

Task Force 13 Fall Meeting

Miami Florida, October 27, 2016

Draft Minutes (11-9-16)

Industry Co Chair John Durkos of [RoadSystems, Inc.](#) welcomed members to Miami. He thanked Derwood Shepherd and his colleagues in [Florida DOT](#) for setting up the meeting venue. Durkos asked who had received emails from Karla Lechtenberg of the [Midwest Roadside Safety Facility](#) requesting reviews of numerous drawings. Many attendees raised their hands. Durkos expressed appreciation to Olaf Johnson of [RoadSafeLLC](#) for keeping up on our website.

Typically, we meet with pooled fund groups on the Wednesday afternoon before our formal TF13 meeting begins, but we will just have a summary this morning as the [TTI Roadside Safety Pooled Fund](#) meeting took up the better part of two days.

For about a dozen new members this is their first meeting. Durkos noted we will break into four breakout sessions in order to cover as many subcommittees as possible. Delineation is a new subcommittee formed at our last meeting in Lincoln.

[94th Aero Squadron at 1395 NW 57th Ave, Miami 33126](#) is the location of our dinner tonight. Meet at lobby at 5:45.

Today is our working day with the subcommittees, tomorrow is the technology transfer.

[TF13 is the home for drawings referenced in the RSDG.](#) We are responsible for keeping this current.

Durkos then asked all TF13 Subcommittee Co-Chairs to the front of the room where he presented Artimovich with a plaque for his years of service with TF13, noting his pending retirement from FHWA. It was an excellently designed wood plaque with a 34 star USA flag printed on stainless steel. The 34-star flag was used in the period 1861-1863 during the American Civil War. This particular representation showed the stars arranged in circles, very similar to a [35-star flag of wool bunting](#) that Artimovich has in his collection. Your Secretary was humbled, and appreciated the honor very much.

At the beginning of Introductions, Durkos noted that we need a state Co-Chair from AASHTO. Pat Collins and Greg Fredrick of Wyoming DOT had been our state reps.

Meeting minutes from Lincoln were accepted by unanimous declaration.

Chiara Dubrovolny of [Texas A&M Transportation Institute](#) gave a briefing of what happened at the TTI Pooled Fund Meeting. They had very productive discussions with member states. Have increased the membership significantly and now have [17 participants](#). Before the meeting they developed ScoreCards for MASH Implementation showing what each state uses, and what they expect to be using in the future. The [AASHTO-FHWA MASH Joint Implementation Plan](#) has deadlines, and certain hardware needs to meet that deadline. This time they focused on the MASH needs of W-beam guardrail and cast in place concrete barriers. Then had sub categories like 27 ¾ inch v 31-inch w-beam systems, or NJ, F, Single/Constant Slope concrete barriers. Also had a ScoreCard 2 for cables, cable terminals, crash cushions, terminals, etc.

The members voted on their priorities and came up with these priorities:

- TL-4 concrete barriers CIP foundation study. 36" is minimum requirement but the study will look at the 42" version for TL-4 / TL-5 use.
- 1:1 slope tests for MGS.
- 31" steel and wood in concrete or asphalt both car and truck.
- MGS compatible B-I-B terminal with 8" blockout.
- T-intersection / short radius guardrail system
- Raise wood/composite offset blocks to increase rail height.

The pooled fund effort is also funding a [MASH implementation coordination](#) effort, which is a database of MASH tested devices. This is on line.

Also have developed a MASH wish list for state DOTs to indicate hardware systems or details that they would like to have, and it gives other states an opportunity to share info on crash test programs. This will be a public database available for all to see. Any state that has a non-proprietary system that was tested to MASH should send that to TTI for the database. Even failed tests are useful to other states who were thinking of testing a similar system. It is expected that this system will be going live in a few weeks.

Durkos asked if the Short Radius project would be submitted for FHWA letter, but this is under discussion with TXDOT.

