

## State Planning and Research Program Quarterly Report

**PROJECT TITLE:** *Determining the Migration of Chloride-Based Deicers through Different Soil Types*

**OBJECTIVES:** This project aims to achieve a clear, quantitative picture about the physicochemical properties of various types of soils (texture-based, commonly used in the areas of interest) and migration behavior of selected deicers through these soil types.

**PERIOD COVERED:** April 1 – June 30, 2023

**PARTICIPATING AGENCIES:**

Minnesota Department of Transportation and the Clear Roads Technical Advisory Committee - Sponsors  
Washington State University – Prime  
Roadtech, Inc. - Subcontractor

**PROJECT MANAGER:**

Hafiz Munir / Tom Peters

**SP&R PROJECT NO:**

MnDOT No. 1047792

**PROJECT IS:**

\_\_\_\_ Planning  
 X  Research & Development

**LEAD AGENCY:** MnDOT

Federal Project No.  
TPF-5(353)

**PRINCIPAL INVESTIGATOR:**

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

**ANNUAL BUDGET:**

\$99,980

**PROJECT EXPENDITURES TO DATE:**

\$30,486

**WORK COMPLETED:**

*Project Management:* The PI submitted the quarterly progress report in April 2023. In the last quarter, a 6-month no-cost time extension submitted by WSU for review was approved by MnDOT, which extends the contract end date from Nov. 2023 to May 2024.

*Task 1.* Literature Review and Survey (100% complete).

*Task 2.* Developing the Testing Plan (100% complete). The revised testing plan was submitted to the TAC again for approval in early April 2023. It was approved in May 2023.

*Task 3:* Execution of the Testing Plan (20% complete). The research team has completed Task 3a (Experimental Materials and Their Basic Properties).

**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 Task 3b (Execution of Specific Tests) and the initiation of Task 3c (Compiling Results).

**STATUS AND COMPLETION DATE:**

The updated timeline is 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	06/01/2022	09/30/2022	06/01/2022	01/31/2023	03/31/2023
2	09/01/2022	12/31/2022	12/01/2022	01/31/2023	03/31/2023
3	01/01/2023	05/30/2023	04/01/2023	08/31/2023	10/31/2023
4	05/01/2023	08/31/2023	10/01/2023	11/30/2023	01/31/2024
5	06/01/2023	09/30/2023	09/01/2023	11/30/2023	01/31/2024
6	08/01/2023	11/30/2023	01/01/2024	03/31/2024	05/31/2024