

Local Road Research Board  
**Spring 2013 Meeting**  
MINUTES  
**March 28, 2013**  
**8:00 AM – 4:00 PM**  
**McCull Pond Environmental Learning Center**  
**Savage, Minnesota 55378**

Attendees(Board Members):  
Rick West, Chair, Otter Tail County  
Bruce Hasbargen, Beltrami County  
Lyndon Robjent, Carver County  
Tim Stahl, Jackson County  
Steven Koehler, City of New Ulm  
John Powell, City of Savage  
Laurie McGinnis, U of MN, CTS  
Thomas Ravn, MnDOT, OCIC  
Julie Skallman, MnDOT, State Aid  
Linda Taylor, MnDOT, RS

Attendees(Staff):  
Jan Lucke, U of MN, CTS  
Maureen Jensen, MnDOT, Materials Lab  
Alan Rindels, MnDOT, RS  
Ann McLellan, MnDOT, RS  
Debbie Sinclair, MnDOT, RS

Absent:  
Farideh Amiri, MnDOT, RS

Attendees (Guests):  
Nick Busse, MnDOT, RS  
Taek Kwon, U of MN, Duluth  
Jim Grothaus, U of MN, CTS  
Matthew Lebens, MnDOT, Materials Lab  
Joshua Kuhn, MnDOT, Data & Analysis  
Erik Minge, SRF Consulting  
Richard Li, U of WI, Madison (Conf. Call)

II. Call To Order

Mr. Chair welcomed everyone and thanked the City of Savage for the use of their facility. Attendees introduced themselves.

**Agenda Review & Approval:**

Laurie McGinnis requested adding a UMN research problem statement regarding zoning from the TERRA Board to the agenda.

***Motion:** A motion to approve the Agenda as amended was made by Steve Koehler; seconded by John Powell. Motion Approved.*

**RIC Roster Discussion:**

Tim Stahl reported that the new RIC Chair is Jeff Hulsether, Brainerd City Engineer. Dave Robley, Douglas County Engineer is the Vice Chair.

**Review & Approval of November 2012 Minutes:**

Linda Taylor discussed the Action items in the minutes. John Powell reported on Action Item #4: Pavement Management TRS development. He told the Board that he did not have a defined scope at this time, but expects to have a project developed soon.

***Motion:** A motion to approve the December 2012 minutes was made by Julie Skallman; seconded by Bruce Hasbargen. Motion Approved.*

III. Budget Report:

Debbie Sinclair, RS Financial Services Supervisor (Acting) reported on the budget.

- FY 2014 budget has only \$45,737 remaining, which includes \$145,000 for INV999 Project Administration.
- INV668 LTAP Program FHWA increased funds to \$150,000
- INV895 Traffic Generating Developments and Road Life Consumption and INV900 Hennepin/Minneapolis LED Light Study are completed.
- INV927 website maintenance and development has been removed from INV999 and is now an INV number.
- INV924 YouTube Videos - Stop Sign and Pothole Patching videos rolled out, \$68,000 remaining for additional videos. Julie Skallman reported that a quality YouTube video costs roughly \$12,000 to produce.
- The FY14 apportionment is \$3,162,232.
- There were 20 amendments, 17 time extension amendments and 3 for additional costs since the beginning of FY13. Average length of time amendments are for is an additional 6 months (RS minimum due to administrative processing).

**Discussion:** John would like to know when the amendments are approved so this should be added to the amendment report. RS will report these figures at each meeting for the Board's review. Tim noted that it is better to overestimate time than to ask for an amendment.

- INV929 colored concrete project requires greater than \$14,000 for additional testing by Michigan Tech. Tim Stahl reported that the TAP recommends that Michigan Tech has the technology to perform additional testing to explore whether the dyes used interfere with the cementitious materials.

**Motion:** John Powell made a motion to the Board to approve up to \$15,000 for additional colored concrete testing by Michigan Tech. Rick West seconded. Motion carried.

The Board also recommended the PI present a project update at the summer meeting.

**ACTION ITEM #1: RS to update amendment report to include only the quarterly amendments and add amendment approval date.**

IV. Completed Research Project Discussion:

Steve asked for a status of the completed LED Lighting project, and is looking forward to seeing the report. (INV900)

Lyndon asked about the LED Stop Signs project (INV898). Alan reported that a positive impact has been discovered, but MnDOT OTST has requested additional testing. The results are anticipated shortly.

It was suggested that these might be interesting projects for the summer meeting. Linda suggested the Traffic Generators project be invited as well. (INV895)

**ACTION ITEM #2: RS will explore having these topics (INV898, INV895, and INV900) be presented at the summer meeting in New Ulm.**

## V. Contract Process Improvement

Ann McLellan reported that RS has been meeting with the UMN regarding the proposal template.

- RS has instituted a QA process where the Research Management Engineer will review all of the final work plans to make sure there are no obvious busts in the work plan.
- The UMN and RS are determining how long it takes to process a contract and will document their findings.
- Finally, RS has identified that faculty are getting a negative message when asked to justify contracts greater than 2 years. Changes are being made to the proposal template to eliminate the negative connotation if they propose a project that extends beyond 24 months.

VI. Summer Joint LRRB & RIC Meeting: June 19-20, New Ulm, Holiday Inn  
Steve Koehler is planning the summer meeting with RS support. The Board looks forward to a great meeting discussing the LRRB programs. Carole Weise of RS is working with him on the details.

**ACTION ITEM #3: Steve will work with Carole to send out an e-mail to LRRB and RIC Boards with evening activity options for the summer meeting.**

## VII. Conferences:

The LRRB Board reviewed the list of available conferences and upcoming research workshops of benefit for Minnesota Cities and Counties. The Board also approved some additional conferences for Board member consideration. These include:

- 41st European Transport Conference, Frankfurt, Germany
- Bruce Hasbargen expressed interest
- XXVIII International Baltic Road Conference, Vilnius, Lithuania
- 2nd International Conference on Timber Bridges, Las Vegas, NV, is open to all LRRB & RIC members and approved for 2 attendees from the Timber Bridge TAP.
- 17th International Road Federation World Meeting, Riyadh, Saudi Arabia.

John Powell may be interested in attending the World Congress on Intelligent Transportation Systems in Tokyo, Japan.

For clarification, the Board agreed that only LRRB members can be approved to attend international conferences. Also, only two LRRB members can attend each international conference.

The Board also agreed that for the Timber Bridge Conference participation, if an LRRB and/or RIC members do not select this conference to attend, the TAP for the Timber Bridge Project be invited to participate. The Association of Minnesota Counties should be removed from the list.

Road Dust Best Management Practices will be held in conjunction with the TERRA Pavement Conference.

**Motion:** *A motion to approve the list of conferences was made by John Powell and seconded by Lyndon Robjent. Motion carries.*

**ACTION ITEM #4: RS will update the conference list, revise the OST report, and determine the RS attendee for the NLTAP conference.**

**ACTION ITEM #5: Confirm interest at June meeting. If no RIC/LRRB interest, then TAP should be contacted since meeting is in September.**

#### VIII. RIC Update

Tim Stahl reported that at the recent RIC meeting there were presentations on:

- RIC Budget: \$51,237.88 remaining. This includes the \$30,000 in LRRB funds for pedestrian crossings approved at December meeting.
- Street Tree Plan was presented by Greg Johnson who recommends the website MyMinnesotaWoods.com.
- Pervious concrete research was presented by Bernard Izevbekhai, Maplewood Lab.
- Gravel Road Maintenance project, Rich Sanders and Maureen Jensen will be discussing the project with Michigan Tech. AET has a Gravel Road Assessment program and evaluation procedures. He suggested that the Board hear a presentation on the Gravel Road Assessment program at the summer meeting.

Tim reported that SRF is completing the Dust Control project prior to the 2009-2011 RIC contract expiration, and that the material should be available shortly. He also asked for clarification on what the RIC's role is for implementation of completed research.

He also discussed that the consultant's contract is to expire shortly and requests the Board extend the contract up to an additional 2 years. The State of Minnesota Board has a five year maximum cap on a consultant's contract.

**Motion:** *Tim Stahl made a motion that the RIC consultants contract be extended up to an additional 2 years. Bruce Hasbargen seconded. Motion carried.*

#### IX. TRB Nuggets and Research Development

Ann McLellan provided a spreadsheet which summarized TRB Trip Reports from all who attended. The spreadsheet summarized nuggets from the attendees and listed eight possible actions: Research, RIC, Outreach Committee, Web Site, TRS, LTAP, TAP Member, and Host webinar or course. The spreadsheet (attached) has action items in regard to each topic.

Due to time restraints, she asked the Board to discuss only the topics of individuals present at the Board meeting. She will distribute the spreadsheet after the Board meeting to those not in attendance to see if they agree. She will then also send the spreadsheet to the Board to review the remaining items.

The Board liked the revised Out Of State Travel report that included checkboxes for follow-up. They would like the trip analysis to be done for all trips between Board meetings. Tim Stahl requested the revised template be sent to him to test out.

**ACTION ITEM #6: Ann will send out the TRB trip report summary to attendees, solicit feedback from them on follow-up actions, and provide the summary spreadsheet with Board members comments in the meeting minutes.**

X. Iowa and Metro Focus Group

Alan discussed several topics resulting from attending the focus group meeting with Iowa with Iowa Highway Research Board (IHRB). He suggested that MnDOT RS has attended several focus group meetings the past few years as a result of Mike Sheehan's and Sue Miller's efforts when they were on the Board. The Timber Bridge project is a great example of how the two funding boards can collaborate.

He recommended the Board consider inviting Mark Dunn, IHRB, to introduce himself and observe the LRRB at the summer meeting. The Board discussed this action and agreed with the idea.

**ACTION ITEM #7: RS will follow through and invite Mark Dunn to participate in the summer meeting and provide him 15 minutes to update the Board on Iowa's operation and funding program.**

Alan also discussed with the Board the opportunity to participate in a National Study by Shauna Hallmark titled "Evaluating the Relationship between the Driver Behavior and Roadway to Address Rural Intersection Safety" using the SHRP2 Driving Study Data. Julie recommended no action but to bring it back to the Board through the RFP process.

