

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(268)		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: <div style="text-align: center;">National Sustainable Pavement Consortium</div>			
Name of Project Manager(s): Kevin Kenneth McGhee	Phone Number: (434) 293-1956	E-Mail Kevin.McGhee@VDOT.Virginia.gov	
Lead Agency Project ID: VCTIR 103567	Other Project ID (i.e., contract #): 448679	Project Start Date: 7/1/2012	
Original Project End Date: 6/30/2018	Current Project End Date: 6/30/2018	Number of Extensions: 0	

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
\$450,027	\$191,747	43%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$16,403 (4%)	\$16,403	43%

Project Description:

Through a regional pooled fund, this program of research focuses on enhancing pavement sustainability. The initial project scope covers:

- ✓ Examine emerging sustainable materials, technologies, products and pavement systems, how to facilitate their adoption, and what testing approaches and methods are needed to implement these technological improvements.
- ✓ Identify an appropriate set of metrics that comprises all aspects of pavement sustainability and the adaption or development of tools designed to assess pavement sustainability on qualitative and quantitative scales.
- ✓ Examine how sustainability considerations will affect all aspects of pavement engineering and management such as planning, design, construction, maintenance, management, and reclamation and develop guidelines for integration of these tools into pavement/ asset management business processes.
- ✓ Investigate the effect of climatic change on regional pavement engineering in terms of design, construction, maintenance, and management.

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

- Completed the development of a case study on in-place recycling in Virginia.
 - ✓ Submitted the paper “A life cycle assessment of in-place recycling and conventional pavement construction and maintenance practices,” to *Structure and Infrastructure Engineering: Maintenance, Management, Life-Cycle Design and Performance*.
- Initiated a project focused on incorporating life-cycle assessment (LCA) into the pavement-type selection process as agreed during the last TAC meeting.
- Continued to collaborate with the organization of Pavement LCA 2014 in Davis, CA.
- Presented papers at two international conferences:
 - ✓ “Analysis of Rolling Resistance Models to Analyze Vehicle Fuel Consumption as a Function of Pavement Properties.” At the *12th International Conference on Asphalt Pavements*.
 - ✓ “Development and Application of a Life-cycle Assessment Model for Pavement Management,” at the *Transport Research Arena*.
- Started to organize a training workshop on pavement recycling in Wisconsin.
- Prepared a set of pavement LCA data to share with the ECOLABEL project and participated in a US/EU_ECOLABEL coordination webinar.

Anticipated work next quarter:

- Develop a multi criteria decision analysis framework to facilitate the incorporation of LCA into pavement management processes.
- Define approach for the incorporation of LCA into the pavement-type selection process.

Significant Results:

- Published the following peer-reviewed papers:
 - ✓ Bryce, J., Santos, J., Flintsch, G.W., Katicha, S. McGhee, K.K., and Ferreira, A., “Analysis of Rolling Resistance Models to Analyze Vehicle Fuel Consumption as a Function of Pavement Properties.” *12th International Conference on Asphalt Pavements*, Kim, R. (ed.), June 2014, pp. 263-273. Taylor and Francis Group: London.
 - ✓ Santos, J., Ferreira, A. and Flintsch, G., “Development and Application of a Life-cycle Assessment Model for Pavement Management,” *Proceedings of the Transport Research Arena*, Apr 2014, Paris, France.

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: