waiting for students on the day of the site visit. The elementary school dismisses for the day about 15 minutes before the middle school so that all of the elementary students have left campus by the time the middle school bell rings for dismissal.

Central Middle: More than twenty vehicles were queued up waiting for middle school students in the loop drive/parking lot that serves the newly constructed middle school. There were two staff members that encouraged the parents to pull as far forward as possible in the loop before loading their students. This system was not as efficient as those observed at other schools in the study.

3.1.2 Student walking and biking

Only two students were observed walking home from Lincoln during the site visit. The lack of walkers for Lincoln is attributed to the open enrollment of students from all over the corporation, as it is a magnet school. In fact, the principal confirmed that very few (2 to 4) of his students actually live in the neighborhoods immediately surrounding the school.

Less than 10 middle school students were seen walking home which correlates with the tally from the May 2010



Lincoln Elementary's daily parent driver queue at dismissal.



Congestion in the Middle school horseshoe driveway can be a challenge for pedestrians to navigate.

survey, which reported only 2% of students walk in the morning and 3% in the afternoons. Two middle school students were observed riding their bicycles, both heading north away from the school.

3.1.3 Bus staging area

Lincoln: Buses load and unload in a pull off area located in front of the school on 5th Street. There are four buses and the principal reports that loading and unloading is very quick.

Central Middle: The middle school has 12 buses each morning and afternoon. The buses use a reserved lane (separated by a raised curb median) on 7th Street to load and unload. In the afternoon, the buses park very close together front to rear to discourage students from cutting between the buses to get to cars waiting for them on Sycamore Street and 7th Street. This system does not work in the morning during arrival as the buses do not all arrive at the same time. Staff in the bus loading zone report that one of their biggest concerns is people dropping off students on 7th Street, sometimes without pulling to the curb. The staff also expressed concern about students moving about in the early morning before daylight in dark clothes and the lack of street lighting in the neighborhood.



The crosswalk located on 7th Street by the bus staging area is a challenge for safe crossing.

3.1.4 Specific infrastructure issues

The Lincoln/Central Middle School campus is located in a downtown, older residential neighborhood which has a complete sidewalk network between 14th Street and 2nd Street. A list of specific infrastructure issues was identified in the assessment of the area and should be considered for future improvements to assist children walking and bicycling to Lincoln/Central Middle School.

- The condition of sidewalk and availability of curb ramps is inconsistent. Strategic sidewalk repair and ramp installation will be necessary in the neighborhood surrounding the school.
- The walk zone of both schools contains three challenging intersections: 5th Street at Pearl Street, 5th Street at Chestnut Street and Chestnut Street at 7th Street. These are all stop sign controlled intersections without any special treatments for pedestrians.
- In the spring of the 2010-2011 school year, the principal of Lincoln began the “Husky Hikes” program. Each Friday morning parents had the option of dropping off their student at Mill Race Park; the students were then escorted to school by volunteers and school staff along 5th Street to the campus. This program is an excellent way to promote walking to school. Due to this program, the pedestrian accommodations along the 5th Street corridor between Mill Race Park and the campus take on added importance.

Additional intersections of concern are 3rd Street at California Street and 3rd Street at Central Avenue. Both need improvements to help bicyclists and walkers navigate them safely.

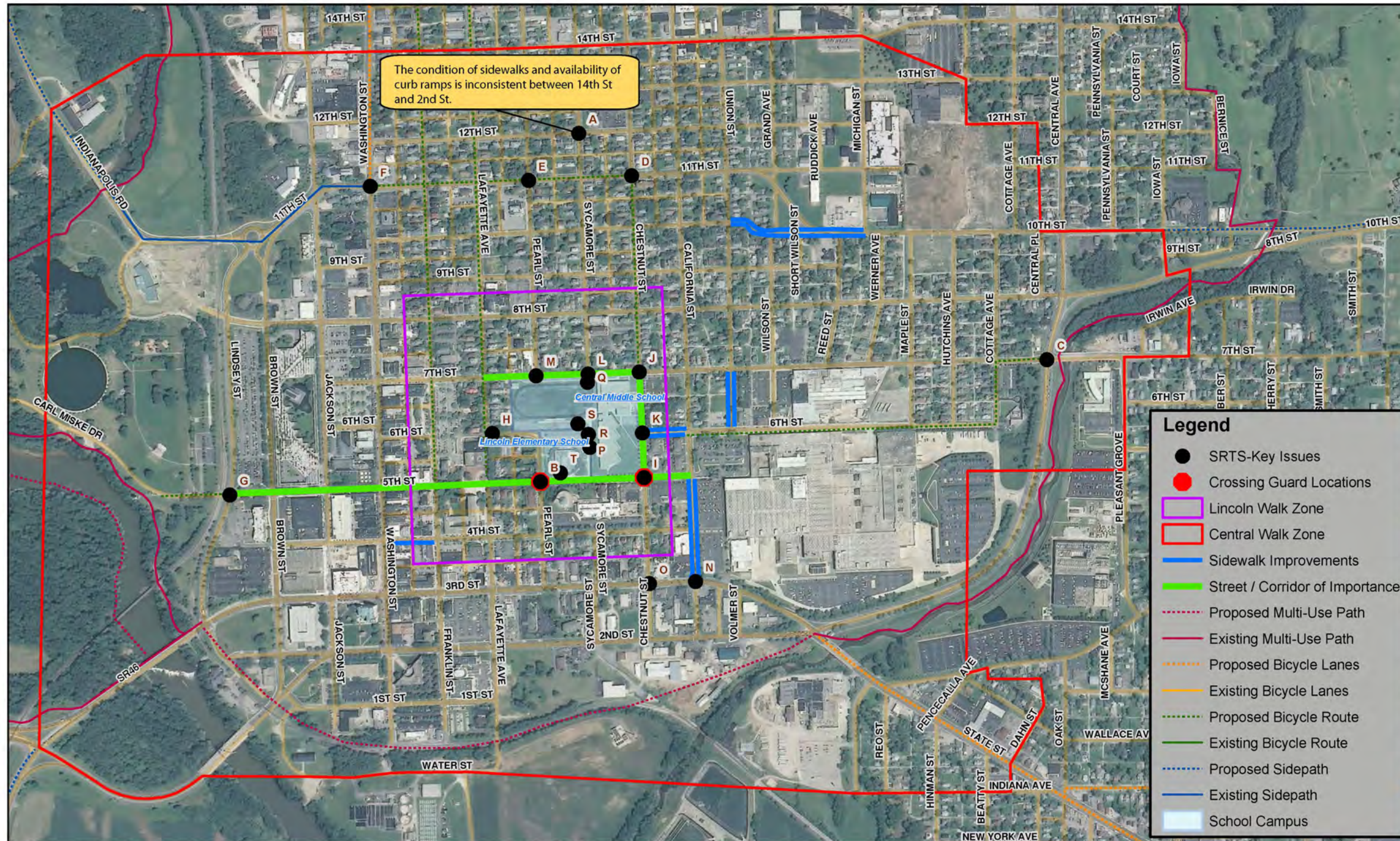
Other issues include insufficient street lighting, arrival/dismissal congestion, driver behavior in the school zone, lack of adequate bike parking and idling cars in the queue at dismissal time. 7th Street and Central Avenue is of special interest due to connections from the campuses to the People Trail. The City plans to install a bicycle route from the Lincoln/Central campus area along 6th Street to Cottage Avenue, then north

on Cottage Avenue to 7th Street, then east on 7th Street to the intersection of 7th Street and Central Avenue. This will be an improvement for students using the People Trail to travel to and from school and improvements to the intersections to ease bicycle and pedestrian crossing will be important.

Middle School Campus Key Issues		
Map ID Number	Location	Description
A	Between 14th St and 2nd St	The condition of sidewalks and availability of curb ramps is inconsistent. Strategic sidewalk repair and ramp installation will be necessary in the neighborhood surrounding the school.
B	5th St and Pearl St	Intersection in need of pedestrian improvements
C	7th St and Central Ave	Intersection in need of pedestrian improvements
D	11th St and Chestnut St	Intersection in need of pedestrian improvements
E	11th St and Pearl St	Intersection in need of pedestrian improvements
F	11th St and Washington St	Intersection in need of pedestrian improvements
G	5th St and Lindsey St	Intersection in need of pedestrian improvements
H	6th St and Lafayette Ave	Intersection in need of pedestrian improvements
I	5th St and Chestnut St	Intersection in need of pedestrian improvements
J	7th St and Chestnut St	Intersection in need of pedestrian improvements
K	6th St and Chestnut St	Intersection in need of pedestrian improvements
L	7th St and Sycamore St	Intersection in need of pedestrian improvements
M	7th St and Pearl St	Intersection in need of pedestrian improvements
N	3rd St and California St	Intersection in need of pedestrian improvements
O	3rd St and Chestnut	Intersection in need of pedestrian improvements
P	Lincoln drop-off area	Better lighting is needed and a crosswalk would help direct walkers to cross where the staff can assist them
Q	7th St in bus staging area and on the north side of 7th St	Better lighting is needed
R	Immediate vicinity of school	Consistent school zone signage needed
S	Queuing area for both schools	Congestion for both schools, idling cars add to poor air quality at arrival and dismissal
T	Lincoln School	Comb bicycle racks; consider replacing

Chapter 3

This page intentionally left blank.

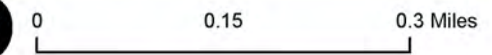


Map 3-1: CSA-Lincoln/Central Middle School Campus - Key Issues

Bartholomew Consolidated School Corporation Safe Routes to School Plan

Source [IndianaMap]

Date: 2-23-2012



Map 3-1. CSA – Lincoln/Central Middle School Campus – Key Issues

This page intentionally left blank.

3.2 Lincoln/Central Middle School Campus Recommendations

3.2.1 Program Recommendations

- Encourage parents to carpool via existing school to parent communication tools to reduce automobile congestion on campus and improve air quality
- Consider the creation of satellite drop-off/pick-up locations for the Middle School such as the Bartholomew County Library parking lot
- Distribute and promote a “parent pledge” to reduce distracted driving, cell phone usage, idling etc.
- Continue “Husky Hikes” for Lincoln students and begin Fitness Fridays for middle school students for arrival; the walks will begin at Mill Race Park and proceed down 5th Street to the campus, accompanied by staff
- Walking and biking school buses organized by staff and or parents; these can be for arrival or dismissal or both. See Appendix A “Encouragement” for more details on walking or biking school bus programs.

3.2.2 Infrastructure Recommendations – Sidewalks

The following recommendations are mapped in Map 3-2A and 3-2B by their respective numbers.

1. Install ADA ramps where missing giving priority to ramps near the school campus
2. 6th Street (California Street to Chestnut Street)-sidewalk repair
3. California Street (5th Street to 3rd Street) - sidewalk repair
4. Union Street (6th Street to 7th Street) - sidewalk repair
5. 10th Street (Union Street to Michigan Street)-sidewalk repair
6. 4th Street (Franklin Street to Washington Street, south side)-sidewalk repair

3.2.3 Infrastructure Recommendations – School Property

7. Create a safe crossing area for student walkers to cross the fire lane where parent traffic queues for Lincoln arrival and dismissal
8. Add a pedestrian scale light near the sidewalk where students exit the cars in the fire lane (pedestrian scale lighting is intended for pedestrian use and is usually 12 to 15 feet high and focuses light to the walkway rather than the street)
9. Add a 4” wide yellow stripe 2 feet from the curb face on the sidewalk in the Lincoln bus area to provide a visual guide for staff and students regarding a safe distance from the buses
10. Add a 4” wide yellow stripe 2 feet from the curb face on the sidewalk in the Central bus zone to provide a visual guide for staff and students regarding a safe distance from the buses
11. Replace outdated bike racks at the elementary school with racks that adhere to the standards defined in the city/county zoning ordinances
12. Add street lighting to 7th Street between Chestnut Street and Pearl Street to improve visibility during arrival and dismissal at Central Middle School during winter months

3.2.4 Infrastructure Recommendations – Corridors of Importance

13. 7th Street from Chestnut Street to Lafayette Street (students are being dropped off in the active traffic lane)
14. 5th Street from California Street to Lindsey Street
15. Chestnut Street from 5th Street to 7th Street

3.2.5 Infrastructure Recommendations – Signing for School Area Traffic Control

16. 200' from the crosswalk (approaching the school) at each of these locations:
 - o 5th Street and Chestnut Street (2), 5th Street and Pearl Street (2), 7th Street and Pearl Street, 7th Street and Sycamore Street, 7th Street and Chestnut Street (2), 6th Street and Chestnut Street
17. 100' from school property line at each of these locations:
 - o 6th Street between Lafayette Avenue and Pearl Street
 - o 7th Street between Lafayette Avenue and school property line

Please note: Engineer will follow the MUTCD guidance to select signs and determine sign placement for school area traffic control.

Lincoln/Central Middle School Campus Recommendations

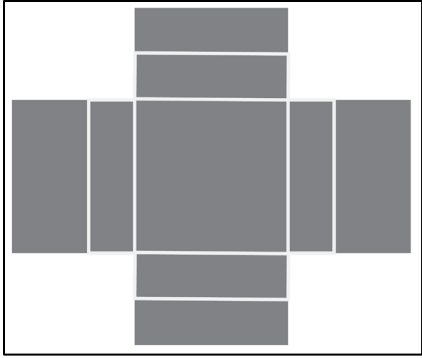
Intersections Within Walking Zone for Lincoln and Central

- | | |
|---|---|
| <p>18. 5th St & Pearl St</p> <ul style="list-style-type: none"> o Complete crosswalks o 4-way stop signs o Complete sidewalks o Crossing guard o Recommended Treatment Level 2 <p>19. 5th St & Chestnut St</p> <ul style="list-style-type: none"> o Complete crosswalks o Stop signs on Chestnut St and 5th St. o Complete sidewalks o Crossing guard o Recommended Treatment Level 2 <p>20. 6th St & Chestnut St</p> <ul style="list-style-type: none"> o No crosswalks o Stop (1 way) 6th St o Complete sidewalks o Recommended Treatment Level 2 | <p>21. 7th St & Chestnut St</p> <ul style="list-style-type: none"> o Complete crosswalks o 2 way stop signs on Chestnut St and 7th St o Complete sidewalks o Recommended Treatment Level 2 <p>22. 7th St & Pearl St</p> <ul style="list-style-type: none"> o Partial crosswalks o Stop (1 way) Pearl St. o Complete sidewalks o Recommended Treatment Level 2 <p>23. 7th St & Sycamore St</p> <ul style="list-style-type: none"> o Partial crosswalks o Stop (1 way) Sycamore St o Complete sidewalks o Recommended Treatment Level 2 <p>24. 6th St & Lafayette Ave</p> <ul style="list-style-type: none"> o Partial crosswalks o Stop sign (6th St) o Full sidewalks o See site specific design recommendations (Figure 3-1) |
|---|---|

Intersections within walking zone for Central

- | | |
|---|---|
| <p>25. 11th St & Chestnut St</p> <ul style="list-style-type: none"> o Partial crosswalks o 4-way stop signs o Full sidewalks o Recommended Treatment Level 2 <p>26. 11th St & Pearl St</p> <ul style="list-style-type: none"> o Partial crosswalks o Stop signs (2-way) Pearl St. o Full sidewalks o Recommended Treatment Level 2 <p>27. 11th St & Washington St</p> <ul style="list-style-type: none"> o Partial crosswalks o Controlled by traffic signal o No sidewalks o Recommended Treatment Level 4 <p>28. 3rd St & California St</p> <ul style="list-style-type: none"> o No crosswalks o Controlled by traffic signal o Partial sidewalks o Recommended Treatment Level 4 | <p>29. 7th St & Central Ave</p> <ul style="list-style-type: none"> o Partial crosswalks o Controlled by traffic signal o Partial sidewalks o Recommended Treatment Level 4 <p>30. 5th St & Lindsey St</p> <ul style="list-style-type: none"> o Partial crosswalks o Controlled by a stop signs on 5th St o Partial sidewalks o Recommended Treatment Level 4 <p>31. 3rd St & Chestnut St</p> <ul style="list-style-type: none"> o No crosswalks o Controlled by a stop signs on 3rd St o Full sidewalks o Recommended Treatment Level 4 |
|---|---|

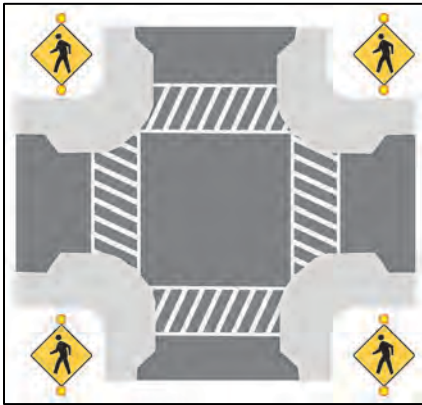
“Recommended Treatment Levels” are derived by using the guidance described in Appendix C –Crossing Treatment Guide of the Columbus Indiana Bicycle and Pedestrian Plan. As with the installation of any traffic control device, engineering judgment is essential. All crosswalk pavement markings and signs shall be selected, designed and installed in conformance with the MUTCD.



Recommended Treatment Level 1



Recommended Treatment Level 2

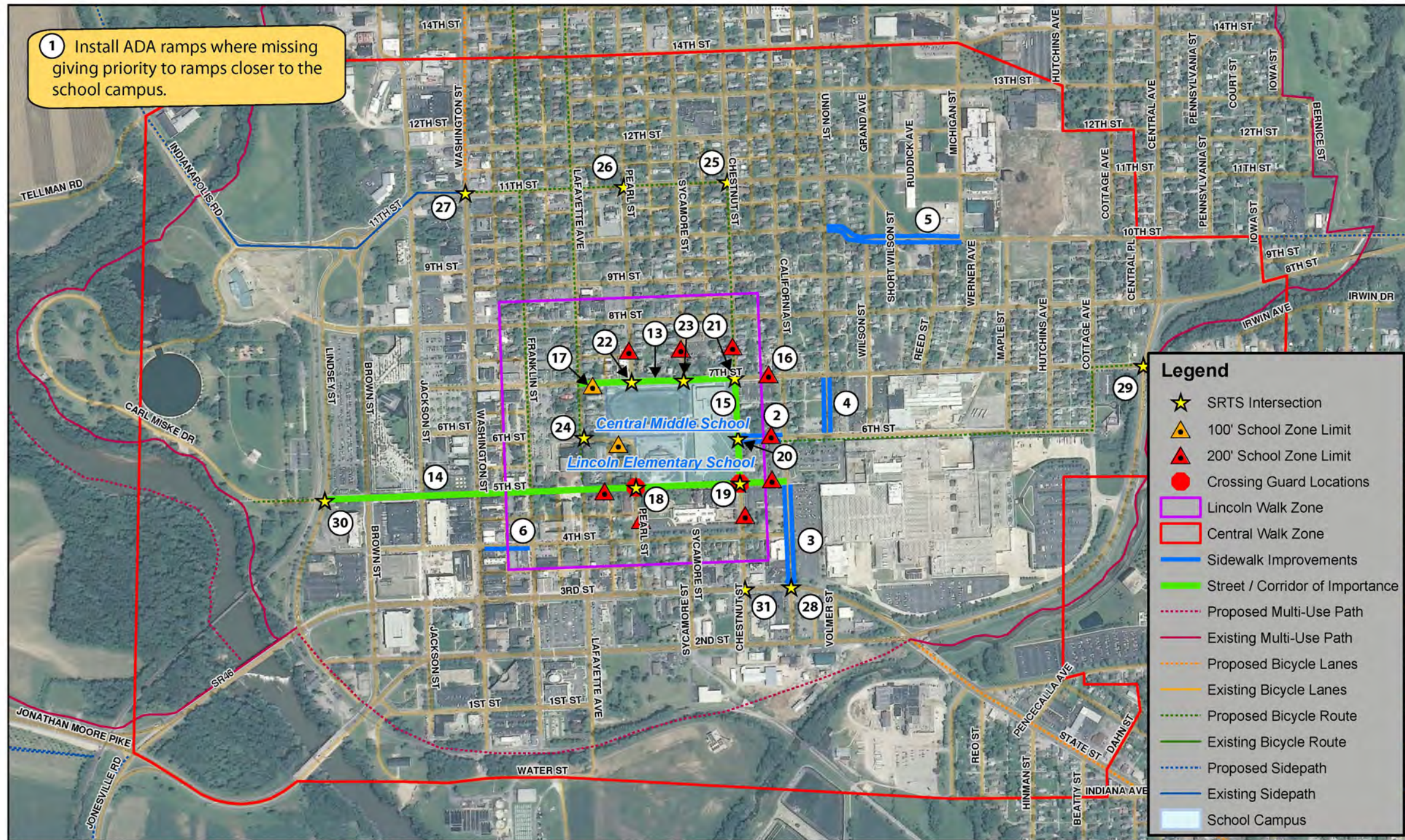


Recommended Treatment Level 4



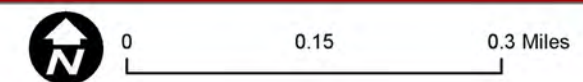
Figure 3-1. 6th Street and Lafayette Avenue Intersection Recommendations

This page intentionally left blank.



Map 3-2A: CSA-Lincoln/Central Middle School Campus - Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan
 Source [IndianaMap]
 Date: 2-23-2012

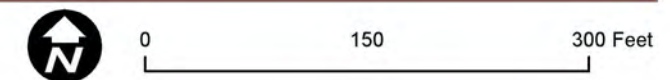


Map 3-2A. CSA – Lincoln/Central Middle School Campus – Recommended Improvements



Map 3-2B: CSA-Lincoln/Central Middle School Campus - Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan
 Source [IndianaMap]
 Date: 2-23-2012



Map 3-2B. CSA – Lincoln/Central Middle School Campus – School Property Recommended Improvements

3.3 Lincoln/Central Middle School One Year Action Plan

Lincoln/Central Middle School One Year Action Plan	
Program	
Type	
	Implement Parent Pledge
Encouragement	During the warm weather months, continue the "Husky Hike" program at Lincoln and institute a remote drop off program similar to the "Husky Hike" for the middle school students. The "Husky Hike" allows parents to drop off their students at Mill Race Park on certain Fridays; the students are then escorted to school by adult volunteers and staff.
Enforcement	Provide frequent enforcement of "Yield to Pedestrians" in crosswalks, especially at 5th Street and Pearl Street
Education	Include a SRTS Fact Corner in the monthly school newsletter
Encouragement	Encourage middle school parents to consider dropping and picking up students at the public library lot rather than on the campus
Infrastructure	
Type	
	6 th Street (California Street to Chestnut Street) Sidewalk Repairs
Sidewalks	California Street (5th Street to 3rd Street) Sidewalk Repairs
	Install a crosswalk at the fire lane (Lincoln)
School Property	Add pedestrian scale lighting to the fire lane
	6 th Street and Lafayette Avenue- See Figure 3-1: Lafayette Avenue and 6 th Street Intersection Recommendation
Intersections	7 th Street and Chestnut Street- Recommended Treatment Level 2
Lighting	Add street lights along 7th Street between Chestnut Street and Pearl Street
Signage for School Area Traffic Control	Install school zone signage as recommended in the Manual of Uniform Traffic Control Devices (MUTCD)

The action plan is based on a one year forecast of reasonably attainable goals as determined by the Task Force for each school. The Action Plan is meant to complement the recommendations. The table should be updated periodically with new goals as the previous goals are met or new opportunities arise with the strategies found in Chapter Two or within the General Recommendations for SRTS strategies discussed in Appendix B. It is important to note that while the plan has a tentative shelf life of five years the action plan only provides recommendations for the first year of the plan. After this point, recommendations that have been accomplished should be removed from the action plan and replaced by recommendations that have not yet been implemented. It is likely some of the recommendations in this plan will carry over into a subsequent two to five year planning period.

This page intentionally left blank.

4 Parkside Elementary School

1400 Parkside Drive, Columbus, IN 47201;
enrollment: 779

4.1 Key Issues

Parkside is surrounded by a residential neighborhood to the east, west and south sides, and open space with athletic fields to the north. Parkside Drive passes in front of the school; it is a two-lane street with a typical urban cross-section and parking on both sides. The neighborhood (bordered by Rocky Ford Road, Central Avenue and River Road) is generally bicycle and pedestrian friendly with a fairly complete sidewalk system and low volume/low speed streets. The larger streets in the area of the school include Central Avenue, two blocks to the east and Rocky Ford Road, four blocks south of the school. The People Trail passes through the school property along its western border. Two crossing guards are located at Central Avenue and Parkside Drive and one crossing guard is provided at Parkside Drive and Arlington Street. In 2010, crossing guards were removed from Parkside Drive and River Road, Rocky Ford Road at Westenedge Drive and Parkside Drive and Westenedge Drive.

Parkside reported the highest percentage of bicyclists and walkers among the schools surveyed. In addition, some parents reported students walking and biking to school for trips exceeding one half mile, which is not the case for any other school surveyed.

The rapid flashing beacon at the intersection of Central Avenue and Parkside Drive needs a longer interval and doesn't receive full compliance from motorists. There is currently no way for students to safely cross River Road from the Riverview Acres Subdivision. Sidewalk gaps exist on Rocky Ford Road and the sidewalk on Parkside Drive west of Central Avenue is in poor condition.

Additional concerns include outdated bicycle parking, students who improperly cross streets, visibility of bikers and walkers and the number of students who are driven to school despite the walkability of the neighborhood.



Despite the chilly temperatures, students at Parkside rode their bikes on the day the SRTS team observed arrival.

Table 4-1. Parkside Parent Survey and Student Tally Results

	Parent Survey (May 2010)		Student Tally Survey (May 2010)	
	AM	PM	AM	PM
Walkers	11% (29 trips out of 262)	21% (53 trips out of 255)	8% (92 trips out of 1160 over a three day period)	18% (207 trips out of 1150 over a three day period)
Bicyclists	14% (27 trips out of 262)	15% (38 trips out of 255)	18% (208 trips out of 1160 over a three day period)	10% (115 trips out of 1150 over a three day period)

4.1.1 Parent driver staging area

A crossing guard is assigned to Arlington Street and the Parkside Drive school access driveway because parents enter and exit the school grounds here. Parents drive north through the loop driveway and line up to drop off/pick up the students at the door located on the east side of the school. On the day of the site visit, many parents parked in the lot to the east of the drop-off zone and walked their children into school. The principal assisted students and parents with crossing the busy driveway at arrival time.



Parents and students try to cross the arrival queue to access the school.

4.1.2 Student walking and bicycling

Students walked in from both the east and west using Parkside Drive. Students crossing Central Avenue benefited from a newly installed rapid flashing beacon and two crossing guards. The crossing guards reported much higher driver compliance with the new beacon but that some drivers still ignored their stop signs. This was witnessed by the SRTS team during the site visit.



Students and parents walking to school.

Despite the 40 degree weather, the bike racks located on the west side of the school had at least 15 bicycles in them. Students bicycling from west of the school along Parkside Drive often use the People Trail. The rack on the east side of the school also contained several bicycles. Bicyclists traveling from the east cross Central Avenue with the assistance of two crossing guards and also the very busy school driveway, with assistance of the crossing guard at Arlington Street. While there is ample bicycle parking available at this school, the racks are outdated and should be considered for replacement with new, standard racks.

4.1.3 Bus staging area

Buses enter off of Parkside Drive and use the short loop driveway at the front of the school to drop off and pick up students. The layout of the driveways is such that students walking or biking to school do not have to cross the bus driveways to approach the school. The bus and parent traffic is also separated.

4.1.4 Specific infrastructure issues

A list of specific infrastructure issues was identified in the assessment of the area and should be considered for future improvements to increase the number of children walking and bicycling to Parkside.

Parkside School is located in a bicycle and pedestrian friendly neighborhood. There are future planned improvements to Westenedge Drive from Rocky Ford Road to US 31/National Road that should provide sidewalks and bike lanes and make bicycling and walking even more attractive in this neighborhood. It is important to make sure that all planned improvements follow a Complete Streets blueprint, designed and operated to enable safe access for all users.



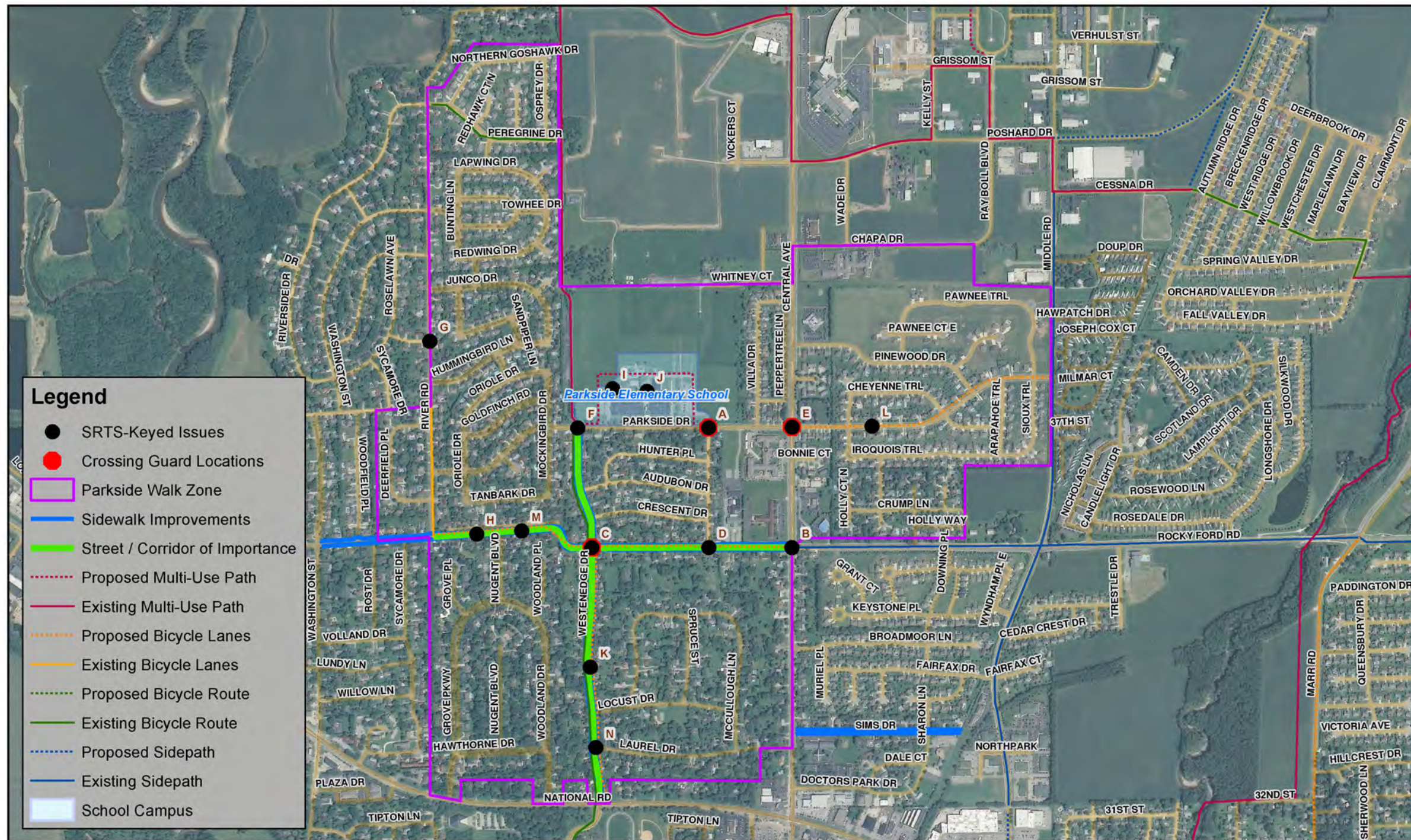
Parkside is located in a bike/ped friendly neighborhood.

Even with the rapid flashing beacon, the intersection of Central Avenue and Parkside Drive continues to be a challenge for nonmotorized travelers. Additional pedestrian facilities may need to be considered at this intersection. Improvements to the intersections of US 31/National Road and Westenedge Drive, and Arlington Street and Parkside Drive should also be considered.

Currently, there is no way for students living in the Riverview Acres subdivision to cross River Road in order to walk to Parkside. Crossing guards were removed from Parkside Drive and River Road.

There are no sidewalks on Rocky Ford Road between Washington Street and Central Avenue, which makes access to Arlington Street difficult for pedestrians.

Parkside Elementary School Key Issues		
Map ID Number	Location	Description
A	Arlington St and Parkside Dr	Intersection in need of pedestrian improvements
B	Rocky Ford Rd and Central Ave	Intersection in need of pedestrian improvements
C	Westenedge Dr and Rocky Ford Rd	Intersection in need of pedestrian improvements
D	Arlington St and Rocky Ford Rd	Intersection in need of pedestrian improvements
E	Parkside Dr and Central Ave	Intersection in need of pedestrian improvements
F	Westenedge Dr and Parkside Dr	Intersection in need of pedestrian improvements
G	River Rd and Royal St	Intersection in need of pedestrian improvements
H	Rocky Ford Rd west of Central Ave	Large sidewalk gaps in network
I	Bike rack	Older bike racks need replacing and consider moving them to coincide with trail locations
J	Immediate vicinity of school	Consistent school zone signage needed
K	Westenedge Dr from US 31/National Rd to Rocky Ford Dr	Roadway improvements planned but not date set for implementation.
L	Parkside Dr from River Rd to Middle Rd	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
M	Rocky Ford Rd from River Rd to Central Ave	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
N	Westenedge Dr from US 31/National Rd to Parkside Dr	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians



Map 4-1: Parkside Elementary - Key Issues

Bartholomew Consolidated School Corporation Safe Routes to School Plan
 Source [IndianaMap]
 Date: 2-23-2012



0 0.2 0.4 Miles

Map 4-1. Parkside Elementary – Key Issues

This page intentionally left blank.

4.2 Parkside Elementary Recommendations

4.2.1 Program Recommendations

- Educate parents on the benefits of SRTS to encourage more students to bike or walk to school; use of People Trail as route from adjacent neighborhoods
- Implement walking and biking school buses from the surrounding neighborhoods; include incentive programs
- Educate students on the importance of visibility while walking and biking; coordinate with incentive giveaways
- Use frequent enforcement of “Yield to Pedestrians” in crosswalks, especially the crossing of Central Avenue at Parkside Drive; educate motorists on what to do when the beacon is activated
- Provide crossing guards with large, lit paddles and train them on proper use
- Implement Parent Pledge campaign
- Utilize a remote parking location for parents who park and congregate on school property to pick-up their children – even if it’s the adjacent park parking lot



Crossing guards at Parkside Elementary.

4.2.2 Infrastructure Recommendations – Sidewalks

1. Rocky Ford Road from Washington Street to Central Avenue; both sides
2. Westenedge Road from US31/National Road to Parkside Drive; west side
3. Sims Drive from terminus to Central Avenue; both sides

4.2.3 Infrastructure Recommendations – School Property

4. Connect sidewalk east of school access drive by creating a school sidewalk that circumvents the school driveway so that bikers/pedestrians traveling from the east don't have to cross parent traffic
5. Restrict on-street parking in the school zone during arrival/dismissal times
6. Replace and relocate bikes racks to the northeast and northwest side of school
7. Limit parent access to bus driveway via cones (safety patrol)

4.2.4 Infrastructure Recommendations – Corridors of Importance

8. Parkside Drive from River Road to Middle Road

Chapter 4



9. Westenedge Drive from US 31/National Road to Parkside Drive *
10. Rocky Ford Road from River Road to Central Avenue *
11. People Trail signage at the Parkside Drive crossing – the People Trail picks up as a bike route south of Parkside Drive, add a "Bicycle Warning" sign (MUTCD W11-1) on both sides of Parkside Drive

*Due to the high volume of bicyclists and pedestrians, a 'Complete Street' installation will be very important along these corridors.

4.2.5 Infrastructure Recommendations – Signing for School Area Traffic Control

12. 200' from crosswalks at Arlington Street and Parkside Drive intersection and Parkside Drive and Westenedge Drive

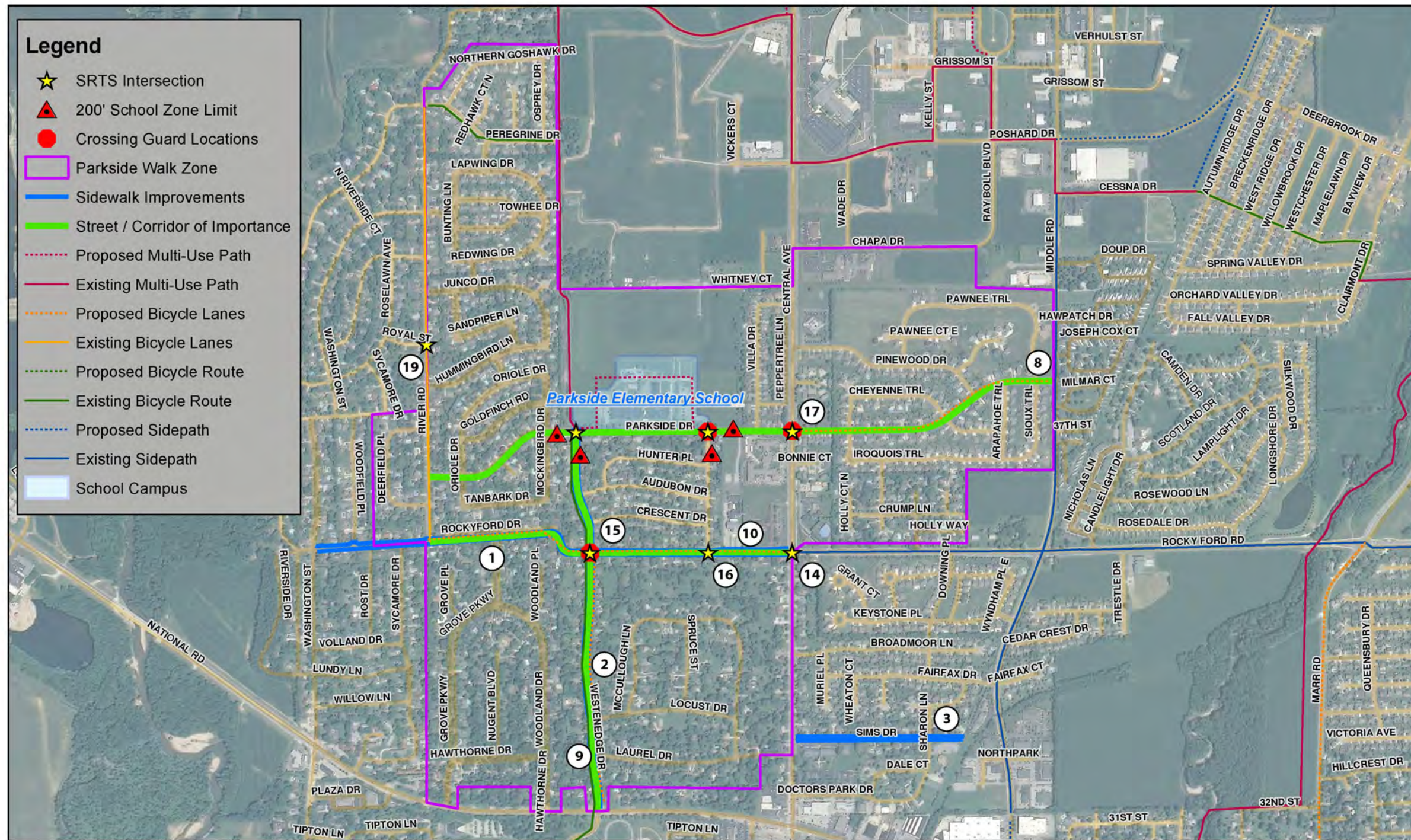
Please note: Engineer will follow MUTCD guidance to select signs and determine sign placement for school area traffic control.

Parkside Elementary School Campus Recommendations	
Intersections Within Walking Zone	Intersection Treatments
<p>13. Arlington St & Parkside Dr</p> <ul style="list-style-type: none"> • Partial crosswalks • 3-way stop signs • Partial sidewalks • Crossing guard • Recommended Treatment Level 2 	<div style="text-align: center;">  <p>Recommended Treatment Level 2</p>  <p>Recommended Treatment Level 4</p> </div>
<p>14. Rocky Ford Rd & Central Ave</p> <ul style="list-style-type: none"> • Partial crosswalks • Controlled by traffic signal • Partial sidewalks • Recommended Treatment Level 4 	
<p>15. Westenedge Dr & Rocky Ford Rd</p> <ul style="list-style-type: none"> • Partial crosswalks • 4-way stop signs • Partial sidewalks • Recommended Treatment Level 2 	
<p>16. Arlington St and Rocky Ford Rd</p> <ul style="list-style-type: none"> • Partial crosswalks • 1-way stop sign • No sidewalks • Recommended Treatment Level 2 	
<p>17. Parkside Dr and Central Ave</p> <ul style="list-style-type: none"> • Partial crosswalks • 2-way stop signs • Partial sidewalks • Crossing guard (2) • Add ladder style crosswalks to Parkside; increase the flashing beacon interval 	
<p>18. Westenedge Dr & Parkside Dr</p> <ul style="list-style-type: none"> • Partial crosswalks • 4-way stop signs • Partial sidewalks • Recommended Treatment Level 2 	
<p>19. River Road & Royal St</p> <ul style="list-style-type: none"> • No crosswalks • Stop (1 way on Royal St) • Partial sidewalks • Recommended Treatment Level 2 	

“Recommended Treatment Levels “ are derived using the guidance described in Appendix C – Crossing Treatment Guide of the Columbus Indiana Bicycle and Pedestrian Plan. As with the installation of any traffic control device, engineering judgment is essential. All crosswalk pavement markings and signs shall be selected, designed and installed in conformance with the MUTCD.

Chapter 4

This page intentionally left blank.



Map 4-2A: Parkside Elementary - Recommended Improvements

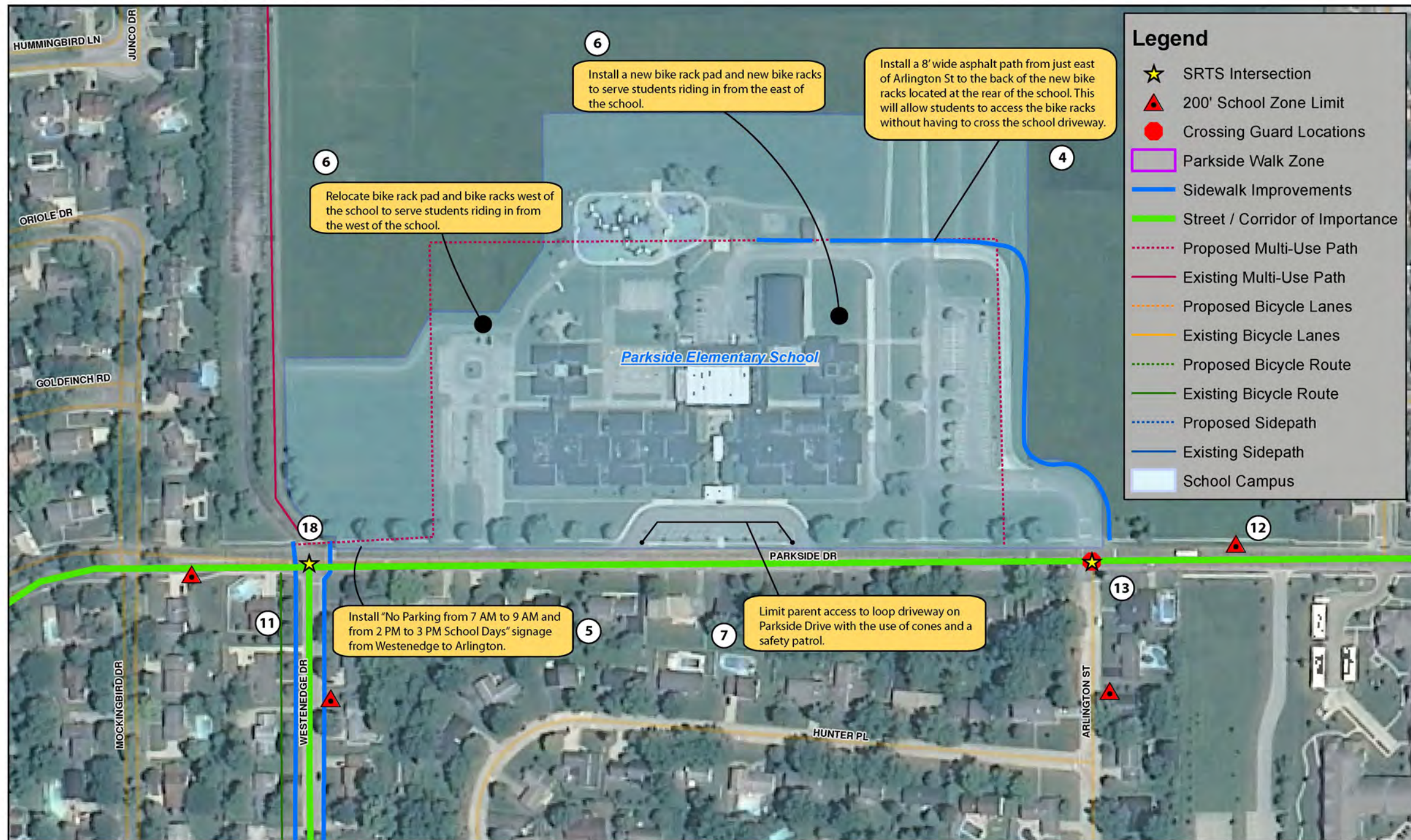
Bartholomew Consolidated School Corporation Safe Routes to School Plan

Source [IndianaMap]
Date: 2-23-2012



0 0.2 0.4 Miles

Map 4-2A. Parkside Elementary – Recommended Improvements



Map 4-2B: Parkside Elementary - Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan

Source [IndianaMap]

Date: 2-23-2012



0 200 400 Feet

Map 4-2B. Parkside Elementary – School Property Recommended Improvements

4.3 Parkside Elementary One Year Action Plan

Parkside Elementary One Year Action Plan	
Program	
Type	
Encouragement	Implement Parent Pledge
	Utilize the adjacent soccer field parking and encourage parent to park there and walk their children to the building
Enforcement	Frequent enforcement of "Yield to Pedestrians" in crosswalks, especially at Parkside Drive and Central Avenue
Education	Include a SRTS Fact Corner in the monthly school newsletter
Infrastructure	
Type	
Sidewalks	Rocky Ford Road from Washington Street to Central Avenue, both sides
	Westenedge Road from US31/National Road to Parkside Drive, west side
	Sims Drive from terminus to Central Avenue, both sides
School Property	Replace and relocate existing bike racks to northeast and northwest of school
	Limit parent access to bus driveway via cones (safety patrol)
Signage for School Area Traffic Control	Install School Zone signage as recommended in the Manual on Uniform Traffic Control Devices (MUTCD)

The action plan is based on a one year forecast of reasonably attainable goals as determined by the Task Force for each school. The Action Plan is meant to complement the recommendations. The table should be updated periodically with new goals as the previous goals are met or new opportunities arise with the strategies found in Chapter Two or within the General Recommendations for SRTS strategies discussed in Appendix B. It is important to note that while the plan has a tentative shelf life of five years the action plan only provides recommendations for the first year of the plan. After this point, recommendations that have been accomplished should be removed from the action plan and replaced by recommendations that have not yet been implemented. It is likely some of the recommendations in this plan will carry over into a subsequent two to five year planning period.

Chapter 4

This page intentionally left blank.

5 WD Richards Elementary

3311 Fairlawn Drive, Columbus, IN 47201; enrollment: 561

5.1 Key Issues

The neighborhoods surrounding the school have incomplete or absent sidewalk networks and insufficient or absent crosswalks. There are several large arterials surrounding the school that are difficult to cross. There is no way for students to safely travel north of the school to access those neighborhoods. Some local streets are quite wide, which can encourage speeding.

Other issues include the presence of staff parking directly in front of the school which limits visibility and contributes to congestion, and the lack of SRTS interest at the school.



This vehicle is loading students at the loop road located behind Richards Elementary.

5.1.1 Parent driver staging area

Over 25 cars lined up to pick up students on the day of the site visit. Parent drivers enter the loop driveway off of Par 3 Drive to pick up students waiting with staff on the east side of the school. Several staff members assisted students into the cars and one staff member worked to encourage parents to pull up and make room for additional cars in the loop. Staff reported that they regularly move about 175 students in 15 to 20 minutes.

5.1.2 Student walking and bicycling travel

Few students walk to/from Richards. Only 5% (AM) and 11% (PM) of survey respondents (parents) reported their students walked to or from school. Students that do walk to school can be seen walking west along Fairlawn Drive or toward Woodcrest Drive via the paved trail on the south side of the school property.

There were no bicycles in the rack on the day of the visit, which may have been due to the time of year and the lack of sidewalks in the immediate neighborhood.



The lack of a path along Par 3 Drive limits walking to school.

5.1.3 Bus staging area

Buses enter the school grounds off of Fairlawn Drive and load/unload the students at the main entrance of the school.

5.1.4 Specific infrastructure issues

A list of specific infrastructure issues was identified in the assessment of the area and should be considered for future improvements to increase the number of children walking and bicycling to Richards.

The neighborhood surrounding Richards has an incomplete sidewalk system. Residential development to the south of the school and east of Fairlawn Drive has a fairly complete sidewalk infrastructure while the housing development to the west of Fairlawn Drive has no sidewalks except for a short stretch along Taylor Road.

Fairlawn Drive itself only has sidewalk on the west side of the street until just south of the school entrance. There are “desire lines” showing pedestrian activity across the lawn on the north side of Fairlawn Drive near the exit drive of the school and just south of the Par 3 golf course fence.

Taylor Road at Bonaventure Drive is a critical connection. The intersection is off-set with Fairlawn Drive by about 100 feet and it is currently marked with a crosswalk that does not lead to a sidewalk on either side of the street.

Currently, students living west of Taylor Road from Williamsburg Way to Fairlawn Drive find it challenging to cross Taylor Road. However, Taylor Road is scheduled for future reconstruction from 25th Street to Rocky Ford Road and bicycle lanes and improved pedestrian crossings are planned for this section of Taylor Road. It is important that any future road reconstruction projects address the need for students to travel safely along and cross Taylor Road. The reconstructed road should be designed as a complete street, and include sidewalks, crosswalks, bike lanes, signage and lighting appropriate for non-motorized transportation use.



The sidewalk network is incomplete (northside of 29th Street and Fairlawn Drive).

The planned future reconstruction of Rocky Ford Road will provide another opportunity to improve conditions for bicycling and walking. Again, the students need to travel safely along and cross Rocky Ford Road must be considered in the reconstruction

design. Improvements to the Par 3 Drive and Rocky Ford Road intersection should enable students living north of Rocky Ford Road to walk or bike to school. This improvement should be built as a complete street and extended to include the section of Rocky Ford Road between Taylor Drive and Talley Road. The “complete street” should include sidewalks, crosswalks, bike lanes and signage.



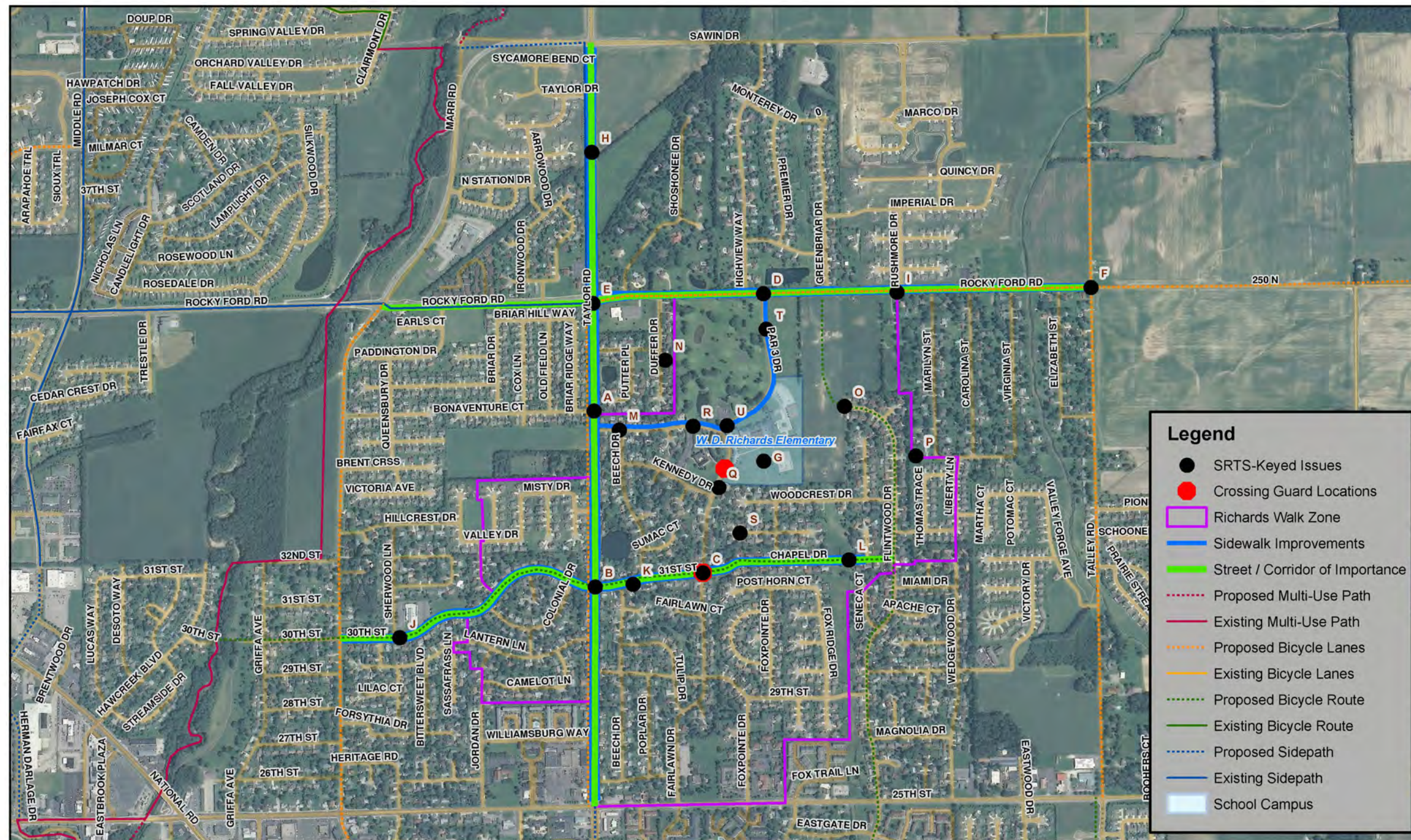
Cars parked on Fairlawn Drive in front of the school limit visibility and contribute to congestion issues.

Currently, students are bused to and from the Greenview subdivision northwest of the school due to the lack of an access path. Another issue at this school is the presence of staff-owned parked cars along Fairlawn Drive in front of the school. The parked cars make it more difficult for motorists to see other cars as well as pedestrians and bicyclists.

WD Richards Elementary School Key Issues		
Map ID Number	Location	Description
A	Fairlawn Dr/Bonaventure Dr and Taylor Rd	Intersection in need of pedestrian improvements
B	Taylor Rd and 31st St	Intersection in need of pedestrian improvements
C	Fairlawn Dr and 31st St	Intersection in need of pedestrian improvements
D	Par 3 Dr and Rocky Ford Rd	Intersection in need of pedestrian improvements
E	Rocky Ford Rd and Taylor Rd	Intersection in need of pedestrian improvements
F	Rocky Ford Road and Talley Rd	Intersection in need of pedestrian improvements
G	Immediate vicinity of school	Consistent school zone signage needed
H	Taylor Rd from 25th St to Sawin Dr	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
I	Rocky Ford Rd from Marr Rd to Talley Rd	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
J	30th St from Marr Rd to Taylor Rd	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
K	31st St from Taylor Rd to Fairlawn Dr	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
L	W Chapel Dr from Fairlawn Dr to Flintwood Dr	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
M	Fairlawn Dr from Taylor Rd to 31st St	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
N	Duffer Dr connection	Neighborhood lacks direct connection to school routes
O	Flintwood Dr connection	Neighborhood lacks direct connection to school routes
P	33rd St connection	Neighborhood lacks direct connection to school routes
Q	Crosswalk just south of southern drive entrance to school	Minimal crosswalk marking at an important school crossing
R	Fairlawn Dr from western school driveway to Taylor Rd	Lack of sidewalks
S	Richard School neighborhood	In general, the neighborhood lacks sidewalks
T	Par 3 Dr	Lack of sidewalk connection to neighborhoods north of Rocky Ford Rd

Chapter 5

This page intentionally left blank.

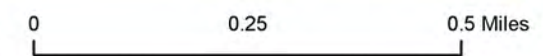


5-1: WD Richards Elementary - Key Issues

Bartholomew Consolidated School Corporation Safe Routes to School Plan

Source [IndianaMap]

Date: 2-23-2012



Map 5-1. WD Richards Elementary – Key Issues

This page intentionally left blank.

5.2 W D Richards Elementary Recommendations

5.2.1 Program Recommendations

- Implement a “Drive 25 – Keep Kids Alive” campaign in the neighborhoods with wider streets and speeding problems
- Organize a walking school bus from adjacent neighborhoods
- Create incentive programs for both students and parents to encourage them to walk or bike to school
- Educate students and staff on the SRTS programs available to them through the BCSC; coordinate with incentive giveaways
- Implement Parent Pledge and No Idling Campaigns
- Consider platooning cars at arrival time to speed up the process
- Create a parent support network for those families living within the walk zone
- Utilize a Safety Patrol to monitor placement of traffic cones that limit parent access to bus driveway
- Create a remote drop-off location for buses once a month to allow those students to participate in walk to school events
- Coordinate with Fitness month to include walking and biking to school activities

5.2.2 Infrastructure Recommendations – Connections

The following recommendations are mapped in Map 5-2A and 5-2B by their respective numbers.

1. Duffer Drive /Par 3 Golf Course
2. Utility Right of Way from Chapel Drive to Woodcrest Drive
3. Thomas Trace to Flintwood Drive
4. Future development on parcel between school and Flintwood Drive should provide a pedestrian connection to the school

Note: These connections would be ideal locations for pedestrian easements however they are currently under private ownership

5.2.3 Infrastructure Recommendations – Sidewalks

5. Fairlawn Drive (Taylor Road to 31st Street) – add sidewalks on both sides where needed
6. Taylor Road (25th Street to Sawin Drive) – add sidewalks on both sides where segments don't exist
7. Rocky Ford Road (Taylor Road to Talley Road) – add sidewalks on both sides

8. Chapel Drive (Chapel Court to Fairlawn Drive) – add sidewalks on both sides to fill existing gaps
9. 31st Street (Fairlawn Drive to Marr Road) – add sidewalks on both sides
10. Par 3 Drive (Fairlawn Drive to Rocky Ford Road) – add 6 foot wide asphalt path on the east side

5.2.4 Infrastructure Recommendations – School Property

11. Restripe crosswalk on Fairlawn Drive, south of the Church driveway with a ladder pattern and stop bar. Add arrow (MUTCD W16-7P) to the existing Pedestrian Crossing Sign.
12. Widen entire sidewalk in front of school on access drive and add crosswalk at Par 3 Drive
13. No parking during arrival/dismissal on church side of Fairlawn Drive
14. Mark all parking spaces in the front parking lot of the school for visitors only

5.2.5 Infrastructure Recommendations – Corridors of Importance

15. Fairlawn Drive from Taylor Road to 31st Street
16. Rocky Ford Road (Talley Road to Marr Road)
17. Taylor Road (25th Street to Sawin Drive)
18. 30th Street/31st Street/Chapel Drive from Marr Road to Flintwood Drive

5.2.6 Infrastructure Recommendations – Signing for School Area Traffic Control

19. 100' west of school property on Fairlawn Drive
20. 200' east of crosswalk on Fairlawn Drive, near church driveway
21. 100' north of school property on Par 3 Drive

Please note: Engineer will follow MUTCD guidance to select signs and determine sign placement for school area traffic control.

Richards Elementary Recommendations	
Intersections Within Walking Zone	
<p>22. Fairlawn Dr & Bonaventure Ct & Taylor Rd</p> <ul style="list-style-type: none"> • Partial crosswalks • Stop sign (on Bonaventure and Taylor) • No sidewalks • Off-set intersection • Recommended Treatment Level 2 	<p>24. Fairlawn Dr & 31st St</p> <ul style="list-style-type: none"> • Partial crosswalks • 4-way stop signs • Partial sidewalks • Recommended Treatment Level 2 <p>There are two crossing guards located within the Walking Zone:</p>
<p>23. Taylor Rd & 31st St</p> <ul style="list-style-type: none"> • Partial crosswalks • 4-way stop signs • No sidewalks • Recommended Treatment Level 2 	<p>1) Chapel Dr and Fairlawn Dr</p> <p>2) Crosswalk at Fairlawn Dr and Richards Elementary driveway</p>
Intersections Partially Within Walking Zone	
<p>25. Par 3 Dr & Rocky Ford Rd</p> <ul style="list-style-type: none"> • No crosswalks • Stop (1 way on Par 3) • No sidewalks • Intersection scheduled for reconstruction with Complete Streets Design 	
Intersections Outside the Walking Zone	
<p>26. Rocky Ford Rd & Taylor Rd</p> <ul style="list-style-type: none"> • No crosswalks • 4-way stop signs • No sidewalks • Recommended Treatment Level 3 	<p>27. Rocky Ford Rd & Talley Rd</p> <ul style="list-style-type: none"> • No crosswalks • 4-way stop signs • No sidewalks • Recommended Treatment Level 3



Recommended Treatment Level 2

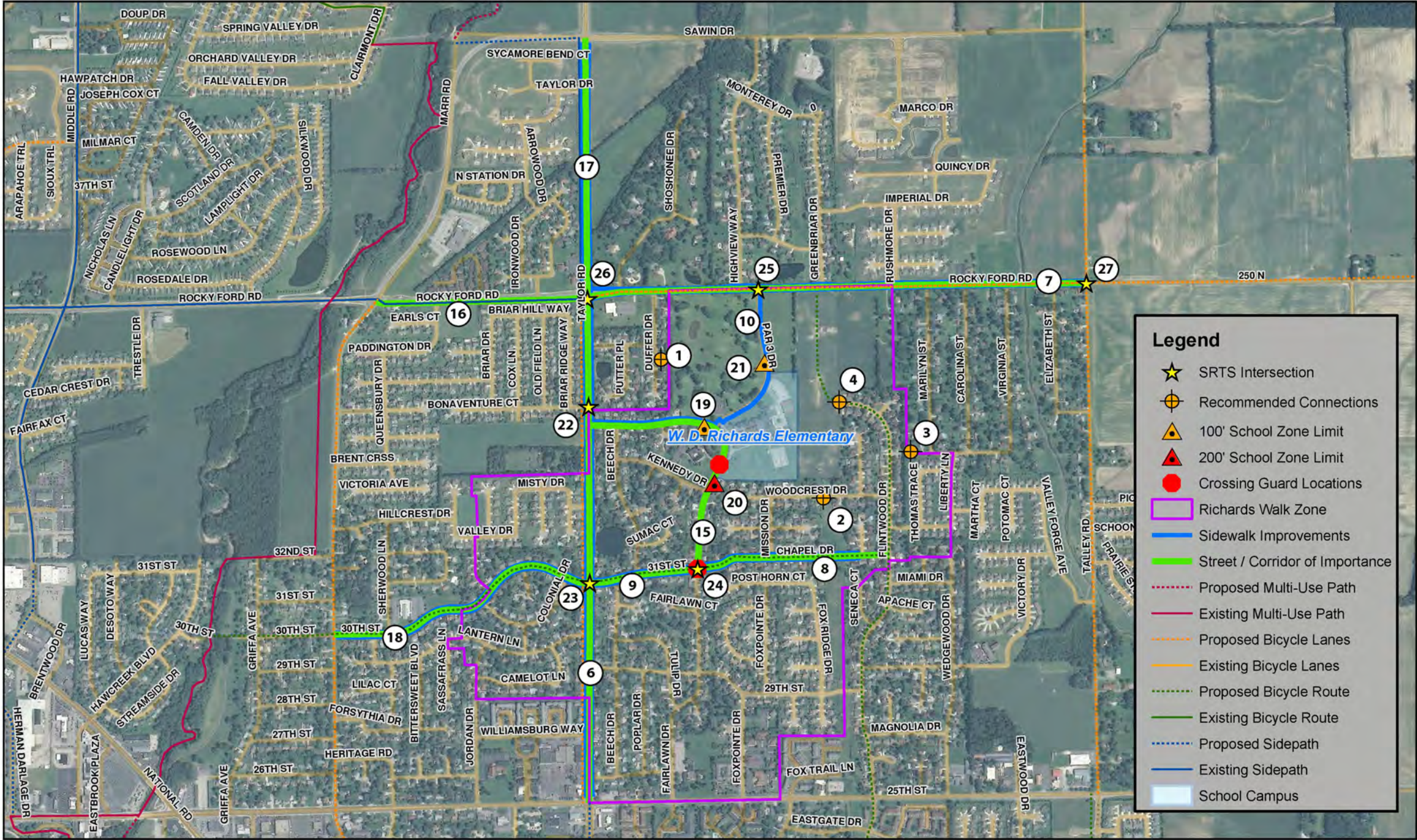


Recommended Treatment Level 3

“Recommended Treatment Levels “ are derived using the guidance described in Appendix C – Crossing Treatment Guide of the Columbus Indiana Bicycle and Pedestrian Plan. As with the installation of any traffic control device, engineering judgment is essential. All crosswalk pavement markings and signs shall be selected, designed and installed in conformance with the MUTCD.

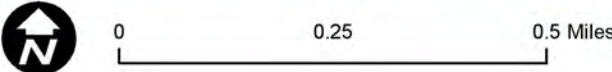
Chapter 5

This page intentionally left blank.



Map 5-2A: WD Richards Elementary - Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan
Source [IndianaMap]
Date: 2-23-2012

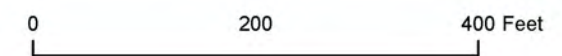


Map 5-2A. WD Richards Elementary - Recommended Improvements



Map 5-2B: WD Richards Elementary - School Property Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan
 Source [IndianaMap]
 Date: 2-23-2012



Map 5-2B. WD Richards Elementary – School Property Recommended Improvements

5.3 W D Richards Elementary One Year Action Plan

W D Richards Elementary One Year Action Plan	
Program	
Type	
Encouragement	Implement Parent Pledge
	Create a parent support network for the families living within the Walking Zone
	Coordinate SRTS activities with Fitness Month
Education	Include a SRTS Fact Corner in the monthly school newsletter
Infrastructure	
Type	
Sidewalks	Par 3 Dr (Fairlawn Drive to Rocky Ford Road)
	Taylor Rd (25 th Street to Sawin Drive)
	Chapel Drive (Chapel Court to Fairlawn Drive)
	31st Street (Fairlawn Drive to Marr Road)
	Rocky Ford Road (Talley Road and Taylor Road)
School Property	Designate all parking spaces in the front parking lot of school as Visitor Parking
	Restripe and add a stop bar to the crosswalk across Fairlawn where crossing guard is currently located, south of the Church driveway
Signage for School Area Traffic Control	Install School Zone signage as recommended in the Manual on Uniform Traffic Control Devices (MUTCD)

The action plan is based on a one year forecast of reasonably attainable goals as determined by the Task Force for each school. The Action Plan is meant to complement the recommendations. The table should be updated periodically with new goals as the previous goals are met or new opportunities arise with the strategies found in Chapter Two or within the General Recommendations for SRTS strategies discussed in Appendix B. It is important to note that while the plan has a tentative shelf life of five years the action plan only provides recommendations for the first year of the plan. After this point, recommendations that have been accomplished should be removed from the action plan and replaced by recommendations that have not yet been implemented. It is likely some of the recommendations in this plan will carry over into a subsequent two to five year planning period.

Chapter 5

This page intentionally left blank.

6 Lillian Schmitt Elementary/Northside Middle School Campus

Lillian Schmitt: 2675 California Street, Columbus, IN 47201; enrollment: 721

Northside Middle School: 1400 27th Street, Columbus, IN 47201; enrollment: 771

6.1 Key Issues

Due to the many challenges facing these schools and their combined campuses, the SRTS team visited them twice during site visits in early March (March 1 and March 3, 2011). The weather for both visits was sunny but chilly, in the high 30s to low 40s. The overall impression of the traffic on the combined campus of Columbus North High School (2008 students), Northside Middle School, Lillian Schmitt Elementary School and St. Bartholomew Catholic School (600 students) was a chaotic dance of vehicles, pedestrians, and bicyclists with the crossing guards trying to choreograph it all. The close proximity of the high school to these schools adds many vehicles to the traffic mix as well as its students crossing Home Avenue at several locations between Home Avenue at 27th Street and Home Avenue at 25th Street without regard to the presence or absence of marked crosswalks.

