

State Planning and Research Program Quarterly Report

PROJECT TITLE: CR18-06. Standardized Test Procedures for Ice Melting Capacity of Deicers

OBJECTIVES: The goal of this research is to evaluate the suitability of the mechanical rocker test as a standardized laboratory test that can realistically and robustly assess the performance of deicers, which is needed to allow DOTs to make data-driven procurement decisions.

PERIOD COVERED: July 1, 2022 – Sept. 30, 2022

PARTICIPATING AGENCIES:

Washington State University – Prime
Monte Vista Associates LLC – Subcontractor
Roadtech, Inc. - Subcontractor

PROJECT MANAGER:

Hafiz Munir / Tom Peters

SP&R PROJECT NO:

MnDOT No. 1033080

PROJECT IS:

____ Planning
 X Research & Development

LEAD AGENCY: MnDOT

Federal Project No.
TPF-5(353)

PRINCIPAL INVESTIGATOR:

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

ANNUAL BUDGET:

\$74,086

PROJECT EXPENDITURES TO DATE:

\$68,094

WORK COMPLETED:

Project Management: The PI has maintained regular communication with peer labs and with team members. Also submitted Quarterly Progress Report in July 2022.

Task 1. Mechanical Rocker Test Procedure Evaluation (100% complete).

Task 2. Interim Report (100% complete). In the last quarter, the team further updated the Interim Report for the 7th, 8th, and 9th time on Sept. 11, Sept. 22, and Oct. 13, 2022, respectively, to incorporate the review comments from the project panel. A project update webinar was held on Oct. 11, 2022, during which the PI reported the significant progress and key findings of Task 2 (esp. the 2nd round of round robin test).

Task 3. Standard Test Procedure Development (100% complete). During the last quarter (mainly in July 2022), the team further refined the existing test protocol in order to fully develop it into a Standard Test Procedure for the ice melting capacity (IMC) of roadway deicer products, for potential consideration by AASHTO.

Task 4. Standard Test Procedure Presentation (100% complete). The team communicated with the relevant AASHTO committees and get the documents ready for presentation to them on July 31, 2022. These included: a Proposed Administrative Resolution for the AASHTO Committee on Maintenance, an Executive Summary and the (Proposed) Standard Specification for Clear Roads Mechanical Rock Ice Melting Test Protocol. To prepare for the presentation, internal meetings were held in July 2022 between the PI and the project champions. A webinar was later given by the PI to the Clear Roads group on Oct. 11, 2022.

Task 5. AASHTO Balloting Assistance (50% complete). The team provided support to the AASHTO committees during balloting. Note that the AASHTO Committee on Pavement and Materials decided to officially vote on the provisional standardization of this IMC test protocol in November 2022 and that concurrent AASHTO balloting won't occur until the summer of 2023. We will stand by for directions from Clear Roads regarding a potential amendment.

Task 6. Final Report (20% complete).

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

The work in the coming quarter will consist of project management as well as completion of Task 6 (Final Report).

STATUS AND COMPLETION DATE:

The latest version of schedule is provided as follows. We were behind schedule for Tasks 2 and 3. But now we are done with Tasks 1, 2, 3, and 4 and on schedule with Tasks 5 and 6.

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	02/01/2020	05/31/2021	02/01/2020	01/30/2022	02/28/2022
2	11/01/2020	06/30/2021	11/01/2020	01/30/2022	02/28/2022
3	10/01/2020	07/31/2021	02/01/2021	02/28/2022	04/30/2022
4	10/01/2020	11/30/2021	05/01/2022	08/31/2022	09/30/2022
5	12/01/2020	12/31/2021	09/01/2022	11/30/2022	12/31/2022
6	04/01/2021	03/31/2022	08/01/2021	12/31/2022	02/28/2023