

# Maintenance Advisory

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## Best Practices for Applying Deicing Materials

Due to increasing costs and growing environmental concerns regarding the use of deicing materials for winter maintenance operations, it is critical we do everything possible to reduce the use of these materials, while still providing adequate levels of service. A major component of reducing the amount of deicing material required is conducting operations in ways that limit the amount of material that bounces and scatters off the roadway during application. The 2012 MDOT Salt Bounce and Scatter Study concluded that using pre-wet salt and applying deicing materials at slower speeds significantly increases the amount of material that stays on the roadway. Incorporating these practices into MDOT's winter operations program will ensure that as much deicing material as possible remains on the roadway and within the target area (4' on either side of the centerline), where it is most effective.

**In order to keep the most deicing material on the roadway during the application process, the following guidelines should be followed (for all MDOT maintenance facilities beginning with the 2013/2014 season):**

1. The truck's speed should operate no more than 35 mph while applying deicing material. Every effort should be made to maintain as slow a speed as possible while applying deicing material.

Justified exceptions to this practice may include:

- Peak hours on high-speed roads
  - Trucks equipped with technology that limits salt scatter, such as zero-velocity spreaders, slurry generators, etc. Based on results from the 2013 MDOT Salt Bounce and Scatter Study, these advanced systems should not operate faster than 35 mph
  - Other circumstances approved by the Region Engineer
2. All salt applied to a roadway should be pre-wet with a liquid chloride product. Rates of pre-wetting should be between 7 to 10 gallons per ton of untreated salt (salt slurry will require more, per manufacturer's recommendations). Salt can be treated at the stockpile, by the truckload, or at the point of application on the truck.



3. For all material delivery systems that allow it, a “boot” sleeve system, which decreases the amount of drop between the spreader and pavement, should be utilized (between 1-6 inches for a loaded truck). This decreases bounce and scatter, but not enough to maintain acceptable efficiencies at speeds above 25 mph.
4. The updated MDOT salt application rate chart should be followed. The chart has been revised to reflect the use of pre-wet salt at slower truck speeds.

MDOT maintenance facility supervisors must submit written plans for their facility to their Associate Region Engineer of Operations by October 1<sup>st</sup> of each year, detailing intended actions for implementation. Exceptions to these guidelines must be justified in writing on a case-by-case basis (example: per snow route). Consolidated action plans for each region should be submitted to the Engineer of Operations Field Services by October 15<sup>th</sup> of each year.