TF13 Fall Meeting Buffalo, NY at Calspan October 1-3, 2024

Tuesday October 1, 2024 Evening Session:

Jim Kovar – TTI Lab Accreditation General Group Discussion

- Concerns about some possible submissions to DOTs from non-accredited labs was brought up and discussed.
- This fostered questions about who does "official" lab accreditation when FHWA gets out of the eligibility letter process.
    - Ron Faller – Midwest – brought up that this question came up about a year ago. He drafted some questions about this during this summer…
        - Who will take over this process should FHWA exit?
        - Who will accredit the labs?
        - How will the accreditations get done?
    - Discussion narrowed the field of possible players to: TF13, specifically subcommittee 7. Then the conversation shifted to the possibilities of how this could be accomplished.
        - Will there be a new list of accredited labs created?
        - Can Subcommittee 7 take on the task of being the keeper of the list? If so how will Subcommittee 7 maintain said list and how will that be done – what does that look like and what are the mechanics to make this happen?
- Jim Kovar – TTI - noted that the IIJA requires FHWA to continue with the eligibility process and give a 2 year notification after they find someone to take it over. Just maintaining the list doesn't have teeth…. Won't stop people from just submitting testing from any old lab.
- John Durkos – Road Systems- DOT he's spoken with have expressed concerns that a MFG could submit a product that was tested at a non-accredited lab. John noted that years ago, FHWA had a listing of labs which had been put on the TF13 Sub Committee 7 website… Kovar noted that – some new lab have been added since it was originally published.
- Carl Gaudry - LA DOT – was under the false impression that the FEDS were currently maintaining the list… and that they were going to be continuing that process. The FHWA evaluation form didn't mention ISO 17205. Thought it would be a good idea to have that listing on any resultant letters.
- Karla Lechtenberg - Midwest– stated that it would be important when evaluating crash test results to first make sure the certification was enforced during the testing date.
- Robert Rameriz – Traffix- stated that 17025 just says that the lab is competent to measure things… If the lab isn't part of subcommittee 7 – it runs counter to the intent of 17025 to make sure that there is uniformity in testing – specifically in MASH testing.

- Marc Seguine – MOOVUP – stated that it's part of the certification process within 17025 which says that the lab needs to participate in subcommittee 7.
- Karla Lechtenberg – Midwest – followed up with - A2LA – requires proficiency testing, and the only way to comply is by participation in Subcommittee 7.
- Jason Hubble – Atlanticum Bridge Corp. - Brought up that international labs are going to have difficulties with this… due to language issues - ambiguities and complexities in interpretation.
- Matt McNeil – Holmes Solutions - Stated that they have been participating in the Subcommittee 7 round robins and find them valuable and helpful for their organization.

Ron Faller – Midwest / John Durkos – Road Systems – summarized the what if – issue:

If FHWA isn't maintaining the list – and those reviewing new products aren't checking with members of S7 to ensure that the Labs on the published list are participating in the ILCs - what then!

Ron is in favor of S7 publishing a listing of the LICs participation. Agreed with Jason Hubble and that it would be even more important for the labs to fully participate in S7.

- Robert Ramirez – Traffix – was in favor of publishing the list – as it puts the burden on the consumer and becomes their decision to select a lab that is or isn't listed.
- Jim Kovar – TTI – was also in favor of publishing the list too.
- Henning Olson - Calspan – made the recommendation that S7 could issue a letter certification for being current in ILC.
- Karla Lechtenberg - Midwest– stated that S7 has a spreadsheet listing the testing labs and shows their participation in S7 activities – it also has which lab is leading the next ILC. She would consider publishing this on S7 website…
- Jim Kovar - TTI – thinks that a spreadsheet might be more important than a simple listing… is in favor of removing the old FHWA list… and just have the spreadsheet with listing of the active test labs who are participating in S7 - this would in affect drop any labs that aren't pulling there weight.
- Rick Mauer – Gregory- asked if the spreadsheet listing would also include facilities that were similarly "approved/accredited" who preform simulations would be included? – comments from the room - were that a listing of labs for simulations would not be included in the spread sheet and to create such a list would likely require a separate subcommittee.
- John Durkos – Road Systems– stated that the subject of labs that are accredited to do simulation is likely coming back up in the near future as the need for simulation work is increasing. It's one of the priorities on AASHTO's Safety Hardware Management Technical Service Program (TSP) in support of the implementation and update of MASH.

TF13 Buffalo Meeting Notes

Summary

Recommendation was made that the 17025 Accreditation form be added to the MASH crash test report.

That S7 look into the feasibility of removing the old listing of labs and add a new spread sheet that also shows ILC participation & upcoming ILC subjects and assignments.

FTP site for the labs needs improvement

2019 Dodge Ram dimensions – Question how does the new truck compare - Ron Faller-Midwest - said that TCRS was going be getting more info. Ron wanted it in the notes to check up on this question. He will check with the small group and TCRS members and report back next meeting.

