



QUARTERLY PROGRESS REPORT

June 30, 2006

Pooled Fund Project: TPF-5(092)

Title: Test and Evaluation of Materials, Equipment and Methods for Winter Highway Maintenance

Web site: <http://www.clearroads.org>

Project Description

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. Created by seasoned winter maintenance engineers in 2004, Clear Roads responds to a need for research based on practical experience. By conducting structured field testing and evaluation across a range of winter conditions and highway maintenance organizational structures, Clear Roads projects will deliver immediately useful data and recommendations on the effectiveness, ease of use, optimum application rates, durability, and more, of many advanced winter operations technologies.

Activity This Quarter

Membership

Two new states joined Clear Roads this quarter: Illinois and Colorado. Representatives from both states participated in the TAC meeting in June in Madison.

Meetings

The Clear Roads Technical Advisory Committee met on June 20 and 21, 2006 in Madison, Wisconsin to select an investigator for a new project on determining deicer performance and to hear investigator updates on research already underway.

Administration

Clear Roads contracts with CTC & Associates LLC to administer the activities of this pooled fund. Work under this contract this quarter included meeting planning (agendas, minutes, logistics), communications, Web site updates, RFP development and marketing.

Research in Progress

Calibration of Manual and Ground-Speed-Controlled Salters

With the goal of determining the calibration accuracy of ground-speed-controlled salters, this study will document controller settings, actual salt usage and prewetting rate information from trucks with various types of controller units during winter storm events. Results will include guidelines to help snowplow operators establish and maintain accurate calibration of ground speed controllers, reducing salt usage and improving efficiency.

Blackburn and Associates gave a presentation on the progress of this study at the Clear Roads TAC meeting in June. The team has conducted much of the yard testing and has begun drafting a calibration protocol, which will be distributed this fall.

This project is expected to be completed by 10/31/07. Refer to project quarterly report at www.clearroads.org for a detailed progress update.

Synthesis of Best Practices for Eliminating Icing and Fogging on Winter Maintenance Vehicles. This study will investigate best practices for eliminating fogging and icing on winter maintenance vehicles. The researcher will conduct a comprehensive survey to identify effective methods for combating or preventing moisture on windows and mirrors while maintaining the comfort and safety of the plow operator. Results will include a compilation of the most effective designs, technologies, materials and practices for keeping snow plow glass and mirror surfaces clean of winter precipitation inside and out.

CTC & Associates LLC presented the draft final report for this project at the TAC meeting in June. The report will be finalized in July and printed in August for distribution. TAC members plan to undertake field-testing of the highlighted strategies and products this coming fall and winter.

This project is expected to be completed by 8/31/06. Refer to project quarterly report at www.clearroads.org for detailed progress update.

Snowplow Design

The Clear Roads TAC is guiding a research project on snowplow design in coordination with the Concept Vehicle pooled fund. Researchers met this spring to brainstorm alternative plow designs that would maximize efficiency. Two prototype plows will be built in Indiana and Iowa.

For a detailed project update, visit the project Web site hosted by CTRE at <http://www.ctre.iastate.edu/research/conceptv/phase5/>.

Additional Pooled Fund Research Efforts

- Clear Roads issued an RFP to develop a test procedure for determining the effectiveness of deicers. The TAC met in June to select an investigator, and the contract will be signed in July.
- In collaboration with FHWA, Aurora and SICOP, Clear Roads is planning a national snow and ice conference for 2007 that will bring together winter maintenance professionals from around the country. The meeting will likely take place in Columbus, Ohio in September immediately following the AASHTO Eastern States Snow Conference.
- Clear Roads is supporting development of additional modules for the computer-based training on winter maintenance activities. TAC members will provide technical expertise and guidance, and Clear Roads plans to commit \$20,000 to the effort.

Work Next Quarter

- Finalize contract with investigator for project on de-icer effectiveness
- Increase marketing efforts to attract new members including written communications, presentations at appropriate meetings, expanding the Clear Roads Web site, etc.
- Begin making plans for the January TAC meeting in St. Louis.

Budget Overview

Income to date

State	Total Contribution Amount	Contribution Years
Wisconsin	\$75,000	2004, 2005, 2006
Iowa	\$75,000	2004, 2005, 2006
Minnesota	\$100,000	2004, 2005, 2006, 2007
Missouri	\$50,000	2005, 2006
Indiana	\$75,000	2005, 2006, 2007
Ohio	\$75,000	2006, 2007, 2008
Michigan	\$100,000	2006, 2007, 2008, 2009
Colorado	\$25,000	2006
Illinois	\$55,000	2006, 2007, 2008
TOTAL	\$630,000	

Notes

--Michigan's \$25,000 contribution in 2005 is not included. This amount stayed in the Concept Vehicle fund for use on the snowplow design project.

--Illinois' 2006 commitment is a prorated \$5,000, not \$25,000.

--Bold years indicate amounts obligated as of 6/21/06: \$350,000

Expenses (incurred and planned through 2006)

Description	Amount
Calibration research (contract)	\$199,500.00
Anti-fogging survey (contract)	\$24,430.00
Admin. & marketing 2005 (contract)	\$29,000.00
Admin. & marketing 2006 (contract)	\$29,000.00
Computer-based training (verbal comm.)	\$20,000.00
De-icing performance project (estimated)	\$50,000.00
2004 travel/supplies	\$1,348.50
2005 travel/supplies/printing	\$7,589.02
2006 travel/supplies/printing estimated (includes extra \$2000 for CTRE brochure)	\$14,000.00
Total	\$374,867.52