Safe Routes to School Guide

Introduction to Safe Routes to School: the Health, Safety and Transportation Nexus

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ite

SafeRoutes National Center for Safe Routes to School

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Contents

Introduction to Safe Routes to School: the Health, Safety and Transportation Nexus

Overview **1–1**

History of Safe Routes to School **1–2**

The Decline of Walking and Bicycling **1–3**

Health Risks **1–7**

Safe Routes to School Programs are Part of the Solution **1–11**

Elements of Safe Routes to School Programs **1–12**

Take Action Now **1–14**

Promising Examples and Community Success Stories **1–15**

References **1–17**

Overview

Today, more than ever, there is a need to provide options that allow children to walk and bicycle to school safely. Many communities struggle with traffic congestion around schools and motor vehicle emissions polluting the environment. At the same time, children in general engage in less physical activity, which contributes to the growing epidemic of obesity. At first glance, these problems may seem to be separate issues, but Safe Routes to School (SRTS) programs can address all these challenges through a coordinated action plan.

This chapter provides an introduction to SRTS programs. It examines why few children are walking and bicycling to school, what caused this shift from a generation ago, and the unintended consequences that possibly result. SRTS programs have a growing record of success as communities seek to increase the number of children walking and bicycling safely to school. This guide provides descriptions of many promising programs and community success stories.

SRTS programs use a variety of education, engineering and enforcement strategies that help make routes safer for children to walk and bicycle to school and encouragement strategies to entice more children to walk and bicycle. They have grown popular in recent years in response to problems created by an expanding built environment, a growing reliance on motor vehicles for student transportation and with the more recent development of federal and state funding of SRTS programs.

Each school starts from a unique situation and with different circumstances. Some schools have great places for walking and bicycling but few students are taking advantage of it. Other communities have children walking and bicycling to school in unsafe conditions or along poorly maintained routes, while some communities do not have children walking or bicycling to school at all. Successful SRTS programs involve the whole community. Parents, children, neighborhood groups, schools, law enforcement officers, community leaders, and transportation and public health professionals help identify the issues and solutions.

Jenkins Elementary, Scituate, Massachusetts. Jennifer Toole

The implications of SRTS can be far-reaching. SRTS programs can improve safety, not just for children, but for a community of pedestrians and bicyclists. They provide opportunities for people to become more physically active and to rely less on their motor vehicles. SRTS programs benefit the environment and a community's quality of life by reducing traffic congestion and motor vehicle emissions.

For communities concerned about traffic jams, unsafe walking conditions, physically inactive lifestyles and overall quality of life, SRTS programs can be an effective starting point for tackling these issues.

History of Safe Routes to School

The Safe Routes to School (SRTS) concept began in the 1970s in Odense, Denmark, over concern for the safety of school children walking and bicycling to school.[1, 2]

The SRTS concept spread internationally, with programs developing in other parts of Europe, Australia, New Zealand, Canada and the United States. The Bronx, a borough of New York City, started the first SRTS program in the United States in 1997; in the same year, the State of Florida implemented a pilot program. In August of 2000, the U.S. Congress funded two pilot SRTS projects through the National Highway Traffic Safety Administration. Within a year of the launch of the pilot projects, many other grassroots SRTS efforts began throughout the United States.

Success with the pilot projects generated interest in a federally funded national program. In 2003, advocates convened meetings with experts in pedestrian and bicycle issues to talk about SRTS issues and ideas for developing a national program. Momentum for a national SRTS program in the United States continued to build as several states developed their own programs.

In August 2005, federal transportation legislation devoted $612 million for The National Safe Routes to School Program from 2005 through 2009. This national program is expected to greatly increase the number of SRTS programs around the country. For more information on the national program, go to www.saferoutesinfo.org.

Palm Bay Elementary, Palm Bay, Florida.

The Bronx, a borough of New York City, started the first SRTS program in the United States in 1997; in the same year, the State of Florida implemented a pilot program.

The Decline of Walking and Bicycling

Not long ago, children routinely moved around their neighborhoods by foot or by bicycle, and that was often how they traveled to and from school. That is no longer the case. Whether looking at the total proportion of children walking and bicycling to school, or just those children that live within a mile of the school, the decline is apparent.

