TAKING THE FIRST STEP

TOOLKIT

Safe and Active Routes to School in Wake County
Acknowledgements

Advocates for Health in Action (AHA) thanks many in Wake County who helped contribute to the development of this Toolkit. Our goal was to bring together a variety of existing resources and provide information specific to Wake County as well.

Thank you to Active Routes to School, Region 5, based at Wake County Human Services, for providing financial support to print this Toolkit.

Thank you to each of the 12 municipalities in Wake County for providing contact information and for your partnership.

Thank you to the following individuals who helped collect information, review existing resources and develop new information for this Toolkit:

- Jennifer Baldwin, Alta Planning + Design
- Jennifer Delcourt, MPH, Active Routes to School, Region 5
- Dexter Hebert, Alexander Family YMCA of the Triangle
- Edward R. Johnson, RLA, ASLA, NC Department of Transportation, Division of Bicycle and Pedestrian Transportation
- J. Scott Lane, Stantec and co-founder BikeSmart GrowSmart
- Aspen Price, Triangle J Council of Governments
- Nancy Pullen-Seufert, UNC Highway Safety Research Center and National Center for Safe Routes to School
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- Elizabeth Sharpe, Wake County Public School System
- Sheree Vodicka, North Carolina Alliance of YMCAs
- Kenneth Withrow, AICP, NC Capital Area Metropolitan Planning Organization

Thank you to the AHA Community Connections Work Group members for their partnership in promoting Safe and Active Routes to School and specifically for:

- developing a draft tool to help the NC Capital Area Metropolitan Planning Organization (CAMPO) prioritize funding for schools’ safe and active routes needs in particular Jennifer Baldwin, City of Raleigh Bike Ped Coordinator at that time;
- developing and analyzing a needs assessment among PTAs in Wake County in 2014;
- and planning the November 2015 workshop: Taking the First Step—Safe and Active Routes to School in Wake County.

Thank you to the John Rex Endowment for its support of Safe and Active Routes to School across Wake County. John Rex Endowment is currently funding a 4-year Complete Streets and Model Safe Routes to School grant in Wake County, led by the UNC Highway Safety Research Center and in partnership with AHA, WakeUP Wake County, Wake County Public Schools and others.

November 2015
Advocates for Health in Action (AHA) works to improve health in Wake County by working with our partners to increase access to healthy foods and physical activity. AHA is a collaborative of more than 75 diverse organizations and community members working together to achieve this mission. We take a policy, systems and environment change approach using nationally recognized best practices.

This Toolkit has been created for schools and communities in Wake County to promote and support Safe and Active Routes to School and AHA’s ongoing efforts to increase opportunities for active transportation and a built environment that support healthy communities across Wake County.

About the Toolkit and How It Is Organized

- Many respected national organizations have developed excellent resources on Safe and Active Routes to School.
- AHA’s goal in developing this Toolkit was to bring together existing resources, specifically those that address challenges facing some schools in Wake County.
- The Toolkit is to help schools kick off or grow their walking/biking to (or at) school efforts so that more students are more active.
- This Toolkit includes numerous resources, plus many sections end with a page with additional resources available online. The entire Toolkit is available at no charge on AHA’s website: [www.AdvocatesForHealthInAction.org](http://www.AdvocatesForHealthInAction.org).

AHA surveyed PTAs in Wake County in fall 2014 to assess their walk/bike efforts and to learn what holds them back. Many common themes were identified by schools, including distance to the school, lack of a crossing guard, lack of sidewalks or paths, and speed or volume of traffic on roads near the school.

The Toolkit provides basic Safe and Active Routes to School information and provides solutions for these concerns, as well as information about how schools can work with local partners to address these issues and get more kids safely walking and biking.

**Making Safe and Active Routes Possible**

NC DOT installed a crosswalk on busy Forestville Road in front of Forestville Road Elementary School in Knightdale in the summer of 2015. It connects the neighborhood across the street with the school and a community center. (The street is shown on the left before the crosswalk installation and after on the right.)
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**Before-and after-school care:** We encourage schools to consider ideas like park and walk, walking school buses, walking clubs, and bike/ped safety education for before-and after-school care programs.
✓ Crossing Guards

- Crossing Guards in Wake County
- Helping North Carolina Students Cross the Street

✓ Bike Parking

✓ Traffic & Speed Reduction

- Getting Results: SRTS Programs That Reduce Traffic
- Getting Results: SRTS Programs that Reduce Speeding and Distracted Driving

✓ Costs

This information is provided for context when talking with your municipal planner.

- Cost for Pedestrian and Bicyclists Infrastructure Improvements
- Traffic Calming Measures

✓ Additional Resources

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**Bike to School Day at Farmington Woods Elementary**

Farmington Woods Elementary, a magnet school in Cary, held its first Bike Rodeo with bike safety instruction in spring 2015 in preparation for Bike to School Day in May 2015. Bike to School Day followed up on the successful ongoing walking program the school has in place, with several “park and walk” sites.
Partners in Ensuring Safe and Active Routes in Wake County: Your Municipality and the School District

Staff from Wake County’s 12 municipalities can partner with schools to aid in safe and active routes to school.

This document is a guideline for how schools should proceed and highlights the process for municipal funding for infrastructure-related Safe Routes to School projects.

Schools within the Wake County Public Schools System (WCPSS) also may contact the WCPSS Central Office for certain requests. WCPSS is involved only in changes requested for a WCPSS school site (the grounds the school is on), whereas municipal staff can assist with other requests.

Schools in Wake County outside of the WCPSS should contact their municipality after receiving school administration’s approval.

Contacting WCPSS

WCPSS schools that wish to modify their school site in a manner they believe will facilitate safe and active routes to school should follow these steps:

1) Contact the school principal with concerns and request.
2) If the principal agrees it is a need, the principal or someone she/he delegates will complete and submit a WCPSS Facilities Modification Request form to Elizabeth Sharpe, Senior Facility Planner, Facilities Design & Construction, via email at esharpe@wcpss.net or via WCPSS interoffice mail.
3) Ms. Sharpe then will work with schools on permitting and other steps that are appropriate.

Please note:

1) The form must be signed by the principal.
2) The school will need to provide a funding source for any modifications requested and should plan accordingly. PTAs may raise funds for projects or apply for grants from local and national foundations. Funding partnerships with local businesses (particularly those in close proximity to the school) are welcomed as well.
3) Additional information about facilities modifications at WCPSS is online: http://www.wcpss.net/Page/255.

Schools not in the WCPSS system would need to follow their own school’s guidelines and procedures.
Contacting Your Municipality

Schools in Wake County that wish to enable safe and active routes to school by addressing any of the following concerns should contact their municipality:

- Speeding and/or volume of traffic
- Safety at intersections or crossings
- Addition of or repair of sidewalks or paths
- Crossing guard requests

Contact information for each of the 12 municipalities in Wake County is provided as a starting point at the end of this section. Be certain that your school has a coordinated effort to reach out to your municipality, rather than multiple different people contacting the municipality.

Where CAMPO Comes in...

If your school’s request involves an infrastructure change, such as a sidewalk or path or traffic calming to reduce speeds on roads leading to schools, that would require funding, your municipality would work with the Capital Area Metropolitan Planning Organization (CAMPO), which serves Wake County and beyond. CAMPO, in turn, works within the state’s framework to seek SRTS funding.

CAMPO serves as the coordinating agency between local governments, NCDOT, and Federal Highway Administration (FHWA). Staff has established a close working relationship with the planning departments of municipalities within the MPO.

Understanding How SRTS Funding Flows in North Carolina

Understanding funding options at the state level is an important component for schools in Wake County. According to Ed Johnson, NC Safe Routes to School Coordinator, there have been some changes in North Carolina in recent years that impact funding.

Background

The federal law providing for exclusive federal funding for SRTS programs expired in 2012. These funds supported infrastructure projects as well as education and encouragement programs.

Today, there is no longer an exclusive funding source for SRTS programs. However, SRTS infrastructure projects are eligible to compete for project funding through new legislation passed in 2012 called MAP-21. North Carolina’s support for SRTS education and encouragement programs is now delivered through the Active Routes to School project.

In North Carolina, transportation funds are distributed according to North Carolina’s Strategic Transportation Investments (STI) law, passed in 2013. Under this law, potential infrastructure...
projects are scored during a two-year review process led by the NCDOT Strategic Prioritization Office of Transportation (SPOT). This office is responsible for coordinating project prioritization processes and project development across the state. The Municipal Planning Organizations (MPO) and Rural Planning offices (RPO) submit projects for consideration to the NCDOT Divisions.

**Safe Routes to School Infrastructure Projects**

Safe Routes to School projects are now considered part of Bicycle and Pedestrian project input through the Division of Bicycle and Pedestrian Transportation, where the NC Safe Routes to School Coordinator is housed. The NCDOT SRTS office is asking that each inquiring municipality work with its NCDOT Division office to develop a list of transportation priorities. Proposed projects will be scored based on specific criteria for bicycle and pedestrian projects and will need to score well in order to move forward in the prioritization process. The NCDOT Division staff and/or MPO/RPO offices can assist schools with this process, as well as the Active Routes to School Regional Coordinator.

Eligibility requirements for a SRTS project require that a proposed project be within 2 miles of a public or private school offering any grades within kindergarten through eighth grade. The intent is to ensure a safe route for the children to get to and from school from their homes. Therefore, it should be serving a neighborhood in which the children attend the school. Most eligible SRTS projects include sidewalks or shared-use paths. However, intersection improvements (i.e. signalization, marking/upgrading crosswalks, etc.), on-street bicycle facilities (bike lanes, wide paved shoulders, etc.) or off-street shared-use paths are also eligible for SRTS funds.

An overview of the SRTS program is online:

**Key Point:** Your principal should contact CAMPO and/or NCDOT Division 5 staff with concerns or requests about infrastructure around your school. Staff will work with your school to determine the scope of the problem and the appropriate solution, which may or may not result in a project being submitted for consideration through North Carolina’s transportation prioritization process.

**Wake County Municipality Contact Information**

**APEX**

- **Crossing Guard**
  Police Department: Greg Towell, 919-362-8661, Greg.Towell@apexnc.org

- **Sidewalk/New Path**
  Planning Department: Reed Huegerich, 919-249-3505, Reed.Huegerich@apexnc.org

The town considers a number of factors including citizen demand, adjacent land use,
current pedestrian traffic, cost, road type and other factors. The town also looks to see if the project would be competitive for funding through Capital Area Metropolitan Planning Organization.

- **Assistance with Speed/Volume of Traffic**
  
  Police Department: Captain Blair Myhand, 919-249-3445 or [Christopher.myhand@apexnc.org](mailto:Christopher.myhand@apexnc.org) or Russell Dalton, 919-249-3358, [Russell.dalton@apexnc.org](mailto:Russell.dalton@apexnc.org)

  Apex Police can conduct speed studies to see what the average speed is. If there is a problem with the speeds, police will enforce. The town also has a traffic calming policy: [http://www.apexnc.org/205/Traffic-Calming-Program](http://www.apexnc.org/205/Traffic-Calming-Program)

- **Safety at Intersections/Crossings**
  
  Planning Department: Reed Huegerich, 919-249-3505 or [Reed.Huegerich@apexnc.org](mailto:Reed.Huegerich@apexnc.org) or Russell Dalton, 919-249-3358, [Russell.Dalton@apexnc.org](mailto:Russell.Dalton@apexnc.org)

  Every crossing is unique. Engineering and Planning staff members look at site characteristics to see what the best solutions are.

**CARY**

- **Crossing Guards**
  
  Police Dept.: Lt. Steve Wilkins, 919-469-4338, [steve.wilkins@townofcary.org](mailto:steve.wilkins@townofcary.org)

- **Sidewalk/New Path**
  
  Planning Department: Julie Green, 919-462-3945 or [julie.green@townofcary.org](mailto:julie.green@townofcary.org)

- **Assistance with Speed/Volume of Traffic**
  
  Traffic Engineer David Spencer, 919-462-3833, [david.spencer@townofcary.org](mailto:david.spencer@townofcary.org) or Planning Department: Julie Green, 919-462-3945, [julie.green@townofcary.org](mailto:julie.green@townofcary.org)

- **Safety at Intersections/Crossings**
  
  Traffic Engineer David Spencer, 919-462-3833, [david.spencer@townofcary.org](mailto:david.spencer@townofcary.org)

**FUQUAY-VARINA**

- **Crossing Guards**
  
  Police Dept.: Captain Bob Adams, Traffic Safety Unit, 919-552-1423, [radams@fuvay-varina.org](mailto:radams@fuvay-varina.org)

  Currently there is not a school crossing guard program. If necessary, the police department can provide extra patrols to review the situation.
✓ **Sidewalk/New Path**  
  Public Works Director: Arthur Mouberry, 919-552-1402, amouberry@fuquay-varina.org

✓ **Assistance with Speed/Volume of Traffic**  
  Public Works Director: Arthur Mouberry, 919-552-1402, amouberry@fuquay-varina.org

✓ **Safety at Intersections/Crossings**  
  Public Works Director: Arthur Mouberry, 919-552-1402, amouberry@fuquay-varina.org

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**GARNER**

✓ **Crossing Guards**  
  Police Dept.: Sergeant Mike McIver, 919-772-8810, ext. 6078, mmciver@garnernc.gov

✓ **Sidewalk/New Path**  
  Town Engineer Tony Chalk, 919-773-4420, tchalk@garnernc.gov

✓ **Assistance with Speed/Volume of Traffic**  
  Police Dept.: Sergeant Mike McIver, 919-772-8810, ext. 6078, mmciver@garnernc.gov

✓ **Safety at Intersections/Crossings**  
  Police Dept.: Sergeant Mike McIver, 919-772-8810, ext. 6078, mmciver@garnernc.gov

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**HOLLY SPRINGS**

✓ **Crossing Guards**  
  Police Dept.: Jamie Pereira, 919-567-4703, jamie.pereira@hollyspringsnc.us  
  The Holly Springs Police Department currently provides crossing guards. Concerns and questions should be directed to them.

✓ **Sidewalk/New Path**  
  Engineering Dept.: Aaron Levitt, 919-567-4025, aaron.levitt@hollysprings.nc.us

✓ **Assistance with Speed/Volume of Traffic**  
  Police Dept.: Jamie Pereira, 919-567-4703, jamie.pereira@hollyspringsnc.us

✓ **Safety at Intersections/Crossings**  
  Police Dept.: Jamie Pereira, 919-567-4703, jamie.pereira@hollyspringsnc.us
KNIGHTDALE

- **Crossing Guards**
  Police Dept.: Captain Tracy Solomon, Patrol Division, 919-217-2268, tracy.solomon@knightdalenc.gov
  Knightdale does not currently have a crossing guard program. Contact the police to express needs and concern about safety.

- **Sidewalk/New Path**
  Planning Dept.: Jason Brown, 919-217-2245, jason.brown@knightdalenc.gov
  Describe the problem and make your request to Jason Brown.

- **Assistance with Speed/Volume of Traffic**
  Police Dept.: Captain Tracy Solomon, Patrol Division, 919-217-2268, tracy.solomon@knightdalenc.gov
  Contact the Police Department with immediate safety concerns. If enforcement action does not solve the problem, Public Works may be involved to evaluate the problem.

- **Safety at Intersections/Crossings**
  Police Dept.: Captain Tracy Solomon, Patrol Division, 919-217-2268, tracy.solomon@knightdalenc.gov
  Contact the Police Department with immediate safety concerns. If enforcement action does not solve the problem, Public Works may be involved to evaluate the problem.

MORRISVILLE

- **Crossing Guards**
  Police Dept.: Chief of Police Ira Jones, 919-463-1600, ijones@townofmorrisville.org or Patrol Operations Captain Felicia Sykes, 919-463-1602, fsykes@townofmorrisville.org
  The department is currently reviewing an application for two additional crossing guards, one for each school.

- **Sidewalk/New Path**
  Planning Dept.: Benjamin Howell, 919-463-6927, bhowell@townofmorrisville.org

- **Assistance with Speed/Volume of Traffic**
  Police Dept.: Chief of Police Ira Jones, 919-463-1600, ijones@townofmorrisville.org or Patrol Operations Captain Felicia Sykes, 919-463-1602, fsykes@townofmorrisville.org

- **Safety at Intersections/Crossings**
  Planning Dept.: Benjamin Howell, 919-463-6927, bhowell@townofmorrisville.org or Streets Superintendent Jim Grimstead, 919-463-7075, jgrimstead@townofmorrisville.org
The Town’s Public Safety Advisory Committee is working on a Pedestrian Safety Policy, which will provide guidance on prioritizing and developing a program of pedestrian safety projects throughout the town.

RALEIGH

 ✓ **Crossing Guards**
   Police Dept.: Robert DeLeo, 919-996-2006, Rober.DeLeo@raleighnc.gov or Douglas Taylor, 919-996-1063, Douglas.Tyalor@raleighnc.gov

   In April 2015, the City Council voted to provide a crossing guard to every elementary and middle school in Raleigh that wants one. As of that time, the City already was funding 27 guards within city limits. Locations are evaluated for need on a case by case basis.

 ✓ **Sidewalk/New Path**
   Assessment Specialists Jimmy Upchurch and Donetta Powell, 919-996-3030, AssessmentSpecialist@raleighnc.gov

   **Residential streets:** Sidewalks are constructed on residential streets with curb and gutter when petitioned by the property owners along the street. Anybody can request that a sidewalk be petitioned. Contact the Assessment Specialists to make a request for a sidewalk petition. Upon a request, letters are sent to property owners and if 50%+1 properties return the letter voting in the affirmative, the sidewalk will be designed at built at no cost to the property owners. Residential streets that do not have curbs and gutters must first petition and be assessed for a street improvement project. For more information, go to [http://www.raleighnc.gov/services/content/PWksDesignConst/Articles/SidewalkPetitions.html](http://www.raleighnc.gov/services/content/PWksDesignConst/Articles/SidewalkPetitions.html).

   **Non-residential streets:** Sidewalks on non-residential streets are prioritized for construction through the Comprehensive Pedestrian Plan. For more information on this plan, go to [http://www.raleighnc.gov/business/content/PlanDev/Articles/TransPlan/PedestrianProgram.html](http://www.raleighnc.gov/business/content/PlanDev/Articles/TransPlan/PedestrianProgram.html).

   To discuss the plan or priority of any particular sidewalk, contact the Office of Transportation Planning at 919-996-2165.

 ✓ **Assistance with Speed/Volume of Traffic**
   Neighborhood Traffic Management Program: Thomas Fiorello, 919-996-4066, NTMP@raleighnc.gov

   The City of Raleigh has a Neighborhood Traffic Management Program that allows for a number of potential actions to be taken to encourage safe driving. For more information on the program, go to [http://www.raleighnc.gov/](http://www.raleighnc.gov/)
Speed limit reductions can be petitioned by residents and property owners. Physical traffic calming measures are possible after a street is evaluated and prioritized. Highest-priority streets are invited to submit petitions for Minor Traffic Calming (vertical measures) or Neighborhood Streetscape Projects (comprehensive measures), depending on the characteristics of the street.

- **Safety at Intersections/Crossings**
  - Public Works Dept. Todd Edwards, Transportation Engineer II, 919-996-4088, Todd.Edwards@raleighnc.gov
  - The City of Raleigh Public Works Department works with citizens, the NC State Department of Transportation, and other stakeholders to improve intersection and pedestrian safety. Process and potential solutions are highly dependent on location-specific factors.

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**ROLESVILLE**

- **Crossing Guards**
  - Police Dept.: Chief Bobby Langston, 919-556-7226, bobby.langston@rolesville.nc.gov

- **Sidewalk/New Path**
  - Town Manager Bryan Hicks, 919-556-3506, bryan.hicks@rolesville.nc.gov

- **Assistance with Speed/Volume of Traffic**
  - Police Dept.: Chief Bobby Langston, 919-556-7226, bobby.langston@rolesville.nc.gov

- **Safety at Intersections/Crossings**
  - Police Dept.: Chief Bobby Langston, 919-556-7226, bobby.langston@rolesville.nc.gov

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**WAKE FOREST**

- **Crossing Guards**
  - The Town of Wake Forest does not have any crossing guards.

