

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(345) Pavement Surface Properties Consortium – A Research Program at the Virginia Smart Road Phase II		Transportation Pooled Fund Program - Report Period: <input type="checkbox"/> Quarter 1 (January 1 – March 31) <input checked="" 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: <p style="text-align: center;">Pavement Surface Properties Consortium: A Research Program</p>			
Name of Project Manager(s): Kevin Kenneth McGhee		Phone Number: (434) 293-1956	
Lead Agency Project ID: 82650		Other Project ID (i.e., contract #):	
Original Project End Date: 2/28/2022		Current Project End Date: 10/31/2022	
		E-Mail Kevin.McGhee@VDOT.Virginia.gov	
		Project Start Date: 5/19/2016	
		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
\$1,402,079*	\$1,244,126	89%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$102,362 (7%)	\$102,362	89%

* Committed; the actual budget contracted with VTTI is \$1,283,774

Project Description:

This program of research focuses on optimizing pavement surface texture characteristics. Phase I of the program demonstrated that a collaborative research program can provide an accessible and efficient way for highway agencies and other organizations to conduct research on pavement surface properties. This second phase focuses on addressing some of the emerging challenges in the evaluation of pavement surface properties and the changes needed to best support the next generation of pavement and asset management systems, including support for MAP21-related initiatives. The program includes the following main broad activities: (1) equipment comparisons; (2) technology transfer; and (3) research on emerging topics.

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

- CSRI participated in the *2022 Annual Road Profile Users' Group (RPUG) Conference* that was held at the Saratoga Hilton Hotel in Saratoga, NY from April 25th to 28th, 2022.
 - Kevin McGhee presented an update about the Transportation Pooled Fund TPF-5(345/463) Managing the Pavement Properties for Improved Safety Pooled Fund, on Tuesday April 26, 2022.
 - Edgar de León Izeppi gave the presentation "*Pavement Friction Management Program Demonstration*", a summary of the VTRC report 22-R14 about the work done with more than 7,000 miles of Continuous Pavement Friction Measurement (CPFM) in Virginia. This report continues the development and implementation of a continuous data-based pavement friction management (PFM) program by exploring use of other important pavement characteristics and applying the program to a larger geographic region, referred to as the Corridors of Statewide Significance (COSS).
 - The pooled fund also held the Technical Advisory Committee meeting on April 28th to discuss the Surface Properties "Rodeo" that will return in 2022 to the Smart Road. A task force was formed to define the scope and objectives of the Rodeo and it was informed that it will take place during the week of August 8 – 12, 2022. The Rodeo will include testing of friction devices (static, dynamic continuous, dynamic locked-wheel, dynamic vehicle measurements) and macrotexture devices (several static, walk behind, and dynamic).
 - Kevin McGhee and John Senger asked for the approval of the final TPF-5(345) budget modification (Task Order #7) that was distributed to the TAC before the meeting, which was approved unanimously.
 - During the TAC meeting the following presentations were also made:
 - Shane Underwood made a presentation of his research in North Carolina.
 - Ross McCarthy also made a presentation about the Illinois CPFM project.
 - John Senger and Ahmad Alhasan made a presentation on the Illinois Chip Seals project.
 - The following project RNS work was proposed for investigation: (a) Macrotexture for Safety and Raveling, (b) Guidance for HFST appropriate length, (c) Incorporating bauxite on Microsurfacing or modified asphalt emulsions, and (d) Adjusting the amount of epoxy depending on the macrotexture of the pavement surface.
- Missouri has expressed interest in doing a demonstration project with the pooled fund's CPFM and joined the pooled fund. Katy Harland will be the state representative in coordination with John Donahue.
- CSRI continued the processing and analysis of the data collected in Illinois.

Anticipated work next quarter:

- CSRI staff will continue to work with all the members of the pooled fund during the summer of 2022 to get ready for the Surface Properties Rodeo in Blacksburg on August 8-12. CSRI will also coordinate with all the vendors that pledged their intention to participate in the Rodeo with their equipment.
- All the pooled fund members will have a chance to participate in the formation of the task forces to develop the RNS approved to move forward. This groups will be formed during the Rodeo.

Significant Results:

The following journal paper has been published:

- ✓ Katicha, S., & Flintsch, G. (2022). Estimating the effect of friction on crash risk: Reducing the effect of omitted variable bias that results from spatial correlation. *Accident Analysis and Prevention*, 170. doi:[10.1016/j.aap.2022.106642](https://doi.org/10.1016/j.aap.2022.106642)

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: