



LRRB Fall Meeting FINAL Minutes

October 18, 2017

8:00 a – 4:30 p

*MnDOT District 3B Headquarters and Training Center
Lewis Central
3725 12th Street N
Saint Cloud, MN 56303*

LRRB Members Present:

Lyndon Robjent (Chair), Carver County
Jim Foldesi, Saint Louis County
Tim Stahl, Jackson County
Paul Oehme, City of Chanhassen
Steve Koehler, City of New Ulm
Kaye Bieniek, Olmsted County
Linda Taylor, MnDOT Research
Mitch Rasmussen, MnDOT - State Aid
Kevin Western, MnDOT - Bridge

LRRB Members Absent:

Laurie McGinnis, U of M - CTS

Others Absent:

Shannon Fiecke, MnDOT - Research

Others Present:

Jim Grothaus, U of M - CTS
Ben Worel, MnDOT - OMRR
Hafiz Munir, MnDOT - Research
Debbie Sinclair, MnDOT - Research
Mitch Bartelt, MnDOT - Research

Minutes prepared by Mitch Bartelt, MnDOT - Research

1. Call to Order

Chair Lyndon Robjent called the LRRB separate session to order. He welcomed everyone and explained the purpose of the meeting, to prioritize which proposals will be heard at the December meeting.

Lyndon also described his recent LRRB-sponsored trip to attend the European Transport Conference in Barcelona, Spain. He noted that autonomous vehicles were a hot topic, and found the transportation system in Spain to be outstanding, and was grateful to have been able to attend.

The group did introductions, then reviewed both the Agenda and the June 2017 LRRB/RIC Meeting Minutes. Linda Taylor noted there was an extra item to review that was not on the Agenda – an amendment request for *INV 983: Cost-competitive Timber Bridge Designs for Long Term Performance*. (The request was included in the back of the meeting binder.)

A motion to approve both was made by Mitch Rasmussen and seconded by Jim Foldesi. The motion passed unanimously.

Action Items

Linda Taylor led the discussion and focused mostly on the outstanding items.

(Note: text that appears in the left-most margin is from discussions that occurred at the meeting.)

Indented items contain the exact same text as was in the Action Items handout in the meeting binder.)

Action Items from the June 2017 LRRB Meeting:

Action Item 1: Kevin Western will provide a summary of the bridge research and provide a link to Shannon Fiecke to be posted on the LRRB website (for the road test section tracker).

Status: This item remains **outstanding**. The fact that the bridge office has this information has been relayed to the Materials Lab, which administers the test section tracker. According to Shannon, this may be added in the future, perhaps after the educational video on how to use the site complete. This topic should be included in future discussions of the road test section tracker website.

Kevin said that Paul Rowekamp provided some data for this to the Materials Office.

Action Item 2: Mitch Rasmussen will talk to John Brunkhorst about next summer's meeting being in his area.

Status: This item is **resolved**. Mitch R said he discussed this with John prior to the meeting. John said that he could find a way to host the meeting, but he felt that locations other than Hutchinson might be better. John recommended Rochester, which had been another location considered at the June 2017 meeting. Kaye said she would be willing to host.

The consensus of the group was it would be best to have meetings at the same location as the hotel.

Action Item 3: Debbie Sinclair will send out an updated one page document on the expense and reimbursement process.

Status: This item is **resolved**. Information is available on the LRRB web site.

Action Item 4: Ben Worel will send a list of Minnesota NRRA events to MnDOT Research Services for them to distribute.

Status: Mitch Bartelt sent this out via e-mail on 7/17/2017. This item is **resolved**.

Action Item 5: Jim Grothaus will work with the Minnesota Local Technical Assistance Program to determine if the North Dakota Upper Plains learning platform is practical for Minnesota local agency use.

Status: This item remains **outstanding**. CTS has a proposal from North Dakota Upper Plains, and will share it with LTAP Steering Committee on October 23.

Action Item 6: Mitch Rasmussen and the Outreach Committee will pursue development of a guide and training curriculum to help local agency officials communicate with the public, media, and elected officials.

Status: This item was covered and **resolved** later in the meeting. There was some discussion among Mitch R, Ted Schoenecker, and Mitch B after the June meeting regarding this item. Mitch R and Ted felt this should go to the Research Implementation Committee, and the board agreed. The RIC will come back to the LRRB with a suggested amount of funding.

Action Item 7: Ted Schoenecker will talk to Mark Vizecky in State Aid, test high-friction surface treatments in the field.

Status: Tracey Von Bargaen from Grant County filled out a TRS request and submitted it to Dan Warzala. Mark and Tracey made a formal request for funding later during this meeting, and this item ended up being **resolved**.

Action Item 8: Jim Grothaus will add drone guidance for local agencies as a topic for the October pre-screening board meeting through the Focus Group process.

Status: This topic was identified on October 4 at the District 8 pre-screening board meeting. This item is **resolved**.

Action Item 9: Shannon Fiecke will take the topic of whether making mobile applications is right for local agencies to the Outreach Committee for discussion.

Status: Mitch B discussed this with Shannon. Making mobile applications will be handled in the future on a case-by-case basis, depending on each project and its need for web application. This item is **resolved**.

Action Item 10: Jim Grothaus will add low-volume roadway management for local agencies as a topic for the October pre-screening board meeting through the Focus Group process.

Status: Mitch B sent Renae Kuehl an e-mail with this idea and asked her to add this and the ideas from Action Items 11 and 13 with the other ideas that have been received at the various pre-screening board meetings as part of the new "Focus Group" process. This item is **resolved**.

Action Item 11: Jim Grothaus will add nanotechnology in concrete mix design as a topic for the October pre-screening board meeting through the Focus Group process.

