

Evaluation of Low-Cost Safety Improvements Pooled Fund Study

Progress Report

October – December 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.

Announcement

Evaluation of Low-Cost Safety Improvements PFS' **Annual TAC Meeting is scheduled for March 18 and 19 of 2009 at following location.**

National Highway Institute/National Training Center
4600 North Fairfax Drive, 7th Floor
Arlington, VA 22203
Phone: (703)235-1212 Fax: (703)235-1196

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: Completed and published.

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 final reports and tech briefs for; 1) Offset left-Turn Lanes, 2) Advanced Street Name Signing, and 3) Lane Width/Shoulder Width Combinations have been received and are going through final review process by State DOT TAC members and FHWA's experts. The Final report and Tech brief for Evaluation of Curve Treatment Strategy is expected to be received in January 2009. These studies are scheduled for publication in March of 2009.

Also, "Offset left-Turn Lanes" paper was accepted by TRB for presentation and publication in 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. In year 2008, we (FHWA, Office of Safety Management and HSIS) received crash data from three States of **KS, KY, and VA**, and have;

- Managed and identified deficiencies and redundancies in the above stated crash data
- Analyzed crash data
- Developed new process and procedures for effective and efficient statistical analysis (general or state specific)
- Provided reports for **comprehensive statistical crash data analysis** results for Run-of-Road low/high cost safety improvements
- Provided technical feedbacks for analysis review, and field applications

Currently we (FHWA) are in process of crash data analysis for state of IA, and shortly we will start data management and analysis for FL DOT.

KS, KY, and VA have selected Curve treatments for multi-strategy countermeasure for safety improvements in Phase III of Evaluation of Low-Cost Safety Improvements.

KS DOT has started co-operation with VHB (contractor) to identify possible sites for improvements and to conduct feasibility analysis for selected sites.

Phase IV - Simulation

The simulation phase has two parts as described below.

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

- Edge lines
- Post-mounted delineators
- Post-mounted delineators with LED
- Combinations

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
- Parking along the roads

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.