West Lafayette Safe Routes to School

Final Report 01.19.10

Prepared By:

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engineering

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Section One - Executive Summary

Introduction

Most everyone can agree that having safe routes for children to get to school is essential. We all want our children to be safe. The issue divides when you ask "What is a safe route?"

While there remain a large number of children in West Lafayette who still walk or bicycle to school, others chose to ride the bus because of distance to school, and others are driven to school by their parents. The choice of which route to follow often centers on worries of child abduction and concerns about crossing busy streets. For schools, the choice revolves around liability. No school wants to see a child injured or abducted in their jurisdiction, and so many schools chose to discourage walking and biking to school.

While traffic and abduction are risks that must be acknowledged and addressed, the response often exaggerates the risk. The fewer children that walk to school mean that there is no longer safety in numbers. And as traffic increases, more parents chose to drive their children to school - making traffic an even larger obstacle – especially in the areas immediately around schools.

For these reasons, communities across the country are re-embracing walking and bicycling, in conjunction with a busing system, as the preferred means for children to get to school. West Lafayette is one of those communities that is actively pursuing walking and bicycling. To help prepare for this change in direction, the community has commissioned this plan to guide them through the process of developing a safe walking and bicycling to school program.

Walking and Bicycling to School in West Lafayette

While growth in many communities has caused them to sprawl and not be able to keep up with infrastructure, West Lafayette remains a fairly compact community, with a good sidewalk network and centrally located schools. All of these factors are essential to being able to walk and bike to school.

Desiring to see an increase in the number of children walking and bicycling to school and to make it safer for those students to walk and bike, the community applied for and received a grant from the Indiana Department of Transportation to fund this plan.

As planning started, the community leaders remarked that busing was still relatively new in West Lafayette. Until busing was phased into the community beginning in the mid 1980's, most children walked to school.

With memories of walking and bicycling to school still in many minds, and the basic infrastructure in place, planning discussions quickly moved from fears (abduction, liability, traffic) to the opportunity that walking and bicycling provides.

These leaders cast a bold vision for the future. They envision not just helping a few more children to walk to school, but to establish a

Crosswalk near Happy Hollow Elementary School. Source: HWC

"culture of walking and bicycling" in the community. In contrast to today's culture where we instinctively grab the car keys even for trips just around the corner, a walking and biking culture implies that we make a choice for each trip on whether to walk, bike or drive. A walking a biking culture relies less on the personal car for travel, involves walking/biking for commuting to work, encourages children to walk/bike to school, and uses mass transit during inclement weather. This vision offers significant benefits to children and the community alike, including:

- **Health:** A choice to walk or bicycle helps to make our children and the entire community healthier. Establishing habits of walking and bicycling during childhood will provide lifelong benefits.
- **Social:** Walking and bicycling helps parents and children spend more time together and helps encourage interaction between neighbors. Studies also show that when children have their social time while walking, biking or on the bus before school – that they are more focused at school and make better grades.
- **Environmental:** More walking and biking results in fewer cars on the road and ultimately reduced vehicle emissions. This benefits all, and especially children with asthma and other breathing difficulties.
- **Safety:** The more people who walk and bike means there will be more people on the street, and in turn works to deter crime. Fears of child abduction are also reduced because there are more people on the streets. Reducing the number of cars further reduces traffic and makes it safer for children to walk to school, walk to bus stops, and to cross streets. It also creates a culture of walking in which motorists are more respectful of pedestrians.

Road Map to a Walking and Biking Culture

Achieving the vision of this plan will take a long term, cooperative effort between the City of West Lafayette, the West Lafayette Community School Corporation and the community. Toward that end, this plan outlines a series of strategies to help realize this vision. Specifically, this plan incorporates many strategies recommended by the National Center for Safe Routes to Schools (SRTS) and ideas used by the communities across the nation

West Lafayette's Safe Routes to Schools Vision

Walking/Biking Culture

West Lafayette should work to establish a community culture of walking and biking in order to achieve the associated health, environmental, safety and social benefits. As part of this, the City and the School Corporation will partner to promote policies and practices that encourage students to walk or bike to school year-round. We should teach our children how to safely navigate their way to school with increasing independence and confidence.

Busing and Carpooling

Busing and carpooling will be encouraged whenever parents chose not to have their children walk or bike to school. Policies will discourage individual student pick-up/drop-off because of air quality impacts associated with vehicle emissions and safety concerns associated with passenger car congestion within school zones.

Community Awareness

The West Lafayette community has a shared responsibility for the safety of our children in route to schools – whether within school zones, at bus stops, in a bus or carpool or while walking/biking to school. The City and the School Corporation will partner to enforce safe driving habits and neighborhood watch programs for whenever children are travelling to schools. Implementing this will require an outreach effort to educate the community on shared responsibilities, particularly directed to motorists and families.

who have participated in the program. SRTS programs employ education, encouragement, enforcement and engineering strategies in their efforts to make walking and biking safer, and to encourage the number of children who walk and bike to school.

A summary of the strategies in this plan in each of these areas follows:

Education: These strategies focus on teaching children and parents how to safely walk and bicycle to school. Additional education strategies are targeted to drivers and neighbors around school zones to educate them on unsafe behaviors related to pedestrians and bicyclists. Education strategies described in this plan include:

For Children, Parents and Teachers

- Incorporate walking/bicycling/bus safety into school curriculum.
- Educate students on bicycle safety with events such as a bicycle rodeo.
- Host SRTS events throughout the year.
- Use the parent council as a way to get the SRTS message out to parents and the community.
- Provide parents with information about ways to make walking/bicycling safer for children including travel routes, walking school bus information, and information on the benefits of doing so.
- Provide SRTS educational information on local websites like the WLCSC and the City of West Lafayette.
- Provide parents with handouts at the beginning of school on pick-up/drop-off procedures and safety.

For Drivers and Neighbors

- Develop media campaign to increase awareness of bicycle and pedestrian safety.
- Set up speed sensors in school zones.
- Involve neighbors in SRTS process.
- Implement awareness campaign directed at Purdue University students.

For Law Enforcement, Bus Drivers and Crossing Guards

- Provide annual training to law enforcement personnel, bus drivers, crossing guards and others involved in traveling to school and monitoring the process.

Enforcement: These strategies identify and work to correct unsafe behaviors by students, parents and drivers in the community. Enforcement strategies outlined in this plan include:

Law Enforcement Strategies:

- Implement special enforcement efforts to bring public attention to pedestrian and bicycle safety.
- Install speed trailers in school zones.
- Construct permanent active speed monitors at key locations.
- Initiate a traffic complaint/speed watch hot line.
- Conduct “pedestrian decoy” special en-

Bike racks at Cumberland Elementary.
Source: HWC

forcement programs at dangerous intersections.

- Continue use of adult school crossing guards.
- Emphasize speed enforcement in school zones.

Community Enforcement Strategies:

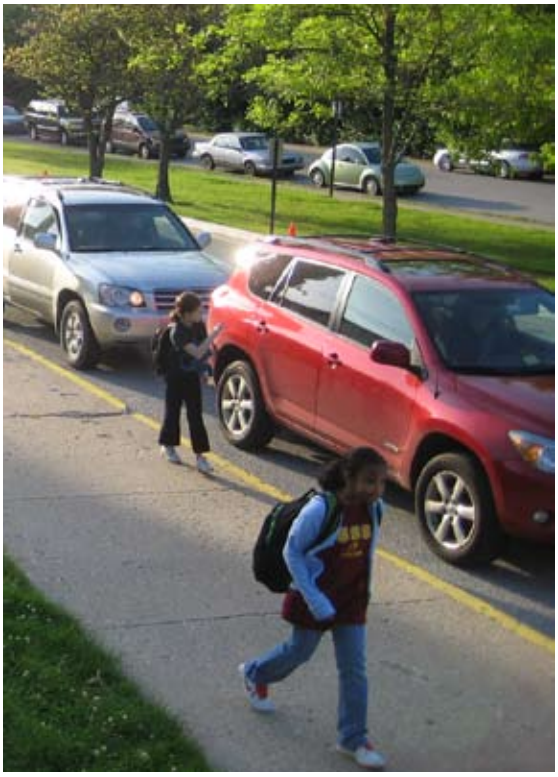
- Involve media in pedestrian/bicycle safety campaign.
- Develop and implement self-produced walking/bicycling safety campaign..
- Continue use of student safety patrols where appropriate.

Encouragement: Encouragement strategies generate excitement about the opportunity to walk and bicycle to school, and create opportunities to do so. Encouragement strategies outlined in this plan include:

- Conduct special events to celebrate walking and biking to school. Two or three events per year are recommended.
- Conduct International Walk to School day event annually.
- Begin a mileage club or implement other walking contests.
- Establish supervised walking to school programs such as walking school buses and bicycle trains.
- Develop park and walk programs.
- Schedule on-campus walking activities.

Engineering: Engineering strategies are related to providing the physical infrastructure needed to walk and bike to school such as sidewalks and crosswalks. Engineering strategies outlined in this plan include:

- Construct short term sidewalk and/or crosswalk improvements as prioritized.
- Construct long term sidewalk and/or crosswalk improvements as prioritized, and as funding allows.
- Evaluate and improve street lighting along walking/bicycling routes and around bus stops.
- Upgrade flashing lights within school zones.
- Construct improvements to make pedestrian/bicycle crossings at US 52 safer.
- Establish program of considering pedestrian and bicycle accommodations on all future city projects.



Drop-off lane at Happy Hollow Elementary. Source: HWC

Section Two - Introduction

Overview

Starting a Safe Routes to School (SRTS) program in West Lafayette is an opportunity to make walking and bicycling to school safer for children and to increase the number of children who choose to walk and bicycle. On a broader level, the SRTS program can enhance children's health and well-being, ease traffic congestion near the school, and improve air quality and improve community members' overall quality of life.

Today there is a need to provide options that allow children to walk and bicycle to school safely. Many communities struggle with traffic congestion around schools and motor vehicle emissions polluting the environment. At the same time, children in general engage in less physical activity, which contributes to the growing epidemic of obesity. At first glance, these problems may seem to be separate issues, but Safe Routes to School (SRTS) programs can address all these challenges through a coordinated action plan. This SRTS program will use a variety of education, engineering, and enforcement strategies that help make routes safer for children to walk and bicycle to school and encouragement strategies to entice more children to walk and bicycle.

Funding for this Project

A Safe Routes to Schools grant from the Indiana Department of Transportation (INDOT) helped to fund this planning project. In addition to providing funds for planning, the grant also provides funds for educational/promotional materials for the program.

Elements of Safe Routes to School Programs

Communities use many different approaches to make it safer for children to walk and bicycle to school and to increase the number of children doing so. National SRTS programs recommend following the "4 E's" as implementation strategies. These include a combination of Education, Encouragement, Enforcement and Engineering activities to help achieve walking and bicycling goals. The following information introduces these basic elements of a Safe Routes to School (SRTS) program.

Education

Education activities target parents, neighbors and other drivers in the community to remind them to yield to pedestrians, to drive safely and to take other actions to make it safer for pedestrians and bicyclists. Parents serve as role models for their children and play an important part in teaching them pedestrian and bicycle safety. Education activities also teach students how to walk and bicycle safely and the benefits of doing so.

Encouragement

Encouragement strategies generate excitement about walking and bicycling safely to school. Children, parents, teachers, school administrators and others can all be involved in special events like International Walk to School Day in October of every year and ongoing activities like walking school buses. Encouragement strategies can often be started relatively easily with little cost and a focus on fun.

Multi-use paths are part of walking and biking routes to school. Source: HWC

Open House - September 9, 2009. Source: HWC

Enforcement

Enforcement activities can help to change unsafe behaviors of drivers, bicyclists and pedestrians. They can increase driver awareness of laws, and they also can improve driver behavior by reducing speeds and increasing yielding to pedestrians. In addition, enforcement activities teach pedestrians and bicyclists to walk and bicycle safely and to pay attention to their environment. Enforcement doesn't just involve law enforcement. Many different community members take part in making sure everyone follows the rules, including students, parents, school personnel and adult school crossing guards.

Engineering

Engineering addresses the built environment with tools that can be used to create safe places to walk or bicycle and can also influence the way people behave. Transportation engineers, city planners and architects use methods to create safer settings for walking and bicycling while recognizing that a roadway needs to safely accommodate all modes of transportation. Such improvements can include maintenance and operational measures as well as construction projects with a range of costs. When such programs are properly implemented, they may not only improve safety for children, but they also may encourage more walking and bicycling by the general public.

Planning Process

Planning West Lafayette's SRTS plan began in the spring of 2009. Efforts and process included the following:

- Surveys: Surveys were collected toward the end of the 2007-2008 school year regarding walking and bicycling. These surveys identified how many children walk/bike to school and how, and what barriers parents felt prevented their children from walking/biking to school. Surveys were compiled and reviewed as part of this process. Online surveys were also obtained in conjunction with the public meeting for the process.

- Field Evaluations: Walkthroughs of the school zones were completed in May of 2009, and again in the fall of 2009 to observe walking, biking and driving patterns in the community and around school zones.

- Steering Committee: A steering committee was appointed to oversee the process and guide decision making. The committee consisted of city officials, police officers, school administrators, principals, parents and other community leaders. The committee met on approximately a monthly basis through the process. Drafts of the plan were reviewed by the committee.

- Focus Groups: Community members were invited to attend focus group meetings to discuss elements of the plan, and to solicit additional input into the plan. School Board members and parent focus groups were conducted.

- Public Workshop: A public workshop was held on September 9, 2009 at the West Lafayette City Hall to discuss barriers to walking and biking, to solicit input on the early vision for the plan, and to identify infrastrucuture improvements that would encourage walking and bicycling.

- Public Hearing: Copies of the draft plan were made available for public comment, and were presented at a public meeting.

- Adoption of Plan: Final copies of the plan have been distributed to the School Corporation, City Engineer's Office, Police Department, Area Plan Commission, West Lafayette Traffic Commission, West Lafayette Bike-Pedestrian Committee and other community agencies.

Benefits of SRTS

Benefits of SRTS include:

- **Exercise** - Walking provides a chance for everyone to take part in regular exercise. Evidence shows that more active children are likely to become more active adults. *Just a 15 minute journey to and from school can contribute to half the daily recommended exercise for children,* according the Pedestrians Society.
- **Safety** - Adults supervise a large and visible group safely to school.
- **Road Sense** - Children learn pedestrian skills for dealing with traffic.
- **Socializing** - Children talk and make new friends during the walk. Kids are ready to learn at school because they've had a chance to chat. Children can also encourage other children to walk/bike with them to school through positive peer pressure.
- **Environment** - Foot journeys reduce traffic around schools, reduce air pollution, and improve the local environment.
- **Easy Breathing** - Research proves that walks expose people to less air pollution than short journeys by car.

Barriers to SRTS

While SRTS offers significant benefits, the reality is that there are many limitations that must be addressed in order to have an effective safe routes to schools program. First, there must be adequate sidewalks, crosswalks and related infrastructure to allow students to walk and bike to school. Second, there are cultural barriers. This includes our culture's reliance on the personal automobile for most trips. Third, there are a number of safety concerns – such as crossing busy streets, traffic congestion in school zones, and concerns about child abduction. Finally, there are other physical limitations. Those include weather conditions, lack of adequate lighting during winter months, and related issues. Each of these issues must be fully addressed in the final plan to improve walking and bicycling in the community.

Recommendations for Next steps

Around the country, communities are conducting Safe Routes to School (SRTS) programs in order to enable and encourage children to walk and bicycle safely to school. Communities tailor a combination of engineering, education, encouragement, and enforcement strategies to address the specific needs of their schools.

Open House - September 9, 2009. Source: HWC

The implementation plan, found later in this document, is the combination of strategies recommended by HWC to see that the SRTS program is fully implemented by schools.

Evaluation is also an important component of any SRTS program. Evaluation is used to determine if the aims of the strategies are being met and to assure that resources are directed toward efforts that show the greatest likelihood of success. Also, evaluation can identify needed adjustments to the program while it is underway. The information found later in this document describes how to conduct a SRTS program evaluation that is tailored to that program's objectives and strategies.

National Center for Safe Routes to School - www.saferoutesinfo.org

This program provides significant resources for communities working on SRTS plans. Resources include recommended pactices, reference libraries and case studies from other communities. to Traffic "obstacle courses" can be created to help children navigate simulated situations to improve their skills. Materials developed by this group have been relied upon in the development of this plan.

Section Three – Community Overview

Overview of West Lafayette Schools

Public schools in the City of West Lafayette are under the jurisdiction of the West Lafayette Community School Corporation (WLCSC). The WLCSC operates three schools. Cumberland Elementary School is located on Cumberland Avenue on the north side of the community and serves kindergarten through third grade. Happy Hollow Elementary is located east of Salisbury Street on the south side of the community. It serves fourth through sixth grades. The Jr./Sr. High School is located west of Grant Street on the south side of the community and accommodates seventh grade and up.

It is noted that the grant used to fund this project is specifically limited to kindergarten to the eighth grade. While discussions in this plan are targeted toward that age group, it is difficult to distinguish between the Jr./Sr. High School since they are physically in the same building. Therefore, for the purposes of this plan, discussions will refer to both the Jr./Sr. High School – but with the understanding that programs are limited to the eighth grade.

A maps of school locations is provided on page 12.

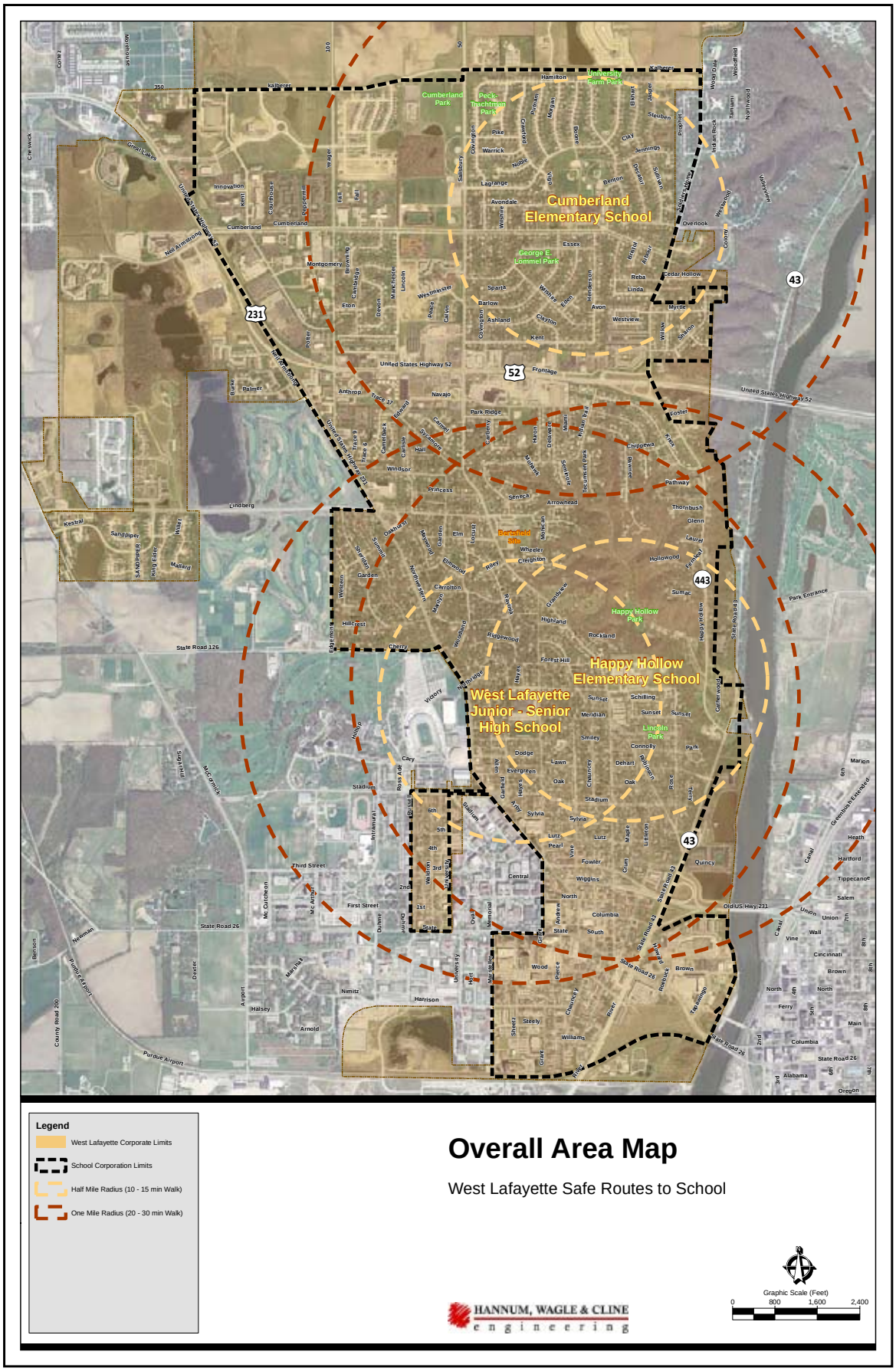
Demographics Overview

While it is not the intention of this report to provide a full demographics analysis, a few key observations related to demographic information should be considered during planning. Nonetheless, it is noted that City demographic information has not been heavily relied on during this plan since most census data was nearly 10 years old.

Key observations follow:

- Enrollment for the 2008-2009 school year was 590 at Cumberland, 446 at Happy Hollow and 1,026 at the Jr./Sr. High School. Enrollment has been relatively stable for many years, but has recently shown an increase.
- The presence of Purdue University means there is a diverse ethnic background in the student body at each of the schools. Planning for walking and biking needs to consider these groups.
- The 2008 estimated population of the City of West Lafayette was 30,847.
- Population estimates for the City are up 7.3 percent since 2000.
- The school corporation serves a number of students outside City on a tuition basis. While they may not be close enough to participate in walking and biking, such students would benefit from discussions about carpooling as a route to school.

Bike lane along Salisbury Street near Happy Hollow Elementary. Source: HWC



Overall Area Map with walking distances. Source: HWC

Section Four - Vision

Introduction

A vision statement is a vivid idealized description of a desired outcome that inspires, energizes and helps create a picture of a goal. Throughout the process of developing this SRTS program, HWC heard repeatedly that West Lafayette already had a good infrastructure and somewhat of a walking/biking culture. The challenge was to improve conditions around the city even more, and to expand the SRTS program to those families who currently could let their children walk/bike/carpool to school but do not.

The following vision statements reflect the community's emphasis on walking/biking:

Safe Routes to School Day 2009. Source: HWC

Vision statements:

Walking/Biking Culture

West Lafayette should work to establish a community culture of walking and biking in order to achieve the associated health, environmental, safety and social benefits. As part of this, the City and the School Corporation will partner to promote policies and practices that encourage students to walk or bike to school year-round. We should teach our children how to safely navigate their way to school with increasing independence and confidence.

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Section Five - Barrier Analysis

Introduction

The circumstances that have led to a decline in walking and bicycling to school did not happen overnight and have created a self-perpetuating cycle. As motor vehicle traffic increases, parents become more convinced that it is unsafe for their children to walk or bicycle to school. They often begin driving them to school, adding even more traffic to the road and sustaining the cycle. Understanding the many reasons why so many children do not walk or bicycle to school is the first step in interrupting the cycle.

At the same time, physical limitations provide very real barriers to walking and bicycling to school. Lack of sidewalks and related physical infrastructure make it unsafe for many students to walk and bike. Other physical conditions such as lack of daylight and weather conditions play a role in the decision to walk and bike.

The U.S. Centers for Disease Control and Prevention has published the findings from two nationwide surveys of parents that identify barriers that prevent them from allowing their children to walk to school. In the 2004 survey, 1,588 adults answered questions about barriers to walking to school for their youngest child aged 5 to 18 years. Parents cited one or more of the following six reasons:

In 2007, surveys were sent home to the parents of students within the West Lafayette Community School Corporation (WLCSC). The results were similar to the nationwide survey findings, with distance being seen as the primary barrier. Other barriers more specific to West Lafayette included busing, sidewalks, crosswalks, weather, and major roads. Tabulations of the surveys can be found in the Appendix.

Physical Infrastructure

Before children can be expected to walk and bicycle to school, basic infrastructure such as sidewalks and crosswalks must be provided. A thorough discussion of this subject can be found in Section Nine of this report, but a brief summary follows.

Sidewalks

Generally, sidewalks in West Lafayette are numerous and in good condition, and the community responded favorably to the current state of the sidewalks. A preliminary sidewalk analysis was conducted and some sidewalks were found that needed improvements to increase pedestrian safety and utility. While there are sidewalks missing on a few major roads, the lack of sidewalks was most prevalent in neighborhoods.

Barriers to Walking and Biking

Barrier	Percentage of Parents Identifying with the Barrier
Distance to School	61.5%
Traffic Related Danger	30.4%
Weather	18.6%
Crime Danger	11.7%
Opposing School Policy	6.0%
Other	15.0%

Source: Centers for Disease Control and Prevention. www.cdc.gov/mmwr/preview/mmwrhtml/mm5438a2.htm

Congestion at the Intersection of Salisbury and US 52. Source: HWC

Dismissal Time Congestion at the Jr./Sr. High School. Source: HWC

Arrival Time Congestion at Happy Hollow Elementary. Source: HWC

Crosswalks and Four-way stops

One of the important issues to address is to provide well-marked crosswalks so students can cross streets at proper locations. This is especially important at the major roads and intersections.

Major Roads

The issue most commented on in the parent surveys was the danger of crossing major roads. Roads most noted were US 52, Salisbury, and Northwestern. Speeding on major busy neighborhood roads such as Ravinia Road was also cited as a significant concern by the Steering Committee and attendees at the Open House.

Methods to make crossings safer along these routes are discussed in the Engineering Section of this document.

Physical Safety Concerns

In the late 1960s, 87% of children who lived within a mile of their school walked or biked but only 63% of such kids did in 2001.[1] Parental input indicated that parents drive their kids to school to save time but then spend five to ten minutes or more circling the schools to find a safe place to drop their kids off. Community members repeatedly noted in the planning process that many parents drop their children off outside of the designated drop off areas, drive too fast within drop off areas, and ignore the safety instructions provided to them by the schools. Of the children hit by cars near schools, 50% are hit by vehicles driven by parents of other students, according to the National Highway Traffic Safety Administration.[2] Driving to school has so thoroughly penetrated our consciousness that school "arrival" and "dismissal" times have been renamed "drop-off" and "pick-up" hours.

[1]Source: http://www.saferoutesinfo.org/guide/introduction/the_decline_of_walking_and_bicycling.cfm

[2] Source: http://www.saferoutesinfo.org/guide/introduction/the_decline_of_walking_and_bicycling.cfm

Congestion

Some parents were reluctant to allow their children to walk or bicycle to school due to the traffic congestion and perceived traffic danger during student arrival and dismissal. This results in more parents driving their children to school, which adds to the extra congestion and safety problems at the school, creating an increasing cycle of more traffic problems and less walking. By improving the drop-off and pick-up process, traffic conditions become safer for all, including pedestrians and bicyclists. Better organized and safer traffic conditions will ease the concerns of parents, making them more willing to allow their children to walk or bicycle.

Child Abduction

Parental concerns about safety sometimes also had to do with concerns about child abduction. While a legitimate concern that must be addressed, child-abduction fears are sometimes exaggerated by the community's response. Parents will not let their children walk because of safety concerns, but often it is not safe because there are not enough children walking. Several parents indicated that they would let their children walk to school if they were part of a group supervised by a parent, perhaps with the "walking school bus" system. There is safety in numbers.

Weather Conditions[3]

While the weather has not changed much since a generation ago when so many children walked or biked, adverse weather was the third most frequently cited reason in the national survey parents gave for not allowing their children to walk to school. It was also cited frequently in the input gathered as part of this study. Identifying weather as a barrier could be reflective of contemporary social norms in the United States, where people are accustomed to driving for almost every trip. This makes it easy to forego walking and jump in the car at the first sign of cold, rain or heat. Nevertheless, Safe Routes to School efforts have been launched in areas with all kinds of weather, from cities across Canada to Chicago, Illinois; Minneapolis, Minnesota; and Arlington, Massachusetts.

[3] Source: http://www.saferoutesinfo.org/guide/introduction/the_decline_of_walking_and_bicycling.cfm

Daylight & Lighting

Daylight hours and street lighting were mentioned frequently in the feedback received. During the winter months there is limited daylight in the morning while the students are walking, especially from October to March.

Arrival times for the various schools are as follows:

School Arrival Times

School	School Begins
Cumberland Elementary	8:45 am
Happy Hollow Elementary	8:00 am
Jr./Sr. High School	8:05 am

In West Lafayette, it is daylight before 8am for most of the year. Therefore, students at Cumberland Elementary School have at least 30 minutes to walk or bicycle to school year round after sunrise.

Walking in with an adult reduces the risk of child abduction. Source: HWC

At Happy Hollow and the Jr./Sr. High School, arrival times of about 8:00 am mean that students will be traveling to school in at least partial darkness several months out of the year. This includes: October before daylight savings time begins and then December through February. By March, there generally is enough daylight again for students to have 30 minutes to walk or bike to school after sunrise.

These months of darkness during arrival times fall during the winter when there is usually a significant decrease in the number of students that walk and bike to school. Nonetheless, effort should be made to provide street lighting on at least the main routes to school surrounding Happy Hollow and the Jr./Sr. High School.

In addition to those walking and bicycling to school, students riding the bus need to walk to the bus stop during darkness for several months of the year as well. Therefore, lighting is not just needed along walking routes near these schools, but also within neighborhoods throughout the school district.

It is also appropriate to note here that Happy Hollow Elementary has a popular music program in which as many as 40 percent of students participate each year. Students practice in the mornings before school beginning at 7:00 am, with a different program practicing most days of the week. With darkness until 7 or later for most of the school year, students participating in these programs that chose to walk will have to do so in the dark. Parents with children in the music program noted concerns about walking to school in the dark, especially since there are fewer students out at this time of day.

Terrain

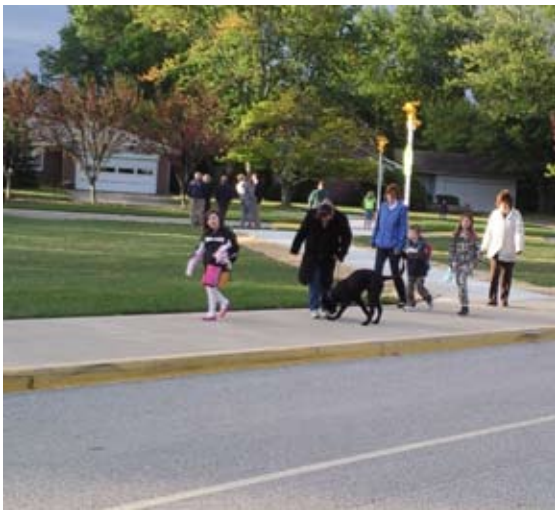
There is a variety of topography in West Lafayette. Areas around Cumberland Elementary School are relatively flat, and therefore agreeable for walking and bicycling – especially for younger students.

Around Happy Hollow and the Jr./Sr. High School, the area has hilly topography. Not only does this make it less convenient for walking and bicycling, hills also cause low visibility on many streets. Even more, the hilly topography made it expensive to build sidewalks when neighborhoods were built, meaning that many streets have blind hills on them where students are walking in the streets.

