Winter Maintenance

Salt Brine Direct Liquid Application (DLA) vs. Granular Salt [1]

Amount of salt	**40-72%** less
Pavement friction	**Similar**
Vehicular speed	**Similar**
Time to bare/wet	**Similar**

Project 22-04 [1]

CLEAR ROADS

Routes

Divided parallel routes (~ 3 mi) in Jefferson and Sheboygan Counties, WI.
Study route (one direction) treated with salt brine DLA.
Control route (opposite direction) treated with solid salt.

Application Rate and Frequency

35-50 gallons per lane-mile of **salt brine** DLA on study route.
200-300 pounds per lane mile of **solid salt** on control route.
30-120 minutes cycle.

Weather Conditions

Data collection during winter storms.
0.5-5.0 in of snow accumulation.
15-36°F pavement temperature.

Pavement Friction

Optical friction measurement device.
Mobile Advanced Road Weather Information Sensor, **MARWIS**.
Mounted on plow truck and patrol vehicle.

Vehicular Speed

National Performance Management Research Data Set, **NPMRDS**.
Fleet of probe vehicles equipped with mobile devices.

Time to Bare/Wet

Reported by staff.
Time from beginning of storm until achieving pavement surface bare/wet conditions.

Final Report

[1] *Evaluation of Direct Liquid Application of Salt Brine vs Granular Salt as Measured through Various Performance and Safety Metrics.* ***University of Wisconsin – Madison.*** *https://www.clearroads.org/project/22-04/*