Status: Mitch B sent Renae Kuehl an e-mail with this idea and asked her to add this and the ideas from Action Items 10 and 13 with the other ideas that have been received at the various pre-screening board meetings as part of the new "Focus Group" process. This item is **resolved**.

Action Item 12: Paul Oehme will distribute Research paper #17-01193 from Benjamin Nantasai at Washington State University to John Gulliver at the University of Minnesota to aid in his project titled *Permeable Pavement for Road Salt Reduction*.

Status: This item is **resolved**. Paul Oehme sent this via e-mail to John Gulliver. John Gulliver had not been aware of this paper yet, so this should be helpful.

Action Item 13: Jim Grothaus will add addressing concerns about LED street lighting as a topic for the October pre-screening board meeting through the Focus Group process.

Status: Mitch B sent Renae Kuehl an e-mail with this idea and asked her to add this and the ideas from Action Items 10 and 11 with the other ideas that have been received at the various pre-screening board meetings as part of the new "Focus Group" process. This item is **resolved**.

Action Item 14: Joel Ullring will share the information regarding the Street Saver PM life cycle cost analysis calculator with the MCEA pavement committee and RIC.

Status: This item remains **outstanding**. According to Joel, the MCEA Pavement Committee has not met since mid-June, which was before the June 2017 LRRB meeting.

Mitch B noted that this will likely be resolved when the MCEA Pavement Committee next meets.

Action Item 15: Mitch Bartelt will distribute the 2017 Midwest Bridge Preservation Partnership Meeting notice to LRRB and RIC meeting attendees.

Status: Mitch B sent an e-mail out on August 15 to all of the attendees from the LRRB, RIC, and Outreach Committee. This item is **resolved**.

Action Item 16: Kaye Bieniek will work with Cottonwood County to provide more information on the concrete fibers request. A future LRRB vote will take place via e-mail if this is all provided in a timely fashion.

Status: This item is considered **resolved**. As Kaye described at the meeting, it seemed the goal of the request was to secure for a source of funding, but not necessarily to perform research. Local concrete industry representatives didn't follow up with her after she communicated the conditions to obtain LRRB funding, which required a research deliverable of some type.

Unresolved Action Items from prior meetings:

March 2017 Action Item 3: Shannon Fiecke will examine making the Trip Report fillable in both mobile format and web formats.

Status: Shannon has instructed CTC and Associates to build a fillable online form for Trip Reports. This item remains **outstanding**.

Ben felt this would be nice if Trip Reports could be completed in a way they could be more quickly shared with the group.

October 2016 Action Item 9: Lyndon Robjent will develop a proposal for the next phase of Modernizing Construction Plans for the board to consider for funding at a future meeting.

Status: This is still **outstanding**.

Lyndon said this will be on the agenda for December, and that things are moving forward on this. He said SRF is his preferred consultant for this.

(Note: SRF will present a proposal for this on Day 2 of the December 2017 LRRB meeting. This item is **resolved**.)

June 2016 Action Item 5: Debbie Sinclair will send out the updated pre-trip and post-trip processes to the Board Members when they are finalized.

Status: Mitch R said this likely isn't necessary, as it is different for MnDOT employees versus local agency employees. This item will be considered **resolved**. Debbie noted that the full process is shown on the LRRB website.

Roster Update

Mitch R led the discussion. Kaye will stay on for another term after her current one expires in December 2017. Steve Koehler will be leaving the board after the upcoming December meeting. The City Engineers Association of Minnesota recommended Kent Exner from the City of Hutchinson as a replacement. Kent will be invited to the December meeting.

Jim G noted that Kent Exner sits on the LTAP Steering Committee, and that LRRB usually has two representatives on it. He asked, would the LRRB want someone else to replace Kent on the LTAP Steering Committee?

New Action Item 1: Mitch Rasmussen and Jim Grothaus will work together to discuss potential replacements for Kent Exner on the LTAP Steering Committee at the October 23 meeting.

2. Budget and Administration

Debbie led the discussion of budget and administration.

LRRB Budget Status Report

INV668 FY17 CTAP trainer salary total was \$92,157, balance of \$3,843 released back to available balance.

Annual Program transfers have been completed:

- 675 FY18 Research Services
- 676 FY18 MnROAD Research
- 745 FY18 Library Services

Completed Projects (highlighted in green on spreadsheet):

- 935* Design Consideration for Embankment Protection during Road Overtopping Events
- 936 FY16-17 Focus Groups-completed. **Nothing has been received yet from CTS for an FY18 contract.**
- 952 Best Management Practices for Establishment of Salt-Tolerant Grasses on Roadsides

- 962 Evaluation of Safety and Mobility of Two-Lane Roundabouts
- 964 Traffic Impacts of Bicycle Facilities
- 978 Examining signing options for improving safe driving behaviors in work zones
- 985 Life-Cycle Cost Analysis Tool for Minnesota Pavements
- 1010* Signing for Effective Roundabout Approach Speed Reduction

Project Update:

- **983 Cost-competitive Timber Bridge Designs for Long Term Performance- Received amendment request to extend end date of contract to 06/30/2020 as the construction schedule for one of the bridges involved will be delayed until the winter of 2018-19, moving \$63,233 from FY19 to FY20.**

Pending contracts (highlighted in yellow):

- 1022 Pavement Markings - Wet Retroreflectivity Standards - Received and being processed
- 1025 How Locals Need To Prepare for the Future of V2V/V2I Connected Vehicles - out for signatures
- 1026 Prepare Local Agencies for Future of V2V/V2I and Connected Vehicle Technologies - waiting for final work plan to be submitted from university.
- 1027 Characterization of Runoff Quality from Paved Low Volume Roads and Optimization of Treatment Methods: **Contract executed 10/05**
- 1035 Bridge Office Small Scale/High Priority Research Projects - proposals for two of the three contracts submitted last week.

