




Task Force 13 and Midwest Pooled Fund Program - Joint Meeting & Discussion

WEDNESDAY April 26th, 2023 – 7 pm to 9pm

Moderator – Dr. Ron Faller, MwRSF

6:45 pm – 7:00 pm **Arrival w/ Refreshments & Snacks:**
UNL City Campus Union – Platte River Room
1400 R St, Lincoln, NE. 68588

7:00 pm – 7:15 pm **Welcome & Introductions**

Dr. Ron used a “new technology” called a QR code for attendance! 
MwRSF Pool Fund Group celebrated its 34th year this year and currently has 21 DOT member states.

7:15 pm – 9:00 pm Agenda and Meeting Notes are provided below:

20 mins

MASH Evaluation Training Development for the National Highway Institute
Presenter – John Durkos, RSI

Information provided courtesy Gregory Roy of Greenman-Pedersen Inc (“GPI”), the IDIQ Contractor and project partners – FHWA, NHI and RoadSafe LLC.

- Overview of history of FHWA progression concerning Eligibility Letters.
- Overview of H.R. 3684 Infrastructure Investment and Jobs Act (“IIJA”).
- Online, Self-Paced Course Information
 - Course Number: FHWA-NHI-380133
 - Course Title: *Evaluation of Roadside Safety Hardware Using AASHTO’s Manual for Assessing Safety Hardware (MASH) Guidelines*
 - Format: Web-based Training (self-paced)
 - Training Level: Beginner
 - Course Length: 6 hours
- Target Audience: Transportation agency personnel responsible for reviewing crash test documentation to determine which systems are best suited for their agency.
- Course Goal: Help participants:
 - Perform evaluations using MASH guidelines and crash test data.
 - Interpret crash test results and determine whether hardware meets MASH.
- Development Timeline
 - Planning
 - Design – **we are here** / Transitioning to Development
 - Development – Plan to be here May 2023
 - Pilot – Plan to occur late July / early August
 - Available to Public – **estimated Nov. / Dec. 2023**



10 mins

International Roadside Safety Conference & Peer Exchange (“IRSC & PE”)

IRSC & PE is tentatively scheduled for June/July 2024 in Orlando, FL.

USA

Presenter – Dick Albin, FHWA

TRB has approved Conference and Budget

Pooled Fund –

- Target is \$50,000
- Current commitments for \$35,000

Will have a Breakout at AKD20 Midyear meeting in Atlanta.

Now have a website available.

There is a working group of individuals actively planning the event.

Likely location is in Orlando, FL in June or July 2024.

25 mins

Update on the MASH Conversion to a Specification and DOT Implementation

Presenters – Roger Bligh, TTI & John Durkos, RSI

Bligh:

Convert MASH, 2016 edition, to a set of performance-based specifications.

- Increase level of certainty in crash testing criteria by clearing up as many gray areas in the current document as possible.
 - device developers, manufacturers, and crash test facilities.
- Facilitate increased consistency in testing results.
 - allow highway agencies to make decisions based on more clearly defined crash testing criteria.

Document conversion will generally follow prior scoping study.

Device-based organization:

- Longitudinal barriers, cable barriers, terminals/crash cushions, support structures, work zone devices, TMAs and trailers.

Common information separated and referenced.

- Test vehicle specifications, evaluation criteria, test documentation.

Concise, easy to interpret language.

Self-contained chapters, less cross-referencing throughout the specification.

Makes process of future updates more efficient.

Durkos:

Review of various memos, timelines, and implementation deadlines for MASH Concerns Related to MASH Implementation.

- Slow adoption of MASH and DOTs using their own criteria for acceptance.
- Timeline of implementation...Continued acceptance of 350 product performance.
- FHWA’s current role as safety device expert/gatekeeper has diminished providing no national leadership pushing to meet higher MASH standards.
- MASH testing has gray areas...no checks and balances by an independent and expert entity to review tests results and to ensure consistent interpretation of results.
- Will AASHTO change MASH vehicles?
 - Age of current test vehicles.
 - Changes in vehicle fleet weight ... Rapid EV growth
 - Changes in CG, body style.



