

A SICOP Briefing Winter Maintenance Collaboration/Coordination

SICOP
October, 2016

AASHTO

2017 Peer Exchange

- ❄ 2017 NWMPE Planning Committee In Place
- ❄ Pittsburgh, PA
- ❄ Week 37 or 38, 2017
(Week of Sept 11th or Sept 18th)
- ❄ Theme: Research to Operations (R2O)

Aurora Works Completed

- ❄ RWIS Network Planning: Optimal Density & Location
- ❄ Aurora AccuWeather Index

Aurora Works in Progress

- ❄ Results-Based Winter Road Standards
- ❄ Storm Simulator Training
- ❄ Improving estimates of Real-Time Traffic Speeds During Weather for Winter Performance Measurement
- ❄ Seasonal Weight Restrictions
- ❄ Quantifying Salt Concentration on Pavement, Phase 2
- ❄ Snow Liquid Water Equivalent for PWD Sensors
- ❄ Review Synthesis for Alternate Power Supplies

Aurora Works in Scoping

- ❄ Best Practices for Data Storage
- ❄ Utah Snow & Ice Performance Measure Tool for Aurora
- ❄ Aurora AccuWeather Index With Clear Roads
- ❄ RWIS Network Planning: Optimal Density & Location, Phase 2

Clear Roads

Works in Progress

- ❄ Understanding Chemical and Mechanical Performance of Snow & Ice Control Agents on Porous and permeable Pavements
- ❄ Snowplow Operator and Supervisor Training
- ❄ Quantifying the Impact the New Capitol Projects Will Have on Roadway Snow & Ice Control Operations
- ❄ Developing a Training Video and Manual for Best Practices and Techniques in Clearing Different Interchanges Configurations and Geometric Layouts

Clear Roads

Works in Progress

- ❄ Plug & Play Phase 2
- ❄ Snow Removal Performance Metrics – Phase 1
- ❄ Snowplow Route Optimization
- ❄ Synthesis of Material Application Methodologies for Winter Operations
- ❄ Identification & Recommendations for Correction of Equipment Factors Causing Fatigue in Snowplow Operators
- ❄ North American Study on Contracting Snow & Ice Response

Clear Roads

Projects Being Considered

- ❄ Utilization of AVL/GPS Technology: Case Studies
- ❄ Standards & Guidance for Using Sensor Technology to Assess Winter Road Conditions
- ❄ Emergency Operations Methodology for Extreme Winter Storm Events
- ❄ Weather Event Reconstruction & Analysis Tool
- ❄ Training Video for the Implementation of Liquid-Only Plow Routes

SCOM

Subcommittee on Maintenance

- ❄ NCHRP Project proposal – “Factors Influencing State DOT’s in systematically setting and managing Winter Maintenance Levels of Service (LOS)”
- ❄ NCHRP 20-68A Domestic Scan DRAFT proposal – SCOM/SICOP - “Best Practices In Maintenance Support Facility Site Layout And Design Features To Promote Safe, Efficient, And Effective Operation, And Environmental Stewardship.

STSMO

Subcommittee on Transportation System Management & Operations

- ❄ 20-7 project – Roadmap for an Operations Guidebook to supplement the “Green Book”
- ❄ V2I Deployment Coalition
- ❄ Variable Speed Limit projects

FHWA

- ❄ EDC-Weather Savvy Roads
- ❄ CV Pilot Deployments
- ❄ IMO and the Weather Data Environment (WxDE)
- ❄ Vehicle Data Translator (VDT- aka Pikalert® System)
- ❄ Capability Maturity Framework (CMF) for Road Weather Management
- ❄ Weather-Responsive Traffic Management (WRTM)
- ❄ Performance Management Tools

National Academy of Science

- ❄ NCHRP 14-34: Guide for Performance Measures in Snow and Ice Control Operations
- ❄ Advancing Social and Behavioral Science Research and Application Within the Weather Enterprise: A NAS Project.

