

**State Planning and Research Program
Quarterly Report**

PROJECT TITLE: *Effects of Additives in Deicing Salts at Lower Temperatures*

OBJECTIVES: The goal of this project is to evaluate the impact additives to solid rock salt have on the eutectic temperature of the product through laboratory testing. From this testing, determine if the additives lower the eutectic temperature of the product, and if so by how much. The end goal is to determine if the additives improve performance.

PERIOD COVERED: October 1 – December 31, 2024

PARTICIPATING AGENCIES: Minnesota Department of Transportation, Clear Roads Technical Advisory Committee, and Montana State University

PROJECT MANAGER:

Hafiz Munir / Tom Peters

SP&R PROJECT NO:

MnDOT Contract No.
1051718

PROJECT IS:

☐ Planning
☒ Research & Development

LEAD AGENCY: MnDOT

Federal Project Number:
TPF-5(479)

PRINCIPAL INVESTIGATOR:

Laura Fay, Western Transportation Institute,
Montana State University

ANNUAL BUDGET: \$149,993

PROJECT EXPENDITURES TO DATE: \$144,822

WORK COMPLETED:

- Task 1 Kick off meeting was held March 22, 2023. Meeting slides and notes were submitted April 5, 2023.
- Task 2 Literature Review was submitted August 14, 2023. A meeting was held to review the document August 31, 2023. The meeting minutes and slide deck were submitted September 5, 2023.
- Task 3 draft Survey questionnaire was submitted August 14, 2023, this was revised and resubmitted September 5, 2023. Additional comments were received, and it was revised and finalized September 20, 2023. The survey did not require MSU IRB approval or exemption. Survey Results were submitted November 27, 2023. A meeting to review survey results was held on December 18, 2023. The revised survey results and meeting notes were submitted December 27, 2023.
- Task 4 draft Lab Plan was submitted December 12, 2023. Revised Lab Testing Plan was submitted January 17, 2024. All deicing additives and brines were acquired or purchased.
- Task 4 lab work was completed at both the MSU Subzero lab and at WSU and lab report was developed. The Task 4 lab report was submitted on Oct. 8 and Oct. 24, 2024. A meeting with the CR Project Panel was held Nov. 18, 2024, and the meeting notes and slides were provided the same day. Revised Task 4 lab report and how the comments were addressed was provided on Dec. 13, 2024.
- Task 5 final report is under development. The final report presentation is scheduled for Jan. 23, 2025.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- Task 5 Final Report will be submitted for review and comment.
- Schedule the Final Report meeting and webinar.

STATUS AND COMPLETION DATE:

A no-cost time extension was initiated July 30, 2024, and was approved/processed September 19, 2024. The new project end date is February 28, 2024.