

# TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

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

<b>Transportation Pooled Fund Program Project #</b> TPF-5(286)		<b>Transportation Pooled Fund Program - Report Period:</b> <input checked="" type="checkbox"/> Quarter 1 (January 1 – March 31, 2015) Quarter 2 (April 1 – June 30, 2015) Quarter 3 (July 1 – September 30, 2015) Quarter 4 (October 4 – December 31, 2015)	
<b>Project Title:</b> Next Generation Concrete Pavement Road Map			
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<b>Project Investigator:</b> Tom Cackler		<b>Phone:</b> 294-3532	<b>E-mail:</b> tcackler@iastate.edu
<b>Lead Agency Project ID:</b> RT	<b>Other Project ID (i.e., contract #):</b> Addendum 482	<b>Project Start Date:</b> 9/15/13	
<b>Original Project End Date:</b> 12/31/14 (extension requested)	<b>Project End Date:</b> 12/31/15	<b>Number of Extensions:</b> Pooled fund project	

☒ On schedule
 ☐ On revised schedule
 ☐ Ahead of schedule
 ☐ Behind schedule

## Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Total Percentage of Work Completed
\$265,000	\$136634.87	N/A

## Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
\$64805.81	N/A	N/A

**Project Description:**

This pooled fund project will carry on the work started by FHWA's initial Concrete Pavement Road Map Pooled Fund, TPF-5(185) and continue the effort to identify and prioritize needed research but will have a stronger focus on supporting the sponsoring states with technology deployment activities so that advancements in technologies can be implemented into practice.

Increasingly, state departments of transportation (DOTs) are challenged to design and build longer life concrete pavements that result in a higher level of user satisfaction for the public with fewer resources. One of the strategies for achieving longer life pavements is to foster new technologies and practices. Experts from state DOTs, FHWA, academia and industry must collaborate to identify and examine new concrete pavement research initiatives. The purpose of this pooled fund project is to identify concrete research, training and technology transfer needs through the CP Road Map.

Work under this task order relates to tasks 1 through 4.

1. Provide training workshops and/or webinars for each participating state on a topic of interest.
2. Develop specifications for new technologies
3. Maintain a database addressing research gaps
4. Conduct quarterly TAC

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

- January E-News and MAP Brief were distributed. MAP brief topic was "Producing Freeze-Thaw Durable Concrete". Link to it: <http://www.cproadmap.org/publications/MAPbriefJanuary2015.pdf>
- Coordinated with Nebraska for development of the upcoming E-News.
- Continued work on the final draft of the PCC overlay guide specifications.
- Completed 3D workshop training in Oklahoma in January.
- Completed 3D workshops for Michigan in February.
- Completed workshops on PCC pavement preservation for Iowa in March.
- A TAC meeting was held on March 2<sup>nd</sup>. (minutes are attached).

**Anticipated work next quarter:**

- Finalize dates, locations, and topics for training events.
- Issue next new E-News newsletters and MAP Briefs.
- Continue to work with States toward finalization of new PCC overlay specifications.
- Continue to update research database as further state interviews are completed.
- A TAC meeting will be scheduled.

**Significant Results:**

Opportunity for state DOTs to go to a single source to find concrete related research.

**Circumstance affecting project or budget (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).**

*Tom Cackler will retire from Iowa State University in April, and Dr. Peter Taylor will become the director of the National CP Tech Center and assume Mr. Cackler's duties. A letter requesting the Principal Investigator for this project be Dr. Peter Taylor, will be sent after Mr. Cackler retires.*

March 2, 2015 TAC Meeting Minutes

Attendees:

Gina Ahlstrom, FHWA  
Kenny Seward, Oklahoma  
Lydia Peddicord, Penn DOT  
Larry Ligon, Penn DOT  
Josh Freeman, Penn DOT  
Kevin Merryman, Iowa DOT  
Todd Hanson, Iowa DOT  
John Staton, Michigan DOT  
Tom Cackler, CP Tech Center  
Peter Taylor, CP Tech Center  
Dale Harrington, Snyder & Associates, Inc.  
Steve Klocke, Snyder & Associates, Inc.  
Sabrina Shields-Cook, Subconsultant

Tom opened the meeting and thanked the participants for attending. He stated we will give an update and discuss next steps for the CP Road Map. We would like the committee to think about what technical products they would like for their state. The committee members on the call introduced themselves. Tom went through the agenda and stated what we would be covering on the call.

Status for Training

Dale stated the 3D workshop was held in Oklahoma on January 27, 2015 and it was felt it went well. Kenny Seward stated the workshop was good however it was a lot to cover in the time provided. He would like to have seen more on the construction side but felt it was a good class.

