

## 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:** October 1 – December 31, 2023

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

<p><b>PROJECT MANAGER:</b> Hafiz Munir / Tom Peters</p> <p><b>LEAD AGENCY:</b> MnDOT</p> <p><b>PRINCIPAL INVESTIGATOR:</b> Xianming Shi, Ph.D., P.E., Washington State University</p>	<p><b>SP&amp;R PROJECT NO:</b> MnDOT No. 1047792</p> <p>Federal Project No. TPF-5(353)</p>	<p><b>PROJECT IS:</b></p> <p style="text-align: center;">___ Planning <u> X </u> Research &amp; Development</p>
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<b>ANNUAL BUDGET:</b> \$99,980	<b>PROJECT EXPENDITURES TO DATE:</b> \$67,728
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**WORK COMPLETED:**  
*Project Management:* The PI submitted the quarterly progress report in Oct. 2023. A six-month no-cost time extension has been prepared and is in review by MnDOT, to extend the project end date to Nov. 30, 2024.

*Task 1.* Literature Review and Survey (100% complete).  
*Task 2.* Developing the Testing Plan (100% complete).  
*Task 3:* Execution of the Testing Plan (58% complete).

**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) and Task 4 (Additional Lab Testing).

**STATUS AND COMPLETION DATE:**  
The updated project timeline is as follows, pending on the approval by MnDOT.

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	03/31/2023	No Change	01/31/2023	No Change
2	12/01/2022	03/31/2023	No Change	01/31/2023	No Change
3	04/01/2023	10/31/2023	04/01/2023	02/28/2024	04/30/2024
4	10/01/2023	01/31/2024	03/01/2024	04/30/2024	06/30/2024
5	09/01/2023	01/31/2024	04/01/2024	05/31/2024	07/31/2024
6	01/01/2024	05/31/2024	05/01/2024	08/31/2024	10/31/2024