Joint Meeting between Midwest Pooled Fund Study and Task Force 13

October 21, 2015

Hilton Garden Inn College Station, Texas

Lance Bullard welcomed all to College Station, Texas. Several presentations were slated for discussion during the joint meeting;

Changes to MASH – Lance Bullard (TTI) and Will Longstreet (FHWA)
Decay Detection in Guardrail Posts – Evan Olszko (Metriguard)
High Performance Delineators – Craig Schultz (Pexco)
Feasibility Study for Extreme Site Conditions – Dusty Arrington (TTI)

Changes to MASH – Lance Bullard (TTI) – Lance detailed in his presentations crash testing criteria for slopes, updating tractor trailers to the more common length of 53ft, bed heights for SUT and ATT and Hood Heights. An extended discussion about hood heights was had with the main concern being where measurements are taken from and how to standardize these measurements.

Why MASH? – Increases in vehicle weight and C.G. height have changed the scope of testing. Traditional strong-post w-beam guardrail at performance limits in both strength and vehicle stability with no reserve capacity or safety factor. Many SUV's and pickups are heavier and have a higher C.G. than the previous test vehicle. Needed improved impact performance to accommodate broader range of vehicles.

Chris Lindsay (TxDOT) provided a brief overview of the most recent TCRS meeting and laid out the MASH15 proposed implementation deadlines. He stated MASH implementation had passed through TCRS and SCOD. The implementation deadlines are as follows:

- December 31, 2017 – w-beam and CIP concrete barriers
- June 30, 2018 – w-beam terminals
- December 31, 2018 – cable barriers, crash cushions and cable barrier terminals
- December 31, 2019 – bridge rails, transitions, all other longitudinal barriers, all other terminals, sign supports and other breakaway hardware
- December 31, 2019 – all other work zone devices, including portable barriers
- Also, temporary work zone devices, including portable barriers manufactured after Dec. 31, 2019. must have been successfully tested to the 2015 edition of MASH. Such devices manufactured on or before this date and successfully tested to NCHRP Report 350 or 2009 edition of MASH may continue to be used throughout their normal service life.

Votes for SCOH expected in November. TCRS is working on responses to questions and discussions on updates to RDG have begun. (Editor's note: AASHTO voted to accept the Implementation Plan and FHWA concurred via memo. Please see the AASHTO Bookstore for the Plan at: https://bookstore.transportation.org/collection_detail.aspx?ID=34
See the FHWA website for the concurrence memo:
http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/

Regarding the federal-aid eligibility of highway safety hardware, as of **January 1, 2017** the FHWA will no longer issue eligibility letters for highway safety hardware that has not been tested to the 2015 edition of MASH. Modifications of eligible highway safety hardware must utilize criteria in the 2015 edition of MASH for re-evaluation and/or retesting. Non-significant modifications of eligible hardware that have a positive or inconsequential effect on safety performance may continue to be evaluated using finite element analysis.

Ron Faller was not in attendance at the meeting, but offered several questions for discussion.

- What is the list of non-proprietary systems in each category type that will need to be subjected to MASH testing?
- How will NCHRP 350 systems be reviewed to identify what tests need to be run and which tests can be waived
- Is there a process to identify and test the most critical system within a category? If so, will that process allow for less critical systems to become eligible? What are the details of that approach under MASH
- How can additional funding (i.e. FHWA, new Pooled Fund, etc.) be acquired to share the cost burden for crash tests on non-proprietary systems that are used by multiple states?

Decay Detection in Guardrail Posts – Evan Olszko (Metriguard) – Evan provided a detailed overview of a recent study conducted by Metriguard in conjunction with Washington State University. The study reviewed decaying wood posts and how to determine if they are suitable for use or if they need replaced.

Evan showed the group a stress wave timing device designed by Metriguard as a prototype. The stress wave timing device can detect decay by analyzing voids within the wood post. The results produced from the stress wave provide feedback of the health of the wood post.

A demo was done with Roger Bligh, Tony Cappella and Greg Schertz participating. The wood block samples were capped and tested. The results were compared with comparison charts provided by Metriguard and each post was correctly identified as good or bad based on the results.

Those in attendance agreed this product could be a useful tool for maintenance crews in the field and urged Metriguard to continue pursuit and development of this stress wave timing device.

