

# Aurora Program

minutes

## **Aurora Board Meeting July 23, 2012 – Conference Call/Web Meeting**

### **Individuals Participating:**

Dawn Gustafson, Michigan DOT  
Max Perchanok, Ontario MOT  
Tina Greenfield, Iowa DOT  
Jason Norville, Pennsylvania DOT  
Travis Lutman, North Dakota DOT  
Mike Kisse, North Dakota DOT  
Joe Doherty, New York State DOT  
Leigh Sturges, Utah DOT  
Robbie Prezioso, Virginia DOT  
Gene Martin, Virginia DOT  
Mike Adams, Wisconsin DOT  
Jack Stickel, Alaska DOT&PF  
Abner Johnson, Ohio DOT  
Tim Peters, Illinois DOT  
Lee Smithson, AASHTO  
Neal Hawkins, Iowa State University  
Chris Albrecht, Iowa State University

### **Meeting Agenda:**

- 1) Call to Order (Dawn Gustafson)
- 2) Miscellaneous Issues and Actions (Chris Albrecht)
- 3) Clarus Issues and Discussion (Chris Hill and Chris Albrecht)
- 4) Program Administration and Contracting (Chris Albrecht)
- 5) On-Site Meeting in Toronto (Chris Albrecht and Max Perchanok)
- 6) FY2013 Program and New Projects (Chris Albrecht)
- 7) Research Progress Guidelines (Chris Albrecht)
- 8) Ongoing Project Progress (Project Champions)
- 9) Other Business (All)

#### **1. Call to Order**

Dawn Gustafson welcomed the attendees and called the meeting to order.

## **2. Miscellaneous Issues and Actions**

Chris Albrecht briefly reviewed a few outstanding issues in need of board input. First, he noted that the board had been discussing an email initiated by Gabe Guevera from FHWA concerning a road icing sensor vendor. After a short discussion, it was agreed that Chris would respond to Gabe, letting him know that the vendor who sent the original information to FHWA would need to work with an interested member state if he was interested in research. Chris noted he would contact Gabe and convey this to him. Chris also briefly reviewed the different email lists he maintains and who he invites to board calls and meetings. He also asked the board to let him know if there are any other additional contacts interested in participating. Finally, he noted that the July e-news would be out soon.

## **3. Clarus Issues and Discussion**

Next, Chris Albrecht noted that Chris Hill and Brian Kruger, both formerly of Mixon-Hill, were going to briefly update the board on the latest with Clarus and to get the boards feelings about the initiative. Chris Hill then briefly reviewed what had happened during the latest few months concerning Clarus. A short discussion followed, and it was noted that the July 26 webinar being hosted by FHWA would likely answer a lot of questions. After the visitors were off the call, the board agreed that there were a few options in case member states wanted to pursue keeping Clarus going, including a project considered under FY2013 or another pooled fund group.

## **4. Program Administration and Contracting**

After a brief review of the current management budget, Chris Albrecht asked Tina Greenfield to update the board on the next administrative contract. Tina noted that there would be several new changes and requirements under a new contract. One of the issues of most concern to Iowa DOT is the overall length of time project are staying active before being completed. A lengthy discussion followed, wherein the board provided input on their needs for more timely information and materials, as well as pushing projects along. Chris Albrecht noted that he had become lax on requirements and holding projects to deadlines, but a new contract would not allow for this at all. Tina noted that this would require more duties and effort by InTrans, as well as the board members themselves. Chris also noted that he would discuss new guidelines for moving projects forward later in the agenda.

## **5. On-Site Meeting in Toronto**

Chris Albrecht then reviewed the latest plans for the next on-site meeting to be held in Toronto. He noted that the dates had been difficult to narrow down due to several conflicts. After some discussion, the board agreed to set the meeting dates as October 9-11. Chris noted that he would work with Max Perchanok on details of the upcoming meeting. In addition, Max noted, he would look at supplemental activities and/or locations to visit while in Toronto. Locations included the regional traffic operations center, Pelmorex, Dundas, and York University.

