



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
JULY 11, 2019, 9:00 A.M. – 11:00 A.M.
MULTI-MODAL CONFERENCE ROOMS**

Present:	Carol Aldrich Gregg Brunner Matt Chynoweth	Mark Geib Kristin Schuster Brandy Solak	Will Thompson Brad Wieferrich Hal Zweng (phone)
Absent:	Mark Bott Ted Burch Rebecca Curtis	Jason Gutting Tony Kratofil Ryan Mitchell	Gorette Young
Guests:	Jorind Bardhollari Chris Brookes Steve Cook Jason Fossitt	David Harrison (phone) Dean Kanitz Dave Morena Jon Stratz (for Ryan)	Carlos Torres Alonso Uzcategul

OLD BUSINESS

1. Approval of the June 13, 2019, Meeting Minutes – *Approved*
2. Michigan Department of Transportation (MDOT) New Materials and Products – Gregg Brunner (for Jason Gutting) - *Information only*

NEW BUSINESS

1. Statewide Maintenance and Operations Alignment Team Guidance Document – Steve Cook

ACTION: Approved with changes

2. Sign Support Manual for Assessing Hardware (MASH) Action Plan – Mark Bott/Dean Kanitz/Jorind Bardhollari

Major Issue(s)/Potential Complication(s) – The MASH sunset date for compliant versions of sign supports must be used for new installations on the National Highway System (NHS) on construction projects let after December 31, 2019. To date, the Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO) have not granted an extension to the December 31, 2019 sunset date for these devices.

Potential issues with state transportation agencies trying to meet the December 31, 2019 sunset date:

- At the present time, there is not a full array of MASH-compliant systems to replace the array of National Cooperative Highway Research Program (NCHRP) 350 systems currently in use.
- To date only one company has a letter of eligibility for MASH. Therefore, at this time MDOT may need to sole source if there is only one product that is MASH-compliant for a select sign size category. Please note the testing was done with one particular sign configuration (substrate material and sign size).
- A manufacturer could certify their system to the department without a FHWA eligibility letter.
- For other sign categories MDOT may need to continue using NCHRP 350 devices to fill the void of support systems.
- The status of the pooled fund efforts currently underway does not seem to be providing anything and if they do it does not seem they will be done before the sunset date. The kickoff meeting for sign supports was June 10, 2019.
- MASH tests required for each different sign configuration is cost prohibitive. A Michigan specific sign configuration contains the potential for hundreds of tests per MASH based on speed, angle of impact and test vehicle for the following conditions:
 - Sizes available
 - Substrates
 - Roadside configurations (curb, slope)
 - General Soil Types
 - Number of Posts
- Therefore, while a test can cover a worst-case scenario it does not cover all the variables that exist out in the field. If a company or other DOT have a compliant device, it most likely was not fully tested using sign substrate or various sizes of signs available. Accepting such would be self-certification.

Background – The MASH was published in 2009 as an updated crash testing standard to supersede NCHRP 350. In addition, MASH crash testing was required for new or revised roadside safety devices tested after January 1, 2011. In 2016, AASHTO adopted an updated version of MASH, called MASH 2016, and MASH 2016 crash testing will be required for new or revised roadside safety devices tested after December 31, 2016. To avoid any confusion, the original version of MASH, published in 2009, will be known as MASH 2009. The biggest change between MASH 2009 and MASH 2016 involves the addition of several test matrices for cable barrier systems. As a result, most roadside safety devices, with the

exception of cable barrier systems, that successfully passed MASH 2009 crash testing will be grandfathered into MASH 2016 without further testing.

The current FHWA-AASHTO joint implementation agreement requires MASH 2016-compliant devices to be used for new installations on contracts involving NHS roadways with a letting date after the dates below:

- December 31, 2017: Guardrail systems and cast-in-place concrete barriers
- June 30, 2018: Tangent, single-sided guardrail terminals
- December 31, 2018: Crash cushions (impact attenuators)
- December 31, 2019: Cable barriers and cable terminals, double-sided guardrail terminals, flared guardrail terminals, bridge railings, transitions, temporary work zone devices, all other longitudinal barriers (including portable barriers installed permanently), all other terminals, sign supports, and all other breakaway hardware

Recommendation(s) – Based on only one eligible system available, the inability to use engineering judgement for worst-case scenario, and the pooled fund study recent kickoff it is recommended to utilize existing sign supports in construction after the December 31, 2019 sunset date as per the attached EOC approved MDOT MASH Strategy with particular emphasis on items 3, 4, 6, 7 and 9 (approved June 2, 2016). In summary:

- Continue to use devices not meeting MASH (NCHRP 350 compliant) beyond the sunset date until suitable MASH compliant alternatives exist.
- If MASH compliant proprietary devices become into existence, two or more need to be available and acceptable to the department. For non-proprietary the MASH compliant system needs to be acceptable to the department.
- MDOT will continue its participation in pool fund studies regarding non-proprietary MASH compliant sign support systems and contact manufacturers, through ATSSA, to determine availability of proprietary MASH compliant sign support systems.

ACTION: Conceptual acceptance and need Chief Operating Officer and FHWA Administrator agreement.

3. Subject/Issue – 6(09)-35 (E)-Driveway Assistance Device (DAD)–MDOT – Chris Brookes

Issue Statement – Request approval to submit final DAD report on behalf of MDOT and to allow interim approval of the continued use of DADs until the FHWA reviews the report and provides guidance.

Major Issue(s) – The DAD is a device that improves the safety of the work zone and allows for more flexibility in the development of maintenance of traffic (MOT) designs. The use of DADs allows for safer, cheaper, faster work with a higher quality due to the reduction in MOT stages.

