

## NRRR Executive Committee Meeting Draft Notes

April 27, 2021

Online Meeting

Notes refer to the powerpoint used during the meeting and should be used to used for the topics discussed. These notes are the highlights and action items taken from the conversation that took place.

### Meeting Goals

1. Update group (Membership, Available Funds, Timelines)
2. Set NRRR Research for Phase-II (2022 mainline construction basis)
3. NRRR Fall Meeting Plan/goals

### Agenda Followed

- Welcome / Introductions (use NRRR website to show members)
- Share Agency Team Membership list (slides 3 and 4)
  - **ACTION#1 - States should review to ensure the lists are updated and that the representation is accurate to their needs. Let Lauren Dao know if any changes are needed**
- NRRR Overall Budget Projections

	Phase-I		Phase-II	
Agency Travel	33,108	1%	50,000	1%
Construction Inspection/Sensors	324,848	7%	350,000	7%
Communication	125,000	3%	-	0%
MnROAD Data Collection	800,338	17%	800,000	16%
<b>Research Projects</b>				
Regular	2,210,816	46%	2,125,000	43%
Call of Innovation	1,146,080	24%		
State	207,677	4%		
ICT Directed			1,375,000	28%
Database - Infopave quote			300,000	6%
	4,847,867		5,000,000	

- Members reviewed the general structure of the spending plan for Phase-II for the items above. **MnDOT will follow this initial budget but will ask for clarification on after EC approves though a vote. Budgets will be reviewed again in the future meetings.**
- Phase-II Research Proposals (slides 9-10)
  - See the slides for agency details related to voting / estimated costs / team ranking
  - The following projects were initially approved by the executive committee – note the questions a few had below.
  - Dollar Summary Estimate - NRRR will be utilizing \$1,875,00 of its \$2,125,000 general research funding and \$800,000 of its \$1,375,000 ICT directed research funding for the next 5 years.
    - ❖ MnROAD Reflective Cracking Challenge (with NCAT and MO partnership)
    - ❖ Recycled Binder Availability
      - **ACTION#2 - Flex team related - verify that NCHRP efforts are not already being done before an RFP is sent out.**
    - ❖ Reduced Cement in Concrete
    - ❖ Reclamation and Recycling Techniques to Achieve Perpetual Pavements Characteristics
    - ❖ Use of Carbon Dioxide for Sustainable and Resilient Concrete Pavements
      - **ACTION#3 – Rigid team related - Some questions on the effort and some members are already working in this area. Would a synthesis be valuable? Also what is FHWA contribution for the research and sensors - This might reduce the NRRR funding needs.**

## NRRA Executive Committee Meeting Draft Notes

April 27, 2021

Online Meeting

- ❖ Convert Desktop Version of Veta to a Web-Based Application and Standardized Material Delivery Management System Platform
- ❖ Alternative Cementitious Materials – Geopolymer Concrete
- ❖ Flooded Pavements Assessment App–Phase II
- ❖ Thinlays as a PM Treatment
- ❖ Validation of Loose Mix Aging Procedures for Cracking Resistance Evaluation in Balanced Mix Design (Phase-1 and Phase-2)
- ❖ Perpetual Pavements in Wet Freeze Climate
- ❖ Performance Evaluation of Wicking Geotextiles for Improving Drainage and Stiffness of Road Foundation (ties to 4 and 15 SFDR)
- ❖ Convert Desktop Version of Veta to a Web-Based Application and Standardized Material Delivery Management System Platform
- **ACTION #4 – NRRA Technical Teams – Each Team need to do a final review on the need statement and answer any questions that might have been asked by the EC. Due May 15<sup>th</sup> after your May meetings.**
- **ACTION#5 – MnDOT to work on a plan to contract these efforts. Report back to NRRA end of May.**
- Thought for the future – Ideas that were not pursued NRRA will keep on a list for future use. Agencies are encouraged to utilize this list when asked to provide feedback to national or agency funded research in the future so this can again be coordinated as a regional/national event and tracked by NRRA on our website. Will work with the NRRA teams on this idea for the future coordination efforts.
- Timelines – Next Steps Overview (Slide 11)
  - May - Work will start on finalizing ideas for MnDOT contracting for NRRA
  - June - MnDOT will be working with the technical teams on test section design and placement at MnROAD
  - July/August - MnDOT will be working with the technical teams on instrumentation required
  - May 2022 – Mainline construction
- NRRA Fall Meeting Discussion
  - Ran out of time to have a good discussion on this topic. Did not hear any issues holding the NRRA effort at the start of the week and NCAT/MnROAD Sponsor meeting at the end of the week.
  - **ACTION#7 – Send this out to the Executive Committee and get email feedback and comment.**
- Adjourn



