

Evaluation of Low-Cost Safety Improvements Pooled Fund Study

Progress Report

July to September of 2008

The goal of this research is to develop reliable estimates of the safety effectiveness of safety improvements identified as strategies in the National Cooperative Highway Research Program (NCHRP) Report 500 Guidebooks through scientifically rigorous before-after evaluations of sites within the U.S. where these strategies are being implemented.

A target of 20 strategies totaling \$4.38 million over 3 to 5 years is planned for ELCSI-PFS studies in four phases. The progress for each phase is stated below.

Phase I - Retrospective Evaluation

Evaluations include following strategies:

- 1) STOP Signs with Increased Retroreflectivity,
- 2) Flashing Beacons,
- 3) STOP AHEAD Pavement Markings, and
- 4) Two-Way Left-Turn Lanes.

Status:

- The Phase I evaluations are completed. All the four studies of Phase I are published by FHWA (April, 2008).
- Transportation Research Board (TRB) presented studies of 1) Flashing Beacons, 2) STOP AHEAD Pavement Markings, and 3) Two-Way Left-Turn Lanes in TRB Annual Meeting of 2008.
- TRB will publish; 1) Flashing Beacons, 2) STOP AHEAD Pavement Markings, and 3) Two-Way Left-Turn Lanes, in 2008.

Phase II - Retrospective Evaluation

Evaluations include following strategies:

- 1) Offset Left-Turn Lanes,
- 2) Advance Street Name Signing,
- 3) ~~Combinations of Shoulder and Centerline Rumble Strips/Stripes~~, Evaluation of Curve Treatment strategy, and
- 4) Lane Width/Shoulder Width Combinations.

Status:

The first drafts for all above studies have been received and reviewed. Technical feedbacks for modifications to the first drafts were provided on August 1, 2008. These studies are scheduled for publication in March of 2009.

Phase III - Prospective Evaluations

In the annual TAC Meeting, 2007, "Run-of-Road" (ROR) strategies were among the highest rated (balloting process) strategies for evaluation in the Phase III of the Low-Cost Safety PFS. The ROR countermeasures are the most comprehensive strategy in all phases (I-IV) of the Low-Cost Safety PFS. These sets of strategies will be based on the NCHRP Report 500, Volume 6: A Guide for Addressing Run-Off-Road (ROR) Collisions. The above volume states that to reduce the number of ROR fatality crashes, important objectives are to:

- Keep vehicles from encroaching on the roadside
- Minimize the likelihood of crashing or overturning if the vehicle travels off the shoulder
- Reduce crash severity

Status:

Contract is active as of September 2008. FHWA has completed statistical analysis of crash data for KS and VA. Analysis for KY will be completed in November 2008. FL and IA are scheduled for early 2009. FHWA has managed crash data files for the State of Kansas, and has submitted data files to contractor for independent analysis and feasibility study.

Phase IV - Simulation

The simulation phase has two parts as described below.

Part1- The low cost safety improvements for curves will include;

- Edge lines,
- Chevrons, and
- Post-mounted delineators.

These safety countermeasures are all designed to enhance the visibility of curves at night.

Part 2- The low cost safety improvements for small towns will include;

- Bulb-outs,
- Chicanes, and
- Medians.

These safety countermeasures are all designed to slow traffic down while driving through small towns.

Status:

The Phase IV evaluations are completed for;

1. simulations
2. data collections

At present study is in the data analysis stage. Results are expected to be published in summer of 2009.