

State Planning and Research Program Quarterly Report

PROJECT TITLE: 2013-2015 Clear Roads Administration 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 2015

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:
\$448,490.00

PROJECT EXPENDITURES TO DATE:
\$342,654.63

WORK COMPLETED:

TAC Meetings

- Continued planning for the logistical aspects of the 2016 spring face-to-face meeting, which will be held in Rhode Island. The dates have been changed from April 19th to 21st to April 12th to 14th in order to accommodate Clear Roads leadership. Conducted initial research into available hotels in the area, and provided hotel and contact information to MnDOT to commence bid process. Drafted and sent the agenda for the spring meeting to the TAC membership.

Administration and Marketing

- Updated the Clear Roads website with current project status, project deliverables, webinars, and featured articles.
- Maintained and updated commitments, transfers, and overall budget information for the pooled fund in coordination with MnDOT.
- Supported efforts of TAC members in shifting state representation and recruiting new members, resulting in the addition of Arizona and Indiana as new member states. Total number of member states is now 33.

Information Services

- Researched and wrote content for the November Winter Maintenance E-Newsletter.
- Used Constant Contact to distribute the Winter Maintenance Newsletter and completed research results.
- Produced two-page briefs for the following projects:
 - Benefit-Cost of Various Winter Maintenance Strategies
 - Developing Best Practices for Use of Equipment Lighting During Snowplow Operations
- Recorded and posted the closeout webinars for the following projects:
 - Developing Best Practices for Use of Equipment Lighting During Snowplow Operations
 - Roadway Salt Best Management Practices
 - Understanding the Effectiveness of Non-Chloride Liquid Agricultural By-Products and Solid Complex Chloride/Mineral Products Used in Snow and Ice Control Operations
- Scoped the Winter Data Statistics project and received approval from the project subcommittee. Developed a draft survey,

received responses from TAC, and made revisions in preparation for distribution.

- Product Experience Survey: Solicited TAC membership for a list of products to be evaluated for the 2015-2016 winter season.

Research Support

New projects

- Received approval of the selection of PIs for the following projects. All three projects in contract negotiations.
 - Synthesis of Material Application Methodologies for Winter Operations
 - Identification and Recommendations for Correction of Equipment Factors Causing Fatigue in Snowplow Operators
- Completed contract negotiation and prepared for, or conducted, the kickoff meeting.
 - Identifying Best Practices for Snowplow Route Optimization (prepped for kickoff meeting)
 - North American Study on Contracting Snow and Ice Response (completed kickoff meeting)
- Developing Testbed Software to Qualify Plug and Play Technology
 - Sent technical proposal to project evaluation team for scoring. Team met with MnDOT and approved the technical proposal. Cost proposal came in high, so gained approval from TAC in order to move forward with the project. Due to higher cost, MnIT is aligning a project team for this project.

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 Specialized Pavement Types
 - Snowplow Operator and Supervisor Training
 - Synthesis on GPS/AVL Equipment Used for Winter Maintenance
 - 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
 - Plug and Play, Phase 2
 - Snow Removal Performance Metrics
- Worked with the PI and subcommittee to facilitate review of final deliverables and close out the following projects:
 - Understanding the Effectiveness of Non-Chlorine Liquid Agricultural By-Products and Solid Complex Chloride/Mineral Products Used in Snow and Ice Control Operations
 - Developing a Roadway Salt BMP Handbook

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 and YouTube hits for report out at spring meeting.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- Kickoff remaining two FY2015 projects and Clear Roads Test Bed Software project once the contracts are in place.
- Put out the call for FY2016 research ideas.
- Assist with the coordination process for FY2016 pooled fund – TPF-5(218) – transfers.
- Research, write, and publish the February Winter Maintenance E-News.
- Commence the 2015-2016 Product Experience Survey.
- Once hotel is selected, complete the logistical planning and material preparation for the 2016 Spring Meeting in Rhode Island.
- Begin preparations for the Fall Meeting, including coordinating with MnDOT on the hotel bid process.
- Produce briefs of completed research projects.
- Continue to coordinate with investigators and the Clear Roads subcommittees on projects in progress.
- Compile a list of papers related to winter maintenance from the 2016 Annual TRB Meeting for posting on the Clear Roads website.
- Send out the winter data survey. Begin compiling the results in Excel.

STATUS AND COMPLETION DATE:

The contract tasks are progressing as planned. The current contract completion date is August 31, 2016.