

NHDOT SPR2 PROGRAM

RESEARCH PROGRESS REPORT

Project # 423720		Report Period: Year 2023 <input type="checkbox"/> Q1 (Jan-Mar) <input type="checkbox"/> Q2 (Apr-Jun) <input checked="" type="checkbox"/> Q3 (Jul-Sep) <input type="checkbox"/> Q4 (Oct-Dec)	
Project Title: Comparing Plow Blade and Tolerances on NHDOT Trucks and Roads			
Project Investigator: David Gray, New Hampshire Department of Transportation Phone: 603-485-6241 E-mail: David.A.GrayJr@dot.nh.gov			
Project Start Date: 12/23/2022	Project End Date: 6/30/2024	Project schedule status: <input checked="" type="checkbox"/> On schedule <input type="checkbox"/> Ahead of schedule <input type="checkbox"/> Behind schedule	

Brief Project Description:

Different plow blades wear at different rates. There are varied technologies and systems being promoted at a range of pricing. Plow blades that are changed less frequently and wear longer enable staff to focus more on plowing saving time and the associated labor costs. A more expensive, lighter plow blade can also result in fewer injuries to highway maintainers and NHDOT personnel and potentially fewer workers comp claims.

The goal of this research is to determine which blades are the most cost effective and to share this research data with national organizations collecting similar data from other states. The research consists of sampling 3 to 5 different types of plow blades on trucks with Automatic Vehicle Location (AVL) installed to accurately measure the miles plowed and to record plowing speeds. Research results are dependent on snowstorm weather so trucks with the blades can be used in real time and authentic conditions. A tally of related injuries during the use of these blades would be factored into the total cost with comparison to heavier plow blades.

Progress this Quarter (include meetings, installations, equipment purchases, significant progress, etc.):

Outreach to blades vendors that bid on the flexible plow blade contract has occurred. Purchasing of blade for lab testing has occurred. Arrangements for purchasing of complete sets of blades for field testing are underway.

Items needed from NHDOT (i.e., Concurrence, Sub-contract, Assignments, Samples, Testing, etc...):

Nothing at this time

Anticipated research next three(3) months:

- Test blades to be sent to lab for testing and test results returned.
- Purchases and installation of blades on selected AVL trucks at patrol sheds.
- Analyze lab test results

Circumstances affecting project:

Availability of plow blades for testing from vendor. Might not be able to get blades to be installed on the trucks until November/December time period due to lack of available blades from vendors. Field testing is all depending on the amount and number of snowstorms we receive.

Tasks (from Work Plan)	Planned % Complete	Actual % Complete
Research lab to provide testing of blade materials	100	100
Establish lab tests and cost	100	100
Establish which blades will be tested from vendors	100	100
Acquire 3' or 4' section of blades for lab testing	0	0
Send test blades to lab for testing	0	0
Purchase blades for field testing	0	0

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Install front plow sensors on selected trucks for project	0	0
Install blades for field testing	0	0
Review lab results	0	0
Monitor blades on plow trucks	0	0
Evaluate lab and plowing results and make recommendation for specification for future bids	0	0
Prepare report	0	0

Barriers or constraints to implementing research results

We do not currently foresee any issues with completing the project.