For more information:
www.epa.gov/adminweb/naturalevents/snow-ice.html#highways
Canada, saw an overall 8% decrease in accidents after changing to low-salt application techniques. When transportation officials in Idaho switched to liquid magnesium chloride on one stretch of road, the number of accidents fell by 83%. Just as remarkably, that same stretch of road saw crews putting out 83% less salt and sand. Not every story will be this successful, but both travelers and the environment win when municipalities make changes that keep roads bare and use fewer materials.

**Recommended actions to reduce salt and sand applications:**
Every member of a winter maintenance team can benefit from the training programs offered in every state by the local Technology Transfer center. They will often teach a program known as the “4 R’s.”

1. **Use the Right Material.** Stop using sand, except for low-speed intersections, curves, and hills. Use a chemical that is effective at current road surface temperatures. Consider using alternate chemicals on bridges and in source water protection areas.

2. **Use the Right Amount.** The number one factor in applying salt is the surface temperature. Warmer roads need less salt. Consider purchasing inexpensive infrared thermometers for spreading trucks.

3. **Apply at the Right Place.** Put salt down where it will do most good. Hills, curves/corners, shaded sections of road, bridges, etc., need special attention. A section of road with a surface temp below ~10°F won’t benefit from rock salt. Use another chemical instead. Designate sensitive areas as low or no salt zones.

4. **Apply at the Right Time.** Apply as early as possible! Obtain and use the most up-to-date weather forecasts. Don’t wait until snow is falling to get started. It takes much more salt to melt accumulated snow than it does to prevent accumulation. Factor in expected traffic, approaching day/night change in temperatures, etc. Brine can be applied very early, forming a bond with the road that can be effective for days in the right conditions.

**Proper Storage of Salt and Sand**
Improper storage techniques can cause some of the most severe environmental damage from winter maintenance materials because they can result in highly concentrated runoff. Salt is the big offender, but because sand is mixed with salt to prevent it from freezing, sand piles should also be included in a proper storage program. Salt storage areas should be periodically inspected and well maintained.

A properly stored salt/sand pile is:
- Located away from source water protection areas, floodplains, and wetlands
- Sited on an impermeable (paved) pad, with a drain that directs runoff to proper treatment
- Covered with a roof and at least 3 sides

For More Information:
www.epa.gov/adminweb/naturalevents/snow-ice.html#highways

To find out about training in your state, contact your local Technology Transfer (T2) center:

CT: (860) 486-5400, www.t2center.uconn.edu/
MA: (413) 545-2604, www.ecs.umass.edu/baystate_roads/
ME: (207) 624-3270, www.state.me.us/mld/mrcl/mrcl-home.php
NH: (603) 862-2826, www.t2.unh.edu/
RI: (401) 874-9405, www.uritc.uri.edu/t2center/
VT: (802) 654-2652, personalweb.smcvt.edu/vermontlocalroads/welcome.htm

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**FACTS ABOUT SAND:**
Recent studies have shown that sand loses its effectiveness as a traction enhancer on many roads after as few as 10 vehicles pass.

Sand clogs catch basins, builds up in streambeds, and impairs water quality.

When sand is ground between tires and the road, it forms dust that can affect people with asthma and other respiratory illnesses.