Highways for LIFE Technology Partnerships Program

Sequential Dynamic Curve Warning System (SDCWS)

Product Safety Performance Evaluation - 2011

U.S. Department of Transportation
Federal Highway Administration
HIGHWAYS FOR LIFE
Accelerating Innovation for the American Driving Experience.

Need for Innovation

Horizontal curves make up a small percentage of total roadway miles, yet they account for one-quarter of all highway fatalities. The majority of curve related crashes are attributed to speeding and driver error and involve lane or roadway departures. There are a number of traditional low-cost countermeasures to help keep vehicles on the road and in their lane, however, their applications can be limited. This leads to the need for additional research and testing of more dynamic devices to assist traffic engineers in managing speed and safety across their roadway networks.

Project Overview

The objective of this project is to evaluate the effectiveness of Sequential Dynamic Curve Warning System (SDCWS) in reducing vehicle speeds and the frequency and severity of speed related crashes on horizontal curves on rural roadways. Twelve treatment sites and 24 control sites have been identified in Missouri, Texas, Washington and Wisconsin. Speed data will be collected before and immediately after the installation, as well as after 12 and 18 months. Guidelines and recommendations for implementing SDCWS displays for curves will be included in the final report.

Project Status

The project is in phase II. Field visits for site selection have been completed for the four states. The SDCWS will be installed at the evaluation sites by Spring 2012.

Project Team

Traffic and Parking Control Co., (TAPCO) – Technology Provider
Evaluation Team:
CTRE Center for Transportation Research and Education at Iowa State University
Texas Transportation Institute
Science Applications International Corporation

Contact Information

FHWA, Highways for Life
Technology Partnerships Program
Julie Zirlin, 202-366-9105
www.fhwa.dot.gov/hfl

Dr. Omar Smadi, Research Scientist
Center for Transportation Research and Education
515-294-7110
smadi@iastate.edu

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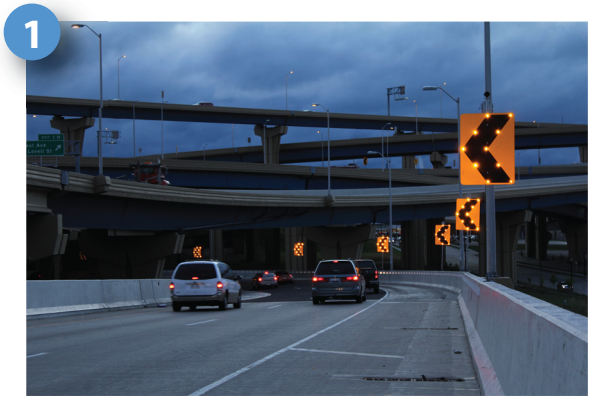

The System consists of a series of solar-powered, LED-enhanced BlinkerSigns® (a Curve Warning BlinkerSign and an array of Chevron BlinkerSigns) that are installed throughout a curve.

Approach vehicles, sensed by radar or other ITS device, trigger the controller that wirelessly activates the LED signs to flash sequentially through the curves to warn speeding drivers to slow down. The flash pattern and timing is easily programmed.

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The SDCWS consists of a series of solar-powered, LED-enhanced, chevron signs that are installed throughout a curve.

Approach vehicles, sensed by radar in the advance curve warning sign, trigger the controller that wirelessly activates the LED signs to flash sequentially through the curve to warn speeding drivers to slow down.

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