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Research

Notes

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Highway Safety Manual
Implementation

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Highway Safety Manual Implementation

A study focuses on Safety Analysis Needs Assessment for Performance-Based Practical Design (PBPD) and Transportation Systems Management and Operations (TSMO) project.

WHAT IS THE NEED?

The Highway Safety Manual (HSM) (2010), 1st Edition, was published by American Association of State Highway and Transportation Officials (AASHTO) in 2010. The HSM provides the best information and tools in a useful form to facilitate roadway planning, design, operations, and maintenance decisions based on precise consideration of their safety consequences. The primary focus of the HSM is the introduction and development of analytical tools for predicting the impact of transportation project and program decisions on road safety.

The AASHTO Standing Committee on Highway Traffic Safety has established a goal to institutionalize the AASHTO Highway Safety Manual and its associated analytical tools to make data-driven decisions advance the science of safety, and to ultimately reduce fatalities and serious injuries.

WHAT ARE WE DOING?

This study would conduct research tasks and develop products that would enable States to accelerate their implementation of the HSM. The specific tasks and products would be identified and prioritized by a Technical Working Group consisting of one representative each from participating agencies. Specific tasks may include:

1. developing a calibration manual to accompany the HSM that provides practical advice and examples on how best to adapt HSM calibration procedures to meet the needs of a particular agency;



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2. developing technical guidance for agencies on developing safety performance functions; and
3. developing guidance for agencies on assembling and managing the data needed for safety analyses.

The study would also facilitate Technical Working Group representatives' participation in peer exchanges and other forums through which agencies can exchange information, best practices, lessons learned, and remaining challenges in implementing the HSM appropriately into agencies system planning, project planning and preliminary engineering, design and construction, and operations and maintenance procedures and processes. These exchanges would feed an annual process through which the Technical Working Group identifies and prioritizes future tasks to be conducted under the study.

WHAT IS OUR GOAL?

The objectives of the study are:

1. to advance ongoing efforts by lead states to implement the Highway Safety Manual, and
2. to expand implementation to all states. This study would be coordinated with other ongoing and planned implementation activities sponsored by AASHTO, Federal Highway Administration, and Transportation Research Board, including National Cooperative Highway Research Program (NCHRP) Project 17-50 "Lead States Initiative for Implementing the Highway Safety Manual." It will also be coordinated with projects that develop content for future editions of the HSM including NCHRP Project 17-45 "Enhanced Safety Prediction Methodology and Analysis Tool for Freeways and Interchanges," NCHRP Project 17-54 "Consideration of Roadside Features in the Highway Safety Manual," and Transportation Pooled-Fund Study TPF-5(099) "Evaluation of Low Cost Safety Improvements."

WHAT IS THE BENEFIT?

The HSM provides methods to integrate quantitative estimates of crash frequency and severity into planning, project alternatives analysis, and program development and evaluation, allowing safety to become a meaningful project performance measure. HSM will support states' progress toward federal, state, and local safety goals to reduce fatalities and serious injuries.

As public agencies work toward their safety goals, the quantitative methods in the HSM can be used to evaluate which programs and project improvements are achieving desired results; therefore, agencies can reallocate funds toward those that are having the greatest benefit.

WHAT IS THE PROGRESS TO DATE?

The research team has completed the SPFs guidebook for the Highway Safety Manual (HSM). This guidebook is intended to provide guidance on whether an agency should calibrate the SPFs from the HSM or develop jurisdiction-specific SPFs. The guidebook discusses the factors that need to be considered while making the decision. It is intended to be of use to practitioners at state and local agencies and to researchers.

During this reporting period, a meeting was held on April 22. During this meeting, a presentation on the completed final report and two noteworthy applications on the Safety Analysis Needs Assessment for Transportation Systems Management and Operations (TSMO) was made. Also, a kick-off presentation on the HSM Case Studies project was made to solicit potential case studies and possible pooled fund representatives to serve on a case study review panel. An update on the Countermeasure Service Life project was also provided.

A performance work statement for the Countermeasure Service Life project was advertised and a contractor was selected on June 23.