

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: July through September 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:
\$284,361.33

WORK COMPLETED:

TAC Meetings

- Attended and supported the 2019 fall face-to-face meeting in Burlington, VT on September 24-26. Prepared meeting materials, coordinated travel and logistics communications, assisted with meeting facilitation, meeting minutes, and coordination of expense reimbursement.
- Commenced planning for the 2020 spring face-to-face meeting, which will be held in Madison, WI on April 21-23. Provided MnDOT with the details to generate an RFB for the spring meeting.
- 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

- Coordinated with the National Local Technical Assistance Program and Clear Roads presenters in advance of the 2019 National LTAP-TTAP-NTTD Conference in Stowe, VT.
- Updated the Clear Roads website with current project status, project deliverables, webinars, administrative documents, and modifications to the home page.
- Reconfigured the navigation bar at the top of the Clear Roads website to make the Research by Topic and Qualified Product List webpages more visible / accessible.
- 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.
- Coordinated six post news items, which now take 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 National Winter Maintenance Survey Data, 2019 research projects, and the transition of the QPL from PNS to Clear Roads.
- Finalized the list of products to be tested for the 2017-2018 Product Experience Survey. Administered the survey to collect data on the products that were tested.
- Finalized the scope of work and kicked off the Synthesis of Practice: Mechanic/Operator Training and Training Needs for Winter Maintenance Equipment
- Completed work on the following synthesis projects:
 - Development of a Winter Preparedness Microsite

- Subject-based Webpages, Phase 2
- Scoped and commenced work on the following synthesis projects:
 - Practices and Needs for Weather Forecasting to Facilitate Winter Road Maintenance.
 - Inventory and Use of Salt Spreading Systems
 - Resources, Practices and Needs for Weather Forecasting to Facilitate Winter Road Maintenance
- Researched and wrote a feature article entitled, *Training: Don't Start the Season without It* for the October issue of the APWA Reporter.

Research Support

New projects

- Received proposals for the following four FY2019 projects. Posted them on the members-only portion of the website. Discussed the proposals at the fall meeting.
 - 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
- The project, Comparison of Performance of Prewet Road Salt Distributed by Traditional Chain Conveyor Spreader Versus Auger-driven Slurry Spreader, did not receive any proposals in response to the RFP.
- 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:
 - Prussian Blue
- Continued to provide access for over 130 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:

- Commence developing materials 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
- Coordinate the finalization of work plans and budgets for FY2019 research projects.
- 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 single story 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.
- Wrap up the survey and post the results of the 2018-2019 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.