



Marathon County Highway Department

SALT FAQs

DID YOU KNOW?

The minimum practical application range for salt is a pavement temperature of 15-20 F. While salt will melt snow and ice down to a pavement temperature of -6 F, it can melt over five times as much ice at 30 F as it can at 20 F. Highway crews will attempt to apply only the amount required for temperature, time, and use. Too little and the roadway will refreeze, too much is a waste of money and resources.

Why is liquid being sprayed on the road before a storm?

It may seem dangerous to add liquid to a road that might freeze, but the liquid is a salt and water mixture used to prevent snow, called anti-icing (see photo below), from sticking to the road. This is also a very economical solution as it costs approximately 17 cents a gallon to manufacture compared to over \$70 per ton for salt. Typically, bridge decks and trouble areas (intersections, hills, curves) are sprayed before a storm to allow time for crews to get out and apply additional chemicals.

Why don't plows apply salt before it snows?

Putting salt on road surfaces prior to a snowfall wastes time and money since salt bounces from the dry road during application. The portion that manages to land in the right location is subject to wind and vehicles blowing it off the road before it can do its job. Salt is most effective after snow has accumulated and the temperature is 20 F or higher. Under these conditions, the salt and snow will mix, melting snow into slush that can be plowed off the pavement.

Why do snowplows sometimes apply chemicals after a snowstorm is over?

The projected roadway temperatures have a lot to do with the final treatment of a road. After plowing operations have finished there is sometimes the danger of the water on the road refreezing. This post-storm treatment of roads is typically needed at night and when the sun first rises in the morning (typically the coldest part of the day).

Why isn't sand used when it's too cold for salt to be effective?

Sand is often used on County and Town roads when it is too cold for salt to work. The sand provides additional grit, or traction, for vehicles and works great on low traffic/speed roads. On highways where the speeds are higher (Interstate 39, Highway 51-29), as few as 8 to 12 vehicles can sweep sand from the pavement. This makes sanding not very cost effective or practical.

What are the tanks on the back of the plow trucks used for?

The tanks on the back of the plow trucks are called "brine tanks". These tanks hold between 75 and 150 gallons of salt brine (a mixture of salt and water) and is used to spray on the salt as it drops onto the spinner (prewettered salt). Prewettered salt has less tendency to bounce and scatter once it hits the road and begins to melt snow immediately. Compared to dry salt application, an additional 25% of prewettered salt remains on the road allowing the operator to use less salt with the same effects as dry salt.

Why isn't the snowplow salting?

There could be numerous reasons for this. Depending on the temperature, it could be too cold for salt to be effective. When salt is used when it's very cold, it melts some of the snow and refreezes before an additional application can be applied which makes the road even more hazardous. There are also times when plows will not apply salt when it is very windy. By salting when it is windy, the snow will then stick to the road rather than blowing across, creating even a bigger traffic hazard. Operators must know when to salt, and when not to salt, as salt doesn't always have a positive effect on road conditions.



(Anti-icing - A snowplow applying salt brine to a road prior to a winter storm.)

SNOW = SLOW