High Performance Delineators – Craig Schultz (Pexco) – Craig provided an overview of Pexco's performance delineators and made a suggestion for Standardization of Testing and Evaluation of High Performance Delineators. The Pexco product is tested by being hit repeatedly (upwards of 100 times) at various speeds. While the product performs well under the crash tests, the delineation itself wears and reflectivity is severely diminished. Craig has suggested the delineation be upgraded during maintenance or standards be instituted to keep the delineation reflective material up to a certain standard.

Feasibility Study for Extreme Site Conditions – Dusty Arrington (TTI) – should we be looking at ignoring MASH criteria for special extreme site conditions. Basically, not adhere to MASH

when the site conditions for the barrier can't accommodate an approved barrier and the roadway condition can't be eliminated by removal. State of the possible or face facts that it is impossible to meet MASH under extreme conditions and do the best as possible for barrier placement within some specific site condition such as T intersections. Meeting end.

Thursday, October 22, 2015
Task Force 13 Meeting Begins

John Durkos welcomed participants to College Station, TX and thanked Linda Chattam for her assistance in coordinating and organizing the Task Force 13 meeting. Thanks also given to TTI and the Pooled Fund group.

John provided an overview of what to expect during the meeting. Friday TF13 would be broadcasting via Adobe Connect the technical presentations given Friday morning. John also made mention of the crash test that took place earlier in the afternoon as well as thanks to the Pooled Fund for the joint meeting with TF13. A brief overview of a small to do list was discussed and a request was again put out for a co-chair to assist John Durkos.

A moment of silence was held in remembrance of Arthur Dinitz who passed away. A video of Art was played in his memory.

Will Longstreet reviewed the minutes from the last meeting on behalf of Nick Artimovich who was unable to attend. A motion to accept the minutes from Lincoln was received and a 2nd to accept.

Subcommittee #1 Publications Maintenance – Malcolm Ray (RoadSafe)

Mac began the subcommittee meeting by recapping the responsibilities of RoadSafe as they pertain to maintaining the Task Force 13 website. Everything to date has been migrated from all old sites to RoadSafe servers and for the first time all material is in one location.

In the last six months and since the last meeting RoadSafe has completed the following items left on the previous to-do list;

- Under "test spec" added a new category "not Crash Tested"
- Changed the search criteria based on the context for work zones and crash cushions
- There were some tech rep changes - please review your subcommittee - log on and make sure it is correct
- For search on guardrail/median barrier and terminals created search by" rail type (WB, TB, etc.) Aesthetic (True/False)
- Created a standard operating procedure document - separate documents for reviewer and tech reps on review page
- Created cross reference between transition hardware and bridge rail guides
- All guides are interlinked with each other
- Added FHWA memo on bridge rail test level equivalences to the home page
- Uploaded bridge rail subcommittee review checklist - located in drawing comment and review page

- Added another specific type category for work zone - channelizing devices - new designator is H
- All systems and components from 1995 guide and TTI guide have been uploaded to their respective guides
- Items obsolete, deleted or abandoned are no longer on the site.
- Answered/resolved a variety of user questions and issues.
- Contact webmaster if a component or system is missing

New Features

- Transition systems not list compatible Barrier Systems as well as compatible Bridge Rails and Components
- Context-Sensitive Search added based on the need for search
- Test Specification Search added
- Height Specification Search added
- Aesthetic Flag Search added
- Categories match between "Browse" and "Search" Search now acts to reduce number of systems irrelevant to user.

To Do:

- Set up a generic reviewer so that people can log on during the meeting and do reviews
- Once a review has started, automatically send out a reminder a week or two before the deadline
- Create automated submission process

There remains “quite a few” drawings not reviewed or posted to the TF13 site. Efforts to be made on all ends to get these updated sooner rather than later.

Hardware Guide - What search criteria do we want?

- Currently we have: general systems type, specific system type, test specification, test level, system height, and review status of manufacturer.
- Contact: olaf@roadsafellc.com with questions concerns or comments.

