

# SALT MANAGEMENT AND APPLICATION EDUCATION AND OUTREACH STRATEGY

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## BACKGROUND

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The Region of Peel's Salt Management Plan includes a framework for winter maintenance operations for salt storage, application of salts on roads, and disposal of snow containing road salts. Since implementation of this plan began in 2005, it has progressed well with three quarters of its recommendations now complete. As a result, direct salt usage has decreased by 28 percent per lane, despite increases in roadway kilometers.

Despite reductions in direct salt usage on Regional roads, salt use for winter maintenance across the Region remains an issue. On February 22, 2018, the Credit Valley Conservation Authority delegated to Council and presented the impacts of road salt on water bodies. CVC monitoring stations reveal increasing long term chloride level trends, some over acute guidelines (640mg/L). In fact, in Cooksville and Sheridan creeks experienced much higher than accurate levels in January and February of 2018, with levels in Cooksville actually exceeding sea chloride levels.

Recognizing the adverse environmental effects of salt usage, there are a number of management options that can be used to reduce salt use, including process changes (parking lot design/redesign), legislative changes (mandatory snow tires), Regional and Municipal alternatives to road salt and technology improvements, and proactively minimizing excessive salt application by residents and businesses through education. Addressing salt usage across Peel is a multifaceted approach; however this strategy focuses on education and outreach. Greater public education on the alternatives to salt, practical snow and ice clearing tips as well as third party training programs are ways to help Peel's community and businesses use salt effectively and efficiently. While stopping the use of salt completely may not be realistic, education can help encourage its efficient use. This strategy can be combined with the winter roads maintenance communication plan, incorporating efficient salt tips into the overall winter maintenance messaging.

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## LEGISLATIVE CONTEXT

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- Salt Management and Winter Road Maintenance is affected by a number of different pieces of legislation including: The *Municipal Act, 2001* which states that a municipality must keep its highways "in a state of repair...that is reasonable in the circumstances"
  - The *Negligence Act*, principle of joint and several liability means a municipality may be responsible for up to 100% of the damages as a result of a collision if provincial courts deem that the municipality did not take reasonable steps to prevent the collision.
  - The *Environmental Protection Act*: exempts substances used for keeping highways safe for traffic under conditions of snow, ice or both from being classified as a "contaminant"
  - Environment and Climate Change Canada (ECCC) Code of Practice for the Environmental Management of Road Salt (2004). The Code of Practice encourages organizations to prepare and implement a salt management plan (SMP).
  - The *Clean Water Act, 2006*, establishes the drinking water source protection program.
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## GOALS AND OBJECTIVES

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GOAL 1: Work collaboratively with the local municipalities and conservation authorities to have consistent messaging and to ensure efforts are not being duplicated

- Objective: Continue to partner with local municipalities to collectively manage the complex social, financial, environmental and safety implications surrounding salt usage across our municipality, while monitoring best practices, emerging technologies and materials

GOAL 2: Educate residents, Regional employees, and businesses on the effects of salt to better manage salt usage in the Region

- Objective: In preparation for the upcoming winter season, develop information on a variety of topics such as alternatives to salt, snow and ice clearing tips
- Objective: Offer information to residents on salt management and to businesses on how to access third-party training programs in order to support reductions in salt usage on private properties

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## CHALLENGES

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- The Region of Peel and local area municipalities are required under the *Municipal Act, 2001* to keep its highways in a good state of repair, and under the *Negligence Act* may be found responsible for 100% of damages from collisions if provincial courts determine that the standard of good state of repair was not met. This potential liability exposure needs to be considered in the adoption and promotion of winter maintenance practices
- Contractors and residential and business property owners may be worried about potential legal ramifications if someone slips and falls as a result of reduced salt usage
- Contractors can sometimes be paid based on the amount of salt applied
- Public may perceive a safety issue if they do not see 'enough' salt down. Lack of knowledge/awareness of residents of how much to put down and other alternatives

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## AUDIENCES

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Four distinct audiences have been identified:

1. Residents
2. Businesses: These may include Smart Centres, multi-residential buildings, school boards and other businesses with parking lots
3. Contractors: These may include landscaping and snow removal companies
4. Region and local Municipalities: Including Councillors, staff, I Regional and Municipal facilities

Additional work should be done to prioritize these audience groups by relative contribution of salt to the environment, impact of potential tactics, and likelihood that the tactics would be adopted.

