

A Pooled Fund administrated by Minnesota Department of Transportation

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- in /National Road Research Alliance
- /National Road Research Alliance
- /JoinNRRA
- **✓**/roadresearch

This solicitation is for the continuation of the National Road Research Alliance (Phase I) for another 5 years and to combine efforts with the Veta Development Pooled Fund to increase efficiency and effectiveness of both efforts.

NRRA Phase I:

February 2016 – February 2021 TPF-5(341) National Road Research Alliance - NRRA

Veta Development:

December 2019 - December 2020

TPF-5(334) Enhancement to the Intelligent Construction Data Management System (Veta) and Implementation. Study efforts will be added to NRRA ICT Team.

These two projects will combine to form NRRA in it's Phase II form.

NRRA Phase II:

January 1, 2021 – December 31, 2025 Pooled fund solicitation to continue current efforts, push new initiatives, and implementation.

"The NRRA is at its best when we bring together a variety of passionate, dedicated people to solve common problems."

GLENN ENGSTROM

Executive Director

National Road

Research Alliance

PARTICIPATING **STATES**:

- California
- Illinois (DOT & Tollway)
- lowa
- Michigan
- Minnesota (DOT & LRRB)
- Mississippi
- Missouri
- North Dakota
- Wisconsin



DUR PHASE II OBJECTIVES

For Phase II, we are narrowing our focus to two primary objectives:

- Improving long-term sustainability of our national pavement system through the design and use of innovative recycling methods with a variety of materials and construction methods and
- Studying and promoting Intelligent Construction
 Technologies that will increase construction efficiency, enhance pavement performance, and improve construction site safety.

NRRA PHASE I EFFORTS:

\$4.4M funded research activities 40 projects funded

As of October 2020

MnDOT plans to contribute about \$4M to the Phase II construction effort at MnROAD. NRRA teams will design the test sections, develop the research plan and select the research team.

DUR COMMITMENTS

The NRRA exists to strategically implement cooperative pavement research. State agencies, industry, academia, consultants, and associations work together to identify problems, complete research projects, and implement results. Our goal is to help agencies nationwide achieve consistent benefits from real world road research. We also seek to provide members a forum to discuss issues and an outdoor, real-world laboratory (MnROAD) for evaluating cutting-edge pavement technologies.

The NRRA consists of five project teams: Flexible, Rigid, Geotechnical, Intelligent Construction Technologies, and Preventive Maintenance, and is governed by an Executive Committee made up of two representatives from each government agency participating in the study. Each teams' activities include prioritization of short- and long-term research (40 developed in Phase I), development of long-term research test sections at MnROAD and additional locations, and providing necessary technology transfer.

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SCOPE OF WORK

The scope of work for this pooled fund project is:

- Provide the prioritized research needs, project development and design by way of the research project teams;
- Provide funding for high priority, readily implementable research projects;
- Receive timely results on NRRA research projects through communication products that emphasize lessons learned and implementation;
- Assistance in putting research results into practice through technology transfer events;
- Support committees that meet periodically throughout the year to determine priorities, develop strategies to address the priorities, and execute action plans.

NRRA MEMBERSHIP

Both agency and associate members help shape NRRA research by guiding the selection of research projects, disseminating research results, and helping agencies implement results. Phase II will also incorporate the Veta pooled fund as shown in the three membership types available:

Government Agency Members - Full (2 tiers, based on state's allotted SPR \$)

Members have a seat of the executive committee and all research teams. The executive committee executes decision-making about MnROAD construction and research objectives, determine budgets and timelines, and select and participate in project teams. Membership includes travel funding for NRRA meetings and conferences. This funding is distributed to all tech teams.

- State SPR larger than MN (\$150k/yr)
- State SPR smaller than MN (\$75k/yr)

Government Agency Members - ICT Team only (\$25k/yr)

Members have a seat on the ICT technical team only and the funding contribution will be directed only to that effort. This option allows past Veta pooled fund members to continue participation through NRRA.

Associate Members (\$2k/yr)

Provide expertise throughout the research process by giving input on long-term technology trends, identifying innovative solutions to research problems, and determining the viability of research results by actively participating in projects. Associate members also have an opportunity to provide materials for testing and to propose design approaches based on field experience. Academia benefits include research and data analysis opportunities to support faculty and student scholarship.

REQUESTING FUNDING

NRRA is not a typical national pooled fund effort. We offer rolling membership and NRRA will be funding many research contracts efforts under this pooled fund to a number of universities and research organizations. More members allow us to fund more efforts.

NRRA Phase II – FYs 21, 22, 23, 24, 25 (5 years)

Please visit the Membership page, <u>mndot.gov/mnroad/nrra/membership</u>, for additional information.

DUR TEAMS

Executive Committee

Chair: Glenn Engstrom, MN DOT
Two members from each state
agency govern the pooled fund
and oversee all NRRA team efforts
and direction. This structure is
designed to foster innovation,
develop implementable products
for road owners, and ensure high
quality, relevant products based
on the latest technology.

Flexible Team

Chair: Dan Oesch, MO DOT Technical experts in the area of new and rehabilitation of asphalt roadways.

Geotechnical Team

Chair: Terry Beaudry, MN DOT Technical experts in the field of unbound materials found under pavement surfaces.

Intelligent Construction Technologies (ICT) Team

Chair: Rebecca Embacher, MN DOT Technical experts in the area of Intelligent Construction Technologies (ICT). ICT includes innovations for planning, design, construction, real-time quality control and monitoring, and management for the life-cycle of infrastructure construction.

Preventive Maintenance Team

Chair: Joel Ulring, MN DOT
Technical experts in the area
maintenance of both concrete and
asphalt roadways.

Rigid Team

Chair: Brett Trautman, MO DOT Technical experts in the areas of new and rehabilitation of concrete roadways.

Visit <u>mndot.gov/mnroad/nrra</u> for up-to-date project lists.