

## State Planning and Research Program Quarterly Report

**PROJECT TITLE:** *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 is needed to allow DOTs to make data-driven procurement decisions.”

**PERIOD COVERED:**

January 1 – March 31, 2021

**PARTICIPATING AGENCIES:**

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

**PROJECT MANAGER:**

Debbie Sinclair / Tom Peters

**SP&R PROJECT NO:**

MnDOT Contract No.  
1033080

**PROJECT IS:**

Planning  
 Research & Development

**LEAD AGENCY:** MnDOT

Federal Project No.  
TPF-5(353)

**PRINCIPAL INVESTIGATOR:**

Xianming Shi, Ph.D., P.E.,  
Washington State University

**ANNUAL BUDGET:**

\$74,086

**PROJECT EXPENDITURES TO DATE:**

\$29,040

**WORK COMPLETED:**

*Project Management*

The PI has maintained regular communication with peer labs and with team members. A project progress meeting was held online on Jan. 29, 2021. A no-cost time extension of eight months was discussed with the project panel and the official request was submitted to MnDOT and approved.

Task 1. Mechanical Rocker Test Procedure Evaluation (100% complete). We have completed the laboratory testing at WSU and also coordinated with the five peer labs to conduct the round robin testing. The five peer labs are: Western Transportation Institute (WTI), Nebraska Department of Transportation (DOT), Montana DOT, EnviroTech Services and Analytical Laboratories. This task evaluated the 2014 version of the “Mechanical Rocker Test Procedure for Ice Melting Capacity Evaluation” by conducting internal and external round robin-style testing to assess precision, bias and ruggedness.

Task 2. Interim Report (85% complete). We prepared and (on March 31, 2021) submitted the DRAFT interim report that includes the results of the Task 1 test procedure evaluation, including round robin testing. The interim report provided in an appendix raw data for all tests to promote transparency as well as explicitly and unambiguously documented the analysis methods.

**SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:**

Work in the coming quarter will consist of project management as well as the continuation of Task 2 (to address review comments) and the beginning of Task 3 (Standard Test Procedure Development).

**STATUS AND COMPLETION DATE:**

On schedule, based on the schedule revised as follows:

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	08/31/2020	02/01/2020	03/31/2021	05/31/2021
2	07/01/2020	10/31/2020	11/01/2020	04/30/2021	06/30/2021
3	10/01/2020	12/31/2020	02/01/2021	05/31/2021	07/30/2021
4	10/01/2020	03/31/2021	02/01/2021	09/30/2021	11/30/2021
5	12/01/2020	04/30/2021	05/01/2021	10/31/2021	12/31/2021
6	04/01/2021	07/31/2021	08/01/2021	01/31/2022	03/31/2022
7					