



LRRB Annual Update

SUE MILLER, SRF CONSULTING GROUP, INC.

2022 MCEA Conference



The Local Road Research Board



\$4

Million

IN ANNUAL
FUNDING



25+

NEW PROJECTS
EACH YEAR



75+

ACTIVE
PROJECTS



**12 CITY/COUNTY
BOARD MEMBERS**



**100+ TAP CITY/
COUNTY MEMBERS**



Who is the Local Road Research Board?



Jim Foldesi (Chair)
St. Louis County



Kristine Elwood
MnDOT State Aid



Brian Giese
Pope County



Duane Hill
MnDOT D1



Katie Walker
MnDOT Research



Kent Exner
City of Hutchinson



Kyle Shelton
MnDOT R&I



Lon Aune
Marshall County



Paul Oehme
City of Lakeville



Wayne Sandberg
Washington County

Who is the Research Implementation Committee?



Will Manchester (Chair)
City of Minnetonka



Kristine Elwood
MnDOT State Aid



Ben Worel
MnDOT Road Research



Fausto, Cabral
MnDOT D1



Guy Kohlnhofer
Dodge County



John Brunkhorst
McLeod County



Kent Exner
City of Hutchinson



Ryan Thilges
Blue Earth County



Stephanie Malinoff
U of M CTS



Steve Bot
City of St. Michael

New LRRB Orientation

- First ever
- Purpose is to introduce and review the who, what, why and how of LRRB
- 26 in attendance;
- Great interaction



Minnesota Local Road Research Board
RESEARCH & IMPLEMENTATION PROJECTS -
SUMMARY OF PROJECTS COMPLETED OVER THE LAST 15 YEARS (2001-2021)

Research Projects by Category

- Construction
- Traffic & Safety
- Public & Safety
- Intelligence & Research
- Government
- Multi-use
- Transportation

Implementation Projects by Category

- Video
- Technical Assistance
- Webinars
- Workshops
- Conferences

Examples of Implementation Projects

- Addressing Road Safety for Public Safety Agencies
- Implementation of Roadway Signing

LRRB Orientation FAQ
August 2022

What is the Local Road Research Board (LRRB)?
Simply stated it is one of a kind. No other state has a research program like the LRRB (although several are starting to try it is like a "beta test" for Minnesota County and City engineers—a place to get your questions researched and answered! MNDOT does great research, but the LRRB focuses specifically on the needs of counties and cities.

When was the LRRB Established?
In 1992, under Minnesota Administrative Rule 3025.1000 adopted by the Legislature, the LRRB was created. The Legislature gives the MNDOT Commissioner authority to appoint nine board members (listed below).

How is the LRRB Funded?
Each year, the Screening Board (County and City) recommend to the MNDOT Commissioner how much of their State Aid funding to allocate to the LRRB. According to MN Statute [66A.05, Subd. 4](#), the amount shall not exceed 2% of the previous year's allocation. The latest LRRB budget was approximately \$46k.

What Does the LRRB Support (or Co-Sponsor)?

- Basic and applied transportation research based on explicitly needs, producing **Guidelines**, **Software Tools, Videos, and other products** that put new knowledge into practice.
- **Transportation Library** assistance through the MNDOT Library.
- **Scholarship LTRP** Training and technical assistance for public works employees.

What is the Difference Between the LRRB, MNDOT Research and TRP LTRP?

- **LRRB**: Funds research that is specifically focused on the needs of Minnesota counties and cities.
- **TRP** (Research Implementation Committee): LRRB subcommittee with the focus of putting research into practice. The TRP coordinates completed research with a firm that county/city engineers can implement.
- **MNDOT Research & Innovation**: Manages both MNDOT and LRRB research (i.e., contract administration, program management, and project coordination) and provides **Transportation Library** services.
- **TRP**: Provides training and technical assistance to Minnesota local agencies.

