

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 through June 2025

PARTICIPATING AGENCIES: Minnesota Department of Transportation

PROJECT MANAGER: Tom Peters

SP&R PROJECT NO:
1053038

PROJECT IS:

LEAD AGENCY: MnDOT

☐ Planning
☒ Research &
Development

PRINCIPAL INVESTIGATOR:
CTC & Associates LLC

PROJECT BUDGET:
\$1,130,075.18

PROJECT EXPENDITURES TO DATE:
\$642,436.39

WORK COMPLETED:

TAC Meetings

- Attended and supported the 2025 spring meeting in Richmond, VA on April 15-17. Prepared agenda, budget, other meeting materials, and minutes and provided them to the TAC.
- Signed agreement with the Embassy Suites in Bloomington, MN for the 2025 fall meeting / joint meeting.
- Signed agreement with the Hyatt Regency in Lexington, KY for the 2026 spring meeting.

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.
- 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 continue to facilitate transfers for fiscal year 2025.
- Supported efforts of TAC members, including changes in state representation. The total number of members remains 39.

Information Services

- Used Constant Contact to distribute 7 Clear Roads news posts.
- Completed the synthesis project, UAV Uses for Winter Maintenance.
- Continued work on the project, Management of Video Recordings and Images taken from Truck-mounted Cameras.
- Commenced work on the following synthesis projects.
 - Snow & Ice, 2023
 - Best Practices for Research Implementation
- Continuing work on research briefs for the project, Salt Shed Design Template.
- Coordinated with the subcommittee and vendors to renew / update / add deicer products to the Qualified Products List.
- Updated / posted the Clear Roads Generic Presentation with the 2025 projects selected during the spring meeting.

Research Support

New projects

- Facilitated meetings of the project subcommittees for the following five new FY2025 projects selected during the spring meeting, drafted scopes of work, and submitted as requisition forms to MnDOT for posting as RFPs.
 - 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
- Coordinated with project subcommittees and resubmitted requisitions form for the following cancelled projects. These projects will be posted as RFPs along with the FY20205 projects.

- Comprehensive Guide to Prewetting Application Rates and Methods
- pH Waiver for Deicing Products on the Qualified Products List
- Continued to coordinate with MnDOT and Clear Roads project subcommittees on final contracting matters for the 2024 project, Effective Pretreatment Methods for Events Beginning as Rain.

Research in progress

- Continued coordination with the PIs and subcommittees to schedule check-in teleconferences and facilitate the review of deliverables for:
 - Grip Sensor Technology and Salt Applications
 - Determining the Migration of Chloride-based Deicers through Different Soil Types
 - Evaluation of Direct Liquid Application of Salt Brine vs Granular Salt as Measured through Various Performance and Safety Metrics
 - Development of a Public Service Announcement Library
 - Quantifying the Economic Value of Snow and Ice Operations Success
 - Updating the Impact of Capital Projects Decision Support Tool
 - Using Vegetation Management Practices Near Roads to Leverage the Benefits of Solar Radiation
 - Toxicity Standards for the Qualified Products List
 - Salt Management Training for Non-DOT End Users

Implementation

- Developed a brief report that captures the implementation opportunities and impacts for each research project.
- Continued to provide access (408 agencies / entities) to the training modules developed by the Clear Roads project, Snowplow Operator and Supervisor Training.
- Provided access (1,525 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.
- Drafted and posted the 2025 Clear Roads Generic PPT, including new projects selected during the spring meeting, for members to use in state or national presentations.
- Assisted the Clear Roads chair in preparing for 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. Completed the materials for, and attend / support, the fall / joint meeting in Bloomington, MN.
- Continue to participate in joint planning meeting calls for day 2 of our fall meeting with Aurora and AASHTO.
- Provide support to MnDOT in responding to questions related to the 2025 RFPs.
- Kickoff the project, Effective Pretreatment Methods for Events Beginning as Rain.
- Complete and publish, Management of Video Recordings and Images taken from Truck-mounted Cameras.
- Continue work on the 2024 synthesis projects.
- Work with PIs to finalize the following projects including gaining approval of final deliverables, conducting project closeout webinars and drafting the research briefs.
 - Grip Sensor Technology and Salt Applications
 - Determining the Migration of Chloride-based Deicers through Different Soil Types
- Continue work on the following synthesis projects.
 - Snow & Ice, 2023
 - Best Practices for Research Implementation
- Publish the research brief for the project, Salt Shed Design Template.
- Draft the 2025 feature article focused on Standard Test Method for Ice Melting Capacity.
- Begin collecting responses to the 2024-2025 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.

STATUS AND COMPLETION DATE:

The contract tasks are progressing as planned. The completion date is June 30, 2026.