

Seasonal Salt Usage Reduction Techniques Fact Sheet

Pre-wetting salt

MDOT SHA is expanding the practice of wetting salt with brine or magnesium chloride prior to spreading to help salt better adhere to the road and prevent waste due to “bounce and scatter.” Experience and studies show that pre-wetting can lead to a 30 percent reduction in salt usage. Additionally, each piece of MDOT SHA equipment electronically tracks the amount of salt used during storms which allows crews and managers to adjust salting rates if needed.

Anti-Icing (pre-treating)

MDOT SHA is continuing to pre-treat highways in advance of snowstorms. This is a proactive operation that involves spraying salt brine on roads and bridges prior to snowstorms and allowing sufficient drying time. The brine prevents snow and ice from bonding or “packing” on the surface of the highway. It’s important to note that if a storm is forecasted to begin as rain or sleet, MDOT SHA will NOT pre-treat because the rain will simply wash the brine solution off the roadways.

Staff and contractor training

All new equipment operators must attend MDOT SHA’s Snow College (Winter Operations Training) during the off-season; at least 20 percent of veteran operators take a refresher course. The Snow College has a heavy emphasis on sensible salting, which is the use of the least amount of material to accomplish the mission.

Effective pre-storm planning

Tracking a winter storm and developing a comprehensive advanced winter emergency operations plan is essential in reducing overall salt usage. Using the pre-storm planning information, crews can pre-treat highways reducing initial salt spreading.

Salt storage and loading

MDOT SHA salt domes and barns are constructed to prevent salt from becoming wet and running out of the structures. Crews operating loaders are highly skilled at dumping the salt into the back of a dump truck without extensive spill over outside of the truck.

Truck speed and spreading

Slower travel enables salt being spread on the highway to stay on the highway. Faster speeds cause more salt bounce and scatter. Additionally, MDOT SHA uses direct cast spreaders that automatically correlate spreader salt dispersion to the speed of the maintenance truck.