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*North Carolina's MASH-16 Policy Update*

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## *Today's Panel/Discussion Topics*

- 1) ATSSA'S Midyear Summary from Louisville, KY
- 2) NCDOT's MASH-16 Policy
- 3) Product Approval Process



# *ATSSA Mid-Year Temporary Traffic Control Committee Update from Louisville, KY*

## MASH-16 Update

- ATSSA has sent AASHTO letter to discuss “Grandfathering” of Devices, Categorization of Devices, Sampling versus Testing, Generic Devices
- FHWA is no longer in charge of device approval, States will now assume this role
- FHWA reviews crash data and issues letters of “eligibility” for Federal reimbursement
- AASHTO is a bureaucratic organization with main focus on permanent roadside hardware, not temporary traffic control devices
- AASHTO’S position is to NOT provide implementation “guidance” as FHWA has done in the past.



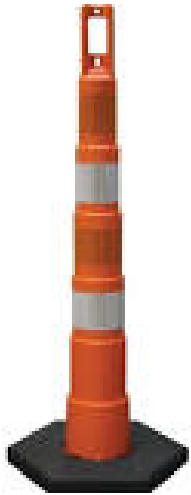
# *NCDOT's "MASH-16" Policy on Temporary Traffic Control Devices*

1. NCDOT will recognize the "**Categorization of Products**" according to NCHRP 350 procedure
  - Category 1: Small Lightweight Devices (Manufacturer Self Certified)
  - Category 2: Potential Hazardous Devices with Minimal Vehicle Velocity Discharge Devices (Ex: Barricades, Portable Sign Supports, Vertical Panels, Water filled Barrier, etc)
  - Category 3: Potentially Hazardous Devices with Significant Vehicle Velocity Discharge Device (Ex: Portable Concrete Barrier, Steel Barrier, Water filled Barrier, Temporary Crash Cushions, Truck Mounted Attenuators, Break Away Sign Supports, etc.
  - Category 4: Trailer Mounted Devices

# NCDOT “MASH-16” Policy

## Product Categories

- All Category 1 and 2 devices will be “grandfathered” in as approved under NCHRP 350.
- Unless a *major modification* has been made, **no “retesting” of these devices are required**



# NCDOT “MASH-16” Policy

## Category 3 Devices:

- All Truck Mounted Impact Attenuators and Crash Cushions manufactured on or after January 1, 2019 must meet MASH-16 Crash Standards.
- Any device manufactured before this date may be used until January 1, 2030 provided they meet the requirement of the Standard Specifications, approved for use (APL) and accepted for use by the Engineer. (Used Florida and Georgia for guidelines on these sunset dates)



# *NCDOT's "MASH-16" Policy*

## Category 3 Devices:

- All portable concrete, steel and water-filled barrier (used on roadways above 45 MPH) manufactured on or after January 1, 2020 must meet MASH-16 crash standards.
- Any of these devices manufactured before this date may be used through January 1, 2030 provided they meet the requirement of the Standard Specifications, approved for use (APL) and accepted for use by the Engineer.



# *NCDOT “MASH-16” Policy*

3. Category 4 Devices: These devices were not tested in NCHRP 350 and its NCDOT’s position they don’t need to be tested according to the testing procedures in MASH-16.

It’s our position, when properly used, these devices don’t constitute a hazard in the work zone since we have no recorded crashes resulting in serious injury or death from impacting a trailer mounted device





## *Factors that Led to our Decision to not require retesting of Category 2 devices*

- No future FHWA letters of approval based on crash information
- No future Implementation Guidance from FHWA
- No Implementation Guidance or decision making from AASHTO
- MASH-16 has little mention for temporary traffic control requirements



## *Factors that Led to our Decision to not require retesting of Category 2 devices*

- NCDOT mainly interested in Permanent Roadside Hardware (ie Guardrail Heights, Guardrail End Treatments, Cable Guiderail, Permanent Barrier, Bridge Rail, End Treatments, etc.
- No recorded crashes involving Category 2 devices tested according to NCHRP 350 involving a serious injury or fatality
- If a recurring problem occurs with a product, we'll simply unapproved it and require it be retested according to MASH-16 standards
- While we understand there is some RISK with this approach, it's our position its very minimal and well defended with crash data or the lack thereof involving injuries from impacts with the Category 2 and Category 4 devices.



## *NCDOT Product Approval Process*

1. All New Products must be registered through the Statewide Product APL Database with Natalie Roskam
2. Once they're registered, we are notified by Natalie's group for a recommendation within 2 weeks
3. If the product meets our Specification, is approved in either Virginia or South Carolina it's automatically approved in NC
4. If not approved in either of those States, then we'll go to "Provisional Approval" to evaluate it's performance in the field

## *Work Zone “Standard” Pavement Markings*

Retroreflectivity after 1 month (Scanned August 26, 2017)

- The Retroreflectivity readings are shown below in chart
- The white material averaged together meets the Retro Requirement (225) according to Table 1205-7
- The Yellow material is 47 points below the Retro Requirement (200) according to Table 1205-7
- The Performance Pavement Markings at 1 year exceed the initial retroreflectivity of the Standard Paint

Material	Northbound	Southbound	Overall Ave	Retro Reqmts according to Table 1205-7	WZPM 1 YR Ave
White Edgelines	236	200	<b>218</b>	<b>225</b>	<b>272</b>
White Skips	272	192	<b>232</b>	<b>225</b>	<b>312</b>
Yellow Edgelines	179	153	<b>153</b>	<b>200</b>	<b>229</b>