There was some discussion of when these contracts were approved, and why this has taken so long to get these projects under contract. Mitch B noted that some of these were approved later than December 2016. Contract 1035 was an off-cycle request approved at the March 2017 meeting, and Contract 1022 had additional funding and a major scoping change approved at the June 2017 meeting. Also, while Contract 1025 was approved in December 2016, it was not scheduled to begin until November 2017 in the original proposal work plan.

Mitch R noted he would like to know which Principal Investigators/universities/etc. are responsive or not. Lyndon R also noted it might make sense to know how committed these researchers are on their proposal form. Mitch R doesn't want this to be qualifying criteria, but it would be nice to ask the researchers how they will prioritize the new projects.

New Action Item 2: Prior to the voting at both TRIG and LRRB, Hafiz Munir will report on principal investigators that are problematic and include their other committed research obligations.

Other Items of note:

- FY17 Program Admin - INV 999 \$43,854 released back to available balance
- FY17 Contingency \$50,000 released back to available balance.
- FY17 balance forward to FY18: \$2,468,447.
- FY18 allotment amount is \$3,643,700 which is placeholder until the actual allotment is received.
- FY18 available balance after current commitments and YTD expenditures is \$1,659,618 which will carry forward to FY19.
- FY19 allotment amount uses FY18 ongoing programs amount as placeholder, shows set-asides funded at current rates, after those amount available for projects is \$2,417,370.
- Pie charts show FY18 numbers. Overall program % splits are about the same as last year, still have 28% of FY18 funds uncommitted. Colored column on left of project list corresponds to chart categories.

- Ongoing programs-indicated by check mark in left column

Mitch R said that it would make sense to change the description of the uncommitted balance, as it doesn't account for commitments in future fiscal years, and makes it appear that there is far more unspent money than there actually is.

New Action Item 3: For future meetings, Debbie Sinclair will rearrange the financial spreadsheet information and pie charts to more accurately reflect the true uncommitted balance and account for future fiscal year commitments.

This will better portray the difference between the unspent balance versus the uncommitted balance, as well as carry over versus carry forward amount. Debbie will also add PI to budget spreadsheet.

Mitch R also noted it would be helpful to present a more simplified financial document for the pre-screening board meetings this spring.

New Action Item 4: Debbie Sinclair will provide Mitch Rasmussen a more simplified financial document representing current LRRB finances that can be shared at upcoming pre-screening board meetings.

INV 999 Administration Budget

- Final FY17 report. \$513.09 of travel expenditures for the 2017 Summer meeting were paid from FY18 funds. They were paid after close of FY17 and are included in that budget.
- FY17 \$43,854 released back to available balance

Contract Amendments Report

There are currently only 3 amendments - two for time and one just a Letter to the File.

Schedule for 2018 LRRB Meetings

Below is the current 2018 RIC Meeting Dates and Locations, excluding the summer meeting.

- Monday, March 12, 2018 at MnROAD
- Wednesday, September 12, 2018 at Saint Cloud Training Center
- Wednesday, November 14, 2018 at MnROAD

After much discussion, the group settled on the following LRRB meeting schedule for 2018.

- LRRB Spring Meeting: Thursday, April 5, probably in Golden Valley
- LRRB Summer Meeting: Wednesday, June 20 and Thursday, June 21 (tentative) in the Rochester area
- LRRB Fall Meeting: Wednesday, October 17, probably in Saint Cloud

The LRRB Fall meeting will be held at the Stearns County Public Works Building (455 28th Avenue South, Waite Park, MN 56387), due to a lack of availability of conference rooms at the Saint Cloud MnDOT office.

- LRRB Winter Meeting: Wednesday, December 12 and Thursday, December 13, probably at the U of M

Location for 2018 Summer LRRB/RIC Joint Meeting

This was discussed above, under Action Item 2. The meeting will be held in Rochester

New Action Item 5: Debbie Sinclair will explore available bidding processes to ensure a better venue for the 2018 LRRB Summer Meeting (e.g. she will determine if direct selection an option).

2018 Conferences and Attendees

Debbie asked if any other board members would like to attend TRB in Washington in January. As of now, only Kaye is attending. Lyndon recommended asking Kent Exner.

New Action Item 6: Mitch Rasmussen will invite Kent Exner to the December 2017 LRRB meeting and ask him if he is interested in going to the Transportation Research Board Annual Meeting in Washington DC in January.

Debbie said the Transport Research Arena will be held in Vienna, Austria from April 16-19, 2018. One LRRB member is allowed to go. If anyone is interested, she needs to know ASAP.

For all the rest of the conferences, board members were encouraged to review the schedule and let MnDOT Research Services know at December meeting.

Lyndon noted that the European Transport Conference he just went to will be in Dublin in 2018.

New Action Item 7: Lyndon Robient will send Debbie Sinclair the dates for the European Transport Conference in 2018.

(Note: The 2018 European Transport Conference will be held from October 10-12 in Dublin, Ireland. This item is **resolved**.)

Other upcoming conferences were brought up by meeting attendees. These included:

- Jim G reminded everyone of the CTS Research Conference at the University of Minnesota on November 2.
- Jim G said the National LTAP conference will be held in New Orleans from July 22-25 in the French Quarter at the Hotel Monteleone.
- Ben said the National Center for Asphalt Technology (NCAT) conference will be held March 27-29 in Auburn, Alabama.

Debbie also explained that there are detailed travel and reimbursement instructions on the LRRB website. This contains complete instructions for expense reports for local agency and MnDOT employees, as well as a tip sheet for quick reference. Most current documents will be there – check for updates. All expense reimbursement documentation needs to be sent to Lori Sobczak.

TRAP Update

This program was re-opened this summer to address gaps in areas such as media, outreach, tech transfer and marketing, and also to add others who for various reasons had not replied to last year's RFP. Several more proposals were received.

