TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Colorado Department of Transportation

INSTRUCTIONS:
Lead Agency contacts 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(541)*	**Transportation Pooled Fund Program - Report Period:** ☐Quarter 1 (January 1 – March 31) ☒Quarter 2 (April 1 – June 30) ☐Quarter 3 (July 1 – September 30) ☐Quarter 4 (October 1 – December 31)
TPF Study Number and Title: 5(541) Post-Wildfire Debris Flow	

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Lead Agency Project ID: TPF 5(541)	**Other Project ID (i.e., contract #):**	**Project Start Date:** 02/09/2026
Original Project Start Date:	**Original Project End Date:**	**If Extension has been requested, updated project End Date:**

Project schedule status:

☒ On schedule ☐ On revised schedule ☐ Ahead of schedule ☐ Behind schedule

Overall Project Statistics:

Total Project Budget	Total Funds Expended This Quarter	Percentage of Work Completed to Date
$324,840.68	$48,572.62	15%

Project Description:
Wildfires have been posing significant problems for many states in the US in recent years. In addition to the immediate danger and destruction to the natural environment, insurable properties, and public infrastructure, other longer-term risks persist in post-wildfire conditions. The natural diversity of the watersheds and channels can be compromised due to loss of woody material and vegetation, and soil nutrients and cohesion are diminished in areas of particularly high burn intensity, sometimes resulting in hydrophobic soils. The post-wildfire condition/susceptibility to debris flows and increased erosional patterns can pose significant risks to transportation infrastructure and lead to increased disruption and cost due to road closures and repair/replacement of pavement, subgrade, culverts, and embankment fill.

Although much research has been conducted, and continues to be conducted, on estimating the risks and degree of damage posed by post-wildfire debris flows, the applicability of results is often geographically limited. To account for this, results must often be extrapolated to other areas which may not have sufficiently similar characteristics. For example, data collected and calibrated to temperate grasslands environments may be extrapolated to a canyon environment with flashflood, desert hydrologic patterns resulting in a poor prediction. With the increased frequency of these fires, as well as increased risk to life and property in the paths of these types of events, additional effort is warranted to remediate areas prone to post-wildfire debris flows and reduce the impact of damage from future wildfires.

Objectives

This is a multi-year pooled-fund research project with the primary purpose of enhancing prediction, mitigation, and response to post-wildfire debris flows threatening transportation infrastructure in the Western United States. The study's approach is to leverage a literature review of post-wildfire geohazard triggering mechanisms, case histories, methodologies for GIS-based hazard and risk assessment, and mitigation strategies to develop workflows and resources tailored to state departments of transportation with assets in fire-prone landscapes.

Objectives include:

1. Characterize post-wildfire geohazards that affect transportation infrastructure in diverse parts of the Western United States. With assistance from the member states, compile case histories that include triggering rainfall conditions, burn severity, soil and forest types, watershed morphology, and impacts to transportation infrastructure.
2. Tailor and build upon existing GIS-based resources for evaluating wildfire extent and severity, hazard and runout mapping, and overlapping transportation infrastructure assets to meet the needs of pooled-fund member states.
3. Develop a compendium of existing tools currently in use (or in development) that are used to assess hazard and impacts of post-wildfire geohazards.
4. Develop a compendium of remediation approaches that can be applied to burned areas to mitigate post-wildfire geohazard risk.
5. Provide guidelines on the use of the tools and approaches compiled in the above-mentioned compendiums.
6. Identify the existing data gaps in the current state of practice and recommend directions to address these gaps.

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):

- Kick-off meeting with Principal Investigator and member states.
- Initial Research Brief issued.
- Draft Data Management issued.
- Ongoing project-related correspondence.
- Literature Review – work has begun to compile this document; research; associated correspondence.

Anticipated work next quarter:

Complete Literature Review.

Significant Results:

None to report.

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).

None to report.

Potential Implementation:

It is anticipated that the outcomes of this study will be implemented and used by all member states. Upon completion of this study, other states may also decide to use and adopt the outcomes.