- **Sidewalk/New Path**
  - Planning Dept.: Candace Davis, 919-435-9513, cdavis@wakeforestnc.gov
  
  The Town has adopted several Plans (Transportation, Bicycle, Pedestrian and Greenway) to guide the implementation of sidewalk and multi-use path infrastructure. Contact Candace Davis to discuss current and future planning for each Plan.

- **Assistance with Speed/Volume of Traffic**
  - Engineering Dept.: Eric Keravuori, Director of Engineering, 919-435-9441, ekeravuori@wakeforestnc.gov
The Town has a Traffic Calming Policy:
http://www.wakeforestnc.gov/data/sites/1/media/residents/planning/planning%20services/tranplanupdate/tranplanfinal2010/xappendixd_neighborhoodtrafficcalming_july2010.pdf

✓ Safety at Intersections/Crossings
   Engineering Dept.: Eric Keravuori, Director of Engineering, 919-435-9441, ekeravuori@wakeforestnc.gov

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WENDELL

✓ Crossing Guards
   Police Dept.: Chief Bill Carter, 919-365-3098
   Address complaints to the school so that it may coordinate with the Police Dept.

✓ Sidewalk/New Path
   Planning Dept.: Director David Berymark, 919-365-4448

✓ Assistance with Speed/Volume of Traffic
   Police Dept.: Chief Bill Carter, 919-365-3098

✓ Safety at Intersections/Crossings
   Police Dept.: Chief Bill Carter, 919-365-3098

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ZEBULON

✓ Crossing Guards
   Police Dept.: Lt. R. Grossman, 919-823-1911, bgrossman@townofzebulon.org

✓ Sidewalk/New Path
   Planning Director Mark Hetrick, 919-823-1808, mhetrick@townofzebulon.org or Public Works Director Chris Ray, 919-269-5285, cray@townofzebulon.org

✓ Assistance with Speed/Volume of Traffic
   Police Dept.: Lt. R. Grossman, 919-823-1911, bgrossman@townofzebulon.org

✓ Safety at Intersections/Crossings
   Planning Director Mark Hetrick, 919-823-1808, mhetrick@townofzebulon.org or Public Works Director Chris Ray, 919-269-5285, cray@townofzebulon.org
Safe Routes to School Guide

Steps to Creating a Safe Routes to School Program

This guide was developed by the Pedestrian and Bicycle Information Center (PBIC) with support from the National Highway Traffic Safety Administration (NHTSA), Federal Highway Administration (FHWA), Centers for Disease Control and Prevention (CDC) and Institute of Transportation Engineers (ITE). This guide is maintained by the National Center for Safe Routes to School at www.saferoutesinfo.org.
Steps to Creating a Safe Routes to School Program

Starting a Safe Routes to School (SRTS) program is an opportunity to make walking and bicycling to school safer for children and to increase the number of children who choose to walk and bicycle. On a broader level, SRTS programs can enhance children’s health and well-being, ease traffic congestion near the school, improve air quality and improve community members’ overall quality of life. The steps outlined in this chapter are meant to provide guidance by providing a framework for establishing a SRTS program based on what has worked in other communities. Some communities may find that a different approach or a reordering of these steps works better for them.

1. Bring together the right people
Identify people who want to make walking and bicycling to school safe and appealing for children. Sharing concerns, interests and knowledge among a variety of community members with diverse expertise can enable groups to tackle many different issues.

Consider whether the group wants to plan for SRTS in a single school, district-wide or at another level. Each has potential benefits; for example, a school district-wide group could create policies that would impact all schools while a school-specific group could work on detailed issues relating to that school and dedicate more resources to that one location.

Look for existing groups where an SRTS program is a natural fit, such as a city or school district safety committee, PTA, school site council, wellness council or a pedestrian and bicycle advisory board. If there are no appropriate groups to take on the issue, form an SRTS coalition. When asking for participation explain why SRTS is needed and tell people specifically how they can help. For more information on forming an SRTS coalition, see the National Highway Traffic Safety Administration’s Safe Routes To School Toolkit at www.nhtsa.dot.gov/people/injury/pedbimot/bike/Safe-Routes-2002.

Involving children in the SRTS program to learn what is important to them with respect to their journey to school and around their neighborhood. Ask them questions like: Do they like being driven everywhere by their parents? Would they rather walk and bicycle around their neighborhoods? What do they think about their route to school? What would they change about their trip to school?

Communities with flourishing SRTS programs have attributed their success in part to a program champion — someone who has enthusiasm and time to provide leadership for the group and keep things moving. However, a champion can not do it alone, he or she will need support. Building the next generation of leaders along the way will assure that the program continues. This is particularly important when the champion is a parent who is likely to move on when their child transitions to another school.

Hurst Elementary School, Hollyhill, Florida.
Potential Coalition Members

Different communities will find different organizations and individuals ready to be involved. This list is not exhaustive, but is intended to provide ideas for the creation of a well-rounded group that represents a wide range of interests and expertise that are related to SRTS.

School:
- Principal and other administrators.
- Parents and students.
- Teachers (physical education or health teachers are a good place to start).
- PT/PTO representative.
- School nurse.
- School district transportation director.
- School improvement team or site council member.
- Adult school crossing guards.

Community:
- Community members.
- Neighborhood or community association members.
- Local businesses.
- Local pedestrian, bicycle and safety advocates.

Local Government:
- Mayor’s office or council member.
- Transportation or traffic engineer.
- Local planner.
- Public health professional.
- Public works representative.
- Law enforcement officer.
- State or local pedestrian and bicycle coordinator.

Hold a kick-off meeting

The kick-off meeting has two main goals: to create a vision and to generate next steps. One approach is to ask each participant to share a vision for the school five years in the future. Responses are often statements, such as: “a school with fewer cars at the entrance,” “more active children” and “safe walkways.” This focuses the group on the positive — what they would like to have — rather than what is wrong. Another way to create a positive vision is to ask people to share a positive memory of walking or bicycling to school when they were young.

Provide a presentation on SRTS programs including issues and strategies related to engineering, enforcement, education, encouragement and evaluation. The group can then discuss the appropriate next steps and best way to work toward their vision. This may include forming committees to separate out the tasks.
Coalitions sometimes create committees to take on the major tasks, allowing members to focus on a specific activity related to their skills and interest. Some possible SRTS committees include:

**Mapping and information gathering committee**
Obtains maps, collects information about where children live, the routes they take to school and the condition of the streets along the way.

**Outreach committee**
Collects input from parents, teachers and students, and publicizes the program to the school and community.

**Education and encouragement activities committee**
Works closely with school administration and teachers to put education and encouragement activities in place, gathers materials for activities and solicits donations for programming and prizes.

**Enforcement and engineering committee**
Develops recommendations for enforcement and engineering solutions. Works closely with local government and other resources to find funding and make improvements.

**Traffic safety committee**
Identifies unsafe drivers’ behavior and develops an education campaign to increase awareness.

**Gather information and identify issues**
Collecting information can help to:
- Identify needed program elements.
- Provide a means to measure the impact of the program later.

First, look at walking and bicycling conditions for students. This can be done by observing or mapping the routes that lead to school. Collecting traffic counts and speed and injury data can help identify driver-related safety issues. Walking around the school as a group to observe arrival or dismissal time can be one of the best ways to reach a collective understanding of the issues and potential solutions. Finding out about existing policies that may make it easier or more difficult to walk or bicycle to school can also be useful. For example, a school may not allow children to bicycle to school. Understanding and addressing underlying issues for a policy may be addressed by the SRTS plan.

Second, determine how many children currently walk or bicycle to school. The school may already know this. Parent surveys can also be used to understand parents’ attitudes towards walking or bicycling to school and identify barriers to walking and bicycling that need to be addressed. See Resources at www.saferoutesinfo.org/resources for Student In-class Travel Tally and Parent Survey forms to use. SRTS coalition members can lend expertise in locating data sources and can help collect the necessary information.
Identify solutions

Solutions to issues identified by the group will include a combination of education, encouragement, engineering and enforcement strategies. Safety is the first consideration. If it is not safe for children to walk and bicycle to school, then they should only be encouraged after problems are addressed. Some problems will require engineering solutions; others may require education, encouragement, enforcement or a combination of strategies. Here the expertise of the different partners is especially valuable.

It is likely that the coalition will generate a long list of potential ideas and solutions. The next step will be easier if the list is prioritized. Are some issues more critical to address than others? Are there “quick wins” that the group can identify that would help to generate additional enthusiasm early in the program?

Make a plan

The SRTS plan does not need to be lengthy, but should include encouragement, enforcement, education and engineering strategies; a time schedule for each part of these strategies; a map of the area covered by the plan; and an explanation of how the program will be evaluated. Strategies that can be implemented early will help the group feel successful and can build momentum and support for long-term activities. Be sure to include fun activities; that is what encouragement is all about.

Fund the plan

Parts of a SRTS program will cost very little money. For example, most International Walk to School Day coordinators say they spend less than $100 on their events. There are many low-cost engineering solutions that can be put into place in a relatively short amount of time such as new signs or fresh paint on crosswalks. On the other hand, some changes, such as new sidewalk construction, may need large amounts of capital. There are several places to seek funding for SRTS program activities including:

- Federal programs: SAFETEA-LU (including funds allocated to SRTS), Congestion Mitigation and Air Quality, Surface Transportation Program,
- Recreational Trail Program and others.
- State SRTS programs.
- Environmental and air quality funds.
- Health and physical activity funds.
- County and city funding.
- Philanthropic organizations.

For more information about these funding resources, see Legislation and Funding at www.saferoutesinfo.org/legislation_funding.

Act on the plan

There are things that can be done right away without major funding, so some parts of the SRTS plan can start right away while waiting on other parts. Hold a fun-filled kick-off event and invite the media. For example, participate in International Walk to School Day or celebrate a Walking Wednesday. If the school is located too far for children to walk from home, identify places where families can park and walk part of the way. If improvements are needed before children can walk to school, start walking activities before, during or after school right on the school grounds. Enforcement, education, encouragement and engineering strategies will all come together as pieces of the plan are implemented.

Reidville Elementary, Spartanburg, South Carolina.
Evaluate, make improvements and keep moving

After the program begins, careful monitoring will identify which strategies are increasing the number of children safely walking and bicycling to school. Proper adjustments can be made as this and other new information is gathered. One simple evaluation measure is to re-count the number of walkers and bicyclists and compare this number to the findings in Step 3 (the baseline count). See the Evaluation chapter of this Guide at www.saferoutesinfo.org/guide/evaluation for more information on how to measure impact.

The coalition also needs to consider how to sustain energy and interest in the program so that children continue to walk and bicycle to school safely. Key strategies for keeping the program going include:

- Identifying additional program champions.
- Letting people know about the successes: Get visibility for activities through local media and school communications and publicize your activities. Making the work fun and positive makes it more likely that people will want to continue and others will want to become involved.

- Encouraging policy changes: These might be school, school district or local government policies that support children walking and bicycling to school. For example, local planning departments may promote new school construction within walking and bicycling distance of residential areas. School district adoption of a safety curriculum means that the pedestrian and bicycle education will continue to be provided to children.
- Creating a permanent committee: A permanent committee within the PTA, school site council or other group means that SRTS will continue to receive attention and energy.

An SRTS program has the potential to improve walking and bicycling conditions near a school and spread interest into other parts of the community. Coalitions that persist in their efforts and make measurable improvements based on their evaluation will be rewarded with safer places for children to walk and bicycle and more children choosing safe routes to school.

A Safe Routes to School program has the potential to improve walking and bicycling conditions near a school and spread interest into other parts of the community.
Tens of thousands of Safe Routes to School programs are being established throughout the country as more and more schools, cities, parents, and students embrace the Safe Routes to School movement. Naturally, as programs evolve and schools begin to see increased participation, it becomes more important to make sure that policies that support students walking and bicycling are not only in place, but also effective. It is also important to enhance the built environment around schools so that there are more sidewalks, bike lanes, pathways and safer street crossings. This document describes ways that parents can get involved in policy change and improvements to the built environment to enable and encourage more walking and bicycling, which is a healthy form of physical activity.

**Built Environment Changes**

While affecting the way streets and sidewalks are installed may seem intimidating, it is quite possible. According to parent surveys nationwide, the number one reason why more children don’t walk and bicycle to schools is fear of traffic safety. Decisions about traffic speeds, crosswalks, signage and other built environment issues are made by schools, cities, and counties. Engaging these key stakeholders is a key way that parents can affect changes to the environment around the school and throughout the neighborhood. Through engagement with your principal, local engineer, city councilperson and/or other officials, you can assess the situation around the neighborhood by conducting a walk/bicycle audit. Walk/Bicycle audits provide parent and volunteer feedback on the conditions around the school and help decision makers better understand what challenges the parents and students face such as a lack of sidewalks, difficulty crossing streets, speeding cars, and more. With these issues documented, you can work with the school and city to develop solutions. Here are some ways to get started once you’ve done your audit.

**Getting Bike Racks at the School**

If you build it, they will come! Students won’t bicycle to school if there isn’t a place to safely store their bicycles. Creating space and securing funding or a donation for school bike racks assures parents and students of the safety of their bicycles while learning in the classroom. For more information on bicycle racks check out page 24 of our Curricula Guide.

**Maintenance**

Regular maintenance to the streets, sidewalks, trees, and bushes can be the difference between a pleasant walk or bicycle to school and a harrowing experience dodging shards of glass and overhanging bushes that push you into the street. The city often decides when to trim bushes regularly, sweep streets and what streets and paths to plow first when it snows. Working with city staff, or starting by talking with an elected official, is an excellent way to get to the heart of what can be an easily solvable problem.

**Painting Crosswalks and Signage**

The city also is in charge of signage and crosswalks throughout the city. Working closely with your city engineer and/or elected officials to discuss problems that students encounter walking and bicycling to school will help gather information for a to-do list of city projects. Remember that talking about the specifics problems, such as busy intersections, pedestrian lights that don’t allow enough time, or missing crosswalks, rather than trying to tell the city ‘the solution’, is the key to successful policy change.

**SRTS Grant Application**

If your walk/bicycle audit shows that the area around the school needs extensive improvements, this is a great opportunity to work with your local decision makers at the city and school to apply for federal Safe Routes to School funding through your state department of transportation to initiate these projects. A well thought
out proposal that includes strong partnerships in the community will lead to a great application that can improve the built environment around your school. Read more here to get additional information about the Safe Routes to School grant process in your state.

Make Your School A Healthier, More Active Place!

Fire Up Your Feet programs encourage families, students and schools to work together and create active lifestyles, which inspire our children to be healthy and physically active. Learn how you can help sustain Safe Routes to School programs, access a variety of resources on school wellness, or create a healthy fundraiser for your PTA: www.fireupyourfeet.org.

Policy Changes

Policy change may sound scary, but it doesn’t have to be. Schools, cities and various departments all make policies that govern staff hours and use of agency resources including funding. With parents advocating for changes, you can help government agencies make adjustments that will lead to improved opportunities for children to walk and bicycle to schools and in daily life. This document includes several policies that pertain specifically to improving walking and bicycling to schools. We suggest that you pick one or two policies that interest you, and work together with other concerned parents to make some changes.

Reverse a no walk/bike policy

Does your school prohibit walking and/or bicycling to school? If so, you can change this! There are many examples across the country of schools that have changed their policies after parents have asked them to be reviewed or reconsidered. For more information, see our Local Policy Guide.

Wellness Policies

A 2004 federal law requires all school districts that receive free or reduced meals to adopt wellness policies that focus on nutrition and physical activity. Many schools have a detailed focus on nutrition, but need more ways to increase physical activity. Getting more students walking and bicycling through this simple change is an excellent way to support your Safe Routes to School program. Find out if your school has a wellness policy, how it can be amended, and get Safe Routes to School included! This will help later with getting additional programs and policies initiated. Read some best practices for wellness policies.

Law Enforcement

Partnerships with community and government organizations help solidify Safe Routes to School. Working with your local police department to increase patrols during school commute hours or implement measures to decrease speeding are two excellent examples of effective policy change. For more ideas, read our guide on Involving Law Enforcement.

Bicycle and Pedestrian Curricula in the Classroom

Working with your school to adopt a reliable and effective walking and bicycling education program ensures that students receive training on how to behave near traffic and begin to gain the trust of administrators and parents. For more information on why this is important and what to look for in a curricula you can refer to the National Partnership’s Bicycle and Pedestrian Curricula Guide.

Complete Streets

The design of streets is essential to the livability of the area around the school, and getting your city to pass a complete streets policy can lead to roads being designed and maintained for all modes of travel. By ensuring that streets are accessible to pedestrians, bicyclists, transit users and motorists you can maximize the use of the street while creating a healthy, habitable place for all users to move about. For more information, read our guide: Complete Streets: Making Roads Safe and Accessible for All Users.
How to Be A PTA Champion for Safe Routes to School

Data Collection

In order to implement effective policies you must first know what are the deep seeded issues preventing your school from actively participating in Safe Routes to School. Using the National Center for Safe Routes to School’s parent survey evaluation tool you can zero in on issues specific to your school. Work with your school to make it a policy that student tallies are collected at the beginning and end of each school year, and that parent surveys are conducted every two-three years.

Remote Drop Off

Many schools that struggle with including students that live too far to walk or bicycle to school have instituted remote drop off policies. Policies involve schools and transportation departments (including school buses) to create a manner to drop students off several blocks from the school to decrease traffic congestion around the school and allow the opportunity for students to get additional exercise. Read tips on Remote Drop Offs.

Shared Use Policies

Shared Use Policies are agreements between two government entities, such as cities and schools to allow facilities to be shared with the general public or used after-hours. Examples of this include sharing a sports field between the school and a weekend league, having a school playground open as an after-hours park, or sharing a school site for continuing education programs, sports and recreational teams, or even just providing a place for community members to get active. In so doing, no single party is fully liable for the costs and responsibilities associated with the recreational facilities. Furthermore, after regular school hours, schools can continue to provide their students and the local community with the facilities needed to maintain active and healthy lifestyles, while incurring little to no additional costs. Click here for more information on Shared Use Agreements.

School Bus Cuts

When school districts face financial challenges, a common target for cuts are the school transportation system by cutting back bus routes, trimming the number of bus stops, or widening the walk radius around a school. However, cutting bus routes without a simultaneous and planned effort to address student safety concerns often leads to greater traffic congestion, poorer air quality, increased safety risks and higher parent transportation costs due to an increase in parents driving children to school. It is essential that school districts collaborate with parents and city officials to make it safer for children to walk and bicycle, particularly when cuts to school bus services are being proposed. If your school is talking about bus cuts, work with them to ensure that a Safe Routes to School program is being implemented simultaneously. Find out more about Bus Cuts here.

School Siting and Closures

When school districts grow, budgets contract or the student population changes, there are often discussions around building or closing schools. The guidelines that dictate where a school is built or which school is closed are critical components in effectively encouraging students to walk or bicycle to school. Getting involved in the process now can significantly affect your community. It’s critical to have parents, schools and cities all talking together. Find out more about School Siting and Closures here.

These policy initiatives provide preliminary ideas for how parents and community advocates can get started implementing policies that support Safe Routes to School, changes to the built environment and increased physical activity. Parents can also work with their children to get them involved as advocates for supporting better walking and bicycling conditions.

Get fired up! You can do it.
Getting More Students to Walk and Bicycle: 
Four Elements of Successful Programs

An examination of the SRTS programs included in the study revealed that at schools where walking and bicycling increased, programs shared at least three of the four following elements:

- **They identified an in-school leader.** Having an in-school leader—someone who championed SRTS—boosted a program's ability to encourage more walking and bicycling between home and school. Leaders who worked within the school, or who had participated in school functions on a regular basis, were more likely to inspire members of the school community to do activities often and with lots of student participation. Though many schools have outside organizations that run their SRTS programs effectively, having a leader within the school appears to be a key component of achieving walking and bicycling-related success.