Two are still pending:

- Waiting for Audit to complete their review of Deep Well (CRASH+SUES)
- WSE has yet to submit their pre-award information packet to even start the process.

Linda noted that if the project is over \$100,000, there will need to be an RFP and the TRAP list cannot be used.

3. FY2019 Proposal Rating

Hafiz Munir led the discussion. He noted there were 82 proposals received this year, and that 21 proposals received four or more votes.

Mitch R feels that the board should hear as many proposals as possible, as funding research projects is the most important thing the LRRB does.

New Action Item 8: Mitch Bartelt will work with others in Research Services to sort out why/how NS-489a and b went to TRIG. It looks like it was labeled as a primary LRRB project, and it shouldn't have been.

(Note: Mitch B followed up on this item after the meeting. In checking with others in the research office, he was told this project was labeled to both TRIG users as being both MnDOT and LRRB. For TRIG voting, however, their members only see the proposals recommended by the Project Champion, and the others are left off the spreadsheet. Thus, this is why only 489b was pushed forward to TRIG voters. This item is **resolved**.)

Discussion of Proposals

Hafiz indicated that 20 presentation slots are available for projects at the December meeting. The voting spreadsheet was reviewed by the board and a decision was made to hear proposals that received a high number of votes. Eleven projects met this criteria. The remaining projects were discussed by the Local Road Research Board whether or not to include them for presentation.

Any other project that received at least one vote was able to be discussed on a case-by-case basis.

Jim G asked about *518u: Acquisition of Technology and Autonomous Vehicle Workshops*. The board felt that private sector is handling this better. There is also concern about the expense of this proposal. Mitch R noted there would be value to local agencies as a clearinghouse to give information on the topic of V2V/V2I. He suggested a revision to the proposal that focused more on the knowledge sharing and less on obtaining a piece of equipment. He would be amenable to hearing a revised proposal.

Lyndon noted that he voted for Proposal 501b: Evaluating the Impact of Local Expenditures on State and Regional Transportation Facilities. It was proposed by Jerry Zhao at the University of Minnesota. However, he wondered if this was too specific to cities. He suggested that the PI should be asked to rearrange it to be broader.

New Action Item 9: Mitch Bartelt will advise Jerry Zhao from the University of Minnesota to adjust his presentation to the Local Road Research Board for Proposal 501b so that is not as specific to cities.

Will Northrop at the University of Minnesota submitted Proposal 489b: Reducing Winter Maintenance Equipment Fuel Consumption Using Advanced Vehicle Data Analytics. Tim Stahl expressed that he voted for it, but wondered if it was too MnDOT-specific for the LRRB to hear. Board members felt both that it would be a good cost-sharing opportunity, but that there wasn't enough "local flavor" to this proposal.

New Action Item 10: Mitch Bartelt will advise Will Northrop from the University of Minnesota to adjust his presentation to the Local Road Research Board for Proposal 489b so that it better addresses the local roadway network.

4. Selection of Proposals for Presentation at December Meeting

The projects that were selected for presentation at the LRRB Meeting on December 6-7 are included in Attachment 1. Twenty-one projects will be heard. The board did leave open the option to consider cost-sharing opportunities for other projects that end up being funded by TRIG (possibly 491c, 495b, 498b, and 512a), but were not selected to be heard by the LRRB in December.

5. Workload Assessment Study

Linda led the discussion, and Jake Granholm from Management Analysis and Development (MAD) joined the discussion via phone.

Linda went over the white paper first, where Table 3 shows a significant gap between the RS actual support cost and LRRB funding allocation. The LRRB program support hasn't kept pace with increased program demands. Linda did recognize that the LRRB did increase RS program support by \$25,000 at the March 2017 meeting.

Then Jake Granholm, a Senior Management Consultant with MMB, discussed the proposal. Linda worked with the MAD Director Beth Bibus to discuss how to anchor funding levels to the amount of work completed by MnDOT to administer the program. MAD previously performed a workload assessment for the MnDOT Research Services and Library. They looked for repeatable accurate cost assessment models to reflect how much work RS does, and what will need to be done in the future to sustain that service.

Jake proposed developing two models to account for MnDOT Research Services expenses:

- 1) Cost approach, to determine how to quantify how much performing the LRRB work requires.
- 2) Price approach, to determine how much the LRRB should pay for that work.

There was reluctance from the board to pursue a full cost-recovery model. There was also some concern as to what the overall goal is. If it is to accurately determine overhead, then that goal should be spelled out. Kevin stated that the bridge office was experiencing the same issue with the State Aid Bridge program, where service provided to local agencies was straining the bridge office budget and can be difficult to fully account.

The board feels it is getting a good deal from MnDOT to administer the Local Road Research Board program. The consensus from the board is that MnDOT Research Services should not run in the red to provide service for the Local Road Research Board. MnDOT RS should ask for more funding as necessary and justified. However, it is imperative that MnDOT RS accurately tracks time spent providing service to the LRRB.

The board agreed to wait until the LRRB Strategic Update is further along before considering constructing any sophisticated cost-recovery models. There was some discussion as to whether the Strategic Plan Update contract should be amended to include these considerations, if it doesn't already.

New Action Item 11: Lyndon Robient and Mitch Bartelt will examine the scope of the Strategic Plan Update to ensure that cost to administer the program is considered.

6. Project Updates

- Nichole Morris from the University of Minnesota gave a presentation regarding a completed project [INV 973: Examination of Driver Performance and Distraction with In-Vehicle Signing](#).

This update and project were well-received. The project showed that static external vehicle signing is still necessary.

Kevin asked about whether speeding "penalties" were applied during the simulation testing, and whether they would have affected driver behavior. Nichole said they were not, and said that in general, there is little penalty for speeding.

- David Saftner from the University of Minnesota at Duluth gave a presentation on the completed project [INV 979: Slope Stabilization and Repair Solutions for Local Government Engineers](#).

This update was well-received by the group.

David noted that the TAP wanted a user friendly book that could be easily and quickly referenced; he said they have taken it to referring to it as a “bird book.” Mitch R said he would like to take a copy of it to the Outreach Committee for the next meeting.

Jim G said this “bird book” would be great to show to the prescreening board meetings, to show how an idea turns into something big like this. Mitch R described the new Focus Group process to David. He says it will likely be featured at the May pre-screening board meeting, which will showcase recently completed projects to local agency engineers. Steve praised David and this TAP for doing a wonderful job on a reasonable budget.

Tim also asked to get an early version of the “bird book.” He had a recent slope failure and wants to know if he gave accurate recommendations.

New Action Item 12: Mitch Bartelt will work with David Saftner to get an early version of the “bird book” for the INV 979: Slope Stabilization and Repair Solutions for Local Government Engineers project to distribute to both Mitch Rasmussen and Tim Stahl.

7. New “Focus Group” Process Update

Mitch R provided an update on the new process.

About 60% of the meetings have been held, and 125 new ideas have been generated. At times, there are suggestions for ideas for which there is already a product, which helps market the LRRB’s work. At the large May pre-screening meeting next year, SRF will spend a big part of its time going through these products.

Mitch R noted that SRF has been helpful in this process. Soliciting ideas is not that labor intensive, but data synthesis is, particularly to identify ideas that already have been researched. This is a one-year pilot, and will be evaluated again after that.

Jim F said he found it to be a better, more relaxed atmosphere than at the Focus Group. Mitch R feels the connections made will help get more people interested in being TAP members. Also, he feels more local agency people will be exposed to this research and value it more.

8. Trip Reports

Mitch R yielded the floor to Ben Worel. Ben W synthesized the Trip Reports for the pavement items into an Excel spreadsheet.

Mitch R hopes MnDOT RS can take these ideas and develop action items, and potentially develop Need Statements. Hafiz noted that trip reports have led to forensic investigations to determine ideas from within long paragraphs. Mitch R advised that when filling out Trip Reports, documented notes should be separated from potential action items so they’re more easily reviewed.

Linda pointed out that MnDOT uses these trip reports in part to justify the travel expense, whereas the LRRB does it to help generate research ideas.

The consensus of the board was that going forward, Trip Reports will be an agenda item at future meetings. Each person should be prepared to discuss their one to two nuggets from their

recent trips. Mitch R can discuss with Outreach Committee to see if this can meet the ultimate goal of being completed on the fly, and that perhaps Shannon Fiecke can help with that.

New Action Item 13: Ben Worel will send Mitch Bartelt his spreadsheet tracking Trip Reports for inclusion in the meeting minutes. Mitch Bartelt will evaluate it. Items that are checked for LRRB will be discussed at future meetings.

9. Outreach Committee Update

Mitch R led the discussion.

Careers in Civil Engineering Video and Website

Both are available here to be shown, and were shown to the group: <https://becomeacivilengineer.com/>

- The video is done and the website is mostly complete, so distribution is beginning.
- The group decided to distribute this information via web site instead of printed materials to provide further information to students about the field. Any thoughts on the website can still be sent to Renae Kuehl at SRF for incorporation. The web site will be owned by MnDOT long-term and it can be updated and likely grow in the future.
- An attractive DVD cover case for the video is being made for distribution at any fairs or events.
- The video has already been provided to a group of STEM teachers via a connection Renae made at St. Thomas, and is also being shown at city/county pre-screening meetings.
- MnDOT's Bridge Up! (led by Nicole Bartelt) will cross-promote this information and planned to mention this video and web site at a conference for the American Society for Engineering Education last month.
- Wordpress contacted Renae to say they might display the website at the London Build 2017 Expo in the United Kingdom this month.
- The TAP and/or Outreach Committee will work with SRF on further distribution plans.

Ineffective Specialty Signs

- The script for the video has been revised.
 - Howard Preston with CH2MHill was asked to give it one last review, due to his expertise.
 - Bolton & Menk will reshoot it.
- The goal was to explain this in plainer language.
- The RIC suggested this video be mentioned in a guidebook SRF is creating to deal with public requests.

Technical Liaison appreciation

- Both MnDOT and the LRRB plan to recognize technical liaisons with a thank you letter (cc'd to their bosses) and an appreciation gift.
 - LRRB technical liaisons will receive LRRB branded tumblers – an example of which was passed out at the meeting.
 - MnDOT plans to send certificates of recognition too, which would include the LRRB logo if joint-funded.
- The Outreach Committee wants to know: Does LRRB also want to send certificate for their sole-funded projects? **Example certificates were included in the binder.**

10. Media Guide for Local Agency Officials

Agenda item: The board will discuss whether the *Guide for Local Agency Officials: How to Communicate with the Public, Media, and Elected Officials* idea would better be handled by the Outreach Committee or the Research Implementation Committee.

Mitch R said that he and Ted agreed this should go to the RIC. The RIC will come back to the LRRB with a suggested amount of funding. The board agreed with this decision.

New Action Item 14: Bruce Holdhusen will work with the Research Implementation Committee to ensure they come back to the Local Road Research Board with a funding request for a Guide for Local Agency Officials: How to Communicate with the Public, Media, and Elected Officials.

11. LRRB Strategic Plan Update

Lyndon Robjent led the discussion.

The TAP has finished the Stakeholder Engagement task, which took place at the LRRB summer meeting). The consultants have also interviewed researchers, former TAP members, former LRRB members, and others of interest with recent past experience with the LRRB.

