

## TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT):           **Kansas DOT**          

**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> <b>TPF-5(311)</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 4 – December 31)	
<b>Project Title:    Implementation of the AASHTO Mechanistic-Empirical Design Guide (AASHTO Pavement ME) for Pavement Rehabilitation</b>		
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<b>Lead Agency Project ID: KS</b>	<b>Other Project ID (i.e., contract #):</b> <b>RE-0678-01; C 2061</b>	<b>Project Start Date:</b> <b>12/01/14</b>
<b>Original Project End Date:</b> <b>Multi-year project</b>	<b>Current Project End Date:</b> <b>11/30/17</b>	<b>Number of Extensions:</b> <b>1</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	Total Percentage of Work Completed
<b>\$ 1,255,000</b>	<b>\$ 259,566.09</b>	20%

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
<b>\$ 35,366.06</b>	<b>\$ 35,366.06</b>	5%

**Project Description:**

The Kansas Department of Transportation (KDOT) and the New York State Department of Transportation (NYSDOT) have been using Chapter 5 of the 1993 AASHTO Design Guide for rehabilitation design. AASHTO has recently adopted the pavement rehabilitation design procedures developed under the NCHRP 1-37A project for flexible and rigid pavement structures. These new procedures are based on mechanistic-empirical principles and they replace the earlier empirical procedures from the 1993 AASHTO Design Guide. The new procedures are incorporated in the AASHTOWare Pavement ME Design software. The main objective of this research project is to conduct the local calibration of the AASHTOWare Pavement ME design procedure for pavement rehabilitation in Kansas and New York state. The results of the research will enable KDOT and NYSDOT to expedite the use of this new tool for the design of rehabilitated pavements. The results will also provide KDOT and NYSDOT with the necessary input values to design rehabilitated pavements using the mechanistic-empirical methods.

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

KSU has analyzed KDOT traffic data and completed all MAF's and almost all available axle load spectra. Those data have been used to check design sensitivity of rigid pavements in Kansas. KSU also has helped KDOT reexamine the local calibration of the AASHTOWare Pavement me Design software for Kansas and prepared the report for flexible model calibration. The perpetual pavement section on US-75 has been studied in details in this quarter. The subcontractor has been providing NYSDOT with pavement and overlay design support and has analyzed the traffic data collected by NYSDOT in 2014 and revised the traffic data collected in 2013. A list of data items needed for the local calibration was discussed with NYSDOT engineers, along with potential sources for assembling the data. A literature review on the calibration activities conducted by other states is under way. A software for assembling FWD data is in preparation.

**Anticipated work next quarter:**

KSU will start collecting data for selected sections for rehabilitation calibration. The subcontractor will start collecting the data necessary for the calibration and will continue the analysis of the traffic data for the NYSDOT part of the contract and work on the development of the software for FWD data processing.

**Significant Results:**

This research work aims to contribute to the implementation of the AASHTOWare Pavement ME design software for rehabilitation design in Kansas and New York by performing first the local calibration.

**Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might affect the completion of the project within the time, scope and fiscal constraints set forth in the agreement, along with recommended solutions to those problems).**

None.