Bringing Safe Routes to Scale

How Safe Routes to Schools Can Get Bay Area Kids and Commuters Moving
**TransForm** works to create world-class public transportation and walkable communities in the Bay Area and beyond. We build diverse coalitions, influence policy, and develop innovative programs to improve the lives of all people and protect the environment. More information about TransForm can be found online at [www.TransFormCA.org](http://www.TransFormCA.org).

TransForm is a core partner in the Alameda County Safe Routes to Schools (SR2S) Partnership. The Partnership was formed in 2007, and now conducts SR2S programs in over thirty schools in three cities and the unincorporated areas of Alameda County.

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Cover images of students participating in programs of the Alameda County Safe Routes to Schools Partnership. Photos by Stuart Cohen, Nora Cody, and Sandra Padilla of TransForm.

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Executive Summary—The Case for Safe Routes in the Bay Area

In 1969, half of schoolchildren walked or bicycled to school each morning. But in the past 40 years, this rate has plummeted to lower than 15%. In some communities, as much as 20 to 30% of morning traffic is now generated by parents driving their children to schools.\(^1\) Transportation accounts for half of the Bay Area’s greenhouse gas emissions. There is also an epidemic of obesity among our young people who do not get regular exercise, leaving a greater proportion of Bay Area children overweight than the national average of 19%.\(^2\)

Parents who drive their children to school often cite fears about their children’s safety as a reason for driving instead of allowing them to walk or bicycle. Their concerns aren’t unfounded. Traffic-related crashes are the leading cause of death and major injury for children in the U.S. ages 1 to 17. It’s less safe to walk or bicycle in the Bay Area than in many other parts of the country—pedestrians and bicyclists represent nearly one-quarter of all traffic fatalities in the Bay Area, 50% more than the national average.\(^3\)

Schools, communities, and cities have, at times, attempted to address the intertwined issues of morning traffic congestion, physical safety, and access, yet solutions have generally been developed piecemeal, and have had limited success.

Safe Routes to Schools (SR2S) is a comprehensive approach to these problems. SR2S combines established, tested methods to encourage schoolchildren to walk, bicycle, and carpool to school, and applies them all at once, in concert with each other. SR2S utilizes traffic engineering, safety education, bicycle and pedestrian encouragement programs, traffic law enforcement, and continual program evaluation. It also develops extensive partnerships by engaging students, parents, school faculty, police, city planners, and elected officials in a unified effort.

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\(^1\) Safe Routes National Partnership, “What is Safe Routes to School?” http://www.saferoutespartnership.org/local/4149


\(^3\) California Highway Patrol. 2005. 2005 Annual Report of Fatal and Injury Motor Vehicle Traffic Collisions, Statewide Integrated Traffic Records System (SWITRS). Bay Area pedestrian and cyclist fatality rates are at least partly attributable to the high rates of walking and bicycling in the region, which are higher than in most of the country.
“Because of [SR2S], not only do I have the confidence to take other kids out on the street, but I have the confidence to take my own kids on the street. I am so excited about the program, I find myself asking kids all over the neighborhood if they are ready to be a part of an after-school bike program!”

- Thessa McCoy, Poplar Recreation Center staff member, Oakland

The accomplishments of the program are tremendous. Pioneered eight years ago in Marin County, SR2S programs across the country are:

- Reducing traffic congestion;
- Improving air quality and reducing greenhouse gas emissions;
- Creating streets and neighborhoods that encourage active transportation;
- Improving public safety; and
- Increasing physical activity for children and youth.

Based on this success, California and the federal government have funded grant programs to replicate Marin’s success. But, these grant programs are heavily oversubscribed.

Even despite these shortfalls, SR2S projects and programs are in some phase of development or planning in all nine counties in the Bay Area. But grant programs are so limited, that many of the top qualified projects have not been funded. Both state and federal SR2S programs strictly limit the amount of funding that goes to non-infrastructure education and encouragement activities.

