

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: April 1 through June 30, 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:
\$1,118,445.97

WORK COMPLETED:

TAC Meetings

- Attended and supported the 2026 spring meeting in Lexington, KY on April 21-23. Prepared agenda, budget, minutes, and other meeting materials and provided them to the TAC.
- Signed contract with the Hilton Mystic for our 2026 Fall Meeting, September 15-17, in Mystic, CT.
- Signed contract with the Hotel Renegade for our 2027 Spring Meeting, April 13-15, in Boise, ID.

Administration and Marketing

- Updated the Clear Roads website with current project status, project deliverables, 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 provide support for the Qualified Products List subcommittee and 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 5 Clear Roads news posts.
- Wrapping up work on the following 2024 synthesis projects.
 - Predictive Methods to Update Road Condition Reporting (Draft report submitted June 8)
 - Snow & Ice, 2030 (Draft report submitted March 23)
 - Update on the Status of AVL/GPS for Winter Operations (Draft report submitted June 8)
 - Best Practices for Research Implementation (Draft report submitted March 23)
- Conducted scoping / kickoff meetings for the following 2025 and 2026 synthesis projects.
 - Best Practices for Use of AVL and Other Vehicle Monitoring Technologies in Employee Relations
 - Salt Contract Language Best Practices
 - Strategies to Reduce Chloride Impacts on Bridges
 - NaCl Brine Blend Ratios
 - Artificial Intelligence in Winter Highway Maintenance: Current Practices and Trends
- Completed and posted briefs for the following projects.
 - Determining the Migration of Chloride-based Deicers through Different Soil Types
 - Development of a Public Service Announcement Library
- Coordinated with the subcommittee and vendors to renew / update / add deicer products to the Qualified Products List.
- Coordinated with Clear Roads and APWA editor and commenced work on the 2026 Feature Article.

Research Support

New projects

- Continued to coordinate 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
 - Snowplow Truck Washing Facility Designs and RFP Templates
 - pH Waiver for Deicing Products on the Qualified Products List
- Coordinated with project subcommittees and MnDOT to revise the scope of work and repost the following RFPs.
 - Materials and Guidance to Maximize the Value of a Weather Services Contract
 - Laboratory assessment of Pre-Wetting Application Rates and Methods
- Coordinated with project subcommittees and MnDOT to draft the scopes of work and post the following RFPs.
 - Identifying an Appropriate Friction Test Method for the Qualified Products List
 - In-Depth Cost Analysis of Liquid and Solid Deicing Materials
 - Transitioning the Annual Survey of State Winter Maintenance Data to a Web-based Tool

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.
 - 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.
 - Determining the Migration of Chloride-based Deicers through Different Soil Types

Implementation

- Developed a brief report that captures the implementation opportunities and impacts for each research project.
- Continued to provide access (451 agencies / entities) to the training modules developed by the Clear Roads project, Snowplow Operator and Supervisor Training.
- Provided access (1,652 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.
- Updated and posted the Clear Roads Generic Presentation with the 2026 projects selected during the spring meeting.
- Assisted the Clear Roads chair in preparing presentations to AASHTO's Maintenance Committee and Winter Weather Management Technical Service Program.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- Finalize arrangements with the hotel. Complete the materials for, and attend / support, the fall meeting in Mystic, CT.
- Provide support to MnDOT in responding to questions related to the reposted 2025 and posted 2026 RFPs.
- Coordinate with MnDOT, Clear Roads, and investigators to finalize work plans for contracting 2025 projects in October.
- Complete and publish the 2024 synthesis projects.
- Commence work on the following 2025 and 2026 synthesis projects.
- Work with PIs to finalize the project, Toxicity Standards for the Qualified Products List, including gaining approval of final deliverables, conducting a project closeout webinar and drafting the research brief.
- Draft the 2026 Feature Article. Coordinate with Clear Road and APWA for content review.
- Begin collecting responses to the 2025-2026 Annual Survey of State Winter Maintenance Data.
- Continue to update the Clear Roads website with both project and administrative information.
- Assist with coordinating and tracking funding transfers to TPF-5(479).
- 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.
- Assist MnDOT as necessary with preparing for the transition to phase 4 of the Clear Roads Pooled Fund Study.

STATUS AND COMPLETION DATE:

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