

Advancing Safe Walking and Bicycling for Youth

Approaches from the Federal Safe Routes to School Program
that Support Broad Safety Benefits for Youth



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Introduction

Safety for student pedestrians and bicyclists has been at the core of Safe Routes to School since the Federal Program began. The Federal transportation legislation, Safe Affordable Flexible Transportation Equity Act: A Legacy for Users (SAFETEA-LU), passed in August 2005, established the Federal Safe Routes to School (SRTS) Program. The innovative SRTS Program, while small compared to other transportation programs, funded States to support projects to improve safety for walking and biking to school. This Program for kindergarten through grade eight students encourages children and families to travel to and from school using these modes. The National Center for Safe Routes to School (National Center) has served as the clearinghouse for the Federal Program since May 2006.

The report *Creating Healthier Generations, A Look at the 10 Years of the Federal Safe Routes to School Program* (ten-year report),¹ prepared by the National Center, documents that much progress has been made in increasing walking and bicycling to school while improving safety. Using the rich data and case studies made possible by the State SRTS Coordinators and local SRTS practitioners, the ten-year report highlights the many successes of the Federal SRTS Program and examines how the strategies can be applied to the broader benefits of making walking and bicycling safer for all youth.

While celebrating the Program's accomplishments, it is also important to plan for the work that lies ahead. Today, most schoolchildren still do not walk and bicycle to school and in other places children must walk, but do so in unsafe conditions. Broadening the lens further, communities continue to prioritize the movement of vehicles over the safe travel of all road users—whether those are people walking, bicycling, using transit or motor vehicles. There is an urgent need to use the achievements and strategies that have benefited from use in Safe Routes to School programs, to do a better job serving children and youth as they move throughout their communities to parks, friends' homes, sports venues and other places. Many communities agree that children are the heart of their communities' futures and now is the time to take action towards that commitment. Using the findings of the ten-year report with input from the State SRTS Coordinators and participants of the *Roundtable on Safe Routes to School: Ten Years of Progress*, held in October 2015 at the US DOT headquarters, this report offers five ways that SRTS strategies can be used to improve safety beyond the trip to school.

SRTS provides a jumping-off point for broader initiatives that create safe streets for all children and has the opportunity to impact people of all ages walking and biking to many different places. Areas around schools continue to serve as logical starting points both for innovative infrastructure to improve pedestrian and bicyclist safety and for strategies to tackle difficult safety issues and improve connections between destinations while serving a range of community needs.

Highlights from the National Center's Report *Creating Healthier Generations, A Look at the 10 Years of the Federal Safe Routes to School Program*

The SRTS Program began as a \$612 million program—eventually \$1.146 billion through continuing resolutions through June 2012—that required a full-time SRTS Coordinator in every participating State, established a national clearinghouse for SRTS information and did not require a local funding match. In July 2012, new transportation legislation, Moving Ahead for Progress in the 21st Century (MAP-21), no longer provided dedicated funding for the SRTS Program. Instead, SRTS was integrated into a new program called the Transportation Alternatives Program (TAP). Legislation enacted in 2015, Fixing America's Surface Transportation Act (FAST Act), sustained the SRTS eligibility described in MAP-21.

As of March 31, 2015, more than 17,400 schools were expected to benefit from funds announced by State SRTS programs. At least 6.8 million students have been reached by the Program, with more students entering the schools and enjoying the benefits every year. Low-resourced areas have been well served. Among the 8,292 schools that State SRTS Coordinators listed in SRTS project award announcements, 5,674 (68 percent) are classified as Title I schools (low-income schools), which is significantly more than the overall proportion of schools that are Title I (57 percent) in the U.S.

Interest in walking and bicycling to school and SRTS programs continues to grow. The ten-year report cites examples of the ways that SRTS interest is propelling forward. During that time, participation in Walk to School Day broke records each year with 5,034 events held nationwide in 2015.² Bike to School Day started in 2012 with 950 schools and nearly tripled to 2,631 schools in 2015.³ Also at the local level, schools continue to collect and submit trip tally and parent survey data. As of March 2015, 12,384 schools had submitted data. A national examination of these schools' data documented an increase in walking to school. At the State level, the health goals of the SRTS Program continues to broaden, as transportation agencies are forming partnerships with public health agencies to advance active travel to school.



