

Aurora Program

minutes

Aurora Board Meeting October 17, 2013 – Conference Call/Web Meeting

Individuals Participating:

Travis Lutman, North Dakota DOT
Dawn Gustafson, Michigan DOT
Mike Adams, Wisconsin DOT
Jimmy White, Virginia DOT
Tim Peters, Illinois DOT
Ron Hall, Kansas DOT
Jeff Williams, Utah DOT
Jack Stickel, Alaska DOT&PF
Max Perchanok, Ontario MOT
Tina Greenfield, Iowa DOT
Linda Narigon, Iowa DOT
Roemer Alfelor, FHWA
Lee Smithson, AASHTO
Mike Chapman, NCAR
Neal Hawkins, Iowa State University
Chris Albrecht, Iowa State University

Meeting Agenda:

- 1) Call to Order (Travis Lutman)
- 2) Review and Approval of Past Meeting Minutes (Chris Albrecht)
- 3) Program Management and Accounting (Chris Albrecht)
- 4) September Board Meeting and Peer Exchange Review (Chris Albrecht)
- 5) FY2014 Research Program and Work Plan (Chris Albrecht)
- 6) March 18-20 Board Meeting in Boulder, Colorado (Chris Albrecht)
- 7) Ongoing Project Progress (Project Champions)
- 8) Other Business (All)

1. Call to Order

Program Vice-Chair Travis Lutman called the meeting to order just after 2pm (CDT). Chris Albrecht also noted that it had been suggested by several board members to have the program's chair position term extended to two years from one year. Those in attendance agreed it would be a good idea, and Chris noted that he would send an email, to include those not in attendance, to get an official vote on this change.

2. Review and Approval of Past Meeting Minutes

After a short discussion, the board voted to approve the minutes from the August 8 board web meeting and the September on-site board meeting in Portland. Chris Albrecht noted that he would post the minutes on the website as soon as possible.

3. Program Management and Accounting

Chris Albrecht then noted that the Aurora administrative contract had expended about \$72,000 to date, of which about \$56,000 was costs incurred by work of CWIMS staff. He also reviewed the latest management contract benchmarks, noting that he would be submitting SPR quarterly reports soon with help from the project champions.

4. September Board Meeting and Peer Exchange Review

Chris briefly reviewed the major activities and results from the board meeting in Vancouver, Washington. The board agreed that the response was very positive, overall. The board also discussed the possible site for the next peer exchange. Possible locations were Estes Park, somewhere in New England, and Kansas City. A short discussion followed, wherein Chris reviewed a few potential new members (including Colorado, Nevada, Wyoming, and California) that had shown interest in joining Aurora, as well as several topics that Aurora could pursue as research. Chris also noted that the peer exchange expenses were well under budget.

5. FY2014 Research Program and Work Plan

Concerning the next research program for FY2014, Chris reviewed the topics from the peer exchange that Aurora could pursue as FY2014 research ideas. The seven needs statements from the peer exchange were:

- **RNS #1:** What marketed *MDSS products* are available and what are they capable of providing per vendor? ... Display features of each in a matrix that could be used in procuring.
- **RNS #2:** How do we get around the *MDSS patent* to provide communications to trucks? Can you put MDSS on a truck? Do you hire a patent lawyer to determine what is possible?
- **RNS #3:** Take available *pavement forecast models* and review them head to head to see what works best ... Do roadway typical sections significantly affect pavement forecast? (asphalt vs. concrete, thickness, sub-base type or thickness, elevation, bridges, etc.)?
- **RNS #4:** What is available for *power supplies* and what type of maintenance is needed? What is the life span?
- **RNS #5:** What types of *precipitation sensors* are available and their capabilities (rate-based, presence, water equivalent, or type)?
- **RNS #6:** Evaluate *mobile sensors* (weather telematics, Vaisala, Boschung, etc.) precision, accuracy, survivability, placement, etc. Is it possible to measure this from a snow plow or patrol truck?
- **RNS #7:** Ways to quality *check AVL data* to insure usable data is obtained. Survey agencies that utilizing AVL and see what their outcomes are. (communication, sensors, data error, etc.)

In addition, Chris noted a few other possible topics to consider:

- Improved and lower-cost *mobile weather* observations?
- Integrating SICOP List and Knowledge Base into a *Hub*?
- Non-traditional, low power RWIS or *RWIS Light*?
- State-of-the-practice in *remote sensing*?
- Summarizing and *archiving* of RWIS data?

A lengthy discussion followed the introduction of each topic. Chris noted that, from this discussion, he would revise the list of potential ideas for the board to consider.

6. March 18-20 Board Meeting in Boulder, Colorado

Chris then briefly discussed the plans to date for the next on-site board meeting. He noted that Mike and Sheldon from NCAR had reserved space for the meetings at the Mesa Lab in Boulder. Chris added that a broader meeting with NCAR researchers, that would include National Weather Service and guest agencies, was also being planned.

7. Ongoing Project Progress

Project champions then gave updates on the status of ongoing research efforts. Details are as follows:

Project 2007-05 – Multiple-Use ITS Data Collection Sites: Chris Albrecht briefly reviewed this project, noting that the survey had been distributed and the 25+ responses were discussed in detail on a project conference call held on August 14. He also noted that he had begun to contact survey responders for details on their noted case studies, which would be the basis for the final project report.

Project 2009-01 – Summary and Comparison of Agency Experiences with Sensors: Dawn Gustafson noted that she had revised the spreadsheet and sent it to Joe Doherty to update it with NYSDOT's experiences. Joe noted that he would pass it along when completed. Chris noted that this project was still on track to be completed and closed by the end of 2013.

Project 2010-02 – Mobile-Weather Data Collection Guidelines: After a short discussion, Chris noted that the team had decided that the paper was okay to be posted, and the project was approved as complete by the board pending the posting of the report.

Project 2010-03 – Results-Based Winter Road Research: Max Perchanok reviewed this project, noting that the University of Waterloo researchers were making very good progress to date. He also noted that this effort had been extended to May 2014.

Project 2010-04 – RWIS Sensor Density: Max Perchanok noted that this effort was also moving ahead steadily, with an expected completion in late 2014. He also noted that the project research team from the University of Waterloo would discuss this effort in more detail during the November 14 board web meeting.

Project 2011-02 – RWIS Training Tool: Tina Greenfield noted that this effort was now under contract with Iteris and moving ahead as planned, with an estimated completion still expected in March 2015.

Project 2011-04 – Study of MDSS Costs: Mike Adams reviewed this project, noting that the final report was complete and had been reviewed by the board. After a short discussion of the report's contents, which were based largely on Wisconsin DOT experience, the board voted to accept the final report as the final project deliverable.

Project 2011-05 – Funding Source Identification: No update was provided for this effort.

Project 2012-01 – Validate the Accuracy of Pavement Condition Predictions from Various Sources: Max Perchanok reviewed the background to this project. He noted that elements from the first two research needs statements from the 2013 peer exchange could be incorporated into the pending RFP. A lengthy discussion followed concerning this idea. He also noted that Chris Albrecht is currently helping him develop the RFP.

Project 2012-03 – Cameras and Operational Impacts of Remote Road Conditions: No update was provided for this effort.

Project 2012-04 – Communicating and Publicizing Road Weather and Operations Information: No update was provided for this effort.

Project 2012-05 – Seasonal Weight Restrictions Demonstration: Max Perchanok reviewed the background on this project, noting that the RFP had been advertised over the summer of 2013, with four proposals received and rated by the project team. Of the four, the USDA-led proposal had been selected, he added. Next, the Iowa DOT would be working to get this project under contact, noted Chris Albrecht.

Project 2013-01 – Fourth Peer Exchange: No update was provided for this effort, since the event was discussed earlier in the meeting.

Project 2013-02 – Transition of Clarus to MADIS: Jack Stickel noted that the transition had been running smoothly to date, with no problems foreseen.

Project 2013-03 – Improving Real-Time Traffic Speeds for Performance Measurement: Tina Greenfield briefly reviewed the status of this effort. She noted that her preferred plan to sole-source this research to Iowa State University's Statistics Department was now finally underway. A draft contract had been developed to date, she added, with the entire effort split into two separate funding phases. The second phase, she also noted, would be contracted under the new SPR number starting in FY2014.

Project 2013-04 – Quantifying Salt Concentration on Pavement: Max Perchanok briefly reviewed the rough scope of this effort, noting that he would plan to have the RFP ready soon.

Project 2013-05 – Knowledge Base Content Management: Chris Albrecht noted that he and Neal Hawkins had been working with Tom Lindsley on a new site format and content management system and had been transferring content to a new site.

Project 2013-06 – Make Aurora Severity Index Available to Other Agencies: Tina Greenfield noted that this effort was still in the contracting process between negotiated on by Iowa DOT and AccuWeather.

8. Other Business

No other business was discussed.



- Aurora Program - Board Web Meeting

October 17, 2013

Today's Agenda:

- 1) Call to Order
- 2) Review and Approval of Past Meeting Minutes
- 3) Program Management and Accounting
- 4) September Board Meeting and Peer Exchange
- 5) FY2014 Research Program and Work Plan
- 6) March 18-20 Board Meeting in Boulder, CO
- 7) Ongoing Project Progress
- 8) Other Business



1) Call to Order

Jason Norville

Aurora Program Chair

Pennsylvania Department of Transportation

janorville@state.pa.us

Travis Lutman

Aurora Program Vice Chair

North Dakota Department of Transportation

tlutman@nd.gov

Dawn Gustafson

Aurora Program Past Chair

Michigan Department of Transportation

gustafsond@michigan.gov



2) Review of Minutes

Aurora Program

August 8, 2013

Individuals Participating:

Jason Norville, Pennsylvania DOT
Travis Lutman, North Dakota DOT
Dawn Gustafson, Michigan DOT
Mike Adams, Wisconsin DOT
Joe Doherty, New York State DOT
Tim Peters, Illinois DOT
Ron Hall, Kansas DOT
Jeff Williams, Utah DOT
Curt Pape, Minnesota DOT
Max Perchanok, Ontario MOT
Tina Greenfield, Iowa DOT
Linda Narigon, Iowa DOT
Roemer Alfelor, FHWA
Lee Smithson, AASHTO
Sheldon Drobot, NCAR
Chris Albrecht, Iowa State University

Meeting Agenda:

Aurora Program

minutes

Aurora Board Meeting
September 9-12, 2013 – Vancouver, Washington, USA

DRAFT #1

Individuals Participating in the Meeting:

Jason Norville, Pennsylvania DOT
Travis Lutman, North Dakota DOT
Jimmy White, Virginia DOT
Curt Pape, Minnesota DOT
Ron Hall, Kansas DOT
Tina Greenfield, Iowa DOT
Mike Adams, Wisconsin DOT
Jack Stickel, Alaska DOT&PF
Joe Doherty, New York State DOT
Max Perchanok, Ontario MOT
Mike Chapman, NCAR
Gabe Guevera, FHWA
Neal Hawkins, Iowa State University
Chris Albrecht, Iowa State University

I. Open and General Items

Jason Norville began the meeting by asking fellow board members to review the records. The

Any comments?

3) Program Management

	A	B	C	D	E	F	G	H	I	J	K
1	Aurora										
2		Aurora Contract Reporting Requirements									
5		Quarterly Reports	2013 Q1	2013 Q2	2013 Q3	2013 Q4	2014 Q1	2014 Q2	2014 Q3	2014 Q4	
7		Project 2007-05	5/1/2013	7/31/2013							
8		Project 2008-01	5/1/2013	complete							
9		Project 2009-01	5/1/2013	7/31/2013							
10		Project 2009-05	5/1/2013	complete							
11		Project 2010-02	5/1/2013	7/31/2013							
12		Project 2010-03	5/1/2013	7/31/2013							
13		Project 2010-04	5/1/2013	7/31/2013							
14		Project 2010-05	5/1/2013	7/31/2013							
15		Project 2011-02	5/1/2013	7/31/2013							
16		Project 2011-03	5/1/2013	complete							
17		Project 2011-04	5/1/2013	7/31/2013							
18		Project 2011-05	5/1/2013	7/31/2013							
19		Project 2012-01	5/1/2013	7/31/2013							
20		Project 2012-02	5/1/2013	7/31/2013							
21		Project 2012-03	5/1/2013	7/31/2013							
22		Project 2012-04	5/1/2013	7/31/2013							
23		Project 2012-05	5/1/2013	7/31/2013							
24		Project 2013-01	5/1/2013	7/31/2013							
25		Project 2013-02	5/1/2013	7/31/2013							
26		Project 2013-03	5/1/2013	7/31/2013							
27		Project 2013-04	5/1/2013	7/31/2013							
28		Project 2013-05	5/1/2013	7/31/2013							
29		Project 2013-06	5/1/2013	7/31/2013							
32		Meetings / Minutes	Materials Out	Minutes - Sent	- Approved	- Posted					
34		November 14, 2012 Board Meeting	11/1/2012	11/29/2012	12/6/2012	12/10/2012					
35		December 6, 2012 Board Meeting	11/29/2012	2/3/2013	4/3/2013	4/19/2013					
36		February 19, 2013 Administrative Meeting	2/5/2013	3/6/2013	3/13/2013	3/22/2013					
37		April 2, 2013 Board Meeting	3/12/2013	4/24/2013	5/15/2013	5/24/2013					
38		May 15, 2013 Board Meeting	5/1/2013	5/28/2013	6/27/2013	6/28/2013					
39		June 20, 2013 Administrative Meeting	6/13/2013	7/19/2013	7/25/2013	7/31/2013					
40		June 27, 2013 Board Meeting	6/13/2013	7/19/2013	8/8/2013	8/13/2013					
41		August 1, 2013 Administrative Meeting	7/18/2013	8/30/2013	9/13/2013	9/20/2013					
42		August 8, 2013 Board Meeting	8/1/2013	10/11/2013							
43		September 5, 2013 Administrative Meeting	8/30/2013	10/10/2013							
44		September 9, 2013 Board Meeting	9/4/2013	10/11/2013							
45		October 10, 2013 Administrative Meeting	9/25/2013								
46		October 17, 2013 Board Meeting	9/25/2013								
47		November 7, 2013 Administrative Meeting									
48		November 14, 2013 Board Meeting									
49											
50											

2013Q3 Quarterly Reports





4) September Meeting Review

- September 9-13, 2013 in Vancouver, Washington (Red Lion Hotel Vancouver at the Quay)
- Fourth National Winter Maintenance Peer Exchange
- Aurora meeting on Monday and Thursday
- Seven RNS's assigned to Aurora ...
- Other potential ideas ...
- Potential New Members ...



5) FY2014 Plan and Program

RNS #1: What marketed *MDSS products* are available and what are they capable of providing per vendor? ... Display features of each in a matrix that could be used in procuring.

RNS #2: How do we get around the *MDSS patent* to provide communications to trucks? Can you put MDSS on a truck? Do you hire a patent lawyer to determine what is possible?

RNS #3: Take available *pavement forecast models* and review them head to head to see what works best ... Do roadway typical sections significantly affect pavement forecast? (asphalt vs. concrete, thickness, sub-base type or thickness, elevation, bridges, etc.)?



5) FY2014 Plan and Program

RNS #4: What is available for *power supplies* and what type of maintenance is needed? What is the life span?

RNS #5: What types of *precipitation sensors* are available and their capabilities (rate-based, presence, water equivalent, or type)?

RNS #6: Evaluate *mobile sensors* (weather telematics, Vaisala, Boschung, etc.) precision, accuracy, survivability, placement, etc. ... Is it possible to measure this from a snow plow or patrol truck?

RNS #7: Ways to quality *check AVL data* to insure usable data is obtained ... Survey agencies that are utilizing AVL and see what their outcomes are. (communications, sensors, data error, etc.)

5) FY2014 Plan and Program

Other Ideas:

- Improved and lower-cost *mobile weather* observations?
- Integrating SICOP List and Knowledge Base into a *Hub*?
- Non-traditional, low power RWIS or *RWIS Light*?
- State-of-the-practice in *remote sensing*?
- Summarizing and *archiving* of RWIS data?

6) March Board Meeting

- March 18-20, 2014
- Boulder, Colorado ... National Center for Atmospheric Research (NCAR) Mesa Lab
- Meet with NCAR staff
- Invite guest agencies (Colorado, Nevada, Wyoming, etc.)



7) Ongoing Projects

18 ongoing projects

Aurora Program - Ongoing Project Status

October 11, 2013

FY 2007 through FY2009

- 2007-05: Multiple-Use ITS Data Collection Practices (\$15,000) = 45% complete
- 2009-01: Summary and Comparison of Agency Experience w/ Sensors (\$5,000) = 85% complete

FY 2010

- 2010-02: Mobile Weather Data Collection Guidelines (\$5,000) = 90% complete
- 2010-03: Results-Based Winter Road Maintenance Standards (\$155,000) = 85% complete
- 2010-04: RWIS Sensor Density and Location (\$100,000) = 50% complete

FY 2011

- 2011-02: RWIS Training Tool (\$265,000) = 15% complete
- 2011-04: Study of MDSS Costs (\$5,000) = 95% complete
- 2011-05: Funding Sources Identification (\$5,000) = 10% complete