- **They conducted activities that reinforced walking and bicycling.** Conducting activities specifically targeted to increase walking and bicycling to school helped change students’ behaviors. In this study, frequent walker/biker programs, walk/bicycle-to-school-day events, and park-and-walk/bicycle activities gave students and their families opportunities to experience repeatedly the benefits of active transportation to school.

- **They generated parent support for SRTS.** Involving parents in planning and carrying out activities was a good way to get their support for SRTS. Parents led walking school buses and bike trains, helped students cross streets and collected student travel data. Parents’ commitment to SRTS increased when they participated and enjoyed the programs’ benefits.

- **They established policies that supported SRTS.** Something as simple as allowing walkers and bicyclists to leave school a few minutes early seemed to serve as a powerful incentive for students to walk and bicycle to/from school.

Though some Safe Routes to School programs have to address safety problems first, most programs ultimately aim to increase walking and bicycling among students. Some programs yield a greater response than imagined; others start out by showing great promise, but end up not reaching their goals.

The National Center for Safe Routes to School (National Center), in an effort to better understand what factors might contribute to increases in walking and bicycling, examined programs for elements linked to measured walking and bicycling outcomes. Two prerequisites for increasing walking and bicycling percentages are: (1) having safe places to walk or bicycle, and (2) having students who live close enough to school to walk or bicycle, but for reasons unrelated to traffic safety, do not. The programs examined by the National Center met these basic prerequisites.
The Research Behind the Results

To uncover program elements that are associated with increased walking and bicycling, the National Center examined program activity at six schools: three where walking and bicycling increased significantly—called “high performing” schools—and three where they did not—called “reference” schools. To be included in this study, schools had to have done three things: (1) collected student travel data over a three-year period; (2) avoided collecting data during the week that includes Walk to School Day; and (3) collected data during comparable time periods (for example, October 2007 and October 2009).\(^1\)

This selection process ensured that the schools’ travel data could not be explained by one-time events like Walk to School Day or seasonal differences in travel patterns. The three high performing schools were matched with three reference schools based on characteristics including population density, students’ socio-economic status, walkability of the schools’ communities and the size of the schools’ attendance boundaries. The National Center interviewed contacts at six SRTS programs in the summer of 2010 to gather information about how programs were organized and what types of events and activities they had conducted. These interviews revealed that high performing schools were more likely than reference schools to (1) have strong program leadership within the school, (2) conduct frequent activities that reinforced students to walk and bicycle, (3) have strong support from parent groups and (4) have policies that supported walking and bicycling to/from school. The table below displays program elements found across schools featured in the National Center’s study.

To see whether the four elements associated with increased walking and bicycling might be found in other high performing schools, the National Center applied the elements to two schools that both received the James L. Oberstar SRTS Award and reported an increase in walking and bicycling. The Award is given each year by the National Center for Safe Routes to School to recognize an exemplary SRTS program in the United States.\(^2\) As seen from the table, the two Award-winning schools possessed all four of the key study-identified elements.

<table>
<thead>
<tr>
<th>School</th>
<th>In-School Leadership</th>
<th>Frequent Walking and Bicycling Activities</th>
<th>Parental Support</th>
<th>Supportive School Policies</th>
<th>Walking and Bicycling Percentages</th>
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<td><strong>High Performing Schools</strong></td>
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<tr>
<td>Elementary School B</td>
<td>*</td>
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<td>*</td>
<td>*</td>
<td>+ 13% (14 – 27%)</td>
</tr>
<tr>
<td>Elementary School D</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td>+ 12% (5 – 17%)</td>
</tr>
<tr>
<td>Middle School F</td>
<td>*</td>
<td></td>
<td>*</td>
<td>*</td>
<td>+ 5% (11 – 16%)</td>
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<tr>
<td><strong>Reference Schools</strong></td>
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<tr>
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<td>0% (2 – 2%)</td>
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<tr>
<td>Elementary School C</td>
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<td>- 1% (11 – 10%)</td>
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<tr>
<td>Middle School E</td>
<td></td>
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<td></td>
<td>+ 1% (24 – 25%)</td>
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<td><strong>Oberstar SRTS Award-winning Schools</strong></td>
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<tr>
<td>SRTS Award-winning School 1</td>
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<td></td>
<td>*</td>
<td>*</td>
<td>+ 45% (25 – 70%)</td>
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<tr>
<td>SRTS Award-winning School 2</td>
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<td></td>
<td>*</td>
<td>*</td>
<td>+ 15% (35 – 50%)</td>
</tr>
</tbody>
</table>

1 To read the complete study, go to [www.saferoutesinfo.org/program-tools/comparative_analysis_program_outcomes](http://www.saferoutesinfo.org/program-tools/comparative_analysis_program_outcomes).

**The Role of Schools in Promoting Physical Activity**

**20 minutes of recess per day**

Students who get at least 20 minutes of recess per day have a lower body mass index percentile than their peers.

**24 minutes of physical activity per day**

Students who walked to school every day had more minutes of physical activity.

**20%**

Teens who were active in school were more likely to earn an "A" in math or English.

**37 more minutes per week**

In states with P.E. requirements, high school girls were active.

Active Living Research
www.activelivingresearch.org
Learn more about why active kids learn better and how schools can help at activelearningresearch.org/activeschools.

**Memory tasks improved 16%**

After being in a physically active classroom program for 9 months, students read better and were more likely to read above their grade level.

After 20 minutes of physical activity:
- Students read better.
- After 20 minutes of physical activity.

**Red areas are very active; blue areas are least active.**

**Walking after 20 minutes of**

**Sitting quietly after 20 minutes of**

**Results:**

Physically active kids have more active brains.

**Brain scans of students taking a test:**

**21%** decrease in teachers' time spent warning behavior.

**13%** increase in grades.

**6%** increase over 3 years in math or English test scores.

**20%** more likely to earn an A.

**Research Active Living**

Physical activity at school is a win-win for students and teachers.
Safe Routes to School as a Promising Strategy to Address Childhood Obesity: A Review of the Research

The rate of childhood obesity has increased four-fold over the past forty years. Obese children are at an increased risk for developing health problems such as heart disease, diabetes, cancer, and hypertension. Activity levels for many children have declined because of a built environment that is unsafe for walking and bicycling, the low percentage of children who take physical education in school, and the popularity of sedentary leisure-time activities.

Using Safe Routes to School as way to create environment, policy and behavioral changes is one way to increase physical activity and promote the health of both children and adults. The evidence for Safe Routes to School as a strategy to address childhood obesity is based on the body of research that links physical activity, the built environment, and obesity.

**Safe Routes to School programs increase physical activity:**
- Safe Routes to School programs can increase walking and bicycling by 20 to 200%.
- Neighborhood schools, where distances to school are more manageable, produce a 13 percent increase in walking and bicycling.
- Children who walk to school are significantly more physically active throughout the day.
- Children who walk or bicycle to school have better cardiovascular fitness than do children who do not actively commute to school.
- Children who walk to school get three times as much moderate to vigorous physical activity during their walk to school than during recess.
- In a study of adolescents, 100% of the students who walked both to and from school met the recommended levels of 60 or more minutes of moderate to vigorous physical activity on weekdays.
- A study among a large, nationally representative sample of US youth reported that active commuting to school was positively associated with moderate-to-vigorous physical activity and inversely associated with BMI z-score and skinfold thicknesses.
- A pilot study of walking school buses found that participants in the walking school bus increased the frequency of walking to school and the minutes of daily moderate-to-vigorous physical activity.

**More physical activity can prevent weight gain:**
- An evaluation of the America on the Move initiative found that two small lifestyle changes—specifically eliminating 100kcal/day from the diet and walking an additional 2000 steps a day—can help address childhood obesity by preventing excess weight gain.
- Children gain weight when they take in more calories than the energy they expend. The “energy gap” is narrow enough in most children that simply making consistent behavioral changes—either eating less or smarter or getting more physical activity—averaging 110 to 165 kcal/day may be sufficient avoid weight gain.

**Building bicycle and pedestrian infrastructure leads to more physical activity and lower rates of obesity:**
- Children in neighborhoods with sidewalks and safe places to cross the street are more likely to be physically active than children living in neighborhoods without those safe infrastructure elements.
Communities that are more walkable and bikeable and that have pedestrian-accessible destinations increase physical activity levels.  

People living in auto-oriented suburbs drive more, walk less, and are more obese than people living in walkable communities. For each hour of driving per day, obesity increases 6 percent, but walking for transportation reduces the risk of obesity.  

A 5% increase in neighborhood walkability was associated with 32.1% more minutes devoted to physically active travel.


5 Davison, Kirsten K., Werder, Jessica L. and Lawson, Catherine T. “Children’s Active Commuting to School: Current Knowledge and Future Directions.” Preventing Chronic Disease. 5.3 (2008): A100.  


Tipping the Scales

The High Cost of Unhealthy Behavior in North Carolina
Our Children Pay With Their Health

Youth was once considered a natural protector against chronic disease and disability. When our ancestors had concerns about their children’s health, their number one fear was acute, usually communicable diseases—scourges like typhoid, cholera, and diphtheria. Although immunizations and improved hygiene have eliminated these diseases in the western world, today’s parents have a different concern: lifestyle conditions that are making their children prone to risk factors and chronic conditions once unheard of in children and teens.

According to a national study, between 1980 and 2005, the number of overweight adolescents grew from 5 percent to 17 percent. In children ages 6-11 during the same period, the prevalence of excess weight more than doubled, from 7 percent to 19 percent. Overweight children face many of the same chronic problems that overweight adults do, including Type II diabetes, a diagnosis that was unheard of in children a generation ago. What’s more, they’re susceptible to remaining overweight into adulthood, when such problems become worse—and more expensive.

Excess weight is one of three risk factors in children and youth that Be Active has studied over the years. The other two are physical inactivity and Type II diabetes. The prevalence of these three risk factors in children ages 5-17 has been increasing nationwide; they’re associated with at least five chronic medical diagnoses, all of which come with a high price tag. Unfortunately, our research shows the incidence of these risk factors is remaining static or increasing.

EXCESS WEIGHT

According to data collected in 2009, 41.4 percent of children and youth in North Carolina are carrying excess weight, up from 34 percent in 2005. Of this number, based on the Body Mass Index (BMI) criterion, 28 percent of children and youth are classified as overweight and 13.4 percent as obese.

PHYSICAL INACTIVITY

Children are meant to be in motion. Therefore, they need even more activity than adults to stay healthy. The Centers for Disease Control & Prevention (CDC) recommends that school-age children and teens engage in moderate-to-vigorous physical activity for 60 minutes a day at least five days a week. Yet 54 percent of children in our state are considered physically inactive, according to 2009 data. This is slightly less than the 54.1 percent reported inactive in 2005, but not statistically significant enough to signify an improvement.

TYPE II DIABETES

Until fairly recently, the only kind of diabetes children were diagnosed with was Type I, or juvenile diabetes, which is an autoimmune disorder requiring daily treatment with insulin. In the last decade, doctors have started seeing Type II diabetes—also called non-insulin dependent diabetes mellitus, or adult-onset diabetes—in children and adolescents. This type of diabetes is strongly associated with excess weight, poor diet and physical inactivity. In 2009, approximately 1 percent of children ages 5-17 had Type II diabetes or a precursor condition called pre-diabetic syndrome. This prevalence is unchanged from 2005, suggesting that the diagnosis rate is holding steady—or that, given the prevalence of physical inactivity and excess weight, many children with pre-diabetes or diabetes remain undiagnosed.
Children increasingly are being diagnosed with chronic conditions that are largely preventable—and expensive. Five conditions have been targeted by our analysts for review. They are:

**MUSCULO-SKELETAL**

Carrying excess weight or being inactive is strongly linked to musculo-skeletal injuries or conditions in kids, just as they are in adults. Common diagnoses within this category include osteoarthritis of the knee or hip, rheumatoid arthritis, low back pain and tendonitis and bursitis.

**RESPIRATORY AILMENTS**

Several respiratory conditions for which children seek treatment are linked to physical inactivity and excess weight, including impaired respiratory function, acute bronchitis and asthma.

**METABOLIC-ENDOCRINE**

While type 1, or juvenile diabetes, is a spontaneously occurring autoimmune disease, other metabolic disorders like gout and impaired immune response—both of which are being seen in children and youth—are largely the result of modifiable behaviors.

**CIRCULATORY**

In adults, research shows that physical inactivity, excess weight and Type II diabetes are major risk factors for cardiovascular ailments. Evidence suggests that there is a similar association between these risk factors and the diagnosis of circulatory problems in children and youth.

**MENTAL HEALTH**

Just as physical inactivity and other risk factors have been linked to depression and anxiety in adults, they are also thought to be responsible for mental disorders in children and youth. One North Carolina study showed that youngsters who are substantially overweight throughout their childhood and adolescence have a higher incidence of depression than those whose weight is normal.
Observation of a School:
Understanding Walking and Biking Safety Issues

The best way to understand walking and bicycling safety issues at a particular school is by observing students arriving or departing during a normal school day. This includes observing children as they walk or bike the routes to school, how they cross streets, the interactions they have with cars and buses on the school campus, and how they make their way to the school door. The goal is to identify two main things:

- The physical environment for walking and bicycling both on the school campus and in the surrounding area; and
- The behaviors of pedestrians, bicyclists and motorists.

A good way to start is in a neighborhood near the school. Observe the route the students are taking. When on the school campus, walk in a loop to make sure you have a chance to observe all locations and forms of behavior. Be prepared to jot down things you want to address. Be at the main entrance the fifteen minutes prior to school starting and the first fifteen minutes when school is dismissed.

1. Physical environment

Look at the physical environment and how it affects the behavior of children and adults.

Observe:

- The main door(s) where kids enter and exit the school.
- Where parents pick up and drop off their kids (Is this activity separated from children walking or bicycling? Does the queue of cars back up into the street?).
- Where buses load and unload.
- Where kids park their bikes.
- The sidewalks around the school, or if missing, the locations where they should be located.
- The intersection(s) that kids must use to access the school site; include intersections with and without school crossing guards.
- The 20 MPH School Zone signs, or if absent, where they might need to be installed.
- Driveways along the walk route
- Paths, desire lines or goat trails that indicate where pedestrians have created informal pathways.
- Other areas mentioned by the local representative(s).

2. Behaviors to observe

Motorists:

- Do they yield to pedestrians?
- Are they obeying speed limits?
- Do they follow pick up & drop off procedures?
- Are they parked legally?

Pedestrians:

- How many kids are walking?
- Are they crossing at marked crosswalks?
- Are they obeying crossing guards?
- Are they crossing streets safely?
- Are they facing traffic when walking along a road?
- Are they able to walk on a sidewalk?

Bicyclists:

- How many kids are bicycling?
- Are they following the rules of the road?
- Are they wearing helmets?

Crossing guards:

- Do they have safety equipment?
- Are they in the needed locations?
- Are they helping students cross safely?
How walkable is your community?

Take a walk with a child and decide for yourselves.

Everyone benefits from walking. These benefits include: improved fitness, cleaner air, reduced risks of certain health problems, and a greater sense of community. But walking needs to be safe and easy. Take a walk with your child and use this checklist to decide if your neighborhood is a friendly place to walk. Take heart if you find problems, there are ways you can make things better.

Getting started:

First, you’ll need to pick a place to walk, like the route to school, a friend’s house or just somewhere fun to go. The second step involves the checklist. Read over the checklist before you go, and as you walk, note the locations of things you would like to change. At the end of your walk, give each question a rating. Then add up the numbers to see how you rated your walk overall. After you’ve rated your walk and identified any problem areas, the next step is to figure out what you can do to improve your community’s score. You’ll find both immediate answers and long-term solutions under “Improving Your Community’s Score...” on the third page.
Take a walk and use this checklist to rate your neighborhood’s walkability.

How walkable is your community?

Location of walk

Rating Scale: 1 2 3 4 5 6

awful many problems some problems good very good excellent

1. Did you have room to walk?
   □ Yes □ Some problems:
   □ Sidewalks or paths started and stopped
   □ Sidewalks were broken or cracked
   □ Sidewalks were blocked with poles, signs, shrubbery, dumpsters, etc.
   □ No sidewalks, paths, or shoulders
   □ Too much traffic
   □ Something else ____________________________
   Rating: (circle one) ____________________________
   Locations of problems:
   __________________________________________________________________________

   1 2 3 4 5 6

2. Was it easy to cross streets?
   □ Yes □ Some problems:
   □ Road was too wide
   □ Traffic signals made us wait too long or did not give us enough time to cross
   □ Needed striped crosswalks or traffic signals
   □ Parked cars blocked our view of traffic
   □ Trees or plants blocked our view of traffic
   □ Needed curb ramps or ramps needed repair
   □ Something else ____________________________
   Rating: (circle one) ____________________________
   Locations of problems:
   __________________________________________________________________________

   1 2 3 4 5 6

3. Did drivers behave well?
   □ Yes □ Some problems: Drivers ...
   □ Backed out of driveways without looking
   □ Did not yield to people crossing the street
   □ Turned into people crossing the street
   □ Drove too fast
   □ Sped up to make it through traffic lights or drove through traffic lights?
   □ Something else ____________________________
   Rating: (circle one) ____________________________
   Locations of problems:
   __________________________________________________________________________

   1 2 3 4 5 6

4. Was it easy to follow safety rules?
   Could you and your child...
   □ Yes □ No Cross at crosswalks or where you could see and be seen by drivers?
   □ Yes □ No Stop and look left, right and then left again before crossing streets?
   □ Yes □ No Walk on sidewalks or shoulders facing traffic where there were no sidewalks?
   □ Yes □ No Cross with the light?
   Rating: (circle one) ____________________________
   Locations of problems:
   __________________________________________________________________________

   1 2 3 4 5 6

5. Was your walk pleasant?
   □ Yes □ Some problems:
   □ Needed more grass, flowers, or trees
   □ Scary dogs
   □ Scary people
   □ Not well lighted
   □ Dirty, lots of litter or trash
   □ Dirty air due to automobile exhaust
   □ Something else ____________________________
   Rating: (circle one) ____________________________
   Locations of problems:
   __________________________________________________________________________

   1 2 3 4 5 6

How does your neighborhood stack up?
Add up your ratings and decide.

   1. ______  26–30 Celebrate! You have a great neighborhood for walking.
   2. ______  21–25 Celebrate a little. Your neighborhood is pretty good.
   3. ______  16–20 Okay, but it needs work.
   4. ______  11–15 It needs lots of work. You deserve better than that.
   5. ______
   Total: ______

   5–10 It's a disaster for walking!

Now that you’ve identified the problems, go to the next page to find out how to fix them.
### Improving your community's score

#### 1. Did you have room to walk?

<table>
<thead>
<tr>
<th>Problem</th>
<th>What you and your child can do immediately</th>
<th>What you and your community can do with more time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sidewalks or paths started and stopped</td>
<td>• pick another route for now</td>
<td>• speak up at board meetings</td>
</tr>
<tr>
<td>Sidewalks broken or cracked</td>
<td>• tell local traffic engineering or public works department about specific problems and provide a copy of the checklist</td>
<td>• write or petition city for walkways and gather neighborhood signatures</td>
</tr>
<tr>
<td>Sidewalks blocked</td>
<td>• tell local traffic engineering or public works department about specific problems and provide a copy of the checklist</td>
<td>• make media aware of problem</td>
</tr>
<tr>
<td>No sidewalks, paths or shoulders</td>
<td>• tell local traffic engineering or public works department about specific problems and provide a copy of the checklist</td>
<td>• work with a local transportation engineer to develop a plan for a safe walking route</td>
</tr>
<tr>
<td>Too much traffic</td>
<td>• tell local traffic engineering or public works department about specific problems and provide a copy of the checklist</td>
<td></td>
</tr>
</tbody>
</table>

- **Sidewalks or paths started and stopped**: pick another route for now; tell local traffic engineering or public works department about specific problems and provide a copy of the checklist.
- **Sidewalks broken or cracked**: tell local traffic engineering or public works department about specific problems and provide a copy of the checklist.
- **Sidewalks blocked**: tell local traffic engineering or public works department about specific problems and provide a copy of the checklist.
- **No sidewalks, paths or shoulders**: tell local traffic engineering or public works department about specific problems and provide a copy of the checklist.
- **Too much traffic**: tell local traffic engineering or public works department about specific problems and provide a copy of the checklist.