They came up with seven large observations. These included:

1. Anticipate future trends affecting transportation
2. Allocate funds effectively
3. Develop a pipeline of ideas that matches the LRRB's mission and competencies
4. Deliver items more promptly
5. Assess program performance via meaningful yet simple metrics
6. Communicate value of research and results
7. Develop feedback loop with practitioners to understand how products are creating value

The next phase is to write the strategic plan itself. Lyndon will regroup with them, as he thinks some pieces are missing, particularly with respect to staffing.

New Action Item 15: Lyndon Robjent will send an update of the High-level observations on Phase 1 from the LRRB Strategic Plan Update to the board.

12. RIC Update

As the LRRB/RIC liaison, Kaye gave an update. They last met on September 27.

Three project updates were given. These included:

- o Signing for Effective Roundabout Approach Speed Reduction
- o Barriers to Right-of-Way Acquisition and Recommendations for Change
- o Development of a Moving Automatic Flagger Assistance Device (AFAD) for Moving Work Zone Operations

Jim G talked about ADA workshops, which are coming out in December. There will be four weeks of lead time for advertising them. Nine classes total will be held, which works out to about one in each district. Thirty to thirty-five local agency personnel can attend at no charge.

MnDOT District 3 State Aid Engineer Kelvin Howieson has an action item to talk about bridge removal programs and policies with State Aid Bridge personnel.

Rena Kuehl gave an update on implementation planning by evaluating recently completed projects. About one-third of these are underway.

Joel U brought a project request titled Field Testing and Optimization of Soy Based Dust Control Agents to the RIC. He will take this forward to request funding.

Brian Davis from U of M presented an update to the RIC about the 3D Lidar workshop.

The Careers in Civil Engineering video was shown and well-received.

There was a discussion of the *Is Chip Sealing Counterproductive or Not?* project. It will be described in more detail during the funding request later in the meeting.

13. Off-Cycle Project Funding Requests

Evaluating Effective AC Content in Cold In-Place Recycling Mixtures

Brown County Engineer Wayne Stevens called in to lead the discussion and answer questions. (A Need Statement for this research idea was included in the binder.) Tim also gave some background on the research idea.

Wayne said that when cold in-place recycling (CIR) projects are constructed, the plan usually calls for the addition of 3% oil. However, he has found that it is too much oil to be practical in the field, particularly in the heat of the summer.

Wayne said they haven't observed any reduction in product with adding less oil than called for in the plan, but they're concerned that it might affect the performance somehow. The question that this research idea proposes to answer is, is there a reduction in the performance somehow? This reduced performance could be evaluated in terms of strength, life expectancy, and how the paved surface stands up to traffic, as well as other factors mentioned in the Need Statement.

Tim asked where Wayne saw the research going for this. Wayne responded that there could be some testing to determine the effective asphalt content, including outside temperature at the time of application.

Ben asked Wayne if there are good records of when roadways with a lower asphalt content were built. Wayne said they do, and they haven't noticed issues with wheel rutting or cracking, even with the reduced oil.

Tim said the goal of the testing would be to determine fracture critical strength with respect to asphalt content and temperature during application. Wayne said the research would focus on the bituminous overlay projects, as double chip seals didn't turn out that well.

Tim asked Wayne if they have tried full depth replacement (FDR) in Brown County. Wayne said they haven't, because they've had so much success with CIR and a 3" overlay.

Lyndon noted problems with moisture in FDR. Wayne said they haven't had any problems with moisture with CIR, as they have not gone down as far as gravel. They also have a good gravel layer to encourage drainage away from surface.

Tim asked if this research project would replace need to get a recommendation and design from the pavement engineer. Wayne said not necessarily; he just wants to see if they should put down less oil, especially if the temperature is higher.

Wayne did add that bids come in lower because contractors are used to not providing as much oil on projects. In the field, the contractor has put down as little as 1.2% AC in some cases. He also noted that AET performed mix design calling for 3.0 % AC, but then did testing and said the lower amount of oil still provided a good product.

The board was unsure whether this should be a TRS, or a full-fledged research project. There are 190 miles of data in Brown County to evaluate.

New Action Item 16: Wayne Stevens will develop a proposal, to have this heard at the April 2018 LRRB meeting, as an off-cycle funding request.

New Action Item 17: Lyndon Robjent will work with potential consultants to prepare a proposal for modernizing construction plans to be heard in December.

(Note: This is on the Agenda for the December 2017 LRRB meeting. This item is **resolved**.)

AET Coring proposal for Is Seal Coating Counterproductive or Not

Kaye covered this, without the assistance of Steve Bot. (Steve is the Technical Liaison for the *Is Seal Coating Counterproductive or Not?* research project.) The funding request is for \$10,916.25. This would cover cores and pavement slabs from areas studied as part of this project. The original contract did not have funding for this included. As part of the proposal, cores would be taken from sites in Saint Michael, Woodbury, and Maple Grove.

The board expressed concern that this would sample exclusively from failed areas. However, the board felt this would add value to the project and be worth approving.

Jim Foldesi moved to approve the additional funding request for INV 1028: Is Seal Coating Counterproductive or Not Is Seal Coating Counterproductive or Not. Kevin Western seconded the motion. Motion passed unanimously.

14. Bonus Amendment Request

Cost-competitive Timber Bridge Designs for Long Term Performance

The board reviewed an amendment request to extend end date of contract INV 983: Cost-Competitive Timber Bridge Designs for Long Term Performance from April 30, 2019 to June 30, 2020. The construction schedule for one of the bridges involved will be delayed until the winter of 2018-19, necessitating moving \$63,233 from FY19 to FY20.

Tim Stahl made a motion to approve the amendment to INV 983: Cost-Competitive Timber Bridge Designs for Long Term Performance. Paul Oehme seconded the motion. The motion passed unanimously.

