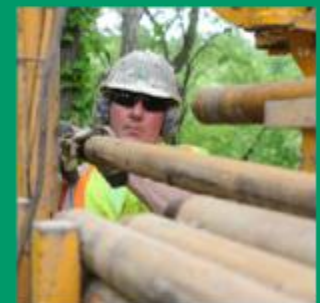


MASH UPDATE

COBS - MONTGOMERY, AL.



June 26, 2019

MASH UPDATE

Tim Keller, Ohio DOT
Chair T-7

FIRST A LITTLE HISTORY

- Manual for Assessing Safety Hardware
- 2009 MASH replaced NCHRP 350
 - Manual vs. NCHRP Report
 - Manual - can be updated
 - NCHRP Report - static

FIRST A LITTLE HISTORY

- **What it is:**
 - Guidelines for crash testing hardware
 - Covers testing for Test Levels 1 - 6
 - Specify vehicle requirements
 - Make and model
 - Includes evaluation criteria for assessing testing results
 - Includes test documentation
 - Incremental improvement in hardware safety

FIRST A LITTLE HISTORY

- What it is NOT:
 - Requirement for which test levels are to be used for a system or location
 - “How To” for computer simulations
 - Approves hardware for use in an application or location

FIRST A LITTLE HISTORY

- Why Change:
 - Fleet changed
 - Update testing parameters
 - Needed to be able to update manual
 - MASH 2nd Edition, 2016

WHERE WE ARE WITH IMPLEMENTATION

- **FHWA/AASHTO Implementation Plan**
 - Signed Jan. 7, 2016
 - Revised FHWA memo Aug. 6, 2018
 - Revised FHWA memo June 28, 2018
 - Dec. 31, 2019 bridge rails and transitions - letting date after which these systems must be evaluated using MASH

BRIDGE RAILING TESTING

- Crash testing of bridge railing systems is on-going
- Test results can be found at the following locations:

BRIDGE RAILING TESTING

FHWA Office of Safety web site:

The screenshot shows the FHWA Office of Safety website. The top navigation bar includes the U.S. Department of Transportation Federal Highway Administration logo, links for About, Programs, Resources, Briefing Room, Contact, and Search FHWA, and social media icons for Facebook, YouTube, Twitter, and LinkedIn. The main navigation bar includes links for About, Office of Safety Programs, Initiatives, Resources, and Contact, along with a search box labeled "Search Safety".

The page content is titled "Longitudinal Barriers" and includes a sidebar with navigation links: Strategic Approach, Keep Vehicles on Roadway, Provide for Safe Recovery, Reduce Crash Severity, FHWA Policy and Guidance Center, and PROGRAM CONTACT. The PROGRAM CONTACT section lists Will Longstreet (will.longstreet@dot.gov) and Menna Yassin (menna.yassin@dot.gov).

The main content area includes a description of longitudinal barriers, a note about archived eligibility letters, and a section for "Longitudinal Barriers and Miscellaneous Items" with a filter for MASH 09 and a list of items. A table at the bottom lists the items.

Longitudinal Barriers

This listing contains barriers such as guardrail, median barrier, bridge railings and transitions, that have been issued an Eligibility Letter by FHWA based on AASHTO MASH criteria. The FHWA's Federal-aid eligibility letters are provided as a service to the States and are not a requirement for roadside safety hardware to be eligible for Federal-aid reimbursement. As stated in our eligibility letters, "eligibility for reimbursement under the Federal-aid highway program does not establish approval, certification or endorsement of the device for any particular purpose or use." It is the responsibility of the agency who owns the facility to determine whether or not to use a particular hardware device and how to use it for the particular situation. See [AASHTO's Roadside Design Guide](#) and [AASHTO's Manual for Assessing Safety Hardware](#) for guidance on selecting the appropriate Test Level (TL) based on traffic using the facility.

ARCHIVED: FHWA Eligibility letters issued using NCHRP 350 testing criteria.

Note: May 30, 1997 – ACTION: Crash Testing of Bridge Railings still in effect until sunset dates in the [AASHTO/FHWA Joint Implementation Agreement](#) for MASH.

