TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Louisiana Transportation Research Center (LTRC)

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 # *(i.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX)* TPF-5(242), Phase III		**Transportation Pooled Fund Program - Report Period:** ☑ Quarter 1 (January 1 – March 31) ☐ Quarter 2 (April 1 – June 30) ☐ Quarter 3 (July 1 – September 30) ☐ Quarter 4 (October 1 – December 31)
Project Title: Prep-ME Software Implementation and Enhancement		
Name of Project Manager(s): Doc Zhang	**Phone Number:** 225-767-9162	**E-Mail** Doc.Zhang@LA.GOV
Lead Agency Project ID:	**Other Project ID (i.e., contract #):**	**Project Start Date:** August 1 2015
Original Project End Date: October 31 2016	**Current Project End Date:** October 31 2016	**Number of Extensions:** 0

Project schedule status:

☑ On schedule ☐ On revised schedule ☐ Ahead of schedule ☐ Behind schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Percentage of Work Completed to Date
$91,953	$36,480.75	45%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
$36,480.75 and 68.3%	$24,909.04	47%

Project Description:

Pavement ME Design (previously MEPDG/DARWin-ME) is a significant advancement in pavement design, but requires much more inputs from various sources. Through the transportation pooled fund study TPF-5(242), the Phase II final deliverable Prep-ME software is capable of pre-processing, importing, checking the quality of raw Weigh-In-Motion (WIM) traffic data, and generating three levels of traffic data inputs with in-built clustering analysis methods for Pavement ME Design. This software complies with FHWA Traffic Monitoring Guide (TMG) and TMAS for quality assurance and quality control (QA/QC), and can be used by state highway agencies for the QA/QC of traffic data collection, analysis of truck loading data, and preparation of input for AASHTO Pavement ME software.

The objective of proposed Phase III project is to assist participating state DOTs on the full implementation of Prep-ME software for traffic data collection and Pavement ME Design and to deliver new generation of Prep-ME software with enhanced and customized features for each individual state. The proposed tasks to be performed in Phase III include:

- Task 1 - Provide On-Site and Webinar Training for Participating States,
- Task 2 - Develop Portable Version of Prep-ME for Field Data Collection and WIM Calibration,
- Task 3 - Enhance Existing Traffic Module in Prep-ME,
- Task 4 - Provide Technical Support to Meet State Needs.

Upon completion of this project, participating state DOTs will have a software and database tool set used not only by pavement design engineers to prepare input for Pavement ME Design, but also traffic data collection engineers to collect better traffic data and manage those data for other applications.

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

In this quarter, an updated Prep-ME software is delivered to participating states for testing and comments. Several new features are added to the most recent version of Prep-ME based on state DOTs' feedback. Software bugs reported by state DOTs have been fixed in a timely manner. In addition, internal testing of both Prep-ME and the portable version software continues in this quarter.

The team continues providing technical support to help state DOTs deploy the Prep-ME software in this quarter. In particular, the team has worked closely with MDSHA and NVDOT on the issues and questions encountered during the implementation of Prep-ME for their daily usage.

For next quarter, the primary task is to contact participating states regarding the on-site training. State WIM data will be requested and used for the training to demonstrate the software functionality and how the software can be utilized by pavement design and traffic data collection engineers to improve operation productivities. Desired enhancements of software capabilities will be discussed during the training for each state and software will be improved and customized based on the comments.

Anticipated work next quarter:

The starting date of Phase III is August 1, 2015. The OSU team will work on all the four tasks in the next quarter:

(1) TASK 1 - PROVIDE ON-SITE AND WEBINAR TRAINING FOR PARTICIPATING STATES
The OSU research team will work with the six participating states on dates for on-site trainings, prepare data sets and training documents. WIM data sets will be obtained from these states and the training will be customized for each state using their own data sets.

(2) TASK 2 DEVELOP PORTABLE VERSION OF PREP-ME FOR FIELD DATA COLLECTION AND WIM CALIBRATION
In the next quarter, the OSU team will demonstrate the features of the portable version of Prep-ME to participating states during the on-site training, and acquire comments for the team to improve the software. It is anticipated that the portable Prep-ME software will be finalized by June 2016.

(3) TASK 3 ENHANCE EXISTING TRAFFIC CAPABILITIES IN PREP-ME
The research team will continue improving the Prep-ME software based on further feedback from participating states during the implementation process. Any issues or bugs will be addressed or corrected in a timely manner. New desired features from participating states will be evaluated and added to enhance the existing capabilities in Prep-ME.

(4) TASK 4 - PROVIDE TECHNICAL SUPPORT TO MEET STATES' SPECIAL NEEDS
During the implementation of Prep-ME for daily traffic data collection and ME based pavement design, technical support will be provided on a need basis aiming to help state DOTs deploy the Prep-ME software. Any special needs arose from participating states during the implementation process will be addressed by the research team. Desired enhancement of particular software features or modules will be developed with close consultation with the participating states.

Significant Results:

(1) Software Enhancement:
a) For Weight/Classification Data Check Module, new functions are added to display data for user-selected months. This feature is helpful to investigate the traffic patterns for WIM stations on low volume roads.
b) Besides the detailed TMAS check report developed in the past, a summary TMAS quick check report is also generated during WIM data import process. The summary TMAS report could help state agency diagnose the sensor issues.
c) The wording on several interfaces have been modified to avoid misunderstanding.

(2) Software Bug Fix
a) Google map API in Prep-ME has been changed from 3.0 to 3.22 (the most recent API) so that the WIM station can be displayed on the map correctly.
b) The KYTC clustering method can generate correct Level 2 traffic output for WIM data in TMG 2013 format.
c) Several error prevention operations are added in the process of "Run Quality Control" in the Classification Data Check Module to prevent software crashes for some specific WIM stations which have no data.

(3) The team continues providing technical support to help state DOTs deploy the Prep-ME software on a need basis.

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).

Potential Implementation:

No new information on implementation at this time, other than what has been reported on the application of Prep-ME at individual states.