

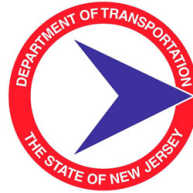
New Jersey School Zone Design Guide



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Prepared for:

The New Jersey
Department of Transportation



Prepared by:

The RBA Group



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Disclaimer

This Design Guide has been prepared to provide information on engineering measures and treatments that can be utilized to enhance pedestrian and bicyclist accommodations to, from and around schools. This publication does not constitute a standard, specification, or regulation, and is not intended as a comprehensive reference for all aspects of student pedestrian and bicycle safety.

The inclusion of measures in this report should not be considered as justification for their inclusion at any specific location. Their application, as with any traffic control devices, is dependent upon site-specific conditions and engineering judgment.

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Chapter 1: Introduction and Overview



The NJ School Zone Design Guide provides guidance for the community of people, government and schools involved in the effort to enable and encourage children, including those with disabilities, to walk and bicycle to school.

Purpose of the NJ School Zone Design Guide

This Guide is intended to be used as a resource for school boards, school administration, police, parents and engineers to advance the goals of the NJ Safe Routes to School (SRTS) Program.

The focus of the Design Guide is on engineering measures that can be utilized to make the environment to, from and around schools a place where children and their parents feel safe and want to walk and bicycle. Engineering measures include physical improvements to the transportation infrastructure in the vicinity of the school and on school property that are intended to improve access and safety for travel by walking and bicycling and minimize conflicts with motorized traffic. They are typically designed to address specific problems or needs that have been identified and can range from simple sidewalk replacement/repair to more complex traffic calming devices, such as roundabouts or speed humps.

The inclusion of engineering measures in this guide does not necessarily mean they should be included in every school zone. Their application, as with any traffic control devices or design elements, is dependent upon site-specific conditions and engineering judgment.

The Design Guide is based on:

- the Federal Highway Administration's 2009 *Manual on Uniform Traffic Control Devices* (MUTCD),
- the American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities*,
- AASHTO *Guide for the Planning, Design, and Operation of Pedestrian Facilities*,
- National Center for Safe Routes to School Online Guide, and
- the National Center for Safe Routes to School and the Institute of Transportation Engineers (ITE) *SRTS Briefing Sheets*.

Safe Routes to School (SRTS)

The goals of the SRTS Program are to encourage more students to walk and bike to school where it is safe to do so and to improve the areas where it is not safe.



Students crossing in Ridgewood, NJ.
Image: The RBA Group

Health, Safety and Transportation

Building an environment that supports children's ability to walk or bicycle to school safely achieves a wide range of benefits for students, the school and the community. These benefits include reduced traffic in the vicinity of schools, improved air quality, creation of safer, calmer streets and neighborhoods, and increased physical activity among students and families, contributing to healthier lifestyles.

Today, fewer children are walking and bicycling to school, and more children are at risk of becoming overweight and obese than children 30 years ago. The U.S. Department of Health and Human Services recommends that children engage in 60 minutes or more of physical activity each day and that the bulk of this physical activity comes through aerobic exercise. By walking or bicycling to school, children can easily incorporate exercise into their day and increase their overall physical activity. Children who walk one mile to and from school each day get approximately two-thirds of the recommended level of sixty minutes of physical activity a day. Plus, research shows that children who walk to school have higher levels of physical activity throughout the day and are more likely to get the full sixty minutes of activity in a day.

Not only does regular physical activity reduce obesity, it also helps build and maintain healthy bones and muscles, reduces feelings of depression and anxiety and promotes psychological well-being. Furthermore, research shows that active children tend to have better academic achievement, enhanced concentration, and better classroom behavior.¹

Many children do not currently walk or bike to school due to safety concerns. This guide is intended to assist communities in identifying and developing solutions to those safety concerns. Proper design and focus on the school zone through the SRTS program can lead to a decrease in the number of pediatric pedestrian injuries for school-aged children. A safety analysis by the California Department of Transportation estimates that the safety benefit of SRTS included up to a 49 percent decrease in the childhood bicycle and pedestrian collision rates.² In NJ, the SRTS program is centered around a comprehensive 5E approach to ensure that school zones are not only designed to be self-enforcing but that children are also given the proper educational tools to cultivate their pedestrian and bicycling skill sets in order to help them eventually navigate the way to school on their own.

The 5 Es

The SRTS Program is organized around five complementary strategies known as the five Es. They are:

1. **Engineering:** Making the environment safer for walking and bicycling
2. **Encouragement:** Encouraging kids to walk and bike to school more often
3. **Education:** Teaching kids and parents safe ways to walk and bike
4. **Enforcement:** Changing driver, walker and bicyclist behavior as they travel together along the road
5. **Evaluation:** Checking to see how many kids are walking and biking as a result of the program or how conditions have improved

Projects that incorporate all five Es are likely to be more effective and sustainable.

¹ Centers for Disease Control and Prevention, "Health and Academic Achievement" (05/2014). www.cdc.gov/healthyyouth/health_and_academics/pdf/health-academic-achievement.pdf
² Marla Orenstein, Nicolas Gutierrez, Thomas Rice, Jill Cooper, and David Ragland, "Safe Routes to School Safety and Mobility Analysis" (April 1, 2007). UC Berkeley Traffic Safety Center. Paper UCB-TSC-RR-2007-1

NJ SRTS Overview

History of the NJ SRTS Program

In 2003, the New Jersey Department of Transportation's Office of Bicycle and Pedestrian Programs utilized on-call consultant support and a statewide Technical Advisory Committee to develop a SRTS Program. In 2004, NJDOT launched a series of SRTS pilot demonstration programs in varied community settings around the state. At the same time, the Department initiated the Safe Streets to School Program and in 2006, awarded approximately \$5 million in state funds to 60 infrastructure projects to improve safety around schools.

Safe Routes to School was established as a federal program under the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) in 2005. The NJDOT designated a full-time SRTS Coordinator, developed its first SRTS Strategic Plan and initiated a competitive grant program to fund local and statewide engineering, enforcement, education and encouragement projects to enable elementary school children to walk and bike to school safely.

In 2012, Congress passed a new transportation bill: Moving Ahead for Progress in the 21st Century (MAP-21). Under this legislation, SRTS has been combined with two other programs (Transportation Enhancements and Recreational Trails) under the Transportation Alternatives Program. NJDOT has elected to continue SRTS as a standalone federal-aid program. It is currently

administered by the NJDOT, in partnership with the North Jersey Transportation Planning Authority (NJTPA), the Delaware Valley Regional Planning Commission (DVRPC) and the South Jersey Transportation Planning Organization (SJTPO).

As of October 2014, NJDOT has awarded more than \$19 million in federal SRTS funds to 129 projects at 212 schools in 98 communities across New Jersey. Another \$5 million has supported these local projects with statewide programs. More rounds of infrastructure grants and educational programs are planned to fulfill the goals of the Safe Routes to School Program.

How does the NJ SRTS Program work today?

The overall SRTS program is overseen by the SRTS Coordinator in the NJDOT's Office of Bicycle and Pedestrian Programs. The SRTS Coordinator is responsible for monitoring all aspects of the program. This includes managing the non-infrastructure program, participating in the SRTS infrastructure grant program solicitation and selection process and helping to ensure that state and federal requirements are met. The federally funded SRTS grant program is administered by NJDOT's Division of Local Aid and Economic Development. It is operated as a competitive grant program in which proposals from applicants to develop and implement infrastructure projects are solicited and evaluated.

Why develop accommodations along walking and bicycling routes to and from school?

- Improvements provide a safer environment for the whole community — 24 hours a day, not just before and after school.
- Walking and biking to school reduces the amount of greenhouse gas emissions released as it reduces the number of children that are driven to school.
- Over time, bicycle and pedestrian improvements can save tax dollars.
- Walking and bicycling are fun, healthy, non-polluting, friendly, educational, and economical!



Walk to School Event in Tenafly, NJ. Image: VTC

The Alan M. Voorhees Transportation Center (VTC), working closely with NJDOT, operates the NJ Safe Routes to School Resource Center (NJ SRTSRC) which provides services, training, coordination, and technical assistance directly to regional planning organizations, schools and school districts, and local and regional governments.

In 2011, NJDOT implemented the New Jersey Safe Routes to School Non-Infrastructure Technical Assistance Program. This program is a cooperative venture involving New Jersey's eight Transportation Management Associations (TMAs), the NJ SRTSRC and NJDOT. NJDOT provides federal funding, program administration and oversight; the NJ SRTSRC provides services, training, evaluation, and technical assistance to all eight NJ TMAs; and the SRTS Regional Coordinators at each of the TMAs proactively reach out to schools, local governments and other organizations to provide them with a variety of SRTS non-infrastructure services. Services include assistance with pedestrian safety assemblies, bicycle rodeos, walking school buses and Walk and Bike to School Day events.

As part of this program, all New Jersey municipalities and K-8 schools are eligible to receive free, non-construction related services. TMAs are also charged with prioritizing disadvantaged communities in their outreach efforts to allow for an equitable distribution of services.

Resources

NJDOT Safe Routes to School Program
 Email: srts@dot.state.nj.us
 Website: www.state.nj.us/transportation/community/srts/

New Jersey SRTS Resource Center
 Telephone: 848-932-7901
 Email: srts@ejb.rutgers.edu
 Website: www.saferoutesnj.org

The National Center for SRTS
 Website: www.saferoutesinfo.org/

Federal Highway Administration (FHWA) SRTS
 Website: www.fhwa.dot.gov/environment/safe_routes_to_school/

SRTS National Partnership
 Website: www.saferoutespartnership.org/

The Official Web Site of International Walk to School
 Website: www.iwalktoschool.org/

The USA Web Site for International Walk to School Events
 Website: www.walkbiketoschool.org/

Centers for Disease Control and Prevention (CDC) Kids Walk to School
www.cdc.gov/nccdphp/dnpa/kidswalk/