#### 2. Was it easy to cross streets?

<table>
<thead>
<tr>
<th>Problem</th>
<th>What you and your child can do immediately</th>
<th>What you and your community can do with more time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road too wide</td>
<td>• pick another route for now</td>
<td>• push for crosswalks/signals/ parking changes/curb ramps at city meetings</td>
</tr>
<tr>
<td>Traffic signals made us wait too long or did not give us enough time to cross</td>
<td>• share problems and checklist with local traffic engineering or public works department</td>
<td>• report to traffic engineer where parked cars are safety hazards</td>
</tr>
<tr>
<td>Crosswalks/traffic signals needed</td>
<td>• trim your trees or bushes that block the street and ask your neighbors to do the same</td>
<td>• report illegally parked cars to the police</td>
</tr>
<tr>
<td>View of traffic blocked by parked cars, trees, or plants</td>
<td>• leave nice notes on problem cars asking owners not to park there</td>
<td>• request that the public works department trim trees or plants</td>
</tr>
<tr>
<td>Needed curb ramps or ramps needed repair</td>
<td></td>
<td>• make media aware of problem</td>
</tr>
</tbody>
</table>

- **Road too wide**: pick another route for now; share problems and checklist with local traffic engineering or public works department.
- **Traffic signals made us wait too long or did not give us enough time to cross**: trim your trees or bushes that block the street and ask your neighbors to do the same; leave nice notes on problem cars asking owners not to park there.
- **Crosswalks/traffic signals needed**: trim your trees or bushes that block the street and ask your neighbors to do the same; leave nice notes on problem cars asking owners not to park there.
- **View of traffic blocked by parked cars, trees, or plants**: trim your trees or bushes that block the street and ask your neighbors to do the same; leave nice notes on problem cars asking owners not to park there.
- **Needed curb ramps or ramps needed repair**: trim your trees or bushes that block the street and ask your neighbors to do the same; leave nice notes on problem cars asking owners not to park there.

#### 3. Did drivers behave well?

<table>
<thead>
<tr>
<th>Problem</th>
<th>What you and your child can do immediately</th>
<th>What you and your community can do with more time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backed without looking</td>
<td>• pick another route for now</td>
<td>• petition for more enforcement</td>
</tr>
<tr>
<td>Did not yield</td>
<td>• set an example: slow down and be considerate of others</td>
<td>• request protected turns</td>
</tr>
<tr>
<td>Turned into walkers</td>
<td>• encourage your neighbors to do the same</td>
<td>• ask city planners and traffic engineers for traffic calming ideas</td>
</tr>
<tr>
<td>Drove too fast</td>
<td>• report unsafe driving to the police</td>
<td>• ask schools about getting crossing guards at key locations</td>
</tr>
<tr>
<td>Sped up to make traffic lights or drove through red lights</td>
<td>• educate yourself and your child about safe walking</td>
<td>• organize a neighborhood speed watch program</td>
</tr>
</tbody>
</table>

- **Backed without looking**: pick another route for now; set an example: slow down and be considerate of others; encourage your neighbors to do the same; report unsafe driving to the police.
- **Did not yield**: set an example: slow down and be considerate of others; encourage your neighbors to do the same; report unsafe driving to the police.
- **Turned into walkers**: set an example: slow down and be considerate of others; encourage your neighbors to do the same; report unsafe driving to the police.
- **Drove too fast**: set an example: slow down and be considerate of others; encourage your neighbors to do the same; report unsafe driving to the police.
- **Sped up to make traffic lights or drove through red lights**: set an example: slow down and be considerate of others; encourage your neighbors to do the same; report unsafe driving to the police.

#### 4. Could you follow safety rules?

<table>
<thead>
<tr>
<th>Problem</th>
<th>What you and your child can do immediately</th>
<th>What you and your community can do with more time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross at crosswalks or where you could see and be seen</td>
<td>• educate yourself and your child about safe walking</td>
<td>• encourage schools to teach walking safely</td>
</tr>
<tr>
<td>Stop and look left, right, left before crossing</td>
<td>• organize parents in your neighborhood to walk children to school</td>
<td>• help schools start safe walking programs</td>
</tr>
<tr>
<td>Walk on sidewalks or shoulders facing traffic Cross with the light</td>
<td></td>
<td>• encourage corporate support for flex schedules so parents can walk children to school</td>
</tr>
</tbody>
</table>

- **Cross at crosswalks or where you could see and be seen**: educate yourself and your child about safe walking; organize parents in your neighborhood to walk children to school.
- **Stop and look left, right, left before crossing**: educate yourself and your child about safe walking; organize parents in your neighborhood to walk children to school.
- **Walk on sidewalks or shoulders facing traffic Cross with the light**: educate yourself and your child about safe walking; organize parents in your neighborhood to walk children to school.

#### 5. Was your walk pleasant?

<table>
<thead>
<tr>
<th>Problem</th>
<th>What you and your child can do immediately</th>
<th>What you and your community can do with more time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs grass, flowers, trees</td>
<td>• point out areas to avoid to your child; agree on safe routes</td>
<td>• request increased police enforcement</td>
</tr>
<tr>
<td>Scary dogs</td>
<td>• ask neighbors to keep dogs leashed or fenced</td>
<td>• start a crime watch program in your neighborhood</td>
</tr>
<tr>
<td>Scary people</td>
<td>• report scary dogs to the animal control department</td>
<td>• organize a community clean-up day</td>
</tr>
<tr>
<td>Not well lit</td>
<td>• report scary people to the police</td>
<td>• sponsor a neighborhood beautification or tree-planting day</td>
</tr>
<tr>
<td>Dirty, litter</td>
<td>• report lighting needs to the police or appropriate public works department</td>
<td>• begin an adopt-a-street program</td>
</tr>
<tr>
<td>Lots of traffic</td>
<td>• take a walk with a trash bag</td>
<td>• initiate support to provide routes with less traffic to schools in your community (reduced traffic during am and pm school commute times)</td>
</tr>
<tr>
<td></td>
<td>• plant trees, flowers in your yard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• select alternative route with less traffic</td>
<td></td>
</tr>
</tbody>
</table>

- **Needs grass, flowers, trees**: point out areas to avoid to your child; agree on safe routes; ask neighbors to keep dogs leashed or fenced; report scary dogs to the animal control department; report scary people to the police; report lighting needs to the police or appropriate public works department; take a walk with a trash bag; plant trees, flowers in your yard; select alternative route with less traffic.
- **Scary dogs**: ask neighbors to keep dogs leashed or fenced; report scary dogs to the animal control department; report scary people to the police; report lighting needs to the police or appropriate public works department.
- **Scary people**: report scary dogs to the animal control department; report scary people to the police; report lighting needs to the police or appropriate public works department.
- **Not well lit**: report lighting needs to the police or appropriate public works department; take a walk with a trash bag; plant trees, flowers in your yard; select alternative route with less traffic.
- **Dirty, litter**: report lighting needs to the police or appropriate public works department; take a walk with a trash bag; plant trees, flowers in your yard; select alternative route with less traffic.
- **Lots of traffic**: report lighting needs to the police or appropriate public works department; take a walk with a trash bag; plant trees, flowers in your yard; select alternative route with less traffic.

### A Quick Health Check

<table>
<thead>
<tr>
<th>Problem</th>
<th>What you and your child can do immediately</th>
<th>What you and your community can do with more time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could not go as far or as fast as we wanted</td>
<td>• start with short walks and work up to 30 minutes of walking most days</td>
<td>• get media to do a story about the health benefits of walking</td>
</tr>
<tr>
<td>Were tired, short of breath or had sore feet or muscles</td>
<td>• invite a friend or child along</td>
<td>• call parks and recreation department about community walks</td>
</tr>
<tr>
<td>Was the sun really hot? Was it hot and hazy?</td>
<td>• walk along shaded routes where possible</td>
<td>• encourage corporate support for employee walking programs</td>
</tr>
<tr>
<td></td>
<td>• use sunscreen of SPF 15 or higher, wear a hat and sunglasses</td>
<td>• plant shade trees along routes</td>
</tr>
<tr>
<td></td>
<td>• try not to walk during the hottest time of day</td>
<td>• have a sun safety seminar for kids</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• have kids learn about unhealthy ozone days and the Air Quality Index (AQI)</td>
</tr>
</tbody>
</table>

- **Could not go as far or as fast as we wanted**: start with short walks and work up to 30 minutes of walking most days; invite a friend or child along; walk along shaded routes where possible; use sunscreen of SPF 15 or higher, wear a hat and sunglasses; try not to walk during the hottest time of day.
- **Were tired, short of breath or had sore feet or muscles**: start with short walks and work up to 30 minutes of walking most days; invite a friend or child along; walk along shaded routes where possible; use sunscreen of SPF 15 or higher, wear a hat and sunglasses; try not to walk during the hottest time of day.
- **Was the sun really hot? Was it hot and hazy?**: start with short walks and work up to 30 minutes of walking most days; invite a friend or child along; walk along shaded routes where possible; use sunscreen of SPF 15 or higher, wear a hat and sunglasses; try not to walk during the hottest time of day.
Need some guidance? These resources might help...

Great Resources

WALKING INFORMATION

Pedestrian and Bicycle Information Center (PBIC)
UNC Highway Safety Research Center
Chapel Hill, NC
www.pedbikeinfo.org
www.walkinginfo.org

National Center for Safe Routes to School
Chapel Hill, NC
www.saferoutesinfo.org

For More Information about Who Can Help Address Community Problems
www.walkinginfo.org/problems/help.cfm

State Bicycle & Pedestrian Coordinators
http://www.walkinginfo.org/assistance/contacts.cfm

PEDESTRIAN SAFETY

Federal Highway Administration
Pedestrian and Bicycle Safety Team
Office Of Safety
Washington, DC
http://safety.fhwa.dot.gov/ped_bike/

National Highway Traffic Safety Administration
Traffic Safety Programs
Washington, DC
www.nhtsa.dot.gov/people/injury/pedbimot/pedSAFE

SIDEWALK ACCESSIBILITY INFORMATION

US Access Board
Washington, DC
Phone: (800) 872-2253; (800) 993-2822 (TTY)
www.access-board.gov

FEDERAL POLICY, GUIDANCE AND FUNDING SOURCES FOR WALKING FACILITIES

Federal Highway Administration
Bicycle and Pedestrian Program
Office of Natural and Human Environment
Washington, DC
www.fhwa.dot.gov/environment/bikeped/index.htm
Bikeability Checklist

How bikeable is your community?

Riding a bike is fun!
Bicycling is a great way to get around and to get your daily dose of physical activity. It’s good for the environment, and it can save you money. No wonder many communities are encouraging people to ride their bikes more often!

Can you get to where you want to go by bike?
Some communities are more bikeable than others: how does yours rate? Read over the questions in this checklist and then take a ride in your community, perhaps to the local shops, to visit a friend, or even to work. See if you can get where you want to go by bicycle, even if you are just riding around the neighborhood to get some exercise.

At the end of your ride, answer each question and, based on your opinion, circle an overall rating for each question. You can also note any problems you encountered by checking the appropriate box(es). Be sure to make a careful note of any specific locations that need improvement.

Add up the numbers to see how you rated your ride. Then, turn to the pages that show you how to begin to improve those areas where you gave your community a low score. Before you ride, make sure your bike is in good working order, put on a helmet, and be sure you can manage the ride.
Go for a ride and use this checklist to rate your neighborhood's bikeability.

How bikeable is your community?

Location of bike ride (be specific): 

Rating Scale: 1 awful 2 many problems 3 some problems 4 good 5 very good 6 excellent

1. Did you have a place to bicycle safely?

   a) On the road, sharing the road with motor vehicles?

   □ Yes □ Some problems (please note locations):
   □ No space for bicyclists to ride
   □ Bicycle lane or paved shoulder disappeared
   □ Heavy and/or fast-moving traffic
   □ Too many trucks or buses
   □ No space for bicyclists on bridges or in tunnels
   □ Poorly lighted roadways
   Other problems:

2. How was the surface that you rode on?

   □ Good □ Some problems, the road or path had:
   □ Potholes
   □ Cracked or broken pavement
   □ Debris (e.g. broken glass, sand, gravel, etc.)
   □ Dangerous drain grates, utility covers, or metal plates
   □ Uneven surface or gaps
   □ Slippery surfaces when wet (e.g. bridge decks, construction plates, road markings)
   □ Bumpy or angled railroad tracks
   □ Rumble strips
   Other problems:

   Overall Surface Rating: (circle one) 1 2 3 4 5 6

3. How were the intersections you rode through?

   □ Good □ Some problems:
   □ Had to wait too long to cross intersection
   □ Couldn't see crossing traffic
   □ Signal didn't give me enough time to cross the road
   □ Signal didn't change for a bicycle
   □ Unsure where or how to ride through intersection
   Other problems:

   Overall Intersection Rating: (circle one) 1 2 3 4 5 6

Continue the checklist on the next page...
4. Did drivers behave well?

- [ ] Good
- [ ] Some problems, drivers:
  - [ ] Drove too fast
  - [ ] Passed me too close
  - [ ] Did not signal
  - [ ] Harassed me
  - [ ] Cut me off
  - [ ] Ran red lights or stop sign

Other problems:

______________________________

______________________________

Overall Driver Rating: (circle one)

1 2 3 4 5 6

5. Was it easy for you to use your bike?

- [ ] Good
- [ ] Some problems:
  - [ ] No maps, signs, or road markings to help me find my way
  - [ ] No safe or secure place to leave my bicycle at my destination
  - [ ] No way to take my bicycle with me on the bus or train
  - [ ] Scary dogs
  - [ ] Hard to find a direct route I liked
  - [ ] Route was too hilly

Other problems:

______________________________

______________________________

Overall Intersection Rating: (circle one)

1 2 3 4 5 6

6. What did you do to make your ride safer?

Your behavior contributes to the bikeability of your community. Check all that apply:

- [ ] Wore a bicycle helmet
- [ ] Obeyed traffic signal and signs
- [ ] Rode in a straight line (didn't weave)
- [ ] Signaled my turns
- [ ] Rode with (not against) traffic
- [ ] Used lights, if riding at night
- [ ] Wore reflective and/or retroreflective materials and bright clothing
- [ ] Was courteous to other travelers
  (motorist, skaters, pedestrians, etc.)

7. Tell us a little about yourself.

In good weather months, about how many days a month do you ride your bike?

- [ ] Never
- [ ] Occasionally (one or two)
- [ ] Frequently (5-10)
- [ ] Most (more than 15)
- [ ] Every day

Which of these phrases best describes you?

- [ ] An advanced, confident rider who is comfortable riding in most traffic situations
- [ ] An intermediate rider who is not really comfortable riding in most traffic situations
- [ ] A beginner rider who prefers to stick to the bike path or trail

How does your community rate?

Add up your ratings and decide.
(Questions 6 and 7 do not contribute to your community's score)

2. _____ 21–25 Your community is pretty good, but there's always room for improvement.
3. _____ 16–20 Conditions for riding are okay, but not ideal. Plenty of opportunity for improvements.
4. _____ 11–15 Conditions are poor and you deserve better than this! Call the mayor and the newspaper right away.
5. _____ 5–10 Oh dear. Consider wearing body armor and Christmas tree lights before venturing out again.

Total: _____

Did you find something that needs to be changed?

On the next page, you'll find suggestions for improving the bikeability of your community based on the problems you identified. Take a look at both the short- and long-term solutions and commit to seeing at least one of each through to the end. If you don’t, then who will?

During your bike ride, how did you feel physically? Could you go as far or as fast as you wanted to? Were you short of breath, tired, or were your muscles sore? The next page also has some suggestions to improve the enjoyment of your ride.

Bicycling, whether for transportation or recreation, is a great way to get 30 minutes of physical activity into your day. Riding, just like any other activity, should be something you enjoy doing. The more you enjoy it, the more likely you'll stick with it. Choose routes that match your skill level and physical activities. If a route is too long or hilly, find a new one. Start slowly and work up to your potential.
Now that you know the problems, you can find the answers.

## Improving your community's score

### 1. Did you have a place to bicycle safely?

<table>
<thead>
<tr>
<th>What you and your child can do immediately</th>
<th>What you and your community can do with more time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a) On the road?</strong></td>
<td></td>
</tr>
<tr>
<td>No space for bicyclists to ride (e.g. no bike lane or shoulder; narrow lanes)</td>
<td>• participate in local planning meetings</td>
</tr>
<tr>
<td>Bicycle lane or paved shoulder disappeared</td>
<td>• encourage your community to adopt a plan to improve conditions, including a network of bike lanes on major roads</td>
</tr>
<tr>
<td>Heavy and/or fast-moving traffic</td>
<td>• ask your public works department to consider “Share the Road” signs at specific locations</td>
</tr>
<tr>
<td>Too many trucks or buses</td>
<td>• ask your state department of transportation to include paved shoulders on all their rural highways</td>
</tr>
<tr>
<td>No space for bicyclists on bridges or in tunnels</td>
<td>• establish or join a local bicycle advocacy group</td>
</tr>
<tr>
<td>Poorly lighted roadways</td>
<td></td>
</tr>
<tr>
<td><strong>b) On an off-road path or trail?</strong></td>
<td></td>
</tr>
<tr>
<td>Path ended abruptly</td>
<td>• ask the trail manager or agency to improve directional and warning signs</td>
</tr>
<tr>
<td>Path didn’t go where I wanted to go</td>
<td>• petition your local transportation agency to improve path/roadway crossings</td>
</tr>
<tr>
<td>Path intersected with roads that were difficult to cross</td>
<td>• ask for more trails in your community</td>
</tr>
<tr>
<td>Path was crowded</td>
<td>• establish or join a “Friends of the Trail” advocacy group</td>
</tr>
<tr>
<td>Path was unsafe because of sharp turns or dangerous downhill</td>
<td></td>
</tr>
<tr>
<td>Path was uncomfortable because of too many hills</td>
<td></td>
</tr>
<tr>
<td>Path was poorly lighted</td>
<td></td>
</tr>
</tbody>
</table>

### 2. How was the surface you rode on?

<table>
<thead>
<tr>
<th>What you should do immediately</th>
<th>What you and your community can do with more time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potholes</td>
<td>• report problems immediately to public works department or appropriate agency</td>
</tr>
<tr>
<td>Cracked or broken pavement</td>
<td>• keep your eye on the road/path</td>
</tr>
<tr>
<td>Debris (e.g. broken glass, sand, gravel, etc.)</td>
<td>• pick another route until the problem is fixed (and check to see that the problems are fixed)</td>
</tr>
<tr>
<td>Dangerous drain grates, utility covers, or metal plates</td>
<td>• organize a community effort to clean up the path</td>
</tr>
<tr>
<td>Uneven surface or gaps</td>
<td>• participate in local planning meetings</td>
</tr>
<tr>
<td>Slippery surfaces when wet (e.g. bridge decks, construction plates, road markings)</td>
<td>• encourage your community to adopt a plan to improve conditions, including a network of bike lanes on major roads</td>
</tr>
<tr>
<td>Bumpy or angled railroad tracks</td>
<td>• ask your public works department to consider “Share the Road” signs at specific locations</td>
</tr>
<tr>
<td>Rumble strips</td>
<td>• ask your state department of transportation to include paved shoulders on all their rural highways</td>
</tr>
</tbody>
</table>

### 3. How were the intersections you rode through?

<table>
<thead>
<tr>
<th>What you should do immediately</th>
<th>What you and your community can do with more time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had to wait too long to cross intersection</td>
<td>• pick another route for now</td>
</tr>
<tr>
<td>Couldn’t see crossing traffic</td>
<td>• tell local transportation engineers or public works department about specific problems</td>
</tr>
<tr>
<td>Signal didn’t give me enough time to cross the road</td>
<td>• take a class to improve your riding confidence and skills</td>
</tr>
<tr>
<td>The signal didn’t change for a bicycle</td>
<td>• ask the public works department to look at the timing of the specific traffic signals</td>
</tr>
<tr>
<td>Unsure where or how to ride through intersection</td>
<td>• ask the public works department to install loop-detectors that detect bicyclists</td>
</tr>
<tr>
<td></td>
<td>• suggest improvements to sightlines that include cutting back vegetation; building out the path crossing; and moving parked cars that obstruct your view</td>
</tr>
<tr>
<td></td>
<td>• organize community-wide, on-bike training on how to safely ride through intersections</td>
</tr>
</tbody>
</table>
4. Did drivers behave well?

