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Other stories—

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[TRB 2008 Posters](#)

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Making the Way to School Safer



TSC researcher Nicolas Gutierrez (at left) and assistant director Jill Cooper presented the paper, "[Pedestrian and Bicyclist Safety Effects of the California Safe Routes to School Program](#)," at the [School Transportation Research](#) session at the 2008 Annual Meeting of the Transportation Research Board.

When the California State Legislature created the **Safe Routes to School** program in 1999, it set up a competitive pool of grant money for schools to pay for measures that would increase the number of children who walked or biked to their schools by making the routes easier and safer to navigate by foot and on bike. An evaluation conducted by Traffic Safety Center researchers shows that, overall, biking and walking trips rose, and safety was improved.

TSC researcher **Nicolas Gutierrez** and assistant director **Jill Cooper**, two of the authors of the study, "Pedestrian and Bicyclist Safety Effects of the California Safe Routes to School Program," reported on their work at the School Transportation Research session of the 2008 Annual Meeting of the Transportation Research Board.

The study looked at projects funded in the first three grant cycles of the program, where construction had been finished by the end of 2005. The projects also had to have no significant overlap with other projects that might have affected traffic safety near the school sites. Surveys were sent to the Safe Routes to School (SR2S) grant contact person at each school. There was a 56 percent response rate. After other factors were taken into consideration, the evaluation had 125 projects to examine.

Sidewalk upgrades were the main improvement in well over half the projects. Improving crossings at intersections was another high priority undertaking, present in more than one-third of the projects. Nearly all the grants involved multiple types of improvements, and the largest proportion of schools affected were elementary schools.



TSC assistant director Jill Cooper presenting her part of the evaluation of the Safe Routes to School program at TRB.

The TSC effort built on a 2003 analysis mandated by the legislature. In general, Cooper observed, the state experienced a downward trend in injuries for children while walking and biking during this period. This is likely due to the fewer children who were actually walking and biking to school ([see related story about the health effects of the school commute](#)), she pointed out.

Noting that the quantitative collision data alone could suggest that the program had no

effect on safety, Cooper pointed to data from both the 2003 evaluation and the current analysis suggesting that children's "mobility" via bike and walking had increased in project areas. "So, if walking and biking increased, and injuries did not increase, we think that can suggest a net increase in safety. That's our bottom line for the study," she said.

The researchers also noted some problems in using just the quantitative data to get a full picture. It does not "tell the whole story," their report notes. "First, collisions are relatively rare events, although they often have catastrophic consequences. As a result, a small variation in the number of collisions in a certain area—even if it is the result of random circumstances—can greatly influence the outcome of the analysis. While crashes, fortunately, were rare at the sites, "near misses are not. That is where the story is."

"Second, collisions result from a combination of circumstances: how many vehicles are in the area, combined with the number of pedestrians (including bicyclists), and the behavior of both the vehicles and pedestrians. ...However, the numbers of vehicles and pedestrians were not, for the most part, assessed before and after these projects. As a result, the exposure of pedestrians to vehicles—that is, the risk that pedestrians face—has not been assessed, and is not therefore taken into account in the safety analysis. Lastly, collisions are only one aspect of safety." Other safety-related benefits of the SR2S program include reducing near-misses in vehicle traffic and improving personal perceptions of safety and vehicle and pedestrian behaviors.

Seeking a more complete picture, the researchers and staff from the California Department of Transportation (Caltrans) surveyed grant recipients. They submitted supporting documentation, including 114 sets of comments from parents, school boards, school officials and administrators, teachers, local residents, and other involved parties, all but two of which were favorable. Drivers, pedestrians and bicyclists were observed to have changed behavior in ways leading to safer outcomes, according to the survey results and comments collected by school site personnel.

"A key feature of the Safe Routes program is that local programs are encouraged to complement engineering improvements with education and outreach, in addition to enforcement," Cooper said. Programs are also encouraged to target populations at risk.

Cooper suggested conducting another evaluation with more complete data and improve and standardize collection of data.

In the question-and-answer program, a representative of the [Safe Routes to School National Partnership](#) noted that a new reporting form had been posted online.