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Assessing the Distribution of Safe Routes to School Program Funds, 2005–2012

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Background: The federal Safe Routes to School (SRTS) program was launched in 2005 to increase the safety of, and participation in, walking and biking to school.

Purpose: This study assesses how SRTS funds were allocated to public and private schools and communities and whether there were demographic or locational differences between schools that benefited from SRTS funding and those that did not receive SRTS awards.

Methods: The study analyzes all SRTS projects awarded between 2005 and 2012 (N=5532) by using descriptive statistics to profile SRTS funding amounts and purposes, and to compare demographic and neighborhood characteristics of schools with and without SRTS programs. Analysis was conducted in 2013.

Results: The average SRTS award was $158,930 and most funding was spent on infrastructure (62.8%) or combined infrastructure and non-infrastructure (23.5%) projects. Schools benefiting from the SRTS program served higher proportions of Latino students and were more likely to be in higher-density areas. Few differences existed in neighborhood demographics, particularly educational attainment, work-trip commute mode, and median household income.

Conclusions: Schools benefiting from the SRTS program are more urban and have higher Latino populations but are otherwise comparable to U.S. public schools. This suggests that disadvantaged areas have had access to the SRTS program.

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Introduction

The federal government launched the Safe Routes to School program in 2005 to make walking and biking safer and easier and to reverse the decline in active travel to school.[1] Between 2005 and 2012, the U.S. Department of Transportation allocated $1.15 billion to fund SRTS interventions in the 50 states and the District of Columbia.[2] The SRTS program increases opportunities for everyday physical activity for students and those living near schools and decreases safety risks.[3–5] Walking and biking to school have been linked to improved cardiorespiratory fitness, and several studies have identified associations between active school travel and body composition.[3,6,7]

This study analyzed announced SRTS funding between 2005 and 2012 to document how the funds were spent and to assess demographic and neighborhood differences between schools with and without SRTS interventions. Measuring the distribution of SRTS funds allowed assessment of whether funding has equitably benefited schools in minority and low-resource areas. The results address concerns that these areas would be disadvantaged in competitions for SRTS funding. Recent changes to the SRTS program, such as the new requirement that local areas pay 20% of program costs, may make it more difficult for disadvantaged areas to successfully compete for funding in the future.

Safe Routes to School Program

Under SRTS legislation, each state received federal money in proportion to the number of children enrolled in primary and middle schools—public or private—with the goals of "enabl[ing] and encourag[ing] children . . . to walk and bicycle to school" and make "bicycling and walking to school a safer and more appealing transportation alternative."[8] These federal funds required no local match and could be used for infrastructure

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(70%–90%) and non-infrastructure (10%–30%) projects within 2 miles of an elementary or middle school. Infrastructure projects included constructing sidewalks, bike lanes, trails, and well-marked intersections as well as calming traffic. Non-infrastructure projects included marketing campaigns; safety education; student incentives; and funding for training, volunteers, and managers of SRTS programs.[9]

Process of Distributing Funds

The Department of Transportation (DOT) did not prescribe how states should select SRTS projects. Instead, the Federal Highway Administration (FHWA) established four program objectives: "(1) enable participation on a variety of levels; (2) make the program accessible to diverse participants; (3) promote comprehensive SRTS programs and activities; and (4) maximize impact of the funds."[9] It also encouraged states to "develop creative approaches to program structure and project implementation procedures, with the goal of best meeting the objectives."[9] Most states opted to select SRTS programs at DOT headquarters through competitive application processes. Some states selected one contractor to provide technical assistance for SRTS at schools statewide, generally involving planning, education, and encouragement, rather than establishing separate school- or district-specific contracts for each non-infrastructure award.

The SRTS federal program guidance emphasized the importance of increasing access to the program in rural and low-income areas. This objective reflected historical concerns with the geographic equity of transportation funding[10] combined with particular concerns that low-income areas "have higher than average child pedestrian crash rates, and have the greatest need for a SRTS program, yet may have limited resources to access these funds."[9] In response, some states developed selection criteria that gave a preference or scoring bonus to underrepresented communities.

Methods

The National Center for SRTS, the federally designated clearinghouse for the program, maintains a database of announced SRTS awards. The database tracks announced funding amounts, purpose, and the schools and school districts benefiting from the awards. One award can fund any number of schools, and schools may receive SRTS interventions through multiple awards. Data were extracted in 2013 and covered awards announced between 2005 and 2012. The resulting data set contained information on 5598 awards totaling $885 million. This total funding amount is lower than the program allocation of $1.15 billion because not all funds have yet been awarded and program administrative costs (e.g., state SRTS coordinators and the National Center) are not included.

Reporting of SRTS awards to the National Center is voluntary. Comparison of announced SRTS funding by each state with the award database identified two states, Nevada and New Mexico, where the award database contained information on $<70\%$ of announced funding.[11] These two states were dropped from the analysis; in the remaining states, the median percentage of announced funding reported in the awards database was 97% (interquartile [IQ] range: 83%, 100%).

Funding Analysis

The first analysis assessed funding patterns for SRTS projects by describing the allocation of funds to infrastructure and non-infrastructure projects and whether states utilized statewide award mechanisms using descriptive statistics. The sample size of SRTS awards for this analysis was 5532, totaling $879 million; all states except Nevada and New Mexico were included in the analysis.

School and Neighborhood Analysis

The next analysis compared the school and neighborhood characteristics of public schools participating in the SRTS program to the characteristics of all other public schools. School and neighborhood characteristics were gathered from the U.S. Department of Education's National Center for Education Statistics (NCES) Common Core of Data and block group–level Census 2000 data. Census 2000 data were used rather than more recent American Community Survey (ACS) data because of the high margin of error in small area estimates in ACS data.[12]

Differences between schools with and without SRTS programs were assessed by comparing sample means and proportions with *t*-tests, *z*-tests, or chi-square tests. Because of the large sample sizes involved in this analysis, there were significant differences between schools with and without SRTS programs for nearly all metrics. The Results and Discussion sections emphasize meaningful differences—a $>10\%$ relative difference.

The SRTS awards were included in this analysis if detailed information on the schools or school districts benefiting from the SRTS interventions were available in the National Center database. When a school district received the SRTS award, it was assumed that all elementary and middle schools in the district received an SRTS intervention. All statewide awards were excluded from the analysis because few contained records of schools receiving interventions. Three additional states—Hawaii, Nebraska, and South Dakota—were excluded from this analysis because $<85\%$ of SRTS awards in the states had complete information on the schools receiving interventions.

In states included in the analysis, the median proportion of awards with complete information on benefiting schools was 99% (IQ range: 95%, 100%). On a case-by-case basis, SRTS awards were excluded from the analysis if detailed school or Census data were not available. Private schools were not included in this analysis because states were inconsistent in their reporting of private schools benefiting from SRTS interventions, thereby making it difficult to identify an appropriate control group.

Based on these criteria, the school and neighborhood analysis included 4988 awards totaling $794 million. In summary, SRTS awards were excluded from this analysis because they were in Nevada (n=14); New Mexico (n=52); Hawaii (n=8); Nebraska (n=58); or South Dakota (n=27). Awards also were excluded if

Table 1. Safe Routes to School award amounts between 2005 and 2012

Category	% by number	% by value	Award amount ($)		
			Average	Median	Interquartile range
Infrastructure	42.5	62.8	235,010	196,540	(83,000, 312,840)
Non-infrastructure	28.4	12.2	68,580	21,100	(6,140, 55,000)
Infrastructure and non-infrastructure	18.6	23.5	200,890	165,900	(81,590, 250,000)
Planning	10.4	1.3	20,060	10,000	(9,810, 17,940)
Total/overall	100.0	100.0	158,930	90,550	(18,000, 243,000)

Note: Based on a sample of 5532 awards; excludes Nevada and New Mexico

they were statewide awards (n=114); contained no information on which public schools or districts received SRTS interventions (n=193); benefited only private schools (n=25); or could not be linked to federal school information (n=117) or the Census block-group demographic data (n=2). The final school-level sample included 15,244 public schools that have benefited from the federal SRTS program in 45 states and the District of Columbia. These schools are compared to the 62,398 public elementary and middle schools in these states that did not receive SRTS interventions through a non-statewide award.

Results

Funding

As of December 31, 2012, a total of 5532 awards worth a total of $879 million had been awarded for SRTS programs in the U.S., excluding Nevada and New Mexico. In keeping with the program guidance that required 70%–90% of funds be spent on infrastructure, most SRTS funding was for infrastructure only (62.8%) or for a combination of infrastructure and non-infrastructure (23.5%; Table 1). Average and median spending on projects with an infrastructure component was substantially higher than for non-infrastructure and planning awards. The distribution of award amounts was skewed, evidenced by substantial differences between the average and median award amounts.

Some DOTs made statewide awards; these were generally large awards to an SRTS Technical Assistance Center which then provided most non-infrastructure assistance statewide. Overall, 3.3% of announced SRTS funding was designated as statewide, but 16.2% of non-infrastructure funds were statewide. States with >10% of SRTS funds distributed through statewide awards include Alaska (14.6%); Florida (10.1%); Hawaii (28.5%); Massachusetts (27.5%); Maine (10.8%); and Utah (21.2%).

For the subset of 4988 non-statewide awards with complete information on schools and districts benefiting from SRTS funding, the median amount of funding per student was $105 (IQ range: $19, $339). The median amount per student for infrastructure projects was $249 (IQ range: $103, $517) and for non-infrastructure projects, the median was $16 (IQ range: $6, $41).

Neighborhood and School Demographics

Schools receiving SRTS interventions had larger enrollments, had more Latino students, and were more likely to be located in cities (Table 2). Indicators of the economic status of students were similar between schools with and without SRTS, with the proportion of Title I schools (a designation indicating that the school has a high proportion of low-income students) being identical in the two groups and percentage of students receiving free or reduced-price lunch being slightly higher in SRTS schools.

The SRTS schools were located in neighborhoods with higher proportions of Latino and foreign-born residents (Table 3). SRTS schools were, on average, located in denser areas. Neighborhood characteristics were similar by race, work-trip commute patterns, educational attainment, median household income, and the proportion of residents living below the poverty line.

Discussion

Previous research has shown that the prevalence of walking tends to be higher in low-income, minority, and high-density communities.[13] Because SRTS funding is often awarded on a competitive basis, concerns exist that low-resource and disadvantaged communities might be systematically less able to develop grant proposals and may therefore receive an inequitable distribution of SRTS funds. This analysis showed that schools benefiting from SRTS funding have more students and a higher proportion of Latino students than schools without SRTS programs. Students at schools with SRTS programs are slightly more likely to receive free or reduced-price lunch, but the differences were not large. This result is consistent with previous research that has found that schools with SRTS programs are similar to U.S. averages or have higher proportions of low-income and minority students.

Table 2. Characteristics of schools with and without Safe Routes to School programs, % unless otherwise indicated

	Schools without SRTS (*n*=62,398)	Schools with SRTS (*n*=15,244)	Difference (*p*-value)	% difference
Enrollment: M (SD)				
Elementary	438.9 (230)	487.3 (238)	48.4 (<0.001)	11.0
Middle school	551.6 (332)	634.0 (361)	82.4 (<0.001)	14.9
Race/ethnicity				
Non-Hispanic white	53.2	45.9	−7.3 (<0.001)	−13.7
Hispanic	22.2	30.3	8.1 (<0.001)	36.5
Non-Hispanic black	16.3	15.5	−0.8 (<0.001)	−4.8
Non-Hispanic Asian/ Pacific Islander	4.8	4.7	0.0 (0.815)	−0.5
Non-Hispanic American Indian	1.1	0.8	−0.3 (<0.001)	−23.8
Multiracial	2.4	2.7	0.3 (<0.001)	10.9
Other factors[a]				
Title 1 school	72.2	72.2	0.0 (0.917)	−0.1
Charter school	5.3	5.2	−0.1 (0.667)	−1.6
Magnet school	2.5	3.3	0.9 (<0.001)	34.3
Free/reduced-price lunch	50.2	52.5	2.3 (<0.001)	4.5
School location			(<0.001)	
City	24.6	35.5	10.9	44.4
Suburb	28.3	30.9	2.7	9.4
Town	13.2	13.5	0.4	2.7
Rural	34.0	20.0	−13.9	−41.0

Note: χ^2 test was used for school location values. *z*-test was used for Title I school, charter school, and magnet school results. All other values were computed using *t*-tests. Excludes the states of Nevada, New Mexico, Hawaii, Nebraska, and South Dakota; private schools; and statewide SRTS awards.
[a]Title 1 schools have higher proportions of low-income students. Charter schools are publicly funded schools that operate independent of the local school district. Magnet schools offer enrollment to students across the school district rather than geographically designated catchment areas.
SRTS, Safe Routes to School

The National Center for Safe Routes to School found that the distribution of a nationally representative sample of SRTS projects was similar to the distribution of schools by resource status.[14] Analysis of California SRTS projects found that low-income schools were over-represented.[15] A study of Washington State SRTS projects found mixed results; schools with SRTS projects had a lower proportion of students receiving free or reduced-price lunch than all state schools.[16] However, the same study also found that schools with SRTS projects were located in neighborhoods with larger nonwhite populations and lower household incomes. Cradock et al.[17] found that 12 states had allocated more than half of their SRTS funds to high child poverty counties and that states with child poverty rates above the national median spent SRTS funds more slowly.

