Highway Safety Performance Newsletter

Newsletter of the TRB Highway Safety Performance Committee

January 2011 Issue II

The TRB Highway Safety Performance Committee

The TRB Highway Safety Performance Committee (ANB25) is committed to the advancement, integration and institutionalization of quantitative highway safety information to support transportation decision-making at all levels.

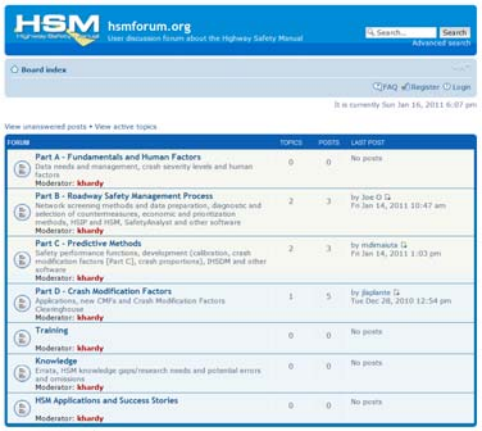
The function of the committee is to foster the continual development, validation and increased knowledge of science -based methods, procedures and measures that will increase the safety performance on the nation's highways and roadways.

The committee consists of the Chair, Dr. John Milton (WSDOT) who is supported by a secretary, a communications coordinator, a research needs coordinator, a paper review coordinator, and administrative and technical subcommittees. There are three administrative subcommittees: *Conferences and Meetings; Policy and Legal;* and *User Liaison and Technology Facilitation*. The committee has four technical subcommittees: *Highway Safety Management*; *Predictive Methods*; *Crash Modification Factors*; and *Future Directions*.

The Highway Safety Performance Committee has a key role in the development of the AASHTO Highway Safety Manual. The Committee works directly with AASHTO and FHWA, through the HSM Coordinating Committee. The Coordinating Committee was organized to increase the communication and interaction between FHWA, AASHTO and TRB as each of the groups work cooperatively towards the implementation of the first addition of the HSM and its supporting software.

The Highway Safety Performance Committee is looking for assistance in advancing the science of highway safety quantification and encourages interested individuals to become friends of the committee and participate as members of any of the various subcommittees.

AASHTO Highway Safety Manual User Discussion Forum



The HSM user discussion forum is now up and running. You can access this on the AASHTO HSM website at http://www.highwaysafetymanual.org. The forum allows HSM practitioners to query each other regarding various aspects of use or implementation of the HSM, and to share experiences with the manual. The information posted on the forum can be viewed by the general public. Topics covered in the discussion forum include:

- Part A – Fundamentals and Human Factors, including Crash Severity Levels; Data Needs and Management; and Human Factors.
- Part B – Roadway Safety Management Process, including network screening methods and data preparation; diagnostic and selection of countermeasures; economic and prioritization methods; SafetyAnalyst; Highway Safety Improvement Program and the HSM; and other software.
- Part C - Safety Performance Functions: development and calibration; Crash Modification Factors (as handled in Part C), and crash proportions; the Interactive Highway Safety Design Model; and other software.
- Part D – Crash Modification Factors: applications; new CMFs; and the FHWA Crash Modification Clearinghouse.
- Training.
- Knowledge, including errata; potential errors and omissions; and HSM knowledge gaps and research needs.
- HSM Applications and Success Stories.

Illinois hosts a Highway Safety Manual Lead State Peer to Peer Workshop in Schaumburg, IL (November 2010)

In November 2010 the Illinois Department of Transportation hosted a lead state Peer to Peer Workshop on the Highway Safety Manual. Read about the workshop and the outcome to the workshop on p.3.

Visit the TRB ANB25 website at http://www.safetyperformance.org

Contact Ida van Schalkwyk at ida.vanschalkwyk@ch2m.com for comments and suggestions about the TRB ANB25 newsletter.

Special points of interest:

The TRB Highway Safety Performance Committee

Activities of the committee during the 90th Annual Meeting of the Transportation Research Board

The IDOT HSM Peer-to-Peer Exchange, November 2010

Ongoing and anticipated projects to support the quantification of safety performance

Resources for the quantification of safety performance

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Sign up for our blog (email or RSS feeds) at our brand new website: www.safetyperformance.org

*Follow us on **twitter** and find us on **Facebook** (links are provided on our website).*

Contact Us

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miltonj@wsdot.wa.gov

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Communications Coordinator: Ida van Schalkwyk, CH2M HILL, ida.vanschalkwyk@ch2m.com

About the Highway Safety Performance Committee Subcommittees

Policy and Legal Issues Subcommittee— The Policy and Legal Issues Subcommittee is committed to providing policy and legal guidance for the use, validation and institutionalization of quantitative methods in highway safety. The subcommittee supports the Highway Safety Performance Committee and its stakeholders in the development of policy; addressing legal and risk management issues, and in increasing the application and institutionalization of quantitative methods in highway safety performance estimation.