Standardization of Electric Vehicles – for modeling & Testing –

Durkos Presentation of summary of testing:

Showed a summary of the 5 prior EV tests on roadside hardware including Jenifer Homiday Chair of NTSB attending one of the MASH crash tests (concrete barrier) – sees this is very positive because it has made her hyper aware of the issues our industry faces. Media is making hay with the issue – showed a couple of recent news articles.

NB Senator Deb Fisher was interviewed…. She stated that It's an issue…

Speaker – Steven Summer - NHTSA

Part of the https:/www.congress.gov/109/plaws/publ2/PLAW-109publ2.pdf requirements requires simulations – of both IC & EV vehicles - front seat occupant risk factors …

2009 study ("light weighting"- taking weight out of vehicles in an effort to predict how they could perform). Keyed in on the frontal weights as it seems to play one of the most critical factors – It accounted for roughly 31 % of the fatals (excluding rollovers). Back then overall thinking was that vehicles would be getting lighter in the future…

On the whole lighter vehicle types had more injures than the heavier SUVs…

2015… started with FEA modeling – Honda Accord's weight was reduced down from 3681 lbs. to 2984… 120 LS-DYNA runs… and 240 MADYMO runs

Researchers focused on the Delta V – as it goes up – fatals will increase… Looking at Societal Risk – for Frontal crashes.

They are recreating this same study for the ICE / BEV vehicles using the 5644 lbs. VW ID.4 and comparing it to the 5070 lbs. VW Tiguan

- Ron Faller – Midwest - asked a question if the vehicles were based on the same platforms (IC & EV)? Answer was that the EV car was a "green screen development."

  The testing choices were being made based on what's chosen by NHTSA CAFE as they are funding this project.

  Notable - There are new testing crash test dummy designs – these have been included in 208 frontal, 214 side, and 301 rear impacts.

  New Modeling of Ford F150 Super crew 7150 vs Ford Lighting 8250 lbs.

- Ron Faller – Midwest - was asked if there were any surprises… he expounded on why the "natively designed vehicles are preforming differently" One of the biggest reasons is that the researchers look at best selling vehicles in fleet from previous model years, they don't know what will be the best next seller going forward… statistically choosing next test vehicle using a review mirror – Natively designed from scratch vehicles – have no reversely comparable data to use as examples.
- Henning Olson - Calspan – stated that the new testing standard are actually driving design changes to the structure of the vehicles.
- Safe Roads – Made rhetorical comment… if the testing criteria and requirements stipulated in MASH make sense – in thinking about the modifications that will likely be needed to accommodate testing a EV to MASH. For example: commonly EVs wheels aren't "freewheeling". Some of the new vehicles are also lower 5.5in vs 7in… the differences between vehicle EV & IC types goes on… MASH needs to be looked at and changed to accommodate the EV class of vehicles – or a new criterion needs to be generated specific to the testing EVs.
- Eric Lohrey- ELC Engineering – made an argument that some of that change should incorporate possibly dropping from a testing angle of 25 deg down to 20… as the new safety features such as "Lane Assist" will likely be reducing real world impact angles.

Mark McDonald – Gregory Highway- M180 Presentation

Summarize the issues at hand – which precipitated additional discussion around the issue. Below are some of the basic changes in the M180 specification:

- The largest challenges all revolve around the change in steel thickness – as steel has been coming in at the bottom of the M180-18 specification tolerance ranges – and will need to be cycled through

    - How to cycle through the older material is an issue that hasn't been resolved. AASHTO Product Evaluation and Audit Solutions October 24, 2023 memo was helpful for facilities that were audited but not for others. M111 will hopefully be walked back as the change in galvanizing requirements is unrealistic to meet.
- To date – no manufacturer meets the new specification.
- Outstating Concerns
    - Will DOTs call out the changes specified - not just make a foot note on plans.
    - "As tested" is still an issue and resolution hasn't been forthcoming.
    - The biggest issue is an industry wide implementation plan.
- Latest Action:
    - ATSSA letter – to AASHTO & DOT Secretaries was rolled out offering possible solutions… this was an initial attempt to put something out there… AASHTO response was in June 2024, they sent an acknowledgement of the letter but didn't put meat in their reply letter offering any resolutions
    - AASHTO understands there are challenges… they put out a survey to their members … results haven't been forthcoming.

Eric Perry – ATSSA Update

- AASHTO M180 Taskforce Update –

Kathern Malusky AASHTO – Survey (DeVries didn't speak)

- Discussed the survey that went out to AASHTO members & committees – Survey is dated July 2024 (General Question from the room - looking for more details as to who specifically the survey was sent and who send in reply as there is concerns that the respondents may not have been the "ones in the know")
    - Went over the survey results.
    - David Price- RG Steel asked – if the survey results would be broken down by how an individual state responded to the survey?
        - Casy Sonera AASHTO – went over how the standard process works. Encouraged everyone to attend their meetings. Technical Subcommittee 4D – meetings are almost always open. The M111 will be published in July 25 – will still need to be balloted this winter at annual meeting.
    - Greg Kirchgesner - Xcessories Squared - asked a number of questions regarding specifics of the survey results – one that struck home was he posed a question if it could be determined that of those 50% of respondents who indicated that implementation wouldn't be a problem, might they also have been the same ones who responded they hadn't heard / or had contact with anyone from industry on the subject… With the presumption being that the survey went to the wrong people as industry has seen.
    - David Price – RG Steel - posed the question: what about the DOT audits – will lack of adherence to chapter & verse within the new M180-23 spec – and

delivering product in 2024 – will that open up liability and possible criminal charges?

- David Price – RG Steel- pointed out that the survey results – didn't match up with the facts on the ground. He pressed the point that it's probable the people who likely took the survey may not have been the ones who were in a position to be hearing the news bubbling up from staff.
    - Casey Sonera – AASHTO- retorted that the survey went out at a specific time and perhaps it was more of a time frame issue– the survey is resultant of a static point in time – the States haven't asked AASHTO anything about developing plans for implementation – in fact they haven't heard calls from states requesting anything about an implementation plan…
- David Price – RG Steel - pressed that AASHTO needs to take the lead and offer up some guidance for their membership.

Wednesday October 2, 2024

Welcome

- Greg Camble – Calspan – President – spoke on behalf of Calspan – discussed that their testing programs have focused on Automotive testing, Wind tunnel testing, and Jet Engine testing (their Jef Engine facility & cell is located in MN). They pride themselves in the many ways they can assist customers in bringing new products to market – Calspan is looking forward to sharing what they have learned with EV testing with TF13 and our industry groups. They hope to be a resource where we can capitalize on their knowledge base to aid in the MASH testing criteria for electric vehicles.

TF13 New Business –

- Minutes from Spring meeting – were brought up for a vote, seconded by Greg Kirchgesner- Xcessories Squared – Minutes were unanimously approved without any discussion.

Treasurer's Report Eric Smith

- The current balance was in the ballpark of $58K ish.
- The Fall meeting had 90 attendees in person and 18 online (*Editor's note Update: That was our peak attendance. We ended up with more people online because the link gets shared around and more people end up on line than what we collected. Final paid registration numbers are 71 in person and 16 online)*
- Online registration & payment methods are taking hold – only 8 attendees paying by check.
- What we spend our money on: – website maintenance / swag / registration / brakes / lunch / dinner. All expenses are in alignment with TF13 stated objective of maintaining the various guides within the TF13 website.

Subcommittee #1 Publications Maintenance **Eric Lohrey**

- Pointed out that the new addition to the TF13 website's tab bar: "recent updates" tab -
- Went through various new systems that have been added to component guide and old drawings that have been updated or listed on the Recent Updates tab. Discussed the Test Specification "Custom Test Matrix" and how that came about – discussed how in the future there may be others such as "simulation".
- Systems are added to the guides after an expert body recognizes the system (such as FHWA, NCHRP) Discussed that the committee is looking at how to handle systems that don't have FWHA letters. A final plan for this is yet to solidify on a single method.

  Still correcting the customary units on components – that were drawn during the metric era.

Many of the updates to old drawings were changes to specification sections to read "conform to requirements of M180" vs the detail that were previously written. These changes were made for consistency purposes throughout the guides. There were a number of other minor changes to units too:

RWE02a-b – John Durkos & David Price commented to add back in the diagonal slots.

RWE05a-07b - comments were made that there were additional radius required for this drawing.

John Durkos asked that the Guardrail producers in room– send Eric an email if they are making w-beam and thrie beam in the gages listed in the current drawings. The general response from the room was that they are.

RWM14a – David Price commented that there are 3 versions of this system.

Eric Lohrey – ELC Engineering- posed the Question how should we handle drawings if only 1 or 2 states use a different dimension than what we have listed in the guides drawings. No consensus was determined. This would be a good question for the members of TF13 to offer clarity.

Regarding drawing RWT01a-b – David Price – RG Steel - stated that this drawing had diagonal slots which are used by some states and should be added.

Discussed the "In-review process" of drawings… Drawing status for proprietary drawings will now be taken at face value and labeled "As Submitted"

We went over the Archive Section to the Guide to show how earlier versions of drawings can be accessed. Guide Archives

Karla Lechtenberg – Midwest – asked about how is short radius GR being listed? Would it be listed as MASH TL3 compliant where it didn't complete the full MASH matrix – Erics answer was that we are considering it as a special case and will be changing the field to include "Custom Test Matrix" – Karla added that Midwest has developed other systems that were not tested to the full matrix – she gave a number of examples.

Leo Yodock – Ramudden – stated that the Cross Pole barrier was never submitted to FHWA because it didn't complete the full matrix – however it is being used by TX, OK and others… so this isn't just a barrier issue it's an issue across all highway hardware.

Room consensus was that a centralized body to make these types of calls would be a good solution.