**ACTION ITEM #8: RS will work on the needs statement "Evaluating the Relationship between the Driver Behavior and Roadway to Address Rural Intersection Safety" for the RFP.**

Alan also described some of the findings from the Iowa State Curve Warning project, methodologies to influence drivers to slow down while navigating curves. He described how simply putting vertical reflective tape on the sign posts had a positive impact. He also reported that Brad Estochen MnDOT OTST has funded a TRS to explore the best techniques to use in Minnesota. To roll out the techniques in Minnesota, Brad would like to try out a few of the applications in several locations (20 per treatment). Would the Board consider such a project?

Julie recommended that MnDOT OTST work with the OPERA program to fund the treatments.

**ACTION ITEM #9: RS will follow through and discuss the curve warning sign project with Jim Grothaus of the OPERA program.**

XI. Outreach Activities

Julie discussed how the LRRB web site maintenance contract was underestimated in regards to time.

**ACTION ITEM #10: Julie will come back to the June Board meeting requesting more funding for the LRRB web contract.**

Nick Busse should be invited to the outreach committee.

Julie also suggested that the committee celebrate that the LRRB has been working to address Minnesota's research needs for 55 years. They will be planning activities around this event, purchase some trinkets etc. to hand out. The consultant contract may be used as well as INV999 funding.

The Board received many very positive responses from the City and County Annual Meetings from the Jeopardy Game developed by the outreach committee.

Julie also reported that Public Works Magazine has highlighted the Gravel Roads Training in their website developed by the Minnesota LTAP.

Finally, they are continuing to develop additional YouTube videos. It costs roughly \$12,000 each to develop a good product. The Stonebrooke workplan is in the process of making another YouTube video. The committee is continually evaluating the quality of these videos to establish the protocol and approach by the consultants (CTC, SRF and Stonebrooke). They hope to get additional suggestions for YouTube videos from the focus groups.

#### XII. FY2014 Ongoing Funding Request

Debbie Sinclair reviewed the LRRB INV999 Program Administration Budget. The INV999 budget she recommends for FY 2014 should be \$145,000, which reflects that website activities have been removed from this budget to INV927 Website Consultant Budget, as compared to the budget of \$156,500 for FY 2013.

***Motion:*** Tim Stahl made a motion that the budget of \$145,000 be approved for INV999. John Powell seconded. Motion carried.

#### XIII. University Transportation Centers

The Research and Innovative Technology Administration (RITA) of the U.S. Department of Transportation (US DOT) issued a solicitation in late 2012 to competitively select 35 UTC centers. The purpose of these centers is to advance U.S. technology and expertise in the many modes and disciplines comprising transportation through the mechanisms of research, education, and technology transfer; to provide a critical transportation knowledge base outside the US DOT; and to address vital workforce needs for the next generation of transportation leaders.

Funding will be awarded in the following categories:

- 5 National Center recipients will receive \$3 million per year and require a 100% non-federal match.
- 10 Regional Center recipients will receive \$2.75 million per year and require a 100% non-federal match. One recipient will be selected per DOT region.
- Not more than 20 Tier 1 Center recipients will receive \$1.5 million per year and require a 50% non-federal match.

Institutions may apply for multiple grants, and may choose to apply for grants under more than one type of UTC category (National, Regional or Tier 1). However, MAP-21 restricts the type of grants that an institution might receive, either as a sole or lead institution of a consortium or as a member of a consortium.

CTS submitted a proposal for each type of Center on March 19, 2013. Funding decisions are expected in June.

Laurie McGinnis distributed a TERRA proposed research proposal titled "Impact to Transportation Industry Due to Increased Zoning Restrictions," for discussion. She wanted to the Board's reaction to the proposed research.

**ACTION ITEM #11: The Board requested that a need statement be developed on Impact to Transportation Industry Due to Increased Zoning Restrictions and presented through the LRRB research needs processing for the fall research RFP.**

XIV. Research Projects for Consideration

**Portable WIM Presentation (Taek Kwon):**

Taek Kwon gave a presentation on a portable weigh in motion system that he has been developing with the office of TDA. It has shown such promise that nationally many are asking to test the system.

TDA and State Aid would like to see this technology implemented and propose additional testing of the system for local roads. He is asking \$31,122 for building one more portable WIM project. And SRF's tasks \$62,297 will fund the evaluation of truck weights for 17 sites on county and city roads for this summer and fall. Equipment and parts could be purchased before June 30<sup>th</sup>.

XV. Knowledge Building

Jan Lucke walked the LRRB Board members through the two handouts on Knowledge Building priorities. One provided an update and the other laid out the four LRRB strategic research categories (Design, Construction, Maintenance/ Operations, and Environmental Compatibility). She went through the potential criteria for knowledge building priorities and then the members spent time brainstorming topics for consideration. A knowledge building workshop is being planned for June that will use this information.

**ACTION ITEM #12: Jan Lucke will document the topics brainstormed by the LRRB Board members during summer meeting and schedule the upcoming knowledge building workshop.**

XVI. Project Updates & Presentation

INV922 - "*Systems Preservation Guide.*" Rick West gave an update. The project includes five counties now instead of six. There is one large TAP. The second TAP meeting will be mid-April or mid-May for six hours. They are using a life cycle cost method instead, since every county does budgeting differently. The consultant had a change in personnel, so they are not sure they will be using them for the PR portion.

