

## FREQUENTLY ASKED QUESTIONS

### Snow and Ice Control

#### **What is VTrans' Policy for winter maintenance, and where did it come from?**

During a storm, Vermont has a safe-roads-at-safe-speeds policy and not a bare-roads policy. The policy was put in place by the General Assembly in 1981, and made permanent in 1982. It directs the Agency to keep highways plowed, salted and sanded to keep them open to traffic and maintained to a degree that allows motorists to use them at safe speeds. Since Vermont does not have a bare-roads policy, drivers must partner with us and understand that during a storm Vermont's roads will be covered with some snow and won't become bare until after the storm is over. To traverse our roads safely during and just after a storm, drivers need to slow down and drive according to the conditions.

After the storm, highways are to be returned to bare pavement on a "corridor priority" schedule based on the highway level of service. Interstates, for example, take priority over lightly traveled rural highways when making decisions on where to allocate our resources to clean up after a storm.

To help better explain our winter maintenance practices, including what motorists can expect from VTrans during a winter storm, we recently developed a Snow and Ice Control (SIC) Plan. This SIC Plan is based on the same guiding principles as the safe-roads-at-safe-speeds policy described above, and it can be accessed via the internet at:

[http://vtransoperations.vermont.gov/winter\\_maintenance\\_plan](http://vtransoperations.vermont.gov/winter_maintenance_plan)

#### **What would it cost to have a bare roads policy?**

Because a bare roads policy would require 24/7 coverage we would need to more than double the size of our maintenance staff as well as add equipment to the Agency fleet and facilities to house the extra staff and equipment. This, along with the additional usage of sand, salt and fuel would result in such a policy costing many millions of dollars above and beyond our current state funded budget. In the end, we would still have trouble achieving bare roads during a storm event. Vermont and other "snow states" have stated that a "bare roads policy" is not possible during storm events.

#### **Do town roads get cleaned up more quickly than state highways?**

Quite often the answer is "yes." Towns very often use considerably more salt than we do, and as a result often can obtain bare roads once the storm has subsided before we can. This is not to say our roads are unsafe so long as people drive according to the weather conditions. VTrans is able to meet its "safe roads" policy within our current operating parameters, and this includes applying sand and salt to the highways in an effective, efficient and environmentally responsible manner.

#### **Do neighboring states have better road conditions during storms?**

Occasionally, they do. VTrans has less equipment and fewer people doing the work than our neighboring states. We also have some of the longest plow routes in New England. Vermont plow routes can take an average of 2 hours round trip. In addition, some other states run two full shifts. We simply don't have the staff to do that. It is important to note, however, that our neighboring states have policies and plans for winter maintenance that are virtually identical to Vermont's. None of them call for bare roads. As a side note, we meet regularly with our counterparts from Maine and New Hampshire, and they get asked this question in reverse!

## **What resources does Vermont have at its disposal for winter maintenance?**

Our Maintenance Section is 500 people strong, about 450 of whom are the supervisors, maintenance workers, equipment operators and mechanics who are working hard in 65 locations around the state to perform winter maintenance activities. Our fleet includes 275 plow trucks, 56 loaders, 10 graders, and approximately 100 heavy duty pickups and baby dumps with plows.

## **What is salt brine? Is it more harmful to the environment than standard road salt?**

Road salt is the same as the salt on the dinner table, NaCl, just bigger particles and not as clean. Salt brine is nothing more than salt and water, NaCl and H<sub>2</sub>O. It doesn't matter if you drop dry salt particles in a pile of snow, or mix dry salt particles with water to make salt brine – you end up with the exact same thing, salt and water. In fact, our salt brine is made with the exact same salt – from the exact same stockpiles - that we spread on the highways.

At times VTrans will mix additives into dry salt or salt brine to make the salt work better at lower temperatures. We use a product called *Ice B' Gone* that is essentially water, molasses and magnesium chloride. *Ice B' Gone* also makes the salt or brine sticky so it stays on the road better and has been documented by our own internal field testing, as well as other organizations such as the Pacific Northwest Snowfighters Association, to be *less* corrosive than salt. In fact, *Ice B' Gone* is rated by the EPA as being “Designed for the Environment”.

In terms of impact to the environment, the bottom line is that road sand and chlorides (salt) are having a detrimental effect and the problem is growing. When we allow sand and salt into our water ecosystems it doesn't break down or disappear; it stays there until it's removed. Since large-scale removal is not technologically or economically feasible, it behooves us to limit the amount of sand and salt entering the environment.

That is precisely the aim of the salt brine effort – it reduces the total amount of sand and salt we need to use while still providing a safe road for travelers. With continued research, training and experience, we hope that we can achieve even more savings without sacrificing safety.

## **But are salt brine and salt brine blends causing more corrosion to vehicles so savings on the road are being passed on to motorists at the repair shop?**

We have yet to see any definitive proof that salt brine and salt brine blends are causing more corrosion to vehicles, though we have received a number of complaints and allegations. As discussed above, salt brine is the exact same chemical composition as dry salt mixed with ice, snow or rain – just salt and water. Less salt used translates into less corrosion potential regardless of whether it is dry salt or wet salt (brine). Studies have shown that the additive blends we use actually lower the corrosive properties of salt. The Margaret Chase Smith Policy Center at the University of Maine also tackled this question. They came to the conclusion that the total number of chlorides in the environment has a much stronger influence on metal corrosion than the type of chloride-based deicer or the method of application.

That said, the additive we use does make the brine more sticky. This causes it to adhere to the road (which is good) and also to vehicles (which is not desirable). We are experimenting with using less additive this year in our blends, to see if we can get it to stick less to vehicles without hampering its effectiveness on treating the roads. We are also doing less anti-icing with salt brine this year. Anti-icing is the practice of spraying brine on the road before a storm. Unfortunately it is easily “worn off” by passing vehicles, and quickly loses its effectiveness if applied too early.