User Liaison and Technology Facilitation Subcommittee —The User Liaison and Technology Facilitation Subcommittee promotes the institutionalization of the state of the art of quantitative highway safety information into professional practice, to be demonstrated by the widespread understanding and effective application of the fundamentals of highway safety. The subcommittee promotes the institutionalization of HSM practice and procedures; and future advances in quantitative highway safety performance by users, including: AASHTO, FHWA, TRB Committees, local agencies, consultants, educators and trainers, and other professional organizations.

Conferences and Meetings Subcommittee— The Conferences and Meetings Subcommittee supports and acts as a conduit for efforts by TRB ANB25 to provide a forum to expand the understanding related to the safety performance knowledge base. This will be accomplished by the development and delivery of conference sessions, workshops and seminars.

Communications Coordinator — The Communications Coordinator supports internal and external communication-related activities of the committee, i.e. within the committee, within TRB and with stakeholders within the field of safety performance. The communications coordinator leads the development and maintenance of the public and member websites for the committee; and facilitates activities that will support communicating ongoing efforts related to safety performance quantification within the committee and its stakeholders. The scope of the communications coordinator responsibilities is defined by TRB.

Highway Safety Management Subcommittee— This subcommittee focuses on road safety management as it relates to safety performance and the quantification thereof. Areas of concern include relevant content of the HSM (Part B) (errata, omissions, usability), SafetyAnalyst, systematic approaches, integrated data systems (for all public roads), planning level analysis and region-wide safety performance measurement.

Predictive Methods for Safety Performance Subcommittee — This subcommittee focuses on predictive methods as it relates to safety performance and the quantification thereof. Areas of concern include relevant content of the HSM (Part C) (errata, omissions, and usability), science of SPFs (functional form, base conditions, severity distribution, integration with CMFs), calibration, validation, advancement of the science of predictive safety performance methodologies, and surrogate measures.

Crash Modification Factors Subcommittee— This subcommittee focuses on crash modification factors for the quantification of safety performance. Areas of concern include relevant content of the HSM (Part D) (errata, omissions, and usability), science of CMFs, integration with SPFs, base conditions for CMFs, quantifying the effect on severity and collision types, appropriate use of CMFs (multiplicative issues, CMF clearinghouse), and advancement of the science of predictive safety performance methodologies.

Future Directions Subcommittee — This subcommittee focuses on the development of new approaches for estimating roadway safety performance that can be used to support the evaluation of the safety implications of road system decisions, including interactions with pedestrian and bicycle transportation modes. Areas of concern include relevant content of the HSM, research in areas related to crash data analysis that will yield robust, transferrable safety performance functions (SPF) and Crash Modification Factors (CMF) suitable for inclusion in future editions of the Highway Safety Manual (HSM). Future Directions coordinates efforts closely with the Surrogate Measures of Safety Subcommittee ANB20(3) and Safety Data Analysis and Evaluation Committee ANB20.

The Committee launches a brand new website at http://www.safetyperformance.org

Stay up to date with the latest information by signing up for our blog via email or RSS Feed. Follow us on Twitter and join us as a friend on Facebook. Links to these features are provided on our website.

A letter from the Chair

The New Year brings forth new opportunities for the TRB Highway Safety Performance Committee members and friends. I look forward to working with each of you as we continue our quest toward increasing the application of scientific methods in the analysis of safety performance.

We continue this effort at the TRB's 90th Annual meeting. Take time to visit TRB ANB25's sponsored workshops, sessions and meetings. We welcome your participation—it is important to the committee's success. For those who wish to become a friend of the committee or a member of a subcommittee feel free to contact a subcommittee chair or myself.

2010 was full of accomplishments. The AASHTO HSM was published in June and the HSM Task Force became a full TRB committee last summer. The first steps towards the second edition of the HSM started at the midyear meeting in August.

A number of states have started implementation and training of the HSM. Illinois hosted a HSM peer to-peer workshop in November last year that highlighted state HSM implementation activities. Read more about the workshop on page 3.