Subcommittee - #2 - Barrier Hardware Review Groups **Pyde**/Eicher

- Pyde led a brief discussion on the makeup of the categories within this group
    - Guardrails/Median Barriers

    - Crash Cushions
    - End Treatments/Terminals
- 2 issues were brought up regarding drawings that were in review – which required recategorization.
- The general organization of how subcommittee #2 is drawn up became a discussion point. Thinking was that it could be broken up between Longitudinal Barriers & Components / Terminal & Crash Cushions – Decision was made that the committee chairs would each handle one of these new categories. (*Editors note – Request made to bring at next meeting and made formal)*
- Comments were made that the Short Radius GR drawings have been updated.

John Durkos – Road Systems - added that he had a request from a DOT that TF13 should create a guide that shows older / archived systems. Not for the purpose of diagraming the systems in detail more for identification purposes – info would include product name / photo / testing criteria - this guide would be intended to be used for solely recognition purposes. Kenneth Shannon – MTO – made the comment that they have something like this in the works now and that they use it for similar identification purposes. John Durkos commented that we shouldn't recreate the wheel and could possibly use what the MTO is creating. Leo Yodock- Ramudden- stated that Mark Ayton had created a report on Legacy Hardware – and noted that many of those systems did not perform well when tested with the newer MASH vehicles.
David Price – RG Steel stated that he would like to see a statement added to any document that gets produced that these old legacy systems are not suggested to be used and are recommended to be removed… Carl Gaudry LADOT – stated that he could see how the guide would be beneficial to identify Bridge Rail too– Further discussion on the subject concluded that Bridge Railings hadn't been considered. Possibly could be added at a later date.
Eric Lohrey – ELS Engineering- stated that many of the legacy systems components are currently archived as well as systems themselves that are outdated (230 & earlier)

Subcommittee #3 - Bridge Railing & Transition Hardware **Tony Ghioldi**

Gave a quick rundown on the background of the committee – They currently have an open co-chair position – Discussed that they have a review group that manages the tasks, they are broken down as follows:

- 3 working groups
    - Concrete, Steel & Other
- Went over a number of drawings
- Went over their "to do list" – systems / drawings to be reviewed.

John Durkos – Road Systems – wanted to make the committee aware that TTI did a report on Bridg Railing Systems that have met MASH – Roger is believed to be the PI.

Subcommittee #11 - Delineation Schultz/Lang

Neither were able to meet – John Durkos – Road Systems - discussed an email that was submitted by the co-chairs – they have had some preliminary discussions regarding merging with subcommittee # 6. John is strongly encouraging the chairs and subcommittee members to have further dialog between the two subcommittees and report back by next meeting.

Subcommittee #7 - Certification of Test Facilities Lechtenberg/**Kovar**

- Discussed the relevance of ILCs and how they fit in with MASH-16
  - Inter-Laboratory comparison is a cooperative effort between active labs who are conducting MASH testing – though they are not mandatory – where MASH is being changed to a spec there is a possibility to get the outcome into the new standards.
- Draft Report – Standardized Report – the realization that in testing at different locations using similar equipment, the likelihood of ever generating identical results is infinitesimally small, the goal is to always be improving and making changes to narrow any variations between labs.
- The report was targeting what was "recommended" to be reported in MASH – they focused on a logical layout and standardized linear format. Targeting consistency between labs – ease of use. They also looked at adopting what were best formats for primarily tables, figures, and graphs etc. Along with 508 compliances & what the FHWA and States have said that they are looking for. They used a color-coding methodology to pick key items within the various reports to aid in sorting the key sections.
- The ILC in effect were developing a minimum number to be conducted and were looking towards them possibly being included with in the new MASH standard. The current version will still need to go through TCRS before it will be released for wider consideration.
- Improving the consistency between testing & reports … not making a cookie cutter… developing consistent base level report that makes it easier to be confident when making comparisons between labs results. A Comment was made to look at EN-1317 reports – for inspiration
- John Durkos – Road Systems – made the comment that he hoped that the new MASH standard would utilize / reference TF13 drawings –
- Question from the floor - came up as to how the selection process & order of the ILCs was made and which testing houses took lead was determined? Karla Lechtenberg – Midwest- answered that by its intention the nature is to be random for both; selection of ILC and who's taking lead– there is also an option for other labs to enter the fray. If a topic is hot (where it's been generally determined that there is a need) the ILC topic could be moved to the top of the ILC listing.
  - During Wednesday evenings presentations and pursuant conversation - this topic came up again during Kovars presentation – (Editor's note - His presentation was not added to the website – Contact him directly for more info)

  - Lance Bullard – TTI – recommended that a survey be sent to all the labs on the current list to ensure the subject of comparability is on top of the list as it is most relevant.
  - Calspan – comments when MASH changes to a specification it will be time to revisit this list as the auditors will be pointing to the new specification as to what needs to be investigated
  - Caltrans – hasn't had an assessor ask for how their lab looks at "uncertainty" - they look to A2LA for references– their next assessment will be in November (assessor is reported to be John Young)
- Action items – survey the labs looking for new topics and / or what topics should be done next as well as topics are most relevant.

