

State Planning and Research Program Quarterly Report

PROJECT TITLE: Clear Roads Administration, Research Support, and Information Services

OBJECTIVES: Clear Roads is a pooled fund research project aimed at rigorous testing of winter maintenance materials, equipment, and methods for use by highway maintenance crews. The Clear Roads Technical Advisory Committee (TAC) contracted with CTC & Associates LLC to perform the administrative functions associated with maintaining the pooled fund project as well as information services that support technology transfer. This report summarizes activities conducted under this contract over the last three months.

PERIOD COVERED: January 1 through March 31, 2026

PARTICIPATING AGENCIES: Minnesota Department of Transportation

PROJECT MANAGER: Adam Wellner

SP&R PROJECT NO:
1053038

PROJECT IS:

LEAD AGENCY: MnDOT

Planning
 Research &
Development

PRINCIPAL INVESTIGATOR:
CTC & Associates LLC

PROJECT BUDGET:
\$1,504,990.94

PROJECT EXPENDITURES TO DATE:
\$934,532.01

WORK COMPLETED:

TAC Meetings

- Continued planning for the 2026 spring meeting in Lexington, VA on April 21-23.
- Now that an amendment for the admin contract is in place between MnDOT and CTC, we began working with the Hilton Mystic to draft a contract for the 2026 fall meeting in Mystic, CT for September 15-17.

Administration and Marketing

- Updated the Clear Roads website with current project status, project deliverables, webinars, administrative documents, and modifications to the home page.
- Continued to update the Webinars and Other Videos page with Final Project Webinars and Implementation Webinars.
- Continued to work with the Qualified Products List subcommittee to provide technical support for the online Vendor Submission Form.
- Maintained and updated commitments, transfers, and overall budget information for the pooled fund in coordination with MnDOT. Communicated with TAC members and their appropriate pooled fund personnel to facilitate transfers for fiscal year 2026.
- Supported efforts of TAC members, including changes in state representation. The total number of members remains 39.

Information Services

- Used Constant Contact to distribute 6 Clear Roads news posts.
- Continued work on the following synthesis projects.
 - Snow & Ice, 2030 (draft synthesis report submitted for subcommittee review)
 - Best Practices for Research Implementation (draft synthesis report submitted for subcommittee review)
 - Predictive Methods to Update Road Condition Reporting
 - Update on the Status of AVL/GPS for Winter Operations
- Completed research briefs for the following projects.
 - Evaluation of Direct Liquid Application of Salt Brine vs Granular Salt as Measured through Various Performance and Safety Metrics
 - Quantifying the Economic Value of Snow and Ice Operations Success
 - Using Vegetation Management Practices Near Roads to Leverage the Benefits of Solar Radiation
- Began drafting briefs for the following projects.
 - Determining the Migration of Chloride-based Deicers through Different Soil Types
 - Development of a Public Service Announcement Library
- Recorded and posted the following final project webinar.
 - Using Vegetation Management Practices Near Roads to Leverage the Benefits of Solar Radiation
- Finalized the collection of responses for the 2024-2025 Annual Survey of State Winter Maintenance Data, analyzed the data and published the dataset to the website.
- Coordinated with the subcommittee and vendors to renew / update / add deicer products to the Qualified Products List.
- Compiled and posted on the winter maintenance-related technical sessions at the 2026 TRB Annual Meeting.

