Thursday, September 26th, 2019
Venue – The George Hotel in College Station, TX

- **7:00 a.m. Continental** Breakfast at the hotel for guests staying at The George Hotel

- **7:30 a.m.** Task Force 13 Registration at The George Hotel
- **8:00 a.m. Begin Task Force 13 Meeting - Introductions** Durkos
  - Announcements
  - TF13 will send out a survey to acknowledge you are a "voting member" of TF13. This is necessary due to the changes to the organization structure.
    Editor's Note: On Friday morning, a signup sheet was sent around for attendees to become "voting members".
  - Report from AASHTO TCRS meeting where TF13 presented.
  - Will Longstreet retirement notification/discussion.
    - From Reno meeting, Will's report
      - 15 letters reviewed, found eligible, but not signed.
      - These are being held for a FAQ from AASHTO-TCRS discussing small car testing.
  - Acknowledgement of TTI, Secretary and Sub Committee Chairs efforts to pull this off.
  - Self-Introductions
- **8:15 a.m.** Recap of Lincoln, NE Subcommittee Meetings Neece
- **8:30 a.m.** Approval of Minutes from Spring 2019 (Lincoln, NE) Meeting Durkos
- **8:45 a.m**. Contract for Website Services
    - Subcommittee #1 Publications Maintenance Lohrey
      - TF13 will need a "vote" on some of the drawings and specifications
      - Historical update of progression of TF13 over time.

1. Since the last meeting, 19 Systems were added to the Guide, as follows. All have recently-issued FHWA Eligibility letters.
   - 3 Bridge Railings (SB).
   - 2 Crash Cushions (SC).
   - 2 End Treatments/Terminals (SE).
   - 2 Longitudinal Barriers (SG).
   - 2 Sign Supports (SS).
   - 2 Transition Systems (ST).
   - 6 Work Zone Systems, including 4 TMAs.
2. Expanded Work Zone (SW) Designator Nomenclature to better identify and describe system types, as follows:
   - SWC – Concrete Barrier.
   - SWM – Miscellaneous.
   - SWS – Steel Barrier.
   - SWT – Truck/Trailer-Mounted Attenuator.
   - SWW – Water-Filled Barrier.
3. 25 Component Drawings were added to the Guide from NCHRP "328" project, as follows:
   - 12 Fasteners (F).
   - 10 Posts/Blockouts (P).
   - 3 Rail Components (R).
   - Cross-reference links to Systems were entered.

4. Updated Steel Guardrail Post PWE05 drawing to be consistent with other recently-updated standard GR post drawings.
5. Prepared drawing for RTE01b, Thrie-Beam Terminal Connector showing both diagonal and parallel splice bolt holes. Members identified that approximately 60% of specifications call for diagonal slots and 40% call for parallel slots. A third version with vertical slots was also identified. Draft drawings will continue to be circulated for review & comment in order to gain consensus on a final update.
6. Drawing for RWE02a-b, W-Beam Terminal Connector will be updated to show 3" long splice bolt holes.
7. FCA01, BCT Cable Anchor Assembly was updated to clarify specifications for Class A Zinc Coating to be consistent with AASHTO M30. And 2 photos were added to the FCA01 page.
8. Added Guide improvement to allow display of External Links to all designator pages.
9. Added new search field for "FHWA Letter (Y/N)" to Bridge Railing and Longitudinal Barrier categories. This allows users to sort Systems by whether or not they have an FHWA eligibility Letter on file. The search field will be added to the other categories by the next meeting.
10. Restored link to the 1995 Guide. Providing further access to previous versions of TF13 guides was discussed, and it didn't appear that anyone was opposed.
11. Proposed future activities include:
    - Continue to obtain Guide materials (drawings, photos, reports, etc.) for MASH-compliant systems.
    - Add data fields for Dynamic Lateral Deflection and Working Width to the Longitudinal Barrier category.
    - Continue entering links between MASH systems and Components.
    - Continue updating drawings for Components of MASH systems.
    - Continue developing criteria for accepting "MASH" systems that do not have an FHWA letter into the Guide.
    - Explore options for implementing a more modern web platform for the main website and Guide.

