

State Planning and Research Program Quarterly Report

PROJECT TITLE: *Evaluation of Indoor Automated Stockpile Measurement Systems*

OBJECTIVES: The goal of this project is to conduct a data-driven evaluation of currently available automated or semi-automated indoor salt stockpile measuring systems to improve agencies' day-to-day management of their salt stockpile inventories.

PERIOD COVERED: Q2 2022 (April 1 through June 30)

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

PROJECT MANAGER:
Hafiz Munir / Tom Peters

SP&R PROJECT NO:

MnDOT Contract No.
1030951

PROJECT IS:

 Planning
 X Research & Development

LEAD AGENCY: MnDOT

PRINCIPAL INVESTIGATOR:
Brian Hirt, CTC & Associates

Federal Project Number:
TPF-5(353)

ANNUAL BUDGET: \$84,727.00
(18-month project budget)

PROJECT EXPENDITURES TO DATE: \$34,437.20

WORK COMPLETED:

- **Task 1: Project Management.** Coordinated communication among Technical Advisory Panel members. Planned next steps for the project.
- **Task 6: Data Collection.** Continued data collection process:
 - Planned and conducted final measurement collection efforts with participant states.
 - Worked with vendors and online tools to collect remaining experimental data:
 - Analysis using fewer cameras in Washington State with the photogrammetry system; this is the final Task 6 element not yet completed.
 - Analysis using a coarser scan (fewer data points) in Connecticut with the lidar system; these data have been collected.
- **Task 7: Data Analysis of System Performance.** Continued analysis of data for inclusion in the final report (Task 8).
- **Task 8: Final Report and Brief.** Continued drafting project report.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- **Task 1: Project Management.**
 - Continue project coordination.
- **Task 7: Data Analysis of System Performance.** Complete data analysis.
- **Task 8: Final Report and Brief.**
 - Communicate with Indiana DOT about possibly including language on the performance of its lidar system in the report.
 - Complete first draft of the report.
 - Present and review initial final report findings with the project TAP.
 - Prepare a findings summary for the fall Clear Roads meeting.
 - Begin work on project brief pending TAP review and acceptance of report draft in principle.

STATUS AND COMPLETION DATE:

This project is on track for completion by November 30, 2022.