

TRB Safety Performance and Analysis Committee (ACS20) - User Liaison Subcommittee

July 15, 2021 - Meeting (38-45 participants)

Key points summary of discussions and notes in chat pod

1. ACS20 Committee Update (Kim Eccles):
 - a. Midyear Meeting – Technical Sessions - July 30: 10am – 12pm EDT 1-3 pm EDT; Business Sessions - August 2: 10am – 12pm EDT; 1-3 pm EDT – registration link given:
You can register here: https://odot.formstack.com/forms/trb_acs20_2021midyear_reg
2. FHWA Update (Jerry Roche)
 - a. HSM Pool fund (23 states) – selected three projects advancing this year
 - i. Developing HSM Guide for using EB method (specially with traffic control projects)
 - ii. Communications Guide on how to explain results of HSM analyses to non-engineers
 - iii. Implementation Steps for the different methodologies presented in the final report of NCHRP project # 17-62 – which methodologies to being forward and how to use them
 - b. EDC Innovations currently planning webinars in September on Wednesdays, 10am – 1pm EST – successes and challenges during implementations at different agencies. Now in the process of engaging speakers; Jerry may reach out to some of those in the meeting today.
3. NCHRP 17-71A (Stephen Read/Bonnie Polin)
 - a. Panel met with contractor to go over the work plan last week.
 - b. Contractor and panel have looked into on-going research to see when they will be completed in time for possible inclusion in the HSM2.
 - c. Contractor and panel reviewed options related to compiled chapter comments. Decisions were taken regarding each chapter content. Considered what could be done within current budget and schedule and decided to add time and resources, bringing the project to be extended to end of 2023.
 - d. Reorganization of chapters was completed.
 - i. Part A renamed to Fundamentals and Chapter 3 renamed to Road Safety Principles. Chapter 3 will be expanded and revisited based on past comments
 - ii. Human Factors Chapter – will be reorganized and example and case studies will be added.
 - iii. Bicycle and Pedestrian chapter will be added in Part A
 - iv. Part B – two new chapters: a) Macro level planning; and b) systemic safety management; more information about human factors and all road users; real world applications
 - v. Part C – lot of research to be brought in; single-state calibration to be done to models; and new examples will be added. A new chapter: Developing and calibrating SPFs.

- vi. Part D: completely new- selecting and applying CMFs but no actual CMFs will be found in the HSM2.
 - e. A new schedule is being put together for when chapters will be developed and submitted to reviewers selected by the Panel.
 - f. A glossary of terms will be developed which should also guide the reviewers.
 - g. Responding to a question regarding where roundabouts will be found in the HSM2 – the related CPMs will be found in different chapters under each specific facility type
4. Working Groups
- a. Policy and Legal Aspects (Priscilla Tobias)
 - i. Webinar regarding “Guidelines for Drafting Liability Neutral Transportation Engineering Documents and Communication Strategies “ under preparation by Priscilla in collaboration with Bre Gowan and Kelly Hardy; AASHTO will host it.
 - ii. Glossary of terms and style guide for reviewers – Bre Gowan is considering adding the style guide in the webinar
 - iii. Style Guide could become a supplement to HSM2 for future publications
 - b. International Safety Research (Jennifer Ogle)
 - i. Synthesis statement submitted to NCHRP was not approved for this year; we are now refining the statement of work for future submissions
 - ii. Creating a list of international safety meetings and research studies – will share at the 2022 TRB Annual Meeting
 - iii. Considering the local agency training materials developed in the past for potential adaptation to suit jurisdictions with very limited data availability
 - iv. Planning meeting in the Fall to work on the synthesis statement of work and the local agency training
 - v. Stephen Read suggested approaching SafetyCube (Safety CaUsation, Benefits and Efficiency) funded by the European Commission and completed in 2020; a potential presentation at TRB 2022 Annual Meeting at the ACS20 Main Committee meeting; Jennifer will coordinate with Kim/Karen

CHAT POD:

- Karla Rodrigues-Silva (UFTI): Jennifer, I can reach out folks that are working HSM research in Brazil and connect to you. my e-mail is karlacrs@ufl.edu
 - Jennifer Ogle to Karla Rodrigues-Silva (UFTI): That would be fabulous! We are trying to build our international liaisons around the world. Thank you! I'll reach out with a note via email.
 - Karla Rodrigues-Silva (UFTI): Awesome. If you can send me a brief what the committee is interested in it will be great. I have next week a meeting with folks from University of Sao Paulo and I let them know and we can connect to them.
- c. TRB 2022 Workshop (Kim Kolody)
 - i. Approved and will happen on Sunday of the TRB Annual Meeting
 - ii. Many volunteers – aiming to bring real life experiences.
 - iii. Several TRB committees are co-sponsoring our workshop