Don Gripne, retired standards engineer from Washington State DOT now consulting for Trinity, asked about status of NCHRP 15-53 short radius. [Mark Bush of NCHRP](#) noted they are looking at additional scope of work, and additional funds for crash testing other than at FOIL.

Gripne also asked about 8" v 12" blocks on MGS. TTI pooled fund will run 8" tests assuming it is most critical, compared to 12". TTI considers them comparable. It would be nice to formalize this. MW runs tests at 12" because that is what their states use, due to the original MGS testing. Some reports note that 8" would also work based on that testing. [Subsequent contact with MWRSF indicates that performance of MGS with 8" or 12" blockouts is very similar, and there should be little concern over using either system except in exceptional cases.]

SUBCOMMITTEE MEETINGS

Subcommittee #1 Publications Maintenance (Minutes courtesy of Eric Lohrey)

Summary of TF13 Guide Updates completed since the Spring 2016 meeting:

- All data from NCHRP Project 20-07(328) now entered into the online Guide.
- Added 15 new Systems to the Barrier Guide. Each has a recent FHWA Eligibility Letter and has already been assigned a TF13 designator (printed in the FHWA letter).
- Designators were recently assigned to 3 new FHWA-eligible SG Systems. They will be entered into the Guide soon.
- 4 new FHWA-eligible systems need designators assigned.
- Replaced 17 old drawings with "final" reviewed versions.
- Changed Review Status from "Not Reviewed" to "No Drawing" for Barrier Hardware Systems (SC, SE, SG, & SW) and Sign Support Systems (SS) as requested at the Spring meeting. Did not make this change for Bridge Railings (SB) and Transitions (ST) at this time.

- For Bridge Railing Guide: Added Working Group Leaders (Tech Reps) to Subcommittee webpage; Added designator nomenclature key; Made editorial changes to BR Guide homepage; and, removed “Other”, “Not Crash Tested”, & “NCHRP 230” from Test Specification drop-down menu options.
- Prepared draft Drawing Review Instructions for Technical Representatives. It establishes a file-naming convention for various stages of drawing files, provides a sequence of events for drawing reviews, and is currently being tested on 16 reviews (5 Systems, 11 Components).
- Proposed Future Activities:
 - Revise Instructions for Reviewers & prepare draft Instructions for Submitters.
 - Breakout 4 system categories in the Barrier Guide to be consistent with other Guides and establish category-specific attributes.
 - Merge TF13 Main & Guide websites and implement new functionality.
 - Begin review of the Components Guide and update its contents.

Jeff Smith of [Work Area Protection](#) asked if the Designator will stay the same if the product was tested to MASH without changes. Would need a new designator if you wanted both your 350 and MASH versions to show up under both.

Lohrey and Johnson demonstrated the [Roadside Hardware Guide website](#) and had much discussion over how to navigate through the various hardware locations.

Subcommittee #2 Barrier Hardware

Lechtenberg: 5 Systems were submitted and went through the review process and they were all from MWRSF. Also had 11 component drawings. These drawing were sent to 34 members for review. Discussed new naming convention for drawing files. Each drawing had from 3 to 10 reviewers. Your Secretary started reviewing the drawings late, but got through about half of them. All drawings were granted Approved or Approved with Comments. May send them out in smaller groups next time. MWRSF has a number of internal reviews before the drawings are ever loaded up to the TF13 site for member review so the technical details are pretty reliable.

There are over 100 guardrail system, component, and other median and roadside barrier drawings that need to be reviewed. How should these be prioritized? MASH drawings should be reviewed first, then categorize by MASH sunset dates. It was suggested that TF13 could contract out to comment on drawings if the workload is too burdensome to members. Report 350 drawings are needed for systems that are still out in the field. Some states consider that only their internal drawing references are legitimate. While TF13 would like to get these legacy drawings reviewed and approved, even if only to archive them, they are a low priority compared to new MASH hardware drawings.