I eagerly look forward to 2011, as we work together in developing our strategic plan and solidifying the scope and mission for our committee. The second edition is just around the corner and your help is needed as we work with AASHTO to produce this document. I thank you for your willingness to provide your time and expertise. Without your efforts the HSM and our goal of improving the science of safety quantification would not occur.

Illinois HSM Lead State Peer to Peer Workshop, November 2011

The Illinois Department of Transportation (IDOT) and the Illinois Center for Transportation (ICT) in partnership with FHWA sponsored and hosted the *Illinois Highway Safety Manual (HSM) Lead State Peer to Peer Workshop,* November 2010 in Schaumburg, Illinois.

The HSM peer-exchange workshop involved representatives from thirteen selected states and experts familiar with HSM development and implementation in order to facilitate the exchange of experiences and examples related to HSM implementation among the lead states. The lead states for the Illinois Peer to Peer Workshop were Alabama, California, Florida, Illinois, Louisiana, Maine, Michigan, Missouri, New Hampshire, Ohio, Utah, Virginia and Washington.

This peer to peer workshop was a spinoff of the first national Safety Performance Function (SPF) Summit held by IDOT and ICT in 2009. IDOT recognized the huge benefits of having an event similar to this to advance state implementation efforts of the Highway Safety Manual (HSM) once released. This HSM Lead State Peer to Peer Workshop was intended to advance implementation efforts, compliment FHWA's implementation efforts, and lead into the *NCHRP Project 17-50: Lead State Initiative for Implementing the HSM*.

The HSM has the potential to bring about major changes in the accuracy and completeness of safety analyses conducted by highway agencies. The key to advance implementation of the new approaches within the HSM is to show examples from various key state agencies, discuss challenges and successes, and identify best practices and state needs. The workshop covered a wide range of topics regarding the institutionalization of new quantitative safety methods (policies, design, planning, leadership, resources and funding, etc), challenges and barriers (data collection and integration, statistical methods, analysis tools, training needs), case studies and successful applications of the HSM. The final product of this workshop is Lead State HSM Implementation Plans for each of the 13 states and a final report detailing the information shared and learned at the workshop.

New, Ongoing and Anticipated NCHRP Projects

- NCHRP 20-7(279) - A Draft Work Plan for the 2nd Edition of the HSM *(ongoing)*
- NCHRP 17-38: Development of Overview Training for the Highway Safety Manual — *(ongoing)*
- NCHRP 17-45: Enhanced Safety Prediction Methodology and Analysis Tool for Freeways and Interchanges
- NCHRP 20-7(290): Highway Safety Training Synthesis
- NCHRP 17-50: Lead States Initiative for Implementing the Highway Safety Manual
- NCHRP 20-7(314): Recommended protocol for Developing Crash Modification Factors (anticipated)

Spreadsheets to support training for the HSM

The project team for NCHRP Project 17-38, *Highway Safety Manual Implementation and Training Materials*, has developed a set of three spreadsheets to help new users understand how to apply the crash predictive methods included in Volume 2 of the Highway Safety Manual. The spreadsheets demonstrate the crash prediction procedures for rural two-lane two-way roads (HSM Chapter 10), rural multilane highways (HSM Chapter 11), and urban and suburban arterials (HSM Chapter 12). Though these spreadsheets were developed to help safety professionals learn the application of site-specific predictive method applications, they can easily be customized to meet the needs of any transportation agency. The spreadsheets are available free of charge on the TRB Safety Performance Committee website. The spreadsheets are available for download at *www.safetyperformance.org/resources/nchrp-17-38*. Any questions about the spreadsheets can be directed to Karen Dixon at Oregon State University (phone: 541-737-6337, email: *karen.dixon@oregonstate.edu*).

FHWA Crash Modification Factor Clearinghouse

The *Crash Modification Factors (CMF) Clearinghouse* offers transportation professionals a central, Web-based repository of CMFs, as well as additional information and resources related to CMFs. The CMF Clearinghouse provides a comprehensive list of all available CMFs, whereas the CMFs in the Highway Safety Manual meet strict inclusion criteria, as described in *Transportation Research Circular E-C142, Methodology for the Development and Inclusion of Crash Modification Factors in the First Edition of the Highway Safety Manual.*

The *CMF Clearinghouse* uses a star quality rating system to account for the quality and reliability of the CMFs presented. The *CMF Clearinghouse* review process rates the CMF according to five categories – study design, sample size, standard error, potential bias and data source. Star quality ratings are assigned to each CMF based on the cumulative performance in each category. For additional information, visit *www.cmfclearinghouse.org* or contact Karen Yunk at *karen.yunk@dot.gov*.