Important safety benefits have been identified in the past ten years as well. Given the extended period of time that SRTS programs have been in operation, researchers and practitioners are now able to demonstrate its significant safety effects. For example, Miami-Dade County's WalkSafe Program in Florida has contributed to a 60 percent decrease in child pedestrian injuries and a 25 percent decrease in child pedestrian fatalities over a 15 year period. Similarly, SRTS-funded infrastructure contributed to a 44 percent reduction in the number of child pedestrian injuries in New York City⁴, and a 43 percent reduction in child pedestrian and bicyclist injury in Texas.⁵ And in a study involving 75 schools in California, researchers estimated a 73 percent reduction in pedestrian and bicyclist crashes among all age groups within 200 feet of new pedestrian and/or bicycle infrastructure.⁶ Along with the expected benefits of improved safety and increased numbers of students walking and bicycling to school, the report uncovered broader benefits such as reduced transportation costs, more connectivity within communities, and how SRTS could serve as a tool to help combat truancy, to improve readiness to learn, and enhance community life.

Roundtable on Safe Routes to School: Ten Years of Progress

Together with the US Department of Transportation Federal Highway Administration, Office of the Secretary and National Highway Traffic Safety Administration, the National Center invited participants to celebrate the accomplishments of the Federal SRTS Program, as well as to examine what has been learned, and future activities to promote safety. On October 27, 2015, a diverse group of more than 40 transportation and public health professionals and advocates convened at the U.S. Department of Transportation Headquarters in Washington, D.C.

This was the third SRTS roundtable organized by the National Center. The first occurred in 2010, when transportation professionals, SRTS practitioners and researchers discussed ways of evaluating the SRTS Program's impact on physical activity and child pedestrian and bicyclist safety. At the second roundtable discussion in 2013, transportation and health professionals and advocates examined the contributions that SRTS had made, and could continue to make, to advancing active transportation as part of reaching health goals.

Throughout this third SRTS roundtable, participants explored ways in which the successes of the SRTS Program might inform a Vision Zero for Youth concept. Because "Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all,"⁷ the Safe Routes to School Program's emphasis on safety for child pedestrians and bicyclists offers an opportunity to make substantial contributions to Vision Zero plans, and any plans that are meant to impact child and youth pedestrian and bicyclist safety can benefit from the progress of the SRTS Program.

Representatives from the following organizations participated in the roundtable:

Alliance for a Healthier Generation	Miami-Dade Metropolitan Planning Organization
Alliance for Biking and Walking	NHTSA, Safety Countermeasures Division
American Association of Retired Persons	National Organizations for Youth Safety
American Occupational Therapy Association	National Recreation and Park Association
American Planning Association	Pedestrian and Bicycle Information Center
American Public Health Association	Rails-to-Trails Conservancy
CDC, National Center for Environmental Health	Safe Kids Worldwide
Columbia University	Safe Routes to School National Partnership
FHWA, DC Division	Schwinn/Pacific Cycle
FHWA, Office of Legislative Affairs	Toole Design Group
FHWA, Office of Safety	UC Berkeley, SafeTrec
FHWA, Office of Planning, Environment, and Realty	US DOT, Office of the Secretary
FIA Foundation	US DOT, Office of Safety, Energy, and Environment
Governors Highway Safety Association	Virginia Department of Transportation
Institute of Transportation Engineers	Vision Zero Network
League of American Bicyclists	WalkSafe Program
Let's Move!	World Bank Group, Global Road Safety Facility

See the full list of representatives of the organizations in the Acknowledgements. The National Center had already established relationships with many of these organizations as members of its National Review Group.

Advancing Safe Walking and Bicycling for Youth

As Safe Routes to School programs continue to increase safe walking, improve safety and offer a variety of other benefits, there's an opportunity to expand these gains beyond the trip to school. The following section discusses five ways in which SRTS successes, and the strategies and tools used to attain these successes, can serve as a logical starting point and play a crucial role in improving safety for youth on every trip, to every destination.