Distance

Distance is the most common barrier referenced as preventing students from walking and biking to school. Based on the surveys received from the parents of both Cumberland Elementary and Happy Hollow Elementary school, most children will walk or bike a half-mile to school. Some students walked be-

8:00 am Arrival at Happy Hollow Elementary - October 7, 2009. Source: HWC



8:45 Arrival at Cumberland Elementary - October 7, 2009. Source: HWC

tween a half-mile and a mile. Surveys did not indicate any students that walked over one mile to school. The map on page 12 includes the location of the schools and a radius of one-half mile and one mile from each school – showing acceptable walking distances.

Part of the limitation is that elementary schools are organized by grade, and not by neighborhood location. Cumberland Elementary serves kindergarten through third grade, while Happy Hollow Elementary serves fourth through sixth grades. This means that students that live near Cumberland Elementary are well suited for walking to school during early grades, but will generally be outside of walking distance when they are promoted to Happy Hollow. The reverse is also true. Many parents indicated in the surveys their children used to walk to school when it was nearby, but now that the students attended another school they lived too far away.

Busing

Busing for students is still considered by many to be a "new" service in West Lafayette. Busing was not provided for students the mid 1980's. Today, the WLCSC uses a combination of school buses, which they own, and CityBuses, which they lease, to provide students who live more than a half-mile away from their school with transportation. Those students may also find other means of getting to school, like having a parent drive them or carpooling.

Liability

Although liability was not voiced as a concern in the input gathered in the planning process, many cities and school corporations worry about the liability issues associated with letting children walk to school. In those situations, and especially in high-growth suburban areas, the layout of roads, lack of sidewalks and volume of traffic do present liabilities for walking and biking to schools.

For West Lafayette, much of the community is provided with sidewalks and infrastructure that supports walking and biking. And, when crossing guards are provided at major roadways, there is less liability than in many suburban communities that have fears about walking and biking to school.

Nonetheless, *liability exists in some form for virtually all modes of transportation.* Liability alone should not be cited to avoid enacting a SRTS program. The Federal Highway Administration has stated that SRTS doesn't necessarily increase liability, it simply redistributes it. In some instances, an SRTS program will reduce overall liability. SRTS provides an opportunity to evaluate the entire student travel "system" of the physical environment and school policies. While designing a SRTS program, communities can identify gaps in their travel system that otherwise may have gone

Hill on Leslie Street Near Happy Hollow Elementary. Source: HWC

The Flat Terrain Around Cumberland Promotes Bicycling. Source: HWC

unnoticed. One major point of developing a SRTS program is to identify existing safe walking & biking environments and to fix those environments that are currently unsafe. Failure to make capital improvements is a common allegation in issues of liability.

Strategies to Overcome Barriers

The following sections of this report outline various strategies to overcome the barriers identified in this plan. The following table provides a summary of each barrier along with strategies found elsewhere in this plan to address the barriers.

Table of Strategies to Overcome Barriers

Barrier Category	Barrier	Potential Strategies
Physical Infrastructure	Lack of Sidewalks	Construct new sidewalks – see Section 9 for recommended locations
	Crosswalks and Four Way Stops	Improve unsafe crosswalks and intersections – see Section 9 for recommended locations.
	Major Roads	Traffic enforcement – See Section 7 for recommended strategies.
Physical Safety	Traffic Congestion	Traffic enforcement – See Section 7 for recommended strategies.
	Child Abduction	Walking school buses – See Section 8 for implementation options.
	Weather Conditions	Walking school buses – See Section 8 for implementation options.
	Daylight and Lighting	Walking school buses – See Section 8 for implementation options.
Terrain	Terrain	Construct new sidewalks – see Section 9 for recommended locations.
Distance	Distance	Bike Train – See Section 8 for implementation options.
Liability	Liability	Walking school buses, bike trains, park and ride – See Section 8 for implementation options.

Section Six - Education Strategies

Introduction

The safe routes to schools program includes four complimentary strategies for encouraging more students to walk and bicycle to school and to make it safer to do so. These strategies include education, encouragement, enforcement and engineering. In this and the following sections of this plan, each of these strategies is introduced – and specific recommendations are made for how to apply them in the West Lafayette Community.[1]

Overview of Education Strategies

Education strategies are intended to increase community awareness of walking and bicycling issues, and to teach students and the community associated safety skills. Education strategies should:

- Bring awareness to SRTS efforts and goals.
- Educate students and the community on pedestrian and bicycle safety skills.
- Educate students and the community on traffic safety issues.

Education strategies do not just target students. Instead, creating a community culture of walking and bicycling will require a number of different audiences to be reached with the SRTS message. These groups include:

- Children
- Parents
- Drivers
- Neighbors
- Purdue Students
- Law Enforcement Staff
- School Personnel

[1] Strategies in this section are adapted from the SRTS Guide – Education. www.saferoutesinfo.org/guide/

While some messages can be directed to all audiences, there are many groups that require particular attention. Notably the presence of Purdue University means that there are a large number of new drivers in the community every year. Specialized education campaigns will likely be needed to educate these students on local walking and biking culture. Purdue University has also helped diversify the community by bringing in a large number of minority families. Messages about SRTS will need to be catered to families where English is not their first language.

Education Strategies for Children

Educating children to safely walk and bicycle is the most basic element of the SRTS program. Education of children also affords the opportunity to teach the benefits walking and biking can have on their personal health and on the environment. There are numerous strategies for reaching children – and these strategies are described in the following paragraphs.

Strategy 1: School-based Education of Children

School-based education is a fundamental part of a SRTS program. In an ideal world, children would be taught walking, bicycling and traffic skills at home. Unfortunately, all children do not receive this instruction. Therefore, school

Police officers teaching children about pedestrian safety. Source: SRTS Guide - www.saferoutesinfo.org/guide/

based education is essential for teaching all children the necessary skills, and to reinforce the skills of those who have already learned them at home.

Since walking and bicycling to school is currently being promoted at all West Lafayette schools, it is important that SRTS education begin during early elementary school, and that those skills be reinforced on an annual basis as children are promoted.

Nonetheless, children do vary in their ability to put those skills into practice. Many experts agree that most children are not ready to cross a street alone until age ten. Therefore, it is important that education activities at the school be tied to a dialog with parents – in order that parents are able to make final decisions about when and if a child walks or bikes to school. This is important because many children will believe that they are ready to cross a street just because they have been taught to do so. Parents also need to be aware that SRTS educating is occurring so that they can reinforce the practices at home.

Strategy 2: Bicycle Rodeo

Bicycle rodeos are one-time events intended to teach children the basic skills of riding a bicycle. They also afford the opportunity to not only teach bicycle and traffic skills, but also can serve as a time to check the fit of helmets and the functionality of the bicycles. Most often, a bicycle rodeo involves building a simulated traffic course with signs and other props. Children navigate through the course and in turn learn basic bicycling skills. While often sponsored by schools, these are more often lead by community organizations, the police department, the parks department, or local bicycling groups.

Strategy 3: SRTS Events

While intended primarily as an encouragement strategy, holding one or more SRTS events during the school year also presents an opportunity to educate children on walking and bicycle safety, health benefits and environmental impacts. Education activities can occur in the classroom in advance of SRTS events, or could be part of the event itself.

Try This!

School Curriculum Ideas:

Elementary Grades:

One-time instruction assemblies (video, speakers, skits). These are especially effective when used to kick-off a larger initiative.

Traffic “obstacle courses” can be created to help children navigate simulated situations to improve their skills.

In-class instruction by teachers, supported by the Police Department or local biking clubs.

Integrate SRTS message into other curriculums:

Math: Calculate distances

Science: Environmental benefits

Reading: Read about walking

Language: Write about what is seen walking to school

Health: Discuss walking as a health habit

Secondary Grades:

Photojournalism project to document walking/biking conditions.

Student developed safety presentations.

Walking/biking safety research and essays.

Use pedometers to count steps, chart steps taken and calculate distances.

More information on SRTS events (such as participation in International Walk to School Day) is included in Section Seven of this plan.

Educating Parents

While education of children teaches them the skills that they need to walk and bicycle to school, education of parents is needed to make parents comfortable with the choice to walk and bicycle to school. Many parents chose not to allow their children to walk or bike because they are not convinced that it is safe to do so – either because of age or safety concerns. However, many parents become comfortable when they learn of opportunities like a walking school bus where children can walk to school supervised.

Even more, parents usually make up most of the drivers in school zones, so parental behavior strongly impacts the safety of all children in school zones. Therefore, both messages need to be delivered to parents.

Strategy 4: Parent Council to Promote SRTS Message

Parents are more likely to be open to the SRTS message when it comes from other parents who have similar fears and concerns. This means the Parent Councils at each West Lafayette school are in a great position to help other parents become comfortable with walking and bicycling to school.

In particular, the Parent Council can lead the way in making parents aware of walking school buses, park and walks, bike trains and other opportunities for children to walk to school supervised by other adults. The Parent Council also serves as a great networking opportunity for parents to link up and share the responsibility for supervising children in route to school.

Bicycle Training Course. Source: SRTS Guide - www.saferoutesinfo.org/guide/

As a peer group, the Parent Council also plays an important role in educating parents on their responsibilities while driving in school zones. In this way, the Parent Council can help prevent unsafe driving, and reduce the enforcement workload on the West Lafayette Police Department.

Strategy 5: Develop and Distribute SRTS Materials to Parents

Since not all parents will be involved in the parent council, it is important that materials regarding walking and bicycling to school be prepared and distributed directly to all parents. Most often, these materials are sent home from school with students.

Materials should include the benefits and safety of walking and bicycling to school so that parents can become comfortable with their choice. These materials should also make it easy for parents to allow their children to participate in walking to school. For example, materials should include walking school bus routes, times and contact information.

Materials can include:

Try This!

Indiana Safe Kids Coalition:

The Indiana Safe Kids Coalition provides free in-school education on walking and bicycling safety. www.preventinjury.org/ISKCoalition.asp

- Route to school maps.
- Recommended policies on which roads children should not cross except with the aid of a crossing guard.
- Handouts to present benefits and safety of walking/bicycling to school.
- Walking school bus/bike train route maps, times and contact information.
- Park and walk locations.
- Traffic safety tips for parents.

Strategy 6: Provide SRTS Education Information on Websites

SRTS materials and information should also be promoted on local websites – including the School Corporation's website and the City's website. Materials can include walking routes, walking school bus routes, special event schedules, benefits of walking and biking to schools. Adding links to other sites that promote walking and biking to school would also be beneficial.

Try This!

Ideas for Getting the Message Out:

- Develop SRTS logo and/or slogan.
- Include logo and slogan on school materials.
- Include a reminder of a walking/biking/traffic rule in school newsletters.

Strategy 7: Beginning of School SRTS Handouts

The beginning of each school year provides another opportunity to educate Parents on walking and biking to school. It is recommended that the schools develop a take home handout to inform parents of the SRTS program, and opportunities for their children to walk and bicycle to school.

In addition to walking route maps, walking school bus routes and walking/bicycling safety information, this is also a key time to include information to educate parents on traffic safety in school zones.

Since there are many parents of different nationalities, it may be beneficial to present materials in a graphical form so that it is better understood by all, or to provide information in multiple languages. Schools will also want to consider discussing programs one-on-one with families unfamiliar with local walking and bicycling practices.

Note that routes to school maps are included at the end of Section 9.

Educating Drivers near the Schools

While parents are the most common drivers in school zones, many other members of the community travel the busy streets around the schools. Therefore, educating parents alone on bicycling and pedestrian safety will not be enough to create a safe atmosphere that promotes walking and bicycling as a community culture.

Speeding and other dangerous driving in the school zones was a major concern amongst the committee members. A National Safe Kids study of 27 cities found that of the vehicle speeds recorded during the 30 minutes before and after school, 65 percent of drivers exceeded the posted speed limit with 23 percent of these drivers traveling at least 10 mph above speed limit and 33 percent traveling 30 mph or more beyond the limit.[2]

[2] Source: SRTS Guide "All Drivers Near the School". www.saferoutesinfo.org/guide/.

Try This!

Traffic Safety Rules Signs:

Post signs with traffic safety rules in parent drop-off/pick-up lanes to remind drivers of important rules.

The need to reduce the number of speeders and the speeds at which they travel is crucial to ensure the routes to school are safe. As motor vehicle speed increases, so does the pedestrian injury severity and the likelihood of death. A pedestrian struck by a motor vehicle moving 20 mph has a 5 percent chance of dying. As motor vehicle speed increases to 30 mph and 40 mph, the likelihood that the pedestrian will be killed increases to 45 percent and 85 percent respectively. Slowing motor vehicle speeds not only reduces the chance of a pedestrian-vehicle collision because of the reduced stopping distance required, but it also reduces the chance of a pedestrian fatality or serious injury.[3]

Reaching drivers not associated with the schools will require a broad community education effort. Associated strategies follow.

Strategy 8: Develop SRTS Media Campaign

A coordinated media campaign can reach drivers of all types in the community. As noted before, a media campaign can be particularly effective if combined with enforcement efforts as described in that section of this plan.

Strategy 9: Speed Trailers

Also an enforcement tool, speed trailers visually display a driver's speed, along with the posted speed limit. More information on speed trailers is included in the Enforcement Section of this plan.

[3] Source: SRTS Guide "All Drivers Near the School". www.saferoutesinfo.org/guide/.

Educating Neighbors

The success of a Safe Routes to School (SRTS) program can be influenced by whether neighbors play an active role in making it safer for children to walk and bicycle to school – or if they resist these efforts.

Messages for neighbors include the need for them to participate in neighborhood watch programs, and to be aware of the need to keep sidewalks free of obstructions (trash containers, shrub overgrowth, snow) to encourage walking and bicycling.

While some neighbors have children who attend the school, many do not. Addressing their needs and concerns and involving them in the SRTS process will increase the odds that they will be supportive.

Strategy 10: Involve Neighbors in SRTS Process

It is important that neighbors first be aware of the SRTS program. Since many neighbors may not have school age children, they are often in the dark on school programs and initiatives.

Suggestions for involving neighbors include:

- Mail or circulate fliers to homes near schools about the program.

Educating neighbors should include issues such as keeping sidewalks clear of trash containers. Source: HWC

- Invite neighbors to an open house about SRTS.
- Have school or Parent Council members attend neighborhood group meetings.
- Address neighbor issues during a media campaign.
- Include neighbors in SRTS events (for example, hold a community walking day in conjunction with Walk to School Day).

Educating Purdue Students

Each fall, thousands of new students come into the West Lafayette community with the start of classes at Purdue University. Those students are unfamiliar with the City, its schools and its walking/biking patterns. Even more, students may be coming from locations where there are few persons who walk and bike. All these reasons make it important that the community reach these students with the walking and bicycling safety message.

Strategy 11: Awareness Campaign at Purdue University

To address the issues brought about by the many new students in the community each year, the community should partner with Purdue University in developing ways to reach these students in the early fall right after they arrive. Strategies could include a mass email to students, targeted advertising on the school campus or similar initiatives.

Educating Law Enforcement and School Personnel

Not only is education of children and the general public warranted, but city and school personnel involved in helping children get to school should also be educated about walking and bicycling safety.

Strategy 12: Annual City and School Staff Training

Those persons that are most directly involved in helping children safely navigate to school should receive annual training on pedestrian and bicycle safety. This would include:

- Police officers
- Adult crossing guards
- Student safety patrol members
- Bus drivers
- School teachers and staff that supervise pick-up/drop-off procedures.

Section Seven - Enforcement Strategies

Introduction

Enforcement is another of the complimentary strategies used to implement an effective Safe Routes to Schools (SRTS) program. In this case, enforcement is more than just police officers writing tickets – it is a community wide effort to promote behaviors that make it safer for students to walk and bicycle to school.[4]

Accordingly, this section of the plan outlines two distinct sets of strategies. The first are conventional strategies that law enforcement can use to manage driver behaviors. But, law enforcement efforts alone will not result in long term change. Therefore, a second group of enforcement strategies related to "community enforcement" is also discussed. Under the community enforcement approach, all members of the community play a role in managing behavior. Parents manage the driving habits of their teenagers, neighbors watch out for each other, and students participate in safety patrols.

Unsafe Behaviors to be Addressed

The first step before beginning any enforcement action is understanding what behaviors need to be addressed. These include both driver and pedestrian/bicyclist behaviors.

Through meetings with the steering committee and from public comments, the following unsafe behaviors were noted:[5]

Unsafe Driver Behaviors

- Speeding in school zones, near bus stops, and along walk to school routes.
- Drivers not stopping for pedestrians, especially in crosswalks.
- Running red lights and stop signs.
- Passing stopped school busses.
- Distracted driving (i.e. using a cell phone while driving)

Unsafe School Zone Drop-off/Pick-up Behaviors

- Illegal parking
- Passenger cars in bus lanes.
- Dropping off students in places other than the designated location.
- Speeding in drop-off/pick-up lanes.
- Distracted driving (i.e. using a cell phone while driving)

Unsafe Pedestrian Behaviors

- Not following crossing guard directions.
- Not looking before crossing the street.
- Crossing at inappropriate locations.
- Wearing dark clothing when there is poor lighting.

Unsafe Bicyclist Behaviors

- Riding into traffic without looking first.
- Riding on the wrong side of the street (bicyclists should always ride with, not

Students crossing Grant Street outside of a crosswalk. Source: HWC

[4] Strategies in this section are adapted from the SRTS Guide – Enforcement. www.saferoutesinfo.org/guide/

[5] Adapted from the SRTS Guide: Identifying Unsafe Behaviors. www.saferoutesinfo.org/guide/

against, the flow of traffic).

- Not using hand signals when turning.
- Not obeying traffic signs and signals.
- Not wearing a helmet.

Law Enforcement Approach

Law enforcement efforts will be lead by the West Lafayette Police Department. A number of strategies can be employed to affect unsafe behaviors, and to ultimately improve the safety of walking and bicycling in the community. Strategies outlined during the planning effort follow:

Strategy 1: Enhanced Enforcement Periods (Progressive Ticketing)

This strategy is to have short periods of increased enforcement combined with media coverage to promote awareness of pedestrian and bicycle issues. Also called progressive ticketing, the method uses a three-staged process to introduce ticketing motorists for violations related to pedestrian and bicycle safety.[6]

The stages of a progressive ticketing plan are as follows:

- Education

  The first step is to establish community awareness of the issues that need corrected. The intent is that raising awareness alone will cause many drivers to change behaviors. This also serves to create public support for the ensuing enforcement effort. Local media is most frequently used to create this awareness. Strategy 8 in this section discusses local media involvement in more detail.

- Issue Warnings

  The next step is to announce publically what ticketing will be initiated for the unsafe actions. Time must be given for the public to be fully aware of the issue.

- Ticketing

  Another announcement should be given that ticketing will begin. Officers should issue tickets for the unsafe actions.

Strategy 2: Speed Trailers

Portable speed trailers are used to display a driver's actual speed, and have flashing lights to tell the driver if they are exceeding speed limits. The West Lafayette Police Department currently uses these devices within the city, and they have been effective at reducing speeds.

There are also more sophisticated speed trailers available that have the capability to collect traffic and speed data throughout the day. That data can be analyzed to help guide future enforcement activities.

It is also important for the Police Department to back up the speed trailers by periodically writing tickets in the area of the speed trailer. If not, then motorists will learn that the devices are only a warning and will soon disregard them.

Vehicle passing in a school drop-off lane.
Source: HWC

[6] Source: SRTS Guide "Progressive Ticketing". www.saferoutesinfo.org/guide

Active Speed Monitor. Source: www.saferoutesinfo.org/guide/

Care should also be taken to introduce the speed trailers into school zones when they will be most effective at gaining the attention of motorists. Installing speed trailers in school zones at the beginning of school, or in the spring when students are more likely to be walking can be particularly effective at alerting motorists to speed expectations.

Strategy 3: Active Speed Monitors

Active speed monitors are similar to speed trailers, but are permanent installations. These fixed monitors are sometimes used in school zones where there is a desire to have drivers alerted to speeds all year.

Strategy 4: Traffic Complaint Hotlines

A traffic complaint hotline or website allows community members to report traffic problems directly to law enforcement. Currently, the West Lafayette Traffic Commission receives complaints regarding traffic. It may be appropriate to add a hotline or website link for people to report traffic violations.

Strategy 5: "Pedestrian Decoy" Operations[7]

To bring attention to drivers not yielding to pedestrians, one strategy is to have police officers pose as pedestrians at crosswalks.

[7] Source: SRTS Guide "Pedestrian Decoy" Operations – www.saferoutesinfo.org/guide/

When drivers do not yield to the pedestrians, another officer issues the driver a ticket.

It is recommended that ticketing of this manner first be introduced through an enhanced enforcement period combined with a media outreach effort so that drivers are aware of the Police Department's emphasis on pedestrian safety issues.

Strategy 6: Adult School Crossing Guards

West Lafayette has a network of crossing guards throughout it's the school corporation. These guards are trained and supervised by the West Lafayette Police Department. Crossing guards are strategically positioned in key locations across the community where students have to cross busy streets in order to walk or bicycle to school.

A crossing guard serves a number of functions beyond just helping children cross the street. They also help teach children skills for negotiating traffic, and help to remind drivers of the presence of pedestrians.

Locations where crossing guards are currently stationed are indicated on the Pedestrian Route Maps on pages 56, 57 and 58. In general, crossing guards are provided at key points along major roads that must be crossed on the way to school, including Cumberland, Salisbury and Grant Streets. It is important

Crossing guard at Happy Hollow Elementary. Source: HWC

that the City's engineering department, Police Department and the WLCSC carefully evaluate traffic patterns annually and assign crossing guards appropriately. Notably, as the community promotes walking and biking to school, additional guards may be needed at key roadway crossings such as Sagamore Parkway (US 52) and Northwestern Avenue (US 231).

Strategy 7: Speed Enforcement in School Zones

One method of encouraging compliance with traffic laws in school zones is to adopt a policy of strict compliance with school zone speed limits. By enacting a zero tolerance policy for speeding in school zones, drivers are clearly made aware of the community's expectations to be aware of school zones.

The Community Enforcement Approach

Law enforcement by the West Lafayette Police Department is not the only means available to improve safety behaviors. Parents, neighbors, teachers, students and other community members can all pay a role in helping to enforce safe behaviors. In fact, during planning West Lafayette Police Department officers went as far as saying that the police are perhaps the least effective of these groups since they do not have personal connections to the offenders.

Try This!

Higher Fines in School Zones:

Washington State enacted laws in 1997 that doubled fines for speeding in school zones. This legislation has resulted in as much as a 23 percent reduction in collision rates in school zones. Source: SRTS Guide "Putting It Into Practice: Double Fines for Speeders in School Zones" www.saferoutesinfo.org/guide/

Example child pedestrian safety campaign from Riley Hospital for Children. Source: A Call to Change - www.acalltochange.org/riley/index.aspx

A key example was noted in the public meeting. One attendee told the story of how in the past, West Lafayette coaches would require older athletes to walk/bike to schools as an example to younger children.

There are many other examples of how everyone plays a role in enforcement. The media can bring attention to walking and bicycling issues. Parents need to set expectations for teenage drivers. All adults in a community need to set good examples for their children and others by crossing streets in crosswalks when they are available and following other traffic rules. Students can become safety patrol members and help during drop-off and pick-up times at the schools. Adults can volunteer to become crossing guards to enforce safe behaviors at crossings.

Strategy 8: Involve Media in Pedestrian/Bicycle Safety Campaign

Involving the media in law enforcement efforts directed at walking/biking issues can greatly benefit the program. Media involve-

Safety Patrol at Happy Hollow Elementary. Source: HWC

ment helps to increase awareness of walking/bicycling issues and can be used to build support for initiatives being pushed.

When combined with enhanced enforcement activities, media attention allows the police to focus significant attention on a specific issue (such as traffic violations that impact pedestrian and bicycle safety). For example, if 10 drivers receive tickets and 10,000 people hear about it, the enforcement effort will have a bigger impact than if officers issue 100 tickets and only the recipients know what happened. The key to a successful campaign is to provide information before the enforcement event occurs to encourage community support and facilitate positive coverage. Without such prior notification, drivers may claim to be caught by surprise, which can lead to negative publicity.[8]

Media involvement is not just for special enforcement. Instead, it can be used as an ongoing tool to bring attention to important walking and biking issues. Following are examples of how the media can be involved:

- Press releases can be issued to advise of special events, milestones, participation levels and other walking and biking issues.
- City, school and law enforcement officials can hold press conferences to talk about special areas of emphasis – or about special enforcement programs.
- Volunteer leaders and local officials can participate in presentations, talk shows, radio programs and other efforts to raise awareness of walking and bicycling issues.
- Information packages can be developed for the press to raise awareness.

[8] Source: SRTS Guide – The Media's Role in Enforcement Efforts. www.saferoutesinfo.org/guide/

Try This!

Ideas for a Self-Produced Walking/Bicycling Safety Campain:

- Have a contest to develop a promotional logo or slogan.
- Start a local SRTS website (other than school/city website).
- Circulate SRTS information on social networking websites (Facebook, Twitter).
- Develop video messages and post to online video websites (YouTube).
- Develop email chains to advertise SRTS programs and initiatives.
- Town hall style meetings about SRTS issues.
- Presentations to local service groups, the Parent Council, neighborhood groups and others.

Strategy 9: Self-produced Walking/Bicycling Safety Campaign

Media interest and involvement may be enough to consistently reach the community with the SRTS message. Even more, fewer people rely on traditional media outlets such as television and newspapers. Therefore, the community will want to compliment media campaigns with a self produced, grassroots style awareness campaign aimed at enforcing pedestrian and bicycle safety.

Such a campaign should be long term, repetitive and memorable. The primary audience may initially be families with school age children, but should be expanded over time to include neighbors and others in the community. Efforts for developing this campaign can be shared between the Parent Council, local biking groups, walking clubs, and possibly corporate sponsors. It certainly can involve local media outlets, but a self produced awareness campaign can also include websites, flyers, billboards, presentations and a number of other ideas.

Strategy 10: Safety Patrols

Safety patrols utilize older elementary school students as active participants in enhancing pick-up and drop-off procedures at school. Safety patrol members learn traffic safety, and also become role models for other students.

A student safety patrol program is currently in place at Happy Hollow Elementary, and is managed by the school.

Because of the age of the students at Cumberland Elementary School, a student safety patrol is not recommended. An alternative solution to guide the process would be to recruit adult volunteers for a safety patrol. The benefit of a safety patrol lead by adult volunteers is that it engages community leaders and peer involvement in the enforcement effort – and does not solely rely on the police as an enforcement tool.

Section Eight - Encouragement Strategies

Introduction

Encouragement strategies are intended to make walking and biking to school enjoyable and easy. These strategies introduce children and parents to opportunities to walk and bike to school. They also generate excitement and interest in continuing to walk and bike beyond just a special event.[9]

Encouragement strategies do not have to be expensive or complicated to be effective. In most cases, they can be completed with little funding and can be organized by parents and volunteers.

Encouragement activities are also closely tied to education strategies. Each encouragement activity affords a teachable moment where students, parents and the community can become more aware of walking and bicycling issues.

Encouragement Strategies

Encouragement strategies vary from one day activities intended to give parents and children the opportunity to try out walking to school – to longer activities such as mileage clubs that encourage students to continue to walk and bicycle to school on an ongoing basis. A sampling of several strategies follows.

Strategy 1: Special Events

Special events are intended to increase awareness of opportunities to walk and bicycle to school. More specifically, they are usually one day activities that are structured to make it easy for parents and children to walk or bicycle to school for the first time.

Special events are especially effective when excitement is generated about walking and bicycling to school. Communities have used signs, banners and balloons to establish a celebratory atmosphere – and often have the Mayor, Principal, School Superintendant or local celebrity to walk with the children or welcome them when they arrive at school.

[9] Strategies in this section are adapted from the SRTS Guide – Encouragement. www.saferoutesinfo.org/guide/

Try This!

Themed Walk to School Events:

Deluth, Georgia holds monthly walk to school events, each with its own theme. For example, with growing darkness in November, the theme was "Be Safe, Be Seen". In January, it was "A Polar Bear Rock and Roll" to encourage walking in colder weather.

Source: SRTS Guide – "Putting it Into Practice: Monthly Walk and Roll to School Days" www.saferoutesinfo.org/guide/

Strategy 2: International Walk to School Events

One example of a special event is International Walk to School Day. Held every October, it is an annual event to raise worldwide awareness of walking to school issues.

Since 1997, communities around the United States have been celebrating Walk to School Day. In 2008, 2,800 events were held in every

iwalk

iwalktoschool.org

Walk to school day resources are available from www.iwalktoschool.org.
Source: www.iwalktoschool.org

Try This!

Ideas for a successful walk to school day event:

- Have popular Purdue athletes walk with children to school.
- Award participation prizes.
- Establish a remote drop-off location for parents and busses so that all children can participate.
- Hold a concurrent community walking day where all residents are encouraged to walk to work.
- Hold a walking field trip on walk to school day.
- Have competitions between classes to see who has the most participation.
- Have coffee and breakfast at park and walk locations for parents.
- Create flyers with SRTS information and send it home with students.

state in the country. Around the globe, International Walk to School Month brings together more than 40 countries in recognition of the common interest in walking to school.[10]

West Lafayette has begun celebrating Walk to School Day, and in 2009 events were held at every school in the system. Students were encouraged to walk to school whenever possible. Those living further from school were encouraged to participate in scheduled park and walk programs.

Strategy 3: Mileage Clubs and Contests

While special events give students the chance to explore walking and biking to schools, ongoing mileage clubs and other contests encourage students to continue walking and make it a habit. The general idea is to establish a contest that encourages students to walk and bicycle to school. Prizes are awarded to those with the greatest participation, or at pre-set milestones.

Strategy 4: Walking School Buses and Bicycle Trains

Another ongoing activity to encourage walking and bicycling is a walking school bus or bicycle train. A walking school bus is a method of having students walk to school while supervised by one or more adults. The general concept is that students wait at a predetermined series of "bus stops". An adult meets the children at the first "bus stop" and then walks the children to each stop and then ultimately to school. A bike train is similar, but adults and children ride bicycles to school.

The benefit of a walking school bus is that it makes it easy for children to walk to school in a supervised manner, with adults sharing the responsibility for walking the children to school. While walking school buses can certainly be held every day, it may be appropriate for them to be scheduled on a weekly basis to start, and then ramp up over time to a daily route. As adult volunteers are recruited, more walking school buses can be established in other areas of the school system. Maps of walking school bus routes should be circulated, each with routes identified, bus stops, stop times and contact information for adult supervisors should be included. An example map is provided on page 36.

While formal structure helps new walkers to easily get involved, a walking school bus can be as simple and informal as a group of families taking turns walking to school together.

Notably, a walking school bus helps to overcome many of the common barriers to walking and biking to school. Since they are supervised, concerns of child abduction are eased. They also make it safer for children to walk to school during hours of darkness. An adult can carry a flashlight, and make sure children have dressed with light or reflective clothes. During poor weather, an adult can check to see if

[10] Source: International Walk to School website. www.iwalktoschool.org

Try This!

Milage Club Ideas:

- Log miles walked or biked to school.
- Hold a competition between classrooms (or schools) for the longest distance walked.
- Use a punchcard to track days walked or biked (as opposed to miles).
- Include distance walked at home, to the bus stop or during the school day for children that do not walk to school.
- Hold a weekly walking day to encourage participation instead of competition.

a child is dressed properly for the conditions before continuing to school – or make a decision to take the children to school in a different manner.

In a similar manner, a bike train also helps to overcome distance challenges as children can travel further on a bicycle.

