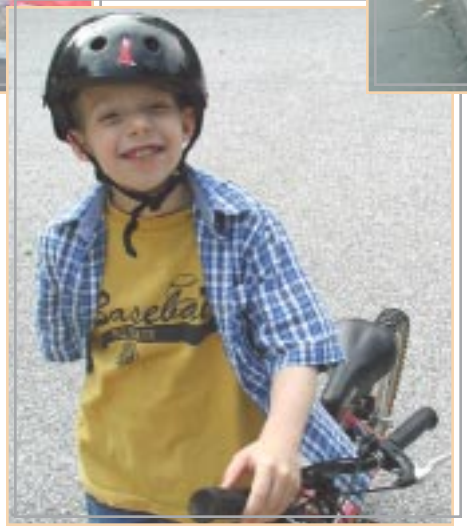
MARYLAND

Safe Routes to School

GUIDEBOOK

A GUIDE FOR PARENTS AND COMMUNITIES



Maryland Bicycle and Pedestrian Advisory Committee

Maryland Department of Transportation

Acknowledgments

Thanks to the Maryland Bicycle and Pedestrian Advisory Committee and to the parents, grandparents and administration at Montebello Elementary School in the City of Baltimore and Rolling Terrace Elementary School in Montgomery County. The hard work and enthusiasm of these groups helped make the SR2S pilot project and guidebook a success.

Letter from the Governor

Dear Parent or Community Member,

Thank you for taking the initiative to provide students in your community with a safe journey to school! By leading a Safe Routes to School effort, you will join others across Maryland who are working to improve the health and safety of our children. Maryland's Safe Routes to School Guidebook was developed to help you identify resources and build community support for your project.

This Guidebook is the result of the hard work and dedication of an outstanding group of citizens—the Maryland Bicycle and Pedestrian Advisory Committee. These individuals have spent many hours working to craft this guidance, and their efforts are greatly appreciated.

Inside this guide you will find all the tools you need to launch a Safe Routes to School project in your community. It contains important facts about child traffic safety issues, and the growing health problems associated with childhood inactivity. It includes ideas for making the journey to school safer, such as pedestrian and bicycle safety education lessons, sidewalk and crossing improvements, and ways to reduce traffic speeds in your neighborhood. The guide will walk you through the process of forming a Safe Routes to School Team, setting up a kick-off meeting, assessing existing conditions around your school, gathering input from the community, and getting your Safe Routes Plan implemented.

So go ahead and get started. And find other community members who can help with your Safe Routes project. Your efforts will help to make all kids in your neighborhood safer and healthier!

Sincerely,

Robert L. Ehrlich, Jr.
Governor

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Introduction

WELCOME TO THE MARYLAND SAFE ROUTES TO SCHOOL PROGRAM!

Welcome and congratulations! You have joined a growing number of citizens who are concerned about the safety of children who walk or bicycle to school, and who have decided to work together to improve conditions. The materials in this guide will enable you to establish a successful and ongoing Safe Routes to School Program at your school—and to ultimately enhance the safety and health of your community for years to come.

The Problem . . .

It's 8:45 a.m., and kids are beginning to arrive at school. Some walk to school crossing busy multi-lane roads along the way. In some locations, there are crossing guards, but students also cross these streets at convenient crossing points where there are no crosswalks. Some children are driven to school by their parents who wait in long lines to drop them off, adding to the confusion and congestion around the school entrance. To avoid the long drop-off line, some parents drop their kids off on the far side of the street. Many passing motorists appear oblivious to these children and other pedestrians in the area. The problem has created growing safety concerns among parents and school administrators . . .

This is a true story based on an actual school in Maryland, yet similar stories could be told about schools throughout the state. As traffic volumes around schools have increased, parents have felt less and less comfortable letting their children

walk or ride bicycles to school. More and more parents have begun driving their kids to school. In fact, according to the Centers for Disease Control (CDC), 85 percent of children's trips to school are made by car or school bus; only 13 percent of school trips are made by walking or bicycling. These motor vehicle trips add to the traffic problems on the roads surrounding the school and create long lines of traffic in school drop-off zones. Other drivers stuck in these traffic jams become angry and drive aggressively. This cycle continues until very few parents feel comfortable letting their children walk or bike to school, even if they live close by.

Many of us, however, remember a time when walking to school was part of everyday life. Walking to school helps children feel more connected to their community, and increases their confidence that school is a safe place for learning. Teachers report that kids who walk and bike to school arrive more alert and ready to work.

WHAT IS THE MARYLAND SAFE ROUTES TO SCHOOL PROGRAM?

A *Safe Routes to School* (or SR2S) *Program* is a way to improve the safety of children who walk or bicycle to school and to promote these types of transportation. During a Safe Routes to School Program, parents and administrators at the school work along with other community groups and agencies to build new sidewalks, improve pedestrian crossings, teach children safer bicycling and walking skills and promote healthier, more active lifestyles.

Any school in Maryland can participate in the SR2S program. All that is required is a dedicated group of parents, teachers, school administrators and other community members who want to take actions to improve the walking and bicycling conditions near and around their school. This guidebook provides step-by-step instructions for conducting a SR2S program, as well as many ideas and examples from other schools that have achieved success.

In Maryland, Section 3, chapter 678, Acts 2001, created this program in 2001 as a pilot program at two schools, one in Montgomery County and one in the City of Baltimore. The Maryland Bicycle and Pedestrian Advisory Committee (MBPAC), made up of citizens as well as representatives from the Maryland departments of Transportation, Education, Natural Resources, Planning, Health and Mental Hygiene, Business Development, the State Police and the Governor's Office for Individuals with Disabilities managed the development of the program. The MBPAC studied the best programs in the U.S. and abroad and tailored this program to fit the needs of the State of Maryland.

WHY HAVE A SAFE ROUTES TO SCHOOL PROGRAM?

Chances are, the reason you're reading this is because you are concerned about our children's exposure to traffic on their way to school. You have good reason to be concerned: In the year 2000 alone, more than 800 pedestrians younger than age 16 were struck by motor vehicles in Maryland. This accounts for nearly 30% of all pedestrians involved in crashes with automobiles, while this age group composes only 21% of Maryland's population. The national trends shown on page 3 also offer good reasons for starting a SR2S program at your school. These statistics can also be helpful as you talk to other people about why a Safe Routes program is needed in your community.

More parents driving or sending students on buses has contributed to a number of other problems including increased congestion and pollution near our schools, children who are less physically active and schools that are less connected with the surrounding community. Starting a Safe Routes to

School program is a great way to help address many of these problems. Depending on the unique needs and goals of your school, your Safe Routes program may strive to:

- Improve traffic safety for children by
  - teaching children pedestrian and bicycle safety skills, and better awareness of traffic conditions
  - getting physical improvements (such as new sidewalks) that reduce pedestrian and bicycle crashes on the journey to and from school
- Improve children's personal safety and security by working to reduce crime along a route to school
- Increase child health and physical activity levels through increased walking and bicycling

Child Crash Facts

- In the United States, 484 children under age 16 were killed as pedestrians in traffic crashes in 2001.
- In Maryland, more than 800 children younger than age 16 were hit by motor vehicles in 2000.

School Trip Facts

- An estimated 20 to 25 percent of rush hour traffic on local roadways is school traffic.
- Nationally, 85 percent of children's trips to school are made by car or school bus; only 13 percent of school trips are made by walking or bicycling.

Child Health and Fitness Facts

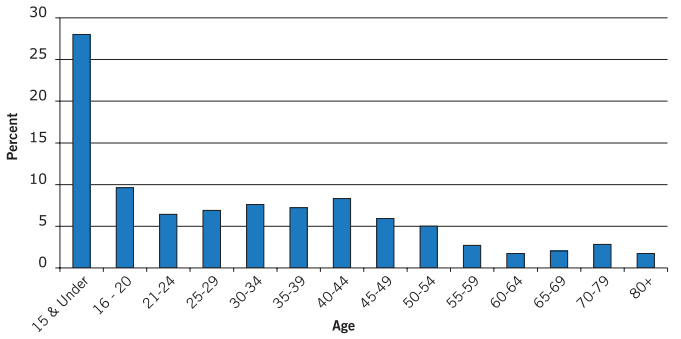
- Approximately 13 percent of children and adolescents in the United States are now seriously overweight—more that twice the number of children considered obese in the early 1980s. Overweight children are more likely to develop cardiovascular disease (Maryland's number one killer), diabetes and other health related problems.
- At least half of all youth do not participate in physical activity that promotes long-term health.
- Asthma is on the rise among children. Nationally, age-specific death rates from the disease increased 67 percent between 1979 and 1998. Vehicle emissions, especially diesel exhaust, are a known contributor to this disease.

A Safe Routes Program Can Help

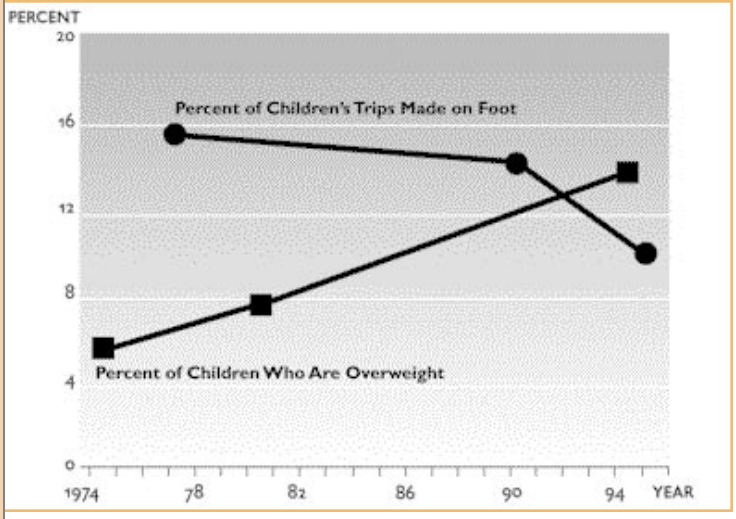
- In Marin County, California where a Safe Routes program has been in place for two years, participating schools have seen great results:
  - Children walking to school went from 14% to 23%
  - Children biking to school doubled from 7% to 15%
  - Children carpooling increased from 11% to 21%
  - Children arriving alone in a car shrank from 62% to 38%

SOURCES: NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION; MARYLAND CRASH OUTCOME DATA EVALUATION SYSTEM; SURFACE TRANSPORTATION POLICY PROJECT; U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES; CENTERS FOR DISEASE CONTROL AND PREVENTION; AMERICAN HEART ASSOCIATION; AMERICAN LUNG ASSOCIATION; AMERICAN JOURNAL OF PUBLIC HEALTH, SEPTEMBER 2003.

2001 Maryland Pedestrians Involved in Crashes by Age

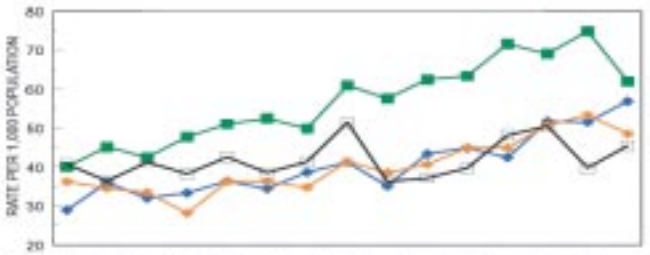


Source: MD Crash Outcome Data Evaluation System



SOURCE: SURFACE TRANSPORTATION POLICY PROJECT

FIGURE 3: ASTHMA PREVALENCE BY AGE, 1982-1996[1]



YEAR															
<18	40.1	45.2	42.5	47.6	51.1	52.5	48.9	61.0	57.6	62.5	65.4	71.6	69.1	74.9	62.0
18-44	29.0	36.1	32.1	33.4	36.4	34.5	38.7	41.3	35.2	43.4	44.9	42.5	51.7	51.6	56.9
45-64	36.3	34.6	33.5	28.2	36.3	36.3	34.8	41.5	38.6	40.7	45.0	45.0	50.8	53.3	48.6
65+	40.8	36.4	41.3	38.3	42.0	38.6	41.4	51.5	36.3	37.2	39.8	46.2	50.5	39.8	45.5

SOURCE: NATIONAL CENTER FOR HEALTH STATISTICS; NATIONAL HEALTH INTERVIEW SURVEY, 1982-1996

NOTE:

[1] Because these estimates are based on a sample, they may differ from figures that would be obtained from a census of the population. Each data point reported is an estimate of the true population value and subject to sampling variability.

SOURCE: AMERICAN LUNG ASSOCIATION

- Contribute to a reduction in traffic congestion and improved air quality
- Develop a stronger relationship between children and their neighborhood community, or all of the above.
- Teaching children to become more independent and self-reliant
- Enabling parents to become involved in making their communities safer.

What Does "Safe" Mean To Your Community?

There are different ways to define the word safe. In some communities, it means keeping kids safe from being hit by a car on the way to school. In others, it might mean keeping kids safe from crime such as drugs and violence. Or it might mean both. By starting a Safe Routes Program, you can find out what the most pressing safety problems are in your school and begin working as a community to address them.

WHO PREPARES THE SAFE ROUTES PLAN?

You do. Although this guide was developed by the state, the *Safe Routes to School Program* is usually a local, school- and community-based initiative. This guidebook explains how to get your project underway, and gives practical advice based on successful programs in Maryland and other parts of the U.S.

Anyone can develop the Safe Routes Plan, but to be successful, you'll want to involve a range of people along the way including parents, neighborhood organizations, the local PTA, a group of teachers, a Community Traffic Safety Program (CTSP) representative, local police, transportation planners and other interested businesses or organizations.

The Safe Routes Plan is usually developed by a mix of people from various groups working together as a committee. There is no set formula. The key is to attract and retain dedicated, motivated individuals who will work together to improve the safety of the school journey.

CONTENTS OF THIS GUIDE

This guide explains how to establish a *Safe Routes to School Program*. It also provides the tools and resources necessary for the successful implementation of that *Program*. The guide is fairly comprehensive. The process it describes may be short, or it may be long depending on the goals you establish and how much work is needed to achieve them.

