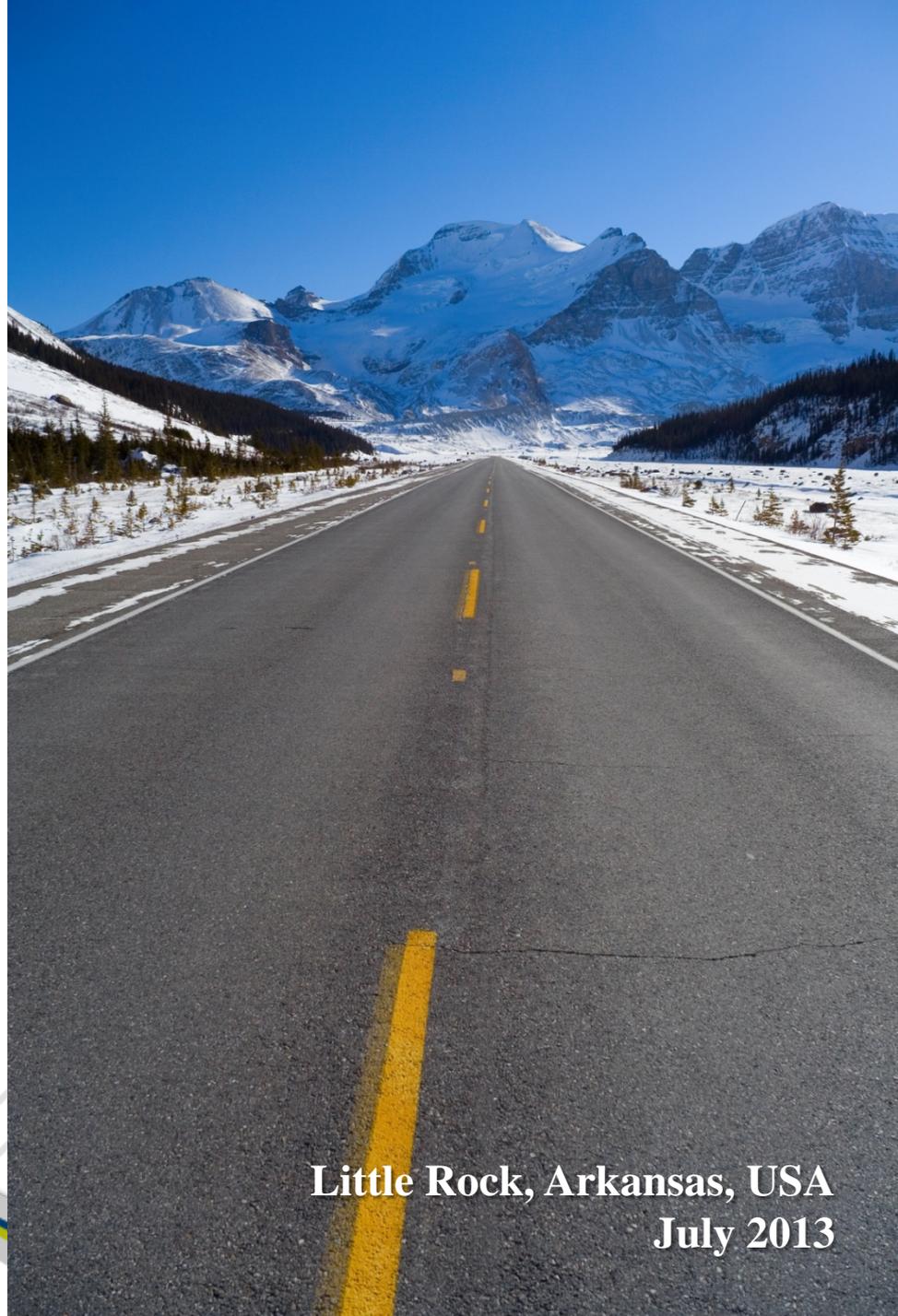


# 2013 Road Weather Management Stakeholder Meeting



Little Rock, Arkansas, USA  
July 2013



**working to advance road weather  
information systems technology**



**Aurora is an international partnership of public agencies who work together to perform collaborative **research** activities, **development**, **advocacy**, and **deployment** in the area of road weather information systems (RWIS).**

## Active Participants

- *Iowa DOT*
- *Ontario MOT*
- *Alaska DOT&PF*
- *Ohio DOT*
- *Pennsylvania DOT*
- *North Dakota DOT*
- *Utah DOT*
- *Virginia DOT*
- *Minnesota DOT*
- *Wisconsin DOT*
- *New York DOT*
- *Illinois DOT*
- *Michigan DOT*
- *Kansas DOT*



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## Affiliates/Partners

- National Center for Atmospheric Research (NCAR)
- Meteorological Service of Canada
- Montana State University
- Swedish Meteorological and Hydrological Institute
- Penn State University
- University of North Dakota
- University of Minnesota
- University of Wisconsin – Madison
- University of Wisconsin – Milwaukee
- Purdue University
- Massachusetts Institute of Technology
- Iowa State University
- Ohio University
- University of Waterloo
- University of Utah



# Aurora

WORKING TO ADVANCE ROAD WEATHER  
INFORMATION SYSTEMS TECHNOLOGY

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[Knowledge Base](#)



## Upcoming Events

**Aurora Board Web Meeting - Thursday,**  
December 6, 2012 at 10:00am (CST)

**Transportation Research Board Annual Meeting - January 13-17, 2013** in Washington, DC

**Aurora Board On-Site Meeting - April 2-4, 2013** in Virginia (tentative)

## Who We Are

Aurora is an international partnership of public road agencies working together to perform joint road weather-related research. This site is designed to introduce the program, its partners, and its research.