Both Northside Middle School and Schmitt Elementary administered two sets of surveys, one completed in April 2009 and one in May 2010. Although the morning walkers and biker percentages decreased for both schools in 2010, this is likely due to the reconstruction of US 31/National Road. It is expected that this reconstruction will also have an effect on the May 2011 surveys as well. Afternoon data shows an increase in biking and walking mode share.

Table 6-1.

Lillian Schmitt Elementary/Northside Middle School Parent Survey and Student Tally Results

School Name	Trip Type	Parent Survey April 2009		Parent Survey May 2010		Tally April 2009		Tally May 2010	
		AM	PM	AM	PM	AM	PM	AM	PM
Schmitt	Walk	11% (11 out of 104)	12% (12 out of 104)	9% (10 out of 112)	14% (15 out of 109)	6% (10 out of 168)	5% (9 out of 171)	3% (4 out of 125)	7% (7 out of 107)
	Bike	0% (0 out of 104)	0% (0 out of 104)	0.9% (1 out of 112)	0.9% (1 out of 109)	0% (0 out of 168)	0% (0 out of 171)	2% (3 out of 125)	3% (3 out of 107)
Northside	Walk	7% (12 out of 177)	15% (26 out of 173)	2% (3 out of 174)	10% (17 out of 169)	5% (88 out of 1752)	10% (168 out of 1678)	6% (80 out of 1348)	11% (149 out of 1352)
	Bike	0.6% (1 out of 177)	0.6% (1 out of 173)	1% (2 out of 174)	1% (2 out of 169)	2% (35 out of 1752)	2% (34 out of 1678)	1% (13 out of 1348)	1% (14 out of 1352)

6.1.1 Parent driver staging area

Lillian Schmitt: Parents are instructed to drop students off in the loop driveway on California Street, as there is very little capacity for cars to queue in the loop drive off 27th Street where the buses load. Due to the lack of queuing space, parents are directed to queue up along a driveway located to the south of the athletic fields (between the church and the athletic fields) at dismissal. To access this driveway, they must enter the school staff parking lot located on Home Avenue.

Northside Middle: Middle school parents enter the access driveway on the west side of the school off of 27th Street and drop students off/pick them up at the back of the school. They then leave the grounds via Maple Street and due to dead end streets to the north, they are forced to head south and pass through the Maple Street school zone again.



The intersection of Home Ave and 27th Street is very busy at arrival/dismissal times with a variety of traffic types.

6.1.2 Student walking and bicycling

Students walking to either school come from many directions and face several challenging crossings. Any student coming from the south will need to cross 25th Street at California Street, Home Avenue or Maple Street.

Bike parking at the elementary school is provided at the corner of California and 27th and in front of the school on 27th Street as well. Northside Middle School bike parking is provided by the front door under the roof. Because of the cover and passive surveillance, this is a good location for the bike rack. However the route to the rack from both the east and west should be addressed due to the various curbs, driveways and berms in the vicinity.



Increased police enforcement would greatly enhance the pedestrian environment of the school campus.

6.1.3 Bus staging area

Lillian Schmitt: Buses pull into the loop driveway located on 27th Street between Home Avenue and California Street. This works well with the exception that their departure adds to the traffic at the intersection of Home Avenue and 27th Street.

Northside Middle: The buses use the loop drive on the north side of 27th Street at the main entrance between Maple Street and Home Avenue. Again, this works well except for the contribution the buses make to traffic at Home Avenue and 27th Street as they leave the campus area.

6.1.4 Specific Infrastructure Issues

The combined campus area of Columbus North High School, Lillian Smith Elementary, Northside Middle School and St. Bartholomew Catholic School is a great example of Columbus' continued commitment to locating schools in neighborhoods. However, this campus also represents the biggest challenge in terms of SRTS planning for Columbus. A list of specific infrastructure issues was identified in the assessment of the area and should be considered for future improvements to increase the number of children walking and bicycling to the campus.



Walkers crossing at 27th St and Home Ave.

US 31/National Road is the northern boundary of the Northside Middle School Campus. Although it is the attendance boundary for Schmitt Elementary, some middle and high school students need to cross it to get to travel between their homes and campus.

The intersection of Home Avenue at 27th Street is controlled by a four way stop and has minimal facilities for pedestrians, although it is one of the intersections with the highest pedestrian volumes in the city of Columbus. Two crossing guards coordinate their efforts at this intersection but it remains a safety concern.



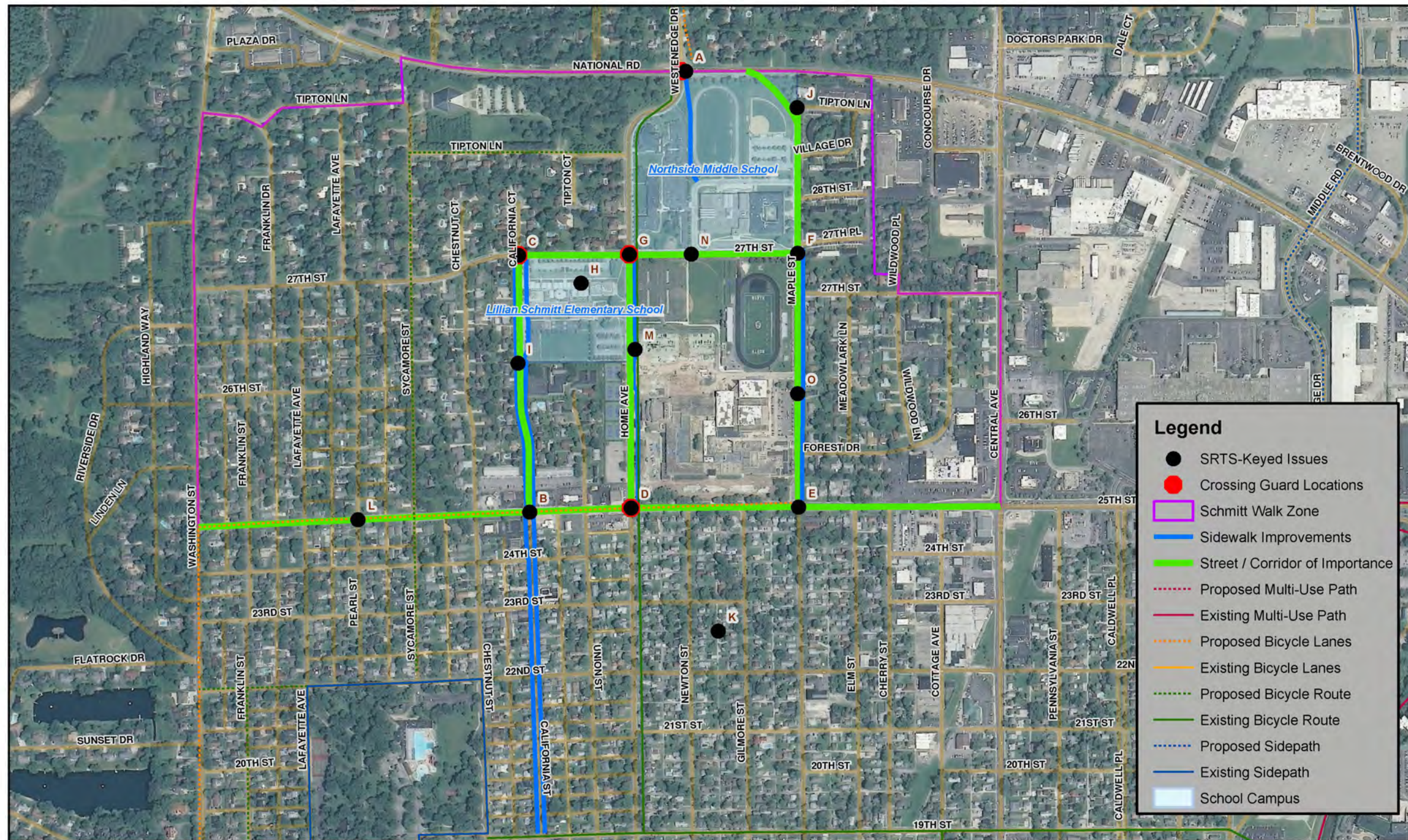
Cyclists are part of the traffic mix.

25th Street is an arterial road that carries thousands of cars a day which makes crossing it safely an issue for students of all ages. Central Avenue, Maple Street, Home Avenue and California Street are all busy north/south streets without significant pedestrian crossing facilities at their intersections with 25th Street.

Another challenge is the lack of sidewalks north of 19th Street. Most of the streets do not have sidewalks with the exception of some of the main north/south streets. Central Avenue and Maple Street have sidewalks on both sides, though Maple Street's sidewalks are only on the west side north of 25th Street. California Street, which connects to Schmitt Elementary, does not have sidewalks on either side. Strategic sidewalk construction and intersection improvements will be key to improving the biking and walking environment around the Northside/Schmitt campus.

A final challenge to walkers is the offset intersection of 27th Street/27th Court and Maple Street. This intersection has faded crosswalk markings, does not provide access to the sidewalk on the south side of 27th Street, and lacks curb ramps.

Schmitt Elementary and Northside Middle School Key Issues		
Map ID Number	Location	Description
A	Westenedge Dr/Home Ave and US 31/National Rd	Intersection in need of pedestrian improvements
B	25th St and California St	Intersection in need of pedestrian improvements
C	27th St and California St	Intersection in need of pedestrian improvements
D	Home Ave and 25th St	Intersection in need of pedestrian improvements
E	Maple St and 25th St	Intersection in need of pedestrian improvements
F	27th St/27th Court and Maple St	Intersection in need of pedestrian improvements
G	Home Ave and 27th St	Intersection in need of pedestrian improvements
H	Immediate vicinity of school	Consistent school zone signage needed
I	California from 26 th St to 27 th St	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
J	North end of Maple St	Maple St dead ends at Tipton Ln, forcing parents to exit campus area by going south on Maple St
K	Neighborhoods north of 19th St	Neighborhood streets north of 19 th St lack sidewalks
L	25th St from Washington St to Central Ave	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
M	Home Ave from 25th St to 27th St	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
N	27th St from California St to Maple St	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians
O	Maple St from 25th St to Tipton Ln	Important corridor due to proximity to schools, high traffic volumes and high numbers of bicyclists and pedestrians

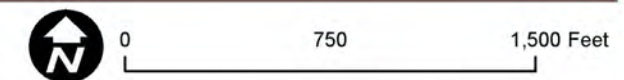


6-1: Lillian Schmitt Elementary and Northside Middle School - Key Issues

Bartholomew Consolidated School Corporation Safe Routes to School Plan

Source [IndianaMap]

Date: 2-23-2012



Map 6-1. Lillian Schmitt Elementary and Northside Middle School – Key Issues

This page intentionally left blank.

6.2 Schmitt/Northside Middle School Campus Recommendations

6.2.1 Program Recommendations

Schmitt Elementary

- Organize walking school buses and bike buses to encourage more students to walk/bike to school
- Create incentive programs for both students and parents to encourage them to walk or bike to school
- Educate students and staff on the SRTS programs available to them through the BCSC; coordinate with incentive giveaways
- Utilize frequent enforcement of crosswalk compliance and safe driving behaviors in the school zone
- Provide crossing guards with large, lit paddles
- Implement No Idling and Parent Pledge campaigns

Northside Middle

- Educate parents on the benefits of SRTS to encourage more students to bike or walk to school
- Implement walking and biking school buses from the surrounding neighborhoods
- Educate students on the safety of crossing streets appropriately
- Implement encouragement programs to increase the number of students biking and walking to school via pedometer challenges, Walk-n-Wheel Wednesdays, walking school buses, and remote drop-off for bus riders so they can participate as well
- Consider the use of a safety patrol at this school to assist with arrival/dismissal procedures and to encourage safe crossing behaviors
- Implement No Idling and Parent Pledge campaigns

6.2.2 Infrastructure Recommendations – Sidewalks

The following recommendations are mapped in Map 6-2A and 6-2B by their respective numbers.

1. California Street from 19th Street to 27th Street ; both sides
2. East side of Home Avenue from 27th Street to Columbus North High School parking lot; install sidewalk
3. Repair existing sidewalk in front of Columbus North High School on Home Avenue from parking lot to 25th Street
4. Construct an asphalt path from US31/National Rd along the west side of the Middle School track to the existing parent access drive

6.2.3 Infrastructure Recommendations – School Property

Schmitt Elementary

5. Remove old bike racks from corner of 27th Street and California Street
6. Create a No Parking Zone in front of the school on east side of California Street during arrival and dismissal times

Northside Middle

7. Create No Parking zone for curb between parent access drive and bus access drive to prohibit cars from stacking here
8. Stripe a crosswalk over the parent access driveway and install curb cuts
9. Replace existing bike racks
10. Create a new road connecting US 31/National Road to Maple Street in the northeast portion of the school property – right in, right out only



6.2.4 Infrastructure Recommendations – Corridors of Importance

11. California Street from 25th Street to 27th Street
12. Home Avenue (25th Street to 27th Street) "Learning Corridor" – see Figure 6.3
13. Maple Street from Tipton Lane to 25th Street – See Figure 6-1
14. 27th Street from California Street to Maple Street - Consider Learning Corridor Design concept like that for Home Avenue
15. 25th Street from Central Avenue to Washington Street- See Figure 6-2

6.2.5 Infrastructure Recommendations – Signing for School Area Traffic Control

16. For the whole multi-school campus:
 - 200' north of 27th Street and Home Avenue
 - 200' west from 27th Street and California Street
 - 100' south of school property on California Street
 - all of Home Avenue between 25th Street and 27th Street to 200' south on 25th Street on Home Avenue
 - 100' east of Northside property on Tipton Lane
 - Maple Street from Tipton Lane to 200' south of 25th Street

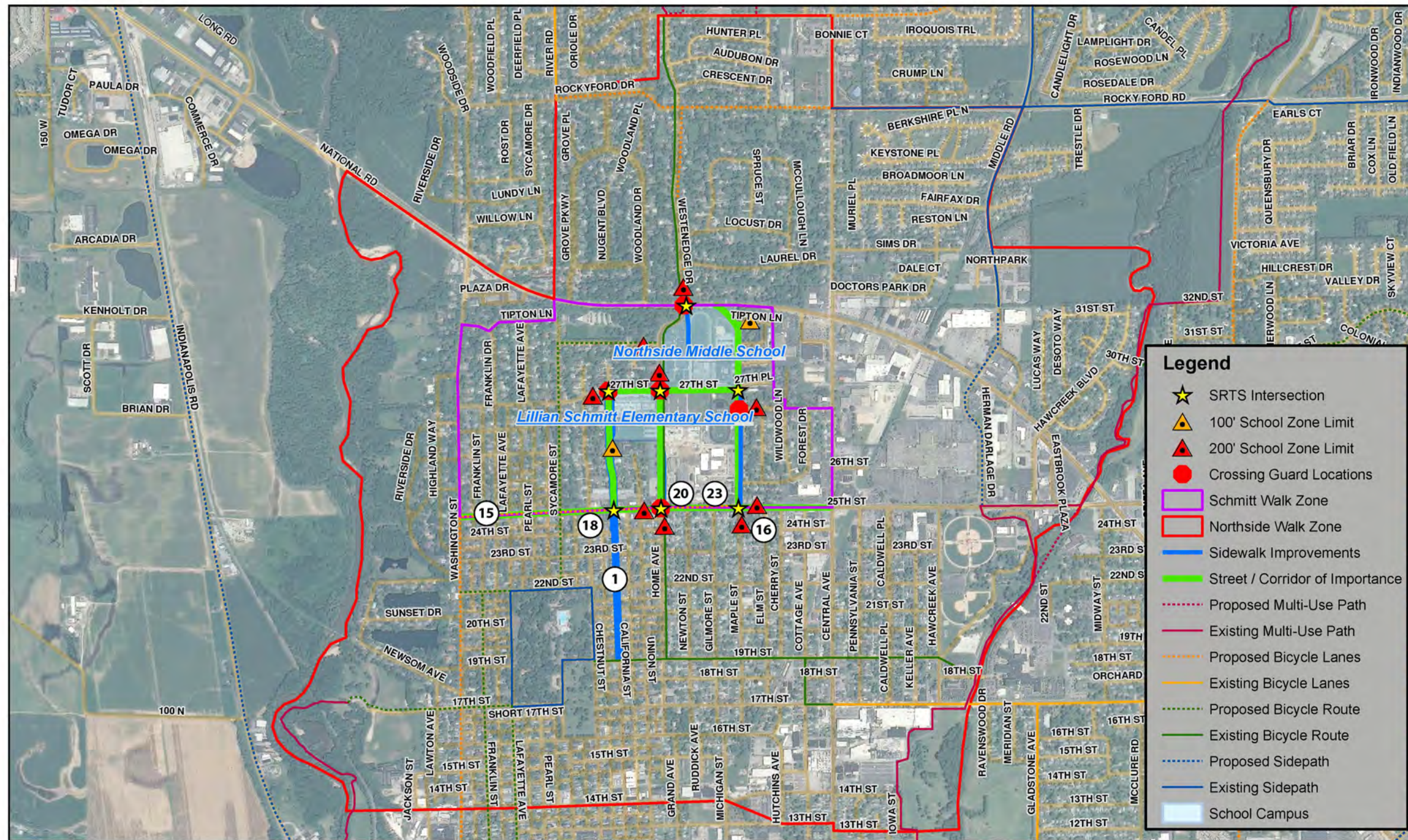
Please note: Engineer will follow MUTCD guidance to select signs and determine sign placement for school area traffic control.

Lillian Schmitt Elementary and Northside Middle Crosswalk Recommendations							
Intersections Inside Northside Walking Zone	Intersection Treatments						
<p>17. Westenedge Dr & US 31/National Rd</p> <ul style="list-style-type: none"> • Complete crosswalks • Controlled by traffic signal • Partial sidewalks • Crossing guard <p>Recommended Treatment Level 4</p>	 <p>Recommended Treatment Level 2</p>						
Intersections Inside the Walking Zone for Both Schools							
<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>18. 25th St & California St</p> <ul style="list-style-type: none"> • No crosswalks • Stop sign (on California St) • Partial sidewalks • See site specific recc's Figure 6-2 </td> <td style="width: 50%; vertical-align: top;"> <p>21. 25th St & Central Ave</p> <ul style="list-style-type: none"> • Partial crosswalks • Controlled by traffic signal • Full sidewalks • Recommended Treatment Level 4 </td> </tr> <tr> <td style="vertical-align: top;"> <p>19. 27th & California St</p> <ul style="list-style-type: none"> • Complete crosswalks • Stop signs (2 way on California) • Partial sidewalks • Crossing guard • Recommended Treatment Level 2 </td> <td style="vertical-align: top;"> <p>22. 27th /27th Court & Maple St</p> <ul style="list-style-type: none"> • Partial crosswalks • Stop sign in 27th and 27th Court • Partial sidewalks • See site specific recc's Figure 6-1 </td> </tr> <tr> <td style="vertical-align: top;"> <p>20. Home Ave & 25th St</p> <ul style="list-style-type: none"> • Complete crosswalks • Controlled by traffic signal • Complete sidewalks • Crossing guard • See site specific recc's Figure 6-2 and Figure 6-3 </td> <td style="vertical-align: top;"> <p>23. Home Ave & 27th St</p> <ul style="list-style-type: none"> • Complete crosswalks • 4-way stop signs • Complete sidewalks • Crossing guard (2) • See site specific recc's Figure 6-3 </td> </tr> </table>	<p>18. 25th St & California St</p> <ul style="list-style-type: none"> • No crosswalks • Stop sign (on California St) • Partial sidewalks • See site specific recc's Figure 6-2 	<p>21. 25th St & Central Ave</p> <ul style="list-style-type: none"> • Partial crosswalks • Controlled by traffic signal • Full sidewalks • Recommended Treatment Level 4 	<p>19. 27th & California St</p> <ul style="list-style-type: none"> • Complete crosswalks • Stop signs (2 way on California) • Partial sidewalks • Crossing guard • Recommended Treatment Level 2 	<p>22. 27th /27th Court & Maple St</p> <ul style="list-style-type: none"> • Partial crosswalks • Stop sign in 27th and 27th Court • Partial sidewalks • See site specific recc's Figure 6-1 	<p>20. Home Ave & 25th St</p> <ul style="list-style-type: none"> • Complete crosswalks • Controlled by traffic signal • Complete sidewalks • Crossing guard • See site specific recc's Figure 6-2 and Figure 6-3 	<p>23. Home Ave & 27th St</p> <ul style="list-style-type: none"> • Complete crosswalks • 4-way stop signs • Complete sidewalks • Crossing guard (2) • See site specific recc's Figure 6-3 	 <p>Recommended Treatment Level 4</p>
<p>18. 25th St & California St</p> <ul style="list-style-type: none"> • No crosswalks • Stop sign (on California St) • Partial sidewalks • See site specific recc's Figure 6-2 	<p>21. 25th St & Central Ave</p> <ul style="list-style-type: none"> • Partial crosswalks • Controlled by traffic signal • Full sidewalks • Recommended Treatment Level 4 						
<p>19. 27th & California St</p> <ul style="list-style-type: none"> • Complete crosswalks • Stop signs (2 way on California) • Partial sidewalks • Crossing guard • Recommended Treatment Level 2 	<p>22. 27th /27th Court & Maple St</p> <ul style="list-style-type: none"> • Partial crosswalks • Stop sign in 27th and 27th Court • Partial sidewalks • See site specific recc's Figure 6-1 						
<p>20. Home Ave & 25th St</p> <ul style="list-style-type: none"> • Complete crosswalks • Controlled by traffic signal • Complete sidewalks • Crossing guard • See site specific recc's Figure 6-2 and Figure 6-3 	<p>23. Home Ave & 27th St</p> <ul style="list-style-type: none"> • Complete crosswalks • 4-way stop signs • Complete sidewalks • Crossing guard (2) • See site specific recc's Figure 6-3 						

“Recommended Treatment Levels” are derived by using the guidance described in Appendix C- Crossing Treatment Guide of the Columbus Indiana Bicycle and Pedestrian Plan. As with the installation of any traffic control device, engineering judgment is essential. All crosswalk pavement markings and signs shall be selected, designed and installed in conformance with the MUTCD.

Chapter 6

This page intentionally left blank.



Map 6-2A: Lillian Schmitt Elementary and Northside Middle School - Recommended Improvements

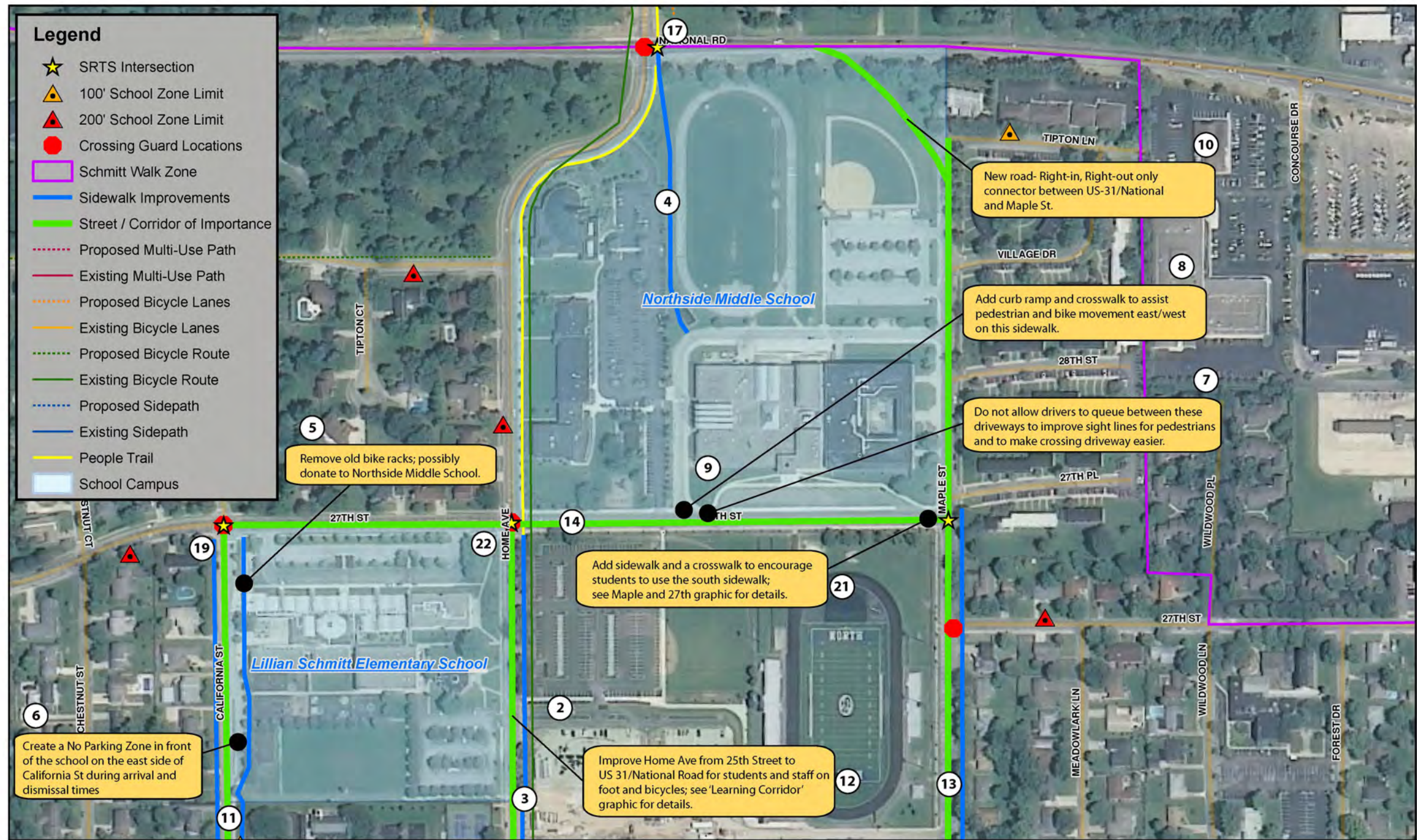
Bartholomew Consolidated School Corporation Safe Routes to School Plan

Source [IndianaMap]

Date: 2-23-2012



Map 6-2A. Lillian Schmitt Elementary and Northside Middle School - Recommended Improvements

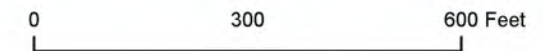


Map 6-2B: Lillian Schmitt Elementary and Northside Middle School - School Property Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan

Source [IndianaMap]

Date: 2-23-2012



Map 6-2B. Lillian Schmitt Elementary and Northside Middle School Property Recommended Improvements



Figure 6-1. Maple Street and 27th Street Intersection Recommendation

Chapter 6

This page intentionally left blank.

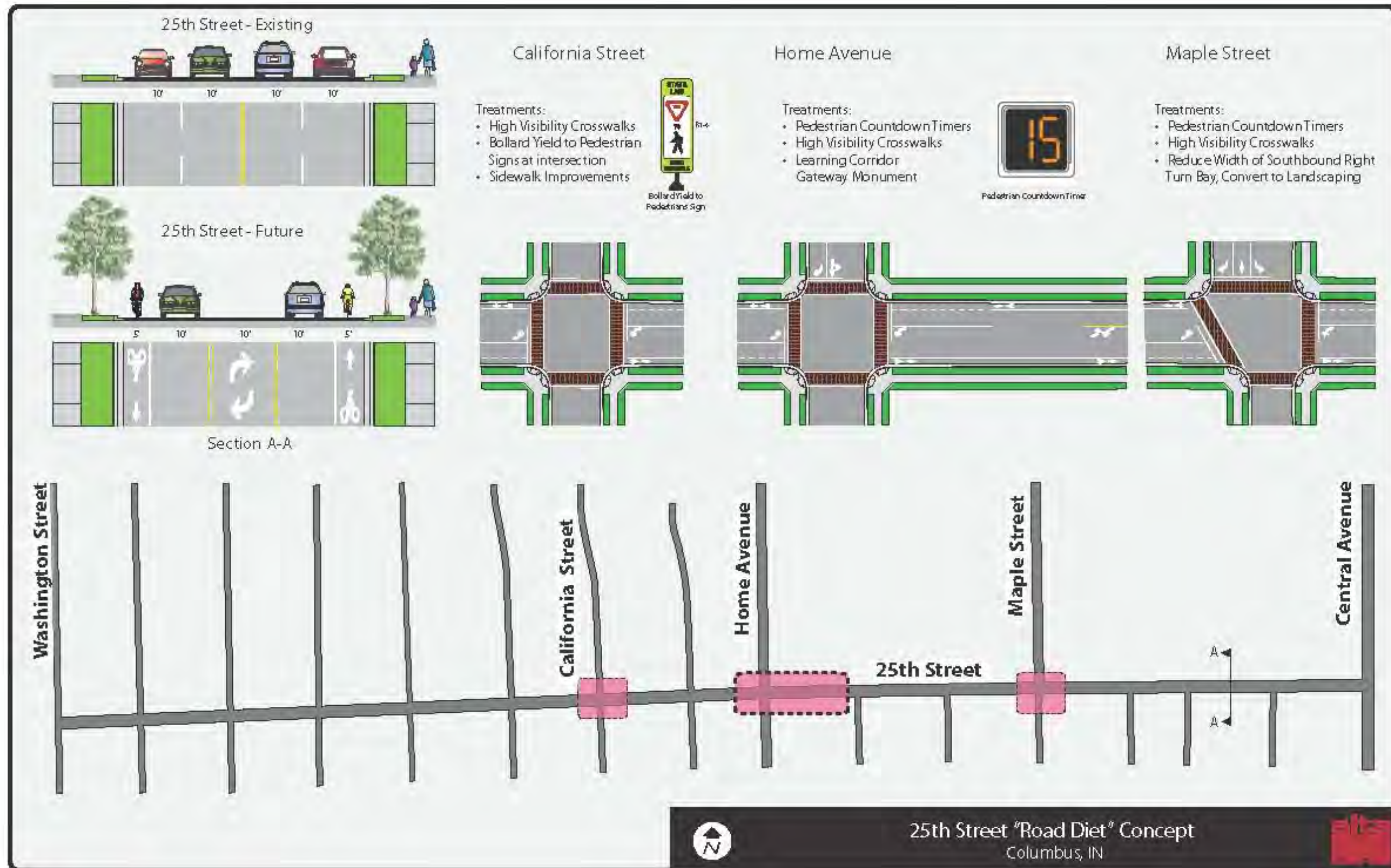


Figure 6-2. Street "Road Diet" Concept

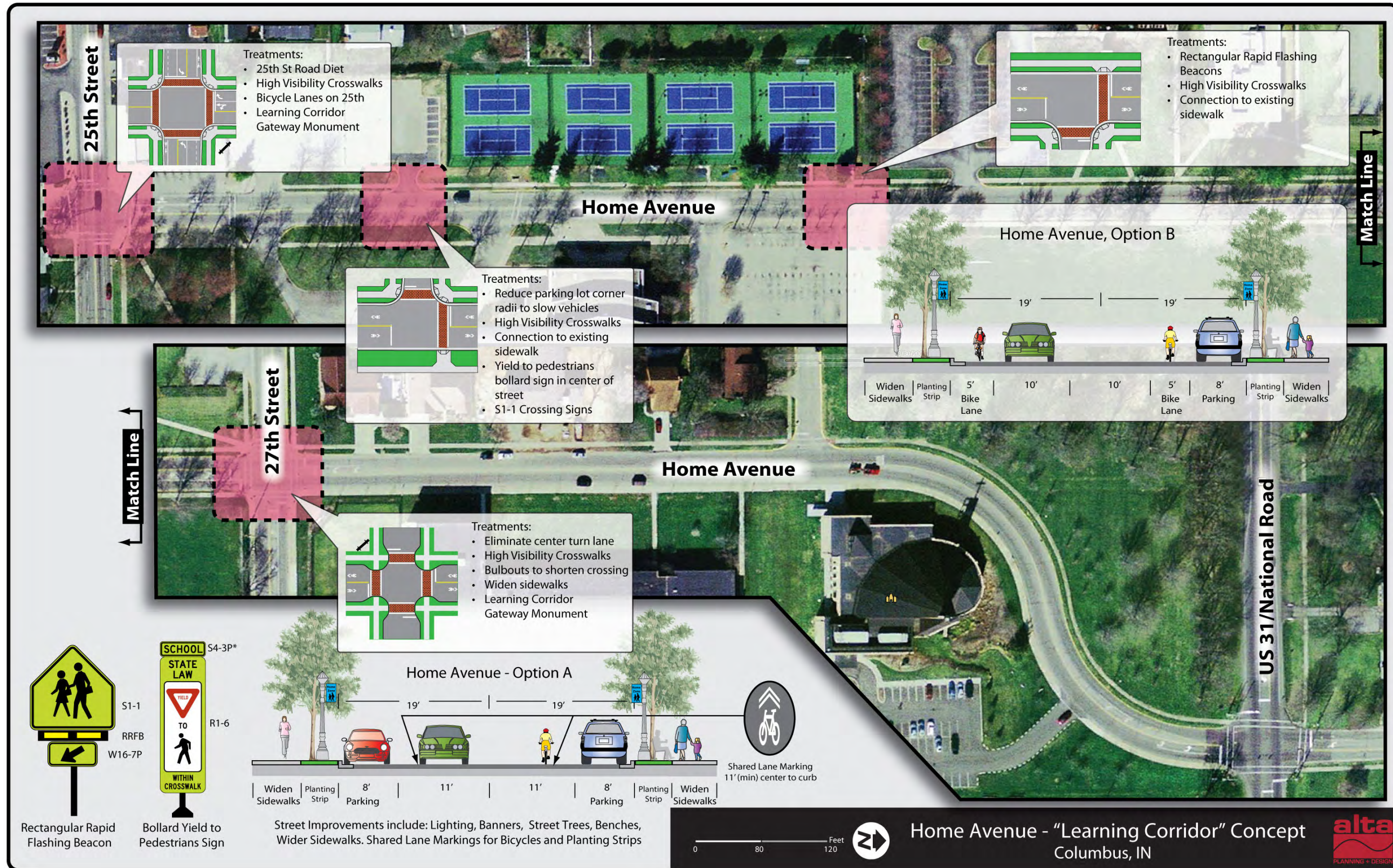


Figure 6-3. Home Avenue "Learning Corridor" Concept

6.3 Schmitt/Northside Middle School Campus One Year Action Plan

Schmitt/Northside Middle School One Year Action Plan	
Program	
Type	
Encouragement	Implement Parent Pledge
	Create a parent support network for the families living within the Walking Zone
	Consider an encouragement program aimed at middle school students- see detailed program descriptions in Appendix A
	Continue and expand the punch card encouragement program
Education	Include a SRTS Fact Corner in the monthly school newsletter
Infrastructure	
Type	
Intersections	Home Avenue and 27th Street - See Figure 6-3
	27th Street and California Street - Recommended Treatment Level 2
	27th Street and Maple Street/27th Court-See Figure 6-1
Corridors of Importance	Begin the next steps necessary to develop the "learning corridor" concept for Home Avenue and the rest of campus
	Begin the next steps necessary to extend Maple Street to US 31/National Road as a right in/right out
Sidewalks	Maple Street (east side from 27th Court to 27th Street)
School Property	Move bike racks from Schmitt to the northwest corner of Northside Middle School
	Install an 8' wide shared use asphalt path from US 31/National Road to the northwest corner of Northside Middle School
	Install curb cut and ramp and crosswalk at island near the west end of the bus loop
	Replace existing bike racks in the front of the school with inverted "U" racks
Signage for School Area Traffic Control	Install School Zone signage as recommended in the Manual on Uniform Traffic Control Devices (MUTCD)

The action plan is based on a one year forecast of reasonably attainable goals as determined by the Task Force for each school. The Action Plan is meant to complement the recommendations. The table should be updated periodically with new goals as the previous goals are met or new opportunities arise with the strategies found in Chapter Two or within the General Recommendations for SRTS strategies discussed in Appendix B. It is important to note that while the plan has a tentative shelf life of five years the action plan only provides recommendations for the first year of the plan. After this point, recommendations that have been accomplished should be removed from the action plan and replaced by recommendations that have not yet

Chapter 6

been implemented. It is likely some of the recommendations in this plan will carry over into a subsequent two to five year planning period.