The tools contained in this guide include:

- surveys,
- a diskette containing a program to evaluate the surveys,
- ideas for ways to educate and encourage safer walking and bicycling,
- descriptions of different types of physical improvements that may help solve the problems at your school,
- enforcement ideas,
- resources and potential funding sources for the improvements and programs you plan to make as part of your SR2S program.

Getting Started—Setting up the Project

So now you know what a *Safe Routes to School Program* is, why you should have one, and how it will benefit your community. Let's roll up our sleeves and get started! This section describes the process of starting a Safe Routes program, providing examples along the way. Keep in mind that there is no single "right way" to develop a SR2S program; most likely your particular project will develop in a way that makes it unique among all others.

The Safe Routes Process—In a Nutshell

There are three distinct phases in each Safe Routes to School Project. In the first phase, you generate interest and enthusiasm about the project, and identify and assemble a core group of people who will help with the project. For the second phase, this group works together (and conducts outreach) to identify the types of improvements and safety programs that are needed. The third phase is implementation—that is, getting projects built, putting education and encouragement programs in place, and any other activities you have identified to make the journey to school safer.

The success of a Safe Routes project depends on the commitment and dedication of a few people who act as champions of the project, with a wider group of people who help out from time to time. From the start, there should be someone willing to make arrangements and coordinate the project. It will be this person's job to get others involved, and to find ways to delegate tasks. To do this, it is essential that you establish a Safe Routes Committee that is able to involve (or at least keeps informed) a broad range of community members and interested parties.

STEP 1: FORM A SAFE ROUTES TO SCHOOL TEAM

The first step is to prepare a list of potential team members. There are a variety of potential partners for a Safe Routes to School Team, including individuals (such as nearby business owners) who might not be directly involved with the school, but may be interested in helping. Potential candidates for this list include the following (see the listing in the appendix for contacts in your community):

- Principal or Assistant Principal of the school
- 3-4 Parents
- 1-2 Teachers (teachers or staff who have outside duty before or after school and Physical Education teachers are good candidates)
- A PTA representative
- School nurse or other health representative
- Representative from the school's Safe and Orderly Committee or School Improvement Team
- The school district Transportation Director, or a representative from the Director's office
- Neighborhood and/or community association members
- A local transportation/traffic engineer (some ideas may require technical skills, and a traffic engineer would be invaluable)
- A representative from the local police or sheriffs office

- A school crossing guard
- Representatives from the regional and/or local roadway departments, for example:
  - Local or State bicycle and/or pedestrian transportation planner
  - County or City Transportation Department staff, or Public Works Department representative
- Community Traffic Safety Program (CTSP) representative
- Bicycle/Pedestrian Advisory Committee representatives
- Local walking or bike club representatives
- A representative from your local governments planning agency's Technical Advisory Committee (TAC) and/or Citizen Advisory Committee (CAC)
- Children from your school—children who are already walking to school often have very good reasons for taking a particular route to school. By listening carefully to their ideas and opinions, the Safe Routes Team can gain valuable insights.

This is just a sample list. There may be other individuals or organizations that you'd like to invite to serve on your SR2S Team. Chances are, you've already been in contact with one or more people about this idea, and they should be the first people on your list. Once you've put the list together (names, phone numbers, mailing and e-mail addresses),

organize a Kick-Off meeting. A letter should be sent to each person inviting them to attend the meeting (see example in the appendix). The letter should give a brief explanation of the purpose of the SR2S Team and what you hope to accomplish, and it should request an RSVP. Remember that if you plan to meet at the school (a good idea), you need to obtain permission from the Principal or Assistant Principal (who will hopefully already be on board and involved in the project). It's a good idea to provide child-care at the meetings. Make sure to note the availability of childcare in the invitation. If possible, send out the invitations on school letterhead.

Allow three to four weeks of lead-time between the day you mail out invitations and your first (or kick-off) meeting. Schedules fill up fast, and often times it is difficult to make plans on short notice. Another tip: make the meeting date, time, and place as convenient as possible for everyone. The easier you make if for invitees to attend, the greater your chances are of a good turnout. If you can, make reminder calls a few days before the meeting.

It is important to understand that, although not everyone will respond to your invitation; those that decline to be part of the team should not be removed from your mailing list. You may need assistance from some of these people in the future (such as local transportation officials and neighborhood organizations), therefore it is important to keep them informed and on the list. You should strive to achieve broad-based community support for a walkable school neighborhood.

Ideally, your Team should include eight to twelve people. You could have more, but larger groups are sometimes hard to manage. You can have a smaller group, but then the workload will increase as the Team size diminishes.

Letting People Know: Publicity for Your Safe Routes Project

Getting the word out about your Safe Routes Project is very important. You should provide updates on the Safe Routes Project at regular PTA meetings, at Back to School night (if you are beginning the project at the start of the school year) and at community and neighborhood association meetings. Placing a brief update in school and neighborhood newsletters or electronic list servers is another way of reaching out to parents and community members.

Note: Keep in mind that your school may typically prepare announcements and newsletters in both English and in Spanish (or other language), therefore you may need assistance from the school's translator.

Local community newspapers will often be interested in Safe Routes projects—they usually receive very positive press. With the permission of your school's principal, contact the editor of your local paper and let them know about the project. Send them periodic updates as the project moves along.

STEP 2: MANAGING THE KICK-OFF MEETING

The kick-off meeting is a very important event—it will set the tone, pace and level of enthusiasm for the project. You will want to be well prepared for this meeting. At the meeting you should:

- Set the scene—talk about the school's traffic problems and the difficulties children face in making the school journey. Explain the purpose of this project.
- Mention national trends (see statistics in Section 1). Talk about the growth in traffic, the decline in walking and bicycling among youth, and the increasing concern for children's health.
- Explain how the Safe Routes Project will work and describe the likely benefits for children, parents, staff and the community. You may want to share some items from this Guidebook as handouts—or to provide entire copies of the guide.
- Give participants an opportunity to talk about their safety concerns—keep a running list of problems and ideas for solutions.
- Summarize the discussion by making a list of the goals for the project. Goal statements can be simple and straightforward, for example: increase traffic safety for students walking to school; alter unsafe pedestrian behavior among students; educate parents who drop off kids; increase security near the school; etc.
- Develop a project timetable.
- Explain what the next steps will be. Assign responsibilities (or ask for volunteers!) If you have a large group, you may decide to set up subcommittees. Regardless, there are certain tasks that will need to be done. Examples of these tasks are provided below (greater details are given in the following chapters):
  - Mapping: Some members of the Safe Routes team will need to be responsible for obtaining maps, gathering information about where kids live and what routes they take to school, and finding out more about the existing conditions of streets and roadways near the school. The mapping task is likely take a lot of work so it should be assigned to several volunteers or one of the larger subcommittees.

  - Outreach: The outreach volunteers will be responsible for getting input on safety problems and potential solutions from parents, teachers, administrators and community members. An outreach volunteer will also be in charge of informing the school and the community about the meeting.
  - Developing the Safe Routes Plan: Most likely everyone will be involved in this task. This plan will include a range of recommendations including education and encouragement activities, enforcement activities and physical improvements such as sidewalks.
  - Implementation: This is where you put your Safe Routes Plan into action by working with various groups to start education and encouragement

activities, get additional enforcement in place and get physical improvements scheduled for construction. This is another task that will require the help of everyone on the Safe Routes team.

- Ask for support and involvement from everyone, assign some responsibilities to be completed prior to the next meeting.
- Set the dates for future meetings.

Budget about two hours for this first meeting, and make sure everyone signs the attendance list. Subsequent meetings should be shorter, but the kick-off meeting usually takes longer. Remember that meetings should be made enjoyable and easy to attend. Have childcare available and provide refreshments if possible and keep the discussion lively.

Safe Routes Logo Contest

At a Rolling Terrace Elementary School in Montgomery County, a competition to design a Safe Routes logo helped build momentum for the project. The Montgomery County Community Traffic Safety Coordinator provided a new bicycle and helmet as first prize. The winning logo appeared on flyers and posters and was printed on t-shirts used for the school's Walk to School Day.

Mapping and Observing Existing Conditions

The first task for the Safe Routes to School Team will be to find out more about conditions on the streets and roadways near the school site. This section describes how to develop maps and evaluate student walking and bicycling route conditions. These maps can be simple, hand drawn creations, or they can be more elaborate, computer-generated maps.

STEP 1: PREPARE THE BASE MAPS

You'll want to obtain / and or prepare two maps for the Safe Routes to School Team: a School Neighborhood Map and a School Site Map.

The School Neighborhood Map should include:

- The location of the school
- The school district
- The surrounding road and path network (that is, the location and names of roads and sidepaths within a 1-2 mile radius of the school)
- The school's "walk-zone" or "non-transport" limits (areas near the school where busing is not provided). This information should be available from the school's transportation director, and
- The location of student residences (homes, apartments, subdivisions) and how many students are walking from those locations. This is very important because it will give the Team a sense of where the mass of student walking trips originate, and what potential routes they take to school. You may be able to get information about students' residences from the school principal, however sometimes this information is kept confidential. See the sidebar for other creative ways to identify on your map where students live.

Quick solutions for developing base maps:

There are a number of ways that these maps can be prepared, from low-tech to high-tech. A commercially-available road map (such as an ADC map) pinned to a board can serve as a base map, with the other information added via markers, highlighters, etc. Often these maps are the most user-friendly because people are familiar with them. For some areas however, these maps may not show enough detail, so you may need to look elsewhere for a map that will work for your purposes. Be sure the map includes the entire area where students could walk or ride to school. School district maps are available from your local library. Other potential sources for maps include:

- City Planning Department
- County Planning Department
- USGS (Quad Maps available through http://mapping.usgs.gov/)
- School Master Plan (a map which may have been created when the school was built)

Note: More and more, good maps are available on-line at local, county and state websites (see the appendix for resources). If you don't have computer access or need help finding maps on-line, ask a librarian at your local library for help.

The School Neighborhood Map should cover at 1-2 miles in every direction from the school or the entire school district. One way to figure distance is to measure out a piece of string on your map scale, and use a pin to mark circular zones for a 2 mile distance, 1 mile distance and .5 mile distance, with the school being the center point.

If you can enlist the help of the school board or local/regional government planning agency, you can gather the information and have them prepare a computerized map for you.

The School Site Map should be a large map of the school property (ask the school to provide a copy of their school site map, if available). This map should depict:

- Parent and school bus drop-off and pick-up zones
- Sidewalks
- Immediately adjoining roads, with their configurations (e.g., two lane, four lane with a median, etc.), and
- Intersections with traffic signals
- Intersections with marked crosswalk
- Intersections staffed with crossing guards

STEP 2: RESEARCHING PLANNED ROADWAY IMPROVEMENTS

The volunteers responsible for mapping (or the Mapping Subcommittee) will also be responsible for researching (and creating a list of) roadway improvements for the area. This will be important later, since road projects and intersection improvements can have a tremendous impact on pedestrian

Mapping Tips

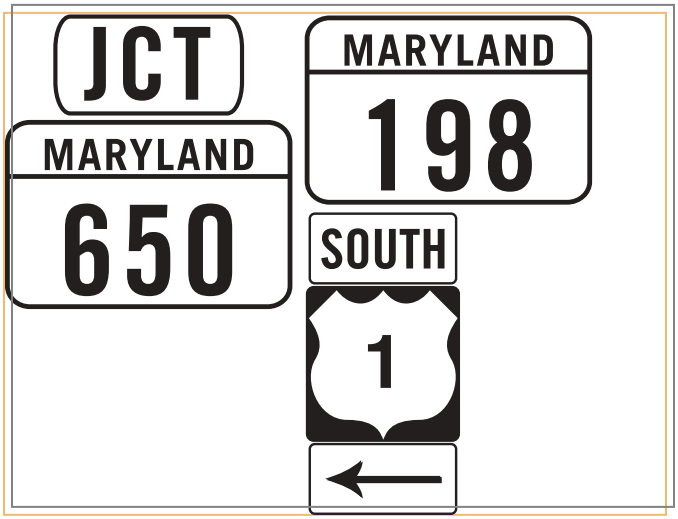
- Make sure your school neighborhood map includes road names, names of major destinations (such as parks, malls, shopping centers, etc), and other helpful information.
- Make sure that there is a north arrow and scale on the map.
- Make sure that there is a master copy so you can make duplicates in the future. This will enable you to write on the copied maps without altering the original.
- If the map is small in size, you might want to consider getting it photocopied at a larger scale at a local copy center. Bigger is better for mapping existing conditions.
- Create a legend as you go, so your mapping can be easily understood by others.

Involving Kids In The Process

Involve students in the Safe Routes process by asking them to create a map showing where they live in relationship to the school and the route they take to get to school. Ask the students to show locations that need safety improvements along their route to school and why. For those that ride the bus or arrive in cars, have them concentrate on traffic safety issues at the school site.

safety, and also represent an opportunity to incorporate your project proposals onto roadway improvements that are already planned for the near future.

In order to complete this list, it will be necessary to contact all of the agencies with responsibility over the roads surrounding the school, for at least a two-mile radius. This Team should find out what improvements are funded for construction within the next five years. Only funded improvements should go on this list. Proposed unfunded improvements could be "scheduled" as far out as 20 years. The master list can be prepared in a table format, like the example shown below:



A Few Tips About Road Ownership and Management in Maryland:

Often, in Maryland, the roads or streets on which you would like to see improvements may be owned and maintained by several different jurisdictions. Roadways with a State Road number (with the exception of those in the City of Baltimore and several in Annapolis) are owned and managed by the Maryland State Highway Administration. Information about future improvements to these roadways can be obtained from the local District office of the Maryland State Highway Administration (see list of contacts in the appendix).

All roads in the City of Baltimore are owned and managed by the City's Office of Transportation. The City of Annapolis Department of Transportation, owns many of the roadways within the city limits. There are a few exceptions.

All other roads in Maryland are owned and maintained by either the county government or other local jurisdictions (Takoma Park, City of Rockville, etc.). The best way to determine who is responsible for a road in question is to ask a local county planner or transportation department official. Contact information is provided in the appendix.

Master List Example

Road Name	Improvements Start Point	Improvements Finish Point	Sidewalks Planned? (Yes/No)	Bikelanes Planned? (Yes/No)	Construction Start Date
Maple Avenue	1st Street	4th Street	Yes	No	October, 2002
Oak Boulevard	32nd Avenue	38th Avenue	Yes	Yes	March, 2003

Roadway ownership may seem to be a trivial detail, however it can become a very important issue when it comes to seeking funding for improvements to the roads. For example, one road may be a State road and therefore subject to MDOT design and review/approval procedures, and another may be a County road with different procedures. You may have several agencies reviewing your recommended improvements, each with somewhat different procedures for funding new projects.

The school board has responsibility for school grounds and school driveways. Often maintenance of these is handled by the School Facilities and Pupil Transportation Divisions of the county or city public schools department. Talk to your school principal to determine who is responsible for these facilities at your school.

STEP 3: DETERMINING SCHOOL/WALKING ROUTES CONDITIONS

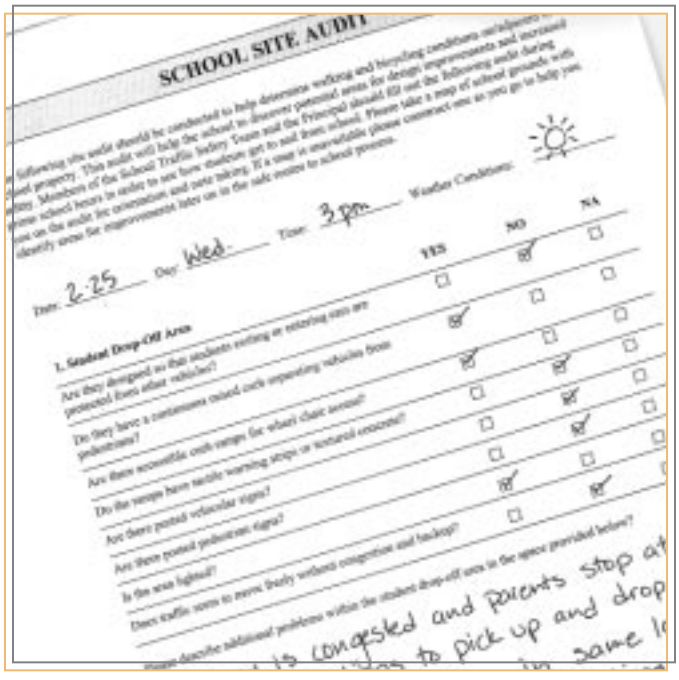
Now that you've created your base maps and determined if any roadway improvements are planned near your school, it's time to get out and take a look at existing conditions at your school and on the streets you identified earlier as routes that many students currently walk or live along. The main goal of this exercise is to list SPECIFIC locations on the school site and the surrounding streets that need improvements.

Take time to watch what happens at the school during the morning drop-off and afternoon pick-up periods. It's very important to watch the traffic patterns and observe students movements. Do this on several different days and make sure you talk to parents, teachers (especially those with outside duty in the morning and afternoon), kids and crossing guards about the problems. Keep a list of the problems you see or people tell you about. In many cases, you may already know the major "hot spots" such as intersections that are difficult to cross, streets that need sidewalks, but during your "walk-through," you may notice areas where sidewalks are missing or are in poor repair, corners that are in need of curb ramps (wheelchair ramps), intersections that are too wide and dangerous, streets where traffic is going too fast, and other things. These are the types of problems that you need to write down on your list.

At some schools, you may find you can get all the information about existing conditions you need from watching what happens and talking to people as described in the following section on outreach. At other schools, you may want to do a more detailed study. If so, there are two types of "site surveys" or "audits" provided in the appendix of this guide to assist you in evaluating conditions: the School Site Audit and the Neighborhood Site Audit. Directions for using these audits are provided below.

How to Use the School Site Audit

The school site audit will help determine walking and bicycling conditions on or adjacent to school property. By looking closely at such things as the student drop-off, bus loading zones, sidewalks, crossing guard locations, signage and adjacent intersections, it will help you discover potential areas for design improvements and increased safety. Members of the Safe Routes Team and the Principal should fill out the audit during the prime school hours in order to see how the children get to and from school. It will be useful to have a map of school grounds on hand for note taking. If a map is unavailable you can construct a map as you go. (See appendix for a sample school site audit.)


SCHOOL SITE AUDIT

Date: 2-25 Day: Wed Time: 3pm Weather Conditions:

1. Student Drop-Off Area

	YES	NO	NA
Are they designed so that students exiting or entering cars are protected from other vehicles?	☐	☑	☐
Do they have a continuous raised curb separating vehicles from pedestrians?	☑	☐	☐
Are there accessible curb ramps for wheelchair access?	☑	☐	☐
Do the ramps have tactile warning strips or textured concrete?	☐	☑	☐
Are there posted vehicular signs?	☐	☑	☐
Are there posted pedestrian signs?	☑	☐	☐
Is the area lighted?	☑	☐	☐
Does traffic come to a slow, freely without congestion and backup?	☐	☑	☐

Please describe additional problems within the student drop-off area in the space provided below:

it's congested and parents stop at
to pick up and drop
same l

Things to Do if Speeding is a Problem

- Talk to your neighbors and community leaders, and find out if they agree that speeding is a problem. If others support your concerns, you are more likely to be "heard" when you ask for help in solving the problem.
- Ask your local police department to monitor speeds in the area. In addition to ticketing speeders, many police departments own "speed display trailers" which indicate when motorists are speeding. Ask if the police can place the speed display trailer along the street(s) you have identified as having a speeding problem.
- Let people in your community know that speeding is not acceptable. Include messages in community and school newsletters, and on signs throughout the neighborhood (in some cases, school and church signs have been used to display messages about speeding).
- Ask your county or city to re-design your street to slow motorists through construction of traffic calming devices. Motorists commonly speed on streets that are too straight and wide open. Traffic calming devices can slow the speeds of motorists on such streets, through the construction of road treatments which include raised devices (such as speed humps and raised crosswalks), roadway narrowing, curves in the roadway, or planting trees along the street.

How to Use the Neighborhood Site Audit

Similar to the school site audit, the neighborhood audit is designed to help you evaluate the walking and bicycling conditions by inventorying neighborhood intersections, streets and sidewalks used by the students. There are separate forms for evaluating intersections or mid-block crosswalks and roadway segments (see appendix). You'll want to use your base maps and some of the information you've already collected such as traffic counts and the rough locations of where students live.

At the conclusion of the site audits, gather participants together to summarize the findings and create a list of problems and improvements that are needed (see Chapter 5: Pulling it All Together). If a local transportation planner hasn't been involved yet, this would be a good time to speak to him or her about the problems you have identified.

As you begin to identify where students live and the routes along which they walk or bike, you'll begin to learn a lot about where you'll want to prioritize improvements. In dense city neighborhoods, kids may come from pretty much every street around the school. However in more suburban communities, there might be a major street that carries a lot of the student foot/bike traffic. You will find that there are several logical, "main routes" to school.

Some communities have designated these main routes as "Safe Routes" and focused the improvement efforts along them. You may want to do this depending on what you find in your community. This might be particularly helpful in neighborhoods that deal with violence. In these neighborhoods, a designated route could be focused on in order to create a safe space for children using a walking school bus


NEIGHBORHOOD SITE AUDIT

and for advocating for physical improvements to make it safe and more secure.

Getting Input

The most effective Safe Routes to School programs take full advantage of the first-hand experience of students, parents and teachers at the school. These are the people who witness safety problems on a daily basis, and their opinions are important. It is also essential that input be gathered from the broader neighborhood community. They will want a say in anything that happens in their neighborhood. A number of techniques are recommended to get input from these people. These tasks should be assigned to several people on your Safe Routes Team or to an Outreach Subcommittee.

STEP 1: DISCUSS THE PROJECT WITH TEACHERS AND STAFF

Find an appropriate time, such as a school staff meeting, to make a presentation to teachers and other staff about the project. Solicit their input about student attitudes, unsafe behaviors, and other concerns. Ask the teachers if they typically teach pedestrian and bicycle safety skills, and to what extent these lessons are taught (i.e. how many hours in a typical year). This will be a good time to find out if they are interested in teaching more lessons on bicycle and pedestrian safety (see Sidebar for more information on safety curricula).

Maryland Pedestrian and Bicycle Safety and Education Program

Public schools in Maryland have not traditionally taught comprehensive pedestrian and bicycle safety skills. There are several new educational programs, however, that can be used for this purpose. The Maryland Highway Safety Office, in partnership with the City of Rockville, has prepared a Maryland Pedestrian and Bicycle Safety and Education program for use in local schools throughout the state. Other educational resources include Risk Watch (available through the Safe Kids Coalition of Maryland) and the 4-H Bicycle and Pedestrian Safety Curriculum (available through Maryland's 4-H clubs). Also check with your local police or fire department or local American Automobile Association (AAA) office to see what traffic safety educational materials they can provide. See the Contacts by County listings on page 39–43.

STEP 2: CONDUCT STUDENT AND PARENT SURVEYS

There are two surveys in the appendix of this Guide that can be used for your Safe Routes project—one is for students and the other is for parents. These are provided in hard copy, and also on CD so that you can "personalize" them with the name of your school. These surveys are an important part of the Safe Routes process. The information gathered in these surveys will enable you to evaluate progress and the success of your program. They will also give your Safe Routes Committee a better understanding of the current situation, so you can plan more effectively for future improvements and safety features.

Getting in contact with parents and compiling student data can be tedious. However, by following the instructions in this

Guide, these surveys should be relatively easy to accomplish, and should provide you with accurate information.

The Student Travel Survey will generate information on what types of transportation are used at the school—i.e. how many children walk, ride the bus, are driven by their parents, or use some other mode of transportation. This survey will complement the parent survey and provide travel behavior data for the entire school. This survey should be conducted at school under the supervision of homeroom teachers.

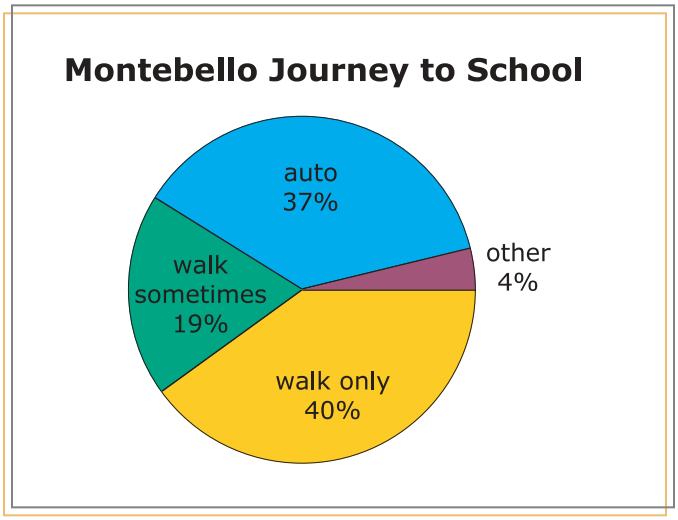
The Parent Survey will collect vital information on parents' perceptions and opinions of conditions near the school, as well as what types of improvements would be needed in order for them to feel comfortable enough to let their child walk to school. This survey is specifically targeted to families who live within a 2-mile radius of the school. The survey can be sent home with the students or distributed by direct mail (more expensive, but preferred, since parents are usually deluged with papers brought home by their children and may ignore the survey if it arrives that way). Parents should be given two weeks to return their completed surveys to the school. Some schools have found success in getting surveys returned by providing small incentives such as erasers or candy to student when they bring in a completed survey. In order to make it easier to tabulate the survey results, a spreadsheet file has been provided on the enclosed disc to enable you to quickly enter the data and generate the results.

The following topics are covered by the Parent Survey:

- Gender, age and grade of their child (or children) who attend the school
- Distance between their residence and the school
- Opinions on walking and biking conditions
- Factors that influence the decision to walk or bike

- Routes used to reach school
- Education programs

The Outreach volunteer(s) or subcommittee should be responsible for distribution and collection of the survey packet data. Consult the school's principal for appropriate procedures before distributing the surveys. A CD is included with this guidebook that contains a Microsoft Excel spreadsheet. The spreadsheet is pre-programmed to provide you with the results of the surveys. (See figure below.)



Getting the Community Involved

One way of gaining greater involvement from the community is to have your team hold a Community Workshop during this phase of your project. This workshop should be advertised and hosted by your school. An introduction at the Workshop by the school's Principal would be helpful. Activities at the workshop can include:

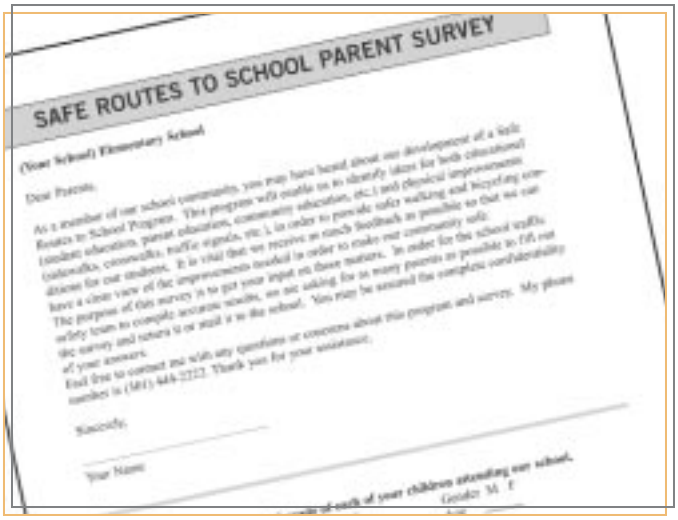
- A presentation on the benefits of the Safe Routes Program and the goals of the project.
- Group activities: allow workshop participants to work together on their own copy of the base map, marking locations they feel are in need of improvements and why, as well as ideas for solutions.
- Field work: invite community members to participate in the School Site Audit and Neighborhood Site Audit.
- Ask people who attend the meeting to talk to their friends and neighbors to help build support for the project.

The results of these surveys can help determine goals and priorities. For example, you may find from the surveys that many parents would allow their children to walk to school, if they walked with an adult. You would then be able to focus on programs like a Walking School Bus where parents and other adults accompany kids to school. An alternative finding may be that a large percentage of children already walk to school, but parents are worried about safety and lack of sidewalks. At such a school, the goal would be to improve safety: Sidewalks and other physical improvements would be a top priority. You will also be able to determine the most heavily traveled routes to get to school.