20 mins

Update on the AASHTO Technical Services Program

Presenter – Erik Emerson, Wisconsin DOT

TSP for MASH Support

MASH Needs

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Implementation (Current Edition): | Development (Future Editions): |
| <ul style="list-style-type: none"> • Technical Support • Training and Knowledge Management • Innovation • Stakeholder Coordination • Communication and Outreach • Policy, Funding, and Legal Issues | <ul style="list-style-type: none"> • Conversion to a Specification • Research: Needs, Funding, and Protocols • Process for Updating • Stakeholder Coordination • Training and Knowledge Management |

Priorities:

- Guiding Principles
- Workforce Development
- NCHRP Research
- Vehicle Testing
- Manufacturer Self-Certification
- Computer Modeling
- Consultant Support:
 - Reports & white papers on technical issues; peer exchange facilitation.
- State DOT Travel:
 - Peer exchanges; task-specific meetings.
- First Year:
 - Explore computer modeling, manufacturer self-certification. Peer exchange on evaluating crashworthiness.

20 mins

What are the state DOTs needs from industry, going forward?

Facilitator, Shawn Debenham (Utah DOT)

- Training requirements for installation of crash cushions and guardrail end treatments.
- Can the industry point to common issues in getting hardware installed correctly?
- Can the industry point to best practices in design or construction that state DOTs should adopt to assist in hardware being installed correctly?
- How can industry help states identify their hardware that has been hit?
- A State had a crash cushion hit, and nobody could easily identify it.
- Could there be a common way to mark hardware (i.e., a plaque) or a common location?
- Are there common inspection issues with devices or groups of devices that could be worked into a check list for states?

10 mins

What's new?

Series of individual slides provided by manufacturers and academia on products or services which have been recently tested to MASH or are MASH implementation related.



Thursday, April 27th, 2023

Venue - Embassy Suites, Lincoln, NE

- **8:00 a.m. Begin Task Force 13 Meeting - Introductions** Durkos
55 registered participants – 51 were made using online option (NEW!).
Moment of Silence was held for the passing of Tim Mortensen

- **8:15 a.m. Approval of Minutes from September 2022 meeting** Durkos
Treasurer’s Report Smith
 - @\$24K balance after Fall 2022 meeting.
 - There were a few higher than typical expenses, due to continuing to update website and website functionality.
 - Current balance is @\$30K, after this meeting it is expected to be @ \$24K.

- **8:30 a.m. Contract for Website Services (60 minutes)** Lohrey
Subcommittee #1 Publications Maintenance - Virtual
 - Merger of guide(s) have now been made to TF13 website.
 - Overview of the guide(s) features and search parameters.
 - Added 3 new Systems and 1 new Component to the Guide since the last meeting:
SEW34a – Buried-in-Backslope Terminal (BIB)
SEW35a – MATT (Median Attenuating TREND Terminal)
SSF42a – SQR-LOC Yielding Sign Support System-Dual Post
RWM05a-b – 3-Space W-Beam Guardrail for Splice Transition
 - Re-assigned 3rd letter in designators for all MASH Crash Cushions, as follows:
G – Gating
N – Non-Gating/Redirective
R – Redirective/Gating
 - Researched and entered Deflection Category, Dynamic Deflection, and Working Width for all MASH Longitudinal Barriers and Work Zone Barriers in the Guide.
 - Posted printed PDF 1980 Lighting Pole Guide in the Archive Section of the Guide.
 - Continued discussion on determining criteria for including non-FHWA-letter systems into the Guide.
 - Various comments on recent FHWA Eligibility Letter experiences from meeting participants.
 - WZ devices have received some sporadic letters during the last year – some of which have been rescinded due to “faulty” language.
 - One manufacturer reported in excess of 14 months to receive a FHWA Eligible Letter – largely due to “508 Compliance” process within the USDOT, recently implemented.
 - One testing house reported receiving FHWA Eligibility Letters, then rejected, due to the documents not being “fully” 508 Compliant.
 - Another testing house reported that they have several products in process of obtaining a FHWA Eligibility Letter for “several years”.
 - Yet another testing house is reporting they have had some success with obtaining 508 Compliance. They indicated the focus was largely on drawings and the summary pages.



Subcommittee Meetings - Discuss Goals, Tasks & Assignments

- **9:30 a.m. Subcommittees - Session A (45 minutes)**
Some technical difficulties with the projection vs online viewing.
Bielenberg indicates the online was working fine, thus it was a John issue ...
 - **#2 - Barrier Hardware Review Groups** Eicher
 - Guardrails/Median Barriers
Various additional “standard” drawings (drafts) have been prepared, reviewed and will be added to the TF13 Guide. Many related to the Short Radius Guardrail application.
 - Crash Cushions
New Crash Cushions drawings are in process of being prepared.
 - End Treatments/Terminals
One new guardrail end terminal was added to the TF13 guide – MATT by VALTIR, LLC.

- **10:30 a.m. Subcommittees - Session B & C (30 minutes each)**
 - **#3 - Bridge Railing & Transition Hardware** Ghioldi
Currently 135 systems in the guide
Working to develop a reviewer criteria document.
Recently approved a number of systems for the guide.
Any new systems – please send to tonyghioldi@qualitybridgeandfab.com
Looking for additional reviewers of drawings – time commitment is minimal – perhaps 30 minutes per month.
Participant discussion on how the bridge railing guide works and purpose.
“To-Do” – review ‘350’ railing systems that might be meet MASH through engineering analysis.

 - **#11 - Delineation** Hare
NTPEP update
Revision to current testing working plan was recently balloted and approved.
Device name now includes tubular markers.
Shift to mid-size sedan vehicle, from small sedan.
Requires testing with caps, if device is installed in the filed with caps.
Updated testing schedule and submission process.
Other “delineation” activities:
Some DOTs are reporting the installation of yellow rubrail is reducing crashes.
Adding TF13 delineation options to the TF13 guide?
Vote at board meeting later today?
Category 1 (‘350’ terminology) for the product line.
Tim Lang of Impact Recovery has volunteered to be co-chair of sub-committee.



- **12:45 p.m. Subcommittees - Session D** (75 minutes)
 - **#7 - Certification of Test Facilities (Virtual option)** Kovar
 - Inter-Laboratory Comparisons (“ILCs”)
 - Satisfy proficiency testing requirement of laboratory accreditation.
 - Must have 5-year plan.
 - Labs determine schedule.
 - Choose an area of interest to conduct a comparison task that all interested labs can participate in
 - Current ILC – Film Analysis
 - 12 Labs participating, E. Hernandez of Safe Technologies was lead.
 - Some laboratories noted several issues with the high-speed videos that caused them to use their less accurate procedure or to add a stabilization step.
- The issues included:
- STL not being able to provide a lens correction file.
 - Lateral motion of the camera.
 - Visibility and clarity of the test bogie and manufacturer decals.
 - Clearly defined impact point.

Upcoming ILCs:

General Category		Interlaboratory Comparison Task	Time Period	Lead Organization
Film Analysis	Future ILC	Impact Speed, Impact Angle, Exit Speed, Exit Angle, Loss of Contact, WW, Parallel Time, Film Speed, Etc.	2021-2022	Safe Technologies, Inc. (STI) & Calspan
Survey on Procedures	Future ILC	Lab interpretation of test results and evidence according to MASH evaluation criteria	2022-2023	MwRSF
Miscellaneous Discussions	Future ILC	Documentation of ballasting locations and their weights	2023-2024	E-Tech Testing Services, Inc. (E-TECH)
Survey on Procedures	Future ILC	Uncertainty in Measurement	2024-2025	Caltrans
Occupant Risk Analysis	Future ILC	OIV, ORD, THIV, PHD, ASI, Roll, Pitch, Yaw	2025-2026	TTI
Film Analysis	Future ILC	How impact speed is calculated	2026-2027	Turner-Fairbank Highway Research Center (FOIL)
Survey on Procedures	Future ILC	SUT box attachment, ballasting, length of truck, etc. Is hydraulic lifting kit OK?	2027-2028	Southwest Research
Survey on Procedures	Future ILC	CIP selection of given barrier system and selection of angle for test with a range (potentially CIP for 3-34/36/37 & angle for 3-32/3-33)	2028-2029	TBD

Suggestion for a future ILCs:

- By E-Tech ... Measurements on the CG height of vehicles – high importance ranking.
 - Suggestion to perform measurement and processes at MwRSF in April 2024?
 - ILC will be inserted into the schedule, likely after the “survey of procedures” ILC

Recent Accreditation Experiences:

- Largely good experiences, for most labs.
- Unique / odd experiences:
 - Microgravity discussion
 - Electrical frequency – 60Hz
 - Calibration of tape measures
 - Asked to see one of EACH type of test, ever completed



508 Compliance Experiences:

From Eric Perry: <https://www.accessibilityonline.org/cioc-508/session/?id=111055>
Section 508 Best Practices Webinar: Accessibility and Accommodations in the Federal Workplace to be held May 23, 2023.

