

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 type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input checked="" 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	\$245,638	55%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$27,346 (6%)	\$27,346	55%

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.):

- Continued work on the project aimed at incorporating LCA into the pavement-type selection process.
- Initiated the development a pavement Life-Cycle Cost Analysis (LCCA) tool following a framework similar to the one used for pavement LCA.
- Participated in the *International Symposium on Pavement Life Cycle Assessment (LCA 2014)* in Davis, CA with contributions to two presentations: “Integration of LCA into traditional/existing pavement management systems and decision-making,” and “Integration of LCA into traditional/existing pavement management systems and decision-making.”
- Participated in a US/EU_ECOLABEL coordination webinar.

Anticipated work next quarter:

- Complete the literature review for the project aimed at incorporating life-cycle assessment into the pavement-type selection process.
- Complete the development of a pavement LCCA tool.
- Initiated the integration of the LCA and LCCA tools for supporting project level pavement management decisions.
- Organize a workshop on *Pavement In-Place Recycling* for the Wisconsin DOT in 2015.

Significant Results:

- Published findings of the consortium in the following peer-reviewed manuscripts:
 - ✓ Bryce, J., Katicha, S., Flintsch, G.W., Sivanewaran, N., Santos, J. “Probabilistic Lifecycle Assessment as a Network-Level Evaluation Tool for the Use and Maintenance Phases of Pavements.” *Journal of the Transportation Research Board*, 2014, vol. 2455 (1), pp. 44-53.
 - ✓ Bryce, J., Flintsch, G.W., and Hall, R.P. “A Multi Criteria Decision Analysis Technique for Including Environmental Impacts in Sustainable Infrastructure Management Business Practices.” *Transportation Research Part D: Transport & Environment*, 2014, No. 32, pp. 435-445.

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: