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.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX)* **TPF-5(463) Pavement Surface Properties Consortium: Phase III - Managing the Pavement Properties for Improved Safety**	**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)

Project Title: Pavement Surface Properties Consortium Phase III		
Name of Project Manager(s): Harikrishnan Nair	**Phone Number:** (434) 293-1948	**E-Mail** harikrishnan. nair@VDOT.Virginia.gov
Lead Agency Project ID: 82650	**Other Project ID (i.e., contract #):** 467191 (VT)	**Project Start Date:** 1/01/2021
Original Project End Date: 9/30/2026	**Current Project End Date:** 9/30/2026	**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
$1,750,000*	$606,063	35%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
$105,248 (6.0%)	$105,248	35%

* Committed; includes direct transfer from Arkansas DOT. The actual contracted budget is $939,981 (VTTI).

Project Description:

This applied research effort focuses on enhancing the level of service provided by the roadway transportation system by optimizing pavement surface characteristics. Phases I and II included regular verification and validation of the participants' equipment, opportunities for technology transfer, and the accumulation of a significant body of knowledge on the measurement of pavement surface properties and the integration of these measurements into the next generation of pavement asset management systems. The objective this phase is: (1) to continuing to support the implementation of asset management approaches and tools that help improve the safety of our road networks by reducing the number of crashes and related fatalities, and (2) to bring pavement design and evaluation experts together with maintenance and safety professionals to maximize the contribution of the pavement community Towards Zero Deaths on US highways.

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

- The pooled fund TPF-5(463)/CSRI participated in the *103rd Annual Meeting of the Transportation Research Board,* January 7-11, 2024, in Washington, D.C. The pooled fund/CSRI helped organize the CPFM workshop that took place on Sunday January 7. In this workshop, several members (4) from the Pooled Fund made presentations and were supported by the following TRB standing committees: AKP50, ACS20, and AKP10. The workshop was attended by more than 100 attendees.
- Also representing the pooled fund, Edgar de León Izeppi presented the following updates to the TRB AKP50 Committee about the TPF-5(345/463) Managing the Pavement Properties for Improved Safety Pooled Fund, and the Task Group V – Safety, Environmental, on Wednesday January 10, 2024.
  - The pooled fund is actively participating in a FHWA projects which involves the use of the consortium's CFME to conduct short demonstration on the potential of the technology to Intersection Safety Focus States and providing technical assistance, among other tasks. These included work in Arizona and Nevada in 2023 and Florida and Colorado in 2024.
  - The pooled fund surface properties "rodeo" will not meet in 2024 because the CFPM device is being retrofitted with a new line laser for measuring macrotexture. Initial results of the new line laser measurements from the 2023 Rodeo in ICART, Illinois were reviewed and discussed with the TRB Committee. The full results will be presented in RPUG 2024.
  - Pooled Fund members will instead be invited to participate in the 2nd International Roadside Safety TRB Conference which will be held in Orlando, Florida, in June 2024. FHWA is working with the Texas Transportation Institute to upgrade their friction testing installations to hold the next Rodeo in 2025 at these premises. TPF-5(463) will be helping with the implementation of the test track to include appropriate certification of CPFM devices.
  - During TRB, TPF-5(463)/FHWA/CSRI also organized a meeting of the Continuous Pavement Friction Measurement (CPFM) project/Peer Exchange on site/virtual meeting on January 10th to discuss pending and new topics with all the states where CPFM has made demonstrations to date.
- Edgar de León Izeppi participated in the ATSSA 54th Annual Convention and Traffic Expo in San Diego, California on February 3rd, 2024, about the friction testing/research project in the HFST council. He presented the FHWA demonstration project and the improvements to the macrotexture system that the SCRIM device will have in the future, and the preliminary results of the Rodeo in 2023 in ICART, Illinois. He also summarized some of the results of the demonstration performed in Arizona, especially the results obtained in the measurement of several HFST sections in Maricopa County.
- The Pooled Fund TAC members held one virtual meeting on February 22 to discuss the following topics:
  - On February 22, team members received an update on the travel arrangements for the TAC members attending the RPUG and TRB Roadside Safety Conference. At this meeting the members agreed on allowing two pooled fund members to attend RPUG in Florida in April/May and one pooled fund member to attend the Roadside Safety Conference in Florida in June.
  - CSRI will continue to work on the presentation of the results of the Rodeo done at ICART in April 2023, to be presented in RPUG this year.

Anticipated work next quarter:

- The Rodeo results will be processed and analyzed and presented to the TAC members following its completion.
- The FHWA SCRIM will be used for the Arkansas DOT project to continue the data collection. CSRI will start the second phase of the measurements that will start in May 2024.
- Schedule an online meeting with the pooled fund members to review the Rodeo 2023 results and an in-person TAC meeting in April at the RPUG conference in Saint Augustine, Florida.

Significant Results:

The following papers were presented at the *103rd Annual Meeting of the Transportation Research Board*, Washington, DC, January 7-2024*:*

- ✓ McCarthy, R., Flintsch, G.W., de León Izeppi, E. (2024). "Estimating Potential Crash Reduction for Friction Enhancement Treatments."
- ✓ Bazmara, B., Flintsch, G.W., de León Izeppi, E., Katicha, S. (2024). Using the Estimated Available Friction at the Posted Speed as a Pavement Safety Performance Measure on Freeways."
- ✓ McCarthy, R., Flintsch, G.W., de León Izeppi, E. (2024). "Predicting Crash Reduction with Crash Modification Factors for Friction and Macrotexture."
- ✓ Flintsch , G.W. (2024). "Using Information from Vehicles to Assess Asset Condition," invited presentation

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: