

## State Planning and Research Program Quarterly Report

**PROJECT TITLE:** *Measuring the Efficiencies of Tow Plows and Wing Plows*

**OBJECTIVES:** First, the research will develop a strong practitioner-based understanding of real-world life cycle costs, benefits, and efficiencies of tow plows and wing plows, including maintenance, operational, and storage issues. Second, the research will develop tools for DOT decision-making and procurement, including a Decisions Support Tool and a Best Practices Guide, which will be helpful in procurement decisions and in actual use of such plows.

**PERIOD COVERED:** January 1, 2021 – March 31, 2021

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

**PROJECT MANAGER:**  
Debbie Sinclair / Tom Peters

**SP&R PROJECT NO:**  
MnDOT Contract No.  
1034818

**PROJECT IS:**  
 Planning  
 Research & Development

**LEAD AGENCY:** MnDOT

Federal Project Number:  
TPF-5(353)

**PRINCIPAL INVESTIGATOR:**  
Ty Lasky, UC-Davis

**ANNUAL BUDGET:** \$37,967 (Proj Yr 2)  
(Total Project Budget): \$124,980

**PROJECT EXPENDITURES TO DATE:** \$58,764

**WORK COMPLETED:**

- AHMCT completed the Task 4 development of computer simulations to assess the efficiency of plow configurations and roadway types/geometries. The Excel/VBA simulation program and a descriptive report were circulated to the subcommittee member states to use and review.
- AHMCT provided individualized simulation program demonstrations to three of the DOTs.
- AHMCT took detailed notes of the DOT individualized demonstration sessions which included DOT comments and suggestions.

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

- Completion of Task 5, the peer review of simulation results and work to resolve any concerns identified during the peer review process. A Task 5 description section was added to the combined Task 5, 6 & 7 report to be submitted to the CR subcommittee for review.
- Completion of Task 6, the methodology to translate the four identified Operational Considerations into the measure of efficiency analysis program. A Task 6 description section was added to the combined Task 5, 6 & 7 report to be submitted to the CR subcommittee for review.
- Completion of Task 7, the Decision Support Tool program. The DS Tool Excel program description and use section was added to the combined Task 5, 6 & 7 report to be distributed to the subcommittee member states to use and review.
- Begin Task 8, Best Practices Guide. Provide draft for review.
- Begin Task 9, Final Report. Provide draft for review.

**STATUS AND COMPLETION DATE:**

- On schedule, expected project completion July 31, 2021. The review of the draft literature survey delayed the project. We accelerated Task 3-7 to get the project back on the contracted schedule.