Strategy 5: Park and Walk

A park and walk follows the basic concept that parents drive children to a pre-set meeting place. Then, one or more adults walks with the children to school from that point. Like a walking school bus, it allows the children to walk part of the way to school supervised but does not require every parent to take the time to walk their child individually.

Notably, a park and walk helps to overcome several of the major obstacles to walking to school. First, by driving part of the way, the walking distance is reduced to a reasonable length. Second, it helps to reduce traffic congestion in school zones. Third, the park and walk meeting location can be situated so that children do not have to cross busy highways.

The later may be especially beneficial for families that live on the opposite side of US 52 from their child's school. Because of the danger of pedestrians crossing US 52, parents could drive across US 52 to a meeting point, and then take turns with other families walking the children the rest of the way to school.

Businesses along both sides of US 52 could be contacted to see if they would allow their parking lots to serve as a park and walk. Grocery and drug stores are often supportive of a park and walk since it brings customers to their businesses. It was also suggested that the former Burtsfield School site may be a good park and walk location for Happy Hollow and the Jr./Sr. High School.

Strategy 6: On-campus Walking Activities

Communities can also encourage walking during the school day as a way of promoting a healthy lifestyle. While it does not directly encourage more children to walk and bike to school, it introduces children to the habit and makes them more open to walking to school in the future.

There are many ways to introduce walking into the school day. Walking contests could allow children to record miles walked during recess. Teachers could also schedule walking field trips, where they walk to a destination instead of being driven there.

Park and walk meeting points are recommended near the Salisbury and US 52 intersection. Source: HWC

Sample of a walking school bus map that could be distributed. Source: HWC

Section Nine - Engineering Strategies

Introduction

While other strategies are intended to address behaviors, engineering strategies are intended to improve physical conditions and in turn enable more students to walk and bike to school safely. This section will look at the conditions of the built environment in neighborhoods, along city streets, and within school zones and make recommendations for physical improvements to the existing infrastructure.

This section first describes the assessment process used to identify the physical barriers to walking and biking to school. It then provides specific recommendations for improvements to address these issues.

Assessment Process

In order to determine what infrastrucutre issues need to be addressed, the plan followed the following process to identify and prioritize needed improvements.

1. **What are the general conditions in each neighborhood?** To understand limitations for traveling to school, an assessment was made of sidewalk conditions in each neighborhood.

2. **Where are students walking?** The next step in the assessment process was developing an understanding of the routes used to travel to school. Route maps for each school were developed based on school recommended routes, and compared against actual travel patterns. These were also compared to bus route maps to determine where students were not provided other ways to get to school.

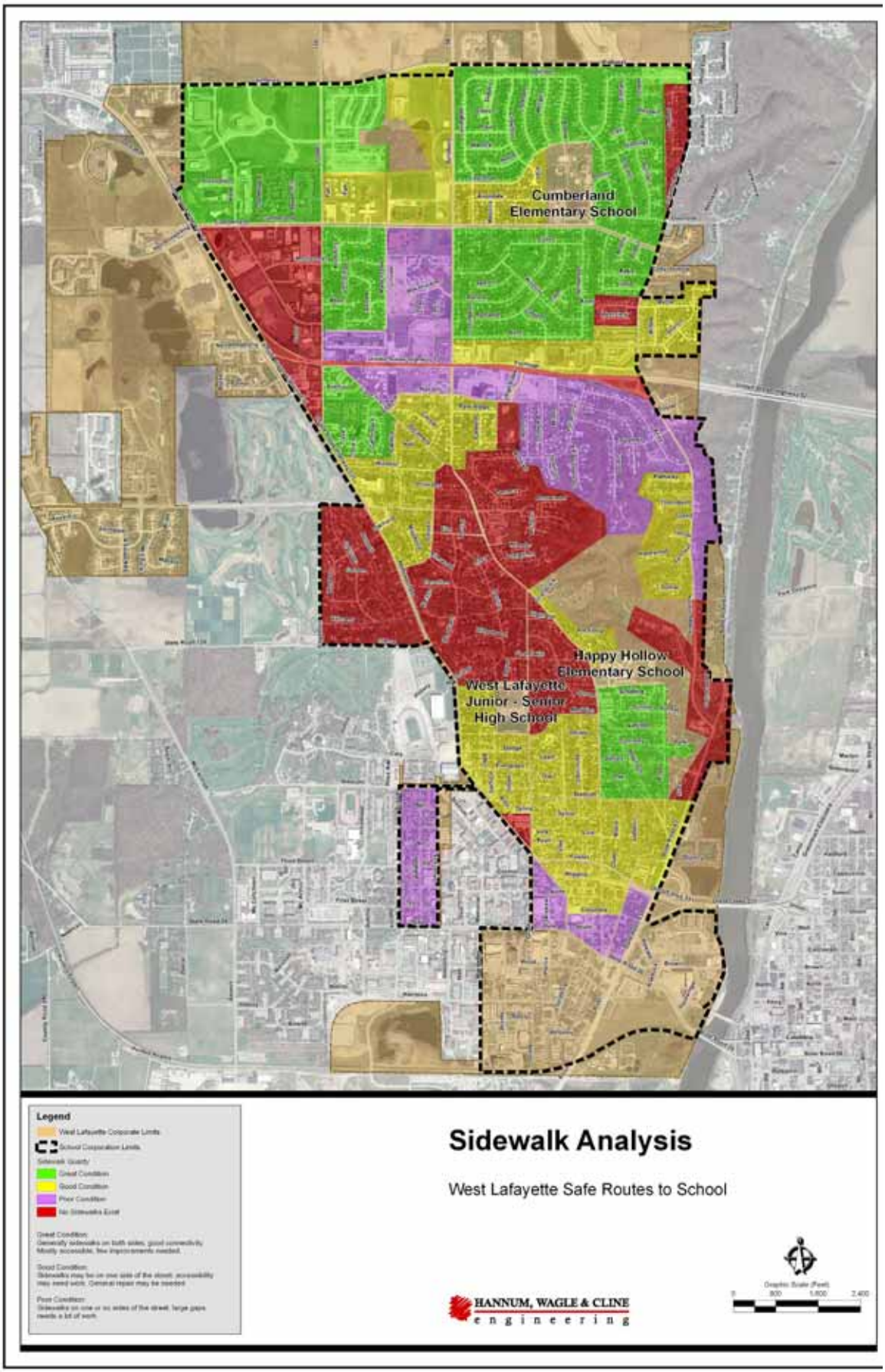
3. **What are specific issues that need to be addressed?** Using route maps as a basis, areas with concentrations of walking/biking were evaluated to determine if sidewalks, crosswalks and other physical infrastructure supported walking and biking to school.

4. **What are the highest priorities?** Priorities are established to guide decision making relative to when to complete the various improvements recommended.

Sidewalk Conditions in Neighborhoods

The first step in the assessment was identifying the presence of sidewalks and crosswalks in the various neighborhoods. Ratings were provided for each area based on the quality of pedestrian accommodations. Neighborhoods with sidewalks generally in good condition, with accessible curb ramps, with walks on both sides of the street and contiguous to other neighborhoods were given the highest rating. Areas without continuous sidewalks, areas in need of repair, locations with sidewalks on only one side of a street, or have conditions that do not meet accessibility standards were given lower ratings, and areas with few pedestrian accommodations were scored the lowest. Mapping of these conditions is included on the following page.

Discontinuous sidewalk on Vine Street.
Source: HWC

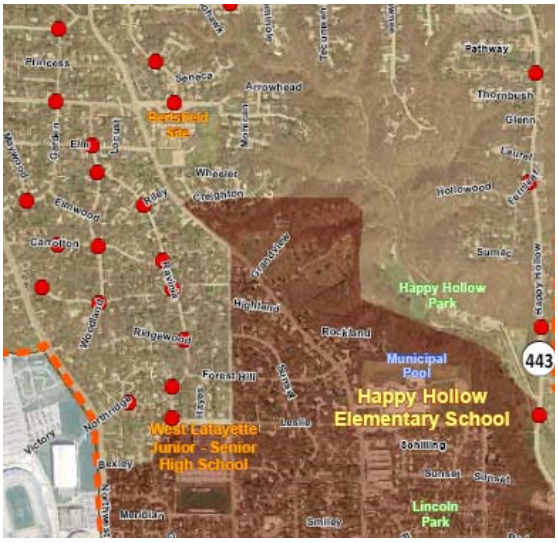


Sidewalk Conditions Map. Source: HWC

Busing Maps

The next step in the evaluation was mapping the various school bus routes. School policy is generally that students within one-half mile of the school will not be picked up by buses. Students within one-half mile of school are encouraged to walk or bicycle to school.

Mapping of the bus routes showed that actual bus stop locations support the school's policy. For all schools, actual bus stops generally were provided only further than one-half mile from schools. Maps of bus routes for the various schools are provided at the end of this Section.



Busing maps indicate areas provided with school bus pick-up. Source: HWC

Walking Route Maps

Walking route maps are used to show the preferred routes for students to follow when walking/biking to schools. They identify crossing guard locations and illustrate which roads should not be crossed by students without a crossing guard or adult supervision. Maps further indicate walking travel time in 15 and 30 minute increments.

Maps were prepared based on the written route instructions given to students at the beginning of each school year. Site visits were made to each school to confirm the actual routes used. Maps for each school can be found at the end of this Section.

Walking route maps indicate preferred routes for walkers and bicylists. Source: HWC

For the purposes of this plan, a key feature is that these maps can be used to identify where routes converge, and consequently where there is a higher concentration of walking and biking. While sidewalks and crosswalks are desirable on all routes used to travel to school, areas with the highest concentrations of use should be a top priority for adding or improving walks.

A summary of the conditions and issues observed for each school district is provided as follows. This description is focused on areas that are not provided with bus service.

Cumberland Elementary

Cumberland Elementary School is centrally located in the middle of several neighborhoods. Unlike Happy Hollow and the Jr./Sr. High School, terrain is relatively flat and makes walking and biking more practical.

Several routes are available to those who walk, and those routes have students arriving from different directions. For students to the north, most will travel through neighborhood streets to the intersection of Lagrange and Boone, and then arrive on the path through the baseball fields to the north side of the school. There is a crossing guard at the intersection of Lagrange and Boone. Students to the west utilize Cumberland as the main route

to school and arrive at the south entrance. There is also a sidewalk connecting the cul-de-sac on Avondale to the school through the tennis courts.

Students to the south use neighborhood streets to access Cumberland. They cross Cumberland south of the school at one of two marked crossings with crossing guards. Crossing Cumberland without adult assistance is not recommended for students.

Students to the east generally follow neighborhood streets to Benton, and then follow Benton to the east side of the school before entering the building at the south entrance. A crossing guard is provided at the intersection of Benton and Hamilton.

Further south, US 52 lies approximately one-half mile due south of the school. While the distance is reasonable for walking, US 52 is a busy four lane highway. As such, current school policy directs students not to cross US 52 without adult help. Until changes are made to improve the safety of crossing US 52 for pedestrians, it is recommended that this policy continue. Additional information and recommendations related to improvements to US 52 crossings are provided later in this section.

Further west, there are several neighborhoods west of Salisbury that generally would be within the one-half to one mile walking distance from the school. However, Salisbury and Cumberland are busy streets without adequate pedestrian crossing amenities or crossing guards. In the short term, the school's current policy discouraging students from crossing these streets should be continued. However, efforts should be made to provide improved crossings at the intersection of Cumberland and Salisbury, and also at the intersection of Salisbury and Lagrange to promote walking to school from these neighborhoods.

Happy Hollow Elementary

Most students walking or bicycling to Happy Hollow arrive from the west and enter the school property from near the intersection of Salisbury and Kingston. Because of the volume of traffic on Salisbury, a crossing guard is provided at the intersection of Salisbury/Kingston/Leslie.

Children living west of Salisbury generally follow neighborhood streets to reach Salisbury. Again, because of the volume of traffic on the street, students are discouraged from crossing Salisbury except with the assistance of the crossing guard at Salisbury/Kingston/Leslie.

Similarly, students living west of Grant Street are discouraged from crossing Grant while en-route to school except where a crossing guard is provided at the intersection of Leslie and Grant.

Further west, Northwestern Avenue (US 231) is another street that is considered too busy

Parent drop-off lane on Cumberland Boulevard. Source: HWC

Students walking to Happy Hollow Elementary. Source: HWC

Bus drop-off lane at Cumberland Elementary School. Source: HWC

for students to cross without adult supervision. In the past, a crossing guard had been provided at the intersection of Northwestern and Garden, but lack of funding has discontinued this service.

A key issue to consider at Happy Hollow Elementary is that there are many hills in the area that make it difficult for some students to bike to school.

Jr./Sr. High School

Walking and biking patterns for the Jr./Sr. High School are very similar to those at Happy Hollow Elementary. Students are discouraged from crossing Salisbury, Grant and Northwestern except where crossing guards are provided or where there is adult supervision.

North of the Jr./Sr. High School, neighborhoods are in a hilly area where there are few existing sidewalks. When combined with dark conditions in winter months, walking to school from these neighborhoods can be dangerous. Numerous comments were received from parents concerned about this exact issue. It is recommended that walks be added in these neighborhoods, particularly on Ravinia Road and Woodland Avenue.

Cumberland Elementary - School Zone Issues

Within the areas surrounding the City's three public schools, the concentration of pedestrian, bicycle, bus and automobile traffic poses additional safety risks. A summary of the various issues at each school follows. Enlarged maps of each school zone are included at the end of this Section on pages 60 to 62.

Parent Drop-off/Pick-up

The parent drop-off zone at Cumberland is located on the west side of the school. Vehicles enter and exit the staff parking lot and navigate around the perimeter of the lot. In addition, the school allows parents to park on the north side of Cumberland Avenue and walk their children into the main entrance on the south side of the school.

Parents who live in neighborhoods north of the school note that the location of the drop off is inconvenient since there is not a direct way for returning to their Homes on Benton. Since there is not a median crossing at the parking lot entrance or at Benton, parents must drive west on Cumberland to Salisbury, north on Salisbury, and then take Lagrange back into the neighborhood.

As a result, this effort considered the addition of median crossings at the parking lot entrance and/or at Benton. While they would improve circulation patterns, these two locations are also the location of pedestrian crosswalks with crossing guards. Installation of median crossings for automobiles in either location would result in increased traffic movements in the area of the pedestrian crossings and reduce the safety of walking and biking to school. It is especially a risk at Benton because of the curve on Cumberland in that location. Therefore, neither of these options are recommended.

Nonetheless, the result of not providing a more convenient way to return north on Benton has resulted in a large number of parents dropping students off on Benton and then making u-turns on the street. While this should be discouraged, it is recognized that it will be difficult to discourage this behavior as long as the drop off is not convenient.

Several parents suggested that the pre-school drop-off be made available for student drop-

off as well. School officials expressed concern that they did not want to have to manage students entering the building in three different locations, but this could be overcome by having the pre-school doors locked at Elementary School drop-off times so that students would not try to enter those doors. It is recommended that the school re-evaluate this policy in order to discourage unsafe habits on Benton Street.

Bus Loading/Unloading

Beginning in the 2009-10 school year the lane in front of the main entrance to Cumberland will be a bus loading/unloading zone. There are also staff parking spaces in the area. A teacher or staff member will monitor the lane to ensure safe crossing for students walking in front of the buses.

Walking Patterns

As previously noted, Cumberland Elementary School is located in the middle of several neighborhoods and has relatively flat terrain that makes walking and biking more prevalant.

In 2009, several improvements were made around the school with a Safe Routes to Schools infrastructure grant. These improvements included improving the crosswalk at the intersection of Cumberland and Benton, and adding another crosswalk on Cumberland just west of the main entrance to the school. A crossing guard has been re-assigned to this new crosswalk.

Input received from parents indicated that there is a sidewalk that connects Ripley Court to Cumberland Avenue that is used as a direct connection for residents west of the school. This walk was installed in a low lying area, and frequently is under water. In winter, ice sometimes covers the walk. It is recommended that drainage be improved in the area, or that the walk be raised.

In addition, it was noted in the process that crosswalks along Cumberland Avenue are not accessible and need to be upgraded.

Another barrier to furher walking and bicycling in the area is crossing Salisbury to the west. It is recommended that the City investigate a mid-block crossing at Salisbury and Lagrange that would connect to trails in that area. In addition, it is recommended that the city upgrade crosswalks and pedestrian crossing lights at the intersection of Salisbury and Cumberland Avenue. Ultimately, crossings at these locations may require crossing guards in order to provide safe crossing for children.

Biking

Especially on nice days, bike racks at Cumberland are overflowing. With many students living in nearby neighborhoods, and with relatively level terrain around the school, the conditions are very favorable to bicycling to school. It is also noted that school policy right now only allows Third Grade students to bicycle to school alone. All other grades must be supervised as they bicycle to school.

Happy Hollow Elementary - School Zone Issues

Parent Drop-Off/Pick-up

The parent drop-off lane at Happy Hollow is a two lane area specifically for drop-off and pick up on the south side of the school. Parents enter the lane from Kingston to the east and exit to the west. The lane is segregated from bus loading/unloading. Student crossing guards assist with crossing safety at the parent drop-off area and along Kingston Street.

Concerns identified in the planning process include parents switching from one lane to another quickly, speeding through the drop off area, and blocking both lanes while loading or unloading. Visibility exiting the drop off lane is an issue when cars park illegally near the drive exit.

Improvements completed in the summer of 2009 include improved crosswalks at the exit from the parent drop-off lane and at the crossing to Sunset Court.

Bus Loading/Unloading

The bus parking area is located along the west side of the school. Buses use a bus lane just past the administration building and exit the parking area directly onto Salisbury north of Kingston. The bus route does share the route as staff parking, and this has lead to confusion from parents who try to enter the parking lot in this area. Conflicts further exist when buses exit onto Salisbury. The proximity of the parking lot exit (which is exit only) to Kingston results in congestion on Salisbury.

To alleviate these issues, there has been discussion of switching the bus/parent drop off lanes. There are two key benefits to this approach. First, it would separate buses from all automobile traffic and thereby make bus areas safer. Second, it would result in fewer traffic movements on Kingston Street since cars would not be exiting on Kingston. This would make it safer for those who walk and bike to school along Kingston.

Disadvantages of switching the bus and parent drop off lanes are that there would be more traffic at the entrance to the parking lot off Kingston that might make it necessary to add an adult crossing guard at that location. Furthermore, congestion on Salisbury would be expected to worsen since turning movements would be split over two locations in close proximity. One way to avoid additional traffic congestion would be to make exiting the staff parking lot a right-turn only movement (to the north). While the right-turn only movement onto Salisbury could be required only during school arrival/dismissal times, it would be most effective if made permanent.

Bus lane at Happy Hollow Elementary.
Source: HWC

In summary, if the exit from the staff parking lot is made to be a right turn only, then switching the bus and parent drop off areas would result in less congestion on Kingston, less congestion at the intersection of Salisbury/Kingston/Leslie, and would improve bus safety. Based on this, it is recommended that this approach be tested on a trial basis.

Walking Patterns

Most routes to school result in students reaching the intersection of Salisbury/Leslie/Kingston and then walking along Kinston to enter the school. A crossing guard is provided at this intersection to provide safe crossing. On Kingston closer to the school, student crossing guards monitor both Kingston and the parent drop off/pick up lane.

For students traveling east or south, there are sidewalks along the routes that allow students to walk or bike to surrounding neighborhoods. Students using Kingston into access neighborhoods west of school also generally have sidewalks all along their route.

For students living in the neighborhood immediately south of the school, there is a connecting path with a stairway leading from Kingston directly to Sunset Court.

One issue that reduces the number of students walking and biking to Happy Hollow is that a large percentage of students participate in early-morning music programs. Especially in winter months, walking to school at earlier than normal times means students there are fewer other parents abd students on the street. Even more, students would have to walk in the dark and carry an instrument. With as many as 40 percent of students participating in strings and band at Happy Hollow, this is a significant barrier to walking and bicycling. Strategies to address this need could include walking school bus routes directed at

students participating in the music programs, and strategic improvement of lighting in the area.

Biking

In comparison to other schools in the City, fewer students were observed bicycling to school at Happy Hollow. While several issues contribute to this, the rolling topography around the school makes it far from ideal for biking to school. While some routes are more conducive to biking than others, the hilly nature of the area does limit biking. Consequently, Happy Hollow Elementary may find it more appropriate to encourage walking to school instead of focusing on biking.

It is important to note here that there are bicycle lanes on Salisbury. Nonetheless, those lanes are not suitable for use by school age children, especially with the volume of traffic on Salisbury.

West Lafayette Jr./Sr. High - School Zone Issues

While the emphasis of the Safe Routes to Schools program is Kindergarten to 8th grade, this study does consider both the Junior and Senior High Schools since they are located at the same facility.

Parent Drop-off/Pick-up

The parent drop-off at the Jr./Sr. High School is located at the south side of the school. Parents enter through a drive off Grant Street, route through the parking lot, and then exit back out onto Grant Street. The drop-off process has a few issues, as cars are trying to park and pull out while students are being dropped off or picked up. The exit is also problematic, and many cars back up while waiting to leave, especially right after school. Also, the buses leave at the same exit as the parents and students, which increase traffic congestion. A police officer is stationed at the exit and stops traffic on Grant Street to allow the buses to exit, however the officer does not stop or direct traffic for the leaving parents and students.

West Lafayette Police monitoring dismissal time at the Jr./Sr. High School.
Source: HWC

While not allowed per policy, there have been issues with parents dropping off on Leslie Street north of the school. The challenge to utilizing this location is that Leslie Street does not conveniently connect to another street to the west, and consequently there have been regular problems with drivers making u-turns on Leslie to get back out to Grant. While there may be ways to narrow Leslie in this area, the school would lose flexibility in the future use of this area and therefore it is not recommended at this time.

Bus Loading/Unloading

The school bus drop off is on the east side of the school, and both the entrance and exit are connected to Grant Street. After the buses are loaded, they are dismissed, and a police officer stops traffic on Grant Street to allow the buses to exit. Despite the presence of a police officer, it was observed that there remains considerable confusion regarding exiting protocols as evidenced by drivers impatiently cutting ahead of buses.

Walking Patterns

The location of the school means there are students walking in each direction to and from school. There is a crossing guard at the intersection of Leslie and Grant, but that is the

only crossing guard in the area.

A number of students were observed crossing Grant street in the vicinity of the parking lot entrance/exit. Even for Jr./Sr. High age students, this is not a recommended pedestrian crossing location because of the congestion and number of vehicles at this intersection.

It was also observed that flashing school zone signals on Grant Street are outdated and should be modernized in the future.

There are a number of students who walk on Leslie between Happy Hollow and the Jr./Sr. High School. At the same time, there are a number of parents that drop students off at both schools, and utilize Leslie as a connecting route between the schools. With the large hill on the street near Salisbury, there are blind spots that increase safety concerns on this street. It is recommended that traffic calming measures be added on Leslie, such as flashing signals.

Biking

As with Cumberland Elementary, many bikes were found on the two bike racks at the high school. While there are hills in the area, hills west of Grant Street are less pronounced than those east of Grant. Also, older children are physically more able to climb the hills than younger children.

Staff and Student Parking

It has been noted that there is significant congestion at the exit from the Student Parking Lot on Grant Street. One option for improving this would be to open the southwest exit from the parking for use exiting the lot. This is a narrow, one way service drive that is normally closed. Opening this for traffic would reduce the number of vehicles exiting directly onto Grant, and could alleviate traffic congestion. Nonetheless, since there are also pedestrians along the route, it will be important to provide speed bumps or other traffic calming measures along the route to prevent other traffic problems from arising.

Flashing School Zone Signals

The community has made an effort to maintain flashing school zone signals along all major roadways surrounding its school zones. In fact, additional signals were recently replaced during 2009 improvements funded with a SRTS construction grant.

However, the following issues were identified as needed improved in the short term:

- Flashing signals on Grant Street need modernized.
- Flashing signals need to be provided on Leslie between Grant and Salisbury.
- Flashing signals need to be provided on Leslie between Grant and Ravinia.
- Flashing signals need to be provided on Meridian near Ravinia.

There are also existing flashing signals on Soldiers Home Road. While these are intended to be part of the larger Cumberland Elementary school zone, the distance from the school makes them confusing to motorists. It is recommended that these be eliminated.

Flashing signals installed in 2009 at Cumberland Elementary School. Source: HWC

Street Lighting

In Section Four of this report, it was noted that students at Happy Hollow and the Jr./Sr. High School arrive at school before sunrise for during winter months. While the number of students walking and bicycling during this time is not currently high, provision of adequate street lighting along major routes would help increase the number who feel safe enough to walk or bike.

Furthermore, while Cumberland Elementary students arrive in daylight all year because of the later start time, students throughout the district walking to bus stops must do so in darkness during winter months. Therefore, lighting is also needed within neighborhoods throughout the district for those who ride the bus.

However, providing street lights throughout all neighborhoods in the city is not necessarily practical. Instead, the city will need to prioritize which lighting can reasonably be provided. The first step is for the city to complete a lighting assessment focusing first on the primary walking and biking routes around Happy Hollow and the Jr./Sr. High School. Areas along major roads closest to the schools should be the highest priority, along with nearby areas that have no (or very few) street lights.

The second step is to go into the neighborhoods and to identify areas around bus stops that need lighting. Because it is expected that lighting will be needed in neighborhoods throughout the city, the city should prioritize locations without sidewalks (i.e. where students may have to walk on the street in the dark), along busy streets, and in other locations where visibility of students walking to bus stops is a concern.

Darkness at arrival time in October 2009 at Happy Hollow Elementary School.
Source: HWC

Traffic Calming

Traffic calming is the process of designing roads and streets in a deliberate effort to reduce speeds. Speed bump and intermittent stop signs are a very common method of enacting traffic calming. Other less direct methods that have also proven effective are to use narrow traffic lanes and the addition of medians.

Some community members felt that certain intersections would benefits from having a four-way stop, which is an effective method to calm traffic and make conditions safer for pedestrians and bicyclists. The intersections of Meridian & Grant Streets, as well as Meridian & Salisbury and Northwestern & Cherry, were noted in particular.

US Highway 52 (Sagamore Parkway)

Summary of Issue

Of the physical barriers limiting walking and biking in West Lafayette, few are as imposing as crossing US Highway 52 (Sagamore Parkway). US 52 is a two lane highway running east-west through the community. There are two primary locations for pedestrian crossings on the highway – Salisbury and Nighthawk.

Salisbury is a signalized intersection with a total of six lanes on US 52 (including turn lanes). It sees an average of over 30,000 vehicles per day on US 52 and over 12,000 vehicles per day on Salisbury, making it one of the busiest intersections in the county. Salisbury provides the most direct path of travel for north-south

pedestrian and vehicular traffic.[11]

The second pedestrian crossing is at Nighthawk Drive. This intersection is just east of Salisbury and is also a signalized intersection with a total of six travel lanes on US 52. Nighthawk Drive sees just under 5,000 vehicles per day. This is a designated crossing location for West Lafayette's multi-use trail network.[12]

During the planning process, a number of persons noted that neither US 52 intersection is bike or pedestrian friendly. Concerns include the number of lanes of traffic, there are no medians to provide an area of refuge, the crosswalk markings have faded and the pedestrian crossing signals are too short and do not stop turning traffic.

These concerns were voiced in many ways. First, surveys indicated that parents were not willing to let their children cross US 52 because of the danger. Steering committee members and focus group members also noted the concerns. Field observations by the planning team confirmed concerns noted by parents. As pedestrians attempted to cross the intersection at Salisbury and US 52, turning traffic crossed the pedestrian way six times in one light cycle. In the process, those cars came within a few feet of the pedestrian at a high speed. Furthermore, in the public workshop, a number of citizens went as far as saying that US 52 is the single largest impediment to safe walking and bicycling in the community.

Priority of Addressing US 52 Barrier

While it appears conclusive that US 52 is a significant barrier, it is not as clear whether addressing it will increase the number of those who walk and bike to school in the near term. The roadway is located midway between Happy Hollow Elementary and Cumberland Elementary, each approximately one mile from the schools. Surveys and discussions with parents noted that few students walked or biked this distance (to any of the schools), so even if issues with US 52 were addressed, the distance from area schools is still an issue. Therefore, while improving US 52 would enable more students to cross the highway, the distance from the schools is great enough that it is not likely that many students would take advantage of it in the near term.

However, over the long term, US 52 represents one of the largest barriers to achieving the vision of a "culture of walking and biking" that is set out in this plan. While one mile is a somewhat long distance for walking to school, it is not as far on a bicycle. Furthermore, it is a barrier to many parents (and other adults) that would otherwise choose to walk and bike for routine trips. A walking and biking culture will not be fully realized until it is easier and safer to cross US 52.

Options for US 52 Crossing Improvements

Several ideas were discussed during planning to address US 52 improvements. Each has advantages and disadvantages as summarized in the table in this section.

- **Option 1 – Pedestrian Signal Adjustments**: This option has the lowest cost, and can be implemented after coordination with INDOT.
- **Option 2 – Pedestrian Median**: This offers the benefit of not having to cross six

Pedestrian crossing at the Salisbury and US 52 intersection. Source: HWC

[11] Traffic counts are from Seasonally Adjusted Average Daily Traffic August 1999 – August 2009 as included on the Tippecanoe County website.

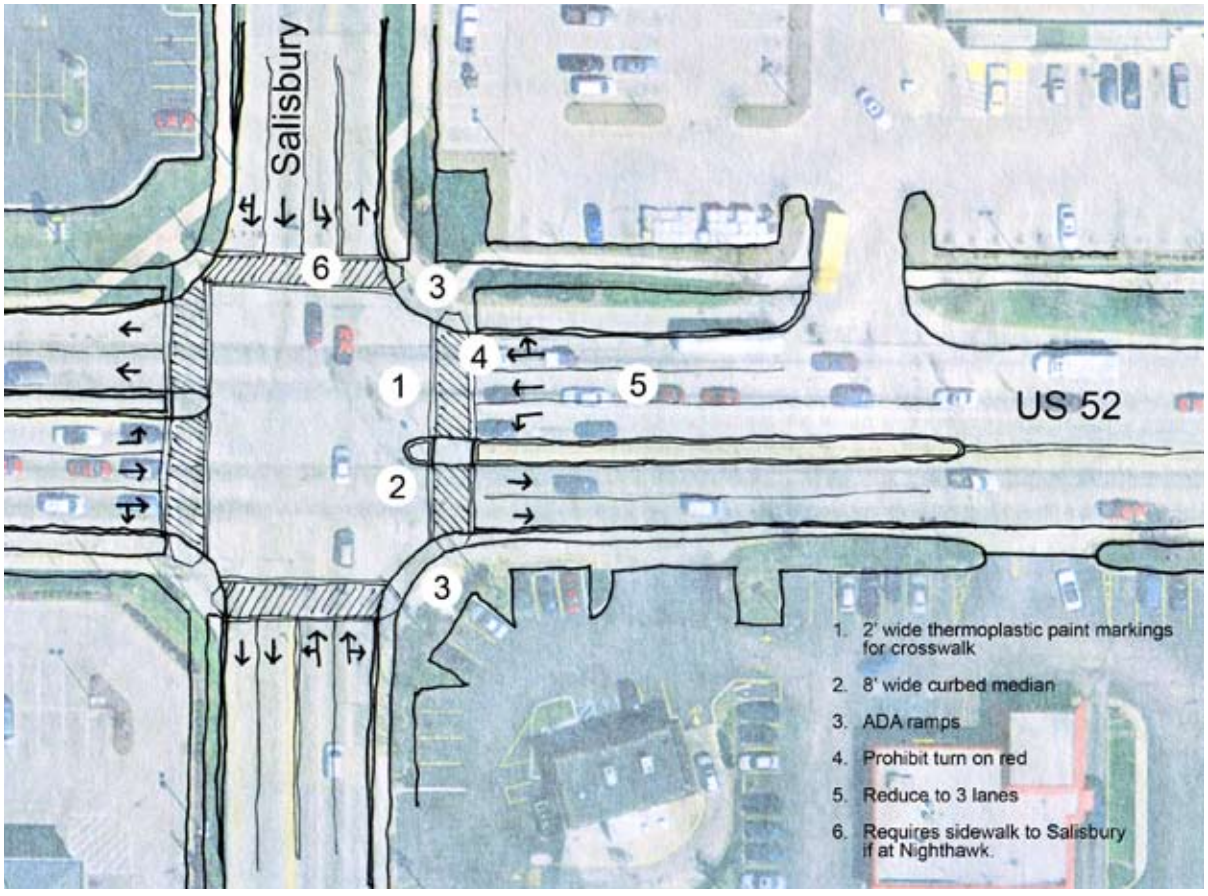
[12] Traffic counts are from Seasonally Adjusted Average Daily Traffic August 1999 – August 2009 as included on the Tippecanoe County website.

lanes of traffic. Improvements would not be overly expensive, but it is only incrementally safer than the first option. A sketch of this option is provided on page 48.