### Why Join Aurora?

- to set the agenda for collaborative research, development, and deployment of road 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.

## Aurora Features



**January 2013 eNews Available!**  
The latest eNews is available with future goals, new research, and a welcome to the Kansas DOT, Aurora's newest member.



**Video Guide to Testing Deicing Chemicals**  
Clear Roads has released a field guide video on testing deicing chemicals.



**Knowledge Base Boasts New Content**  
Knowledge Base continues to offer more content on road weather best practices.

Board Chair: Jason Norville, Pennsylvania DOT

Members: Alaska DOT&PF, Illinois DOT, Iowa DOT, Kansas DOT, Michigan DOT, Minnesota DOT, New York State DOT, North Dakota DOT, Ohio DOT, Ontario Ministry of Transportation, Pennsylvania DOT, Utah DOT, Virginia DOT, Wisconsin DOT



## Projects completed by Aurora include

- [2007 National Winter Maintenance Peer Exchange](#)
- [2009 National Winter Maintenance Peer Exchange](#)
- [Adaptation of the Local Climatological Model](#)
- [Compilation of RWIS Specifications](#)
- [Computer-Based Training Development](#)
- [Evaluation of Utah DOT Weather Operations Program](#)
- [Evaluation of Vaisala Spectro Pavement Sensor](#)
- [Expert System for Maintenance Decision Support](#)
- [Guidelines for Pavement Sensors](#)
- [Hot Plate Snow Gauge Demonstration](#)
- [Improved Frost Forecast Model, Phase 1](#)
- [Improved Frost Forecast Model, Phase 2](#)
- [Integration of Road Weather Information with Traffic Data](#)
- [Intelligent Image-Based Winter Road Condition Sensor, Phase 1](#)
- [Intelligent Image-Based Winter Road Condition Sensor, Phase 2](#)
- [Intelligent Image-Based Winter Road Condition Sensor, Phase 3](#)
- [Interjurisdictional Traveler Information Exchange](#)
- [Investigation of the Variability of Snow Cover Conditions](#)
- [Knowledge Base for Road Weather and Winter Operations](#)
- [Laser Road Surface Sensor](#)
- [Low Cost Mobile RWIS](#)
- [Mobile Weather and Road Condition Reporting](#)
- [New Road Surface Condition Sensor](#)
- [Off-the-Shelf Component RWIS](#)
- [Pavement Temperature Sensor Accuracy](#)
- [Road Weather Roadshow](#)
- [Road Weather Training for Improved Winter Response](#)
- [RWIS Communications Standards](#)
- [RWIS Data Integration and Sharing Guidelines](#)
- [RWIS Equipment Monitoring System, Phase 1](#)
- [RWIS Institutional Issues](#)
- [RWIS Telecommunication Issues and Options](#)

Off-the-Shelf Component RWIS  
Final Report

**Project Overview**  
This project involved building an RWIS station with an open test the performance of different sensors.

**Project Status**  
Completed  
Last updated 12/21/2007

For further information about the Aurora Program, our research projects, or this website, please contact Chris Albrecht, Transportation Research Specialist, Institute for Transportation.

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**Off-the-Shelf Component RWIS**  
<http://aurora-program.org>

Aurora Project 2003-02

Final Report  
May 2008

## Completed Projects

The following are projects most recently completed.

- ✘ *Benchmarking the Performance of RWIS Forecasts***
- ✘ *Development of a Freezing Drizzle Algorithm***
- ✘ *MDSS Demonstration in Ontario***
- ✘ *Enhancements of AI/RWIS CBT***
- ✘ *Investigation of the Variability of Snow Cover Conditions***
- ✘ *Knowledge Base for Road Weather and Winter Operations***
- ✘ *Support of the MDSS Pooled Fund Study***
- ✘ *Using RWIS to Trigger Spring Load Restrictions***

## Ongoing Projects

- ~ 20 Ongoing Projects, covering areas of:
  - Equipment Evaluation
  - Standards / Architecture
  - Site Operations / Quality Assurance
  - Information Outreach
  - Decision Support / Modeling
  - Road Condition Monitoring

*Reviewed during “project updates” portion  
of each board meeting*

## Ongoing Projects

- Multiple-Use ITS Data Collection Sites
- National Road Weather Testing Program
- Summary and Comparison of Sensors
- Further Development of PPAES
- Mobile-Weather Data Collection Guidelines
- Results Based Winter Road Maintenance Standards
- RWIS Sensor Density and Location
- Determining RPU and Sensor Failure
- RWIS Training Tool
- Instruction for Migrating to Open RWIS
- Study of MDSS Costs
- Funding Sources Identification



## Ongoing Projects

- Validate the Accuracy of Pavement Condition Predictions
- Winter Weather Severity Index, Phase 2
- Cameras and Operational Impact of Remote Condition
- Communicating and Publicizing Information
- Seasonal Weight Restrictions Demonstration
- ***Fourth National Winter Maintenance Peer Exchange***
- ***Transition of Clarus to MADIS***
- ***Improving Estimations of Real-Time Traffic Speeds During Weather for Winter Performance Measurement***
- ***Quantifying Salt Concentration on Pavement***
- ***Knowledge Base Content Management and Marketing***
- ***Make the Aurora Winter Severity Index Available to All***



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**Aurora Program Web Site:**

[www.aurora-program.org](http://www.aurora-program.org)

**Aurora Program Chair:**

Jason Norville, Pennsylvania DOT

