


# Clear Roads Qualified Products List

2023 Pacific Northwest Snowfighters Conference  
Portland, Oregon





# Clear Roads Overview

- National pooled research consortium.
- Winter maintenance focus.
- Currently 39 member states

## Core Activities

Evaluate winter maintenance materials, equipment, and methods.

Develop specifications and recommendations.

Study and promote innovative techniques and technologies.

Support technology transfer by developing practical field guides and training curricula to promote implementation.



*research for winter highway maintenance*

# Clear Roads Website

[www.clearroads.org](http://www.clearroads.org)

- Go-to source for all program and project information.
- Details on completed and in-progress research:
  - Reports, guides, tools
  - Briefs
  - Closeout videos
- Winter maintenance news
- Meeting minutes

Member Login

**CLEAR ROADS**  
research for winter highway maintenance

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The Clear Roads research program brings together transportation professionals and researchers from around the country to drive innovation in the field of winter maintenance. By evaluating materials, equipment and methods in real-world conditions, the program identifies the most effective techniques and technologies to save agencies money, improve safety and increase efficiency.

News & Events

Recent Research Results

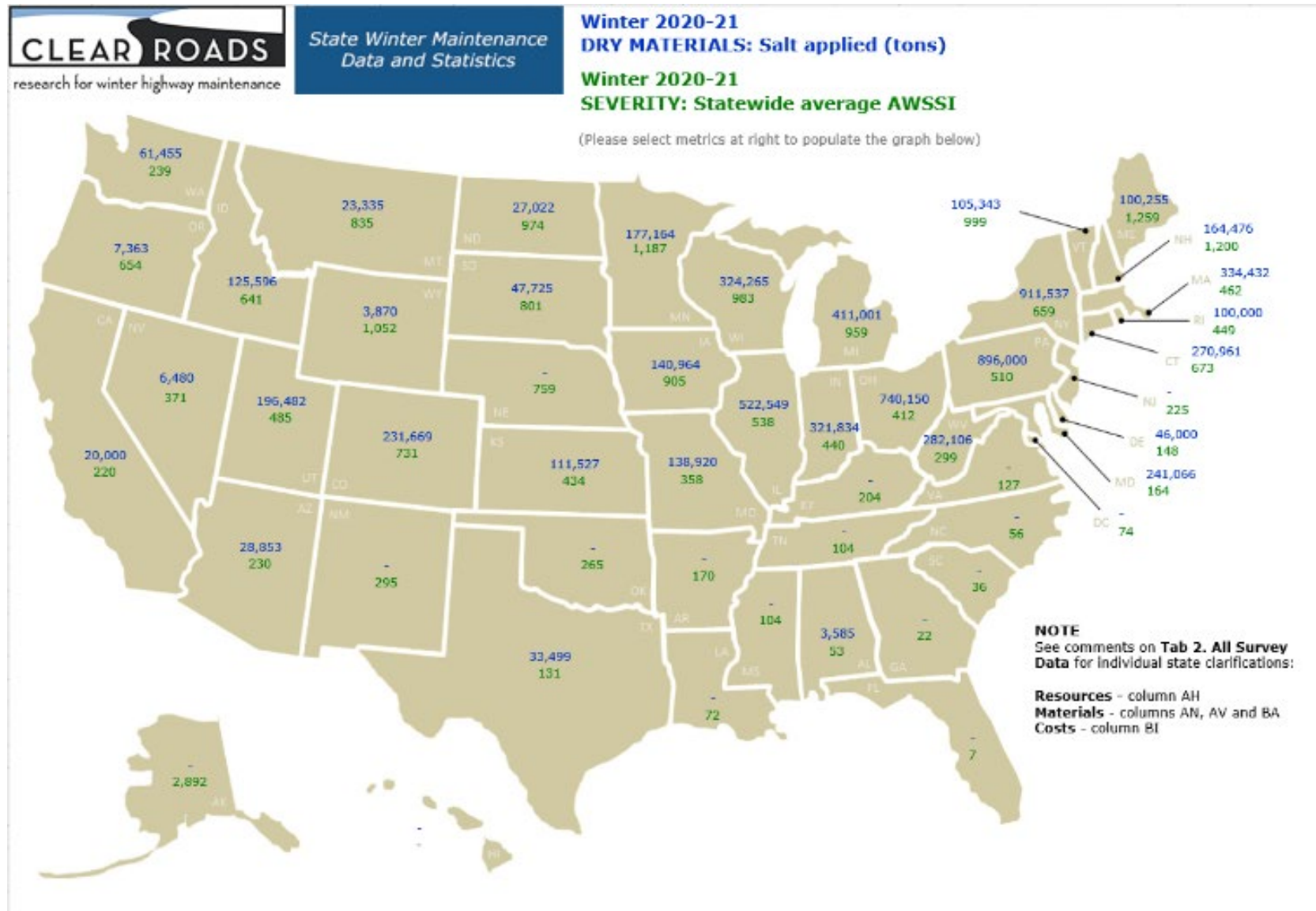
New Resources

**What's New**  
Get the latest news and updates from Clear Roads, including links to recent research.

**Electric Vehicle Technologies and Alternative Fuels for Winter Road Operations**

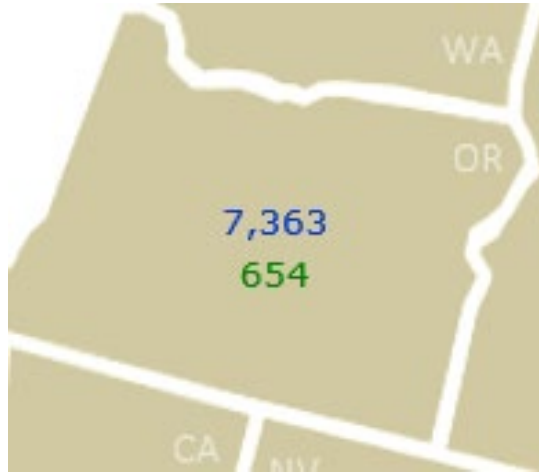
**National Survey Compiles Eighth Year of Winter Maintenance Data**  
We've published our eighth Annual Survey of

# Annual Survey of State Winter Maintenance Data (Year 8)



# CLEAR ROADS

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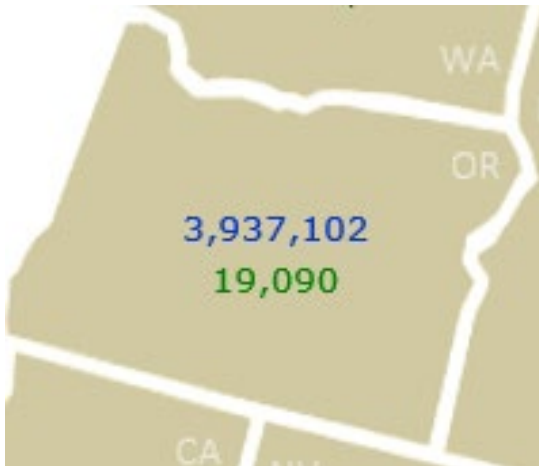


**Winter 2020-21**

**DRY MATERIALS: Salt applied (tons)**

**Winter 2020-21**

**SEVERITY: Statewide average AWSSI**



**Winter 2020-21**

**LIQUID MATERIALS: Total liquid applied (gallons)**

**Winter 2020-21**

**SYSTEM: Total lane miles**

# New Research Projects

## **Best Management Practices for Liquid Chloride Storage and Pumping Systems** (Brian Burne, Maine)

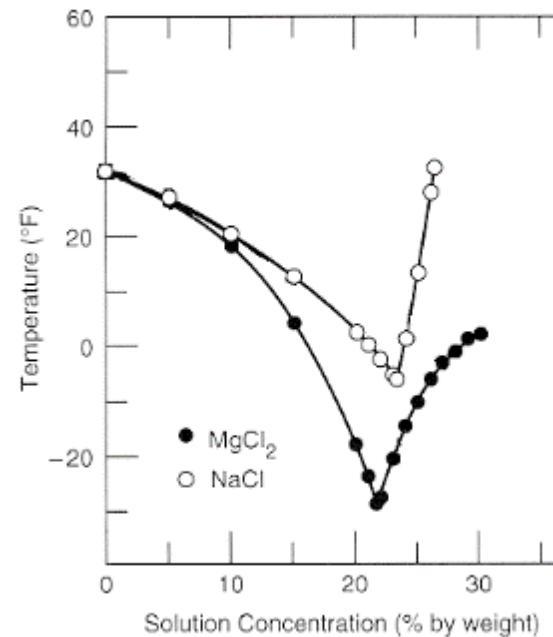


The goal of this project is to document and share optimal system designs and management practices that contribute to safe, sustainable, and cost-effective liquid storage systems.