o **9:45 a.m**. **BREAK**

Subcommittee Meetings - Discuss Goals, Tasks & Assignments

o **10:00 a.m.** Subcommittee - **Breakout Session A**
- Call for more volunteers for these groups
- More discussion on TF13 process for publication
- **#2 - Barrier Hardware Review Groups**
  - Guardrails/Median Barriers
  - Crash Cushions
  - End Treatments/Terminals

o **11:00 a.m.** Subcommittee - **Breakout Session B**
- **#3 - Bridge Railing & Transition Hardware** Brauner
  - Welcome of attendees and briefly reviewing the purpose of the online bridge rail guide.
  - Total of 123 bridge rails in the guide and of those, 26 are shown as "Review Complete. The guide has 15 MASH bridge rails with 7 of them shown as "Review Complete". The rest are NCHRP 350 or older and will have their status changed from "In Review" to "Not Reviewed".

- Three bridge rails added to the guide since the previous meeting: The Manitoba Tall Wall (SBC65e), the California Type 732SW (SBC63b), and the PennDOT PA Bridge Barrier (SBB48e). These three rails were reviewed and marked as "Review Complete"
- New features that have been added to the guide include a space for external links and the ability to search for bridge rails that have an FHWA eligibility letter.
- Discussed the differences between MASH 2009 and MASH 2016. Currently the bridge rail guide separates bridge rails based on these criteria. The consensus was that there is very little difference between the two versions of MASH as it relates to bridge rails except for changes to the Test Level 5 (TL-5) vehicle. So in an effort to combine the search results, the group decided to change all bridge rails currently classified as MASH 2009 to be MASH 2016, EXCEPT those that were tested as a TL-5 system. The TL-5 systems tested under MASH 2009 would continue to be shown as MASH 2009.
- Discussion on the meaning of "Combo Traffic Pedestrian Rail" and the definition found in Chapter 13 of the AASHTO LRFD Bridge Design Specifications. It was decided that we would need to review any rails classified as a Combo Traffic Pedestrian Rail in the guide to confirm that they meet the definition. There are significant variations of what one user considers pertinent or constitutes a "pedestrian" railing.
- Discussed bridge rails that have been crash tested but do not have an FHWA eligibility letter and the possibility of including them in the guide. However, it was decided that this was a larger issue and should be discussed by Task Force 13 as a whole. Therefore, the topic was tabled pending further review and guidance.
- Brauner requested volunteers to serve as reviewers, after which the meeting was adjourned.

- **#11 – Delineation** Schultz
  - Brief discussion of last Spring 2019 meeting.
    - Review survey sent out to states gathering information about TTCD requirements and specifications for delineator products.
    - Paul Gentry stepped down as co-chair.
  - NTPEP TTCD Testing
    - 2 products in the current cycle.
    - Clarifications/additions to the testing standard.
    - Target impact speed of ± 5 mi/h.
    - Addition of asphalt surface attachment.
    - Post failure due to post tear (>50% of cross section).
    - Paul Gentry stepping down as NTPEP chair. Matthew DeWitt taking his place.
  - Task Force 13 Guide
    - New section/chapter for delineation.
    - Tubular marker delineators not currently included.
  - What information do we want to include in the guide?
    - Delineator height, diameter, attachment surface, attachment method, reflectivity.
    - Nathan will be make a list and present at next Spring meeting.
  - Other delineation in the guide?

- Delineators on roadside hardware
- Some guidance should be given since some may require crash testing.
- Pavement markings.
- Roadside delineators (non-flexible).

- Want to ensure we aren't duplicating MUTCD or other committee work. Only standardize what needs standardization.
- Further discussion in the spring meeting in regards to other delineation devices.

- **12:00 p.m.LUNCH – Provided in cost of registration**

- **1:15 p.m.** Subcommittee - **Breakout Session C**
  - **#6 - Work Zone Hardware** Shewmaker/Perry
    - Still there is consensus that there is vast uncertainty.
    - 43 MASH Systems; 30 NCHRP 350 Systems in the hardware guide
    - No reviews of drawings since last meeting. Let us know if you want to volunteer to review drawings.
    - Eric Lohrey discussed the review process and we will move forward with the submittal process through co-chairs. We need to develop a process for reviewing meetings. Co-chair identifies a drawing, sends out to review panel, and then comments are forwarded onto Guide "Keeper." When a drawing is identified, we need to see if pictures are available and drawings are in standard format. Need to develop this process and input may be needed from "executive" team.