- In 1969, 42 percent of children 5 to 18 years of age walked or bicycled to school.[3]
- In 2001, 16 percent of children 5 to 18 years of age walked or bicycled to school.[3]
- In 1969, 87 percent of children 5 to 18 years of age who lived within one mile of school walked or bicycled to school.[3]
- In 2001, 63 percent of children 5 to 18 years of age who lived within one mile of school walked or bicycled to school.[3]

The circumstances that have led to a decline in walking and bicycling to school did not happen overnight and have created a self-perpetuating cycle. As motor vehicle traffic increases parents become more convinced that it is unsafe for their children to walk or bicycle to school. They begin driving them to school, thereby adding even more traffic to the road and sustaining the cycle. Understanding the many reasons why so many children do not walk or bicycle to school is the first step in interrupting the cycle.

Many factors contribute to the reduction in children walking and bicycling to school. The U.S. Centers for Disease Control and Prevention has published the findings from two nationwide surveys of parents that identify barriers that prevent them from allowing their children to walk to school. In the 2004 survey, 1,588 adults answered questions about barriers to walking to school for their youngest child aged 5 to 18 years. Parents cited one or more of the following six reasons:

Rolling Terrace Elementary School, Rockville, Maryland.

Barrier[4]	Percentage of Parents Identifying with the Barrier
Distance to school:	61.5
Traffic-related danger:	30.4
Weather:	18.6
Crime danger:	11.7
Opposing school policy:	6.0
Other reasons (not identified):	15.0

Examining the underlying issues for each barrier provides an opportunity to understand how they can be addressed. These issues are explored in the following sections.

Distance to School

Up through the 1960s, many schools were located in the centers of communities, and this close proximity to residential areas contributed to high rates of walking and bicycling to school. Beginning in the 1970s, rather than renovating existing schools or building within the community, most new schools were built on the edges of communities where the land costs were lower. The

recent trend in school construction has been to build and operate a large school instead of several small schools.[5] This pattern has led to numerous school closings and consolidations. Between 1940 and 2003, the number of public school districts decreased from 117,108 to 14,465, and the number of public and private elementary and secondary schools went from over 226,000 to approximately 95,000 in 2003.[6] During that time, the population of students attending elementary and secondary schools grew from 28 million to 54.5 million.[7] Not surprising, the average number of students per elementary and secondary school has increased over five-fold.[8] The result is that today schools often accommodate many more students than in the past and in effect have become "mega-schools." Bigger schools require larger tracts of land, often from 10 to more than 30 acres. The schools are frequently built where land costs are lower, which tend to be on the edges of communities instead of in the centers of existing communities.[9]

Fewer schools, many of which are located away from where students live, combined with larger enrollment populations, result in school catchment areas that are geographically larger than in the past. These expanded catchment areas require students to travel farther, making it difficult, if not impossible, for children to walk or bicycle to school.

In addition to increasing land costs, a host of other factors contribute to the placement of schools on the fringes of communities. Factors include school siting standards, school funding formulas, existing land use policies, and lack of coordination between planners and school officials.

- In 2004, 27 states had some form of minimum acreage standards for school siting. These standards often demand large tracts of land that can be found only in less developed parts of communities or outside of town.[10]
- School funding formulas that favor new construction over renovation of existing schools often do not consider long-term transportation, operation and maintenance, and infrastructure improvement costs (e.g., sewer, water and road) associated with building in a new location.[10]

Welty Middle School, New Philadelphia, Ohio.

Dan Burden

- The prevailing land use pattern and zoning ordinances require the separation of land by usage type. Low, medium, and high density residential, commercial, and institutional uses are each separated from one another and connected by motor vehicle. This makes walking to school in suburban areas challenging because of the low housing density (number of homes per acre) within walking and bicycling distance and the safety issues posed by busy roads or an incomplete sidewalk system.[5]
- Oftentimes school boards communicate with planning officials after a decision is made about a site for a new school or whether to close or renovate an existing school.[5] One study, examining school

siting in North Carolina, found that in several communities school districts were exempt from local planning and zoning ordinances.

School consolidation has lengthened the trip between home and school, and longer trips coincide with few children walking and bicycling. By increasing the distance between home and school, consolidation of schools may discourage physically active trips to school while encouraging higher levels of motor vehicle use and pollution.