From the *FHWA Office of Safety*

It's been almost seven months since the release of the HSM. States are beginning to initiate activities to implement the methodologies and techniques that the HSM introduces. Still other states are wondering how to get started with this new approach to safety analysis. FHWA is supporting the implementation of the HSM with various ongoing activities to assist states with their efforts to raise awareness, develop implementation plans, train their staff, and acquire technical assistance. We are an active partner with AASHTO and TRB, working closely with the Lead States Initiative to ensure that the HSM implementation process is well coordinated. FHWA has developed informational products which can be found on FHWA's website, *safety.fhwa.dot*, such as *An Introduction to the Highway Safety Manual*; an *Overview of the Highway Safety Manual* and the *HSM Fact Sheet.*

FHWA is also developing a series of case studies which will be published on our website as they are completed. Topics will include use of predictive methods, analytical tools, and other related applications of the HSM. We are also developing guidance in the form of an HSM Applications Guidebook which will identify processes and programs where states can apply the HSM in various phases of project development. In July, FHWA will publish the HSM applications guidebook which will be based on several state implementation strategies involving design exceptions, HSIP integration, alternative selection process, and others. It will also include samples of implementation plans and examples from lead states that have begun to apply HSM.

Along with the guidebook, FHWA will begin to offer web based training to assist states; especially those with limited travel funds. A full suite of on-site HSM practitioners training courses are also currently available through the FHWA Resource Center and National Highway Institute (*nhi.fhwa.dot.gov*). FHWA, in partnership with AASHTO, has established a method for obtaining technical support through www.highwaysafetymanual.org. Once there, practitioners can use the technical support link to post questions either by emailing them to *info@highwaysafetymanual.org* or by posting them into the user discussion forum (*www.hsmforum.org*). FHWA is also working with AASHTO to develop FAQs based on the questions that are posted. FHWA is committed to assisting the states and our partners with HSM implementation. We would like to hear suggestions from states on other ways we can assist in implementation of the HSM. If you have suggestion or need further information, please contact Esther Strawder at 202-366-6836 or *esther.strawder@dot.gov.*

Online resources

AASHTO's Highway Safety Manual Website: *www.highwaysafetymanual.org*

HSM User Discussion Forum: *register and access through www.highwaysafetymanual.org*

SafetyAnalyst: www.safetyanalyst.org

ISHDM: *www.ihsdm.org & IHSDM.support@fhwa.dot.gov*

FHWA Crash Modification Factor Clearinghouse: *www.cmfclearinghouse.org*

FHWA HSM Page (access brochure, fact sheet and introduction PDFs): *http://safety.fhwa.dot.gov/hsm/*

TRB ANB25: *www.safetyperformance.org* (our site provides access to resources such as spreadsheets developed in association with NCHRP 17-38 for training activities and a Part C Quick Reference Guide.)

Errata for the HSM is now available at the AASHTO HSM website: *www.highwaysafetymanual.org/Documents/HSM-1-E1.pdf*

Committee Activities at the 90th Annual Transportation Meeting, January 2011

Meet the Authors — The Highway Safety Manual: Tuesday 5:45PM- 7:15PM (Marriott, Virginia B)

An opportunity to meet the Committee members, authors and contractors, and AASHTO Task Force who developed the 1st Edition, Highway Safety Manual.

International Workshop on Transferability of Crash Modification Factors: Sunday *:00AM- 5:00PM (Marriott, Washington B2)*

The OECD and TRB are seeking to harmonize and improve research on CMFs and maximize the transferability of CMFs. There is a wide audience of experienced people in the world who are interested in this topic. The workshop will engage this audience to learn from them and to share progress on related efforts.—*Workshop 141.*

Advancements in Quantification of Highway Safety Performance: Monday 2:30PM- 5:00PM *(Marriott, Salon 2)*

The poster session includes 14 posters on efforts towards the advancement in the quantification of highway safety performance— *Poster Session 326.*

Cost–Benefit Analysis in Road Safety — Selected Issues: Sunday *9:00AM- 5:00PM (Marriott, Washington B5)*

In spite of its wide use, cost-benefit analysis has been severely criticized. The criticism is especially severe in road safety, where values have to be assigned to life, injury, and time. Cost-benefit analysis believers and skeptics will explain their positions— *Workshop 142.*

Implementation and Development of Highway Safety Manual: Wednesday *10:15AM- 12:00PM (Marriott, Delaware A)*

Presentation Session 681—Presentations include:

- AASHTO Status Report on Highway Safety Manual Implementation
- FHWA Status Report: Initiatives to Implement Highway Safety Manual
- Illinois Highway Safety Manual Lead State Peer-to-Peer Workshop
- Development of Work Plan for 2nd Edition of HSM.