INV911 - "*At Grade Trail Crossing.*" There is a handbook/guide. The final report will be done in May.

INV899 - "*Performance Monitoring On Olmsted County Road 117.*" They are focusing on crashes. Two years of testing remain.

XVII. Funding Decisions

**Deployment of Portable WIM Systems for Data Collection**

The decision was made to fund this project, both the original Taek Kwon research (\$31,122) and the SRF evaluation (\$62,297). Research Services would pay for the equipment using FY13 at \$18,623. The remaining \$12,499 would be funded by LRRB, along with the \$62,297.11 for SRF.

Julie proposed using the \$75,000 from the gravel road fund for the \$62,297.11 and \$18,623. The RIC could come back in the future for the gravel road project. Gravel roads should stay on budget list as \$0.

**Motion** *Rick West made a motion to transfer \$75k from RIC budget that was originally earmarked for Gravel Roads project to Portable WIM System project. The motion was seconded by Bruce Hasbargen; motion passed.*

XVIII. Round Robin

**Laurie:**

The CTS is honoring Julie Skallman. She is receiving the Ray L. Lappegaard Distinguished Service Award at the CTS Awards Banquet. Each year the Ray L. Lappegaard Distinguished Service Award is presented to a transportation professional who displays outstanding leadership, mentorship and support to the profession.

**Linda:**

Research Manager interviews are scheduled for next week.

Research Services is putting together a best practice guide to better quantify the benefits of our research. She will give an update at a future LRRB meeting.

**Nick:**

Email list – LRRB can use our channels of communication.

**Meeting Adjourned**

**Motion:** *A motion to adjourn the Spring 2013 LRRB meeting was made by Bruce Hasbargen. Motion Approved.*

**Next Meeting:**

June 19-20, 2013  
9:00am-4:30pm (tentative)  
Holiday Inn  
2101 South Broadway  
New Ulm, Minnesota

Action Items  
March 28, 2013  
LRRB Meeting

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Attendee	Session	Attendee Comments	RS Comments	Research	RIC	Outreach Committee	Web Site	TRS	LTAP	TAP Member	Host	March 28, 2013 Board Comments	Follow Up
DESIGN													
Julie Skallman	Best Practices in Post Disaster Humanitarian Logistics	As MnDOT begins work on planning it will be key to remember to identify what private response agencies already exist in the area and what their expertise is so we don't think we need to do everything ourselves.	Consultant could be hired to put a list together of private response agencies.		X							No future work. MnDOT is pilot for an AASHTO project.	
Jay Hietpas	Advances in Project Delivery Methods	MnDOT has developed constructability review guidelines that are available on MnDOT's public website. Local units of government should consider using these when advancing projects.	Develop a seminar of techniques in advances in project delivery methods for cities and counties. State Aid could determine if MnDOT's guidelines fit or if they need adjusting.		X		X		X				
Dan Franta	LTPP/T&DI/ASCE	The DARWin-ME program software has been updated and will be available in 2013.	There is a very limited number of people in state that would be users of DARWin-ME, but a wider audience of engineers would benefit from understanding what it is. Create a overview YouTube Video.			X	X						
Dan Franta		South Dakota has implemented some mix design specs for gravel roads that have produced impressive results even under heavy traffic loading.	A research project is underway dealing with gravel roads: "Is it Effective to Rejuvenate a Road Rather than Re-gravel?" and the RIC is investigating a project. Do a TRS.		X			X		X			
Nicole Peterson	Roadside Safety Analysis Program (RSAP)	Several research projects are being conducted to populate the RSAP, which was created to assist with the cost-effective analysis procedure for assessing roadside safety improvements. Is there user-friendly way to utilize the information for cities and counties?	There is a TRB Webinar: Using the New Roadside Analysis Program, Version 3 (RSAPv3) to Design Roadside on March 27 on this topic.		X				X				
Alan Rindels	How to Accommodate Large Vehicles at Roundabouts	A pooled fund research effort by the Univ. of Kansas is wrapping up, and the research was shared with Office of Freight and Jim Rosenow, they have been waiting for this research.	Paul Stine just completed a joint project with Wisconsin on the topic of large legal trucks. Two question: semi-trucks and routing OSOW vehicles		X						X Webinar	Yes, send to RIC. Focus on how to move large farm equipment.	Email to RIC 4/3/13 (Farideh and Jeff)
John Powell	Breakfast Discussion	Discussed using changeable message signs for permanent business signing. He attended a session that discussed business sign recognition. Do a TRS to evaluate CMSs as an option, evaluating safety issues when the driver's eye is away from the road and recommend timing requirements, brightness levels, etc. With business turnover, a new sign doesn't have to be made and paid for.					X	X				Yes, do a short TRS through CTC. Replacement of blue sign.	Email 4/3/13 to Shirlee Sherkow to start a TRS (John Powell cc'd)