      Discussion of how the MASH implementation is working in different states.
      - Discussion of the letter writing process and the possibility that each state may write their own letters, post FHWA. Implementation of MASH.
      - Still lots of uncertainty as the deadline is 3 months away.
      - Are products available?
      - Discussion of the state APL process and the challenges as well as how each state is addressing the existing and impending "sunset" dates for all categories.
      - Many discussions on what states are doing and not doing.
      - Discussed a potential of a "national" QPL/APL that states could choose from and put on their QPL/APL.
      - All states have developed an implementation plan, but not all states have shared.
      - Shared some of the processes that VA, NC, SC, GA are doing.
      - Discussed some of what California is doing.
      - Some states have staff that are reviewing crash results and making determination.
    - Progress is challenging with the void in guidance and leadership in these areas.
      - Industry is in dilemma. What products do we buy, what can we use on the roadway after Jan 1, 2020?
    - FHWA has transitioned the letter process from Will Longstreet to someone with Turner Fairbanks Research Center is now reviewing and making recommendations. FHWA still working with AASHTO to find a 3rd party.
    - Discussion on service life/useful life. Showed KY memo and discussed several other states and what they do.
    - Many of the devices on the roadside are state owned. When states set a sunset date, they are also defining when their products have to be replaced.

- SCDOT has acceptable service life of barrier.

- **#7 - Certification of Test Facilities** Lechtenberg

8 labs present: MwRSF, Caltrans (via webcast), E-TECH, Southwest Research, Safe Technologies, TTI, Karco, George Mason/FOIL

Discussion on bumper height measurement ILC

- 10 labs responded.
- Some measurements were consistent, some had large variances.
- Measurement from ground to bottom of front bumper – recommended to not include air dams/lower valances when completing this measurement.
- Measurement from ground to top of front bumper – recommended to measure to the furthest point forward and at its maximum point above the ground.
- Suggestion to look at vehicles in the class that may have lower parts of bumper extending further out. Determine if this might be a problem.

Problem statement developed and submitted on recommendations from soil strength ILC.

Discussed labs assessment to new ISO 17025 standard – two already gone through assessment, not much different than previous version, focused on calibrations as always. Many going through in next few months and after first of the year.

Discussed items that are needed to bring up to TCRS for clarification: (1) penetration through rear windshield, (2) impact location tolerance (+/- 12 in.) being small for large vehicles with the shallower angle (one lab not meeting it about 10% of time).

Reviewed ILC plan to update and assign items for minimum of 5 years. Next to be led by MwRSF: (1) CIP selection and angle selection for tests with a range. (2) Lab interpretation of test results and evidence according to MASH criteria.

General Category		Interlaboratory Comparison Task	Time Period	Lead Organization
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)	Fall 2019	MwRSF
Survey on Procedures	Future ILC	Lab interpretation of test results and evidence according to MASH evaluation criteria	Spring 2020	MwRSF
Survey on Procedures	Future ILC	Impact Speed, Impact Angle, Exit Speed, Exit Angle, Loss of Contact, WW, Parallel Time, Film Speed, Etc.	Fall 2020	Safe Technologies, Inc. (STI)
Miscellaneous Discussions	Future ILC	Documentation of ballasting locations and their weights	Fall 2021	E-Tech Testing Services, Inc. (E-TECH)
Survey on Procedures	Future ILC	Uncertainty in Measurement	Fall 2022	Caltrans
Occupant Risk Analysis	Future ILC	OIV, ORD, THIV, PHD, ASI, Roll, Pitch, Yaw	Spring 2023	TTI
Film Analysis	Future ILC	How impact speed is calculated	Fall 2023	Turner-Fairbank Highway Research Center (FOIL)
Survey on Procedures	Future ILC	SUT box attachment, ballasting, length of truck, etc. Is hydraulic lifting kit OK?	Fall 2024	Southwest Research

- **2:30 p.m**. Subcommittee - **Breakout Session D**
  - **#5 - Sign, Luminaire & Traffic Signal Support Hardware** Lohrey/Jollo

Sign Support Guide.