Drivers:
- Drove too fast
- Passed me too close
- Did not signal
- Harassed me
- Cut me off
- Ran red lights or stop signs

What you and your child can do immediately
- report unsafe drivers to the police
- set an example by riding responsibly; obey traffic laws; don't antagonize drivers
- always expect the unexpected
- work with your community to raise awareness to share the road

What you and your community can do with more time
- ask the police department to enforce speed limits and safe driving
- encourage your department of motor vehicles to include "Share the Road" messages in driver tests and correspondence with drivers
- ask city planners and traffic engineers for traffic calming ideas
- encourage your community to use cameras to catch speeders and red light runners

5. Was it easy for you to use your bike?

No maps, signs, or road markings to help me find my way
- plan your route ahead of time
- find somewhere close by to lock your bike; never leave it unlocked
- report scary dogs to the animal control department
- learn to use all of your gears!

No safe or secure place to leave my bicycle at my destination
- ask your community to publish a local bike map
- ask your public works department to install bike parking racks at key destinations; work with them to identify locations
- petition your transit agency to install bike racks on all their buses
- plan your local route network to minimize the impact of steep hills
- establish or join a bicycle user group (BUG) at your workplace

No way to take my bicycle with me on the bus or train

Scary dogs
- always follow the rules of the road and set a good example
- take a class to improve your riding skills and knowledge

Hard to find a direct route I liked
- go to your local bike shop and buy a helmet; get lights and reflectors if you are expecting to ride at night
- never leave it unlocked
- report scary dogs to the animal control department
- learn to use all of your gears!

Route was too hilly
- ask the police to enforce bicycle laws
- encourage your school or youth agencies to teach bicycle safety (on-bike)
- start or join a local bicycle club
- become a bicycle safety instructor

6. What did you do to make your ride safer?

Wore a bicycle helmet
- go to your local bike shop and buy a helmet; get lights and reflectors if you are expecting to ride at night
- always follow the rules of the road and set a good example
- take a class to improve your riding skills and knowledge

Obeyed traffic signals and signs
- ask the police to enforce bicycle laws
- encourage your school or youth agencies to teach bicycle safety (on-bike)
- start or join a local bicycle club
- become a bicycle safety instructor

Rode in a straight line (didn't weave)
- go to your local bike shop and buy a helmet; get lights and reflectors if you are expecting to ride at night
- always follow the rules of the road and set a good example
- take a class to improve your riding skills and knowledge

Signaled my turns
- ask the police to enforce bicycle laws
- encourage your school or youth agencies to teach bicycle safety (on-bike)
- start or join a local bicycle club
- become a bicycle safety instructor

Rode with (not against) traffic
- go to your local bike shop and buy a helmet; get lights and reflectors if you are expecting to ride at night
- always follow the rules of the road and set a good example
- take a class to improve your riding skills and knowledge

Used lights, if riding at night
- ask the police to enforce bicycle laws
- encourage your school or youth agencies to teach bicycle safety (on-bike)
- start or join a local bicycle club
- become a bicycle safety instructor

Wore reflective materials and bright clothing
- ask the police to enforce bicycle laws
- encourage your school or youth agencies to teach bicycle safety (on-bike)
- start or join a local bicycle club
- become a bicycle safety instructor

Was courteous to other travelers (motorists, skaters, pedestrians, etc.)
Need some guidance? These resources might help...

**Great Resources**

**BICYCLING INFORMATION**

Pedestrian and Bicycle Information Center (PBIC)
UNC Highway Safety Research Center
Chapel Hill, NC
http://www.pedbikeinfo.org
http://www.bikinginfo.org

National Center for Safe Routes to School (NCSRTS)
UNC Highway Safety Research Center
Chapel Hill, NC
http://www.saferoutesinfo.org

**STREET DESIGN AND BICYCLE FACILITIES**

American Association of State Highway and Transportation Officials (AASHTO)
Washington, D.C.
http://www.aashto.org

Institute of Transportation Engineers (ITE)
Washington, D.C.
http://www.ite.org

Association of Pedestrian and Bicycle Professionals (APBP)
Cedarburg, WI
http://www.apbp.org

Federal Highway Administration (FHWA)
Bicycle and Pedestrian Program
Office of Natural and Human Environment
Washington, DC

**EDUCATION AND SAFETY**

National Highway Traffic Safety Administration (NHTSA)
Bicycle Safety Program, Office of Safety Programs
Washington, DC
http://www.nhtsa.gov/portal/site/nhtsa/
   menuitem.810acaee50c651189ca8e410db04ao/

Federal Highway Administration (FHWA)
Pedestrian and Bicycle Safety Team, Office of Safety
Washington, DC
http://safety.fhwa.dot.gov/ped_bike/

SafeKids World-wide
Washington, D.C.
http://www.safekids.org

**HEALTH**

Centers for Disease Control and Prevention (CDC)
Division of Nutrition and Physical Activity
Atlanta, GA
http://www.dcd.gov/nccdphp/dnpa

Centers for Disease Control and Prevention (CDC)
Childhood Injury Prevention
Atlanta, GA
http://www.dcd.gov/ncipc

**ADVOCACY GROUPS**

Alliance for Biking and Walking
http://www.peoplepoweredmovement.org

League of American Bicyclists (LAB)
http://www.bikeleague.org

National Center for Bicycling and Walking (NCBW)
http://www.bikewalk.org

**FUNDING SOURCES**

Transportation Enhancement Activities:
http://www.fhwa.dot.gov/environment/te/

Safe Routes to School Program:
http://safety.fhwa.dot.gov/saferoutes/

Recreational Trails Program:
http://www.fhwa.dot.gov/environment/rectrails/

National Scenic Byways Program:
http://www.bywaysonline.org/

Federal Lands Highway Program:
http://flh.fhwa.dot.gov/
Walking to Kendallvue Elementary in Morrison, Colorado.

Park and Walk

A pre-determined parking lot acts as the meeting area for families who drive and then park and walk the remaining distance to school. Some communities require parents to walk with their children to school while others have designated adult volunteers to walk groups of children from the parking area to school.

Park and walk campaigns have the potential to reduce traffic congestion around a school and encourage physical activity for parents and children. This strategy is especially helpful for including families who live too far from the school to walk or who do not have a safe route to school.

Strategy: Park and walk

**Definition**
Instead of driving to the school, families drive to a remote parking lot and walk the remainder of the trip.

**Advantages**
- Includes families who live too far to walk or have an unsafe route.
- Encourages neighborhood involvement.
- Reduces traffic congestion at the school.

**Considerations**
- Requires identifying a safe route from the parking area to the school.
- Requires working with the parking lots owner.

**Quick steps to a park and walk activity**
1. Locate a parking lot within walking distance of the school. Work with lot owner to allow use.
2. Map a safe route to school from parking area.
3. Recruit volunteers if parents are not required to walk with their children.
4. Promote it.
5. Kick off.
6. Track participation.
7. Make changes to the activity as needed.

Putting It Into Practice: Park and Walk With a Walking School Bus

Arborfield, Newland and Barkham C.E. Junior School, Arborfield, England

In order to ease congestion around Arborfield, Newland and Barkham C.E. Junior School, the school's council established a School Travel Plan in March 2004. The plan includes a walking school bus that leaves from a designated parking area where parent volunteers supervise the children's walk to school.

After the plan was created, organizers asked parents to register their children and also to volunteer to lead the walking
school buses. A local organization gave permission for the school to use its parking lot as the designated area for parents to meet the walking school bus. Children who participated were required to register each day, wear a fluorescent jacket and leave the lot at the predetermined time guided by volunteers.

As an incentive for children, school officials regularly ask special guests—like Santa Claus in December—to join their walks to school. School officials report many benefits of their activities: walking school buses are free of capital costs, and they help ease congestion and pollution. The children enjoy the walk, make new friends and have the opportunity to see things around them that they might miss if they were driven to school.

Source: Arborfield, Newland and Barkham C.E. Junior School; Wokingham District Council.
Why encourage remote drop-off? For students who live too far from school to bike or walk, a remote drop-off program can bridge the gap. It’s an excellent option for students who choose to attend a school that is not near their neighborhood. Participants in this program benefit from increased activity and improved academic readiness and health. The school experiences less congestion and safer perimeters. Remote drop-off programs can start with a few families meeting regularly to walk from a local park and can be expanded and formalized to include maps with meeting locations and times that are available on a school’s website.

Remote drop-off for school buses
Discuss a remote drop-off location with your transportation department. A drop-off location that is a safe distance from campus and has an adult volunteer who walks students all the way to campus allows bus riders to participate in and benefit from walking and biking activities.

Remote drop-off for cars
Busy drop-off and pick-up times are a major concern for most schools as they contribute to student tardiness, safety issues and pollution. Creating a safe and convenient location off school property for parents to drop off and pick up their children can ease the burden of heavy traffic on and around school property.

How do I start a remote drop-off program?
1. Work with community partners to identify appropriate locations and schedules for drop-offs.
2. An ideal location is an easy meeting place for parents that is within a mile of the school and has a safe and accessible route to the school, such as a park, library or church. Consider using the internet to map a route.
3. Work with your community partners to obtain and schedule trusted volunteers to lead the students to campus. If multiple volunteers are present, one can lead a wheeling group while the other leads a walking group.
4. Encourage students to use any method of active transportation they prefer, including bikes, skateboards, scooters, rollerblades and their own two feet.
5. Promote remote drop-off programs through flyers, social media and the school’s website.
6. Encourage volunteers to familiarize themselves with walking and biking safety.

Growing your walking school bus or bicycle train
- Ensure there is easy and accessible parking.
- Verify with the property owner that the space is available for use at desired times.
- Take time on a weekend to sample routes to and from school to find the quickest and safest route.

For more information contact:
Ashley Frederick
Dept. Environmental Health
720-865-5453

Jenna Berman, Bicycle Colorado
303-417-1544x13

*Information provided by: Bicycle Colorado
www.denvergov.org/SRTS
Why develop a walking school bus?

Studies show that fewer children are walking and biking to school, and more children are at risk of becoming overweight. Changing behaviors of children and parents require creative solutions that are safe and fun.

Implementing a walking school bus can be both.

What is a walking school bus?

A walking school bus is a group of children walking to school with one or more adults. If that sounds simple, it is, and that’s part of the beauty of the walking school bus. It can be as informal as two families taking turns walking their children to school to as structured as a route with meeting points, a timetable and a regularly rotated schedule of trained volunteers.

A variation on the walking school bus is the bicycle train, in which adults supervise children riding their bikes to school. The flexibility of the walking school bus makes it appealing to communities of all sizes with varying needs.

Parents often cite safety issues as one of the primary reasons they are reluctant to allow their children to walk to school. Providing adult supervision may help reduce those worries for families who live within walking or bicycling distance to school.

Starting simple

When beginning a walking school bus, remember that the program can always grow. It often makes sense to start with a small bus and see how it works. Pick a single neighborhood that has a group of parents and children who are interested. It’s like a carpool—without the car—with the added benefits of exercise and visits with friends and neighbors. For an informal bus:

1. Invite families who live nearby to walk.
2. Pick a route and take a test walk.
3. Decide how often the group will walk together.
4. Have fun!
Reaching more children

Success with a simple walking school bus or a desire to be more inclusive may inspire a community to build a more structured program. This may include more routes, more days of walking and more children. Such programs require coordination, volunteers and potential attention to other issues, such as safety training and liability. The school principal and administration, law enforcement and other community leaders will likely be involved.

First, determine the amount of interest in a walking school bus program. Contact potential participants and partners:

- Parents and children
- Principal and school officials
- Law enforcement officers
- Other community leaders

Second, identify the route(s).

- The amount of interest will determine the number of walking routes.
- Walk the route(s) without children first.

Third, identify a sufficient number of adults to supervise walkers.

The Centers for Disease Control and Prevention recommend one adult for every six children. If children are age 10 or older, fewer adults may be needed. If children are ages 4 to 6, one adult per three children is recommended.

Next, finalize the logistical details.

- Who will participate?
- How often will the walking school bus operate? Will the bus operate once a week or every day?
- When do children meet the bus? It’s important to allow enough time for the slower pace of children, but also to ensure that everyone arrives at school on time.
- Where will the bus meet children—at each child’s home or at a few meeting spots?
- Will the bus operate after school?
- What training do volunteers need?
- What safety training do children need?

Finally, kick-off the program.

A good time to begin is on International Walk to School Day. Walk and look for ways to encourage more children and families to be involved. Have fun!

For more information about planning and conducting a walking school bus, see http://www.walkingschoolbus.org/resources.html.

When picking a route, answer these four questions:

1. Do you have room to walk? Are there sidewalks and paths? Is there too much traffic?
2. Is it easy to cross the street?
3. Do drivers behave well? Do they yield to walkers? Do they speed?
4. Does the environment feel safe? Are there loose dogs? Is there criminal activity?

Walking Clubs

A walking club is an easy, inexpensive, and fun way to encourage children to walk by keeping track of their mileage and/or minutes and rewarding them for being physically active. A walking club can get students and staff excited about making walking a part of their daily routine. A club can be incorporated into an existing walk or bike to school program, or it can stand alone as an at-school activity club.

How to Start Your Walking Club

• Meet with school administrators, teachers, and parents to identify coordinators that can lead the club. Also, identify existing walking opportunities and consider new programs that could increase walking.
• Decide on the basic rules of the club; when and where children can accrue mileage (walking to/from school, at school, at home, on weekend), what rewards will be given and at what milestone, will the club involve competition between students, classrooms, and/or other schools.
• Create a system for tracking mileage and/or minutes. You can use a spreadsheet, passports, or punch cards to track each child’s mileage and/or minutes.
• Promote the club and plan a kick-off event (consider a walk-a-thon for healthy fundraising as the first event).
• Track and reward participation. Engage local sports businesses to sponsor a club by donating rewards such as water bottles, t-shirts, key chains, or discounts on merchandise.
• Evaluate success and make changes if needed.

Creative Ideas for Your Club

• Morning Mile or Active Afternoon walking clubs -- have volunteers walk a mile around the track with students.
• Build in 10 minutes between classes or before lunch to walk around the school as a class.
• Schedule a weekly walk with the entire school (Walk on Wednesdays), pairing older and younger children together.
• Encourage students to walk during recess.
• Schedule once a week “Walk and Talk with the Principal” (or Mayor, other local leaders).
• Identify the mileage to fun destinations (Walk to Disney World, Walk to the Beach, Walk Across America, etc.).
• Paint animal footprints of the school mascot on sidewalks surrounding the school.
Parent-Organized Bike Train

Washington, DC

Parrie Henderson-O’Keefe was dreading the commute to her children’s school’s new campus: 1.7 miles directly across some of Washington, DC’s most grueling in-bound commuter traffic. Confronting grid-locked southbound intersections could turn what should have been a 10 minute trip by car into a 30 minute nightmare. Then an idea emerged: what about their bicycles? With lanes just wide enough, a line of bicycles could wind its way through traffic and make better time than their minivan. By the first day of school in 2008, she and her four kids along with three members of another family were ready to begin their bike train.

It soon became apparent that beating the traffic wasn’t the only benefit of riding, and more families joined the group. The kids loved riding with their friends and the thought of being left behind was an incentive to getting kids out the door in the morning. Tardy slips among the bike train members plummeted. Kids became more aware of their local geography and grew more independent. The physical activity generated by riding bicycles translated into even more active time outside as kids that rode home togethe begs to continue their time together playing four-square and soccer in the alley. Parents started seeing physical improvements in themselves, relished the time with their kids and no one failed to notice that the gas gauge on the car wasn’t going down so fast.

Why Organize a Bike Train?

- A bike train permits parents extra time in the morning while the kids ride to school with other parents or older students, and social time with friends and neighbors while riding with the bike train
- Allows children the opportunity to work with a “team”
- Gives opportunity to kids to practice their bicycle safety skills under adult supervision
- Reduces traffic congestion during school arrival and departure
- Provides an opportunity to get to know neighbors and build community
- Improves personal safety by adding more eyes and ears on the street
- Most importantly…it’s fun

A bike train is a group of students and adults who bicycle to school together, making stops along a previously designated route to pick up others as they approach the school. While walking school buses (the walking version of a bike train) are great for shorter distances, bike trains allow children who live farther from the school to participate, giving students an outlet for regular physical activity while providing a social opportunity for parents and students to connect outside of school hours. Not to mention they also allow students to hone their bicycle safety skills under adult supervision.

Organizing a bike train can be formal, involving the school community in a program with several bike trains, or informal, with just you and your neighbors riding to school together - just make sure that everyone is having fun!
Tips for Creating a Safe, Fun Bike Train

Map it!

- Work with the school, city and parents to design “recommended routes” for the bike train
- All routes should attempt to:
  - Designate a meeting point to start the train, and indicate the timing of stop points to pick up more riders along the way
  - Utilize quiet, less traveled streets
  - Pass through intersections with safe street crossings
  - Take no longer than 30 minutes to bicycle to school
- Finalize a bike train map that can be distributed widely

Promote the Idea: You can’t have a train without passengers and leaders!

- Present the bike train map and idea to your Parent Teacher Association, principal and teachers
- Let local businesses and community leaders know about the bike train, they might be interested in supporting or sponsoring the program
- Coordinate with local bike shops, teams and clubs to arrange a meet up so they can ride along or use a local shop for a pick-up point
- Talk to neighborhood associations, church groups and any other volunteer groups for additional volunteers or support
- Ask to present the bike train concept to the students in the classroom
- Invite local celebrities to join your bike train

Pick a Start Date and Go for It!

Getting the train running, even if there are only a few participants, is the most important part.

Set Guidelines and Enforce Rules

Creating and maintaining a culture of safety is essential to gain buy-in from parents and the school, as well as to help create a successful and safe trip to school. A few tips to keep things running smooth:

- Set a maximum number of participants per adult to keep riding safely
- Set a minimum age limit (most children can’t accurately judge speed, distance or sound of oncoming traffic without supervision until the age of 10)
- Ensure that all students have received at least basic training in bicycle safety
- Train adults in how to safely operate a bicycle and participate in a bike train
- Provide an adult to lead the front of the train and direct participants
- Provide an adult to sweep at the rear of the train in order to make sure all students stay “aboard”
- Require students to ride single file and keep bicycles at least one bike length apart for emergency stopping
- Communicate with each other and traffic by using hand signals
- Stay to the right, no swerving
- Obey all stop signs and signals

Planting the Seed: Growing a District Wide Program

Tampa Bay, FL

When the Tampa Bay walking school bus and bicycle train program first started in 2008, Jason Jackman contacted 28 schools inside of Hillsborough County Public Schools to gage interest. Of the 28 schools, one school chose to participate: Lawton Chiles Elementary School. While getting the bike train started was a little rocky, eventually word of the program’s success spread throughout the district and now 15 schools are actively participating in the program. In the spring of 2011, after years of approaching schools to start programs, the bike train program has parents approaching program leaders requesting help organizing their own trains at new schools!
• Be prepared for break-downs and flat tires; Carry a tool kit and have a contingency plan
• Every rider needs a properly fitted helmet and a lock to secure their bicycle at school

(For more information on how to ride safely, visit the League of American Bicyclists: Ride Better page)

Regularly review the bike train rules with participants. Prepare and vocalize a plan of action for students that are unable to adhere to the rules.