LIVE REVIEW of Hardware Guide
Many questions around what appears on the site, when it is reviewed and when it actually appears on the site.
Get material stuck in the review process so tech reps know what needs to be reviewed and updated for the website

Subcommittee #2 Barrier Hardware – Eric Smith (Gregory Industries), Will Longstreet (FHWA), Karla Lechtenberg (MwRSF).
No new business reported from Smith or Longstreet. Karla led the meeting which started with a review of SGR08a Ironwood Aesthetic Wood Guardrail System. The review process quickly turned into a discussion about why Report 230 products are in the guide when it is no longer used. The question was posed “What is the purpose of the on-line guides and who uses them?”. Rick Mauer agreed to initiate a marketing effort to make the on-line guide more visible and usable by various entities. A long discussion ensued about whether Report 230 products should appear in the guide as searchable items. The result of the discussion was to remove Report 230

products from the search and visible guides, but to archive the documents for review if necessary or requested.

Subcommittee #3 Bridge Railing and Transition Hardware – Roger Bligh (TTI), Kurt Brauner (LaDOTD)
Roger opened the discussion of the on-line bridge rail guide. The working groups concrete bridge rail (Kurt Brauner), steel bridge rails (looking for volunteers), other bridge rails (Scott Rosenbaugh). Volunteers needed to help our important mission of maintaining the bridge rail and transition guides.

A wish list was established requesting several modifications within the Bridge Rail and Transition. Approval to review status under search railings. Change entries under review status to – in review and review complete.

- Post Reviewers checklist
    - Posted on drawing comments and review page of main TF13 website - need to be logged in to access
    - Provide link under bridge rail guide
- Develop online automated submittal process (online guide file submission)
    - Submitter defines attributes of system
    - Submit attachments
    - Review group notifications
    - Automated designator system
- Should report 230 system remain in the bridge rail guide?
    - Currently search criteria
    - Three system
    - Two did not meet NCHRP 350
    - On received NCHRP 350 TL-2 Eligibility

- Request to Mac Ray and his crew to add a Designator identity breakdown for how parts are labeled. Similar to what is on the Barrier Hardware Guide
- Transition Search Criteria
    - More flexible system - guardrail – w-beam cable barrier box beam
    - Stiffer system - guard rail – w-beam bridge rail - concrete, etc.
    - Extensive conversation on how to set up the search parameters for transition systems.
- Terminal End Shoe Optimization - Akram Abu-Odeh
    - Review of a recent study conducted by Akram on Terminal End Shoes. The discussion was in regards to the variance of horizontal slots, angled slots and now modified end shoe with vertical slots. It was found in his tests the vertical slots performance was acceptable.

Subcommittee #4 Drainage Hardware – did not meet

Subcommittee #5 Sign and Luminaire Support Hardware – Eric Lohrey (Transpo)

Fifteen (15) attendees present.

The subcommittee still needs a co-chair from a government agency member (FHWA or state DOT). We are asking that candidates expect to attend at least one (1) meeting per year.

Sign Support Guide:

- Reviewed seven (7) small sign support system drawings, and expect all to be accepted after minor revisions are completed.
- Plan to review NCHRP 230 devices currently in the Guide, and determine appropriate status updates.

Luminaire Support Guide: No activity since the last meeting.

Plan to create a reviewer checklist by the next meeting.

Discussion regarding MASH Implementation for Sign & Luminaire Supports:

- TxDOT/TTI has tested a few sign supports to MASH. Research reports and details of the systems are available.
- Performance criteria in MASH have changed significantly from NCHRP 350. Pendulum compliance testing is no longer accepted. A complete matrix of full-scale crash tests is now required.
- Many are not convinced there are problems in the field with current breakaway supports; however there is limited in-service performance evaluation data available at this time.
- Several manufacturers expressed concerns over their ability to absorb the high cost of full-scale crash testing needed to obtain MASH eligibility.

Subcommittee #6 Work Zone Devices – Greg Schertz (Dept. of Federal Lands), Tony Capella (Hill & Smith)

Discussion of previous meetings and status of initiatives.