- Two (2) new systems were entered into the SS Guide (SST01a & SST01b). Both have new FHWA Eligibility Letters, which include non-standard TF13 drawing. Those drawings are currently posted in the Guide as drafts. Eric will cut-and-paste the drawings into standard TF13 format for review by subcommittee members to determine acceptability. If acceptable, this process may be used for other systems in the Guide. **ACTION ITEM**.

Luminaire Support Guide.

- Current LS Guide has not been updated since it was created several years ago.
  - Current format is too complicated, as it attempts to include every component from every manufacturer of poles that are mounted on breakaway bases.
  - An option is to focus future entries on the breakaway system itself and not the entire structure to be consistent with the SS Guide. Wording in FHWA Eligibility Letters or other MASH "approvals" may help with what we consider to be "the system" (breakaway base only, or entire structure).
- Resolution of above will determine how to proceed with LS Guide revisions & updates (show aspects of current LS Guide in PowerPoint).

MASH Implementation for Sign & Luminaire Support Systems.

- AASHTO LTS Specification limits on maximum weight, height, & configuration of breakaway SS & LS structures have been removed from the latest edition (LRFDLTS-1). Replacement of those limitations are needed.
- No new info on AASHTO/FHWA Sunset Date December 31, 2019.
- New NCHRP Project 22-43, Development of Testing Protocol for Families of Breakaway Signs, Poles, and Work Zone Devices.
- Results from NCHRP projects may include possible acceptance of pendulum testing or other alternatives to full-scale crash testing.

Update on current research projects related to breakaway supports:

- NCHRP 03-119 presentation:
  - Fadi Tahan from George Mason University gave a presentation about the status of the project.
    - Luminaire and Wood Posts are being investigated by MidWest.
    - PSST and U-channels are being investigated by George Mason.
      - Computer modeling and pendulum testing were shown.
      - Coupons have been taken for material properties.
    - The NCHRP time will be extended.
    - Luminaire supports are using a frangible base.
    - The Wood Posts are using Southern Yellow Pine #1 and #2
- Scott Jollo Roadside Pooled Fund meeting update:
  - Proposed a luminaire MASH project.
  - Proposed a Wood Post with different species of wood and grades.
  - Discussed the 2 phase voting process to select a limited amount of projects based on funding.
  - There was interest in both the Luminaire and Wood post projects, these made it through the first round, but were not selected as projects for funding.
  - Benefit of creating contacts with other States that are also interested in Luminaire and Wood Posts supports that need to satisfy MASH.

- May look at a separate smaller pooled fund group of States that are interested in the Luminaire and Wood Supports that can combine funds to get MASH testing performed.

- **3:30 p.m. BREAK**

- **3:45 p.m**. Recap of Subcommittee activities

- **4:00 p.m.** Update from the TTI Roadside Safety Pooled Fund Program Meeting Schlutz
  - For the foreseeable future, the Roadside Pooled Fund Group will be having the Fall Meetings at the TTI Facility in College Station, TX – rather than alternating locations every other year.
  - Top six priorities of group are:
    - Design and testing of a Thrie-Beam System at fixed object.
    - Design and Testing of a MASH TL-3 Thrie-Beam for Roadside and Median applications.
    - Length Of Need for Unanchored Guardrail.
    - Evaluating TL-3 thrie beam retrofit option.
    - Steel and wood dual sign support on slipbase.
    - Continue guardrail flare project.

- **4:30 p.m.** Summary of Guardrail Post Marking Standardization Gripne

Goal: DEVELOP A DRAWING FOR STAMPING LONG POST (W6 x 8.5/9) FOR CONSISTANCY WITH ALL STATES.

  - STATES CONTACTED: COLORADO, ILLINOIS TOLLWAY AUTHORITY, KENTUCKY, MINNESOTA, MISSOURI, NEVADA, SOUTH CAROLINA, TEXAS, UTAH and WASHINGTON.
  - General discussion and cussing.
  - Manufacturers have agreed to "basic" drawing/specification.
  - Gripne will send the "standardized stamping of long post" drawing out to the manufacturers' one more time for final approval before forwarding for inclusion into the TF13 Guide. **ACTION ITEM**.
  - Next step will be to go back to the current 9-12 states, then perhaps distribute it further?