Lechtenberg noted the following issues they have encountered:

- a. Groundline struts – in hardware guide this is a C-channel, but it is not supplied this way any longer. It is now a c-shaped bent plate.
- b. BCT post pipe sleeves – we now get a tube and not the specified pipe
- c. 3x7 wire rope – it appears that the industry has moved to 39 kips ultimate capacity wire rope, but the AASHTO and ASTM specs still list 25 kips.
- d. PWE06-07 – drawings need to be clear that either W6x9 or W6x8.5 may be used as these have been acceptable alternatives for years for guardrail installations in soil. We were under the impression that when we were getting W6x8.5 they were ASTM A992 (50 ksi) posts but we have recently found out that that is not true that they can be

ASTM A36. In addition both are being supplied with 6 holes. (Subsequently, Greg Neece noted that traditionally guardrail posts were ASTM A36, with a minimum yield specification of 36ksi [with no maximum]. ASTM A36 no longer covers structural beam, the new spec is ASTM A992, with a minimal 50ksi yield. Others noted that A36 usually tested out to 50 ksi.)

Some of these changes may need new designators. Also need to determine who will take responsibility for reviewing the change(s) and updating the drawing. [Editor's note: FHWA has brought issues such as these to the TCRS for individual determination.]

Paul Kruse of [E-Tech Testing Services](#): Crash cushions have had no new submissions, but the group has reviewed some older drawings and reached out to manufacturers. The manufacturers were not interested in moving these forward for the most part.

Shepherd has received one drawing related to trailing end anchor and will work on having it reviewed. Looking forward to receiving other terminals.

Eric Smith of [Gregory Industries](#) took over designators from Bob Tackach and he will be assigning them going forward.

Johnson wants to concentrate on search fields for the various hardware categories

John Jewell of [Caltrans Roadside Safety Research Group](#) asked about MASH equivalency of 350 products.

We also need to consider archiving older, unused 350 devices (drawings will be saved but only available with special request.)

Joe Hall of [West Virginia DOT](#) noted that aesthetic crash cushions and terminals need to be considered and included in the eligibility determination. RoadSystems tested their system both galvanized and powder coated, and that is included in eligibility request.

Subcomm #3 Bridge Railing and Transition Hardware (Minutes courtesy of Kurt Brauner of [Louisiana DOTD](#).)

Roger Bligh opened the meeting and welcomed the attendees. He explained the purpose of the subcommittee and gave a brief introduction to the online bridge rail guide, including the various working groups: Concrete, Steel, and Other. Bligh then made an appeal to the group for volunteers to help review the remaining bridge rail systems in the guide and for somebody to oversee the steel working group which had lost its previous leader.

Bligh then discussed the review process and mentioned the review checklist which is available on the Task Force 13 website. He then reviewed the various bridge rail systems which had been reviewed and accepted since the last meeting. Finally, Bligh reviewed the various updates that had been made to the guide which included an example of a system designator, a list of the working groups, the removal of rail systems with Report 230, "other", or "unknown" test specifications, the addition of a visitor counter, and a modified disclaimer.

Bligh then introduced Kurt Brauner to discuss updates to the Concrete Working group. Brauner informed the group that there are 40 concrete bridge rails currently in the guide of which 5 are considered complete. He then discussed a new railing that had been submitted to Task Force 13 but

which lacked the crash test report. The group indicated that the report would be beneficial so Brauner decided to request it before adopting the system into the online guide. Brauner then discussed an existing system in the guide, SBC06d which appeared to have no useful information associated with it. Brauner advised that it be deleted and the subcommittee agreed.

