

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: July 1 – September 30, 2023.

PARTICIPATING AGENCIES: Minnesota Department of Transportation, Clear Roads Pooled Fund, Washington State University (Prime), Monte Vista Associates LLC (Subcontractor), and Roadtech, Inc. (Subcontractor).

<p>PROJECT MANAGER: Hafiz Munir / Tom Peters</p> <p>LEAD AGENCY: MnDOT</p> <p>PRINCIPAL INVESTIGATOR: Xianming Shi, Ph.D., P.E., WSU</p>	<p>SP&R PROJECT NO: MnDOT No. 1047787</p> <p>Federal Project No. TPF-5(353)</p>	<p>PROJECT IS:</p> <p style="text-align: center;">____ Planning</p> <p style="text-align: center;"><u>X</u> Research & Development</p>
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ANNUAL BUDGET: \$99,985	PROJECT EXPENDITURES TO DATE: \$25,428
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WORK COMPLETED:
Project Management: The PI submitted a Quarterly Progress Report in July 2023. We submitted a no-cost time extension of 6 months to extend the contract end date to July 31, 2024.

- Task 1. Survey and Market Analysis (100% complete).
- Task 2. Developing the Experimental Plan (100% complete).
- Task 3. Execution of the Experimental Plan (38% 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 (40% complete, expect to complete by Nov. 22, 2023).

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:
Work in the coming quarter will consist of project management as well as the progress of Task 3 (Execution of the Experimental Plan): Salt Spray (Scribe and non-scribe methods for various coating products, expect to complete no later than Feb. 2024).

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