

**H.86 (S.29) Follow-up to 3/27/2025 Testimony
Submitted to House Committee on Environment
by Vermont Agency of Transportation**

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Follow-up questions and clarifications regarding 3/27/2025 testimony:

1. Does the snowplow's on-board surface friction and temperature sensors and the closed loop ground speed spreader controllers automatically adjust salt application rates or is there a manual step taken by the plow truck driver?

Answer: The driver must set a rate. The truck automatically adjusts for speed, start and stop. See Items 7 and 8 on Page 7 of the [Snow and Ice Control \(SIC\) Plan](#).

7. Equip VTrans plow trucks with closed loop ground speed spread controllers. Closed loop ground speed spread controllers continue to be one of the primary tools for maintaining consistency and efficiency in salt use. Controllers are dashboard computers with electronic sensors that adjust application rate based on vehicle and auger speed to provide a more consistent rate of material application. Spreader calibration is an important tool used to ensure most efficient material usage.

8. Use Road Weather Information Stations (RWIS) and mobile surface friction and temperature sensors to help guide decisions regarding application type and method. Mobile surface temperature sensors are mounted to vehicles allowing for more real-time feedback on pavement temperatures during snow events. VTrans also uses traffic cameras to monitor road conditions. The evolution in monitoring technology provides greater access to data for pre, during and post-storm evaluation.

2. Are snowplow on-board sensor information available in real time to municipalities and could it be useful to them in adjusting salt application rates or materials used in real time on nearby Municipal Roads?

Answer: Real time ice control is a complex art that considers multiple factors. VTrans can see and monitor what our drivers put down on the roads. It would be cumbersome and only a snapshot of that exact instant of application rate for that exact location on the State highway. This information would not be beneficial to Municipalities as this real time information is very specific to weather and road conditions in that exact location on the State highway which would likely be different than weather and road conditions on Municipal roads even if those roads were in close proximity.

3. What is the difference in cost between a standard plow truck versus a fully equipped (all the latest sensors, computers, etc) plow truck that VTrans uses to implement its Snow and Ice Control Practices?

Answer: Estimated upfit cost per truck is about \$15,000 for all the equipment that would track salt use and liquid use. For data management services there is an additional fee of \$300/truck/year. This would be in addition to the \$275,000 base price for a standard Tandem Axle Plow truck (10-wheeler) with no snow & ice control equipment. Price for the fully loaded plow truck would be \$290,000 plus the annual monthly fee per truck for the telematics service for AVL/ GPS and spreader control. Note, prices are an estimate, subject to change, will likely increase, and may vary based on the vendor and municipal contracting and bidding requirements.

4. How many applications for salt sheds does VTrans Municipal Assistance Program get annually; how many are awarded funding and what is the average award amount in any given year?

Answer: This table provides information for the past 5 years.

TAP and MM Stormwater Grants for Salt Sheds					
Year	No. Salt Shed Applications	Value	No. Salt Sheds Awarded	Value	Average Grant
2021	5	\$1,426,300	0	0	\$0
2022	22	\$6,078,523	19	5,735,985	\$301,894
2023	10	\$2,311,169	7	1,819,983	\$259,998
2024	2	\$700,600	2	700,600	\$350,300
2025	5	\$1,478,026	2	226,554	\$113,277
					\$1,025,468
				Fed Average / yr.	\$256,367

For addition information you can share with Municipalities regarding the VTrans salt shed application refer them to the [Municipal Assistance Section – Salt Shed Grant Application Guide](#).

5. Are there any Federal Highway obligations to maintain highways to a minimum standard as it relates to snow and ice control and are there any financial ramifications if these minimum standards are not met?

Answer: There are no obligations at the Federal level. Vermont has a “safe-roads-at-safe-speeds” policy for winter storms. Since its adoption by the General Assembly in the early 1980’s, that policy has directed VTrans to keep highways plowed, salted, and sanded to keep them open to traffic, and to maintain them to a degree that allows motorists to use them at reasonable speeds. This policy requires that drivers use good judgment and understand that during a storm Vermont’s roads will be covered with some snow. Roads will not become bare until after the storm is over. After the storm, highways are returned to bare pavement on a “corridor priority” schedule based on the highway’s “level of service”. Interstates, for example, take priority over lightly traveled rural highways.