15. TRS Funding Request

High Friction Surface Treatments

Mitch B introduced the background on this request. Tracey von Barga from Swift County submitted a research idea in February regarding High Friction Surface Treatments. When this idea was evaluated at the June LRRB meeting, the group decided this should be a TRS.

Mark Vizecky from State Aid and Tracey called in remotely to request funding for this TRS.

There was discussion among the group if there were qualified consultants on the TRAP to perform this work. The consensus is that multiple consultants on the TRAP are. Linda pointed out that how much money is spent on the project can vary based on the consultant and can determine how in-depth the resulting work is.

Mark said he feels national knowledge regarding high friction surface treatments is on the lower end; thus, he felt this TRS might cost more than most.

Jim Foldesi moved to approve up to \$30,000 to fund a Transportation Research Synthesis on High-Friction Surface Treatments. Kevin Western seconded the motion. Motion passed.

New Action Item 18: Hafiz Munir will work with Mark Vizecky and Tracey von Barga on next steps to get the High Friction Surface Treatments Project under contract, including consultant selection.

16. Round Robin

Lyndon Robjent, Linda Taylor, Mitch Rasmussen, Jim Foldesi, Kaye Bieniek, Debbie Sinclair, and Hafiz Munir all chose to pass.

Jim Grothaus is leaving the University of Minnesota Center for Transportation Studies. His last day at CTS will be November 3. His new position will be with Hancock Concrete, on the promotion and marketing side.

Steve Koehler encouraged Jim G to join the board in Minneapolis on December 6.

Tim Stahl noted that Willy Rabenberg recently moved from Redwood County to Clay County, Iowa to be their county engineer. Tim discussed service bureaus and a simplified sign software program to examine in the future.

On behalf of the NRRRA, **Ben Worel** thanked the LRRB for its participation and funding.

Ben also gave a quick update on ARRA. Pavement recycling efforts are not yet as active as asphalt and concrete paving. ARRA is coming up with more tools to help with recycling. Ben suggested that it could be interesting to have them talk to the board about (CIR), FDR, in 6 months or so.

Finally, Ben announced that autonomous vehicles will be tested this fall at MnROAD. 3M is involved with some pavement marking projects. They will be making snow at MnROAD, too. There will be some tours available.

Paul Oehme gave an update on the State Transportation Leadership Council, on which he is a sitting member. The State Transportation Leadership Council brings private sector, public sector, nonprofit, academic areas together, and meets quarterly (with a two-year commitment for each member). He said the meetings focus on the future of the transportation system, and the last meeting focused quite a bit on the topic of autonomous vehicles. Paul also noted that an autonomous bus will be displayed at Nicollet Mall during the Super Bowl.

Kevin Western said people from the MnDOT Bridge Office met with a bunch of bridge experts at CTS last year, and will again in November. Together, they came up with twenty different opportunities to work on big and small picture bridge projects – three of which were funded. (Refer to Contract 1035 from Debbie's update on page 5.)

Mitch Bartelt thanked board members for turning around project evaluations and scoresheets in a timely fashion, and putting up with all of the gentle follow-up messages from RS staff.

Mitch also announced that he was notified via e-mail during the meeting that *Pavement Markings – Wet Retroreflectivity Standards* and *How Locals Need to Prepare for the Future of V2V/V2I Connected Vehicles* (Contracts 1022 and 1025 from Debbie's update on page 5) are under contract.

17. Adjournment

Steve Koehler moved to adjourn the meeting. Jim Foldesi seconded the motion. The motion to adjourn passed by unanimous vote.

Summary of Action Items

Action Items from October 2017 LRRB Meeting:

Action Item 1: Mitch Rasmussen and Jim Grothaus will work together to discuss potential replacements for Kent Exner on the LTAP Steering Committee at the October 23 meeting.

Action Item 2: Prior to the voting at both TRIG and LRRB, Hafiz Munir will report on principal investigators that are problematic and include their other committed research obligations.

Action Item 3: For future meetings, Debbie Sinclair will rearrange the financial spreadsheet information and pie charts to more accurately reflect the true uncommitted balance and account for future fiscal year commitments.

Action Item 4: Debbie Sinclair will provide Mitch Rasmussen a more simplified financial document representing current LRRB finances that can be shared at upcoming pre-screening board meetings.

Action Item 5: Debbie Sinclair will explore available bidding processes to ensure a better venue for the 2018 LRRB Summer Meeting (e.g. she will determine if direct selection an option).

Action Item 6: Mitch Rasmussen will invite Kent Exner to the December 2017 LRRB meeting and ask him if he is interested in going to the Transportation Research Board Annual Meeting in Washington DC in January.

Action Item 7: Lyndon Robjent will send Debbie Sinclair the dates for the European Transport Conference in 2018. – **RESOLVED**

Action Item 8: Mitch Bartelt will work with others in Research Services to sort out why/how NS-489a and b went to TRIG. It looks like it was labeled as a primary LRRB project, and it shouldn't have been. – **RESOLVED**

Action Item 9: Mitch Bartelt will advise Jerry Zhao from the University of Minnesota to adjust his presentation to the Local Road Research Board for Proposal 501b so that is not as specific to cities.

Action Item 10: Mitch Bartelt will advise Will Northrop from the University of Minnesota to adjust his presentation to the Local Road Research Board for Proposal 489b so that it better addresses the local roadway network.

Action Item 11: Lyndon Robjent and Mitch Bartelt will examine the scope of the Strategic Plan Update to ensure that cost to administer the program is considered.

Action Item 12: Mitch Bartelt will work with David Saftner to get an early version of the “bird book” for the *INV 979: Slope Stabilization and Repair Solutions for Local Government Engineers* project to distribute to both Mitch Rasmussen and Tim Stahl.

Action Item 13: Ben Worel will send Mitch Bartelt his spreadsheet tracking Trip Reports for inclusion in the meeting minutes. Mitch B will evaluate it. If it is checked for LRRB, it will be talked about at future meetings.