Subcommittee 9 – Marketing –

Stephany Poynor

- Stephany Poynor – Story Lumber - is currently chair – Scott Peters - Franklin Steel offered to be cochair – John Durkos – Road Systems - made the Motion to accept Scott as cochair – The motion was seconded by Greg Kirchgesner – Xccessories Squared – Vote was unanimous in favor.
- General group praise was bestowed upon Stephany for her efforts in "upping TF13's game" with the publication of such a detailed and in-depth Newsletter.

TF13 Business moment– Carl Gaudry LA DOT volunteered to be cochair of Subcommittee 3 - Bridge Rail. John Durkos – Road Systems - made the Motion - Tony Ghioldi – Quality Bridge & Fab seconded. Vote was unanimous in favor.

Subcommittee 5 - Sign, Luminaire & Traffic Signal Support Hardware

Lohrey/Jollo

- Eric Lohrey - ECL Engineering - went over 8 sign systems that were newly updated in the guide
- Discussed the large issues with Luminaires - that their bases were originally the only component crash tested and how now MASH requires both the luminaries be treated as a system and all component combinations must be tested… there are many variations within the same family of luminaires systems– each variation has the ability to affect performance. He showed some photos with posts and luminaire combinations.
  - Scott Jollo – OR DOT - commented that it was the traffic engineers who were getting locked into having to put out a safety device on the road. This is due to them needing to meet what is called for in the MUTCD. They have to individually review each system and weigh in on what is a worst case. He gave an example– a noncompliant sign vs not signing the cross walk. The general feeling is that roadway designers / engineers are trapped into making the call.
- Eric Lohrey – ECL Engineering - showed a listing of some NCHRP projects that were relevant to the subject.
- Greg Kirchgesner – Xccessories Squared – asked regarding the multi support

signposts testing – were they looking at doing the heaviest posts first then moving to the lighter? Answer was they weren't to that point… they were still looking at what systems are out there and then were going to come up with some type of model to reduce the number of tests.

- Lance Bullard – TTI – commented – the general discussion seems to be focusing on just about the high-speed testing and Delta V. It's his opinion that the – support structures are more likely to fall on vehicles during the low-speed testing – thus it might be more critical… now with structure being a lot less than 1000 lbs. it could be the pole could cause significant damage. He posed a question: Should a limit be included somewhere in the specs to ensure the mass of the pole / support is considered?

- **Subcommittee 6 - Work Zone Hardware** **Seguin** / Open
  - **Marc Seguin – Moovup -** Gave a summary of what's in the Work Zone Hardware category. He put out a request for photos of systems that are currently in the guide.
  - Discussed the issues that they are facing in getting work zone hardware to market – discussed the delays in the timeliness (or lack thereof) in getting a letter from FHWA. It is a problem, as a number of systems are getting approved and used by DOTs prior to getting the letter. (confidence / value of FHWA letters is fading)
  - He sent out a survey to the group assembled in hopes to get this question answered: would they want to allow a system to be added to the guides if they have passed MASH but don't have a letter.
    - Scott Jollo – OR DOT – commented that some of the DOTs consider Temporary Device much differently than Permanent Device and might be quicker to accept a Temporary System that has passed MASH but doesn't have a letter.
    - Jason Hubble – Atlanticum Bridge- commented that in Europe – after the testing process a notified body (can be a government body or private company)– need to get the products CE certificate – each year someone comes out to plant and does an inspection for recertification.
    - Lance Bullard – TTI - came up with a concern regarding the issue of creating a listing of systems that have been submitted to FHWA but may not eventually get approved… and are still on the list.
    - The general discussion counter to this was that the products wouldn't be submitted to FHWA if the full matrix not being run. Kurt Brauner LADOT – said that the list might be good idea and was generally in favor.

Update NCHRP projects **Anna Marie Turner**

Gave a brief background of where NCHRP falls under the National Academies of Science which was charted in 1800's… Went over the problem statements and how

they are balloted. Went through the panel process and forming of the RFP. 17 safety problem statements were submitted last year.

Gave update on a number of projects that were selected (see slides for more details)

Discussed a report on the Tackling the Roadside Safety Crisis

Update ongoing research projects related to Roadside Safety and/or Safety Hardware

Calspan Recent Activity /Research **Metzger**

Went over the process of bringing a new product from development to testing - all the way through getting the FHWA letter and initial marketing. He went into more detail on 2 different products that they have recently worked with:

- Asynt Solution's TL3 Fiberglass barrier
  - Less than 1m of working width
  - 22 months from development to report submitted to FHWA
- Pretread - TL2 rubber tire-based barrier
  - Made from all Recycled materials - better for the environment than conventional concrete barrier…
  - It took 14 months from development to report submitted to FHWA.

