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Traffic Safety Center
SETTING NEW DIRECTIONS IN TRAFFIC SAFETY

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RESEARCH SNAPSHOT

DRIVER/PEDESTRIAN UNDERSTANDING AND BEHAVIOR AT MARKED AND UNMARKED CROSSWALKS

In 2002, Nearly 23 percent of U.S. pedestrians involved in collisions were in a crosswalk at the time they were hit, and nearly all resulted in pedestrian injury or fatality.

In California, Caltrans is responsible for providing access to safe and convenient travel for pedestrians as users of a shared roadway network. Yet, inadequate pedestrian safety in marked crosswalks at unsignalized intersections continues to challenge transportation engineers and planners. Results from thirty years of numerous localized studies have been confirmed by a nationwide study, which indicate that marked crosswalks across multi-lane roads with travel volumes exceeding 10,000 average daily traffic (ADT) present a higher accident risk for pedestrians than do unmarked crossings. Many agencies have elected to remove marked crosswalks at unsignalized intersections or have resisted installing them in the first place. This approach results in unacceptable pedestrian mobility restrictions and Caltrans should not adopt such a policy.

The Traffic Safety Center recently completed a study of pedestrian and driver knowledge of right-of-way laws in a series of focus groups and a survey, as well as pedestrian and driver behavior at a sample of unsignalized, high-volume, multi-lane intersections in California. This study focused on identifying potential human factors explanations for the crosswalk dilemma. Several statistically significant differences in marked versus unmarked crosswalks were identified and shed new light on this debate.

Based on this information it seems Caltrans' conventional focus on engineering solutions may be insufficient or inadequate to address the problem. To fully provide for the safety of pedestrians, and encourage walking as a legitimate means of transportation in California, there is a need for a policy re-prioritization. This report describes TSC research and offers recommendations for countermeasures to improve pedestrian crosswalk safety.

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