Longitudinal Barriers and Miscellaneous Items

Revised, May 9, 2019

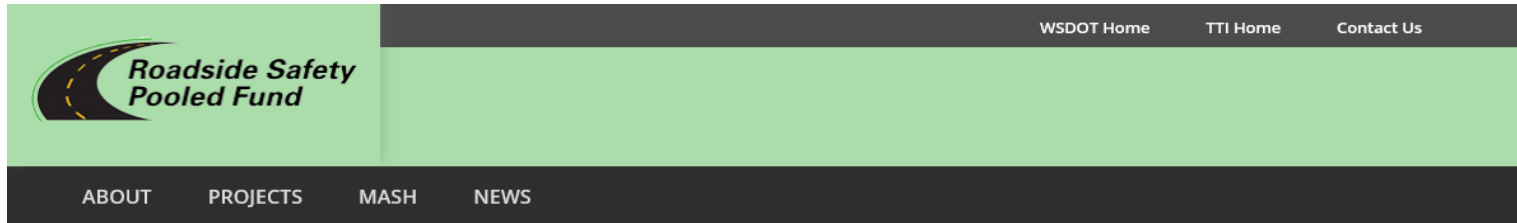
Filter: MASH 09 Go!

- Select "MASH" for crashworthy systems per the AASHTO Manual for Assessing Safety Hardware, 2016 Edition.
- Select "MASH 09" for crashworthy systems per the AASHTO Manual for Assessing Safety Hardware MASH 09
- Select "All" for both "MASH" and "MASH09".

Code	Date	MASH	Manufacturer	Device Description	View PDF	Text Version
B-278	2/14/2017	MASH09	Mondo Polymer Technologies, Inc	Mondo Polymer 8-inch Composite Blackout with cut-outs	(5.46 MB)	

BRIDGE RAILING TESTING

Roadside Safety Pooled Fund



Implementation Dates

General Information

Research Needs List

Testing Needs List

FHWA MASH
Implementation
Agreement Q&A

Hardware Tested

The information provided in this database is for reference only. It is the responsibility of the user/designer to verify that the selected system meets current Federal eligibility and safety requirements. To filter available hardware devices, select the type of device, test level, eligibility letter, and if the device is proprietary/non-proprietary. If there are options available for the device selected they will appear to the right. Results are displayed below and can be selected for more information.

Device Types

 ▾

Test Level

 ▾

FHWA Eligibility Letter

 ▾

Proprietary/Non-proprietary

 ▾

MASH RESEARCH - BRIDGES

- NCHRP 22-12(03)
 - Recommended Guidelines for the Selection of Test Levels 2 through 5 Bridge Railings
 - Electronic version only
 - Dated February 10, 2014

MASH RESEARCH - BRIDGES

- Roadside Safety Research Program Pooled Fund Study TPF-5(114)
 - Identify best practices where length-of-need for bridge approach rails cannot be met
 - Dated February 2014

MASH RESEARCH - BRIDGES

- NCHRP 20-07 Task 395
 - MASH Equivalency of NCHRP Report 350-Approved Bridge Railings
 - Dated November 2017

A MUST READ !

MASH RESEARCH - BRIDGES

- NCHRP 22-35
 - Continuation of NCHRP 20-07 Task 395
 - MASH Equivalency of NCHRP 350-Approved Bridge Railings
 - On-going

MASH RESEARCH - BRIDGES

- **NCHRP 22-36**
 - Synthesis of the Performance of Portable Concrete Barrier Systems
 - Completed - electronic report only
 - December 2018

MASH RESEARCH - BRIDGES

- Iowa State University
 - Iowa DOT Pooled Fund Study TPF-5(367)
 - Development of a MASH compliant Precast Concrete Barrier System for Bridges
 - On going

MASH RESEARCH - BRIDGES

- **NCHRP 22-41**
 - Re-write LRFD Chapter 13
 - Just getting started

MASH RESEARCH - BRIDGES

- **New NCHRP Project**
 - C-01 Bridge Deck Overhangs with MASH-Compliant Railings
 - COBS No. 1 recommendation from Vermont meeting
 - Request for panel members went out

QUESTIONS