Who Oversees the LRRB?
The LRRB is governed by a 9D member board appointed by the Commissioner (Typically upon the recommendation of the State-Aid Engineers). Current LRRB members are:

Chair : St. Louis Co. Dan Olson , Marshall Co.	State Aids : Hutchinson Dan Lohmeier , Lakeville	County Aids : MNDOT State Aid Dana Hill , MNDOT ST Dana Hill , MNDOT N&S Dana Hill , MNDOT ETS
State Aids : Washington Co. Dan Lohmeier , Washington Co.	County Aids : Lakeville Dan Lohmeier , Lakeville	County Aids : MNDOT State Aid Dana Hill , MNDOT ST Dana Hill , MNDOT N&S Dana Hill , MNDOT ETS

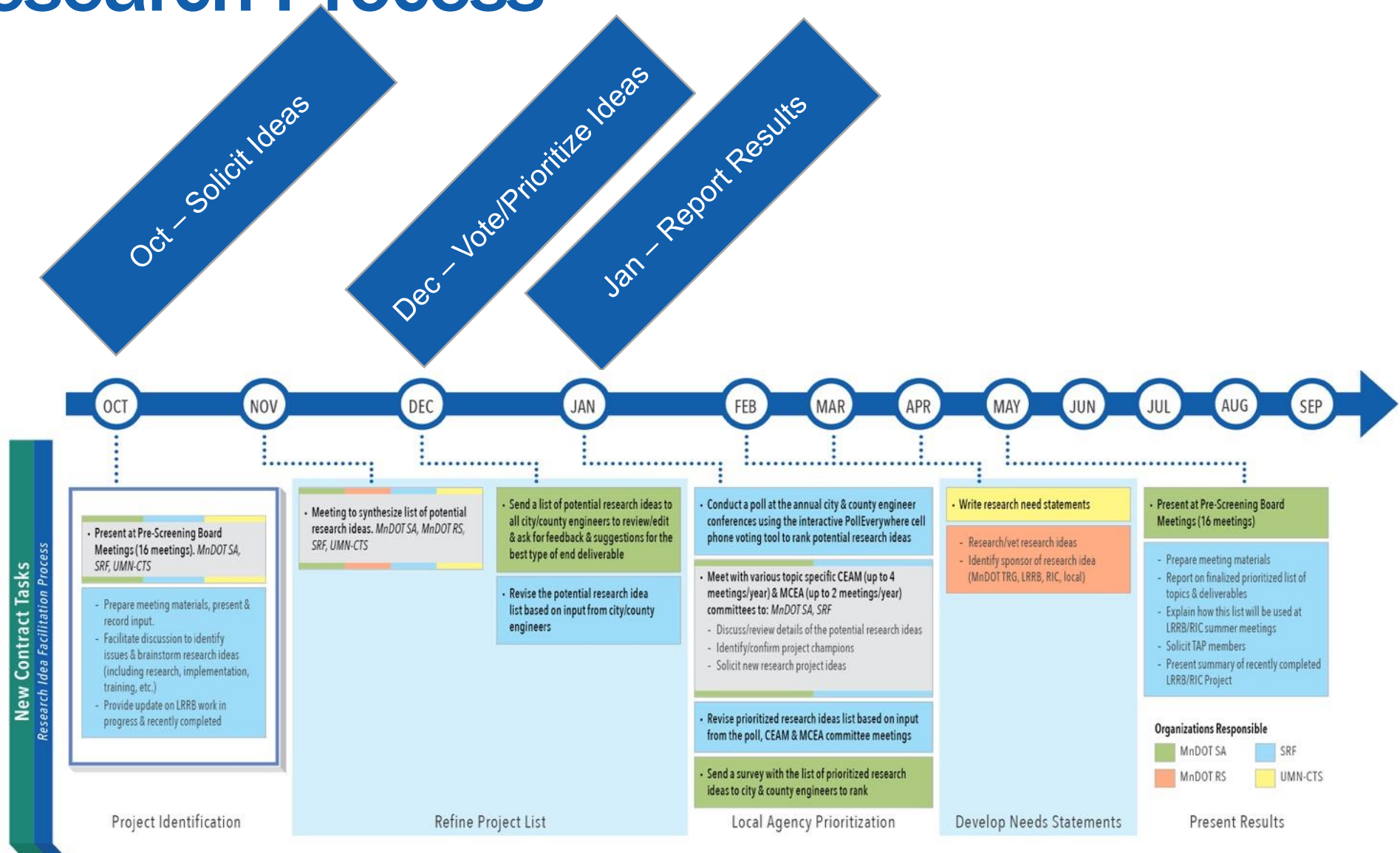
Additionally, the LRRB works through its Research Implementation Committee to transform research results into hands on practical applications. The RIC has a similar structure:

Chair : Michigan Co. John Kucharski , Michigan Co.	State Aids : Hutchinson Dan Lohmeier , Hutchinson	County Aids : MNDOT State Aid Dana Hill , MNDOT ST Dana Hill , MNDOT N&S Dana Hill , MNDOT ETS
State Aids : Oregon Co. John Kucharski , Oregon Co.	County Aids : Michigan Co. John Kucharski , Michigan Co.	County Aids : MNDOT State Aid Dana Hill , MNDOT ST Dana Hill , MNDOT N&S Dana Hill , MNDOT ETS

Page 2 of 2



The Research Process



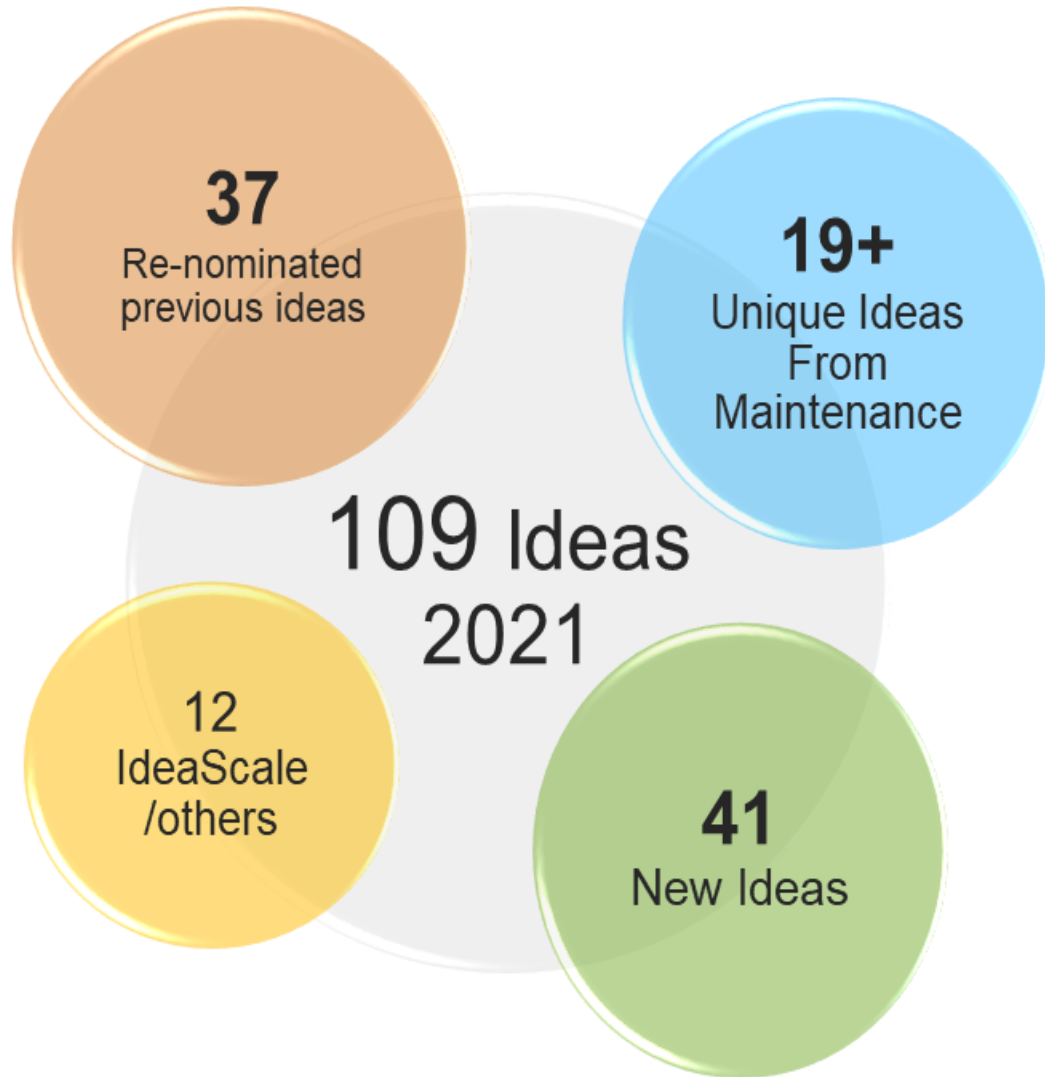
Brainstorming at Prescreening Board Meetings

Pre-Screening Board Meetings			
Date	Dist	County/Muni	Location
7-Oct	8	County	Renville
11-Oct	M	County	Ramsey County
12-Oct	7/8	Municipal	Redwood Falls
13-Oct	6	Municipal	Virtual
14-Oct	2	Municipal	Detroit Lakes
18-Oct	M	Municipal	Virtual
18-Oct	3	County	Stearns County
19-Oct	3	Municipal	St. Cloud
20-Oct	7	County	Kasota
20-Oct	1	Municipal	Virtual
25-Oct	1	County	Carlton County

Meeting with Maintenance Professionals		
Date		Location
12-Oct	Maintenance	Redwood Falls
13-Oct	Maintenance	Olmsted County
14-Oct	Maintenance	Park Rapids
18-Oct	Maintenance	Carver County
21-Oct	Maintenance	Anoka County
25-Oct	Maintenance	Itasca County

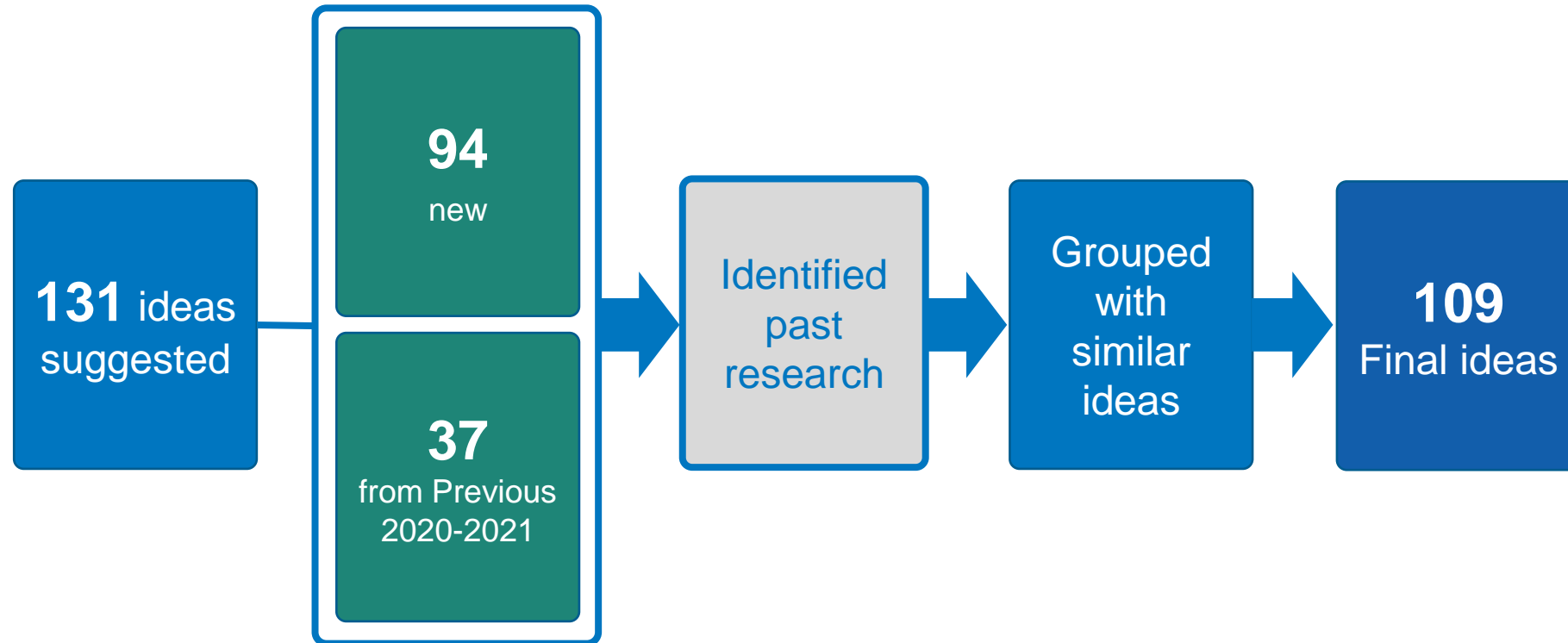
17 Meetings
14 Locations
150+ Participants