1. SRTS provides a logical starting point for innovative infrastructure to improve driver and pedestrian safety behavior at crossings.
2. SRTS programs create opportunities to try behaviors and inspire community-wide change.
3. SRTS initiatives serve as starting point for using bold ideas to tackle difficult safety issues like speeding.
4. SRTS creates safe networks for walking and bicycling.
5. SRTS attracts a robust base of support by promoting broader community benefits.



SRTS provides a logical starting point for innovative infrastructure to improve driver and pedestrian safety behavior at crossings

The SRTS Program was set up with one full-time State Coordinator with dedicated funding to spend on infrastructure and with funding provided to the National Center to develop technical resources including a comprehensive SRTS Guide and companion SRTS National Course. In part because of these assets, the Program became a natural laboratory for installing and examining innovative countermeasures with proven or expected safety benefits. The technical resources provided information and training about engineering countermeasures that improve the safety of child pedestrian and bicyclists as they cross roadways.¹

Areas near schools are logical places to begin addressing safety issues because making safety improvements near schools enhances the safety of vulnerable road users like children, as well as others who travel using school routes. Working closely with communities and schools, State SRTS Coordinators and their partners implement many of the recommended countermeasures, including high visibility crosswalks, raised median islands, raised crosswalks, and rectangular rapid flashing beacons, as well as the restriction of car parking at intersections. As these countermeasures spread throughout towns and cities, greater numbers of children and their families will feel safe and comfortable crossing roadways in more and more places. (See the *Safe Crossings* section in **Table 1**, the *Countermeasures for Pedestrian and Bicyclist Safety* on the next page for more information on the innovative infrastructure that SRTS programs have implemented to improve driver and pedestrian safety behavior at crossings.)

Recommendations:

- Consider engineering treatments outlined in Table 1 for school zones that need to improve crossings.
- Examine for opportunities to use these treatments in non-school settings that experience the same safety needs.

Countermeasures for Pedestrian and Bicyclist Safety

Table 1 displays pedestrian and bicyclist safety countermeasures that are recommended in the SRTS Guide,⁸ many of which have been implemented in SRTS projects. The countermeasures are grouped according to whether the reported safety benefits of the countermeasure come from crash-based or behavioral-based studies, or if there is no current supporting research but there is an expected safety relationship. Research by Zegeer (2013)⁹ and the National Center for Safe Routes to School informed the content and layout of this table.



Table 1. Countermeasures for Pedestrian and Bicyclist Safety

	Crash Related Effect	Behavior or Speed Relationship	Expected Safety Relationship	Support Activities
Safe Crossings				
Raised crosswalk		●		
Flashing beacon		●		
Marked crosswalk	■			
Curb extensions		●		
Intersection median barrier			◆	
Intersection lighting	■			
High visibility crosswalk	■			
Raised intersection		●		
Advance stop/yield lines		●		
Signal timing and phasing	■			
Pedestrian hybrid beacon	■			
Rectangular rapid flashing beacon	■			
Parking restrictions (daylighting)		●		
Raised median island	■			
In-pavement flashing lights	■			
Corner radii reduction			◆	
Reduce number of lanes	■			
Reduce number of driveways			◆	
One-way vs. 2-way street	■			
Right-turn slip lane			◆	
On-street parking		●		
Restricted right turn on red	■			
Traffic signal	■			
Pedestrian signal (e.g., countdown timers)	■			
In-street warning sign		●		
Zig zag marking		●		
ADA enhancements (e.g., curb ramps)			◆	
Colored bicycle crossing		●		
Advance stop lines (bike boxes)		●		
Raised intersection	■			
Merge and weave area design	■			
Path intersection treatments			◆	
Intersection warning treatments			◆	
Bike-activated signal			◆	

Table 1. Countermeasures for Pedestrian and Bicyclist Safety (continued)

Speed Reduction	Crash Related Effect	Behavior or Speed Relationship	Expected Safety Relationship	Support Activities
Narrow lanes		●		
Mini circle		●		
Chicane		●		
Speed hump		●		
Choker		●		
Speed table		●		
Roundabout	■			
Neighborhood slow zone		●		
Speed-sensitive traffic signal		●		
Zig-zag marking		●		
Road diet	■			
Regulatory school zone signs with flashers		●		
Shared lane markings		●		
Contra-flow bike lane		●		