Finally, Brauner discussed how to manage existing NCHRP 350 rail systems that will be retested under MASH. Would it be acceptable to simply change the attributes of the existing rail systems in the guide, or did the group want a separate entry for the MASH testing? If so, should the old NCHRP 350 version be deleted from the guide? The subcommittee indicated there was still a need to archive the previous versions of the rail systems. Therefore, given that MASH rail systems would have a new eligibility letter and crash test, it was decided to create separate entries for the MASH railings and to archive the NCHRP 350 rail systems in a separate section of the guide, even if the MASH and 350 versions of the rail are identical.

Bligh then briefly discussed the transition guide and the remaining work to be done.

Finally, with the time remaining, Bligh thanked everybody for attending and dismissed the subcommittee.

Subcomm #4 Drainage Did not meet

Subcomm #5 Sign and Luminaire Supports

Scott Jollo [Oregon DOT](#) is the new Subcommittee Co Chair. Discussed Eric's work in updating Sign Support website. Discussed designators for 350 products that did not change but are now MASH crash tested. Decided to archive companies who have not responded to update their drawings.

Want to begin reviewing drawings using the TF13 SOP.

Not much has been done on luminaires. There are a huge number of combinations of poles, arms, breakaway hardware, etc. Will just list the crash tested hardware and reference FHWA letter.

Discussed 03-119 survey. Will look carefully at 5 breakaway devices with crashes, simulations, and possibly crash testing. WZ similar. Still have 2.5 years of work ahead. Report may recommend discussion of what tests are necessary for Families of devices.

Frustration expressed over inability to get answers from AASHTO regarding test lab questions. FHWA has a good working relationship with the TCRS but AASHTO HQ may be misinterpreting FHWA's intent.

Subcomm #6 Work Zones (Minutes courtesy of Cecil Brown)

Greg Schertz ([FHWA Federal Lands](#)) and Cecil Brown ([Hill & Smith Inc.](#))

31 people in attendance

Request for Topics

- John Durkos raised question of "useful life" of temporary barrier, as stated in the MASH Implementation Plan. Requested a clear definition.

- Dean Alberson - Address devices that were tested to MASH-09, but not MASH-16. Provide formal guidance to agencies, from AASHTO.
- Dean – “Families of devices” (crash cushions, signs, etc.). Who makes determination about the critical test?
 - Dhafer Marzougui – NCHRP Project 03-119 - look at WZ devices through surveying states, FHWA, manufacturers (800 different people); survey looks at three aspects and WZ is one of three
- Dean suggested a more uniform temporary concrete barrier design; huge step forward for future development. Perhaps send letters to States. Standardization for recommended barriers.
- Eric Lohrey - "SW" category has some drawings that need to be reviewed and designators assigned; does WZ subcommittee do this? Eric feels it should. What about crash cushions? What about TMA's in the guide? Nick says FHWA classifies them as Crash Cushions.

Old Topics / Discussion

- 1) TRB Committee AHB55 - guide for portable concrete barrier; Becky Golden from ATSSA said they didn't fully address it. What constitutes removal from service? Dean is going to contact AHB55 about problem statement (Cecil to send reminder to Dean). Will Curtin helped SCDOT develop guideline, emphasizing damage around connection. Dean asked that Will send that guideline to the group. (Will to send guidelines to Cecil).

Action Item #1 - Dean is going to contact AHB55 about problem statement (Cecil to send reminder to Dean)

Action Item #2 – Will Curtin will send SCDOT-developed guide for inspecting temporary concrete barrier

- 2) TMA Delineation - Nick said it's being reviewed by National Committee. Hasn't come back with anything new, according to Eric Smith from Gregory.

Action Item #1 – Eric to check with Rick Mauer of Gregory Industries on status of this topic and report to Cecil.

- 3) Nick (FHWA) raised question about how all four WZ categories will be tested. Get AASHTO buy in about established methods of testing portable devices. How devices are oriented during and not during use. What tests should be run? Dean cautioned that different vehicles will react differently. Nothing is happening currently. In the past, the manufacturers and testing houses developed best testing practices.