- iv. Coordinated closely with the team developing another workshop “The Traffic Law Enforcement Crisis: How Can Research Help?” which will take place on Thursday during the TRB Annual Meeting
- v. A coordinating meeting scheduled for today after the ULSC meeting
- d. HSM Website (Stephen Read)
 - i. In holding pattern till NCHRP 17-71A continues
 - ii. Any ideas welcome via the google sheet
- e. HSM Part C Tools (Bonnie Polin/Mike Dimaiuta)
 - i. In 2020, ULSC did a compilation of existing tools supporting HSM1 Part C.; shared them in the AASHTO website and Safety Committee.
 - ii. We do not know what is being planned to update the spreadsheets to HSM2 content; several NCHRP projects have developed SPFs for new facility types SPFs and the new training
 - iii. Aim to create a catalogue of tools including those developed for individual jurisdictions and some group of jurisdictions. Several are developing tools more sophisticated than spreadsheets as they are needed for some applications.
 - iv. Aim to survey the jurisdictions re: what is available; what is needed; how it is used.
 - v. There is a good vision of what we would like to do; now looking for volunteers to work with us.
 - vi. Derek Troyer suggested that we collaborate with AASHTO Data and Performance Measures group and AASHTO Publication group who are also looking to attain an updated list of existing tools for Part B. A joint survey, ULSC and AASHTO, prior to TRB 2022 Annual Meeting would be desired so we can discuss during our annual meeting in 2022.
 - vii. Later in the call Jerry Roche suggested that there should be a group responsible to coordinate and seek to update tools supporting HSM as none of the current projects seem to be charged to do so. ULSC may be the group to lead this effort. This point to be further discussed in ULSC’s next calls.

CHAT POD

- Jennifer Ogle can provide information about South Carolina
- Daniel Carter: Bonnie and Mike, I’d like to assist with compiling information / surveying states on the availability of HSM spreadsheet tools.
- Jake Farnsworth: I helped Iowa develop their tool
- Brian Frazer (CALTRANS) can contribute for California information
- I’m happy to volunteer for the HSM tools state survey effort as well. Dave Petrucci (david.petrucci@dot.gov)
- f. HSM FAQs (Jake Fansworth)
 - i. Updates on FAQs.
 - ii. Have been waiting for the CMFClearinghouse updates on the CMF scoring which has now been implemented.

- iii. Waiting for new information about HSM2 is solidified and as soon as we get it, the FAQs will be modified to reflect the recent developments
 - g. Practical Application of the HSM (Tim Barnett)
 - i. Research ideas were submitted to AASHTO Safety Committee and additional information later in the meeting.
 - ii. Anyone interested to work on one or both of these research ideas to send Tim B. an email.
 - iii. State representatives that would like to support these research ideas to contact Tim B. by email
 - h. Road Safety Training for Local Agencies (Cong Chen / Tim Colling)
 - i. Results of last meeting' survey were analyzed and showed quite a range of ideas and did not help in identifying exactly how to proceed.
 - ii. *What is being offered* - use of National metrics to identify how to proceed with training: NHI training reports; LTAP aggregated national training report –
 - iii. *What is the demand* – studying the results of a survey by FHWA a couple of years ago
 - iv. They are in the process of gathering data to establish supply and demand before proceeding
 - v. Stephen Read and Daniel Carter offered to assist
 - Geni suggested to Tim Colling and Cong Chen (after their presentations) that it may be of interest to liaise with Jennifer re: local agency training – data limited jurisdictions in the international scene.
5. New Initiatives
- a. User Discussion Forum (Stephen Read/ Bonnie Polin)
 - i. Stephen Read emailed us after the meeting the memo briefly covered today. The memo is included at the end of these notes and Stephen/Bonnie are asking for initial input to be emailed to them with the same subject title "ACS20 UL: HSM Web User Forum Ideas Input"
 - b. HSM Glossary of Terms / Style Guide (Derek Troyer)
 - i. NCHRP 17-71A is developing a glossary of terms and a style guide, aiming to have a consistent way in presenting our work across states and other jurisdictions; as well as for future HSM editions and other research publications.
 - ii. Derek is requesting TRB members to contribute to the work as there may be additional terms that need to be added
 - iii. To be finalized when 17-71A is completed – the contractor will develop it before chapters are written and will maintain during the project
 - iv. After the completion of the project, AASHTO may ask the ULSC to maintain it
 - v. The Policy and Legal Aspects would have a role to play throughout the development as well as later on – Priscilla will coordinate with AASHTO and NCHRP 17-71A, and we will look to create a small group of volunteers (researchers represented) so that it goes beyond HSM2

