

SUSTAINABLE WINTER MANAGEMENT

SWiM guidelines help keep snow, ice and your costs under control



BY PHILL SEXTON,
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Winter weather stresses road, parking lot and sidewalk conditions. Cost control, risk management, rising expectations for sustainable practices and near perfect conditions are realistic challenges that snow and ice management professionals and facility managers face. Liability linked to the overuse of deicing salts is a new challenge the snow and ice management industry must address head on. Furthermore, the expectations for “green” and “sustainable” alternatives are on the rise.

Since a multitude of research studies have validated that much of non-point source chloride contamination of freshwater bodies and aquifers originates from parking surfaces, facility managers and their snow and ice contractors need to be prepared for

No. of Parking Spaces	Cost per Parking Space	SWiM Certified?	Other Factors
884	\$365.72	No	Landscape damage replacements exceeded \$25k (due to salt damage)
832	\$271.29	Yes	Slip & fall incidents decreased and no landscape damage
322	\$367.15	No	Slip & fall incidents increased
327	\$286.32	Yes	No increase in slip & fall incidents

CASE STUDY: Case study of SWiM-certified parking lots compared with non-certified parking lots. View the RIT / NYSP2I case study at <https://tinyurl.com/rit-nysp2>.

future regulations and liability linked to their use of deicing salts to control slippery winter conditions.

The Sustainable Winter Management (SWiM) program guidelines (www.witadvisers/swim), which integrate SIMA's best practices (www.sima.org/bestpractices), are available for snow and ice management operators and facility managers to follow. Unlike sustainability initiatives that typically cost more money to

initiate, the benefits to properties that follow SWiM guidelines include saving money, managing risk and reducing salt use. Achieving these results also benefits the environment and your reputation.

Although SWiM audit guidelines include over 100 criteria that must be met for properties to earn SWiM certification, the policies are easily available to companies that want to follow the standards of practice.

EDITOR'S NOTE: This article is the first in a series that will discuss policy, methodologies and environmental stewardship through the lens of sustainability as it applies to winter management operations. In each issue, we will explain in more detail the six categories of SWiM policy standards:

- Measure what you want to improve
- Calibrate equipment capacity, manpower, response times, salt and other materials
- Prevent bonding of snow and ice, waste, re-work and safety incidents
- Analyze Level of Service, data and variances

- Improve safety, Level of Service, productivity
- Optimize equipment, materials, time and data



Case study

Researchers with the Rochester Institute of Technology (RIT) and the New York State Pollution Prevention Institute (NYSP2I) assessed SWiM program results for a multi-location retail property owner in the snow belt region of Syracuse, NY, during the 2017-18 winter. The results validate significant cost, risk and environmental benefits.

In this case study, researchers compared two sets of retail store properties owned by the same company, with the same level of

Continued on page 42



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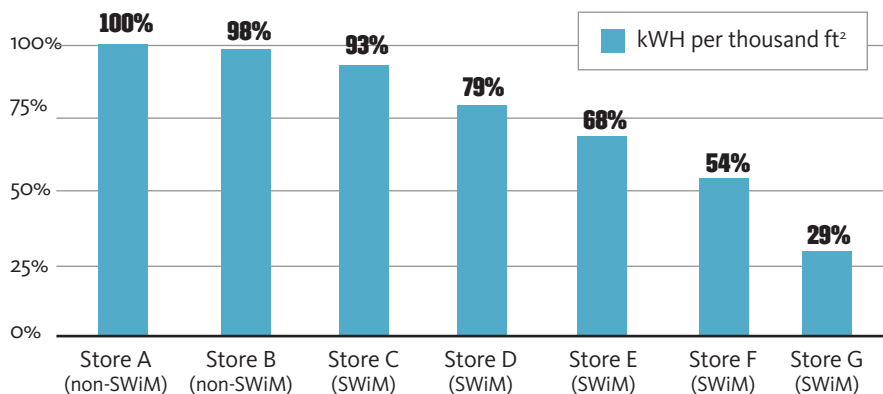
Continued from page 40

service (LOS) expectations, virtually the same parking space quantity and footprint, and located a few miles from each other. One set of stores followed SWiM guidelines, and one did not.

The properties that did not follow SWiM saw increases in slip and fall incidents or extensive landscape damage. Furthermore, the case study analyses suggest the SWiM properties were more efficiently serviced as seen by a 50 percent reduction in salting trips on average compared to stores serviced with traditional plowing and salting methods. This results in a reduction of energy usage and global warming potential between 7 percent and 71 percent, depending on the store.

Whether the site, road or sidewalk setting is retail or office, public or private, the standards of policy are consistent for developing a sustainable winter management program.

NORMALIZED CUMULATIVE ENERGY DEMAND & GLOBAL WARMING POTENTIAL



Note: kWh = kilowatt hour; ft² = square feet

Following SWiM guidelines in their proper order and holding maintenance operations accountable to continuously implement the SWiM standards of practices are important to achieve similar results and benefits. **SB**

Phill Sexton, CSP, ASM, has been a snow and ice management professional for over 30 years. He is managing director of WIT Advisers, which serves as an industry adviser to SIMA and administers the SWiM program and certification. To learn more about SWiM, email psexton@witadvisers.com or visit www.witadvisers.com/swim.

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