Previous notes, copied/pasted again here.

- WZ devices have received some sporadic letters during the last year – some of which have been rescinded due to “faulty” language.
- One manufacturer reported in excess of 14 months to receive a FHWA Eligible Letter – largely due to “508 Compliance” process within the USDOT, recently implemented.
- One testing house reported receiving FHWA Eligibility Letters, then rejected, due to the documents not being “fully” 508 Compliant.
- Another testing house reported that they have several products in process of obtaining a FHWA Eligibility Letter for “several years”.
- Yet another testing house is reporting they have had some success with obtaining 508 Compliance. They indicated the focus was largely on drawings and the summary pages.

Report Standardization:

Discussed effort at previous meeting

Received a list of volunteers - if you are interested and have not contacted us, please do

Will be sending poll for May meeting

- **2:00 p.m. Subcommittees Sessions E & F (30 minutes each)**
 - **#5 - Sign, Luminaire & Traffic Signal Support Hardware** Lohrey/Jollo
6 Sign Support Systems in the TF13 Guide – all w/ FHWA Eligibility Letters.
NCHRP 350 Luminaire Supports are listed in the Component section of the Guide.
Continued discussion on the defining range of structural configurations that are covered as passing based on a single tested configuration.
NCHRP Projects 03-119, 22-43 and 22-55 in process.
NCHRP 15-67 (Report 1012) regarding wind loading drag coefficients published.
Showed video of recent MASH tests conducted sign supports.
 - **#6 - Work Zone Hardware** Perry
Shewmaker is rotating off as co-chair, Eric/TF13 would like to seek volunteers for the co-chair position.
15 new WZ FHWA Eligibility Letters issued since April 2022.
WZ System Search on the TF13 Website updates.
www.michigan.gov/mdotworkzones is example from a DOT – implementation plan.
They have carried on the Category I-IV device terminology from ‘350’.
Eric would like to take a poll as to whom uses what WZ websites?
Website: www.Pollev.com/ericperry603.
Or text ericperry603 to 22333 once to join.



TASK FORCE 13

www.TF13.org

- **3:15 p.m. Update from the *Midwest Pooled Fund Program Meeting (30 minutes)*** Bielenberg
 - Partnership between State DOTs and MwRSF/UNL – 34 years, now with 21 states
 - There are also projects which various DOT contract with the MwRSF group.
 - Day 1 of Meeting:
 - Section 508 Compliance.
 - Survey TTI pooled fund to ensure little / no overlap.
 - MASH Test report standardization.
 - Training needs – note that they will be publishing a Bullnose Manual.
 - 2nd IRSC (Orlando, Summer 2024).
 - State DOT issues.
 - Progress on current Midwest Pooled Fun Program research efforts.
 - Day 2 of Meeting:
 - Review FY2024 proposed research.
 - Full scale crash test (NCHRP 22-39), which was open to TF13 members.
 - State DOT representatives vote for FY2024 research program.
 - Ice Cream Social (TF13 members wish this was open to them 😊).
 - FY2024 Prioritized Research Projects:
 - Grade Separated Concrete Median Barrier.
 - Guidelines for Concrete Median Barrier Anchorage to Slabs.
 - W-Beam and Thrie Beam Splice Joint Redesign.
 - Develop a new and improve (robust) guardrail splice detail.
 - Reduced grading for the MGS Long-Span Guardrail System.
 - Development of a Limited Deflection MASH TL4 Thrie Beam Guardrail.
 - Development of a Generic Guardrail End Terminal – Phase IV.
 - MASH Testing
 - LS-DYNA Investigation of Electric Vehicles and Roadside Hardware.
 - Annual Consulting Services Support.
 - Midwest Pooled Fund Website.
 - LS-DYNA Modeling Enhancement Support.

