

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Date: 10/20/2021

Lead Agency (FHWA or State DOT): [Washington State Department of Transportation](#)

INSTRUCTIONS:

Project Managers and/or research project investigators should complete a quarterly progress report for each calendar quarter during which the projects are active. Please provide a project schedule status of the research activities tied to each task that is defined in the proposal; a percentage completion of each task; a concise discussion (2 or 3 sentences) of the current status, including accomplishments and problems encountered, if any. List all tasks, even if no work was done during this period.

Transportation Pooled Fund Program Project # TPF-5(343) Roadside Safety Research for MASH Implementation	Transportation Pooled Fund Program - Report Period: <input type="checkbox"/> Quarter 1 (January 1 – March 31) <input type="checkbox"/> Quarter 2 (April 1 – June 30) <input checked="" type="checkbox"/> Quarter 3 (July 1 – September 30) <input type="checkbox"/> Quarter 4 (October 1 – December 31)	
Project Title: MASH Implementation		
Name of Project Manager(s): Mustafa Mohamedali	Phone Number: 360-704-6307	E-Mail: mohamem@wsdot.wa.gov
Lead Agency Project ID: N/A	Other Project ID (i.e., contract #): GCB	Project Start Date: 2016
Original Project End Date: Dec 31, 2021	Current Project End Date: Dec 31, 2023	Number of Extensions: 1

Project schedule status:

On schedule
 On revised schedule
 Ahead of schedule
 Behind schedule

<https://www.roadsidepooledfund.org/>.

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Percentage of Work Completed to Date
Annually about \$1,100,000	\$960,000	87%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
33%	\$358,000	75%

Project Description:

The Roadside Safety Research for MASH Implementation program is designed to conduct research on roadside safety priorities for research projects aligned with the MASH implementation completion schedule. The compliance dates for MASH roadside safety hardware are:

- December 31, 2017: W-beam barriers and cast-in-place concrete barriers
- June 30, 2018: W-beam tangent terminals
- December 31, 2018: Crash cushions
- December 31, 2019: Bridge rails, transitions, all other longitudinal barriers (including portable barriers installed permanently), all other terminals, sign supports, other breakaway hardware, cable barriers, cable barrier terminals
- Also, temporary work zone devices, including portable barriers, manufactured after December 31, 2019, must have been successfully tested to the 2016 edition of MASH.

Washington State Department of Transportation is the lead agency for this pooled fund study. Texas A&M Transportation Institute (TTI) is the lead Principal Investigator and crash test site. A website is available to those interested in completed and ongoing research as well as the work plan for new inquiries.

<https://www.roadsidepooledfund.org/>

Progress these Quarters (includes meetings, work plan status, contract status, significant progress, etc.):

The following tasks were completed in this quarter:

- The Fall 2021 Roadside Safety Pooled Fund Annual Meeting was held virtually on September 14, 16, 21, 22, and 23, 2021. During this meeting, the 2022 projects for testing and evaluation at TTI were discussed and prioritized.
- The following tasks were approved prior to the prioritized projects listed below:
 1. 2022 Administrative Support
 2. 2022 Program Development and MASH Coordination Effort
 3. 2022 Engineering Support Services and Recommendations for Roadside Safety Issues/Problems for Member States
 4. 2022 Travel for Annual Meeting
- The following projects were prioritized during the meeting, and proposals are being developed for the following:
 1. MASH 4-12 Evaluation of a Fence Mounted System for Attachments to Concrete Bridge Barrier
 2. MASH TL-3 Transition Design with a Storm Drain Inlet (continuation project)
 3. Multi-Directional Base Design for Steel Beam Non-Proprietary Large Sign Supports: Phase II
 4. Crash Testing a Guardrail on 1:1 Slope
 5. Crashworthy Pedestrian and Small Traffic Signals
- The following new Task Orders were issued this quarter:
 1. T4541-EN: Development of a MASH TL-3 Compliant Portable Concrete Barrier System
- Work continued on the following projects:
 1. T4541-CV: Testing and Evaluation of the MGS System with Maximum Flare at MASH Test
 2. T4541-CZ: Thrie/W-Beam/Tubular Barrier Gap Rail for MASH TL-3
 3. T4541-DJ: Testing and Evaluation of Large Signs Slipbase Support on Slope at MASH TL-3 Impact Conditions
 4. T4541-DV: Study of Acceptable Sidewalk Heights and Widths
 5. T4541-DW: Design and Testing of a Thrie-Beam Guardrail System at a Fixed Object
 6. T4541-DX: Design and Testing of a MASH TL-3 Thrie-Beam System for Roadside and Median Applications
 7. T4541-DY: MASH TL-3 Transition Design with a Storm Drain Inlet
 8. T4541-DZ: Determination of the Length-of-Need for Guardrail without Anchorage: Phase 2
 9. T4541-EA: Development of a Thrie-Beam Retrofit for Upgrading Obsolete Bridge Railings
 10. T4541-EB: 2021 Administrative Support
 11. T4541-EC: Develop Non-Proprietary MASH-Compliant Three-Pound and Four-Pound Post Systems
 12. T4541-ED: Develop Guidelines for Attaching MASH-Compliant Thrie-Beam Transitions to Rigid Concrete Barriers Other than the Rigid Barrier Tested when Evaluating the Thrie-Beam Transition
 13. T4541-EE: Exploration into Variations in Beam Guard Approach Transitions to Rigid Barrier

14. T4541-EF: Engineering Support Services and Recommendations for Roadside Safety Issues/Problems for Member States
15. T4541-EG: 2021 Program Development and MASH Coordination Effort
16. T4541-EK: Transition Between Guardrail and Tangent Anchored Portable Concrete Barriers
17. T4541-EL: Testing Type III Barricades with Aluminum Panels and Mounted Signs
18. T4541-EM: Multi-Directional Base Design for Steel Beam Non-Proprietary Large Sign Supports: Phase I

- Work was completed on the following projects:
 1. T4541-DL: A Study of Guardrail Placement on 6:1 Slope
 2. T4541-DO: Shorter TL-3 MASH W-Beam Transition
 3. T4541-DQ: 2019 MASH Coordination Effort

Additional project information and project activities is available by visiting the pooled fund web site:
<https://www.roadsidepooledfund.org/>.

Anticipated work next quarter:

- Continue carrying out the research plan for testing projects approved at the Fall 2020 Roadside Safety Pooled Fund Annual Meeting.
- Plan the logistics, agenda, etc. of the Fall 2021 Roadside Safety Pooled Fund Meeting.

Significant Results:

Per progress report above

Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might affect the completion of the project within the time, scope and fiscal constraints set forth in the agreement, along with recommended solutions to those problems).

No issues at this time.

Potential Implementation:

Implementation ongoing following successful tests for MASH compliance