Action Item 14: Bruce Holdhusen will work with the Research Implementation Committee to ensure they come back to the Local Road Research Board with a funding request for a Guide for Local Agency Officials: How to Communicate with the Public, Media, and Elected Officials.

Action Item 15: Lyndon Robjent will send an update of the High-level observations on Phase 1 from the LRRB Strategic Plan Update to the board.

Action Item 16: Wayne Stevens will develop a proposal, to have this heard at the April 2018 LRRB meeting, as an off-cycle funding request.

Action Item 17: Lyndon Robjent will work with potential consultants to prepare a proposal for modernizing construction plans to be heard in December. – **RESOLVED**

Action Item 18: Hafiz Munir will work with Mark Vizecky and Tracey von Barga on next steps to get the High Friction Surface Treatments Project under contract, including consultant selection.

Unresolved Action Items from prior meetings:

June 2017 Action Item 1: Kevin Western will provide a summary of the bridge research and provide a link to Shannon Fiecke to be posted on the LRRB website.

June 2017 Action Item 5: Jim Grothaus will work with the Minnesota Local Technical Assistance Program to determine if the North Dakota Upper Plains learning platform is practical for Minnesota local agency use.

June 2017 Action Item 14: Joel Ulring will share the information regarding the Street Saver PM life cycle cost analysis calculator with the MCEA pavement committee and RIC.

March 2017 Action Item 3: Shannon Fiecke will examine making the Trip Report fillable in both mobile format and web formats.

October 2016 Action Item 9: Lyndon Robjert will develop a proposal for the next phase of Modernizing Construction Plans for the board to consider for funding at a future meeting. –

RESOLVED

Attachment 1
Proposal Selection Summary
LRRB October 2017 Meeting Minutes

Need Statement	Project Champion	Principal Investigator	University	Project Title
489b	Joe Huneke (MnDOT)	Will Northrop	Minnesota	Reducing Winter Maintenance Equipment Fuel Consumption Using Advanced Vehicle Data Analytics
499b	Steve Lillehaug (City of Shakopee)	Omar Smadi	Iowa State	Develop Pavement Management Guide for Local Agencies
500a	Paul Oehme (City of Chanhassen)	John Hourdos	Minnesota	Guidance for Separated/Buffered Bike Lanes With Delineators
501b	Russ Matthys (City of Eagan)	Jerry Zhao	Minnesota	Evaluating the Impact of Local Expenditures on State and Regional Transportation Facilities
503c	Mitch Rasmussen (State Aid)	Laura Fay	Montana State	A Guide to Successfully Convert Severely Distressed Paved Roads to Unpaved Roads
504a	Jim Foldesi (Saint Louis County) & Duane Hill (MnDOT)	Mihai Marasteanu	Minnesota	Identifying and evaluating snow and ice control methods that reduce or eliminate salt usage, minimize cost, provide the appropriate level of service, and protect the environment
506c	Jack Broz (City of Richfield)	Gary A. Davis	Minnesota	Criteria and Guidelines for Three-Lane Road Design and Operation.
507a	Kristi Sebastian (Dakota County)	David Noyce	Wisconsin	Design Standards for Unobstructed Sight Lines at Left-turn Lanes
508c	Lyndon Robjent (Carver County)	Natalie Villwock-Witte	Montana State	Transportation Workforce Recruitment and Retention Strategies for Minnesota Transportation Public Agencies
508d	Lyndon Robjent (Carver County)	Kenneth Bartlett	Minnesota	Workforce planning and human resource development strategies for Minnesota's public transportation agencies
509b	Deb Heiser (City of Saint Louis Park) & Jan Lucke (Washington County)	Jason Cao	Minnesota	Evidence for Municipal and County Decision-Making: The Demand For and Value of Non-motorized Transport Infrastructure
511c	Duane Hill (MnDOT)	Lan Chun	Minnesota-Duluth	Evaluation of taconite byproducts as alternative sanding materials for chloride reduction in northeastern Minnesota watersheds
522u	Bruce Harsbargen (Beltrami County)	Brad Wentz	North Dakota State	Development of pavement condition forecasting for web-based asset management for County Governments

Need Statement	Project Champion	Principal Investigator	University	Project Title
KB01-2	Dwayne Stenlund (MnDOT)	Eric Watkins	Minnesota	Regional Optimization of Roadside Turfgrass Seed Mixtures Phase 2: Regional Field Trials and Economic Analysis
KB02-1	Wayne Sandberg (Washington County) & Kevin Schlangen (Dakota County)	Will Northrop	Minnesota	Techno-Economic Analysis of Implementing Hybrid Electric Utility Vehicles in Municipal Fleets
KB03-3	Dwayne Stenlund (MnDOT)	John Gulliver	Minnesota	Design and Construction of Infiltration Facilities
KB03-4	Jim Foldesi (Saint Louis County)	Jessica Kozarek	Minnesota	Assessing culverts in Minnesota: fish passage and storm vulnerability
KB04-2	Jack Broz (City of Richfield)	Jerry Zhao	Minnesota	Quantifying the Impacts of Complete Streets: The Case of Richfield
KB07-1	Victor Lund (Saint Louis County)	Imran Hayee	Minnesota-Duluth	Development and Demonstration of an In-Vehicle Lane Departure Warning System using DSRC Based V2V Communication
KB08-1	Glenn Engstrom (MnDOT)	Jia-Liang Le	Minnesota	Innovative materials and advanced technologies for a sustainable pavement infrastructure
KB10-1	Joe Gustafson (Washington County)	Nichole Morris	Minnesota	Effectiveness of Teenage Driver Support System (TDSS) on Reducing Traffic Violation Behaviors for Teenage Drivers at the Early Time of Licensure