Attendee	Session	Attendee Comments	RS Comments	Research	RIC	Outreach Committee	Web Site	TRS	LTAP	TAP Member	Host	March 28, 2013	Follow Up
												Board Comments	
Alan Rindels	Poster session on Iowa's Research on Signing for High Speed Curves	There were a lot of different approaches explored to influence automobile drivers to slow down in high speed curves. One approach to put vertical reflective tape on the sign posts or vertical delineation is pretty inexpensive and did achieve a positive impact.	Considering the breadth of this study, our office has funded a TRS exploring this topic with Iowa State for Brad Estochen MnDOT OTST. The TRS project was to explore what is the most effective for Minnesota. The LRRB could participate with OTST and fund a roll out of a few of these techniques as demonstration projects across the state. Brad Estochen recommended that 20 per treatment be explored.		X	X	X					Yes, to have OPERA fund implementation and RIC to monitor the effectiveness. Ann McLellan will ask Mindy Carlson to assign a county person to the project.	Email 4/3/13 to Mindy Carlson for OPERA to find a county person and an email to Jeff and Farideh to inform the RIC.
Mitch Rasmussen	Breakfast Discussion	Discussed doing case studies on Minnesota projects with access management changes and the effects of market value on impacted properties. He attended a session that talked about how industry reviews potential sites and access doesn't even make it into their top ten criteria. This would allow engineers to better inform city councils and county boards who may be influenced on trying to attract land development.	The LRRB has funded several research projects exploring topics over the past 10 years. For Example: Case Studies of Transportation Investment to Identify the Impacts on the Local and State Economy", and Economic Benefit of Upgrading Roads but the topic was not on access management for 4 lane divided highways. RS suggests exploring this topic with a TRS as a first step to a research need statement, (for example the SHRP2 T-PIC program might address), and MnDOT's TED program should be consulted as well.	X								Yes, do a TRS then John Powell, Lyndon Robjent, and Mitch Rasmussen will put together a Needs Statement. Ann McLellan will talk with the TED Program.	Email 4/3/13 to Shirlee Sherkow to start a TRS and reminder to John, Lyndon, and Mitch to create a Need Statement. Email 4/5/13 to Phil Barnes about the TED Program. Farideh and Ann meet with Phil and Matt Shands on April 9th to discuss. Matt, Farideh, and Ann will set up a meeting to talk with Mitch about the TED program.
CONSTRUCTION													
Bruce Hasbargen	Developments in In-Place Chemical and Asphalt Stabilization of Pavement Layers	Need a good road first – use chemicals to keep a good road good. Chart for refining selection of proper additive for different soil/base types. Wyoming study found at an ADT of 275 it was beneficial to treat gravel base. Seemed fairly high compared to other research suggesting at around 200 ADT it is beneficial to pave.	RIC is planning to work with sue miller on a particular project. Recently completed a synthesis on subgrade stabilization (Mankato). We also have an active LRRB project using shingles to stabilize gravel.		X			X		X		Send the Chart to Tim Stahl. Maureen Jenson will put together a 2-pager to explain to maintenance supervisors and be placed on the Web Site. Later this should go to the LTAP.	Email 4/5/13: Chart to Tim Stahl; reminder to Maureen Jenson should was going to put together a 2-pager; informed Sandy McCully that the future 2-pager should be posted to the LRRB web site when completed.

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Bruce Hasbargen	Myth busters: Speeding, Speed Management, and Safety Relationships	Netherlands – Safe System Approach - Concentrate on what you can fix (physical features not behaviors such as speeding) Used multiple pieces of Swiss cheese as an example of how a crash can happen. Each piece represented driver's behaviors, road design, road condition, etc., for a crash to happen it would take for a hole on each piece to line up. Concentrate on reducing the holes on your piece of cheese. The Safe System approach and Concentrate on what you can fix idea reminded me to focus on what I can control and improve. It is very similar to the QBQ training at last summer's MCEA Summer Conference. Focus on what you can change, not using some else's behavior as an excuse or to blame someone else.	This could be an invited presentation to the TZD conference on this topic.			X	X				X Webinar	Yes, this information should be brought to the TZD conference.	Emailed 4/8/13 Ms. Freese at cceconf5umn.edu to ask the process of how to get on the TZD conference agenda.
Rebecca Embacher	Flexible Pavement Construction and Rehabilitation Committee	Determined which projects to create e-circulars and 30 minute videos.	YouTube Videos			X					X Webinar		
Rebecca Embacher	Intelligent Construction Systems and Technologies for Concrete and Asphalt Pavements	Ames Engineering demonstrated stringless concrete paving and it saves a lot of work. This software is excellent and looks like it as everything that MnDOT needs for use with our digital test rolling system.	A lidar scan project is being funded to provide to the contractor. This will enable them to go stringless. Contractors are planning to buy this as they replace pavers.		X		X				X Webinar		
Tom Burnham		Final reports are being reviewed and should soon be published for the SHRP 2 R05 Modular Pavement Technology and SHRP 2 R21 Composite Pavement Systems projects. These are some up and coming technologies that will play an important role in future pavement selection decisions.	Develop a TRS to decide which technologies to implement. The Materials Lab has a short brief on composite so they are will to work with RS on this.				X	X					
Alan Rindels	Simple Construction Practices Which Improve Construction of an Asphalt Roadway	Shongtao Dai gave a presentation on his GPR measurements, the measurements demonstrated that the centerline of the roadway is not achieving the compaction as specified. Considering the scale of implements of husbandry, we should explore how to construct a roadway which meets specification all across the roadway. Action: Discussed with Maureen Jensen, who advised that what a county could do is overpave by 1.5 feet and then saw cut this away, send it back to the plant and pave the other side of the roadway. Alan's approach would be to close the roadway during paving and run two pavers adjacent to each other. Road closure would be an issue, but considering that the paving operation is usually only a day, I would consider the benefit could be communicated to the county residents.	The Materials Lab is moving ahead with implementation of both the use of GPR for asphalt density and methods for better longitudinal joints.		X							The Materials Lab should follow through with the implementation on this.	