National Road  
Research Alliance

[mndot.gov/mnroad/nrra](http://mndot.gov/mnroad/nrra)

**Executive  
Committee  
Meeting**  
April 27, 2021

# National Road Research Alliance

## Goals / Agenda

### Goals

1. Update group (Membership, Available Funds, Timelines)
2. Set NRRR Research for Phase-II (2022 mainline construction basis)
3. NRRR Fall Meeting Plan/goals

### Agenda

- Welcome
  - Introductions (use NRRR website to show members)
  - Share Agency Team Membership list
- NRRR Overall Budget Projections
  - Dollars and Costs Expected
  - Timeline
- Phase-II Research Proposals
  - Review Ranking Results
  - Discuss
- Phase-II Funding Decisions
- NRRR Fall Meeting Discussion
- Adjourn

# National Road Research Alliance

## Introductions

[Joe Holland](#), Caltrans – California

[Tom Pyle](#), Caltrans – California

[Chris Brakke](#), Iowa

[Jeff De Vries](#), Iowa

[Brian Pfeifer](#), Illinois

[Charles Wienrank](#), Illinois

[Cindy Williams](#), Illinois Tollway

Additional Member?

[Jim Foldesi](#), St. Louis County, MN LRRB

Additional Member?

[Kevin Kennedy](#), Michigan

Additional Member?

[John Donahue](#), Missouri

[Brett Trautman](#), Missouri

[Glenn Engstrom](#) (Chair), Minnesota

[Duane Hill](#), Minnesota

[Alex Middleton](#), Mississippi

[Cindy Smith](#), Mississippi

[Matt Linneman](#), North Dakota

[Amy Beise](#), North Dakota

[Barry Paye](#), Wisconsin

[Scott Lawry](#), Wisconsin

[Kevin Kliethermes](#), FHWA

[Bob Orthmeyer](#), FHWA

**NRRA Friends & Technical Team Leaders/Team Research Support Staff**

# National Road Research Alliance

## Team Membership

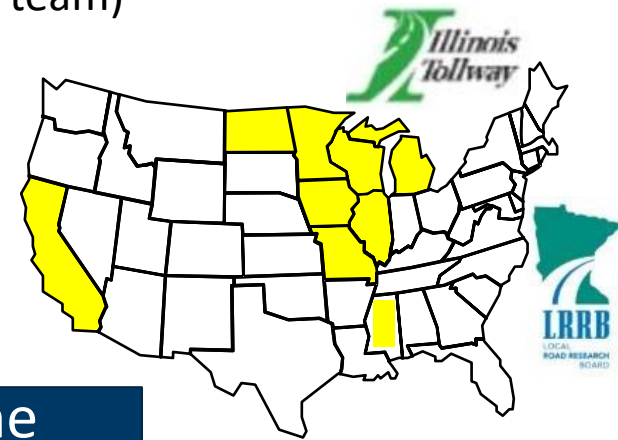
Agency	Executive	Flexible	Rigid	Geotechnical	Intelligent Construction	Preventive Maintenance
California	Joe Holland Tom Pyle	Kee Foo Raghubar Shrestha	David Lim Leo Mahserelli Dulce Rufino Hamed Sadati	Deepak Maskey	Deepak Maskey Ragu Thangavelauth	Leo Mahserelli Reimond Garcia
Iowa	Chris Brakke Jeff De Vries		Chris Brakke		Jeff De Vries Chris Brakke	
Illinois	Charles Wienrank Brian Pfeifer	Charles Wienrank Jim Trepranier	Charles Wienrank James Krstulovich	Heather Shoup Andrew Stolba	Brian Hill	Mark Gawedzinski
Illinois Tollway	Cindy Williams	Jay Behnke Ross Bentsen John Lavallee	Dan Gancarz Jake Sumeraj	Supraja Reddy	Signe Reichelt Cindy Williams	Max Berry Tom Wilson
Local Road Research	Jim Foldesi	Jim Foldesi	Kaye Bieniek			John Brunkhorst
Michigan	Allison Harris Kevin Kennedy	Nathan Maack	John Staton	Richard Endres	Matthew Bellgowan Jason Clark	Kevin Kennedy Andre Clover
Minnesota	Glenn Engstrom Dwane Hill	John Garrity Shongtao Dai	Bernard Izevbekhai Maria Masten	Terry Beaudry (Chair) Raul Velasquez	Rebecca Embacher (Chair) Kyle Hoegh	Joel Ullring (Chair) Jerry Geib
Mississippi	Alex Middleton		Alex Middleton Tucker Stafford	Griffin Sullivan		Alex Middleton Heath Patterson
Missouri	John Donahue Brett Trautman	Dan Oesch (Chair) Paul Denkler	Brett Trautman (Chair) John Donahue	Lydia Brownell Matthew Kraus	Jen Harper Dan Oesch	Phillip Ruffus Mike Shea
New York (ICT Only)	--	--	--	--	Edward Collins Brett Dean Brett Heim Zoeb Zavery	--
North Dakota	Amy Beise Matt Linneman	Greg Olson Tyler Wollmuth	Duane Carlstrom TJ Murphy	Matt Kurle Colter Schwagler	Amy Beise Curt Dunn	Jesse Nelson Stephanie Weigel
Wisconsin	Scott Lawry Barry Paye	Steven Hefel Dan Kopacz	Peter Kemp	Robert Arndorfer Jeff Horsfall	Drew Kottke	Peter Kemp Myungook (MK) Kang

# National Road Research Alliance Membership Overview

## TPF-5(466) - Fee Structure / year (five years)

- NRRRA = 75K small /150K large includes dedicated 25K of the funding to Veta
- NRRRA Veta only = 25K (ICT Team only – not on executive team)
- Associate Members = 2K

- **Full Commitments** - CA, IA, IL, MI, MN, MO, MS, ND, WI
- **Partnerships** - Tollway, LRRB
- **Veta ICT Only** – NY



Expect similar income for Phase-II at this time  
NRRRA Agencies ~ \$1,000,000 year/5 million effort  
NRRRA Associates ~ \$160,000 year