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## KEY MESSAGES

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Key messages will be prioritized by audience type, based on tactic impact and likelihood of adoption. This will focus messaging on those actions that residents are most likely to adopt, and

those most likely to impact the strategy's goals and objectives. Key messages will continue to be refined as further research is reviewed and additional data is gathered from Peel residents and businesses.

### **Region and Local Municipalities**

To encourage trust and confidence in the Region, it is important that the Region and local municipalities lead by example in demonstrating the safe and environmentally responsible management of road salt. The Region's Salt Management Strategy is an excellent example, that has led to significant decreases in salt use. Despite this decrease, there are a number of additional operational efficiencies that could be made. These efficiencies should be outlined in a separate operational strategy, prioritized, and publically promoted. Examples may include:

- Ensure internal property managers are Smart About Salt certified and work with area municipalities to do the same
- Achieve Smart About Salt site certification for all Regional properties (yards, offices, Peel Living, Long Term Care, Paramedics etc) and work with area municipalities to do the same
- Specify contractors for all Regional facilities are Smart about Salt certified (purchasing).
- For regional facilities: encourage or require site specific landscape and parking lot design that manages salt runoff in parking lot redesign and new construction
- Examine, with area municipalities, opportunity to require smart parking lot design and consideration for snow storage in planning approvals

### **General Audiences**

Messages for general audiences focus on the importance of managing salt use, and the Region of Peel's dedication to making efficient use of salt on our roadways. These examples should be communicated to the public to dispel the myth that residential and business contributions don't matter as the Region is the largest user of salt on our roads.

Key messages include:

- Salt doesn't disappear after the ice melts, it gets in our lakes and rivers and can hurt the environment.
- The Region is committed to keeping our roads safe and clear from snow and ice. Liquid brine applied to roads before it snows keeps snow from sticking and reduces salt use.
- Since 2005, the Region of Peel's Salt Management Strategy has reduced direct salt use by 28%, despite increases in kilometres.

### **Businesses**

After municipalities, businesses and their property management/maintenance companies are the second largest user of road salt. Key messages for businesses may include:

- Hire a contractor that is Smart about Salt certified
- Get Smart About Salt site certified
- Best management practices for salt use by property managers
- The salt that you use in your parking lots gets into our lakes and rivers and negatively impacts the natural environment

These messages can best achieve results through targeting those business areas in Peel that are of the greatest concern, or contribute the largest salt loadings.

### **Contractors**

Contractors may be used for winter maintenance on both business and residential properties. By promoting Smart About Salt certified contractors to these two audiences, the Region is raising the bar on contractor knowledge and awareness of salt. Key messages for contractors may include:

- Become Smart about Salt certified
- Salt used in parking lots for winter maintenance gets into our lakes and rivers and negatively impacts the natural environment

## **Residents**

Residential salt use contributes the least to the salt problem in our water; however education and awareness should be provided to shift resident perception/expectation of what winter looks like, and to help residents better manage snow and ice on their property. Shifting resident perception of winter will make residents more prepared to handle winter conditions and be open to seeing less salt on business parking lots and roads. Messages should be developed in partnership with local area municipalities and the conservation authorities to present a coordinated approach.

Key messages for residents may include:

### For the clear-it-yourselfer

- MOVE IT, DON'T MELT IT! (along with proper shovelling techniques)
- How to use salt/how much to use/how does it work/how to avoid ice build-up
- How to prevent ice build up (snow storage, salt before snow, shovel first)
- Alternatives to salt – non-clumping kitty litter, sand, mag. Chloride

### For those who have someone manage their snow:

- If you hire someone to clear your driveway, ensure they are Smart about Salt certified, or ask how they will work to use only the amount of salt required to maintain safety.

### For all residents (Incorporate salt messaging into the winter roads maintenance communication plan):

- Wear proper footwear according to weather conditions
- Use snow tires
- Salt used in parking lots for winter maintenance gets into our lakes and rivers and negatively impacts the natural environment
- Other benefits to road salt reduction (cars, shoes, infrastructure etc.) what resonates with residents, what is the benefit to them?

