

Lake Champlain Watershed Deicing Conference
10 October 2018

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Sustainable Winter Management (SWiM™)



WIT Advisers
empowering sustainability
WITAdvisers.com



Industry Advisers for **SIMA**
snow & ice management association

Our MISSION: We do “WHATEVER IT TAKES” to Develop, Support and Empower sustainable solutions for businesses and the environment to thrive.



When winter hits...
keep **ice, snow** and **your costs**
under control.

Sustainable Winter Management
(SWiM™) Program





SWiM™

B2B Solutions & Certifications

www.witadvisers.com/SWiM

Benefits



Saves Money



Reduces Risk



Protects Environment

PROGRAM INCLUDES:

- ✓ Needs Assessment
- ✓ Implementation Training
- ✓ Program Management
- ✓ Automated Monitoring
- ✓ SWiM™ Certification



ENDORSED BY



Why?

Studies conducted in NH, MN, WI, IL, NY, VA, MD, Ontario and other Great Lakes Regions indicate **a majority of** non point source pollution of fresh watersheds from **chlorides** originate from de-icing salts used by private **PARKING LOTS** and local municipalities.

TROUBLE IN NEW HAMPSHIRE

A 2008 study on chloride contamination along the I-93 corridor helped lead to the creation of New Hampshire's Green SnowPro certification.

Total imports:
4,814 tons/yr

Imports divided
by drainage area:
473 tons/sq mile



Figure 2. Chloride loads measured in Policy - Porcupine New Hampshire watershed region (Burak, et al., 2008).

SOURCE: BURACK ET AL. 2008



Vision – Establish a new way of doing business





SWiM™ Mission — Enable A better way...



PROTECTING YOUR **PROPERTY**
PROTECTING OUR **WATER**



SWiM™ GOAL



5 Billion pounds and \$250,000,000 of waste reduction

(2.5 million tons)



50,000 Acres

5,000 Miles



Discovery - *Wegmans*

Stores generally still want “crunch” or “wet”...
Until we set a new expectation.

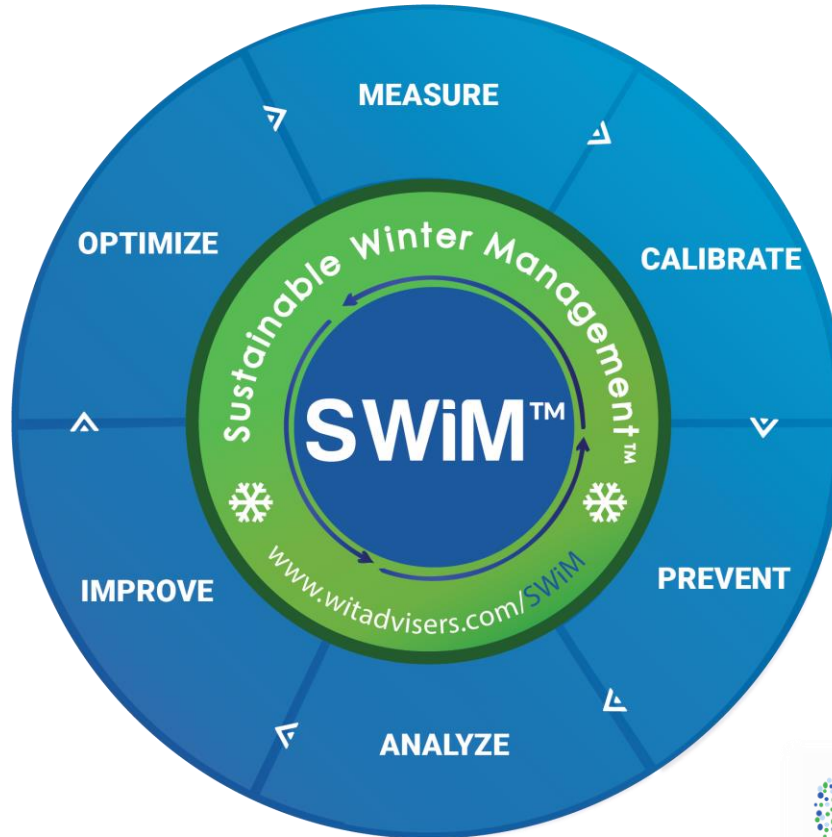




SWiM™ Guidelines enable a better way...

Policy:

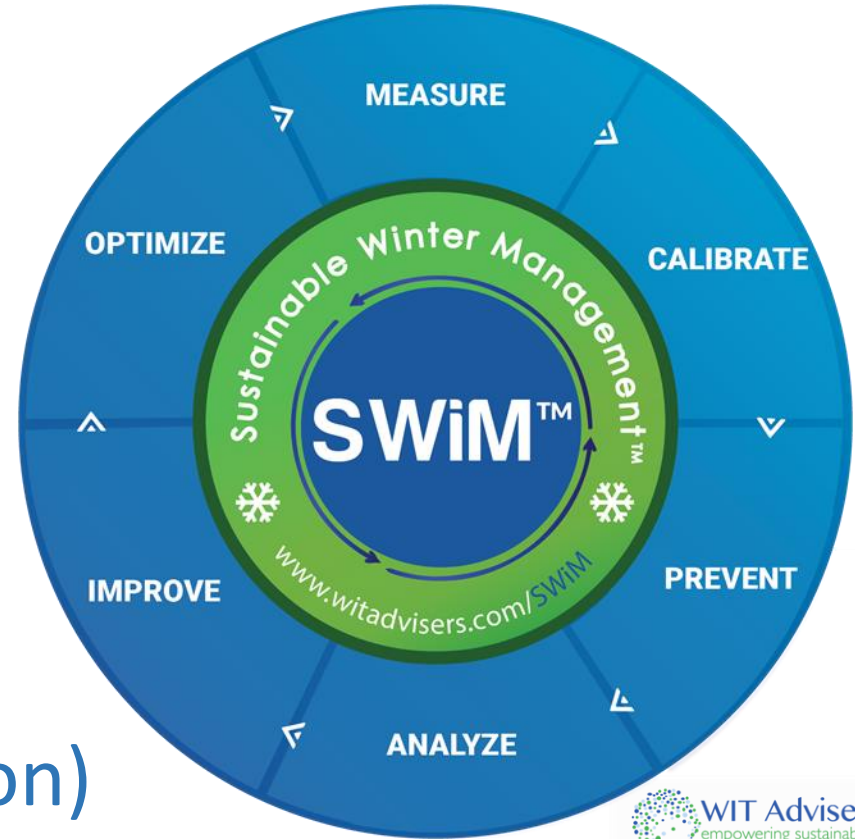
1. Measure
2. Calibrate
3. Prevent
4. Analyze
5. Improve
6. Optimize





Integration

- SWiM™ contracts
- SWiM™ weather stations
- SWiM™ Salt tracking
- Anti-icing (pre-storm)
- Optimization Technology
- Automated monitoring
- Accountability (Certification)





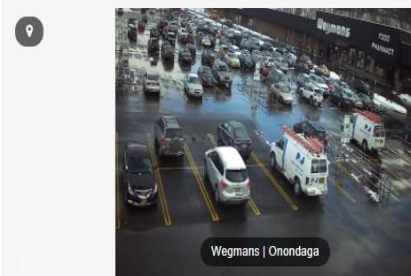
SWiM™ is Good Business

No. of Parking Spaces	Cost per Parking Space	SWiM™ Certified? (Yes or No)	Tons Salt applied in a season per 1,000 sq. Ft	Other factors
884	\$365.72	No	1.346	Landscape damage replacements exceeded \$25k due to salt damage. Recorded slip and fall incidents were not available.
832	\$271.29	Yes	0.375	Recorded slip & fall incidents decreased and no landscape damage.
322	\$667.15	No	1.072	Recorded slip & fall incidents increased. <i>Costs included hauling each storm which increases the cost by ~\$200 per parking space.</i>
327	\$286.32	Yes	0.362	No recorded increase in slip & fall incidents.



Cost Benefit Analysis

SWiM™ Data Dashboard...



Picture Time
1:49 PM EST
Resolution
640*480

Air Temperature
-1.7°C | 29.0°F
Schedule
15 min 640

Scheduled Time
1:45 PM
Exposure
1
Pavement Temperature
ERROR
Voltage
14.0699 V

SUMMARY

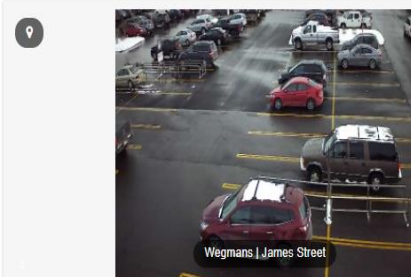
Total Jobs	6	06:28:57	Material	6	19285.0	Total Time on Site from GPS	09:23:10	Total Time on Site from APP	09:23:10
Service	Count	Duration	Material	Count	Quantity	Equipment	Time	Employee	Time
Salt Application	6	06:28:57	Bulk Salt (lbs)	6	19285.0	T-115	03:19:12		
						T-87	00:01:47		
						T-75	01:28:09		
						T64	02:10:54		
						T-105	02:24:08		
						T92	00:01:00		

Fairmount

Action	Entity	Start	End	Service	Material	QTY	Man Hours
Work order Finished	Equipment: T64	07 Feb 2018 at 15:41	07 Feb 2018 at 16:29	Service Salt Application	Bulk Salt (lbs)-3999.0	3999.0	0.8
Employee Times on Job:							

Savings (conservatively) = **\$1.7 million & 20,000,000 lbs.**
of salt per year

.6tons x \$172/ton x 8 acres = \$627 x 30apps = \$24,768/year x 67 stores



Picture Time
1:49 PM EST

Scheduled Time
1:45 PM

Employee Times on Job:

Action	Entity	Start	End	Service	Material	QTY	Man Hours
Work order Finished	Equipment: T-105	07 Feb 2018 at 14:57	07 Feb 2018 at 16:21	Service Salt Application	Bulk Salt (lbs)-8603.0	8603.0	1.39
Employee Times on Job:							

Wegmans James

Action	Entity	Start	End	Service	Material	QTY	Man Hours
Work order Finished	Equipment: T-115	07 Feb 2018 at 08:11	07 Feb 2018 at 08:40	Service Salt Application	Bulk Salt (lbs)-619.0	619.0	0.47
Employee Times on Job:							

Action	Entity	Start	End	Service	Material	QTY	Man Hours
Work order Finished	Equipment: T-115	07 Feb 2018 at 11:31	07 Feb 2018 at 12:29	Service Salt Application	Bulk Salt (lbs)-1144.0	1144.0	0.36
Employee Times on Job:							



Co\$ Benefit Analysis

SWiM™ Data Dashboard...

Savings (conservatively) = \$1.7 million & 20,000,000 lbs.
of salt per year

.6tons x \$172/ton x 8 acres = \$627 x 30apps = \$24,768/year x 67 stores



4,000 + fewer
loads / trips



SWiM™ Success - *Wegmans*

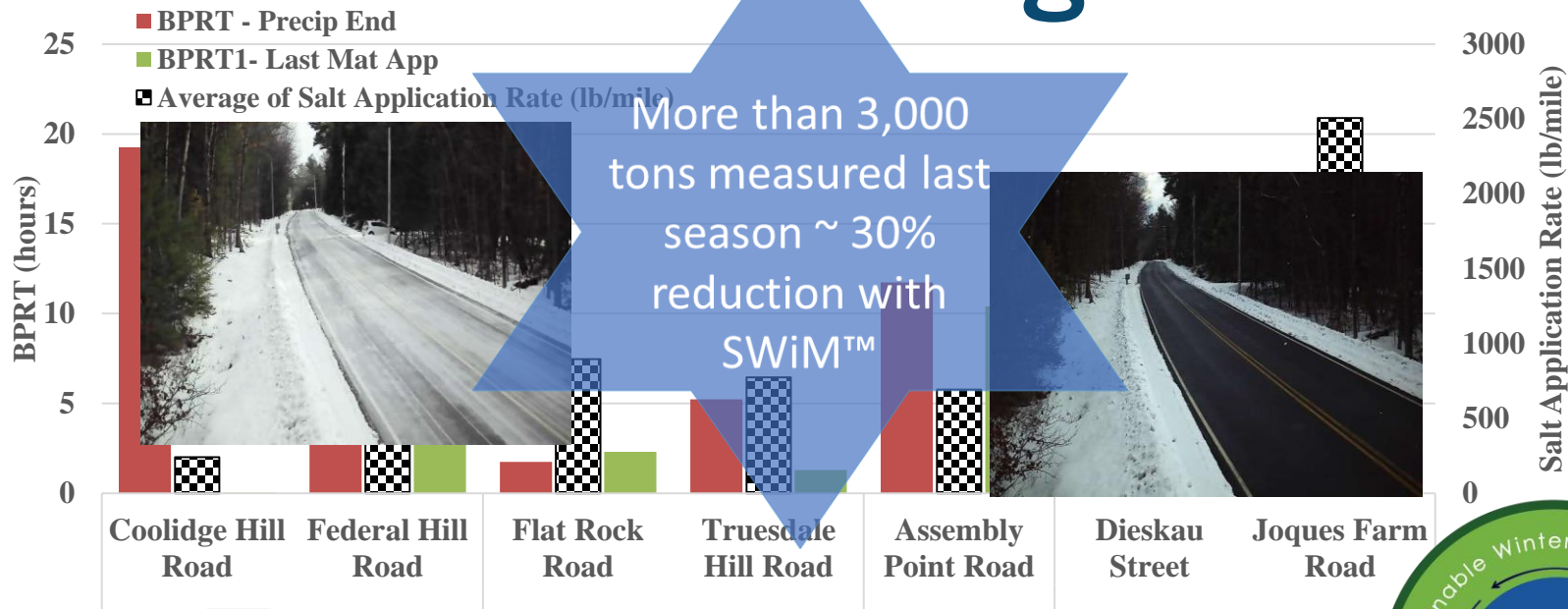


Success Statement:

Wegmans is known as the retail industry leader for sustainable winter management best practices, including:

- **Predictable and repeatable costs** that empower efficiency, accountability and the ability to identify future cost savings and salt use reductions.
- **Reduced impact to the natural environment** (water), decreased damage to infrastructure and being ahead of near future de-icing salt use regulations.
- **Enhanced reputation** as the first retail grocer to earn SWiM™ SITE™ Certification

Bare Pavement Regain Time





Certification (Accountability)

Town of Lake George, NY





WIT Advisers
empowering sustainability

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