

## State Planning and Research Program Quarterly Report

**PROJECT TITLE:** *Comprehensive Guide to Pre-Wetting Application Rates and Methods*

**OBJECTIVES:** This project aims to develop recommendations for pre-wetting rates and evaluate the difference between applying pre-wet in the chute vs. on the chain flight or in a mix chamber.

**PERIOD COVERED:** January 1 to March 31, 2024

**PARTICIPATING AGENCIES:** Minnesota Department of Transportation, Clear Roads Technical Advisory Committee, Washington State University (Prime), Wilfrid A. Nixon and Associates, LLC (Subcontractor), Monte Vista Associates LLC (Subcontractor), and Roadtech, Inc.(Subcontractor).

**PROJECT MANAGER:**  
Hafiz Munir / Tom Peters

**SP&R PROJECT NO:**  
MnDOT Contract No.  
1051125

**PROJECT IS:**

Planning  
 Research & Development

**LEAD AGENCY:** MnDOT

Federal Project Number:  
TPF-5(479)

**PRINCIPAL INVESTIGATOR:**  
Xianming Shi, WSU

**ANNUAL BUDGET:** \$28,522 (FY23);  
\$165,530 (FY24); \$5,923 (FY25)

**PROJECT EXPENDITURES TO DATE:** \$52,522

**WORK COMPLETED:**

The PI worked with the project TAC to hold the kickoff meeting online, on Feb. 24, 2023.

We submitted a Quarterly progress report in Jan. 2024.

**Task 1** (Literature Search): 100% complete. The draft literature review was submitted to the project TAC for review in June 2023 and the revised document was submitted in August 2023 and approved.

**Task 2** (Survey): 100% complete. The final survey questionnaire was implemented in both PDF and in Qualtrics online and we secured a total of 30 valid responses from winter road maintenance professionals.

**Task 3** (Initial Synthesis): 100% complete. The initial synthesis was submitted on March 15, 2024 and is now in review by the project TAC.

**Task 4** (Experimental Design): 15% complete.

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

Project management activities. Task 4 (Experimental Design): to complete. Task 5 (Testing): to initiate.

**STATUS AND COMPLETION DATE:**

In Dec. 2023, we officially requested a no-cost time extension and proposed a new project end date of March 31, 2025, which is in review by MnDOT. The revised timeline is as follows. This 6-month no-cost time extension is needed to cover the time lost in contracting and Task 1 (Literature Search) and about 3 months of delay in Task 2 (Survey). We were *three months behind schedule* on Task 3 (Initial Synthesis, to complete by 04/30/24 instead of 01/31/24) and on Task 4 (Experimental Design) but plan to catch up in Task 5 (Testing).

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	02/01/2023	04/30/2023	No change		
2	02/01/2023	05/31/2023	05/01/2023	10/31/2023	11/30/2023
3	03/01/2023	06/30/2023	06/01/2023	12/31/2023	01/31/2024
4	07/01/2023	08/31/2023	11/01/2023	01/31/2024	02/28/2024
5	07/01/2023	06/30/2024	03/01/2024	11/30/2024	12/31/2024
6	05/01/2024	07/31/2024	11/01/2024	01/31/2025	02/28/2025
7	07/01/2024	09/30/2024	11/01/2024	01/31/2025	03/31/2025