## 6. FY2013 Program and New Projects

Chris then briefly reviewed a starting list of project ideas for FY2013. The list included project from the previous cycle, and the group discussed developing other ideas as well. To date, the list includes:

- Revisiting Winter Road Condition Terminology
- Using Social Media in Winter Operations
- Quantifying Salt Concentration On Pavement
- Synthesis of Best Practices for Pass Operations
- Make the Aurora Winter Severity Index Available to All / Extend the Length of Record
- Using MDSS in Complex Terrain
- Quantifying Uncertainty in Real Time Performance Measurement for Highway Winter Maintenance Operations

## 7. Research Progress Guidelines

Chris Albrecht then reviewed draft research progress guidelines he had developed based on the July 13 administrative group call. The guidelines were:

- After 1 year from approval (or when next year program announced): A scope must be written and formally approved by the project team and board.
- After 2 years from approval: The project must be under contract.
- More than 2 years from approval: The project is automatically subject to re-competition.

A lengthy discussion followed. As a result, the group agreed to shorter timeframes than the draft guidelines noted. For example, the first year projects would need to have a scope defined and approved within 9 months and at least one board meeting. In addition, projects would then have to be sent to DOT to be developed for bid and under contract within another 9 months. Project not meeting this timeline would automatically be subject to re-competition. The board also noted that all projects currently falling into the third category would need to have scopes approved or be completed by the end of the Toronto meeting. Chris noted that this impacted more than half a dozen projects.

## 8. Project Status Reports

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

**Project 2007-01 – RWIS Equipment Monitoring System, Phase 2:** Jack Stickel reviewed this project. He noted that it was clear that recent developments concerning Clarus will have a significant impact on the potential of this effort. Jack also noted that, after the webinar on July 26, he would make a decision whether to continue this effort or drop it.

**Project 2007-04 – Development and Demonstration of a Freezing Drizzle Algorithm:** Max Perchanok discussed this research, noting that he had a conference call with UND scheduled for July 25. Max noted that he would decide, based on that call, to discontinue the effort or see it out until the final report.

**Project 2007-05 – Multiple-Use ITS Data Collection Sites:** Jack Stickel reviewed this project. He noted that the project was broken into two phases, with a survey first, then an assessment later. Chris Albrecht noted that he had drafted a scope that was sent to the project team, but he received additional comments before it went to Iowa DOT for approval. After a short discussion, it was agreed that Chris would forward the scope to Iowa DOT for processing.

**Project 2008-01 – Development of a National Road Weather Testing Facility:** Tina Greenfield noted that she had received materials from Steve Albert at WTI that should be posted on the knowledge base. A discussion followed, wherein the group agreed that this would make sense, but that there was still a need to better utilize the knowledge base by publicizing it better. Chris noted that he would make this a topic for discussion in Toronto.

**Project 2008-03 – MDSS Demonstration in Ontario:** Max Perchanok reviewed the project, noting that it was recently not approved for funding by MTO. He noted that he would think about other options before discussing it further in Toronto.

**Project 2009-01 – Summary and Comparison of Agency Experiences with Sensors:** Dawn Gustafson reviewed the history of this project, but noted it would be discussed in more detail at a mini-meeting in Toronto. She also asked Chris Albrecht to send out the spreadsheet to the board members in order to get their input by the Toronto meeting. Chris agreed to do so.

**Project 2009-04 – Road Weather Education Enhancements and Dissemination:** Dawn Gustafson reviewed this project. She noted that it would also be discussed in more detail at a mini-meeting in Toronto, but that it was essentially complete. She also noted that the knowledge base has met the project need of making known training available. No other outstanding training need was found through this effort, she added.

**Project 2009-05 – Further Development of PPAES:** Leigh Sturges briefly reviewed progress of this effort to date. She noted that the effort is moving forward through work being done at UND, with a final product scheduled to be done at the end of October.

**Project 2010-01 – Enhancements of AI/RWIS CBT:** Lee Smithson noted that this project was nearly complete. He noted that he would show the results at the Toronto meeting.

**Project 2010-02 – Mobile-Weather Data Collection Guidelines:** No report was provided for this effort.

**Project 2010-03 – Results-Based Winter Road Research:** Max Perchanok reviewed this project, noting that Dr. Fu and his staff at the University of Waterloo were making very good, steady progress.

**Project 2010-04 – RWIS Sensor Density:** Max Perchanok noted that the effort is moving ahead, with the contract with University of Waterloo still with Iowa DOT’s legal group.

**Project 2010-05 – Determining RPU and Sensor Failure:** Jack Stickel noted that he may need help from InTrans on this effort. He also noted that he would schedule a mini-meeting for Toronto.

**Project 2011-02 – RWIS Training Tool:** Tina Greenfield reported that this project is waiting on purchasing at Iowa DOT.

**Project 2011-03 – Instruction for Migrating to Open RWIS:** Tina Greenfield noted that materials were received from a few agencies that will be added to the knowledge base.

**Project 2011-04 – Study of MDSS Costs:** Mike Adams reviewed this project, noting that a survey would be the first step. He hoped to have it out before Toronto, he added.

**Project 2011-05 – Funding Source Identification:** Jack Stickel reviewed the scope of this project, but noted that no new progress had been made recently in moving it forward.

**Project 2012-01 – Validate the Accuracy of Pavement Condition Predictions from Various Sources:** Max Perchanok reviewed the background to this effort, but noted that no new progress had been made recently.

**Project 2012-02 – Winter Severity Index, Phase 2:** Tina Greenfield reviewed this project. She noted that there was nothing new to report.

**Project 2012-03 – Cameras and Operational impact of Remote Road Conditions:** Leigh Sturges noted that she had recently had a discussion with someone from BYU concerning completing this project. She had also sent an email to Chris Albrecht detailing this discussion. Chris noted that he would send the information out to the team.

**Project 2012-04 – Communicating and Publicizing Road Weather and Operations information:** No report was provided for this effort.

**Project 2012-05 – Seasonal Weight Restrictions Demonstration:** Max Perchanok reviewed the background on this project, noting that it was quite complicated. He also noted that he was planning to have a team meeting before the Toronto meeting.

## **9. Other Business**

No other business was discussed.



# Aurora Program Board Web Meeting

July 23, 2012

# Today's Agenda:

1. Call to Order
2. Miscellaneous Actions and Issues
3. Clarus Issues and Discussion
4. Program Administration and Contracting
5. On-Site Meeting in Toronto
6. FY2013 Program and New Projects
7. Research Progress Guidelines
8. Ongoing Project Progress
9. Other Business





# 1) Call to Order

**Dawn Gustafson**

*Aurora Program Chair*

Michigan Department of Transportation

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**Chris Albrecht**

*Aurora Program Manager*

Iowa State University – InTrans

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## 2) Miscellaneous Actions and Issues

- Road Icing Sensor Discussion
- Email Lists and Participation
- July E-news
- Others?



## 3) *Clarus* Issues and Discussion

- Chris Hill (10 minutes)
- Aurora Board (10 minutes)



# 4) Program Administration

- FY2012 Budget

Year 1		October 1, 2003 - September 30, 2004	
Total			
HR/Comm	\$10,056.00	Brief Summary of Year 1	
CTRE Labor	\$3,715.38	Budget	Actual
CTRE Travel	\$1,369.21	\$4,796.00	\$7,639.56
CTRE Other	\$16,891.93	\$0.00	\$5,411.92
Board Meetings	\$7,557.84	CTRE/HR/Comm	
Board Travel	\$17,854.68	Board Meetings/Travel	
Total	\$57,524.44	Total	\$12,051.48

  

Year 2		October 1, 2004 - September 30, 2005	
Total			
HR/Comm	\$2.00	Brief Summary of Year 2	
CTRE Labor	\$4,543.20		
CTRE Travel	\$2,543.20		

Year 9	474-17-51	January 1, 2012 - December 31, 2012		
Total		Total		
CTRE Labor		\$4,856.28		
CTRE Travel		\$0.00	Brief Summary of Year 8 (through 3/31/2012)	
CTRE Other		\$1,288.34	Budget	Actual
Board Meetings		\$0.00	CTRE	\$72,827.00
Board Travel		\$1,549.56	Board Meetings/Travel	\$6,144.62
Total		\$7,694.18	\$27,000.00	\$1,549.56
			\$99,827.00	\$7,694.18

Year 3		January 1, 2006 - December 31, 2006	
Total			
CTRE Labor	\$76,519.88	Brief Summary of Year 6	
CTRE Travel	\$1,127.50	Budget	Actual
CTRE Other	\$16,440.75	\$0,598.00	\$0,482.24
Board Meetings	\$6,336.50	CTRE	
Board Travel	\$6,240.73	Board Meetings/Travel	
Total	\$106,665.36	Total	\$7,064.24

  

Year 4		January 1, 2007 - December 31, 2007	
Total			
CTRE Labor	\$58,021.00	Brief Summary of Year 7 (through 02/28/2008)	
CTRE Travel	\$6,777.64	Budget	Actual
CTRE Other	\$21,461.07	\$71,664.00	\$66,259.21
Board Meetings	\$10,235.24	CTRE	
Board Travel	\$10,462.09	Board Meetings/Travel	
Total	\$106,957.04	Total	\$132,518.41

  

Year 5		January 1, 2008 - December 31, 2008	
Total			
CTRE Labor	\$42,574.00	Brief Summary of Year 8 (through 03/31/2009)	
CTRE Travel	\$1,602.64	Budget	Actual
CTRE Other	\$33,787.76	\$71,665.00	\$68,265.54
Board Meetings	\$5,059.76	CTRE	
Board Travel	\$10,172.68	Board Meetings/Travel	
Total	\$93,196.84	Total	\$136,531.04

- New Contract



## 5) On-Site Meeting



- Toronto, Ontario
- September (17-21 or 24-28) or October (1-5 or 8-12)
- Clear Roads representative



## 6) FY2013

- *Revisiting Winter Road Condition Terminology*
- *Using Social Media in Winter Operations*
- *Quantifying Salt Concentration On Pavement*
- *Synthesis of Best Practices for Pass Operations*
- *Make the Aurora Winter Severity Index Available to All /  
Extend the Length of Record*
- *Using MDSS in Complex Terrain*
- *Quantifying Uncertainty in Real Time Performance  
Measurement for Highway Winter Maintenance  
Operations*
- *Others?*

## 6) FY2013

### FY2012 Selection:

<del>☐ <b>Candidate A: Seasonal Weight Restrictions Demonstration</b></del>	<del>\$250,000</del>	<del>(5.9)</del>
☐ Candidate B: Revisiting Winter Road Condition Terminology	\$35,000	(7.5)
☐ Candidate C: Using Social Media in Winter Operations	\$25,000	(6.8)
<del>☐ <b>Candidate D: Cameras and Operational Impact of Remote Condition</b></del>	<del>\$20,000</del>	<del>(5.6)</del>
☐ Candidate E: Quantifying Salt Concentration on Pavement	\$150,000	(7.7)
<del>☐ <b>Candidate F: Communicating ... Information to ... Stakeholders</b></del>	<del>\$30,000</del>	<del>(5.8)</del>
<del>☐ <b>Candidate G: Winter Weather Severity Index, Phase 2</b></del>	<del>\$5,000</del>	<del>(4.8)</del>
<del>☐ <b>Candidate H: Validate ... Condition Predictions from Various Sources</b></del>	<del>\$100,000</del>	<del>(4.4)</del>
☐ Candidate I: Synthesis of Best Practices for Pass Operations	\$5,000	(8.0)
☐ Candidate J: Make the Aurora Winter Severity Index Available to All	\$30,000	(7.2)
☐ Candidate K: Using MDSS in Complex Terrain	\$25,000	(8.3)
☐ Candidate L: Improving Estimations of ... Speeds ... Performance ...	\$130,000	(6.0)



## 7) Research Progress Guidelines

- After 1 year from approval (or when next year program announced): A scope must be written and formally approved by the project team and board.