- **3:45 p.m. Update Subcommittee #9 - Marketing** Mauer
 - Newsletter
 - Will be posted on LinkedIn and emailed when posted.
 - Blog to be published quarterly – possible topics:
 - 508 Compliance
 - Training

- **4:00 p.m. Adjournment for Day 1**



TASK FORCE 13

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- **4:15 p.m. Task Force 13 Executive Meeting (SC Co-Chairs and Executive Members - 70min)**
 1. Cable Barrier category discussion for TF13 guide searches – leave as is for now.
 2. Eric Lohrey website improvements (checking content, photos, adding MwRSF/TTI drawings, etc.) are appreciated.
 3. Next drawings to be updated are various W-beam standard component drawings last updated in 1995 (metric) and 2005.
 4. Schedule a call for the executive board, in the next 4-6 weeks, to discuss criteria for determining when a product can be included in the TF13 guide/website.
 5. Virtual broadcast discussion – should we have a designated “IT” monitor for the meetings?
 - Todd Tekulve of Brifen has volunteered.
 - Motion made and passed to set up a Task Force 13 Zoom account and accept Todd to assist with virtual/hybrid meetings. Note that Todd needs to obtain approval from his employer.
 6. Continued discussion of offering online meeting option, at a charge. Possible survey to receive feedback.
 7. Adding Delineation and/or WZ product options to the TF13 guide?
 - Suggestion to link to TTI WZ Clearinghouse website and NTPEP – Jim Kovar to reach-out to entities and provide details by end of May 2023.
 8. Use of TF13 logo and/or link to it by others in industry, as long as it doesn't indicate support or approval of a specific product? Motion made and passed for Eric Smith to reach-out and develop a brand guide for the TF13 and Task Force 13 logos/brand/name and present it for vote at the Fall 2023 meeting.
 9. Motion made and passed to accept self-nomination of Tim Lang of Impact Recovery to be co-chair of SC#11 Delineation.
 10. Where/when to have future meetings. Always with a Pooled Fund Groups? In TF13 active DOT States (CT, OR, LA, NJ, etc?)

Meeting adjourned at 5:35pm – motion made and passed.

Task Force 13 Dinner (Cost included in Registration):

- **~6:00 p.m. Dinner at Rodizio Grill (737 P Street in the Lincoln Haymarket)**



Friday, April 28th, 2023

Venue – Embassy Suites, Lincoln, NE

- **8:00 a.m. Begin Task Force Meeting – Day 2**
- **8:00 a.m. Affiliated Committee/Activity Reports**
 - **Update on status of Task Force 13 Membership and Structure (10m)** Durkos
 - Recently (2022) extended MOU with AASHTO for 5 years.
 - TF13 formed in 1969.
 - 2012 began meeting with Roadside and MwRSF Pooled Funds.
 - 2015 the taskforce was sunsetted by AASHTO.
 - 2018 Non-profit formed by TF13.
 - **American Traffic Safety Services Association (“ATSSA”) (15m)** Perry
 - 1500 members, 28 chapters covering 45 states, 10 committees and 5 councils.
 - 2023 ATSSA Fly-In had 63 attendees, 70+ congressional visits with 22 states represented.
 - Mike Hare commented that conversations with senate leaders there was concern they need more information on the plan for crash testing of electric vehicles.
 - East Coast Forum (new conference) is in Richmond, VA May 16-18, 2023.
 - Editor Note: This conference has since been cancelled (01 May).
 - ATSSA Mid-year August 15-18th, 2023 in Chicago, IL.
 - ATSSA Expo February 2-6th, 2024 in San Diego, CA.
 - New free 4-hour course for “Mitigating and Preventing Worker Safety Impacts in Roadway Construction Work Zones”.
 - Introductory class for contractors, traffic control companies, inspectors, maintenance personnel, safety officers, and other temporary traffic control personnel.
 - Instructor-led, in-person delivery at your facility (min. 10 people).
 - Online Directory located on ATSSA Website.
 - Publication of W-Beam Guardrail Identification and Repair Guidelines.
 - QPL/APL Standardization – in process – working towards options for distribution, possibly through ASTM.
 - Establishing JTF on Crash Testing of Battery-Powered Vehicles (EV)
 - R. Mauer (on ATSSA innovation committee).
 - MUTCD release expected in May 2023 – ATSSA is monitoring.
 - ATSSA guardrail training updated in 2022 and is now available virtually or in-person.
 - ATSSA is working towards establishing a temporary concrete barrier guide.
 - Reach out to eric.perry@atssa.com for additional information on these items, classes, conferences and opportunities.
 - ATSSA is looking for topics/suggestions for 2024 ATSSA Expo workshops.



