

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): [California Department of Transportation \(Caltrans\)](#)

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(357)		Transportation Pooled Fund Program - Report Period: <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)	
Project Title: Connecting the DOTs: Implementing ShakeCast Across Multiple State Departments of Transportation for Rapid Post-Earthquake Response			
Name of Project Manager(s): Sharon Yen	Phone Number: 916-208-7771	E-Mail Sharon.yen@dot.ca.gov	
Lead Agency Project ID: Task ID 2949, Project ID P1132	Other Project ID (i.e., contract #): Contract #65A0658 (Phase 1) Contract #65A0812 (Phase 2) Contract #65A0999 (Phase 3)	Project Start Date: 11/01/17	
Original Project End Date: 6/30/20	Current Project End Date: 9/30/24	Number of Extensions: 2	

Project schedule status:

On schedule
 On revised schedule
 Ahead of schedule
 Behind schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Percentage of Work Completed to Date
\$450,000 (Phase 1 – 11/1/17 to 10/22/20)	\$430,830	95%
\$225,000 (Phase 2 – 4/13/21 to 9/30/22)	\$312,500	100%
\$277,500 (Phase 3 – 10/1/22 to 9/30/24)	\$0	13%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$0	\$0	100%
\$60,863	\$60,863	100%
\$0	\$0	13%

Project Description:

The California Department of Transportation (Caltrans) is organizing and leading the TPF project, "Connecting the DOTs: Implementing ShakeCast Across Multiple State Departments of Transportation for Rapid Post-Earthquake Response," study number TPF-5(357) (<http://www.pooledfund.org/Details/Study/609>). Ten State Departments of Transportation (DOT) have committed funds and are key partners on this multi-state DOT project.

ShakeCast is a web-based tool that delivers an assessment of potential impacts to highway structures within minutes of an earthquake, raising situational awareness and improving emergency response for executive decision makers, traffic management center operators, and maintenance staff.

This TPF project seeks to achieve two primary objectives. First, it will bring participating DOTs into full ShakeCast operation for post-earthquake assessment of state and local bridge inventories. Second, the project will provide a mechanism to actively engage representatives from state DOTs with common interests in implementing and expanding the application of ShakeCast technologies to improve emergency response capabilities.

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

Project quarterly meeting held on 02/06/2023.

Project Action Items:

1. All states to review the new 2022 NBI workbook for inventory update.
2. All states to consult with their own IT on requirements of system migration using Docker or other platform after TPF ends.

[Work Progress](#)

DOTs	Phase II	Task Description (10/1/2022 to 12/31/2022)
California	Task 1	USGS ShakeCast hosting service
	Task 2	EQ response (ShakeCast product QC); ShakeCast Q/A; M6.4 Ferndale response
	Task 3	
Idaho	Task 1	USGS ShakeCast hosting service
	Task 2	EQ response (ShakeCast product QC).
	Task 3	
Illinois	Task 1	USGS ShakeCast hosting service
	Task 2	EQ response (ShakeCast product QC); Scenario ShakeMaps for four New Madrid scenarios.
	Task 3	
Missouri	Task 1	USGS ShakeCast hosting service
	Task 2	EQ response (ShakeCast product QC); ShakeCast Q/A; Scenario ShakeMaps and kmz for exercise visual;
	Task 3	
Oklahoma	Task 1	USGS ShakeCast hosting service
	Task 2	EQ response (ShakeCast product QC);
	Task 3	
Oregon	Task 1	USGS ShakeCast hosting service
	Task 2	EQ response (ShakeCast product QC); ShakeCast Q/A; Monitoring region update after M6.4 Ferndale event
	Task 3	
South Carolina	Task 1	USGS ShakeCast hosting service
	Task 2	EQ response (ShakeCast product QC);

	Task 3	
Texas	Task 1	USGS ShakeCast hosting service
	Task 2	EQ response (ShakeCast product QC); Conference call on ShakeCast Q/A and response for M5.3 Mentone/Midland earthquakes
	Task 3	
Washington	Task 1	USGS ShakeCast hosting service
	Task 2	EQ response (ShakeCast product QC); ShakeCast Q/A; Conference call on Bridge inventory update / QC
	Task 3	
Utah	Task 1	USGS ShakeCast hosting service
	Task 2	EQ response (ShakeCast product QC);
	Task 3	
FHWA	Task 1	USGS ShakeCast hosting service; Infobridge pyCast test server
	Task 2	EQ response (ShakeCast product QC); ShakeCast Q/A; Infobridge product tuning
	Task 3	Infobridge NBI API and Impact csv (w Hazus DS2); automated workflow for pyCast product posting
USGS		<ul style="list-style-type: none"> * pyCast Testing for DOT server instances, Ground Failure docker service for site probabilities * ShakeCast inventory workbook update to integrate bridge inventory, mapping, and eq response tasks. Reloading of workbook (NBI2022) is underway * GSM_only validation for ShakeCast triggering (continue testing)

Anticipated work next quarter:

The following work is anticipated for next quarter:

- USGS to continue the effort in providing technical support and assistance to participating DOT partners.
- USGS to continue the effort to work on providing ShakeCast cloud hosting to participating DOTs.
- ShakeCast team to continue communications with other DOTs about ShakeCast and to join the TPF.

System features development and State specific system functionality improvement is an ongoing effort for this project.

The next project quarterly meeting is scheduled on 5/08/2023.

States to review and update workbook if necessarily.

States to work with USGS to make sure they have the appropriate event magnitude triggering threshold.

Significant Results:

Nothing to report 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).

Not thing to report at this time.

Potential Implementation:

Nothing to report at this time.