- Truck Mounted Attenuator (TMA) delineation has not been standardized from state to state. This was previously turned in as an NCHRP research proposal but was not selected. It was then taken to the National Committee on Uniform Traffic Control devices (NCUTCD) but it was returned to us asking that a state take the lead on this. We are not sure what this means. Donna Clark agreed to go to Paul Carlson to find out more about what was meant by that response from the NCUTCD.
- Temporary Concrete Barrier inspection Guide: Previously submitted as an NCHRP research proposal but was not accepted. Priscilla Tobias, Illinois DOT had agreed to try to get support in Illinois. We don't know the status. Tony will follow-up on that with Priscilla.
- Craig Schulz (Pexco) led discussion on delineators/channelizers as a follow-up to discussion in general session.
    - Two issues:
        - No standardization of specifications for impact performance
        - No standardization of specification for appearance (height, color, retro reflectivity, etc.) and when and where to use on the roadway
        - NTPEP performance tests for impacts, but only up to 10 impacts. Some of these devices are used within roadways which are subjected to much more

than 10 impacts in a short period of time. Very little info in MUTCD. It references Chapter 6 which is not necessarily appropriate for permanent devices. Discussed possibility of a new TF13 Subcommittee to address these and similar devices.
- Possibility of adding a new document or adding devices to the work zone part of the Barrier Guide:

- Should we include TMAs to the Barrier Guide? General consensus of subcommittee was to add TMAs to the work zone part of the Barrier Guide. Additional discussion about adding more items, such as drums, channelizing devices, etc. Many felt that would open up to way too many devices and it may not fit well with the purpose of TF13. Suggested that this be discussed in General Session of next TF13 meeting.

Subcommittee #7 Certification of Crash Test Facilities – Lance Bullard (TTI), Karla Lechtenburg (MwRSF)

- Much of the discussion centered around Standardizing hood height measurements at all testing facilities. Where the hood height measurement should be taken from? Photos of various testing facilities were shown and a variety of measurement locations were noted.
- 4 year plan for Record of Interlaboratory Comparisons Conducted Under AASHTO TF13 - soil gradation, soil strength, mounting height of accelerometers, determining the start of usable data, documentation how ballasts are installed in the vehicle, how impact speed is calculated, measuring the CG of the pick-up truck.
- Template on how to report data created by Karla Lechtenburg.
- (See Attachment for Lechtenberg's full minutes of this meeting)

Subcommittee #8 Rail Highway Crossing Hardware – did not meet

Subcommittee #9 Computational Mechanics – Malcolm Ray (RoadSafe), Will Longstreet (FHWA)

Will Longstreet discussed the following topics:
- Review of the FEA form that is(was) posted on FHWA website
- The importance of possessing a baseline crash test(s) for conducting FEA
- Addressed general inquiries related to what an FEA submission really is

Bob Bielenberg MwRSF provided the following input:
The discussion primarily dealt with what level of comparison is acceptable for a modified system. Essentially, does the modified system have to perform similarly to the original tested system within the bounds of the V&V procedure, or can it perform "better". There is caution with attempts making the system performed better argument as that may provide too narrow of an overall picture of the performance of the model and the modified system.

In addition, current FHWA policy has been to allow the use of simulation for changes to the hardware device that are denoted Non-Significant –Effect is Uncertain. If the structural change is non-significant, it should result in substantially the same performance as the original system.

However, the difference in expected performance should be documented. From FHWA memo, "A structural change to eligible hardware where the effect on the crash test performance of the hardware is uncertain should undergo, at a minimum, a finite element analysis. If the structural change is non-significant, it should result in substantially the same performance as the original system. However, the difference in expected performance should be documented."

Conversely, if a change to the system is significant, the hardware device must undergo testing. Any structural change is considered significant if it could be expected to adversely affect the crash test performance of road safety hardware that was originally found eligible under either: (1) the provisions of National Cooperative Highway Research Program (NCHRP) Report 350; or, (2) the provisions of the AASHTO MASH.

Future of Task Force 13 and the Joint Committee – John Durkos (Road Systems)

Task Force 13 was created in 1969 (AASHTO/ARTBA/AGC) and is currently the longest serving Task Force. Per our discussion in Spring 2015 TF13 will be changing. Over the years ARTBA and AGC had lost significant contact with TF13. Due to this relationship breakdown TF13 is "divorcing itself" from ARTBA and AGC and will align with AASTHO. This is necessary to bring TF13 back in compliance with AASHTO bylaws. The capacity of which TF13 will be affiliated with AASHTO is currently unknown, but hopes to be resolved in upcoming AASHTO meetings. A recent joint meeting between AASHTO/ARTBA/AGC officially sunset the relationship of the joint committee and TF13. A letter was submitted to TF13 on behalf of the joint subcommittee making formal announcement. The letter was briefly read in the meeting and will be posted in full on the TF13 website.

Moving forward the Task Force is continuing business as usual until otherwise directed. We are looking for another partner with AASHTO to help grow and continue the work done by the Task Force. ATTSA is the top choice as a partner right now and Donna Clark reiterated ATSSA's interest to be a partner. However, a decision on a partner will hinge on the decisions of AASHTO, their bylaws and how TF13 is directed to proceed in the future. AASHTO is reorganizing and will direct TF13 following the completion of this process.

In regards to TF13 drawings; ARTBA and AGC logos will no longer be used on "new" drawings. The AASHTO/ARTBA/AGC joint committee gave TF13 to have the logos of each remain on drawings which were created during the relationship with AASHTO/ARTBA/AGC. However, going forward all drawings must only contain the AASHTO logo until further directed.

EXECUTIVE BOARD MEETING – Durkos, Lechtenberg, Ray, Bligh, Mauer, Smith, Lohrey, Longstreet, Schertz, Shepherd

A call for Co-Chairs for various sub-committees was requested. TF13 needs a co-chair to assist John Durkos, signs and luminaires needs a co-chair to assist Eric Lohrey

Drawing review – drawing consistency, automating drawing reviews not possible until we know to manually review all drawings. What is the best way to pare down the large group of un-reviewed drawings to the tech reps have on their hands. MwRSF and TTI not putting their contact information on each drawing identically. Both do it differently. Discussed the importance of not overwriting old numbers even if product doesn't exist in the database. Once the designator is assigned it can't be used or assigned again.

TF13 re-organization, continue to get the message of the TF13 group out to the masses. ATSSA still on board to partner with TF13. TF13 will make decisions once we know where we land.

Drainage and rail committee. Should we continue these subcommittees going forward? They have not met for several years and contact has subsequently been lost with those involved. This group used to be very active, but not so much in recent past.

What is TF13 scope? What are we? Possible expansion and extended definition of the designator numbers. Bylaw of TF13 based on participation of committees for X number of meetings. Standard operating procedures or bylaws, do we have any? We have a mission and goals and an organizational structure.

Location of next Meeting: Lincoln, NE April 20-April 22nd 2016
Location for fall meeting: Most likely Florida

Task Force 13 Group Dinner held at Philips Event Center @ Briarcrest Country Club, College Station, TX.

Friday, October 23, 2015

Durkos addressed the group and again thanked and recognized Linda Chattam for her efforts in organizing the fall meeting. Thanks Linda! Dinner at Philips Event Center was very well received, no complaints heard from the group.

AASHTO Subcommittee on Bridges and Structures – no members of AASHTO on hand

- No presentation

American Traffic Safety Services Association – Donna Clark (ATSSA)

The annual ATSSA traffic expo will be held Jan. 29-Feb.3 in New Orleans. 2016 it will be held in Phoenix and back in San Antonio in 2017. The mid-year meeting will be held Aug. 24th – 26th in Chicago, IL.

ATSSA has several new publications which are available direct from ATSSA headquarters, expositions, and tradeshows or by visiting ATSSA's website.

Arlington, VA hosted Work Zone Awareness week in 2015 and in 2016 it will be hosted by Toledo, OH. **YEAH OHIO!!!**

A brief overview of ATTSA's efforts in Washington DC was detailed. Their work on the Hill is plentiful and very much appreciated. This is a critical time on Capitol Hill, what is going to happen with the next highway bill? Senate passed a bill called the Drive Act, a six year bill with only 3 years of funding. The House passed a surface reauthorization bill.

New training courses are available. Courses are in-class and online. Contact ATSSA for a detailed list of courses available.

A Gulf Coast Chapter is being developed. The Leadership Program will resume in 2017. The Foundation continues to work to generate funds to support the scholarship program for those who have lost loved ones in work zone accidents. The Work Zone Memorial can be hosted at your event. Contact Lori at ATTSA office for availability.

National Association of County Engineers nace@naco.org

- NACE 2016 annual meeting April 24-28th - Tacoma, WA

TRB Committee AFB20 Roadside Safety – Roger Bligh (TTI)

Roger Bligh now the chair of AFB20 taking over for Dick Albin who held the same position for 6 years. Roger reviewed the AFB Leadership team and recapped the mid-year meeting held in Chicago. The theme was Making Roadway Departure Safety a Priority. The objective was to explore ways to better understand the nature of roadway departure crashes and strategically reduce their frequency. Focus was TCRS strategic plan

Main sources of discussion and format of AFB20 meeting Chicago 2015
Changes in MASH vehicles

- Technical sessions - Comprehensive Roadside Design Guide, Instrumental MASH (Keeping MASH relevant), Meeting the challenge of decade of action pillar II, In service Evaluations and data driven decision making
- Subcommittee meetings - computational mechanics, international research activities, positive protection in work zones
  - Breakout sessions
  - Summary of ongoing roadside safety research activities
  - Computational mechanics forum
- Future events
  - Annual Meeting at TRB January 10-14 2016
  - Fall meeting will be held somewhere in Texas
  - 2017 international roadside safety conference - dates and location to be determined

AASHTO Technical Committee on Roadside Safety Design Committee – Chris Lindsay (TxDOT)
MASH Implementation

- TCRS UPDATE
  - MASH Implementation has passed through both TCRS and SCOD
  - Current PROPOSED sunset dates:
    - 12/31/17 - Wbeam terminals and CIP concrete barriers
    - 6/30/18 - W beam terminals
    - 12/31/18 - cable barrier and terminals and crash cushions
    - 12/31/19 bridge rails, trans, sign supports, wb devices
  - Vote for SCOH expected in November

    - TCRS working on responses to questions
    - Discussions on RDG update have begun
- There is no estimated time when a vote will be taken to formally move to MASH 2015/16
- WV - we need MASH approved devices. Come to the table with MASH approved devices.
- Will Longstreet to email the members the G4(1S) W-Beam Guardrail Height - State Status map.
- No specific time frame from submission of request for eligibility to receipt of eligibility letter. FHWA is working to streamline their process to produce in a timely manner.
- Estimated time for the website to updated with letters. Streamlining the process to make instantaneous if possible once the letters are signed.
- Open Discussion:
    - How many states are going to 31" MGS. Karen Boodal put up a map showing states using MGS. Some states are using MGS with 8in blocks, some using 12in blocks. Will said he would send out the map to TF13 members.
    - When the sunset dates come up, what if only one product is available that meets MASH. Will FHWA accept that? No Answer
    - How long will it take FHWA to provide eligibility letters? Will said they will get them out as soon as possible with the new process. Process is being reviewed again. John Durkos made a plea to the FHWA to turn around the letters ASAP. Will stated the process would work more smoothly if submittals had all information when submitted.
    - TXDOT discussed their QPL and said they need field evaluation including maintenance before devices are added to their QPL. When asked if they would accept information from other states. Chris said they will accept and consider information from other states but they must do their own due diligence including maintenance of devices.

Marketing – Rick Mauer (Gregory Industries)
Marketing produced a newsletter for the first time since 2013. The newsletter was posted to the TF13 website, but was hard for users to find. It was suggested the newsletter be moved to front page of the TF13 website and possibly be emailed to the TF13 mailing list. Please contact Rick Mauer if you would like to contribute information to the newsletter or assist in the marketing effort.

New Standardization Areas – John Durkos (Road Systems)
Sub-Committee #6 to continue working towards a resolution to their delineation standardization request. To be followed up on at the next meeting.

NCHRP – Mark Bush (NCHRP) not in attendance
Mark Bush was not able to attend this meeting in College Station due a prior engagement. John Durkos gave a brief overview of Mark's presentation on his behalf. NCHRP continuing strong with ongoing and new projects for FY 2016.

NCHRP is considering all the challenges for a new long term transportation bill and continuing status quo of short term fixes of continuing resolutions. The NCHRP solicitation for this year's (FY2017) problem statement submittal deadline has passed. There will be changes for this year's

(FY2017) solicitation, and for future years. The due date for submissions is October 15th 2015. This is a firm deadline for all authorized submitters: AASHTO committees and subcommittees, state DOTs and FHWA. No exceptions or extensions will be made.

