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(513) Emerging Data Streams for Pavement (Ass Health Monitoring and Management**	**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 Structural Evaluation with Traffic Speed Deflection Devices (TSDDs)

Name of Project Manager(s): Hari Nair	**Phone Number:** (434) 493-3147	**E-Mail** Harikrishnan.Nair@VDOT.Virginia.gov
Lead Agency Project ID:	**Other Project ID (i.e., contract #):** 467730 (VT)	**Project Start Date:** 09/01/2023
Original Project End Date: 09/30/2028	**Current Project End Date:** 09/30/2028	**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
$600,000*	$ 30,000	5%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
$15,000 (3%)	$15,000	5%

* Committed; the actual contracted budget is $120,000 (VTTI)

Project Description:

The main objective of the pooled-fund program of research is to identify, test and evaluate emerging big data stream that may enhance the process we use to evaluate the performance and manage our pavement assets. The technologies considered will include at a minimum, vehicle response data collected by connected and automated vehicles, smart infrastructure sensors (e.g., internet of things), mobile devices and e-construction and BIM technologies (e.g., digital twins)..

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

- Completed a literature review on the use of vehicle-based data collection for detecting potholes and estimating pavement roughness, friction and general condition.
- Investigated various ways for assessing emerging technologies and determining their value . The study identified the Technology Readiness Levels (TRL) developed by NASA (Manning, 2023) and the the one developed by the European INFRACOMS project (Innovative and Future-proof Road Asset Condition Monitoring Systems) as the most applicable for this project. The later was developed specifically to help road agencies weigh better data/monitoring technological advancement.
- Obtained a sample of CV-estimated roughness data from one of the data providers that agreed to support the effort (NIRA Dynamics). The data include a selection of interstate, primary and secondary roads in the Richmond district of Virginia, where the provider had good coverage,
- Held a Technical Advisory Committee (TAC) during the *35th RPUG Annual Conference* (Road Profiler User Group) in Saint Augustin, Florida, , April 29 – May 2, 2024.

Anticipated work next quarter:

- Select a specific technology for initial assessment by the consortium.

Significant Results:

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: