TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): ____IOWA 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(300)*	**Transportation Pooled Fund Program - Report Period:** Quarter 1 (January 1 – March 31, 2016) Quarter 2 (April 1 – June 30, 2016) **X** Quarter 3 (July 1 – September 30, 2016) Quarter 4 (October 1 – December 31, 2016)

Project Title: Performance and Load Response of Rigid Pavement Systems		
Project Manager: Brian Worrel	**Phone:** 239-1471	**E-mail:** brian.worrel@dot.iowa.gov
Project Investigator: Peter Taylor	**Phone:** 515-294-9333	**E-mail:** ptaylor@iastate.edu

Lead Agency Project ID:	**Other Project ID (i.e., contract #):** Addendum 504	**Project Start Date:** 5/29/14
Original Project End Date: 5/31/2017	**Current Project End Date:** **5/31/2019**	**Number of Extensions: PFS**

Project schedule status:

X 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
$1,263,917.00	$483,219.81	47%

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
$60,611.88	$60,611.88	5%

Project Description:

The modern approach to highway design is embodied in the Mechanistic-Empirical Pavement Design Guide (MEPDG), which incorporates models embedded in dedicated software, such as AASHTOWare Pavement ME Design, to predict pavement performance in greater detail than before. Full implementation of the MEPDG by state departments of transportation requires customizing or calibrating the software to state and local conditions, which in turn requires collecting data on climate, material properties, load response, and pavement performance.

The MEPDG software uses these data inputs to more accurately simulate the load response of pavements and long-term pavement performance. Local calibration of the software involves comparing long-term performance simulation results to actual performance data at local sites if possible or from matching pavements in the LTPP database. New York is one of the states that have previously instrumented test pavement sections to acquire local data to improve calibration of the MEPDG software. The installed sensors are still functioning to an extent that permits collection of additional useful data. This project has these objectives:

- Collecting load response and performance data and environmental monitoring at selected test pavements in New York for four years.
- Installing new instrumented sections as needed for a better understanding of rigid pavement response, including monitoring for the duration of the project.
- Determining the impact of a base on long-term performance of rigid pavement utilizing the data acquired in fulfilling the first two objectives and other nationally available data on the topic.

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

A quarterly TAC meeting was held September 6th. Tom Cackler, Sharon Prochnow, Peter Taylor, Shad Sargand, Brian Worrel, and Chris Brakke were present.

NYSDOT priority task list:

- Task 1. Develop relationships between PCC slab thickness and pavement performance
- Task 2. FWD Analysis Procedures

Work for the NYSDOT is progressing on several points.

1. Generation of additional data and tables for the MEPDG catalog is continuing in response to the comments provided by the liaison. Tables are being constructed for the various parameters, including: PCC pavement thickness, Truck ESALs, IRI, faulting, and cracking.
2. NY DOT expressed interest in pursuing further investigation of the overlay procedure using AASHTOWare Pavement-ME, this is will be added to the NYSDOT priority task list.
3. During the September 29th meeting with the subcontractor, progress on all aspects of work for New York was discussed, and guidance was provided on finishing work on the POCC catalog.

Anticipated work next quarter:

- Complete design tables for NYSDOT regions per Item 1 above.
- Start on draft report for the PCC design catalog
- A one week trip to the I90 and I490 projects. During those site visits FWD data will be collected in addition to the sensor data and distress surveys. If possible, dynamic truck runs will be conducted on the I90 project.
- Visit to RT9A site to complete site work that could not be completed in the last visit.
- Begin analysis of FWD data once they have been provided to the research team

Significant Results:

Circumstances affecting project or budget (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).

The release of Version 2.3 of the AASHTOWare Pavement-ME software is imminent. It will be installed when it is provided to the researchers. The results generated with Version 2.1 of the software need to be validated using the newest version as the calibration coefficients have been changed.