7 L Francis Smith Elementary (Smith)

405 Waycross Drive, Columbus, IN 47203; enrollment: 490

7.1 Key Issues

This neighborhood school is surrounded by residential homes on the north and east and farm fields to the south and the west. The neighborhood immediately surrounding the school, defined by 25th Street to the north, Taylor Road to the west and Talley Road to the east, is a residential area with low traffic volumes and slow traffic speeds. There is no sidewalk on the south side of Waycross Drive. The Taylor Drive and Waycross Drive intersection is busy and has minimal pedestrian and bicycle accommodations. These facts combine to make it difficult for students living west of Taylor Drive to bike or walk to school. The existing pedestrian easement originating at Dawnshire Drive and terminating at the school property is underused and in disrepair and is not connected through the school property to a school entrance. The intersections that connect the Lockerbie neighborhood to the school via Timbercrest, Eastgate and Lockerbie Drives lack adequate facilities for pedestrians.



Additional issues include distracted driving near the school, lack of bicycle facilities on Waycross Drive, parking issues limiting visibility and the high speed of traffic on neighborhood streets such as Lockerbie Drive.

7.1.1 Parent driver staging area

Automobile drivers dropping off and picking up students enter the driveway off of Waycross Drive and proceed to the loop drive located at the southwest corner of the school. Three staff members who act as valets assist the students out of each car. This appeared to speed the arrival process and for the most part on the observation day; drivers waited in a single file line until they got to the designated drop-off location. Student walking and bicycling

Students arriving on foot generally came from Timbercrest Drive at Waycross Drive or Farrington Court at Waycross Drive. Whether approaching from the east or the west, students used the crossing guard stationed at the crosswalk located 100 feet from the intersection of Timbercrest Drive at Waycross Drive. Once they arrived on the south side of Waycross Drive, students entered the school via the front door along with the students arriving by bus. The buses unload in a school drive which is accessed from Waycross Drive.

Although there is a neighborhood pedestrian easement that terminates at the school property line at the southeast corner of the school site, no students approached the school via that facility on the day of observation. This sidewalk connects the school to Timbercrest Drive, Chandler Lane and Dawnshire Drive but appears little known and underused by the students as there is no desire line (beaten path) created by foot traffic across the school lawn. The use of this facility may increase if the school installed a paved path across school grounds connecting the pedestrian easement to the school.

No students arrived by bicycle on the day of the observation. It was a cold and rainy day and it is possible that more students might arrive via bicycle on a nicer day. The bicycle rack is properly located so students arriving from Timbercrest Drive at Waycross Drive intersection do not have to cross any driveways to access the school.

7.1.2 Bus staging area

Students arriving by bus are dropped off and picked up on the Waycross Drive loop located on the north side of the school.

Overall the arrival/dismissal process for this school appears to function well but would benefit from a reduction in the number of private vehicles entering the school grounds for student transport.

7.1.3 Specific infrastructure issues

A list of specific infrastructure issues was identified in the assessment of the area and should be considered for future improvements to increase the number of children walking and bicycling to Smith.

From west of Taylor Road, two obstacles have been identified as barriers to walking and cycling to school:

- Crossing Taylor Road at Waycross Drive
- The lack of sidewalk on the south side of Waycross Drive

For students coming from east of Smith, improvements to the crossing and improved signage in the Lockerbie Drive/Eastgate Drive/Hartford Avenue area could increase walking and bicycling.

The existing neighborhood pedestrian easement that enters the school property at the southeast corner should be extended to the school and improvements are needed at each street it crosses: Timbercrest Drive, Chandler Lane and Dawnshire Drive.

Improvements to the crossings and better signage are needed along Timbercrest Drive, Eastgate Drive and Lockerbie Drive in order to connect the Lockerbie neighborhood to the school.



Neighborhood Pedestrian Easement.

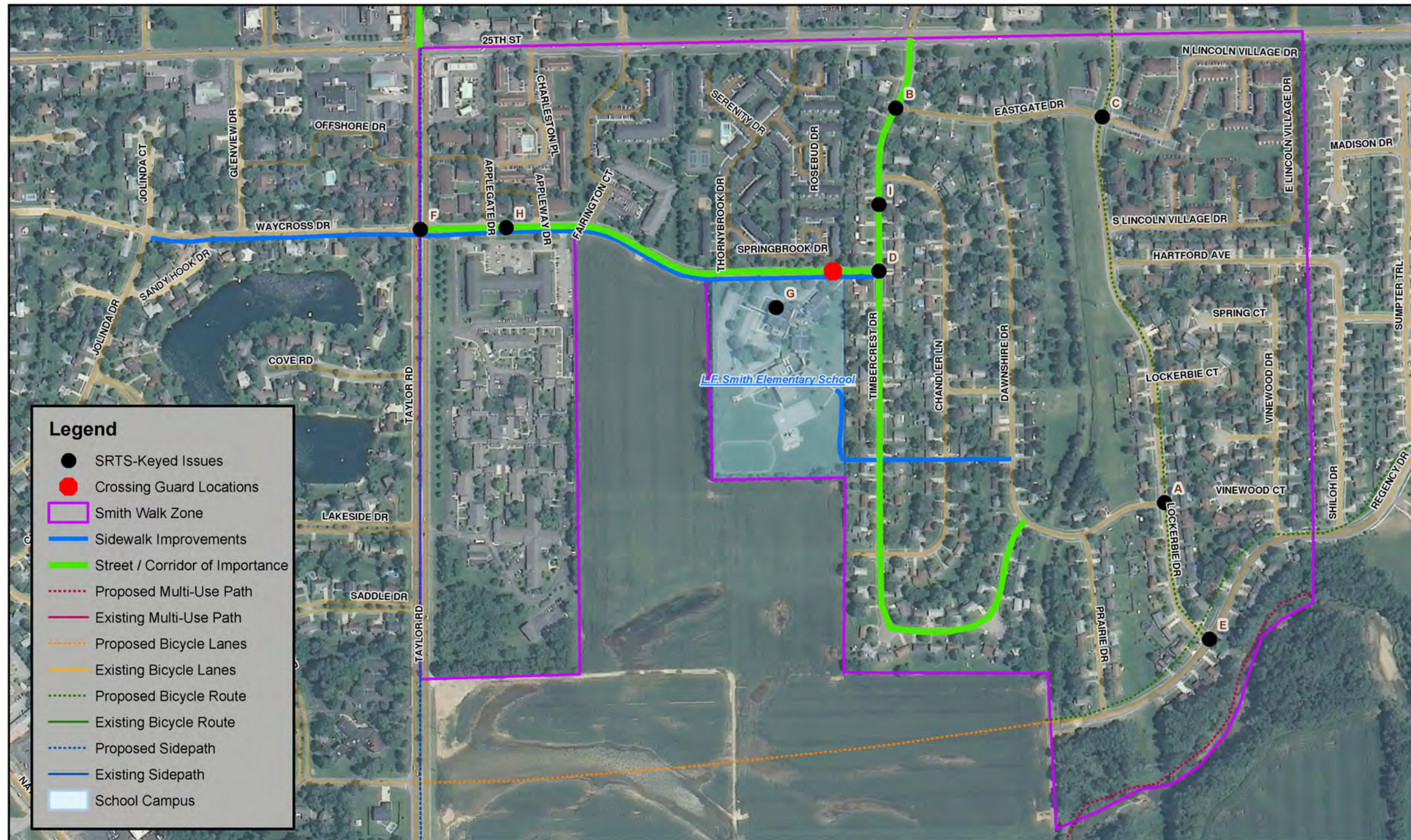


The sidewalk located on Eastgate Drive at Lockerbie Drive is inadequate.

L. Francis Smith Elementary School Key Issues		
Map ID Number	Location	Description
A	Lockerbie Dr and Dawnshire Dr	Intersection in need of pedestrian improvements
B	Timbercrest Dr and Eastgate Dr	Intersection in need of pedestrian improvements
C	Lockerbie Dr and Eastgate Dr	Intersection in need of pedestrian improvements
D	Timbercrest Dr and Waycross Dr	Intersection in need of pedestrian improvements
E	Lockerbie Dr and Regency Dr	Intersection in need of pedestrian improvements
F	Waycross Dr and Taylor Rd	Intersection in need of pedestrian improvements
G	Immediate vicinity of school	Consistent school zone signage needed
H	Waycross Dr from Jolinda Ct to Timbercrest Dr	Important corridor due to proximity to schools, traffic volumes and speeds and potential numbers of bicyclists and pedestrians
I	Timbercrest Dr from Dawnshire Dr to 25 th St	Important corridor due to proximity to schools, traffic volumes and speeds and potential numbers of bicyclists and pedestrians

Chapter 7

This page intentionally left blank.



7-1: L Francis Smith Elementary - Key Issues

Bartholomew Consolidated School Corporation Safe Routes to School Plan

Source [IndianaMap]

Date: 2-23-2012



Map 7-1. L Francis Smith Elementary– Key Issues

This page intentionally left blank.

7.2 L. Francis Smith Elementary Recommendations

7.2.1 Program Recommendations

- Organize a walking school bus from the neighborhood to the east of the school utilizing the pedestrian easement to highlight its presence and alert neighbors to its use by students
- Once improvements to the pedestrian easement are completed (see below), highlight use with a ribbon cutting ceremony
- Create incentive programs for both students and parents to encourage them to walk or bike to school
- Periodic police enforcement of speed limits and rules of the road in the neighborhoods near the school
- Implement No Idling and Parent Pledge campaigns

7.2.2 Infrastructure Recommendations – Sidewalks

The following recommendations are mapped in Maps 7-2A and 7-2B by their respective numbers.

1. Southside of Waycross Drive from Jolinda Court to Timbercrest Drive – install sidewalk
2. Pedestrian easement from school property to Dawnshire Drive - cut curb ramps and repair low lying areas , trim vegetation away from the easement and install crosswalks and signage at mid-block crossings

7.2.3 Infrastructure Recommendations – School Property

3. Create an 8-foot wide asphalt path connection between the existing school sidewalk and the pedestrian easement that dead ends on school property
4. Restrict parking in school zone on both sides of Waycross Drive during arrival and dismissal times


7.2.4 Infrastructure Recommendations – Corridors of Importance

5. Waycross Drive from Jolinda Court to Timbercrest Drive
6. Timbercrest Drive from 25th Street to Dawnshire Drive

7.2.5 Infrastructure Recommendations – Signing for School Area Traffic Control

7. Install ladder type crosswalk at school crosswalk located 100' from intersection of Waycross Drive and Timbercrest Drive. Add arrow (MUTCD W16-7P) to the Pedestrian Crossing Sign
8. 100' from school property line west of school and 200' east of crosswalk near Timbercrest Drive

Please note: Engineer will follow MUTCD guidance to select signs and determine sign placement for school area traffic control.

L. Francis Smith Elementary School - Recommendations	
Intersections Within Walking Zone	
<p>9. Lockerbie Dr & Dawnshire Dr</p> <ul style="list-style-type: none"> • No crosswalks • Stop sign (on Dawnshire) • Complete sidewalks • Recommended Treatment Level 1 <p>10. Timbercrest Dr & Eastgate Dr</p> <ul style="list-style-type: none"> • No crosswalks • Stop sign (on Eastgate) • Complete sidewalks • Recommended Treatment Level 1 	<p>11. Lockerbie Dr & Eastgate Dr</p> <ul style="list-style-type: none"> • Partial crosswalks • Stop sign (on Eastgate) • Partial Sidewalks • Recommended Treatment Level 1 <p>12. Timbercrest Dr & Waycross Dr</p> <ul style="list-style-type: none"> • Partial crosswalks • Stop sign (3- way) • Complete sidewalks • Crossing guard at Waycross and crosswalk • Recommended Treatment Level 1 <p>13. Lockerbie Dr & Regency Dr</p> <ul style="list-style-type: none"> • No crosswalks • Stop sign (on Lockerbie) • Partial sidewalks • Recommended Treatment Level 1
 <p style="text-align: center;">Recommended Treatment Level 1</p>	
Intersections Partially Within Walking Zone	
<p>14. Waycross Dr & Taylor Rd</p> <ul style="list-style-type: none"> • No crosswalks • Controlled by traffic signal • Partial sidewalks • See Figure 7-1 	

“Recommended Treatment Levels “ are derived using the guidance described in Appendix C – Crossing Treatment Guide of the Columbus Indiana Bicycle and Pedestrian Plan. As with the installation of any traffic control device, engineering judgment is essential. All crosswalk pavement markings and signs shall be selected, designed and installed in conformance with the MUTCD.

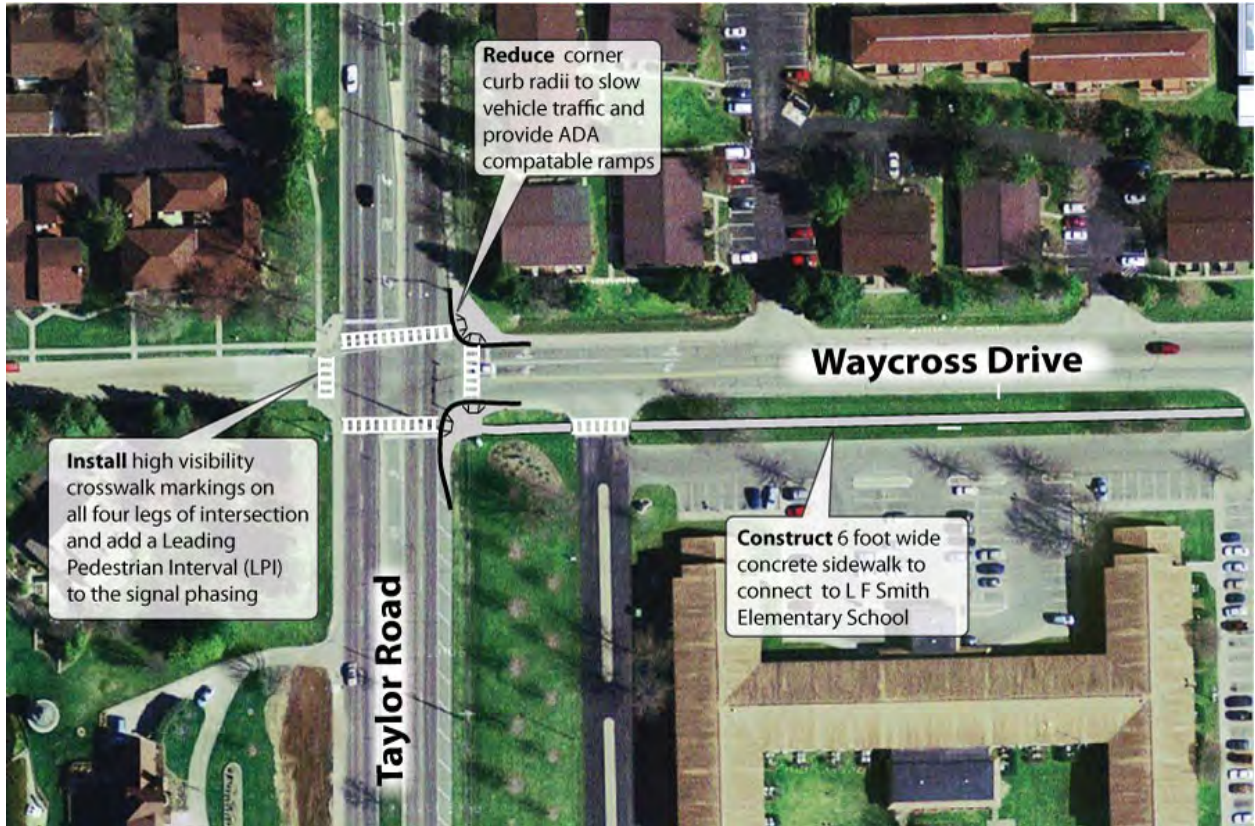
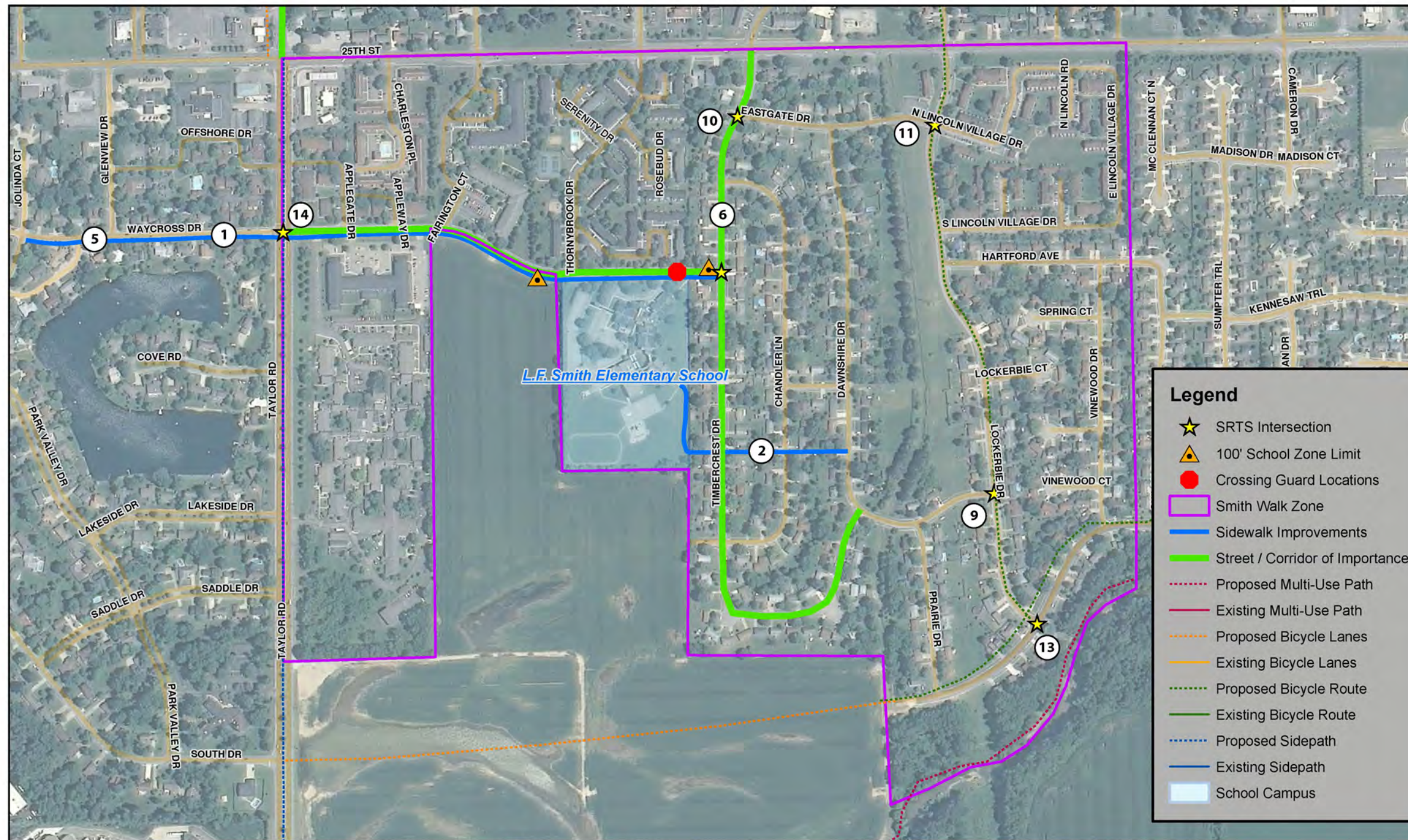


Figure 7-1. Taylor Road and Waycross Drive Intersection Recommendation

Chapter 7

This page intentionally left blank.



Map 7-2A: L Francis Smith Elementary - Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan

Source [IndianaMap]
Date: 2-23-2012

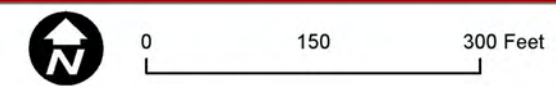


Map 7-2A. L Francis Smith Elementary – Recommended Improvements



Map 7-2B: L Francis Smith Elementary - School Property Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan
 Source [IndianaMap]
 Date: 2-23-2012



Map 7-2B. L. Francis Smith Elementary – School Property Recommended Improvements

7.3 L Francis Smith Elementary One Year Action Plan

L Francis Smith Elementary One Year Action Plan	
Program	
Type	
Encouragement	Implement Parent Pledge
	Formalize a regularly scheduled 'Walk with Principal Laura Hack' walking school bus
Enforcement	Frequent enforcement of "Yield to Pedestrians" in crosswalks and speed limits
Education	Include a SRTS Fact Corner in the monthly school newsletter
Infrastructure	
Type	
Sidewalks	Install curb ramps and repair low lying areas of pedestrian easement from school property to Dawnshire Drive
Intersections	Timbercrest Drive and Waycross Road - Recommended Treatment Level 1
	Timbercrest Drive and Eastgate Drive - Recommended Treatment Level 1
	Eastgate Drive and Lockerbie Drive - Recommended Treatment Level 1
School Property	Restrict on-street parking in school zone on both sides of Waycross Drive during arrival/dismissal
	Create a sidewalk connection from the pedestrian easement that terminates at the school property to the existing sidewalk on the northeast side of the school
Signage for School Area Traffic Control	Install School Zone signage as recommended in the Manual on Uniform Traffic Control Devices (MUTCD)

The Action Plan is based on a one year forecast of reasonably attainable goals as determined by the Task Force for each school. The Action Plan is meant to complement the recommendations. The table should be updated periodically with new goals as the previous goals are met or new opportunities arise with the strategies found in Chapter Two or within the General Recommendations for SRTS strategies discussed in Appendix B. It is important to note that while the plan has a tentative shelf life of five years the Action Plan only provides recommendations for the first year of the plan. After this point, recommendations that have been accomplished should be removed from the Action Plan and replaced by recommendations that have not yet been implemented. It is likely some of the recommendations in this plan will carry over into a subsequent two to five year planning period.

Chapter 7

This page intentionally left blank.

8 Southside Elementary School

1320 County Road 200 South, Columbus, IN 47201; enrollment: 1009

8.1 Key Issues

With over 1,000 students, this is the largest of the schools in the study and is also the most rural. The school is located just west of the Bartholomew County Fairgrounds; to the south is County Road 200 South, a two-lane road with shoulders and ditches on each side but no sidewalks. A rural housing subdivision is located directly south of the school. Along the western property boundary is a newer housing development that is connected to the school property by two pedestrian easements that lead from Cross Creek Drive to the school property, but only one is connected by a formal trail to the school property.



The double loaded drive on the south side of Southside School allows more cars to queue up.

8.1.1 Parent driver staging area

Parents dropping off students enter the school grounds from Spear Street, queuing along the south driveway of the school to enter the loop driveway located on the west side of the school. Students are dropped off/picked up at the west (back) door of the school. Parents must then exit via the western drive onto County Road 200 South. Cars are allowed to form two queuing lines along the south driveway which increases the capacity of the driveway so that the car line does not spill onto Spear Street.

8.1.2 Student walking and bicycling

About 0.4% of the students reported that they walked to school in a recent parent survey and student tally. It is assumed these students live in the Cross Creek subdivision located adjacent to the western property line of the school, as these are the only homes within a safe walking distance from the school.

No students reported bicycling to school. There are no bike racks available for student use at the school.

8.1.3 Bus staging area

School buses enter the bus-only parking lot off of Spear Street on the north side of the school. Over 60% of the students report taking the bus to school and over 70% use it to travel home after school.

8.1.4 Specific infrastructure issues

A list of specific infrastructure issues was identified in the assessment of the area and should be considered for future improvements to increase the number of children walking and bicycling to Southside.

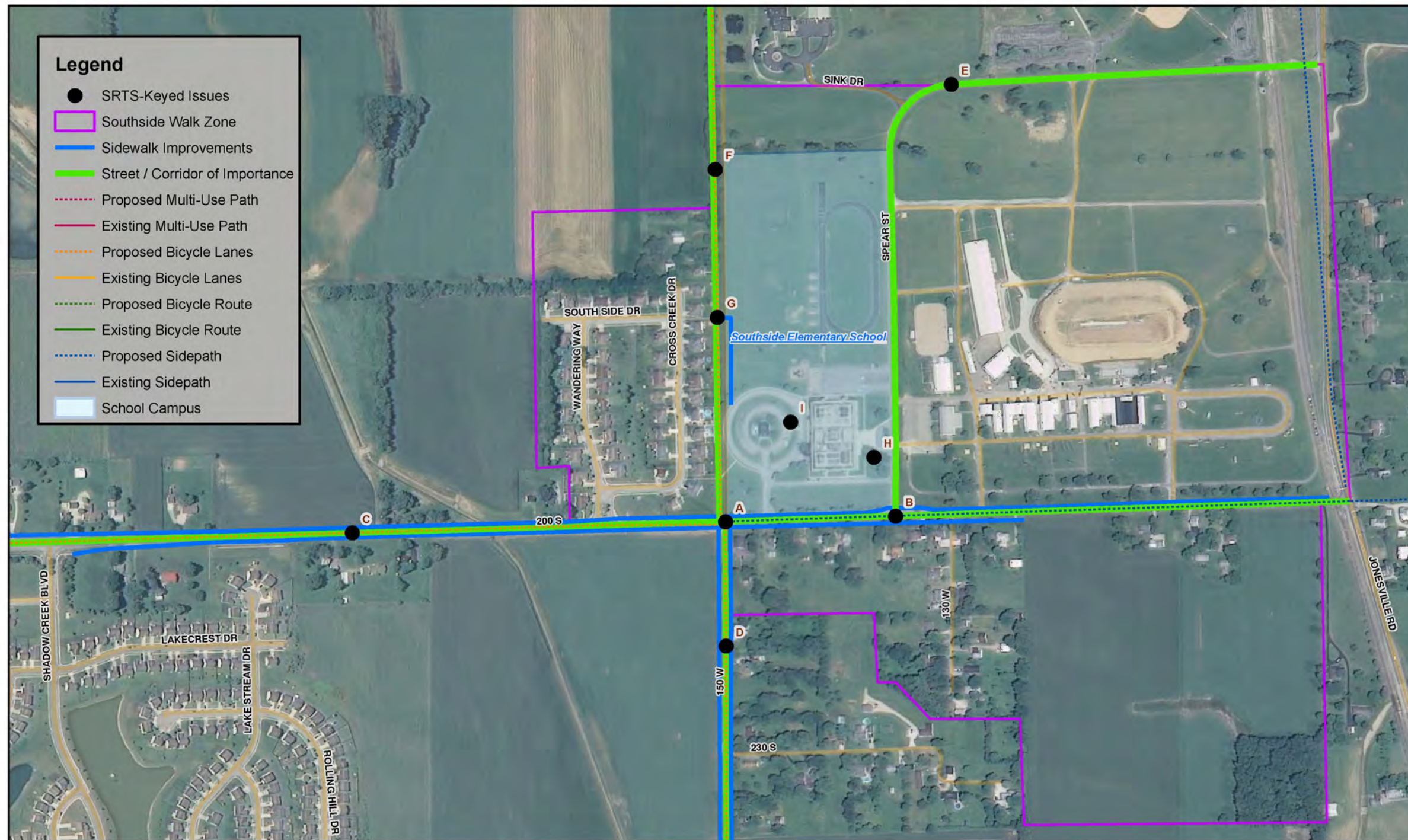
Of the schools visited, Southside has the least friendly environment for bicycling and walking. County Road 200 South is a rural two lane road that lacks sidewalks. However, the City plans on building an 8-foot wide

sidepath along the north side of County Road 200 South from Jonesville Road (Highway 11) to Spear Street. While this will provide a pedestrian facility, it will not serve many students because few homes are located along this stretch of County Road 200 South. There are plans to build a sidewalk along County Road 200 South from County Road 150 West to Shadow Creek Boulevard as part of Shadow Creek Farms subdivision development agreement. The side of the road the new sidewalk will be located on has not been determined as of yet. While this will be a vast improvement for students accessing Southside by foot or bicycle, there are right-of-way issues that may delay sidewalk construction.

An additional concern is the high number of bus stops within neighborhoods and the length of time students spend on the bus getting to/from school. Maximizing school bus ridership is key to a successful SRTS program at all schools, in that each student on a bus represents one less private car on campus at arrival or dismissal. However, for a school like Southside Elementary that has so few options for biking or walking, it is even more important. The school corporation should do all it can to encourage as many students as possible to take the school bus option to Southside Elementary School which includes working with parents to ally their concerns about long bus rides and walks to and from the bus stops.

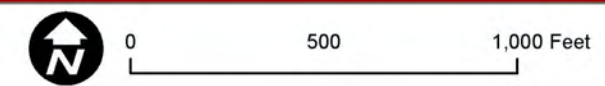
Finally, as mentioned above, there are two sidewalk connectors that lead from Cross Creek Drive to the school property but only one is connected by a formal trail to the school itself.

Southside Elementary School Key Issues		
Map ID Number	Location	Description
A	CR 200 S and CR 150 W	Intersection in need of pedestrian improvements
B	CR 200 S and Spear Street	Intersection in need of pedestrian improvements
C	CR 200 S from Jonesville Rd to I-65	Important corridor due to proximity to schools, high traffic volumes and potential numbers of bicyclists and pedestrians
D	CR 150 W from CR 200 S to Shadow Creek Boulevard	Important corridor due to proximity to schools, traffic volumes and potential numbers of bicyclists and pedestrians
E	Spear St from CR 200 S to Jonesville Rd	Important corridor due to proximity to schools, traffic volumes and potential numbers of bicyclists and pedestrians
F	Future street from CR 200 S to CR 100 S	When built this will be an important corridor due to proximity to schools, traffic volumes and potential numbers of bicyclists and pedestrians
G	Northern connection from Cross Creek Subdivision	Lack of connecting path to school
H	Immediate vicinity of school	Consistent school zone signage needed
I	School campus	Lack of bike racks



8-1: Southside Elementary - Key Issues

Bartholomew Consolidated School Corporation Safe Routes to School Plan
 Source [IndianaMap]
 Date: 2-23-2012



Map 8-1. Southside Elementary – Key Issues

This page intentionally left blank.

8.2 Southside Elementary Recommendations

8.2.1 Program Recommendations

- Survey parents dropping students off to find out specific reasons for not taking advantage of the bus service provided to them
- Address concerns brought up via the parent bus survey
- Encourage parents to carpool to reduce congestion
- Encourage a change in school policy to allow students to bike to school from the Cross Creek subdivision
- Implement a No Idling Campaign, encouraging drivers to turn off their vehicles while waiting at dismissal time
- Consider fewer bus stops in each subdivision and work with parents to allay parent fears regarding student safety
- Implement a Parent Pledge Campaign

8.2.2 Infrastructure Recommendations-Connections

The following recommendations are mapped in Map 8-2A and 8-2B by their respective numbers.

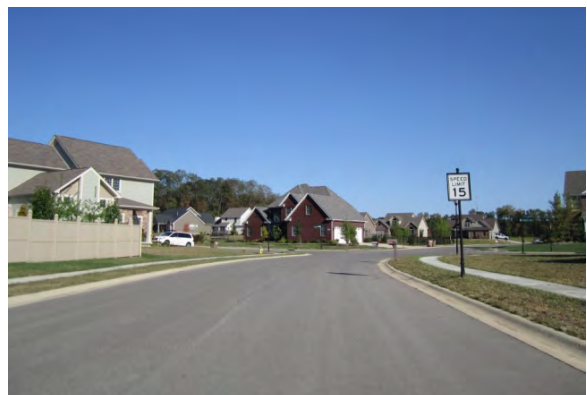
1. Formalize the northern connection from the Cross Creek neighborhood and connect it to school property



Cross Creek Subdivision sidewalk connector.

8.2.3 Infrastructure Recommendations-Sidewalks

2. Install sidepath (8' wide) planned for the north side of County Road 200 S from Jonesville Rd to County Road 150 W
3. Work with city and developer to speed up the installation of sidewalk along County Road 200 S (south or north side to be determined)
4. Install sidewalk on south side of County Road 200 S to serve existing neighborhood south of school



Sidewalks in Windflower Estates.

8.2.4 Infrastructure Recommendations-School Property

5. Add bike racks on west side of school with easy access to the Cross Creek neighborhood connections
6. Maintain crosswalk on Spear Street from Fairgrounds entrance to school

8.2.5 Infrastructure Recommendations-Corridors of Importance

7. Consider safe driveway egress from school when the County Road 150 W/County Road 200 S intersection is reconstructed
8. County Road 200 S and County Road 150 W should both be built as a 'Complete Street' when reconstructed within 1 mile of the school
9. If and when County Road 150 W is extended to connect to County Road 100 S, build it as a 'Complete Street'




County Road 150 West looking north.

8.2.6 Infrastructure Recommendations - Signing for School Area Traffic Control

10. 100' from school property line on these streets:
 - Spear Street approaching from the north
 - County Road 200 S approaching from the east
11. 200' from the following:
 - Existing crosswalk on Spear Street
 - County Road 200 S approaching from the west
 - County Road 150 W (from intersection with County Road 200 S)

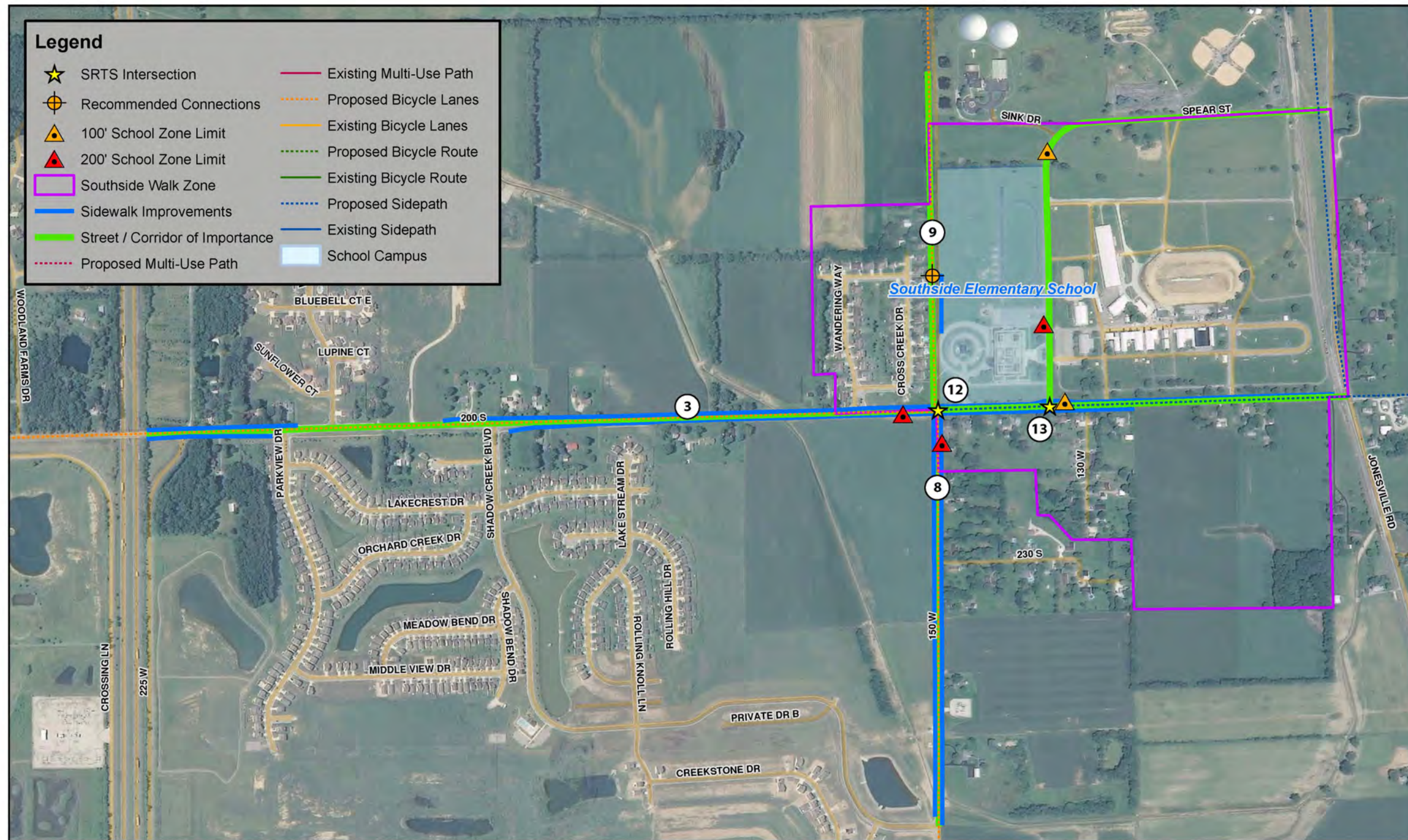
Please note: Engineer will follow the MUTCD guidance to select signs and determine sign placement for school area traffic control

Southside Elementary Recommendations	
Intersections Within Walking Zone	Intersection Treatments
<p>12. County Road 200 S & County Road 150 W</p> <ul style="list-style-type: none"> • No crosswalks • Stop (1 way on 150 W) • No sidewalks • Recommended Treatment Level 2 <p>13. County Road 200 S and Spear Street</p> <ul style="list-style-type: none"> • No crosswalks • Stop (1 way on Spear St) • No sidewalks • Recommended Treatment Level 2 	 <p>Recommended Treatment Level 2</p>

“Recommended Treatment Levels” are derived by using the guidance described in Appendix C- Crossing Treatment Guide of the Columbus Indiana Bicycle and Pedestrian Plan. As with the installation of any traffic control device, engineering judgment is essential. All crosswalk pavement markings and signs shall be selected, designed and installed in conformance with the MUTCD.

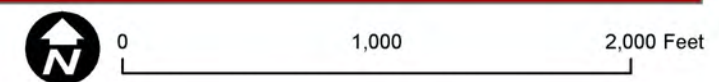
Chapter 8

This page intentionally left blank.

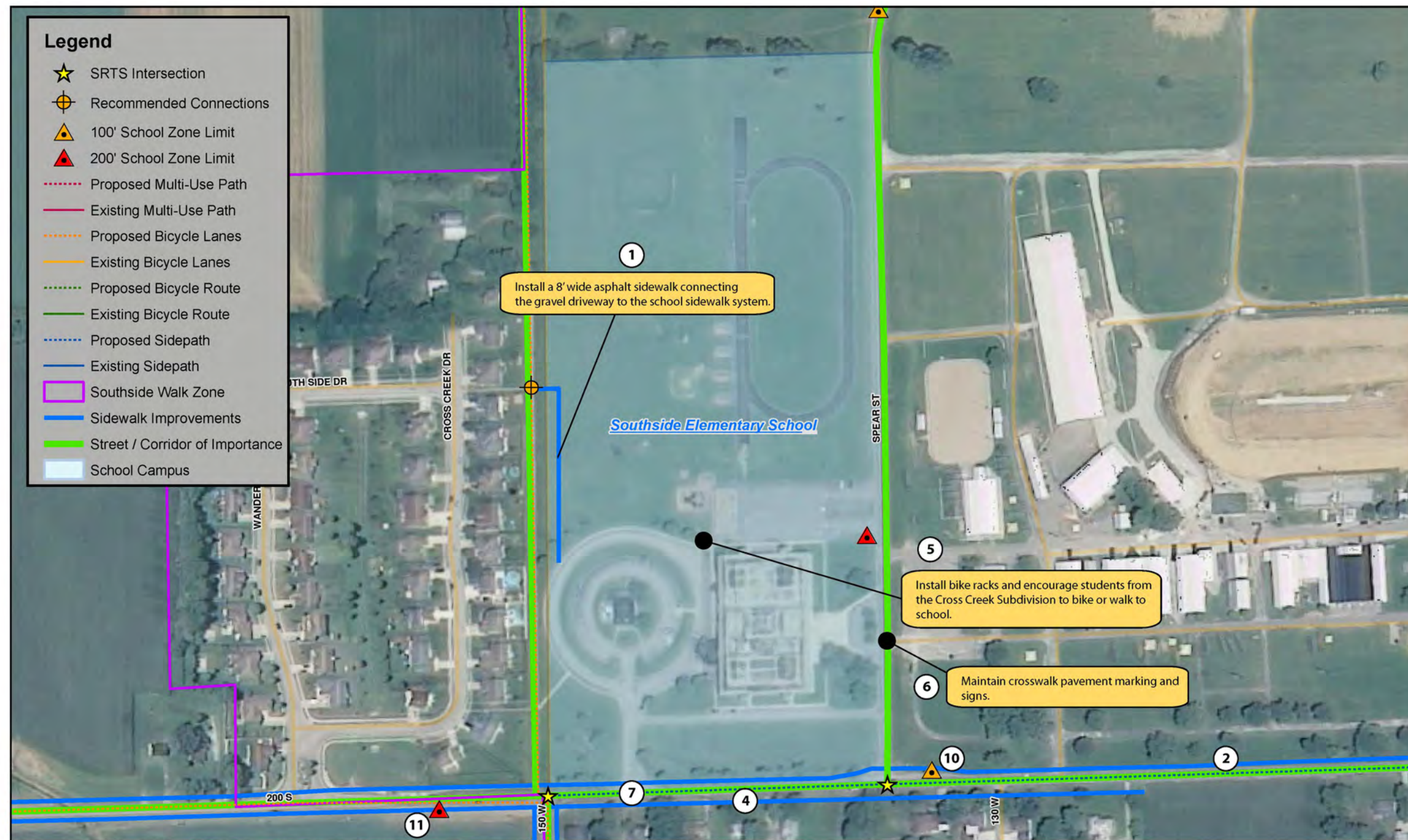


Map 8-2A: Southside Elementary - Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan
 Source [IndianaMap]
 Date: 2-23-2012



Map 8-2A. Southside Elementary – Recommended Improvements



Map 8-2B: Southside Elementary - School Property Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan
 Source [IndianaMap]
 Date: 2-23-2012



Map 8-2B. Southside Elementary – School Property Recommended Improvements

8.3 Southside Elementary One Year Action Plan

Southside Elementary One Year Action Plan	
Program	
Type	
Encouragement	Implement Parent Pledge
	Implement program to encourage parents to carpool when dropping off or picking up their students
Education	Include a SRTS Fact Corner in the monthly school newsletter
Encouragement	Survey parents about why they use a private car to transport their students to school rather than using the bus system
	Focus on families new to the school to discuss carpooling and other alternative transportation ideas
	Encourage parents to organize "bus stop" parents to wait for buses with the students in the morning
Infrastructure	
Type	
Connections	Connection to northern pedestrian right-of-way from Cross Creek Subdivision
Sidewalks	8' wide asphalt path along the north side of County Road 200 S from Jonesville Road to the school
	5' wide sidewalk from County Road 150 W to entrance to Shadow Creek Farms Subdivision
School Property	Install inverted "U" bicycle racks on the northwest corner of the school to serve the students who live in the Cross Creek Subdivision
Signage for School Area Traffic Control	Install School Zone signage as recommended in the Manual on Uniform Traffic Control Devices (MUTCD)

The action plan is based on a one year forecast of reasonably attainable goals as determined by the Task Force for each school. The Action Plan is meant to complement the recommendations. The table should be updated periodically with new goals as the previous goals are met or new opportunities arise with the strategies found in Chapter Two or within the General Recommendations for SRTS strategies discussed in Appendix B. It is important to note that while the plan has a tentative shelf life of five years the action plan only provides recommendations for the first year of the plan. After this point, recommendations that have been accomplished should be removed from the action plan and replaced by recommendations that have not yet been implemented. It is likely some of the recommendations in this plan will carry over into a subsequent two to five year planning period.

Chapter 8

This page intentionally left blank.

9 Taylorsville Elementary

9711 Walnut Street, Taylorsville, IN 47280; enrollment: 634

9.1 Key Issues

Taylorsville Elementary is located in a rural community approximately 8 miles northwest of Columbus. The school is located to the east of State Highway 31 in a residential area east of Walnut Street and south of Mulberry Street. With the exception of Tannehill Road and East Street, the streets in Taylorsville east of US 31 carry very low volumes of traffic at generally low speeds. Newer developments located to the west of US 31 are isolated from the school, with only one signalized intersection in the area. Crossing US 31 as a pedestrian or on bicycle is not feasible at this time due to high traffic speeds, high volumes of traffic and long distances needed to cross the highway.



The walkers are the last to leave Taylorsville Elementary each day.

The SRTS team observed dismissal of Taylorsville on March 2, 2011 at approximately 1:30 PM. The weather was sunny and warm (about 50 degrees).

9.1.1 Parent driver staging area

Parents use the front loop drive (located between the school and Walnut Street) for morning drop off. The area is highly congested. Adding to the safety concerns are parents and students crossing the driveway after either parking the car to enter the school or walking or biking in from the neighborhoods west of the school.

The parents are directed off of Walnut Street down Mulberry Street to the loop driveway located at the rear of the school on the north side. Only one car was idling out of the several that were queued waiting for the last bell on the day of observation. The principal informed the team that they had a “no-idling” campaign run by one classroom within the last year and the lessons seemed to have impacted parent driver behavior.

For dismissal, the “car-riders” follow a very specific protocol at this school. The students wait quietly in a designated hallway near the exit; one staff member serves as “the caller”, calling the respective students for each car as it enters the pick-up area. Two other staff members assist the students into the waiting cars. The drivers wait patiently and leave the loop at safe speeds. The school places a traffic barrier at Cross Street and Mulberry Street to force the exiting traffic to go north on Cross Street rather than exit back onto Walnut Street. The school also encourages parents to continue down Pearl Street to East Street (parallel to Walnut Street), rather than going south on Walnut Street and passing in front of the school. A staff member affectionately named “Speedbump” is stationed at Mulberry Street and Walnut Street to direct traffic.

9.1.2 Student walking and bicycling

Approximately 20 students walked home on the day of observation. Taylorsville utilizes a staggered dismissal whereby the students who walk are held in the gym until the last bus and private vehicle leave the campus. Walking students are dismissed through the doors on the Walnut Street side of the school. About 5 students crossed Walnut Street and walked down Mill Street, the remainder cut across the various driveways to the south of the school and continued down Walnut Street to Tannehill Road and beyond. Students released from the front door usually cross right through the parking lot to get to their destinations, as it is more direct than using the sidewalk in front of the school.

No students were seen leaving school via bicycles on the day of the observation. A bike rack is located in front of the small parking lot/drive isle in front of the school.

Students walking to or from school need to cross the loop drive and the main parking lot driveway to access the school.

9.1.3 Bus staging area

The buses load and unload in the rear parking lot (east side) of the school and exit the school grounds onto Walnut Street at Mulberry Street. The majority of students arrives and departs from the school via school bus according to the parent survey conducted in May of 2010.

9.1.4 Specific infrastructure issues

A list of specific infrastructure issues was identified in the assessment of the area and should be considered for future improvements to increase the number of children walking and bicycling to Taylorsville Elementary.

The streets in Taylorsville have what is referred to as a “rural cross section”, that is the streets have shoulders and ditches rather than curb and gutter and no sidewalks are provided. Even though Taylorsville does not have sidewalks, it does have a grid street pattern. Due to its compact nature, low volume and low speed traffic on its streets it is walkable and bikable east of US 31.

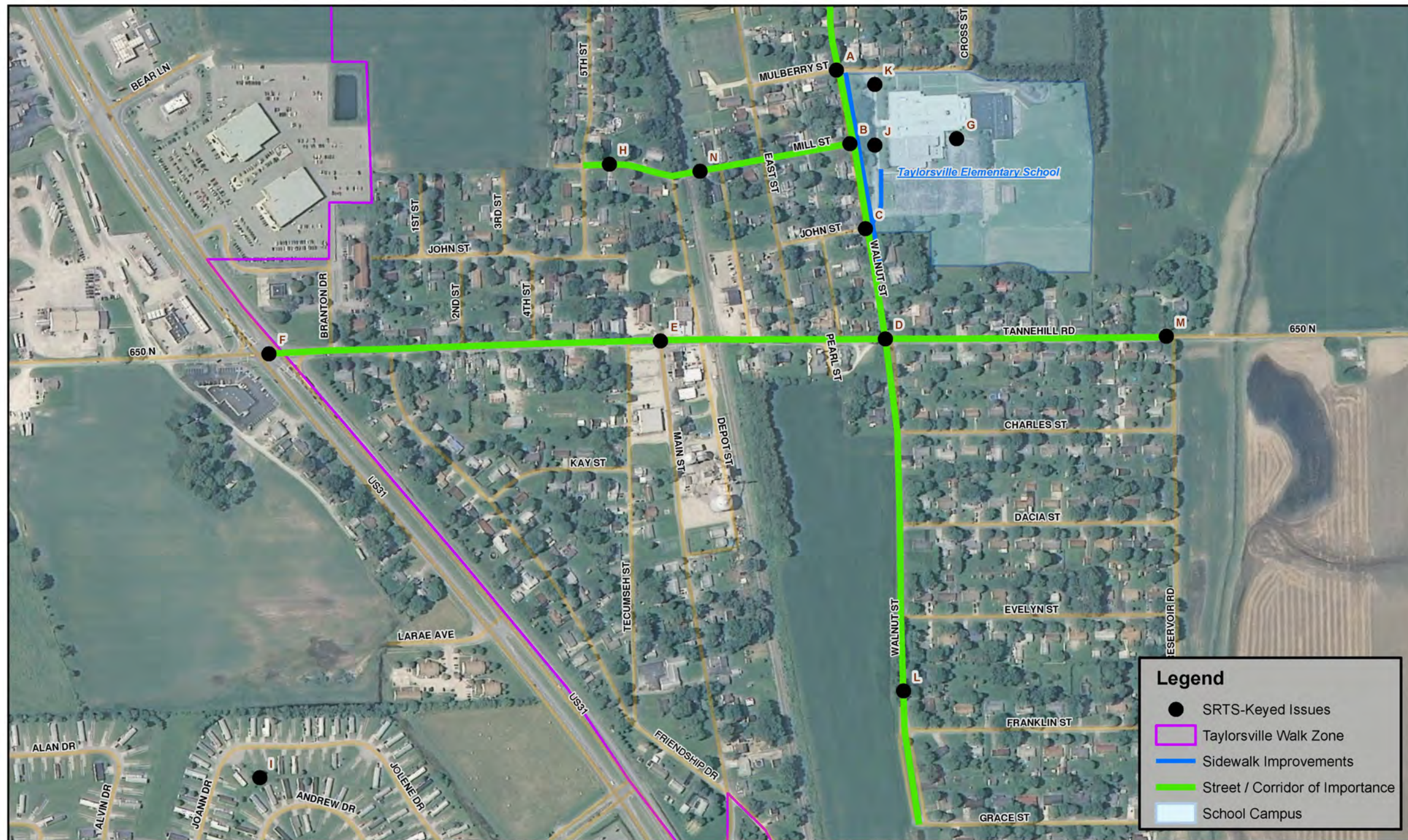
Unfortunately as Taylorsville grew, the newer developments were located on the west side of US 31, which is a significant biking and walking barrier for students there. The only signalized intersection on US 31 in the Taylorsville area is the intersection of US 31 and Tannehill Road.

The bike racks are located at the front of the school in the terrace area between the school access circle and Walnut Street. This location causes bikers to have to potentially cross traffic in order to access their bikes.

Taylorsville Elementary School Key Issues		
Map ID Number	Location	Description
A	Walnut St and Mulberry St	Intersection in need of pedestrian improvements
B	Walnut St and Mill St	Intersection in need of pedestrian improvements
C	Walnut St and John St	Intersection in need of pedestrian improvements
D	Walnut St and Tannehill Rd	Intersection in need of pedestrian improvements
E	Tannehill Rd and Main St	Intersection in need of pedestrian improvements
F	US 31 and Tannehill Rd	Intersection in need of pedestrian improvements
G	Immediate vicinity of school	Consistent school zone signage needed
H	Taylorsville	Entire community lacks sidewalks
I	Taylorsville west of US 31	Newer residential development is located west of US 31 and thus isolated from the school
J	Bike rack location	Bike racks are located so students must cross busy drive to access the building
K	Walnut St loop drive	Bikers and walkers coming from the west must cross the busy Walnut St loop drive to access the school in the morning
L	Walnut St from Grace St to Pearl St	Important corridor due to proximity to schools, higher traffic volumes and school related bicyclists and pedestrians
M	Tannehill Rd from US 31 to Reservoir Rd	Important corridor due to proximity to schools, higher traffic volumes and school related bicyclists and pedestrians
N	Mill St from Walnut St to 5th St	Important corridor due to proximity to schools, higher traffic volumes and school related bicyclists and pedestrians

Chapter 9

This page intentionally left blank.



9-1: Taylorsville Elementary - Key Issues

Bartholomew Consolidated School Corporation Safe Routes to School Plan
 Source [IndianaMap]
 Date: 2-23-2012



Map 9-1. Taylorsville Elementary – Key Issues

This page intentionally left blank.

9.2 Taylorsville Elementary Recommendations

9.2.1 Program Recommendations

- Encourage parents to carpool to reduce congestion
- Distribute and promote the Parent Pledge to reduce distracted driving
- Continue the No Idling campaign, encouraging drivers to turn off their vehicles while waiting at dismissal time
- Replace outdated bike racks at the elementary school with racks that adhere to the standards defined in the city/county zoning ordinance
- Institute a walk/bike/bus to school day at least once a quarter to encourage alternate transportation uses; supplement the effort with encouragement and educational campaigns such as incentives for students and parents as well as educational components
- Create a support group for parents living in the walking zone to facilitate walking/biking activities
- Use a remote drop-off program at the Methodist Church once a quarter so bus riders have a chance to experience walking to school

9.2.2 Infrastructure Recommendations – School Property

1. Install a sidewalk on the east side of Walnut Street with crosswalks at the Walnut and Mulberry Street intersection
2. Add crosswalks at south side driveways and necessary curb cuts and sidewalk segments
3. Repaint crosswalk across loop drive near the front door
4. Install a path from Mill Street to parking lot crosswalk at front door
5. Add signage at south driveway “Do Not Block Driveway” and “Drop off only in AM” at front loop drive
6. As a long-term consideration, consider moving morning arrival for automobiles from the front loop driveway to another location

9.2.3 Infrastructure Recommendations – Corridors of Importance

7. Walnut Street (Grace Street to Pearl Street)
8. Tannehill Road (US 31 to Reservoir Road)
9. Mill Street (Walnut Street to 5th Street)

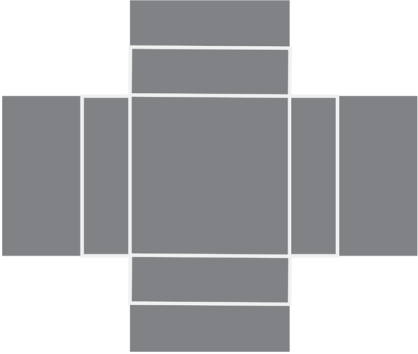

9.2.4 Infrastructure Recommendations - Signing for School Area Traffic Control

10. 100' from school property on Walnut for both approaches

11. 100' from Walnut intersection on Mulberry, Mill and John Streets

Please note: Engineer will follow the MUTCD guidance to select signs and determine sign placement for school area traffic control

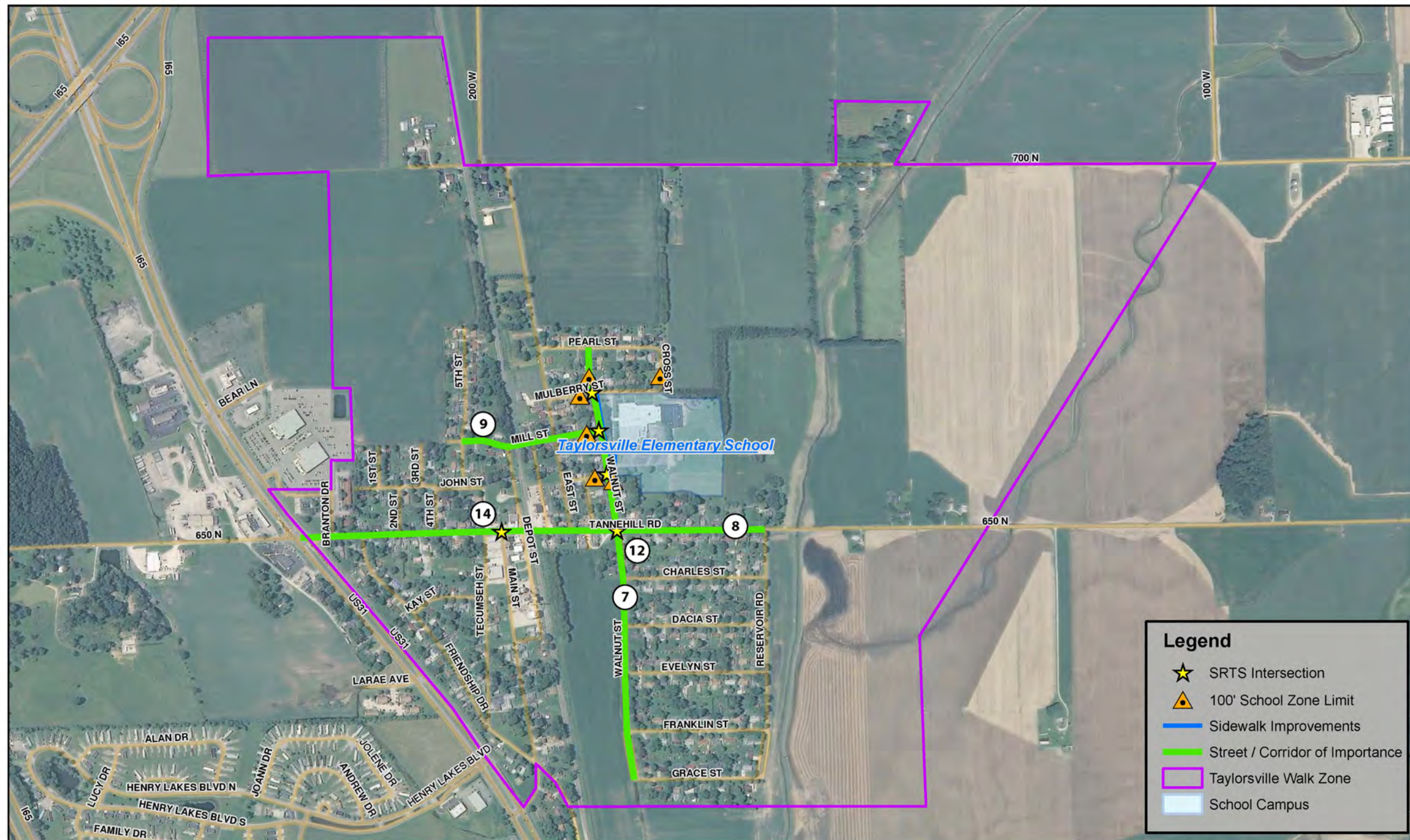
Taylorville Elementary Recommendations

Intersections Within Walking Zone	Intersection Treatments
<p>12. Tannehill Rd & Walnut St</p> <ul style="list-style-type: none"> No crosswalks Stop sign (Tannehill Rd.) No sidewalks Recommended Treatment Level 2 <p>13. Mill St & Walnut St</p> <ul style="list-style-type: none"> No crosswalks Stop (Mill St) No sidewalks Recommended Treatment Level 1 <p>14. Tannehill Rd & Main St</p> <ul style="list-style-type: none"> No crosswalks Stop sign (Main St.) No sidewalks Recommended Treatment Level 1 <p>15. Mulberry St & Walnut St</p> <ul style="list-style-type: none"> No crosswalks Stop sign (Mulberry) No sidewalks Recommended Treatment Level 1 <p>16. John St & Walnut St</p> <ul style="list-style-type: none"> No crosswalks Stop sign (John St.) No sidewalks Recommended Treatment Level 1 	 <p>Recommended Treatment Level 1</p>  <p>Recommended Treatment Level 2</p>

“Recommended Treatment Levels” are derived by using the guidance described in Appendix C- Crossing Treatment Guide of the Columbus Indiana Bicycle and Pedestrian Plan. As with the installation of any traffic control device, engineering judgment is essential. All crosswalk pavement markings and signs shall be selected, designed and installed in conformance with the MUTCD.

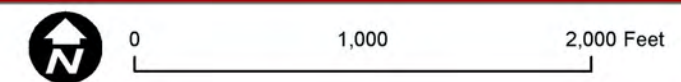
Chapter 9

This page intentionally left blank.



Map 9-2A: Taylorville Elementary - Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan
 Source [IndianaMap]
 Date: 2-23-2012

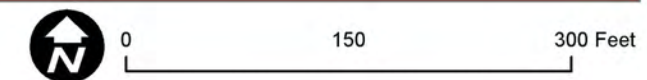


Map 9-2A. Taylorville Elementary – Recommended Improvements



Map 9-2B: Taylorsville Elementary - School Property Recommended Improvements

Bartholomew Consolidated School Corporation Safe Routes to School Plan
 Source [IndianaMap]
 Date: 2-23-2012



Map 9-2B. Taylorsville Elementary- School Property Recommended Improvements

9.3 Taylorsville Elementary One Year Action Plan

Taylorsville Elementary One Year Action Plan	
Program	
Type	
Encouragement	Implement Parent Pledge
	Create a parent support network for the families living within the Walking Zone
	Implement program to encourage parents to carpool when delivering or picking up their students
Education	Include a SRTS Fact Corner in the monthly school newsletter
	Implement a remote drop off and walk to school (quarterly) for the bus students (approach Methodist Church about use of parking lot)
Infrastructure	
Type	
Intersections	Walnut and Tannehill Road - Recommended Treatment Level 1
	Tannehill Road and Main Street –Recommended Treatment Level 1
	Walnut and John Street – Recommended Treatment Level 1
	Walnut and Mill Street – Recommended Treatment Level 1
	Walnut and Mulberry Street – Recommended Treatment Level 1
School Property	Repaint the crosswalk located in the loop drive near the main door to the school
	Install a " Do Not Block Drive" sign at the southern driveway and a "Drop Off Only in AM" sign at loop drive
	Install a sidewalk on the traffic island just south of the school, include curb cuts and crosswalks
Signage for School Area Traffic Control	Install a sidewalk along the front of the school between the existing driveways
Signage for School Area Traffic Control	Install school zone signage as recommended in the Manual of Uniform Traffic Control Devices (MUTCD)

The action plan is based on a one year forecast of reasonably attainable goals as determined by the Task Force for each school. The Action Plan is meant to complement the recommendations. The table should be updated periodically with new goals as the previous goals are met or new opportunities arise with the strategies found in Chapter Two or within the General Recommendations for SRTS strategies discussed in Appendix B. It is important to note that while the plan has a tentative shelf life of five years the action plan only provides recommendations for the first year of the plan. After this point, recommendations that have been accomplished should be removed from the action plan and replaced by recommendations that have not yet been implemented. It is likely some of the recommendations in this plan will carry over into a subsequent two to five year planning period.

Chapter 9

This page intentionally left blank.

Appendix A Regional Policies, Plans and Existing Conditions Review

Existing policies, plans and ordinances that apply to Safe Routes to School were collected and reviewed as they pertain to the goals of the Safe Routes to School Plan:

Goal 1. Prioritize transportation infrastructure construction projects that enable more children to walk to school

Goal 2. Educate parents and students about the rules of the road for pedestrians, bicyclists and motorists, especially in school zones

Goal 3. Increase the levels of community-wide awareness of the school zone environment – i.e. congestion, pollution, safety concerns, safe driving, etc.

Goal 4. Improve arrival/dismissal procedures and locations at schools to reduce congestion and increase safety conditions for those children who are walking and biking to school

Safe Routes to School programs focus on the 5E's of Engineering, Encouragement, Education, Enforcement, and Evaluation to achieve the goals and objectives of the plan. The issues most relevant for advancing success in SRTS efforts typically are a community's approach to:

- Network Facilities, Design and Connectivity
- Maintenance
- Education, Encouragement and Perception
- Enforcement
- Safety
- Funding
- Coordination and Planning

This appendix provides a review of current policies, plans and existing conditions that will affect the goals and issues relevant to BCSC's SRTS plan. These include policies of the state, county, city and the school corporation. Not all local and regional planning documents and policies were reviewed for this appendix; the focus of this review was on existing locally adopted policies, plans and ordinances, as well as documents that are of regional significance to Columbus and Bartholomew County. Table A-1 summarizes the plans reviewed.

Table A-1. Existing Plans and Adoption Dates

Jurisdiction	Document Name	Date Adopted
City of Columbus	Comprehensive Plan Goals and Policies Element	June 2, 1999
City of Columbus	Comprehensive Plan Thoroughfare Plan Element	November 10, 2010
City of Columbus	Comprehensive Plan Bicycle & Pedestrian Plan Element	May 12, 2010
City of Columbus and Bartholomew County	Zoning Ordinance	March 18, 2008 and February 4, 2008
City of Columbus	Subdivision Control Ordinance	December 7, 1982
Bartholomew County	Comprehensive Plan Goals and Policies Element	September 1999
Bartholomew County	Subdivision Control Ordinance	October 21, 1986
State of Indiana	Title 71: Public Buildings, Facilities & Real Property	--
Bartholomew Consolidated School Corporation	Wellness Policy, Article 8510	September 2010

A.1 City of Columbus Plans and Policies

A.1.1 Comprehensive Plan Goals and Policies Element

Indiana law specifies the procedure for adopting a comprehensive plan whereby the Plan Commission has primary responsibility for preparing the plan and for recommending it to the legislative body, the City Council, for adoption. The law specifically provides that plans may be adopted as separate elements, such as land use, thoroughfares, parks and community facilities. The Goals and Policies Element of the Columbus Comprehensive Plan was developed through an extensive citizen participation program intended to accurately reflect the desires of Columbus' residents. Goals related to this SRTS plan include safe, pedestrian friendly neighborhoods, with facilities, transportation, and activities accessible to all; high quality streets, parking and pedestrian facilities; excellent public facilities including police, fire and schools; and intergovernmental cooperation.

The Element became effective on June, 2, 1999. The goals and policies relevant to SRTS are listed in **Table A-2** below. The goals and policies of the Comprehensive Plan are consistent with a sustainable Safe Routes to School Plan that uses a coordinated approach to address safety, design, maintenance and coordinated planning issues.

Table A-2. Relevant Comprehensive Plan Goals and Policies

Comprehensive Plan Goals and Policies Relevant to SRTS Planning and Programs
<i>Goal A-2: Preserve and enhance the character of the community.</i>
POLICY A-2-14: Encourage street design which complements neighborhoods, (i.e., narrower pavement in residential areas, traffic calming measures, alleys).
POLICY A-2-15: Encourage sidewalks in all areas of the community, requiring them or a pedestrian system in new developments. Sidewalks should be designed with a landscape strip between the sidewalk and the street or curb. Landscape strips are preferred, and all sidewalks should meet accessibility standards.
<i>GOAL A-3: Provide individual accessibility to all community services & facilities, including the following: educational facilities; health care facilities and services; recreational facilities; cultural events and facilities; civic activities; transportation facilities.</i>
POLICY A-3-2: Ensure that all public rights-of-way are designed with proper access for persons with physical challenges.
<i>GOAL A-4: Promote wise and efficient use of limited resources and nonrenewable resources, including but not limited to capital and land.</i>
POLICY A-4-1: Preserve & revitalize older neighborhoods, including buildings, grounds, and infrastructure.
POLICY A-4-2: Encourage infill development, and/or use of vacant parcels for projects such as parks or other amenities which complement the neighborhoods in which they are located.
POLICY A-4-3: Prevent urban sprawl.
POLICY A-4-4: Encourage residential clustering and other development types that conserve open space and natural resources and reduce infrastructure costs.
POLICY A-4-5: Prevent development in areas where such development would jeopardize health or safety.
POLICY A-4-7: Require new development to take place in an orderly fashion to facilitate efficient provision of services at reasonable cost.
<i>GOAL C-1: Maintain and enhance the park system to benefit the community, provide a sense of neighborhood, and promote public health.</i>
POLICY C-1-10: Consider developing a bikeway system on existing streets and in new subdivisions.
<i>GOAL F-1: Provide a safe and efficient network of arterial and collector streets and a network of local and neighborhood streets which offer suitable access to property and safety for vehicular and pedestrian traffic.</i>
POLICY F-1 -1: Reduce points of traffic conflict on public streets through driveway and intersection separation requirements.
POLICY F-1-2: Improve traffic flow on arterial and collector streets by proper location and spacing of traffic signals and through proper geometric design of streets and intersections.
POLICY F-1-3: Encourage heavy trucks and through traffic to use arterial streets which are designed for such traffic, avoiding local streets where this traffic is more likely to cause safety problems.

Comprehensive Plan Goals and Policies Relevant to SRTS Planning and Programs

POLICY F-1-5: Encourage proper lighting of all streets to provide for traffic safety.

POLICY F-1-6: Develop and adopt a new thoroughfare plan for the City of Columbus. This plan should include minimum street standards and a plan for the opening and extension of streets.

GOAL F-2: Ensure safe, convenient, pedestrian-friendly neighborhood environments, which are accessible to all citizens. These pedestrian facilities should be provided in a cost-effective manner.

POLICY F-2-1: Develop a traffic calming plan for new and existing neighborhoods. This plan would include such measures as minimizing pavement widths, installing medians and/or traffic circles, shortening street lengths, and discouraging long, straight pavement stretches.

POLICY F-2-2: Consider pedestrian facilities and People Trails to be a component of all street

POLICY F-2-3: Avoid, whenever possible, disruptive street widening projects in residential neighborhoods.

POLICY F-2-4: Ensure that pedestrian facilities are accessible to persons with physical challenges.

POLICY F-2-5: Ensure that pedestrian facilities are safe, attractive, and properly lighted.

POLICY F-2-7: Because signs are distracting, and an excess of signage is ineffective, encourage streets to be designed to minimize the need for signs.

POLICY F-2-8: Encourage creativity in design of subdivision streets to promote safety.

GOAL F-3: Develop a transportation system which integrates alternative modes of transportation and serves persons with physical challenges.

POLICY F-3-1: Encourage the use of public transit and encourage such a system to be self-supporting while affordable. Consider incentives to promote public transit.

POLICY F-3-2: Develop a safe network of pedestrian and bicycle paths throughout the community.

POLICY F-3-4: Ensure that all transportation facilities are accessible to persons with physical challenges.

GOAL F-4: Develop a transportation system which is commensurate with and supportive of the efficient and economical use of public funds.

POLICY F-4-1: Minimize maintenance and replacement costs for public streets.

POLICY F-4-2: Costs for street improvements necessitated by new development should be borne in a fair and equitable manner by the developer, not by the community as a whole. New development should not substantially diminish the level of service currently enjoyed by local residents.

GOAL I-1: Provide high-quality public facilities in locations which are convenient and accessible to local residents.

POLICY I-1 -1: Ensure that pedestrian connections to public facilities are provided in conjunction with new development and that these pedestrian systems are designed to promote safety and efficiency.

POLICY I-1-2: Encourage the ColumBUS system to coordinate its schedules and routes with the school corporation, the Foundation for Youth, and other similar agencies to increase the accessibility of these facilities.

Comprehensive Plan Goals and Policies Relevant to SRTS Planning and Programs

POLICY I-1-3: Encourage public facilities, particularly schools, to be so located that they serve a socioeconomically diverse population.

POLICY I-1-4: Encourage new school locations to be convenient for a sufficient number of pupils to make the school educationally efficient and effective.

GOAL I-2: Provide high-quality public facilities as economically as possible, while preserving community standards for design.

POLICY I-2-1: Encourage new public facilities to be constructed in locations where adequate infrastructure and services are in place.

POLICY I-2-2: Encourage the use of school facilities by community groups, including public health clinics, during non-school hours.

POLICY I-2-3: Encourage the use of public facilities, particularly school facilities as emergency shelters.

GOAL S-L-3. Improve the safety of traffic flow on streets and in parking areas.

POLICY S-L-3-1: Encourage site design which employs landscaping to improve traffic flow and increase pedestrian safety in parking areas.

POLICY S-L-3-2: Encourage street design which uses landscaped areas as traffic calming measures.

POLICY S-L-3-5: Encourage landscape designs which promote personal safety (i.e., designs which allow views into business property, which screen hazardous areas, and which do not interfere with sight distances).

A.2 Comprehensive Plan Thoroughfare Plan Element

The Thoroughfare Plan is an element of the City of Columbus Comprehensive Plan and is intended to be used in combination with the other elements, including those both currently adopted and those that may be adopted or revised in the future. Of specific importance is the use of the Thoroughfare Plan in coordination with plans for future land use and bicycle and pedestrian systems.

The sections below provide detail of the guiding principles, street network requirements and policies relevant to Safe Routes to School planning. Columbus has adopted a Complete Streets Policy with the adoption of the Thoroughfare Plan.

A.2.1 Guiding Principles

The guiding principles of the Thoroughfare Plan are as follows:

1. Make each street compliment its setting by relating the functional use of each street within its rural, suburban or urban context and residential, commercial or industrial land use in order to meet the needs of its neighborhood while also maintaining its function within the city-wide transportation network
2. Use resources efficiently by providing flexibility in street design and construction to reduce initial and on-going costs without sacrificing value or functionality
3. Balance the needs of motor vehicles of all types, pedestrians of all ages and abilities, and bicyclists of all skill levels by accommodating the needs of cyclists and pedestrians in street improvements while appreciating that for the foreseeable future the automobile will be the primary mode
4. Set realistic priorities based on known funding and needs

A.2.2 Street Network

The Thoroughfare Plan documents preferred street configuration techniques to serve the mobility and access needs of the entire community including:

- Avoiding the use of long, straight, continuous local or collector streets;
- Interconnecting of neighborhoods and developments while minimizing opportunities for unnecessary through traffic in those neighborhoods;
- Selective use of cul-de-sacs;
- Limiting the number of intersections on arterial and collector streets, especially intersections of local streets with arterial streets; and
- Maximizing the spacing of intersections on arterial and collector streets.

A.2.3 Thoroughfare Plan General Policies

Both the Thoroughfare Plan policies and the Thoroughfare Plan map are to be considered and interpreted within the context of the guiding principles of the document. They are intended as a supplement to other

elements of the City’s Comprehensive Plan. The following are general policies in the Thoroughfare Plan that apply to Safe Routes to School planning.

1 - Complete Street Systems

The City of Columbus recognizes that each street is a system of inter-related components serving a wide variety of users. These street system components may include, but are not limited to vehicle travel lanes, bicycle travel lanes, drainage facilities, utilities, sidewalks, street trees, on-street parking, street signs, and lighting. Street users include passenger vehicles, delivery vehicles, buses, emergency vehicles, bicycles, and pedestrians.

Each street should be designed and maintained with thoughtful consideration of each likely user and the components that are appropriate as part of that particular street system. Careful consideration should also be given to the relationships between the street system components and the effects that they have on each other’s efficiency and functionality.

2 - Traditional Neighborhood Development

This Thoroughfare Plan recognizes that suburban-style development continues to be the lifestyle of choice for a majority of the community and anticipates that this will continue to be the dominant pattern for new development. Suburban-style development is characterized by reliance on motor vehicles, absence of alleys, separation of land uses, and low to moderate residential densities. However, this Plan also recognizes the expanding appeal of traditional neighborhood development and other aspects of new urbanism - characterized by use of walking, cycling, and vehicles for transportation; use of alleys; mixed land uses; and moderate to high residential densities. This Plan further recognizes that these traditional neighborhood developments offer increased value and efficiency in the use of infrastructure as well as the land use conditions necessary to support environmental, energy, and maintenance-cost sustainability. Therefore, this Plan is intended to be interpreted and applied with the flexibility to support each of these development types. Particular flexibility should be applied if and when any specific element of this document presents a barrier to well-designed traditional neighborhood developments.

3 – Infill Development

This Thoroughfare Plan recognizes the importance of infill development in maximizing the value of existing street system. Infill development is characterized as the initial development or re-development at a higher intensity of properties already located within the City of Columbus. New or expanded use of these locations reduces street installation and maintenance cost by making use of existing infrastructure. This Plan supports flexibility in addressing the access needs and traffic patterns that may result from infill development.

4 - Access Management

In order to improve traffic safety and to protect the functional integrity of the street system, this Thoroughfare Plan recognizes the importance of careful management of the location, design, and operation of driveways, intersection, and approaches. The objectives of access management are as follows:

- *reduce traffic congestion*
- *preserve the flow of traffic*
- *improve vehicle, bicyclist, and pedestrian safety and reduce the frequency of accidents*
- *preserve existing street capacity*
- *preserve the public investment in the transportation infrastructure*

5 - Traffic Calming

The City of Columbus strives to strengthen and protect its neighborhoods by creating safer streets and improving the quality of life in residential areas. Traffic conditions on residential streets can greatly affect neighborhood livability. Traffic calming is defined as the inclusion of certain design features in the street system that serve to limit speeding traffic and unnecessary through-traffic in neighborhoods which create safety hazards on streets.

Traffic calming may be used to:

- reduce the negative effects of motor vehicle use
- alter driver behavior
- improve conditions for bicyclists and pedestrians

The goals of traffic calming are to:

- improve the quality of life within neighborhoods
- increase safety and convenience for other street users (pedestrians and bicyclists)
- create attractive streetscapes
- reduce negative effects of vehicular traffic (volume or speed)
- reduce the number and severity of accidents

A.2.4 Thoroughfare Plan Street Design Policies

The following street design policies apply to the design of new streets and improvement to existing streets.

1 - Accessibility

All new streets and all street improvements, including sidewalks, curbs, driveways, and drainage systems, should be designed so that pedestrian facilities are accessible to persons with physical challenges as defined by the Americans with Disabilities Act (ADA) and the Indiana Accessibility Code. Designs should incorporate the provisions of the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Curb ramps should be constructed at all intersections where sidewalks or trails exist or are planned. All driveways should be constructed so that the sidewalk cross slope requirements are met.

2 – Sidewalks and other Pedestrian Systems

Sidewalks are an integral part of the transportation system. They are intended to be located in the street rights-of-way to connect pedestrians between their homes and destinations. Sidewalks should be provided along all streets except those in rural areas and along local streets in industrial areas. All pedestrian systems, including sidewalks, People Trails, sidepaths, and connectors should be designed and constructed in coordination with the Bicycle & Pedestrian Plan element of the Columbus Comprehensive Plan. The most efficient and effective time to construct sidewalks, trails, and other pedestrian systems is during the construction of new streets and subdivisions and during the reconstruction of existing streets. Consideration of potential conflicts between pedestrians, bicyclists, and motor vehicles can best be accomplished during the design phase of such projects. It is intended that developers will install such facilities as integral parts of their development.

In addition to providing the above policy guidance, the Thoroughfare Plan identifies “City Initiated Project Priorities” for short and long range projects on existing and future streets.

A.3 Comprehensive Plan Bicycle & Pedestrian Plan Element

Columbus has a 30 year history of trail system planning that has created the 21 mile People Trail System, a 19 mile network that serves a wide range of recreational, commuting and shopping purposes. The trail system is valued for the economic, recreation, and tourism value it adds to the community. During the public input phase of the Bicycle & Pedestrian Plan development, it was determined that more than 68 percent of residents self reported living within two miles of their closest school. Ninety-eight percent of surveyed residents agreed that it is important for children to have safe pedestrian routes to schools, parks, the library, etc. Ninety-six percent of surveyed residents agreed that it is important for children to have safe bicycle routes to schools, parks, the library, etc. Sixty percent of residents identified connections between homes and schools as being important. Safe routes between homes, schools, and parks for biking and walking were identified as the fourth most important improvement needed in the community.

The City of Columbus Bicycle & Pedestrian Plan was approved as an Element of the Comprehensive Plan in May, 2010. The vision of the plan is to provide a roadmap for the creation of a system of bicycle and pedestrian facilities providing access to and connectivity between all areas of the City of Columbus. The plan replaces the People Trails Master Plan, provides a list of general financing options and describes requirements for bicycle and pedestrian facilities in new residential, commercial, and industrial developments.

The goals of the plan are to:

- expand the transportation options available in the community
- increase opportunities for bicyclists and pedestrians to safely and efficiently commute and recreate by connecting parks, schools, shopping areas, employment centers, and other key destinations
- establish Columbus as an active community with high quality lifestyle accommodations attractive to new residents and businesses
- improve the community’s health and wellness
- provide opportunities for tourism
- establish regional bicycle connections, and
- provide environmentally –friendly, sustainable transportation options that can improve the natural environment and serve to preserve natural areas.

The plan recommends a classification system that accounts not only for the mobility and accessibility function of the facility, but also for the user type, allowing design standards to match the needs of the users of each type of facility. The plan recommends that sidewalks & connectors, sidepaths and multi-use paths best accommodate pedestrians and children on bicycles. The plan also addresses the provision of safe street crossings for pedestrians and bicyclists, recommending guidelines for determining consistent engineering solutions to pedestrian and bicyclist safety concerns.

The plan recommends the repeal of bicycle license requirements (Section 10.56.030 through 10.56.070), which, as in many cities, has not been applied for many years. The plan recommends a change to the Subdivision

Control Ordinance that would maintain the following requirements for new subdivisions: increased sidewalk width to five feet for all streets and installation of sidewalks on both sides of all residential and commercial streets in suburban and urban areas as defined in the Thoroughfare Plan. Universal design and consideration of the needs of pedestrians and bicyclists in the planning, design and review of all infrastructure projects are also recommended. The planned facilities and routes have been integrated into the City of Columbus Thoroughfare Plan and the City's zoning and subdivision control ordinances. Many provide sidepaths, multi-use paths, bicycle lanes, sidewalks or intersection crossing treatments on school routes.

A.4 Subdivision Control Ordinance

The Subdivision Control Ordinance (SCO) serves many purposes including:

- Establishing uniform rules, procedures, and standards governing the subdivision of land
- Assuring the public that necessary public facilities will be provided in the new subdivision, in an amount and size commensurate with the size of the subdivision and the land uses to which the land will be allocated
- Implementing the Comprehensive Plan

With respect to Safe Routes to School, the SCO guides the requirement for sidewalks, bicycle lanes, traffic calming and other street design elements, as well as the permissible lengths and types of street types. The SCO also assures that no minor subdivision results in any lot or arrangement of lots that would prevent future connections identified in the Thoroughfare Plan.

A.4.1 Street Design Standards

The SCO specifies that all streets shall conform to the requirements of the SCO and the Thoroughfare Plan, which incorporates the Bicycle and Pedestrian Plan by adoption. During the last few years, the ordinances have shifted in perspective from providing “a safe convenient and functional system for vehicular circulation appropriate for the traffic characteristics of the subdivision” to “a safe convenient and functional system for vehicular circulation consistent with the Comprehensive Plan (specifically the Thoroughfare Plan and Bicycle & Pedestrian Plan elements) and appropriate for the traffic characteristics and land use context of the subdivision.”

A.4.2 Design Elements for New Streets

Two Design Element Tables in the SCO (16.24-1 and 16.24-2) determine the design elements required for new streets, including appropriate sidewalk locations and dimensions. Typical street design elements are categorized by roadway classification, land use, and context.

The SCO also requires a sidewalk easement adjacent to existing public right-of-way if the right-of-way is of insufficient width to accommodate sidewalk installation. Furthermore, for local streets sidewalks are conditional in rural settings, required in suburban and urban residential and commercial settings and permitted in industrial settings. For collector streets, the design standard of five to six feet of sidewalk width is consistent, and sidewalks are required in all suburban and urban settings and permitted on rural roads.

The Subdivision Control Ordinance designates sidewalk locations in the right-of-way or adjacent easement, with the possibility to meander in order to avoid hazards, preserve topography, and other natural features or to create a design aesthetic. In addition to street side sidewalks, the ordinance provides for supplemental pedestrian connections midblock on blocks exceeding 900 feet in length and as desired by the Plan Commission to provide pedestrian connections to schools, churches, parks or recreational areas, shopping areas, adjacent neighborhoods, or similar facilities. The SCO also allows the Plan Commission to require pedestrian connections to connect adjacent cul-de-sacs and other similar features where vehicular through traffic is discouraged, but pedestrian connections would be desired.

The provision and design of pedestrian and bicycle facilities is provided by the adopted Bicycle & Pedestrian Plan Element of the Columbus Comprehensive Plan. Whenever a parcel of land is to be subdivided and an additional bicycle or pedestrian facility is shown to cross that parcel, the adopted Bicycle and Pedestrian Comprehensive Plan Element requires the subdivider to construct that facility (sidepath, multi-use path, etc.) and to incorporate that facility into the pedestrian system of the subdivision through the use of connecting sidewalks and paths.

A.4.3 Connectivity

As connectivity increases, travel distance decreases and route options increase. A network of streets, sidewalks, bicycle lanes and multi-use paths in which all parts are well-connected to each other reduces the distance children have to travel to get from home to school, allows for the use of more local streets rather than major roadways and provides a greater choice of routes to travel to and from school.¹ The presence of paths, bridges or other neighborhood connectors can increase the number of walking and bicycling trips and decrease the time and distance it takes to travel from one point to another.

The SCO requires streets to be designed to provide connections between neighboring subdivisions to allow for efficient movement of local traffic, multiple routes of access for emergency services and a well-connected community with new subdivisions integrated into the existing city.

A.4.4 Traffic Calming

The Subdivision Control Ordinance also addresses traffic calming. Local and collector residential streets are to be planned to minimize the need for specific traffic calming measures through lower design speeds, minimizing through traffic, providing safe pedestrian facilities and routes, and providing connections between adjoining neighborhoods and/or subdivisions. Traffic calming shall be considered as an area-wide plan, as opposed to addressing individual intersections or streets, in order to minimize the diversion of traffic to other streets. Traffic calming devices are restricted to local and collector streets with expected traffic volumes less than 4,000 vehicles per day, where the speed limit is 30 mph or less. All traffic calming devices shall be designed to allow safe and efficient movement of all types of vehicles and pedestrians.

¹ <http://www.saferoutesinfo.org/guide/engineering/connectivity.cfm> downloaded on April 8, 2011

The following is a list of acceptable traffic calming devices that may be considered in proposed new subdivisions.

- Stop signs (four-way or all-way stops shall not be used for traffic calming)
- Change in roadway surface
- Raised intersections
- Pedestrian refuge island
- Intersection or midblock curb extensions
- Medians
- Roundabouts
- Mini-roundabouts

A.4.5 Cul-de-Sacs, Irregular Shaped Blocks and Loop Streets

Frequently, the layout of subdivision streets makes distances much longer than they need to be. Long neighborhood block lengths and cul-de-sacs contribute to this problem. Neighborhoods that are designed with long blocks and numerous cul-de-sacs are often barriers to walking and bicycling to school; they reduce connectivity and increase travel distance between the home and school.

The Columbus Subdivision Control Ordinance allows the Plan Commission to approve cul-de-sacs, irregular shaped blocks, and loop streets if properly designed and located. No block may be longer than 1500 feet and where blocks are over 900 feet in length, a sidewalk in an easement not less than 10 feet may be required to provide proper access to schools, recreational areas, shopping centers, and other facilities.

To help solve the cul-de-sac issue, connector paths between cul-de-sacs and other destinations, such as schools, can be constructed on dedicated public right-of-way or on sidewalk easements, in one of three ways including:

- At the time when the subdivision is first developed
- As a voluntary retrofit
- As a mandatory retrofit when the property is sold or redeveloped

Another potential solution is to create subdivision control ordinances that prohibit or limit the number of cul-de-sacs in a defined area or subdivision. Once constructed, attempts to retrofit existing cul-de-sacs with connectors often require significant efforts to garner support from neighbors and elected officials. Subdivision control ordinances can also be used to establish a maximum block length. Columbus uses a variety of strategies to increase connectivity, and limit cul-de-sacs, which is an advantage to SRTS planning activities.

A.5 City of Columbus and Bartholomew County Zoning Ordinance

The Columbus & Bartholomew County, Indiana Zoning Ordinance (Ordinance) is adopted independently by the County and the City under the laws of the State of Indiana. The Ordinance applies to all land within the jurisdiction of the City and County advisory plan commissions.

The purpose of the Ordinance is to guide growth and development in the City and County in accordance with the respective comprehensive plans of the jurisdictions and for the purposes of providing:

1. Adequate facilities (with sufficient light, air and convenience of access and providing safety from fire flood and other dangers)
2. Public safety (to promote public health, safety, convenience, and general welfare)
3. Future development (planning to the end that the community grows with adequate public ways, utilities, health, education and recreation facilities; meeting the needs of agriculture, industry, and business to be recognized in future growth, residential areas providing healthful surroundings for family life; and to the end that the growth of the community is commensurate with and promotes the efficient and economical use of public funds)

The Ordinance has the regulatory effect of describing legal land uses, including establishing the development requirements for planned unit developments and land subdivision. The Ordinance describes lot standards such as setback, lot area, lot width and depth, building height, ground floor areas, primary structures and lot coverage. Relevant aspects of the Ordinance for Safe Routes to School include the Planned Unit Development Standards, Parking Standards, the Circulation Standards and reference to the Subdivision Control Ordinance.

A.5.1 Zoning Districts

The Zoning Ordinance permits schools (grades preschool through 12) in Public/Semi-Public Facilities zoning districts and conditionally permits schools in the following Zoning Districts:

- Agricultural General Rural
- Single through Multi-Family Residential
- Manufactured Home
- Downtown Commercial
- Neighborhood Commercial
- Professional Office
- Community Commercial

Public/Semi-public Facility Zoning Districts

This district is intended to provide locations for large scale public facilities, and to provide a set of setbacks and other requirements that respond to the unique scale and other considerations common to these types of uses. The minimum lot area for this district is 20,000 square feet, with minimum front setback determined by roadway classification, between 10 and 50 feet.

Parking Standards

The parking standards provided in the Ordinance are intended to prevent congestion on public streets by requiring all uses to provide adequate off street parking, stacking and loading spaces, to determine minimum parking space requirements for individual uses, and to accommodate a variety of means of personal transportation. The parking space standards for schools up to grade eight is one space per classroom plus one space for every three persons by seating capacity in the largest assembly area. For grades nine through 12 the minimum number of parking spaces required is one for every three persons by seating in the largest assembly area or 12 spaces per classroom, if no assembly area is provided. The code allows for the provision of parking on the lot, off site, within 300 feet of the facility and/or shared with other uses. Approval of off site or shared parking is based on the determination that the parking will not provide hardships for pedestrians, will not

result in potentially hazardous traffic conditions, and will provide the minimum number of spaces for the uses involved.

The Ordinance requires the provision of bicycle parking based on the number of vehicle spaces required. The maximum number of bicycle spaces required in Bartholomew County and Columbus is 4.

Many drive-up and drive-through public/semi-public uses are required to provide stacking spaces located so as to avoid interference with on-site parking and pedestrian areas. The lane is required to be separate and distinct from other access drives and maneuvering lanes, provide designated pedestrian areas, if appropriate, and not extend into the public right-of-way.

Circulation Standards

The Circulation Standards are intended to promote safe and efficient travel within the community, minimize disruptive and potentially hazardous traffic conflicts, separate traffic conflict areas by reducing the number of driveways, provide efficient spacing standards between driveways, protect the substantial public investment in the street system, and ensure reasonable access to properties.

General Circulation Standards

A community's zoning ordinance determines the distance between parcels and their driveway access to the road network by prescribing the lot size, the number of parking spaces and the separation of land use. The Circulation Standards address both the number and location of driveways accessed from public roads as well as internal design requirements. Access to non-residential properties is limited on arterials to 400 feet, on Collectors to 200 feet and on local streets to 100 feet. These limits reduce the number of possible conflict points. The ordinance also provides for the maintenance of a clear sight visibility triangle at all street and street driveway intersections by restricting the erection of signs or vegetation that impede vision.

Pedestrian Circulation Standards

Pedestrian Circulation Standards apply to the Multi-Family Residential, Commercial, Public/Semi-Public, and Industrial Zoning districts. The ordinance requires the provision of public sidewalks within all adjoining rights-of-way unless a previous modification was approved within 10 years of an application. The sidewalk design and construction is established by the Subdivision Control Ordinance.

Planned Unit Development

The purpose of the PUD regulations is to provide greater design flexibility in the development of land when consistent with the Comprehensive Plan and intent of the Zoning and Subdivision Control Ordinances. Planned Unit Development regulations are intended to encourage innovations in land development techniques so that unique opportunities and circumstances may be met with greater flexibility.

The development standards for PUDs are created by the applicant as part of the plan submittal, and are subject to the review and approval of the applicable Plan Commission and legislative body. Generally these standards replace the lot standards, and the topic areas of the Ordinance relating to accessory use, landscaping, environmental standards, signs and circulation. As such, PUDs should be carefully scrutinized so as to promote the community's connectivity goals for vehicles, pedestrians and bicyclists.

A.6 Bartholomew County Plan and Policies

A.6.1 Comprehensive Plan

Goals and Policies Element

The Goals and Policies Element of the Bartholomew County Comprehensive Plan was adopted in September 1999. The element encourages the preservation of open space and farmland and provides policies for the maintenance of rural neighborhoods, establishment of appropriate new neighborhoods, and the revitalization of existing rural towns and villages. The goal of creating stable residential neighborhoods that are safe healthy and socially satisfying, while retaining their economic value, includes policy language that requires the developer/subdivider to consider the need for neighborhood schools when planning for future needs. The focus, with respect to transportation and infrastructure, is on the assurance of safe, efficient movement of traffic.

A.6.2 Bartholomew County Subdivision Control Ordinance

This ordinance was adopted to protect and provide for the public health, safety, and general welfare of the County while guiding future development. The document provides minimum geometric standards for roadways and intersections, as well as guidance for driveway separation. The ordinance provides some support for walking and bicycling to school, specifically in the following ways:

- Restricting block lengths to between 400 and 1400 feet
- Requiring pedestrian-ways on long blocks or at the ends of cul-de-sacs where the Commission deems such ways desirable to provide for circulation or access to neighboring uses
- Requiring sidewalks on each side of the street when the subdivision contains three or more lots per acre or is adjacent to subdivisions containing sidewalks, or where necessary to provide access to school sites

A.7 State of Indiana Related Policies

A.7.1 Complete Streets Policies

In 2011, HB 1354, a Complete Streets Bill, was introduced in the Indiana General Assembly session but it did not pass. If adopted the Bill would require the Indiana Department of Transportation (INDOT) to do the following:

- (1) Adopt guidelines for INDOT projects regarding street design that enables safe, comfortable, and convenient access for all users (complete streets guidelines)
- (2) Include a requirement to comply with complete streets guidelines in INDOT contracts entered into after December 31, 2011
- (3) Include complete streets guidelines in INDOT's approved design manual
- (4) Report to the general assembly on INDOT's progress in incorporating complete streets guidelines into manual and projects. At the time of this writing a hearing had not yet been scheduled.

A.7.2 School Siting policies

State and local-level decisions regarding school siting, construction, and design have significant impacts on whether schools are located within walking and biking distance of homes. With a growth in average schools size, and a separation of these sites from residential areas, schools have been increasingly located on large sites away from the families in the neighborhoods that they serve.

New construction is often favored over renovation, which penalizes communities for maintaining and modernizing old schools, even when doing so costs less than building new. Because school siting policies often favor construction of new schools on minimum acreage standards, the construction of new schools can result in longer distances that discourage walking and bicycling. To achieve the Safe Routes to School goal of getting more children to walk and bicycle to school safely, school siting policies must be addressed at state and local levels. Eliminating minimum acreage requirements, encouraging joint use of school facilities, and increasing coordination between school districts and local governments on school facilities and land use planning can help schools return as centers for the community.

In Indiana, school acreage requirements are specified in Title 71: Public Buildings, Facilities & Real Property, and State, Local and Federal Financing for Indiana Public Schools. Determination of the adequacy of the site's space in terms of number of students is based on the design capacity of the school building. The proposed site must contain usable space sufficient in size and of regular configuration so as to accommodate the school's on-site program as well as to accommodate ancillary functions that are better served on-site than off-site, such as parking, bus loading and unloading, casual student assembly and play, and pedestrian movement between different points on the site. The pre kindergarten through sixth grade school site minimum acreage requirement is 5 acres plus 1 acre per 100 students (maximum). For grades seven through nine, it is 15 acres plus one acre per 100 students (maximum) and high schools require 20 acres plus one acre per 100 students (maximum).

A.8 Bartholomew Consolidated School Corporation Plans and Policies

A.8.1 Wellness

Article 8510 was adopted into the Bartholomew Consolidated School Corporation Bylaws & Policies in September 2010. In addition to nutrition and activity promotion, Safe Routes to School activities are directly supported as follows:

Safe Routes to School - The School District will assess and, if necessary and to the extent possible, make needed improvements to make it safer and easier for students to walk and bike to school. When appropriate, the District will work together with local public works, public safety, and/or police/sheriff departments in those efforts.

The following is part of the Bartholomew Consolidated School Corporation's wellness policy. The goals and objectives directly related to SRTS planning in the county have been included.

8510 – Wellness (Board Approved 9.13.10)

The school district will engage students, parents, teachers, food service professionals, health professionals, and other interested community members in developing, implementing, monitoring, and reviewing district-wide nutrition and physical activity policies.

I. Nutrition Education and Wellness Promotion

J. The Bartholomew Consolidated School Corporation and/or individual schools within the district will strengthen, or work within existing school health councils as a part of the Positive Behavior Instructional Support (PBIS) to develop, implement, monitor, review, and, as necessary, revise school nutrition and physical activity policies. These councils will serve as resources to school sites for implementing these policies.

IV. Physical Activity and Physical Education

A. All students in grades K-12 will be scheduled for physical education instruction in accordance with Indiana State Law.

B. Elementary students will receive a minimum of 45 minutes per week for physical education instruction. High School students shall earn 2 semesters of physical education credit or meet waiver requirements.

L. All elementary school students shall have daily recess.

M. Safe Routes to School - The school district will assess and, if necessary and to the extent possible, make needed improvements to make it safer and easier for students to walk and bike to school. When appropriate, the district will work together with local public works, public safety, and/or police/sheriff departments in those efforts.

V. Evaluation

A. The principal shall ensure that the school is in compliance with district standards by the end of the first quarter of the school year. The policy shall be revised as necessary.

B. The advisory council shall meet at least annually to review nutrition and physical activity policies, evidence on student health impact, and effective programs and program elements.

C. The advisory council shall prepare a report annually for the Superintendent evaluating the implementation of the policy and regulations and include any recommended changes or revisions.

A.8.2 School Enrollment Boundaries

Enrollment maps and boundary maps for each school can be found at the following website:

<http://www.bcsc.k12.in.us/158910512111239810/blank/browse.asp?A=383&BMDRN=2000&BCOB=0&C=54255>

A.8.3 Transportation

Bartholomew Consolidated School Corporation School Board has established a walk zone policy for all BCSC school:

- Elementary schools: 1 mile
- High & Middle schools: 1.5 miles

The walk zones for each school however are in reality much smaller due to the presence of high traffic volume streets or busy intersections. The walk zones for each school are amended to eliminate the need for students to cross busy streets or negotiate busy intersections and students outside of these amended walk zones are bused to school.

Only children enrolled in Bartholomew Consolidated School Corporation or partnered parochial schools are allowed on a corporation bus.

Appendix B General Recommendations

B.1 Engineering Measures

Engineering measures for Safe Routes to School include the design, construction and maintenance of physical infrastructure that can improve the safety and comfort of students that walk or bike to school. This infrastructure includes signage, pavement treatments and traffic control devices such as stop signs, bulb-outs, sidewalks, multi-use paths and bike lanes. When considering engineering measures, first identify the problem, and then use current standard engineering practices to develop appropriate solutions.

Traffic engineering analysis reveals that unnecessary control measures tend to lessen the effect of the necessary controls. Effective traffic control can best be obtained through the uniform application of realistic policies, practices and guidelines developed through engineering studies. A decision to use a specific device at a particular location should be made on the basis of an engineering and/or traffic survey with the input of city staff, school staff and/or parents.

Of equal importance is the maintenance and monitoring of traffic control devices. Devices should be properly maintained to ensure legibility, visibility and functionality. If a device is found to be ineffective, it should be removed. Devices used on a part-time basis, such as warning flashers, should be in operation only during the time periods when they are required (i.e., when students are present); otherwise they risk being ignored by motorists who believe these devices are improperly functioning.



Pavement stenciling can be used to delineate school zones.

Table B-1. Safe Routes to School Engineering Strategies outlines specific engineering strategies for areas within the School Zone, areas along the school route, at street crossings, and for use in slowing down traffic. Many of the strategies, such as in-street warning signs and overhead school zone beacons, are most effective if they are only used during school commute hours.

