

## State Planning and Research Program Quarterly Report

**PROJECT TITLE:** *Update to CR 13-04: Best Practices for Protecting DOT Equipment from the Corrosion effect of Chemical Deicers*

**OBJECTIVES:** Overall, this project aims to produce new data and renewed understanding to update the anticorrosion coating section of *CR 13-04 - Manual of Best Practices for the Prevention of Corrosion on Vehicles and Equipment* and thus provide guidance to encourage good practices and procedures that may be implemented.

**PERIOD COVERED:** October 1 – December 31, 2023

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

Washington State University – Prime

Monte Vista Associates LLC – Subcontractor

Roadtech, Inc. - Subcontractor

**PROJECT MANAGER:**

Hafiz Munir / Tom Peters

**SP&R PROJECT NO:**

MnDOT No. 1047787

**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:** \$99,985

**PROJECT EXPENDITURES TO DATE:** \$32,648

**WORK COMPLETED:**

*Project Management:* The PI submitted a Quarterly Progress Report in Oct. 2023. The no-cost time extension of 6 months to extend the contract end date to July 31, 2024 was approved.

Task 1. Survey and Market Analysis (100% complete).

Task 2. Developing the Experimental Plan (100% complete).

Task 3. Execution of the Experimental Plan (87% complete). We started the laboratory tests. 1) Hardness Testing (completed by August 12, 2023); 2) Adhesion Testing (completed by August 23, 2023); 3) open circuit potential and electrochemical impedance spectroscopy testing (completed by Dec. 22, 2023); and 4) Salt Spray (Scribe and non-scribe methods for various coating products, expect to complete no later than Feb. 2024).

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

Work in the coming quarter will consist of project management, completion of Task 3 (Execution of the Experimental Plan): Salt Spray; and progress of Task 4 (Data Analysis and Manual Update).

**STATUS AND COMPLETION DATE:**

The updated timeline is as follows. We are on schedule.

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	05/01/2022	07/31/2022	05/15/2022	04/15/2023	05/31/2023
2	07/01/2022	10/31/2022	01/01/2023	04/15/2023	05/31/2023
3	11/01/2022	07/31/2023	06/01/2023	01/31/2024	03/31/2024
4	06/01/2023	10/31/2023	01/01/2024	03/31/2024	05/31/2024
5	10/01/2023	02/28/2024	03/01/2024	05/31/2024	07/31/2024