**Additional Tips**

**Safety**

• First Aid Kit – also be aware of any medical needs students may have (such as asthma)
• Be visible – wear bright clothing, a jacket or vest and all riders should have lights if riding at night
• Carry a phone for emergencies
• Carry the bike train parents’ phone numbers

**Weather Conditions**

• Have a policy for rainy, cold or snowy days. Make sure that all participants know the policy and either dress appropriately for a cold, wet ride or find an alternative way to get to school
• During warmer months, ensure that participants bring water to stay hydrated and dress in clothing that breathes, especially if the trip to school is long

**Cancellation Policy**

Be prepared for possible leader cancellations. Bike train leaders may get sick or just be unable to help certain days. Using a phone tree to notify participants or find alternate leaders is one way to deal with unexpected cancellations. Whatever the policy is, make sure that everyone knows it well.

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**Planting the Seed: Growing a District-Wide Program Portland, OR**

The Portland bike train started as a simple idea of a parent, a bicycle advocate and a few kids riding to school together. From that first trip to school, other parents became interested. Then other schools joined in the fray. From its first trip, with the help of Kiel Johnson, the Portland bike train program has grown to 10 participating schools over the course of the year. A supporting website has emerged that counts trips per school and allows neighboring schools to compete for the Golden Bike Award. Since the fall of 2010, the program has exploded to 18 different bike train routes that ride at least once a week totaling over 2,055 riders since the idea was born.

**Extra Credit**

There are endless ways to make your bike train interesting and exciting to participants, below are just a few creative ideas:

• Start a bike train Facebook group where leaders can share stories, pictures and ideas
• Give train participants blank flags, bike buckets and posters for them to decorate and hang on their bicycles for the ride
• Have ‘get to know you’ and ‘celebration’ parties
• Start contests between different bike trains
• Hold regular bicycle skills courses (bicycle rodeos) for students to hone their skills and compete against one and other
Resources

Walk + Bike ‘School Bus’ Guidebook

Walking School Buses and Bike Trains

Portland Bike Train Website
http://www.biketrainpdx.org/

Guidelines for Bike Train Engineers and Cabooses
http://www.atlantabike.org/sites/default/files/Guidelines%20for%20WaRtS%20Bike%20Trains.pdf

Credits  This Safe Routes to School and bicycling tip sheet series has been generously sponsored by the SRAM Cycling Fund. The mission of the SRAM Cycling Fund is to support committed national advocacy efforts that enhance cycling infrastructure, safety and access. More information can be found at http://www.sramcyclingfund.org.

The mission of the Safe Routes to School National Partnership is to advocate for safe walking and bicycling to and from schools, and in daily life, to improve the health and well-being of America’s children and to foster the creation of livable, sustainable communities. More information can be found at www.saferoutespartnership.org.
Events draw attention to the many benefits of walking and bicycling to school and build support for creating or improving safe routes to school in your community.

Walk or Bike to School Day doesn’t have to be a formal or complicated event. It is simply a day to celebrate bringing community members and children together to show how fun and rewarding it can be to walk and bicycle to school. In fact, it’s possible to plan an entire event in only a week’s time.

Planning a Walk or Bike to School Day event can be simple!
Follow these 7 steps to plan a Walk or Bike to School Day event in 7 days:

1. Get the school’s principal to approve your event.

2. Register the school’s event on www.walkbiketoschool.org to be counted among the millions of International Walk to School and National Bike to School Day participants. Registering your event will also give you access to valuable resources and promotional materials.

3. Invite students and parents to participate in Bike or Walk to School Day. If the school has an e-newsletter or listserv, use those existing communication outlets to announce your event. Visit www.walkbiketoschool.org for posters and fliers that can easily be printed on a home computer.

4. Check the Who’s Biking or Who’s Walking map, www.walkbiketoschool.org, to see if there are other registered events and resources in your state. It’s a quick way to find out what is already happening in your area and to identify a local contact willing to share event tips and information.

5. On the day before your event, make a reminder announcement on the school’s intercom system encouraging students to walk or bicycle to school the next day.

6. Create posters or a banner that will greet students when they arrive at school on the event day. Potential phrases included, “Thanks for walking”, “It’s Bike to School Day”, or “It’s cool to walk to school!”

7. Ask students to list the Top 10 ways they got their parents to walk and bike to school with them, Top 10 reasons to walk and bike to school or Top 10 things that need improvement. Save the students’ lists to get ideas for next year’s event.

learn more at: www.walkbiketoschool.org
Recess & Classroom Walking Programs

Some schools have created programs where students are walking at recess or during classroom instruction time. Several examples are outlined below.

✓ **Davis Drive Elementary, Cary**
  Davis Drive Elementary has an in-school walking program in which every student in the entire school participates.

  Each class is assigned one day on the school track each week. On that day, students walk or run the track for a full 30 minutes. Students receive a dot on their hand for each lap walked and chart their individual progress on their own. This program starts on the first day of school and continues until the last day of school.

✓ **Swift Creek Elementary, Raleigh**
  Swift Creek Elementary is located in a high-traffic area, off of a main road, and not attached to sidewalks near neighboring housing. These conditions prevent the majority of students from the opportunity to walk or bike safely to school.

  The school’s PTA Healthy Lifestyles Committee saw that the students were missing an opportunity to exercise on their way to/from school so they developed an AT school program, "Walking Wednesdays." It is designed to encourage all kids who are interested to participate in spending their entire recess each Wednesday walking around our school’s track.

  Teachers record the number of laps each of their students walk or run, and students earn "walking tokens", which they hang proudly on their backpacks. Individual students earn one walking token for every 10 laps (2 miles) cumulatively walked, and tokens are distributed monthly. The class at the end of the year with the most tokens cumulatively earned will earn a coveted gold trophy. Students can easily calculate how many miles they walked during the school year by counting their earned tokens (10 tokens = 20 miles!).
The PTA Healthy Lifestyles committee collects walking logs from teachers each month, records data in a spreadsheet, calculates tokens earned, then distributes tokens to classrooms for teacher distribution to students. Many staff members have joined in as well.

✓ **The Exploris School, Raleigh**  
A K-8 learning community, The Exploris School draws students from all over the Triangle region, so walking or biking to school is not possible for many students. Nonetheless, all classes take advantage of the school’s downtown location by regularly walking to local businesses, museums and the library. Fourth and fifth graders also participate in The Walking Classroom, an in-school obesity intervention program that promotes health literacy and develops and supports lifelong fitness habits for all students while addressing different learning styles. The method combines academic content and exercise during the regular school day. Twice a week, students listen to educational podcasts related to classroom learning while walking outside for 15-20 minutes.  
(www.thewalkingclassroom.org)
Help prepare children with pedestrian and bicycle safety skills they will need throughout their lives - skills that will also help them be well-rounded, healthy students today. Let's Go NC! offers great flexibility – teach a few lessons to introduce basic concepts or adopt the entire curriculum to get the greatest learning benefit. Teach the pedestrian module or the bicycle module or both.

Let's Go NC! offers turn-key lesson plans for grades K-5 that incorporate two important learning concepts: (1) Children are more likely to apply safe pedestrian and bicycle behaviors when they have the chance to practice them and (2) the core safety messages are integrated with other subjects.

Three reasons to teach Let’s Go NC!

1. It’s effective: A similar pedestrian safety education program played a major role in causing a significant reduction in pedestrian crashes at all times of day.

2. It’s relevant: Each lesson plan lists the applicable standards of learning it addresses. NC State Board of Education requires bus safety education, which is included as one of the lessons for every grade.

Let’s Go NC! addresses the NC Essential Standards and Common Core Standards for teaching kindergarten through fifth grade students in Physical Education, Social Studies, Science, Mathematics, English Language Arts, Arts Education and additional components of Healthful Living. For example, the lessons found in Let's Go NC! meet the Essential Standards for Physical Education by teaching: Motor Skills; Movement Concepts; Health Related Fitness; and Personal and Social Responsibility. Lessons meet the English Language Arts component of the Common Core standards by addressing: Speaking & Listening; Reading: Informational Text; Language; Reading: Literature; and Writing. See the Instructor’s Guide for complete details.

3. It’s ready to teach: Instructor guide, lesson plans, videos for teachers and students, parent tip sheets, checklists, completion certificates and more are all available online.

www.ncdot.gov/bikeped/safetyeducation/letsgonc
### Let's Go Walking! The Pedestrian Lesson Set

The pedestrian lesson set, called *Let's Go Walking!*, targets the five areas of pedestrian safety shown in the table to the right.

Each lesson has a Discussion and Demonstration of Core Concepts (_walk_ ) a Skill-Building Activity (_cycle_ ) and a video to accompany the Lesson Review (_video_ ).

These five areas are the same for each teaching level, but the lessons build in difficulty from one teaching level to the next, requiring greater problem solving and a higher level discussion.

### Lesson Concepts

<table>
<thead>
<tr>
<th>Walking Safely Near Traffic</th>
<th>K-1</th>
<th>2-3</th>
<th>4-5</th>
<th>Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking Safely Near Traffic</td>
<td>🗣️</td>
<td>🗣️</td>
<td>🗣️</td>
<td>🎥</td>
</tr>
<tr>
<td>Crossing Streets Safely</td>
<td>🗣️</td>
<td>🗣️</td>
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<td>🎥</td>
</tr>
<tr>
<td>Crossing Intersections Safely</td>
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<td>🗣️</td>
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<td>🎥</td>
</tr>
<tr>
<td>School Bus Safety</td>
<td>🗣️</td>
<td>🗣️</td>
<td>🗣️</td>
<td>🎥</td>
</tr>
<tr>
<td>Parking Lot Safety</td>
<td>🗣️</td>
<td>🗣️</td>
<td>🗣️</td>
<td>🎥</td>
</tr>
</tbody>
</table>

**Let's Go Biking! The Bicycle Lesson Set**

The bicycle lesson set, called *Let's Go Biking!*, also targets five topic areas for each teaching level; however, due to the cognitive and motor skill developmental differences from kindergarten to fifth grade, the five topic areas include more advanced skills-based lessons as the teaching level increases.

The lessons progress from basic knowledge, healthy living concepts, and safety concepts in the classroom to on-bicycle skill-building activities in a simulated environment outdoors. Early on the focus is more on concepts, but as children progress through grade levels, more time is spent on skills development.

The table to the right lists the bicycle lessons for each grade level.

The lessons for each teaching level include a Discussion and Demonstration that occurs in the classroom (_walk_ ) and hands-on Skill-Building Activities which occur outdoors (_cycle_ ). Some lessons include a video (_video_ ) to complement classroom instruction.

**Lesson Concepts**

<table>
<thead>
<tr>
<th>Gearing Up</th>
<th>K-1</th>
<th>2-3</th>
<th>4-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gearing Up</td>
<td>🚲</td>
<td>🚲</td>
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<tr>
<td>Go By Bike</td>
<td>🚲</td>
<td>🚲</td>
<td>🚲</td>
</tr>
<tr>
<td>Signs, Signals, and Safety</td>
<td>🚲</td>
<td>🚲</td>
<td>🎥</td>
</tr>
<tr>
<td>Bicycling Basics</td>
<td>🚲</td>
<td>🚲</td>
<td>🎥</td>
</tr>
<tr>
<td>Bike Control</td>
<td>🚲</td>
<td>🚲</td>
<td>🎥</td>
</tr>
<tr>
<td>Cooperative Riding</td>
<td>🚲</td>
<td>🚲</td>
<td>🎥</td>
</tr>
<tr>
<td>Basic Traffic Skills</td>
<td>🚲</td>
<td>🚲</td>
<td>🎥</td>
</tr>
</tbody>
</table>

**Let's Go NC!**

www.ncdot.gov/bikeped/safetyeducation/letsgonc
Crossing Guards in Wake County

Each of the 12 municipalities in Wake County handles crossing guards and requests for guards differently. If your principal or administrator supports a request for a crossing guard, contact your municipality. Be certain that your school has a coordinated effort to reach out to your municipality, rather than multiple different people contacting the municipality.

APEX
Police Department: Greg Towell, 919-362-8661, Greg.Towell@apexnc.org

CARY
Police Dept.: Lt. Steve Wilkins, 919-469-4338, steve.wilkins@townofcary.org

FUQUAY-VARINA
Police Dept.: Captain Bob Adams, Traffic Safety Unit, 919-552-1423, radams@fuquay-varina.org
Currently there is not a school crossing guard program. If necessary, the police department can provide extra patrols to review the situation.

GARNER:
Police Dept.: Sergeant Mike McIver, 919-772-8810, ext. 6078, mmciver@garnernc.gov

HOLLY SPRINGS
Police Dept.: Jamie Pereira, 919-567-4703, Jamie.pereira@hollyspringsnc.us
The Holly Springs Police Department currently provides crossing guards. Concerns and questions should be directed to them.

KNIGHTDALE
Police Dept.: Captain Tracy Solomon, Patrol Division, 919-217-2268, tracy.solomon@knightdalenc.gov
Knightdale does not currently have a crossing guard program. Contact the police to express needs and concern about safety.
MORRISVILLE
Police Dept.: Chief of Police Ira Jones, 919-463-1600, ijones@townofmorrisville.org or Patrol Operations Captain Felicia Sykes, 919-463-1602, fsykes@townofmorrisville.org

The department is currently reviewing an application for two additional crossing guards, one for each school.

RALEIGH
Police Dept.: Robert DeLeo, 919-996-2006, Rober.DeLeo@raleighnc.gov or Douglas Taylor, 919-996-1063, Douglas.Taylor@raleighnc.gov

In April 2015, the City Council voted to provide a crossing guard to every elementary and middle school in Raleigh that wants one. As of that time, the City already was funding 27 guards within city limits. Locations are evaluated for need on a case by case basis.

ROLESVILLE
Police Dept.: Chief Bobby Langston, 919-556-7226, bobby.langston@rolesville.nc.gov

WAKE FOREST
The Town of Wake Forest does not have any crossing guards.

WENDELL
Police Dept.: Chief Bill Carter, 919-365-3098
Address complaints to the school so that it may coordinate with the Police Dept.

ZEBULON
Police Dept.: Lt. R. Grossman, 919-823-1911, bgrossman@townofzebulon.org
Crossing guards can be a big asset to a school and community. They can help students cross the street safely and can make parents feel more comfortable letting their children walk to school. At the same time, crossing guards are not the answer for every situation. There are different ways to slow down traffic and motivate drivers to stop for walkers and bicyclists. The purpose of this information brief is to provide guidance for how to determine if a crossing guard is needed, and, if so, how to go about getting one. For communities with no crossing guard program, the second part of the brief is meant to be shared with the person responsible for setting up a crossing guard program. It provides examples of how communities around North Carolina run their programs.

Deciding if a crossing guard is needed

Understanding a school’s current circumstances is the first step. Perhaps the school has students and families who already walk to school and have to cross a busy roadway that feels unsafe. Or maybe the school has students and families who would like to walk to school but concerns about safety keep them in the family vehicle or school bus. Strategies to address road crossing safety include: changes to the physical environment, enforcement of traffic laws, and driver, pedestrian and bicyclist safety education. A crossing guard might very well be an important part of the solution. Transportation professionals, law enforcement officers, parents and school administrators all have perspectives to bring to develop the right approach.
The first step is to find out whether there is already a system in place for assessing safety for students crossing a road. In larger communities there may be a municipal transportation engineer or someone with the school district transportation office who can observe the crossing and offer advice on what options might be available. However, it can be beneficial to get support from others and gather some background information before requesting assistance. There may be demand for help so having this organized approach can help the school be a priority. Regardless of whether there’s a formal process for assessing crossings, bring together the people who can influence walking conditions and people who would like to see improvements at that particular crossing. It’s helpful for the group to know how many students could benefit from the changes so that everyone involved has some context. Parent surveys and walkability checklists (see Resources at end) can be used to gather information if a more formal approach is needed. Transportation professionals may have their own criteria for determining whether a crossing guard or some other strategy might be appropriate. Criteria often include traffic speed, traffic volume, presence of sidewalks, number of students who would benefit and students’ average age. Law enforcement officers can explain how they decide where to enforce speeding and yielding laws.

How to request a crossing guard

At this point, it will be clear whether or not there’s a formal request process through the school, municipality, or law enforcement agency. If no schools in a school district have crossing guards then the next section gives examples of how communities around North Carolina have funded, trained and placed guards.

How communities have set up crossing guard programs

Establishing a crossing guard location and a crossing guard program requires working with partners. The seven questions included here are meant to assist you in thinking through how to get a program started. The information accompanying each question reflects practices by 11 school districts and communities around North Carolina that were interviewed to get an understanding of how their crossing guard programs operate. Communities ranged in population from less than 1,000 to more than 400,000 and are located across the state.

1. What are the functions of a crossing guard?

A crossing guard is an adult responsible for identifying or creating a gap in traffic and assisting walkers and bicyclists in safely crossing a street. In some situations, someone performing traffic control to assist in efficient movement of cars and buses during school arrival or dismissal is also available to cross students. There are a few NC communities where there are very few walkers on an infrequent basis and this is how it is handled. There are also places where teachers or other school staff walk students across a street but are not necessarily posted and serving as crossing guards.

2. Will law enforcement officers serve as crossing guards?

- If available, this is a simple, reliable option. Using law enforcement officers takes away the need to consider how to handle training, recruitment and liability. However, there may not be sufficient resources for this to be an option. There may be competing demands on officer time such that the commitment to crossing guard responsibilities is not feasible. In addition, off-duty officer pay is much higher than an hourly rate for a non-law enforcement guard.

- Recruiting non-law enforcement officers can be a challenge, particularly because of the limited number of hours needed. Four communities specifically mentioned using retired community members.

- Nearly all of the communities interviewed did not use law enforcement officers so the remainder of the questions in this brief assumes that law enforcement officers are not available.
3. Will crossing guards be paid or volunteer?

- In nearly all of the communities interviewed, the person performing crossing guard duties is paid. The remaining one uses a combination of volunteers and paid personnel.

- Volunteer crossing guards obviously offer cost savings and a way for community members to give back to their communities. However, paid crossing guards may be more reliable and easier to retain.

- Liability coverage generally comes from the employer so other strategies will be necessary to insure volunteers. One NC community uses a mix of law enforcement and older adult volunteers. The volunteers are insured through a volunteer service agency.

4. If crossing guards are paid, who funds the position?

- More than half of interviewed communities used municipal/law enforcement funds, almost one-third of communities used school district funds and one used a combination of the two.

5. Who will train the crossing guards?

- The NCDOT Division of Bicycle and Pedestrian Transportation states that: According to the office of the North Carolina Attorney General, school crossing guards may be considered traffic control officers when proper training is provided. Law enforcement agencies responsible for recruiting and training school crossing guards are expected to adhere to the requirements of Statute 20-114.1, which governs traffic control officers.

  **Highlights** (see Statute for exact language)

  - Traffic control officers are required to have three hours of training under law enforcement officer supervision.
  
  - They must wear a uniform or jacket indicating the individual is a traffic-control officer and must possess a valid authorization card issued by law enforcement.

- Training generally includes a mix of on-location field practice and presentation or video. Communities interviewed emphasized that the guards received supervised practice time at their posts.

- Many communities offer annual refresher trainings for existing guards.

6. Who will manage the program?

- The school district or local law enforcement agency generally oversees the program. In a few communities, day to day management and staffing are outsourced to private companies.

- The managing organization recruits, hires, trains, provides equipment and uniforms (typically a stop paddle, high visibility retro-reflective jacket/vest and sometimes high visibility gloves), determines locations, insures and pays the guards.
7. How are crossing guard locations determined?

Communities used four different methods:

1. **Observation:** One-third of interviewed NC communities had staff that would perform a field visit to observe traffic conditions upon request.

