

## 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 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:** September through December 2014

**PARTICIPATING AGENCIES:** Minnesota Department of Transportation

**PROJECT MANAGER:** Tom Peters

**SP&R PROJECT NO:**  
02337

**PROJECT IS:**

**LEAD AGENCY:** Mn/DOT

Planning  
 Research & Development

**PRINCIPAL INVESTIGATOR:**  
CTC & Associates LLC

**ANNUAL BUDGET:**  
\$224,900

**PROJECT EXPENDITURES TO DATE:** \$196,120.64

### WORK COMPLETED:

#### TAC Meetings

- Continued planning for a face-to-face meeting of the Clear Roads Technical Advisory Committee on March 17-19, 2015 in Coeur d'Alene, Idaho. Planning includes all preparations for the meeting such as communication with TAC members, meeting logistics, guest invitation letters, agenda and meeting materials.
- Coordinated with members of AASHTO, Aurora and PNS to support planning for the 2015 Winter Maintenance Peer Exchange.

#### Administration and Marketing

- Updated the Clear Roads Web site with current TAC members, project status and meeting information.
- Maintained and updated commitment, obligation, and overall budget information for the pooled fund in coordination with MnDOT.
- Supported efforts of TAC members in recruiting new members and talking about Clear Roads at conferences.

#### Information Services

- Researched and wrote content for the winter maintenance e-newsletter published in November.
- Solicited ideas for the 2014-2015 Product Experience Survey.
- Distributed Clear Roads updates (deliverables, RFPs, newsletters, etc.) to the Clear Roads distribution list using Constant Contact.
- Began drafting a two-page brief for the research project on the Comparison of Material Distribution Systems.
- Coordinated, supported, and recorded a webinar about Clear Roads activities and research accomplishments with the Caltrans Division of Equipment. The webinar was hosted by the Clear Roads chair and the Caltrans DOE director.

#### Research Support

##### *New projects*

- Worked with the subcommittees and MnDOT to evaluate proposals received for the following research projects selected by

the TAC for funding in March 2014:

- Developing a Training Video and Manual for Best Practices and Techniques in Clearing Different Interchange Configurations and Other Geometric Layouts
- Plug and Play Phase II
- Snow Removal Performance Metrics – Phase I: Synthesis
- Snowplow Route Optimization
- Roadway Salt Best Management Practices
- Worked with the subcommittee to establish contracts with the selected vendors for the following projects:
  - Synthesis on GPS/AVL Equipment Used for Winter Maintenance
  - Quantifying the Impact that New Capital Projects Will Have on Roadway Snow and Ice Control (RSIC) Operations
  - Winter Severity Mapping Enhancement
  - Use of Equipment Lighting During Snowplow Operations
  - Developing a Training Video and Manual for Best Practices and Techniques in Clearing Different Interchange Configurations and Other Geometric Layouts
  - Snowplow Route Optimization
  - Roadway Salt Best Management Practices
- Worked with the subcommittee to develop the scope of work and formal RFP for the Plug and Play Test Bed Software project funded in 2013 and worked with MnDOT get the RFP approved for posting through the MN.IT process.
- Coordinated communication between the subcommittee and NHTSA on the Winter Driver Education project.

#### *Research in progress*

- Continued Coordination with the PI and subcommittee to schedule check-in teleconferences and facilitate the review of interim and final deliverables for:
  - Establishing Effective Salt and Anti-icing Application Rates
  - Understanding the Chemical and Mechanical Performance of Snow and Ice Control Agents on Porous or Permeable Pavements
  - Comparison of Materials Distribution Systems
  - Best Practices for the Prevention of Corrosion to DOT Equipment: A User's Manual
  - Developing Test Bed Software to Qualify Plug and Play Technology
  - Snow and Ice Control Environmental Best Management Practices Manual
  - Understanding the Effectiveness of Non-Chlorine Liquid Agricultural By-Products and Solid Complex Chloride/Mineral Products Used in Snow and Ice Control Operations
- Plug and Play Initiative: Coordinated with the project subcommittees and other stakeholders to continue refining the protocol and to respond to comments from the second public comment period.

#### *Completed research*

- Coordinated with the Implementation and Technology Transfer subcommittee to develop recommendations for implementation and technology transfer for completed Clear Roads research projects.

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

- Research, write and publish the February Winter Maintenance E-News.
- Compile a list of 2015 TRB papers related to winter maintenance for posting on the Clear Roads website.
- Complete the two-page brief for the project on material distribution systems. Begin drafting new briefs for projects completed during the next quarter.
- Coordinate the submission of research projects to consider for funding in 2015.
- Finish developing and post the 2014-2015 Product Experience Survey.
- Continue planning for a face-to-face meeting of the Clear Roads Technical Advisory Committee on March 17-19, 2015 in Coeur d'Alene, Idaho: travel logistics, agenda, etc.
- Continue to facilitate between the project subcommittee and other stakeholders for the Plug and Play Initiative.
- Continue to support the RFP and contracting process for Developing Test Bed Software to Qualify Plug and Play Technology.
- Continue to coordinate with investigators and the Clear Roads subcommittees on projects in progress. Distribute interim and final deliverables.
- Continue to work with MnDOT and the project subcommittees to select vendors, establish contracts and kick-off the remaining 2014 funded projects.
- Begin planning for the Fall 2015 Clear Roads TAC meeting (conference facilities, travel arrangements, vendor selection, etc.), which will be held in conjunction with the 2015 Winter Maintenance Peer Exchange in Minneapolis, Minnesota.
- Maintain the Clear Roads website and budget.

**STATUS AND COMPLETION DATE:**

As noted in the last quarterly report, the funds expended are ahead of schedule. This is due in part to the intense focus on temporary or cyclical activities, such as the new website, the fall meeting, and multiple article submissions. However, the TAC also selected a record number of projects for funding at the spring meeting, which has required more RFP development and contracting support than anticipated. This contract is scheduled to end August 31, 2015, but a discussion will be needed next quarter regarding the funding balance, priority activities and next steps for the remainder of the contract.