  After testing and generating a report Calspan also generated a separate single page letter stating that they tested the system to MASH. The letter was used by the manufacture when submitting to state DOTs for "new products" groups to assist in gaining acceptance prior to the FHWA letter being issued. (Great idea for other labs to follow – make recommendation to subcommittee 7)
  - Major Pros of using the product - sustainability and light weight nature of the units.
    - Question – LADOT – were both products UV stable? How does UV affect the longevity of each product – will they degrade over time? (Yes – UV stable, eventually will degrade.)
    - Question –Eric Lohrey – what states have approved these systems? (Didn't capture answers)

- Chuck Plexico – SafeRoads LLC– brought up a general question regarding testing of TL3 to TL4 Transition to bridge barrier – where CIP of the system can get stiffer as it approaches the bridge railing… at what point does the testing become testing of the Bridge barrier vs the transition… Lance Bullard - TTI answered this by saying there can be many CIPs in this scenario and that each need to be thoroughly investigated

- **Holmes Solutions** – Modified Bridge Barrier **McNeil**

  Modified MASH TL5 testing for bridge barrier – for AustRoads.
  - Gave a quick primmer on Austroads –

  - Went over the barrier that they designed – they added 12 strain gages throughout the system during testing. Used a "hydro method" of jet water blasting to demo the system– the high-pressure water was able to demo the concrete and leave the rebar intact.
  - The TL5 truck was driven by satellite into the barrier. All the tests passed. The ministry will be implementing it and adding to their bridge rail design manual.
    - Question – regarding the working width – there was a unit error in the conversion from metric to standard units.

- Offer of open discussion – other crash tests houses that are in audience were invited to make any additional reports on their activities.

- **Asycnt - The Ape Barrier™**: A Fiber Reinforced Polymer MASH TL-3 Barrier - **Valz**
  - 2 year old company that specializes in composites.
  - Barrier is vacuum infused fiberglass – The internal web structurer is the proprietary nature of and key to the system. Combines the best attributes of both worlds - between steel and concrete. It's a greener stronger barrier. Went through the testing at Calspan.
    - Question was asked regarding end of life – still working on a good solution. Current solutions include grinding or dissolving.
    - Higher cost than steel or concrete – $180/ft ish.
    - Can be terminated with TAUII and Hercules end treatments –
    - An ISP is underway in PA conducted on the PA project.

- Open Discussion –HW related trends, concern, other –
  - Eric Pery – ATSSA - brought up that in one of FWHAs response to them – they clearly stated that they will stay in the business of issuing letters.

Task Force 13 Executive Meeting

Discussion on the question if TF13 should generate a listing of systems that have been tested to MASH but don't currently have an FHWA letter

  - Scott Jollo – OR DOT commended that if we go down this road that it would be beneficiation for us to develop guidelines –
    - When he reviews product, he reaches out to other traffic engineers that have accepted the system – perhaps there is an avenue for us to do something similar – if x number of others have granted acceptance type of thing…
    - What would AASHTO think if TF13 were to generate such a list of products. *"Editors Note – Per Email from Erik Emerson "would recommend that you distinguish between the different levels of approvement (e.g. FHWA letter received, FHWA letter requested, Letter not requested) or something like that"*
  - Don Pyde - Valtir – questioned why we would want to generate such a list – better leave it to FHWA.

- Mark Sequin - Moovup – Thinks that creasing the list will give FHWA an out -
  - Would be important to know how many and who are using our guides. Requests that Eric investigate cost of getting that data
- Eric Lohrey – ELC Engineering – we talked about this for proprietary products before.
- General discussion on how to make this work – Went around in circles.

General comments were that the meeting at Calspan far exceeded expectations and has been great. Want to duplicate this type of energy.

Spring Meeting will be at Midwest – will have a crash test.

Eric Smith – Hill & Smith recommends that the meeting the pooled fund could hold earlier 3-6pm.

Jim Kovar -TTI – recommended that we try to partner with AASHTO or other organizations to boost state dot participation.

Karla Lechtenberg - Midwest– said that she thinks the higher lab attendance at our meeting was due to those members being able to checking off some of the accreditation requirements by attendance and participating.

Thursday October 3, 2024

Affiliated Committee/Activity Reports

American Traffic Safety Services Association ("*ATSSA*") Eric Perry

- Went over letter ATSSA to AASHTO regarding M180 and presentation encouraging dialog on the subject.
- M180 Taskforce – discussed composition of the TF and reported on some of their work
- ATSSA UPDATE
- ATSSA Anual Expo Feb 28 – Mar 4 – 2025 Orlando, FL
- Announced an update to the 2022 Guardrail ID & Repair Guidelines booklet (Contact Jessica Schnider @ ATSSA for more details)
- Went over the New Products and Innovations Products rollout program
  - Question – was there any more communication between AASHTO and ATSSA – answer was that yes there has been more communications – expect new information will be coming out over the next few months.

