

**TRANSPORTATION POOLED FUND PROGRAM
 QUARTERLY PROGRESS REPORT
 for
 National Road Research Alliance (NRR)**

Lead Agency: Minnesota 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 # TPF-5(341) http://www.pooledfund.org/Details/Study/590		Report Period: Quarter 2 (April 1 – June 30, 2017)
Project Title: National Road Research Alliance – NRR http://www.dot.state.mn.us/mnroad/nrra/index.html		
Project Manager(s): Glenn Engstrom Robert Orthmeyer	Phone Number: (651) 366-5531 (708) 283-3533	E-Mail glenn.engstrom@state.mn.us Robert.orthmeyer@dot.gov
Lead Agency Project ID: None	Other Project ID (i.e., contract #): None	Project Start Date: April 2016
Original Project End Date: September 30, 2018 (29 months)	Current Project End Date: NA	Number of Extensions: 0

Project schedule status → On schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Percentage of Work Completed to Date
\$ 2,600,000 (State SPR Funds + WI partnership funding for one year) + associate funding (not included here) + 3.1 million MnDOT funds for construction (not included here)	\$ 26,875 (SPR) \$ 251,448 (MnDOT Donated)	Time* = 51% (15/29 months) SPR Money = 1% *May increase the time to 60 months in the future then at 25%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$ 11,695 ~1% (SPR) \$ 142,737 (MnDOT Donated)	\$ 11,695 \$ 142,737 (MnDOT Donated)	NA

Project Description:

This pooled fund will help direct and compliment the use of the MnROAD test track for local, regional and national research, tech transfer and implementation needs. Road owner agencies will provide input and participate in the decision making needed for future MnROAD construction and research scheduled in 2017. MnDOT will provide \$2.5 million in construction funding to aid in the development of the next round of test sections at MnROAD to support common goals. Industry and academia will also play an important role to provide critical input on long-term future trends in research and barriers to implementation, including working with their customers and members who play a direct role in implementation.

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

To date six state agencies and over thirty 30 industries and academic institutions have become NRRRA members to share their expertise and are learning about new tools and methods to improve and expand upon transportation systems nationally.

- NRRRA pavement workshop / conference was held May 23-24, 2017 and had very good attendance from NRRRA members / associates / friends. Here is a link to the presentations - <http://www.dot.state.mn.us/mnroad/nrra/pavementconference/pavepresent.html>
- NRRRA members/Teams have met every month this quarter.
- Executive Committee has meet and have approved the efforts done to date.
- The teams have identified long term research needs along with tech transfer/short term research that are documented on each of the NRRRA team web pages.
- Construction is now starting based on the long term research needs that are nearly finalized for additional contracts with consultants and Universities.
- Website updated including team meeting notes.

Anticipated work next quarter:

The following is expected to be completed for next quarter.

- Long Term Research Construction at MnROAD is expected to be the main effort for the MnROAD staff this summer. This effort will be funded by 3.1 million of MnDOT funding (bid came in higher – MnDOT funded the difference).
- Long Term Research Contracts scopes will be finalized by the technical teams and though direct select/research RFPs they will be contracted utilizing MnDOT normal processes.
- Couple of the Short Term Research was started by MnDOT to figure out what effort will be required from the consultant that will be hired to complete this task...
- NRRRA Team Meetings will take place each month and as needed to accomplish its tasks.
- NRRRA Executive Committee meetings will be held every other month.
- Still need to work to extending the pooled fund to 5 years to allow for the long term research to be completed. More thought /action needs to be put into this area.
- Once the construction and research efforts become more formed more effort will be put into tracking the budget as discussed at the executive committee meetings. All the original costs were estimates and need to be adjusted as some things are dropped and some cost more or less.

Significant Results:

NRRA is up to 6 state members and over 30 associate members. NRRA Agencies and Associates members make up the 5 teams that play an important technical role in setting both the technology transfer and long term research needs. Each team has been active this summer meeting every two weeks to develop and prioritize ideas that fall into each of these categories above to meet both local, state, regional and national research needs. The teams report directly to the NRRA executive committee.

The initial push by each of the NRRA technical teams is to develop long term research needs and the MnROAD test sections that will be used to support these initiatives. MnDOT is providing \$3.1 million of construction funding to support NRRA long term research needs to be built at MnROAD in the summer of 2017. Each team is working to get the final designs and special provisions to MnDOT so the plans can be developed and a formal construction project can be let in March 2017. Long term research includes researching HMA overlays of PCC, enhancing HMA compaction, fiber reinforced concrete, effects of diamond grinding on questionable aggregates, PCC early opening to strength, optimizing PCC cement content, compacted concrete pavements for city streets, cold central plant recycling, recycled aggregate bases, large stone subbases, maintaining HMA and PCC roadways, and PCC partial depth repair. Each topic/test section will provide a resource for future research contracts that are under development by each team.

Other important team activities include the formation of technology transfer topics. The NRRA technology transfer team has been approved by the executive committee to fund 2 technology transfer topics from each of the four technical teams. Each topic's goal is to pull together the existing state and national state of practice so that a common practice or specification can be developed by the members. Prioritized topics include longitudinal joint construction performance, tack coats, design and performance of concrete unbonded overlays, repair of concrete joint related distress, large unbound subbase materials, subgrade design, surface characteristics of diamond ground PCC, and pavement preservation approaches to lightly surfaced roadways. Currently the teams are updating the problem statements so that a MnDOT hired contractor can be hired to complete the work.

More information on these efforts including the long term research and technology transfer topics can be found under each of the [team member's webpage](#).

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)

None

Potential Implementation:

See the NRRA team pages for implementation topics that are being developed – contracting will be started/completed in the next quarter that will enable NRRA to start working.