

**State Planning and Research Program  
Quarterly Report**

**PROJECT TITLE:** Training for Supervisors and Operators

**OBJECTIVES:** The goal of this project is to develop a comprehensive, easy-to-use training program for winter maintenance supervisors and operators. Under this contract, our team will work with the Minnesota Department of Transportation and Clear Roads Technical Advisory Committee to identify and compile the many resources on winter maintenance and develop a series of 18 training modules for supervisors, seasoned operators, and new operators for use in the classroom or online. Information gathered through synthesis is only valuable if it can be effectively transmitted in clearly prepared documents and materials.

**PERIOD COVERED:** July 1, 2015 – September 30, 2015

**PARTICIPATING AGENCIES:**

Clear Roads

DOTs: Kansas, Rhode Island, Iowa, Maine, Oregon, Missouri, Ohio, South Dakota, Washington, Illinois, Minnesota, Nebraska, Connecticut, Pennsylvania, Massachusetts, Michigan, California, Wyoming, Vermont, Wisconsin, North Dakota, Vermont, Virginia, Montana, Idaho, Utah, Colorado, New York

Federal Highway Administration

**PROJECT MANAGER:**

Gregory Waidley

**LEAD AGENCY:**

Minnesota Department of Transportation

**PRINCIPAL INVESTIGATOR:**

Jim Grothaus, University of Minnesota

**SP&R PROJECT NO:**

MnDOT Contract No.  
99008 Work Order No. 168

**PROJECT IS:**

Planning  
 Research & Development

**ANNUAL BUDGET:**

\$100,000

**PROJECT EXPENDITURES TO DATE:**

It is an 18 month contract. We have completed 2/3 (12 months) of the work. An estimate of the amount of spent to date would be:

\$66,000.00

## **WORK COMPLETED:**

To date the project team has worked on the following modules. Each of the PPT modules contains technical information and photos. The instruction workbook, quizzes, PPT formatting still need to be complete. Fortin Consulting has been working very closely with the TAP to obtain comments and approval during this process.

15 Modules are at 80% complete. Each of these modules has a PPT with Technical Content that has been approved by the TAP but do have the supporting materials (instruction workbook, pre/post test, answer key, etc...) Additionally Ann Johnson and Jim Grothaus did a presentation for the MNDOT Central Office Maintenance staff in September 2015. Also, Connie Fortin attend the Clear Roads/Winter Maintenance Peer Exchange in September 2015.

Module 1: Plowing Procedures **(Needs Supporting Materials)**

Module 2: Truck Operations **(Needs Supporting Materials)**

Module 3: Spreaders **(Complete and Currently being used by TAP Members)**

Module 4: Material Use **(Complete and Currently being used by TAP Members)**

Module 5: Pre-wetting **(Needs Supporting Materials)**

Module 6: Brine Production **(Needs Supporting Materials)**

Module 7: De-icing **(Needs Supporting Materials)**

Module 8: Anti-icing (including brine use) **(Needs Supporting Materials)**

Module 10: De-icing Agent Management Policy **(Needs Supporting Materials)**

Module 11: Level of Service **(Needs Supporting Materials)**

Module 12: Principle of Ice Formation **(Needs Supporting Materials)**

Module 13: Science of Freeze Point Depressants **(Needs Supporting Materials)**

Module 14: Snow and Ice Control Agents and the Environment **(Complete and Currently being used by TAP Members)**

Module 15: Drift Control and Wind **(Needs Supporting Materials)**

Module 16: Weather Basics **(Needs Supporting Materials)**

Module 17: Bridge Frost **(Needs Supporting Materials)**

Module 18: Avalanche Management **(Needs Supporting Materials)**

The following module is currently being developed from a technical point of view and is in the review process:

Module 9: Safety

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

We anticipate finalizing the instructional workbook, quizzes, and final PPT format for the remaining 15 modules by December 31, 2015. Meet and review the materials with the Technical Advisory Panel (TAP) in December 2015. Work on remaining modules and review them with the TAP.

Additionally we will submit a request for an amendment to develop an additional 5 modules.

**STATUS AND COMPLETION DATE:**

We have approval of Task 1, 2 and 3. We have not submitted a request for approval for Task 4.