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Municipal Highway Departments Prepare for Winter Operations Amidst Inflation

The UNH Technology Transfer Center (UNH T2) seeks to share insights on the unique challenges New Hampshire's local highway agencies may encounter this winter regarding the impact of inflation to winter operations.

Most municipalities' highway budgets are developed four to six months in advance; budgets are based on average customary costs of product from prior years, an average number of storms anticipated per year (may vary from eighteen to thirty storms, depending upon the location in our state), and the best-known data at the time the budget is developed. This year, the cost of road salt has **increased ten to fifteen percent** since those budgets were forecasted, for some communities I spoke with. The current cost of diesel fuel has **increased over 110%** since budgeted. Winter operations equipment like plow trucks may average 3 to 5 miles per gallon of diesel, so every additional trip - and storm - increases a highway department's overall seasonal total for diesel use (and thus increases the community's final spend towards fuel).

Other necessary costs to keeping equipment and trucks on the road clearing snow and ice have climbed as well, including prices for the materials and supplies needed to maintain equipment, and the impact of an extended staffing shortage, with many teams having multiple plow operator positions open, that may result in additional overtime costs for teams. These are cost increases in addition to the other standard costs municipal departments are incurring that are subject to inflation, such as higher energy costs. Although municipalities have a widely varying number of roadway miles to maintain in their communities, most all municipalities have tight budgets regardless; budgets that can be easily impacted by a difficult winter that might call for more salt, or more hours (and gallons of fuel) spent plowing. Many local highway departments have already filled their salt sheds, or are in the process, but should a hard winter deplete those resources and require restocking later in the season, it could come at higher cost.

The men and women of New Hampshire's public works teams are not only dedicated stewards of their community's infrastructure, and First Responders when winter storms and other significant weather impacts hit our communities, but they're also knowledgeable and qualified professionals who rely upon advances in technology and materials, data, and training to complete their jobs and keep our roadways open, our communities open. Again this year, almost 200 of New Hampshire's local road agency employees participated in training with us to understand best practices and techniques in winter snow and ice fighting, including how traditional materials like salt work, and how innovative ice-fighting materials and equipment calibration can help save material costs as well as improve efficiency (reducing labor costs and allowing understaffed teams to accomplish more, with less). Many crews are adding new tools to their winter response toolbox, including innovative liquids and treated salts to prevent and treat icy roadways more efficiently while often simultaneously reducing costs, impact to the environment, and Spring cleanup time.

Public works professionals work tirelessly, frequently behind the scenes, to maintain our roadways and public infrastructure, and despite the unique circumstances and challenges they're facing this winter, they remain committed to the motto *Public Works Makes It Happen*.

I invite you to contact UNH T2 with any questions on this or other roadway infrastructure topics.

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