CHAT POD

- Priscilla Tobias: Is there value in having the HSM Terms of Use as part of the Policy and Legal Aspects working group as this can go beyond just the HSM2?
6. Research and Synthesis Topics Update (Tim Barnett, Stephen Read, Bonnie Polin, Priscilla Tobias, Jennifer Ogle)
- a. Mike D. provided an overview of the process we followed regarding research topics development and submission to the AASHTO Committee on Safety. Doug Harwood is the point of contact for ACS20.
 - b. Thirty research ideas were submitted to AASHTO; 14 of those were submitted by ACS20; of which 6 were submitted by ULSC.
 - c. Doug H. communicated with each author and provided guidance how to proceed toward development of the full research statement for submission to him on August 15th for re-submission to AASHTO by end of August.
 - d. Individual statement was discussed by each author (see CHAT POD and volunteers in the next page)
 - i. Practical Applications of Safe System (Bonnie Polin) - quantification of safety effects of safe system applications; how the HSM methods are applied with safe system – requesting writers/contributors
 - ii. SPFs for Curves (Priscilla Tobias) – develop SPFs to be developed for the HSM using data collected for curves; Kentucky is the state contact. Priscilla will use Doug H. form and reconvene the research group. Volunteers welcome.
 - iii. Pavement Friction and Safety Performance Integration (Priscilla Tobias) – a NCHRP currently looking to integrate pavement friction with safety; the vision is to have this new project build onto the current NCHRP project; develop a set of recommendations for jurisdiction to integrate with asset management procedures, and safe system; a topic will continue to grow. Priscilla will use Doug H. form and reconvene the research group. Volunteers welcome.
 - iv. Applications Guide to the HSM (Tim Barnett) – similar guide to the NCHRP17-50 guide but in more detail - posted the link and those who wish to volunteer to contact Tim by email (tebarnett1@ua.edu) to gain access to the draft statement. (Link: <https://alabama.box.com/s/4usubomn4kro9rr0fb0opbhvt85xgzer>)
 - v. Safety Performance Functions and CMFs for Weather Related Crashes (Tim Barnett) – posted the link and those who wish to volunteer to contact Tim by email (tebarnett1@ua.edu) to gain access to the draft statement. (Link: <https://alabama.box.com/s/4usubomn4kro9rr0fb0opbhvt85xgzer>)
 - e. Other submissions
 - i. Local Network MIRE Data Collection and use for Data Driven Data Analysis (Rural Roads JSC) – submitted by the Rural Roads JSC with support from members of our ULSC
 - ii. Effects of Roadway Geometric Design, Posted Speed Limit, and Operation Speed on Safety Performance for High-Speed Rural Highways and Freeways (AKD10) – Kay Fitzpatrick has asked us to support their submission – a point for further discussion in our midyear meeting in two weeks
 - iii. Submitted before Feb. 17 deadline (not selected)

1. Transferability of Safety Performance Measures (CMFs, SPFs, and CFs) (Jennifer Ogle)
- iv. Submitted after Feb. 17 deadline(for future consideration)
 1. Assessment of Participatory Budgeting to Achieve Equitable Traffic Safety Outcomes (Tariq Shihadah)
 2. A Synthesis on Artificial Intelligence (AI) Applications in Quantitative Roadway Safety Analysis (Mohamad Banihashemi/Mouyid Islam) - submitted via ACS20 Analytical Methods SC
- v. Modernizing the Network Screening Process using ML and AI (ACS20 Analytical Methods SC) – submitted by our sister subcommittee and if there is any interested persons to contact Mike D.

CHAT POD:

Safe System RNS (Bonnie)

- John McFadden: I am working on this for my work and would like to help on this Bonnie (Safe System and DDSA)
- Khalid Jamil: I am involved in system safety in Texas and would like to help Bonnie on Safe System

SPFs for Curves (Priscilla)

- Jennifer Ogle: Priscilla, I think SC may have some curve data - I sent a request recently and am waiting to hear back.
 - priscilla tobias: thank you! I can send you a copy of the research statement too, in case you have any thoughts/input.
- Mouyid Islam: I am interested to join the team on SPF for Curves (mouyid@usf.edu) if any help needed. This is very interesting topic for me. Is there any way to request Priscila Tobias to see the draft on RNS
- Paige Martz: I'm interested in helping with the curves SPF (pmartz@cbbtraffic.com).

Pavement Friction and Safety Performance Integration (Priscilla)

- Mohamad Banihashemi-FHWA: Priscilla, I like to help in the Pavement Friction topic.