2021 New Ideas Outcome

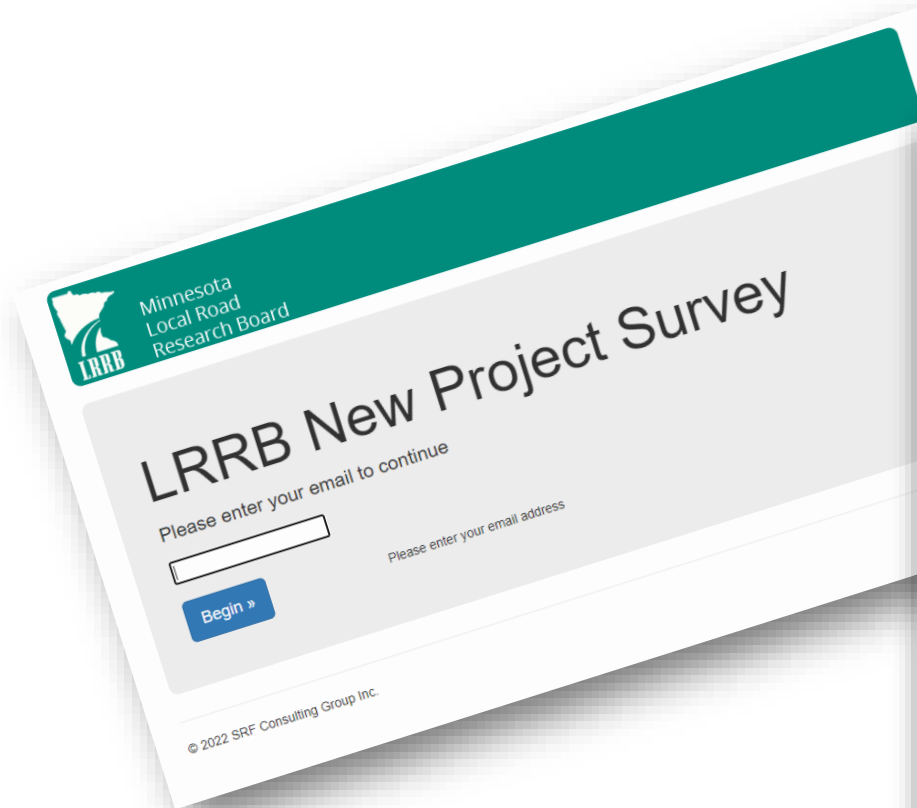


Maintenance Professionals suggested numerous other ideas that are combined within the Engineer's

Process to Reduce the Number of Ideas



Survey Sent to Cities and Counties



Minnesota
Local Road
Research Board

Category
Click any research idea to see full details
 Use the arrows to adjust vote count

Submit »

Remaining Votes 20 If you submit now, you can return later.

0		Bridge and Structures (5)	
0	↕	Clear Span versus a Multiple Span Local Bridge Guide	-
0	↕	Load Posting Implements of Husbandry and Emergency Vehicles for Minnesota's Local Bridge Inventory	-
0	↕	Instrumentation and analysis of in-service hinge connection	-
0	↕	State of the art pier caps study	-
0	↕	Identification, analysis, and reclassification of fracture critical bridges	-
		Construction/Materials (3)	+
		Environmental (5)	+
		Maintenance Operations (28)	+
		Materials and Construction (6)	+
		Multimodal (7)	+
		Pavement (1)	+
		Policy and Planning (28)	+
		Traffic and Safety (26)	+

Full Details

Load Posting Implements of Husbandry and Emergency Vehicles for Minnesota's Local Bridge Inventory

NCHRP 12-110 AASHTO Load Rating Provisions for Implements of Husbandry resulted in a new AASHTO guide manual on load rating and load posting Implements of Husbandry (IoH) for the AASHTO Manual for Bridge Evaluation. The manual suggests developing a screening approach to determine evaluate bridge structures to justify the appropriate tier model truck for load rating and posting evaluation. With approximately 15,000 local bridges developing a representative screening approach for Minnesota's local bridge owners is needed to assure IoH vehicles are properly and consistently evaluated and load posted; additionally educational outreach materials are needed for farmers and bridge owners. Secondly, the FAST Act's Emergency Vehicle requirements resulted in approximately 1,800 local bridges that require load posting for EV's. Similar to IoH, next steps in this process call for a similar screening process, and to develop appropriate EV load posting signage and related educational outreach on their usage and interpretation for emergency responders and bridge owners.

Survey Sent to Cities and Counties...results

District	City	County	Total
1	4	8	12
2	0	9	9
3	6	6	12
4	1	4	5
M	31	8	39
6	6	9	15
7	2	6	8
8	2	6	8
Total	52	56	108



And the winners are....

- 1st Joe MacPherson, Anoka County
(Beat Ted by 1 minute!)
- 20th Greg Isakson, Goodhue County
- 22nd Karin Grandia, Itasca County



Results

Rank	Total	City	County	Category	Idea
1	80	59	21	Maintenance Operations	MN2050 State of the Infrastructure Survey, 2021
2	78	47	31	Materials and Construction	Subcontracting Policy and Impacts on Project Performances
3	65	27	38	Traffic and Safety	Lane Stripping vs CAV
4	55	43	12	Maintenance Operations	Quick Reference on OSHA Procedures
5	48	16	32	Policy and Planning	ROW Management (Utilities)
6	48	29	19	Policy and Planning	Climate Resiliency
7	47	17	30	Maintenance Operations	Active Plow Analytics
8	44	23	21	Policy and Planning	Cell towers and how they impact the ROW
9	44	22	17	Traffic and Safety	Review median widths with design standards
10	42	20	22	Policy and Planning	Grow your own engineer
11	39	23	16	Policy and Planning	Equity/Diversity
12	38	18	20	Traffic and Safety	Street Lighting Standards for Residential Areas
13	36	18	18	Policy and Planning	Fleet - life cycle
14	36	23	13	Environmental	Navigating the FEMA process
15	35	5	30	Maintenance Operations	Sealcoats: Best Practice and Potential Issues
16	35	30	5	Traffic and Safety	BP for Cycle Track
17	34	6	28	Maintenance Operations	Effectiveness of Living Snow fence
18	34	13	21	Multimodal	Review the effectiveness of non-motorized facilities and safety strategies on the
19	32	4	28	Policy and Planning	Snowplow Signal Preemption
20	32	16	16	Maintenance Operations	Synthesis of Mechanics Training

Results

Rank	Total	City	County	Category	Idea
21	32	17	15	Policy and Planning	General Education for Elected Officials
22	32	24	8	Construction/Materials	Effectiveness of Rubber Tired Rollers
23	30	14	16	Construction/Materials	Design guidance for light fill
24	30	14	16	Environmental	Impact of MN Scenic Byways on Quality of Life and Economy
25	29	12	17	Traffic and Safety	How to Reduce Unsafe Crosswalk Encroachment
26	29	14	15	Policy and Planning	Long-term Lease vs GSAB
27	28	11	12	Multimodal	Delineating separated bicycle lanes for individuals with visual disabilities
28	27	3	24	Maintenance Operations	Shoulder Maintenance
29	26	6	20	Maintenance Operations	Cutting Edges
30	26	1	20	Traffic and Safety	Traffic Merge instead of "Lane Ends Merge"
31	25	8	17	Maintenance Operations	Crane Operator Training
32	25	14	11	Policy and Planning	Contractor Delay Issues
33	25	15	10	Policy and Planning	Electric Vehicles Fees
34	24	16	8	Environmental	Synthesis on using of recycled materials for road materials
35	23	2	21	Materials and Construction	Re-cementation of concrete base
36	23	6	17	Maintenance Operations	BP for Maintain Roadway Ditches
37	23	11	12	Policy and Planning	Public Works 101 for Local Government Website
38	23	12	11	Traffic and Safety	Guide for Residential Speed Zones
39	23	17	6	Pavement	The Right Question to the Right Answer
40	22	2	20	Maintenance Operations	BP on Roadside Vegetation Management

Idea Solicitation Schedule:



Research Need Statement

Date: 4/1/19

Need Statement Champion: _____

Agency: _____

Email: _____

Phone: _____

Idea Submitted by: LRRB via Priority Process (3/19/19 Mtg)

Idea Originated from: 2019 LRRB Idea Solicitation Process (Pre-Screen Board mtgs)

Select Program:

MnDOT OR Local Road Research Board (LRRB)

Research OR Implementation

Need Statement Title: _____

Need Statement: Describe the problem or the opportunity. Include background and objective.

Provide a summary of the potential benefits:

How does this project build upon previous research (include title or reference to a completed research effort)?

Provide names to consider for a technical advisory panel:

Please submit completed form to
or
395 John Ireland Blvd., MS 330, St. Paul, MN 55155



Full Depth Reclamation for Urban Street Application

To help cities and counties determine the feasibility of FDR for their roadways. The following resources were developed:

- a [video](#)
- guidebook
- outreach materials

Addresses curb-and-gutter, utilities, storm sewers, and manholes, as well as what should be done with excess reclaimed materials.

Search: 2021RIC02 at the Irrb.org



Full Depth Reclamation Resource Guide

FOR URBAN AND SUBURBAN STREET APPLICATION



Evaluation of SFDR Stabilizing Products

A report including a side-by-side comparison of two commonly used stabilizers, Base One and engineered emulsion in two neighboring counties (Beltrami and Hubbard).

Still in Progress.

Join our LinkedIn Community!

www.linkedin.com/company/lrrrb

- We post content about...
 - New tools and resources
 - Latest transportation research
 - Funding opportunities
- For local transportation practitioners!

Minnesota Local Road Research Board ...
66 followers
5d • 🌐


Meet our board! **Laurie McGinnis** is the director of the **Center for Transportation Studies, Ur** ...see more



Meet Our Board
Laurie McGinnis,
Center for Transportation Studies

Minnesota Local Road Research Board ...
66 followers
3mo • 🌐


Left-turn flashing yellow arrows have been used to improve traffic flow at signalized intersections throughout the state; however, some drivers still struggle to understand them. ...see more



New Project: Driver Comprehension of Flashing Yellow Arrows
mntransportationresearch.org • 2 min read

Minnesota Local Road Research Board ...
66 followers
2mo • 🌐

The **City of Richfield** began a **#completestreets** redesign in 2013, dubbed Sweet Streets, tr ...see more



Richfield "Sweet Streets" Improve Quality of Life, Traffic Times Citywide
mntransportationresearch.org • 6 min read

Minnesota Local Road Research Board ...
66 followers
3mo • 🌐

Hey local **#fleet** managers! ...see more



Evaluating the Use of Hybrid Vehicles in Municipal Fleets
mntransportationresearch.org • 4 min read



Questions?

Kristine Elwood, MnDOT SA

SUE MILLER, SRF CONSULTING GROUP, INC.

2022 MCEA Conference