Traffic-Related Danger

Traffic-related danger was the second most common reason cited by parents for not allowing their children to walk to and from school, according to the nationwide survey.[4]

In 2010, 311 pedestrians and bicyclists ages 14 and under were killed, and approximately 23,000 children were injured while walking or bicycling in the United States.[11,12] One response by many parents is to drive their child to school. However, being inside a motor vehicle does not ensure safety. In fact, motor vehicle crashes are the leading cause of death for school-age children.[13] In the United States during 2010, 1,210 children ages 14 and under were killed and 171,000 children were injured as motor vehicle occupants.[11]

As communities have accommodated increased motor vehicle traffic volumes, opportunities to walk and bicycle have suffered. Unsafe traffic conditions often are coupled with a lack of safe places to walk. Even in places where there are sidewalks, they are often in disrepair or are blocked.

Twenty percent to 25 percent of morning rush hour traffic is attributable to parents driving their children to school.[14, 15] As the percentage of children walking and bicycling to school continues to decrease, motor vehicle traffic increases, and parents become more convinced that walking to school is unsafe for their children. Parents may believe that the safest way to school is for them to drive their children, but may not be aware that by driving they contribute to the traffic congestion and traffic danger surrounding the school.

Michael Ronkin

Dan Burden

Many injuries and fatalities can be avoided if streets are made safer, especially if structural improvements are combined with education activities to teach children and drivers about pedestrian safety and enforcement activities to ensure drivers follow safe driving rules.

Weather Conditions

While the weather has not changed much since a generation ago when so many children walked or bicycled, adverse weather was the third most frequently cited reason in the national survey parents gave for not allowing their children to walk to school.[3, 4] Identifying weather as a barrier could be reflective of contemporary social norms in the United States, where people are accustomed to driving for almost every trip. This makes it easy to forego walking and jump in the car at the first sign of cold, rain or heat. Nevertheless, Safe Routes to School (SRTS) efforts have been launched in areas with all kinds of weather, from cities across Canada to Chicago, Illinois; Minneapolis, Minnesota; and Arlington, Massachusetts.

Chester, Vermont.

Crime Danger

Almost 12 percent of parents in the nationwide survey cited that crime danger prevented them from allowing their children to walk to or from school.[4] Parental fears of crime include child kidnapping and assault. However, kidnappings make up less than 2 percent of all violent crimes against people under 18 years old and only 4 percent of all kidnappings occur in the vicinity of a school.[16] These issues can generate strong fears and communities are finding ways to address these safety concerns. Crime concerns may be based on both real and perceived crime. Whether real or perceived, these fears affect how many children are allowed to walk or bicycle to school. SRTS programs work to identify what are the real dangers and what are perceptions and try to address both.

Sometimes children face danger in their own neighborhoods from gangs or other illegal activities. These issues also have been addressed by community groups that want walking conditions to be safe. For example, in Detroit, Michigan, the Injury Free Coalition for Kids and city officials joined together to identify concerns and began working on improvements in traffic flow, demolishing abandoned and burned out homes, cleaning up abandoned lots, improving the aesthetics of the childrens' routes, and working with the Detroit Police Department to address the presence of drug dealers and crime along the routes.

Opposing School Policies

Six percent of parents identified school policies as a barrier for walking to or from school.[3] Some schools or communities do enforce school policies that prohibit children from walking and bicycling to school. Although the school rule may have stemmed from safety concerns for students, its implications could work against a SRTS program. The solution may be to address the safety issues rather than permanently prohibit walking and bicycling to school. Identifying and understanding the reasons underlying the policy can help programs address important issues and reverse the policy if appropriate.

Mark Fenton

Natomas Elementary School, Sacramento, California.

Health Risks

Insufficient Physical Activity

The U.S. Department of Health and Human Services recommends at least 60 minutes of physical activity for children on most, preferably all, days of the week.[17] For children and adolescents, this regular physical activity helps build and maintain healthy bones and muscles, reduces the risk of developing obesity and chronic diseases, reduces feelings of depression and anxiety, and promotes psychological well-being.[18]

Despite these benefits, many children are not getting adequate physical activity. The Centers for Disease Control and Prevention (CDC) report that of children ages 9 to 13 years, 62 percent do not participate in any organized physical activity and 23 percent do not engage in any free-time physical activity outside of school hours.[19] During the school day, only 8 percent of elementary schools and 6 percent of middle/junior high schools provide daily physical education classes, and recess is no longer provided in some elementary schools.[20] Unfortunately, less active children are more likely to be overweight, according to the American Academy of Pediatrics.[21]

Overweight and Obesity on the Rise

When it comes to children's health, the costs of inadequate physical activity and poor eating habits are alarming. Inadequate physical activity and poor eating habits are major contributors to the increased rates of childhood obesity and overweight in the United States. Obese children are at least twice as likely to become obese adults. This puts obese children at greater risk for premature death and chronic diseases than their healthy weight counterparts.[25, 21] Public health and medical professionals have begun to speculate that the current generation of children may be the first that will not live as long as their parents.[26, 27]

The following chart, using data from the National Health and Nutrition Examination Survey (NHANES), shows the proportion of American children in two age groups whose weight is higher than the 95th percentile of the recommended weight for their height.[28] The percentage

PBIC Image Library

The American Academy of Pediatrics notes that children in the United States spend about four hours in front of the television every day, and children who watch too much television are more likely to be overweight.[22]

What is Childhood Obesity?

Health professionals have yet to define obesity for children. For adults, the Body Mass Index (BMI) can be used to determine whether an individual is obese. BMI is a tool that assigns a number based on body weight and height.[23] Adults with BMIs of 30.0 and above are considered obese. The appropriate way to define obesity for children is more complex, because children's body fatness changes over the years as they grow, and girls and boys differ in their body fatness as they mature.[24] The word overweight is the proper term to use for children who have a BMI greater than or equal to the 95th percentile for their age and gender. However, the words obesity and overweight are used somewhat interchangeably when discussing the growing weight problem among children and in this document. For more information on BMI, visit the CDC's BMI information at www.cdc.gov/nccdphp/dnpa/bmi/index.htm.

of 6 to 11 year-old and 12 to 19 year-old children who are considered severely overweight tripled in the last 30 years. Even among the youngest children, ages 2 to 6, the rate of being severely overweight has doubled.[29]

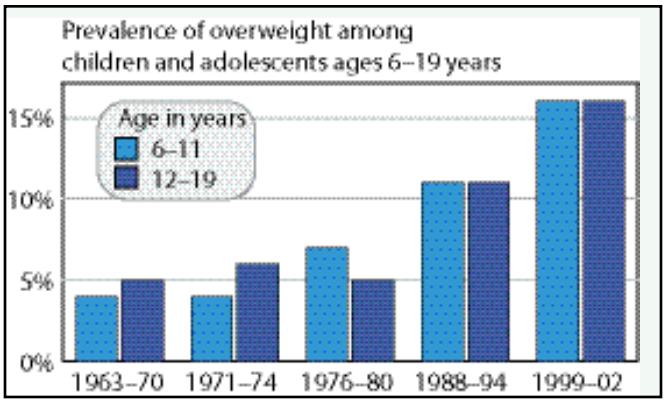
The negative health consequences of overweight and obesity include premature death and chronic diseases, such as diabetes, heart disease, high blood pressure, asthma and various cancer types.[30, 31] Other impacts include increased health care costs, lost productivity and social stigmatization.[30, 32] During childhood, many obese individuals experience social stigmas and discrimination, which are believed to lead to a high incidence of low self-esteem and symptoms of depression.[33] For obese children between 5 and 10 years of age, 60 percent already have at least one heart disease risk factor, such as high cholesterol or high blood pressure.[33] Obese children also have an increased risk of Type II diabetes, aggravated existing asthma, sleep apnea, decreased physical functioning and other negative physical effects.[34, 26]

The growing obesity trend among adults is an alarming indication of what could happen to today's children. The maps of the United States on page 1-9 provide a portrait of the growth of obesity among U.S. adults since 1985. The maps show the percentage of U.S. adults in each state with a body mass index (BMI) of 30 or more, meaning they meet the medical definition of obesity for adults.[23]

Developmental Health

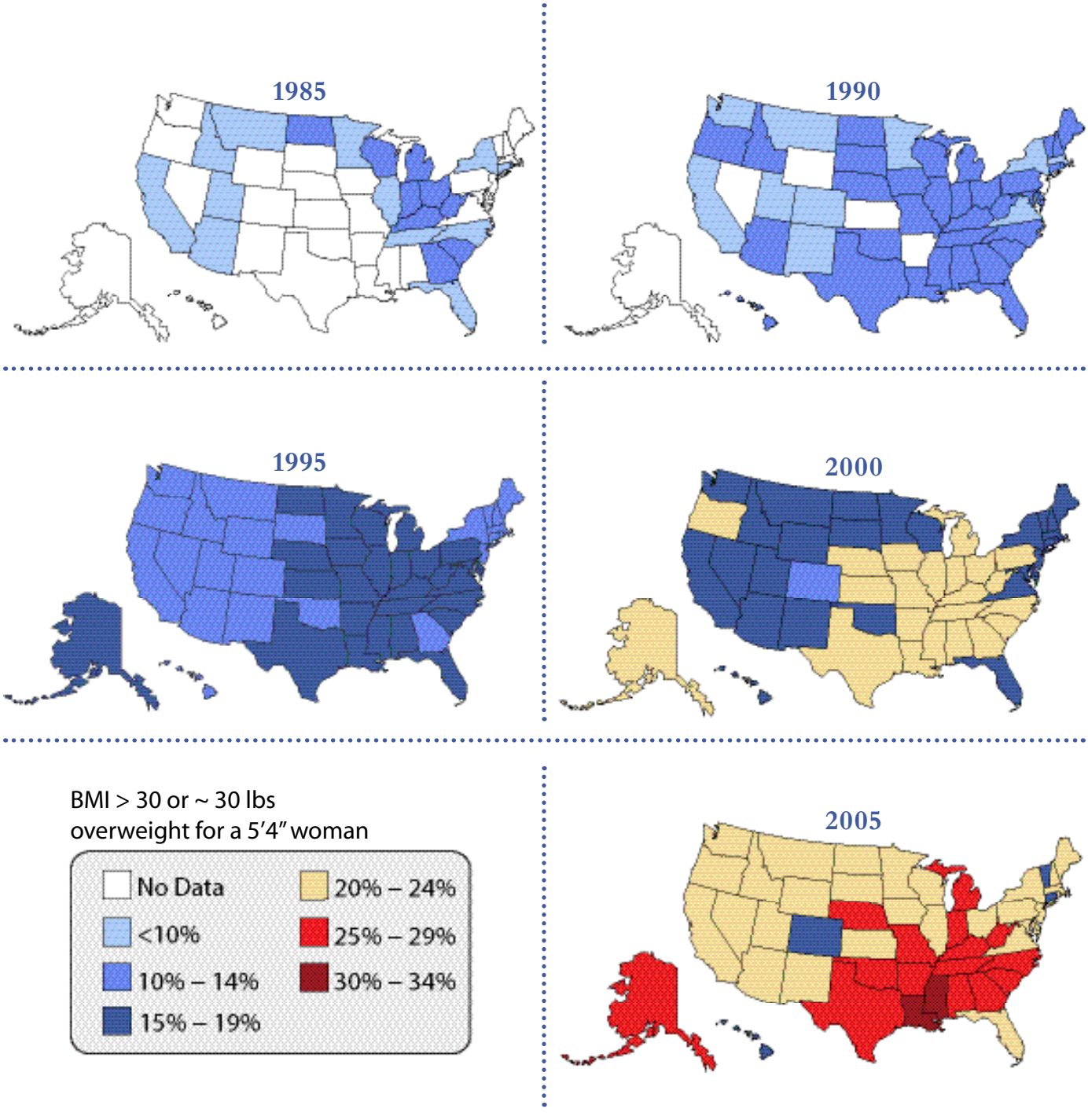
While the physical health effects of obesity and lack of physical activity are becoming better understood, less is known about the impacts of the decline in walking and bicycling on child development. Adults, whose chief concerns pertain to children's health and safety, often forget that walking and bicycling to school may be a child's first chance at independence.

Some children today have less independence than their parents did, and this lack of independence can negatively impact their social behavior development.[36] Driving a child from home to school limits the child's opportunities to interact with their neighborhood and other children. Questions also have been raised regarding how children who spend all their travel time in motor vehicles will master fundamental pedestrian and bicycling skills and what kind of drivers they will become because of their lack of experience negotiating traffic as walkers or bicyclists. Children who spend more time in supervised structured activities have fewer opportunities to explore their neighborhoods. Children may lose some relatively safe opportunities to make decisions independently. They miss some of the lessons gained from learning from mistakes and the confidence that comes with success.[37]



Excludes pregnant women starting with 1971–74. Pregnancy status not available for 1963–65 and 1966–70. Data for 1953–65 are for children 6–11 years of age. Data for 1966–70 are for adolescents 12–17 years of age, not 12–19 years of age.
Source: CDC/National Center for Health Statistics, National Health Examination Survey and NHANES

Obesity Trends Among U.S. Adults



Data: Centers for Disease Control and Prevention, Overweight and Obesity Trends.[35]

Environmental Health

Less walking and bicycling and more motor vehicle traffic can negatively impact air quality. In many cities across the United States the motor vehicle is the single greatest polluter.[38] Each year, motor vehicles emit millions of tons of pollutants into the air. Pollution control measures initiated in the past two decades have helped to reduce emissions per vehicle, yet auto emissions have continued to rise because people have doubled the miles they drive in that same time period.[39] Estimates from multiple cities indicate that the motor vehicle traffic generated by the travel to and from school adds 20 percent to 30 percent more traffic volume to the roads.[40, 41]

Approximately 5 million children in the United States suffer from asthma, causing over 14 million lost school days per year.[42] Children and adults with asthma are particularly sensitive to poor air quality. The 1996 Olympics in Atlanta provided an opportunity to examine the relationship of traffic, air quality and health. During the 1996 Summer Games, Atlanta virtually banned single-occupant motor vehicles downtown in order to prevent gridlock. A study of the ban and its effects shows a clear relationship between traffic reduction and fewer incidents of asthma attacks that required medical attention. Researchers found that morning rush-hour traffic volumes decreased by more than 23 percent and peak ozone amounts decreased by 28 percent during the 17 days of the Olympics.[43] Also, there was a 42 percent decrease in asthma related hospitalizations, emergency department visits and urgent care visits for children during the Olympics compared to the four weeks before and after the games.[43]

Safe Routes to School programs help to reduce auto emissions by encouraging non-motorized forms of transportation, such as walking and bicycling to school.[44] A recent report by the U.S. Environmental Protection Agency used data from schools in Florida to compare travel choices and air quality implications. School location and the quality of the built environment between home and school affect how children get to school. The study concluded that schools located closer to students' homes in walkable neighborhoods would reduce traffic, produce a 13 percent increase in walking and biking, and a reduction of at least 15 percent in motor vehicle emissions.[44]

Atlanta, Georgia.

Motor vehicle traffic generated by the travel to and from school adds 20 percent to 30 percent more traffic volume to the roads.

Mark Fenton

Natomas Elementary School, Sacramento, California.

Safe Routes to School Programs are Part of the Solution

Safe Routes to School programs are part of the solution to increase physical activity and improve unsafe walking and bicycling conditions. It may also improve air quality. The school setting provides an unique opportunity to create an environment that encourages walking and bicycling as a way to travel to and from school and, especially for walking, as an activity during the school day. This holds the potential to reach the vast majority of children who regularly attend and must travel to school.[45] Walking does not require special skills or expensive equipment, which makes it feasible for most of the population. School-based walking programs have the potential to address several of the most commonly cited barriers to physical activity, including motor vehicle traffic dangers and lack of a safe environment.[4] Walking and bicycling to and from school can contribute towards the development of a lifelong habit and a community-wide norm of incorporating physical activity into daily routines. Children who walk to school are more physically active overall than those who travel to school by motor vehicle, although the journey to school itself contributed relatively little.

Children who walk to school are more physically active overall.

Elements of Safe Routes to School Programs

Communities use many different approaches to make it safer for children to walk and bicycle to school and to increase the number of children doing so. Programs use a combination of education, encouragement, enforcement and engineering activities to help achieve their goals. Another important element is evaluation, which is incorporated into each of these areas and also will be discussed separately at www.saferoutesinfo.org.

Because the needs of every community will be unique, each community or individual school may choose to emphasize different components to make its program work. Some schools have built sidewalks or painted crosswalks to enhance safety, while others have started Frequent Walker Clubs to motivate children to be active. Regardless of the focus, safety is the first concern. The following information explains the basic elements of a Safe Routes to School (SRTS) program.

Programs use a combination of education, encouragement, enforcement and engineering activities.

Dan Burden

Dunham Elementary School, Tucson, Arizona.

Education

Education activities target parents, neighbors and other drivers in the community to remind them to yield to pedestrians, to drive safely and to take other actions to make it safer for pedestrians and bicyclists. Parents serve as role models for their children and play an important part in teaching them pedestrian and bicycle safety. Education activities also teach students how to walk and bicycle safely and the benefits of doing so.

Encouragement

Encouragement strategies generate excitement about walking and bicycling safely to school. Children, parents, teachers, school administrators and others can all be involved in special events like International Walk to School Day and ongoing activities like walking school buses. Encouragement strategies can often be started relatively easily with little cost and a focus on fun.

Enforcement

Enforcement activities can help to change unsafe behaviors of drivers, bicyclists and pedestrians. They can

increase driver awareness of laws, and they also can improve driver behavior by reducing speeds and increasing yielding to pedestrians. In addition, enforcement activities teach pedestrians and bicyclists to walk and bicycle safely and to pay attention to their environment. Enforcement doesn't just involve law enforcement. Many different community members take part in making sure everyone follows the rules, including students, parents, school personnel and adult school crossing guards. In addition, the role of the law enforcement officers often goes beyond enforcement and can be included in all strategies of the SRTS program.

Dan Burden

Engineering

Engineering addresses the built environment with tools that can be used to create safe places to walk or bicycle and can also influence the way people behave. Transportation engineers, city planners and architects use methods to create safer settings for walking and bicycling while recognizing that a roadway needs to safely accommodate all modes of transportation. Such improvements can include maintenance and operational measures as well as construction projects with a range of costs. When such programs are properly implemented, they may not only improve safety for children, but they also may encourage more walking and bicycling by the general public.


PBIC Image Library

Take Action Now

Now is an excellent time for communities to make decisions that will create environments that encourage walking and bicycling to school. This issue is particularly timely because of expected school construction and the recently approved federal funding for Safe Routes to School (SRTS) programs. Decisions made now will determine whether walking and bicycling to school are feasible options for children for generations to come.

The U.S. Department of Education estimates that the U.S. student enrollment will grow by more than 1.7 million between 2000 and 2006. More than 92,000 public school facilities will be needed to accommodate that growth.[48] In addition, more than half of U.S. school facilities are at least 40 years old. The U.S. Environmental Protection Agency expects that $100 billion to $300 billion will be spent in the next few years to bring these facilities into good teaching condition.[49] With the growing demand for new and renovated facilities, communities need to make informed decisions about implications of school construction, renovation and the importance of maintaining walking and bicycling as an option.

SAFETEA-LU: Federal Funding for Safe Routes to School

In July 2005, Congress passed federal legislation that established a national SRTS program. The program, which was signed into law in August 2005, dedicates a total of $612 million towards SRTS from 2005 to 2009. These funds are being distributed to states in proportion to the number of primary and secondary school students in the state, with no state receiving less than approximately $1 million per year.

The legislation requires each state to have a Safe Routes to School Coordinator to serve as a central point of contact for the state. Designated percentages of SRTS funds must be used for both infrastructure projects and non-infrastructure activities. Specifically, the federal SRTS program provides funds that can be used for "planning, design, and construction of infrastructure-related projects that will substantially improve the ability of students to walk and bicycle to school, on any public road or any bicycle or pedestrian pathway or trail within approximately two miles of a primary or middle school," and "non infrastructure-related activities to encourage walking and bicycling to school, including public awareness campaigns and outreach to press and community leaders, traffic education and enforcement, student training, and funding for training, volunteers, and managers of SRTS programs." The federal SRTS program allows state, regional and local agencies, as well as nonprofit organizations, to receive funds for SRTS activities.

Monarch Elementary School, Louisville, Colorado.

Decisions made now will determine whether walking and bicycling to school are feasible options for children for generations to come.

For more information on about the federal SRTS program go to http://safety.fhwa.dot.gov/saferoutes and www.saferoutesinfo.org.

Promising Examples and Community Success Stories

Communities have begun to work together to address barriers to walking and bicycling to school. Promising examples from around the country illustrate the power of collaboration and the positive results communities can achieve.

East Cleveland, Ohio

East Cleveland, Ohio, had been identified as having one of the most dangerous communities in northeast Ohio for child pedestrians. Residents sought to change this by improving and adding signals, signs and crosswalks to create more pedestrian-friendly areas for the children to walk. Several community organizations joined together to help students stencil their names in footprints they spray-painted inside newly painted crosswalks in the area. Not only is the decorated crosswalk visually appealing, it also increases the students' feelings of ownership in the project and draws drivers' attention to the need to watch for young pedestrians. In conjunction with crosswalk and sign improvements, another project has been initiated to install and upgrade crosswalk signals and pushbuttons citywide.