Applications Guide to the HSM (Tim Barnett)

- Jerry Roche: I'm happy to help with the Applications Guide to the HSM one

Effects of Roadway Geometric Design, Posted Speed Limit, and Operation Speed on Safety Performance for High-Speed Rural Highways and Freeways (AKD10)

- In-Kyu Lim: I am interested in helping for "Effects of Roadway Geometric Design, Posted Speed Limit, and Operation Speed on Safety Performance for High-Speed Rural Highways and Freeways", and here is my contact ln-kyu.lim@dot.gov

Modernizing the Network Screening Process using ML and AI (ACS20 Analytical Methods SC)

- Mohamad Banihashemi-FHWA: I am also interested to be involved in the topic of Use of ML and DL in Network Screening

7. Other Topics

- a. Collaboration with other ACS20 subcommittees and other TRB Committees (AKD10, etc)
 - i. Co-sponsoring with AKD10 of the Poster Session ““Case Studies in the Performance-Based Analysis of Geometric Design” for several years – we were requested to take the lead to sponsor this session in 2022 – Mike D. asked for others to suggest other committees or subcommittees that could co-sponsor with the ACS10
- b. New ULSC Initiatives
 - Khalid Jamil: Idea for new ULSC Initiatives: develop an informational guide similar to Traffic Analysis Toolbox for Part C HSM – he will provide additional details and send to Mike D. and Geni B. Practical Applications and User Discussion Forum are all part of the support guidance to HSM users, and this idea fits well with these other initiatives.
- c. Next ULSC Meeting

In two months – a date will be sent to all.

Options to Replace the HSM User Discussion Forum

Moderated Forum

Modern moderated user forums are a popular format used by medium to large communities who value and can maintain active engagement in complex, evolving, or highly nuanced technical or practical topics. This medium decentralizes and democratizes the synthesis of knowledge on the subject matter, empowering community members to engage with one another directly in question and answer or discussion formats. It is effective for technical areas where active users are expected to have a strong enough understanding of the subject matter to provide strong, objective responses to other users' questions and needs.

Because user forums are driven by users posting and responding to posts regularly, they benefit from a large and highly active userbase. They also work best with topics that are evolving or have an ever-expanding scope. For topics which are limited in breadth, forums may require additional active participation from moderators to keep engagement up and to keep the content complete and current, avoiding unanswered questions and hyper-specific discussions which may detract from the forum's usability.

Modern forums also utilize reputation systems to create accountability and improve information veracity by centering community members who participate regularly and highlighting content that has been determined by users to be the most accurate or helpful.

Due to the user-driven nature of these forums, it is important that they are adequately moderated to ensure that discussions are safe, respectful, and in line with the forum's goals. Depending on the size of the community and the format and features of the platform, this may require a moderate to large amount of effort. In the case of the Highway Safety Manual, content would need to be monitored to ensure that user-contributed answers to questions are accurate and not misleading according to the text of the manual and the goals of AASHTO.

There are many robust online forum solutions such as [Discourse](#), [Vanilla](#), [Higher Logic](#), and more which provide standard features through a modern web interface and require little setup and maintenance effort. The cost of these platforms is generally paid monthly, with costs varying widely from \$100 to \$300 for more standard packages, and >\$500 for more advanced packages. Additionally, there are free software packages which can be used to create similar forum websites manually, requiring more significant setup and maintenance efforts while saving costs. There are also social media-based forum-like options included in free platforms such as Facebook, LinkedIn, Quora, and Reddit among others which require little setup effort but do require active moderation.

Deployment cost/effort:	High / High
Maintenance cost/effort:	Moderate / Moderate
Responsibilities:	<ul style="list-style-type: none"> • Web development • Moderation of content • Discussion participation
Pros:	<ul style="list-style-type: none"> • User participation and engagement • Flexible and dynamic • Doesn't require formal content creation • Searchable
Cons:	<ul style="list-style-type: none"> • Large effort and continuing cost to moderate and maintain • Must keep users engaged • Potential for incorrect user responses • Must track posts to ensure answers are provided

Technical Blog and Digest

Technical blogs are popular for exploring subject matter in-depth through medium- to long-form writing on specific theoretical and practical topics. This medium creates a repository of curated messages, guidance, and updates on the blog's main subject matter. Through periodic posts, the blog can keep viewers up to date on the latest news, resources, and methodologies available. It also allows visitors to search for content based on specific technical needs or browse the blog's catalog for related content which may be of interest.

