

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: July through September 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:
\$313,789.13

WORK COMPLETED:

TAC Meetings

- Continued planning for (logistics, materials development, etc.) and conducted the fall face-to-face meeting of the Clear Roads Technical Advisory Committee. That meeting occurred on September 21-22, 2015, in Bloomington, MN.
- Coordinated with members of AASHTO and Aurora to support the continued planning for and conducting of the 2015 Winter Maintenance Peer Exchange. The Peer Exchange took place after the Clear Roads fall meeting at the same venue on Sept. 23-25.
- Initiated planning for the spring face-to-face meeting of the Clear Roads Technical Advisory Committee. That meeting will take place on April 19-21, 2016, in Newport, RI.

Administration and Marketing

- Updated the Clear Roads website with current project status, project deliverables, webinars, and a new page of featured magazine articles (<http://clearroads.org/feature-articles/>).
- Maintained and updated commitments, transfers, and overall budget information for the pooled fund in coordination with MnDOT.
- Supported efforts of TAC members in recruiting new members, resulting in the addition of Delaware as a member state. Total number of member states is now 31. Arizona is in the process of transferring funds and will bring membership to 32.
- Worked with Mike Sproul at WisDOT to renew the trademark, "Clear Roads Research for Winter Highway Maintenance."

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 the RFPs for the three FY2015 Clear Roads projects.
- Updated the Clear Roads Overview PPT for its presentation at the AASHTO Subcommittee on Maintenance on July 20, 2015 in Des Moines, IA.
- Completed an article for *Roads & Bridges magazine*, which was published in the September 2015 Winter Maintenance

- supplement, on the project Snow and Ice Environmental Best Management Practices.
- Produced a two-page brief for the project, Snow and Ice Environmental Best Management Practices Manual.
- Recorded and posted the closeout webinars for the following projects:
 - Snow and Ice Control Environmental Best Management Practices.
 - Benefit-Cost of Various Winter Maintenance Strategies
- Product Experience Survey: solicited feedback, compiled results, and reported these results at the Clear Roads TAC Fall Meeting.
- Developed data presentation concepts for the winter data statistics project.

Research Support

New projects

- Completed scoping process with the project subcommittees for the following three new FY2015 projects. Submitted project scopes to MnDOT for inclusion into Request for Proposals. RFPs were published and proposals received. Provided proposals to TAC for their review and comment at the Clear Roads Fall Meeting of the TAC.
 - 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
 - Developing Testbed Software to Qualify Plug and Play Technology
- Contract negotiation is continuing with vendor for the following project.
 - Identifying Best Practices for Snowplow Route Optimization

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
 - Understanding the Effectiveness of Non-Chlorine Liquid Agricultural By-Products and Solid Complex Chloride/Mineral Products Used in Snow and Ice Control Operations
 - 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
 - Developing a Roadway Salt BMP Handbook
- Worked with the PI and subcommittee to facilitate review of final deliverables and close out the following projects:
 - Cost Benefit Analysis of Various Winter Maintenance Strategies
 - Use Of Equipment Lighting During Snowplow Operations

Implementation

- Developed a brief report requested by MnDOT that captures the implementation opportunities and impacts for each Clear Roads research project.
- Based on comments from a coordinated TAC review, made revisions to three implementation-focused documents, which were presented back to the TAC members during the fall meeting. Those forms will now be used as appropriate going forward.
- Focused state reports at the Clear Roads TAC Fall Meeting on implementation activities of Clear Roads projects.
- Collected data regarding Clear Roads website traffic and You Tube hits and reported out at the Clear Roads TAC Fall Mtg.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- Kickoff new FY2015 Clear Roads projects 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 November Winter Maintenance E-News.
- Commence the 2015-2016 Product Experience Survey.
- Draft a preliminary agenda for the 2016 Clear Roads TAC Spring Meeting and begin initial logistical planning once a hotel has been selected.
- Produce briefs of completed research projects.
- Continue to coordinate with investigators and the Clear Roads subcommittees on projects in progress.

STATUS AND COMPLETION DATE:

The budget was revised this quarter to add \$49,979 to Task 4 (information services), as requested by the TAC.

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