- **5:00 p.m.** Task Force 13 Executive Meeting (All Subcommittee Co-Chairs requested to attend)
  - In attendance … John Durkos, Greg Neece, Eric Smith, Nathan Schultz, Eric Lohrey, Scott Jollo, Karla Lechtenberg, Kurt Brauner, Eric Perry, Rick Mauer and Jeff Shewmaker.
  - MWM Green Technologies (Reflective Guardrail Bolts) – John reports he has tried numerous times to contact them and has been unable.
  - Eric has confirmed that the TF13 information and website is being backed-up on "Go Daddy".
  - Board of Directors (BOD) and Voting Members.
    - BOD are sub-committee chairs and officers of TF13.
    - Voting Members are those that attend. **ACTION ITEM:** For tomorrow, Greg will prepare a voting sheet for distribution.
      - Requiring name, company and a statement (at top) indicating "As a voting member, on average, I will attend a minimum of one (1) meeting per year."
  - Drawings:
    - Are reviews of TF13 submittals needed, going forward?
    - **ACTION ITEM:** Eric to send a documentation of current process to BOD for review.
    - Drawings of NON TF13 Format into Guide.
      - **ACTION ITEM**: Eric to provide samples of various non TF13 drawings on TF13 template(s).
    - Continued discussion on what standard minimum level it takes for a product to be placed into the TF13 Guide.

Task Force 13 Dinner (Cost included in Registration) – Mo's Irish Pub:
Mo's Irish Pub
1025 University Drive, Suite #101 College Station, TX 77840
548 feet from The George Hotel (4 minutes to walk to venue)
- **~6:15 p.m**. Appetizers and cash bar
- **~6:45 p.m.** Dinner

Friday, September 27th
Venue – The George Hotel in College Station, TX

- **7:00 a.m**. Hot breakfast as well as continental breakfast for The George Hotel guests.

- **8:00 a.m. Begin Task Force Meeting – Day 2**
- **8:00 a.m. Affiliated Committee/Activity Reports**
  - ~~AASHTO Subcommittee on Bridges and Structures TBA~~
  - TF-13 Presentation to AASHTO TCRS Durkos
    - Recap of various information provided in Reno in July 2019
  - American Traffic Safety Services Association ("*ATSSA*") Durkos for Perry
    - 1,500 Member Companies and Public Agencies.
    - 28 Chapters in 45 States and DC.
    - 9 committees and 4 councils.
    - 2019 Fly-in saw a 6% increase in states represented with 91 attendees and 165 congressional visits, representing 35 states.
    - 2020 ATSSA Expo will be their 50th anniversary!
      - Educational Roundtable during 2020 Expo:
        - Round table discussion for State DOT QPL process.
        - 2 part session with 1hr dedicated to State DOT personnel and 1hr open to everyone.
        - Discuss the challenges and difficulties faced by both the State DOT's and industry in getting MASH tested products involving all hardware types reviewed, approved, and included on the individual State DOT QPL's.
    - January 24th – 28th, 2020 ATSSA **50th** Convention & Traffic Expo (New Orleans).
    - April 20th-24th, 2020 National Work Zone Awareness Week (Michigan).
  - ~~National Association of County Engineers nace@naco.org~~
  - TRB Committee AFB20 Roadside Safety Bligh
  - ~~AASHTO Technical Committee on Roadside Safety TBA~~

- **9:00 a.m. Reports from Special Subcommittee Co-Chairs**
  - **#9 - Marketing** Mauer/Perry
    - Produced a Spring 2019 newsletter.
    - Next newsletter will announce Will Longstreet's retirement from FHWA and announce that Edwardo Arispe, Research Mechanical Engineer (FOIL) has taken over the responsibility of writing FHWA letters. New letter requests should go to him.
  - New Standardization Areas Discussion

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

The remainder of the meeting was broadcasted.

