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: October 1, 2020 – December 31, 2020

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

PROJECT MANAGER: Debbie Sinclair / Tom Peters **LEAD AGENCY**: MnDOT **PRINCIPAL INVESTIGATOR**: Ty Lasky, UC-Davis	**SP&R PROJECT NO**: MnDOT Contract No. 1034818 Federal Project Number: TPF-5(353)	PROJECT IS: ____ Planning __X__ Research & Development
ANNUAL BUDGET: $87,013 (Proj Yr 1) (Total Project Budget): $124,980	**PROJECT EXPENDITURES TO DATE**: $45,190	

WORK COMPLETED:

- AHMCT completed the Measuring the Efficiency of Tow plow and Wing Plows survey process.
- The survey responses were collected and AHMCT created a summary of survey results.
- Task 3 interim report (Recommendations and Test Plan) completed, approved November 24, 2020.
- Initiated work on Task 4, development of computer simulations.

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- Complete Task 4, the development of computer simulations to assess the efficiency of plow configurations and roadway types/geometries based on the analytical model developed in Task 3.
- Begin Task 5, the peer review of simulation results and work to resolve any concerns identified during the peer review process.
- Begin Task 6, methodology for efficiency analysis.

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 to get the project nearly back on the contracted schedule.