

**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 in order to improve agencies' day-to-day management of their salt stockpile inventories.

PERIOD COVERED: Q3 2021 (July 1, 2021 through September 30, 2021)

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:

LEAD AGENCY: MnDOT

Federal Project Number:
TPF-5(353)

Planning
 Research & Development

PRINCIPAL INVESTIGATOR:
Brian Hirt, CTC & Associates

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

PROJECT EXPENDITURES TO DATE: \$12,627.71

WORK COMPLETED:

- **Task 1: Project Management.** Coordinated communication among Technical Advisory Panel members. Planned next steps for the project.
- **Task 3: Surveys and Interviews.** Conducted an online survey to collect information about state DOTs' salt measurement and experience with automated systems. Distributed an industry form email to collect information about which vendors provide products that might be used as part of the evaluation. Compiled all survey and email results with the TAP, summarized finding, and shared recommendations. *Task 3 is complete.*
- **Task 4: Select Systems and States for Evaluation.** Proposed a selected set of systems and states for evaluation. Based on extensive communication and discussions with the TAP as well as vendors, revised this proposal based on willingness and interest in participation. Met with Indiana DOT and Purdue University to determine the feasibility of including its lidar measurement system (it was decided to revisit possible limited evaluation in the spring).

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- **Task 4: Select Systems and States for Evaluation.** Finalize selections for systems and states to participate in the evaluation.
- **Task 5: Methodology for System Evaluation.** Draft and finalize the evaluation methodology document and data collection form, working closely with participating TAP members and vendors.
- **Task 6: Data Collection.** Coordinate with participating states to collect identified data on automated and semi-automated indoor salt stockpile measuring systems in identified storage facilities. This task will extend into 2021.

STATUS AND COMPLETION DATE:

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