Dhafer and Karla are working on developing parameters for research project, for families of tests (NCHRP 03-119); could be two years before complete. Dusty (TTI) suggested more standardization. Dean recommended the committee put something forward to AASHTO/TCRS, summarizing issues and putting forth plan. John stated that this might be one of the categories of devices that doesn't meet MASH criteria by sunset dates. Troy from MDI was asked how many products he has to determine feasibility of testing every scenario and type of product.

Becky Golden from [ATSSA](#) brought up the Joint Task Force and mentioned that this might be a good topic to bring to Task Force. Dusty reinforced idea of writing letter to AASHTO addressing concerns from test facilities and manufacturers. ATSSA (John and Becky) represents manufacturers and they can draft letter; TTI (Dean and Dusty) will draft letter addressing their concerns as well.

Action Item #1 – John Durkos and Becky Golden will raise issue within ATSSA MASH Implementation Task Force, perhaps resulting in letter to AASHTO, representing industry (manufacturers/vendors), expressing concerns over defined crash test criteria for all four WZ categories and feasibility of crash testing.

Action Item #2 – Dusty Arrington and Dean Alberson will work with test facilities to draft a letter expressing same concerns.

- 4) Standardizing temporary barrier design topic - Mark Burkhead from [PennDOT](#) cautioned State DOTs because of how it impacts businesses (legacy). "20-25 year phase in," according to Dean. Push the agenda of standardization because it's good for the long-term. Dusty said this is the best chance to standardize. What can subcommittee do to make a concerted push toward standardization? Dusty suggested educating DOT's about currently MASH-tested barriers; get that information out. Precast Concrete Association could help, according to John Durkos.

Action Item #1 – John will contact [Precast Concrete Association](#) and perhaps request their participation in discussion on this topic.

Subcomm #7 Certification of Test Facilities

Perform ILCs. Close out 2015 ILCs and looked at hood height. Wrapping up review of Accelerometer Mountings. Next ILC will be for determining T=0 that will be handled by Jewell of Caltrans. A crash test data deck will be sent to all the labs and they will follow their own procedures to determine when the event time begins. Will look at multiple events in a crash test, curb, cable, railing, sidewalk, ditch.

Reviewed FHWA form for dealing with vehicles that are out of the 6-year age spec.

Retention policy for test vehicle and test article. Vehicles are removed fairly quickly.

Subcomm #8 - Rail Highway Crossing Hardware Did not meet.

Subcomm #10 - Assessment of Finite Element professionals Did not meet

Subcomm #11 Delineation (Minutes courtesy of Dusty Arrington)

- Discussion concerning the Texas DOT Development of Delineator Testing Standard study and the subsequent Florida DOT Development of Delineator Material/Impact Testing Specific to Managed Lane Use for Optimization of Service Life.
- Discussion of the different applications in which delineators are used
- Discussion of the List/Lean criteria used for impact testing reporting
- Discussion of the FDOT Testing results for impact testing on rigid pavement. Future impact testing on asphalt will start next month at the TTI campus in College Station, Texas

- What can this TF 13 committee do?
 - Host Database of testing results
 - Host Links to relevant research
 - work with states and manufacturers to standardize the designs for different applications of delineators

Executive Committee:

Durkos, Artimovich, Johnson, Arrington, Schertz, Bush, Smith, Jollo, Lohrey, Lechtenberg, Bullard, Mauer, Brauner, Bullard, were in attendance.

Mauer needs a co-chair for Marketing. Rick will check with Goldberg of ATSSA. Wants info from webmaster giving directions for using the website. Wants an article on the drawing database. Also wants to mention new subcommittee on delineation. MASH implementation is a hot topic.

Drawing Review, Prioritize, Contractor? Less than 20 for MASH hardware. These MASH drawings are doable. Three or four drawings a month would be a better way of spreading out the reviews. Correcting the drawings after their TF13 review has been an issue. Should we seek AASHTO Pooled Fund \$\$\$ to continue? We are in good shape right now but let's see where AASHTO puts us. Assigning a designator without a TF13 drawing is wrong.

Mac Ray has said he can increase his effort if we increase website funding. That may be due to Lohrey's being added as a subcontractor. How much more will we get for the \$\$\$ vs how much less work will we get for the money we pay now. Lohrey has been getting \$1000 per month for 15 to 30 hours of work. We ask for a formal proposal from Mac.

TF13 Secretary: Greg Neece of [Trinity Highway Products](#) has offered to be secretary. Have historically had FHWA as TF13 secretary. Neece accepted as interim secretary with the intent to ask FHWA to supply the secretary once Artimovich's replacement is on board at FHWA.

TF13 and AASHTO – AASHTO has been unavailable, but apparently due to Annual Meeting and how they will treat their “partners” they can't comment. Buy in general they are in agreement that TF13 will continue to be affiliated because of our close connection to TCRS and the RSDG.

There is room available on the server for text attachments, but not videos.

Drainage and RXR Subcommittees should be sunset if there will be no activity.

Friday, October 28, 2016

Greg Neece has volunteered to be Secretary of Task Force 13 and TF has accepted his offer. Greg appreciated the opportunity. Artimovich will share meeting minutes, Meeting Announce Format, etc. Artimovich will also construct these last meeting minutes with an obscene number of hyperlinks that Greg will never be able to duplicate. ☺

Affiliated Committee Activity Reports

AASHTO Subcommittee on Bridges and Structures – Mark Bush noted NCHRP has been working with the subcommittee updating their bridge specifications.

AASHTO HQ has not sent a representative so our status within AASHTO is still uncertain. TF13 is the only one from the Joint Committee of AASHTO ARTBA AGC that continues, but the Joint Committee has disbanded all task forces except TF13. Because of our relationship with AASHTO all agreed there would be a continued relationship with AASHTO. King Gee of AASHTO has addressed us a couple of times but has nothing to report yet. The AASHTO Annual Meeting is November 12-15 in Boston and the Board will consider the AASHTO restructuring and will consider the role and relationships with their external partners.

Becky Golden with ATSSA update. 2017 Traffic Expo will be in Phoenix. Reviewed FAST ACT Facts and ATSSA Accomplishments. Discussed Work Zone Safety and Guardrail Installation and Inspection courses, MUTCD, TMA online courses. New programs included member opportunities in automated vehicle technologies. New brochure on bicycle pavement markings. ATSSA Foundation provides scholarships to children affected by death or disability of a parent working in a WZ. Also have a new summer camp for children of killed or injured roadway workers. ATSSA quality guidelines for temp traffic control devices was updated. New info on sign coverings, skinny drums, temp conc barrier connections... Established a MASH Implementation Task Force to monitor MASH implementation. Outcry from sign group was that they need help. What needs to be tested? What about deadline? Will develop a letter for Roger Wentz to AASHTO to work with labs, TF13 and hone in on a shift of compliance date, timeline, discussion of Families of devices, and come up with a coordinated program to test WZ devices to MASH.

AFB20 Roadside Design Committee Chair Roger Bligh reported on the Midyear meeting in Baltimore in June. Developed a number of research problem statements that were sent forward to TCRS, which also met that week. Had a summary of ongoing roadside safety research, Computational mechanics forum, Roadside hardware data collection & inventory practices, and discussed MASH 2016 and beyond to improve safety.

- Roadway departure data collection across a range of vehicle types and speeds
- Bridge Railings testing to MASH
- Next gen MASH Portable Concrete Barriers
- Injury outcome related to crash test parameters

2017 Annual meeting in January in DC. International Roadside Safety Conference in San Francisco June 12-15. Safer Roads, Saving Lives, and Saving Money.

TF 13 Marketing Committee Rick Mauer.

