TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Alabama Department of Transportation

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)*	**Transportation Pooled Fund Program - Report Period:**
TPF-5(267)	☐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: Accelerated Performance Testing on the 2012 NCAT Pavement Test Track		
Name of Project Manager(s):	**Phone Number:**	**E-Mail**
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Lead Agency Project ID:	**Other Project ID (i.e., contract #):**	**Project Start Date:**
930-822P		May 8, 2012
Original Project End Date:	**Current Project End Date:**	**Number of Extensions:**
September 30, 2015	September 30, 2015	None

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
$9,260,000	$2,004,336	33%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
22%	$1,899,314	12%

Project Description: The Pavement Test Track is a full-scale accelerated performance test (APT) facility managed by the National Center for Asphalt Technology (NCAT) at Auburn University. The project is funded and directed by a multi-state research cooperative program in which the construction, trafficking, and pavement evaluation are carried out on 46 different 200-foot test sections around the 1.7-mile oval test track. Each test section is constructed utilizing the asphalt materials and design methods used by individual sponsors. A fleet of heavy trucks is operated on the track in a highly controlled manner in order to apply a design life-time of truck traffic (10 million equivalent single axle loads, or ESALs) in two years. The 2012 research cycle represents the fifth three-year research cycle of the NCAT Pavement Test Track.

The primary objectives of the pooled fund project are as follows:
1. Constructing 200 ft test sections on the existing 1.7 mile NCAT test oval that are representative of in-service roadways on the open transportation infrastructure;
2. Applying accelerated performance truck traffic in the 2 years following construction;
3. Assessing/comparing the functional and structural field performance of trafficked sections;
4. Validating the M-E approach to pavement analysis and design using surface and subsurface measures;
5. Calibrating new and existing M-E approaches to pavement analysis and design using pavement surface condition, pavement load response, precise traffic and environmental logging, and cumulative damage;
6. Supplementing Track research with test sections on Lee Road 159 in order to precisely quantify the life extending benefit of various pavement preservation alternatives;
7. Correlating field results with laboratory data; and
8. Answering practical questions posed by research sponsors through formal (i.e., reports and technical papers) and informal (e.g., one-on-one responses to sponsor inquiries) technology transfer.

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

Based on plans that were finalized in the previous reporting period, construction of the experimental pavements that make up the 2012 experiment for the NCAT Pavement Test Track (on the Track as well as on Lee Road 159) was completed. This work consisted of 13 mill/inlay Track sections, 7 structural Track sections, 4 pavement preservation Track sections, and 22 pavement preservation sections on Lee Road 159 (to be compared to 1 control section with crack sealing and 2 control sections without).

Selective deployment of Safety Edge technology provided a unique opportunity to quantify the effect of use on quality during construction as well as on vehicle recovery after construction. While baseline performance data was being collected on the surface of experimental pavements, dynamic measurements were made during vehicle runoff and recovery testing on the shoulder to facilitate a modeling effort to quantify the benefit of Safety Edge deployment on the open infrastructure.

Anticipated work next quarter:

With reconstruction complete, fleet operations for the 2012 research cycle will begin early in the next quarter as soon as all the necessary baseline data has been collected. Every Monday while the fleet is subjected to preventive and corrective maintenance, the surface condition of all experimental pavements will be quantified. It will then be possible to construct a complete view of changing pavement performance by combining the hourly history of fleet operations, multi-depth temperature measurements, measured high-speed response, and pavement surface condition (i.e., roughness, texture, rutting, cracking, etc.).

Significant Results:

The 2012 research cycle includes high RAP content mixes, RAS mixes, high aged binder (RAP+RAS) content mixes, high recycled ground tire rubber mixes, high durability porous friction course mixes, alternative binder modifiers, interlayers for the prevention of reflective cracking, low volume road mixes, comparative tack methods and materials, and an array of pavement preservation alternatives (on the Track as well as on Lee Road 159).

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).

The project is expected to be completed on time and within the allotted budget.

Potential Implementation:

It is expected that the significant findings previously mentioned will be implemented by sponsoring state DOTs. The 2012 research cycle will include high RAP content mixes, RAS mixes, high aged binder (RAP +RAS) content mixes, high recycled ground tire rubber mixes, high durability porous friction course mixes, alternative binder modifiers, interlayers for the prevention of reflective cracking, low volume road mixes, comparative tack methods and materials, and an array of pavement preservation alternatives (on the Track as well as on Lee Road 159).