

State Planning and Research Program Quarterly Report

PROJECT TITLE: Synthesis of Material Application Methodologies for Winter Operations

OBJECTIVES: The goal of this research is to “create a synthesis of best management practices for application rates, material application methodologies and material usage, including chloride brines applied directly or as additives to abrasives and rock salts”.

PERIOD COVERED:

October 1, 2016– December 31, 2016

PARTICIPATING AGENCIES:

Washington State University – Prime
Monte Vista Associates LLC - Consultant

PROJECT MANAGER: Tom Peters

SP&R PROJECT NO:

PROJECT IS:

LEAD AGENCY: Mn/DOT

MnDOT Contract
No. 1001326

Planning
 Research & Development

PRINCIPAL INVESTIGATOR:

Xianming Shi, Ph.D., P.E.

Federal Project ID:
TPF-5(218)

ANNUAL BUDGET:

\$117,658

PROJECT EXPENDITURES TO DATE:

\$41,002

WORK COMPLETED:

Project Management

This includes the submission of quarterly progress report by the project PI to the Clear Roads program in Oct. 2016 and some communications between the PI and the Clear Roads coordinator, as well as between the PI and the consultant.

Task 1. Literature review (92% completed)

The WSU team has conducted the comprehensive search of past and current research, both nationally and internationally, on this subject. A draft literature review was submitted to the panel for review and based on the review comments, a revised literature review was submitted for panel review again in December 2016. It highlights current practices, innovative practices, and trends related to materials used, their application rates, and the application methodologies and equipment under various road weather scenarios (temperature ranges, storm conditions, and other climate and operating conditions).

Task 2. Interview Plan (100% completed)

In December 2016, an updated interview plan was submitted to the panel for review.

Task 3. Interviews (55% completed)

The consultant (D. Bergner) had interviewed 7 practitioners from various agencies and subsequently refined the questions. We then prepared a list of those to be interviewed by telephone for the PI and the project team to review. In December 2016, the scheduling emails were sent to the identified practitioners and at least another eight practitioners from various agencies (mainly State DOTs) and two from non-US agencies were scheduled to be interviewed by phone.

Task 4. Guidebook (8% completed)

The work just started on this task. The goal is to synthesize, analyze, and organize the data into a brief, instructive, and professionally created handbook, similar to the Snowfighters' Handbook available at <http://www.saltinstitute.org/road/snowfighting/>.

Task 5. Final report (0% completed)

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

Work in the coming quarter will consist of project management as well as the completion of Task 1 and Task 2 and continued work on Task 3.

STATUS AND COMPLETION DATE:

On budget but about two months behind the revised schedule on Task 3. Another no-cost time extension will be submitted soon.

Task	Current Task Start Date	Current End Date for Task Approval	Revised Task Start Date	Revised Due Date to Submit Draft Deliverables	Revised End Date for Task Approval
1	05/25/2016	09/15/2016	05/25/2016	10/15/2016	12/15/2016
2	05/25/2016	07/30/2016	05/25/2016	Not Applicable	07/30/2016
3	07/15/2016	03/15/2017	07/15/2016	01/15/2017	03/15/2017
4	12/15/2016	06/15/2017	12/015/2016	04/15/2017	06/15/2017
5	04/01/2017	08/31/2017	04/01/2017	06/30/2017	08/31/2017
6	07/01/2017	09/30/2017	07/01/2017	07/30/2017	09/30/2017