



MINNESOTA LTAP
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Minnesota LTAP



Providing Resources,
training and funding
opportunities



Snow & Ice Control Resources

Videos

[Deicing Study: Putting the Products to the Test](#)

- [How to Operate](#)
- [Operation Review](#)
- [How to Calibrate](#)
- [Software Update](#)
- [Anatomy of a Winter Storm](#)
- [Winter Maintenance for Small Sites](#)
- [Field Guide to Testing Deicing Materials](#)
- [Sander/Salt Spreader calibration video](#)
- [Sander/Salt Spreader Calibration](#)
 - [Full Length](#)
 - [Summary](#)
- [A Snowplow—Cool! Video](#)

Guides & Charts

- [Salt Handling Tip Sheet](#)
- [Minnesota Snow and Ice Control: Field Handbook for Snowplow Operators](#)
- [Local Government Snowplow Salt and Sander Controller Calibration Guide](#)
- [Manual Calibration Calculation Worksheet](#)
- [Winter Parking Lot and Sidewalk Maintenance Manual](#)
- [MN Deicing Application Rate Guidelines for Parking Lots and Sidewalks](#)
- [MN Deicing Application Rate Guidelines for Roads](#)

Training Opportunities Snow & Ice

- Snow & Ice Control Material Application-CTAP
- Snowplow Salt & Sander Calibration Hands-on Workshop-CTAP
- Mobile Snowplow Simulator Training-MnDOT
- Smart Salting Certification Classes-MPCA





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OPERA Funding Opportunities

- Have an idea to improve a job, a piece of equipment or a process?
- Have you created a new tool or designed a new product or procedure?
- Funds available for counties, cities and townships
- Minnesota-sharing best practices between agencies

Completed OPERA Projects Snow & Ice

- Improved Effectiveness of Salt Brine as an Anti-icing & Pre-wetting Agent-2005, City of Mankato
- Snowplow Windshield Wiper Deicer-2006, City of Hutchinson
- Evaluation of Hot Beam Wiper Blades-2008, Big Stone County
- Blind Lake Chloride Research Project-2009, City of Prior Lake
- Evaluation of Rear-Vision Systems for Snowplows-2009, McLeod County

Completed OPERA Projects Snow & Ice

- Cush Release Push Frame for Snow Blowing-2009, City of Glenwood
- CAD Drawing of Simple Salt/Sand Chute-2011, Washington Co
- “Winter Green” Initiative-2011, City of Minnetonka
- Advanced Deicing Product Testing-2011, McLeod Co
- Evaluation of Deicing & Anti-Icing Technologies-2012, City of Grand Rapids
- Snow & Ice Products for Rec Trails-2012, City of Waconia

Completed OPERA Projects

Snow & Ice

- Implementation of an Anti-Icing Calibration Unit-2012, City of Golden Valley
- Nonintrusive RWIS-2013 City of Eden Prairie
- Backup Sensor Technology for Snowplows-2014, Stearns Co
- Trail/Road Coating for Snowmobile Crossing-2015 Scott Co
- Urban Snow Support Vehicle-2016, City of Golden Valley
- Otter Plow Cushion-2018, Otter Tail Co
- Evaluating Pickle Brine for Ice Control-2018, Carver Co

Pickle Brine for De-icing & Anti-icing Methods



OPERA
Local Operational Research Assistance Program

Demonstration Project: Evaluating Pickle Brine for Ice Control

Carver County Public Works Department
Cologne, Minnesota

March 2018



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Minnesota's

Build a Better Mousetrap Program

- Statewide competition
- Submit an entry (Maintenance, transportation facility improvement, inspection & data collection, asset management techniques)
- Consider
- 2 Winners!
- National competition



Otter Tail
County-
WINNER
2018



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All of these resources, training opportunities and OPERA projects, are available on our website

www.mnltap.umn.edu

THANK YOU!