Research Support

New projects

- Coordinated with MnDOT, project investigators, and Clear Roads project subcommittees to finalize work plans and budgets, for contracting purposes, for the FY2025 projects below.
 - Developing a National Road Condition Standard Legend
 - A Benefit-Cost Analysis of Implementing and Operating AVL/GPS Technology Systems
 - Updated Techniques in Clearing Different Interchange Configurations and Other Geometric Layouts
 - Materials and Guidance to Maximize the Value of a Weather Services Contract
 - Snowplow Truck Washing Facility Designs and RFP Templates
 - pH Waiver for Deicing Products on the Qualified Products List
- Coordinated with project subcommittee to revise the scope of work to repost the following RFP.
 - Comprehensive Guide to Prewetting Application Rates and Methods

Research in progress

- Continued coordination with the PIs and subcommittees to schedule check-in teleconferences and facilitate the review of deliverables for the following projects.
 - Determining the Migration of Chloride-based Deicers through Different Soil Types
 - Updating the Impact of Capital Projects Decision Support Tool
 - Toxicity Standards for the Qualified Products List
 - Effective Pretreatment for Events Beginning as Rain
 - Salt Management Training for Non-DOT End Users
- Coordinated with the PI and subcommittee to facilitate the review of final deliverables and close out the following projects.
 - Development of a Public Service Announcement Library
 - Using Vegetation Management Practices Near Roads to Leverage the Benefits of Solar Radiation

Implementation

- Developed a brief report that captures the implementation opportunities and impacts for each research project.
- Continued to provide access (443 agencies / entities) to the training modules developed by the Clear Roads project, Snowplow Operator and Supervisor Training.
- Provided access (1,610 agencies / entities) to the training modules developed by the Clear Roads project, Entry-Level Driver Training (CDL) for Maintenance Equipment Operators.
- Coordinated the completion of project closeout forms for recently completed projects.
- Continued to facilitate implementation discussions (at the program and project level) during regular project and face-to-face meetings as appropriate.
- Continued discussions with AASHTO's Technical Training Solutions committee to partner in the conversion of Clear Roads Snowplow Operator and Supervisory training modules into computer-based training hosted by AASHTO.
- Coordinated and facilitated an Implementation Webinar entitled, West Virginia and Pennsylvania DOT's Experiences with Maintenance Vehicle Conspicuity.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- Attend and provide support for the 2026 spring meeting in Lexington, KY.
- Review and sign a contract with Hilton Mystic to host the 2026 fall meeting in Mystic, CT.
- Coordinate with MnDOT, Clear Roads, and investigators to finalize work plans for 2025 projects for contracting.
- Work with MnDOT to determine the appropriate method and timing for contracting FY 2025 projects.
- Complete and publish the following synthesis projects.
 - Snow & Ice, 2030
 - Best Practices for Research Implementation
 - Predictive Methods to Update Road Condition Reporting
 - Update on the Status of AVL/GPS for Winter Operations
- Commence work on the following synthesis project.
 - Best Practices for Use of AVL and Other Vehicle Monitoring Technologies in Employee Relations.
- Work with PIs to finalize the following project including gaining approval of final deliverables, conducting a project closeout webinar and drafting the research brief.
 - Determining the Migration of Chloride-based Deicers through Different Soil Types
- Publish research briefs for the following projects.
 - Determining the Migration of Chloride-based Deicers through Different Soil Types
 - Development of a Public Service Announcement Library
- Draft, and submit to MnDOT, scopes of work / requisition forms for projects selected during the 2026 spring meeting.
- Update the Clear Roads generic presentation for 2026 and post on the website for use by members.
- Identify a topic / journal for the 2026 Feature Article.
- Continue to update the Clear Roads website with both project and administrative information.
- Assist with coordinating and tracking funding transfers to TPF-5(479).
- Assist MnDOT as necessary with preparing for the transition to phase 4 of the Clear Roads Pooled Fund Study.

- Research, write, and publish winter maintenance news posts.
- Use Constant Contact to distribute the winter maintenance news posts, completed research results, and other information.
- Continue to coordinate with investigators and the Clear Roads subcommittees on projects in progress.
- Continue to provide design and administrative support for the Qualified Products List.
- Continue to conduct project closeout and implementation webinars. Post them on the Clear Roads website.
- Continue to coordinate the completion of project closeout forms.
- Continue to respond to requests for Clear Roads training materials.

STATUS AND COMPLETION DATE:

The contract tasks are progressing as planned. The completion date is June 30, 2027.