2. **Criteria:** One community currently looks at the number of students crossing and the appropriate mix of engineering changes to improve the safety of a crossing. Two communities formerly used criteria including age and number of students crossing, traffic speed, traffic volume, number of traffic gaps per hour. One of these communities is now using the request method (#3, below) and the other experienced funding cuts so no additional guards will be placed (now part of #4, below).

3. **Request:** A few communities provide crossing guards to schools that request them.

4. **Historical reasons:** One-quarter of communities reported that the locations have just always had crossing guards and one additional community does not have funding to expand to new locations and will maintain the crossings currently guarded.

**Conclusion**

The ability for students to safely travel between their homes and schools is a basic necessity for successful learning. Those who take the time to work with others to find the best solutions for their schools and communities provide a valuable service. While it may take time to get all the pieces in place, there is the potential for great impact.

**Resources**


- **Walkability Checklist.** Pedestrian and Bicycle Information Center (ND). Available at http://www.pedbikeinfo.org/data/library/details.cfm?id=12

- **School Crossing Guard Training Program.** North Carolina Department of Transportation (1999). Available at http://www.ncdot.gov/bikeped/about/training/school_crossing_guard/


Bike Parking

Bike parking is an essential element of a Safe Routes to School program. If your school is lacking bike racks or have racks that are inadequate, below is the recommended process to follow:

1. Schools within the WCPSS, contact WCPSS Facilities Department (esharpe@wcpss.net) for a copy of the Facilities Modification Request form. Facilities can also give you a list of approved vendors that can assist you with a proposal for bike racks. Installation of the equipment should always be included in the proposal. All requests must be submitted with a funding source and all requests must be approved through Facilities before any work can be performed on a WCPSS site.

2. Select the type of bike rack preferred and identify the preferred locations at your school. This type information will be required as part of the Facilities Modification Request process. Some racks might require more space than your school has available. Below are some resources on bike parking types and installation requirements:
   - **Safe Routes to School Bicycle Parking Guide**
   - **Bike Parking: Selecting and installing bicycle parking that works**

3. Identify a funding source to purchase the rack(s) and install them. Be creative in your outreach and strategy. Below are a list of funding ideas and grant opportunities:
   - PTA fundraisers
   - Local bike shop sponsorship
   - Local business sponsorship
   - Local Municipality Capital Improvement Projects (CIP)
     - Refer to list of municipal contacts
   - Local Municipality Operating Budget
     - Refer to list of municipal contacts
   - National Center for Safe Routes to School Mini-grants
     - [http://saferoutesinfo.org/program-tools/funding/mini-grants](http://saferoutesinfo.org/program-tools/funding/mini-grants)
   - People for Bikes Community Grant Program
     - [http://www.peopleforbikes.org/pages/grant-guidelines](http://www.peopleforbikes.org/pages/grant-guidelines)
   - Dicks Sporting Goods Charitable Giving
   - Just Ask! Healthy Schools Grants (North Carolina PTA)

Bicycle Helmets: NC DOT’s Bicycle Helmet Initiative:
Getting Results: SRTS Programs That Reduce Speeding and Distracted Driving

Communities initiate Safe Routes to School (SRTS) programs for a variety of reasons, with safety always a primary concern. In an attempt to reduce safety barriers for students to walk and bicycle to school, some programs find that they need to address dangerous driving behavior around schools, such as speeding, not yielding to pedestrians or using a cell phone while driving.

This brief looks at the problem of dangerous driving behaviors, provides an overview of local programs that addressed speed and distraction-related behaviors and quantified their improvements, and outlines steps that local SRTS programs can take to measure impacts of their activities.

What's the Problem?

Unsafe driving behaviors put pedestrians and bicyclists at risk. Research indicates that the probability and severity of a crash taking place are strongly influenced by vehicle speed and driver attention. Speed affects the likelihood that a driver sees a bicyclist or pedestrian, the braking distance required to stop and the seriousness of a pedestrian or bicyclist's injuries if a crash occurs. 1 Distracted driving, which includes driving while talking on the phone, texting or engaging in any non-driving activity, draws driver attention off the road and lengthens reaction time. 2

Mixing speeding or distracted driving with the presence of child pedestrians and bicyclists poses even greater risk because children are often difficult to see due to their size and tendency towards unpredictable behavior. Parents sense that risk, too. According to a 2010 National Center for Safe Routes to School review of over 100,000 parent surveys collected from schools around the United States, fear of traffic speed and traffic safety often impacts whether parents allow their children to walk or bicycle to school.

Fifty-five percent of parents who reported not allowing their children to walk or bicycle to school identified traffic speed as a significant reason in their decision-making process. Forty-eight percent of parents identified intersection and crossing safety as reasons, both of which can be negatively influenced by distracted driving and decreased driver reaction time. 3

<table>
<thead>
<tr>
<th>Location</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brattleboro, VT: Green Street Elementary</td>
<td>Reduced percent of speeding cars from 59% to 21%</td>
</tr>
<tr>
<td>Greenville, NC: C.C. Eppes Middle School</td>
<td>Reduced percent of distracted drivers from 20% to 17%</td>
</tr>
<tr>
<td>Rockville, MD: City of Rockville Schools</td>
<td>Installed 16 cameras in school zones</td>
</tr>
<tr>
<td>Washington, DC: DC Neighborhood Pace Car Program</td>
<td>Obtained 800 signed Pace Car program pledges</td>
</tr>
<tr>
<td>Alexandria, VA: Alexandria Public Schools</td>
<td>Reduced speed limits in two school zones.</td>
</tr>
</tbody>
</table>

Communities Are Making Improvements

There are a number of activities being implemented by SRTS programs as part of efforts to reduce dangerous driving behavior. Activities include installing or upgrading pedestrian and bicycle infrastructure, enforcing speed and distracted driving laws and conducting public information campaigns.

Evaluation and measurement play a critical role in helping programs understand the barriers to students walking and bicycling to school and the outcomes associated with their SRTS activities. The programs on the following pages determined that dangerous driving behaviors were a safety concern, used strategies to address the problem and were able to quantify progress towards their goals. The first two programs directly measured speeding and distracted driving behaviors. The subsequent three programs achieved tangible milestones towards changing these behaviors.
Brattleboro, Vermont: Green Street Elementary

The majority of students attending the Green Street School in downtown Brattleboro live within two miles of the school. In a 2006 baseline survey, parents expressed concern with traffic speed around the school. In response, the Green Street School implemented a comprehensive approach to the issue that involved a marketing campaign, student and parent safety education, encouragement activities and program evaluation. From the outset, the school played a leadership role, identifying a SRTS coordinator and establishing a team of community partners.

The school also used BikeSmart and WalkSmart lesson plans to teach students safe ways to walk and bicycle. Parents took an active role in leading the growth of Green Street's popular walking school buses from three in 2006 to 11 in 2008. The school's SRTS coordinator also worked to educate and encourage Brattleboro's drivers to reduce their speeds through ads in local newspapers. The ads also reminded homeowners to shovel their sidewalks in the winter and trim their hedges in the spring to help keep sidewalks clear for walking. A combination of these efforts helped Green Street Elementary reduce the percentage of speeding cars around the school between 7:00 am and 9:00 am from 59% in 2006 to 21% in 2008. The school received approximately $25,000 in Federal SRTS funding through the Vermont Agency of Transportation in 2006.

Greenville, North Carolina: C.M. Eppes Middle School

C. M. Eppes Middle School, with 550 students, is located in Pitt County, NC. Parents surveyed at a PTA meeting identified a lack of sidewalks, vehicle speed and distracted driving behaviors as concerns for the children walking and bicycling to school. In partnership with Safe Kids USA, the Eastern Carolina Injury Prevention Program and the Pitt County Walk this Way Pedestrian Safety Task Force, the school started a SRTS program that included pedestrian safety education and the use of photography to document unsafe walking conditions.

The SRTS program also participated in a distracted driving research project in which adult volunteers observed distracted driving behavior during student arrival and departure times. In an effort to improve driver behavior, the school installed speed feedback signs, created a neighborhood speed watch program and increased law enforcement before and after school. C.M. Eppes measured a reduction in the percentage of distracted drivers in its school zone from 20% to 17%. These projects were made possible with $20,000 in Federal SRTS funding awarded by the North Carolina Department of Transportation.
**Rockville, Maryland: City of Rockville Schools**

The City of Rockville has a strong Safe Routes to School presence in nearly all of its elementary and middle schools. In addition to education and engineering program elements, such as safety classes for students and sidewalk repairs, the Rockville SRTS program partnered with the Rockville City Police Department to increase enforcement of speeding and failing to yield at crosswalks in school zones. The aim of the program was to improve child pedestrian and bicyclist safety near schools.

Sixteen speed cameras were installed in school walk zones to record drivers’ speeds and in cases of speeding, automatically mail tickets to offenders. In order to further slow traffic, active speed monitors, flashing beacon signs and traffic calming devices were installed. According to Rockville Police, this system reduced traffic volume around schools as local drivers avoided these school zones all together. These improvements were supported with $435,000 in Federal SRTS funding awarded by the Maryland Department of Transportation in 2007.

**Washington, DC: DC Neighborhood Pace Car Program**

The Washington Area Bicyclist Association (WABA) started the DC Neighborhood Pace Car Program in order to reduce speeding and make walking to school safer for DC area children. By signing the Pace Car pledge, parent participants committed to driving the speed limit in neighborhoods and school zones and placed a DC Pace Car sticker on their vehicles, thereby setting the “pace” for a higher standard of safety for themselves and for other drivers.

Beginning as a pilot program and friendly competition among three schools in District Ward 3 that all had traffic and speeding issues, the winning school had over 50% parent participation. Combined, the three schools obtained over 800 DC Pace Car pledges. The program grew to include fifteen actively participating schools. In order to implement their Pace Car program, WABA used $15,000 of their 2006 Federal SRTS funds obtained through the DC Department of Transportation.

**Alexandria, Virginia: Alexandria City Public Schools**

The City of Alexandria is a dense suburb of Washington, DC with more than 128,000 residents living in its 15 square mile area. In 2007, as part of efforts to make walking and bicycling safer for Alexandria’s children, the city allowed participating SRTS schools to request a decrease in school zone speed limits from 20 mph to 15 mph, and two schools took advantage of the opportunity.

This reduction in speed limit accompanied new infrastructure improvements, including the installation of sidewalks, speed tables, and bicycle lanes, in an effort to increase safety. Pedestrian and bicycle safety education have been part of the school district’s curriculum for many years, and annual encouragement activities allow students to earn prizes for walking and bicycling. In addition to funds from the city’s budget, Alexandria received $500,000 in Federal SRTS funding from the Virginia Department of Transportation for infrastructure improvements.
How to Measure Speed and Driver Distraction

Measuring the impacts of SRTS activities can help a local SRTS program evaluate its work, identify needed improvements, pursue additional funding or even market its efforts. For programs that aim to reduce the number of speeding or distracted drivers near the school during arrival and dismissal times, a simple way to gauge impact is to take an initial measurement of the targeted behavior before any strategies are implemented and then repeat the measurement after efforts are underway.

Sometimes it is not possible to directly measure behavior because it is not practical or there are no resources to do so. In these instances, another way to monitor progress is to document interim milestones that will likely influence driver behavior, such as new traffic calming measures.

Naturally, it’s important to consider additional factors that may have contributed to results, like speeding enforcement unrelated to the SRTS program. SRTS programs described on the previous pages used a variety of straightforward methods that condense into three steps:

1. Before taking any action to address dangerous driving, measure the current behavior.

   Speeding can be measured using radar devices or electronic traffic counters, which may be sensors embedded in the roadway or rubber tubes that lie across the roadway. While some law enforcement agencies have community radar lending programs, many do not. Either way, law enforcement will likely be important partners for this kind of measurement. Driver behavior can be measured through observation, such as counting the number of drivers that completely stop at stop signs and the number that yield at crosswalks. Older students can help conduct observations and summarize the results.

2. Conduct activities intended to reduce speeding, driving distracted or another dangerous behavior. The National Center for Safe Routes to School’s SRTS Guide contains a broad range of examples of education, encouragement, enforcement and engineering solutions. Available at: http://guide.saferoutesinfo.org.

3. Repeat the count method used in Step 1 while reduction activities are underway and, if possible, at a logical end-point like the end of a school semester or after the completion of an infrastructure improvement. Compare the measurements and look for differences.

Conclusion

Speeding, distracted driving and other dangerous driver behaviors around schools can adversely impact safety for children walking and bicycling to school and influence parent decisions about how children will get between home and school. As demonstrated by the examples provided in the previous pages, SRTS programs can play a role in reducing dangerous driving near schools. Measuring the targeted behaviors before implementing SRTS activities allows a program to track its progress towards impacting the problem.

For more information on program evaluation, see the SRTS Evaluation Guide at: http://guide.saferoutesinfo.org/evaluation/index.cfm.

For additional SRTS program success stories on a variety of topics, visit: www.saferoutesinfo.org/data-central/success-stories.

3 The National Center for Safe Routes to School (2010). Safe Routes to School Travel Data: A Look at Baseline Results from Parent Surveys and Student Travel Tallies.
Getting Results: SRTS Programs That Reduce Traffic

Communities initiate Safe Routes to School (SRTS) programs for a variety of reasons. In an attempt to reduce the barriers for students to walk and bicycle to school, some programs focus on reducing traffic congestion and the number of cars around schools.

This brief looks at the problem of traffic congestion, provides an overview of local programs that successfully measured traffic reductions and outlines steps that programs can take to measure impacts of their activities.

What’s the Problem?

Heavy vehicle traffic in places with pedestrians and bicyclists increases the chance of a crash, and this increased risk can affect parent decisions on school travel.

According to a 2010 National Center for Safe Routes to School review of over 100,000 parent surveys collected from schools around the United States, the amount of traffic often impacts whether parents allow their children to walk or bicycle to school. Fifty-five percent of parents who reported not allowing their children to walk or bicycle to school identified the number of cars along the route to school as a significant issue in their decision-making process.¹

Communities Are Making Improvements

SRTS programs employ a range of activities in an effort to reduce the number of vehicles near schools. Some activities include establishing remote drop-off sites for private vehicles, promoting walking and bicycling and making improvements to the physical environment for walking and bicycling.

Evaluation and measurement play a critical role in helping programs understand the barriers to students walking and bicycling to school and the outcomes associated with their SRTS activities. The programs described on the following pages determined that the amount of traffic around a school was a safety concern for pedestrians, instituted activities to address that traffic volume and subsequently measured a decrease in the amount of traffic.

<table>
<thead>
<tr>
<th>Location</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpine, UT: Alpine Elementary</td>
<td>Reduction of morning traffic by 59 vehicles</td>
</tr>
<tr>
<td>Boulder, CO: Bear Creek Elementary</td>
<td>36% reduction in traffic near the school</td>
</tr>
<tr>
<td>Atlanta, GA: Oak Grove Elementary</td>
<td>10% reduction in student drop-off traffic at school</td>
</tr>
<tr>
<td>Longmont, CO: Eagle Crest Elementary</td>
<td>40% reduction in traffic, 60% reduction in students arriving to school by car</td>
</tr>
<tr>
<td>Marin County, CA: Marin County Schools</td>
<td>13% reduction in traffic near schools</td>
</tr>
<tr>
<td>Windsor, VT: State Street Elementary</td>
<td>20% reduction in traffic near the school</td>
</tr>
<tr>
<td>Pinehurst, NC: Pinehurst Elementary</td>
<td>22% reduction in traffic on Walking School Bus Days</td>
</tr>
</tbody>
</table>

¹ Source: National Center for Safe Routes to School (2010)
Alpine, Utah: Alpine Elementary
According to a 2008 survey of parents, the amount of traffic around Alpine Elementary was the primary barrier to walking and bicycling to school for the school’s 780 students. While 75 percent of Alpine students lived close enough to walk or bicycle, only 35 percent of students did so. Over two years, the Alpine program successfully encouraged students, parents and the community to walk and bicycle to school.

The program measured initial walk and bicycle rates, surveyed parent perspectives and instituted school-wide encouragement activities, such as Walk to School Wednesdays, Walking School Buses and Bicycle Trains. These activities helped Alpine reduce traffic outside the school each day while increasing the number of average walkers by over 100 students. Funding for these activities came from $70,000 in federal SRTS funds, $7,000 from the city of Alpine and a $1,000 grant from the National Center for Safe Routes to School.

Boulder, Colorado: Bear Creek Elementary
In 2007, two-thirds of Bear Creek Elementary students lived within two miles of the school. Led by a committed team of parent and school leaders, Bear Creek developed a comprehensive SRTS program to encourage more of the students living nearby to walk and bicycle regularly. The Car-Free Commute program combined year-long encouragement activities, like parent-led Walking School Buses, with infrastructure improvements around the school, including sidewalk repair and the installation of a foot bridge.

In just two years of SRTS activities, the school measured a 36 percent reduction in car traffic and an increase from 25 percent to 70 percent of students who walk and bicycle to school daily. Bear Creek Elementary received funding for these activities over several shared SRTS projects from the Colorado Department of Transportation, totaling about $250,000 in SRTS infrastructure and non-infrastructure funding.

Atlanta, Georgia: Oak Grove Elementary
Oak Grove Elementary School is located on a busy road in DeKalb County. With a goal to increase safety for walkers and bicyclists traveling to school, program leaders focused on working with law enforcement and crossing guards to improve safety around their school. Education and encouragement activities, like Walk to School Wednesdays, bicycle and pedestrian safety presentations and organized Walking School Buses, also helped improve safety.

Oak Grove families completed a Walkability and Bikeability Checklist, which resulted in a “heat map” showing issues along the route between student homes and school. This information helped engineers identify upgrades, including crosswalk restriping and pedestrian countdown signals. Over one year, Oak Grove’s SRTS program reduced student drop-off traffic by 10 percent and increased the number of walkers from 18 percent to 28 percent. The program received SRTS funding through the Georgia Department of Transportation in 2009 and 2010.

Longmont, Colorado: Eagle Crest Elementary
In 2008, Eagle Crest Elementary School’s Step Often and Ride to School (SOAR) program surveyed families in order to understand travel patterns to the school. The survey revealed that nearly 75 percent of students arrived at Eagle Crest by car. As a result, SOAR leaders focused on increasing walking and bicycling rates through education and encouragement. Students learned how to walk and bicycle safely, and student leaders promoted health and environmental benefits using a marketing campaign. SOAR also utilized the Boltage system, a solar-powered device that counts walkers and bicyclists wearing a radio frequency identifier tag on their backpacks or helmets. To encourage participation, students that met walk and bicycle milestones were rewarded with small prizes.

One year after the inception of the SOAR program, Eagle Crest measured a 40 percent reduction in motor vehicle traffic and a 60 percent reduction in the number of students driven to school. Funding for the SOAR program at Eagle Crest came from a shared portion of $75,000 in SRTS funding through the Colorado Department of Transportation in 2008.
Marin County, California: Marin County Schools
The Marin County Safe Routes to School program provides an example of the power of policy and local support for funding safe walking and bicycling activities. In 2004, Marin County voters approved a half-cent county sales tax for an increase in transportation funding which guaranteed the county’s SRTS program almost $36 million over the next 20 years. Using this funding, Marin County SRTS reached 49 schools with activities such as safety education, school zone traffic enforcement, adult crossing guards, encouragement activities and infrastructure upgrades, such as pedestrian bridges. Overall, Marin County reported a 13 percent decrease in traffic near schools since the implementation of its SRTS programming.

Windsor, Vermont: State Street Elementary School
State Street Elementary is located in the walkable downtown of Windsor, a community of almost 4,000 located along the Connecticut River. A 2006 survey of parent attitudes towards children walking and bicycling to school showed significant concerns with traffic and student safety. The State Street SRTS program used a variety of strategies to reduce the number of cars around their school, including speed enforcement, safety education for students, encouragement activities, Walking School Buses, and infrastructure upgrades to the sidewalks around the school.