Table B-1 Safe Routes to School Engineering Strategies

Location	Engineering Strategy
School Zone – as defined by the BCSC	Follow MUTCD School Area Sign and Pavement Marking requirements
	Set school area speed limits to 15 mph and install signs and warning devices as outlined in the MUTCD
	Use portable speed limit signs and radar speed trailers to remind drivers of the speed limit and to slow traffic
	Use permanent changeable message signs and speed feedback signs to remind drivers of the speed limit and to slow traffic
	Install school advance warning signs and crosswalk signs as outlined by the MUTCD
	Install overhead signs and beacons to alert motorists to school zone areas and crosswalks where applicable

Location	Engineering Strategy
	Use retro reflective yellow-green school signs and signpost covers
Surrounding Neighborhood	Ensure that the surrounding neighborhood is universally accessible by constructing ADA-compliant sidewalks, curb ramps and crossings
	Provide well-designed, connected, paved sidewalks on all routes to school
	Provide pedestrian-scaled lighting along routes to school
	Provide on-street bicycle facilities, such as bicycle lanes and bicycle warning signage where possible
	Provide multi-use paths separated from streets to improve connectivity to school; provide connections from these multi-use paths through the school properties to entrances
Crossings	Reduce crossing distance by using bulb-outs and median islands
	Mark preferred crosswalks on the way to school
	Restrict parking at corners to increase pedestrian sight distance
	Place advance stop bars so that pedestrians can see both lanes of traffic on a roadway with more than two lanes
	Provide signal actuation at crossings, preferably with an audible component

Source: *Safe Routes to School Guide*, National Highway Traffic Safety Administration, www.saferoutesinfo.org/guide/engineering/

To provide safe access for students on their way to and from school, school sites should have designated pedestrian access points. When possible, roadway geometry should be designed to minimize travel speeds to 15-20 mph. Slowing or calming vehicle traffic may be accomplished with raised crossings, curb extensions, roundabouts, on-street parking, and other land use and engineering designs.

Pedestrian access points should be designed so that students are not required to cross in front of drop-off and pick-up traffic, either from parents or buses. The approaches to all schools should have curb and gutter sections, except in unusual circumstances. Landscape improvements should ensure adequate sight distance specifically for students on all access routes, crossings and intersections. Recommended signs and markings for school zones are included in Appendix C: Signing for School Area Traffic Control.

B.1.1 Specific Engineering Strategies

Designation of a School Zone

School zones can be designated on all roadways contiguous to a school serving kindergarten through 12th grade. A speed limit assembly shall be used to indicate the speed limit where a reduced speed zone for a school area has been established (in accordance with law based upon an engineering study) or where a speed limit is specified for such areas by statute. The speed limit assembly shall be placed at, or as near as is practical to, the point where the reduced speed zone begins. In order for a school speed limit to be established, the school zone must meet the established criteria and the jurisdiction responsible for the street



Figure B-1. FYG School advance warning sign from the MUTCD, Figure S1-1.

can provide written documentation of their support for a school speed limit. Indiana State law authorizes Indiana cities and towns to set their own school zone speed limits, which are typically 15 mph during school hours. With school zones signed and delineated, focused traffic enforcement can occur to target speeding and other moving violations within the zone.

School Area Signage (Includes High-Visibility Signs)

Signs inform street users about what to expect from the street surroundings. School Zone signs notify motorists that they are entering an environment where vulnerable road users are present. Key signs include the School Warning, School Crosswalk Warning, School Speed Limit and School Advance Warning. Visibility of school area signage can be increased through the use of fluorescent yellow-green signs.

Sidewalks

Sidewalks create a designated space for pedestrians as well as bicyclists, who are legally allowed to ride on sidewalks in Columbus except in the downtown area. A complete sidewalk network is an important component of the transportation system for students and can be the difference between whether a parent allows their child to walk or bike to school or not. An incomplete sidewalk network or sidewalks in disrepair create hazards for students walking and biking and may force students to walk in the roadway or to be driven to school.

Trails

Trails and multi-use paths such as the People Trail are often viewed as recreational facilities, but they can also serve an important function as walking and biking corridors to school. Multi-use paths provide additional width over a standard sidewalk to serve both bicyclists and pedestrians. Pathways may be constructed adjacent to roads, through parks or open space areas, along creeks or along linear corridors. Regardless of the type, pathways constructed next to the road should have some type of buffer to separate the path area from the adjacent travel lane and crossings should be clearly marked to make drivers aware of the crossing.

Curb Extensions/Bulbouts

Curb extensions (sometimes called curb bulbs or bulb-outs) have many benefits for pedestrians. They shorten the street crossing distance, provide additional space at corners, allow pedestrians to see and be seen before entering the crosswalk and simplify the placement of curb ramps. These are suitable treatments for intersections adjacent to school properties where turning movements add confusion and congestion to the traffic mix and make crossing the street safely more difficult.

Crossings

School crosswalks denote the preferred location for children to cross the street. Crosswalks should be marked at all intersections on established routes to schools where substantial conflict between motorists, bicyclists and pedestrian movements exist

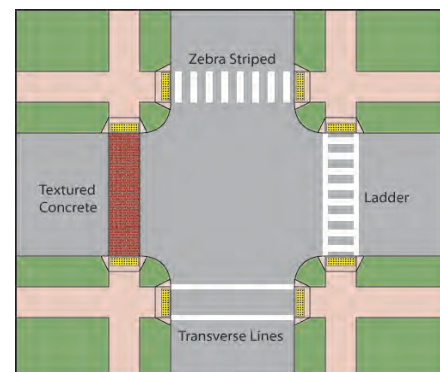


Figure B-2. Crosswalk treatments

and at uncontrolled designated school crossings where students are encouraged to cross between intersections. Crosswalks should also be marked where students would not otherwise recognize the proper place to cross.

Various striping patterns can be used, although the standard crosswalk consists of two parallel lines, called the “transverse” pattern. High visibility markings should be considered for all high-volume crossings near schools and where conditions demonstrate a need for increased visibility marking (e.g., a mid-block location). Recommendations include wide “piano key” or “continental” crossing patterns for the best visibility and for ease of maintenance. The first priority should be the crossings directly in front of or adjacent to the school where high daily pedestrian traffic occurs, such as at the intersection of Home Avenue and 25th Street.

Raised Crosswalks

Raised crossings increase the visibility of pedestrians and serve as a traffic calming device. The crossing is essentially a speed table with the height kept at sidewalk level and striped with crosswalk markings. Advanced signage and chevrons striped onto the hump itself are necessary to warn motorists of the presence of the raised crosswalk.

Pedestrian Countdown Signals

Pedestrian countdown signals give pedestrians information about how much time they have left to cross the street. Young pedestrians are still learning the skills needed to be a safe pedestrian. Without proper information, a flashing hand can confuse some child pedestrians and lead to running in the crosswalk in order to complete the crossing before the signal changes. Countdown signals help students make good decisions about whether or not to enter the crosswalk by telling them how much time they left have to cross the street.

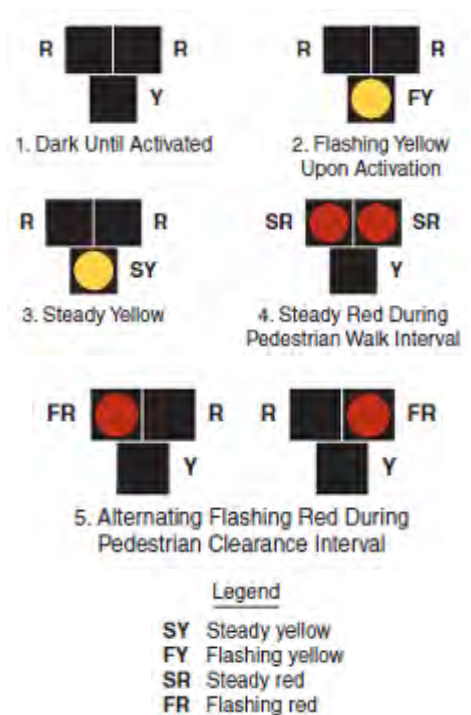
Signalized intersections of major arterials that are near a school should have pedestrian countdown signals.

Leading Pedestrian Interval

A Leading Pedestrian Interval (LPI) is an option that can be added to a traffic signal. An LPI gives pedestrians a walk signal before the motorists get a green light, which puts pedestrians in the street before drivers can move, making pedestrians more visible to motorists. Motorists are more likely to yield to pedestrians where LPIs are in use. LPI’s work well with the application of No Turn on Red, which should be used at all signals within a School Zone.

Pedestrian Signals

One type of pedestrian signal is called a HAWK (High-intensity Activated crossWalk), also known as a Pedestrian Hybrid Beacon. It can be used at mid-block crossings with high pedestrian volumes or at intersections that do not already have a traffic signal, or that would not meet MUTCD warrants for a full signal. Pedestrians use a push button to activate the warning signal and



motorists receive a flashing red light and then a solid red light. When the motorists have a solid red light, pedestrians see a white “walk” light, letting them know they are allowed to cross the street. After pedestrians have finished crossing the street, motorists then receive a blinking red light that lets them know that they may proceed when safe.

The HAWK signal has been implemented in a number of cities. It is included in recent federal guidelines for pedestrian traffic signals (MUTCD 2010).

Another type of pedestrian signal is the rapid flashing beacon located at the intersection of Central Avenue and Parkside Drive, near Parkside Elementary. Like the HAWK signal, the beacon is pedestrian activated – once pushed, the beacon flashes bright yellow for a designated time period to indicate to motorists that pedestrians want to cross the street and will be entering the crosswalk.

Advance Stop and Yield Lines

In-Street Yield to Pedestrian signs are flexible plastic signs installed in the median to enhance a crosswalk at crossing locations that do not have a signal. These signs usually say ‘State Law: Yield to Pedestrians’. At school crosswalks, these signs are sometimes installed on a portable base and brought out in the morning and back in at the end of each day by school staff. This may reduce the chance that the sign will become invisible to motorists by being left out all the time or damaged over time. For permanently installed signs, maintenance can be an issue as the signs may be run over by vehicles and need to be replaced occasionally. Installing the signs in a raised median can extend their lifetime.

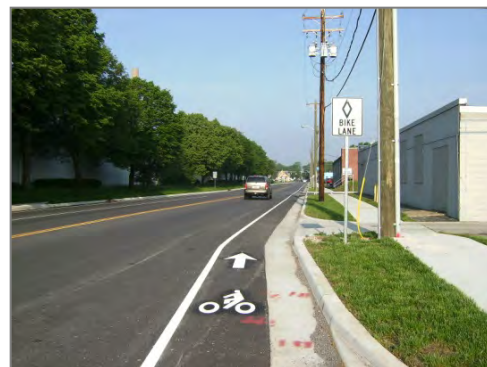


Figure B-3. Sequence for a pedestrian hybrid beacon (MUTCD Figure 4F-3).

Loop Detectors/Video Detectors for Bikes

Loop detectors are used at intersections that are actuated by the presence of a vehicle in the roadway and allow for a bicycle to “trip” the signal and receive a green light. They are in-pavement devices that turn the light green when a car is detected, and can be calibrated to detect bicycles. When a bicyclist stops over a loop detector, the detector uses a magnetic field to detect the metal in a bicycle.

Video detectors are mounted on a traffic signal and detect bicycles over a larger area. Video detectors also can be tuned to turn the light green for a bicyclist.



Bike lanes are designated with pavement markings and signs, and parking is prohibited.

Bicycle Lanes

Bicycle lanes are a striped portion of the road that forms an area specifically for bicycles. Bicycle lanes increase the visibility of bicycles to motorists by giving them a designated

space on the road. Bicycle lanes are better suited for older and more experienced children who have learned the skills needed for bicycle handling, avoiding road hazards and following the rules of the road. Bike lanes can be striped on any street that meets the width requirements and has the characteristics of a good bicycle route.

Secure Bicycle Parking

Providing a secure and convenient location for bicycle parking is one way to encourage more students to bicycle to school. Good bike parking is located conveniently (near the school entrance for example) and protects bicycles from vandalism/theft, damage and inclement weather conditions. Many schools still use older bike racks, which only support bicycles from the wheel which makes locking bikes difficult. Staple-style or U-style racks are recommended.

Human-Scale Lighting

Safe sidewalks are essential components of good pedestrian environments and well-lit environments convey a feeling of comfort and safety, particularly at night. Lighting should illuminate the sidewalk and roadway crossings to increase pedestrian visibility. Lighting is also an important element for multi-use paths, particularly at underpasses and at other isolated locations. Lights should be low enough to the street and scaled for pedestrians to light their walking path as well as increase pedestrian visibility to road users.

B.2 Enforcement Measures

Enforcement measures are intended to encourage safe behavior of motorists, bicyclists and pedestrians. Often, enforcement brings to mind the image of a law enforcement officer issuing citations. However, Safe Routes to School enforcement programs also include other community-based measures, such as neighborhood speed watch programs, volunteer safety patrols, positive “ticketing” and adult crossing guards.



The first step in developing an enforcement program is to identify unsafe behavior near the school. This should be done with the help of a law enforcement officer from the Police Department. Some common unsafe behaviors are identified in Table 4-2. Once these have been identified, an appropriate approach to deterring those behaviors can be created. Deterrents may include education on the unsafe behavior, developing a community-based enforcement program, increasing police presence, or installing warning signage and striping.

Speeding is one of the most dangerous motorist behaviors. Though a motorist may not think driving over the speed limit is dangerous, even a 10 mph difference in speed can be the difference between a fatal and non-fatal crash for a pedestrian. The effect of speed on pedestrian



Figure B-4. Vehicle impact Speed and Pedestrian Injury Severity

injury severity and fatalities is especially pronounced for students and older pedestrians. At 20 mph a pedestrian has a 5% chance of dying if hit by a motor vehicle. At 30 mph the chance increases to 45% - see **Figure B-4 – Vehicle Impact Speed and Pedestrian Injury Severity.**²

Targeted education and enforcement programs for teachers and parents can be effective because the people who drive to school the most—parents and teachers—often participate in unsafe behaviors such as speeding and distracted driving. Neighborhood speed watch programs can also be effective at reducing speeding in neighborhoods surrounding schools.

Finally, enforcement efforts should not only be aimed at motorists, but they should also ensure that bicyclists and pedestrians understand and obey traffic laws. Students may not realize that behaviors such as jaywalking, riding against traffic or running stop signs puts them at higher risk for a vehicle collision. As part of their regular enforcement, the Police Department should educate and encourage students to obey traffic laws and use enforcement as an opportunity to educate them on proper traffic behavior.



**Radar operated
speed signs can help
reduce speeding.**

²*Literature Review on Vehicle Travel Speeds and Pedestrian Injuries, US Department of Transportation National Highway Traffic Safety Administration 1999. <http://www.nhtsa.dot.gov/people/injury/research/pub/HS809012.html>*

Table B-2. Common Unsafe Road User Behaviors

Road User	Behavior
Motorists	Speeding
	Failing to yield to students walking or biking, especially students in crosswalks
	Running red lights or stop signs
	Passing stopped school buses
	Parking or stopping in crosswalks
	Stopping in a bus zone (drop-off and pick-up)
	Dropping off or picking up students in the street rather than adjacent to the curb or in the designated drop-off/pick-up area
Pedestrians	Drivers letting students walk between parked cars
	Not following directions of the crossing guard or signals
	Not looking left, right then left before crossing the street
	Crossing the street at an undesirable location
	Darting out between parked motor vehicles
Bicyclists	Wearing dark clothes in poor lighting conditions
	Riding into traffic without looking left, right then left again
	Riding against traffic rather than with the traffic flow
	Turning left without looking and signaling
	Not obeying traffic signs or signals
	Riding out from a driveway or between parked vehicles
	Not wearing a bike helmet
Not being visible at night when riding in the road	

Source: *Safe Routes to School Guide*, National Highway Traffic Safety Administration, www.saferoutesinfo.org/ Accessed December 28, 2007

Specific Enforcement Strategies

School Safety Patrols and Crossing Guards

School safety patrols are trained student volunteers responsible for enforcing drop-off and pick-up procedures. Student safety patrols may also assist with street crossing; they do not stop vehicular traffic, but rather look for openings and then direct students to cross. According to the National Safe Routes Clearinghouse, “student safety patrols... [increase] safety for students and traffic flow efficiency for parents. Having a student safety patrol program at a school requires approval by



Crossing guards help students navigate busy roads near schools.

the school and a committed teacher or parent volunteer to coordinate the student trainings and patrols.”

Crossing guards are trained adults, paid or volunteer, who are legally empowered to stop traffic to assist students with crossing the street.

The City has a crossing guard program, and their locations are depicted on Map F-1, Appendix F. Specific traffic conditions must be met before a crossing guard can be located at a school.

Crosswalk Stings

In a crosswalk sting operation, the police department targets motorists who fail to yield to pedestrians in school crosswalks. A plain-clothes “decoy” police officer ventures into a crosswalk or crossing guard-monitored location, and a second officer stationed nearby gives a citation to motorists who do not yield. The police department or school district may alert the media to crosswalk stings to increase public awareness of the issue of crosswalk safety, and news cameras may accompany the police officers to report on the sting.

School Parking Lot “Citations”

If on-site parking problems exist at a school, such as parents leaving vehicles unattended in loading zones, school staff may issue parking lot “citations” to educate parents about appropriate parking locations. These “citations” are actually warnings designed to look like actual police tickets, intended to educate parents about how parking in improper zones can create safety hazards or disrupt traffic flow for other parents during the pick-up/drop-off period.

Other informal enforcement programs include posting “cell free zone” signs in the school parking lot during drop-off and pick-up, and sending drop-off and pick-up procedures home with students at the beginning of the year and after returning from school vacations. “Citations” may also be issued for parents following designated arrival/dismissal procedures, accompanied by a coupon for a free cup of coffee, for example.

Neighborhood Speed Watch

In areas where residents have identified speeding problems, a Neighborhood Speed Watch can be used to warn motorists that they are exceeding the speed limit. A radar unit is loaned to a designated neighborhood representative to record speed information about vehicles. The person operating the radar unit must record information, such as make, model and license number of offending vehicles. This information is sent to the local law enforcement agency, which then sends a letter to the registered vehicle owner, informing them that the vehicle was seen on a specific street exceeding the legal speed limit. Letters are typically sent out to those driving at least 5 mph over the speed limit. Although not a formal citation, the letter explains that local residents are concerned about safety for their families and encourages the motorist to drive within the speed limit.

Yard signs can also be incorporated into the speed watch program. Participating neighbors post signs stating that children live in the neighborhood and it is necessary to slow down for their safety.

Speed Radar Trailer

Speed Radar Trailers can be used to enforce speed limits in known speeding problem areas. In areas with speeding problems, police set up an unmanned trailer that displays the speed of approaching motorists along with a speed limit sign.

Speed radar trailers can be used as both an educational and enforcement tool. By itself, the unmanned trailer serves as effective education to motorists about their current speed compared to the speed limit. As an alternative enforcement measure, the police department may choose to station an officer near the trailer to issue citations to motorists exceeding the speed limit. Because they can be easily moved, radar trailers are often deployed on streets where local residents have complained about speeding problems. If frequently left in the same location without officer presence, motorists may learn that speeding in that location will not result in a citation and the strategy loses its effectiveness. For this reason, radar trailers should be moved frequently.

Speed Feedback Sign

A permanent speed radar sign can be used to display approaching vehicle speeds and speed limits on roadways approaching the school site. The unit is a fixed speed limit sign with built-in radar display unit that operates similarly to a radar trailer. In order to maximize effectiveness for school settings, the radar display unit should be set to only activate during school commute hours.

Roadways approaching the school site are the most appropriate location to display speeds, instead of streets along the school frontage that will likely have lower speeds due to pick-up/drop-off traffic.

B.3 Educational and Encouragement Measures

Core to the strategy of a Safe Routes to School Program are its educational and encouragement programs. Often, these measures are more easily implemented and for less monetary investment than engineering strategies. Educational programs serve to identify safe behaviors and instill those behaviors in school students. Encouragement programs promote walking and biking as safe and healthy forms of transportation and are intended to be fun and generate excitement and enthusiasm about walking and biking. The students themselves can get involved in planning the activities.



Biking 'buses' are a great way to impart safety skills.

Middle school students are a great audience for a Safe Routes to School program because they have a more developed cognitive ability than elementary school students, allowing them to judge unsafe conditions and understand why they need to exhibit safe behavior. Students this age are also likely to have a more comprehensive understanding of road rules and have developed enough peripheral vision to judge the speed of motorized traffic. Further, middle school students have an expanded awareness of social, cultural, and environmental issues and are more likely to understand the values of walking and biking.

The success of educational and encouragement programs lies in providing students with opportunities for self-expression, hands-on learning, and playing a role in the implementation of their own Safe Routes to

School programs. Students can design and create outreach materials, coordinate logistics for assemblies or publicity campaigns, and use technology and other skills to understand and share their understanding of the value of walking and biking.

B.3.1 Educational Measures

Curriculum programs implemented in schools can teach students the basics of pedestrian and bicycle safety. Classroom educational materials should be presented in a variety of formats (safety videos, printed materials, classroom activities, and hands-on drills and practice) and should be continually updated to make use of the most recent educational tools available. Classroom education programs should also be expanded to promote the health and environmental benefits of walking and biking. Educational programs should be linked with events and incentive programs when appropriate. Teaching the concept of not needing to use a car for every trip is a healthy habit to establish early. Children who regularly walk and bike as part of daily life are more likely to continue these habits into adulthood.

Educational materials should be developed for parents, neighbors and elected officials. It is important to keep these parties involved and aware of the safety issues and encouragement activities that are taking place at a local school (see Table A-3 below).

Table B-3: Sample Education Materials by Audience

Audience	Message
Parents	Proper school drop-off and pick-up procedures Obeying speed limits near school Yielding to bicyclists and pedestrians Safety for their students Health benefits of walking and cycling
Neighbors	Keeping pedestrian ways clear of brush and snow/ice Obeying speed limits Yielding to bicyclists and pedestrians
Elected Officials	The benefits of and need for a SRTS program

For middle school students, emphasize teaching safe bicycling skills rather than walking behavior, because bicycling is more likely to provide a new level of freedom for students this age. Though students may be familiar with pedestrian safety concepts, pedestrian safety review can be integrated into other curricula, such as health education or bicycle educational programs.

Bicycle and pedestrian safety instruction may include:

Bicycle Safety Topics:

- Parts of a bicycle
- Importance of wearing helmets
- Rules of the road
- Three different ways to make turns
- On-bike skills training
- Common mistakes (e.g. riding against traffic)
- Safety Check
- Riding on sidewalks
- Use of hand signals
- Riding defensively
- Common crash causes
- Flat repair and other basic bike maintenance

Pedestrian Safety Topics (to be integrated with healthy living curricula):

- Where and when to cross a street
- Sign identification
- Using sidewalks
- How to walk near driveways and cars backing up
- Crossing at intersections
- Understanding traffic signals
- Walking at night
- Walking where no sidewalks exist

All bicycle safety training should include both in-classroom instruction and an opportunity for real-life practice (just as Drivers Education courses include a driving practice component). Instructors and community volunteers should be available to model good behavior, guide the hands-on practice and monitor traffic conditions. Bike Rodeos are a good example of this kind of training and can be expanded to include more technical riding skills for older students (see below).

Specific Education Strategies

Safe Routes to School refers to a variety of multi-disciplinary programs aimed at increasing the number of students walking and biking to school. Education programs are an essential component of a Safe Routes to School program. Education programs generally include outreach to students, parents and guardians, and motorists. Students are taught bicycle, pedestrian and traffic safety skills. Parents and motorists receive information on transportation options and driving safely near schools.

Safety Education

Pedestrian and bicycle safety education makes sure that each child understands basic traffic laws and safety rules. Pedestrian safety education teaches children basic traffic safety rules, sign identification and decision-making tools. Pedestrian training is typically recommended for first- and second-graders, and teaches basic lessons such as “look left, right, and left again,” “walk with your approved walking buddy,” “stop, look, and listen,” and “lean and peek around obstacles before crossing the street.” Trained safety professionals can

administer pedestrian safety in the classroom or gym class. Classroom teachers may use established pedestrian safety curriculum, such as the curriculum taught by the Bicycle Transportation Alliance³ to make sure children know how and where to walk and cross the street.

Bicycle safety training is normally appropriate beginning in or after the third grade and helps children understand that they have the same responsibilities as motorists to obey traffic laws. The League of American Bicyclists offers an extensive bicycle safety curriculum called Kids II. This seven-hour class is aimed at fifth and sixth grade students and teaches necessary bicycle riding skills and how to pick safe biking routes. The curriculum is designed to have a League Certified Instructor (LCI) teach the class. While there are no LCIs in Columbus, there are two LCI's located in Bloomington and four LCIs in Indianapolis.⁴ This program or a similar program can be used to teach children where and how to ride a bicycle.

Additional resources for pedestrian and bicycle safety training include Safe Moves⁵ and C.I.C.L.E.⁶

Bicycle Rodeos

Bicycle Rodeos are family-friendly events that incorporate a bicycle safety check, helmet fitting, instruction about the rules of the road and an obstacle course. Adult volunteers can administer rodeos, or they may be offered through the local Police or Fire Department or Healthy Communities organizations. Bicycles rodeos can be incorporated into health fairs, back to school events and Walk and Bike to School days. Rodeos also provide an opportunity to check children's bikes and instruct them on proper helmet use.

The Bartholomew County Safe Routes to School Committee held a Bicycle Rodeo on May 22, 2010. The Rodeo was located at the north end of the Cummins parking lot, directly across from Mill Race Park and was attended by around 30 children ranging from ages 3 to 12. There were several stations beginning with bike and helmet fitting. The participants were required to wear helmets, but there were helmets and bikes to borrow if they didn't have one. Both bike shops, *the Bicycle Station* and *Columbus Cycling and Fitness*, helped children get fitted perfectly for their bikes and helmets. They raised/lowered seats, pumped tires, checked breaks, and made sure helmets were tight and secure. There were four activity stations: *Starts and Stops*, *Scanning*, *Slalom*, and *Demon Driveways*.

1. *Starts and Stops* taught the participants how to stop their bikes quickly and efficiently. After the participant began riding a dime was dropped. To successfully pass the station, the rider was to stop their bike before the front tire hit the dime.
2. *Scanning* taught the participants to look behind for traffic without swerving or falling. A route was drawn with sidewalk chalk on the pavement that the participants were to maneuver through. Volunteers were holding cardboard cutouts of a car, bus, bush, and person. As the participant was riding the volunteer would stand behind them and yell "scan." The successfully pass the station, the rider was to yell out what they saw (either a car, bus, bush, or person) when they looked behind them to scan.
3. *Slalom* taught cyclists control and balance, and how to avoid hazards while riding. The course was set up with sidewalk chalk and cones to look like different road blocks someone would experience while riding. To

³ http://www.bta4bikes.org/at_work/pedsafetyeducation.php

⁴ <http://www.bikeleague.org/cogs/resources/findit/>

⁵ <http://www.safemoves.org/>

⁶ <http://www.cicle.org/>

successfully pass the station the rider was to safely maneuver between the cones, “potholes,” “drain grates,” and “rocks” that could typically be on their riding routes.

4. *Demon Driveways* taught participants to stop at the end of their driveway or at an intersection to look both ways to determine if it is safe before turning onto the street. The course was drawn with sidewalk chalk to resemble a “T” intersection or a driveway entrance from a two lane street. To successfully pass the station, participants were to stop, look both ways carefully, and turn into the street right and then they were to try left.

Classroom Lessons and Activities

A variety of existing lessons and classroom activities are available to help teach students about walking, biking, health and traffic safety. These can include lessons given by law enforcement officers or other trained professionals, or as a lesson plan developed by teachers. Example topic lessons are: Safe Street Crossing, Helmet Safety, Rules of the Road for Bicycles and Health and Environmental Benefits of Walking and Biking.

The lessons should be grade-appropriate and can be incorporated into the subjects of health, environment, social science, math and physics.

Bus Safety Campaign

Schools use buses to transport students who live too far from the school to walk or who have barriers such as major roads between their houses and the school. School buses are large and restrict sight lines for drivers and pedestrians. Schools can implement a bus safety campaign that reminds students to walk and ride cautiously around buses and to wave and communicate to the bus driver.

School Zone Traffic Safety Campaign

A School Zone Traffic Safety Campaign is an effective way to reach the general public and encourage drivers to slow down and look for students walking and biking to school. Safety Campaigns can use signs and banners near schools (for example, in windows of businesses, yards of people’s homes and local print publications) to remind drivers to slow down and be careful in school zones. This campaign can be kicked off at the start of each school year or in conjunction with special events, such as Walk and Bike to School Month, which takes place in October.

Banners and signs can be effective tools to remind motorists about traffic safety in school zones. Large banners can be hung over or along roadways near schools with readable letters cautioning traffic to slow down, stop at stop signs or watch for students in crosswalks with catch phrases such as: “Drive 25, Keep Kids Alive” or “Give Our Kids a Brake”.

More ideas for classroom activities and lessons, including lessons tailored to specific subject areas, can be found at National Highway Traffic Safety Administration’s (NHTSA) website⁷.

⁷ www.saferoutesinfo.org

No Idling Campaign

Many parents who pick up their children from school leave their cars running while waiting in the queue at dismissal time – sometimes for more than 30 minutes. Cars left idling in front of the school release pollutants into the air, which students are then exposed to on their way out of school. Anti-idling campaigns are successful in reducing the amount of pollutant released into the air by creating a No –Idle zone around the school.

B.3.2 Encouragement Measures

Encouragement events and programs will work well following or in conjunction with educational programs. Schools may designate additional days or weeks during the school year as special encouragement days or may utilize an existing event, such as Earth Day or Bike to Work Week. Many schools host a monthly or even weekly event such as “Walk and Bike Wednesdays” or “Walk and Roll Fridays,” with special age-appropriate incentives for participating students. Elementary students can be easy to motivate for fun events and will model the behavior of adult participants like parents and teachers. For middle-school aged students, having students help plan these events, for their own school or for a nearby elementary school, may encourage more engagement. Students can generate creative ideas to engage other students, help promote the events and act as coordinators or safety patrol on the day of the event.

Mileage contests can be established to encourage students to increase their levels of activity in general, and to walk and bike to school specifically. Ongoing events, such as bike buses, are used to promote walking and biking on a daily or weekly basis. Bike buses involve a group of students bicycling to school together with a parent or other adult.

Engaging middle school students in planning educational and encouragement programs and events may be the most effective way to reach them. After-school clubs can be established to encourage walking and biking. The clubs could have an environmental theme, such as a “Green Club,” or it could be a bicycling club. Students in the club can become officers for certain aspects of the program or the group can work together to plan school-wide events, contests, or campaigns. Students can also work with local elementary schools to receive service learning experience by leading a walking school bus of younger students.

Events related to walking and biking should be incorporated into existing curricula when practical. For example, students can learn to calculate the gas mileage of their family car or engage in a hand or computer mapping activity to identify safe routes or problem areas on their way to school.

Encouragement programs do not require significant funding, but their success depends on a school champion or group of volunteers for sustained support.

Specific Encouragement Strategies

Walk and Bike to School Day/Week/Month

Walk and Bike to School Day/Week/Month are special events encouraging students to try walking or biking to school. The most well-known of these is International Walk to School Day, a major annual event that attracts millions of participants in over 30 countries in October.

Walk and bike to school days can be held yearly, monthly or even weekly, depending on the level of support and participation from students, parents and school and local officials. Some schools organize more frequent days – such as weekly Walking/Wheeling Wednesdays or Walk and Roll Fridays – to give people an opportunity to enjoy the event on a regular basis. Parents and other volunteers accompany the students and staging areas can be designated along the route to school where groups can gather and walk or bike together. This also allows bus riders to participate as the buses can utilize these remote drop-off locations as well. These events can be promoted through press releases, articles in school newsletters and posters and flyers for students to take home and circulate around the community.⁸

Friendly Walking/Biking Competitions (Incentive Programs)

Contests and incentive programs reward students by tracking the number of times they walk, bike, carpool or bus to school. Contests can be individual, classroom competition or interschool competitions. Local businesses may be willing to provide incentive prizes for these activities. Students and classrooms with the highest percentage of students walking, biking, busing or carpooling compete for prizes and “bragging rights.” Small incentives, such as shoelaces, stickers and blinking lights, can be used to increase participation. It can also be effective to allow different grades and schools (high school vs. grade school vs. middle school) to compete against each other in a mobility challenge. Some programs keep track of classroom progress and plot these distances on a map of Indiana or the United States. Similarly, classrooms may want to track their miles with a goal related to classroom curriculum, such as “Walk and Bike the People Trail.”

Each of the examples of programs below can be modified for students who live too far away from school to walk or bike or for those considered to be in a hazard bussing area. Modification can include walking or biking at lunch time or gym class. Also, students can count the miles walked or biked with parents and guardians outside of the school day.

Examples of walking and biking competitions include:

On-campus walking clubs (mileage clubs) - Students are issued tally cards to keep track of “points” for the each time they walk, bike, bus or carpool to or from school. When they earn a specified number of points they get a small prize and are entered in a raffle for a larger prize. At the end of the school year, there is a drawing for major prizes.

Healthy Living Punchcard - This year-round program is designed to encourage school children and their families to consider other options for getting to school, such as walking, biking, carpooling and public transportation. Every time a student walks, bikes or carpools to school, a parent volunteer or school representative stamps the card. Students receive a reward when the punchcard is complete.

Walk and Bike Challenge Week/Month - This month-long encouragement event is generally held in conjunction with National Bike Month in May. Students are asked to record the number of times they walk and bike during the program. The results are tallied and competing schools or classrooms compare results. Students who are unable to walk or bike to school can participate by either walking during a lunch or gym period or getting dropped off further away from the school and walking with their parents the last several

⁸ International Walk to School - <http://www.walktoschool-usa.org/>.

blocks. Additionally, bus riders could also participate by utilizing remote drop-off locations and walking to school en masse.

Golden Sneaker Award - Each class keeps track of the number of times the students walk, bike, carpool or take the bus to school and compiles these figures monthly. The class that has the most participation gets the Golden Sneaker Award for the month. (The award can be created by taking a sneaker, mounting it to a board like a trophy and spray painting it gold.)

Walk Across Indiana or America - This year-round program is designed to encourage school children to track the number of miles they walk throughout the year. Students will be taught how to track their own mileage through learning about how many steps or blocks are in a mile and also learn about places in Indiana or the United States along the way. Teacher or volunteer support is required for this program to be successful.

Each of these programs can use incentives to increase participation and reward the students for their efforts. Examples of incentives include:

- Shoelaces
- Dog tags
- Pedometers
- Reflective zipper pulls
- Bicycle helmets
- Raffle tickets for a bicycle from a local bike shop
- Blinking lights
- Early dismissal
- Extra recess time
- Healthy food parties

Back-to-School Blitz

Families set transportation habits during the first few weeks of the school year and some families are not aware of the many transportation options available to them. Because of this, some families will develop the habit of driving to school. A “Back to School Blitz” can be held at the beginning of the school year to promote busing, carpooling, walking and biking as school transportation options.

