

**State Planning and Research Program
Quarterly Report**

PROJECT TITLE: *Grip Sensor Technology and Salt Applications*

OBJECTIVES: The goal of this project is to examine grip, or friction, as a viable data source for informing winter maintenance operations (WMO). The project will synthesize information gathered on the use of grip in WMO and develop a methodology to apply friction values in an algorithm which informs a decision matrix tool to advise winter maintenance operators on appropriate winter maintenance activities and material application rates.

PERIOD COVERED: October 1 – December 31, 2022

PARTICIPATING AGENCIES: Minnesota Department of Transportation and the Clear Roads Technical Advisory Committee

PROJECT MANAGER:
Hafiz Munir / Tom Peters

SP&R PROJECT NO:
MnDOT Contract No.
1047786

PROJECT IS:

LEAD AGENCY: MnDOT

Federal Project Number:
TPF-5(353)

Planning
 Research & Development

PRINCIPAL INVESTIGATOR:
Laura Fay, WTI, Montana State University

ANNUAL BUDGET: \$149,977

PROJECT EXPENDITURES TO DATE: \$35,750

WORK COMPLETED:

- The kickoff meeting was held April 5, 2022. The presentation and notes from the kick-off meeting were submitted April 14, 2022.
- The Task 1 literature review and Task 2 draft survey questionnaire was submitted June 27, 2022. A meeting was held September 2, 2022 to discuss the deliverables and next steps. No comments were received on the Task 1 Literature Review and the task was approved September 19, 2022.
- The Task 2 survey was approved by MSU IRB. The survey was sent out September 21, 2022 and closed October 21, 2022. Task 2 Survey Results were submitted for review November 4, 2022. A meeting was held November 18, 2022 to discuss the deliverable and receive comments. The revised Task 2 Survey Results were submitted November 18, 2022 along the meeting notes and slide deck.
- Task 3 Case Studies – follow-up interviews began October 2022
- Task 4 Grip & Salt Application Rate Algorithm/Decision Matrix – meetings with DOTs to acquire data began December 2022.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- The Task 3 Case Studies will be developed and submitted for review and comment.
- A meeting to review the Task 3 deliverable will be scheduled and held.
- Task 4 effort will continue.

STATUS AND COMPLETION DATE: No issues to report at this time.