Both the school and neighborhood analyses indicated that SRTS schools tend to be located in more-urban, higher-density areas. This finding is not surprising given that walking and biking to school are more common in denser areas.[1] In rural areas, many children live far from school, making nonmotorized travel less likely. Nevertheless, 20% of SRTS schools are located in rural locations, indicating that states have worked at maintaining geographic equity, a common concern of transportation funding.[10]

The SRTS program was unique among transportation programs because it did not require a local match. However, under the new transportation legislation, Moving Ahead for Progress in the 21st Century (MAP-21), SRTS projects will require a nonfederal match of 20%. This requirement could adversely affect disadvantaged communities and shift funding to higher-income areas. Given the success of the SRTS program in balancing funding demographically, states could consider assisting low-resource communities with the local match. For example, Ohio has announced that certain toll revenues will be available to assist communities with matching for SRTS projects.[18]

A limitation of this analysis is the lack of a complete national database on funded SRTS projects. Because of this, the analysis excluded five states with limited information on SRTS awards. Establishing clear standards for reporting of SRTS and other transport projects would facilitate analysis and provide better information to policymakers and the public about the distribution of transport projects.

Table 3. Neighborhood (block-group) characteristics of schools with and without Safe Routes to School programs, % unless otherwise indicated

	Schools without SRTS (*n*=62,398)	Schools with SRTS (*n*=15,244)	Difference (*p*-value)	% difference
Race/ethnicity				
White	77.3	75.5	−1.8 (<0.001)	−2.3
Black	10.8	11.1	0.2 (0.230)	2.2
Asian/Pacific Islander	3.2	3.4	0.2 (<0.001)	7.6
Multiracial	2.2	2.5	0.3 (<0.001)	13.7
Other race	6.4	7.5	1.0 (<0.001)	15.9
Hispanic	11.9	17.6	5.7 (<0.001)	48.2
Work trip commute mode				
Auto	89.1	89.6	0.5 (<0.001)	0.6
Bike	0.3	0.5	0.2 (<0.001)	70.3
Transit	3.7	3.3	−0.4 (<0.001)	−10.2
Walk	2.7	2.5	−0.2 (0.001)	−7.5
Other	0.9	0.9	0.0 (0.049)	3.7
Work at home	3.3	3.2	−0.1 (<0.001)	−4.3
Educational attainment				
High school or less	48.0	46.4	−1.6 (<0.001)	−3.2
College graduate	43.9	44.9	1.0 (<0.001)	2.3
Graduate school	8.1	8.7	0.5 (<0.001)	6.7
Other factors				
Population density per square mile	3,732	4,239	507 (<0.001)	13.6
Median HH income (1999$)	48,688	47,724	−964 (<0.001)	−2.0
Below poverty line	11.4	12.0	0.7 (<0.001)	5.9
No HH vehicles	8.3	8.0	−0.3 (0.004)	−3.8
Aged 5–17 years	20.3	19.9	−0.4 (<0.001)	−1.9
Female-headed HH with children	21.1	22.6	1.5 (<0.001)	7.3
Foreign-born	9.1	13.6	4.5 (<0.001)	49
HHs with children	41.5	41.3	−0.2 (0.238)	−0.5
Renters	29.0	31.1	2.1 (<0.001)	7.2

Note: *t*-tests were used to find the difference values; excludes the states of Nevada, New Mexico, Hawaii, Nebraska, and South Dakota; private schools; and statewide SRTS awards.
HH, household; SRTS, Safe Routes to School

Conclusion

Schools benefiting from the SRTS program served higher proportions of Latino students and were more likely to be in higher-density areas. Few differences existed in neighborhood demographics, particularly educational attainment, work-trip commute, and median household income. This suggests that the SRTS program has benefited schools located in disadvantaged or minority areas. Changes to the SRTS program, particularly new requirements to pay for 20% of project costs with local sources, may jeopardize equitable access. State departments of transportation should consider assisting low-income communities to fund SRTS projects.

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