

# Maximize operations

Efficiencies, profits and sustainability win with optimization



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**O**ptimal winter management operations is the result you want to sustain or maximize after improving and standardizing equipment and methods that enable efficiencies in your snow and ice management operation.

There are several areas of a snow and ice management operation or business for you to consider optimizing. Here are the five primary SWiM guidelines to include as a standard set of policies for optimizing your snow and ice management operation.

## Investment

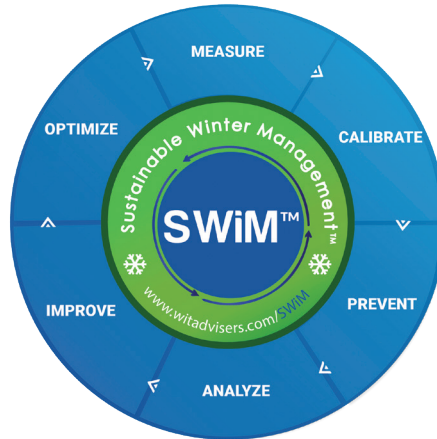
**1** The ability to optimize starts with a commitment to continuously invest in new technologies, methods and training. Schedule investments in annual budgets to purge old equipment and methods over a 3- to 5-year period. Further investment of time is required for regular snow training — not just the half-day or one-day rodeo before the season starts.

## Pre-wetting

**2** If you choose or are required to continue using solid salt, then pre-wetting is an essential optimization tool. Solid salt needs moisture to convert to a brine for melting snow and ice at the surface. Optimizing solid salt applications by pre-wetting the salt at the spreader spinner with a liquid form of rock salt (brine) is how to optimize and reduce solid salt use.

## Brine

**3** Solid salt only works to melt snow and ice at the surface when it converts to its liquid form (brine).



This article is the seventh in a series that discusses policy, methodologies and environmental stewardship through the lens of sustainability as it applies to winter management operations. Read more about SWiM at [sima.org](http://sima.org).

Therefore, the best way to optimize the salt we are already using is to apply it in its brine form as a Direct Liquid Application (DLA) whenever conditions allow.

Chloride-free brine applications, particularly at entrances and near other building infrastructure, are increasingly in demand by property owners. Think about how airports are handling ice management while also balancing the corrosive nature of most ice melts. The upfront investment, in what may be more costly chloride-free de-icing product(s), is done to optimize its effectiveness while also decreasing or eliminating the damage and associated cost to infrastructure, equipment and landscapes.

Be cautious when choosing chloride-free options. Many bagged products advertise being a “CMA” (calcium magnesium acetate) product, when in fact only a small percentage of the bag is actual CMA. Furthermore, acetate-based products can cause water quality and pollution effects, particularly if used in large quantities.

Always remember that every well-intended solution can cause another set of unintended consequences. A conservative approach and responsible use of all deicing products makes the greatest difference.

## Segmented plows

**4** If you plow parking lots with a containment plow and you haven't tried one with segmented plow technology, this is one area where you can easily optimize your operation whenever you are scheduled to replace a plow. Segmented cutting edges and plow blades that help the plow maintain constant surface and decrease the amount of snow left on the surface further optimizes salt reduction strategies.

## Data

**5** You can only optimize what you measure. The data you measure can then be optimized. Using your data to assess the most efficient methods, production hours and salt rate outputs, etc., that have been achieved by one or more of your crews and operators is something to scale as the “optimal” benchmarks for other operators to achieve systemically throughout your organization.

Increasing your ability to control costs, manage risk and enable improvement is possible when you optimize using the SWiM guidelines. These guidelines are designed to help snow and ice management operations start with a simple set of criteria to measure, calibrate, prevent, analyze, improve and optimize. **SB\***

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