# New Research Projects

## Effects of Additives in Lowering the Freezing Point of Deicing Salts

(Rhett Arnell, Utah)



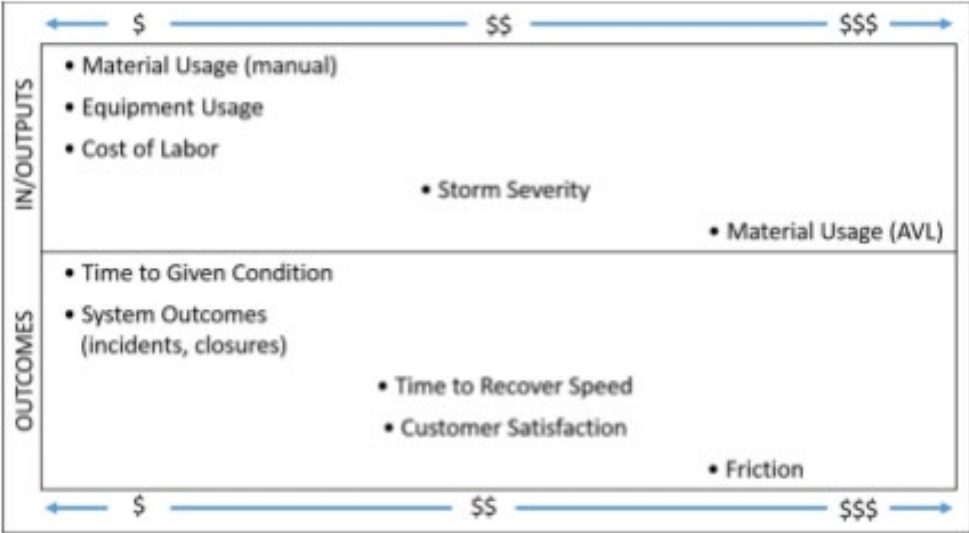
The goal of this project is to compare the eutectic points of various mixed salts (solid deicing salts with additives) to untreated salt to determine how well mixed salt products perform at lower temperatures.



# New Research Projects

## Evaluation of Direct Liquid Application of Salt Brine Versus Granular Salt as Measured Through Various Performance Metrics

(Emil Juni, Wisconsin)





## Clear Roads Snow and Ice Control Chemical Product Program

Guidance Document for Material Qualified  
Products List, Specifications, Test Methods, and  
Product Purchasing

2020

*(Updated October 2021)*

# Qualified Products List

- Background
- Purpose
- Updates



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Qualified Products List (QPL)

## Qualified Products List

Due to the administrative restructuring of the Pacific Northwest Snowfighters (PNS) organization, Clear Roads has assumed responsibility of the Qualified Products List. The product testing and administration of the QPL will remain essentially the same along with a few process improvements.

### Mission

### DOCUMENTS

[QPL Listing \(5/5/2023\)](#)

[Guidance Document for Material Qualified Products List, Specifications, Test Methods, and Product Purchasing \(10/2021\)](#)

# QPL Background

- Developed almost three decades ago by the Pacific Northwest Snowfighters
- Managed by the Clear Roads pooled fund research consortium
- Increased applicability from pacific northwest to nationwide
- Recognized by the US Environmental Protection Agency