STEP 3: ASK THE COMMUNITY WHAT THEY THINK

Hopefully, you've been able to involve representatives of your local community group or neighborhood organization on your Safe Routes Committee. If not, it will be particularly important that you get input from them during this phase of the project. They may already be working to address some of the problems you identify and they'll definitely have opinions about what should happen on their neighborhood streets. There are many ways you can get input from the neighborhood. Some ideas include: making a presentation at a local neighborhood association meeting, talking to local environmental groups, getting volunteers to knock on doors to get neighbors input about the project, invite neighborhood residents to participate in a workshop about the Safe Routes program.


SAFE ROUTES TO SCHOOL TRAVEL SURVEY


SAFE ROUTES TO SCHOOL PARENT SURVEY

The Safe Routes Plan

Now that you've thoroughly evaluated site conditions, and have asked parents, teachers, students, and the community for their input—it's time to pull it all together into a plan of action to make your school a safe, walkable, bikeable destination! This section of the Guide explains how to develop goals and actions for your Safe Routes Plan, and also provides some successful techniques other schools have used to promote safe walking routes.

STEP 1: PREPARE A LIST OF PHYSICAL IMPROVEMENTS AND NEW PROGRAMS

Working with your Safe Routes Committee, prepare a list of needed improvements and a separate list of needed safety/education programs. To generate these lists you will need to review the survey evaluation results as well as the maps that you have prepared. They will be the basis of your school's Needs list.

There are generally three types of projects that you will recommend on your Needs list: physical improvements, education/encouragement programs and enforcement programs. To develop the list of physical improvements, you'll want to work with the agencies with jurisdiction over the facility (road/property/building) that you are interested in improving. Those with a stake in a particular program you are recommending will review the education/encouragement and enforcement programs. Let's look at each of these types or recommendations.

Summary of Priority Recommendations - Rolling Terrace Elementary

	Location of Project / Description of Work		Cost Estimate	Resp Imp
Engineering / Physical Improvements	School site, Barnes and Bayfield	See concept #1: Curb extensions, south improvements, bike racks/enclosure and site improvements	$50,000 bike park $2K	Montgo
	Dumont and Garland, adjacent section of Long Branch Trail and Crossing	See concept #2: Narrow lanes, curb extensions, curb ramps, fix erosion, add lighting, 4-way stop	$183,000	Montgo SHA D MNCP
	Sesh Lane	Install sidewalk	$27,000	Montgo
	Cranberry Ave	Install sidewalk bet. Greenwood and trail	$51,000	Montgo
	Cranberry and Garland	Improve traffic circle	$14,000	Montgo
	Flower Ave	Traffic calming study, install sidewalks, curb ramps, bulb-outs, improve crosswalks, stop signs	Study -$75K, Implem.- $550,000	SHA D City of
	Wabash Ave	Install sidewalks bet Flower and Garland	$19,000	Montgo
	Houston Ave	Close gaps in sidewalks bet Flower and Greenwood, Garland and trail	$24,000	Montgo
	Haddon at Long Branch Trail	Close Haddon at gap in Long Branch Trail	$17,000	Montgo MNCP
	Kennebec	Install sidewalk Farm Forest to trail, improve trail access	$31,000	Montgo MNCP
	Garland, Kennebec and Erie	Consider traffic calming device	$35,000	Montgo
	Greenwood	Install sidewalk bet. Maplewood and Kennebec	$12,000	Montgo
		Subtotal	$866,000	
Education	Phase I			
	Incorporate bicycle and pedestrian safety lessons and activities into school's curriculum and physical education programs		$500	Teache
	Phase II			
	Expand the safety lessons into a comprehensive curriculum w/ hands-on bike and practice		$5,000*	Teache

Physical Improvements Recommendations

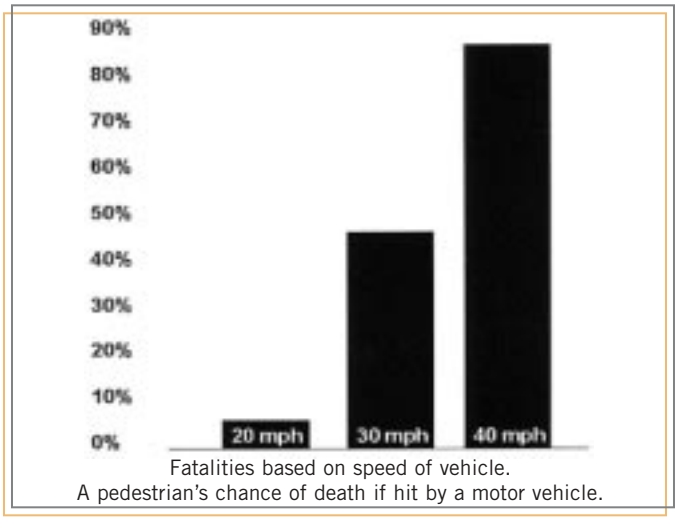
You may have ideas about what type of physical improvement would solve a particular problem (new sidewalk, speed hump, etc.) but if you don't know how to solve a problem, don't worry—either way, you'll want to get a local engineer or planner involved in helping you find the right solution to the problems in your area. In addition to your local planning and engineering departments, there are also other resources you can go to for advice such as the Neighborhood Design Center, local university engineering, planning and landscape architecture departments (see appendix). This section provides some ideas for physical improvements. More detailed descriptions of physical improvements and rough cost estimates are provided in the appendix.

Among other things, physical improvements include changing the drop-off pattern on the school grounds, installing new sidewalks, adding bike lanes to streets that surround

the school, providing bike racks for the school, providing curb ramps (wheelchair ramps), and improving the visibility of pedestrian crossings both at midblock and intersection locations.

Improving Conditions by Reducing Speeds

Other types of physical improvements include traffic calming projects on streets where there is a need to reduce cut-through traffic and/or slow down automobiles. Slowing speeds makes a big difference in safety: While pedestrians hit by a vehicle at 40 mph have only a 15% survival rate, those hit by a vehicle moving at 20 mph have a 95% survival rate.



Fatalities based on speed of vehicle.
A pedestrian's chance of death if hit by a motor vehicle.

Traffic calming involves changes in street alignment, installation of barriers, and other physical measures to reduce traffic speeds and/or cut-through volumes, to create more of a balance between cars, pedestrians, and bicyclists. Traffic calming helps pedestrians and bicyclists feel less threatened and intimidated by traffic, and also helps drivers become more aware of the presence of pedestrians.

Examples include traffic circles, speed humps (wider, flatter speed bumps), raised intersections, narrowing streets that are too wide, adding street trees to make streets seem narrower, and creating "chicanes"—curb extensions that slow down traffic.

Education/Encouragement Program Recommendations

A well-rounded Safe Routes to School Program involves more than just "concrete and steel" solutions. You should also identify education and encouragement programs to raise awareness and make kids want to walk or bike to school. This is a great time to get community members, health and safety professionals, and physical education or other teachers involved. A sampling of education/encouragement programs that could also be included in your Safe Routes Plan is outlined below. Additional resources can be found in the appendix.

The Walking or Cycling School Bus is an adult supervised and led walk or bicycle ride from a neighborhood to/from school. It allows children to walk or cycle in groups, which increases their visibility, and safety. Led by an adult "bus driver", this is a safe (and fun) way for kids to get to school. Practical tips on how to organize a *Walking or Cycling School Bus* may be found at www.goforgreen.ca/asrts/tools_e.html# Walking/ Cycling School Bus. This web page also has information on how to organize a Walk-a-Child-to-School-Day Event.

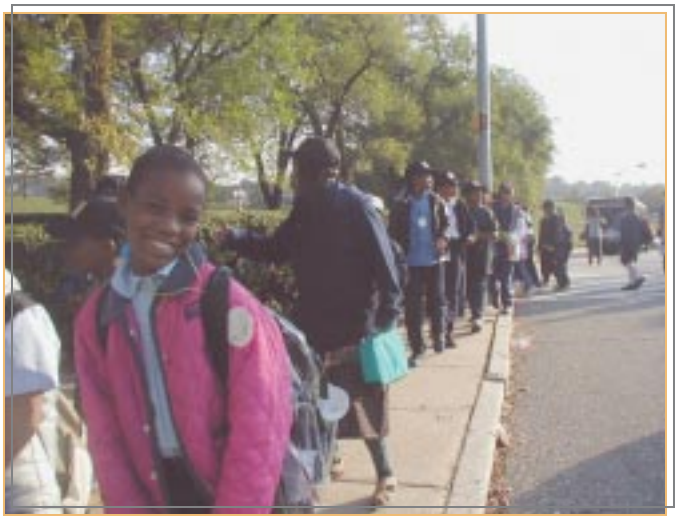
Crossing Guard Programs enable students to be directly involved in the safety of kids crossing the streets surrounding their schools.

School Safety Patrols provide an opportunity for students to participate in promoting traffic safety in the area around their school. Patrols are often sponsored by the American

Automobile Association and undergo training from local police. More information on starting a School Safety Patrol can be found at http://www.aaamidatlantic.com/

Walk a Child to School Day is typically held in early October each year, and is an excellent way to raise awareness of pedestrian conditions surrounding the school. Each year more and more schools in Maryland participate in this event. The Maryland Highway Safety Office is very supportive of this event. If you are interested in holding this event at your school, work with your Community Traffic Safety Coordinator to organize the activity (see contacts list on pages 39–43 in the appendices). Prizes can be given for the longest distance walked/biked, the most kids walking/cycling from one neighborhood, etc. Check out the tips and registration for your event at http://www.walktoschool-usa.org/

A Monthly *Walk to School Contest* is another way of providing incentives to children to walk to school. Rewards in the form of extra credit, awards, etc. could be given out as part of this contest.



Walk or Bike Across America Students in Marin County, California keep track of the miles they spend walking and biking to school by calculating how far they live from school and multiplying that by the number of times they walk and bike. Each week at a designated time, the students add up the distance the whole class has traveled and plot it on a map. Then they "travel" to a destination chosen by the class within those miles. Students become aware that they can travel great distances on foot or bike. Each new destination can be researched by the class to find out more about other parts of the country. At the end of a designated time, the class that has traveled the farthest gets a special reward like a video or pizza party. For more information, see http://www.saferoutestoschools.org/events.html

Classroom Activities are a great way to raise awareness, encourage kids to walk to school and teach safe walking and bicycling behaviors. The Maryland Highway Safety Office, in partnership with the City of Rockville, has prepared a Maryland Pedestrian and Bicycle Safety and Education program for use in local schools throughout the state. In addition, many organizations such as AAA and local police and fire departments have curricula designed for use in elementary and middle school classrooms. In addition to safety lessons, classroom involvement can also include activities such as mapping routes to school as part of a geography lesson and writing letters to local transportation and elected officials about safety concerns in the school neighborhood.

Enforcement Recommendations

As you looked at existing conditions and gathered input from the school and local community, you may have found that you need increased law enforcement to reduce speeding, illegal turns, and increase patrols for crime suppression. Hopefully you've kept your local police or sheriff's office involved, or at least informed, of your Safe Routes program.

Talk to them about the possibility of doing some "spot" enforcement or a "pedestrian sting" operation to help enforce some of the traffic laws that help protect pedestrians. (See sidebar.) Keeping in mind that the police too often have limited resources for enforcement, here are some additional ways to help improve adherence to traffic laws and reduce crime along the school route.

Corner Captains are parents or citizens who merely set up a chair on the corner of a school route. Their presence alone will increase the safety and security of children walking to school. This can be enhanced with a "uniform" that can be as simple as a pre-arranged high visibility shirt and hat color (like orange), or may involve pre-printed t-shirts with logos and the like.

Cops on Bikes programs render high visibility enforcement and provide additional safety and security for children walking or cycling to/from school.

Paperwork Patrol. Police often spend time in their vehicles completing paperwork. Several communities have started programs where police will park in front of local schools to complete this paperwork. Even though they may not actively ticket, their presence often helps reduce speeding. Request that your school be one of these locations.

Speed Trailers Many communities use speed trailers as an educational device that also helps slow speeds. Speed trailers can be parked near a school to show passing motorists their current speed in comparison to the posted speed limit. This encourages motorists to drive the speed limit, however, it usually only has a temporary effect. Ask your local police about locating a speed trailer near your school.

Pedestrian Sting

In a "pedestrian sting", local law enforcement focuses on ticketing motorists who fail to follow laws that help protect pedestrians such as stopping at stop signs, driving the speed limit and stopping or yielding to pedestrians in crosswalks. In Maryland, a motorist is required to stop for a pedestrian in the crosswalk if the pedestrian is in the same half of the road as the motorist or approaching so closely from the other half as to be in danger of being struck by the motorist. In addition, vehicles turning right or left must yield to pedestrians who are legally in the crosswalk. These laws are frequently ignored by motorists causing pedestrians to be in danger.

Spot Enforcement Occasional or "spot" enforcement can be helpful in reinforcing traffic safety laws and new rules such as a new drop-off pattern at a school. Talk to your local law enforcement about providing such enforcement on an occasional basis.

STEP 2: SET PRIORITIES AND SHORT- AND LONG-TERM GOALS

At this point in the process, there is likely to be some consensus on your Committee about which projects are needed most. The next step is to prioritize your needs lists, that is, decide which projects are needed the most and should be pursued first.

Keep in mind that some projects will take longer to put in place than others. It is therefore important at this stage to set short-term and long-term goals. Your list of short-term goals is likely to include such things as increasing community awareness about the importance of walking and biking and getting some of the education/encouragement and enforcement activities started.

There may also be opportunities to make "quick fix" type improvements that are not as costly as major physical improvements, but that would yield great benefit for a relatively low cost (examples: reducing pedestrian/vehicle conflicts at the school entrance by changing drop-off patterns, adding painted crosswalks and warning signs at midblock crossings, minor traffic calming projects). These "quick-fix" opportunities should be given a high priority, and placed on the list of short-term (or intermediate) goals since they will enable the community to see some immediate results and will help build support for larger, long-term projects.

The list of long-term goals is likely to include some high-priority physical improvements that will require time to gather political support and funding such as redesigning an intersection, constructing new sidewalks or major neighborhood traffic calming projects. These projects will take longer to put in place since they usually have to wait "in line" behind other similar projects that communities have asked for. Even though they belong on the list of long-term goals, it will be important to start building community support and looking for funding. For these larger projects, it may also be useful to contact your local council member or state legislator to make sure he or she is informed of the need and support for the project.

A Word of Caution About Pedestrian Overpasses and Tunnels

When faced with a busy road crossing, one solution people often turn to is a pedestrian overpass or tunnel. While there are times when this type of solution is warranted, the majority of these structures (particularly overpasses) are rarely used because they require pedestrians to walk a considerably longer distance. Tunnels can create serious security problems and can be uncomfortable places to walk. Considering that the costs of overpasses and tunnels regularly run into the millions of dollars, the decision to pursue this type of solution should be made VERY carefully, in full consideration of whether the structure is likely to be used. Alternatives would include enhanced at-grade pedestrian crossing measures such as red crosswalks, curbs that extend out into the street to narrow the crossing, median refuge islands, pedestrian activated signals (at midblock and intersection locations), and other innovative pedestrian crossing treatments.

Quick-Fixes

At Montebello Elementary School in Baltimore, parents were dropping off kids directly in front of the school on a very busy street. This drop-off pattern created congestion and confusion and often resulted in children crossing in the middle of the block and darting between parked and moving cars. To solve this problem, the Safe Routes Team at the school worked with the school administrators, the City's Office of Transportation, the Baltimore City Public Schools Pupil Transportation, and School Facilities Department to create a "quick fix" solution. A parking lot behind the school was striped to become a new drop-off area, signs indicating the change were installed around the school, the administration sent home flyers to inform parents, police helped with initial enforcement and directing traffic and volunteers from the Safe Routes Team formed the Montebello Parents on Patrol to help guide parents to the new drop-off and assist the crossing guards in directing walking children to crosswalks and safe crossing points. The result: the change reduced traffic and congestion in front of the school and helped build enthusiasm among parents and administrators for the Safe Routes program.

Putting the Program in Place and Finding the Funding!

During the Implementation phase, you will put into full effect the programs that you have identified in your Safe Routes Plan. To do this you'll work closely with the other members of your Safe Routes Team.

Implementation of your *Safe Routes to School Program* will likely occur on several levels, with the Safe Routes Team taking the lead in organizing a variety of partners to get the work done. You may ultimately work with the State (i.e. Maryland State Highway Administration, Maryland Department of Planning, Maryland Office of Highway Safety, etc.), with your local county government, with your municipal government (if your school lies within an incorporated town), with your local community group or neighborhood association, the local business community, with a local law enforcement agency, or with a variety of other organizations throughout Maryland that support safety-based programs. There are MANY potential partners for Safe Routes projects —which is a particular strength of this program.

STEP 1: APPROACH POTENTIAL PARTNERS

It's a good idea at this stage in the process to make some phone calls to those people who you've been keeping informed about the Safe Routes program, but may not have been actively involved. Now that you have a list of programs and improvements and short- and long-term goals, you'll want to make sure that everyone knows what they are.

Many of the educational and encouragement activities will require little or no funding, but lots of volunteer time from parents, teachers, and community members. Talk to local businesses about the program and solicit their help in providing incentives such as small prizes, bumper stickers or pizza parties. Be sure to contact organizations such as bike shops, AAA, fire/police and health departments. They often have incentives they can provide to you at little or no cost. As discussed in Section 5, talk to local law enforcement about providing additional enforcement around the school if needed.

STEP 2: DETERMINE IF YOUR PROJECT IDEAS CAN BE INCORPORATED INTO THE CAPITAL IMPROVEMENTS PROGRAM (CIP) OF YOUR STATE, COUNTY OR LOCAL JURISDICTION

As described in Chapter 3, a variety of different government agencies at the state, county and local level have jurisdiction over our streets and highways. During the early phases, you

will have identified who owns and manages the roads near your school, as well as whether any improvements are scheduled in the near future. As you begin the implementation process, you will want to go back to those sources to request assistance in getting your projects built—either independently or in conjunction with other road improvement projects that have already been planned.

Some of these improvements the agencies may commit to doing in the near future, others will be longer term, and still others they will respond to as "infeasible" for various reasons. Don't despair. A little creative thinking will be necessary here. Just because a particular roadway needs sidewalks (or a bike lane), and the roadway department doesn't plan on adding them, or have the money to do so at your request, does not mean that you should walk away from that particular project. There are other avenues open to you. For example, there are safety funds available from a variety of government agencies, as well as grants to address just these types of needs. A list of these funding sources is provided on pages 48–49 in the appendix, beginning on page 44. Also, the regional and state Bicycle and Pedestrian Coordinators will likely be able to further guide you toward available funding sources, as these often change. The School Board may have funds available. If these alternative funding sources are not sufficient to cover the anticipated costs for a particular project, they may be available for use as matching funds to the agency with jurisdiction over the roadway, thereby making the project possible.

STEP 3: FOLLOW-UP ON LONG TERM GOALS

For some of your long-term physical improvement goals, it will be important to maintain momentum sometimes over a period of several years. The best way to do this is to work on building a broad base of community support (the more people who support the project, the more energy your project will have) and to focus on small successes along the way. Work closely with the neighborhood and community groups and regularly follow-up with the local engineers and planners involved in the physical improvement project.

Getting Community Buy-in for Sidewalks

If your Safe Routes Plan includes installing new sidewalks on residential streets, it will be important to build support among the affected landowners. This is sometimes difficult—for a variety of reasons, people may be opposed to a new sidewalk in their front yard. They may be ambivalent about the need for sidewalks. Residents sometimes resist installing sidewalks because they think it will change the rural appearance of their neighborhood.

As the champion for your Safe Routes project, part of your job is to win these people over. If possible, meet with affected landowners face to face—especially those that you think might be opposed to sidewalks. Clearly explain your purpose, and bring along supporting evidence—photographs of children walking in the street, pictures of attractive sidewalks, child safety statistics, and information about likely sources of funding. Be an earnest spokesperson for your project!

Some Final Tips for Success

Congratulations! You're on your way to starting a program that can make a big difference in the safety and physical health of your children and help strengthen your community. In addition to this guide, there are many additional resources that are listed in the appendix that will help you develop and run your program. Remember, there is no specific "right-way" to run your program. Take the best of the ideas that are presented here and use your own creativity to develop a program that works best for your school. Here are some final tips—have fun!

- Involve potential stakeholders and get them to buy into the Safe Routes to Schools program. Stakeholders include parents, teachers, law enforcement, community groups, local school health councils and roadway departments/agencies. Don't forget the students; this program is for them and their enthusiasm will help breed success.
- Elect a Team Captain who is focused and has the motivation and perseverance to keep the Program moving and the other Team members motivated.
- Stick to the schedule and stand by your goals and refer back to them. They will help guide you through the Program.
- Be efficient in your SR2S meetings. Short meetings are better than long meetings.
- Make your meetings "open". That is, advertise them along with other school functions to let the larger community attend. Have a spot on the meeting Agenda to allow for those not on the SR2S Team to comment, and be receptive and responsive to those comments.
- Accomplishing your set goals will likely not come easily. So remember that persistence, tenacity and patience will be required.
- Finally, celebrate successes along the way and recognize those that have invested their time and effort in the Program. This is also an important aspect of a Safe Routes to School Program. It will knit the SR2S Team together and provide encouragement and incentive to stay the course.

Example SR2S Team Invitation
(On School Letterhead)

DATE

TO

Re: Northwest Elementary School's Safe Routes to School Program
Program Team Formation

Dear _____:

You are invited to join a small Team in an exciting new Program here at Northwest Elementary – the Safe Routes to School Program. The purpose of the Safe Routes to School (or SR2S) Team is to ensure that safer walking and cycling routes to school are provided for our children, as well as to provide safety and educational training to them about walking and cycling. Through this Program, it is our desire to, 1) have sidewalks and bike lanes built to improve our children's safety, and 2) expand the school's curriculum to include safety and education programs that will teach our children proper pedestrian and bicycling behavior and safety techniques.

We have scheduled a SR2S Team kick-off meeting on (DATE), at (TIME). The meeting will be held at (PLACE). Refreshments and childcare will be available, and we look forward to seeing you there! Please RSVP to me at (PHONE #), so I can plan accordingly. Thank you in advance for your help with this important program.

Sincerely,

NAME & ADDRESS

cc: Principal
School Board

SCHOOL SITE AUDIT

The following site audit should be conducted to help determine walking and bicycling conditions on/adjacent to school property. This audit will help the school to discover potential areas for design improvements and increased safety. Members of the School Traffic Safety Team and the Principal should fill out the following audit during prime school hours in order to see how students get to and from school. Please take a map of the school grounds with you on the audit for orientation and note taking. If a map is unavailable please construct one as you go to help you identify areas for improvements later on in the safe routes to school process.

Date: _____ Day: _____ Time: _____ Weather Conditions: _____

1. Student Drop-Off Areas	**YES**	**NO**	**NA**
a. Are they designed so that students exiting or entering cars are protected from other vehicles?	☐	☐	☐
b. Do they have a continuous raised curb separating vehicles from pedestrians?	☐	☐	☐
c. Are there accessible curb ramps for wheel chair access?	☐	☐	☐
d. Do the ramps have tactile warning strips or textured concrete?	☐	☐	☐
e. Are there posted vehicular signs?	☐	☐	☐
f. Are there posted pedestrian signs?	☐	☐	☐
g. Is the area lighted?	☐	☐	☐
h. Does traffic seem to move freely without congestion and backup?	☐	☐	☐

i. Please describe additional problems within the student drop-off area in the space provided below.

2. Bus Loading Zones	YES	NO	NA
a. Are bus driveways physically separated from pedestrian and bicycling routes by raised curbs or bollards?	☐	☐	☐
b. Are bus driveways physically separated from parent pick-up/drop-off areas?	☐	☐	☐
c. If the buses are "double-stacked" for drop-off/loading areas, are measures taken for safety of students needing to cross in front or behind the bus?	☐	☐	☐
d. Is traffic in the bus loading zone one-way?	☐	☐	☐
e. Does the bus zone meet the minimum width of 24' for drop-off/pull-out lanes?	☐	☐	☐
f. Is there a continuous curb and sidewalk adjacent to the drop-off/loading area leading into the school site?	☐	☐	☐
g. Is the bus loading/unloading zone lighted?	☐	☐	☐

h. Please describe additional problem areas regarding the bus loading zone in the space provided below.

3. Sidewalks and Bicycle Routes	YES	NO	NA
a. Are current pedestrian and bicycle routes separated from motor vehicles by the use of sidewalks or separated pathways?	☐	☐	☐
b. Are the bicycle routes designated by signage?	☐	☐	☐
c. Are marked bicycle lanes present?	☐	☐	☐
d. Are sidewalks and bicycle paths regularly maintained (free of debris, cracks and holes)?	☐	☐	☐
e. Are there accessible ramps for wheel chair access?	☐	☐	☐
f. Are the sidewalks continuous and without gaps?	☐	☐	☐
g. Do the ramps have tactile warning strips or textured concrete?	☐	☐	☐
h. Are the sidewalks lighted?	☐	☐	☐
i. Are the sidewalks used regularly?	☐	☐	☐

j. Please describe additional problem areas regarding the school's sidewalk system and existing bicycle routes in the space provided below.

4. Adjacent Intersections (intersections near school property)	YES	NO	NA
a. Are there high volumes of automobile traffic?	☐	☐	☐
b. Are there high volumes of pedestrian traffic?	☐	☐	☐
c. Are there painted crosswalks for all crossing directions?	☐	☐	☐
d. Are there curb ramps located at all adjacent intersections?	☐	☐	☐
e. Is there appropriate vehicle signage?	☐	☐	☐
f. Is there traffic control, such as a stoplight or stop signs?	☐	☐	☐
g. Are there pedestrian walk signals?	☐	☐	☐

h. Please describe additional problem areas regarding these intersections in the space provided below.

5. Sight Distance (clear views between motorists and pedestrians)	YES	NO	NA
a. Are desirable sight distances (visibility is free of obstructions) provided at all intersections within the walking zone?	☐	☐	☐
b. Do cars park or wait blocking the vision of other motorists, bicyclists and pedestrians?	☐	☐	☐
c. Have the placement of fences, walls, dumpsters and the location of parking areas for service vehicles been carefully considered in view of sight distance requirements on the school site?	☐	☐	☐
d. Are there any barriers present that block the viewing of pedestrians and bicyclists (i.e. dumpsters, utility boxes, landscaping, parking areas, ground mounted signage, building walls)?	☐	☐	☐

e. Please describe additional problem areas that have sight distance obstructions in the space provided below.

6. Traffic Signs, Speed Control, Signals and Pavement Markings	YES	NO	NA
a. Are there any School Advance signs, School Crossing signs, School Speed Limit signs, flashing beacons, and No Parking or No Standing signs?	☐	☐	☐
b. Is there an effective school targeted program of traffic enforcement?	☐	☐	☐
c. Is there a designated school zone?	☐	☐	☐
d. Are there any school pavement markings located on roadways adjacent to or in the vicinity of the school grounds?	☐	☐	☐
e. Are there currently traffic/speed control measures used, such as different pavement surfaces, non-white paint, speed bumps, and speed tables?	☐	☐	☐

f. Please describe additional information regarding adjacent traffic signs, speed control, signals and pavement markings in the space provided below.

NEIGHBORHOOD SITE AUDIT

The following neighborhood audit is designed to help you evaluate walking and bicycling conditions in your school's neighborhood by taking an inventory of intersections, streets and sidewalks. There are separate forms for evaluating intersections and mid-block crosswalks versus roadway segments. Please use only one form for each intersection or roadway segment. Make additional copies of the audit sheets to evaluate all of the neighborhood streets. Some information will need to be collected beforehand, such as average daily traffic counts provided by the local municipality and a base map of neighborhood streets.

Instructions:

Step 1: Establish a boundary for assessment:

On your base map, identify the school location and outline an area (or perimeter) from which children could walk or bicycle to school. A good rule of thumb is 1 mile in all directions from the school.