In addition to the research problem statements typically developed by practitioners in AASHTO committees, member agencies, and the FHWA this year SCOR Standing Committee on Research is encouraging the submission of problem statements in three strategic areas: resiliency, freight transportation and transformational technologies. The AASHTO Standing Committee on Research is soliciting candidate research problems for the fiscal year 2017 NCHRP. To be considered for the FY 2017 program problem submittals must arrive by 4:00pm October 15th 2015 this is a firm deadline.

All problem statements must be submitted using the online link
http://www.surveygizmo.com/s3/2217943/NCHRP-Problem-Statement-Submission-FY-2017

Submitters must do a literature search and summarize the results under Literature Search Summary on the NCHRP problem statement form. By performing a literature search, you will have accomplished one of two objectives. You either will have found a solution to your problem or you will have confirmed the need for new research. A summary should describe how your problem statement builds upon or complements the current state of knowledge

TRB's Transportation Research International Documentation (TRID) database is freely available online at http://trid.trb.org to do literature searches.

Texas Transportation Institute - Roger Bligh (TTI)

- TTI Testing Update
  - TXDOT T224 TL5 Bridge Rail - Passed all three tests (Small car, Pick Up and 53ft Trailer)
  - Direct Embedded wood supports for temporary guide signs - passed test 3-60 and 3-61
  - Design and evaluation of multiple secure mailbox support - passed 3-61and 3-60

Midwest Roadside Safety Facility – Bob Bielenburg (MwRSF)

- Guardrail to PCB transition - analyzed data via LSDYNA to develop a MASH TL3 transition - flared, nested MGS transition selected with offset blocks mounted to PCB's. - passed 3-20 and 3-21
- PCB length of Need - determine minimums system length for f-shape PCB and minimum no. of barriers requires for beginning and end of length of need.

FHWA/George Mason University - Dhafer Marzougi (George Mason University)

- Toyota Venza FE Model Update – Used 2011 model year , 1818k, 4 door crossover utility, 1.8 million total elements on revised FE model
- Toyota Camry 2013 FE Model Update, curb weight, 1452kg, 2.2 million elements, validated with different tests including side impact test

Roadsafe LLC - Christine Carrigan (RoadSafe)

- Update on Roadsafe completed and in process projects
- Project 22-12(03) recommended guidelines for the selection of TL2-5 Bridge Railings, looked at 5595 crashes into different bridge rails, selection process includes items such as traffic, adjustment factors,, encroachments factor, geometric characteristics, access density, lane width, horizontal curves.
- Criteria for restoration of longitudinal barriers phase II NCHRP 22-28 - objective: develop a field guide to assess damage to a barrier
- www.roadsafellc.com download the app: password- field guide
- Working on several different projects
    - TF13 online support
    - ODOT side mounted bridge rail
    - Consideration of roadside features in the Highway Safety Manual
    - Guidelines for shielding of bridge piers
    - RSAP v3 posted on May 7, 2015.
- New Work
    - Median Barrier Selection and Placement Guide
    - Several projects very early in development. Not much information to report.
    - RoadSafe could use help if you have median related crash data or road based data for low speed restricted environments or crash data with unprotected piers

Technical Presentations: relevant research on roadside design and hardware's

FARS analysis of crash cushions – Jeff Smith (Work Area Protection)

- 2010-2013 FARS Data, multiple fatality events were counted as one fatality. Limited to the integrity of the FARS data
- Identified systems used in 75 of 117 events
- Google earth timeline used to verify the system in place
- Texas had the highest number of fatalities - REACTS were responsible for highest percentage of fatalities in Texas

New/Old Business – John Durkos (Road Systems)

- Location of 2016 Spring meeting in Lincoln, NE April 20-22rd
- Location of 2016 Fall Meeting in Florida
- Executive Committee Summary
    - Seeking a co-chair for TF13 to assist John Durkos
    - Drawing Review Process
    - Open decision to be made "does a FHWA eligibility letter needed to be included in the guide"
    - Reorganization of TF13
    - Drainage and Rail Highway Crossing group

Review of Task Force 2015/2016 "To Do List"

- Set up a generic reviewer so that people can log on during the meeting and do reviews
- Once a review has started, automatically send out a reminder a week or two before the deadline
- Create automated submission process

- Per a group vote Mac and his group will remove the reference in search criteria Report 230, but remained archived in the 1995 guide.
- Users should still know the information is there, but archived.
- Include TMA's into one of the existing on line guides or a new online guide.
- Send Mac Ray a copy of the AASHTO-AGC-ARTBA resolution to post on the TF13 website
- Review group is called sub-committee number 2 terminals, looking to re-categorize to and end treatments group.
- If a new committee for delineators is formed Dusty Arrington would co-chair and Durwood Shepard would be the state rep.