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## **OUTREACH AND EDUCATION APPROACH**

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The following program development approach will be further explored for continued education and outreach development:

1. Review best practices and emerging technologies
2. Complete a jurisdictional scan to see what other cities/municipalities are doing
3. Coordinate approach with local area municipalities (Town of Caledon, City of Brampton, City of Mississauga) and conservation authorities

4. Coordinate approach with internal partners such as Health, Facilities Services, and Water Quality and Compliance
5. Work with snow removal contractors and Landscape Ontario to better understand barriers and benefits to contractors
6. Prioritize audiences and areas based on contribution to salt problem
7. Examine barriers and benefits for each audience to adopt smarter salt use habits
8. Develop tactics to address salt use by each audience that tackle the barriers and are expected to result in the highest benefit at lowest cost.
9. Ensure the Region of Peel leads by example by tackling salt usage at the facility level

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## **POTENTIAL TACTICS**

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Tactics will be developed with local municipalities and conservation authorities to ensure consistent messaging and efforts are not being duplicated.

Incorporating Community Based Social Marketing techniques whenever possible, potential tactics could include:

### **Webpage**

- Incorporate with the winter roads maintenance communication plan and link to a page that provides information about the impact of salt usage, what residents and businesses can do to manage usage, and provide Smart about Salt information

### **Information for Businesses**

- Create mailers to be distributed to businesses informing them about how to be Smart about Salt and how to get site certified
- Information on water bills (can it be related to stormwater charge? \*CoM\*)
- Create information that can be handed out in combination with other departments/programs:
  - Environmental Control
  - ICI audits
  - Outdoor irrigation assessments
  - Fusion Landscape Professionals
  - Partners in Project Green
- A program could be developed with Landscape Ontario and Smart about Salt to do door-to-door canvassing in priority areas to talk to business about salt

### **Public Service Announcements**

- Develop public service announcements to inform residents and businesses about the importance of salt management.
- Distribute to local and mainstream media outlets
- Post to Peel Region website

### **Twitter**

- Develop a Twitter campaign promoting the key messages and linking to the Peel salt management website
- Run tweets throughout the season as reminders; especially prior to snow events

### **Mobile Signage**

- Secure mobile signs to run messages throughout the season about winter maintenance tips

### **Point of Sale Brochure**

- Develop information card or poster that can be distributed at community centres, Peel facilities and other locations as determined

#### **Online Ads**

- Look into digital ads within other sites i.e. The Weather Network

#### **Newspaper Ads**

- Develop creative highlighting key messages to run in local newspapers
- Run ads in property management magazines and other business related magazines

#### **Water Bill Insert**

- Develop insert with key messages

#### **Connect to Peel**

- Run a story along with other winter messaging in Connect to Peel linking to the webpage

#### **Councillor Newsletters**

- Provide content/story

#### **Facility Signage**

- To talk about what the Region is doing

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### **MEASUREMENT**

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Potential metrics and evaluation tools could include:

#### External:

- Number of hits on the website
- The levels of salt in the creeks, particularly in identified areas of concern (CVC?)
- Number of interactions at trade shows
- Number of businesses that get site certified

#### Internal

- Compare Regional facilities that are using Smart about Salt contractors to ones that are not
- Number of facilities that get Smart About Salt certified
- Storm sewer monitoring for salt levels at Regional facilities (CVC?)
- Pre and post measurement of the amount of salt applied to Regional properties (internal staff)

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### **TIMELINE**

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Timelines have been organized by audience type:

#### **General**

November – December 2018

- Jurisdictional scan
- Review best practices and emerging technologies
- Meet with local municipalities and CA(s) to discuss coordinated approach and responsibilities

### **Residents**

November - December 2018

- Create webpage
- Secure mobile signs with salt use messaging
- Public Service Announcements
- Twitter
- Develop brochure/card and posters
- Connect to Peel article

December 2018 – February 2019

- Online ads
- Newspaper ads
- Councillor newsletter

### **Region and Local Municipalities**

December 2018-April 2019

- Create operational strategy outlining additional practices to manage salt use
- Meet with local municipalities to get buy-in on similar practices
- Set priorities for 2019 implementation

May 2019-December 2019:

- Begin implementing additional operational practices to manage salt

### **Businesses & Contractors**

December 2019-April 2019

- Set priorities for 2019 communications/implementation of additional strategies
- Meet with potential partners including area municipalities, CAs, Landscape Ontario to discuss promotion of Smart About Salt

Note: This is a living document that will be re-evaluated and updated as new information becomes available.