**Project scopes need to be approved by December 27, 2012!**

- After 2 years from approval: The project must be under contract.

**Projects need to be under contract by December 27, 2012!**

- More than 2 years from approval: The project is automatically subject to re-competition.

**Projects need to be under contract by December 27, 2012!**

# 8) Project Status Reports

## **Aurora Program - Ongoing Project Status**

November 8, 2011

### **FY 2000 through FY 2007**

- 2000-01: Benchmarking of RWIS Forecasts (\$50,000 in-kind) = 85% complete
- 2006-01: Support of the Clarus Initiative (\$25,000) = 100% complete
- 2007-01: RWIS Equipment Monitoring System, Phase 2 (\$135,000) = 5% complete
- 2007-02: Cold Weather Testing of the Halliday Road Grip Unit (\$40,000) = 100% complete
- 2007-04: Development of a Freezing Drizzle Algorithm (\$85,000) = 90% complete
- 2007-05: Multiple-Use ITS Data Collection Sites (\$15,000) = 15% complete

### **FY 2008**

- 2008-01: National Road Weather Testing Program (\$11,000) = 20% complete
- 2008-03: Next Generation RWIS for Canada (\$75,000 in-kind) = 75% complete

### **FY 2009**

- 2009-01: Summary and Comparison of Sensors (\$55,000) = 20% complete
- 2009-04: Road Weather Education Enhancements (\$20,000) = 30% complete
- 2009-05: Further Development of PPAES (\$83,000) = 30% complete

### **FY 2010**

- 2010-01: Enhancements of AI/RWIS CBT (\$50,000) = 60% complete
- 2010-02: Mobile-Weather Data Collection Guidelines (\$25,000) = 10% complete
- 2010-03: Results Based Winter Road Maintenance Standards (\$120,000) = 65% complete
- 2010-04: RWIS Sensor Density Grid (\$100,000) = 5% complete
- 2010-05: Determining RPU and Sensor Failure (\$5,000) = 10% complete

### **FY 2011**

- 2011-01: Third Peer Exchange (\$30,000) = 95% complete
- 2011-02: RWIS Training Tool (200,000) = 10% complete
- 2011-03: Benefit/Costs and Instruction for Migrating to Open RWIS (\$75,000) = 5% complete
- 2011-04: Study of MDSS Costs (\$20,000) = 5% complete
- 2011-05: Funding Sources Identification (\$5,000) = 5% complete

# 9) Other Business

The screenshot displays the Aurora program website with the following elements:

- Header:** "working to advance road weather information systems technology" and the Aurora logo.
- Navigation:** Home, About, Projects, News, Participate, Resources, For Members.
- Project Status:** Ongoing, Completed.
- 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
- Ongoing Projects:**
  - 2011 National Peer Exchange
  - Benchmarking RWIS Forecasts
  - Benefit/Cost Analysis for Migrating to Next-Gen RWIS
  - Cold Weather Road Grip Unit
  - Determining Road More...
- Informational Panels:**
  - Aurora membership:** Full members program and lists of participating agencies from various states and countries.
  - Members:** Lists agencies such as Alaska Department of Transportation & Public Facilities, Arizona Department of Transportation, and others.
  - Associate members:** Lists organizations like Federal Highway Administration, National Center for Weather, etc.
  - Join Aurora and...:** Promotes collaborative research, development, and deployment of RWIS systems.
  - When you face winter road maintenance challenges, who can you turn to?:** Promotes the Snow and Ice Cooperative Program (SICOP), Aurora, and Clear Roads.