Background/History – In 2015, MDOT had a project that was creating a safety concern due to the motoring public not following temporary traffic control signage. A one-way detour was in place and motorists were driving in the opposite direction past the road closure signage creating head on traffic conditions in a one lane work zone. (See MDOT–M-44 Driveway Signal Test Project Request for additional details.)

MDOT received approval for the testing of DADs and has had five locations in which the devices were placed on the roadway and analyzed as part of the official FHWA approved test 6(09)-35 (E) - Driveway Assistance Device-MDOT.

2015 - M-44, Belding Road, Kent County

2016 – US-23, Over the Little Black River, Cheboygan County

2016 - M-68, Viehl Road to Upper Black River, Cheboygan County

2017 – M-66, Liberty Street (Sheridan) north to Walnut Street, Montcalm County

2018 – US-31, From 450' SW of Highland Dr. NE to 850' northeast of Highland Drive, Bear Lake, Manistee County

These reports have been completed, along with an executive summary and are being submitted for review and approval by the EOC for final submittal to the FHWA headquarters.

For a copy of the full report, please contact Chris Brookes at brookesc@michigan.gov.

Recommendation(s) – Construction Field Services (CFS) is requesting the EOC support the recommendation in the report that the DADs be added to the Manual on Uniform Traffic Control Devices, and an interim approval be granted for their continued use.

CFS is recommending that EOC allow the continued use of DADs on MDOT projects while waiting for final FHWA guidance to be issued. Use is based on a detailed project level evaluation performed by CFS. The findings of report 6(09)-35 (E) - Driveway Assistance Device-MDOT found the devices to be very effective and found that 98.5% of traffic performed safe movements at the DADs. Based on this data, CFS is seeking approval of their continued use, based on the benefits of increased mobility and safety in MDOT work zones, which is positive action with the goal of Toward Zero Deaths.

ACTION: Approved. From the FHWA Lansing Division, they will be able to approve additional locations for Driveway Assistance Devices, while national interim approval is in process, once headquarters has received MDOT's final report from the pilot project. Locations for proposed use should be submitted to the FHWA for approval in one request for the same construction season and multiple.

4. Design-Build (DB) for I-94 Reconstruction, Jackson Transportation Service Center (TSC) – Jonathon Stratz/Jason Fossitt (for Ryan Mitchell)

Project Information: Reconstruction of West Avenue and Elm Road interchanges, Lansing Avenue bridge over 94 and I-94 reconstruction. Located within the Jackson TSC, University Region.

Route/Location: I-94 from West Avenue (US-127/M-50) to east of Elm Road

Job Number: 129153, 202121

Control Section: 38101

RFP Issuance: August 2020

Letting Date: Fall 2020

Construction: 2021

Est. Const. Cost: \$111M (West Avenue: Approximately \$65M; Elm Road and Lansing Avenue Bridge: Approximately \$35-\$40M)

Issue(s) – Request approval for the use of DB delivery method to reconstruct a portion of I-94 from east of the West Avenue/US-127/M-50 to just west of the US-127 south interchange replace the West Avenue interchange, Elm Road interchange and the Lansing Avenue bridge over I-94. The project will gap out portions of I-94, which were reconstructed in 2019, from approximately west of the I-94 bridge over the Grand River to east of Cooper Street.

The Jackson TSC and University Region has recommended the use of DB delivery for this project to expedite the project schedule and encourage private sector efficiencies, innovations and competition in bidding.

Background – Currently, the Elm Road interchange & Lansing Avenue bridge are programmed for 2021 construction. DB delivery will allow the addition of the West Avenue interchange to this design/build package, and if funding for the West Avenue project is identified in early 2020, all three scope elements will be let as one. If West Avenue funding is not identified, it will be shelved and Elm interchange and Lansing Avenue over I-94 will be let as a DB project for 2021 construction.

Recommendation(s) – The Innovative Contracting Committee recommends approval of the use of the DB contracting method for this project to expedite the improvements, minimize impacts to the traveling public, and gain efficiencies by packaging the three scope elements into one project.

ACTION: Approved

5. Value Engineering (VE) Study Exception for M-24 Project – David Harrison (for Ryan Mitchell)

Subject/Issue Statement – The Metro Region is seeking approval to not hold the VE Study for the M-24 construction project.

Major Issue(s) – JN 121505 consists of rehabilitation (Hot Mix Asphalt mill and resurface) of M-24 from Goldengate to Drahner and the reconstruction of M-24 from Drahner to Harriet. The project is scheduled for 2020 construction with a construction budget of approximately \$24,000,000 and combined with Preliminary Engineering and Construction Engineering phases the total cost is more than \$30,000,000.

It is general MDOT policy to have a VE Study performed on projects over \$25M.

Background/History – The project manager, the Oakland TSC, and the Metro Region do not see any discernable benefits for performing a VE Study since the project is straight forward, and are requesting approval not to perform a VE Study

Recommendation(s) – The Metro Region recommends approval for a VE exception.

ACTION: Approved

(on behalf of) Carol Aldrich, Secretary
Engineering Operations Committee

RA:lrb

cc: EOC Members	M. DeLong	J. Becsey (APAM)
Meeting Guests	D. Jones	D. Needham (MAA)
P. Ajegba	C. Libiran	M. Ackerson-Ware (MRPA)
L. Mester	R. Jorgenson (FHWA)	
Region Engineers	R. Brenke (ACEC Michigan)	
Assoc. Region Engineers	G. Bukoski (MITA)	
TSC Managers	D. DeGraaf (MCA)	