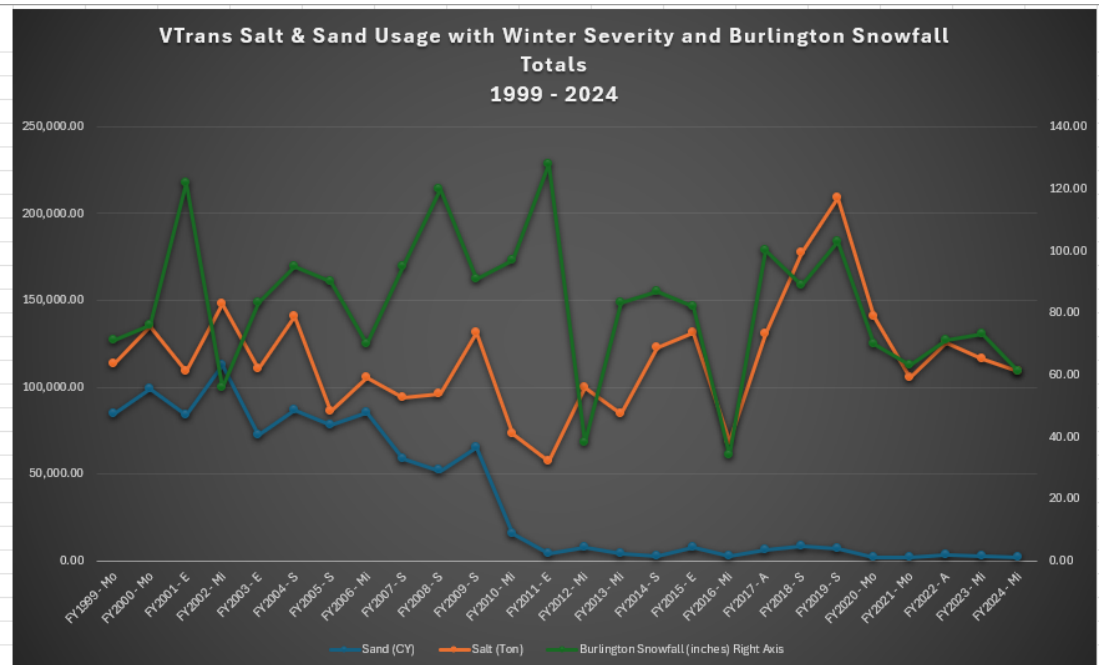
To better explain our winter maintenance practices, including what motorists can expect from VTrans during a winter storm, we’ve developed a [Snow and Ice Control \(SIC\) Plan](#).

Also see [VTrans Winter Maintenance Website](#) for additional information.

6. Is VTrans historic salt and sand usage available?

Answer: See graph on page 3 showing VTrans salt and sand usage 1999 – 2024 with annual winter severity added.

Fiscal Year	Sand (CY)	Salt (Ton)	Burlington Snowfall (inches) Right Axis	AWSSI
FY1999 - Mo	84,279.10	113,603.40	71.00	Mo
FY2000 - Mo	99,026.66	134,886.31	76.00	Mo
FY2001 - E	84,027.30	108,728.94	122.00	E
FY2002 - Mi	112,757.61	147,954.67	56.00	Mi
FY2003 - E	72,222.48	110,474.11	83.00	E
FY2004 - S	86,577.73	140,528.73	95.00	S
FY2005 - S	77,981.74	86,283.71	90.00	S
FY2006 - Mi	85,527.86	105,512.54	70.00	Mi
FY2007 - S	58,376.11	94,241.73	95.00	S
FY2008 - S	51,885.10	96,330.33	120.00	S
FY2009 - S	64,827.46	131,054.33	91.00	S
FY2010 - Mi	15,398.12	72,778.56	97.00	Mi
FY2011 - E	4,002.75	57,444.20	128.00	E
FY2012 - Mi	7,759.96	99,931.43	38.00	Mi
FY2013 - Mi	3,902.53	84,529.36	83.00	Mi
FY2014 - S	2,818.71	122,602.07	87.00	S
FY2015 - E	7,429.90	131,476.16	82.00	E
FY2016 - Mi	2,496.35	68,819.04	34.00	Mi
FY2017 - A	6,062.49	130,605.38	100.00	A
FY2018 - S	8,565.14	176,941.39	89.00	S
FY2019 - S	6,862.83	208,726.63	103.00	S
FY2020 - Mo	2,183.00	140,511.12	70.00	Mo
FY2021 - Mo	2,144.32	105,376.99	63.00	Mo
FY2022 - A	3,130.65	125,400.65	71.00	A
FY2023 - Mi	2,976.25	115,897.55	73.00	Mi
FY2024 - Mi	1,665.00	109,206.80	61.00	Mi



Key to AWSSI Winter Severity

- E Extreme
- S Severe
- A Average
- Mo Moderate
- Mi Mild

(does not accommodate freezing rain)

[MRCC - Accumulated Winter Season Severity Index \(AWSSI\)](#)

At the very least, the severity of a winter is related to the intensity and persistence of cold weather, the amount of snow, and the amount and persistence of snow on the ground.

NWS Burlington Snowfall

[Historical Monthly Snowfall - Burlington, VT](#)