

Meeting Minutes: NRRA Intelligent Construction Technologies (ICT) Team

(Agency & Associate Member Meeting)

Date: February 4, 2021
 Minutes prepared by: Rebecca Embacher
 Location: Microsoft Teams
 NRRA Team Webpage: <http://www.dot.state.mn.us/mnroad/nrra/structure-teams/intelligent-construction/index.html>

Attendance

Agency Members

| Participated | Affiliation | State Contact | e-mail |
|-------------------------------------|---|----------------------|--|
| <input checked="" type="checkbox"/> | California | Deepak Maskey | deepak.maskey@dot.ca.gov |
| <input type="checkbox"/> | California | Ragu Thangavelautham | raguparan.thangavelautham@dot.ca.gov |
| <input checked="" type="checkbox"/> | Illinois | Brian Hill | Brian.Hill@illinois.gov |
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| <input type="checkbox"/> | Wisconsin | Drew Kottke | |

Associate Members

| Participated | Affiliation | Contact | e-mail |
|--------------|-------------|---------|--------|
|--------------|-------------|---------|--------|

| | | | |
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| <input type="checkbox"/> | Braun Intertec | Mohammad Sabouri | msabouri@braunintertec.com |
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| <input checked="" type="checkbox"/> | California State University, Los Angeles | Mehran Mazari | mmazari2@calstatela.edu |
| <input type="checkbox"/> | Caterpillar Global Paving | Brian Nagel | Nagel_Brian_D@cat.com |
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| <input type="checkbox"/> | Trimble | Devin Laubhan | devin_laubhan@trimble.com |
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| <input checked="" type="checkbox"/> | Wirtgen Group | Tim Kowalski | Tim.Kowalski@wirtgen-group.com |
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Friends

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| <input type="checkbox"/> | North Dakota | Carey Schreiner | |
| <input type="checkbox"/> | North Dakota | David Bruins | |
| <input checked="" type="checkbox"/> | North Dakota | Nathan Haaland | |

Other Attendees:

Decisions Made

- None

Action items

- Determine top 5 project priorities by March 4, 2021 meeting.

- Determine Intelligent Construction Technologies to use during MnROAD re-construction at April meeting.

Agenda

- General NRRA Phase II Funding Updates

Next Meeting

Date: March 4, 2021

Time: 10:30-11:30AM Central Time

Location: Microsoft Teams

Agenda items: General Updates

Results of Project Priority Survey

ICTs to use during MnROAD reconstruction

Meeting Notes

NRRA Phase II Update (Worel)

Phase I now completed and phase II starting.

Expectations for team in next couple of months

See attached slides.

Available construction funds related to:

Data collection at MnROAD.

Agency travel to allow for in-person meetings.

Sensors for sections that are being constructed.

Communication to allow website and other updates.

Rest of money research and implementation activities.

Focus of NRRA Phase II is Sustainability and Resiliency, and intelligent construction initiatives. Funds for Veta coming up as well under ICT team.

Tight construction timelines. Test sections need to be determined before July. Goal to know by April. Ideas for 2020 construction at MnROAD. Good to develop ideas that can utilize in construction. Could be some limitations for intelligent construction technologies due to short sections at MnROAD.

(Kowalski) Are states being asked for what their needs are? Reminder that we don't need to do research to do research. Emphasis should be on validating things coming up and that high priority items move forward.

February – need to have implementable needs established. Laundry list to break into 2 pages. Then states will look at 2-pagers, survey states at end of February to determine high priority items. Prioritized down to the top 4 to 5 items to bring to executive committee. Also, looking at how items fit in with construction. States will decide which items to move forward due to providing a significant portion of the funding. Sole Source and RFP processes will be utilized. Executive committee will go through top priority ideas.

File sharing will be through MFT. 5-minute videos will be created for top 5 priorities to be sent off to executive committee.

MnDOT \$4M construction funds can only be used on MnROAD interstate highway.

Ideas do not have to be related to MnROAD.

Reminder that a certain portion of overall NRRA funds go towards Veta.

Current Membership: CA, IL, MN, MO MS, ND, NY

Working On: AK, AL, CT, GA, ME, OH, OR, PA, TN

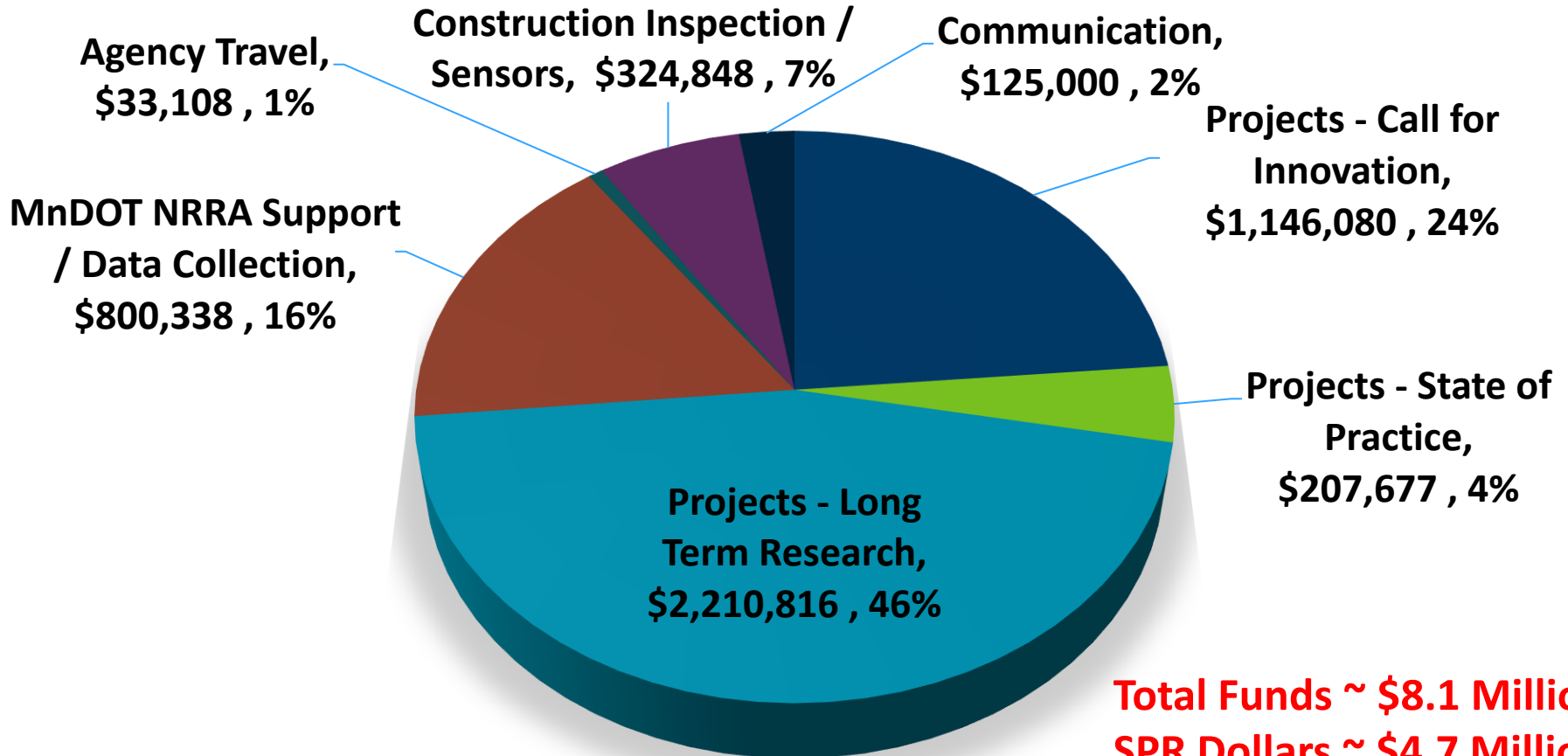


National Road
Research Alliance

mndot.gov/mnroad/nrra

Phase-II Research and Construction Development

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



Total Funds ~ \$8.1 Million
SPR Dollars ~ \$4.7 Million
Ends – February 22, 2021

Other Funding Contributions – above NRRRA SPR Dues

- MN Construction = \$3,132,681
- MO Roller Compacted Const/Research = \$275,000
- Associate Match Call for Innovation = \$163,746

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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

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Initial Idea - Timelines

February

NRRA Teams Discuss Idea

2-Pagers Developed by Members
(Feb 19th)

State Technical Members
Vote on Ideas (narrow down)

March

NRRA Teams Discuss Written Ideas
(March 3-4)

Continue to develop ideas
Test Sections/Sensors/Research
Due – March 31st

April

Executive Committee Review
Early April

NRRA Technical Teams

- Currently working on idea development
- Output – develop top 4-5 prioritize list of ideas
 - 2-Pagers
 - Possible 5 min video

NRRA Executive Committee

- April Meeting
- Review and Approve Ideas
- Help set the MnROAD Construction efforts

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- **Track Ideas – Assign a “Research” Coordinator (MnDOT Staff)**
 - **Start with today’s meeting send ideas to coordinator**
 - **Issues with common online system**
 - **Working on a system to use**
- **Written 2-pager**
- **5 min Video Ideas once written – one idea**



2021 Initial Idea Development

2021-2022 NRRRA Research and MnROAD Construction Development
(Form - January 22, 2021)

Initial Proposal is for NRRRA Executive Team to Approve for further development (keep to two pages)

| | |
|------------------------------|------------------------|
| Short Research Title: | |
| NRRRA Team(s): | |
| Research/Synthesis: | Research or Synthesis? |
| Developed By: | |
| Email: | |
| Phone: | |

| | |
|-------------------------------------|---|
| Expected Construction Costs: | \$X,XXX (include funding sources and partnership matches) |
| Expected Research Cost: | \$X,XXX (include funding sources and partnership matches) |
| Expected Sensor Costs: | \$X,XXX (include funding sources and partnership matches) |
| Research Years Expected: | X years |
| Partnerships: | Detail partnership ideas and who |

Research Outline:

| |
|--|
| What is the purpose and need along with the basic steps to a successfully research effort? |
|--|

Pavement Test Cell Outline:

| |
|--|
| What test sections (MnROAD or other roadways) initial ideas? |
|--|

NRRRA Sustainability/Resiliency and or Intelligent Construction:

| |
|--|
| How will this project focus on these objectives which are the cornerstone of our NRRRA Phase-II efforts? |
|--|

+ Implementation Plan:

| |
|--|
| How is this going to be used by its members? |
|--|

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Discussion?

Topic for ICT team help

Veta (Enhancement to the Intelligent Construction Data Management System)

TPF-5(334) ended in 2020

Committed – CA, IL, MN, MO, MS, ND

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

New states also welcome