TRB Committee AKD20 Roadside Safety Jim Kovar – TTI & Chair of AKD20

- Changes in committee leadership – Jim is new chair; John Donahue is still rendering some assistance
  - Positions:
    - Acting Secretary Talha Ghuman - Safe Roads R&D, Inc

        - Research needs coordinator – Luke Riexinger - Insurance Institute for Highway / Safety
        - Communication Coordinator – Fadi Tahan - George Mason
    - Affiliated committees: AKD20(1) AKD20(2) AKD20(3)
- 2nd International Roadside Safety Conference – Went over highlights of meeting that was held earlier in the year in Orlando FL.
    - Overall theme: Innovating for a safer system.
    - 5 pillars of safe systems approach – users, vehicles, speeds, roads, and post care
    - 300-400 attendees – from 5 continents.
    - Affiliated committees that had members attend: AKD40 / AKD50 / AKR20 / A0040C / A0020C
    - Field trip to Sun Trax
- Went over the focus of the ADK20 committee and how it's comprised:
    - 32 members & 346 friends of the committee - Requires turnover of Members every 3 years. A member only has 3 – three year terms in a life time. Friends are key participants in the committee.
    - Papers due – August 1 hard deadline - Paper Review timeline August 15-Sept 15.
    - Jan 5-9th 2025 Annual meeting.
- Summer meeting – Will be meeting jointly with TRCS – date TBD

- CCSA/George Mason University – updated on current activities Fada Tahan
    - Research focused on determining the failure mode for recent EV Tests –
    - They used the FE Models of the 2010 Toyota Yaris & 2022 Hyundai Accent and the model of the MGS barrier
    - Used NCHRP Report 179 as bases for the investigation
    - Used current Vehicle Models as baseline and changed a number of characteristics - center of gravity, strengthening the floor pan, increased the weight of the vehicle - and couldn't mimic what they saw happening in the crash testing. They further made modifications to the model by: Stiffening the hood, fender & a-pillar and frame structure.

  When all three were changed in conjunction with the CE and added weight. They were able to simulate the failure mode.
        - Note to get the rail height to be similar to what was impacted they raised the simulated rail height to 36" (Actual EV tests were run at 31")
        - Questions from the room - what in the FE model changed to get the added increase in rail height – answer was they increased the length of the post
    - NCRHP project 22-43
        - Final report is in NCHRP 1123 and is also combined with NCHRP 17-105
        - Went over the matrix of required testing for the sign supports. & luminary in MASH
        - PSST Sign Support Model Validation testing 2 ¼ in 12 gauge

- Simulations were made using different alum thickness .08,.10 & .120 in
- Simulations also varied height of the panel

- Texas A&M Transportation Institute – update of current activities Jim Kovar
  - Txdot T223 Retrofit – on existing older bridge deck
    - Concrete post and beam –
    - Adhesive anchor into 7 in deck
    - Bolt through into a 6" deck (changed after testing 7")
    - Both tests passed MASH
  - TL5 Single slope in asphalt
    - Determine the minimum barrier length & minimum barrier embedment.
    - 42" tall above pavement with 8" of asphalt
    - Successfully met MASH
    - Dynamic deflection 2.1" Working width 44.5" Working width height 135.21"
  - Single Slope to Low Profile Transition
    - Similar to the TXdot low profile barrier TL2 design - not anchored
    - Desire was to change the shape to single slope
    - Looked at 36 different impact conditions as to which combination of impact direction was most critical
    - The simulations were good, but they over predicted deflection.
    - Crash tested the small car and pickup – both were successful tests.

- Midwest Roadside Safety Facility– update of current activities Karla Lechtenberg
  - MGS Buried in Backslope Terminal (HDOT)
    - Testing matrix is not spelled out in MASH – they had to determine which tests to run. 3-32, 3-33, 3-34, 3-35, 3-37a & b which were all considered to be modified slightly.
    - They modified the rail high to match the 31" road height until it reached after 5ft off the road edge, they matched the 31" height along the slope.
    - They moved the anchor block during the impact of the pickup – thus final design will include stiffening the anchor block –
    - They have 3 tests left to run 3-35, 3-37 and 3-37b - near the anchor block
      - Question from Kevin Shrum – where did they pick the impact point? – Answer: was that they went where it was going to get the stiffest.
      - Question from John Durkos – if the TTI testing of a buried in backslope system was the same design as what Midwest was testing? Answer: was they consulted TTI but she wasn't sure if it was exactly the same as what TTI tested.
  - HI DOT modified Natchez Trace Bridge Rail
    - Previously tested to PL 1 (prior to NCHRP 350 criteria) Was also tested under NCHRP 350 with some minor reinforcement changes.