# QPL Purpose

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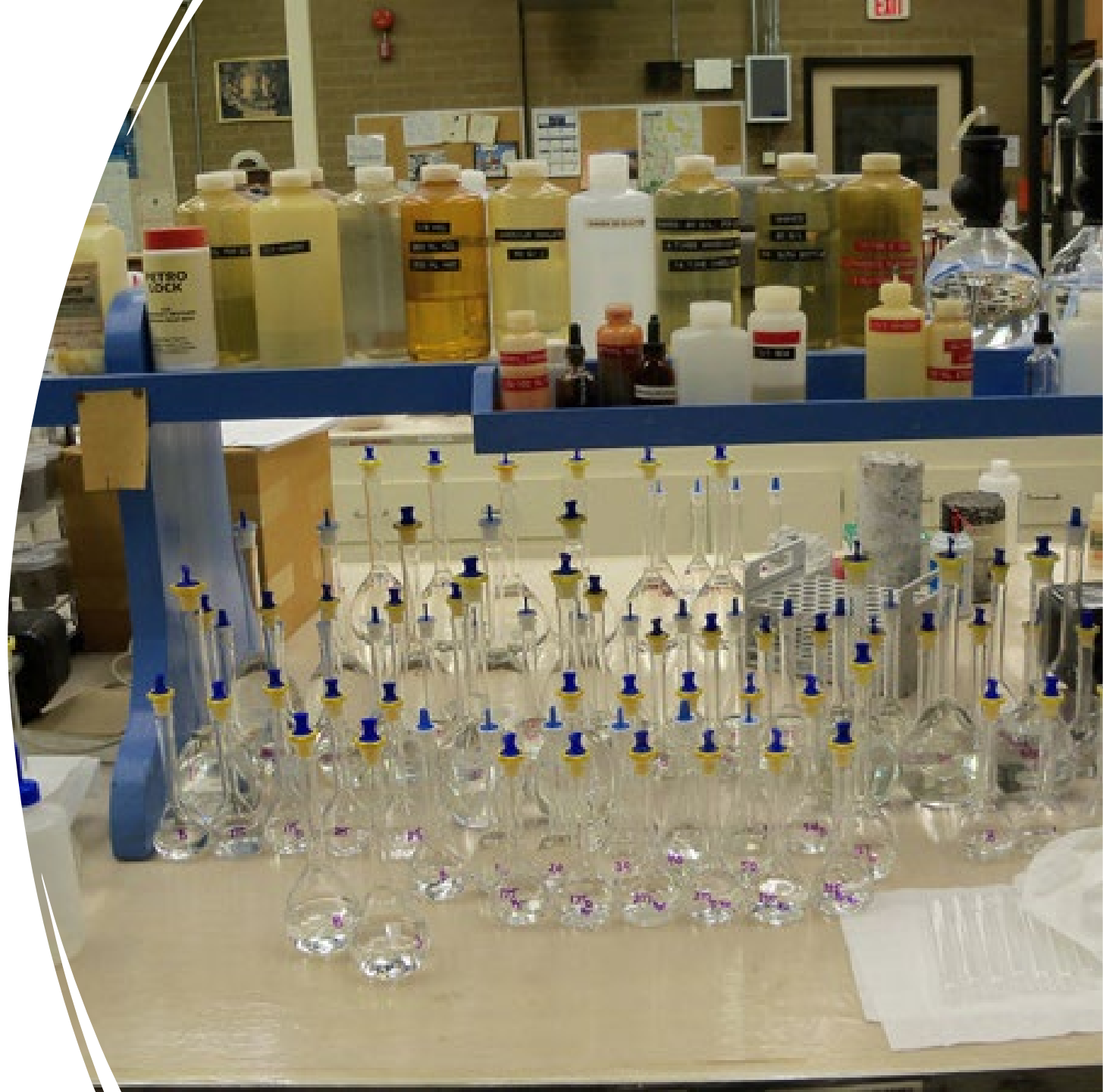
- Standardize chemical specifications to:
  - Level the playing field for manufacturers and vendors.
  - Provide predictability for vendors and users.
- Specifications address:
  - Environmental protectiveness,
  - Infrastructure protectiveness, and
  - Performance.



# Process Support

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- Specifications document
  - Submittal process
  - Product specifications and testing protocols
  - Guidance for purchasing winter maintenance products
- Website
  - QPL Listing
  - Contact information





# Requirements for Success

- Third party test results indicating product specifications are met.
- Product data or information sheet.
- Safety data sheets for product and inhibitor.
- Proprietary information.
- Additional category specific (e.g., method to determine inhibitor concentration).



# Review & Accept

- Paperwork is complete and indicates product meets specifications
- Clear Roads requests QA product samples
- QA tests performed to verify results

# Clear Roads Qualified Product List - PRODUCTS

Date of Listing: May 5, 2023



## Category 1 - Corrosion Inhibited Liquid Magnesium Chloride

Product Name	Manufacturer	Corrosion Rate % Effectiveness	Concentration	Date Approved	Expiration
	Earth Friendly Chem.	8	26%	8/15/2002	12/31/2024
AP	Envirotech Services Inc.	21	28%	8/2/2004	12/31/2024
Shield AP	Envirotech Services Inc.	26	30%	8/2/2004	12/31/2024
een	Cargill	24	28%	8/1/2005	12/31/2024
EX with Shield AP	Envirotech Services Inc.	25	30%	1/25/2006	12/31/2024
Plus	Compass Minerals	12	30%	8/28/2006	12/31/2024
	Sears Ecological Appl.	29	30%	8/9/2007	12/31/2024

## Product Listing

- Verify listing parameters
- Update QPL listing
- Post update to website



# QPL Management

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- Expiration
- Random testing and auditing
- Product name changes, producer changes
- Product formulation changes
- Disqualification



# General Specifications

- All products must meet requirements outlined in Table 1.
- All liquid deicers, including solids that are intended to be used as liquid, must be 70% less corrosive than salt.
- Table 2 results required for all liquids and for solids intended to be used as liquid.



# Products

- A total of 16 categories including two experimental categories (liquid and solid).
- Category 4 and 8 have additional subcategories for gradation, moisture and insoluble (Cat. 8).





# What's New....

- Specifications document updated October 2021.
- Will likely revise this year– clarifications; no major changes.
- Informed by research.



# Clear Roads Research

- 21-03 Efficacy, Cost, and Impacts of Non-Chloride Deicers
- 22-06 pH Waiver for Deicing Products and the Qualified Products List.