The “Back to School Blitz” includes many of the programs mentioned above such as articles in school newsletters and enforcement activities. Additional elements include:

- A packet given to each family containing information about school transportation options, including:
 - Cover letter signed by the principal encouraging parents to create transportation habits with students that promote physical activity, reduce congestion, increase school safety and improve air quality
 - School property arrival and dismissal maps that include walking and biking students exits, transit and school bus stops, drop-off and parking areas and bike parking locations
 - Parent Pledge forms about reducing the number of times that families drive to school; entries go in raffle for a prize donated by local businesses/ decal distributed once pledge is signed
- In addition to the packet, the following strategies can be included:
 - Table at back-to-school night with materials and trained volunteers who can answer questions about transportation issues

Appendix B

- “Schoolpool map” showing all student households as dots; parents then check the corresponding school directory listing to see families located in their neighborhood who are interested in walking, biking and carpooling to school together (list only families who opt into the directory)
- Article in first school newsletter about transportation options and resources
- Enforcement activities, such as school zone speed and crosswalk enforcement
- Strict enforcement of parking policies during first month of school (and throughout the year if possible)

Stop and Walk

This year-round campaign is designed to encourage parents to “stop” several blocks from school and walk the rest of the way to school with their student. Not all students are able to walk or bike to school. They may live too far away from school to walk or their route to school may include hazardous traffic situations, such as a major arterial road. This type of campaign is used to allow students who are unable to walk or bike to school a chance to participate in school walking programs. It also helps reduce traffic congestion at the school.

The program can be included as a part of other encouragement activities, such as the Golden Sneaker Award, Walk Across Indiana and the Mileage Clubs. An additional benefit to implementing a “Stop and Walk” program is reduced traffic volume directly surrounding a school. Reducing the number of motor vehicles in the school environment increases traffic safety and encourages walking and biking to school. Parents who normally drive are also able to witness what it’s like to be a pedestrian in the School Zone and will hopefully adjust their own driving behaviors to be more pedestrian friendly.

Walking School Buses

Parents and guardians often cite distrust of strangers and the dangers of traffic as reasons why they do not allow their students to walk to school. Walking School Buses are a way to make sure that students have adult supervision as they walk to school. Walking School Buses are formed when a group of students walk together to/from school and are accompanied by one or two adults (usually parents or guardians of the students on the “bus”). As the walking school bus continues on the route to or from school, it picks up or drops off students at designated meeting locations or along the route.

Walking school buses can be informal arrangements between neighbors with children attending the same school or official school-wide endeavors with trained volunteers or staff and structured meeting points with a pick-up or drop-off timetable.

Bike Bus

A bike bus is similar to a walking school bus; groups of students accompanied by adults bicycle together on a pre-planned route to school. Routes can originate from a particular neighborhood or, in order to include students who live too far to bicycle, begin from a park, parking lot or other meeting place. They may operate daily, weekly or monthly. Bike buses help address parents’ concerns about traffic and personal safety while providing a chance for parents and children to socialize and be active.

Bike buses are best suited for older students that have undergone bicycle safety training. Also, helmets should be encouraged for participating in a bike bus.

Locally-Sponsored Bicycle and Walking Events

Healthy Communities sponsors a number of events that encourage citizens to get out and be active. Such events include Get up and Move, Bike to Work Week and bike rodeos. Schools are encouraged to structure their encouragement activities around such special events. For example, over the course of a week, students could walk the distance of the Mill Race Park Race 15k as part of Walking Across Indiana program. Further, schools could work with the various events to have local athletes visit classrooms to talk to students about active living and exercise. The existing communitywide Elementary School Fitness Run 5k would be a great event with which to coordinate SRTS activities.

Staggered Dismissal Times

One easy way to encourage more active transportation to school is to allow walkers and bikers to leave the building first. This simple 3-5 minute head start is often a great motivator to use their feet. This early release also allows these students to vacate the school grounds before bus and parent driver traffic becomes active.

B.4 Evaluation

Evaluation of the Safe Routes to School program is critical to understanding the effectiveness of the program, identifying improvements that are needed and ensuring the program continues in the long-term. The evaluation process should include before and after studies (often required by grant-based programs) and it may be appropriate to regularly collect information at the beginning and end of the school year. Evaluation can measure shift in mode share (drive, walk bike and bus), attitudes toward walking and biking, recognition of the program, grant money received and infrastructure projects constructed. The Bartholomew County Safe Routes to School Committee has been compiling the district-wide surveys of elementary and middle school parents to provide a baseline for future evaluation efforts. Example evaluation metrics are listed in Table B-4.

Table B-4. Evaluation Metrics for Safe Routes to School Programs

Metric
Number and percentage of students walking and biking to school
Number and percentage of students who ride to school in family vehicle
Number and percentage of students participating in the program
Number and percentage of parents who have heard of the Safe Routes to School Program
Number and percentage of students who have heard of the Safe Routes to School Program
Number and percentage of participants in Safe Routes to School events
Dollar amount of grants received and Capital Improvement Plan funding
Number of Safe Routes to School projects in Capital Improvement Plan
Number of Safe Routes to School projects constructed
Parental and student attitudes toward biking and walking to school
Parental attitudes toward congestion at drop-off and pick-up times

Appendix B

This page intentionally left blank.

Appendix C Signing for School Area Traffic Control

C.1 School Zone Designation

School zones can be designated on all roadways contiguous to a school serving kindergarten through 12th grade. A speed limit assembly shall be used to indicate the speed limit where a reduced speed zone for a school area has been established (in accordance with law based upon an engineering study) or where a speed limit is specified for such areas by statute. The speed limit assembly shall be placed at, or as near as is practical to, the point where the reduced speed zone begins. In order for a school speed limit to be established, the school zone must meet the established criteria and the jurisdiction responsible for the street must provide written documentation of their support for a school speed limit. According to Indiana State Law a city, town, or county may establish speed limits on a street or highway upon which a school is located if the street or highway is under the jurisdiction of the city, town, or county, respectively. However, a speed limit established under this subsection is valid only if the following conditions exist:

- (1) The limit is not less than:
 - a. Twenty (20) miles per hour within an urban district; and
 - b. Thirty (30) miles per hour outside an urban district.
- (2) The limit is imposed only in the immediate vicinity of the school.
- (3) Children are present.
- (4) The speed zone is properly signed. After June 30, 2011, there must be:
 - a. A sign located:
 - i. Where the reduced speed zone begins; or
 - ii. As near as practical to the point where the reduced speed zone begins; indicating the reduced speed limit; and
 - b. A sign located at the end of the reduced speed zone indicating the end of the reduced speed zone.

As added by P.L.2-1991, SEC.9. Amended by P.L.92-1991, SEC.3; P.L.1-1992, SEC.50; P.L.126-1993, SEC.1; P.L.169-2006, SEC.32; P.L.138-2009, SEC.2.

With school zones signed and delineated, focused traffic enforcement can occur to target speeding and other moving violations.

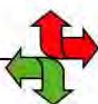
C.2 School Area Signage

The Manual on Uniform Traffic Control Devices (MUTCD) provides guidance on the use of school area signs and markings. (This is the manual used by the State of Indiana for standard signage design, pavement markings and traffic control devices.) The key signs include the School Advance Warning Assembly, the School Crosswalk Warning Assembly and the School Speed Limit Assembly. One way of increasing the visibility of school area signage is through the use of Fluorescent Yellow-Green (FYG) signs. The MUTCD has adopted the yellow-green as the standard for all new school zone signs and any existing standard yellow signs should be upgraded as part of the Action Plan.

C.3 Pavement Markings

Pavement markings have important functions in school area traffic control. In some cases, they are used to supplement the regulations or warnings provided by devices such as traffic signs or signals. In other instances, they are used alone and produce results that cannot be obtained by the use of any other device. They can serve as an effective means of conveying certain regulations, guidance and warnings that could not otherwise be made clearly understandable. Pavement markings have limitations: they may not be clearly visible when wet or covered in snow and they may not be durable when subjected to heavy traffic. The “SLOW SCHOOL XING” marking, used in advance of uncontrolled crosswalks, is an important school-specific pavement marking. The MUTCD also provides guidance on the use of stop lines, yield lines, curb markings and other symbol markings.

Manual on Uniform Traffic Control Devices (MUTCD)



Knowledge

[Back to 2003 Rev. 1 Table of Contents](#) | [Back to Part 7 Table of Contents](#)

Chapter 7B. Signs

Section 7B.01 Size of School Signs

Standard:

The sizes of signs and plaques to be used on conventional roadways in school areas shall be as shown in Table 7B-1.

The Conventional Road sign size shall be used on public roads, streets, and highways unless engineering judgment determines that a Minimum or Oversize sign size would be more appropriate.

The Oversized sign size shall be used on expressways.

Option:

The Oversized sign size may be used for applications that require increased emphasis, improved recognition, or increased legibility.

The Minimum sign size may be used on local residential streets, in urban areas, and where there are low traffic volumes and low vehicle speeds, as determined by engineering judgment.

Table 7B-1. Size of School Area Signs and Plaques

Sign	MUTCD Code	Section	Conventional Road	Minimum	Oversized
School Advance Warning	S1-1	7B.08	900 x 900 mm (36 x 36 in)	750 x 750 mm (30 x 30 in)	1200 x 1200 mm (48 x 48 in)
School Bus Stop Ahead	S3-1	7B.10	750 x 750 mm (30 x 30 in)	—	900 x 900 mm (36 x 36 in)
Reduced Speed School Zone Ahead	S4-5, S4-5a	7B.12	900 x 900 mm (36 x 36 in)	750 x 750 mm (30 x 30 in)	1200 x 1200 mm (48 x 48 in)
School Speed Limit XX When Flashing (English)	SS-1	7B.11	600 x 1200 mm (24 x 48 in)	—	900 x 1800 mm (36 x 72 in)
School Speed Limit XX When Flashing (Metric)	SS-1	7B.11	600 x 1350 mm (24 x 54 in)	—	900 x 2100 mm (36 x 84 in)
End School Zone	SS-2	7B.13	600 x 750 mm (24 x 30 in)	—	900 x 1200 mm (36 x 48 in)
Speed Limit (School Use) (English)	R2-1	7B.11	600 x 750 mm (24 x 30 in)	—	900 x 1200 mm (36 x 48 in)
Speed Limit (School Use) (Metric)	R2-1	7B.11	600 x 900 mm (24 x 36 in)	—	900 x 1350 mm (36 x 54 in)

Table 7B-1. Size of School Area Signs and Plaques

Plaque	MUTCD Code	Section	Conventional Road	Minimum	Oversized
X:XX to X:XX AM X:XX to X:XX PM	S4-1	7B.11	600 x 250 mm (24 x 10 in)	—	900 x 450 mm (36 x 18 in)
When Children Are Present	S4-2	7B.11	600 x 250 mm (24 x 10 in)	—	900 x 450 mm (36 x 18 in)
School	S4-3	7B.11	600 x 200 mm (24 x 8 in)	—	900 x 300 mm (36 x 12 in)
When Flashing	S4-4	7B.11	600 x 250 mm (24 x 10 in)	—	900 x 450 mm (36 x 18 in)
Mon-Fri	S4-6	7B.11	600 x 250 mm (24 x 10 in)	—	900 x 450 mm (36 x 18 in)
XXX Feet or XXX Meters	W16-2	7B.08	600 x 450 mm (24 x 18 in)	—	750 x 600 mm (30 x 24 in)
XXX Ft or XXX m	W16-2a	7B.08	600 x 300 mm (24 x 12 in)	—	750 x 450 mm (30 x 18 in)
Diagonal Arrow	W16-7p	7B.09	600 x 300 mm (24 x 12 in)	—	750 x 450 mm (30 x 18 in)
Diagonal Arrow (Optional Size)	W16-7p	7B.09	525 x 375 mm (21 x 15 in)	—	—
Ahead	W16-9p	7B.08	600 x 300 mm (24 x 12 in)	—	750 x 450 mm (30 x 18 in)

Section 7B.02 Illumination and ReflectORIZATION

Standard:

The signs used for school area traffic control shall be retroreflectORIZED or illuminated.

Section 7B.03 Position of Signs

Guidance:

Signs should be placed in positions where they will convey their messages most effectively without restricting lateral clearance or sight distances. Placement therefore should consider highway design, alignment, vehicle speed, and roadside development.

Signs should have a maximum practical clearance from the edge of the traveled way for the safety of vehicles that might leave the roadway and strike the sign supports. Except as noted in the Option, signs should not be closer than 1.8 m (6 ft) from the edge of a paved shoulder, or if none, 3.7 m (12 ft) from the edge of the traveled way.

Option:

In urban areas, a lesser clearance of not less than 0.6 m (2 ft) from the face of the curb may be used. In urban areas, where sidewalk width is limited or existing poles are close to the curb, a clearance of 0.3 m (1 ft) from the curb face may be used.

Section 7B.04 Height of Signs

Support:

[Section 2A.18](#) contains information regarding the mounting height of signs.

Section 7B.05 Installation of Signs

Support:

[Section 2A.16](#) contains information regarding the installation of signs.

Section 7B.06 Lettering

Support:

Appendix C

The Federal Highway Administration's "Standard Highway Signs" book (see [Section 1A.11](#)) contains information regarding sign lettering.

Section 7B.07 Sign Color for School Warning Signs

Standard:

Except as noted in the Option, school warning signs shall have a yellow background with a black legend and border unless otherwise stated in this Manual for a specific sign.

Option:

All school warning signs in addition to the following signs may have a fluorescent yellow-green background with a black legend and border:

- A. School Advance Warning sign (S1-1);
- B. SCHOOL BUS STOP AHEAD sign (S3-1);
- C. SCHOOL plaque (S4-3);
- D. The "SCHOOL" portion of the School Speed Limit sign (S5-1);
- E. XXX FEET plaque (W16-2 series);
- F. AHEAD plaque (W16-9p);
- G. Diagonal Arrow plaque (W16-7p); and
- H. Reduced Speed School Zone Ahead sign (S4-5, S4-5a).

Guidance:

When the fluorescent yellow-green background color is used, a systematic approach featuring one background color within a zone or area should be used. The mixing of standard yellow and fluorescent yellow-green backgrounds within a zone or area should be avoided.

Section 7B.08 School Advance Warning Assembly (S1-1 with Supplemental Plaque)

Guidance:

The School Advance Warning assembly (see Figure 7B-1) should be installed in advance of locations where school buildings or grounds are adjacent to the highway, except where a physical barrier such as fencing separates school children from the highway.

Standard:

The School Advance Warning assembly shall be used in advance of any installation of the School Crosswalk Warning assembly (see Figure 7B-2), or in advance of the first installation of the School Speed Limit assembly (see Figure 7B-3).

If used, the School Advance Warning assembly shall be installed not less than 45 m (150 ft) nor more than 210 m (700 ft) in advance of the school ground or school crossings.

If used, the School Advance Warning assembly shall consist of a School Advance Warning (S1-1) sign supplemented with a plaque with the legend AHEAD (W16-9p) or XXX METERS (XXX FEET) (W16-2 or W16-2a) to provide advance notice to road users of crossing activity.

Option:

A 300 mm (12 in) reduced size in-street School Advance Warning (S1-1) sign (see Figure 7B-4), installed in compliance with the mounting height and breakaway requirements for In-Street Pedestrian Crossing (R1-6 or R1-6a) signs (see [Section 2B.12](#)), may be used in advance of a school crossing to supplement the ground-mounted school warning signs. A 300 x 150 mm (12 x 6 in) reduced size AHEAD (W16-9p) plaque may be mounted below the reduced size in-street School Advance Warning (S1-1) sign.

Figure 7B-1 School Area Signs



Figure 7B-2 Examples of Signing for School Crosswalk Warning Assembly



Figure 7B-3 Examples of Signing for School Area Traffic Control with School Speed Limits



Figure 7B-4 In-Street Signs in School Areas



Section 7B.09 School Crosswalk Warning Assembly (S1-1 with Diagonal Arrow)

Standard:

If used, the School Crosswalk Warning assembly (see Figure 7B-1) shall be installed at the marked crosswalk, or as close to it as possible, and shall consist of a School Advance Warning (S1-1) sign supplemented with a diagonal downward pointing arrow (W16-7p) plaque to show the location of the crossing.

The School Crosswalk Warning assembly shall not be used at marked crosswalks other than those adjacent to schools and those on established school pedestrian routes.

The School Crosswalk Warning assembly shall not be installed on approaches controlled by a STOP sign.

Guidance:

The School Crosswalk Warning assembly should be installed at marked crosswalk(s), including those at signalized locations, used by students going to and from school (see Figure 7B-2) as determined by an engineering study.

Option:

The In-Street Pedestrian Crossing (R1-6 or R1-6a) sign (see Section 2B.12) may be used at unsignalized school crossings. When used at a school crossing, a 300 x 100 mm (12 x 4 in) SCHOOL (S4-3) plaque (see Figure 7B-4) may be mounted above the sign.

A 300 mm (12 in) reduced size School Advance Warning (S1-1) sign (see Figure 7B-4) may be used at an unsignalized school crossing instead of the In-Street Pedestrian Crossing (R1-6 or R1-6a) sign. A 300 x 150 mm (12 x 6 in) reduced size Diagonal Arrow (W16-7p) plaque may be mounted below the reduced size in-street School Advance Warning (S1-1) sign.

Standard:

If an In-Street Pedestrian Crossing sign or a reduced size in-street School Advance Warning (S1-1) sign is placed in the roadway, the sign support shall comply with the mounting height and breakaway requirements for In-Street Pedestrian Crossing (R1-6 or R1-6a) signs (see Section 2B.12)

The In-Street Pedestrian Crossing sign and the reduced size in-street School Advance Warning (S1-1) sign shall not be used at signalized locations.

Section 7B.10 SCHOOL BUS STOP AHEAD Sign (S3-1)

Guidance:

The SCHOOL BUS STOP AHEAD (S3-1) sign (see Figure 7B-1) should be installed in advance of locations where a school bus, when stopped to pick up or discharge passengers, is not visible to road users for a distance of 150 m (500 ft) in advance and where there is no opportunity to relocate the bus stop to provide 150 m (500 ft) of visibility.

Section 7B.11 School Speed Limit Assembly (S4-1, S4-2, S4-3, S4-4, S4-6, S5-1)

Standard:

A School Speed Limit assembly (see Figure 7B-1) or a School Speed Limit (S5-1) sign (see Figure 7B-1) shall be used to indicate the speed limit where a reduced speed zone for a school area has been established (in accordance with law based upon an engineering study) or where a speed limit is specified for such areas by statute. The School Speed Limit assembly or School Speed Limit sign shall be placed at or as near as practical to the point where the reduced speed zone begins.

Guidance:

The reduced speed zone should begin either at a point 60 m (200 ft) from the crosswalk, or at a point 30 m (100 ft) from the school property line, based on whichever is encountered first as traffic approaches the school.

Standard:

The School Speed Limit assembly shall be either a fixed-message sign assembly or a changeable message sign.

The fixed-message School Speed Limit assembly shall consist of a top plaque (S4-3) with the legend SCHOOL, a Speed Limit (R2-1) sign, and a bottom plaque (S4-1, S4-2, S4-4, or S4-6) indicating the specific periods of the day and/or days of the week that the special school speed limit is in effect (see Figure 7B-1).

Option:

Changeable message signs (see Sections 2A.07 and 6E.55) may be used to inform drivers of the special school speed limit. If the sign is internally illuminated, it may have white legend on a black background. Changeable message signs with flashing beacons may be used for the more critical situations, where greater emphasis of the special school speed limit is needed.

Guidance:

Even though it might not always be practical because of special features to make changeable message signs conform in all respects to the accepted standards, during the periods that the school speed limit is in effect, their basic shape, message, legend layout, and colors should conform to the standards for fixed-message signs.

A confirmation beacon or device to indicate that the speed limit message is in operation should be considered for inclusion on the back of the changeable message sign.

Appendix C

Option:

Fluorescent yellow-green pixels may be used when school-related messages are shown on a changeable message sign.

Changeable message signs may use blank-out messages or other methods in order to display the school speed limit only during the periods it applies.

Changeable message signs that display the speed of approaching drivers (see [Section 2B.13](#)) may be used in a school speed limit zone.

A Speed Limit Sign Beacon also may be used, with a WHEN FLASHING legend, to identify the periods that the school speed limit is in effect. The lenses of the Speed Limit Sign Beacon may be positioned within the face of the School Speed Limit (S5-1) sign (see [Figure 7B-1](#)).

A FINES HIGHER (R2-6) sign (see [Section 2B.17](#)) may be used to advise road users when increased fines are imposed for traffic violations in school zones.

Section 7B.12 Reduced Speed School Zone Ahead Sign (S4-5, S4-5a)

Option:

The Reduced Speed School Zone Ahead (S4-5, S4-5a) sign (see [Figure 7B-1](#)) may be used to inform road users of a reduced speed zone when engineering judgment indicates that advance notice would be appropriate.

Standard:

If used, the Reduced Speed School Zone Ahead sign shall be followed by a School Speed Limit sign or a School Speed Limit assembly.

The speed limit displayed on the Reduced Speed School Zone Ahead sign shall be identical to the speed limit displayed on the subsequent School Speed Limit sign or School Speed Limit assembly.

Section 7B.13 END SCHOOL ZONE Sign (S5-2)

Standard:

The end of an authorized and posted school speed zone shall be marked with a standard Speed Limit sign showing the speed limit for the section of highway that follows or with an END SCHOOL ZONE (S5-2) sign (see [Figure 7B-1](#)).

Section 7B.14 Parking and Stopping Signs (R7 and R8 Series)

Option:

Parking and stopping regulatory signs may be used to prevent parked or waiting vehicles from blocking pedestrians' views, and drivers' views of pedestrians, and to control vehicles as a part of the school traffic plan.

Support:

Parking signs and other signs governing the stopping and standing of vehicles in school areas cover a wide variety of regulations. Typical examples of regulations are as follows:

- A. No Parking X:XX AM to X:XX PM School Days Only;
- B. No Stopping X:XX AM to X:XX PM School Days Only;
- C. X Min Loading X:XX AM to X:XX PM School Days Only; and
- D. No Standing X:XX AM to X:XX PM School Days Only.

Sections [2B.39](#), [2B.40](#), and [2B.41](#) contain information regarding the signing of parking regulations in school zone areas.

[Back to Top](#)

Manual on Uniform Traffic Control Devices (MUTCD)



Knowledge

Figure 7B-3. Examples of Signing for School Area Traffic Control with School Speed Limits

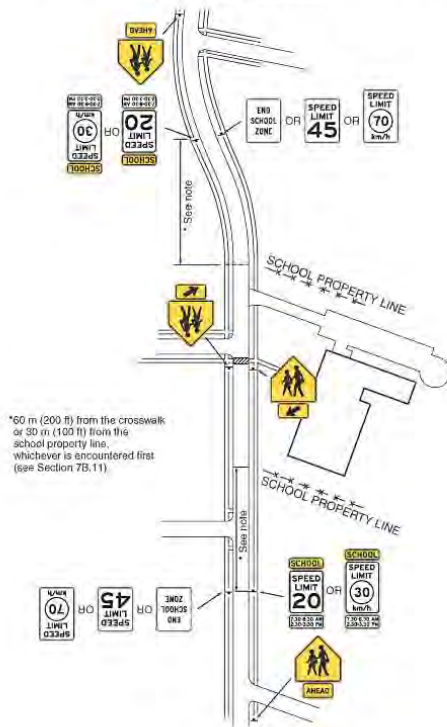


Figure 7B-3. Examples of Signing for School Area Traffic Control with School Speed Limits

This figure illustrates examples of signing for school area traffic control with school speed limits.

A vertical roadway with two-way traffic is shown with one T-shaped intersection at each end of the roadway to the right and two in the middle section to the left. Opposite the upper left-hand intersection, two rectangular shapes are shown on the east side of the roadway, representing school buildings. To the north and south of the school buildings are a row of "X"s and horizontal lines, representing the northern and southern school property lines.

At the bottom of the figure, a sign assembly is shown to the right of the vertical roadway in advance of a T-shaped intersection on the right and facing northbound traffic. An upward-pointing pentagon-shaped yellow sign with a black border and black symbols of two left-facing children walking is shown above a horizontal rectangular yellow plaque with a black border and the word "AHEAD" in black.

In advance of the lower left-hand intersection, a sign assembly is shown to the right of the roadway at a dimensioned distance in advance of the southern school property line and facing northbound traffic. The dimensioned distance is noted with an asterisk and "See note" indicating the note "60 m (200 ft) from the crosswalk or 30 m (100 ft) from the school property line, whichever is encountered first (see Section 7B.11)." This sign assembly is shown composed of a horizontal rectangular yellow plaque with a black border and the word "SCHOOL" in black above a vertical rectangular white sign with a black border and the words "SPEED LIMIT 20" in black mounted above a horizontal rectangular white plaque with a black border and the words "7:30-8:30 AM" and "2:30-3:30 PM" in black on two lines. To the right of this sign assembly, the word "OR" is shown and another sign assembly. This is shown as the same sign assembly but shows the words "30 km/h" instead of the numerals "20," with the numerals "30" in a black circle.

Just south of the upper left-hand intersection and opposite the school buildings, a horizontal rectangle with black and white diagonal stripes, representing a crosswalk, is shown on the vertical roadway. A sign assembly is shown to the right of the roadway on in advance of the crosswalk and facing northbound traffic. The sign assembly is shown composed of an upward-pointing pentagon-shaped yellow sign with a black border and black symbols of two left-facing children walking mounted above a horizontal rectangular yellow plaque with a black border and diagonal black arrow pointing down and to the left.

In advance of the upper right-hand intersection, a sign is shown to the right of the roadway at a dimensioned distance of beyond the northern school property line and facing northbound traffic. The dimensioned distance is noted with an asterisk and "See note" indicating the note "60 m (200 ft) from the crosswalk or 30 m (100 ft) from the school property line, whichever is encountered first (see Section 7B.11)." The sign is shown as a vertical rectangular white sign with a black border and the words "END SCHOOL ZONE" in black on three lines. To the right of this sign, the word "OR" is shown and another sign. This is shown as a vertical rectangular white sign with a black border and the words "SPEED LIMIT 45" in black. To the right of this sign, the same Speed Limit sign is shown but with the words "70 km/h" instead of the numeral "45," with the numeral "70" in a black circle.

On the left side of the roadway from the top to the bottom of the figure, the same series and placements of sign are shown facing southbound traffic.

[Back to Chapter 7B](#)



Appendix C

This page intentionally left blank.

Appendix D Safe Routes to School Resources

- National Center for Safe Routes to School
<http://www.saferoutesinfo.org/>
- FHWA Safety Information
<http://safety.fhwa.dot.gov/saferoutes/>
- Safe Routes to School National Partnership
<http://www.saferoutespartnership.org/>
- Indiana Department of Transportation Safe Routes to School
<http://saferoutes.in.gov>
- Safe Routes to School Portland OR
<http://www.portlandonline.com/transportation/index.cfm?c=40511>
- Safe Routes to School Marin County: <http://www.saferoutestoschools.org/>
- SRTS curriculum – from the Bicycle Federation of Wisconsin
http://www.bfw.org/education/index.php?category_id=3880&subcategory_id=5306
- Keep Kids Alive, Drive 25 <http://www.keepkidsalivedrive25.org>
- Be Bright Be Seen <http://www.kentroadsafety.info/walksafe/bebrightbeseen.php>
- No Idling Campaign <http://www.pscleanair.org/actions/vehicles/schools.aspx>

Appendix D

This page intentionally left blank.

Appendix E SRTS Fun Facts for BCSC School Newsletters

The following facts and statistics have been collected for the Bartholomew Consolidated School Corporation Safe Routes to School Plan. They are intended to be submitted for use in individual school newsletters. The Safe Routes to School Committee will contact the individual schools included in the plan to determine their newsletter deadline and provide them with ready-to-publish information throughout the school year.

Except where otherwise noted, the following are based on research summarized by the National Center for Safe Routes to School. More information, including primary sources, can be found at <http://guide.saferoutesinfo.org>.

- In 1969, half of all US schoolchildren walked or biked to school; by 2009, that number had dropped to just 13 percent.
- In the United States, 31 percent of children in grades K–8 live within one mile of school; 38 percent of these children walk or bike to school. You can travel one mile in about 20 minutes by foot or six minutes by bicycle.
- Families that walk two miles a day instead of driving will, in one year, prevent 730 pounds of carbon dioxide from entering the atmosphere.⁹
- The U.S. Department of Health and Human Services recommends that children do one hour or more of physical activity each day. Walking just one mile each way to and from school would meet two-thirds of this goal.
- Studies have found that children who get regularly physical activity benefit from healthy hearts, lungs, bones and muscles, reduced risk of developing obesity and chronic diseases, and reduced feelings of depression and anxiety.¹⁰ Teachers also report that students who walk or bike to school arrive at school alert and “ready to learn.”
- Parents driving children to school can account for up to 25 percent of morning commute traffic.
- Did you know that modern cars don’t need to idle? In fact, idling near schools exposes children and vehicle occupants to air pollution (including particulates and noxious emissions), wastes fuel and money, and increases unnecessary wear and tear on car engines.¹¹ If you are waiting in your car for your child, please don’t idle – you’ll be doing your part to keep young lungs healthy!
- Researchers have found that people who start to include walking and biking at part of everyday life (such as the school commute trip) are more successful at sticking with their increased physical activity in the long term than people who join a gym.¹²

⁹ Source: American Hiking Society

¹⁰ Source: US Department of Health and Human Services

¹¹ Source: Environmental Protection Agency

¹² Hillsdon M. RCTs of physical activity promotion in free living populations: a review. J Epidemiol Community Health, 1995

Appendix E

- One recent study showed that children who joined a “walking school bus” ended up getting more physical activity than their peers. In fact, 65% of obese students who participated in the walking program were no longer obese at the end of the school year.¹³
- One hundred calories can power a cyclist for three miles, but it would only power a car 280 feet.¹⁴ If you have a bowl of oatmeal with banana and milk for breakfast, you could bike more than nine miles. How far is the trip to school from your house?
- Did you know that as more people bicycle and walk, biking and walking crash rates decrease? This is also known as the "safety in numbers" principle.¹⁵ As more families walk and bike to school, streets and school zones become safer for everyone.

¹³ Source: <http://apha.confex.com/apha/139am/webprogram/Paper234940.html>

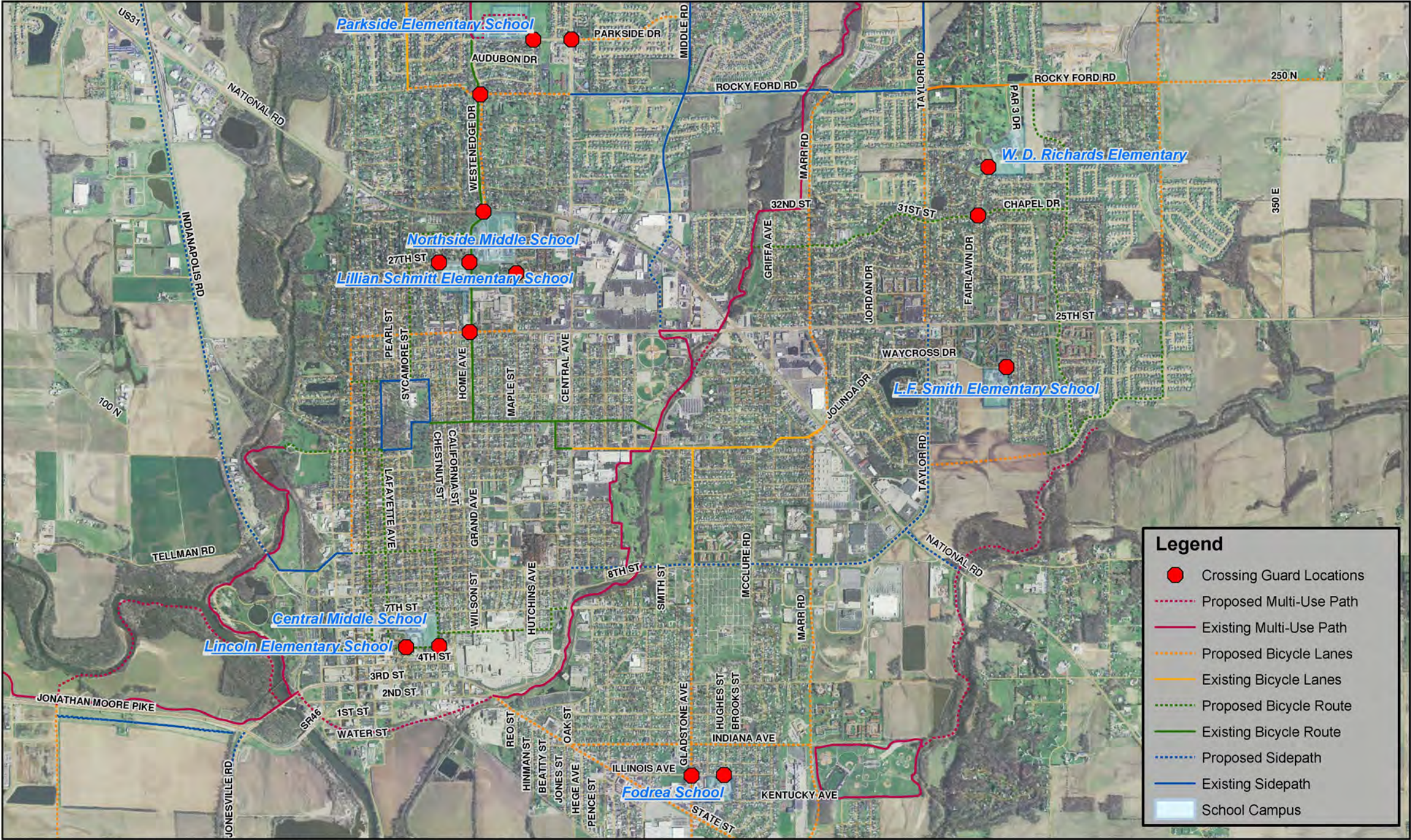
¹⁴ Source: <http://www.exploratorium.edu/cycling/humanpower1.html>

¹⁵ Source: Peter Jacobsen, Safety in Numbers

Appendix F Crossing Guard Locations Map

Appendix F

This page intentionally left blank.



Map F-1: Crossing Guard Locations 2010/2011 School Year

Bartholomew Consolidated School Corporation Safe Routes to School Plan
Source [IndianaMap]
Date: 2-23-2012

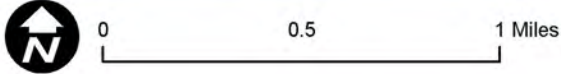


Figure F-1. Crossing Guard Locations Map

Appendix F

This page intentionally left blank.