Surrogate Measures of Road Safety for Modeling and Management: Wednesday 2:30PM- 4:00PM *(Marriott, Maryland C)*

Presentation Session 712 includes several presentations covering efforts towards the development of surrogate measures for road safety— *Note that this event coincides with the Wednesday ANB25 meeting that is taking place from 2:30PM- 6:00PM (Marriott, Wilson A)*

ANB25 Committee Meeting: Wednesday PM — *2:30PM- 6:00PM (Marriott, Wilson A)*

An afternoon with a series of presentations and facilitated discussions for the committee. This year the focus is on preparing for the 2nd Edition of the HSM, partnering to improve quantification of safety performance and measurement, and technical-related issues. Anyone is welcome to attend. —

- Development of a Strategic Plan for he TRB ANB25 committee
- AASHTO and Implementation of the HSM
- FHWA HSM Implementation and Updates
- Illinois HSM Peer-to-Peer Exchange
- NCHRP 17-50 Overview
- Emerging Technical Issues for 2nd Edition of the HSM
- Crash Modification Factors (issues for the 2nd Edition of the HSM, CMF development, CMF application)
- Safety Performance Functions (SPFs) and Predictive Methods (for the 2nd Edition of the HSM, AADT-based SPFs with base conditions vs full models; use of default severity distributions versus predicting severity distributions; functional forms; calibration; and planning-level models)
- Using SafetyAnalyst for calibration
- Road Safety Management (issues for the 2nd Edition of the HSM, role of Part C in Part B, site and network diagnostics)
- The TRB ANB25 public website and blog.

ANB25 Subcommittee Meetings: Wednesday 7:30PM- 9:30PM

Anyone is welcome to attend. Each of the subcommittee meeting locations are listed below:

- ***Conferences and Meetings Subcommittee:*** Marriott, Taylor
- ***Crash Modification Factors Subcommittee:*** Marriott, Tyler
- ***Future Directions in Research Subcommittee:*** Marriott, Truman
- ***Highway Safety Management Subcommittee:*** Marriott, Coolidge
- ***Policy and Legal Aspects Subcommittee:*** Marriott, Hoover
- ***Predictive Methods Subcommittee:*** Marriott, Harding
- **User Liaison and Technology Facilitation Subcommittee:** Mariott, Taft

ANB25 Committee Business Meeting: Thursday 8:00AM- 12:00PM *(Marriott, Virginia A & B)*

The committee meeting continues with a discussion of partnering with other TRB Committees and communications. Topics such as communication protocols, public and member websites, social media (Twitter, Facebook, LinkedIn) will be covered. Committee business then follows where subcommittees report back, motions are offered, the committee receives updates from NCHRP and TRB, etc. Anyone is welcome to attend and voting is limited to TRB ANB25 members.

Save the date: The TRB Highway Safety Performance Committee Midyear Meeting is taking place at the Arnold and Mabel Beckman Center of the National Academies of Sciences and Engineering in Irvine, CA from August 8 to 11 (final dates to be confirmed). Registration details are forthcoming — sign up for our committee blog

Would you like to get involved?

Our committee always has room for volunteers to assist with our activities. Please contact our chair at *miltonj@wsdot.wa.gov,* any of the officers or listed below if you would like to support the activities of TRB ANB25.

Chair: John Milton, WSDOT, *miltonj@wsdot.wa.gov*

Secretary: Beth Wemple, Cambridge Systematics, *ewemple@camsys.com*

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Crash Modification Factors Subcommittee: Karen Dixon, Oregon State University, *karen.dixon@oregonstate.edu*

Future Directions in Research Subcommittee: Jim Bonneson, TTI, *j-bonneson@tamu.edu*

Highway Safety Management Subcommittee: Doug Harwood, MRI, *dharwood@mriresearch.org*

Policy and Legal Aspects Subcommittee: Bre Gowan, *bcgowan@hotmail.com*

Predictive Methods Subcommittee: John Ivan, University of Connecticut, *John.ivan@uconn.edu*

User Liaison and Technology Facilitation Subcommittee: Geni Bahar, Navigats, *genibahar@navigats.com*