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# SALT MANAGEMENT AND APPLICATION OPERATIONAL STRATEGY

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## BACKGROUND

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The Region of Peel's Salt Management Plan provides a framework of best practices for winter maintenance operations salt storage, application of salts on roads, and disposal of snow containing road salts. Since implementation in 2005, it has progressed well with three quarters of its recommendations now completed.

Despite reductions in direct salt usage on Regional roads, salt use for winter maintenance across the Region remains an environmental concern. On February 22, 2018, the Credit Valley Conservation Authority reported to Council the impacts of salt usage on water bodies within Peel. CVC monitoring station data shows that chloride levels are trending upward with some readings over acute guidelines (640mg/L). Alarming, in January and February of 2018, Cooksville and Sheridan Creeks experienced much higher than acute levels with Cooksville Creek readings actually exceeding sea chloride levels.

Recognizing the adverse environmental effects of salt usage and acknowledging that presently there are no new alternatives that offer the same level of safety and cost, there are a number of management and operational options that can be used to reduce the amount of salt used and its impacts including:

- process changes such as review of municipal facilities and their application rates in parking lots and areas of foot traffic;
- site audits conducted through the planning process for building management; and,
- parking lot design/redesign.

Addressing salt usage across Peel needs to be part of a multifaceted approach; however this strategy focuses only on operational ways to manage salt use effectively and efficiently for winter operations of municipal facilities. This strategy is being prepared in parallel with the Region's Education and Outreach strategy that will communicate salt management options to residents and businesses

Both strategies focus on practical snow and ice clearing tips and third party training programs as ways to help manage salt use effectively and efficiently. While eliminating the use of salt completely may not be realistic, education can help encourage its users to apply it efficiently and effectively thereby reducing the amounts used.

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## LEGISLATIVE CONTEXT

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- Salt Management and Winter Road Maintenance is affected by a number of different pieces of legislation including: The *Municipal Act, 2001*, which states that a municipality must keep its highways "in a state of repair...that is reasonable in the circumstances"
- The *Negligence Act*, principle of joint and several liability means a municipality may be responsible for up to 100% of the damages as a result of a collision if provincial courts deem that the municipality did not take reasonable steps to prevent the collision.
- The *Environmental Protection Act*: exempts substances used for keeping highways safe for traffic under conditions of snow, ice or both from being classified as a "contaminant"

- Environment and Climate Change Canada (ECCC) Code of Practice for the Environmental Management of Road Salt (2004) encourages organizations to prepare and implement a salt management plan (SMP).
- The *Clean Water Act, 2006*, establishes the drinking water source protection program.

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## GOALS AND OBJECTIVES

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GOAL 1: Work collaboratively with local municipalities and conservation authorities to convey consistent messaging and to ensure efforts are not being duplicated

- Objective: Continue to partner with local municipalities to collectively manage the complex social, financial, environmental and safety implications surrounding salt usage across our municipality, while monitoring best practices, emerging technologies and materials

GOAL 2: Educate regional and local municipal facility managers and operators on the effects of salt and train to manage salt usage at their facilities

- Objective: In preparation for the upcoming winter season, develop information on a variety of topics such as alternatives to salt, snow and ice clearing tips
- Objective: Offer information to residents on salt management and to businesses on how to access third-party training programs in order to support reductions in salt usage on private properties

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## CHALLENGES

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- The Region of Peel and local municipalities are required under the *Municipal Act, 2001* to keep their highways in a state of good repair, and under the *Negligence Act* may be found responsible for 100% of damages from collisions if provincial courts determine that the standard of state of good repair was not met. This potential liability exposure needs to be considered in the adoption and promotion of winter maintenance practices.
- Contractors and property owners are not held to the same standard but should be mindful of their salt usage and potential impacts they have on the environment.
- Contractors and property owners are often concerned about potential legal ramifications if someone slips and falls as a result of reduced salt usage.
- Contractors have no incentives to reduce salt usage as they may perceive they risk liability and are paid for the amount of salt applied.
- The public may perceive a safety risk if they do not see 'enough' salt down such as salt visibly sitting on a surface. The challenge is to address this lack of knowledge/awareness of residents both on their own private properties, in public spaces and the use of alternatives.