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Steve Kohler	Modeling and Prediction of Unsaturated Soils Properties	For a pavement section to perform well over the long term, its soil and aggregate layers need to provide a stiff, stable foundation. Therefore it is important to understand and to be able to predict the engineering behavior of unsaturated soils. This session presented the results of recent research on the relationship between the resilient modulus and moisture content of unsaturated subgrade soils and the modeling and prediction of the effects of moisture on unconfirmed compressive and tensile strength of soils. Light Weight Deflectometer (LWD) and Dynamic Cone Penetrometer (DCP) testing methods were presented by individuals associated with the University of Minnesota and MnDOT as a practical means to provide quality assurance for compaction requirements in subgrade and aggregate base construction.	The U of M is developing this model through a MnDOT project. The LWDs are still available for use. See if RIC wants to do a project on this.		X		X					Ann McLellan will ask Sandy McCully to do a web story for LWD checkout. Sandy should talk with Rebecca Embacher. Later, maybe the RIC could look at this.	Emailed Sandy on 4/4/13 to write a web story about the availability of LWDs. Also emailed Jeff Hulsether and Farideh Amiri a heads-up that the RIC could look at this topic in the future.
MAINTENANCE/OPERATIONS													
Maria Masten	Concrete Properties: Recent Developments in Testing	MnDOT has recently purchased 6 surface resistivity probes and intends to put together a work plan to start lab and field testing for future acceptance on projects.			X								Maria asked said that they are not prepared or have sufficient knowledge for the web site yet.
Maria Masten	Innovative Technologies in Asphalt Paving	Minnesota is the leader is the use of IC Technology and is also working towards implementation of Infrared Thermal Bars on more and more asphalt projects.	Rebecca Embacher is working on a project and Greg Johnson was just funded for an implementation project "Enhancement to ICDM System for Bituminous Surface Temperature Application" A big hang-up is contractors do not want inspectors to use the information and inspect spots of cooled pavement. They want random sampling and do not want inspectors to use this information to sample. Texas has already implemented the technology. Texas is a leader in this area and has implemented this. The Materials Lab is working with Texas' specifications as they continue to work toward implementation. The bigger issue is FHWA requirement for random testing		X					X			

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Maria Masten	TRB committee on Sealants and Fillers for Joints and Cracks	What was very important was to hear the material manufacturer's say that maybe they need to look at changing their materials to meet the needs of the Agency, not just watch the Agency to continue to change what is specified based upon their experiences. As a result, the entire system (saw cut and sealant) may not fit together. There was also a discussion about performance of flush filled sealant joints and their effectiveness compared to recessing the sealant.	Review different asphalt manuals. Jim McGraw at the Materials Lab works closely with manufactures through the NTPEP.		X								
Maria Masten	TRB committee on Sealants and Fillers for Joints and Cracks	It seems as though so many changes have been made over the years including the types of bases, concrete mixes, joint spacing, joint sealing that it may be time to start a movement to go back in and engineer what the best joints and materials should be in the system. <u>Training</u> is a huge need as many of the Engineers who developed, specified and constructed all of these pavements have since retired and there are many younger Engineers and Contractor personnel who may not fully understand the importance the reasoning for why we do what we do.			X								
Maria Masten	Intelligent Construction Systems and Technologies for Concrete and Asphalt Pavements	The Real-time smoothness presentation was excellent and provided me with a good background on what we can expect as MnDOT will use some Destination Innovation Money in 2013 to purchase a Real-time smoothness profiler for a contractor on an Agency paving project. The information the Contractor gains may be invaluable in terms of overall smoothness and the finished pavement surface.	Contractors are buying this on their own. The DI funds are being used for a lidar terrain map for machine control on a concrete overlay				X						
Maureen Jensen	In-place Recycling	A new Basic Asphalt Recycling Manual (BARM) is going to be released the end of Feb that will include improved mix design, QC and QA recommendations.	Are there other documents that need to be updated due to the BARM? Most likely specifications.		X	X	X		X			Maureen Jensen will review the report for spec changes and do an LTAP course.	Email 4/4/13 to Maureen Jensen (ccing Jim Grothaus) as a reminder that she is going to review the BARM when it is released. She emailed back saying that "there is an existing LTAP course. The new BARM (and new NHI course) may provide good updates to that class, or potentially add a second more detailed class specific to FDR and CIR."



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Tom Burnham		Sealed joints in whitetopping. I presented findings for MnROAD whitetopping Cells 60-63. For the ultra-thin whitetopping sections, there was a dramatic difference in performance between identically designed cells, the only difference being sealed joints. Cell 62, 4" thick with sealed joints, developed 11% cracked panels over 7 years of I-94 interstate traffic. Cell 63, 4" thick with unsealed joints, developed 55% cracked panels over that same time period. Cell 61 (5" thick with unsealed joints) experienced a similar amount of panel cracking as Cell 60 (5" thick with sealed joints) [8% vs. 11%], but the joints in Cell 61 appeared to become wider over time and experience much more spalling than the sealed joints in Cell 60. My recommendation is to seal all joints in thin whitetoppings, unless alternate ways are provided to prevent water from sitting within the joints. Action 1 – These findings were already implemented on one project last summer in Anoka County. Joint sealing was added to a whitetopping project based on these results. Action 2 – A short technical report on these findings is being prepared, and will be available later in spring 2012.											
Alan Rindels	TRB Workshop – Counting on the Locals for Traffic Data	Steven Jessberger FHWA (moderator) observed the importance of Local Traffic counts considering that over 65% of all roadways in the US are considered local roadways. Using the HPMS reporting system nationwide only a few are reporting AADT. Quality control of the reported values are a concern and the difficulties in obtaining counts are quite large, low speeds, number of roadways to count, vandalism etc. He observed that effective methods for counting on local roadways, requires engagement of agencies, select the optimum array, collect axle class for directional and class data, make sure use all of your hours and do 7 day counts by class. He also recommended the abandonment of reporting bin data, this is very old technology and since the bin data is processed into axles, there is no purpose in reporting it. Finally he emphasized quality control... best to do it sooner than latter.	Greg Lindsey's research was highlighted on nonmotorized traffic counting which was funded by MnDOT. The information is instrumental in shaping Chapter 4 Traffic Monitoring for Non-Motorized Traffic in FHWA's Traffic Monitoring Guide.									A TRS should be done for the pedestrian side after the report is out. This should be connected with Julie Skallman's TRS on "Bicycle and Pedestrian Counting Data and Collection Methods".	Email to Shirlee Sherkow 4/5/13 to add a future TRS to her list for traffic counting for pedestrians and the TRS should not be started until Greg Lindsey's report for contract 99008 WO 8 "Methodologies for Counting Bicyclists and Pedestrians in Minnesota" is completed. The contract expires 11/30/13. Alan Rindels and Julie Skallman were cc'd.

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Alan Rindels	On the Optimal Location-Allocation Problem in a Budget Constrained Setting	This research was performed to optimize the placement of WIM Continuous Recorders in North Carolina. After running through the optimization procedures, the study concluded that four locations are recommended to install New WIM sites.	This research was highlighted to the UMN, and was influential in development of a proposal to perform the statistical analysis necessary to perform a similar analysis in Minnesota. This project was approved for TRIG Funding in February, and the research effort should be kicked off shortly. This work is being closely coordinated with State Aid, the results are applicable to State and Local agencies							X		Yes, have Rick Kjonnas be a TAP member this the TRIG project.	Emailed Rick Kjonnas on 4/4/13 asking him if he would be a TAP member on the Lost Cost WIM project. He agreed. Added him into ARTS as a TAP member and informed the TL, PC, and PA.
Steve Kohler	In-Place Pavement Recycling	In-place pavement recycling can be used to restore the service life of pavement structures. Several types of in-place recycling techniques are available but very little laboratory research has been done to investigate the performance of recycled materials. This session presented information on recent laboratory and field testing results relative to the performance of recycle mix designs and also identified some initial testing and analysis that may help an engineer select the best in-place recycling technique for a given pavement system and condition.			X				X			For the June meeting, RS should look at the problem statements that were generated during the 2012 Summer meeting. This topic should be wrapped into NS275 "Investigation of Optimal Mix Design of Full Depth Reclamation Stabilization with Cement and Emulsion". A documented process is needed.	Farideh Amiri and Ann McLellan will follow up on this for the June meeting.
Environmental Compatibility													
Julie Skallman	Bicycle and Pedestrian Counting Data and Collection Methods	As more local agencies are trying to get a handle on how to count usage on their recreational trail system this simple method might be of interest. Others would have to comment on the value.	MnDOT has funded Greg Lindsey of UMN Humphrey Institute to explore standardization of bicycle and pedestrian counting in Minnesota. Project 2012-047 "Implementing Bicycle and Pedestrian Traffic Counts and Data Collection." See also the workshop information above.					X			X Webinar	Do a TRS. Connect with Alan Rindel's "TRB Workshop – Counting on the Locals for Traffic Data".	Email to Shirlee Sherkow 4/5/13 to add a future TRS to her list for traffic counting for pedestrians and the TRS should not be started until Greg Lindsey's report for contract 99008 WO 8 "Methodologies for Counting Bicyclists and Pedestrians in Minnesota" is completed. The contract expires 11/30/13. Alan Rindels and Julie Skallman were cc'd.
Alan Rindels	TRB Workshop on Fish Passage Design for Culverts Using Culvert Design for Aquatic Organism	The design procedures goal is to create conditions within the stream crossing similar to those in the natural channel in both bed structure and function. The concept is that if we can simulate the same stream shear stresses inside the culvert as those found upstream and downstream of a culvert. Aquatic organisms are able to pass through the crossing.	The LRRB is currently partnering on this topic with MNDOT and the material was included in the literature review. Project #: 2012-027 Laboratory Study of Culvert Sedimentation for Fish Passage				X			X			

