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, 2017) **X** Quarter 2 (April 1 – June 30, 2017) Quarter 3 (July 1 – September 30, 2017) Quarter 4 (October 1 – December 31, 2017)

Project Title: Performance and Load Response of Rigid Pavement Systems		
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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	$781,573.96	62%

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
$168,875.72	$168,875.72	10%

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.):

- The MEPDG pavement design catalog report was edited with particular focus on the second stage of the report, to be delivered in July.
- We are still waiting on feedback from the Part 1 report on JPCP design catalog, which was sent May 10.
- Information was gathered to create an example that demonstrated the use of the overlay design software via an Excel spreadsheet that implements the AASHTO 93 design method. Since this spreadsheet does not operate in versions of Excel newer than 2007, a newer version is being created to work with newer versions of Windows Operating System. An alternative program being developed in study TPF-5(269) "Development of an Improved Design Procedure for Unbonded Concrete Overlays" is also being evaluated.
- In late June, the research team conducted a forensic investigation, including FWD tests and coring, on the I-86 project to examine the condition of the pavement and bond breaker.
- The research team went to the RT9A project and was able to get the wires pulled to the permanent box. A data aquisition system is in place but needs to be connected to the sensors..
- There was a conference calls with the TAC and Iowa State University on April 13.

Anticipated work next quarter:

- Complete Parts 2 and 3 of draft report on the JPCP design catalog with the new design tables for NYSDOT regions. These documents will be delivered in July and August.
- Analyze data and write a report on the recent forensic study of the I-86 project.

- A one week trip to the I-90 and I-490 projects. During those site visits FWD data will be collected in addition to the sensor data and distress surveys. If possible, dynamic response truck tests will be conducted on the I-90 project.
- Begin analysis of FWD data once they have been provided to the research team
- Continue work on the unbonded overlay design spreadsheet to run on the newer version of the Windows Operating System.

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).