



Caltrans Division of Research,
Innovation and System Information

Research

Results

Transportation
Safety and
Mobility

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Project Title:

Strategies for Reducing Pedestrian and Bicyclist Injury at the Corridor Level: Phase 3

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Strategies for Reducing Pedestrian and Bicyclist Injury at the Corridor Level: Phase 3

Develop techniques and tools for pedestrian/bike safety will help California Department of Transportation (Caltrans) to more efficiently target highway improvements and countermeasures at locations that will cause the greatest reduction in fatal and injury pedestrian collisions.

WHAT WAS THE NEED?

While California has seen major gains in traffic safety over the last decade, these gains disproportionately reflect improvements in passenger vehicle safety. Crash data from California shows that the State experienced a 36% decline in passenger vehicle fatalities from 2006-2015, but only a 9% decline in bicycle fatalities and a 3% increase in pedestrian fatalities. In light of this, there was a need for a concerted effort to support activities that improve bicyclist and pedestrian safety in California.

WHAT WAS OUR GOAL?

The goal of this project was to identify and address systematic and specific problems with regard to bicyclist and pedestrian safety in California, with the long-term goal of substantially reducing pedestrian and bicycle fatalities and injuries in the state.

WHAT DID WE DO?

The core of this phase included four overarching objectives:

- Develop a bicycle safety monitoring tool - The tool is based on the pedestrian tool and methodologies developed under 65A0547 to identify bicycle-related HCCLs and corridors on the state highway system. This tool will be used to support a pilot bicycle monitoring program as proposed by Caltrans.
- Support the pedestrian safety monitoring tool - The research team responded to enhancements that need to be added to the functionality of the existing PSMR tool developed in a previous project.



DRISI provides solutions and knowledge that improves California's transportation system

- Develop a systemic approach and tool for bicycles- In addition to the corridor approach developed in this project the research team also developed a systemic approach that seeks blanket improvements that can be implemented at sites across the road network, based on specific roadway features that are associated with a particular crash type.
- Develop an approach to model bicycle exposure for the state highway system - The existing Caltrans TASAS-TSN highway database does not include any bicycle volume data. To meet this challenge the research team developed an approach to modeling bicycle volumes across the state highway system. The research team performed data collection and processing to support implementation of the model in a future study.

WHAT WAS THE OUTCOME?

The new bicycle corridor identification and bicycle systemic approaches broaden the scope of the bicyclist safety monitoring program along the spectrum of reactive and proactive approaches to traffic safety. The MS Excel-based safety monitoring and systemic tools will be used by Caltrans Safety Programs to implement the bicyclist and pedestrian safety monitoring programs. The preliminary work conducted for the bicycle exposure modeling will be completed in the subsequent phase of the study.

WHAT IS THE BENEFIT?

The project provides a foundation for spot, corridor, and systemic safety programs to identify and address safety problems with regard to bicyclist and pedestrian safety in California. The direct benefits of establishing and institutionalizing such programs is expected to result in substantial reductions in pedestrian and bicycle fatalities and injuries in California.

LEARN MORE

Review the complete report.

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