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## AUDIENCES

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This Operations strategy focuses on two distinct audiences, contractors and Regional facility managers and operators.

- Contractor responsibility includes sidewalks, busy bays, and parking lots; and,
- Regional and local municipal facility managers and operators manage responsibility is for

facility maintenance of parking lots and areas of foot traffic including sidewalks and paths.

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## KEY MESSAGES

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Key messages will be based on tactic impact and focus on those actions that are most likely to be adopted, and those most likely to impact the strategy's goals and objectives.

### Region and Local Municipalities

To encourage trust and confidence in the Region and local municipalities, it is important that we lead by example by demonstrating safe and environmentally responsible management of road salt. The Region's Salt Management Plan is an excellent example that has led to significant decreases in salt use. However, there are additional operational efficiencies that could be implemented including:

- Smart About Salt Certification of Regional and local municipal facility managers;
- Achieve Smart About Salt site certification for all Regional properties (yards, offices, Peel Living, Long Term Care, Paramedics etc.) and work with local municipalities to do the same
- Specify contractors for all facilities are Smart About Salt certified (purchasing procurement).
- Encourage or require site specific landscape and parking lot design that manages salt runoff in parking lot redesign and new construction.
- Examine, with local municipal input, opportunities to require smart parking lot design and consideration for snow storage in planning approvals.

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## PROGRAM DEVELOPMENT

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The following program development approach will be further explored for continued education and process development:

1. review best practices and emerging technologies;
2. complete a jurisdictional scan to see what other cities/municipalities are doing within Ontario/Canada;
3. coordinate approaches with local municipalities (Town of Caledon, City of Brampton, City of Mississauga) and conservation authorities;
4. coordinate approaches with Regional internal partners such as Real Property Asset Management Facility and Occupant Services who manage Long Term Care, Peel Housing, Regional Offices, Paramedic and Police buildings, and Public Works Facility Services who manage Regional PW facilities such as operations yards and water and wastewater pumping stations and waste management facilities;
5. coordinate with Peel Purchasing to review contract wording and review evaluation process for prequalifying companies that have SAS certification;
6. coordinate approach with local municipal partners who provide facility management services for public buildings, local municipal offices, fire stations, bus depots and stops, sidewalks and parks facilities, libraries and recreational centres;
7. work with Landscape Ontario to provide support for their initiative to require contractors who provide winter maintenance services to be Smart About Salt certified, and better understand the risk and barriers for contractors that prevent their adoption of certification;
8. prioritize audiences and areas based on contribution to salt problem;

9. examine barriers and benefits for each audience to adopt smarter salt use habits; and,
  - a. ensure the Region of Peel continues to lead by example by tackling salt usage at the facility level.

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## POTENTIAL TACTICS

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Tactics will be developed with local municipalities and conservation authorities to ensure consistent messaging and that efforts are not being duplicated.

### Facility

- Smart about Salt Site Certification
- Smart about Salt Facility Managers/Operators certification

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## MEASUREMENT

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Potential metrics and evaluation tools could include:

### External:

- The levels of salt in the creeks, particularly in identified areas of concern (CVC?)
- Communications response? Responses to tweets, number of hits to website for revised pages?

### Internal

- Compare number of municipal facilities that are using Smart about Salt contractors to ones that are not
- Number of facilities that get Smart About Salt Site certified
- Storm sewer monitoring for salt levels at Facilities (CVC?)
- Pre and post measurement of the amount of salt applied to properties (internal staff)

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## TIMELINE

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Timelines have been organized by audience type:

### General

November – December 2018

- Jurisdictional scan
- Review best practices and emerging technologies
- Meet with local municipalities and CA(s) to discuss coordinated approach and responsibilities
- Meet with Landscape Ontario to understand their contractor initiatives.

### Region and Local Municipalities

December 2018-April 2019

- Create operational strategy outlining additional practices to manage salt use
- Meet with Internal facility managers and operators
- Meet with local municipalities to get buy-in on similar practices
- Organize SAS training (Possible two sessions)
- Have Sites certifies with SAS
- Set priorities for 2019 implementation
- Include SAS certification in upcoming procurements

May 2019-December 2019:

- Begin implementing additional operational practices to manage salt

Appendix I  
Salt Management - Partnership and Outreach Update

Note: This is a living document that will be re-evaluated and updated as new information becomes available.