

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.

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|---|--|--|--|
| 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: 2/28/2022 | |
| | | 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 |
|----------------------|--------------------------------|--------------------------------------|
| \$832,181* | \$280,271 | 34% |

Quarterly Project Statistics:

| Total Project Expenses and Percentage This Quarter | Total Amount of Funds Expended This Quarter | Total Percentage of Time Used to Date |
|--|---|---------------------------------------|
| \$30,123 (4%) | \$30,123 | 34% |

* Committed; the actual contracted budget is \$396,445 (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 Transversal Profile and Macrotexture Rodeo was held at the Smart Road from April 9-13, 2018.
 - ✓ This event was sponsored by *NCHRP Project 10-98 Protocols for Network-Level Macrotexture Measurement* but provided useful information for the consortium.
 - ✓ The event also included testing as part of the project *Calibration, Certification, and Verification of Transverse Pavement Profile Measurements* sponsored by *Transportation Pooled Fund TPF-5(299) Improving the Quality of Pavement Surface Distress and Transverse Profile Data Collection and Analysis*.
- The 12th Annual Surface Properties Rodeo was held at East Liberty, Ohio in the Transportation Research Center (TRC) Skid Tester Calibration Facility, on June 4-8, 2018.
 - ✓ Six locked-wheel skid testers (CT, IL, OH1, OH2, SC and the area reference device from TRC) took part in the event, along with the SCRIM and another invited device from Halliday Technologies (RT3) were present.
 - ✓ Twelve (12) state Consortium members from 5 states (CT, IL, OH, SC and TX), 4 state invited members (3 WV and 1 PR), 5 Industry invited participants (ICC, 2 Dynatest, and 2 Halliday) and 4 VTTI members participated in all the meetings. Additionally there were 8 local (TRC and OH) attendees who helped carry out with the testing and/or made presentation for the group in TRC.
 - ✓ Friction measurements were made in the three pads at TRC with all the equipment running both the ribbed and the smooth tire, and at two speeds (40 and 60 mph). The report of the measurements will be reviewed by the TAC in September.
- The Consortium Technical Advisory Committee (TAC) met during the rodeo on June 5, 2018 also at TRC.
 - ✓ The TAC reviewed the objectives, projects and financial summary of the Consortium and discussed the activities planned for future. Several presentations were made during the meetings by TAC members and invited presenters, as described in the minutes of the meeting. Marta Charria from Mississippi joined the TAC meeting via telephone.
 - ✓ A review of the present pavement skid program in each state was provide by those in attendance. The group decided to pursue the writing of a “Best Practices methodology booklet” that will be made available to the members. After the discussions, an Operator Certification course was also recommended for implementation by the Consortium.
 - ✓ The invited presenters from West Virginia and Puerto Rico are considering joining the Consortium.
 - ✓ The group agreed to hold a second TAC meeting to discuss the results of the 2018 Rodeo at this year’s RPUG meeting in Rapid City, South Dakota on September 17-21, 2016.

Anticipated work next quarter:

- The results of the Rodeo will be processed and presented at the TAC meeting that will be held in conjunction with this year’s RPUG meeting in Rapid City, SC on September 17-21, 2016.

Significant Results:

- ✓ S., Katicha, S.W., Flintsch, G.W., “Multiscale Vehicular Expected Crashes Estimation with the Unnormalized Haar Wavelet Transform and Poisson’s Unbiased Risk Estimate,” *Journal of Transportation Engineering, Part A: Systems*, vol. 144(8), ASCE, <https://doi.org/10.1061/JTEPBS.0000160>, (published online: May 26, 2018).

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).

No problems were encountered in this quarter.

Potential Implementation: