

# 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 through March 2020

**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:**  
\$465,139.93

**PROJECT EXPENDITURES TO DATE:**  
\$378,677.00

## WORK COMPLETED:

### TAC Meetings

- Continued planning for the 2020 spring face-to-face meeting, which will be conducted online as opposed to Madison, WI on April 21-23. Prepared agenda and meeting materials and provided them to the TAC.
- Worked with MnDOT Research and Innovation to push the contract for the Sheraton Madison Hotel to spring 2021.
- Continued to participate as part of the planning committee for the 2020 International Road weather and Winter Maintenance Conference & Peer Exchange, which may/may not 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 2020.
- Began work on an improved online deicer product submission form for vendors on the Qualified Products List webpage.
- Published four news posts.
- 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, MnDOT's Salt Sustainability Program, and the results of the Annual Survey of State Winter Maintenance Data.
- Posted the results of the Product Experience Survey for the 2018-2019 winter season.
- Completed and posted the compendium of papers on winter maintenance from the 2020 TRB Annual Meeting.
- Continued work on:
  - Synthesis of Practice: 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
- Completed work on:
  - Year 5 of the Annual Survey of State Winter Maintenance Data (2018-2019). The survey results and interactive map were posted on the Clear Roads website.
- Prepared and coordinated an approval of the scope of work for Subject-based Webpages, Phase 3.
- Completed and posted the brief for the project, Weather Event Reconstruction and Analysis Tool.

- Posted results from the 2018-2019 Annual Survey of State Winter Maintenance Data.
- Wrote a feature article entitled, *Training: Don't start the season without it*, for the October 2019 issue of the APWA Reporter.
- Recorded and posted closeout webinars for the following project:
  - Standard Specifications for Plow Blades with Carbide Inserts

## **Research Support**

### *New projects*

- Coordinated with the project subcommittees and MnDOT to establish a contract with the selected vendors for the following FY2019 projects:
  - Recruitment and Retention of Highway Maintenance Workers,
  - Measuring the Efficiencies of Tow Plows and Wing Plows, and
  - Synthesis of Technical Requirements and Considerations for an Automated Snowplow Route Optimization RFP Template

### *Research in progress*

- Continued coordination with the PI and subcommittee to schedule check-in teleconferences and facilitate the review of deliverables for:
  - 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
  - Standard Test Procedures for Ice Melting Capacity of Deicers
- Worked with the PI and subcommittee to facilitate review of final deliverables and close out the following project:
  - Weather Event Reconstruction and Analysis Tool.

### *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:
  - Maintenance Workforce Adjustments to COVID-19
- Continued to provide access for almost 180 agencies / entities to the training modules developed by the Clear Roads project, Snowplow Operator and Supervisor Training.
- Investigated and corrected IT/coding problems with the Cost Benefit Analysis Tool. Members are now able to access / use the Tool.

## **SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:**

- Attend and provide support for the spring online meeting. Draft meeting minutes and begin addressing action items.
- Coordinate the scopes of work for 2020 projects selected as part of the 2020 spring meeting. Send them to MnDOT to be processed into RFPs and posted for investigator response.
- Update the Clear Roads generic Power Point presentation for use by member states.
- Complete the following synthesis project:
  - Synthesis of Practice: Mechanic/Operator Training and Training Needs for Winter Maintenance Equipment
- Continue 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
  - Subject-based Webpages, Phase 3
- Continued to plan for the 2020 International Road Weather and Winter Maintenance Conference & Peer Exchange in Atlanta, GA in September 2020.
- Work with the project subcommittee to scope the Clear Roads initiative, Winter Maintenance Product Proficiency Sample Program.
- Coordinate with University of Illinois and MnDOT to establish a phase 2 for the AWSSI Enhancement project.
- Work with the project subcommittee to scope the CTC effort, Snow and Ice Equipment Online Database.
- 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 2020-2021 Product Experience Survey.

- Produce briefs of completed research projects.
- 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. CTC will be submitting a contract amendment for one additional year (July 1, 2020 to June 30, 2021).