- Will be publishing a newsletter in 2017. The subjects that were proposed to be covered in the newsletter are the following:
 - Description, makeup and goals of the New Taskforce Subcommittee; Delineation - Dusty Arrington co-chair
 - Update on the status of MASH implementation
 - Current Status of TF13 Committee and AASHTO
 - Passing of the “torch” for the Secretary of TF13 position from Nick Artimovch to Greg Neisse.

New Standardization Areas: Delineation subcommittee is a good new addition to TF. Hopefully bring in more states and more manufacturers.

UPDATE ON RECENT RESEARCH

Mark Bush. NCHRP Update. Very supportive of TF13 as a lot of our ideas are fed into NCHRP projects. The following roadside safety related projects are hyperlinked to the NCHRP website. All are “Active” unless otherwise noted.

[NCHRP 03-119 Application of MASH Test Criteria to Breakaway Sign and Luminaire Supports and Crashworthy Work-Zone Traffic Control Devices](#)

[NCHRP 15-53 Roadside Barrier Designs Near Bridge Ends with Restricted Rights of Way](#)

[NCHRP 15-65 \[Anticipated\] Develop Comprehensive Objective Criteria to Reduce Serious and Fatal Lane Departure Crashes and Prepare a Major Update to the Roadside Design Guide](#)

[NCHRP 16-05 Guidelines for Cost-Effective Safety Treatments of Roadside Ditches](#)

[NCHRP 17-11\(02\) Development of Clear Recovery Area Guidelines](#)

[NCHRP 17-43 Long-Term Roadside Crash Data Collection Program](#)

[NCHRP 17-54 Consideration of Roadside Features in the Highway Safety Manual](#)

[NCHRP 17-55 Guidelines for Slope Traversability](#)

[NCHRP 17-76 \[Pending\] Guidance for the Setting of Speed Limits](#)

[NCHRP 17-79 \[Pending\] Safety Effects of Raising Speed Limits to 75 mph and Higher](#)

[NCHRP 17-82 \[Anticipated\] A Practical Approach to Fixed Objects Within the Clear Zone](#)

[NCHRP 20-07/Task 360 Development of a Strategic Plan for the Technical Committee on Roadside Safety \(TCRS\)](#)

[20-07/Task 395 MASH Equivalency of NCHRP 350-Approved Bridge Railings](#)

[NCHRP 22-14\(04\) Testing of Cable Median Barrier in a Narrow Ditch](#)

[NCHRP 22-20\(02\) Design Guidelines for TL-3 through TL-5 Roadside Barrier Systems Placed on Mechanically Stabilized Earth \(MSE\) Retaining Walls](#)

[NCHRP 22-26 Factors Related to Serious Injury and Fatal Motorcycle Crashes with Traffic Barriers](#)

[NCHRP 22-28 Criteria for Restoration of Longitudinal Barriers, Phase II](#)

[NCHRP 22-30 \[Pending\] In-Service Performance Evaluation of W-beam End Terminals](#)

[NCHRP 22-31 \[Pending\] Recommended Guidelines for the Selection and Placement of Test Levels 2 through 5 Median Barriers](#)

[NCHRP 22-32 \[Anticipated\] Development of Methods to Evaluate Side Impacts with Roadside Safety Features](#)

[NCHRP 22-33 \[Anticipated\] Development of a Collaborative Approach for Multi-State In-Service Evaluations of Roadside Safety Hardware](#)

Dusty Arrington TTI Update: 3 projects since last meeting.

- 42 inch Aesthetic BR with pickets. Combination Ped and Traffic, 3 rail mounted on curb. SUT Vehicle was contained and redirected and did ¼ roll. Ended up on its side but did not go over or through the railing. Pickup was contained and redirected upright. Small car was redirected. All 3 tests passed. There was minor damage to parapet in TL-4 but cracking did not extend into deck.
- Short Radius Guardrail on 3:1 ditch. Follow on to the project that designed a system that was tested on flat terrain. Needed 6 sand barrels behind the guardrail instead of 4. Both small car and Pickup were contained in a head on test at 100 kmh.
- Managed lane application. Test in of road tubes. Ran up to 200 impacts at 70 mph. Five of 8 samples were remaining after 200th run. Leaning or listing 15 degrees or more is cause for failure. Delineators typically broke off completely two or three hits after reaching 15 degrees.

