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(183)*	**Transportation Pooled Fund Program - Report Period:** Quarter 1 (January 1 – March 31, 2019) Quarter 2 (April 1 – June 30, 2019) Quarter 3 (July 1 – September 30, 2019) XQuarter 4 (October 1 – December 31, 2019)
Project Title: Improving the Foundation Layers for Concrete Pavement	
Project Manager: Brian Worrel **Phone:** 239-1471 **E-mail:** brian.worrel@dot.iowa.gov	
Project Investigator: Peter Taylor (David White) **Phone:** 294-3781 **E-mail:** ptaylor@iastate.edu	

Lead Agency Project ID: RT 0314	**Other Project ID (i.e., contract #):** Addendum 352	**Project Start Date:** 3/16/09
Original Project End Date: 3/15/14	**Current Project End Date:** 12/31/2018	**Number of Extensions:** On-going pooled fund project

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**
$875,000	$875,000	98

Quarterly Project Statistics:

Total Project Expenses This Quarter	**Total Amount of Funds Expended This Quarter**	**Percentage of Work Completed This Quarter**

Project Description:

The objective of this research is to improve the construction methods, economic analysis and selection of materials, in-situ testing and evaluation, and development of performance-related specifications for the pavement foundation layers. The outcome of this study will be conclusive findings that make pavement foundations more durable, uniform, constructible, and economical. Although the focus of this research will be PCC concrete pavement foundations, the results will likely have applicability to ACC pavement foundations and, potentially, unpaved roads. All aspects of the foundation layers will be investigated including thickness, material properties, permeability, modulus/stiffness, strength, volumetric stability and durability. Forensic and in-situ testing plans will be conceived to incorporate measurements using existing and emerging technologies (e.g. intelligent compaction) to evaluate performance related parameters as opposed to just index or indirectly related parameter values. Field investigations will be conducted in each participating state. The results of the study will be compatible with each state's pavement design methodology and capable for use with the Mechanistic-Empirical Pavement Design Guide (MEPDG). Evaluating pavement foundation design input parameters at each site will provide a link between what is actually constructed and what is assumed during design. There are many inputs to the pavement design related to foundation layers and this project will provide improved guidelines for each of these. The study will benefit greatly from maximizing the wide range of field conditions possible within the framework of a pooled fund study.

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

This quarter, Chapter 2 was re-written based on feedback to organize not by project, but by topic. Here is the new organization of Chapter 2 w/page numbers:

Anticipated work next quarter:

- Next immediate task is to rework Chapter 1 with some of the new information recently published from NCHRP 1-53 that demonstrates improved aggregate base and subgrade model that show increased sensitivity in AASHTOWare Pavemnt ME design. We need to see about incorporating the 1-53 study in chapter 4 as well.

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).

TAC committee:

Brian Worrel Iowa DOT
Todd Hanson Iowa DOT
Kevin Meryman Iowa DOT
Mark Grazioli Michigan DOT
Mehdi Parvini California DOT
Brian Williams Missouri DOT
Georgene Geary Georgia DOT
Jim Brennan Kansas DOT
Wan Chen Texas DOT
David White, Researcher
Peter Taylor, CP Tech Center
Tom Cackler, Woodland Consulting