Glenn M. Engstrom, MnDOT
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2019 Mid-Continent Transportation Research Research Symposium, August 21-22, 2019
Big Toys
If you want to go fast, go alone.
If you want to go far, go together.

~African proverb
Strategic Implementation Through Cooperative Research
• State Agencies
  • $150,000 annually if FHWA SP&R is greater than Minnesota
  • $75,000 if less

• Associates
  • $2,000
  • Industry, Suppliers, Consultants, Contractors, Associations and Academia.
Pooled Fund - State Agency Members
Benefits

• Team Membership
  • Select research projects
  • Develop research project
  • Select researcher
  • Monitor project findings

• Newsletter

• Annual Workshop

• Monthly Research Pays Off Webinar

• Networking
The Executive Committee consists of agency members from various states. The committee sets,

- Overall objectives
- NRRA goals
- Team Budgets
- Marketing
- Member recruitment
The flexible team includes technical experts who focus on new and rehabilitated asphalt roadways. Activities include:

- Prioritization of short and long term research
- Development of long term research test sections at MnROAD
- Selection of research PI’s
- Providing input to the technology transfer team
The rigid team represents technical experts who examine new and rehabilitated concrete roadways. Activities include:

- Prioritization of short and long term research
- Development of long term research test sections at MnROAD
- Selection of research PI’s
- Providing input to the technology transfer team
The geotechnical team includes technical experts who concentrate on bound and unbound materials found under the pavement surface. This includes:

- Grading and base,
- Full depth reclamation,
- Cold in place recycling for new and rehabilitated roadways
• The preventive maintenance team represents technical experts in the area maintenance of concrete and asphalt roadways. Activities include:
  
  • Prioritization of short and long term research
  
  • Development of long term research test sections at MnROAD
  
  • Selection of research PI’s
  
  • Providing input to the technology transfer team
The intelligent construction technologies team is new and features technical experts in the area of innovative technologies for planning, design, construction, real-time quality control/monitoring, and management for the lifecycle of infrastructure construction.
The technology transfer team represents experts working to communicate the NRRA activities taking place. Activities include:

- Newsletter
- NRRA website
- Research pays off webinars
- Implementation products
- Annual pavement workshop
Current Opportunities

- NRRA
  - Technical Committees
  - Research Pays Off Seminar Series
    - Every 3rd Tuesday
    - 10-11 am
  - NRRA Workshop
  - Newsletter
  - Website
  - Long and short term research
  - Technology transfer
NRRA Workshop - May 21-23, 2019

• DAY 1 –
  • BIM for Pavements, St Paul Campus U of Minnesota
    • AASHTO Perspective, State presentations, Vendor exhibits and presentations

• Day 2 –
  • NRRA Workshop – Maple Grove Community Center and MnROAD
    • NRRA Committee Reports, MnROAD Tours, FHWA PCC and HMA Trailers and CAT Sponsor Reception

• Day 3 –
  • NRRA Conference - St Paul Campus U of Minnesota
    • Skok and Rohrbach Awards, Concurrent Sessions, NRRA Future Goals and Direction
Call For Innovation

• Ideas that will push us to a new level
• $600,000 available
• 20% match needed
• Due August 2, 2019
• NRRA Members only
Accomplishments

- MnROAD experimental design - $3.2M
- MnROAD construction
  - 140 page summary report
- Research projects underway
  - Short Term – 7 projects
  - Long Term – 8 projects
- Specification sharing
Short-Term Research

Flexible Team
- Effective use of Tack Coats
- Longitudinal Joint Construction Performance

Rigid Team
- Design and Performance of Concrete Unbonded Overlays
- Repair of Joint Associated Distress Pavements

Geotechnical Team
- Larger Subbase Materials
- Subgrade Design for New and Reconstructed

Pavement Preservation Team
- Surface Characteristics of Diamond Ground PCC
- Pavement preservation approaches for lightly surfaced roadways
Long-Term Research

Flexible Team
- HMA Overlay of Concrete and Methods of Enhancing Compaction
- Cold Central Plant Recycling

Rigid Team
- Fiber Reinforced Concrete Pavements
- Early Opening Strength to Traffic
- Optimizing Cement Content for PCC Mixes

Geotechnical Team
- Recycled Aggregates in Aggregate Base and Larger Subbase Materials

Pavement Preservation Team
- Maintaining Poor Pavements
- Partial Depth Repair
What can N Double-R A do to Better?

• Sharing Information
  • Monthly written updates in summary form of all NRRA activities.
  • Simplify key takeaways and conclusions in reports as much as possible.
  • Publish a quarterly or maybe bi-annual summary
  • A one-hour web meeting of activity and research results.

• NRRA should work hard at better promotion.

• Give me more time in a day.
The 4 Big Benefit Themes

- Access to MnROAD
- Research opportunities and knowledge
- Networking
- Sharing information
Future

- Mission
  - Current format
  - Problem specific
- Structure
- Funding Mechanism
- Operating Plan
- Membership