

Chapter 4—Engineering

4.7.5 Safe Routes to School Infrastructure



Introduction

The Safe Routes to School (SRTS) program gives community leaders, schools, and parents the opportunity to improve safety around schools and encourage more children, including ones with disabilities, to walk and bike to school safely. By increasing the number of students walking and biking to school, the program helps to reduce traffic congestion around schools and improve health and the environment. In return communities become more livable for everyone ([The National Center for Safe Routes to School](#)).

There are five areas that are covered by a successful Safe Routes to School program. The five E's include: Engineering, Education, Enforcement, Encouragement, and Evaluation. This section will focus on engineering.

Engineering

The SRTS engineering strategy focuses on providing facilities so that kids can walk and bicycle to school safely. Children with disabilities should always be considered during the engineering portion of the SRTS planning. Within the SRTS concept, engineering refers to creating operational and physical improvements to the infrastructure surrounding schools to lower speeds, reduce potential conflicts with traffic, and establish safer and fully accessible walkways, trails, crossings, and bikeways. Thus, engineering creates safer settings for walking and biking and can influence the way people behave.

Several principles guide the engineering solutions as well as the design of the environment that provides a safe route to school for kids. The principles should help the SRTS committees (which are made up of teachers, parents, and community leaders) to make good decisions about providing a safe environment for children to walk and bike to school where most needed ([The National Center for Safe Routes to School](#)).

SRTS Engineering Principles:

- Appropriate solutions should be provided to match the type of problems that have been identified by the community for improvements (e.g., if speeding is a problem, implement speed bumps and signage).
- The physical environment often determines whether kids walk or bike to school. Kids need well-designed, well-built, well-maintained, and accessible facilities in order to walk or bike to school safely (e.g., wide and well-lit sidewalks or trails with safe crossings).
- A key purpose in SRTS is to enable and encourage kids, including those with disabilities, to walk and bike to school. An important aspect of this is to provide accessible infrastructure for those with disabilities (e.g., ADA-compliant sidewalks).
- The proximity of school buildings to sidewalks and crosswalks can determine the level of comfort a pedestrian or bicyclist feels. Getting the proximity right is key (e.g., school building next to road with parking in the back provides accessibility to the building by non-motorists).
- Improvements do not always require a large amount of money (e.g., signs or striping in part can make a huge difference and is inexpensive). Building new sidewalks and crosswalks or the reconstruction of new streets can be costly and should be identified early in the stages of any transportation plan.

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Engineering ...

- Creates safer settings for walking and biking.
- Can improve the overall aesthetics of the urban landscape.
- Increase connectivity between neighborhoods and schools.
- Can influence the way people behave.

Below are examples of before and after engineering projects for a Safe Routes to School Program.



▲ Woodland Elementary School, Liberty Township, Ohio

(Photo: ODOT)

- No sidewalks
- No crosswalks
- Existing trail to park and neighborhood



◀ Woodland Elementary School, Liberty Township, Ohio
(Photo: ODOT)

- Sidewalks were added.
- Crosswalk with new flashers and signing were installed.
- Number of walkers doubled after project was completed.

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Sources

The Mid-Ohio Regional Planning Commission. Walk to School.
www.morpc.org/walktoschool

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

The National Center for Safe Routes to School. *Engineering*.
<http://www.saferoutesinfo.org/guide/engineering/index.cfm>

The National Center for Safe Routes to School. *Guiding Principles for Applying Safe Routes to School Engineering Solutions*.
http://www.saferoutesinfo.org/guide/engineering/guiding_principles_for_applying_srts_engineering_solutions.cfm

The Ohio Department of Transportation. Safe Routes to School. www.dot.state.oh.us/saferoutes