

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Virginia DOT (VDOT)

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 # <i>(i.e., SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i> TPF-5(385)		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: Pavement Structural Evaluation with Traffic Speed Deflection Devices (TSDDs)			
Name of Project Manager(s): Brian Diefenderfer	Phone Number: (434) 293-1944	E-Mail brian.diefenderfer@vdot.virginia.gov	
Lead Agency Project ID:	Other Project ID (i.e., contract #): 449904 (VT)	Project Start Date: 10/15/2018	
Original Project End Date: 9/30/2021	Current Project End Date: 10/31/2023	Number of Extensions: --	

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
\$6,002,000*	\$ 3,361,214	56%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$317,825(6%)	\$317,825	56%

* Committed (including 2 transfers from FHWA EFL); the actual contracted budget is \$4,445,996 (VTTI)

Project Description:

The objective of the pooled-fund is to establish a research consortium focused on providing participating agencies the opportunity to test available TSDDs as part of a demonstration project and providing guidelines on how to specify collection and use data collected with TSDDs. Specific tasks within this multi-year program will be developed in cooperation with the consortium participants.

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

- Conducted demonstrations in Wisconsin, Michigan, Arkansas, Tennessee, Illinois, and new Mexico
- Organized and delivered fifth webinar in August
- Held the last subgroup initial meeting
- Conducted test trials of the new TSD at MnRoad
- Continued work on case studies
- Continued work on Matlab application for analyzing TSD data
- Started Eastern Federal Lands special project on analyzing TSD and GPR data
- Continued development of *Guideline for Pavement Management Implementation of TSD* (Chapters 1, 2, 3, and 4 completed; total 5 chapters)

Anticipated work next quarter:

- Organize 6th webinar in November
- Organize and hold the second set of subgroup meetings
- Analyze results of MnRoad test trials
- Prepare presentation of the *Guideline for Pavement Management Implementation of TSD*
- Plan for the pooled fund meeting in January 2022
- Complete Chapter 5 of *Guideline for Pavement Management Implementation of TSD*
- Work on the document *Guidelines and Specifications for TSDD Data Collection*
- Continue work on developing and documenting the case studies

Significant Results:

- Two papers submitted and accepted for presentation at the January 2022 meeting of the Transportation Research Board:
 - Ten Years of TSD Research In the United States – A Review (Paper No 22-03743)
 - Case Studies On Corridor-Level Structural Evaluation Of Flexible Pavements Using A Traffic Speed Deflectometer (Paper No. 22-03561)
- Submitted paper on detection of weak joints from TSD measurements using reweighted L1 minimization to the *International Journal of Pavement Engineering*

Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might 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: