



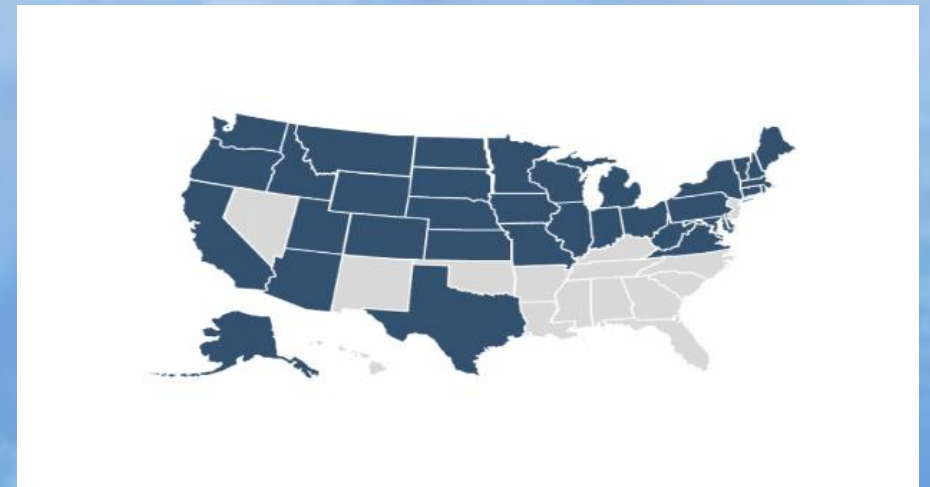
# CLEAR ROADS POOLED FUND AND THE VERMONT AGENCY OF TRANSPORTATION



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# WHAT IS CLEAR ROADS?

- › Clear Roads is a national research consortium focused on rigorous testing of winter maintenance materials, equipment and methods for use by highway maintenance crews.
- › There are currently 35 states that are members of the Clear Roads group that recommend and select projects for the “pooled” funding available.



# CLEAR ROADS PRIMARY ACTIVITIES

- › Evaluating winter maintenance materials, equipment and methods under real-world conditions.
- › Developing specifications and recommendations.
- › Studying and promoting innovative techniques and technologies that will save agencies money, improve safety and increase efficiency.
- › Supporting technology transfer by developing practical field guides and training curriculum to promote the results of research projects.



# Examples of Completed Research Projects Available on the Clear Roads website

- [14-10: Roadway Salt Best Management Practices](#) (November 2015)
- [13-01: Snow and Ice Control Environmental Best Management Practices Manual](#) (July 2015)
- [12-02: Establishing Effective Salt and Anti-icing Application Rates](#) (February 2015)
- [12-04: Snowplow Operator and Supervisor Training](#) (April 2017)
- [11-02: Determining the Toxicity of Deicing Materials](#) (December 2013)
- [06-01: Determining Effectiveness of Deicing Materials and Procedures](#) (December 2009)

# Examples of Research in Progress Available on the Clear Roads website

- [16-03: Standards and Guidance for Using Mobile Sensor Technology to Assess Winter Road Conditions](#)
- [15-01: Synthesis of Material Application Methodologies for Winter Operations](#)
- [12-03: Understanding the Chemical and Mechanical Performance of Snow and Ice Control Agents on Porous or Permeable Pavements](#)

# Additional Clear Roads Membership Benefits

- › Pacific Northwest Snowfighters
  - › Clear Roads partners with the Pacific Northwest Snowfighters (PNS) to coordinate materials testing and standards for deicing chemicals by supporting the maintenance of their Qualified Product List (QPL). To be included in the QPL, the materials must:
    - Pass a series of tests for friction, corrosion, and chemical and toxicological properties
    - Meet environmental and health standards.
  - › Partnerships with AASHTO SICOP (technology and systems not currently in use), Aurora Pooled Fund (RWIS) to collaborate on research and provide valuable Networking and sharing.
- › NETWORKING WITH OTHER CLEAR ROADS MEMBERS ON PRESSING TOPICS.
- › CR research is also shared and published with APWA reporter, Roads and Bridges and Better Roads.

# Computer-Based Training

- › Clear Roads supports the efforts of the [Snow and Ice Pooled Fund Cooperative Program](#) in developing computer-based training modules that help train snowplow drivers, maintenance crews and others. This suite of CBTs, produced through AASHTO, provides comprehensive training in all aspects of winter roadway maintenance in a convenient and cost-effective training medium. Eight CBT modules are currently available.





# Clear Roads Feature Articles

## Twenty Ways to Save on Salt

**APWA Reporter, October 2016**

Article features Clear Roads project [14-10](#), "Roadway Salt Best Management Practices"

## Ready, Steady, Spread: Research Verifies Benefits of Properly Calibrated Ground-Speed Controllers

**Roads & Bridges, September 2009**

Article features Clear Roads project [05-02](#), "Calibration Accuracy of Manual and Ground-Speed-Control Spreaders"





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



### RFPs Posted for 2017 Research Projects

Clear Roads is soliciting investigator proposals for four new research projects that will kick off this fall. See the [RFPs page](#).

### May Newsletter

In this quarterly e-newsletter, you'll find summaries and links to the latest technical news and best practices from the U.S. and around the world, highlighting applications of winter maintenance research and technology. The latest transportation research by state DOTs, universities, TRB and

## Recent Research Results



### Snowplow Route Optimization

A review of snowplow route optimization projects showed that detailed data about a plow route network and close collaboration between route modelers and the operators who drive the routes are critical factors in an optimization project's success.

[Project details and final report](#)  
[Two-page brief](#)

### Winter Maintenance Contracting

Researchers identified factors that contribute to success in winter maintenance

## New Resources



### Winter Maintenance at TRB

We've published our annual compendium of papers on winter maintenance that were presented at the 2017 Transportation Research Board Annual Meeting. The [2017 compendium](#) includes abstracts for 22 papers grouped into seven categories, covering a wide range of winter maintenance issues.

### Product Experience Survey Results

Every year, Clear Roads members complete a survey on the results of winter

# QUESTIONS?

- › Email: [todd.law@Vermont.gov](mailto:todd.law@Vermont.gov)
- › Clear Roads website: [www.clearroads.org](http://www.clearroads.org)
- › Vtrans Website: [www.vtrans.Vermont.gov](http://www.vtrans.Vermont.gov)