Dale stated February 18-19, 2015 the 3D workshop was held in Michigan. Dale said they had some contractors present at this workshop. John Staton stated it was a good workshop.

The workshops on preservation will be held in Iowa. They begin on March 11, 2015 and will be held in the six Iowa Districts on the preservation guide.

Dale stated Pennsylvania is working on what they would like the Center to do for training for them. Larry Ligon stated he has talked to some of their people and they are still trying to decide what they want. Larry stated the Center has given them good information on what is available. Dale stated they are probably looking to hold a workshop in the fall for Pennsylvania and Larry agreed.

Dale said James Page contacted them and stated Georgia will get back to him in the near future on training for Georgia as some of their staff have had some health issues.

Overlay Guide Specification

Dale stated there have been a number of meetings over the past year on the overlay guide specification. The corrections have been made and sent to the TAC. Dale stated the specification items that have been changed as the result of the TAC conference call of November 25, 2014 are shown in red. Dale said on page 13 of the Guide specification in Note 16 – the committee felt the comment regarding evaporation retardant should be removed, but it doesn't show that it has been removed. He stated this was overlooked and it will be removed for the final document. All other corrections have been made that were agreed to by the TAC on the last call. Dale asked if PennDOT had reviewed the specifications.

Larry Ligon stated he has not had the opportunity to finish the review and some of his staff are also looking at the specification. He will get back to Dale on PennDOTs comments.

John Staton asked about the red on Page 3 – Definition of Contract Documents. He stated it is really the definition of a contract. He felt the word “definition” should be removed. Dale understood his point. Larry and Kenny will send Dale the definition of contract documents from their state specifications. John Staton stated their definition of contract is on page 6 of their specifications.

John Staton stated the last bullet on page 4 in red “Amy” should be changed to “Any”.

The committee did not have any other comments on the specification.

Tom Cackler suggested sending the specification to the Overlay Committee to get industry and contractors input also. He asked the TAC what they thought about getting the overlay committee’s input. It was suggested that ACPA should review the specification. It was agreed to send it to the Overlay Committee for their review and comment. Once their input is received it will be sent to the TAC and discussed on the next committee call.

#### E-News Update

Steve Klocke stated we are putting out a bi-monthly newsletter and do an update from the states. It gives the state a chance to talk about their research and what they have coming up and what their needs are. To date the following have been covered:

- March: Michigan,
- June: Pennsylvania
- August: FHWA
- October: Georgia
- November: Oklahoma
- January 2015: Iowa
- February/March 2015: Nebraska

Dale stated that Nebraska was added since we had covered all the states and we needed to get going on the March 2015 E-News. Dale stated the Nebraska Deputy Chief Engineer had shown interest in the CP Road Map and thought it would be great if they were featured.

Dale asked if the TAC had any other suggestions for states to contact to join the CP Road Map pooled fund.

Kenny Seward suggested contacting Kansas and Missouri on their internal curing. John Staton agreed with Kansas and Missouri.

Todd Hanson stated if there are other states that have shown interest in joining the pooled fund they would be good to contact. Dale stated Minnesota may be one to add.

Steve Klocke discussed the News from the Road highlighting any research going on around the country. Steve talked about the previous topics that have been covered on news from the road.

#### MAP Brief Future Subjects

In addition to the newsletter a MAP brief is developed on a specific topic to give more in-depth information. Steve showed the topics that have been covered and stated we are looking at suggestions from the TAC on future MAP Brief topics.

John Staton suggested something on environmental aspects including the use of recycled concrete and handling diamond grinding slurry.

Dale stated he liked Mitigating warp and curl and internal curing. Peter felt we should wait a bit for the internal curing topic until after the test section has been built this summer.

Dale stated the Performance of Geotextile inner layers will take time to find out what the performance is and will take some more research.

Dale stated the next MAP Brief for March 2015 will be on Mitigating Warp and Curl. Dale stated we would like the TAC to give some ideas on future MAP Briefs.

Tom Cackler stated the following topics are being considered for future MAP Briefs:

- NCC to cover the products and states involved
- Update on “SAM” (Tyler Ley)
- Performance review of 2008 2-lift pavement in Kansas
- PCA-Intro to cement manufacturing including ternary blends
- MIT – CHS update
- LTC (Tyson) Accelerated Loading Facility work re RCC
- Mitigating warp and curl (Van Dam)
- Internal curing
- SPTWG-concrete strategies
- Concrete recycling with Paradigm
- Modern milling equipment and efficiencies for concrete rehab and pavement removal
- Dowel coating technologies

Kenny Seward stated he has a problem with pavement cracking at dowel bar locations. The cracks appear where the bars aren't smooth and it is cracking in the mid-panel. The committee had a brief discussion on this issue. Tom Cackler stated we could do a MAP Brief on this issue and share some tips.

