

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: October 1 – December 31, 2023

PARTICIPATING AGENCIES: Minnesota Department of Transportation and the Clear Roads Technical Advisory Committee.

Washington State University – Prime

Wilfrid A. Nixon and Associates, LLC - Subcontractor

Monte Vista Associates LLC – Subcontractor

Roadtech, Inc. - Subcontractor

PROJECT MANAGER:

Hafiz Munir / Tom Peters

SP&R PROJECT NO:

MnDOT Contract No.

1051125

PROJECT IS:

 Planning

 X Research & Development

LEAD AGENCY: MnDOT

Federal Project Number:

TPF-5(479)

PRINCIPAL INVESTIGATOR:

Xianming Shi (WSU),

Washington State University

ANNUAL BUDGET: \$28,522 (FY23);

\$165,530 (FY24); \$5,923 (FY25)

PROJECT BUDGET: \$199,975

PROJECT EXPENDITURES TO DATE: \$28,522

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 Oct. 2023.

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): 80% complete.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

Project management activities.

Task 3 (Initial Synthesis): to complete. 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 are slightly behind the (updated) schedule on Tasks 3 and 4 and will catch up.

| 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 |