

## 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.

<b>Transportation Pooled Fund Program Project #</b> <i>(i.e., SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i>  <b>TPF-5(345) Pavement Surface Properties Consortium          – A Research Program at the Virginia Smart Road          Phase II</b>		<b>Transportation Pooled Fund Program - Report Period:</b> <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)	
<b>Project Title:</b> <p style="text-align: center;"><b>Pavement Surface Properties Consortium: A Research Program</b></p>			
<b>Name of Project Manager(s):</b> Kevin Kenneth McGhee		<b>Phone Number:</b> (434) 293-1956	
<b>Lead Agency Project ID:</b> 82650		<b>Other Project ID (i.e., contract #):</b>	
<b>Original Project End Date:</b> 2/28/2022		<b>Current Project End Date:</b> 2/28/2022	
		<b>E-Mail</b> <a href="mailto:Kevin.McGhee@VDOT.Virginia.gov">Kevin.McGhee@VDOT.Virginia.gov</a>	
		<b>Project Start Date:</b> 5/19/2016	
		<b>Number of Extensions:</b> --	

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*	\$937,108	67%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$61,298 (4%)	\$61,293	67%

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

**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.):**

- The TAC members and other invited guest have held a virtual meetings in this quarter on the May 12, 2021.
- Edgar de León Izeppi continues to participate with the steering and technical committees to organize the Safer Roads 2023 Conference that will take place in Richmond, Virginia on May 2023. VTTI, VTRC, VDOT and other organizations have pledge their support for this conference and will continue working with ATSSA. The intention is for all TAC members to participate in this conference as was agreed before it was cancelled last year. The call for papers will be posted on May 27 at <https://s4.goeshow.com/atssa/src/2023/callforproposals.cfm>.
- As part of the Continuous Pavement Friction Measurement (CPFM), FHWA coordinated a demonstration of the CFM equipment in California on May 14 on about 200 miles of pavements in two districts between Interstates I-10 and I-215 (Riverside, Palm Springs area). These results will be presented to the DOT after merging the data with crashes and pavement surface mix types.
- Continued processing the data collected in Illinois. Plan to return in the fall to measure some sections in the Chicago area.
- Two new projects started using the CFM equipment in Virginia with two different pavement types: a) Chip Seals (8 locations) and b) Dense-graded Mix Design (18 locations). Measurements will be done quarterly to assess mainly the friction (micro-) and texture (macro-) characteristics of the pavements during at least two years.

**Anticipated work next quarter:**

- Complete processing the data collected in Illinois.
- Schedule TAC meetings during the next quarter to discuss plans for RPUG in 2021 and other topics.

**Significant Results:**

The following consortium-related papers have been published:

1. McCarthy, R. Flintsch, G.W. and de León Izeppi, E. "Impact of Skid Resistance on Dry and Wet Weather Crashes," *ASCE Journal of Transportation Engineering, Part B: Pavements*, vol. 147(3) (published online May 2021).
2. Katicha, S.W., Khoury, J., Flintsch, G.W., "Spatial Multiresolution Analysis Approach to Identify Crash Hotspots and Estimate Crash Risk," *ASCE Journal of Transportation Engineering, Part A: Systems*, vol. 147(5).
3. McCarthy, R. Flintsch, G.W. Katicha, S.W., de León Izeppi, E., Guo, F., "Determining Investigatory Levels of Friction with Crash Modelling," *International Journal of Pavement Engineering* (published online Feb 2021).

**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:**