- **TRB Committee AKD20 Roadside Safety (20m)** Tahan
 - 103rd annual meeting of TRB is scheduled for January 7-11, 2024 in DC.
 - AKD20 (Roadside Safety Design) is a standing committee of TRB.
 - 32 members and 730 friends.
 - Chair – John Donahue, Communications – Fadi Tehan, Secretary – Mark Ayton, Research – Luke Reixinger.
 - Three sub-committees – International, ISPE, Computational Mechanics.
 - Work Focus is research, sharing information, identifying roadside safety issues, offering support/solutions, and fostering international collaboration.
 - www.mytrb.org Scroll down or search for AKD20 and “become a friend”.
 - AKD20 has established a google website where specific meeting information can be obtained: <http://sites.google.com/site/trbcommitteeakd20/>.
 - Mid-Year meeting in Atlanta, GA July 30th to August 2nd, 2023 will be held jointly with AASHTO COD and AASHTO TCRS.
 - Young professional events at all AKD20 events.
 - Contact Talha Ghuman or Jim Kovar

- **AASHTO Technical Committee on Roadside Safety (15m)** Durkos
 - AASHTO TCRS is responsible for the Roadside Design Guide (“RDG”), MASH and Technical Services Program.
 - Rewrite of RDG – comments from Joe Jones (online participant) of Leidos:
 - Leidos is contractor, about halfway through the draft.
 - Next step is AASHTO review, balloting and editing for publication.
 - Publication is expected 2024-2025.
 - RDG will provide guidance to seek standardized drawings from TF13.
 - No proprietary devices will be featured in the RDG.
 - Conversion of MASH to a performance specification (see notes from Wednesday joint meeting).
 - TSP – see notes from Wednesday joint meeting, found earlier in these notes. Additional information ...
 - The TSP will likely start in mid-2023.
 - Funded by voluntary state DOT contributions.

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

- **Update on NCHRP projects** Durkos
 - Program Officer roles are in transition to new person ... no update was provided for this meeting.



- **9:00 a.m. CCSA/George Mason University** Tahan
 - NCHRP Project 22-29B Update.
Performance of longitudinal barriers on Curved, Superelevated Off-Ramps.
 - Project will formulate proposed guidance to be included in the RDG.
 - 32”H Concrete, W-Beam (27-3/4” G4 and 31” MGS) and Thrie Beam Barriers to be evaluated with 1100C and 2270P vehicle types with speeds 50-100kmh.
 - 5-25 degree impact angles, shoulder widths of 4-12ft with 0-8% cross-slope.
 - FEA Crash Simulation Models:
 - Vehicles have been verified/validated against actual crash testing.
 - Models have been adjusted for Curved Applications.
 - Performance Summary tables have been generated and are available for use.
 - Guidance generated for AASHTO RDG.
 - Using the collected findings, guidance is modified as appropriate and documented in formats that would facilitate incorporation into the AASHTO Roadside Design Guide.

- **9:30 a.m. Texas A&M Transportation Institute (30 minutes)** Kovar
 - MASH TL-3 Transition Design with a Storm Drain Inlet.
 - Issue is that when inlets are location close to bridge railing, posts cannot be driven and there was concern about based plated or bolted through options.
 - Test 3-11 was ran and passed, with bolted through installation.
 - Test 3-10 has not been ran yet.
 - Guardrail to Anchored PCB Transition.
 - Posts are installed at tighter post spacing with longer W6x8.5# posts.
 - Both 3-20 and 3-21 were ran and passed.
 - Guardrail on 1:1 Slope.
 - 9ft long W6x8.5# posts with 8” blocks and Thrie-beam, located 12” from breakpoint.
 - Test 3-10 and 3-11 were both ran and passed.
 - Flood Mitigating MASH TL4 Barrier
 - Hurricane Harvey identified a need for product, as large segments of I-10 were trapping water within highway for several weeks.
 - Barrier design provides for drainage, rather than trapping flood water on highway. 30ft minimum concrete barrier lengths, 13”H x 18ft (long) rectangular holes (scuppers) were located at grade. 42”H barrier.
 - 4-10, 4-11 and 4-12 tests were performed and passed.
 - When I-10 was rebuilt by the TxDOT Beaumont District, this barrier was installed.
 - UT provided analysis as to where this barrier should be located on TxDOT roadways – naturally these are largely located in coastal areas.