- **9:15 a.m.** NCHRP Bush
  - Task 368 Development of a Roadmap for Use of SHRP2 Safety Data to enhance Existing AASHTO Publications, $100,000 TX A&M 04/17/2020.
  - Task 372 Evaluation of MASH Test Vehicles, $90,000 UofNE Lincoln 12/26/2019.
  - Task 383 Review and Update of the AASHTO Roadside Design Guide $220,000, Leidos 10/01/2021.
  - Task 401 A Systematic Approach to Hardware Replacement Analysis to Support AASHTO MASH Implementation, $100,000 RoadSafe LLC 01/04/2020.
  - 03-119 Application of MASH Test Criteria to Breakaway Sign & Luminaire Supports and Crashworthy WZ TCDs $599,134 12/2020.
  - 03-134: Determination of Encroachment Conditions in Work Zones $500,000 12/2021
  - 15-53 Roadside Design for Conflicts in Proximity to Bridge Ends and Intersecting Roadways $744,767 03/2020.
  - 16-05 Guidelines for Cost-Effective Safety Treatments of Roadside Ditches $400,000 09/2019.
  - 17-11(02) Development of Clear Recovery Area Guidelines $270,000 11/2019.
  - 17-43 Long-Term Roadside Crash Data Collection Program $1,000,000 12/2020.
  - 17-55 Guidelines for Slope Traversability $500,000 12/2018.
  - 17-76 Guidance for the Setting of Speed Limits $500,000 04/2020.
  - 17-79 Safety Effects of Raising Speed Limits to 75 MPH and Higher $500,000 04/2020.
  - 17-82 Proposed Guidance for Fixed Objects in the Roadside Design Guide $500,000 12/2020.
  - 17-86 Estimating Effectiveness of Safety Treatments in the Absence of Crash Data $600,000 02/2022.
  - 17-90: Validation of Roadside Crash Injury Metrics in Real World Crashes (Correlation of Actual Injury Outcomes to Predicted During Crash Testing) $400,000 07/2021.
  - 22-26 Identification of Factors Related to Serious Injury & Fatal Motorcycle Crashes into Traffic Barriers $500,000 12/2021.
  - 22-31 Recommended Guidelines for the Selection and Placement of Test Levels 2 through 5 Median Barriers $577,000 06/2020.
  - 22-32 Development of Methods to Evaluate Side Impacts with Roadside Safety Features $500,000 05/2021.
  - 22-33 Development of a Collaborative Approach for Multi-State In-Service Evaluations of Roadside Safety Features $650,000 05/2021.
  - 22-34 Determination of Zone Intrusion Envelopes under MASH Impact Conditions for Barrier Attachments $400,000 2021.
  - 22-35 Bridge Rail Testing Program to Confirm MASH Compliance $500,000 2021.
  - 22-36 Development of the Next Generation MASH, Portable Concrete Barrier $400,000 2019.
  - 22-37: Development of a Barrier Design to Accommodate Vehicles, Pedestrians and Cyclists $500,000 2020.
  - 22-38: Development of MASH TL-3 Deflection Reduction Guidance for 31 in Guardrail $499,429 01/2022.
  - 22-39: Guardrail Performance at Various Offsets from Curb for MASH TL-3 Applications $600,000 06/2022.

  In Development:

  12-119: Bridge Deck Overhangs with MASH-Compliant Railings ($500,000).
  22-42: Impact Performance Assessment of Barrier Performance at High Speeds ($600,000).

22-43: Developing Testing Protocol for a Family of Devices – Signs, Breakaway Poles and Work Zone Devices ($500,000).
22-44: Development of a Crash Data Collection Tool for MASH In-Service Performance and Application Guidelines ($400,000).

- **9:45 a.m. Texas A&M Transportation Institute** Sana
  - TxDOT Round Wood Post Guardrail System in Concrete Mow Strip.
    - 7½-inch Diameter (36" embedment) Round Wood Post Guardrail System in Concrete Mow Strip successfully passed MASH Test 3-11.
    - Not rerunning 3-10 will be engineering justified utilizing the 3-10 testing in same mow strip configuration with steel posts and rectangular wood posts.
    - Discussion of composite vs wood blocks – testing ran with wood blocks, can composite be used?
    - System considered suitable for implementation as a MASH TL-3 system.
  - Alaska 2-Tube Bridge Rail and Transition (steel tubes on steel base plated posts).
    - Alaska 2-Tube Bridge Rail satisfied all MASH TL-4 criteria (4-12).
    - Thrie Beam Transition satisfied all MASH TL-3 criteria (3-20, 3-21).
  - MASH TL-5 Independent Foundation Designs for 54" Single Slope Barrier.
  - Structurally Independent Traffic Rail Foundation for MASH TL-4 Barrier.