#### Database Status

Peter Taylor stated the TRB database is massive and covers many transportation related topics. Peter stated we are developing a more focused database. It is currently on the CP Tech Center website and will be put on the CP Road Map website. Information is pulled from RIP, TRID and interviews from states.

This is research in progress and anything older than 5 years is dropped to keep it workable. Peter will send the link to the TAC.

#### Future Scope of Work

Tom Cackler stated he talked to Linda Narigon and she suggested developing tasks for the next 3 years. Tom stated the funding is there for the training in Pennsylvania and Georgia. Tom said we would like to send a scope to Linda for the next 3 years. Hopefully FHWA will continue to support the E-News. The funding (\$270,000) is available. We've done the training on Overlays, Preservation and 3D Stringless Paving, E-News, MAMP Briefs, overlay specifications and database. Going forward what kind of technical documents would be helpful for the states? Tom suggested updating the IMCP Manual. Tom also suggested identifying other specifications to be development. These are a couple of ideas for the next three years.

#### IMCP Update

Tom Cackler suggested we updated the IMCP manual and asked the committee what they thought about refreshing the manual. He suggested making it a searchable document that could be used in the field.

Peter Taylor stated they looked at an outline of the chapters and about a third of the IMCP needs to be updated. A chapter on sustainability needs to be added, more information on overlays, update on admixtures, ASR, internal and conventional curing, mix proportioning (new ACI), refresh the hydration chapter. Peter stated we need less on Incompatibility and that the two chapters on construction should be merged into one chapter. We need to add stringless, real time smoothness, 3D modeling, etc. Peter stated the Quality chapter FHWA developed will be incorporated into the Manual.

Peter stated they could develop hot keys on specific items. AN example would be on “shrinkage” and it would take you to that chapter. Also, click on a link for tables. Table of contents is a series of pictures with links to the chapters. Make it a modern document for modern technology.

Tom asked the committee their thoughts.

Todd Hanson and Kevin Merryman felt it would be a good idea to update the manual and make it an electronic accessible document.

John Staton stated there could be some updates and liked the hot keys and making web based.

Kenny Seward stated adding optimized gradation to the mix design chapter. Peter stated it will be a part of the update. Kenny felt it was good to update and make it web based. Make sure it works in a Word browser. Peter talked about an interactive pdf that works on any system.

Lydia Peddicord stated an update sounds like it is warranted and liked the electronic available manual.

Tom stated we'll work with Linda Narigon and make it a part of the scope going forward. At the next TAC meeting we will discuss an updated table of contents for the IMCP update. Peter has the outline which will be sent with the minutes of this meeting to the TAC.

Tom Cackler asked about other guide specifications they would like to see developed.

Peter Taylor suggested one on curing and curing materials. Cover the materials and the applications and how do you know it is being done, the importance of curing. The TAC thought that would be a good idea for a guide specification. Peter stated it will be a topic at the NCC meeting. It could be the next specification.

Tom asked if they know of other states that they think might be good to contact to join the pooled fund.

Kenny Seward suggested discussing this at the NCC meeting with the states.

Gina thought she heard John Staton discuss checklists. Peter stated we are working on a workshop for inspectors which will address the issue of the checklist. John Staton felt the inspector workshop would address this issue.

Dale Harrington stated we have the 2014 CP Road Map report. If the TAC would like to see the report we can send that to them.

Dale stated we also talked to ISCP about putting the Road Map in their newsletter and they have included it in their lasted newsletter.

Tom thanked the committee and stated we will work with Linda on the scope.

After the TAC call we received the following definition for contract from John Staton:

**Contract.** The written agreement between the Department and the Contractor setting forth the obligations of the parties for the performance of and payment for the prescribed work. The contract includes the advertisement for bids, bid document, progress schedule, contract form, contract bonds, standard specifications, special details, standard plans, plans, proposal, addenda, notice of award, local agency agreements (when applicable), DBE commitment forms (when applicable), and warranty forms and bonds (when applicable).

And the following definition from Kenny Seward:

**Contract.** The written agreement between the Department and the Contractor that sets the performance of the Work, the basis of payment and other obligations of the parties. The Contract includes the Bid Notice, Bid Proposal, Contract Form, Bonds, Specifications, Supplemental Specifications, Special Provisions, Plans, the Work Order, and any Change Orders or Supplemental Agreements that are required to complete the Project