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.

Transportation Pooled Fund Program Project # **TPF-5(079)**	Transportation Pooled Fund Program - Report Period:
	☐Quarter 1 (January 1 – March 31)
	X☐Quarter 2 (April 1 – June 30)
	☐Quarter 3 (July 1 – September 30)
	☐Quarter 4 (October 4 – December 31)

Project Title:	**Implementation Of The 2002 AASHTO Design Guide For Pavement Structures**

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Lead Agency Project ID: **RE-0361-01**	Other Project ID (i.e., contract #):	Project Start Date: 10/1/2003
Original Project End Date: 12/31/2005	Current Project End Date: 9/30/2015	Number of Extensions: 5

Project schedule status:

☐ On schedule   ☐ On revised schedule   ☐ Ahead of schedule   **X**☐ Behind schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Total Percentage of Work Completed
$1,009,963.00	$728,689.42	98%

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
0.00	0.00	0%

Project Description:
The objective of this research is to develop the calibration procedure for the NCHRP design guide (M-E PDG) models for both flexible and rigid pavement structures for this region and to assist the state highway agencies (KS and NY) in the implementation of the new Guide for pavement design and surface selection practices.

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):
Design tables for all eleven regions of NYSDOT have been developed based on runs of the MEPDG software calibrated for the NE region of the United States and with material, climatic, traffic and pavement structure data specific for each region. It was found that the design solutions compare well with those obtained by the current design method used by NYSDOT. At medium traffic volume, the design solutions are very comparable to those included in the NYSDOT Comprehensive Pavement Design Manual. The regional calibration of the distress models in the AASHTOWare Pavement ME Design software was conducted. The calibration coefficients for the AASHTOWare software are different from those of the MEPDG software because the models these two programs contain are different. The work this quarter has concentrated on the development of new design tables for 15 and 20 year design life. The analysis also showed that the number of pavement sections selected for calibration is sufficient. The design tables for twenty -four locations in New York State have been prepared.

Anticipated work next quarter:
The preparation of the final report for the project will be finalized.

Significant Results:
The research efforts to date were concentrated on the development of the library of material characterization data for typical pavement materials and the identification of pavement test sections for which performance data may be available. The survey of literature has been conducted to identify existing material characterization data and pavement performance data collected already by the highway agencies and reported in internal documents.

The testing program for measuring the dynamic resilient modulus of typical asphalt concrete mixes and the binder shear modulus and phase angle is under way. Testing has been performed on more than 15 HMA mixes. It was found that the measured moduli were 50 to 100 percents higher than the moduli predicted by the Witczak Equation. The Hirsh model severely under-predicted the dynamic modulus.

The TrafLoad software has been used for volume characteristics and axle load spectra extraction for the weight and classification stations that continuously recorded data for at least twelve continuous months and at least seven consecutive days in each month. The traffic data collected in 2004 to 2013 has been processed for all stations that had sufficient data.

A major new task has been added to the research plan. The objective is to develop a pavement design procedure for flexible pavement structures based on the MEPDG that the local environment, materials, construction practices, soils and maintenance needs and to assist the NYSDOT pavement design personnel in the implementation of the Procedure in to the pavement design practice. The calibration of MEPDG for the NE region of the United States was done using the data recorded on seventeen LTPP GPS-1 and GPS-2 sections. Runs of the the calibrated AASHTO Pavement ME model was done for pavement design scenarios specific to twenty-one weather stations in NYSDOT state; design tables have been developed for 15 and 20 year design life. The preparation of the final report for the project is currently under way.

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).
A major new task has been added to the research plan. The objective is to develop a pavement design procedure for flexible pavement structures based on the AASHTO Pavement ME and to assist the NYSDOT pavement design personnel in the implementation of the Procedure in to the pavement design practice. Also, the traffic data collected by NYSDOT in 2014 must be processed.