

# The Safe Routes to School Program in California: An Update

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Despite efforts to combat increasing rates of childhood obesity, the problem is worsening. Safe Routes to School (SRTS), an international movement motivated by the childhood obesity epidemic, seeks to increase the number of children actively commuting (walking or biking) to school by funding projects that remove barriers preventing them from doing so. We summarize the evaluation of the first phase of an ongoing SRTS program in California and discuss ways to enhance data collection. (*Am J Public Health*. 2012;102:e8–e11. doi:10.2105/AJPH.2012.300703)

Over the past 3 decades, obesity rates have more than doubled among children and tripled among adolescents in the United States.<sup>1</sup> Meanwhile, the percentage of students actively commuting (walking or biking) to school declined from 41% in 1969 to only 13% in 2001.<sup>2,3</sup>

To counteract these trends, Safe Routes to School (SRTS), an international movement, seeks to increase the number of children who actively commute to school by funding projects that remove barriers and improve community infrastructure. With federal funding authorized by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (Pub L No. 109-59), the California Department of Transportation invested \$189 million toward SRTS efforts in the state. Of this investment, \$3.8 million funded a partnership between the University of California, San Francisco, and the California Department of Public Health to form a technical assistance resource center to evaluate SRTS state-level projects targeting

students in kindergarten through ninth grade.<sup>4–6</sup> We evaluated the first phase (2008–2010) of ongoing SRTS programs representing 81 towns and cities and assessed ways to enhance data collection.

## METHODS

There is no requirement for funded SRTS programs to submit evaluation data to the California Department of Public Health, but some supply information on a voluntary basis. We used deidentified data sent to the University of California, San Francisco, in our analyses. We obtained information on children's school transport modes and parents' views on active commuting from the Arrival and Departure Tally Sheet and Parent Survey About Walking and Biking to School, instruments developed by the SRTS national center. As of October 2010, 20% (n = 42) of grantees from 219 federally funded programs in California had voluntarily submitted evaluation data pertaining to 392 schools, including 63 078 unique parent records.

## RESULTS

Regardless of weather conditions, day of week, or time of day, the relative pattern of school transport mode was consistent. A majority of children commuted in their family vehicle, and smaller percentages of children walked, carpooled, took the school bus, biked, or used public transportation (Figure 1).

Numerous issues affected parents' views on active commuting (Table 1). A majority felt their child's school neither encouraged nor discouraged active commuting but nonetheless felt commuting would be "fun or very fun" and "healthy or very healthy" for their child. Furthermore, parents' willingness to allow or not allow their child to actively commute depended on safety and convenience concerns. Specifically, parents' safety concerns in descending order were as follows: unsafe intersections and crossings; high traffic speeds, large amounts of traffic, and violence or crime along route; and lack of sidewalks or pathways, crossing guards, and adults to bike or walk with. Parents' convenience concerns in

descending order were long commuting distance, weather or climate, long commuting times, impact on child's before- and after-school activities, and the convenience of driving.

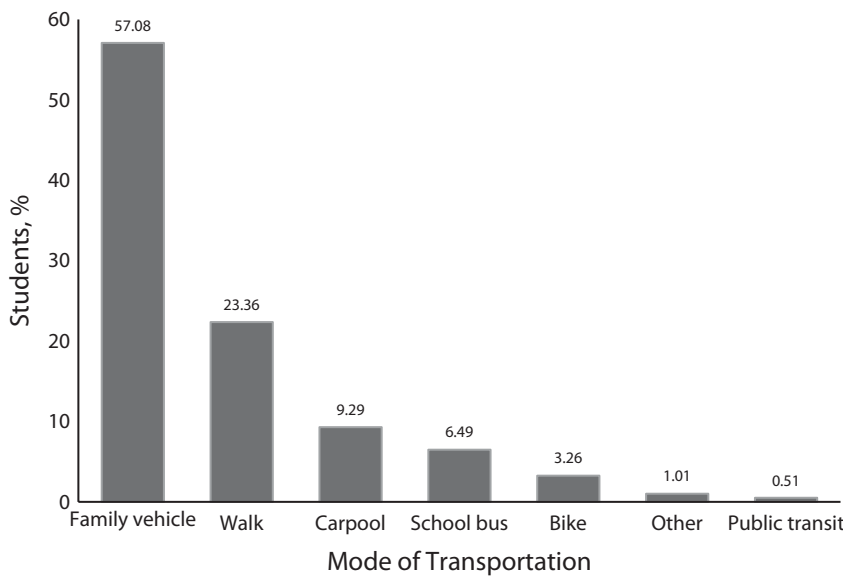
When asked whether they would allow their child to actively commute if their concerns were addressed, between 2 and 4 times as many parents agreed as disagreed that they would (Table 2). Notably, although parental consent for active commuting grew with each increasing grade, peaking at sixth grade, a significant proportion of parents reported feeling uncomfortable with it at any grade.

