

MoDOT – MASH Implementation

The Missouri Department of Transportation (MoDOT) will use the following criterion for assessment and approval of roadside safety hardware.

1. Use MASH compliant products.
2. If no MASH compliant products are available, MoDOT will use NCHRP 350 compliant products.
3. If MASH or NCHRP 350 products are not available, MoDOT will seek technical expertise from an accredited testing facility (Midwest Roadside Safety Facility (MwRSF) or Texas A&M Transportation Institute (TTI)) to:
 - Provide information on other pooled fund roadside products,
 - Provide research of other compliant products
 - Provide crash testing of products.
4. When crash testing is not feasible, MoDOT will consider using products based on engineering judgment and/or MoDOT in-service performance (i.e. ease of installation, maintenance, cost of repair/replacement, etc.).

A MoDOT multidisciplinary team will evaluate each product for inclusion on National Highway System (NHS) roadways.

More specifically, MoDOT has developed the following processes for assessment and approval of new or modified roadside safety hardware products.

Assessment and Approval of New Products

Non-Proprietary Items: these are typically products developed through pooled fund efforts and are not manufacturer specific brands and/or patented products.

1. The multidisciplinary team will assess the following:
 - Research and development of products when developed at MwRSF or TTI.
 - Product information and specifications, and installation manual if the system is developed at another facility.
 - Crash test videos and reports. Crash tests must be performed by an accredited crash test facility. All applicable crash tests for the product as defined in MASH 2016 must be performed.
 - MoDOT in-service performance evaluations (if available). If data is not available at the time of review, the product may be reviewed again when data is available. Crash tests will not need to be rerun for the product to be reevaluated.



2. The multidisciplinary team will also assess the products for compatibility with existing systems and other potential in-service issues.

The multidisciplinary team will then document findings and recommend (or not recommend) the product for approval and use on MoDOT's NHS roadways.

Proprietary Items: these are typically manufacturer specific brands or patented products.

1. The multidisciplinary team will assess products submitted directly by a manufacturer for the following:
 - Product information, specifications, and installation manual.
 - Crash test information including: videos, reports, and technical documentation. Crash testing must be provided by an accredited testing facility and meet all MASH testing criteria for the product.
 - MoDOT in-service performance evaluations (if available). If data is not available at the time of review, the product may be reviewed again when data is available. Crash tests will not need to be rerun for the product to be reevaluated.
2. The multidisciplinary team will also assess the products for compatibility with existing systems and other potential in-service issues.

The multidisciplinary team will then document findings and recommend (or not recommend) the product for approval and use on MoDOT's NHS roadways. If the product is approved, MoDOT will send a letter to the manufacturer stating its approval. If the product is not approved, MoDOT will send a letter to the manufacturer stating the reason for non-approval.

Assessment and Approval of Modified Products

Non-Proprietary Items: these are typically products that were previously developed through pooled fund efforts and are not manufacturer specific brands and/or patented products.

1. The multidisciplinary team will assess the following:
 - Who initiated the product modification (pooled fund development, other state, or MoDOT initiated).
 - Reason for modification, new information, and specifications.
 - If additional crash testing is required, the multidisciplinary team will review new crash test videos and reports. Crash tests must be performed by an accredited crash test facility. All applicable crash tests for the product as defined in MASH 2016 must be performed.
 - The multidisciplinary team will determine if crash testing is not feasible. MoDOT will consider using modified products based on engineering judgment.
 - Additional MoDOT in-service performance evaluations may be needed. If data is not available at the time of modification, the product may be reviewed again when data is available.
2. The multidisciplinary team will also assess the modified product for compatibility with

existing systems and other potential in-service issues.

The multidisciplinary team will document findings and recommend (or not recommend) the product for approval and use on MoDOT's NHS roadways.

Proprietary Items: these are typically manufacturer specific brands or patented products.

1. The multidisciplinary team will assess the modified products submitted by the manufacturer for the following:
 - Reason for modification, new product information, specifications, and installation manual.
 - If additional crash testing is required, the manufacturer will be responsible for retesting.
 - The multidisciplinary team will review new crash test videos and reports. Crash tests must be performed by an accredited crash test facility. All applicable crash tests for the product as defined in MASH 2016 must be performed.
 - The multidisciplinary team will determine if crash testing is not feasible. MoDOT will consider using modified products based on engineering judgment.
 - Additional MoDOT in-service performance evaluations may be needed. If data is not available at the time of modification, the product may be reviewed again when data is available.
2. The multidisciplinary team will also assess the modified products for compatibility with existing systems and other potential in-service issues.

The multidisciplinary team will then document findings and recommend (or not recommend) the modified product for approval and use on MoDOT's NHS roadways. If the modified product is approved, MoDOT will send a letter to the manufacturer stating its approval. If the modified product is not approved, MoDOT will send a letter to the manufacturer stating the reason for non-approval. This could lead to the removal of the previously approved product if no longer available without the modification.

All evaluated roadside safety device documentation will be maintained by the multidisciplinary team. An approved products list will also be available.