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Steve Kohler	Airports and Their Communities: Communicating the Benefits Beyond Economic Contributions	General Aviation Airports contribute a positive economic impact to local communities but how can that impact be enhanced and communicated to the local taxpayers while still keeping changing land use compatible with airport operations. An economic impact tool is available on the Alliance for Aviation Across America website.					X					Ask Jim Grothaus if MnDOT's Office of Aeronautics connect with Washington State's mapping tool for local authority.	Emailed Jim Grothaus on 4/4/13 asking him if MnDOT's Office of Aeronautics already has the Washington State Web site or if I should connect with a person in the Aeronautics office directly.
Other													
Linda Taylor	Idea Program	Idea Program- seeking high potential, cutting edge technology. This program provides seed money for promising, unproven technologies that are high risk with high payoff potential. Anyone can submit a proposal.					X					Yes, add the Idea Program to the LRRB web site with a paragraph describing the program.	Emailed Sandy McCully 4/5/13 the Idea Program TRB information and asked her to create a paragraph describing the program and post it to the LRRB web site.
Linda Taylor	Idea Program	NHI course – Leap not Creep –course that learn how to implement new innovations. Performance goals drive innovations and demonstration showcase help promote deployment.									X Course	RS should look at if we should host a course	Emailed the three Project Coodinators in RS the Course Description for them to review and provide a suggestion if it would be a useful course to host.
Nicole Peterson	Enterprise Risk Management	Risk management fits with asset management and performance management in supporting strategic goals and objectives of the agency. It enables agencies to make informed choices about how resources will be distributed and communicate to others a justification for those decisions. Risk registers could also inform future research needs.	MnDOT has developed a program for Enterprise Risk Management.		X							RS should invite Eric Davis to the September LRRB meeting, City Engineer meeting, and County Engineer conference for an update on Enterprise Risk Management.	Emailed Eric Davis 4/4/13 asking him if he could come to the September 26th LRRB meeting to discuss ERM. He agreed; asked Farideh to add him to the agenda. He also agree to present at the City and County conferences so Farideh is following up with him.
Nicole Peterson	Deploying News Alerts to the Transportation Research Community: Delivering things Smarter, Better, Faster	News Alerts via SharePoint - Susan C. Dresley, Volpe National Transportation Systems Center. News Alerts from the Swedish Perspective: Dissemination of Public Transportation News via Transguide, a Project Funded by Swedish Governmental Agency for Innovation Systems and Swedish Transport Administration - Birgitta Sandstedt, Swedish National Road and Transport Research Institute				X							

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Nicole Peterson	The 6-minute Pitch: Transportation Innovation and Entrepreneurs' Challenge	In this exciting session, a panel of transportation industry entrepreneurs evaluates cutting-edge transportation concepts presented in no more than 6 minutes by promising young transportation professionals. The session concept is based on the format of the U.S. television program "Shark Tank" and features an interactive format that includes a fast-paced concept evaluation from the panelists. An honorary "winner" of the challenge will be declared at the close of the session.	CEAM or County Engineer Conference			X							
Alan Rindels	Iowa County Focus Group	SHRP2 performed a Massive in-vehicle study of driver behavior, 2800 participants, and Iowa State researchers have experience exploring this data. Shauna Hallmark would like to perform research using this data in Evaluating the Relationship between the Driver and Roadway to Address Rural Intersection Safety using this data.	Suggest Shauna Hallmark presented a presentation and proposal at the summer on this partnership opportunity. See attached SHRPS2 handout and proposal from Shauna Hallmark.	X									
Questions for the Board from the LRRB Breakfast Discussion													
Alan Rindels		Is there an implementation project idea in the Iowa curve warning project?	Discussed above		X								
Linda Taylor		Is there something in the conduct of research "What Engineers Want: Identifying Transportation Professionals as an Audience for Research" that the Board should incorporate into their processes?	See select pages of attached PowerPoint			X						Yes, the Outreach Committee should look at this during their June meeting.	Emailed Sandy McCully and Julie Skallman on 4/4/13 the "What Engineers Want" presentation, asking her to bring it up at the June Outreach Committee meeting.
Maureen Jensen		Should Minnesota do a test pilot of the Norway quiet rumble strips?										Yes, Lyndon will write a problem statement for this and Rick will help. Maureen is having to rumble strips installed at MnROAD using DI funds.	Emailed Lyndon Robjent on 4/4/13 to remind him that he is going to create a Needs Statement in IdeaScale for quiet rumble strips. CC'd Rick West.
Rick West		Confirm what participation we want to do in the dust conference as a "sponsor"?										The LRRB needs to be a part of the conference. Maureen will provide input to the agenda to appeal to the local audience. There should be an LRRB booth so the Outreach Committee should be sought for materials.	Emailed Maureen Jensen 4/4/13 there should be a topic at the Dust Conference next year on the manual that Alaska DOT is writing and that she would provide input into the agenda to appeal to local audiences. CC'd Sandy McCully on the email that board suggested that a LRRB booth be at the conference and that the Outreach Committee could provide materials.