        - MASH tests were conducted with a railing attached on the backside.
        - 3-11 test – redirected, minor snagging, the foot & toe pan exceeded MASH limits. All OIV criteria were met.
        - They believe that the increased severity of MASH was the key cause of the failure and wheel gouging into the rail.
        - They changed the shape of the barrier to have a vertical face. They re-ran the test, and it passed. MASH – the vehicle deformation was 4.4"
        - 3-10 test was run and passed – however there was windshield damage due to loading of the A-Piller.
        - Question was could the systems in the field be modified – answer was unlikely because they had rebar in the system.
    - Increased Blockout Depth with the MGS @ 31"
        - They were looking to determine how far can the blockout be extended and still have a successful test.
        - 24" blockout depth 5/8" dia 26" long guardrail bolt (tested with three 8" blocks)
        - They ran the 3-11 & 3-10 tests- both tests were passes with smooth redirections
        - Will be looking at if this approach can be use within transitions

TF13 Business moment – John Durkos make the motion to make Kevin Shrum a cochair for the Work Zone subcommittee 6 – Mark Seguin seconded the motion. Motion carried.

- AASHTO Technical Committee on Roadside Safety - Kevin Marshia
    - New to AASHTO – 20 years at VTDOT
    - Regarding MASHs conversion to a performance specification – the contractor is continuing to make progress. After completion it will go to TCRS (limited to 20 members) to get a first look at the final product– then it will go out to be reviewed to all 50 states and on to balloting. Then on to the Committee on Design and Counsel on Streets – Publication is not anticipated in 2025. Before it can be published 35 states must vote to approve it.
    - Technical Service Program – (Saferoads) Will be bringing back – 3 areas of focus – assisting the states in doing their own evaluation of crash testing, Simulation, and Self-certification.
    - Any resolutions in MASH that need to be brought before the board would be done so in the Fall. At this time didn't think that they would have any resolutions being brought before them.
    - MASH Evaluation Training – NHI program – they have been working with them on agreements – they may have thoughts; however, it is FHWA position to make any official comment on this program. –Durkos noted that - TF13 sent an email to FHWA on this last (September) week to Dick Albin making an official request to review the program specifically where it has anything to do with proprietary systems. The room thought that it would be helpful.
        - Question from Eric E – if there is any news on the updates being done to the RDG? Answer – Kelly said that the first draft should be ready in about

a month. Would expect this to be published late 2025.

- John Durkos brought up that he's been having discussions with Joe Jones – (who happens to be going back to MODOT) - he will be staying on with Lidos to help out with getting the RGD out. Marshia – said that publications dates also been slipping based on the heavy workload

- **Moovop – Use of 4WD Pickup Trucks as 2270P vehicles for MASH Crash Testing**
  Francis Beauchamp R&D Director
  - Introduction – problem in sourcing 2 wheeled drive 2270p vehicles – the question that they looked at was if there would be a different outcome if a 4WD were used in its place.
  - Went through background within MASH for the selection of the 2270 vehicle –
    - Comments from the room:
      - Kevin Shrum – gave reasons why 2 wheeled drive was originally selected for testing.
      - Lance Bullard – they have seen differences in performance when testing the 2W vs 4W vehicles. He went on to give some specifics:
        - Saw difference in performance between 6-cylinder vs 8 cylinders.
        - Spindles size and construction likely cause differences in outcome.
        - Changing MASH to Spec – could help correct this issue.
    - MTO – wants to see 3-44 MASH test and if there would be any difference between models. (Marc Seguin made comment – that they've did this test – outcomes were both successful)
    - MTO – said they have already accepted MOVEUPS barrier – agreed with the premise and conclusion regarding use of 4W drive in substitution of 2W.

- Testing of Aesthetic Wood Barrier & Terminal Jason Hubbel
  - Gave a history of Margaritelli's barriers in Europe
  - Gave description of glulam timber: its carbon footprint, reduction of warping and warping, etc.
  - Show how glulam ages better.
  - Showed a bogy test – the system had reserve capacity, so they reset the bogy and hit it again…
  - In 2019 they conducted a P1 test
  - Showed the MASH version of the Beaver wooden end terminal.
  - Showed the Ranger Rail tests 3-10 & 3-11 – noted that both tests passed MASH criteria
  - Showed how the system was based on Driven steel posts with wood cladding
    - Question from the room-
      - John Durkos – questions if they were applying for a FHWA letter & and intending to sell in us – Answer : yes it's been applied for.
      - Question on the post's length – wood species. Answer: wood was Norway Spruce, but other woods could be used too.

TF13 Buffalo Meeting Notes

New/Old Business — John Durkos

- Location/Dates of Various 2025 Industry Meetings.
  - AASHTO Annual Meeting will be in Phily
  - TRB – Jan 5-9th DC
  - ATSSA – Feb 28th - Mar 4th Orlando
  - ATSSA Midyear Aug 18-22 Milwaukee, WI
  - Spring Meeting Midwest Pooled Fund April 15-16 Tue Wed TF13 will be following.
- Executive Committee Summary.
  - Thank you to Calspan for the meeting
  - The evening meeting went late - time should change to 3-6 when possible
  - Products listed on TF13 website - separate listing - Will approach TCRS if they have any strong opinion on the subject
- Review of Task Force 13 "To Do List", generated from meeting
  Mauer

After the meeting, a boxed lunch was served and we were treated to a second crash test. We had seen the first crash test on Tuesday along with a tour of the Calspan test facility.