**TRANSPORTATION POOLED FUND PROGRAM**

**QUARTERLY PROGRESS REPORT**

Lead Agency (FHWA or State DOT): Alabama 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.*

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| **Transportation Pooled Fund Program Project #***(i.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX)*TPF-5(228) | **Transportation Pooled Fund Program - Report Period:**Quarter 1 (January 1 – March 31) 2018Quarter 2 (April 1 – June 30)  **√** Quarter 3 (July 1 – September 30) Quarter 4 (October 1 – December 31) |
| **Project Title:**Superpave Regional Center, Southeastern Region |
| **Name of Project Manager(s):**Don Watson and Randy West | **Phone Number:**(334) 844-7306 | **E-Mail**watsode@auburn.edu |
| **Lead Agency Project ID:**ALDOT Research Project No. 930-763P | **Other Project ID (i.e., contract #):**224574 | **Project Start Date:**April 28, 2010 |
| **Original Project End Date:**September 30, 2012 | **Current Project End Date:**February 28, 2020  | **Number of Extensions:**4 |

Project schedule status:

On schedule √ On revised schedule Ahead of schedule Behind schedule

Overall Project Statistics:

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|  **Total Project Budget** |  **Total Cost to Date for Project** |  **Percentage of Work**  **Completed to Date** |
| $2,020,353  | $1,516,368 | 75 |

*Quarterly* Project Statistics:

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|  **Total Project Expenses**  **and Percentage as of This Quarter** |  **Total Amount of Funds**  **Expended This Quarter** |  **Total Percentage of**  **Time Used to Date** |
| $1,516,368 (75% of budget) | $74,342 | 85 |

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| **Project Description**:The Southeastern Superpave Center has been supported by state agencies through a pooled-fund project that has been largely used to provide training, verify ruggedness of equipment, check equipment calibrations, provide materials research, and aid in keeping agency personnel abreast of changes in asphalt technology. In order to continue the efforts in training, technology transfer, and implementable research, it is essential that the pooled-fund effort be continued. ***NOTE:*** *This pooled-fund project is not limited to states located in the southeast. Agencies throughout the country, and its territories, are invited to participate and take advantage of the research and training opportunities provided by the Southeastern Superpave Center.***OBJECTIVES**Several short-term and long-term objectives of the Southeastern Superpave Center are listed below. Several objectives deal with evaluating recently-developed performance test equipment and conducting research to address materials and tests issues. Objectives of the Center are:1. Conduct training in regard to Superpave binders, mix design, and performance testing. Provide training on special topics as requested by participating agencies at their on-site locations.
2. Perform research, both cooperatively and agency-specific, sponsored by members of the pooled-fund.
3. Perform precision and bias testing for asphalt-related performance test equipment.
4. Conduct noise studies in an effort to develop quieter pavements.
5. Perform forensic evaluations on materials or projects that have experienced premature distress.
6. Prepare research articles of regional and national interest.
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| **Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):****TRAINING**This quarter technician certification courses were conducted for Puerto Rico, and a course schedule was developed for further technician training for FY’19.**TRAVEL**SCDOT used funds for employees to attend a FWD User Group meeting in Boise, Idaho.**TESTING**Puerto Rico used funds for asphalt binder PG classification tests for terminal supplied binders, and Miss. had lab testing performed for Pavement ME input.**Research**Work on Pavement preservation continued for ALDOT. Work continued on three MDOT research projects:* To evaluate thermal properties of asphalt mixtures. In Pave ME, the thermal parameters constitute the required inputs to the Enhanced Integrated Climatic Model (EICM), and include parameters such as the mix coefficient of thermal contraction, thermal conductivity, heat capacity, and surface shortwave absorptivity for Hot Mix Asphalt (HMA). The default values used in the software may not be representative of pavements in Mississippi and could result in errors in performance predictions by up to 15% so it is important that properties related to Mississippi asphalt mixtures be determined.
* Evaluate the pavement condition ratings (PCR) procedure. The current procedure is based on deduct values for various distresses and severity levels from data developed over 30 years ago. Due to changes in asphalt mixture design procedures and in technological methods and equipment used for conducting and evaluating pavement condition, there is a need to revisit the accuracy of the rating procedure. During this quarter, MDOT’s PCR database was received and checked for consistency. A number of gaps were identified and sent back to MDOT for further review. In addition, data are being analyzed to determine frequency of occurrence of individual distresses and correlations among distresses and PCR ratings. It is anticipated that once MDOT has checked NCAT’s observations on missing data, the analysis can continue focusing on PCR calculations and whether adjustments need to be made to the current procedure.
* Conduct modeling studies to aid in implementing a new pavement management system. The work will include optimization strategies by modeling and analyzing pavement conditions. The distress models used to assess pavement deterioration were developed using the Markov transition probability matrix and need to be reviewed and verified for accuracy as more data and collection methods have been added.

Colorado has initiated a study for instrumentation of a section of roadway to validate Pavement ME structural design procedures. The objective of this research project is to support CDOT efforts with a pavement instrumentation and data collection/processing scheme for gathering and interpreting mechanistic pavement response data. The NCAT team consists of Dr. Fabricio Leiva, Dr. David Timm, and Mr. Brian Waller.Prior to construction, NCAT team members visited the test site to formulate a customized instrumentation plan suited to the project location on Hwy 144 (near Orchard, CO) and to discuss potential issues while also working through logistical considerations. Once the instrumentation plan was in place, the NCAT team purchased and prepared all the instruments and data acquisition equipment. During construction, the NCAT team was on site to ensure: (1)installation of moisture probes and bottom pressure plates after the subgrade layer (embankment) was built, and (2) installation of base pressure plate and main Asphalt Strain Gauges installation after the granular layer was built and during placement of the first HMA lift. A future visit is scheduled for the NCAT team to perform installation of surface sensors (axle sensors, temp probes), system shakedown and data acquisition training. With the training, it is expected that CDOT engineers will become familiar with the instruments themselves in addition to developing proficiency with the data acquisition system.  Initial data collection plans will also be developed. It is anticipated that after construction of this project, the CDOT team will assume principal responsibility for the project data collection and will work on data analysis with NCAT. **Anticipated work next quarter**Additional training opportunities will be presented next quarter in Puerto Rico for roadway technicians, asphalt plant technicians and technicians on earthwork and base projects. Work will continue on the ALDOT pavement preservation project, as well as on the MDOT and CDOT research projects. |
| **Significant Results:** Pavement preservation workshops have been successful for ALDOT by encouraging engineers toconsider appropriate preservation treatments to extend pavement serviceability.Installation of sensor instrumentation has been completed on a section of CDOT roadway to collect data for future Pavement ME inputs. |
| **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).**NA. |
| **Potential Implementation:**  |