## DISCUSSION

We identified modes of school transport among children and parental concerns regarding active commuting in California that could conceivably be eased through appropriate interventions. Salient is the disproportionate percentage of children who are driven to school rather than walking or biking. Our results are consistent with the few evaluations of SRTS programs in the state of California<sup>7–9</sup> and compatible with national<sup>2,3,10,11</sup> and international<sup>12,13</sup> trends.

The available empirical literature is limited in terms of providing information about the causes of these patterns. Elsewhere, it has been suggested that parents' perceptions of safety and the multiple and competing obligations influencing their routines between home, school, and work are important factors in their decisions about their child's mode of school transport.<sup>14,15</sup> Other factors, such as type of community (e.g., rural, urban),<sup>8,16</sup> geography, spatial design, and distance,<sup>17,18</sup> may also be influential.

Our study involved several limitations. First, only a small percentage of grantees provided evaluation data. Second, it is unclear whether the instruments we used, developed by the SRTS national center to standardize data collection, are validated or how they can in fact be validated to ensure that they are measuring what the National Center intends. Third, because only aggregate data were collected and tracked over time, there was no information on individual-level commuting practices, and we were unable to identify linkages between



**FIGURE 1—Modes of school transport among students (n = 412 932) from schools participating in Safe Routes to School programs in California, 2008–2010.**

specific parent–child dyads.<sup>7</sup> Fourth, younger children were disproportionately represented (56% of children were between kindergarten and third grade), which may have skewed

parents’ replies concerning their comfort with active commuting. Finally, the types of communities in which participating families lived were not identified, so we do not know which

other relevant factors may have influenced active commuting.

Despite these limitations, our findings allow us to make suggestions for future studies that could substantially improve collection of data on SRTS programs.<sup>19</sup> First, enforcing data submission with positive (e.g., financial incentives) or negative (e.g., reductions in future funding) sanctions may help increase response rates among grantees submitting evaluation data. Furthermore, qualitatively exploring the experiences of grantees may illuminate barriers to data collection and submission<sup>20</sup> and help identify methods to overcome them.

Second, this study was part of our larger project evaluating behavioral, environmental, socioeconomic, and other social determinants of health as they affect childhood obesity rates. A nuanced understanding of the facilitators and barriers concerning one such determinant (i.e., modes of school transport) may be gained by also using qualitative methods to explore the demands parents bear with their own commuting needs and their safety or convenience concerns. In addition, qualitatively exploring children’s after-school activities, routines, and perceptions<sup>21</sup> may provide a better understanding of how families make commuting decisions.<sup>14,15</sup>

Third, interviews with key stakeholders, such as principals, city planners, and school board members, may help determine their level of interest in or satisfaction with SRTS efforts. Fourth, collecting information on community type could help program developers and policymakers tailor their efforts to address a community’s unique geographic needs.<sup>7,8,16</sup>

Finally, using geographic information systems to cross reference school zip codes with census tract data to provide demographic and socioeconomic information could help identify approaches better fitting the populations living within these areas.<sup>16</sup> Overall, enhancing data collection could help establish a more robust picture of commuting behaviors and decision making and ultimately better inform strategies to improve the outcomes of SRTS programs. ■

**TABLE 1—Parents’ Perceptions of Their Child’s Transport to and From School: California, 2008–2010**

	Sample, No. (%)
Child asked parent permission to walk or bike	
Yes	27 924 (47.18)
No	31 265 (52.82)
School’s position on active commuting	
Strongly encourages	7500 (12.56)
Encourages	19 002 (31.82)
Neither encourages nor discourages	30 853 (51.67)
Discourages	1455 (2.44)
Strongly discourages	902 (1.51)
Data missing	3 366
Active commuting is fun/boring for your child	
Very fun	10 814 (18.82)
Fun	21 245 (36.97)
Neutral	22 266 (38.75)
Boring	2022 (3.52)
Very boring	1120 (1.95)
Data missing	5611

Continued

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**TABLE 1—Continued**

Active commuting is healthy/unhealthy for your child	
Very healthy	28 515 (48.73)
Healthy	22 351 (38.20)
Neutral	6987 (11.94)
Unhealthy	331 (0.57)
Very unhealthy	330 (0.56)
Data missing	4564
Safety concerns affecting decision to allow your child to commute <sup>a</sup>	
Safety of intersections and crossings	27 202 (43)
Speed of traffic along route	22 646 (36)
Amount of traffic along route	21 852 (35)
Violence or crime	21 661 (34)
Sidewalks or pathways	12 615 (20)
Crossing guards	10 645 (17)
Adults to bike/walk with	10 187 (16)
Convenience concerns affecting decision to allow your child to commute <sup>a</sup>	
Distance	25 678 (41)
Weather or climate	17 363 (28)
Time	14 471 (23)
Child's before-school/after-school activities	9126 (14)
Convenience of driving	6919 (11)
Grade level you would allow child to commute without an adult	
Prekindergarten	3 (0.00)
Kindergarten	234 (0.39)
Grade 1	508 (0.85)
Grade 2	1137 (1.89)
Grade 3	3686 (6.14)
Grade 4	5967 (9.94)
Grade 5	6575 (10.96)
Grade 6	7518 (12.53)
Grade 7	4459 (7.43)
Grade 8	2801 (4.67)
Grade 9	1139 (1.90)
Grade 10	264 (0.44)
Grade 11	271 (0.45)
Grade 12	70 (0.12)
Uncomfortable at any grade	25 332 (42.21)
Unknown	44 (0.07)
Data missing	3070

<sup>a</sup>Multiple responses were allowed, and thus percentages do not sum to 100%.

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### Contributors

C. Chaufan led the writing of the article. J. Yeh assisted in the writing of the article. P. Fox reviewed and edited the article.

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### Human Participation Protection

Because coded private information was used, no protocol approval was needed for this study.

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**TABLE 2—Parents' Willingness to Allow Their Child to Actively Commute to and From School: California, 2008–2010**

	Yes, %	No, %	Not Sure, %	No Reply, %
Would let your child commute if safety concerns were addressed <sup>a</sup>				
Adults to bike/walk with	54.97	10.24	8.85	25.94
Crossing guards	50.52	10.62	8.09	30.77
Safety of intersections and crossings	46.18	14.65	12.10	27.07
Speed of traffic along route	44.38	19.01	15.28	21.23
Amount of traffic along route	43.59	18.52	14.77	23.12
Sidewalks or pathways	42.79	12.31	8.78	36.12
Violence or crime	36.57	23.08	15.84	24.51
Would let your child commute if convenience concerns were addressed <sup>a</sup>				
Distance	41.96	18.29	12.57	27.18
Time	41.28	17.06	12.06	29.60
Child's before-school/after-school activities	37.68	21.52	14.33	26.46
Weather or climate	33.76	19.52	13.24	33.48
Convenience of driving	33.62	23.92	16.94	25.52

<sup>a</sup>Multiple responses were allowed, and thus percentages do not sum to 100%.

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