Meeting Safety Goals in California with Safe Routes to School

HSIP and Safe Routes to School

The Federal Highway Safety Improvement Program (HSIP) sets out a system whereby states identify safety hazards and projects that will improve those hazards. To fund projects under HSIP, a state must first have a Strategic Highway Safety Plan (SHSP) that identifies and analyzes highway safety problems and opportunities and lists a program of projects and strategies to reduce those identified safety problems. The SHSP must align with the performance measures for safety forthcoming in the next 18 months from FHWA, but which will be focused on serious injuries and fatalities (number and rate per vehicle-mile traveled).

The infrastructure and non-infrastructure initiatives undertaken through Safe Routes to School fit into this framework. The California SHSP also distinctly calls out Safe Routes to School as a strategic action item under three key challenge areas: Reduce Young Driver Fatalities (Challenge Area 6), Make Walking and Street Crossing Safer (Challenge Area 8), and Improve Bicycling Safety(Challenge Area 13). Per the HSIP guidance from FHWA, several types of HSIP projects warrant additional consideration. The guidance specifically calls out non-infrastructure projects as one of those warranting special consideration. It indicates that non-infrastructure projects intended to correct or improve a hazardous location or feature or that address a highway safety problem are eligible, as long as consistent with the SHSP and contribute to a reduction in fatalities and serious injuries.[1]

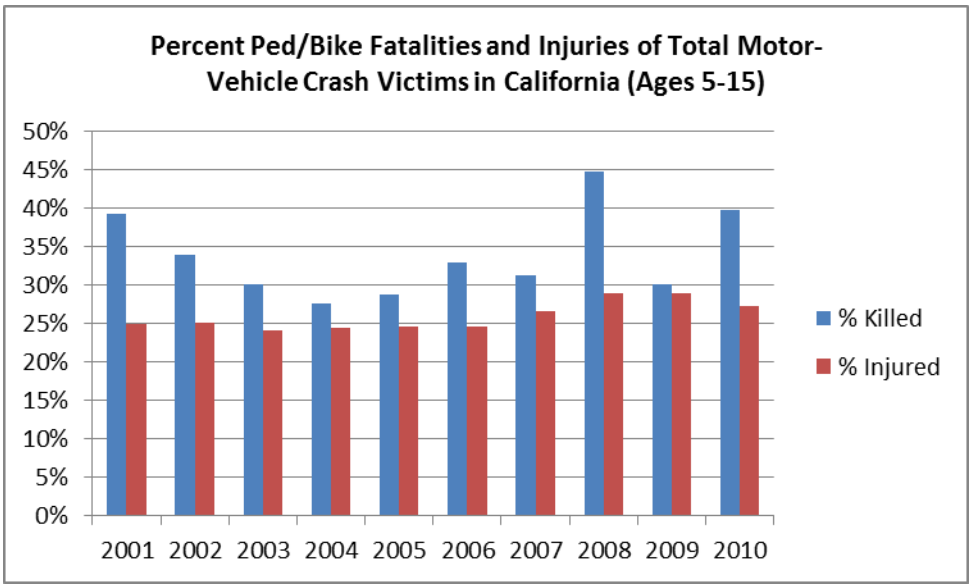
California's Safety Problem

Californians walk and bicycle at much higher rates than the rest of the country, especially Californians between 5 and 15 years of age. Higher exposure coupled with unsafe road conditions result in a much greater risk of serious injuries and fatalities to pedestrians and bicyclists.

Fatal crashes involving bicyclists and pedestrians are significantly higher than their share of transportation modes, and the statistics involving children are even more disproportionate:

- Fifteen percent of all trips in California are already made by bicycling or walking, according to the 2009 National Household Travel Survey.
- Based on a three-year average from 2008-2010, 23.2 percent of serious injuries and fatalities due to motor-vehicle crashes in California involve a bicyclist or pedestrian of any age.
- Between 26-31 percent of Californian children walk and bicycle to school, more than twice the national average.[2]

- In 2010, 40 percent of children (ages 5-15) killed and 27 percent of children injured in motor-vehicle crashes were walking or bicycling (see graph below for rates since 2001).[3]



Statewide Integrated Traffic Records System (SWITRS) http://www.chp.ca.gov/switrs/ [4]

There is significant opportunity to increase rates of walking and bicycling even more in California, if safety hazards can be addressed:

- According to the 2009 American Community Survey, approximately 18 percent of California households do not have a driver's license.[4]
- In 2012, California had 6,207,064 students in K-12 (representing approximately 16 percent of the State's population), most of whom cannot drive and need mobility options.[5]
- Approximately 62.4 percent of children in CA live within two miles of school, yet 51 percent of these children are driven to school in a private vehicle.[6]
- Approximately 50 percent of all trips in California are under 3 miles[7] and 60 percent of trips under one mile are currently taken by automobile.[8] These trips can easily be accomplished by walking or bicycling.

How Safe Routes to School has Improved Safety

In 1999, California became the first state in the nation to pass legislation funding a new Safe Routes to School program. The program redirected one-third of federal safety funds to Safe Routes to School, and began providing more than $20 million per year for new bike lanes, pathways, crossings and sidewalks to help kids walk and bicycle to and from schools throughout the state. When the federal Safe Routes to School program was created through 2005 Congressional legislation, California elected to spend 70 percent of federal program funds on infrastructure and 30 percent on non-infrastructure safety initiatives. The federal program doubled funding available for Safe Routes to School to approximately $48 million/year.

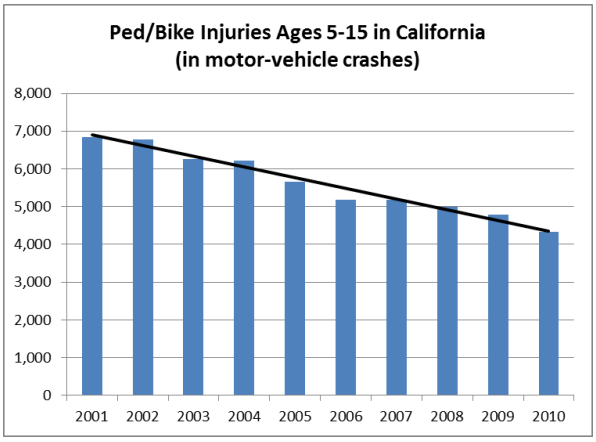
The types of infrastructure built with Safe Routes to School dollars have proven safety benefits for all residents in the community surrounding a school:

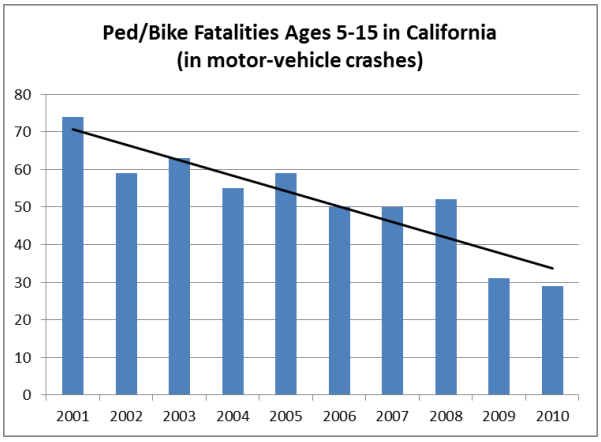
- Traffic calming improvements can reduce pedestrian-vehicle crashes by up to 25 percent.[9]
- Pedestrians are more than twice as likely to be struck by a vehicle in locations without sidewalks.[10]
- Refuge islands in crosswalks can reduce the likelihood of pedestrian-vehicle crashes by 66 percent.[11]
- Increasing street lighting can reduce pedestrian-vehicle crashes by 59 percent.[12]

Safe Routes to School non-infrastructure programs such as safety education and enforcement activities also have significant proven safety benefits:

- Teaching children bicycle and pedestrian safety can improve children's knowledge of safety when walking and crossing roads.[13]
- Enforcing speed limits in school zones can reduce the risk of death significantly: a pedestrian hit by a vehicle traveling 20 miles per hour (mph) has a 95 percent of surviving; at 30 mph the chance of survival is 55 percent, and at 40 mph the chance of survival decreases to only 15 percent.[14]

Implementing Safe Routes to School in California over the last 12 years has had dramatic positive safety benefits for children walking and bicycling to school in the state. A safety analysis by the California Department of Transportation estimated that the safety benefit of Safe Routes to School was up to a 49 percent decrease in child pedestrian and bicycle collision rates.[15] In addition, the last ten years of California Highway Patrol records in the Statewide Integrated Traffic Records System (SWITRS) reveals a steady decline in injuries and fatalities for walking and bicycling children aged 5-15 (see figures below) which shows that California's Safe Routes to School programs are working.





Statewide Integrated Traffic Records System (SWITRS) http://www.chp.ca.gov/switrs/

A cornerstone to developing livability and sustainability in California will be creating safe communities where people can walk and bicycle. An important indicator of a livable, safe community is whether our children can safely walk or bicycle to schools. Numerous polls and surveys point to the fact that people want to ride bicycles and walk more often, but they are afraid to do so without safer places to ride and walk. Safer streets and communities can be achieved with Safe Routes to School. And, the evidence is there to support funding this important safety program out of the federal allocation for California's Highway Safety Improvement Program.

End Notes

[1] FHWA HSIP guidance http://www.fhwa.dot.gov/map21/guidance/guidehsip.cfm
[2] Nancy McGuckin, *"Travel to School in California: Findings from the CA-NHTS",* Active Living Research, November 2012.
[3] Statewide Integrated Traffic Records System (SWITRS) http://www.chp.ca.gov/switrs/
[4] Statewide Integrated Traffic Records System (SWITRS) http://www.chp.ca.gov/switrs/
[4] Assumes the population eligible to obtain a driver's license is 29,199,714 and that 23,681,000 Californians have drivers licenses. License information found here http://www.census.gov/compendia/statab/2012/tables/12s1098.pdf. Population of Californians 15 years and older from the 2009 American Community Survey found here http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_09_1YR_S0101&prodType=table.
[5] California Department of Finance: http://www.dof.ca.gov/research/demographic/reports/projections/k-12/documents/2012Series_K-12_Reports_Internet.xls
[6] 2009 National Household Travel Survey
[7] 2009 NHTS Caltrans. http://saferoutescalifornia.wordpress.com/2012/05/31/trip_distance_ca2009/
[8] Nancy McGuckin, "*Walking and Biking in California: Analysis of the CA-NHTS." UC Davis ITS, August 2012.*
[9] W. Brilon and H. Blank. "Extensive Traffic Calming: Results of the accident analyses in six model towns." In Proceedings of the 63rd Annual Meeting of the Institute of Transportation Engineers. Washington D.C.; Institute of Transportation Engineers. 1993:119-123.
[10] R. Knoblauch, B. Tustin, S. Smith, and M. Pietrucha. "Investigation of Exposure-Based Pedestrian Accident Areas: Crosswalks, Sidewalks, Local Streets, and Major Arterials." Washington DC: US Dept of Transportation; 1987.
[11] P. Carder. "Pedestrian Safety at Traffic Signals: A study carried out with the help of a traffic conflicts technique." Accidents Annual and Prevention. 1989:21:435-444.
[12] B. Pegrum. The Application of Certain Traffic Management Techniques and Their Effect on Road Safety. In: Proceedings of the National Road Safety Symposium. Perth, Western Australia: Dept of Shipping and Transport; 1972:277-286.
[13] O. Duperrex, I. Roberts, and F. Bunn. "Safety Education of Pedestrians for Injury Prevention." The Cochrane Database of Systematic Reviews; The Cochrane Library. 2 (2009).
[14] Federal Highway Administration (2002). Pedestrian Facilities Users Guide: Providing Safety and Mobility. Available at: http://drusilla.hsrc.unc.edu/cms/downloads/PedFacility_UserGuide2002.pdf
[15] M. Orenstein, N. Gutierrez, T. Rice, J. Cooper, and D. Ragland, "Safe Routes to School Safety and Mobility Analysis" (April 1, 2007). UC Berkeley Traffic Safety Center. Paper UCB-TSC-RR-2007-1. http://repositories.cdlib.org/its/tsc/UCB-TSC-RR-2007-1