Overview of changes MASH 2009 to MASH 2015

Test #	Vehicle Type	Barrier Pos.	Key Evaluation Metrics
3-10	**1100C**	**LEVEL TERRAIN**	**STABILITY & OCC CRUSH PENETRATION**
3-11	**2270P**	**LEVEL TERRAIN**	**WORKING WIDTH & BARRIER STRENGTH**
3-13	**2270P**	**FRONT SLOPE**	**OVERRIDE & STABILITY**
3-14	**1100C**	**FRONT SLOPE**	**PENETRATION, STABILITY, & OCC. CRUSH**
3-15	**1100C**	**BACK SLOPE**	**UNDERRIDE, STABILITY & OCC. RISK**
3-16	**1100C**	**BACK SLOPE**	**OVERRIDE (BOUNCE) & OCC. CRUSH**
3-17	**1500A**	**FRONT SLOPE**	**PENETRATION & OCC. CRUSH**
3-18	**2270P**	**BACK SLOPE**	**OVERRIDE (BOUNCE) & STABILITY**

**notes compiled by Eric Smith (Gregory Industries) with note back up assistance from Greg Schertz (Federal Lands) and Rick Mauer (Gregory Industries).

Task Force 13
Subcommittee #7 – Certification of Test Facilities
College Station, Texas
October 22, 2015

Joined online by: David Whitesel - CalTran, John Jewell – CalTran, Ron Faller – MwRSF, Scott Rosenbaugh – MwRSF, GHC - ?

- Karla Lechtenberg presented the results of the ILC conducted on the hood height measurement on 1100C vehicle
- Discussion included recommendation to measure to the same designated point on the same model year
    - Recommended points to measure to:
        - Bottom of windshield/A-pillar
        - Top of radiator support
        - Middle of headlight (range is specified by FVMS)
    - Vote was taken of the labs present in person and online:
        - Bottom of windshield/A-pillar = 0 votes
        - Top of radiator support = 19 votes
        - Middle of headlight = 2 votes
- Next Steps:
    - Labs begin collecting the measurement to the top of the radiator support as supplemental data and add the additional measurement to the existing data sheets.
    - Revisit hood height tolerance at the Spring 2016 TF-13 meeting
    - Conduct this ILC again in Spring 2016 - Labs will be requested to submit all collected data prior to the Spring 2016 TF-13 meeting so that it may be discussed at the meeting
    - Pending results of the re-conducted ILC – submit the change to TCRS
    - Add the discussion information to the report
- ILC Report
    - Labs agreed to using the report template set up by Karla Lechtenberg.
    - ILC result draft reports will be sent out to all of the labs and they will be given 1 week to review.
- Developed a 6 year ILC Plan (Topic – Lead crash lab)
    1. Determine the start of useable data (t=0) – Caltrans
    2. Accelerometer/ARS mounting concern (standardize mounting?) – TRC
    3. Soil – average 10 tests, mean above minimum – KARCO
    4. Documentation of ballasting locatins and what they weigh – Etech
    5. How impact speed is calculated - Turner-Fairbank Highway Research Center
    6. Soil gradation – Safe Technologies
- Other ideas for ILC's
    - Data set
    - Video analysis
    - Report review
- Question raised by non-lab attendee
    - What do you do is a ballast (which is significant weight) comes lose during a test? Does this invalidate the test?

- Further information provided – lots of floorboard deformation and claimed the data from the accelerometer at the c.g. was invalid so used accelerometer system 5’ back from the c.g.
- Response was it depends on the situation and unless we had all the data to review then there is no way to make a determination if this invalidated the data and/or test.