- **Option 3 – Pedestrian Bridge**: A pedestrian bridge has the highest cost, but is the safest option for pedestrians. However, pedestrian bridges are designed for foot traffic and are rarely ADA accessible or useful for people on bicycles.
- **Option 4 – Soldiers Home Bridge Crossing**: This option uses the existing bridge over Soldiers Home Road as a crossing. While less expensive than a new bridge, the distance from the intersection of Salisbury and US 52 will limit pedestrian use. A drawing of this option is provided on page 49.

Advantages and disadvantages of each option

Example pedestrian bridge. Source: images.enhancements.org



Sketch of the instatllation of a median at the intersection of US 52 and Salisbury (Option 2). Source: HWC

Plan for Option 4 Crossing at the Existing Soldiers Home Bridge. Source: HWC

Comparison of Options for a US 52 Pedestrian Bridge

Option	Description	Advantages	Disadvantages
Option 1: Pedestrian Signal Adjustments	Implement a series of improvements to existing equipment to prioritize pedestrian movements at intersection, including: Lengthen time for pedestrian crossing Replace pavement markings with 2 foot wide thermoplastic bars (more visible) Prohibit turning on red signals	Could be implemented at Salisbury and/or Nighthawk. Recommended to be implemented at both. Little construction cost. Shortest time to implement.	Improvements could slow vehicular traffic. Pedestrians still must cross six travel lanes. No physical separation from vehicles. Requires INDOT approval.
Option 2: Pedestrian Median	Add pedestrian median to reduce the number of lanes that a pedestrian needs to cross. Changes would also incorporate all Option 1 recommendations. (See sketch on page 48)	Could be implemented at Salisbury and/or Nighthawk. It is recommended for both. Does not require pedestrian to cross six travel lanes at once. Moderate construction cost. Medium time to implement.	Improvements could slow vehicular traffic. Reduces turning radii from Nighthawk onto eastbound US 52. Might require right-of-way acquisition. Pedestrians still must cross six travel lanes. No physical separation from vehicles. Requires INDOT approval.
Option 3: Pedestrian Bridge	Build pedestrian bridge. Bridge could be located between Salisbury and Nighthawk. (See photograph on page 48)	Safest crossing option. Provides physical separation from vehicles.	Stair/ramp is inconvenient and not ADA Compliant Right-of-way will need to be acquired to allow construction. Limited number of locations where bridge would be possible. Highest Cost.
Option 4: Utilize Soldiers Home Bridge	Construct interconnecting walks or trails to Soldiers Home Road, and utilize the existing bridge to cross US 52. (See plan on page 49)	Reasonably convenient for bicyclists. Re-uses existing bridge to provide grade separated crossing.	Distance from Salisbury/US 52 intersection will deter use by pedestrians. Requires crossing at Happy Hollow/Soldiers Home Road intersection.

are summarized on page 50. Options 1 is the most cost effective of available options. Therefore, it is recommended that the City coordinate with INDOT to implement Option 1 in the short term. At the same time, it is recommended that the City study options and costs for developing a pedestrian bridge over US 52 – and to compare those costs to using the existing bridge over Soldiers Home Road. This study should consider costs, design options, location options and related issues.

Best Practice Recommendations

Creating a culture of walking and biking requires careful attention to a wide range of issues on nearly every project the city undertakes. Issues could include traffic calming measures on city streets, placement of pedestrian signs, crosswalk details, routing of pedestrian traffic during sidewalk construction, integration of walking trails, and numerous other considerations. Each issue really warrants more detailed explanation than was intended by the scope of this study.

Nonetheless, this plan has helped the city identify that they need to perpetuate an awareness of how decisions impact pedestrians and bicyclists. Now that this awareness has been established, the city should work to formalize a process in which these needs are considered on every project. As issues arise, it is recommended that the city consult best practice reference materials that illustrate how to prioritize pedestrians and bicyclists. These are available from numerous sources on-line and as bound reference materials. Over time, the city should update its design standards to include specific requirements to address bicycle and pedestrian safety.

Summary of Sidewalk Recommendations

After collecting and evaluating pertinent data, an analysis was completed to determine the most pressing sidewalk and crosswalk issues related to improvements at the schools. Recommended improvements are identified on the maps on at the end of this Section, and in the tables on pages 52 and 53.

Best practice recommendations should address placement of signs. Source: HWC

Try This!

Best Practice Reference Materials:

Investigate the following sources for additional nformation related to pedestrian and bicycle safety standards:

http://www.saferoutesinfo.org
http://www.americawalks.org
http://www.livablestreets.com
http://www.walkable.org
http://www.transalt.org
http://portlandgreenstreets.org
http://www.trafficcalming.net

Summary of Engineering Recommendations - Short Term

	Key	Description and Cost	Key	Description and Cost
Northern Improvements (Cumberland Elementary School and Vicinity)	**1**	**Cumberland Avenue:** Add accessible curb ramps and crosswalks from Salisbury to Soldiers Home. $24,000	**4**	**Ripley Court:** Replace sidewalk and/or improve drainage. $10,000
	2	**Boone and Lagrange:** Upgrade curb ramps and crosswalks. $5,000	**5**	**Yeager Road:** Add sidewalks. $109,000
	3	**Lagrange and Salisbury:** Provide marked mid-block crossing. $6,000	**6**	**US 52:** Upgrade crossing. Further study needed.
Southern Improvements (Happy Hollow Elementary, Jr./Sr. High School and Vicinity)	**7**	**Vine Street:** Add sidewalks between Lawn and Meridian. $40,000	**14**	**Forest Hill:** Add sidewalks between Grant and Salisbury. $78,000
	8	**Multi-use Trails:** Add trail from Happy Hollow Park to Happy Hollow Elementary, and to Sumac Street. $108,000	**15**	**Ravinia Road and Woodland Avenue:** Add sidewalks along both streets. $188,000
	9	**Leslie Avenue:** Add school zone signals between Ravina and Salisbury. $12,000	**16**	**Meridian and Garfield Streets:** Upgrade crosswalks and curb ramps at intersection. $7,000
	10	**Northwestern Avenue (US 231):** Add marked crossing with flashing signals at Hillcrest or Garden. $21,000	**17**	**Hayes Street:** Add sidewalks from Leslie to Forest Hill. $15,000
	11	**Grant Street:** Add sidewalks on the west side of the street north of Leslie. $68,000	**18**	**Meridian Street:** Add flashing school zone signals. $12,000
	12	**Grant Street:** Replace flashing school zone signals and add crosswalk at Jefferson. $39,000	**19**	**Salisbury and Cumberland:** Upgrade crosswalks, curb ramps and pedestrian signals. $29,000
	13	**Lighting:** Upgrade street lighting in vicinty of Happy Hollow Elementary and Jr./Sr. High Schools. Further study needed.		

Note: Key numbers this page coorespond to the keynotes on the improvement maps at the end of this Section and to the detailed cost estimates in Appendix B.

Summary of Engineering Recommendations - Long Term

	Key	Description and Cost
Northern Improvements (Cumberland Elementary School and Vicinity)	**20**	**Soldiers Home Road:** Provide sidewalks north of Cumberland Avenue. $200,000
Southern Improvements (Happy Hollow Elementary, Jr./Sr. High School and Vicinity)	**21**	**Dehart Street:** Add sidewalks between Rose and SR 43 $35,000
	22	**Rose Street:** Add sidewalks between Robinson and Stadium. $28,000
	23	**Happy Hollow Road (SR 443):** Add sidewalks on both sides of street. $420,000

Note: Key numbers this page coorespond to the keynotes on the improvement maps at the end of this Section and to the detailed cost estimates in Appendix B.

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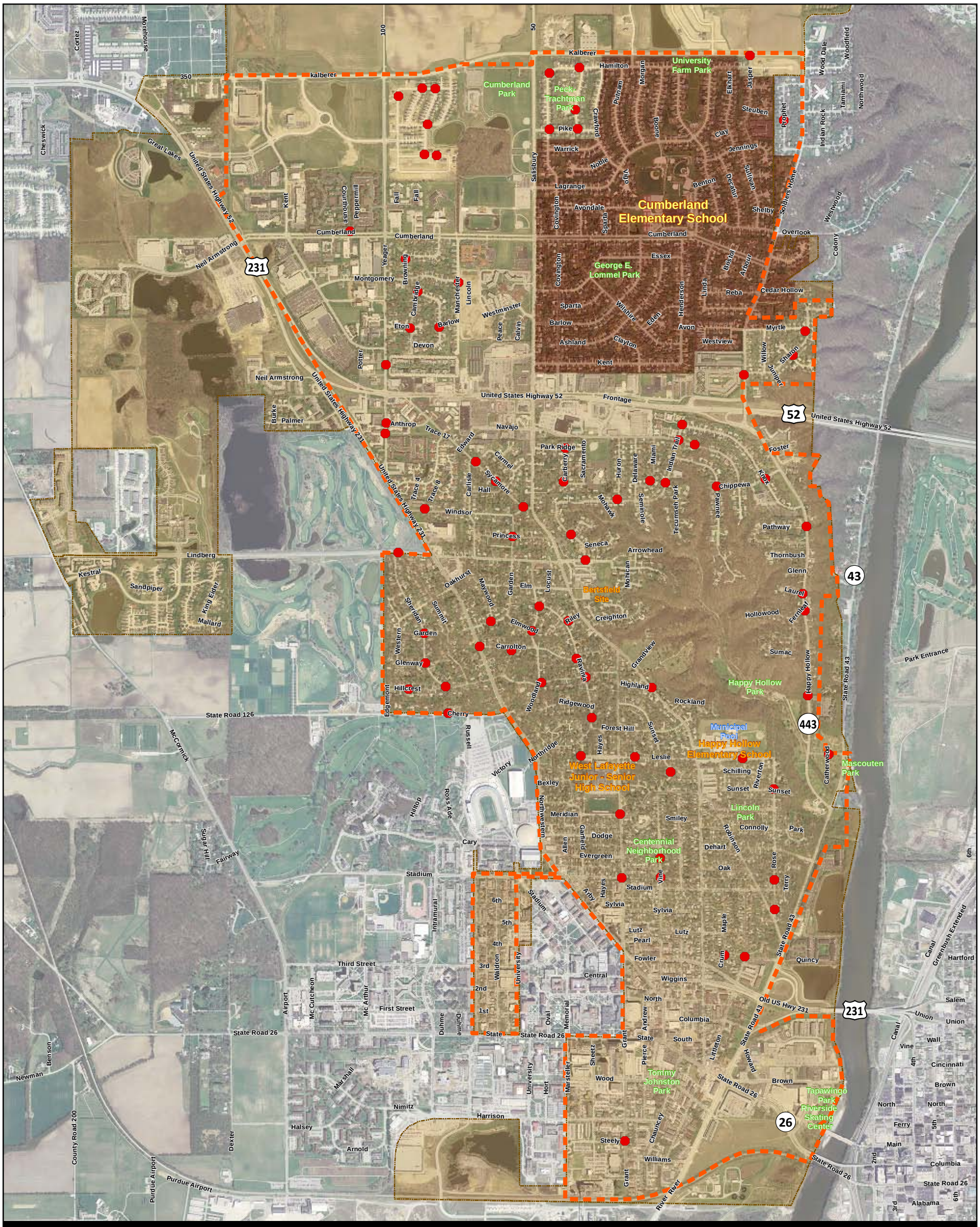


Legend

- West Lafayette Corporate Limits
- School Corporation Limits
- Walking Zone (No Bus Pick-Up)
- Bus Stop Location

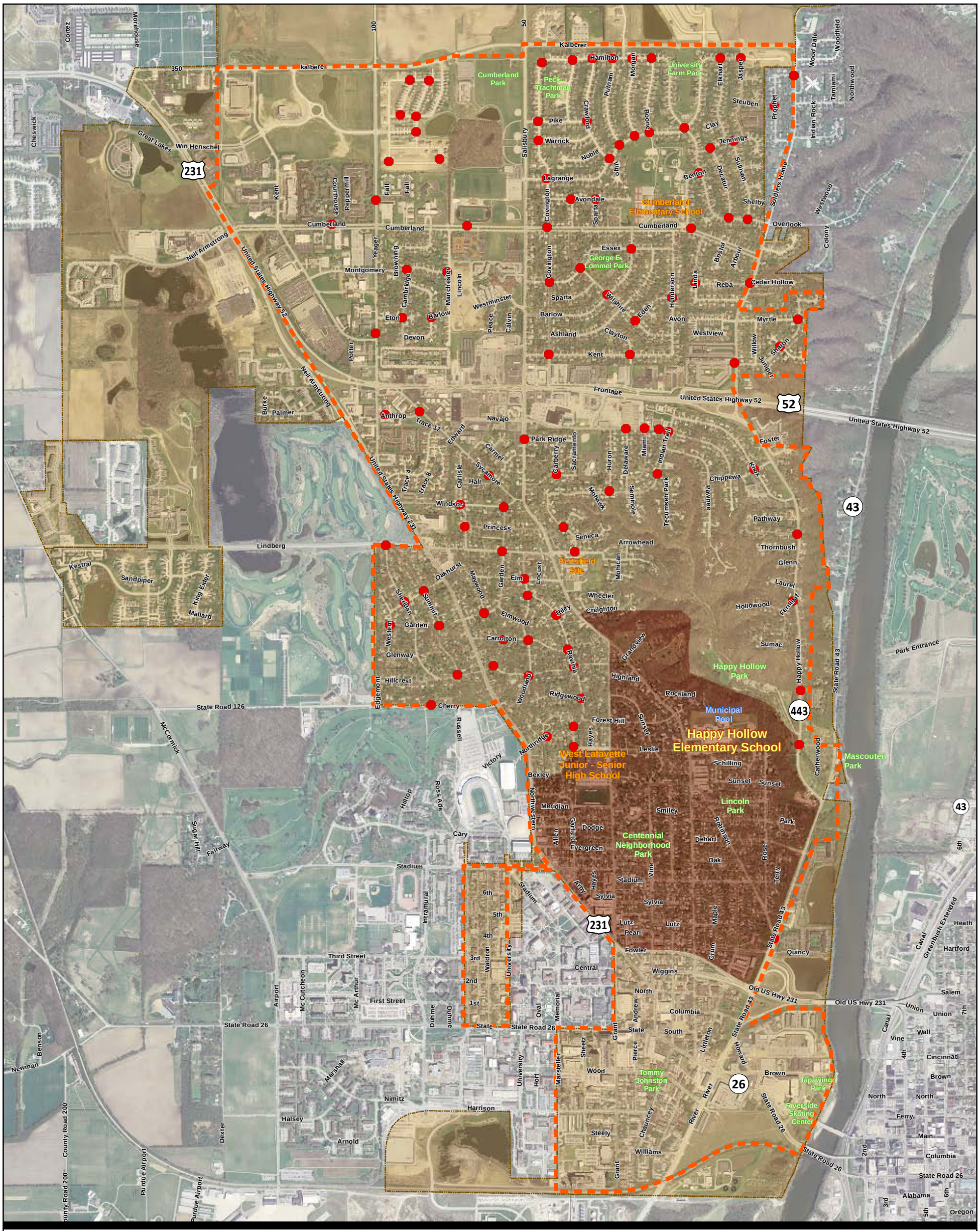
Bus Stop Locations for Cumberland Elementary

West Lafayette Safe Routes to School

HANNUM, WAGLE & CLINE engineering

Graphic Scale (Feet)

0 800 1,600 2,400



Legend

- West Lafayette Corporate Limits
- School Corporation Limits
- Walking Zone
- Bus Stop Location

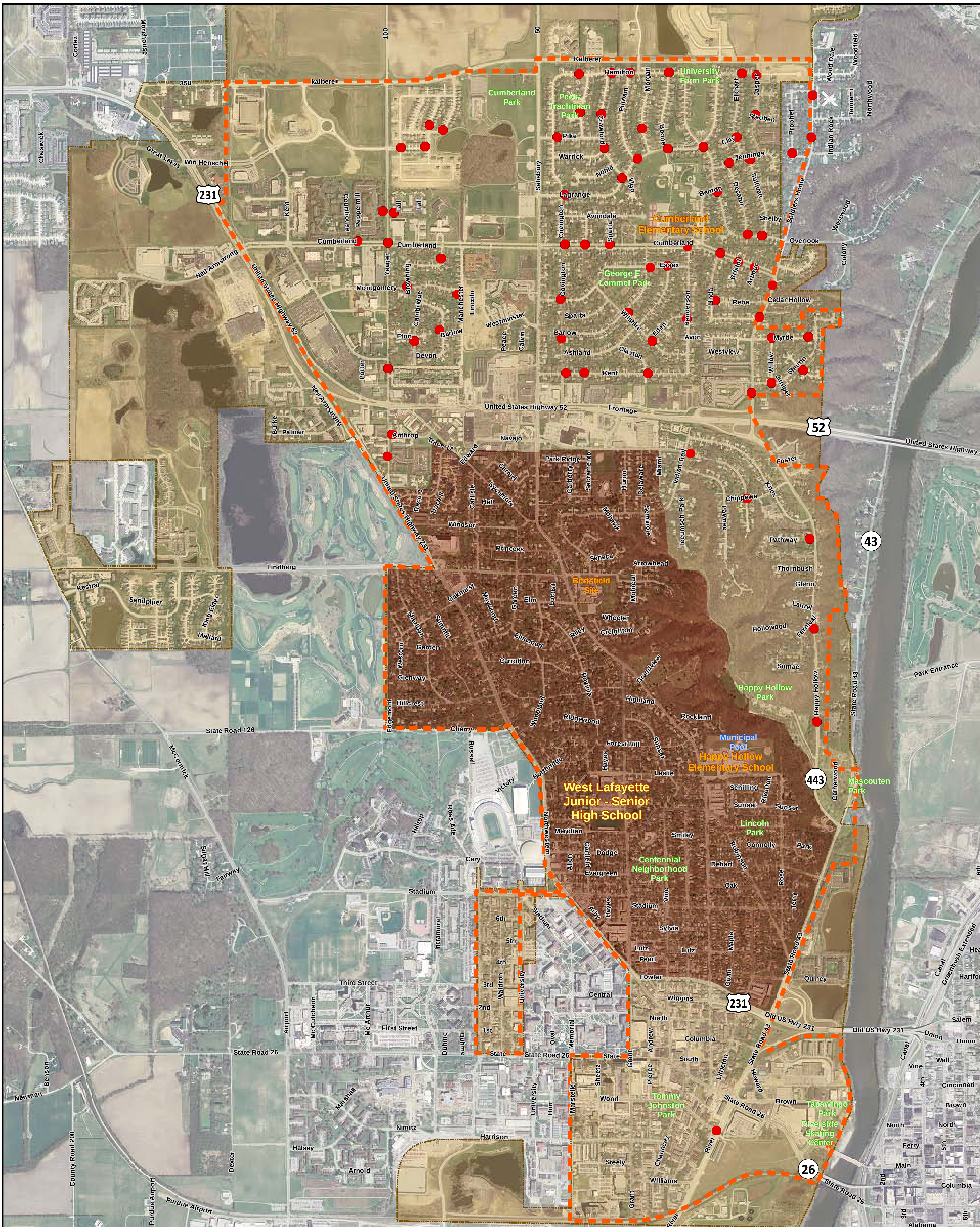
Bus Stop Locations for Happy Hollow Elementary

West Lafayette Safe Routes to School

HANNUM, WAGLE & CLINE engineering

Graphic Scale (Feet)

0 800 1,600 2,400



Legend

- West Lafayette Corporate Limits
- School Corporation Limits
- Walking Zone
- Bus Stop Location

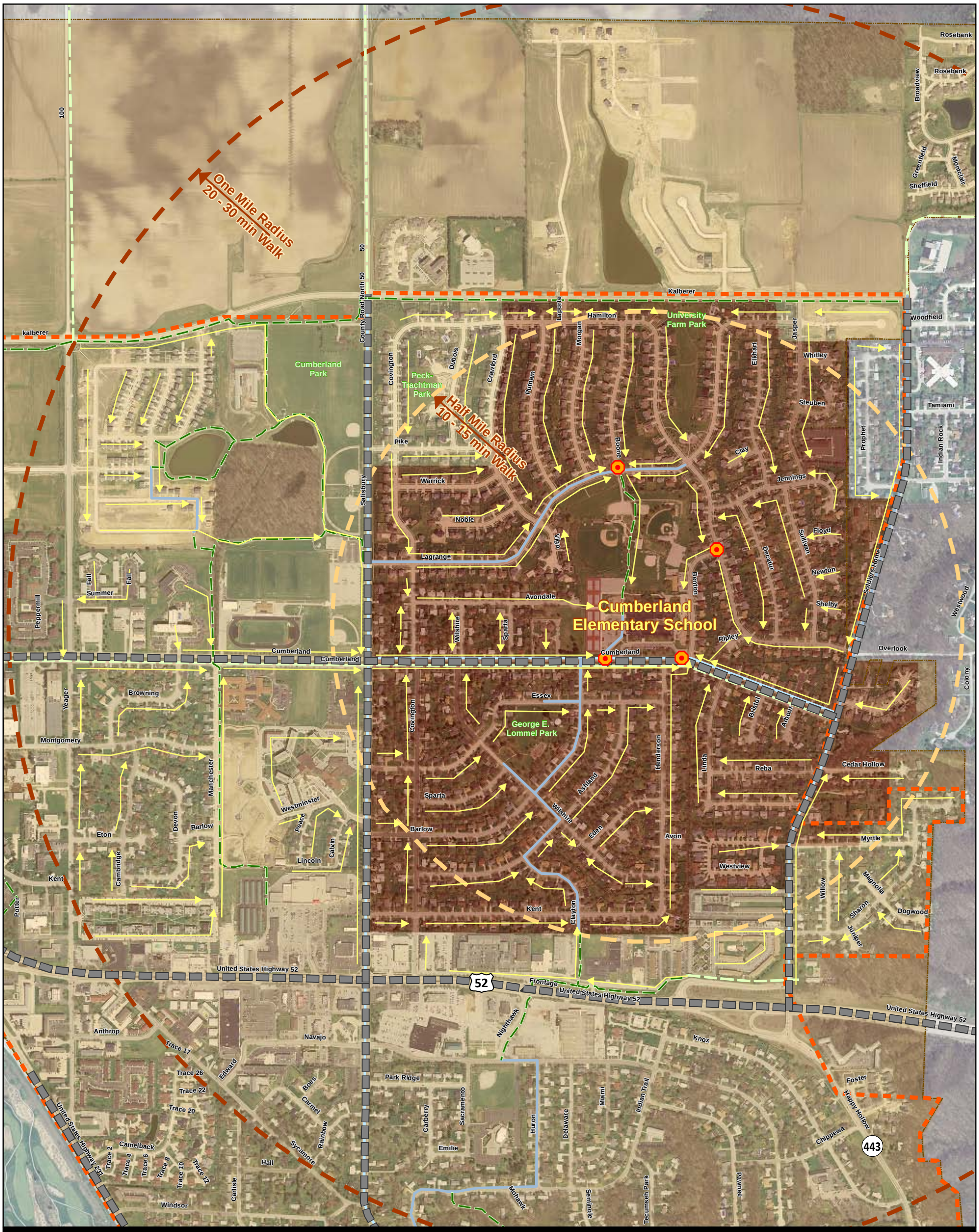
Bus Stop Locations for Junior - Senior High School

West Lafayette Safe Routes to School

Graphic Scale (Feet)

0 800 1,600 2,400

HANNUM, WAGLE & CLINE
engineering



Legend

- West Lafayette Corporate Limits
- School Corporation Limits
- Walking Zone (No Bus Pick-Up)
- Pedestrian Route
- Crossing Guard Locations
- Busy Street: No Crossing without Crossing Guard or Adult Supervision

Trails and Bike Paths

- Trails (paved)
- Planned Trail (paved)
- Bicycle Lane (marked, on street)
- Connecting Route (unmarked, on street)

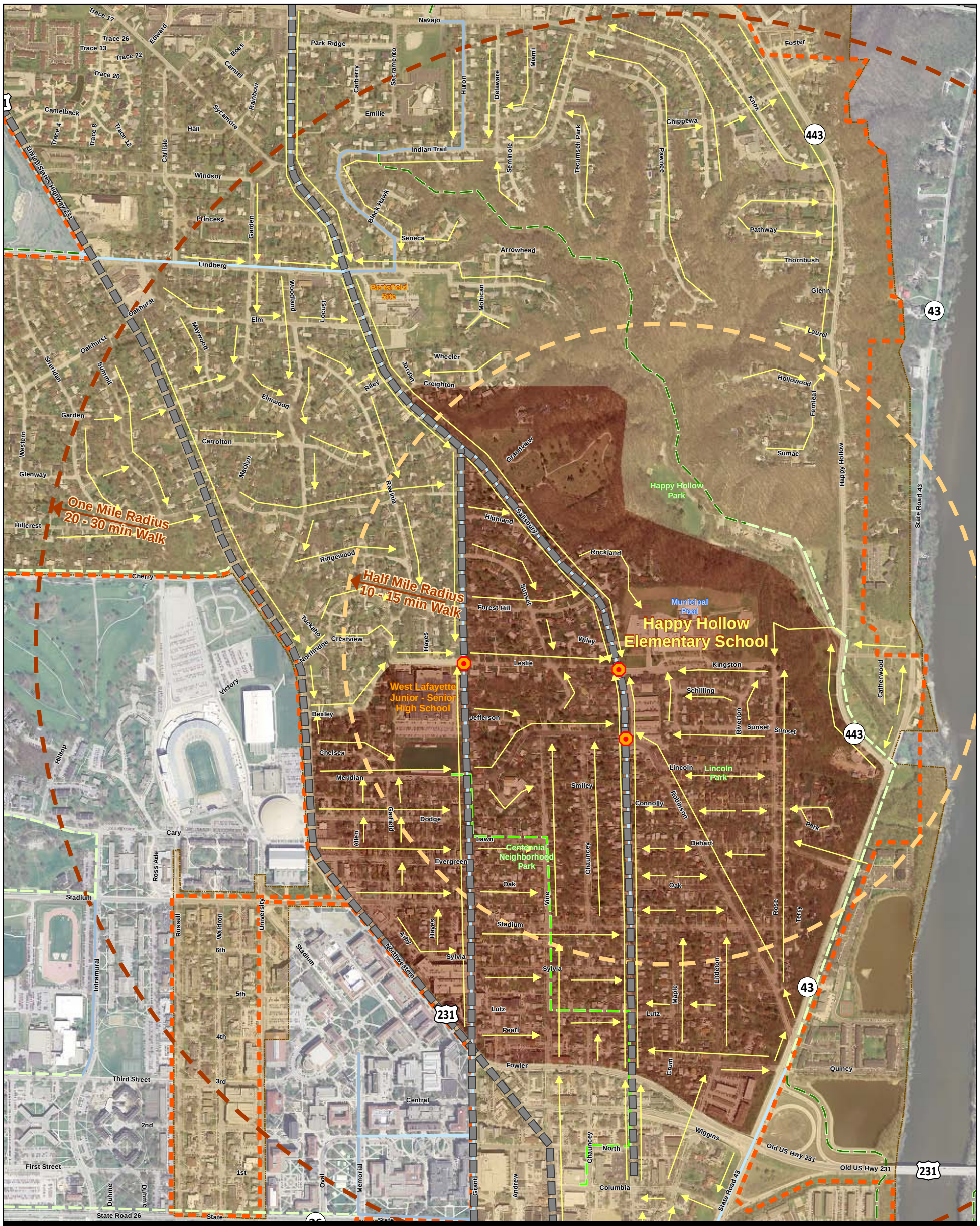
Pedestrian Routes to Cumberland Elementary

West Lafayette Safe Routes to School

HANNUM, WAGLE & CLINE engineering

Graphic Scale (Feet)

0 400 800 1,200



Legend

- West Lafayette Corporate Limits
- School Corporation Limits
- Walking Zone (No Bus Pick-Up)
- Pedestrian Route
- Crossing Guard Locations
- Busy Street: No Crossing without Crossing Guard or Adult Supervision

Trails and Bike Paths

- Trails (paved)
- Planned Trail (paved)
- Proposed Fitness Trail
- Bicycle Lane (marked, on street)
- Connecting Route (unmarked, on street)

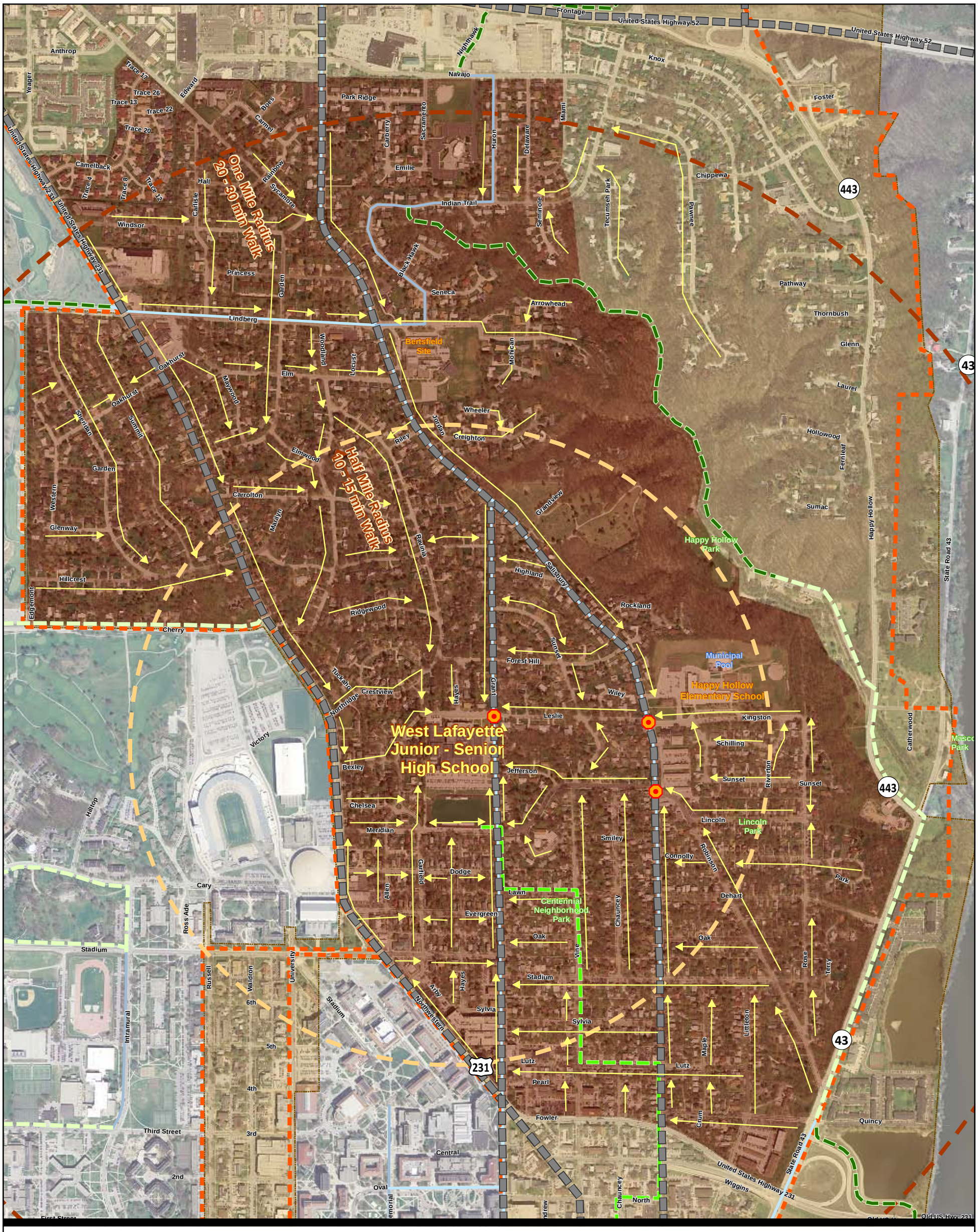
Pedestrian Routes to Happy Hollow Elementary

West Lafayette Safe Routes to School

HANNUM, WAGLE & CLINE engineering

Graphic Scale (Feet)

0 400 800 1,200



Legend

- West Lafayette Corporate Limits
- School Corporation Limits
- Walking Zone (No Bus Pick-Up)
- Pedestrian Route
- Crossing Guard Locations
- Busy Street: No Crossing without Crossing Guard or Adult Supervision

Trails and Bike Paths

- Trail (paved)
- Planned Trail (paved)
- Proposed Fitness Trail
- Bicycle Lane (marked, on street)
- Connecting Route (unmarked, on street)

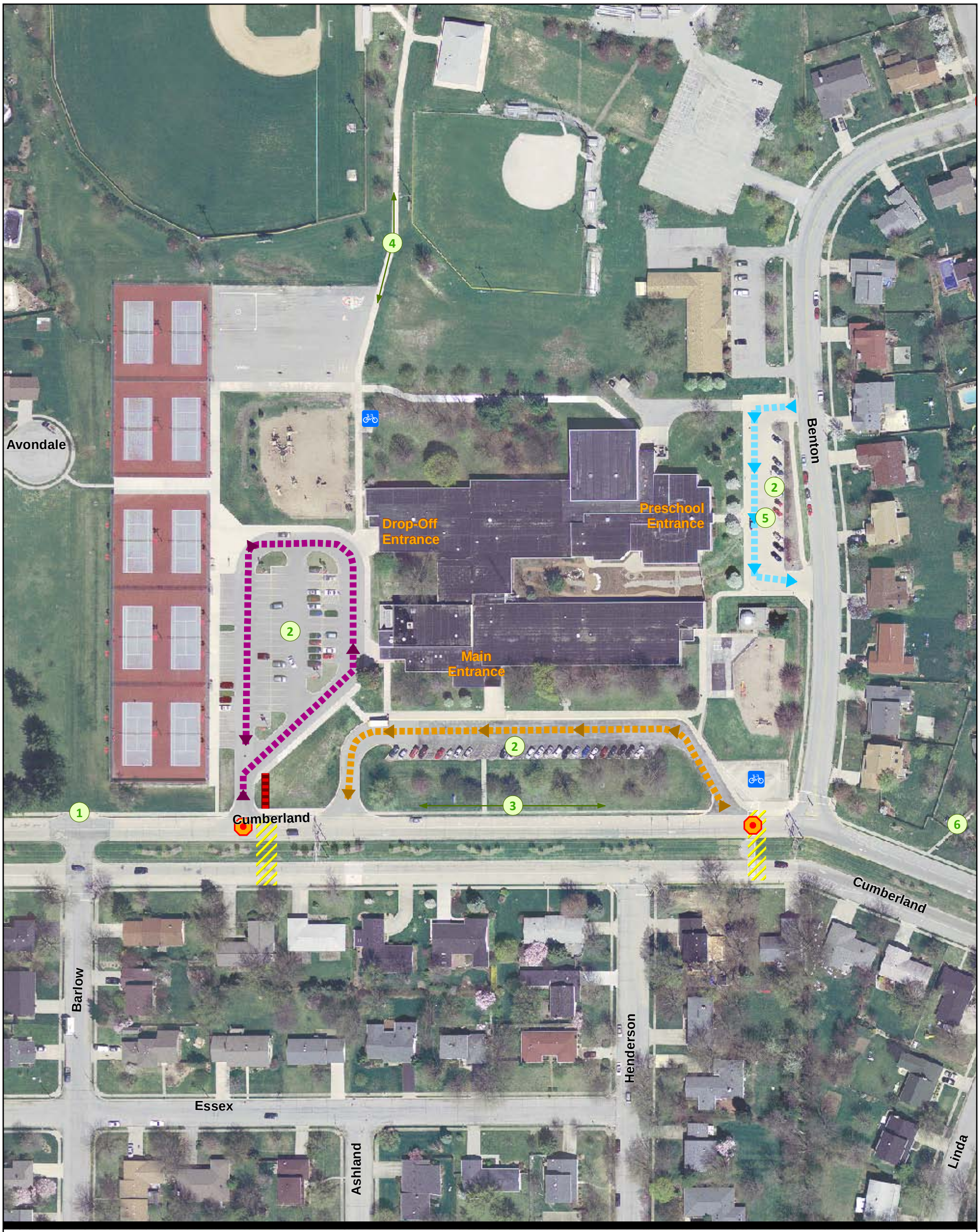
Pedestrian Routes to Junior - Senior High School

West Lafayette Safe Routes to School

HANNUM, WAGLE & CLINE engineering

Graphic Scale (Feet)

0 400 800 1,200



Legend

- Crossing Guard Location
- Bike Rack Location
- Drop-Off Route
- Bus Route
- Pre-School Drop-Off Route
- New Crosswalk (2009 Improvements)
- Proposed Sidewalk

Keynotes

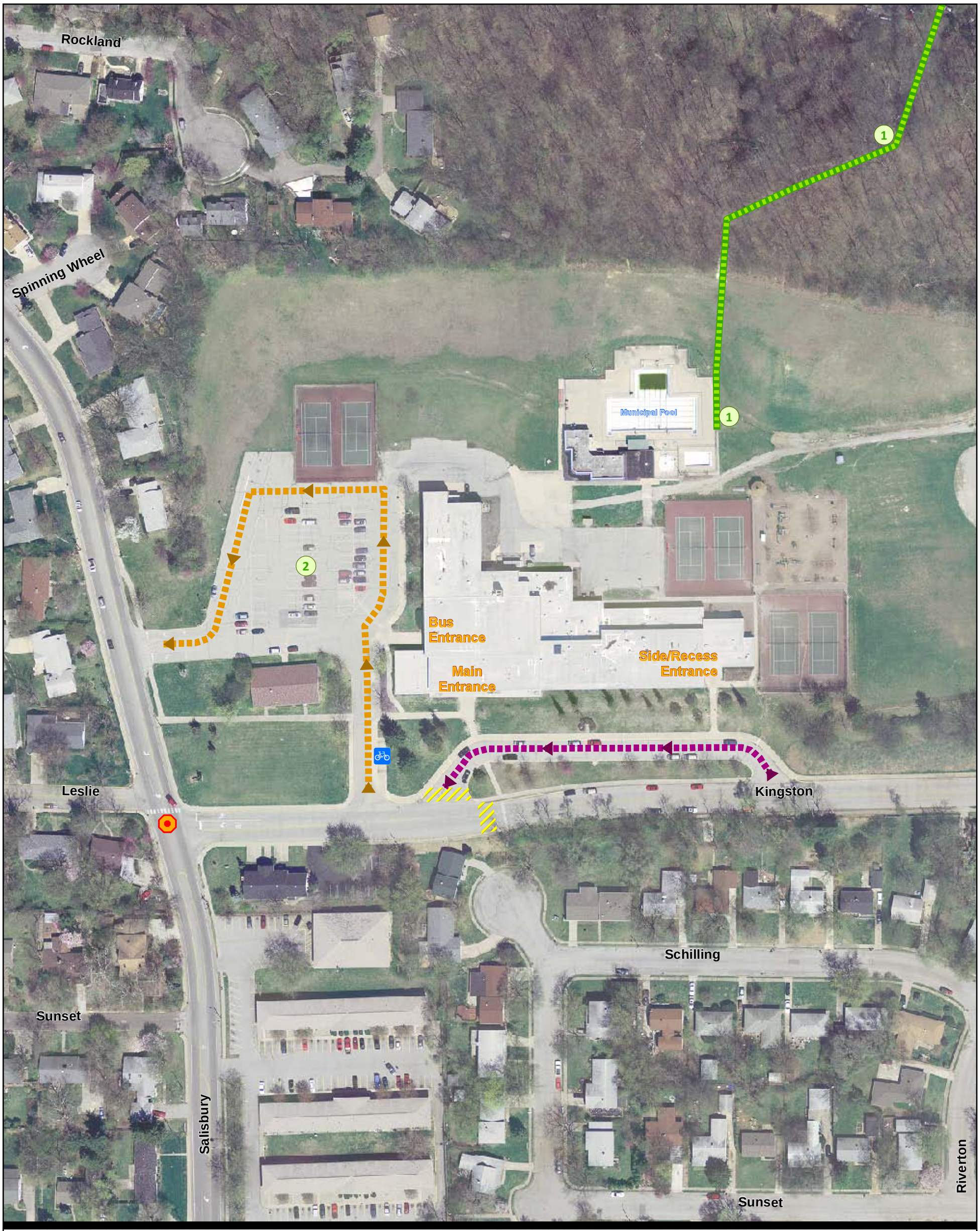
1. Sidewalk interupted by drive entrance.
2. Staff parking lot.
3. Parent drop-off on northside of Cumberland Road.
4. Multi-use path thru ballfields connects to adjacent neighborhoods.
5. Consider use of Pre-School entrance for parent drop-off for neighborhood to north.
6. Sidewalk from Ripley Court to Cumberland Avenue frequently floods and needs to be raised.

Cumberland Elementary

West Lafayette Safe Routes to School

HANNUM, WAGLE & CLINE engineering

Graphic Scale (Feet)
0 60 120 180



Legend

- Crossing Guard Location
- Bike Rack Location
- Drop-Off Route
- Bus Route
- New Crosswalk (2009 Improvements)
- Potential Trail Location

Keynotes

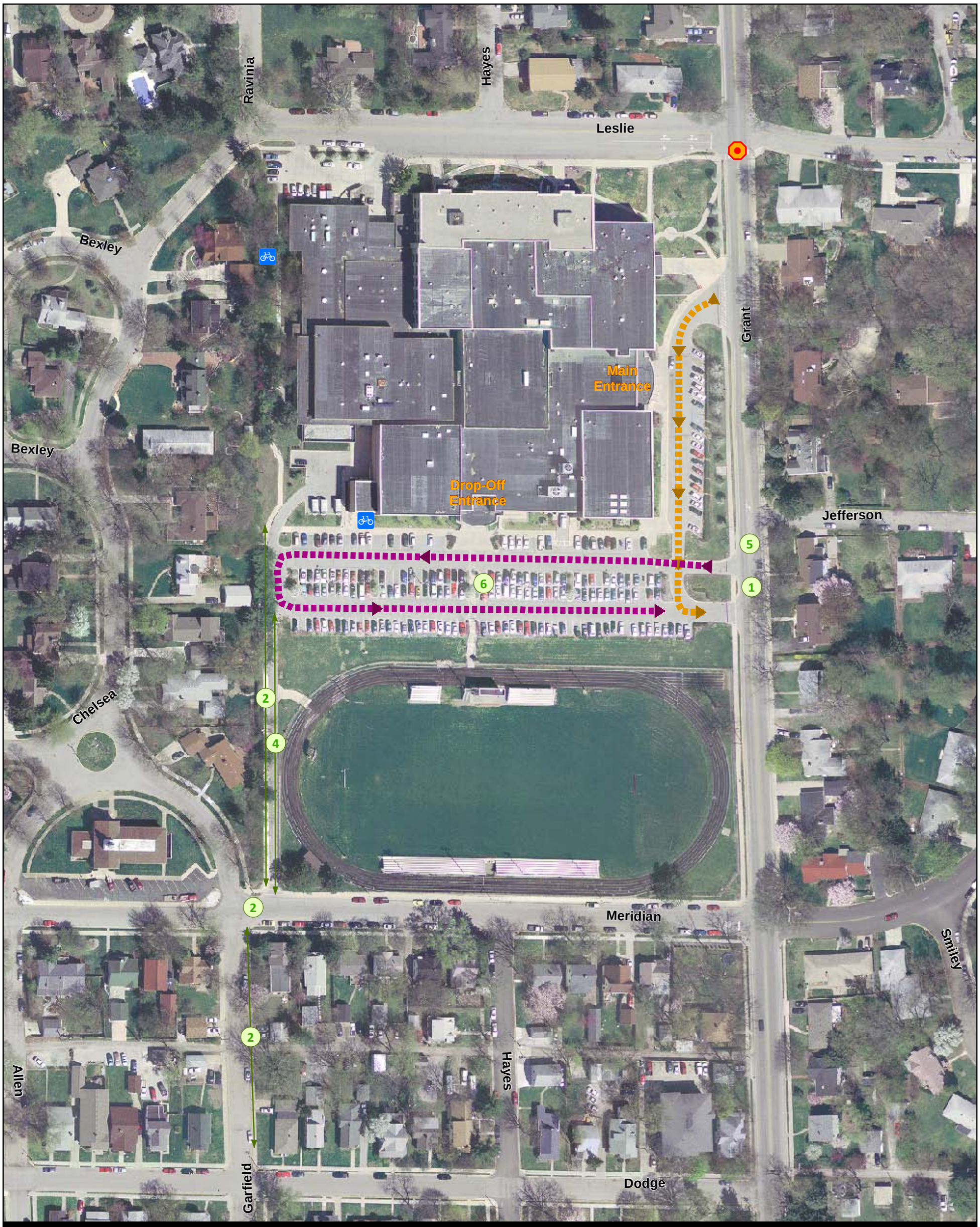
1. Potential Trail from Happy Hollow Park to Municipal Pool and School.
2. Staff parking lot.

Happy Hollow Elementary

West Lafayette Safe Routes to School

HANNUM, WAGLE & CLINE
engineering

Graphic Scale (Feet)
0 60 120 180



Legend

- Crossing Guard Location
- Bike Rack Location
- Drop-Off Route
- Bus Route

Keynotes

1. Traffic congestion with student drop-off/pick-up, bus departure, pedestrians, and student/staff parking.
2. Students walk south to lunch near the Purdue Campus. Marked crosswalks needed along Garfield.
3. Issues with U-turns on Leslie Street to drop off students.
4. Alternate student/staff parking exit.
5. Recommended "No Pedestrian Crossing Zone".
6. Student/staff parking lot.

Junior - Senior High School

West Lafayette Safe Routes to School

HANNUM, WAGLE & CLINE engineering

Graphic Scale (Feet)

0 60 120 180

Legend

- West Lafayette Corporate Limits
- School Corporation Limits

Trails and Bike Paths

- Trails (paved)
- Planned Trail (paved)
- Bicycle Lane (marked, on street)
- Connecting Route (unmarked, on street)

Proposed Improvements

- Sidewalks (Short Term)
- Sidewalks (Long Term)
- Intersection / Crosswalk

Keynotes

Note: Not all Keynotes appear on this plan.

1. Cumberland Avenue: Add accessible curb ramps and crosswalks from Salisbury to Soldiers Home.
2. Boone and Lagrange: Upgrade curb ramps and crosswalks.
3. Lagrange and Salisbury: Provide marked mid-block crossing.
4. Ripley Court: Replace Sidewalk and/or improve drainage.
5. Yeager Road: Add Sidewalks.
6. US 52: Upgrade Crossing. Further study required.
7. Vine Street: Add sidewalks between Lawn and Meridian.
8. Multi-use Trails: Add trail form Happy Hollow Park to Happy Hollow elementary, and to Sumac Street.
9. Leslie Avenue: Add school zone signals between Ravinia and Salisbury.
10. Northwestern Avenue (U231): Add marked crossing with flashing signals at Hillcrest or Garden.
11. Grant Street: Add sidewalks on the west side of the street, north of Leslie.
12. Grant Street: Replace flashing school zone signals and add crosswalk at Jefferson.
13. Lighting: Upgrade street lighting in vicinity of Happy Hollow Elementary and Jr./Sr. High Schools. Further study is needed.
14. Forest Hill: Add sidewalks between Grant and Salisbury.
15. Ravinia Road and Woodland Avenue: Add sidewalks along both streets.
16. Meridian and Garfield Streets: Upgrade crosswalks and curb ramps at intersection.
17. Hayes Street: Add sidewalks from Leslie to Forest Hill.
18. Meridian Street: Add flashing school zone signals.
19. Salisbury and Cumberland: Upgrade crosswalks, curb ramps and pedestrian signals.
20. Soldiers Home Road: Provide sidewalks north of Cumberland Boulevard.
21. Dehart Street: Add sidewalks between Rose and State Road 43.
22. Rose Street: Add sidewalks between Robinson and Stadium.
23. Happy Hollow Road (SR 443): Add sidewalks on both sides of street.

Recommended Northern Improvements

West Lafayette Safe Routes to School

HANNUM, WAGLE & CLINE engineering

Graphic Scale (Feet)
0 200 400 600

Legend

- West Lafayette Corporate Limits
- School Corporation Limits

Trails and Bike Paths

- Trails (paved)
- Planned Trail (paved)
- Proposed Fitness Trail
- Bicycle Lane (marked, on street)
- Connecting Route (unmarked, on street)

Proposed Improvements

- Sidewalks (Short Term)
- Multi-use Trails (Short Term)
- Sidewalks (Long Term)
- Intersection / Crosswalk

Keynotes

Note: Not all Keynotes appear on this plan.

1. Cumberland Avenue: Add accessible curb ramps and crosswalks from Salisbury to Soldiers Home.
2. Boone and Lagrange: Upgrade curb ramps and crosswalks.
3. Lagrange and Salisbury: Provide marked mid-block crossing.
4. Ripley Court: Replace Sidewalk and/or improve drainage.
5. Yeager Road: Add Sidewalks.
6. US 52: Upgrade Crossing. Further study required.
7. Vine Street: Add sidewalks between Lawn and Meridian.
8. Multi-use Trails: Add trail form Happy Hollow Park to Happy Hollow elementary, and to Sumac Street.
9. Leslie Avenue: Add school zone signals between Ravinia and Salisbury.
10. Northwestern Avenue (U231): Add marked crossing with flashing signals at Hillcrest or Garden.
11. Grant Street: Add sidewalks on the west side of the street, north of Leslie.
12. Grant Street: Replace flashing school zone signals and add crosswalk at Jefferson.
13. Lighting: Upgrade street lighting in vicinity of Happy Hollow Elementary and Jr./Sr. High Schools. Further study is needed.
14. Forest Hill: Add sidewalks between Grant and Salisbury.
15. Ravinia Road and Woodland Avenue: Add sidewalks along both streets.
16. Meridian and Garfield Streets: Upgrade crosswalks and curb ramps at intersection.
17. Hayes Street: Add sidewalks from Leslie to Forest Hill.
18. Meridian Street: Add flashing school zone signals.
19. Salisbury and Cumberland: Upgrade crosswalks, curb ramps and pedestrian signals.
20. Soldiers Home Road: Provide sidewalks north of Cumberland Boulevard.
21. Dehart Street: Add sidewalks between Rose and State Road 43.
22. Rose Street: Add sidewalks between Robinson and Stadium.
23. Happy Hollow Road (SR 443): Add sidewalks on both sides of street.

Recommended Southern Improvements

West Lafayette Safe Routes to School

HANNUM, WAGLE & CLINE engineering

Graphic Scale (Feet)
0 200 400 600

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Section Ten - Implementation

Introduction

This plan has set out a bold vision for the future of West Lafayette – to establish a "culture of walking and bicycling", and in doing so make it easier and safer for students to walk and bicycle to school. Reaching that vision will certainly take time, and involves countless steps.

Regardless of the time it will take, it starts with a basic plan, and committed people working toward that plan. Some of the steps will move the plan forward, other steps will do little more than keep from moving backwards – but each is essential to the overall effort.

Evaluation – the 5th "E"

The safe routes to school initiative focuses on the four "E's" (education, encouragement, enforcement and engineering) as strategies for accomplishing plan goals. The final "E" is evaluation. The evaluation phase is intended to track the accomplishments of the plan.

While there are many strategies outlined in this plan, it is understood that not all of them will be effective in accomplishing plan goals. Therefore it is important to develop metrics to track the success of plan efforts. Something as simple as keeping track of the number of students who participate in a SRTS day initiative can tell you how effective the community's efforts have become.

One way to complete the evaluation process is to track a handful of statistics to gauge progress. These could be gathered by counting students who participate in special events, or by conducting an annual student survey as was completed when SRTS grant funds were initially applied for. This information should be used to gauge which strategies are working, and what should be adjusted to make offerings more successful.

Under any scenario, the most important step in the Evaluation/Implementation phase is to keep the project goals alive and to perpetuate momentum toward those goals.

Community Partners

The driving partners in the creation of a culture of walking and bicycling will be the City of West Lafayette and the West Lafayette Community School Corporation. Together, both entities have the responsibility of establishing and driving the vision of the project. Individually, each also has specific responsibilities. However, the implementation effort does not end with these two entities, and must involve a number of partners throughout the community.

The City of West Lafayette's most direct roles involve the engineering and enforcement strategies. Related to engineering, the City is responsible for overseeing infrastructure created in the community – and has a responsibility to guide its development in a manner friendly to pedestrians and bicyclists, and more specifically to students who walk and bike to school. The City also has primary responsibility for enforcement. Some of that responsibility falls on the City's engineering department in terms of overseeing projects conform to city standards. However, most of it falls on the West Lafayette Police department, especially in terms of enforcing traffic safety.

Safe Routes to Schools Plan Open House - September 9, 2009. Source: HWC

The West Lafayette Community School Corporation (WLCSC) should assume primary responsibility for encouragement and education activities. Related to education, the WLCSC should lead the development of curriculum intended to teach students how to safely walk and bicycle to school. Related to encouragement, they should spearhead development of programs that create opportunities for walking and bicycling.

Beyond these two lead entities, there are many others who will be important to the process. The Tippecanoe County Area Plan Commission provides planning oversight for the City, and should be tasked with helping update, implement and enforce development standards that make it safer for students to walk and bicycle to school. Furthermore, as the local comprehensive plan is updated in upcoming months, it is essential that the City and the Area Plan Commission work together to make sure all understand the vision that has come from this plan – and work to implement the effort. The Area Plan Commission also serves as the Metropolitan Planning Organization responsible for regional transportation planning, and therefore coordination with this group is essential for implementing the vision.

Parent Council groups at each of the community's schools also play a key role. These groups have held walk to school events in the past, and could continue to lead these events and possibly take on a stronger leadership role.

Regional partners such as Tippecanoe County, the City of Lafayette, higher education partners at Purdue University, local civic groups, and not-for-profits can all play a part in helping to implement the vision. Other communities have partnered with local corporate sponsors in helping to promote walking and bicycling safety. Sponsors could include health/hospital groups, insurance companies, banks or other corporations.

A strategy incorporated by many communities to encourage ongoing involvement is to make the SRTS committee a permanent effort. This could accomplished by assigning SRTS monitoring and implementation to an existing committee (such as the West Lafayette Bike-Ped Committee) or a new committee could be established specifically for SRTS issues.

What Additional Planning is Needed?

In the course of this project, it has been identified that additional study needs to be completed on a few specific issues. A summary of these additional planning efforts are noted:

- **Street Lighting Evaluation:** This plan identified that students have to walk to the bus stop or school in darkness for several months out of the year. It is recommended that the City undertake an evaluation of street lighting to prioritize the need for new or replacement lights along walking/bicycling routes and near school bus stops.

- **US 52 Pedestrian Bridge Feasibility Study:** This plan identified that there was community support for studying a pedestrian bridge over US 52. However, it was beyond the scope of this plan to determine the location, cost or details of such a project. It is recommended that a preliminary study be completed to review options for this project.

Funding Sources

Finding grant and loan funds to help implement this plan is a key component of implementation. Following is a summary of grant programs that West Lafayette qualifies for, that could potentially be used for implementation of the plan.

Safe Routes to Schools (SRTS)

In addition to the non-infrastructure grant that funded this plan, the SRTS program provides statewide infrastructure grants of up to $250,000 for the construction of pedestrian and bicycle safety improvements around schools.

Program:	Safe Routes to School
Administered by:	Indiana Department of Transportation
Grant Amount:	$250,000
Match Requirements:	No match required
Funding to be Used for:	Construction of facilities to promote walking and bicycling to school and to make it safer, including sidewalks, crosswalks, and flashing signals.

Transportation Enhancement (TE)

This program is administered by the Indiana Department of Transportation through the Area Plan Commission for pedestrian and bicycle facilities..

Program:	Transportation Enhancement
Administered by:	Indiana Department of Transportation
Annual Allocation	$380,000 Annually
Match Requirements:	20% local match
Funding to be Used for:	Construction of facilities for pedestrians and bicyclists.

Surface Transportation Program (STP)

Administered by the Indiana Department of Transportation through the Area Plan Commission, this program is provides federal funding for roadway projects. Roadway must be a designated route. West Lafayette qualifies as a Group II city.

Program:	Federal Transportation Aid
Administered by:	Indiana Department of Transportation
Annual Allocation	Approximately $3,781,000 annually
Match Requirements:	20% local match
Funding to be Used for:	Construction of roadway improvements on federal on-system routes. Includes pavement, curbs and sidewalks.

Highway Safety Improvement Program (HSIP)

This program is administered by the Indiana Department of Transportation through the Area Plan Commission for elimination of specific safety issues, usually at intersections. Roadway must be a designated route. West Lafayette qualifies as a Group II city.

Program:	Federal Transportation Aid
Administered by:	Indiana Department of Transportation
Grant Amount:	Not specified
Match Requirements:	10% local match
Funding to be Used for:	Safety improvements at intersections including signage, pavement markings, signal modifications and lighting improvements.

Recreational Trails Program

This program provides funding for the construction of multi-use trail systems. The program is administered through the Indiana Department of Natural Resources.

Program:	Recreational Trails Program
Administered by:	Indiana Department of Natural Resources
Grant Amount:	$150,000
Match Requirements:	20% local match
Funding to be Used for:	Acquisition of land for and construction of multi-use trails.

What to Do First

Implementing this plan is best accomplished while there is interest and momentum built up. Therefore, the following presents a recommended strategy for the initial phases of implementing this plan. Further details and additional steps are included in the implementation plan tables on the following pages.

First 6 months:

- Plan for an annual walking/biking event in the spring of 2010.
- Establish permanent SRTS committee/task force.

First 12 months:

- Conduct lighting study.
- Formalize annual training program for crossing guards, student crossing patrols, etc.
- Plan and implement annual special enforcement period directed toward bicycle and pedestrian safety by law enforcement.
- Plan for an annual fall walking/biking event to coincide with International Walk to School day.
- Develop beginning of school SRTS handouts to be given out in the fall of 2010.
- Establish student safety curriculum to be taught by the school corporation annually.

First 24 months:

- Recruit volunteers and establish a formal park and walk program.
- Recruit volunteers and establish a formal walking school bus program.
- Obtain funding for and implement short term engineering improvements recommended in the plan.
- Commission study of US 52 crossing options.
- Update City standards, policies and practices to incorporate walking/bicycle safety concerns.

How to Use the Implementation Plan Tables

The implementation plan summarizes the goals identified in each chapter of this plan. The document is organized by category (education, encouragement, enforcement and engineering). Goals related to each category are identified, and various strategies for meeting those goals are listed. For each strategy, this plan has identified the lead entity that will be responsible for meeting those goals and a schedule for implementation. In the far right column, a summary of implementation tools is provided.

Implementation Plan: Education

West Lafayette Safe Routes to Schools Plan

Intent: Education strategies are aimed at teaching children, drivers and others about pedestrian and bicycle safety. Education of drivers about school zone safety is also a key education goal of this effort.

Completed	GOALS AND OBJECTIVES	RESPONSIBLE	SCHEDULE	TOOLS
	Strategies for Educating Children			
	Strategy 1: School-based education of Children	WLCSC, School Principals	Annually	SRTS Guide - Key Messages for Educating Children: www.saferoutesinfo.org/guide/education/key messages for children.cfm
	Strategy 2: Bicycle Rodeo	WLPD; WL Parks and Recreation Department; Wabash River Cycle Club; West Lafayette Bike Ped Committee	Every Two Years in September	National Highway Traffic Safety Administration Tool Kit: http://www.nhtsa.dot.gov/people/injury/pedbimot/bike/Safe-Routes-2002/index.html
	Strategy 3: SRTS Events	Parent Council	Annually, 2-3 events per year.	International Walk to School Day Website: http://www.walktoschool.org/
	Strategies for Educating Parents			
	Strategy 4: Parent Council to Promote SRTS Message	Parent Council	Ongoing	National Highway Traffic Safety Administration Tool Kit: http://www.nhtsa.dot.gov/people/injury/pedbimot/bike/Safe-Routes-2002/index.html
	Strategy 5: Develop and Distribute SRTS Materials to Parents	Principals	Annually, every August	Route Maps Included in this Plan; SRTS Guide - School Route Maps: http://www.saferoutesinfo.org/guide/engineering/school_route_maps.cfm
	Strategy 6: Provide SRTS Educational Information on Websites	City of West Lafayette, WLCSC	January 2011	National Highway Traffic Safety Administration Tool Kit: http://www.nhtsa.dot.gov/people/injury/pedbimot/bike/Safe-Routes-2002/index.html

Implementation Plan: Education

West Lafayette Safe Routes to Schools Plan

Intent: Education strategies are aimed at teaching children, drivers and others about pedestrian and bicycle safety. Education of drivers about school zone safety is also a key education goal of this effort.

Completed	GOALS AND OBJECTIVES	RESPONSIBLE	SCHEDULE	TOOLS
	Strategies for Educating Parents			
	Strategy 7: Beginning of School SRTS Handouts	Principals	Annually, every August	National Highway Traffic Safety Administration Tool Kit: http://www.nhtsa.dot.gov/people/injury/pedbimot/bike/Safe-Routes-2002/index.html
	Strategies for Educating Drivers			
	Strategy 8: Develop SRTS Media Campaign	City of West Lafayette, WLCSC	January 2011	National Highway Traffic Safety Administration Tool Kit: http://www.nhtsa.dot.gov/people/injury/pedbimot/bike/Safe-Routes-2002/index.html
	Strategy 9: Speed Trailers	WLPD	Ongoing	Radar Trailer Case Study: http://www.walkinginfo.org/pedsafe/casestudy.cfm?CS_NUM=70
	Strategies for Educating Neighbors			
	Strategy 10: Involve Neighbors in SRTS Process	City of West Lafayette, WLCSC	October 2012	SRTS Guide - Key Messages for Neighbors: http://www.saferoutesinfo.org/guide/education/neighbors.cfm
	Strategies for Educating Purdue Students			
	Strategy 11: School Awareness Campaign at Purdue University	City of West Lafayette, WLCSC, Purdue University	August 2011	SRTS Guide - Key Messages for Neighbors: http://www.saferoutesinfo.org/guide/education/neighbors.cfm
	Strategies for Educating Police			
	Strategy 12: Annual City and School Staff Training	City of West Lafayette, WLCSC, Purdue University	August 2011	Adult School Crossing Guard Guidelines: http://www.saferoutesinfo.org/guide/crossing_guard/pdf/crossing_guard_guidelines_web.pdf

Implementation Plan: Enforcement

West Lafayette Safe Routes to Schools Plan

Intent: The purpose of enforcement is to deter unsafe behaviors by drivers, walkers and bicyclists – while at the same time encouraging all to obey traffic laws. Two key issues were identified where enforcement could result in safer routes to schools. The first is to promote safe driving habits, and the second is to promote safe neighborhoods in which children can travel to schools.

Completed	GOALS AND OBJECTIVES	RESPONSIBLE	SCHEDULE	TOOLS
	Law Enforcement Strategies			
	Strategy 1: Enhanced Enforcement Periods (Progressive Ticketing)	WLPD	Annually	SRTS Guide: http://www.saferoutesinfo.org/guide/enforcement/progressive_ticketing.cfm
	Strategy 2: Speed Trailers	WLPD	Ongoing	Radar Trailer Case Study: http://www.walkinginfo.org/pedsafe/casestudy.cfm?CS_NUM=70
	Strategy 3: Active Speed Monitors	WLPD	2012	Radar Trailer Case Study: http://www.walkinginfo.org/pedsafe/casestudy.cfm?CS_NUM=70
	Strategy 4: Traffic Complaint Hotline	WLPD	2014	Neighborhood Speed Watch Case Study: http://www.slcgov.com/transportation/TrafficManagement/speedwatch.htm
	Strategy 5: Pedestrian Decoy Operations	WLPD	Bi-Annually	SRTS Guide: http://www.saferoutesinfo.org/guide/enforcement/pedestrian_decoy_operations.cfm
	Strategy 6: Adult School Crossing Guards	WLPD	Ongoing	Adult School Crossing Guard Guidelines: http://www.saferoutesinfo.org/guide/crossing_guard/pdf/crossing_guard_guidelines_web.pdf
	Stragegy 7: Speed Enforcement in School Zones	WLPD	Ongoing	

Implementation Plan: Enforcement

West Lafayette Safe Routes to Schools Plan

Intent: The purpose of enforcement is to deter unsafe behaviors by drivers, walkers and bicyclists – while at the same time encouraging all to obey traffic laws. Two key issues were identified where enforcement could result in safer routes to schools. The first is to promote safe driving habits, and the second is to promote safe neighborhoods in which children can travel to schools.

Completed	GOALS AND OBJECTIVES	RESPONSIBLE	SCHEDULE	TOOLS
	Community Enforcement Strategies			
	Stragegy 8: Involve Media in Pedestrian/Bicycle Safety Campaign	WLPD, City of West Lafayette, WLCSC, Local Media	Bi-Annually	National Highway Traffic Safety Administration Tool Kit: http://www.nhtsa.dot.gov/people/injury/pedbimot/bike/Safe-Routes-2002/index.html
	Strategy 9: Self-produced Walking/Bicycling Safety Campaign	WLCSC/Parent Councils/City of West Lafayette	Ongoing	National Highway Traffic Safety Administration Tool Kit: http://www.nhtsa.dot.gov/people/injury/pedbimot/bike/Safe-Routes-2002/index.html
	Strategy 10: Safety Patrols	WLCSC/Parent Councils	Ongoing	SRTS Guide: http://www.saferoutesinfo.org/guide/enforcement/safety_patrol.cfm

Implementation Plan: Encouragement

West Lafayette Safe Routes to Schools Plan

Intent: Encouragement strategies are intended to bring fun and excitement to those walking and biking to school. These strategies involve various programs and reward systems to get parents and students to begin or continue to walk or bike to school.

Completed	GOALS AND OBJECTIVES	RESPONSIBLE	SCHEDULE	TOOLS
	Encouragement Strategies			
	Stragegy 1: Special Events	Parent Council	2-3 Annually, beginning in Spring 2010.	International Walk to School Day Website: http://www.walktoschool.org/
	Strategy 2: International Walk to School Events	Parent Council	Annually in October	International Walk to School Day Website: http://www.walktoschool.org/
	Strategy 3: Mileage Clubs and Contests	Parent Council	Annually, to coincide with special events.	National Highway Traffic Safety Administration Tool Kit: http://www.nhtsa.dot.gov/people/injury/pedbimot/bike/Safe-Routes-2002/index.html
	Strategy 4: Walking School Buses and Bicycle Trains	WLCSC/Parent Council	August 2010	SRTS Walking School Bus Guide: http://www.saferoutesinfo.org/guide/walking_school_bus/pdf/wsb_guide.pdf
	Strategy 5: Park and Walk	WLCSC/Parent Council	August 2012	www.arborfield.wokingham.sch.uk/walking%20bus.htm
	Strategy 6: On-Campus Walking Activities	WLCSC/Principals	August 2011	SRTS Guide: www.saferoutesinfo.org/guide/encouragement/mileage_clubs_and_contests.cfm

Implementation Plan: Engineering

West Lafayette Safe Routes to Schools Plan

Intent: Engineering strategies are intended to create safe sidewalks and crosswalks that are needed to enable children to walk or bike to school. Engineering solutions also extend to various other traffic control devices needed to promote safety for those traveling to school. For West Lafayette, a series of engineering solutions have been identified that will enable more children to walk and bike to school safely.

Completed	GOALS AND OBJECTIVES	RESPONSIBLE	SCHEDULE	TOOLS
	Short Term Engineering Recommendations			
	Construct short term engineering recommendations including sidewalk, crosswalk, signal and related improvements.	City Engineer	By 2012	See recommended improvements plans and cost estimates.
	Long Term Engineering Recommendations			
	Construct long term engineering recommendations including sidewalk, crosswalk, signal and related improvements.	City Engineer	By 2015	See recommended improvements plans and cost estimates.
	Evaluate and improve street lighting along walking/bicycling routes and around bus stops.			
	Study lighting levels and prioritize the need for new or replacement street lights along walking/bicycling routes and near bus stops.	City Engineer	Study: 2011 Construction: 2012-2015	See Section 10 of SRTS Plan.
	Upgrade flashing lights within school zones.			
	Flashing signals on Grant Street need modernized.	City Engineer	By 2012	Recommended improvements plan - south.
	Flashing signals need provided on Leslie Street between Grant and Salisbury, and between Ravina and Grant.	City Engineer	By 2012	Recommended improvements plan - south.

Implementation Plan: Engineering

West Lafayette Safe Routes to Schools Plan

Intent: Engineering strategies are intended to create safe sidewalks and crosswalks that are needed to enable children to walk or bike to school. Engineering solutions also extend to various other traffic control devices needed to promote safety for those traveling to school. For West Lafayette, a series of engineering solutions have been identified that will enable more children to walk and bike to school safely.

Completed	GOALS AND OBJECTIVES	RESPONSIBLE	SCHEDULE	TOOLS
	Construct improvements to make pedestrian/bicycle crossings at US 52 safer.			
	Implement Option 1 improvements for crossing US 52 at nighthawk, including longer crossing light signals.	City Engineer	2012	See Section 10 of SRTS Plan.
	Conduct a feasibility study of options for improving US 52 crossing(s).	City Engineer	2012	See Section 10 of SRTS Plan.
	Establish program of considering pedestrian and bicycle accommodations on all future city projects.			
	Establish program of considering pedestrian and bicycle accommodations on all future city projects.	City Engineer	2011	See Section 10 of SRTS Plan.
	Incorporate walking/bicycle safety concerns into city road, street, sidewalk and trail standards.	City Engineer	2013	See Section 10 of SRTS Plan.

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Appendix

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Appendix A - Tabulation of Surveys

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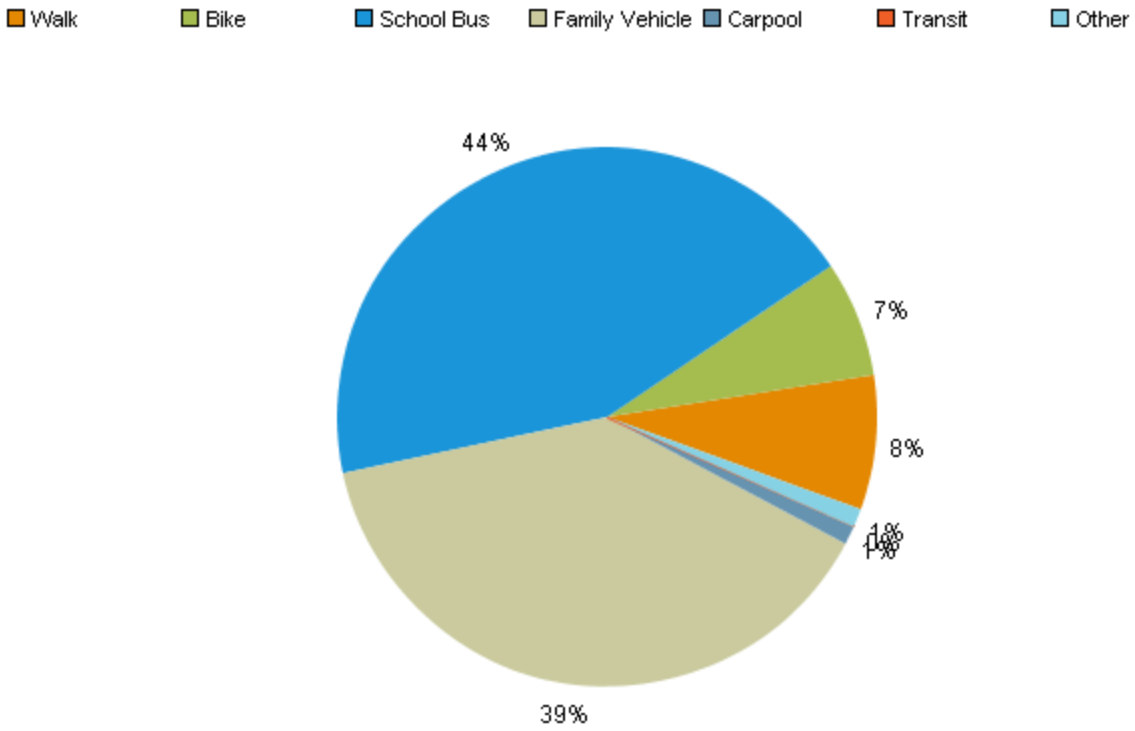
Student Travel Summary

Program Name:	City of West Lafayette	**Season Collected:**	Spring2008
School Name:	Cumberland Elementary School	**Data Type *(Pre/Mid/Post)*:**	
		Reported School Enrollment:	560
		Number Classrooms:	28
		Number of Tallies Reported:	18

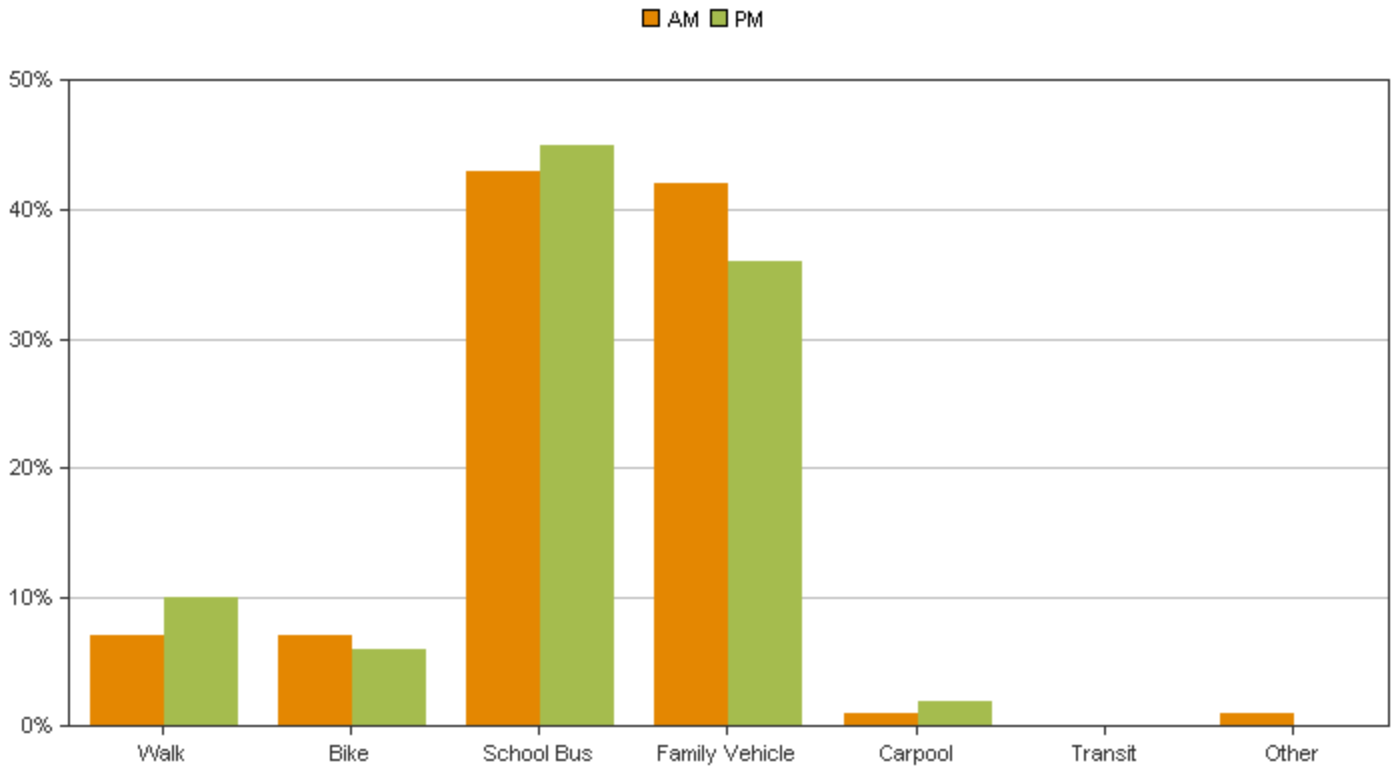
Students Traveling by Each Mode (across all reported days)



	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Average Number of Student Trips for Morning and Afternoon	21.5	17.0	113.3	100.8	3.8	0.3	1.3
Percent	8.3%	6.6%	43.9%	39.1%	1.5%	0.1%	0.5%

Average number of students per day responding to in-class tally counts: **258.2**

Morning to Afternoon Travel Mode Comparison



	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	7.2%	6.8%	42.6%	41.7%	0.9%	0.2%	0.6%
Afternoon	9.6%	6.4%	45.3%	36.1%	2.2%	0.0%	0.4%

Number of students by travel mode to and from school:

	Number of Students	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Tues AM	284	21	14	129	113	4	0	3
Tues PM	264	26	11	118	99	8	0	2
Wed AM	314	24	28	126	131	3	2	0
Wed PM	266	29	23	118	92	4	0	0
Thur AM	212	13	13	90	94	0	0	2
Thur PM	209	16	13	99	76	4	0	1

Averages for classes submitting travel tallies:

	Number of Students	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Tues AM	15.8	1.2	0.8	7.2	6.3	0.2	0.0	0.2
Tues PM	14.7	1.4	0.6	6.6	5.5	0.4	0.0	0.1

Wed AM	17.4	1.3	1.6	7.0	7.3	0.2	0.1	0.0
Wed PM	14.8	1.6	1.3	6.6	5.1	0.2	0.0	0.0
Thur AM	11.8	0.7	0.7	5.0	5.2	0.0	0.0	0.1
Thur PM	11.6	0.9	0.7	5.5	4.2	0.2	0.0	0.1

Percentages of students by travel mode to and from school:

	Number of Students	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Tues AM	284	7.4%	4.9%	45.4%	39.8%	1.4%	0.0%	1.1%
Tues PM	264	9.8%	4.2%	44.7%	37.5%	3.0%	0.0%	0.8%
Wed AM	314	7.6%	8.9%	40.1%	41.7%	1.0%	0.6%	0.0%
Wed PM	266	10.9%	8.6%	44.4%	34.6%	1.5%	0.0%	0.0%
Thur AM	212	6.1%	6.1%	42.5%	44.3%	0.0%	0.0%	0.9%
Thur PM	209	7.7%	6.2%	47.4%	36.4%	1.9%	0.0%	0.5%

End of Report

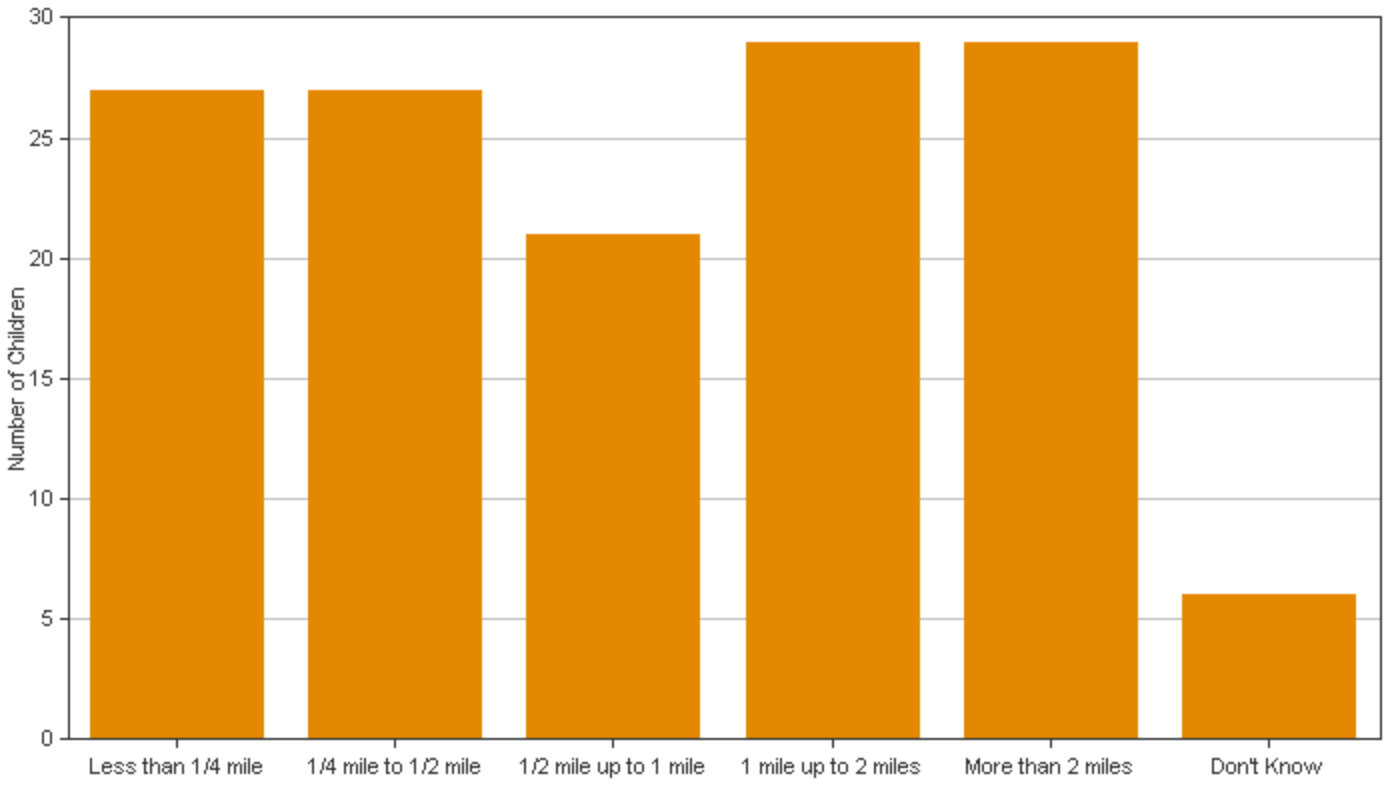
Parent Survey Summary Report:

Process Summary Information:

Program Name:	City of West Lafayette	**Survey Data Collected:**	Spring2008
School Name:	Cumberland Elementary School	**Data Collection Phase:** (pre = Before program began mid = During program; post = After program ended)	pre
Reported Enrollment:	560	**Number of Surveys Distributed:**	144
Date Report Generated:	12/08/2008	**Number of Surveys in Report:**	144

This report provides information from parents about their perceptions and attitudes on their child walking and bicycling to school. The data used in this report were collected using the Survey about Walking and Biking to School for Parents form from the National Center for Safe Routes to School.

Number of Children by Distance They Live From School:

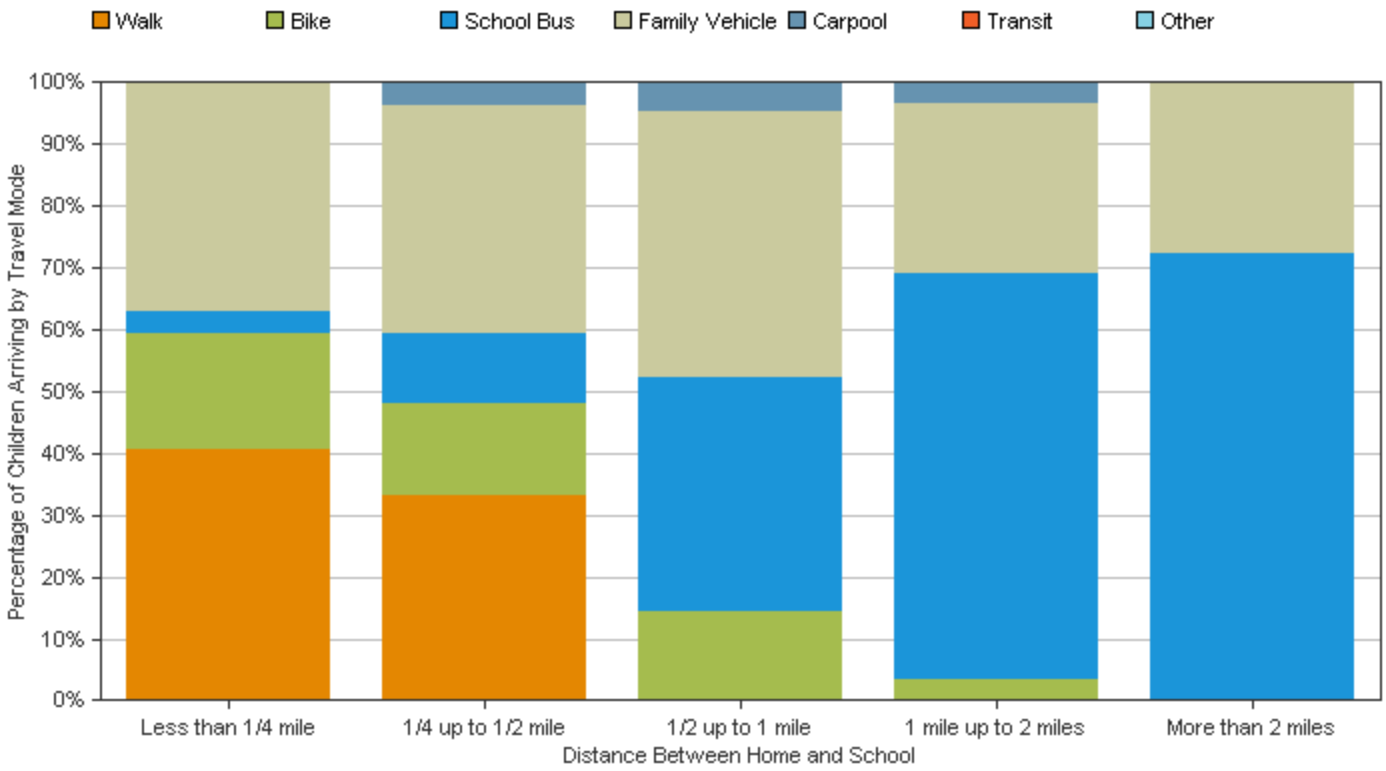


Number of Children by Distance They Live From School:

Distance from School	Number of Children
Less than 1/4 mile	27 (19.4%)
1/4 mile up to 1/2 mile	27 (19.4%)
1/2 mile up to 1 mile	21 (15.1%)
1 mile up to 2 miles	29 (20.9%)
More than 2 miles	29 (20.9%)
Don't know	6 (4.3%)
No response: 5	

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Mode to School and Distance Between Home and School:



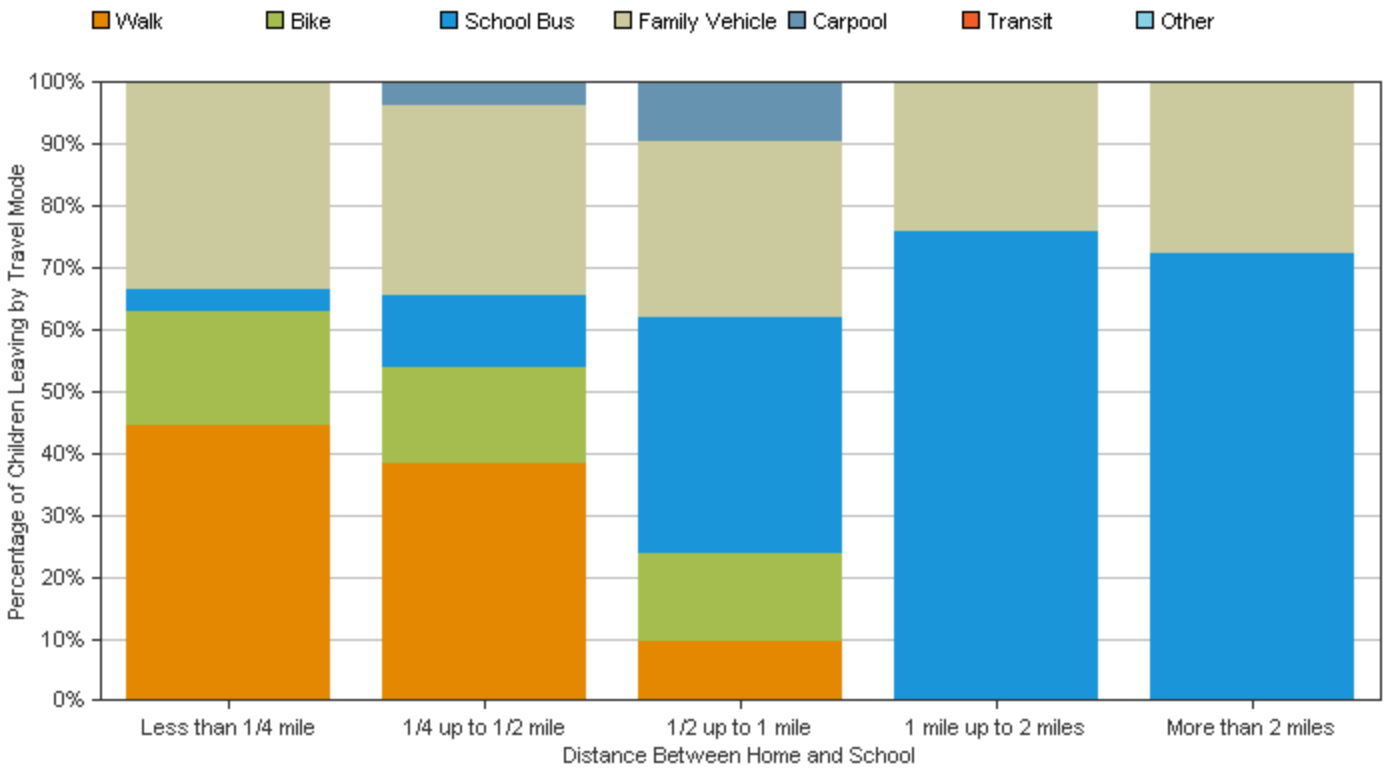
Number of Children by Travel Mode to School and Distance Between Home and School:

Mode	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles	Row Totals by Mode
Walk	11 (7.9%)	9 (6.5%)	0 (0%)	0 (0%)	0 (0%)	20 (14.4%)
Bike	5 (3.6%)	4 (2.9%)	3 (2.2%)	1 (0.7%)	0 (0%)	13 (9.4%)
School Bus	1 (0.7%)	3 (2.2%)	8 (5.8%)	19 (13.7%)	21 (15.1%)	56 (40.4%)
Family Vehicle	10 (7.2%)	10 (7.2%)	9 (6.5%)	8 (5.8%)	8 (5.8%)	47 (33.9%)
Carpool	0 (0%)	1 (0.7%)	1 (0.7%)	1 (0.7%)	0 (0%)	3 (2.1%)
Transit	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Column Totals by Distance	27 (19.4%)	27 (19.5%)	21 (15.2%)	29 (20.9%)	29 (20.9%)	

No Response: 5

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Mode from School and Distance Between Home and School:



Number of Children by Travel Mode from School and Distance Between School and Home:

Mode	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles	Row Totals by Mode
Walk	12 (8.7%)	10 (7.2%)	2 (1.4%)	0 (0%)	0 (0%)	24 (17.3%)
Bike	5 (3.6%)	4 (2.9%)	3 (2.2%)	0 (0%)	0 (0%)	12 (8.7%)
School Bus	1 (0.7%)	3 (2.2%)	8 (5.8%)	22 (15.9%)	21 (15.2%)	59 (42.7%)
Family Vehicle	9 (6.5%)	8 (5.8%)	6 (4.3%)	7 (5.1%)	8 (5.8%)	40 (28.9%)
Carpool	0 (0%)	1 (0.7%)	2 (1.4%)	0 (0%)	0 (0%)	3 (2.1%)
Transit	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Column Totals by Distance	27 (19.5%)	26 (18.8%)	21 (15.1%)	29 (21%)	29 (21%)	

No Response: 6

(Percentages may not total 100% due to rounding.)

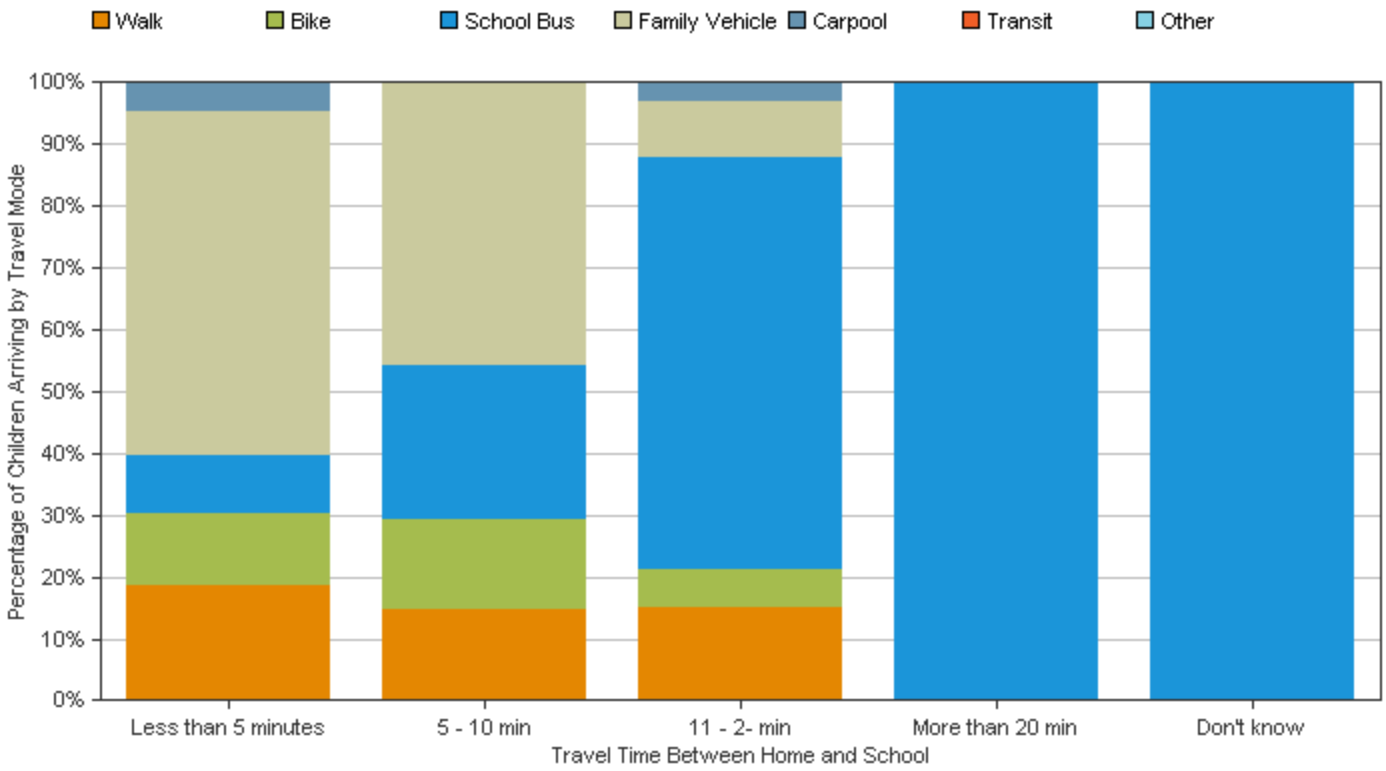
Number of Children by School Arrival Travel Mode and Travel Time to School:

Travel Mode	Less than 5 min	5 - 10 min	11 - 20 min	More than 20 min	Don't know	Row Totals by Mode
Walk	8 (5.6%)	7 (4.9%)	5 (3.5%)	0 (0%)	0 (0%)	20 (14%)
Bike	5 (3.5%)	7 (4.9%)	2 (1.4%)	0 (0%)	0 (0%)	14 (9.8%)
School Bus	4 (2.8%)	12 (8.5%)	22 (15.5%)	16 (11.3%)	2 (1.4%)	56 (39.5%)
Family Vehicle	24 (16.9%)	22 (15.5%)	3 (2.1%)	0 (0%)	0 (0%)	49 (34.5%)
Carpool	2 (1.4%)	0 (0%)	1 (0.7%)	0 (0%)	0 (0%)	3 (2.1%)
Transit	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Column Totals by Time	43 (30.2%)	48 (33.8%)	33 (23.2%)	16 (11.3%)	2 (1.4%)	

No Response: 2

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Time to School and School Arrival Travel Mode:



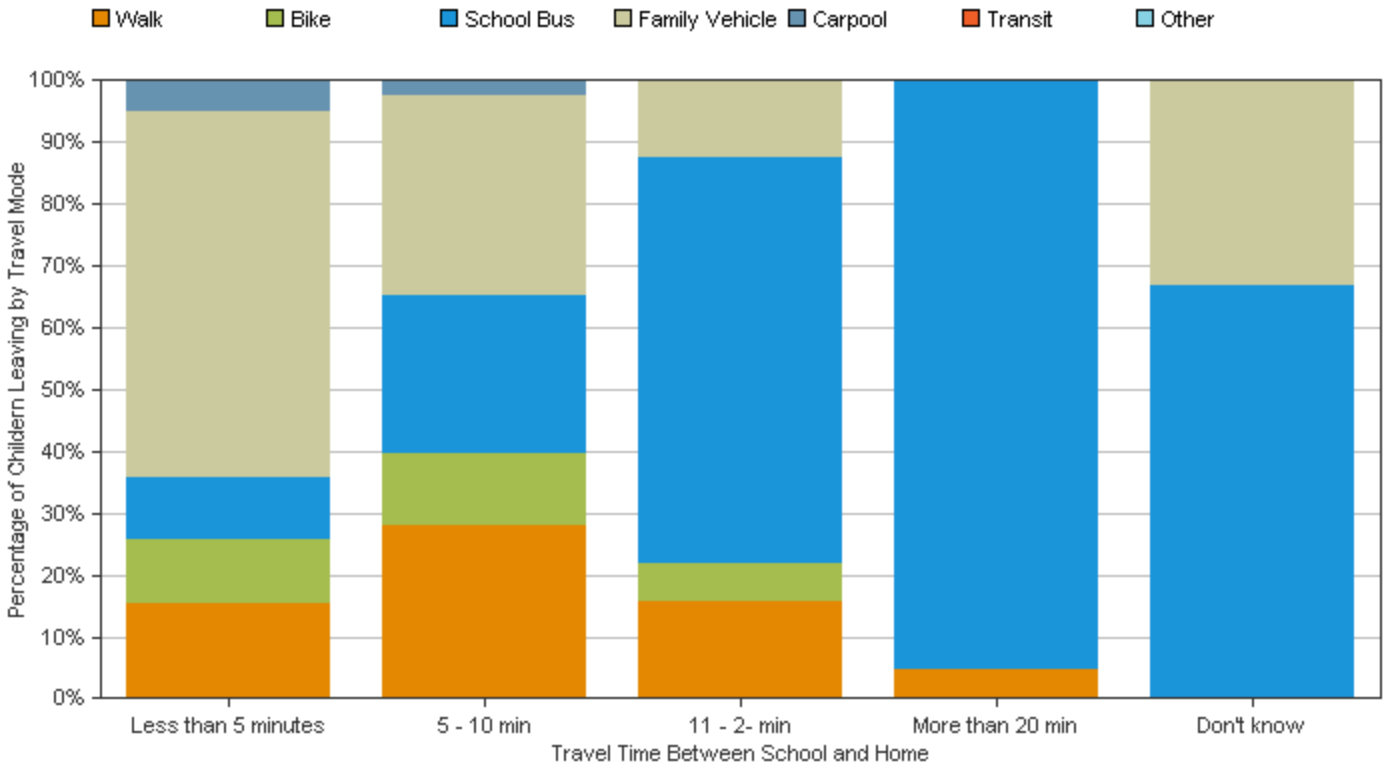
Number of Children by School Departure Mode and Travel Time from School:

Travel Mode	Less than 5 min	5 - 10 min	11 - 20 min	More than 20 min	Don't know	Row Totals by Mode
Walk	6 (4.3%)	12 (8.7%)	5 (3.6%)	1 (0.7%)	0 (0%)	24 (17.3%)
Bike	4 (2.9%)	5 (3.6%)	2 (1.4%)	0 (0%)	0 (0%)	11 (7.9%)
School Bus	4 (2.9%)	11 (8.0%)	21 (15.2%)	20 (14.5%)	2 (1.4%)	58 (42%)
Family Vehicle	23 (16.7%)	14 (10.1%)	4 (2.9%)	0 (0%)	1 (0.7%)	42 (30.4%)
Carpool	2 (1.4%)	1 (0.7%)	0 (0%)	0 (0%)	0 (0%)	3 (2.1%)
Transit	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Column Totals by Time	39 (28.2%)	43 (31.1%)	32 (23.1%)	21 (15.2%)	3 (2.1%)	

No Response: 6

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Time from School and School Departure Travel Mode:



Number of Children Who Have Asked Their Parent for Permission to Walk or Bike to/from School in the Last Year Separated by Distance They Live from School:

Distance from School	Have Asked	Have Not Asked
Less than 1/4 mile	21 (15.4%)	5 (3.7%)
1/4 mile up to 1/2 mile	21 (15.4%)	5 (3.7%)
1/2 mile up to 1 mile	12 (8.8%)	8 (5.9%)
1 mile up to 2 miles	13 (9.6%)	16 (11.8%)
More than 2 miles	8 (5.9%)	21 (15.4%)
No Response: 8		

(Percentages may not total 100% due to rounding.)

Grade When Parent Would Allow Child Walk or Bike to/from School without an Adult Separated by Distance They Live from School:

Grade	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles
Kindergarten	2 (1.5%)	0 (0%)	0 (0%)	2 (1.5%)	0 (0%)
1st Grade	5 (3.8%)	1 (0.8%)	0 (0%)	0 (0%)	1 (0.8%)
2nd Grade	7 (5.3%)	8 (6.1%)	1 (0.8%)	0 (0%)	2 (1.5%)
3rd Grade	7 (5.3%)	7 (5.3%)	6 (4.5%)	1 (0.8%)	1 (0.8%)
4th Grade	0 (0%)	1 (0.8%)	1 (0.8%)	5 (3.8%)	9 (6.8%)
5th Grade	0 (0%)	2 (1.5%)	3 (2.3%)	2 (1.5%)	3 (2.3%)
6th Grade	1 (0.8%)	0 (0%)	2 (1.5%)	3 (2.3%)	1 (0.8%)
7th Grade	0 (0%)	2 (1.5%)	1 (0.8%)	3 (2.3%)	1 (0.8%)
8th Grade	1 (0.8%)	0 (0%)	0 (0%)	0 (0%)	1 (0.8%)
Not at any Grade	2 (1.5%)	6 (4.5%)	4 (3.0%)	12 (9.1%)	9 (6.8%)
No Response: 12					

(Percentages may not total 100% due to rounding.)

Issues which Affect Parent's Decision to Allow or Not Allow Their Child to Walk or Bike to/from School Separated by Children who Do and Do Not Already Walk or Bike To/From School:

Issue	Child walks/bikes to school	Child does not walk/bike to school
Distance	25 (71.4%)	72 (66.1%)
Convenience of driving	4 (11.4%)	9 (8.3%)
Time	20 (57.1%)	25 (22.9%)
Before/after-school activities	8 (22.9%)	21 (19.3%)
Traffic speed along route to school	15 (42.9%)	55 (50.5%)
Traffic volume along route	18 (51.4%)	59 (54.1%)
Adults to walk/bike with	8 (22.9%)	30 (27.5%)
Sidewalks or pathways	22 (62.9%)	39 (35.8%)
Safety of intersections & crossings	23 (65.7%)	74 (67.9%)
Crossing guards	23 (65.7%)	18 (16.5%)
Violence or crime	21 (60.0%)	49 (45.0%)
Weather or climate	22 (62.9%)	49 (45.0%)
Number of Respondents Per Category	35	109
No Response: 0		

(Percentages may not total 100% due to rounding.)

For Parents Whose Children Do Not Walk or Bike to/from School, Number of Parents Responding to question: Would You Probably let Your Child Walk or Bike to/from School Issues Were Changed or Improved?

	Number of parents reporting that:		
Issue	**Change Would affect decision**	**Change Would Not affect decision**	**Not Sure if change would affect decision**
Distance	37 (33.9%)	28 (25.7%)	13 (11.9%)
Convenience of driving	9 (8.3%)	8 (7.3%)	4 (3.7%)
Time	19 (17.4%)	11 (10.1%)	5 (4.6%)
Before/after-school activities	14 (12.8%)	14 (12.8%)	6 (5.5%)
Traffic speed along route to school	30 (27.5%)	20 (18.3%)	8 (7.3%)
Traffic volume along route	33 (30.3%)	23 (21.1%)	12 (11.0%)
Adults to walk/bike with	23 (21.1%)	14 (12.8%)	6 (5.5%)
Sidewalks or pathways	24 (22.0%)	14 (12.8%)	6 (5.5%)
Safety of intersections & crossings	44 (40.4%)	20 (18.3%)	11 (10.1%)
Crossing guards	13 (11.9%)	10 (9.2%)	5 (4.6%)
Violence or crime	17 (15.6%)	24 (22.0%)	12 (11.0%)
Weather or climate	28 (25.7%)	20 (18.3%)	8 (7.3%)
Number of Respondents That Selected at Least 1 Issue: 109			
No Response: 0			

(Percentages may not total 100% due to rounding.)

Number of Parents Who Feel Their Child's School Encourages or Discourages Walking and Biking to/from School:

	Strongly Encourage	Encourage	Neutral	Discourage	Strongly Discourage
Number	15 (10.8%)	52 (37.4%)	60 (43.2%)	10 (7.2%)	2 (1.4%)

No Response: 5

Number of Parents Reporting the Level of Fun Walking and Biking to/from School is for Their Child:

	Very Fun	Fun	Neutral	Boring	Very Boring
Number	40 (29.9%)	52 (38.8%)	39 (29.1%)	3 (2.2%)	0 (0%)

No Response: 10

Number of Parents Reporting How Healthy Walking and Biking to/from School is for Their Child:

	Very Healthy	Healthy	Neutral	Unhealthy	Very Unhealthy
Number	83 (60.1%)	41 (29.7%)	12 (8.7%)	0 (0%)	2 (1.5%)

No Response: 6

Parent Comments

This table displays the comments provided by parents as part of this Parent Survey. These comments have been entered in two ways — they may have been entered by the local program, or they may have been scanned and processed by the National Center for Safe Routes to School (NCSRTS). Comments scanned and processed by NCSRTS may have not been edited for content, spelling, and other typographical errors that may have as part of the scanning and handwriting recognition process.

Comments from: Cumberland Elementary School

SurveyID	Comment
113059	No good place to cross 52.
113057	We are moving into our 2nd house soon, our child will either walk bike or ride bus next year.
113015	We will be walking to and from school next year
113079	Current school is too far, next school will be much closer.
113080	Current school is too far, next school will be much closer.
113085	Winter behavior different than spring/fall behavior.
113087	I'd love to see more kids able to walk or bike to school!
113094	There are distance and age restrictions for these.
113095	There are distance and age restrictions for these.
105931	We live very close to school, I will be sorry when we are too far to walk.
105981	She will walk to Happy Hollow next year.
105983	Insists he walks to save gas money.
105985	School bus should be an option regardless of the distance.
105995	The crossing guard is essential to allowing kids to go on their own.
105997	The city isn't very bike friendly for adults, let alone kids, although I ride my bike to work.
106001	I want my child to be so safe
106002	We enjoy being able to walk or bike due to close proximity and ease. Also for extra time in A.M.
106003	Mrs Mugge is terrific.
106010	Parent walks with child now
105761	Walking or biking should be encouraged
105804	Biking to school is not permitted K-2; however, we, as a family feel we should be able to make that decision.
105805	#10 and #11 based on when he attends Happy Hollow in 1 year.
106019	Thank you for the crossing guards!
106024	Every child should go by bus
106033	I mostly worry about her being abducted and there is no way
106041	A baby's schedule is the reason our son has not walked/biked to school-we don't have issues with the concerns-they are well taken care of

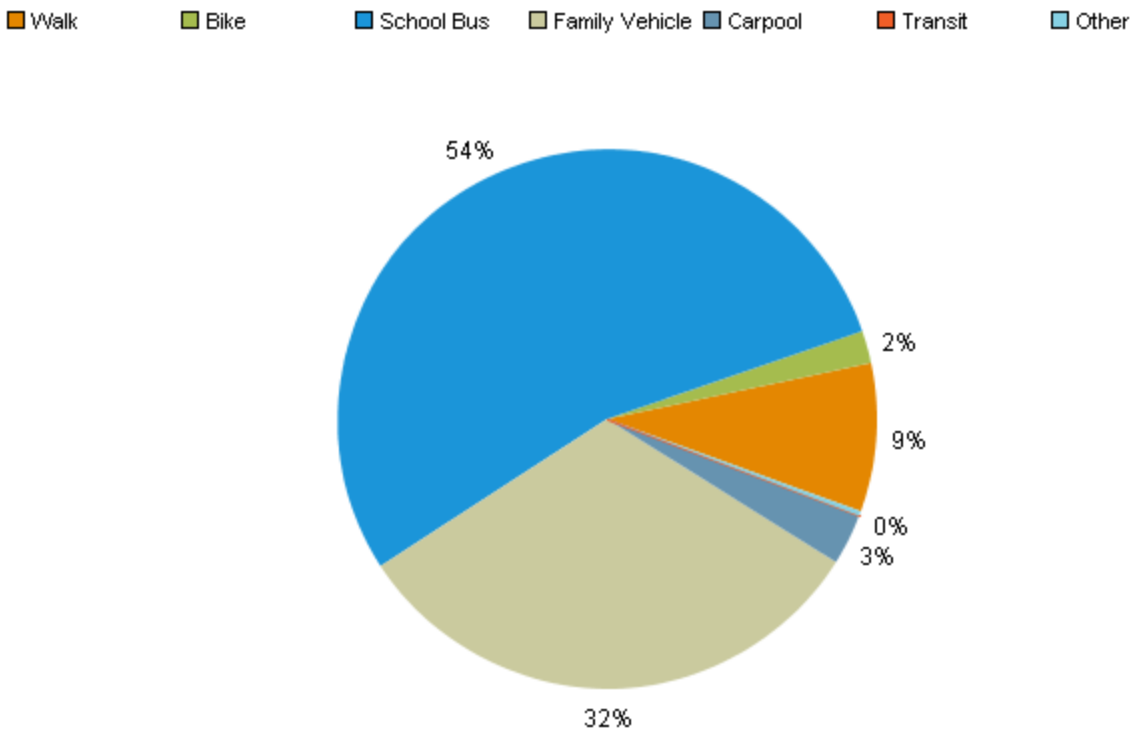
106042	Lack of bike lanes. Need crossing guards at all Salis. intersections, esp. 52. Too far for elementary school child.
106050	I think walking to school has built my daughter's confidence and safety skills. We really enjoy our walks together.
106053	We are 3 miles from school with a highway in between! (US 52)
106059	The children are partly at garden street with no sidewalk
106074	Like carpooling; we should have groups of kids biking together with an adult.
106082	Biking to school will not be an option for us until 7th grade because of our home's location.
106085	The intersection at northwestern and cherry lane is dangerous.
106089	Walking/Biking to school has made what would be just another errand in the car into a very fun, healthy & positive start to the day.
106114	More crossing guards needed & pedestrian crossing traffic controls.

End of Report

Student Travel Summary

Program Name:	City of West Lafayette	**Season Collected:**	Spring2008
School Name:	Happy Hollow School	**Data Type *(Pre/Mid/Post)*:**	
		Reported School Enrollment:	464
		Number Classrooms:	21
		Number of Tallies Reported:	16

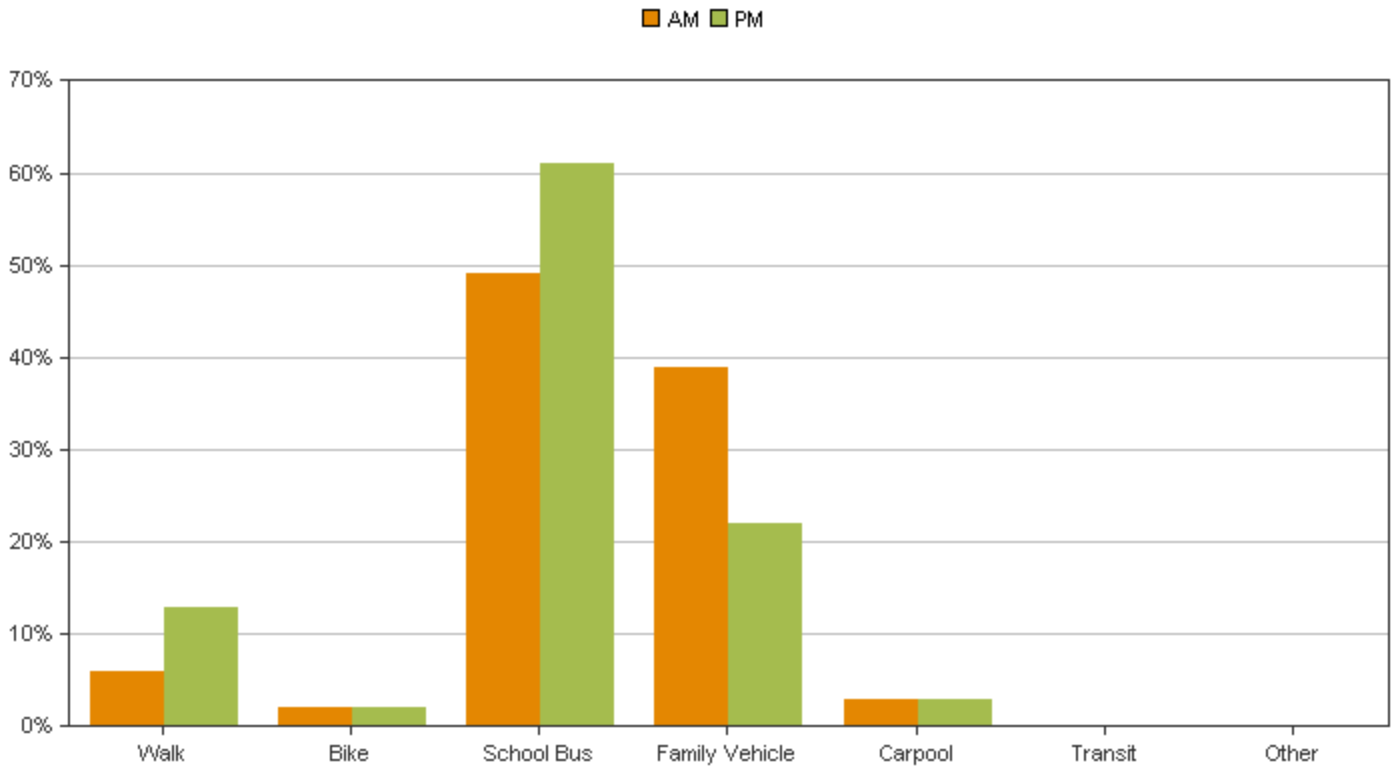
Students Traveling by Each Mode (across all reported days)



	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Average Number of Student Trips for Morning and Afternoon	27.0	6.0	161.5	94.5	10.0	0.0	0.0
Percent	9.0%	2.0%	54.0%	31.6%	3.3%	0.0%	0.0%

Average number of students per day responding to in-class tally counts: **299.0**

Morning to Afternoon Travel Mode Comparison



	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Morning	6.4%	2.0%	49.0%	39.1%	3.5%	0.0%	0.0%
Afternoon	12.5%	2.0%	60.8%	21.6%	3.1%	0.0%	0.0%

Number of students by travel mode to and from school:

	Number of Students	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Wed AM	343	22	7	168	134	12	0	0
Wed PM	255	32	5	155	55	8	0	0

Averages for classes submitting travel tallies:

	Number of Students	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Wed AM	21.4	1.4	0.4	10.5	8.4	0.8	0.0	0.0
Wed PM	15.9	2.0	0.3	9.7	3.4	0.5	0.0	0.0

Percentages of students by travel mode to and from school:

	Number of Students	Walk	Bike	School Bus	Family Vehicle	Carpool	Transit	Other
Wed AM	343	6.4%	2.0%	49.0%	39.1%	3.5%	0.0%	0.0%
Wed PM	255	12.5%	2.0%	60.8%	21.6%	3.1%	0.0%	0.0%

End of Report

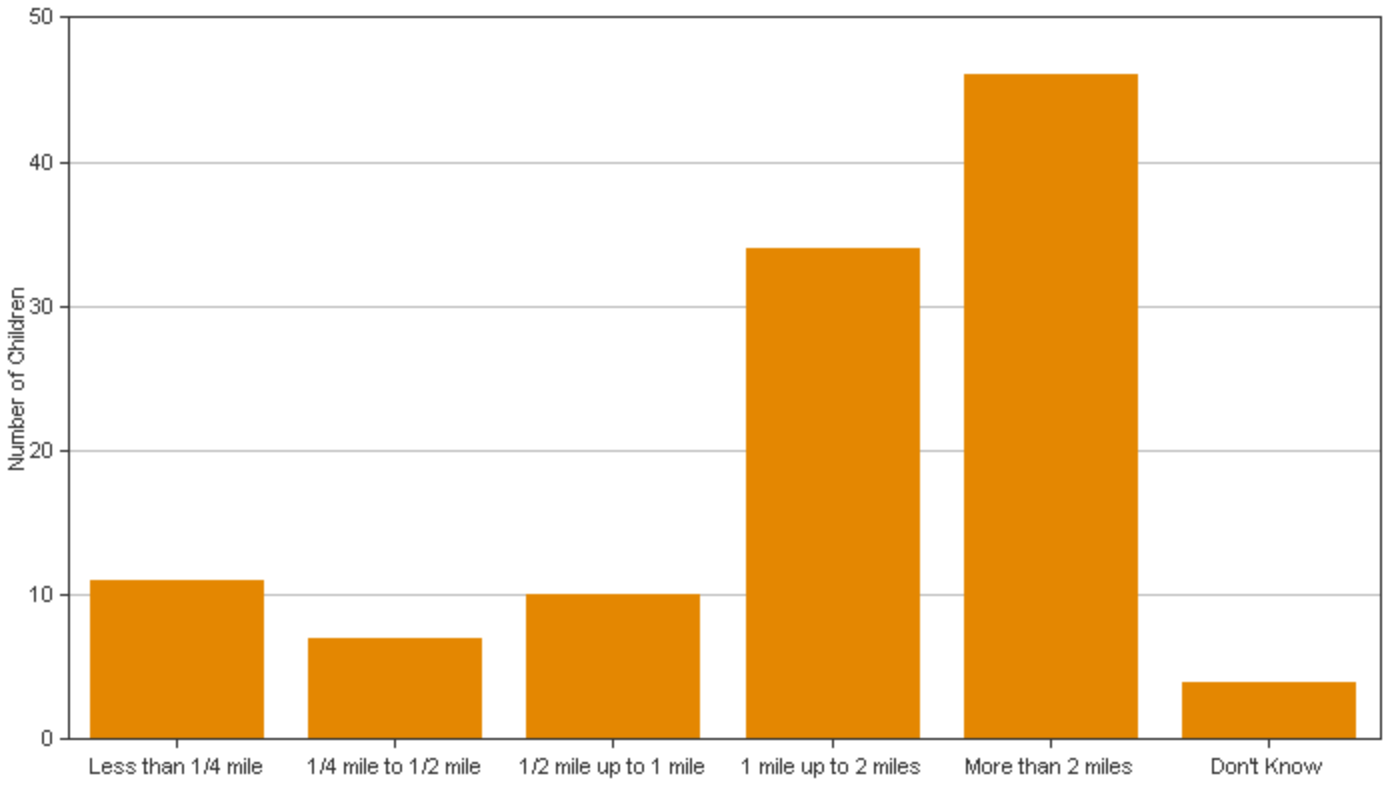
Parent Survey Summary Report:

Process Summary Information:

Program Name:	City of West Lafayette	**Survey Data Collected:**	Spring2008
School Name:	Happy Hollow School	**Data Collection Phase:** (pre = Before program began mid = During program; post = After program ended)	pre
Reported Enrollment:	464	**Number of Surveys Distributed:**	115
Date Report Generated:	12/08/2008	**Number of Surveys in Report:**	115

This report provides information from parents about their perceptions and attitudes on their child walking and bicycling to school. The data used in this report were collected using the Survey about Walking and Biking to School for Parents form from the National Center for Safe Routes to School.

Number of Children by Distance They Live From School:

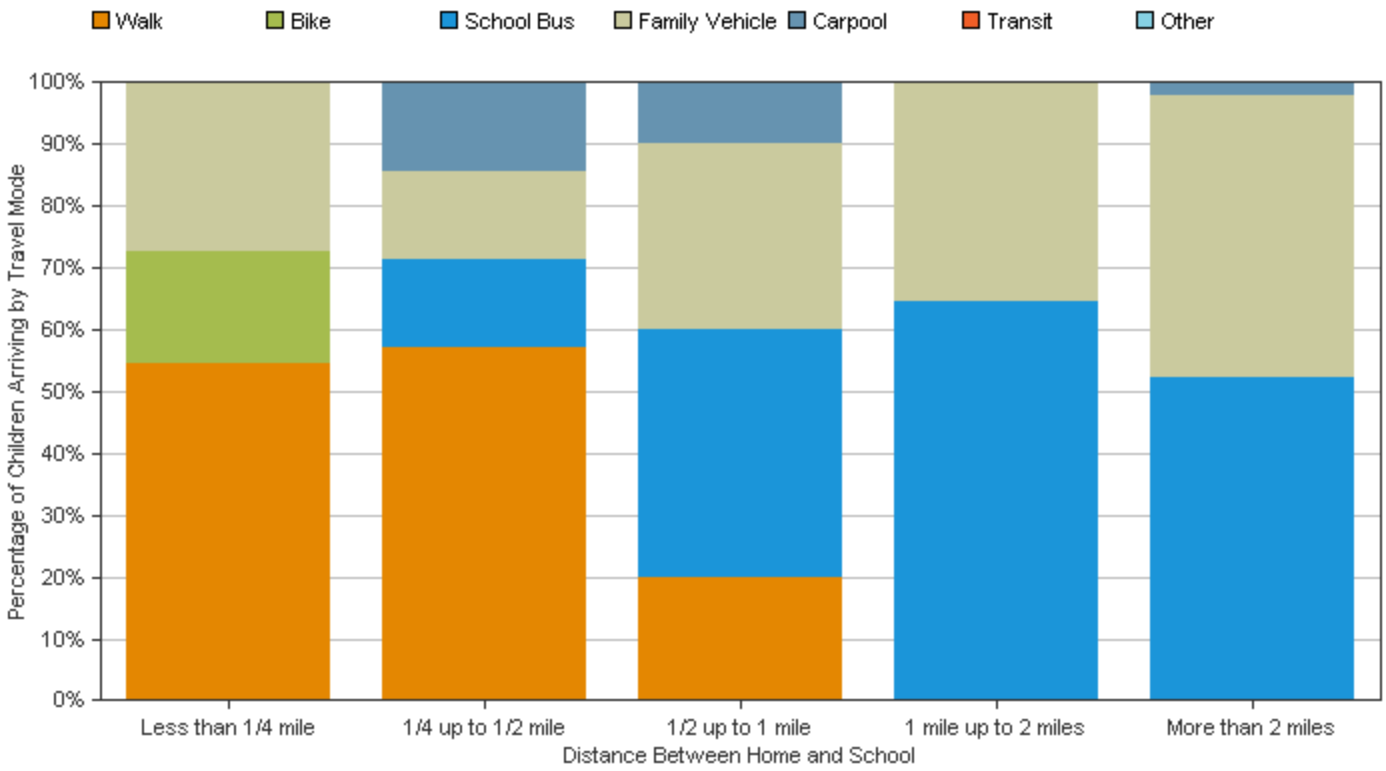


Number of Children by Distance They Live From School:

Distance from School	Number of Children
Less than 1/4 mile	11 (9.8%)
1/4 mile up to 1/2 mile	7 (6.3%)
1/2 mile up to 1 mile	10 (8.9%)
1 mile up to 2 miles	34 (30.4%)
More than 2 miles	46 (41.1%)
Don't know	4 (3.6%)
No response: 3	

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Mode to School and Distance Between Home and School:



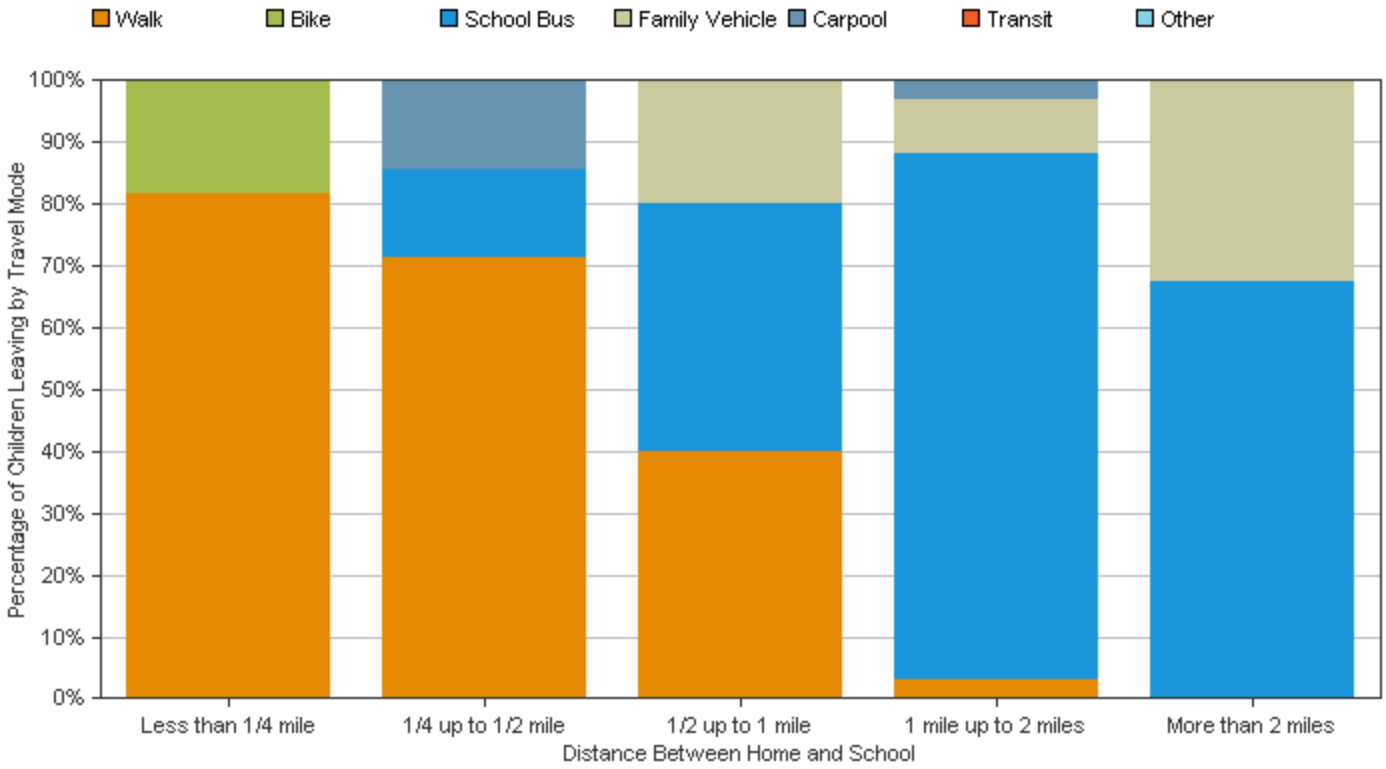
Number of Children by Travel Mode to School and Distance Between Home and School:

Mode	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles	Row Totals by Mode
Walk	6 (5.4%)	4 (3.6%)	2 (1.8%)	0 (0%)	0 (0%)	12 (10.8%)
Bike	2 (1.8%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (1.8%)
School Bus	0 (0%)	1 (0.9%)	4 (3.6%)	22 (19.6%)	24 (21.4%)	55 (49.1%)
Family Vehicle	3 (2.7%)	1 (0.9%)	3 (2.7%)	12 (10.7%)	21 (18.8%)	40 (35.8%)
Carpool	0 (0%)	1 (0.9%)	1 (0.9%)	0 (0%)	1 (0.9%)	3 (2.7%)
Transit	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Column Totals by Distance	11 (9.9%)	7 (6.3%)	10 (9%)	34 (30.3%)	46 (41.1%)	

No Response: 3

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Mode from School and Distance Between Home and School:



Number of Children by Travel Mode from School and Distance Between School and Home:

Mode	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles	Row Totals by Mode
Walk	9 (8.0%)	5 (4.5%)	4 (3.6%)	1 (0.9%)	0 (0%)	19 (17%)
Bike	2 (1.8%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (1.8%)
School Bus	0 (0%)	1 (0.9%)	4 (3.6%)	29 (25.9%)	31 (27.7%)	69 (61.7%)
Family Vehicle	0 (0%)	0 (0%)	2 (1.8%)	3 (2.7%)	15 (13.4%)	20 (17.9%)
Carpool	0 (0%)	1 (0.9%)	0 (0%)	1 (0.9%)	0 (0%)	2 (1.8%)
Transit	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Column Totals by Distance	11 (9.8%)	7 (6.3%)	10 (9%)	34 (30.4%)	46 (41.1%)	

No Response: 3

(Percentages may not total 100% due to rounding.)

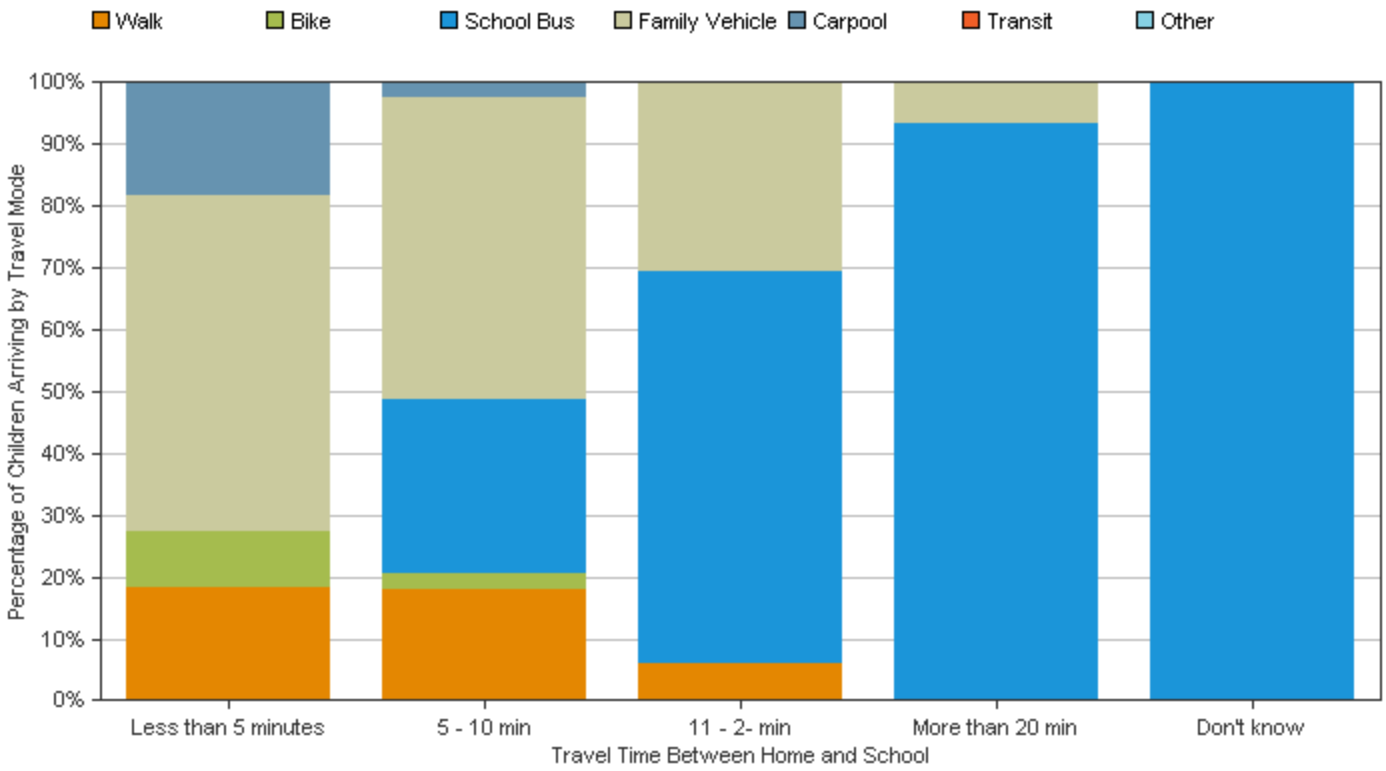
Number of Children by School Arrival Travel Mode and Travel Time to School:

Travel Mode	Less than 5 min	5 - 10 min	11 - 20 min	More than 20 min	Don't know	Row Totals by Mode
Walk	2 (1.7%)	7 (6.1%)	3 (2.6%)	0 (0%)	0 (0%)	12 (10.4%)
Bike	1 (0.9%)	1 (0.9%)	0 (0%)	0 (0%)	0 (0%)	2 (1.8%)
School Bus	0 (0%)	11 (9.6%)	31 (27.0%)	14 (12.2%)	1 (0.9%)	57 (49.7%)
Family Vehicle	6 (5.2%)	19 (16.5%)	15 (13.0%)	1 (0.9%)	0 (0%)	41 (35.6%)
Carpool	2 (1.7%)	1 (0.9%)	0 (0%)	0 (0%)	0 (0%)	3 (2.6%)
Transit	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Column Totals by Time	11 (9.5%)	39 (34%)	49 (42.6%)	15 (13.1%)	1 (0.9%)	

No Response: 0

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Time to School and School Arrival Travel Mode:



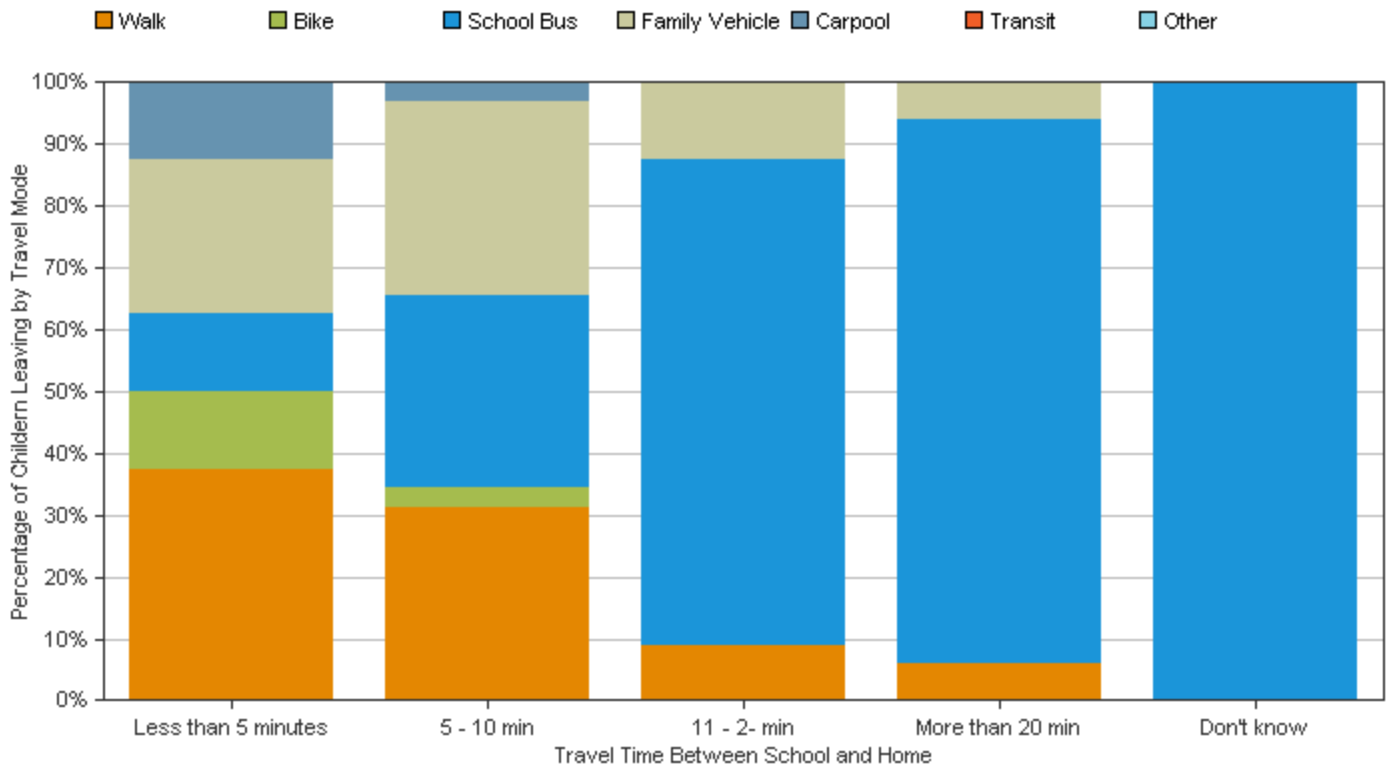
Number of Children by School Departure Mode and Travel Time from School:

Travel Mode	Less than 5 min	5 - 10 min	11 - 20 min	More than 20 min	Don't know	Row Totals by Mode
Walk	3 (2.6%)	10 (8.8%)	5 (4.4%)	1 (0.9%)	0 (0%)	19 (16.7%)
Bike	1 (0.9%)	1 (0.9%)	0 (0%)	0 (0%)	0 (0%)	2 (1.8%)
School Bus	1 (0.9%)	10 (8.8%)	44 (38.6%)	15 (13.2%)	1 (0.9%)	71 (62.4%)
Family Vehicle	2 (1.8%)	10 (8.8%)	7 (6.1%)	1 (0.9%)	0 (0%)	20 (17.6%)
Carpool	1 (0.9%)	1 (0.9%)	0 (0%)	0 (0%)	0 (0%)	2 (1.8%)
Transit	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Other	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Column Totals by Time	8 (7.1%)	32 (28.2%)	56 (49.1%)	17 (15%)	1 (0.9%)	

No Response: 1

(Percentages may not total 100% due to rounding.)

Percentage of Children by Travel Time from School and School Departure Travel Mode:



Number of Children Who Have Asked Their Parent for Permission to Walk or Bike to/from School in the Last Year Separated by Distance They Live from School:

Distance from School	Have Asked	Have Not Asked
Less than 1/4 mile	9 (8.2%)	0 (0%)
1/4 mile up to 1/2 mile	7 (6.4%)	0 (0%)
1/2 mile up to 1 mile	8 (7.3%)	2 (1.8%)
1 mile up to 2 miles	10 (9.1%)	24 (21.8%)
More than 2 miles	3 (2.7%)	43 (39.1%)
No Response: 5		

(Percentages may not total 100% due to rounding.)

Grade When Parent Would Allow Child Walk or Bike to/from School without an Adult Separated by Distance They Live from School:

Grade	Less than 1/4 mile	1/4 mile up to 1/2 mile	1/2 mile up to 1 mile	1 mile up to 2 miles	More than 2 miles
Kindergarten	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
1st Grade	0 (0%)	1 (0.9%)	0 (0%)	2 (1.9%)	0 (0%)
2nd Grade	1 (0.9%)	0 (0%)	0 (0%)	2 (1.9%)	2 (1.9%)
3rd Grade	1 (0.9%)	0 (0%)	0 (0%)	1 (0.9%)	2 (1.9%)
4th Grade	6 (5.6%)	4 (3.7%)	3 (2.8%)	1 (0.9%)	5 (4.6%)
5th Grade	0 (0%)	1 (0.9%)	1 (0.9%)	5 (4.6%)	1 (0.9%)
6th Grade	3 (2.8%)	0 (0%)	1 (0.9%)	2 (1.9%)	3 (2.8%)
7th Grade	0 (0%)	1 (0.9%)	3 (2.8%)	4 (3.7%)	5 (4.6%)
8th Grade	0 (0%)	0 (0%)	0 (0%)	1 (0.9%)	3 (2.8%)
Not at any Grade	0 (0%)	0 (0%)	1 (0.9%)	14 (13.0%)	24 (22.2%)
No Response: 7					

(Percentages may not total 100% due to rounding.)

Issues which Affect Parent's Decision to Allow or Not Allow Their Child to Walk or Bike to/from School Separated by Children who Do and Do Not Already Walk or Bike To/From School:

Issue	Child walks/bikes to school	Child does not walk/bike to school
Distance	16 (84.2%)	79 (82.3%)
Convenience of driving	0 (0.0%)	6 (6.3%)
Time	5 (26.3%)	30 (31.3%)
Before/after-school activities	5 (26.3%)	17 (17.7%)
Traffic speed along route to school	4 (21.1%)	64 (66.7%)
Traffic volume along route	4 (21.1%)	73 (76.0%)
Adults to walk/bike with	0 (0.0%)	14 (14.6%)
Sidewalks or pathways	12 (63.2%)	36 (37.5%)
Safety of intersections & crossings	13 (68.4%)	64 (66.7%)
Crossing guards	12 (63.2%)	16 (16.7%)
Violence or crime	12 (63.2%)	47 (49.0%)
Weather or climate	12 (63.2%)	47 (49.0%)
Number of Respondents Per Category	19	96
No Response: 0		

(Percentages may not total 100% due to rounding.)

For Parents Whose Children Do Not Walk or Bike to/from School, Number of Parents Responding to question: Would You Probably let Your Child Walk or Bike to/from School Issues Were Changed or Improved?

	Number of parents reporting that:		
Issue	**Change Would affect decision**	**Change Would Not affect decision**	**Not Sure if change would affect decision**
Distance	47 (49.0%)	27 (28.1%)	14 (14.6%)
Convenience of driving	1 (1.0%)	16 (16.7%)	9 (9.4%)
Time	22 (22.9%)	12 (12.5%)	7 (7.3%)
Before/after-school activities	12 (12.5%)	17 (17.7%)	8 (8.3%)
Traffic speed along route to school	28 (29.2%)	30 (31.3%)	13 (13.5%)
Traffic volume along route	36 (37.5%)	30 (31.3%)	15 (15.6%)
Adults to walk/bike with	13 (13.5%)	10 (10.4%)	6 (6.3%)
Sidewalks or pathways	23 (24.0%)	12 (12.5%)	8 (8.3%)
Safety of intersections & crossings	32 (33.3%)	28 (29.2%)	16 (16.7%)
Crossing guards	10 (10.4%)	11 (11.5%)	8 (8.3%)
Violence or crime	13 (13.5%)	15 (15.6%)	11 (11.5%)
Weather or climate	23 (24.0%)	20 (20.8%)	9 (9.4%)
Number of Respondents That Selected at Least 1 Issue: 96			
No Response: 0			

(Percentages may not total 100% due to rounding.)

Number of Parents Who Feel Their Child's School Encourages or Discourages Walking and Biking to/from School:

	Strongly Encourage	Encourage	Neutral	Discourage	Strongly Discourage
Number	4 (3.5%)	17 (14.9%)	88 (77.2%)	4 (3.5%)	1 (0.9%)

No Response: 1

Number of Parents Reporting the Level of Fun Walking and Biking to/from School is for Their Child:

	Very Fun	Fun	Neutral	Boring	Very Boring
Number	12 (11.2%)	44 (41.1%)	47 (43.9%)	4 (3.7%)	0 (0%)

No Response: 8

Number of Parents Reporting How Healthy Walking and Biking to/from School is for Their Child:

	Very Healthy	Healthy	Neutral	Unhealthy	Very Unhealthy
Number	51 (46.8%)	1 (0.9%)	10 (9.2%)	1 (0.9%)	1 (0.9%)

No Response: 6

Parent Comments

This table displays the comments provided by parents as part of this Parent Survey. These comments have been entered in two ways — they may have been entered by the local program, or they may have been scanned and processed by the National Center for Safe Routes to School (NCSRTS). Comments scanned and processed by NCSRTS may have not been edited for content, spelling, and other typographical errors that may have as part of the scanning and handwriting recognition process.

Comments from: Happy Hollow School

SurveyID	Comment
113101	If more than 1 of my concerns were changed I would say yes
113107	Rode bike 3rd grade to cumberland, too far from ufarms to HH.
113110	I'd love my kids to walk to school. We live too far away.
113114	We live too far away for my child to walk or ride bike
113118	He biked alot to cumberland, too far away for HH
113123	No bike paths & no pedestrian crosswalk on HW 52
116027	We live too far from his current school.
116081	We walked to school when it was a couple blocks away.
116111	Too far to walk or bike.
116128	Child walked and biked in K-3 grade, closer.
116143	No bike baths and no pedestrian xwalk on 52.
116147	Crossing US52 is too dangerous.
119366	Crossing 52 is a barrier. Salisbury is not safe enough.
119369	Getting to the high school there should be a better way to cross grant street.
119371	If weather is good he likes to walk home.
119400	My Cumberland student walks to school.
119401	Extreme traffic problem where parents drop off children
119402	We attended a school that tracked how often a student rode & gave little awards
119404	Have a nice day!
119405	Would prefer K-6 schools in each neighborhood.
119407	Please provie security in crossing after homework club
119417	This is very good survey
119426	Salisbury & 52 intersection is particularly dangerous!
119433	No way to safely cross Northwestern
119436	Could walking or biking groups be assigned/established for safety?

End of Report

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Appendix B - Cost Estimates

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Appendix B
West Lafayette Safe Routes To School
Preliminary Budget Estimates
November 19, 2009

Note: Key numbers on this page correspond to the keynotes on the Northern and Southern Improvement Maps located at the end of Section 9.

Northern Improvements - Short Term
Cumberland Elementary School and Vicinity

Key 1 **Cumberland Avenue:**

Add accessible curb ramps and crosswalks from Salisbury to Soldiers Home.

Item		Unit Cost	Cost
Concrete ADA Ramp	26 ea	$650	$16,900
Crosswalk	9 ea	$325	$2,925
		Subtotal	*$19,825*
Contingency (20%)			$3,965
		(Rounded to nearest $1,000) **Total**	**$24,000**

Key 2 **Boone and Lagrange:**

Upgrade curb ramps and crosswalks.

Item		Unit Cost	Cost
Concrete ADA Ramp	4 ea	$650	$2,600
Crosswalk	4 ea	$325	$1,300
		Subtotal	*$3,900*
Contingency (20%)			$780
		(Rounded to nearest $1,000) **Total**	**$5,000**

Key 3 **Lagrange and Salisbury:**

Provide marked mid-block crossing.

Item		Unit Cost	Cost
Concrete ADA Ramp	4 ea	$650	$2,600
Crosswalk	2 ea	$325	$650
Pedestrian Signage	4 ea	$250	$1,000
		Subtotal	*$4,250*
Contingency (20%)			$850
		(Rounded to nearest $1,000) **Total**	**$6,000**

Appendix B
West Lafayette Safe Routes To School
Preliminary Budget Estimates
November 19, 2009

Key 4 **Ripley Court:**

Replace Sidewalk and/or improve drainage.

Item			Unit Cost	Cost
Concrete Walk, 5'	115	sys	$50	$5,750
Earthwork, Fill	1	ls	$2,000	$2,000
			Subtotal	*$7,750*
Contingency (20%)				$1,550
			(Rounded to nearest $1,000) **Total**	**$10,000**

Key 5 **Yeager Road:**

Add Sidewalks

Item			Unit Cost	Cost
Concrete Walk, 5'	1,625	sys	$50	$81,250
Concrete ADA Ramp	10	ea	$650	$6,500
Crosswalk	8	ea	$325	$2,600
			Subtotal	*$90,350*
Contingency (20%)				$18,070
			(Rounded to nearest $1,000) **Total**	**$109,000**

Key 6 **US 52:**

Upgrade Crossing. Further study required. No budget estimate was created at this time.

Southern Improvements - Short Term
Happy Hollow Elementary, Jr./Sr. High School and Vicinity

Key 7 **Vine Street:**

Add sidewalks between Lawn and Meridian.

Item			Unit Cost	Cost
Concrete Walk, 5'	554	sys	$50	$27,700
Concrete ADA Ramp	6	ea	$650	$3,900
Crosswalk	3	ea	$325	$975
			Subtotal	*$32,575*
Contingency (20%)				$6,515
			(Rounded to nearest $1,000) **Total**	**$40,000**

Appendix B
West Lafayette Safe Routes To School
Preliminary Budget Estimates
November 19, 2009

Key 8 **Multi-use Trails:**

Add trail form Happy Hollow Park to Happy Hollow elementary, and to Sumac Street.

Item		Unit Cost	Cost
Multi-Use Asphalt Trail, 12'	0.3 mi	$300,000	$90,000
		Subtotal	*$90,000*
Contingency (20%)			$18,000
		(Rounded to nearest $1,000) **Total**	**$108,000**

Key 9 **Leslie Avenue:**

Add school zone signals between Ravinia and Salisbury.

Item		Unit Cost	Cost
Flashing Signals	2 ea	$5,000	$10,000
		Subtotal	*$10,000*
Contingency (20%)			$2,000
		(Rounded to nearest $1,000) **Total**	**$12,000**

Key 10 **Northwestern Avenue (US 231):**

Add marked crossing with flashing signals at Hillcrest or Garden.

Item		Unit Cost	Cost
Concrete ADA Ramp	4 ea	$650	$2,600
Crosswalk	4 ea	$325	$1,300
Flashing Signals	2 ea	$5,000	$10,000
Pedestrian Signs	2 ea	$250	$500
		Subtotal	*$14,400*
Contingency (20% INDOT, 20% Terrain)			$5,760
		(Rounded to nearest $1,000) **Total**	**$21,000**

Key 11 **Grant Street:**

Add sidewalks on the west side of the street, north of Leslie.

Item		Unit Cost	Cost
Concrete Walk, 5'	940 sys	$50	$47,000
Concrete ADA Ramp	11 ea	$650	$7,150
Crosswalk	6 ea	$325	$1,950
		Subtotal	*$56,100*
Contingency (20%)			$11,220
		(Rounded to nearest $1,000) **Total**	**$68,000**

Appendix B
West Lafayette Safe Routes To School
Preliminary Budget Estimates
November 19, 2009

Key 12 **Grant Street:**

Replace flashing school zone signals and add crosswalk at Jefferson.

Item		Unit Cost	Cost
Concrete ADA Ramp	2 ea	$650	$1,300
Crosswalk	1 ea	$325	$325
Pedestrian Signs	2 ea	$250	$500
Flashing Signals	6 ea	$5,000	$30,000
		Subtotal	*$32,125*
Contingency (20%)			$6,425
		(Rounded to nearest $1,000) **Total**	**$39,000**

Key 13 **Lighting:**

Upgrade street lighting in vicinity of Happy Hollow Elementary and Jr./Sr. High Schools. Further study is needed. No budget estimate was created at this time.

Key 14 **Forest Hill:**

Add sidewalks between Grant and Salisbury.

Item		Unit Cost	Cost
Concrete Walk, 5'	1,200 sys	$50	$60,000
Concrete ADA Ramp	6 ea	$650	$3,900
Crosswalk	3 ea	$325	$975
		Subtotal	*$64,875*
Contingency (20%)			$12,975
		(Rounded to nearest $1,000) **Total**	**$78,000**

Key 15 **Ravinia Road and Woodland Avenue:**

Add sidewalks along both streets.

Item		Unit Cost	Cost
Concrete Walk, 5'	2,800 sys	$50	$140,000
Concrete ADA Ramp	20 ea	$650	$13,000
Crosswalk	10 ea	$325	$3,250
		Subtotal	*$156,250*
Contingency (20%)			$31,250
		(Rounded to nearest $1,000) **Total**	**$188,000**

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Key 16 Meridian and Garfield Streets:

Upgrade crosswalks and curb ramps at intersection.

Item		Unit Cost	Cost
Concrete ADA Ramp	6 ea	$650	$3,900
Crosswalk	4 ea	$325	$1,300
		Subtotal	*$5,200*
Contingency (20%)			$1,040
		(Rounded to nearest $1,000) **Total**	**$7,000**

Key 17 Hayes Street:

Add sidewalks from Leslie to Forest Hill.

Item		Unit Cost	Cost
Concrete Walk, 5'	210 sys	$50	$10,500
Concrete ADA Ramp	2 ea	$650	$1,300
		Subtotal	*$11,800*
Contingency (20%)			$2,360
		(Rounded to nearest $1,000) **Total**	**$15,000**

Key 18 Meridian Street:

Add flashing school zone signals.

Item		Unit Cost	Cost
Flashing Signals	2 ea	$5,000	$10,000
		Subtotal	*$10,000*
Contingency (20%)			$2,000
		(Rounded to nearest $1,000) **Total**	**$12,000**

Key 19 Salisbury and Cumberland:

Upgrade crosswalks, curb ramps and pedestrian signals.

Item		Unit Cost	Cost
Concrete ADA Ramp	8 ea	$650	$5,200
Crosswalk	6 ea	$325	$1,950
Pedestrian Signals	4 ea	$5,000	$20,000
		Subtotal	*$27,150*
Contingency (20%)			$5,430
		(Rounded to nearest $1,000) **Total**	**$33,000**

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Northern Improvements - Long Term
Cumberland Elementary School and Vicinity

Key 20 **Soldiers Home Road**

Provide sidewalks north of Cumberland Boulevard.

Item		Unit Cost	Cost
Concrete Walk, 5'	3090 sys	$50	$154,500
Concrete ADA Ramp	16 ea	$650	$10,400
Crosswalk	5 ea	$325	$1,625
		Subtotal	*$166,525*
Contingency (20%)			$33,305
		(Rounded to nearest $1,000) **Total**	**$200,000**

Southern Improvements - Long Term
Happy Hollow Elementary, Jr./Sr. High School and Vicinity

Key 21 **Dehart Street:**

Add sidewalks between Rose and State Road 43.

Item		Unit Cost	Cost
Concrete Walk, 5'	555 sys	$50	$27,750
Concrete ADA Ramp	1 ea	$650	$650
		Subtotal	*$28,400*
Contingency (20%)			$5,680
		(Rounded to nearest $1,000) **Total**	**$35,000**

Key 22 **Rose Street:**

Add sidewalks between Robinson and Stadium.

Item		Unit Cost	Cost
Concrete Walk, 5'	400 sys	$50	$20,000
Concrete ADA Ramp	4 ea	$650	$2,600
		Subtotal	*$22,600*
Contingency (20%)			$4,520
		(Rounded to nearest $1,000) **Total**	**$28,000**

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Key 23 Happy Hollow Road (SR 443)

Add sidewalks on both sides of street.

Item			Unit Cost	Cost
Concrete Walk, 5'	5,700	sys	$50	$285,000
Concrete ADA Ramp	19	ea	$650	$12,350
Crosswalk	8	ea	$325	$2,600
			Subtotal	*$299,950*
Contingency (20% INDOT, 20% Terrain)				$119,980
			(Rounded to nearest $1,000) **Total**	**$420,000**

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Summary

Short Term	Cost
Northern Improvements	$154,000
Southern Improvements	$621,000
Subtotal	*$775,000*
Soft Cost Allowance (20%)	$155,000
(Rounded to nearest $1,000) **Total**	**$930,000**

Long Term	Cost
Northern Improvements	$200,000
Southern Improvements	$483,000
Subtotal	*$683,000*
Soft Cost Allowance (20%)	$136,600
(Rounded to nearest $1,000) **Total**	**$820,000**