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		
Lead Agency Contact: Thien Tran	**Lead Agency Phone Number:** (303) 757-9522	**Lead Agency E-Mail** Thien.Tran@state.co.us
Lead Agency Project ID: TPF 5(541)	**Other Project ID (i.e., contract #):** Click or tap here to enter text.	**Project Start Date:** N/A
Original Project Start Date: Click or tap to enter a date.	**Original Project End Date:** Click or tap to enter a date.	**If Extension has been requested, updated project End Date:** Click or tap to enter a 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
$400,000.00	$0.00	1%

Project Description:

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

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

Objectives

The primary objective of this proposed pooled-fund project is to address post-wildfire debris-flow issues. Outcomes will be:

- Tailoring and building upon the existing dynamic GIS-based burned-index map of burned areas correlated with transportation infrastructure that would be impacted by debris flow to meet the needs of pooled-fund member state
- Surveying past observed post-wildfire debris activity which affected transportation infrastructure in diverse parts of Western United States. These surveys will take particular note of the type(s) of precipitation patterns that triggered debris flows – variables such as rainfall intensity and duration, monsoonal vs. steady seasonal rain; and the topogr of the watershed (described with standard variables such as valley slope, channel slope, area, min/max elevations
- Developing a compendium of the tools that are used to predict the potential of debris flow.
- Developing a compendium of remediation approaches that can be applied to burned areas, depending on the situa
- Providing guidelines on the use of the tools and approaches compiled in the above-mentioned compendiums.
- Addressing some of the existing data gaps in current research on this issue.

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

- Bids received.
- Sent to participant states for rating based on qualification criteria set in the IFB.
- Working with procurement to evaluate bids for final selection.

Anticipated work next quarter:

- Selection of the principle investigator.
- Starting procurement/contracting process

Significant Results:

None at this time.

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).

Potential Implementation:

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