FY 2012

- 2012-01: Validate the Accuracy of Pavement Condition Predictions (\$100,000) = 5% complete
- 2012-03: Cameras and Operational Impact of Remote ... Monitoring (\$25,000) = 25% complete
- 2012-04: Communicating and Publicizing Information (\$30,000) = 5% complete
- 2012-05: Seasonal Weight Restrictions Demonstration (\$250,000) = 5% complete

FY 2013

- 2013-01: 2013 National Winter Maintenance Peer Exchange (\$35,000) = 85% complete

8) Other Business

The screenshot displays the Aurora program website redesign. The main navigation bar includes links for Home, About, Projects, News, Participate, Resources, and For Members. A secondary menu highlights 'Ongoing' and 'Completed' project categories. The main content area features a large image of a road at night with a navigation overlay. Below this, there are sections for 'Upcoming Events', 'Who We Are', and 'Ongoing Projects'. The 'Who We Are' section describes Aurora as an international partnership of public agencies working together to advance road weather information systems technology. The 'Ongoing Projects' section lists several initiatives, including the 2011 National Winter Maintenance Peer Exchange, which aims to help organizations help each other in collaborative ways to solve winter road weather problems. A sidebar on the right provides details about Aurora membership, listing member agencies from various states and countries, and associate members like the Federal Highway Administration and National Center for Atmospheric Research. At the bottom, there is a section titled 'When you face winter road maintenance challenges, who can you turn to?' which promotes the Snow and Ice Cooperative Program (SICOP), Aurora, and Clear Roads.

Upcoming Events

- Thursday, May 19, 2011 at 12:00 pm (CDT) - Aurora Board Web Meeting
- Thursday, June 30, 2011 at 2:00 pm (CDT) - Aurora Administrative Conference Call
- Thursday, July 7, 2011 at 12:00 pm (CDT) - Aurora Board Web Meeting
- Monday, September 19, 2011 in Bozeman, Montana - Aurora Board Meeting
- Tuesday through Thursday, September 20-22, 2011 in Bozeman, Montana - National Winter Maintenance Peer Exchange

Who We Are

Aurora is an international partnership of public agencies who work together to perform joint research activities in the area of road weather information systems (RWIS). This website is designed to introduce the program, the partners, and our collaborative research projects.

Why Join Aurora?

- to help set the agenda for collaborative research, development, and deployment of road and weather information systems (RWIS).
- to multiply your agency's financial resources to address its most pressing RWIS-related challenges.
- to develop relationships with national and international, public and private leaders in RWIS equipment, decision support systems, standards, and training.

Board Chair:

Joe Doherty, New York State DOT

Members

Indiana DOT

<http://www.aurora-program.org/websiteRedesign/?transportation&PublicFacilities>

Ongoing Projects

- 2011 National Winter Maintenance Peer Exchange
- Peer Exchange
- RWIS
- Bene for M
- Cold Road
- Deter Road

How can these organizations help each other? How can collaboratively they help solve each other's problems? The new online knowledge base sponsored by Aurora and Clear Roads is a resource that provides a wealth of information to help you agency for example, get RWIS technologies on their way to work zone safety - real-time conditions can help you to make use of them. And ACCO's computer-aided and web-based training modules, which are fully ACCO compliant, can help you and your agencies improve winter RWIS data and information access.

And you can help them

- By becoming a research beneficiary
- Help decide which research projects to fund
- Participate on the Snow and Ice Letters
- Participate in National Winter Maintenance Peer Exchange
- Meet regularly via teleconference and in person to exchange their practices, new ideas, program success stories, etc.
- Bring issues to the table to push for greater support.
- Identify winter maintenance problems that need more support and/or funding.

Does one or more of these programs sound like a good fit for your agency? For more information, see the program websites or contact the program managers.

Discussions on the website have been a constant thread helping program managers and road weather information systems. sponsored by Clear Roads. The image on the right is the copyright of Clear Roads. The image on the left is the copyright of Clear Roads. Photos were provided by the New York State DOT.

When you face winter road maintenance challenges, who can you turn to?



Want to be better prepared when a holiday storm suddenly covers roads with black ice?

How can your quality get new from operators up to speed on winter driving?

Where can you get second, third, or fourth opinions about winter road weather information systems (RWIS) equipment, decision support systems, standards, and training?

For help in these situations and more, turn to these programs:

Snow and Ice Cooperative Program (SICOP), Aurora, and Clear Roads