

**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.*

<b>Transportation Pooled Fund Program Project #</b> TPF-5(341) <a href="http://www.pooledfund.org/Details/Study/590">http://www.pooledfund.org/Details/Study/590</a>		<b>Report Period:</b> Quarter 3 (July 1 – September 30, 2017)
<b>Project Title:</b> National Road Research Alliance – NRR <a href="http://www.dot.state.mn.us/mnroad/nrra/index.html">http://www.dot.state.mn.us/mnroad/nrra/index.html</a>		
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<b>Lead Agency Project ID:</b> None	<b>Other Project ID (i.e., contract #):</b> None	<b>Project Start Date:</b> April 2016
<b>Original Project End Date:</b> September 30, 2018 (29 months)	<b>Current Project End Date:</b> NA	<b>Number of Extensions:</b> 0

**Project schedule status** → On schedule

**Overall Project Statistics:**

<b>Total Project Budget</b>	<b>Total Cost to Date for Project</b>	<b>Percentage of Work Completed to Date</b>
\$ 2,450,000 (State SPR Funds)  This report does not report on non-SPR funding including 150K WI partnership (one year membership), associate memberships, or the 3.1 million MnDOT funds for construction	\$ 653,647 (SPR) \$ 326,971 (MnDOT Donated)	Time* = 62% (18/29 months) Time Extended = 30% (18/60) SPR Money = 25% *Will be asking for an increase the time to 60 months

**Quarterly Project Statistics:**

<b>Total Project SPR Expenses and Percentage This Quarter</b>	<b>Total Percentage of Time Used to Date</b>
\$ 641,852 ~24% (SPR)	10% (3/29 months)*

**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 members/Teams have met every month this quarter.
- Executive Committee has meet and have approved the efforts done and budget to date. Executive Committee also is planning on having the winter meeting at TRB in 2018 using non-SPR funding for 2 members from each state to travel on.
- 8 Long Term and 1 Short term research efforts have contractors selected and the contract process has started from the research needs developed by each technical team. Expect to have the contracts going before Dec 15<sup>th</sup>.
- ~80% of the MnROAD construction is now completed and expected to be complete by November 1<sup>st</sup>. Every week construction video stories were done to document the construction and share the activities with our members.
- Research pays off webinars were also done tying to NRRRA and MnROAD.
- Website updated including team meeting notes.

**Anticipated work next quarter:**

The following is expected to be completed for next quarter.

- MnROAD construction will be done and the initial rounds of monitoring will be completed before winter. Material samples will be shared with other states, universities, and consultants that are doing testing thought partnerships or contracted out. Each group will share the data with MnROAD for the MnROAD database.
- MnROAD staff will be pulling together all the construction records so a MnROAD phase-III construction report can be completed this winter. This report will rely on the contracted efforts to cover the lab testing results or initial monitoring done for each study.
- MnROAD staff will be pulling together the data from sensors, monitoring, construction and placing the data in the MnROAD database for the contractors and others to utilize.
- 8 Long Term Research Contracts will be finalized and the technical advisory panels (TAP) will have their initial meetings with the contactors.
- 1 Short Term Research Contract will be finalized and the initial TAP meeting will take place – Expect to start the focus on the two flexible topics (tack coat, longitudinal joints) and then prioritize top efforts in the other three groups to help prioritize this effort.
- NRRRA Team Meetings will take place each month.
- NRRRA Research Pays-Off and Newsletters will be done each month.
- NRRRA Executive Committee meetings will be held every other month.
  - Executive Committee will develop the plans to meet at TRB in 2018 using non-SPR dollars
  - 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.
- MnDOT will complete the paperwork needed to extending the pooled fund to 5 years to allow for the long term research to be completed.

**Significant Results:**

Currently this pooled fund is just starting up. We have shared resources and technology with each other related to intelligent construction and have discuss a number to topics in the technical teams. More formal documentation will start to be developed at the contracts are awarded and this work begins.

NRRA is up to 6 state members and at 39 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 teach 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 topics 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.