Step 2: Identify where students live:

On your base map, identify where students live. This could be done by having students mark their home locations on a large map with push pins, by using a GIS database (if available), or by using best estimates of parents and school staff.

Step 3: Identify projected walkable routes to the school:

Draw on the map and identify possible routes that children may follow to walk or ride their bikes to school. Try to identify a major route in each direction (north, south, east, west).

Step 4: Inventory of existing facilities:

Locate and inventory all major features within the one-mile radius. Locate streets, intersections, sidewalks, problem areas, and other security and safety items. Identify all of these items on the map with either text or symbols.

Step 5: Fieldwork:

Now, that you have completed the base mapping and initial analysis, it is time to go in the field. Using your initial analysis you can map an efficient course to evaluate all of the streets and major routes that you identified. Use the attached audit sheets to begin collecting information.

Step 6: Compile, prioritize and rank findings:

When your fieldwork is complete, organize your audits by highlighting the most important aspects noted by the audit team. List and rank these potential improvements in order of importance via safety and immediate need. Report the findings to the School Traffic Safety Team.

SAFE ROUTES TO SCHOOL PARENT SURVEY

(Your School) Elementary School

Dear Parents,

As a member of our school community, you may have heard about our development of a Safe Routes to School Program. This program will enable us to identify ideas for both educational (student education, parent education, community education, etc.) and physical improvements (sidewalks, crosswalks, traffic signals, etc.), in order to provide safer walking and bicycling conditions for our students. It is vital that we receive as much feedback as possible so that we can have a clear view of the improvements needed in order to make our community safe.
The purpose of this survey is to get your input on these matters. In order for the school traffic safety team to compile accurate results, we are asking for as many parents as possible to fill out the survey and return it or mail it to the school. You may be assured the complete confidentiality of your answers.
Feel free to contact me with any questions or concerns about this program and survey. My phone number is (301) 444-2222. Thank you for your assistance,

Sincerely,

_____
Your Name

---

1. Please provide the gender, age and grade of each of your children attending our school.

Gender M F	Gender M F	Gender M F
Age _____	Age _____	Age _____
Grade _____	Grade _____	Grade _____

2. In your opinion, do you live within walking distance to the school? (circle one)
a. Yes
b. No

3. About how far do you live from the school? (circle closest answer)
a. 1/2 mile or less
b. 1/2 mile to a mile
c. between 1 and 1-1/2 miles
d. over 1-1/2 miles

4. How does/do your child/ren get to school in the morning? (circle one)

a. School Bus
b. Car
c. Car Pool
d. Walk
e. Bike
f. City Bus
g. Other (please list)_____

5. How does/do your child/ren get home in the afternoon? (circle one)

a. School Bus
b. Car
c. Car Pool
d. Walk
e. Bike
f. City Bus
g. Other (please list)_____

6. If your child/ren walk or bike to school, please list the primary streets they use to get to and from school.

List Streets: _____ _____ _____ _____

7. How do you feel about the following statements pertaining to the walking and biking conditions in your neighborhood? (Check one box per each question)

	SA Strongly Agree	**MA** Mildly Agree	**N** No Opinion	**MD** Mildly Disagree	**SD** Strongly Disagree
a. There are too many high-speed vehicles in my neighborhood.	☐	☐	☐	☐	☐
b. There are high amounts of vehicle traffic in my neighborhood.	☐	☐	☐	☐	☐
c. There are broken sidewalks in my neighborhood.	☐	☐	☐	☐	☐
d. There are gaps in the sidewalk network in my neighborhood.	☐	☐	☐	☐	☐
e. There is poor lighting in my neighborhood.	☐	☐	☐	☐	☐
f. There is a crime problem within my neighborhood.	☐	☐	☐	☐	☐
g. There are not enough crosswalks in my neighborhood.	☐	☐	☐	☐	☐
h. There are not enough crossing guards in my neighborhood	☐	☐	☐	☐	☐
i. It is dangerous to walk or bike to our school via sidewalks and roads.	☐	☐	☐	☐	☐
j. I feel comfortable having my child/ren walk or bike to school	☐	☐	☐	☐	☐

k. Please write below any additional factors that describe your neighborhood's walking and biking conditions. Please list specific locations where poor conditions exist. Feel free to attach additional pages for your response as needed.

List Streets: _____ _____ _____ _____

8. Which of the following statements would influence your decision to consider letting your oldest child walk or bicycle to school? (Check one box per each question)

I would let my oldest child walk or bike to school:	Yes	No	Maybe
a. If they were accompanied by an adult.	☐	☐	☐
b. If they were accompanied by other children the same age.	☐	☐	☐
c. If they were accompanied by an older child.	☐	☐	☐
d. If new sidewalks and crossings were installed.	☐	☐	☐
e. If Police patrols and crossing guards were along school routes.	☐	☐	☐
f. If they received walking/bicycle safety education from the school.	☐	☐	☐
g. If we lived closer to the school.	☐	☐	☐

9. How important are the following factors in influencing your decision to allow your child to walk or bicycle to school? (Check one box per each question)

	Very Important	Somewhat Important	Not Important
a. Crossing guards at all busy intersections.	☐	☐	☐
b. Continuous sidewalks from your house to the school.	☐	☐	☐
c. Clearly marked walking and bicycling routes (with signs).	☐	☐	☐
d. Separated trail connecting your neighborhood to the school.	☐	☐	☐
e. Slower traffic in the neighborhood.	☐	☐	☐
f. Better lighting.	☐	☐	☐
g. Emergency call boxes and designated safe houses (safer community).	☐	☐	☐
h. Increased Police presence in the neighborhood.	☐	☐	☐
i. Secure places to park bicycles (bike racks).	☐	☐	☐
j. School education programs on walking and biking safety.	☐	☐	☐

k. Please write below any additional factors that influence your decision to allow your child to walk or bicycle to school. Feel free to attach additional pages for your response as needed.

10. Traffic safety education programs are a primary component of the safe routes program. Below is a list of potential programs that could be developed at your school. Please check ones that you would like to learn more about.

a. ☐ The Walking School Bus (walking to /from school with an adult supervising a group of children).

b. ☐ Contacting parents and updating them on the Safe Routes Program.

c. ☐ Becoming an adult member of the School Traffic Safety Team.

d. ☐ **"**Safety Post" program, where parents or other adult volunteers remain present at various locations during AM and PM travel times.

e. ☐ Providing a "safe house" for children who may need assistance.

f. ☐ Help organize the "Walk Our Children to School" event.

g. ☐ Not interested in helping at this time, but would like updates.

h. ☐ Other, please list ideas below. Attach additional pages for your response as needed.

11. Please list below the nearest street intersection next to your home.

_____

Please provide your name and telephone or email address if you would like to be contacted about the volunteer opportunity you checked above. Hopefully you will be able to participate. To remain anonymous please leave this section blank.

Name _____ Telephone _____ E-mail _____

Please return this survey to:

Thank you for your help and support!

If you have any questions about this survey please call 301.444.2222

SAFE ROUTES TO SCHOOL TRAVEL SURVEY

Dear (school name here) Teachers,

We need your help to make our community a safer place to walk and bike to school. This is a travel survey that will assist our Safe Routes to School Project Team in evaluating the current walking and bicycling conditions in our neighborhood school community. When you receive this survey, please take a few minutes to ask your homeroom students the following questions and record the appropriate responses. Please send the results back to me when completed.

Thank you,

(name here)

Teacher Name _____ Grade _____ Total Number of Students _____

Date you conducted this survey _____

	Number of Students
1. How many students walked to school today, raise your hand:	
2. How many students rode a bicycle to school today, raise your hand:	
3. How many students rode a scooter or skateboard to school today, raise your hand:	
4. How many students roller bladed to school today, raise your hand:	
5. How many students came in a car to school today, raise your hand:	
6. How many students came on a school bus today, raise your hand:	
7. How many students came on a city bus today, raise your hand:	

Please return the completed survey to the principal's office today. This information will help us determine how the students are currently getting to school in the morning to enable us to plan for safer routes.

Thank you for your help!

Appendices

CONTACTS BY COUNTY[1]

Allegany County

- State Highway Administration District 6 Office in LaVale, District Engineer, 301-729-8400
- Allegany County Health Department, Community Traffic Safety Coordinator, 301-777-5680
- Allegany County Department of Public Works, Transportation Division, 301-777-5933
- Allegany County Board of Education, Supervisor of Transportation, 301-759-2053
- Allegany County Sheriff's Office, Main Number, 301-777-5959
- Allegany County Health Department, Cardiovascular Disease Grant Coordinator, 30l-777-5801, P.O. Box 1745 Willowbrook Road, Cumberland MD 2l502

Anne Arundel County

- State Highway Administration District 5 Office in Annapolis, District Engineer, 410-841-5450
- Anne Arundel County Police, Traffic Safety Section, Community Traffic Safety Coordinator, 410-222-8578
- Anne Arundel County Department of Public Works, Traffic Engineering Division, 410-222-7331
- Anne Arundel County Public Schools, Division of Transportation, 410-222-5111
- Anne Arundel County Health Department, Program Manager, 410-222-70103, Harry S. Truman Parkway, Annapolis MD 21401

Baltimore City

- Baltimore City Office of Transportation, Engineering Supervisor, 410-396-6905
- Baltimore City Office of Transportation, Pedestrian Safety Manager, 410-545-6854
- Baltimore City Health Department, Community Traffic Safety Coordinator, 410-361-9130
- Baltimore City Public Schools, Director of Pupil Transportation, 410-396-8777 or 410-396-8754
- University of Maryland-Baltimore/Community Health Awareness Monitoring Program, Park Circle Business Center, 2901 Druid Park Drive A204, Baltimore, MD 21215; Department of Family Medicine, University of Maryland Medical School, 29 South Paca Street, Baltimore, MD 21201; CHAMP Director, 410-383-4415; Assistant Director, 410-669-6570; Health Educator, 410-669-7053

Baltimore County

- State Highway Administration District 4 Office in Brooklandville, District Engineer, 410-321-2800
- Baltimore County Police Department, Community Traffic Safety Coordinator, Officer, 410-887-5916
- Baltimore County Division of Traffic Engineering, 410-887-3554
- Baltimore County Public Schools, Manager of Transportation, 410-887-1111
- Baltimore County Police, General Information, 410-887-2214
- Baltimore County Health Department, Program Coordinator, 410-887-3727, One Investment Place, Towson, MD 21204

Calvert County

- State Highway Administration District 5 Office in Annapolis, District Engineer, 410-841-5450

[1]Most of the resources listed were excerpted from Traffic Safety Recommendations for School Zones: Guidelines and Resources. Maryland State Highway Administration School Safety Zone Traffic Safety Task Force. September 2000; and the Maryland State Highway Administration's web site at http://www.sha.state.md.us/oots/mctsp.htm

- Maryland State Police, Calvert County Community Traffic Safety Coordinator, 410-535-1400
- Calvert County Public Works, Transportation Bureau, 410-535-9235
- Calvert County, Supervisor of Transportation, 410-535-7227
- Calvert County Sheriff's Department, 410-535-1600 or 301-855-1243, ext. 361
- Calvert County Health Department, 410-535-5400, P.O. Box 980, Prince Frederick 20678

Caroline County

- State Highway Administration District 2 Office in Chestertown, District Engineer, 410-778-3061
- Caroline County Health Department, Community Traffic Safety Coordinator, 410-479-1882
- Caroline County Public Works, 410-479-0520
- Caroline County, Board of Education, Supervisor of Transportation, 410-479-3260
- Caroline County Sheriff's Office, 410-479-2515
- Caroline County Health Department, Community Health Nurse, 410-479-8080 ext 8630, 403 South 7th St., P.O. Box 10, Denton, MD 21629

Carroll County

- State Highway Administration District 7 Office in Frederick, District Engineer, 301-624-8100
- Carroll County Health Department, Community Traffic Safety Coordinator, 410-876-4448
- Carroll County Bureau of Roads, Operations and Traffic Control, 410-848-6717
- Carroll County Public Schools, Supervisor of Transportation, 410-751-3229
- Carroll County Sheriff's Office, 410-386-2900 or 1-888-302-8294
- Carroll County Health Department. Nutrition Services Director, 410-876-4984; Program Coordinator, 410-876-4981; 290 Center Street, P.O. Box 845, Westminster, MD 21158-0845

Cecil County

- State Highway Administration District 2 Office in Chestertown, District Engineer, 410-778-3061
- Cecil County Health Department, Community Traffic Safety Coordinator, 410-996-5168
- Cecil County Public Works, 410-996-5265
- Cecil County Public Schools, Supervisor of Transportation, 410-996-5414
- Cecil County Health Department, 410-996-5168, John M. Byers Health Center, 401 Bow Street, Elkton, MD 21921

Charles County

- State Highway Administration District 5 Office in Annapolis, District Engineer, 410-841-5450
- Charles County Health Department, Community Traffic Safety Coordinator, 301-934-9577
- Charles County Department of Public Facilities, Roads Division, 301-932-3450 (in DC Metro Area 301-870-2778)
- Charles County Board of Education, Supervisor of Transportation, 301-870-3814
- Charles County Sheriff's Office, Main Number, 301-609-6400
- Charles County Health Department, Cardiovascular Disease Coordinator, 301-609-6930, Box 1050, White Plains, MD 20695-1050

Dorchester County

- State Highway Administration District 1 Office in Salisbury, District Engineer, 410-543-6715
- Dorchester County Sheriff's Office, Community Traffic Safety Coordinator, 410-228-4142
- Dorchester County Highway Department, 410-228-2920
- Dorchester County Board of Education, Transportation Supervisor, 410-228-4747
- Dorchester County Health Department, Cardiovascular Disease Coordinator, 410-228-3223, 3 Cedar Street, Cambridge MD 21613

Frederick County

- State Highway Administration District 7 Office in Frederick, District Engineer, 301-624-8100
- State Highway Administration, Frederick County Community Traffic Safety Coordinator, 301-624-8152
- Frederick County Division of Transportation Engineering, Traffic and Transportation Planning, 301-696-2930
- Fredrick County Board of Education, Supervisor of Transportation, 301-694-1500
- Frederick County Sheriff's Office, Main Number, 301-694-2168

- Frederick County Health Department, Director of Nutrition Services, 301-631-3113, 350 Montevue Lane, Frederick, MD 21702