- **10:15 a.m. BREAK**

- **10:30 a.m. Midwest Roadside Safety Facility** Lechtenberg
  - Hawaii 34" aesthetic bridge rail (concrete).
    - 3-10, 3-11 conducted – satisfied MASH TL-3 criteria.
  - Hawaii 42" aesthetic bridge rail (concrete).
    - 3-10, 3-11 conducted – satisfied MASH TL-3 criteria.
  - Hawaii Guardrail Transition with curb to concrete bridge rail approach.
    - 3-20, 3-21 conducted – satisfied MASH TL-3 criteria.
    - Follow-up on whether the Thrie beam end shoes has horizontal or diagonal slots and if face washer were used?
  - Strong Post, Culvert Mounted MGS.
    - ½ post spacing, 12" block.
    - 3-10, 3-11 conducted – satisfied MASH TL-3 criteria.
    - Note: ½ post spacing with 12" blocks for standard applications has not been tested yet.

- **11:00 a.m. FHWA/George Mason University** Fadi Tahan for Marzougui
  - Crash Simulations between Non-Occupied Automated Driving Systems (ADS) & Roadside Hardware.
  - 2018 Dodge Ram FE Model (Coarse Mesh).
  - 2018 Dodge Ram FE Model (Fine Mesh).
  - Developing Longitudinal Barriers using Thermosetting Polymer Concrete.

- **11:30 a.m. MASH 20-07 Task 372 – MASH Vehicle Selection** Stolle
  - Average vehicle age ~11-12 years.
  - Vehicles older than 12 years will be cycled out of service.
  - MASH vehicle selection should be reviewed every 5 years, revised/updated every 10 years.
  - If current sales & registration trends continue, future vehicle fleet will have fewer cars, mostly light trucks.

- Vehicle Selection
  - New vehicle attributes should reflect state of current vehicle fleet.
    - Heavier, larger than current MASH vehicles.
- Additional Vehicle Considerations
  - Motorcycles are ~2% of sales, registrations.
  - Hybrid/EV sales growing but not yet even 10% of sales, registered vehicles.
  - Large trucks ~2-5% of sales (constant).
- New MASH vehicles will not be similar to EN1317 test vehicles.
  - Confirmed vehicle sales internationally do not follow U.S. sales trends by size, weight, attributes.
  - Car production still significant in most countries.

Vehicle Recommendations:

- Compact Car (C-type)
  - 2800 lb +/- 65 lb
  - IS-Value: 64.5 kip-ft (87.5 kJ) →15% increase
- Pickup Truck (P-type)
  - 5,400 lb +/- 120 lb
  - ½-ton suspension, Crew Cab, 4WD, medium box
  - IS-Value: 124.5 kip-ft (168.8 kJ) → 8% increase
- Mid-Size Vehicle (A-type)
  - ISPE & additional data needed to determine.

Research Recommendations:

- Pilot testing program (e.g., NCHRP 22-14) to test hardware types with recommended new MASH small car & pickup vehicles.
  - Barrier types: AGTs, MGS, Concrete Parapets, Cable Barriers, and PCBs.
- Evaluate potential CUV and mid-size sedan vehicle options, recommend standard vehicle for all barrier types.
- Integrate new impact conditions (e.g., NCHRP 17-43).

- **12:30** New/Old Business Durkos
  - New Standardization Areas
  - Scheduling of 2020 Spring Task Force 13 Meeting with MwRSF Pooled Fund Group
    - April 15th – 17th, 2020 in Lincoln, NE
  - Location of Various remaining 2019 as well as 2020 Industry Meetings
    - IRF in Fabulous Las Vegas November 19th – 22nd, 2019
    - TRB in Washington DC January 12-16th, 2020
    - ATSSA Expo N'awlins January 24th – 28th, 2020
    - ATSSA Legislative Fly-In May ??, 2020
    - ATSSA Mid-Year Meeting August ??, 2020
  - Executive Committee Summary
  - Review of Task Force 13 "To Do List", generated from meeting.

- **12:35 p.m. Adjournment**