**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)**√** Quarter 2 (April 1 – June 30) 2014Quarter 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:**September 30, 2014 | **Number of Extensions:**2 |

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** |
| $1,037,129  | $547,410.80 | 61 |

***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** |
| $547,410.80 (52.8% of budget) | $56,740.30 | 94 |

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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 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.):****MEPDG CLIMATE DATABASE:** The research team coordinated with LTRC to identify three representative pavement sections for use in verifying the climate files. The work for the first phase of this research has been completed, and LTRC recently asked that the research be extended to include more information. Progress on the project has been delayed while the PI waits on signed contract from Iowa State University. The project is scheduled to be completed in 2014. **4.75mm Study**The objective of this study was to examine the performance of 4.75mm asphalt mixes with that of a 9.5mm mix used as a “control.” Comparisons were made with neat asphalt and with modified asphalt using four aggregate sources. The binder modification was made with polymers for one set of mixtures and with crumb rubber for an additional set of mixtures. Mixtures with PG64-22 neat asphalt were compared with the performance of mixtures with PG 67-22 binder grade. The Hamburg device was used to evaluate resistance to rutting and stripping, and the AMPT device was used to evaluate resistance to reflective cracking.A draft report has been submitted to the sponsor that shows the 4.75 mm mixes performed as good, or better, in the Hamburg rut testing and moisture susceptibility testing as the 9.5 mm mix used as a control standard. The results did indicate that performance may be sensitive to compatibility of binder and aggregate source. The 4.75 mm mixes performed lower in the AMPT Overlay Test for resistance to reflective cracking than the 9.5 mm mix, and the polymer-modified binder performed better than the crumb rubber-modified binder.**Crumb Rubber Mixture**A study for Puerto Rico to evaluate the effect of crumb rubber in asphalt mixtures began last Fall. This quarter, additional friction testing and noise evaluation of the test sections was completed. Performance will be compared over time with a standard Marshall mix with unmodified binder. Initial testing conducted one month after construction indicated similar friction values for both the crumb rubber and standard mix sections. Friction results after 3 months has also shown similar friction properties for the conventional and GTR mixes. In the recent testing, there was no significant benefit detected for noise reduction with the GTR mixture. There was some difficulty extracting the crumb rubber during the solvent extraction process.**TRAINING**A series of technician training and certification courses were taught in April and May, 2014. Twelve courses have been scheduled for Puerto Rico for Asphalt Technician-Level 1, Asphalt Technician-Level 2, and Aggregate Technician.Additional training for Superpave binder and mix design certification for GDOT technicians was conducted in June,2014. **TECHNOLOGY TRANSFER/TECHNICAL MEETINGS:** Several agencies used funds this period to pay travel and registration expenses for employees to attend technical meetings such as ASTM, AASHTO, SEAUPG, and national meetings of technical interest. **Anticipated work next quarter**:Work is expected to resume on the LA DOTD project. Hopefully, contract details will be worked out with Iowa State.A new study for OGFC in South Carolina will begin. Four aggregate sources that have given marginal to poor results will be compared to a source that has given very good performance. An x-ray analysis of aggregate thin sections will be conducted as well as asphalt tests for wear (Cantabro), and moisture susceptibility. Testing will also include aggregate breakdown and aggregate polishing with the British Pendulum test.Alabama has requested research on the effectiveness and performance of asphalt rejuvenators as a way of possibly improving performance of OGFC mixtures. |
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| **Significant Results:**The GDOT 4.75 mm study showed that 4.75 mm mixes can perform as well as the 9.5 mm mix typically used for surfacing on state routes. |
| **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).** |

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| **Potential Implementation:** The climate data being obtained will be useful for Louisiana by providing specific climate data that is more compre- hensive and more accurate than the original data used in the MEPDG development.The crumb rubber research is being used to verify the potential benefit of using ground tire rubber in asphalt mixes in order to preserve the environment.The training and certification courses being developed and taught will help ensure qualified technicians who are familiar with agency specifications and test procedures will be involved in the asphalt binder and mixture acceptance process. |