

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 2017

PARTICIPATING AGENCIES: Minnesota Department of Transportation

PROJECT MANAGER: Tom Peters

SP&R PROJECT NO:
02337

PROJECT IS:

LEAD AGENCY: MnDOT

Planning
 Research &
Development

PRINCIPAL INVESTIGATOR:
CTC & Associates LLC

PROJECT BUDGET:
\$573,560.00

PROJECT EXPENDITURES TO DATE:
\$531,545.78

WORK COMPLETED:

TAC Meetings

- Continued planning the logistical aspects of the 2017 spring face-to-face meeting, which will be held in Anchorage, Alaska on April 25 to 27. Revised and sent out the agenda to TAC membership. Registered all members with hotel. Worked with hotel to ensure the meeting space and meals are planned.
- Continued to assist with the planning efforts for the 2017 National Winter Maintenance Peer Exchange, which will take place in Pittsburgh, Pennsylvania the week of September 11th, 2017.

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 2017.
- Supported efforts of TAC members in shifting state representation and recruiting new members. Total membership is 34.

Information Services

- Researched and wrote content for the February Winter Maintenance E-Newsletter.
- Used Constant Contact to distribute the Winter Maintenance Newsletter, and completed research.
- Sent out a call for products to be tested for the 2016-2017 Product Experience Survey.
- Compiled a list of papers related to winter maintenance from the 2017 TRB Annual Meeting and posted list on the website.
- Completed work on the synthesis project, Monitoring Stockpiles of Solid Winter Maintenance Materials.
- Continued work on the synthesis project entitled, Clear Roads Maintenance Vehicle Conspicuity.
- Recorded and posted closeout webinars for the project, Snowplow Operator and Supervisor Training.
- Produced two-page briefs for the following projects:
 - Identifying Best Practices for Snowplow Route Optimization
 - Plug and Play, Phase 2
 - North American Study on Contracting Snow and Ice Response

Research Support

New projects

- Coordinated with the project subcommittees and MnDOT to establish contracts with the selected vendors for the following FY2016 projects.
 - Utilization of AVL/GPS Technology: Case Studies
 - Commenced contracted work on project on 2/9/2017. Kickoff meeting occurred on 2/2//2017.
 - Standards and Guidance for Using Sensor Technology to Assess Winter Road Conditions

- Commenced contracted work on project on 2/8/2017. Kickoff meeting occurred on 3/1/2017.
 - Emergency Operations Methodology for Extreme Winter Storm Events
 - Commenced contracted work on project on 3/7/2017. Kickoff meeting occurred on 3/23/2017.
 - Weather Event Reconstruction & Analysis Tool
 - Commenced contracted work on project on 2/7/2017. Kickoff meeting occurred on 2/24/2017.
 - Training Video for the Implementation of Liquid-Only Plow Routes
 - Commenced contracted work on project on 1/6/2017. Kickoff meeting occurred on 1/26/2017.
- Continued to coordinate with MnDOT on the contracting of the Test Bed Software project.
- Coordinated the efforts of five research development groups made up of all 34 member states to generate research and synthesis proposals for the spring face-to-face meeting.

Research in progress

- Continued coordination with the PI and subcommittee to schedule check-in teleconferences and facilitate the review of deliverables for:
 - Understanding the Chemical and Mechanical Performance of Snow and Ice Control Agents on Porous or Permeable Pavements
 - Snowplow Operator and Supervisor Training
 - Quantifying the Impact that New Capital Projects Will Have on Roadway Snow and Ice Control Operations
 - Developing a Training Video and Manual for Best Practices and Techniques in Clearing Different Interchange Configurations and Other Geometric Layouts
 - Snow Removal Performance Metrics
 - Synthesis of Material Application Methodologies for Winter Operations
 - Identification and Recommendations for Correction of Equipment Factors Causing Fatigue in Snowplow Operators
- Worked with the PI and subcommittee to facilitate review of final deliverables and close out the following projects:
 - Plug and Play, Phase 2
 - North American Study on Contracting Snow and Ice Response

Implementation

- Developed a brief report requested by MnDOT that captures the implementation opportunities and impacts for each Clear Roads research project.
- Coordinated the completion of Post Project Closeout forms for the following completed projects.
 - Identifying Best Practices for Snowplow Route Optimization
 - Plug and Play, Phase 2
 - North American Study on Contracting Snow and Ice Response
- Continued to monitor data regarding Clear Roads website traffic, YouTube hits, and Research Use Surveys.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- Finalize materials and logistical planning for the spring meeting at the Clarion Hotel in Anchorage, AK on April 25-27, 2017. Attend and support the meeting, draft meeting minutes.
- Complete literature searches and assist the TAC in developing scopes of work for the new projects selected for funding at the spring meeting.
- Coordinate and support the RFP development and posting process for the new projects.
- Kickoff and conduct the synthesis projects selected at the spring meeting.
- Continue to assist with the planning efforts for the fall 2017 Winter Maintenance Peer Exchange in Pittsburgh, PA.
- Complete the following synthesis projects.
 - Clear Roads Maintenance Vehicle Conspicuity.
- Kick off the project, Developing Test Bed Software to Qualify Plug and Play Technology.
- 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(218) and TPF-5(353).
- Research, write, and publish the May Winter Maintenance E-Newsletter.
- Use Constant Contact to distribute the Winter Maintenance Newsletter, completed research results, and other information.
- Conduct the 2016-2017 Product Experience Survey.
- Produce briefs of completed research projects.
- Begin preparations for the 2018 spring meeting, including coordinating with MnDOT on the hotel bid process.
- 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 September 30, 2017.