Safe Networks	Crash Related Effect	Behavior or Speed Relationship	Expected Safety Relationship	Support Activities
Transit stop	■			
Roadway lighting	■			
Pedestrian overpass	■			
Pedestrian underpass	■			
Bicycle lane			◆	
Buffer between sidewalk and travel lane			◆	
Bike lanes at intersection	■			
Separate shared-use path	■			
Bike parking			◆	
Overhead lighting	■			
Separated multi-lane path			◆	
Connected street network			◆	
Paved shoulder	■			
Sidewalk and walkway	■			

Education and Enforcement	Crash Related Effect	Behavior or Speed Relationship	Expected Safety Relationship	Support Activities
Pedestrian and bicycle skills practice			◆	
Adult crossing guards			◆	
Speed trailer			◆	
Photo enforcement	■			
Progressive ticketing	■			
School zone speed enforcement	■			
Pedestrian decoy	■			
Walking school bus			◆	
Walk/bike to school day				▲
Walking audit/walkability checklist				▲
Observation				▲
Promotional campaign				▲
Safety presentation or other education without skills practice				▲

School Specific	Crash Related Effect	Behavior or Speed Relationship	Expected Safety Relationship	Support Activities
School zone pavement markings			◆	
School zone signing			◆	
School zone high-visibility crosswalk	■			
Number and type of driveways			◆	
Color-coded striping to indicate child loading/unloading			◆	
Signing or pavement marking for drop off circulation			◆	
Queuing lane for private vehicles			◆	
Waiting area/stand back line			◆	



SRTS programs create opportunities to try behaviors and inspire community-wide change

One of the most powerful elements of SRTS is its ability to encourage students and their families, and entire schools to try out—or revisit—traveling around their communities on foot or by bike. In fact, more often than not, Walk and Bike to School Days lead to policy or engineering changes² and walking and biking rates bump up weeks after an event day.¹⁰ Additionally, pedestrian¹¹ and bicycle¹² safety skills teaching and practice can often start right away, reaching all children, not just those who walk or bike to school. And children can apply safety lessons with them no matter when and where they walk or bike. On the national level, the National Highway Traffic Safety Administration (NHTSA) has developed curricula to teach children pedestrian and bicycle safety skills through classroom exercises and skills practice. NHTSA's programs have inspired states like North Carolina and the District of Columbia, as well as regions like Miami-Dade County, Florida to develop their own pedestrian and bicycle safety curricula, including: the North Carolina Department of Transportation's *Let's Go NC!*¹³ curriculum; the University of Miami's *WalkSafe*¹⁴ and *BikeSafe*¹⁵ programs; and the District of Columbia Public Schools' initiative to teach all second graders to ride a bike as part of their school experience.¹⁶

Walking school buses where children walk together to school with adult supervision, encourages parents to allow their children to walk to school and offers children an opportunity to practice pedestrian safety skills while under the guidance of adults. In these and many other ways, SRTS programs continue to inspire children and their families to develop lifestyles that incorporate pedestrian and bicycle safety habits. (See the *Education and Enforcement* section in **Table 1** for more information on specific strategies SRTS programs have used to inspire community-wide change.)

Recommendations:

- Hold annual or one-time events to give communities a way to “try out” walking and bicycling.
- Kick-start programs using educational and encouragement-based strategies that can begin quickly.
- Incorporate walkability and bike-ability checklists or audits into promotional events toward developing plans to improve the environment for safe walking and bicycling.
- Consider using a walking school bus to encourage parents to allow their children to walk to school and to provide additional safety through adult supervision.

SRTS strategies serve as a starting point for using bold ideas to tackle difficult safety issues like speeding

In many cases addressing complex issues like speeding can prove socially and politically difficult. Many highway safety initiatives start with addressing children's safety because focusing on children is widely supported. Child pedestrians and bicyclists, because of their developing physical and mental abilities, require strategies that provide maximum protection. And addressing difficult traffic issues like speeding is critical to protecting children and youth. A driver may not think going 10 mph over the speed limit will be noticeably less safe, but just a 10 mph difference in speed greatly influences whether a pedestrian lives or dies when struck by a car.



Over the past 10 years, areas around schools have served as spaces to begin conversations about managing traffic speeds and raising awareness of the safety risks involved in speeding. In a number of communities, the installation of road diets—which provide space for bicyclists and pedestrians, reduce road user crashes, and reduce speeding—started in school zones. Moreover, innovative programs that combine education and enforcement campaigns such as North Carolina Department of Transportation's *Watch for Me NC*¹⁷ program show that areas that receive enhanced enforcement can significantly increase rates of drivers yielding to pedestrians at crossings. (See the *Speed Reduction* section in **Table 1** for more information on ways in which SRTS programs have addressed speeding.)

Recommendations:

- Consider engineering treatments outlined in Table 1 for school zones that need to reduce speeds.
- Examine for opportunities to use these treatments in non-school settings that experience the same safety needs.
- Use speed reduction successes in and around schools to garner support for larger community speed reduction initiatives.

SRTS creates safe networks for walking and bicycling

State SRTS Coordinators and local SRTS organizers report that SRTS-funded infrastructure projects often connect children and their families to schools and a number of other community destinations. These projects expand the usability of walking and bicycling networks by providing community members with safe access to essential services such as jobs, medical care, groceries, and other essential services. For example, the City of Meridian, MS worked with the school district and the community to implement a road diet on one of the routes and make room for new sidewalks. The city also installed crosswalks and pedestrian signage throughout the project area. The changes not only improved the safety of routes to school, they also created a safer, more direct route to the Boys and Girls Club where 200 students attended an after school program, as well as to several community services for residents, including businesses, churches and the post office.¹ By playing an important role in creating safe networks for walking and bicycling to school, SRTS projects often enhance community life for everyone. (See the *Safe Networks* section in **Table 1** for more information on countermeasures SRTS programs have used to create safe networks for walking and bicycling.)

Recommendations:

- Consider providing networks that link school zones with other destinations and community services.
- Use school zone networks to bridge support for larger community networks.
- When seeking approval for an engineering improvement, describe the full range of destinations and people that would be served.

SRTS attracts a robust base of support by listening to community priorities and promoting broader community benefits



SRTS programs bring together diverse people around a common cause: to improve the safety, health, and well-being of all children and their families. They have helped improve local air quality; increase children and families' physical activity levels; improve students' academic achievement and reduce the number of days they are absent from school; reduce school transportation costs; and address the presence of street crime and violence in communities.¹ Non-traditional partners have also seen how the goals and outcomes of Safe Routes to School interlace with their goals, such as heritage societies that see an opportunity to promote the history of their communities by promoting walking and walkability or EMS departments that want to develop and practice evacuation routes. It seems that when people perceive the broad benefits of SRTS programs, they are more likely to get involved and to inspire others to take action. A large base of partners strengthens support for safety priorities when stakeholders share a vision. With SRTS programs, often times the rallying vision has been a desire to build a sense of community.

Recommendations:

- Consider how pedestrian and bicycle safety programs and improvements can help address larger community goals.
- Use SRTS initiatives to bridge support for larger community goals.

Reflecting Back and Looking Forward

The Federal SRTS Program has accomplished much over the past 10 years. SRTS practitioners and stakeholders have shown how SRTS strategies can act as tools for community-wide change. These tools have improved the safety and comfort of street crossings and have helped to reduce speeding near schools and across communities. SRTS projects have also helped to establish cohesive street networks, connectivity, and access to essential services. SRTS programs have extended the benefits of SRTS beyond safety and serve as a beacon for initiatives that enhance safety and community life for everyone.



Moving forward, the National Center and its partners will take strategies from SRTS and apply them toward building communities where all children can walk or bike safely to all destinations. It's important to both celebrate the SRTS program's successes and recognize that the job of creating safe and vibrant communities for children is not yet complete. Political, economic, and social realities will present us with barriers to progress. We can overcome these barriers by working together using the five strategies outlined in this document to advance a shared vision where safe, secure, and comfortable travel by foot or bike is made possible for children of all backgrounds and in all places.

Acknowledgments

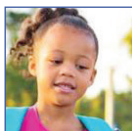
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References

- ¹ National Center for Safe Routes to School (National Center). (2015, September). *Creating Healthier Generations. A Look at the 10 years of the Federal Safe Routes to School Program*. Retrieved from http://saferoutesinfo.org/sites/default/files/SRTS_10YearReport_Final.pdf.
- ² National Center. (2015). *Walk to School Day 2015: 19th Year of Record Breaking Participation*. Retrieved from http://walkbiketoschool.org/sites/default/files/WTSD_Report_2015_final.pdf.
- ³ National Center. (2015). *Shifting into High Gear: Bike to School Day 2015*. Retrieved from http://walkbiketoschool.org/sites/default/files/BTSD_Report_2015_Final.pdf.
- ⁴ DiMaggio, C., & Li, G. (2013). Effectiveness of a Safe Routes to School Program in Preventing School-Aged Pedestrian Injury. *Pediatrics*, 131(2), 290-296. doi:10.1542/peds.2012-2182.
- ⁵ DiMaggio, C., Brady, J., & Li, G. (2015). Association of the Safe Routes to School Program with School-Age Pedestrian and Bicyclist Injury Risk in Texas. *Injury Epidemiology*, 2, 1-8. doi:10.1186/s40621-015-0038-3.
- ⁶ Ragland, D. R., Pande, S., Bigham, J., & Cooper, J. F. (2014). *Examining Long-Term Impact of California Safe Routes to School Program: Ten Years Later*. Paper presented at the 93rd annual TRB meeting, 2464, 86-92. doi:10.3141/2464-11.
- ⁷ Vision Zero Network. (n.d.). *What is Vision Zero?* Retrieved from <http://visionzeronetwork.org/what-is-vision-zero/>.
- ⁸ Pedestrian and Bicycle Information Center (2015, July). *SRTS Guide*. Retrieved from <http://guide.saferoutesinfo.org/>.
- ⁹ Zegeer, C. (2013, June). *Evidence Base Associated with Safety Effects of Roadway Features for Pedestrians*. Retrieved from http://www.pedbikeinfo.org/pdf/Zegeer_EvidenceBaseRoadwayFeatures_2013.pdf.
- ¹⁰ Buckley, A., Lowry, M., Brown, H., & Barton, B. (2013). Evaluating Safe Routes to School Events that Designate Days for Walking and Bicycling. *Transport Policy*, 30, 294-300. doi:10.1016/j.tranpol.2013.09.021.
- ¹¹ National Highway Traffic Safety Administration. (NHTSA). (n.d.). *Child Pedestrian Safety Curriculum*. Retrieved from <http://www.nhtsa.gov/ChildPedestrianSafetyCurriculum>.
- ¹² NHTSA. (2014, March). *Bikeology*. Retrieved from <http://www.shapeamerica.org/publications/resources/teachingtools/qualitytype/upload/bikeology-curriculum-part1-v2.pdf>.
- ¹³ North Carolina Department of Transportation. (n.d.). *Let's Go NC! A Pedestrian and Bicycle Safety Skills Program for Healthy, Active Children*. Retrieved from <http://www.ncdot.gov/bikeped/safetyeducation/letsgonc/>.
- ¹⁴ University of Miami. (2015). *WalkSafe*. Retrieved from <http://kidzneurosciencecenter.com/walksafe/>.
- ¹⁵ University of Miami. (2015). *BikeSafe*. Retrieved from <http://kidzneurosciencecenter.com/bikesafe/>.
- ¹⁶ Alison Chandler, M. (2015, September 23). All D.C. Public School Students will Learn to Ride a Bike in Second Grade. *The Washington Post*. Retrieved from https://www.washingtonpost.com/local/education/all-dc-public-schools-students-will-learn-to-ride-a-bike-in-second-grade/2015/09/23/22a0b356-6203-11e5-b38e-06883aacba64_story.html.
- ¹⁷ UNC Highway Safety Research Center. (n.d.). *Watch for Me NC: A Statewide Pedestrian and Bicycle Safety Campaign*. Retrieved from <http://watchformenc.org/>.

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