- **10:15 a.m. Midwest Roadside Safety Facility (30 minutes)** Rosenbaugh
 - NYSDOT 4-cable barrier, has previously passed MASH TL3 on level terrain.
 - NYSDOT 4-Cable Barrier (1000lbs of tension) Terminal Anchor.
 - Cable Terminal redesigned and tested to MASH:
 - Anchor w/ 8 posts, plus anchor, at 10' PS, for a terminal length of 80ft.
 - 3-35 scheduled to be ran at 20ft from anchor (Post 2).
 - 3-34 ran at 10ft from anchor (Post 1).
 - 3-37b ran at 16ft from anchor. ~4ft Downstream of Post 2.
 - NO spring compensators in system – 1000lbs of tension at 90degrees.
 - Terry Hale is the NYSDOT contact. Karla Lechtenberg the MwRSF lead.
 - System will be used for “roadside” applications only.
 - Cable heights in barrier system were 17”, 24” 31” and 38” using 5/16” hook bolts and S3x5.7# posts with 24” x 8” welded soil plates below grade.
 - Terminal uses same heights/connections beginning at post 3.
 - Post 1 – 8 at HSS 3” x 2” x 1/8” x 78”L with 2 x 3/4”holes at grade.
 - Post 1 is transition post and Post 2 has welded keeper notches.
 - Anchor is releasable and uses same HSS for triggers.
 - Has conducted and passed 3-30, 3-31, 3-34, 3-37b.
 - MASH Tests 3-32, 3-33 and 3-35 to be conducted ASAP.
 - Single-Slope Precast Concrete Bridge Rail (Iowa):
 - Performed computer simulation prior and made changes to design.
 - Performed 4-12 test and was successful, minimal structure damage to system. 4-10 & 4-11 tests were deemed unnecessary to perform.
 - MASH Testing of Single Sign Supports (FDOT):
 - Typically use frangible for 2” and 3.5” OD.
 - Typically use slipbases for greater than 4”OD – only evaluated slipbases:
 - Using 4ft x 4ft sign (10lbs) – performed MASH 3-61 and 3-62. Penetration of rear window with 1100C vehicle (fail).
 - Configuration with 8ft height – failed
 - Configuration with 8.5ft height - passed
 - Alternate configurations show possible issues.
 - Very complex matrix due to large amounts of variables.
 - Significant further investigation is needed – to include frangible.
- **10:45 a.m. Recent research: “Characterization of Gating Crashes”** Schrum
 - Fatal data (FARS) from 2018:
 - 913 total guardrail (FHE) crashes.
 - 27.5% where MHE was something else behind the guardrail.
 - Collect and process crash data; Establish a distribution of runout distances.
 - Assist State DOTs with guardrail specifications / applications.
 - Example from Mobile, AL (with “possible” recommendations):
 - Photos indicate FHE was with terminal head.
 - For X < 60ft – lengthen guardrail system or use a crash cushion.
 - For 60ft to 231ft – extend guardrail or specify a non-gating terminal.
 - > 231ft, use a gating terminal.
 - Some comments from participants – this appears to be identifying a significant number of guardrail LONs which is NOT appropriate (too short).
 - Easy solution would be to just extend the LON (additional guardrail).



- **11:30 a.m. New/Old Business** Durkos
 - Location/Dates of Various 2023/2024 Industry Meetings, currently published:
 - AKD20 Mid-Year is scheduled July 30 – August 2nd, 2023, in Atlanta, GA.
 - ATSSA Mid-Year is scheduled August 15th-18th, 2023 in Chicago, IL.
 - Task Force 13 Meeting in College Station during September / October 2023 timeframe – details to be finalized.
 - AASHTO meeting in Indianapolis, IN - November 12-16, 2023.
 - TRB Annual Meeting is scheduled January 7th-11th, 2023 in Washington DC.
 - ATSSA Expo is scheduled February 2nd – 6th, 2024 in San Diego, CA.
 - International Roadside Safety Conference & Peer Exchange (“IRSC & PE”) is tentatively scheduled for June/July 2024 in Orlando, FL. USA
 - **Executive Committee Summary** presented – see above for details
 - **Review of Task Force 13 “To Do List”, generated from meeting** Neece
 - **Future discussions on “508 Compliance” and implementation.**
 - **Review ‘350’ bridge railing systems that might meet MASH through engineering analysis.**
 - **Schedule a call for the executive board, in next 4-6 weeks, to discuss criteria for when a product can be included in the TF13 guide.**

- **11:15 noon Adjournment**

Minutes / Notes respectfully submitted and finalized on 3 May 2023, for approval at Fall 2023 Task Force 13 Meeting. *Gregory A. Neece*
