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, 2015) Quarter 2 (April 1 – June 30, 2015) x Quarter 3 (July 1 – September 30, 2015) Quarter 4 (October 1 – December 31, 2015)

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:** Pooled fund project

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
$1,520,000.00	$221,249.20	40

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
$71,552.46		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.):

NYSDOT priority task list:

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

July:

- MEPDG tables for all regions completed as requested with AADT's and water table set to 10 feet. Tables attached to this email.
- Additional runs conducted for water table set at 5 feet, and runs for water tables set at 2.5 feet
- There was no difference in the design thickness shown for the change in water table depth. The effect of the water table depth on the design of rigid pavement is negligible according to the MEPDG program.
- Completed data analysis work for Priority Task 1 . The report is being written
- Work on creating a procedure for FWD data collection for the overlay program is also underway and should be ready in a timely manner
- An excel file with the 30 year PCC thickness table was submitted.

August:

- The research team is finishing the 50 year design tables for pavement sections as instructed in July.
- The research team is developing the procedure for collecting FWD data to be used with the overlay design software. The draft document should be ready in a few weeks.

September:

- Work continued on building the catalogue for the MEPDG for the state of NY. Updates will be sent as soon as possible.
- Task 1 and Task 2 reports are in the draft phase and are being reviewed. They will be sent when review is complete
- During September a trip was made to the I-86 project sites. Unfortunately the FWD machine was not operational and unable to collect data.
- Nonetheless, distress surveys were conducted on the project sections including measuring and documenting the number of cracks and location on the site, collecting joint faulting and edge faulting data from the site. The team also checked and collected data from the data acquisition systems at each of the sections and collected data from the weather station. The weather station was replenished with anti-freeze so it is ready for the winter weather.
- The concrete overlay sections did not show any increased distress since the last visit . The sections are still in excellent condition with little or no faulting except for the special joints. Little or no cracking was observed. The surface cracks reported earlier are still present but have not become larger. A picture of one of the surface cracks is below.

Anticipated work next quarter:

- Continue creating design tables for NYSDOT regions
- Install new cabinet on the RT9A project site when requested.
- Discussions are continuing on selection of a site for instrumented pre-cast slabs.

NYSDOT priority task list:

- Task 1. Develop relationships between PCC slab thickness and pavement performance: has been nearly completed waiting on feedback from NYSDOT, then we will issue a short report on the findings
- Task 2. FWD Analysis Procedures for overlay design will continue. We have adopted software used by ODOT to be used by the NYSDOT. We will continue writing the procedure to collect FWD data and run the program.

Significant Results:

Circumstance 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).