Shawna Gorchek

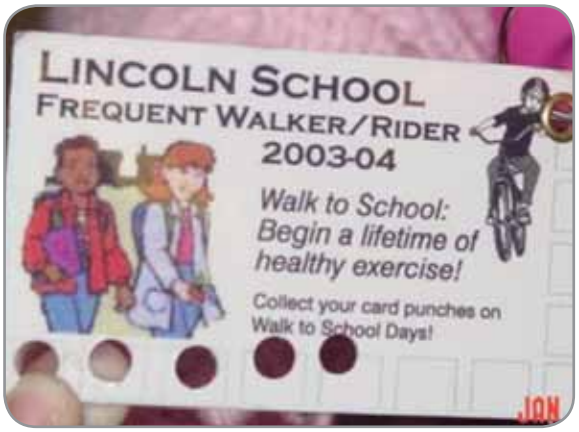
Marin County, California

Part of the appeal of the successful Safe Routes to School (SRTS) program in Marin County, California, is its many different opportunities for participation and for success. Schools participate in International Walk to School Day, Walk or Wheelin' Wednesdays, Frequent Rider Miles Contests and Ride 'n' Seek, where families hunt for treasure as they explore neighborhood bicycle trails. Some parents supervise children in walking school buses and bicycle trains. Marin County promotes activities through fliers, posters, newsletters, articles in local papers, an e-mail distribution list and a Web site (www.saferoutestoschool.org). Using show-of-hand student transportation surveys administered in classrooms at participating schools, the Marin County SRTS program found increases in the number of children walking, bicycling and carpooling to and from school, and a reduction in the number of children arriving by private motor vehicle carrying only one student.[51]

Wendy Kallins

Elmhurst, Illinois

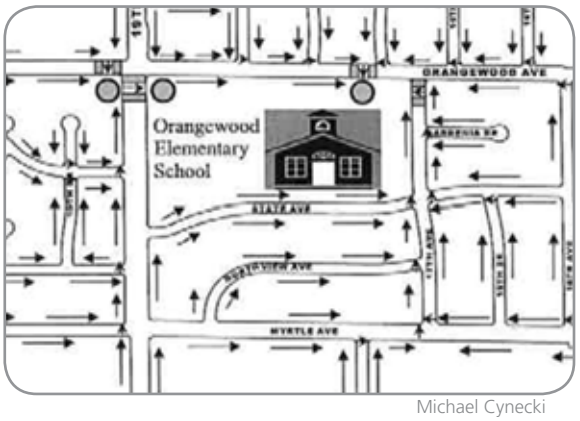
Frequent Walker cards at Lincoln Elementary in Elmhurst, Illinois, provide an example of a successful encouragement program. When students walk or bicycle to school, they receive hole punches in their Frequent Walker Cards. Children receive prizes for fully punched cards. Overall program participation in warmer months is between 90 percent and 95 percent, but even in colder months, 80 percent to 90 percent participate.



Julie Smykowski

Phoenix, Arizona

The city of Phoenix, Arizona, works with parents and schools to create Safest Routes to School Maps. The maps are used to show parents and students the recommended walking routes and crossing locations for students living within the walking attendance boundary. The maps help city officials identify priorities for sidewalk repair. If the missing sidewalk has been included in a walking path on the SRTS walking plan, the city builds the missing segments. Through this process, several miles of missing sidewalk segments have been built.



Michael Cynecki

In some places, community programs and projects have been developed to promote the renovation and protection of neighborhood-based schools. Through Milwaukee's Neighborhood School Initiative, the city decided to build six new schools from the ground up, add on to 19 existing schools and renovate 15 other existing schools.

South Carolina has recently eliminated its own state-mandated acreage requirements for new schools. This change will make it easier for existing buildings to be renovated.

In St. Paul, Minnesota, residents chose to renovate an existing boarded-up facility for school use in order to revitalize the community. The community restored the John A. Johnson building, a brick building founded in the 1920s, which had been in disrepair for some time. The building has become a central fixture on Saint Paul's East Side. Along with providing space for teaching, the school includes medical areas, a family center, counseling space and a YMCA.[50] This achievement in school renovation, while not done as part of a SRTS program, shows what can happen when communities come together and consider the long-term implications of their actions.

EPA

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