Though individual posts create peaks of engagement with users, a backlog of published materials ensures more engagement and more knowledge transfer. For this reason, it can be valuable to provide multiple posts at once or in quick succession at the launch of the blog, particularly on topics which are of broad interest to visitors. Though creation of such content may be time-consuming and require coordination with outside resources to provide some of the writing, it will provide more in-depth guidance than may otherwise be provided to users through an FAQ or even a moderated forum.

As new posts are created, a digest email may be also provided to users who sign up for updates. These emails may include brief excerpts of new content as well as related updates and news items.

Though a formal blog does require some initial setup, there are many available platforms which provide all basic features needed, with options for more advanced features if needed. Maintenance of the platform is minimal as the blog website itself is mainly static. For these reasons, a technical blog would require significantly less effort and cost to setup and maintain over time. There are many complete online platforms for hosting blogs, such as [WordPress](#), [Blogger](#), [Wix](#), [Constant Contact](#), and more, which require very little setup and maintenance effort and are generally inexpensive and feature-rich. Blogging features can be manually developed for existing websites as well if preferred, requiring additional setup effort.

Deployment cost/effort:	Moderate / High
Maintenance cost/effort:	Low / Moderate
Responsibilities:	<ul style="list-style-type: none"> • Web development • Content creation • Coordination of outsourcing • Email digest for new content
Pros:	<ul style="list-style-type: none"> • Curated content based on goals and needs • Authoritative and robust resource • Flexible schedule for posting • Low maintenance cost • Regular engagement with email list • Engagement with subject matter experts to create content • Searchable
Cons:	<ul style="list-style-type: none"> • Moderate effort to create/coordinate regular content • Large early effort to launch • Little direct engagement with users

Simplified FAQ

Frequently asked questions (FAQ) is a common format used by websites to provide quick insights for users into common applications and issues. These are intended to aid users in becoming familiar with a technical topic or resource without going in-depth. Though they may touch on more complex matters, they are generally not effective at communicating more than surface knowledge of a topic and necessarily must be in a simple and quickly digestible format.

The FAQ page currently published on the Highway Safety Manual's (HSM) website was developed based on a variety of related resources which were intended to provide quick answers to common questions related to the HSM. Currently, due to the volume and breadth of questions presented on the page as well as inconsistencies in the format and presentation of the answers, the materials are challenging to navigate and interpret. Though many of the questions touch on highly technical topics, the concise FAQ format does not provide for especially complete guidance.

To improve the usability of this resource, extensive synthesis of existing FAQs may be required. Efforts may be required to merge and simplify related questions, provide both questions and answers in a more standardized format and language, and expand on topics where current answers may not provide the guidance that is needed.

Once the existing FAQ materials are prepared, additional FAQs may be identified through future inquiries by HSM users or other means. As these are identified, answers can be developed and the new materials may be added to the existing resource for future visitors. This would ensure that some additional guidance becomes periodically available to visitors of the HSM website, though not in the same depth as might otherwise be provided through a moderated forum or a topical blog.

Deployment cost/effort:	Low / High
Maintenance cost/effort:	Low / Moderate
Responsibilities:	<ul style="list-style-type: none"> • Synthesis of existing materials • Content creation • Coordination of outsourcing • Email digest for new content
Pros:	<ul style="list-style-type: none"> • Curated content based on goals and needs • Low effort to produce bite-sized content • Flexible schedule for posting • Low maintenance cost • Engagement with subject matter experts to create content • Searchable
Cons:	<ul style="list-style-type: none"> • Large early effort to synthesize existing FAQ into more effective format • No direct engagement with users • Small format doesn't address complex topics

Topical Digest Email and Newsletter

Using periodic emails or newsletters, basic information on news or simple technical topics can be shared with the public with little effort or expense required. Similar to the FAQ or technical blog options, specific topics of interest to users may be explored through short-form writing which can be presented in a formatted email (which may also be posted to the HSM website). However, this format is lighter and less in-depth, requiring less effort to perform at the expense of less robust guidance and information for users.

Because this format requires no website or major updates to existing materials, it would require relatively low effort and minimal cost. As it relies upon an email list of interested users, this list would need to be assembled prior to the launch of the newsletter and maintained over its life. This may require a widget to be added to the existing HSM website which would allow users to subscribe and/or access previous newsletters.

Deployment cost/effort:	Low / Moderate
Maintenance cost/effort:	Low / Low
Responsibilities:	<ul style="list-style-type: none"> • Content creation • Coordination of outsourcing • Email digest for answers to received questions
Pros:	<ul style="list-style-type: none"> • Low effort to produce bite-sized content • Engagement with subject matter experts to create content • Regular engagement with email list
Cons:	<ul style="list-style-type: none"> • Little direct engagement with users • Small format doesn't address complex topics • Not searchable