

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Date: 7-3-2019

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.

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| Transportation Pooled Fund Program Project # <i>(i.e., SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i> TPF-5(021) | Transportation Pooled Fund Program - Report Period: Quarter 1 (January 1 – March 31) <input checked="" type="checkbox"/> <input type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input type="checkbox"/> 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 |
|--|---|---------------------------------------|
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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 provided a Perpetual Pavements webinar over the Upper Great Plains Transportation Institute's (North Dakota State University) distance learning system to participants in three states. She also gave a shorter presentation at the ND Asphalt Conference. She provided over one day of training on asphalt materials, construction and Superpave5 to approximately 20 engineers and managers from INDOT.

Communication: Information requests are processed as they arrive; about 20-25 per month are received. Minutes and presentations from the last Multi-Regional Training and Certification Group (M-TRAC) meeting were posted and NCSC staff is exploring ways to facilitate asking questions and sharing responses for the group. Published reports have now been downloaded from the Joint Transportation Research Program website over 11,930 times.

Third Party Lab and Testing Services: The research engineer continued her work on proficiency testing and maintenance of AMRL accreditation records. The internal lab audit was completed. Lab usage fees were established for third-party testing and are included in the new lease agreement between Purdue and INDOT..

Research:

The draft and final reports for *Investigation of Delta T_c for Implementation in Indiana* were completed this 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 is expected next quarter.

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 8/31/18, at which time a preliminary list of projects to evaluate was developed. A survey is being prepared to solicit information from a variety of people in the districts (construction, maintenance, asset management). A study advisory committee meeting is planned for next quarter.

The final report on an NCHRP Synthesis study on asphalt pavement lift thicknesses was published by TRB.

A draft proposal was submitted to industry representatives for additional work to develop a test method to determine the amount of fiber in crack sealant.

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 for funding. This SPR project is expected to start in August or September and will be conducted in part on campus and in part at the NCSC.

Technology Transfer: The Technical Director and Jusang Lee gave a presentation about the Superpave Center and partnership with INDOT and other states to a delegation of Korean engineers who were visiting ASTM Headquarters. The technical director participated in her first ASTM Board of Directors' Meeting of her three-year appointment. She also chaired the meeting of ASTM Committee D04 on Road and Paving Materials. She delivered the Gene Skok lecture at the National Road Research Alliance meeting in May. She also participated in the meeting of TRB Committee AFK10, Critical and Emerging Technologies in Asphalt, as Asphalt Section chair. This two-day meeting was held in Indianapolis and included invited guests from Indiana, Illinois, Michigan and Ohio industry and agencies in addition to the committee members. Negotiations began to partner 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 in cooperation with ASTM.

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.

Technology Transfer: Additional opportunities for tech transfer will be pursued as they become available. The technical director will serve on a TRB synthesis panel on *Practices for Fabricating Asphalt Specimens for Performance Testing in Laboratories* in July.

Significant Results:

Readership reports for the published research reports show that they have been downloaded over 11,930 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.