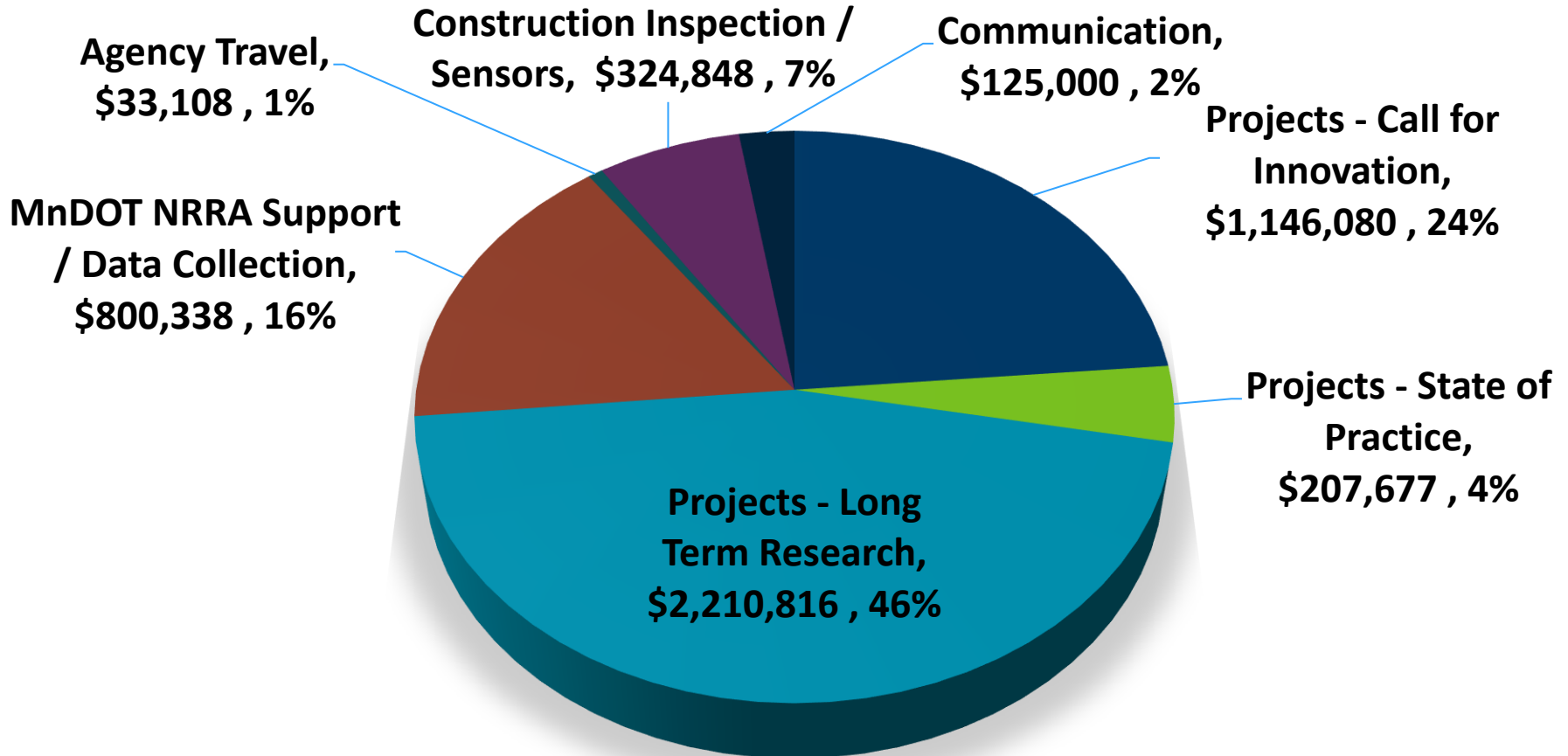
## Veta (Enhancement to the Intelligent Construction Data Management System)

TPF-5(334) ended in 2020

Working on - AK, AL, CT, GA, ME, OH, OR, PA, TN

Other Interest - DE, IN, LA, NE, NH, FL, NJ, VT, UT, VA, TX

# National Road Research Alliance Phase-I/Phase-II Funding Summary



- Utilize a number of Contractors again
- MN Construction = 2918 \$3.1 million // 2022 \$4 million
- Other States like MO Roller Compacted Const/Research = \$275,000
- Associate Match Call for Innovation = \$163,746



# National Road Research Alliance

## Phase-II Philosophy

### **Sustainability / Resiliency**

- Four main sustainability focus areas based on a combination of internal priorities, executive directives, and legislative requirements.
  1. Minimize the impact of our operations on the climate and our environment.
  2. Reduce greenhouse gas emissions from the transportation sector.
  3. Improve the resilience of our transportation system.
  4. Promote public health and healthy communities.

### **Intelligent Construction**

- Supported by including Veta into NRRRA and dedicating funding towards intelligent construction

# National Road Research Alliance Phase-I/Phase-II Funding Summary

	Phase-I		Phase-II		
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## Questions

- Funding levels OK?
- VETA Contribution?
- How much to target for research this round?
- Funding to Save for the Future?