One year into the SRTS program, morning traffic on the main street leading to State Street Elementary decreased by 20 percent, and the percentage of students walking to school doubled from 17 percent to 35 percent on Walking School Bus days. Windsor received $18,000 for non-infrastructure work from the Vermont Agency of Transportation in 2006 and an additional $200,400 SRTS infrastructure award in 2007.

Pinehurst, North Carolina: Pinehurst Elementary
The Pinehurst Walks! program focused on encouraging Pinehurst Elementary’s 650 students to walk and bicycle to school and engaging students as program leaders. The program included a classroom walking competition, and winning classrooms planted a shade tree along the route to school. Pinehurst Walks! also created the Pinehurst Elementary Walking School Bus, which enrolled 250 children in the spring of 2010 and averaged 90 students walking to school each week. These encouragement activities resulted in a 22 percent reduction in traffic volume on Walking School Bus days.

In addition, the Pinehurst student council presented their neighborhood walkability recommendations to Pinehurst's Mayor and Village Council. This presentation led to a $150,000 allocation for a greenway that will connect the elementary school to the Village of Pinehurst. The National Center for Safe Routes to School awarded Pinehurst Walks! an initial $1,000 grant to help with these education and encouragement activities in the spring of 2010.
How to Measure Traffic Volume

Measuring the impacts of SRTS activities can help a local SRTS program evaluate its progress, pursue additional funding or even market its efforts. For programs that aim to reduce the number of vehicles near the school during arrival and dismissal times, a simple way to gauge progress is to take an initial measurement of traffic volume before any strategies are implemented and then take a second measurement of traffic volume after reduction efforts are underway or complete.

Naturally it is important to consider additional factors that may have contributed to the results, like a city-wide campaign to reduce car use or an increase in gas prices. SRTS programs described on the previous pages used a variety of straightforward methods that condense to three steps:

1. Before taking any action to reduce the number of vehicles, measure the traffic volume.

   Measurement can be taken by methods such as hand-counting the number of cars in school drop-off zones or parking lot entrances, or by electronically tracking the number of cars traveling on nearby streets using road tube traffic counters. Students could assist with hand-counting and electronic vehicle counts require engaging law enforcement or municipal departments such as transportation, public works or planning.


3. Repeat the count method used in Step 1 while activities are underway and, if possible, at a logical end-point like the end of a school semester, or after the completion of an infrastructure improvement. Compare the measurements and look for differences.

Conclusion

Heavy vehicle traffic around schools can not only increase safety risks for children walking or bicycling to school, but can also impact parent decisions on school travel. As demonstrated by the examples provided in this brief, SRTS programs and strategies can play a role in reducing vehicle traffic near schools. Measuring traffic volume before implementing SRTS activities allows a program to track progress towards overall program goals.

For more information on program evaluation, see the SRTS Evaluation Guide at: http://guide.saferoutesinfo.org/evaluation/index.cfm.

For additional SRTS program success stories on a variety of topics, visit: www.saferoutesinfo.org/data-central/success-stories.

Costs for Pedestrian and Bicyclist Infrastructure Improvements

Summary of Study
Improving pedestrian and bicycling facilities is recommended for encouraging more physical activity and to prevent chronic diseases. There are many types of facilities available, and cost is a common concern. Costs for pedestrian and bicycle safety infrastructure vary greatly, which complicates decision making in communities. A recent paper and database provide estimates of infrastructure costs from states and cities across the country. A better understanding of pedestrian and bicycle infrastructure costs will hopefully inspire more funding and enhancement of facilities to encourage more people to walk and bike and do so more safely. The table on the following page is a sample of the larger database that provides cost estimates and cost ranges for a variety of pedestrian and bicycle treatments. As costs can vary widely from state to state and site to site, depending on many factors, the cost information should be used only for estimating purposes and not necessarily for determining actual bid prices for a specific infrastructure project.

Methodology
Bid-letting summaries, price indices and targeted searches were used to acquire 1,747 observations of infrastructure costs from 40 states across the US, mostly from Department of Transportation websites. Costs are updated to 2012 US Dollar equivalents, and include labor, materials, mobilization costs and contractor profits. Extreme outliers were eliminated, as well as costs that did not appear to include complete cost information. Treatments were eliminated if they had less than four observations. In total, costs for 77 facilities were identified. The costs are presented with a median and average price, the minimum/maximum cost, the cost unit, and the number of sources (with the number of observations in parentheses). Costs between $10 and $100 are rounded to the nearest dollar, while costs greater than $100 are rounded to the nearest ten dollar unit. As costs were acquired from various sources, they often varied between states and also depending on the quantity purchased. Generally, the costs per unit (square yard, linear foot, each, etc.) variance depended on the size of the order, with larger quantities usually leading to lower per unit costs.

Why Bicycle and Pedestrian Infrastructure is Needed
Recent socio-economic and cultural trends point to higher demands for walkable and bikeable communities, yet many cities still lack adequate facilities for safe walking and biking. Creating a walkable and bikeable community starts with the built environment: having destinations close to each other; siting schools, parks, and public spaces appropriately; allowing mixed-use developments; having sufficient densities to support transit; creating commercial districts that people can access by bicycle, foot and wheelchair; etc. Most walking trips are less than .5 mi (0.8 km), so having a compact environment is essential. Similarly, while half of all household trips are three miles or less, fewer than 2 percent of those trips are made by bicycle.

The connection between land-use planning and transportation planning is critical to safely and effectively accommodate trips by foot and bicycle. Studies have shown that facilities such as separated paths, bike boxes, sidewalks and benches are associated with enhanced safety and/or more active travel. Through the design or redesign of environments to make walking and biking safer or more pleasant, planners and engineers can help people of all ages get the exercise they need to live longer, healthier lives. Additionally, building a new roadway can cost tens of millions of dollars to construct, with many of the pedestrian and bicycle infrastructure projects extremely low-cost in comparison. The infrastructure costs summarized in this document are intended to aide and encourage improvements to the built environment and better accommodate pedestrians and bicyclists.
## Pedestrian and Bicycle Infrastructure Costs in the US: A Sample of Cost Information

<table>
<thead>
<tr>
<th>Infrastructure Facility</th>
<th>Median</th>
<th>Average</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Cost Unit</th>
<th>Number of Sources (Observations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bicycle Locker</td>
<td>$2,140</td>
<td>$2,090</td>
<td>$1,280</td>
<td>$2,680</td>
<td>Each</td>
<td>4 (5)</td>
</tr>
<tr>
<td>Bicycle Lane</td>
<td>$89,470</td>
<td>$133,170</td>
<td>$5,360</td>
<td>$536,680</td>
<td>Mile</td>
<td>6 (6)</td>
</tr>
<tr>
<td>Bicycle Rack</td>
<td>$540</td>
<td>$660</td>
<td>$64</td>
<td>$3,610</td>
<td>Each</td>
<td>19 (21)</td>
</tr>
<tr>
<td>Concrete Sidewalk</td>
<td>$27</td>
<td>$32</td>
<td>$2.09</td>
<td>$410</td>
<td>Linear Foot</td>
<td>46 (164)</td>
</tr>
<tr>
<td>Curb and Gutter</td>
<td>$20</td>
<td>$21</td>
<td>$1.05</td>
<td>$120</td>
<td>Linear Foot</td>
<td>16 (108)</td>
</tr>
<tr>
<td>Curb Extension/Choker/ Bulb-Out</td>
<td>$10,150</td>
<td>$13,000</td>
<td>$1,070</td>
<td>$41,170</td>
<td>Each</td>
<td>19(28)</td>
</tr>
<tr>
<td>Flashing Beacon</td>
<td>$5,170</td>
<td>$10,010</td>
<td>$360</td>
<td>$59,100</td>
<td>Each</td>
<td>16 (25)</td>
</tr>
<tr>
<td>High Visibility Crosswalk</td>
<td>$3,070</td>
<td>$2,540</td>
<td>$600</td>
<td>$5,710</td>
<td>Each</td>
<td>4(4)</td>
</tr>
<tr>
<td>Multi-Use Trail - Paved</td>
<td>$261,000</td>
<td>$481,140</td>
<td>$64,710</td>
<td>$4,288,520</td>
<td>Mile</td>
<td>11 (42)</td>
</tr>
<tr>
<td>Multi-Use Trail - Unpaved</td>
<td>$83,870</td>
<td>$121,390</td>
<td>$29,520</td>
<td>$412,720</td>
<td>Mile</td>
<td>3 (7)</td>
</tr>
<tr>
<td>Pedestrian Crossing</td>
<td>$310</td>
<td>$360</td>
<td>$240</td>
<td>$1,240</td>
<td>Each</td>
<td>4 (6)</td>
</tr>
<tr>
<td>Pedestrian Hybrid Beacon</td>
<td>$51,460</td>
<td>$57,680</td>
<td>$21,440</td>
<td>$128,660</td>
<td>Each</td>
<td>9 (9)</td>
</tr>
<tr>
<td>Pedestrian Rail</td>
<td>$95</td>
<td>$100</td>
<td>$7.20</td>
<td>$690</td>
<td>Linear Foot</td>
<td>29 (83)</td>
</tr>
<tr>
<td>Pedestrian Signal</td>
<td>$980</td>
<td>$1,480</td>
<td>$130</td>
<td>$10,000</td>
<td>Each</td>
<td>22 (33)</td>
</tr>
<tr>
<td>Raised Crosswalk</td>
<td>$7,110</td>
<td>$8,170</td>
<td>$1,290</td>
<td>$30,880</td>
<td>Each</td>
<td>14 (14)</td>
</tr>
<tr>
<td>Rapid Rectangular Flashing Beacon</td>
<td>$14,160</td>
<td>$22,250</td>
<td>$4,520</td>
<td>$52,310</td>
<td>Each</td>
<td>3 (4)</td>
</tr>
<tr>
<td>Signed Bicycle Route</td>
<td>$27,240</td>
<td>$25,070</td>
<td>$5,360</td>
<td>$64,330</td>
<td>Mile</td>
<td>3 (6)</td>
</tr>
<tr>
<td>Speed Bump</td>
<td>$1,670</td>
<td>$1,550</td>
<td>$540</td>
<td>$2,300</td>
<td>Each</td>
<td>4 (4)</td>
</tr>
<tr>
<td>Speed Hump</td>
<td>$2,130</td>
<td>$2,640</td>
<td>$690</td>
<td>$6,860</td>
<td>Each</td>
<td>14 (14)</td>
</tr>
<tr>
<td>Speed Table</td>
<td>$2,090</td>
<td>$2,400</td>
<td>$2,000</td>
<td>$4,180</td>
<td>Each</td>
<td>5 (5)</td>
</tr>
<tr>
<td>Speed Trailer</td>
<td>$9,480</td>
<td>$9,510</td>
<td>$7,000</td>
<td>$12,410</td>
<td>Each</td>
<td>6 (6)</td>
</tr>
<tr>
<td>Stop/Yield Signs</td>
<td>$220</td>
<td>$300</td>
<td>$210</td>
<td>$560</td>
<td>Each</td>
<td>4 (4)</td>
</tr>
<tr>
<td>Streetlight</td>
<td>$3,600</td>
<td>$4,880</td>
<td>$310</td>
<td>$13,900</td>
<td>Each</td>
<td>12 (17)</td>
</tr>
<tr>
<td>Striped Crosswalk</td>
<td>$340</td>
<td>$770</td>
<td>$110</td>
<td>$2,090</td>
<td>Each</td>
<td>8 (8)</td>
</tr>
<tr>
<td>Wheelchair Ramp</td>
<td>$740</td>
<td>$810</td>
<td>$89</td>
<td>$3,600</td>
<td>Each</td>
<td>16 (31)</td>
</tr>
</tbody>
</table>

Definitions of infrastructure types and additional costs available in the full version of the paper. Download the full document at: [www.walkinginfo.org/download/PedBikeCosts.pdf](http://www.walkinginfo.org/download/PedBikeCosts.pdf).

### About the Resource

The paper and database were created by the University of North Carolina at Chapel Hill's Highway Safety Research Center (HSRC). The HSRC has been a leading research institute that has helped shape the field of transportation safety. The Center’s mission is to improve the safety, security, access, and efficiency of all surface transportation modes through a balanced, interdisciplinary program of research, evaluation and information dissemination.

These resources were prepared for the Federal Highway Administration and supported by the Robert Wood Johnson Foundation through its Active Living Research program. For more information on Active Living Research, visit [www.activelivingresearch.org](http://www.activelivingresearch.org).
TRAFFIC CALMING MEASURES - This document illustrates various neighborhood traffic calming treatments, including programs. The treatments are in 5 broad categories, with descriptions of their limitations and the effects of speed on drivers and pedestrians, as well as relative cost.
### EFFECTS OF DIFFERENT TRAFFIC CONTROL DEVICES

<table>
<thead>
<tr>
<th>TYPE OF DEVICE</th>
<th>VOLUMES</th>
<th>SPEEDS</th>
<th>COST*</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rumble Strips</td>
<td>X</td>
<td>$</td>
<td></td>
<td>Noisy</td>
</tr>
<tr>
<td>Speed Hump</td>
<td>X</td>
<td>$</td>
<td></td>
<td>Noisy; can be challenging to construct correctly</td>
</tr>
<tr>
<td>Raised Crosswalk</td>
<td>X</td>
<td>$$$</td>
<td></td>
<td>Noisy; can be challenging to construct correctly</td>
</tr>
<tr>
<td>Raised Intersection</td>
<td>X</td>
<td>$$$</td>
<td></td>
<td>Noisy; expensive, may require drainage changes</td>
</tr>
<tr>
<td>Traffic Circle</td>
<td>X</td>
<td>$$$</td>
<td></td>
<td>May require property taking at corners</td>
</tr>
<tr>
<td>Curb Extension</td>
<td>X</td>
<td>$$$</td>
<td></td>
<td>Protects/delineates parking area; shortens crossings</td>
</tr>
<tr>
<td>Choker</td>
<td>X</td>
<td>$</td>
<td></td>
<td>May pose problems for wide vehicles</td>
</tr>
<tr>
<td>Chicane</td>
<td>X</td>
<td>$</td>
<td></td>
<td>May pose problems for wide vehicles</td>
</tr>
<tr>
<td>Impeller</td>
<td>X</td>
<td>$$$</td>
<td></td>
<td>May pose problems for wide vehicles</td>
</tr>
<tr>
<td>All-Way STOPs</td>
<td>X</td>
<td></td>
<td>$</td>
<td>Tend to become less effective over time</td>
</tr>
<tr>
<td>Diagonal Divertor</td>
<td>X</td>
<td>$</td>
<td></td>
<td>Impacts access, trip lengths, emergency response time</td>
</tr>
<tr>
<td>Semi-Diagonal Diverters</td>
<td>X</td>
<td>$</td>
<td></td>
<td>Impacts access, trip lengths, emergency response time</td>
</tr>
<tr>
<td>Road Closure</td>
<td>X</td>
<td>$$$</td>
<td></td>
<td>Impacts access, trip lengths, emergency response time</td>
</tr>
<tr>
<td>Median Islands</td>
<td>X</td>
<td>$$$</td>
<td></td>
<td>May pose problems for wide vehicles</td>
</tr>
<tr>
<td>On-Street Parking</td>
<td>X</td>
<td>$</td>
<td></td>
<td>May pose a threat to cyclists</td>
</tr>
<tr>
<td>Bicycle Lanes</td>
<td>x</td>
<td>$</td>
<td></td>
<td>Tend to become less effective over time</td>
</tr>
<tr>
<td>Streetscaping</td>
<td>X</td>
<td>$$$</td>
<td></td>
<td>Provides aesthetic and property value benefits</td>
</tr>
<tr>
<td>Street Events</td>
<td>X</td>
<td>$</td>
<td></td>
<td>Raises awareness of street as part of the community</td>
</tr>
<tr>
<td>Enforcement</td>
<td>X</td>
<td>$</td>
<td></td>
<td>Needs to be frequent to be effective, cameras not legal</td>
</tr>
<tr>
<td>Parking Conversion</td>
<td>x</td>
<td>$$$</td>
<td></td>
<td>Raises awareness of street as part of the community</td>
</tr>
<tr>
<td>Unique Signage</td>
<td>X</td>
<td>$</td>
<td></td>
<td>Raises awareness of street as part of the community</td>
</tr>
<tr>
<td>Pacecar &amp; Other Programs</td>
<td>X</td>
<td>$</td>
<td></td>
<td>Effective in raising awareness of residents</td>
</tr>
</tbody>
</table>

*Note: costs may vary substantially depending on location and design

### EFFECTS OF SPEED

- Fatality Risk (%)
- Crash Risk (%)
- Stopping Distance (feet)

**Speed influences how well we see our environment, and it influences the amount of energy, risk of injury, and likelihood of crashes.**

- 10 - 15mph
- 20 - 25mph
- 30 - 35mph
- 40+ mph

Source: NACTO Urban Street Design Guide
Additional Resources in the Online Toolkit

General SRTS Information

- Safe Routes to School Briefing Sheet: Introduction
- The Six E’s of Safe Routes to School
- Involving Students with Disabilities in Safe Routes to School
- Saving Transportation Dollars and Alleviating Parental
- Celebrating Local Successes
- Local Success Stories
- Collecting Data on Safe Routes to School
- Personal Security and Safe Routes to School

Health

- The Learning Connection: What You Need to Know to Ensure Your Kids Are Healthy and Ready to Learn
- North Carolina’s Plan to Address Obesity: Healthy Weight and Healthy Communities 2013-2020 State Plan

Walk/Bike Programs

General

- North Carolina Event Planning Guide for Walk and Bicycle to School Day
- Getting Started: www.walkbiketoschool.org
- Tips for Creating Walking & Bicycling Route Maps
- 50 Event Ideas
- Ways to Participate in Walk or Bike to School Day
- Frequent Walker/Rider Card: Access to these cards is available once you register for a Walk/Bike to School event here
- Mileage Tracking Worksheet
- Mileage Clubs and Contests

Walking

- Get Out & Get Moving: Opportunities to Walk to School Through Remote Drop-off Programs
- The Walking School Bus Program: A Primer and First Steps (7 short training video modules)
- When Kids Can Walk Alone
- Start a School Walking Program
- Planning a Walk to School Day Event
- Pedestrian Safety Resources
Bicycling

✓ Bicycling to School Together: A Bike Train Guide
✓ Planning an Bike to School Day Event
✓ Bicycle Parking, Storage & Security at Schools
✓ Involving Bike Shops in Safe Routes to School

Crossing Guards


Traffic and Speed Reduction

✓ What Communities Can Do To Enforce Laws
✓ The Use of Traffic Calming Near Schools
✓ Pace Car Program (Greensboro, NC)
✓ Reduce School Area Speed Limits
✓ Watch for Me NC
Advocates for Health in Action (AHA) seeks to improve health in Wake County by working with its partners to increase access to healthy foods and physical activity. AHA is a collaborative of more than 75 diverse organizations and community members working together to achieve this mission through a policy, systems and environment change approach using nationally recognized best practices.

www.AdvocatesForHealthInAction.org

Active Routes to School is a North Carolina Safe Routes to School (SRTS) project that represents a partnership between the North Carolina Department of Transportation and the North Carolina Division of Public Health. The goal of the project is to increase the number of elementary and middle school students who are safely walking or bicycling to school. Active Routes to School works with community partners and schools to build awareness, encourage participation, and provide training and support for Safe Routes to School activities and programs.

www.wakegov.com/humanservices/activeroutes

The North Carolina PTA (NCPTA) is the state’s oldest and largest volunteer organization advocating for the education, health, safety and success of all children and youth while building strong families and communities. PTAs across North Carolina impact more than 685,000 children and their families.

www.ncpta.org

The Wake County PTA Council’s mission is to unify, promote and strengthen PTA units in Wake County. The Wake County PTA Council empowers and encourages its members by modeling best practices of a PTA and by collaborating with others. As trustworthy advocates, our impact is evident through our members’ effectiveness in ensuring that all Wake County families are engaged in every child’s success.

www.wakepta.org