2016 International Winter Maintenance & Surface Transportation Weather Conference Ft Collins, CO

- ❄ Training Details
- ❄ Simulation
- ❄ Is Fixed RWIS a Dinosaur?
- ❄ Privatization of Weather Information
- ❄ Big Data Issues
- ❄ Climate & Resilience
- ❄ Decision Support Systems

18th Standing International Road Weather Commission - SIRWEC Conference Ft Collins, CO

- ❄ Road weather management systems
- ❄ Novel technologies in road weather
- ❄ Decision support systems and road weather
- ❄ Integrating road weather information and operations
- ❄ Moving RWIS forward

All the presentations can be viewed at the SIRWEC website:
<http://www.sirwec.org>

National Committee-PIARC

- ❄ Transportation management during winter events
- ❄ De-icing salt and brines treatments, interventions and best practices Issue
- ❄ Updates to the Snow and Ice Data Book
- ❄ Preparation of the 2018 Winter Road Congress

2018 International Winter Road Congress, Gdansk, Poland

APWA-Winter Maintenance

- ❄ APWA Public Works Expo (PWX)
- ❄ 2015 Phoenix Seminar “Long Term Thinking to Winter Maintenance” DeVries, Nixon, Nelson
- ❄ 2016 Minneapolis – 11 winter maintenance sessions
- ❄ North American Snow Conference Hartford, CT - May 2016
1614 attendance
- ❄ Winter Maintenance Certificate Program

APWA Media Fact Sheet: “Brine Fact Sheet – Spring 2016”

BRINE FACT SHEET
APWA Winter Maintenance Sub-Committee
Spring 2016
APWA
AMERICAN PUBLIC WORKS ASSOCIATION

Anti-icing involves placing a layer of brine on the surface of the pavement **before** a winter storm has begun to prevent snow and ice from freezing to the road. **Deicing** uses pre-wetted rock salt to break the bond **after** snow has frozen to the road.

Anti-icing delivers the same level of service, but it uses one-quarter to one-fifth as much salt as deicing.

Please direct media questions to APWA Communications/Media Relations Manager Laura Bynum at 202-218-6736 or e-mail lbynum@apwa.net.

What is salt brine?
Salt brine is a solution of salt (typically sodium chloride) and water. It has a freezing point lower than pure water and, as such, is a useful tool in reducing the adhesion of snow and ice to road surfaces. In addition to brine made with sodium chloride, some winter maintenance agencies also use brines made with calcium chloride or magnesium chloride. Nonetheless, these brines are solutions of salt and water, with a freezing point lower than the freezing point of pure water. The freezing point of brine is a function of the salt being used in the brine (sodium chloride, calcium chloride, or magnesium chloride) and the percentage by weight of that salt in the solution.

Why is salt brine important?
Rock salt, or solid salt, is simply crystals of sodium chloride. Until it has gone into solution—that is, until it has formed brine—it will do nothing to stop snow from freezing to the pavement surface. Agencies that use rock salt in their winter maintenance activities are doing so to create brine on the road surface. Therefore, brine is an integral and critical part of winter maintenance activities.

What is the difference between anti-icing and deicing?
Anti-icing is a proactive approach taken to decrease the likelihood of snow and ice bonding to a pavement surface. Additionally, anti-icing can prevent frost from forming on pavement surfaces. Anti-icing involves placing a layer of brine on the surface of the pavement before a winter storm has begun. This layer prevents the snow and ice from freezing to (or icing onto) the road. The alternative—snow bond/freeze—is to let the pre-wetted rock salt to break the bond between the snow and the pavement.

Studies have shown that anti-icing will achieve the same level of service on a road or highway using between one-quarter and one-fifth the amount of salt used in deicing. Typically, anti-icing is performed using trucks carrying tanks, which have pumps to spray the brine onto the pavement surfaces. In many places lines or stripes of brine can be seen on a road before a given event. Some people call these safety stripes! Usually, brine is applied at rates of between 30 and 50 gallons per lane mile.

http://sicop.transportation.org

AASHTO
SNOW AND ICE POOLED FUND COOPERATIVE PROGRAM

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AASHTO > Snow and Ice Pooled Fund Cooperative Program - SICOP > SICOP Home

SICOP

Winter Maintenance Technical Service Program

In 1993 a team of winter maintenance professionals set about to study the winter maintenance practices and equipment of Nordic countries and Japan. After witnessing their equipment and methods the team quickly realized enormous opportunities existed to improve winter maintenance in the United States. Recognizing the potential of those new found examples; AASHTO administrative resolution 94-3 was approved, launching a program that was to become the Snow & Ice Cooperative Pooled Fund Program.

AASHTO leadership challenged the SICOP program to find technologies not in use in the US, research them, and implement them in a systems oriented framework. Technologies continue to evolve along with the needs of member States and SICOP remains committed to improving winter maintenance through identification, research, and technology transfer.

Need More Information
Contact SICOP Coordinator
Rick Nelson
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- Winter Maint Peer Exchanges
- Road Condition Measurement

About SICOP

Events

Resources

AASHTO
SNOW AND ICE POOLED FUND COOPERATIVE PROGRAM

SICOP | **About SICOP**

AASHTO > Snow and Ice Pooled Fund Cooperative Program - SICOP > About SICOP

What is SICOP?

SICOP is the Snow and Ice Pooled Fund Cooperative Program. It was developed by AASHTO (The American Association of State Highway and Transportation Officials) under AASHTO Administrative Resolution 3-94, which states:

"In order to experiment with snow and ice technology and systems not now in use in this nation, to determine their suitability to the United States and to help introduce the use of those with the most promise, the AASHTO Board of Directors endorses the concept of establishing a voluntary AASHTO Snow and Ice Pooled Fund Cooperative Program, under which testing by AASHTO Member Departments volunteering to sponsor and conduct tests can be supported financially with public sector funds voluntarily contributed by AASHTO Member Departments, Federal agencies, authorities, counties and cities."

SICOP, once a stand alone collective, has become one of AASHTO's technical service programs, the Winter Maintenance Technical Service Program - SICOP. Program guidance is provided by the Winter Maintenance Policy Coordinating Committee (WMPPC). The task of the WMPPC is to promulgate the Winter Maintenance Program (WMP). Recognizing that an effective winter maintenance program encompasses all streets, roads and highways; the WMPPC membership will include an AASHTO member from each AASHTO region, members from the National Association of County Engineers (NACE), the American Public Works Association (APWA), representatives from winter maintenance related TRB committees, and liaisons with FHWA. The WMPPC has direct ties to the AASHTO Subcommittee on Maintenance.

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Operating Guidelines

4-Year Plan

Triennial Reviews

Committee Members

Meeting Minutes

Contributing States

AASHTO
SNOW AND ICE POOLED FUND COOPERATIVE PROGRAM

SICOP | **Meeting Minutes**

AASHTO > Snow and Ice Pooled Fund Cooperative Program - SICOP > Meeting Minutes

WMPCC Meeting Minutes and Materials

2016-07: Meeting-Las Vegas, NV
Agenda | Minutes | Meeting Materials

- 2015-12: Conference Call
- 2015-07: Meeting-Des Moines, IA
- 2015-03: Conference Call
- 2014-11: Conference Call
- 2014-07: Meeting-Charleston, SC
- 2013-11: Conference Call
- 2013-07: Meeting-Burlington, VT
- 2011-07: Meeting-Louisville, KY
- 2010-10: Conference Call
- 2010-07: Meeting-Savannah, GA
- 2010-04: Conference Call with the EMTSP
- 2010-02: Meeting-Quebec City, Quebec, CA
- 2009-07: Meeting-Annapolis, MD
- 2008-07: Meeting-Monterey, CA

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AASHTO
SNOW AND ICE POOLED FUND COOPERATIVE PROGRAM

SICOP | **201607 Business Meeting**

AASHTO > Snow and Ice Pooled Fund Cooperative Program - SICOP > 201607 Business Meeting

