TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Date: _____1-7-2020_____

Lead Agency (FHWA or State DOT): ___Indiana 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 # *(i.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX)* TPF-5(021)	**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: North Central Superpave Center Base Funding		
Name of Project Manager(s): Tommy Nantung	**Phone Number:** 765/463-2532 x 248	**E-Mail** tnantung@indot.in.gov
Lead Agency Project ID: TPF-5(021)	**Other Project ID (i.e., contract #):**	**Project Start Date:** October 1, 2002
Original Project End Date:	**Current Project End Date:**	**Number of Extensions:**

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
Continuing		Continuing

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date

Project Description:

The North Central Superpave Center began on July 1, 1995, as one of five regional centers established to assist the states/provinces and industry in the region with the implementation of the Superpave mix design system for hot mix asphalt. The role of the NCSC has evolved to include all general hot mix asphalt issues as states in the region have adopted Superpave. The Center is administered through the Joint Transportation Research Program at Purdue University and is guided by a Steering Committee consisting of representatives of the agencies and industry in the participating states.

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

Progress will be reported in terms of the major activities planned for this project as established by the Steering Committee.

Training: The technical director was contacted by ASTM International, where she serves on the Board of Directors, about possibly providing training for personnel from West Africa and Cote D'Ivoire in 2020. Details have yet to be worked out.

Communication: Information requests are processed as they arrive; about 20-25 per month are received. Published reports have now been downloaded from the Joint Transportation Research Program website over 12,650 times.

Third Party Lab and Testing Services: The research engineer continued her work on proficiency testing and maintenance of AMRL accreditation records. There were no requests for third party testing this quarter.

Research:

The draft and final reports for *Investigation of Delta T_c for Implementation in Indiana* were completed last quarter and the close-out meeting was held. A draft implementation plan was provided to the business owner; implementation of the parameter is not recommended at this time. It could possibly be used as a forensics tool or could be implemented in the future after some remaining issues are resolved nationally. Publication of the final report will occur early in the next quarter (January 2020).

Work on *Real Life Experiences with Major Pavement Types* continued. A literature review to identify possible analysis techniques, data elements needed for life cycle cost analysis and other background information continued. A study advisory committee meeting was held 9/30/19, at which time a six-month time extension was approved by the SAC.

The proposal submitted to the Nevada DOT for a study entitled *Developing Lower Modulus Polymer Resin Binder Systems Specifications for High Friction Surface Treatments (HFST) on Asphalt Pavements in Nevada* was selected last quarter for funding. This SPR project was expected to start in August or September, but contractual negotiations between Purdue and Nevada delayed that. Work started in November and will be conducted in part on campus and in part at the NCSC. Work is underway on the literature review and obtaining samples of resins to test (on campus).

The NCSC was selected to conduct another NCHRP Synthesis study. The topic is *Practices for Assessing and Mitigating the Moisture Susceptibility of Asphalt Pavements.* Work began in November with development of a draft survey, work plan and draft report outline. The survey will go live in January after testing by the synthesis panel.

The technical director worked with colleagues at the National Center for Asphalt Technology to submit a paper to the Association of Asphalt Paving Technologists last quarter on accelerated friction testing of asphalt mixtures in the lab. The paper is based in part on research conducted at the NCSC and sponsored by the Indiana and Iowa DOTs. The paper was accepted for publication by AAPT and will likely be presented at the annual meeting next quarter (program is still in development). Funding for additional research to refine the test method is being sought with the support of the Indiana state materials engineer and asphalt engineer.

Technology Transfer: The Technical Director gave a presentation on made a presentation on lessons learned from her mentor as a memorial to Professor Leonard E. Wood; the lecture was attended by students and faculty at Purdue. She also participated in a webinar sponsored by the Association of Asphalt Paving Technologists, giving a presentation on Asphalt Layer Thickness Effects on Quality. She also gave an update on research at the NCSC at the Kansas Asphalt Conference. She chaired a meeting of ASTM Committee D04 on Road and Paving Materials in December. She is working with a joint task force between AASHTO and ASTM to try to harmonize the two organizations asphalt standards. She also chairs the Long Term Infrastructure Program's Expert Task Group on Pavements; in that capacity she attended

a meeting of the Long Term Infrastructure Program oversight committee. Negotiations continued regarding partnering with the Asphalt Pavement Alliance to co-host the NCAUPG meeting.

Anticipated work next quarter:

Training: Training will be developed and provided as requested. A proposal will be developed to provide training to a delegation from North Africa and one from Cote D'Ivoire in cooperation with ASTM if requested.

Communication: Updates to the NCSC, M-TRAC and NCAUPG websites will be posted. Information requests will be answered as received.

Third Party Lab and Testing Services: Work will continue on maintaining the AMRL accreditation and third party testing as requested. Lab usage fees will be implemented.

Research: Work will continue as planned on the research projects. New research needs will be identified and proposals prepared as appropriate. The technical director and research engineer will participate in focus group meetings with INDOT to identify new research topics.

Technology Transfer: Additional opportunities for tech transfer will be pursued as they become available. The technical director will present a history of use of plastics in asphalt at TRB and on chip seals vs, microsurfacing at the Indiana Mineral Aggregates Association in January. At TRB she will also chair the Asphalt Section meeting and attend the Design and Construction Group Executive Committee meeting. She will likely present the AAPT paper at the meeting in March.

Significant Results:

Readership reports for the published research reports show that they have been downloaded over 12,650 times.

Changes have been made to INDOT Specifications and test methods based on research results.

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:

Research results are considered individually for possible implementation by the states as they become available. There is great interest across the country in the study on optimizing compaction and on past recycling research, which is leading to numerous speaking engagements, which serve to spread the results to a broader audience. INDOT is constructing another trial of so-called Superpave5 based on a completed project and is pursuing reinstating an asphalt warranty program based on results of another. Changes to the specifications and Indiana test methods have been adopted based on recent research.