TransForm estimates that investing in SR2S infrastructure, education, and encouragement projects region-wide would result in up to 110 million fewer miles traveled every year by Bay Area vehicles. SR2S may lead to further VMT reduction when parents who don’t have to chauffeur their kids to school can choose to leave their cars at home and take transit, bicycle, or walk to work.

To ensure schools across the region can implement SR2S, TransForm is recommending the Metropolitan Transportation Commission commit $10 million per year to fund a Bay Area Safe Routes to Schools grant program as part of the 2009 Regional Transportation Plan. MTC’s 2009 RTP has adopted ambitious goals for reducing greenhouse gas emissions, traffic congestion, vehicle miles traveled, and increasing safety and affordability in the Bay Area’s transportation systems. There are few programs, if any, that can meet so many MTC regional objectives as Safe Routes to Schools.
Can’t Get There From Here

Most schoolchildren in the United States have a far different experience getting to school than their parents had a generation before them. In 1969, approximately half of all schoolchildren in the U.S. got to school on foot or by bicycle.\(^4\) Today, fewer than one in six children walks or bikes to school.\(^5,6\)

Primary reasons for this decline are physical barriers like heavily trafficked roads without sidewalks or safe crossings, and personal safety concerns that keep parents from feeling comfortable with their kids walking or bicycling to school. In a survey of Marin County parents who currently drive their children to school every morning, more than one-third cited traffic dangers along the route to school as the primary reason they chose to drive.\(^7\)

There has been an undeniable lack of attention to youth access in transportation planning. A focus on maximizing motor vehicle throughput and speeds has left us with schools that are often close enough to walk or bicycle to, but to which most families drive. School bus funding has been drastically cut, creating additional drivers in the school vicinity. State policies now push schools to outskirts of town to enable large ball fields, and fields of parking lots. The California Department of Transportation does not even collect or analyze travel data for people under 18.\(^8\)

How we’ve planned our communities and spent our transportation funds have clear impacts on families’ trips to school. For instance, in Marin County, parents driving their children to school are estimated to account for 21-27% of morning congestion in many communities.\(^9\) This traffic causes delays for all morning commuters and makes roads

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\(^6\) Safe Routes to School: Safety & Mobility Analysis, California Department of Transportation and the University of California Traffic Safety Center, January 2007, p. 12.

\(^7\) Safe Routes to Schools Evaluation & Recommendations, Transportation Authority of Marin, January 2007.

\(^8\) Can’t Get There From Here: The Declining Independent Mobility of California’s Children and Youth, a joint project of the Surface Transportation Policy Project, TransForm, and the Latino Issues Forum, September 2003.

less safe for bicyclists and pedestrians of all ages. These trips also increase our greenhouse gas emissions and other air pollution burdens.

The decline in students walking and bicycling to school is coupled with an epidemic of child obesity. Nationwide, 19% of elementary school students are either overweight or obese. In all Bay Area counties, rates are even higher than the national average, ranging from about 19% of in Marin County who are overweight to 29% of those in Napa County. This can be at least partly attributed to a lack of exercise: by the time they reach high school, 63% of children in the U.S. are not physically active on a regular basis.

Creating choices for families about how to get to and from school would address issues related to our children's health, morning traffic, and the environmental impacts of driving. However, it is unrealistic to expect Bay Area parents and children to change their travel behavior without physical improvements that make walking and bicycling safe.

### Addressing Small Parts of the Problem Leaves Solutions in Little Pieces

There are efforts to reduce barriers to walking and bicycling to school, and there are attempts to address heavy traffic and childhood obesity. But the effectiveness is often limited by the narrow scope of the solutions. Public health officials can advise schools that increased physical activity will help curb childhood obesity, but cannot paint bicycle lanes on adjacent roads. Traffic engineers, meanwhile, can make intersections and streets safer around schools, but without the ability to educate students on how to bicycle safely in the streets, that infrastructure investment won't be fully utilized. Police can help enforce traffic laws near schools, but with few kids walking or bicycling, they often reallocate resources after a short stint. There are parents who spend each morning stuck in traffic while they drive their children to school who would certainly prefer their children walk or bicycle if they knew the children would be safe. Without the resources in place to truly evaluate the safety of the area between home and school, many parents choose to spend dozens of hours a year idling in traffic rather than expose their children to unknown risks.

The will to address the school access issue clearly exists. But without coordination, addressing discrete segments of these problems have not been very effective in changing school trip travel.

### Safe Routes to Schools Comes to the Bay Area

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In 2000, Marin County received a grant from the National Highway Transportation and Safety Administration to attempt to tackle the home to school transportation challenge as part of a pilot program. The pilot funding allowed Marin County to try a comprehensive new approach to reduce children’s reliance on their parents to get to and from school, and to increase children’s safety as they used non-motorized transportation.

The pilot program had five objectives:

- Increase the number of children walking and bicycling to school.
- Increase community participation in transportation solutions and develop a broad base of community support.
- Decrease the number of private motor vehicle trips to school.
- Identify and work to provide a “safe route to school” for every child living within 1.25 miles of their school.
- Increase the health and safety of school children through bicycle and pedestrian traffic safety education programs; reduction of motor vehicle speeds; and redesign of streets, trails and crossings.

Engaging 3,500 schoolchildren at nine schools, the new program brought together a wide group of stakeholders, including parents, students, teachers, city engineers, and public safety officers.

The pilot program was a resounding success. A year after the program was implemented, the number of students walking and bicycling increased by more than 50%, and carpooling increased by 64%, while the number of students being driven alone fell 28%. The community was engaged throughout the county, with dozens of parents, staff, police, public works employees, and elected officials attending monthly Safe Routes to Schools planning meetings.

The towns with schools in the pilot program comprehensively mapped out all the safety improvements needed throughout their communities to guarantee every child had a “safe route to school.” Schools throughout the county held bicycle and pedestrian safety classes. And, bicycle safety rodeos demonstrated safe riding techniques.

The results from the Marin SR2S pilot program have been so impressive that they have spurred both the federal government and the State of California to establish Safe Routes to Schools grant programs to create similar programs. Every state in the nation has recognized the potential benefits from

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the program, and today all 50 states and the District of Columbia have SR2S programs in place.

How Safe Routes to Schools Works
What began as two $50,000 pilot projects has spread across all 50 states in the span of eight years. Safe Routes to Schools is filling a tremendous void. What innovations make SR2S so effective where it is implemented? Why are decision-makers, school communities, and planners so eager to engage in such a new program?

Safe Routes to Schools is not the first program to encourage pedestrian and bicycle safety for students. In fact, the methods used aren’t radically new or untested— they are all proven and established strategies that get kids to walk and ride their bicycles to school. The difference is that SR2S applies five types of program approaches simultaneously.

**The Five E’s of Safe Routes to Schools**
Comprehensive SR2S programs rely on five components: **Education, Encouragement, Enforcement, Engineering, and Evaluation**. Evaluation occurs before and after any of the other steps, enabling program coordinators to make any necessary adjustments. Together, these are known as the **Five E’s of Safe Routes to Schools**.

**Engineering**
The backbone of SR2S comes from infrastructure upgrades near schools. Parents, students, school administrators, neighbors, and local public works and public safety officers collaborate to identify and implement improvements that would make it safer to walk and bicycle to and around schools.

