

## TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Date: [4/15/2022](#)

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.*

<b>Transportation Pooled Fund Program Project #</b>  <a href="#">TPF-5(343)</a>	<b>Transportation Pooled Fund Program - Report Period:</b> <input checked="" type="checkbox"/> Quarter 1 (January 1 – March 31) <input type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input type="checkbox"/> Quarter 4 (October 1 – December 31)	
<b>Project Title:</b> <a href="#">Roadside Safety Research for MASH Implementation</a>		
<b>Name of Project Manager(s):</b> <a href="#">Mustafa Mohamedali</a>	<b>Phone Number:</b> <a href="#">360-704-6307</a>	<b>E-Mail:</b> <a href="mailto:mohamem@wsdot.wa.gov">mohamem@wsdot.wa.gov</a>
<b>Lead Agency Project ID:</b> <a href="#">T4541</a>	<b>Other Project ID (i.e., contract #):</b> <a href="#">GCB</a>	<b>Project Start Date:</b> <a href="#">2016</a>
<b>Original Project End Date:</b> <a href="#">Dec 31, 2021</a>	<b>Current Project End Date:</b> <a href="#">Dec 31, 2023</a>	<b>Number of Extensions:</b> <a href="#">1</a>

Project schedule status:

On schedule     
  On revised schedule     
  Ahead of schedule     
  Behind schedule

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

Overall Project Statistics:

Total Currently Under Contract (this changes month to month)	Total Billed to Date	Percentage Contracted Value Billed to Date
<a href="#">\$5,335,922</a>	<a href="#">\$3,462,886 (includes projects rolled over from 2020)</a>	<a href="#">65%</a>

**Quarterly** Project Statistics:

Total Project Expenses as Percentage Contracted in This Quarter	Total Amount of Funds Expended This Quarter	Total Value of Projects Contracted this Quarter
<a href="#">70%</a>	<a href="#">\$489,714</a>	<a href="#">\$699,543</a>

**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:

- No new Task Orders were issued this quarter.
- Work continued on the following projects:
  1. T4541-CV: Testing and Evaluation of the MGS System with Maximum Flare at MASH Test
  2. T4541-DJ: Testing and Evaluation of Large Signs Slipbase Support on Slope at MASH TL-3 Impact Conditions
  3. T4541-DY: MASH TL-3 Transition Design with a Storm Drain Inlet
  4. T4541-DZ: Determination of the Length-of-Need for Guardrail without Anchorage: Phase 2
  5. T4541-EB: 2021 Administrative Support
  6. T4541-EC: Develop Non-Proprietary MASH-Compliant Three-Pound and Four-Pound Post Systems
  7. 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
  8. T4541-EE: Exploration into Variations in Beam Guard Approach Transitions to Rigid Barrier
  9. T4541-EG: 2021 Program Development and MASH Coordination Effort
  10. T4541-EK: Transition Between Guardrail and Tangent Anchored Portable Concrete Barriers
  11. T4541-EL: Testing Type III Barricades with Aluminum Panels and Mounted Signs
  12. 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-DW: Design and Testing of a Thrie-Beam Guardrail System at a Fixed Object
  2. T4541-DX: Design and Testing of a MASH TL-3 Thrie-Beam System for Roadside and Median Applications
  3. T4541-EF: Engineering Support Services and Recommendations for Roadside Safety Issues/Problems for Member States
  4. T4541-CZ: Thrie/W-Beam/Tubular Barrier Gap Rail for MASH TL-3
  - T4541-DV: Study of Acceptable Sidewalk Heights and Widths

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 2022 Roadside Safety Pooled Fund Annual Meeting.
- Plan the logistics, agenda, etc. of the Fall 2023 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

**Progress occurred on the supplemental projects executed under this master agreement:**

The following tasks were completed in this quarter:

- No new Task Orders were issued this quarter.
- Work continued on the following projects:
  1. T4541-EI: Crashworthy Enhanced Highway Sign Assemblies
  2. T4541-EJ: Design and Evaluation of a MASH TL-2 Compliant Permanent Concrete Low Profile Barrier
  3. T4541-EN: Development of a MASH TL-3 Compliant Portable Concrete Barrier System
  4. T4541-EO: Washington State I-90 Snoqualmie Pass Barrier Gap Design, Drafting, and Detailing
  5. T4541-EP: Evaluation of Long-Span W-Beam Guardrail in Front of Fall-Protection Rail on Concrete Culverts
- Work was completed on the following projects:
  1. T4541-EH: MASH TL-4 Crash Testing of Bicycle Railing on Constant Slope Parapet