

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:
Oct. 1, 2017– Dec. 31, 2017

PARTICIPATING AGENCIES:
Washington State University – Prime
Monte Vista Associates LLC - Consultant

PROJECT MANAGER: Deb Fick/Tom Peters	SP&R PROJECT NO: MnDOT Contract No. No. 1001326	PROJECT IS: <u> </u> Planning <u> X </u> Research & Development
LEAD AGENCY: Mn/DOT	Federal Project No. TPF-5(218)	
PRINCIPAL INVESTIGATOR: Xianming Shi, Ph.D., P.E.		
ANNUAL BUDGET: \$117,658	PROJECT EXPENDITURES TO DATE: \$94,562	

WORK COMPLETED:

Project Management

This includes the submission of quarterly progress report by the project PI to the Clear Roads program in Oct. 2017 and some communications between the PI and the Clear Roads coordinator, as well as between the PI and the consultant.

Task 1. Literature review (100% completed)

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). It will be updated as new literature becomes available.

Task 2. Interview Plan (100% completed)

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

Task 3. Interviews (100% completed)

The interviews were conducted with more than 35 agencies and an interview memo was submitted in Sept. 2017. The detailed notes of the interviews are also available upon request by the panel.

Task 4. Guidebook (88% completed)

The research team had drafted not only the outline but also the Guidebook, based on the information from Task 1 (Literature review) and Task 3 (Interviews). 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/>.

The draft Guidebook was submitted to the project panel in Sept. 2017. The review comments were received from the panel and a teleconference was held in the last quarter; as a result, the research team has been updating the Guidebook to improve both in terms of contents and graphics/look-and-feel.

Task 5. Final report (35% completed)

Task 6. Final presentation (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 Tasks 4 to 6.

STATUS AND COMPLETION DATE:

Another no-cost time extension was submitted and approved in early 2017, with the modified timeline as follows. Task 4 and Task 5 are slightly behind schedule due to holiday season and TRB annual meeting and the revised Task 3 deliverable and draft Task 4 deliverable will be submitted by Jan. 31, 2018.

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	12/15/2016	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	07/15/2017	09/15/2017
4	12/01/2016	06/15/2017	12/01/2016	10/15/2017	12/15/2017
5	04/01/2017	08/31/2017	04/01/2017	12/30/2017	02/28/2018
6	07/01/2017	09/30/2017	07/01/2017	01/30/2018	03/31/2018