**Summary of Recent MASH Implementation Actions**

* **Periodic meetings are occurring between Senior Level AASHTO members and FHWA staff.**
	+ FHWA – Butch Waidelich, Beth Alicandri, Mike Griffith
	+ State DOTs – Carlos Braceras UT, Joyce Taylor ME
	+ AASHTO – King Gee, Jim McDonnell, Kelly Hardy
	+ Addressing:
		- Overall mutual goals for roadside safety
		- Changes in how FHWA addresses roadside hardware compliance
		- Questions from the roadside safety community
		- Ideas and options for moving forward
* **May 2018, Joint presentation at the AASHTO Council on Highways and Streets meeting by Joyce Taylor and Beth Alicandri**
	+ Discussed possible options for determining MASH compliance of devices if FHWA stops writing eligibility letters, including:
		- Continuing federal oversight and review of crash test for compliance
		- AASHTO taking over reviews for compliance
		- An independent 3rd party taking over reviews for compliance
		- States (or groups of states) independently reviewing crash test data to determine MASH compliance/crashworthiness
		- Manufacturers self-certifying their devices
	+ FHWA and AASHTO recently met with ASTM to discuss possibilities
	+ Also recently requested additional ideas from states as to how to address this issue.
* **June-Aug 2018, Discussion topic at the Design Committee meeting / Letter to FHWA / Response Letter from FHWA**
	+ A discussion at the Committee on Design meeting resulted in the development of a letter from AASHTO (Kirk Steudle and Carlos Braceras) to FHWA requesting action on 5 items.
	+ The following lists the requests of FHWA and the responses received on 8-16-18 from FHWA:
		- 1. Clarification on FHWA’s position on providing federal-aid eligibility letters for roadside hardware going forward.
			* FHWA stated that they are working with AASHTO on a new approach to certifying roadside hardware.
			* Letter also states that FHWA is still working toward a “...proposed date of December 2019 as the sunset for FHWA issuing eligibility letters...”
		- 2. An extension of the June 30, 2018, deadline for states to provide FHWA Division Offices with a plan for how they will determine the crashworthiness of roadside hardware.
			* FHWA responded that 50 states responded to their request and that 42 have a documented process in place (or will have one soon), therefore no need to extend date
			* States at the TCRS meeting expressed concerns over variations in what their Division Offices were accepting as a “plan.”
			* In a few cases, the following wording was accepted:
				+ “For Existing Systems with no MASH Equivalent - Existing NCHRP-350 systems would remain eligible for use until such a time that an acceptable equivalent MASH system that meets the needs of [the State DOT] and is available and approved by [the State DOT] for use. [The State DOT] will provide the FHWA Division Office a plan describing our efforts to replace the existing NCHRP-350 systems with a MASH compliant system.”
		- 3. An extension of the December 31, 2018, deadline in the joint implementation agreement for cable barrier and cable barrier terminals.
			* FHWA acknowledged the joint effort leading to the extension of this date.
		- 4. An understanding allowing for “acceptability by states” in the joint implementation agreement for available MASH-compliant devices.
			* FHWA stated that they are open to further discussion of this issue.
			* This is so that state DOTs are not forced by FHWA to use devices with which they are not familiar or are not comfortable using, just because they have an eligibility letter.
			* In a few cases, states have been pressured by FHWA Division Offices to use alternate categories of devices if a MASH-compliant device was not available (e.g., substituting w-beam for cable)
		- 5. Continuation of the eligibility letter process until a new third-party process has been established. (There has been some concern that FHWA will discontinue the eligibility letters at the end of 2019.)
			* See item #1.
* **July 2018, TCRS meeting**
	+ Included presentations on the latest research and crash testing from NCHRP and the pooled funds, as well as discussions on implementation sunset dates and how to demonstrate compliance to FHWA (see above note on June 30 2018 deadline for crashworthiness plan)
* **AASHTO and FHWA are resuming regular “working group” meetings to review and respond to questions on MASH from DOTs, industry, and others**
	+ This working group includes technical representatives from the AASHTO Technical Committee on Roadside Safety, FHWA’s Office of Safety, and researchers from the roadside safety pooled fund studies.
	+ At their meeting in November 2017, they:
		- Developed a draft Q&A (which was subsequently reviewed and released jointly by FHWA and AASHTO)
		- Developed a draft timeline for responding to this and future Q&A
	+ Discussions from the working group meetings as well as the TCRS meeting have also resulted in several implementation deadline extensions, as noted below.
* **Modifications to the Joint Implementation Agreement for MASH.**
	+ Agreement contains sunset dates for NCHRP 350 devices, and states the following:
	+ *For contracts on the National Highway System with a letting date after the dates below, only safety hardware evaluated using the 2015 edition of MASH criteria will be allowed for new permanent installations and full replacements:*
		- *December 31, 2017: w-beam barriers and cast-in-place concrete barriers*
		- *June 30, 2018: w-beam terminals*
		- *December 31, 2018: cable barriers, cable barrier terminals, and crash cushions*
		- *December 31, 2019: bridge rails, transitions, all other longitudinal barriers (including portable barriers installed permanently), all other terminals, sign supports, and all other breakaway hardware*
	+ *Temporary work zone devices, including portable barriers, manufactured after December 31, 2019, must have been successfully tested to the 2015 edition of MASH.*
* In several instances where crash testing has not progressed to the point where we thought it would be, extensions of these MASH implementation agreement deadlines have been approved by joint agreement of FHWA and AASHTO.
	+ These extensions are included on the AASHTO Design Committee’s web site.
	+ This web site also contains has the Q&A that have been developed (which answers various MASH questions that have been posed to FHWA and AASHTO over the past year), along with other implementation information, including links to FHWA’s *Roadside Hardware Policy Memoranda and Guidance*, as well as the *Federal-aid Eligibility Letters* that have been written for MASH-approved devices.
	+ This information can be accessed at *design.transportation.org*.
* **Implementation Agreement Extensions approved thus far include the following:**
	+ Approved on May 9, 2018:
		- *What is included in the December 31, 2017, sunset date in the AASHTO/FHWA Joint Implementation Agreement?*
		- The AASHTO/FHWA Joint Implementation Agreement states that for contracts on the National Highway System with a letting date after December 31, 2017, new permanent installations and full replacements of w-beam barrier and cast-in-place concrete barrier must be MASH 2016-compliant. This sunset date is intended to cover standard installations. Special applications of these devices, such as barriers utilizing reduced post spacing, barriers installed on a flare, barriers mounted behind curbs, and barriers located at bridge ends in restricted areas, are included in the December 31, 2019, sunset date for “transitions" and "all other longitudinal barriers."
	+ Approved on June 26, 2018:
		- *What is included in the June 30, 2018, sunset date in the AASHTO/FHWA Joint Implementation Agreement?*
		- The AASHTO/FHWA Joint Implementation Agreement states that for contracts on the National Highway System with a letting date after June 30, 2018, new permanent installations and full replacements of w beam terminals must be MASH 2016-compliant.  This sunset date covers tangent terminals.  Other applications, such as double-sided or median terminals, flared terminals, and terminals installed on a flare, are included in the December 31, 2019, sunset date for “all other terminals.”
	+ Approved on August 3, 2018:
		- *What is included in the December 31, 2018, sunset date in the AASHTO/FHWA Joint Implementation Agreement?*
		- The AASHTO/FHWA Joint Implementation Agreement is amended for contracts on the National Highway System such that new permanent installations and full replacements of cable barriers and cable barrier terminals must be MASH 2016-compliant by the December 31, 2019, sunset date for “all other longitudinal barriers” and “all other terminals.”  New permanent installations and full replacements of crash cushions will still require compliance with MASH 2016 by December 31, 2018.
	+ New modifications under discussion:
		- TCRS is discussing whether the sunset date for crash cushions should be pushed back to December 31, 2019.
		- Also, the Q&A released on August 3 (see above) regarding the sunset date for cable barrier will likely be modified to address cable barriers on flat terrain, as follows:
			* *Has the sunset date for cable barrier installed on flat terrain been extended to December 31, 2019?*
			* The sunset date has been extended for cable barriers and terminals installed on sloped terrain until December 31, 2019. Cable barriers installed on flat terrain still has a sunset date of December 31, 2018. Cable barriers on flat terrain for new permanent installations and full replacement must meet MASH 2009 test criteria by the December 2018 sunset date. The test criteria for cable barriers on flat terrain is the same for both MASH 2009 and MASH 2016. Since the test criteria for cable barriers installed on slopes is a new in MASH 2016, the sunset date is postponed to allow additional time for development of hardware that meets the MASH 2016 test criteria.