Meeting Agenda and Meeting Materials

AASHTO Winter Maintenance Policy Coordinating Committee (WMPPC) Summer 2016 Meeting Clark County, Nevada 8:00am - 5:00pm July 16, 2016

- 1. Introductions, Agenda Review, Minutes Review**
- 2. Research Coordination - Discussion**
Peer Exchange Problem Statement
Clear Roads projects proposed and underway
Aurora projects proposed and underway
STSMBO Projects with WM implications
NCHRP, TRB, FHWA projects
- 3. Outreach Reports**
PIARC update
TRB International Winter Maintenance Conference 2016 update
SIRWEC 2016 update
STSMBO update
APWA Congress 2015
- 4. Future Directions**
Current 4-YR Plan
Future strategic plan - schedule and effort
Sustainability in Winter Maintenance
TSM&O - opportunities for collaboration
FHWA Road Weather Management Program
- 5. Winter Maintenance Agency & Consortium Reports**
FHWA - Road Weather activities
AURORA

Clear Roads Notes | Handout | Presentation

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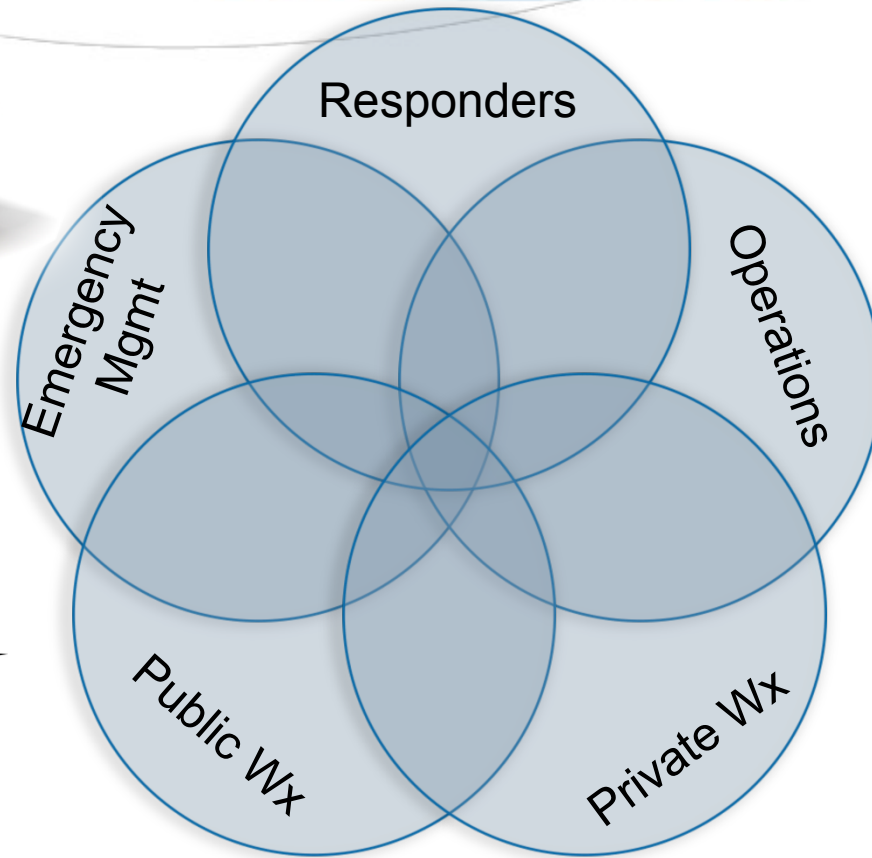
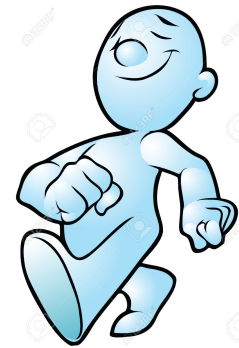
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Institutional Wx Enterprise



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