

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 2016

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:
\$469,831.28

WORK COMPLETED:

TAC Meetings

- Attended and supported the 2016 fall face-to-face meeting, which was held in Omaha, Nebraska at the Magnolia Hotel on September 20-21. Activities included: meeting materials prep, travel coordination and logistics communications, assistance with facilitation, meeting minutes, expense reimbursement coordination.
- Commenced the planning efforts for the 2017 spring meeting, which will take place in Anchorage, Alaska the week of April 24, 2017.
- Assisted with the initial planning efforts for the 2017 National Winter Maintenance Peer Exchange, which will take place in Pittsburgh, Pennsylvania in September 2017.

Administration and Marketing

- Updated the Clear Roads website with current project status, project deliverables, 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 2016.
- Coordinated with MnDOT on the process for transitioning to the new Transportation Pooled Fund number.
- Supported efforts of all TAC members.

Information Services

- Researched and wrote content for the August Winter Maintenance E-Newsletter.
- Used Constant Contact to distribute the Winter Maintenance Newsletter, completed research results, and a reminder as to the due date for responses to the five projects posted as RFPs.
- Completed an article for *Roads & Bridges* on the Winter Data Statistics synthesis project.
- Completed an article for the *APWA Reporter* based on the project, Roadway Salt Best Management Practices.
- Conducted the 2015-2016 Product Experience Survey.
- Continued work on the following synthesis projects.
 - Monitoring Stockpiles of Solid Winter Maintenance Materials.
 - Snowplow Truck Washing Practices.

Research Support

New projects

- Facilitated discussions of the TAC at the fall meeting and participated in selection committee conference calls to discuss the proposals submitted in response to the following five new FY2016 projects.
 - Utilization of AVL/GPS Technology: Case Studies
 - Standards and Guidance for Using Sensor Technology to Assess Winter Road Conditions
 - Emergency Operations Methodology for Extreme Winter Storm Events
 - Weather Event Reconstruction & Analysis Tool
 - Training Video for the Implementation of Liquid-Only Plow Routes
- Coordinated with MnDOT and MnIT personnel to get the project, Developing Testbed Software to Qualify Plug and Play Technology to contract.

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
 - Plug and Play, Phase 2
 - Snow Removal Performance Metrics
 - Identifying Best Practices for Snowplow Route Optimization
 - Synthesis of Material Application Methodologies for Winter Operations
 - Identification and Recommendations for Correction of Equipment Factors Causing Fatigue in Snowplow Operators
 - North American Study on Contracting Snow and Ice Response
- Worked with the PI and subcommittee to facilitate review of final deliverables and close out the following project:
 - Synthesis on GPS/AVL Equipment Used for Winter Maintenance

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.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- Commence the development of materials and logistics details for the Spring Meeting in Anchorage, AK.
- Continue to assist with the planning efforts for the 2017 Winter Maintenance Peer Exchange in Pittsburgh, PA.
- Complete the following synthesis projects.
 - Monitoring Stockpiles of Solid Winter Maintenance Materials.
 - Snowplow Truck Washing Practices.
- Kick off the Clear Roads Test Bed Software project once the contract is in place.
- Kick off the synthesis project paint color and tape patterns for DOT equipment.
- Coordinate the finalization of work plans and budgets for the FY2016 research projects so that MnDOT can put these projects under contract.
- 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 November Winter Maintenance E-Newsletter.
- Use Constant Contact to distribute the Winter Maintenance Newsletter, completed research results, and other information.
- Complete the 2015-2016 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 September 30, 2017.