Garrett County

- State Highway Administration District 6 Office in LaVale, District Engineer, 301-729-8400
- Garrett County Health Department, Community Traffic Safety Coordinator, 301-334-8122
- Garrett County Public Works, Traffic Safety Coordinator, 301-334-3988
- Garrett County Board of Education, Supervisor of Transportation, 301-334-8908
- Garrett County Sheriff's Office, Main Number, 301-334-1911
- Garrett County Health Department. Community Outreach Director, 301-334-8122; Nutritionist, 301-334-8111; 2008 Maryland Highway Mountain Lake Park, MD 21550

Harford County

- State Highway Administration District 4 Office in Brooklandville, District Engineer, 410-321-2800
- Harford County Community Traffic Safety Coordinator, 410-638-4924
- Harford County Division of Traffic and Transportation, 410-879-8379
- Harford County Public Schools, Supervisor of Transportation, 410-638-4092
- Harford County Sheriff's Office, 410-836-5400
- Harford County Health Department, 410-838-3047 or 410-879-2404, 119 S. Hays Street, Box 797, Bel Air 21014-0797

Howard County

- State Highway Administration District 7 Office in Frederick, District Engineer, 301-624-8100
- Howard County Department of Administration, Community Traffic Safety Coordinator, 410-313-7237
- Howard County Department of Public Works, Traffic Engineering Division, 410-313-2430
- Howard County Public Schools, Supervisor of Transportation, 410-313-6732
- Howard County Police, Headquarters, 410-313-3200 or 301-621-4300; Northern District 410-313-3200; Southern District, 410-313-3700
- Columbia Health Center, Cardiovascular Disease Coordinator, 410-313-6204, 10630 Little Patuxent Pkwy, Suite 400, Columbia MD 21044

Kent County

- State Highway Administration District 2 Office in Chestertown, District Engineer, 410-778-3061
- Kent County Health Department, Community Traffic Safety Coordinator, 410-778-2616
- Kent County Public Works, Roads Division, 410-778-4252
- Kent County Board of Education, Supervisor of Transportation, 401-778-7127
- Kent County Sheriff's Office, 410-778-2279
- Kent County Health Department, Director of Health Promotion & Wellness, 410-778-1350 or 410-778-7104; Community Outreach, 410-778-7031; P.O. Box 359, 124 S. Lynchburg Street Chestertown, MD 21620

Montgomery County

- State Highway Administration District 3 Office in Greenbelt, District Engineer, 301-513-7311
- Montgomery County Community Traffic Safety Coordinator, 301-217-7250
- Montgomery County Division of Traffic and Parking Services, 240-777-2190
- Montgomery County Engineering Services, Sidewalk Program, 240-777-7272
- Montgomery County Police, School Safety Unit, 301-840-2715
- Montgomery County Public Schools, Division of Transportation, 301-840-8130
- Montgomery County Public Schools, Safety and Environment Health Unit, 301-279-3478
- Montgomery County Health Department Public Health Services, Department of Health and Human Services, Nutritionist, 240-777-1701, 2424 Reedie Drive, 2nd Floor, Wheaton, MD 20902

Prince George's County

- State Highway Administration District 3 Office in Greenbelt, District Engineer, 301-513-7311
- Prince George's County Police Department, Community Traffic Safety Coordinators, 301-306-5609
- Prince George's County Department of Public Works and Transportation, 301-883-5650

- Prince George's County Public Schools, Supervisor of Transportation, 301-952-6570
- Prince George's County Police, Crossing Guard Section, 301-731-4510
- Prince George's County Health Department, Program Chief, Adult Health, 301-856-9480; Community Health Nurse and Nutritionist, 301-856-9480; D. Leonard Dyer Regional Health Center, 9314 Piscataway Road, Clinton MD 20735-3630

Queen Anne's County

- State Highway Administration District 2 Office in Chestertown, District Engineer, 410-778-3061
- Queen Anne's County. Sheriff's Office, Community Traffic Safety Coordinator, 410-758-0770
- Queen Anne's County Department of Public Works, Road Engineer, 410-758-0920
- Queen Anne's County Board of Education, Supervisor of Transportation, 410-758-2403 (ext. 141 or 1-800-336-7775, ext. 141)
- Queen Anne's County Health Department, Program Director, 410-758-0720 x354, 206 N. Commerce St., Centreville, MD 21617

St. Mary's County

- State Highway Administration District 5 Office in Annapolis, District Engineer, 410-841-5450
- St. Mary's County Community Traffic Safety Coordinator, 301-475-4241
- St. Mary's County Department of Public Works, County Highway Division, 301-863-8401
- St. Mary's County Public Schools, Supervisor of Transportation, 301-475-5511
- St. Mary's County Sheriff's Office, 301-475-4040
- St. Mary's County Health Department, Health Educator, 301-475-4318, P.O. Box 316, Peabody Street, Leonardtown, MD 20650-0316

Somerset County

- State Highway Administration District 1 Office in Salisbury, District Engineer, 410-543-6715
- Somerset County Community Traffic Safety Coordinator, 410-651-3882
- Somerset County Department of Public Works, Road Department, 410-651-1930
- Somerset County Public Schools, Supervisor of Transportation, 410-651-1485
- Somerset County Sheriff's Office, 410-651-9225
- Somerset County Health Department, Cardiovascular Disease Coordinator and Program Supervisor, 410-651-5665 ext. 217, 7920 Crisfield Highway, Westover, MD 21871

Talbot County

- State Highway Administration District 2 Office in Chestertown, District Engineer, 410-778-3061
- Talbot County Community Traffic Safety Coordinator, 410-819-8067
- Talbot County Department of Public Works, Roads Superintendent, 410-822-5446
- Talbot County Public Schools, Supervisor of Transportation, 410-822-937
- Talbot County Sheriff's Office, 410-822-1020
- Talbot County Health Department, Coordinator and Outreach Worker, 410-819-5629, 100 South Hanson Street, Box 480, Easton MD 21601

Washington County

- State Highway Administration District 6 Office in LaVale, District Engineer, 301-729-8400
- Washington County Health Department, Community Traffic Safety Coordinator, 301-791-3054
- Washington County Department of Public Works, Traffic Engineer, 301-791-3140
- Washington County Board of Education, Transportation Supervisor, 301-791-4250
- Washington County Sheriff's Office, 301-791-3300
- Washington County Health Department, Partners in Prevention (PIP) Program Coordinator, 301-791-3039; PIP Program Secretary, 301-791-3030; 1302 Pennsylvania Ave., Hagerstown, MD 21742

Wicomico County

- State Highway Administration District 1 Office in Salisbury, District Engineer, 410-543-6715
- Wicomico County Sheriff's Office, Community Traffic Safety Coordinator, 410-548-4891
- Wicomico County Department of Public Works, Roads Engineer, 410-548-4874
- Wicomico County Board of Education, Supervisor of Transportation, 410-543-4266

- Wicomico County Sheriff's Department, 410-548-4891
- Wicomico County Health Department Hurdle Building, Program Supervisor, 410-546-5311, 108 E. Main Street, Salisbury, MD 21801

Worcester County

- State Highway Administration District 1 Office in Salisbury, District Engineer, 410-543-6715
- Worcester County Health Department, Community Traffic Safety Coordinator, 410-632-0056
- Worcester County Roads Department, County Roads Engineer, 410-632-2244
- Worcester County Board of Education, Supervisor of Transportation, 410-632-2582
- Worcester County Sheriff's Office, 410-632-1111
- Worcester County Health Department, Program Director, Cardiovascular Disease Coordinator and Nutritionist, 410-632-0056, P.O. Box 249, Snow Hill, MD 21863

ADDITIONAL CONTACTS

- For links to listings of local elected officials and to look up state and congressional representatives by zip code, go to http://mdelect.net/lookup.asp
- For more information on contacts for individual counties and municipalities, go to: http://www.mdmanual.net
- American Automobile Association
  www.aaamidatlantic.com
  Myra Wieman, Manager, Safety Services
  Maryland (excluding PG, Mont and Charles counties)
  100 West Road, Ste. 304, Towson, MD 21204
  (410) 821-3904, mwieman@aaamidatlantic.com

  Joe Beddick, Manager, Safety Services
  Metro DC (including PG, Mont and Charles counties)
  14280 Park Meadow Drive, Chantilly, VA 20151
  (703) 222-4126, jbeddick@aaamidatlantic.com

STATE CONTACTS

- Maryland Department of Transportation
  Director of Bicycle and Pedestrian Access
  7201 Corporate Center Drive, Mail Stop 200
  Hanover, MD 21076
  410-865-1237 or toll free 1-888-713-1414
  mjackson3@mdot.state.md.us
- Maryland Highway Safety Office/State Highway Administration
  Pedestrian and Special Programs Coordinator
  7491 Connelley Drive, Hanover, MD 21076
  410-582-5578, gbranyan@sha.state.md.us
- Maryland Department of Health and Mental Hygiene (DHMH)
  www.dhmh.state.md.us/
- Maryland State Department of Education
  www.msde.state.md.us/
- Maryland Department of Planning (MDP)
  www.mdp.state.md.us/
- Maryland Department of Natural Resources
  www.dnr.state.md.us

EDUCATION AND ENCOURAGEMENT RESOURCES

www.walktoschool-usa.org

A resource guide for communities and organizations wanting to plan a walk-to-school event "aimed at bringing forth permanent change to encourage a more walkable America." A nationwide walk to school day is planned for early October each year.

www.iwalktoschool.org

The official website of International Walk to School Day.

www.dot.ca.gov/hq/LocalPrograms/

The California Department of Transportation (Caltrans) Safe Routes program. The Division of Local Assistance provides information for organizations wanting to apply for funding.

www.waytogo.icbc.bc.ca

Way to Go! is a school program that offers tools to help parents make safer alternative travel arrangements for students going to and from school. It fosters safer, healthier travel alternatives for elementary and middle school students.

www.greenestcity.org

Greenest City is a non-profit, community-based environmental organization committed to reducing pollution, regenerating urban life, and promoting social equity. They have developed an Active & Safe Routes to School program and a Walk to School Day, to broaden participation of families and children in active modes of transportation.

www.goforgreen.ca/home_e.html

Go for Green is a national non-profit, charitable organization encouraging Canadians to pursue healthy, outdoor

physical activities while being good environmental citizens. The organization promoted the Active & Safe Routes to School program and the International Walk to School Day in October.

www.ccc.govt.nz/saferoutes/

The Christchurch, New Zealand City Council funds a 'Safe Routes To School' (SR2S) program. Originating with school road safety investigations, SR2S has developed to include a strong behavioural and promotional emphasis of encouraging safe and active travel to school. These include Walk to School Days, the Walking School Bus Project, and Resources to help schools.

www.schoolbusfle et.com

Schoolbusfleet.com is an information service of SCHOOL BUS FLEET magazine, a trade publication serving more than 22,000 school transportation professionals in the United States and Canada. The site provides information on the management and maintenance of school bus fleets operated by public school districts, private schools, Head Start agencies and childcare centers.

www.sustrans.org

Sustrans—the sustainable transport charity—works on practical projects to encourage people to walk, cycle and use public transport in order to reduce motor traffic and its adverse effects. Sustrans is working on Safe Routes to Schools, Safe Routes to Stations, home zones and other practical responses to the transport and environmental challenges.

www.dpi.wa.gov.au/metro/gettingthere/cycling/bikewest.html

The Cycle Instead Program aims to increase the proportion of trips made by bicycle in regional centers of Western Australia by promoting cycling as an enjoyable and viable form of sustainable transport for short journeys. The program aims to contribute to meeting the Metropolitan Transport Strategy's target of increasing the proportion of trips made by bicycle in Perth, Western Australia to 8% by 2010. The program includes cycling education, a sponsorship program, and promotional events.

www.cdc.gov/nccdphp/dnpa/kidswalk/

To support the national goal of better health through physical activity, the Center for Disease Control's Nutrition and Physical Activity Program has developed KidsWalk-to-School. This is a community-based program that aims to increase opportunities for daily physical activity by encouraging children to walk to and from school in groups accompanied by adults.

www.baypeds.org/saferoutes.html

Describes the Safe Routes to School Bill of 1999 and the opportunities for California.

www.saferoutestoschool.org/

Transportation Alternatives are advocates for bicyclists, pedestrians and sensible transportation in New York City. They have helped win numerous improvements for cyclists and pedestrians and have been the leading voice for reducing car use in the city. Their Safe Routes to School program endeavors to reduce the number of children and other pedestrians and motorists who are injured or killed in traffic and to keep the number of children walking to school at 80% by making the walking routes safer.

www.civfed.org/schosafe.htm

Arlington County, Virginia has embarked on a Safe Routes to School program. The site includes three files that explain background, describe the program and list the projects to implement it.

FUNDING SOURCES

The following summary provides a brief overview of the primary funding sources available for pedestrian and bicycle facilities, safety and education activities. Federal, State and non-governmental sources are included. It is important to note that, aside from these core programs, bicycle and pedestrian improvements are also often made through the inclusion of bicycle and/or pedestrian facilities in routine highway improvement projects and streetscape projects.

It's a good idea to begin with your local transportation agency (city or county), in the case of Federal and State funding, it may be necessary to go through them to access these funds. Also, keep in mind that in addition to Federal and State programs, city and county governments will often have funding programs that support bicycle and pedestrian improvements as well.

State and Federal Programs[2]

Transportation Enhancement Program

Transportation Enhancement Program funds are available for a broad array of projects including pedestrian and bicycle facilities and pedestrian and bicycle safety and education activities.

[2]This information is largely excerpted from MDOT's website available at http://www.sha.state.md.us/oppe/tep.htm

Proposals are accepted at anytime during the year and funds are awarded to new projects in the summer and in the fall. A State agency, a county or municipal government, a private non-profit organization, a community group, or an individual may identify potential projects. Projects proposed by non-governmental agencies must secure an appropriate government agency as a co-sponsor. Maryland's State Highway Administration offers information and technical assistance to applicants. For more information, contact Dennis N. Simpson, Enhancement Program Manager, Maryland State Highway Administration, Regional and Intermodal, Planning Division, Mail Stop C502, P.O. Box 717, Baltimore MD 21203-0717, 410-545-5675 or 1-888-204-4828.

Section 402 Funds and Community Traffic Safety Coordinators[3]

Section 402 funds, established by the Highway Safety Act of 1966, can be used to develop non-construction measures to address a wide array of highway safety problems related to human factors and the roadway environment. In Maryland, these funds are administered by the Maryland Highway Safety Office.

This office also oversees the Community Traffic Safety Coordinators designated for each of Maryland's 23 counties and Baltimore City. (These coordinators are identified in the Contacts by County listings on pages 39–43 in the appendix.) The Coordinators work with local Task Forces to identify traffic safety issues/problems, develop appropriate countermeasures, and implement or advocate solutions. Some funds for safety education and encouragement programs may be available through these coordinators.

National Recreational Trails[4]

The National Recreational Trails program funds the development of community-based, motorized and non-motorized recreational trail projects. The program provides funds for all kinds of recreational trail uses, such as pedestrian uses (hiking, running, wheelchair use), bicycling, in-line skating, equestrian use, cross-country skiing, off-road motorcycling, all-terrain vehicle riding, four-wheel driving.

Administered by the State Highway Administration (SHA), this program matches federal funds with local funds or in-kind contributions to implement trail projects. Projects can be sponsored by a county or municipal government, a private non-profit agency, a community group or an individual (non-governmental agencies must secure an appropriate government agency as a co-sponsor).

Federal funds administered by the State Highway Administration are available for up to 50% of the project cost, matched by at least 50% funding from the project sponsor. Matching funds must be committed and documented in the local jurisdiction's budget.

Activities eligible for funding within this program include:

- maintenance and restoration of existing recreational trail
- development and rehabilitation of trailside facilities and trail linkages
- purchase and lease of trail construction equipment
- construction of new trails
- acquisition of easements or property for recreational trails or recreational trail corridors
- operation of educational programs to promote safety and environmental protection relating to the use of recreational trails

Preference will be given to projects which:

- have broad-based community support
- provide linkages to or complete existing trails
- provide improvements to a trail in order to benefit or mitigate impacts to the natural environment
- will be accomplished with youth conservation or service groups to perform construction and maintenance

For further information contact: Recreational Trails Coordinator, Maryland State Highway Administration, Office of Environmental Design, Mail Stop C-303, P.O. Box 717, Baltimore, MD 21203-0717, 410-545-8640 or 1-800-446-5962.

Partnership Planting Program

This program focuses on roadside beautification within the state owned right-of-way, however, SHA programs that address landscaping and beautification contribute significantly to the pedestrian and bicycling environment and are important to aspects of promoting more bicycling and walking. For more information, contact Leroy Jonas, Maryland State Highway Administration, Landscape Operations Division, C-304, 707 N. Calvert St. Baltimore MD 21202, e-mail at planting@sha.state.md.us.

Grants[5]

Healthy People 2010 Community Implementation Grants Program

The Federal Department of Health and Human Services plans to award hundreds of 'micro-grants' to community

[3]This information is largely excerpted from MDOT's website available at http://www.sha.state.md.us/oots/mctsp.htm

[4]http://www.sha.state.md.us/oed/trails.htm

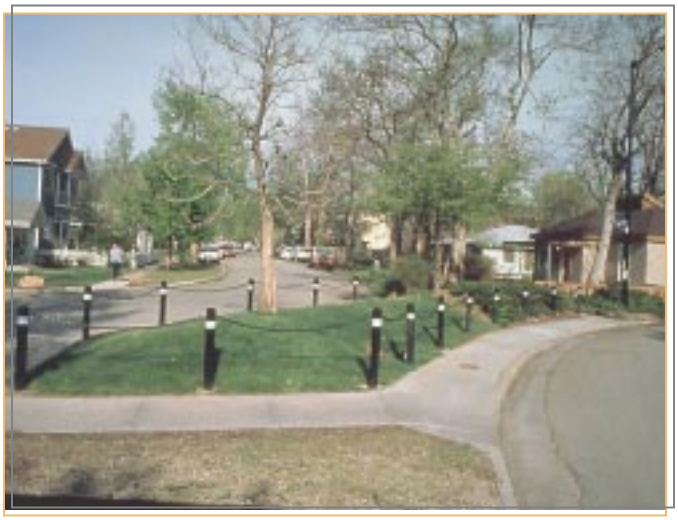
[5]This information is largely excerpted from www.trailsandgreenways.org

organizations for activities that support the goals of Healthy People 2010, the nation's public health agenda for the next decade. Worth up to $2,010 each, the micro-grants represent a new, low-cost approach to foster effective prevention efforts at the community level. Each grant will support efforts by local groups to promote health education, quality care, access to care and other projects that support the far-reaching national health goals of Healthy People 2010. Faith-based organizations will be among those eligible to apply for funding. For more information, contact: Sally Jones, Administrative Officer, Office of Disease Prevention and Health Promotion, Hubert H. Humphrey Building, Room 738-G, 200 Independence Avenue, SW., Washington, DC 20201, 202-260-7654. www.health.gov/healthypeople/Implementation

Urban Park and Recreation Recovery Program

Funding is available for rehabilitation projects under the UPARR program. Rehabilitation grants awarded will focus on neighborhood park and recreation sites and facilities that have 'deteriorated to the point where health and safety are endangered or the community's range of quality recreation service is impaired.' Grant funds may be used to remodel, rebuild or develop existing recreation areas and facilities. UPARR grants are awarded on a 70/30 (Federal/local) matching basis. Applications and additional requirements can be found in the 'UPARR Preapplication Handbook' available from the NPS field office or online at www.ncrc.nps.gov/uparr. For more information, contact: Stewardship and Partnerships Team, Philadelphia Support Office, National Park Service, 200 Chestnut Street, 3rd Floor, Philadelphia, PA 19106. Telephone 215-597-9195. Web site: www.ncrc.nps.gov/uparr

Curb bulbout. Photo by Dan Burden.



Diagonal diverter.

PHYSICAL IMPROVEMENTS: GALLERY OF SOLUTIONS

This section provides an overview of typical solutions to improve physical conditions. These solutions will complement the educational and promotional programs and, in many cases, they will help reinforce existing speed limits and pedestrian rights-of-way. Brief descriptions of various traffic calming techniques and good crossing treatments are provided along with photos to illustrate their use. These descriptions are followed with a table of rough cost estimates.

It is important to consult with a local traffic engineer and/or public works agency in developing design solutions (i.e. speed humps, bulb outs, etc.) or operational solutions (i.e. signal timing changes or the use of crossing guards). In some cases, a location may need to meet certain criteria to qualify

Median island with raised crossing.

Speed table with stamped asphalt.

Neckdown.

for a specific treatment such as a traffic signal or stop sign. A planning professional can help you understand these types of guidelines as well as propose alternative solutions.

Traffic Calming Measures

Traffic calming is a combination of mainly physical changes to a street that reduce the negative effects of speeding and improve conditions for pedestrians and bicyclists. Traffic calming includes both speed reduction and volume control measures.

Speed Reduction[6]

- Speed Humps. Speed humps are raised, rounded sections of pavement designed to slow vehicles on a roadway. They are most appropriate for use on residential streets rather than major streets or state roads. Many communities have found speed humps to be controversial. They should be implemented only when a large degree of public support exists.
- Speed Tables. Speed tables are similar to speed humps, however they have flat tops rather than rounded ones. They often have colored or textured pavement on the flat top and are generally longer than speed humps.
- Center Islands Neckdowns, Bulbouts, and Chokers. Center islands, neckdowns, bulbouts and chokers are various methods for slowing traffic by narrowing the curb-to-curb width of the roadway. These measures are often combined with crosswalks to increase pedestrian visibility and create more comfortable pedestrian crossings.
- Narrowing by Restriping and Landscaping. In addition to the measures above, striping and landscaping can be used to visually narrow the roadway and help reduce vehicle speeds.
- Modern Roundabouts. Modern roundabouts are an intersection control device, like a traffic signal or stop sign, however they function quite differently. At a roundabout, vehicles move counterclockwise around a circular center island that is designed to slow traffic. Entering vehicles yield to circulating vehicles. Splitter islands at each entry point serve as pedestrian refuges where pedestrians only have to cross one direction of traffic at a time. Recent studies of modern roundabouts have shown that they reduce automobile and pedestrian crash rates.
- Neighborhood Traffic Circle. Traffic circles are small raised circles placed in intersections that drivers must maneuver around by driving slowly. Unlike modern roundabouts that can be used at intersections on major roadways, traffic circles are most appropriate for local neighborhood streets.

Volume Control

Volume control measures are physical design measures that prevent vehicles from entering certain streets. While these measures can be very effective in reducing traffic volumes, they often result in diverting traffic to parallel streets with less restrictive volume control measures. For this reason, their use should be considered very carefully.

- Full Closures. Full street closures use physical barriers or landscaping to block vehicular traffic from entering a particular roadway while maintaining access for pedestrians, bicyclists, and emergency vehicles. This method of volume control is highly restrictive method of controlling high volumes. It should be used only on roadways where a large number of short-cuts and

[6]Ewing, Reid. Traffic Calming: State of the Practice. US Department of Transportation. Federal Highway Administration. Washington, DC: 1999.

conflicts with pedestrians occur. Full closures are not appropriate for major roadways.

- Half (Partial or One-way) Closures. Half closures use physical barriers or landscaping to block vehicular traffic in one direction for a short segment of roadway that is otherwise open to two directions of traffic. This measure is also used to eliminate cut-through traffic.
- Semi-Diverters and Diagonal Diverters. Two half closures placed across from one another at an intersection are called semi-diverters. A physical barrier placed diagonally across an intersection achieves the same effect of closing lanes of opposing traffic and is called a diagonal diverter.
- Median Barrier Islands. Raised median islands that extend through an intersection can also be used as a volume control device. Median islands also provide a place for landscaping and a refuge for pedestrians who are trying to cross wide streets.
- Forced Turn Islands. Forced turn islands are physical barriers that direct vehicles to turn at a certain location thus preventing access to the remainder of the street.
- Driveway Consolidation and Access Management. In some areas, numerous commercial driveways open onto a roadway and increase the potential for conflicts with pedestrians and drivers on the main roadway. If these driveways can be consolidated into fewer driveways and internal circulation among businesses improved, pedestrians will have fewer driveways to cross.

Pedestrian Crossings

- Raised Crosswalks and Intersections. Raised crosswalks and intersections raise the pavement surface to slow traffic and increase pedestrian visibility.
- Colored, Stamped or Textured Pavement. Colored, stamped or textured pavement can help define pedestrian space and improve visibility by increasing the contrast between pedestrian space and the roadway.
- Zebra Crosswalks: Zebra crosswalks are another way of increasing the visibility of pedestrian crossings.
- Pedestrian Refuges: Pedestrian refuges are small islands where pedestrians can stop or rest between crossing two directions of traffic. They are especially helpful to old and young pedestrians who may have difficulty crossing a road quickly.

Other Physical Improvements

- Sidewalks (ideal minimum width= 5 feet)
- Bike Lanes
- Side Paths and Trails
- Vegetation strip to separate sidewalk from street
- Lighting
- Accessible curb ramps
- Removal or relocation of physical barriers such as utility poles
- Strong yellow warning signs at crossings
- Flashing beacon school zone signs
- Driveway consolidation
- Bike racks

SUMMARY OF PHYSICAL IMPROVEMENTS AND ROUGH COST ESTIMATES

The table on the next page lists typical physical improvements, summarizes their effects and provides rough cost estimates. Costs may vary significantly based on the location of the improvement and the right-of-way acquisition necessary.

Measure	Reduces Speed	Reduces Traffic	Noise	Loss of Parking	Restrict Access	Emergency Impacts	Maintenance	Rough Cost
Speed Display	Yes	No	No change	None	None	None	No	$250 /day
Neighborhood Sign	Maybe	Minimal	No change	None	None	None	No	$200 / sign
High Visibility Crosswalks	Maybe	No	No change	None	None	None	Yes	$1 K - $5 K*
Narrowing Lanes	Yes	Maybe	No change	None	None	None	Yes	$1 K - $K
Speed Limit Signing	Maybe	No	No change	None	None	None	NO	$200 / sign
Stop Signs	Maybe	No	Increase	None	None	None	No	$200 / sign
Signing Restrictions	No	Yes	No change	None	Yes	None	No	$200 / sign
Bike Lane	Maybe	No	No change	Maybe	No	None	Yes	$25 K/ $75 K /mile
Sidewalk	No	No	No change	Maybe	No	None	Yes	$20 - $30 /foot
Median Island	Maybe	Yes	Decrease	Maybe	Yes	Yes	No	$10K - $75K
Gateway	Yes	Yes	Decrease	Maybe	Yes	None	No	$10K - $20K
Curb Extension	Maybe	No	No change	Yes	None	Some	Yes	$10K - $20 K
Choker	Yes	Maybe	No change	Yes	None	Some	No	$15K
Speed Hump	Yes	Maybe	Increase	Maybe	None	Yes	Yes*	$5K
Raised Crosswalk	Yes	Maybe	Increase	Yes	None	Some	Yes*	$5K - $10K
Raised Intersection	Yes	No	Increase	Yes	None	Yes	Yes	$25K-$50K
Traffic Circle	Yes	Maybe	No change	Yes	None	Some	Yes	$15- $25K
Intersection Channelizing	Yes	Maybe	No change	Yes	None	None	Maybe	$15 - $20K
Chicane	Yes	Maybe	Maybe	Yes	None	Yes	Maybe	$20K - $40K
Creek bridge (short)	No	No	No change	None	None	None	Yes	$50- $100K
Movement Barrier	Maybe	Yes	Decrease	None	Yes	Yes	Yes	$5K
Entrance Barrier	Maybe	Yes	No change	Maybe	Yes	Maybe	No	$15 - $20K
One-way streets	No	Yes	No change	None	Yes	Yes	No	$5K
Diagonal Diverter	Yes	Yes	Decrease	Maybe	Yes	Maybe	No	$15 - $35K
Street Closure	Yes	Yes	Decrease	Yes	Total	Yes	No	$20 - $35 K

Source: Marin County (California) Bicycle Coalition Safe Routes to School Toolkit

*K=thousand