Typical SR2S upgrades include: building sidewalks where students had been walking on the shoulder or in the road itself; striping crosswalks and installing lights at intersections where students are likely to cross; and, designating bicycle paths on the roads near schools. Engineering improvements funded by California’s SR2S...
program have decreased the number of students walking in roadways or other inappropriate areas by as much as 90%.\textsuperscript{14}

Other improvements include the installation of flashing signals at crosswalks and dynamic speed limit signs that inform drivers of their approach speed. Infrastructure upgrades have been shown to be highly effective, with near-universal praise from administrators and parents who note the dramatic changes in traffic patterns. Through physical improvements from early SR2S grant programs, the number of drivers who failed to yield to pedestrians at crosswalks and speeders has dropped by 75% or more around participating schools.\textsuperscript{15}

**Education**

Expanding sidewalks, installing lights at road crossings, and bicycle paths are all effective methods of making neighborhoods around schools safer. But, their effectiveness is limited if students do not know the safest routes – and methods – for getting between their homes and school. SR2S teaches students how to safely navigate their way to school and how to minimize possible risks. SR2S also teaches students rules that keep them safe, like crossing at designated crosswalks, and waiting for lights when crossing the street. These can be done through physical education classes, or as free after-school activities. Educational programs also target parents and the community to urge people to slow down in school zones, and to watch for children.

**Encouragement**

SR2S goes even further than fixing infrastructure and teaching students the safest ways to get to and from school. It also actively advocates that students (and their parents) change their transportation patterns. Schools accomplish this through organized events, such as holding Walk and Bike to School Days, often with prizes or other incentives for students who participate. These events generate momentum for ongoing programs, result in recruiting volunteers, and create a snapshot of what success could look like if more students walked and bicycled more regularly.

Other encouragement programs involve ongoing activities throughout the year, in which students complete certain tasks on their own, such as bicycling to school a certain number of times, or carpooling instead of being driven alone. Other approaches track the reduction in greenhouse gas emissions associated with students walking or bicycling to school. By incorporating elements that encourage students to bring SR2S elements home,

\textsuperscript{14} Safe Routes to School Volume 1: Study Overview and Summary of Results, 2003.

\textsuperscript{15} Ibid.
these activities involve parents and other family members in SR2S programs and expand the impact of the program deeper into the community.
Enforcement

SR2S engages local public safety officers, educating police about the aims of the program and working with them to provide a police presence around the school. Many schools ask police to issue citations where speeders present an especially high risk to schoolchildren. Crossing guard programs have also been set up at critical intersections.

Evaluation

Before every SR2S project is put into place, while it is enacted, and after it has been completed, there is an evaluation that quantifies its benefits to ensure that the program is successfully achieving its goals. At the outset of the program, a participating school evaluates what barriers exist to students safely walking and bicycling to school; they then analyze which options shifting students out of cars and onto sidewalks and bicycle lanes are appropriate for their school community.

Local surveys are often conducted to measure mode shift, increases in pedestrian and bicycle traffic and safety along affected routes, and the opinions of parents and school faculty regarding the impact of particular projects in their area. Student tallies are typically completed each year to measure mode shift in participating schools, both in September and May.

The challenges to safe access to schools can vary widely, even around school sites within the same area. SR2S is adaptable to different neighborhoods, with strategies that work in urban, suburban, and rural communities. The program activities become customized by the community for its specific needs.

Although each Safe Routes to Schools program reflects the particular conditions of the schools it serves, there are some characteristics that most programs share.

- Most SR2S programs serve a number of schools in an area.
- Parent “Teams” form at each participating school, often with members of a school’s PTA, Site Council, or Wellness Council. The Parent Teams spearhead outreach for the program among parents and students.
- Many SR2S programs also include “Task Forces” that include elected officials, engineers, SR2S program coordinators, and representatives from the Parent Teams. The Task Forces help to coordinate ongoing citywide and countywide approaches, enforcement, engineering, and the prioritization of school travel plans.

SR2S is popular among those directly impacted by the program: a survey of parents and faculty at sites where projects have been completed showed that **more than 98% of respondents were pleased with the results of the project.** SR2S is well-liked because it deals with significant problems that many cash-strapped local governments and school districts cannot otherwise afford to address. The immense value of this support is no doubt why **funding requests are usually four times greater than available funds.**

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16 Safe Routes to School: Safety & Mobility Analysis, California Department of Transportation and the University of California Traffic Safety Center, January 2007.
State and Federal Safe Routes Funding

Since 2000, support for Safe Routes to Schools programs has rapidly grown throughout the country, and hundreds of millions of dollars have been dedicated to SR2S efforts. Bay Area schools may apply for Safe Routes to Schools funds from two different programs. The California Safe Routes to Schools Program is funded by the State of California, and focuses on infrastructure improvement projects. The Federal Safe Routes to Schools Program has dedicated between $11 million and $18 million per year to California efforts since 2005, a small percentage of which is available for activities falling under any of the five E’s of SR2S.

But there is a huge backlog because these needs have been ignored for so long, and grant applications to both programs have far exceeded the funding made available each year.

In the most recent cycle of the state-funded program, 489 applications were submitted to Caltrans from throughout the state, amounting to a total of more than $206 million in requests. But, Caltrans was only able to fund 139 projects totaling $52 million. In the Bay Area, 68 project candidates received a ranking of “Excellent,” the highest possible assessment, but Caltrans was only able to fund 26 of them – fewer than 40% of the top-ranked Bay Area projects. To fund all 68 top-ranking Bay Area projects would have cost $23.7 million, but only $9.5 million was made available, leaving a shortfall of more than $14 million.

The state and federal SR2S grant programs limit the amount of funding that can go to education and encouragement activities. Only 10% of California’s grant funds and 20% of federal grant funds may be used for these important components. The remainder of the grant funding must go to infrastructure. Education and encouragement activities are critical to the success of a comprehensive SR2S program, and may be relatively inexpensive. TransForm estimates that it would cost $7.8 million per year to provide safety education and encouragement classes at every elementary school in the nine-county Bay Area. TransForm estimates that the infrastructure needs amount to about $366 million. These are not tremendous sums, but there are simply no guaranteed funding sources to meet these needs.

The Safe Routes to Schools program has gained widespread acclaim, and has consistently proven its potential—but in order to reach its full potential in the Bay Area, it

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18 Based on the cost of the Marin County program, which provides education and encouragement programs to 12,130 students per year with a budget of $215,000, and applying this to serve all 438,739 elementary school students in the nine-county Bay Area. This does not calculate participation by middle schools.

19 This figure represents the average infrastructure grant awarded to Bay Area elementary schools, $353,900, multiplied by the 1,033 Bay Area public elementary schools.
is vital that the gap in funding be closed. We are at a critical point with the evolution of Safe Routes to Schools programs -- their benefits have been demonstrated, yet their funding is insufficient and not guaranteed to continue. The federal program only allocated funding through 2009. California’s grant funding is repeatedly threatened in state budget cuts. And, with the state’s structural deficit worsening, existing Safe Routes funding is extremely vulnerable.

**Recommendation: A Regional SR2S Program**

Transportation professionals and city planners throughout the Bay Area have embraced the SR2S approach. In each of the nine counties, SR2S programs are being designed or planned. Without additional funding, however, many of these may stay on the drawing board.

TransForm has calculated that it would take $7.8 million per year to bring the educational and encouragement elements of the SR2S program to all 439,000 elementary schools in the Bay Area, and $366 million to complete the physical improvements necessary. Over 25 years, this would require investments of $560 million.

The funding shortfall for programs may increase dramatically in the coming years as SR2S programs mature throughout the region and expand to middle- and high-schools. These shortfalls may be exacerbated by reduced state or federal funding.

To meet the region’s needs, TransForm is urging MTC to dedicate $10 million per year for a Bay Area Safe Routes to Schools grant program as part of the 2009 Regional Transportation Plan. This investment would help to fund SR2S projects in all Bay Area counties.

A regional Safe Routes to Schools grant program would help the Bay Area achieve:

- As many as 110 million fewer vehicle miles traveled by Bay Area vehicles every year, not counting the vehicle miles reduced when parents are free to choose to take transit, carpool, bike, or walk. This number also doesn’t include vehicle miles reduced when families start walking and biking instead of driving for other trips.
- Less traffic congestion — evaluation of Marin County’s Safe Routes to Schools program showed that after one year of SR2S programs, walking and bicycling trips rose by nearly 40% and the number of car trips to school dropped by about 23%.
- Safer streets for bicyclists, pedestrians, and drivers.
- Healthier children as school children increase their physical activity and make exercise part of their families’ daily routines.

Dedicating regional funding to a SR2S grant program would also send a clear signal to state and federal policymakers that SR2S is an important priority and that the Bay Area

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20 See footnotes 18 and 19.
21 Extrapolated from 2005 study, “Safe Routes to Schools Program Evaluation 2004-2005” by Nelson-Nygaard Consulting Associates with the Marin County Bicycle Coalition and David Parisi Associates, prepared for the Marin County Department of Public Works, August 2005. This study derived 258 VMT reduced per student; TRANSFORM multiplied this reduction by the 438,739 Bay Area elementary students.
is dedicated to being a long-term funding partner. Bay Area applications are likely to be more competitive in state and federal Safe Routes to Schools grant cycles if they can offer regional matching funds.
Making the Most of a Safe Routes Regional Investment

There are several ways in which a Bay Area-wide SR2S program could be effectively administered.

To assure consistency with existing grant programs, MTC could model their grant distribution process on the method Caltrans currently uses, with Bay Area-specific modifications. Schools, county or city agencies, and Safe Routes program providers would be eligible for the programs. To ensure geographic equity, counties could be assured a population-based proportion of the total funds. Like the Federal Safe Routes program, TransForm encourages the Bay Area grant program to include funds for infrastructure improvements and non-infrastructure—education and encouragement—activities (i.e. curriculum, school-wide challenges, and safety trainings).

Regardless of how the program is ultimately implemented, an investment in a Bay Area Safe Routes to Schools grant program would provide tremendous benefits to all Bay Area residents, and especially to the youngest among us. Investing in SR2S will improve children’s health and safety, help decrease local moming traffic, lessen our environmental impact, and improve the travel habits of the next generation of Bay Area residents.
More Information

A number of organizations can provide further materials and information regarding Safe Routes to Schools programs, including:

- **The Safe Routes to Schools National Partnership**, a network of more than 300 nonprofit organizations, government agencies, schools, and professionals working together to advance the Safe Routes to Schools movement in the United States. [www.saferoutespartnership.org](http://www.saferoutespartnership.org).

- **National Center for Safe Routes to Schools**, maintained by the University of North Carolina Highway Safety Research Center, provides technical support to communities seeking to establish SR2S programs in their area. [www.saferoutesinfo.org](http://www.saferoutesinfo.org).

- **The California Department of Transportation (Caltrans)** administers the SR2S program at the state level. Caltrans maintains data on all seven years of SR2S projects in California, as well as detailed analyses of their impacts. [www.dot.ca.gov/hq/LocalPrograms/saferoutes/sr2s.htm](http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/sr2s.htm).

- **The Marin County SR2S program**, where the first federal SR2S pilot was held, has a great deal of information on the evolution of SR2S and the benefits it offers, as well as implementation materials such as lesson plans and toolkits. The Marin SR2S website is maintained by the Marin County Bicycle Coalition, the non-profit organization tasked with administering SR2S Education and Encouragement activities throughout the county. [www.saferoutestoschools.org](http://www.saferoutestoschools.org).

- **Safe Routes to Schools Alameda County** is an effort coordinated by TransForm, Alameda County Public Health Department and Cycles of Change. It leads SR2S programs in 33 schools in three cities and unincorporated areas of Alameda County. [www.TransFormCA.org/campaign/sr2s](http://www.TransFormCA.org/campaign/sr2s)

For more information about TransForm’s proposal for a Bay Area Safe Routes to Schools grant program or the rest of our RTP platform, contact Carli Paine, [carli@TransFormCA.org](mailto:carli@TransFormCA.org), (510) 740-3150 x315.