Lechtenberg MWRSF Recent Testing

- Light pole behind MGS 12" blockouts. Began with simulation using LS Dyna. Pole with breakaway base placed 20" behind rear of GR post. Pickup was redirected in full scale test with 48" deflection. The fact that the pole broke at the base may be critical in the design guidance. (If the pole is placed down a slope the vehicle contact may come well above the base, hindering the breakaway action.) No contact in small car test. Will simulate, and provide guidance using half and quarter post spacing.
- NCHRP 03-119 MWRSF and GMU cooperating. Survey is now out and prompt responses will help the project move along more quickly. Literature search showed over 1000 different devices have been tested / accepted / eligible. Also have reviewed state crash data but it is difficult to determine just what system is involved. Looking to select 5 devices for further analysis in Phase 2. Looking to develop recommendations for crash testing of families of devices to reduce overall testing costs.

Other current projects:

- MGS with curbs and omitted posts
- 3 beam bullnose
- Optimization of MASH TL4 Bridger Rail
- Standardized Approach Guardrail Transition Buttress
- Cable median barrier in 6:1 V Ditch
- Steel post downstream anchorage for MGS or any other 31" w beam system.
- Portable Concrete Barrier Gap connection hardware
- Anchored PCBs for NJ DOT
- System for intersecting roadways.
- TL-2 low height vertical barrier with bike rail attached
- Box beam end terminal
- 34" tall thrie beam approach guardrail transition
- Strong post attachment for mounting MGS on low fill culverts.

- MGS steel post with 8" plastic blocks installed in asphalt mow strip, with curb further behind. Georgia DOT

Dhafer Marzougi [George Mason University](#)

- Effect of New vehicle design on roadside safety hardware. Lighter weight vehicles, and new NHTSA head-on test, and oblique small overlap test required by NHTSA. Modeled and validated new vehicle.
- [NCHRP 15-53 Roadside Barrier Designs Near Bridge Ends with Restricted Rights of Way](#) Have developed a design and are now into testing, but FOIL is no longer available for eligibility testing. Rail height is 31" with steel posts and 8" blockouts. Introduced cable below rail. Ran one test, worst of the four critical test was run so far.

Scott Jollo Oregon DOT

- Signs Supports on Concrete Barriers. See NCHRP Synthesis 465 Permanent Signs Mounted on Median Barriers. Speed increases in Oregon called for more curves that require Chevrons. Developed system that drills hole down into top of barrier. Grout in a PSST tube anchor, then put PSST sign post in the tube. Installation and maintenance appears to be working ok. Arrington of TTI noted some designs for placing signs on top of precast, freestanding barriers that were made and tested to MASH for TX DOT.

New and Old Business

AASHTO placement has been discussed. More information is expected after the AASHTO Annual Meeting in Boston in November 2016.

Upcoming Meetings: Spring 2017 meeting will be in Lincoln Nebraska Wed April 19-21 including Joint session with pooled fund states.

Executive Board Summary:

- Greg Neece will be next secretary of TF13. Need new co-chair for TF13, may ask Artimovich's replacement to be co-chair.
- Discussed backlog of drawings, but since most are NCHRP Report 350 we can handle the MASH drawings within our bandwidth.
- Mac Ray will be asked to make a formal proposal for additional funding. Current cost is \$25,000 per year that comes out of our registration fee.
- Drainage and RXR committees we are at the point of retiring those committees but will talk to co-chairs.

The Fall 2016 meeting Adjourned approximately 12:00 noon.