

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: October through December 2019

PARTICIPATING AGENCIES: Minnesota Department of Transportation

PROJECT MANAGER: Tom Peters

SP&R PROJECT NO:
1030951

PROJECT IS:

LEAD AGENCY: MnDOT

Planning
 Research &
Development

PRINCIPAL INVESTIGATOR:
CTC & Associates LLC

PROJECT BUDGET:
\$365,487.00

PROJECT EXPENDITURES TO DATE:
\$317,153.64

WORK COMPLETED:

TAC Meetings

- Completed the minutes for the 2019 fall face-to-face meeting and posted them on the Clear Roads website.
- Commenced planning for the 2020 spring face-to-face meeting, which will be held in Madison, WI on April 21-23. Coordinated with MnDOT to expedite the publishing of the RFB for hotels.
- Continued to participate as part of the planning committee for the 2020 International Road weather and Winter Maintenance Conference & Peer Exchange, which will be held in Atlanta, GA the week of September 21, 2020.

Administration and Marketing

- Updated the Clear Roads website with current project status, project deliverables, webinars, administrative documents, and modifications to the home page.
- 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 2019.
- Updated the Qualified Products List webpage with a new Product Sample Checklist for vendors.
- Published six news posts, which have taken the place of the quarterly newsletter.
- Supported efforts of TAC members, including changes in state representation. The total number of members remains at 36.

Information Services

- Used Constant Contact to distribute the Clear Roads news posts pertaining to recent winter maintenance research, a Clear Roads article in the APWA Reporter, the PNS conference, the National Winter Maintenance Peer Exchange, and the transition of the QPL from PNS to Clear Roads.
- Completed the Product Experience Survey data collection for 2018-2019 product testing.
- Continued work on the Synthesis of Practice: Mechanic/Operator Training and Training Needs for Winter Maintenance Equipment.
- Commenced work on the following synthesis projects:
 - Inventory and Use of Salt Spreading Systems
 - Resources, Practices and Needs for Weather Forecasting to Facilitate Winter Road Maintenance
- Completed and posted the brief for the project, Standards and Guidance for Using Mobile Sensor Technology to Assess Winter Road Conditions.
- Continued to collect submissions for the 2018-2019 Annual Survey of State Winter Maintenance Data.

Research Support

New projects

- Commenced coordination with the project PIs and subcommittees to finalize and submit to MnDOT revised versions of the work plans and budgets for the following FY2019 research projects.
 - Expanding Brine Recipes and Their Use
 - Synthesis: Retention and Recruitment of Highway Maintenance Workers
 - Measuring the Efficiencies of Tow / Wing Plows
 - Specifications for Automated Snowplow Route Optimization
- Continued to assist as appropriate with contracting for the project, Standard Test Procedures for Ice Melting Capacity of Deicers.

Research in progress

- Continued coordination with the PI and subcommittee to schedule check-in teleconferences and facilitate the review of deliverables for:
 - Weather Event Reconstruction and Analysis Tool
 - Integrating Advanced Technologies into Winter Operations Decisions
 - Standard Specifications for Plow Blades with Carbide Inserts
 - Aftermarket Cameras in Winter Maintenance Vehicles
 - Defensive Driving for Snowplow Operators
 - High Performance Blade Evaluation
 - Evaluation of SSI and WSI Variables
 - Review and Summary of Pre-wet Methods and Procedures
 - Alternative Methods for Deicing

Implementation

- Developed a brief report requested by MnDOT that captures the implementation opportunities and impacts for each Clear Roads research project.
- Continued to monitor data regarding Clear Roads website traffic, YouTube hits, coordinate Project Closeout Forms and Research Use Surveys.
- Collected and posted data on an internal TAC survey:
 - Table of Organizations
 - Equipment Training by States
 - Use of Arborists
 - Laser Tracking
- Continued to provide access for over 170 agencies / entities to the training modules developed by the Clear Roads project, Snowplow Operator and Supervisor Training.
- Coordinated with TAC members to ensure they were prepared give presentations on Clear Roads at various conferences.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- Develop materials and continue planning for the spring meeting in Madison, WI on April 21-23, 2020.
- Continued to plan for the 2020 International Road Weather and Winter Maintenance Conference & Peer Exchange in Atlanta, GA in September 2020.
- Scope and commence work on Subject-based Webpages, Phase 3.
- Continue work on the following synthesis projects:
 - Mechanic/Operator Training and Training Needs for Winter Maintenance Equipment
 - Inventory and Use of Salt Spreading Systems
 - Resources, Practices and Needs for Weather Forecasting to Facilitate Winter Road Maintenance
- Finalize work plans / budgets and kickoff the following Clear Roads projects:
 - Expanding Brine Recipes and Their Use
 - Synthesis: Retention and Recruitment of Highway Maintenance Workers
 - Measuring the Efficiencies of Tow / Wing Plows
 - Specifications for Automated Snowplow Route Optimization
- Continue to update the Clear Roads website with both project and administrative information.
- Assist with the coordinating and tracking funding transfers to the pooled fund TPF-5(353).
- Research, write, and publish winter maintenance news posts at a rate of about one every two weeks.
- Use Constant Contact to distribute the winter maintenance news posts, completed research results, and other information.
- Solicit equipment to be tested for the 2019-2020 Product Experience Survey.
- Produce briefs of completed research projects.
- Compile a list of papers related to winter maintenance from the 2020 TRB Annual Meeting and post on the website.
- Continue to coordinate with investigators and the Clear Roads subcommittees on projects in progress.
- Continue to coordinate the completion of post project closeout forms and research use surveys.

STATUS AND COMPLETION DATE:

The contract tasks are progressing as planned. The current contract completion date is June 30, 2020. Submitted a contract amendment that added \$99,653 to the current contract to account for additional services performed by CTC. The amendment request was approved by the Clear Roads TAC.