# National Road Research Alliance

## (Top 12) Rankings

Outcome 1-13 Approved to pursue by NRRA

Rank	Total Score	NRRA Contract Idea (Links to the needs statements)	Team Ranking	NRRA Research Estimate	MnROAD Needs	CA	IA	IL	IL Toll	LRRB	MI	MN	MS	MO	ND	WI
1	74	MnROAD Reflective Cracking Challenge	Flex 1	225,000	I-94		2	2	1		4	1	1	2	1	
2	59	Recycled Binder Availability	Flex 2	200,000	None		3	3	2		7	4	2	6	2	
3	54	Reduced Cement in Concrete	Rigid 1	150,000	I-94	5	4		3			2		1	4	4
4	44	Reclamation and Recycling Techniques to Achieve Perpetual Pavements Characteristics	Flex 5 PM 2	150,000	I-94	6		6	10		8	3	3		3	5
5	41	Use of Carbon Dioxide for Sustainable and Resilient Concrete Pavements	Rigid 2	150,000	I-94	2	9	4	5		9	5		8	5	
6	37	Convert Desktop Version of Veta to a Web-Based Application and Standardized Material Delivery Management System Platform	ICT 1	400,000	None			8	4		1	6	8	7	6	
7	33	Alternative Cementitious Materials – Geopolymer Concrete	Rigid 3	300,000	I-94	3	5				5	9		5		6
8	25	Flooded Pavements Assessment App–Phase II	PM 5 Geo 4	200,000	No	1								9	8	1
9	22	Thinlays as a PM Treatment	PM 1	50,000	I-94			1	9				5		10	8
10	18	Validation of Loose Mix Aging Procedures for Cracking Resistance Evaluation in Balanced Mix Design (Phase-1 and Phase-2)	Flex 3A	100,000	None		10						6	3		7
11	18	Perpetual Pavements in Wet Freeze Climate	Flex 4	200,000	I-94		6	7								2
12	16	Performance Evaluation of Wicking Geotextiles for Improving Drainage and Stiffness of Road Foundation (ties to 4 and 15 SFDR)	Geo 1	150,000	I-94		7	10	6			7	10	10		



# National Road Research Alliance

## Initial Idea – Needs update Timelines

April 27, 2021

NRRA Phase-II Items Approved

May 2021

Research Contracting  
Send out Research RFPs

June 2021

NRRA Teams Develop Mainline Plan  
MnROAD will make initial suggestion

July/August 2021

NRRA Teams Develop Sensor Plans

August 2021

MnDOT Construction Plan  
Development for Feb 2022 Letting

September 2021

Researchers Onboard

May 2022

MnDOT Construction Plan  
Development for Feb 2022 Letting

# NRRA and MnROAD/NCAT Sponsor Meeting (Draft) Agenda

Minneapolis, Minnesota

September 13-17, 2021

Location: MSP Accessible Hotel TBD

<p><b>NRRA National Road Research Alliance Meeting</b></p>	<p><b><u>Sept 13 – Monday (2-6 Hotel)</u></b></p> <ul style="list-style-type: none"><li>• <b>NRRA Focus</b><ul style="list-style-type: none"><li>○ (2:00-6:00) NRRA Topic or Training, implementation efforts, discuss at NRRA meetings for topics/need?</li><li>○ (4:00-6:00) NRRA Executive Meeting</li><li>○ (6:30) NRRA reception</li></ul></li></ul> <p><b><u>Sept 14 - Tuesday</u></b></p> <ul style="list-style-type: none"><li>• <b>NRRA Full Day (9-5 Hotel)</b><ul style="list-style-type: none"><li>○ Executive and Teams will provide input for agenda</li></ul></li></ul>
<p>Combined Tours</p>	<p><b><u>Sept 15 – Wednesday (9-5 offsite)</u></b></p> <ul style="list-style-type: none"><li>• AM - Tour of MnROAD</li><li>• Northern Lights – NRRA construction and PG deeper study focus / Lunch Northern Lights</li><li>• PM - Tour (TH-169, CSAH-8)</li><li>• MnROAD/NCAT Sponsor Dinner (hotel)</li></ul>
<p><b>MnROAD/NCAT Sponsor Meeting</b></p>	<p><b><u>Sept 16 - Thursday (9-5 Hotel)</u></b></p> <ul style="list-style-type: none"><li>• <b>MnROAD/NCAT Sponsor Full Day</b><ul style="list-style-type: none"><li>○ Work with NCAT on agenda items</li></ul></li></ul> <p><b><u>Sept 17 - Friday (8-11 Hotel)</u></b></p> <ul style="list-style-type: none"><li>• NCAT Focus Topic(s)<ul style="list-style-type: none"><li>○ (9:00-11:00) PG Technical advisory panel next two years?, training?, Discuss with NCAT/need?</li></ul></li></ul>

# National Road Research Alliance

**Set Next Meeting?**

**Open Discussion?**