

Sand vs. Salt



Salt is a more reliable tool for de-icing

For more than 10 years, Chelan County Public Works has increasingly relied on salt over sand to clear snow and ice from county roadways.

In fact, most snow-belt states and provinces in North America today use salt, liquid anti-icers or both as the staple of their winter programs, improving wintertime mobility and reducing accident rates, according to WSDOT.

Sand remains a tool used by Chelan County road crews as primarily a traction aid. The county moved away from using sand because, along with having no ice-melting properties, sand also contributes to air quality issues in the form of dust, it can destroy fish habitat when applied near streams and rivers, and it is expensive to clean up.

Chelan County Public Works estimates about three-quarters of its snow removal program relies on salt-based chemicals. Liquid anti-icer is used before storm events to prevent frost and ice from forming and bonding to the roadway. Solid de-icer chemicals, which look like and are applied like sand, are used during and after snow events to keep accumulating snow loose and plowable. After storm events, solid de-icer is used to break-up compact snow and ice that has

bonded to the roadway so it can be plowed.

The county also utilizes a pre-wet system on the salt as it is spread to activate the melting process and minimize the amount of salt that bounces off roads.

The Washington State Department of Transportation reports that in its studies of the impact of de-icers on vegetation it has not found high enough amounts of salt that would be detrimental to evergreen or deciduous trees from root uptake, the process plants and trees use to take water from the soil.

The county's salt use practices are similar to WSDOT, but on a much smaller scale. (Chelan County applied 3,200 tons of salt on 1,296 lane miles last year while WSDOT applied about 8,586 tons of salt on 675 lane miles in the North Central Region.)

On the downside, salt and liquid chloride anti-icers are corrosive to vehicles and infrastructure. Liquid chloride products and solid salt applications used by the county are corrosion-inhibited, meaning they are less corrosive than straight salt but still corrosive.

Because salt is a better de-icer and has less of an impact on the environment than sand, it is our chosen tool when working to keep roads safe for winter drivers.

Even in winter, take time to wash your car

To help combat any effects from salt applications, Chelan County Public Works makes the following suggestions:

- ♦ Wash your car regularly during the winter. And don't forget about the underside of your vehicle, which is most susceptible to corrosion and rust.
- ♦ Consider applying a coat of wax to your vehicle just before winter weather hits. Or consider having your vehicle's body oiled annually with a rust-proofing spray.
- ♦ Don't forget about the inside of your vehicle. Winter boots and shoes can carry salt into a car. Use all-weather rubber mats with high sides to protect the inside of your vehicle.

Advantages of Controlling Snow & Ice with Chemicals vs. Sand

By Washington State Department of Transportation

Controlling ice and snow with chemicals offers several advantages over using sand, resulting in overall better pavement conditions, fewer accidents and improved freight mobility. The following breakdown is from the Washington State Department of Transportation.

	Chemical	Sand
Applied before a snowstorm	Prevents ice from forming and freezing rain and light snow from sticking.	Sand is not applied before a snowstorm. It does not prevent slick conditions.
Applied after a snowstorm	Melts the ice and compacted snow, improving traction.	Minimal improvement of traction.
Amount needed	WSDOT uses 200 pounds per lane mile.	WSDOT uses 1,500 pounds per lane mile.
Staying in place	Sticks well to the roadway, requiring fewer applications.	Dry sand blows to the shoulders after the first few vehicles pass, requiring frequent applications.
Damage to vehicles	Contains anti-corrosion additive and little becomes airborne, reducing effects to vehicles.	Becomes airborne easily, chipping windshields, headlights and paint.
Cleanup	Tax savings have resulted as spring clean up of sand has been dramatically reduced.	Expensive cleanup of sand that has accumulated along the roadside. Sand plugs drainages.
Environmental effects	Proper applications of chemicals causes no effects to water or vegetation.	Adds to airborne (dust) pollution and clogs spawning beds in streams adjacent to highways, causing buried fish eggs to fail to develop.



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