



SAINT JOHN

WINTER MANAGEMENT PLAN  
FOR STREETS AND SIDEWALKS

CITY OF SAINT JOHN  
TRANSPORTATION & ENVIRONMENT  
SERVICES

OCTOBER 2018

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**PLAN OVERVIEW:** SHARED RESPONSIBILITY**PURPOSE**

Canadian winters bring a host of wonders and challenges; affecting our individual outlooks, shifting our activities and disrupting our routines. The snow, ice, sleet, freezing rain, rain and fluctuating temperatures of Saint John winters also produce public safety emergencies of varying degrees which impact users of public streets and sidewalks; conditions accentuated by hilly terrain and coastal weather influences.

The resource allocations and standards outlined in this *Winter Management Plan for Streets and Sidewalks* are intended to keep the community functional through the winter months. The intent of the *Plan* is to coordinate winter preparations, organize resources and guide operational protocols for servicing our public streets and sidewalks, under widely varying conditions.

Effectiveness of winter service activities depends on the community working together. Ultimately, success means the public sharing in responsibility, working with the City and having realistic expectations of winter service. **On its part, the City must “connect” with the public** and understand needs, where service is effective and where improvements need to be made.

**Appendix “A” outlines challenges** associated with winter services.

**SEVEN PRINCIPLES**

**Public safety first** ... public safety is always foremost

**Manage the Plan** ... plan winter operations; manage to the *Plan*

**Evaluate** ... understand conditions when deploying resources

**Entire storm** ... manage winter conditions over days and weeks

**Consistency** ... strive to deliver expected service levels

**Resources** ... resource levels are set through budget allocations

**Citizens** ... property owners and others have obligations

**CLIENT BASE**

The community, its services, institutions and commerce are impacted:

- ▶ 67,575 citizens, other pedestrians, commuters and motorists;
- ▶ Public transit system and its users;
- ▶ Emergency services – ambulance, fire, police;
- ▶ Public institutions – schools, hospitals, university, colleges; and
- ▶ Neighbourhoods, transportation companies, utility agencies, commercial enterprises and affiliate jurisdictions (NBDOT).



|                 |   |
|-----------------|---|
| STREET PRIORITY | <p>A service level priority structure forms the basis for winter operations:</p> <ol style="list-style-type: none"><li>1. Arterial streets, highway connections, emergency routes;</li><li>2. Major bus routes, schools, community centres, business districts;</li><li>3. Collector streets, minor bus routes, industrial parks; and</li><li>4. Local or subdivision streets.</li></ol>  |
| ACCOUNTABILITY  | Commissioner, Transportation and Environment Service (T&ES)   |
| RESPONSIBILITY  | Deputy Commissioner, T&ES is responsible to the Commissioner for execution and continuous improvement of this <i>Plan</i> .   |
| PLAN ACTIVITIES | <p>This <i>Plan</i> comprises a series of interrelated activities, in 12 parts:</p> <ol style="list-style-type: none"><li>1. <u>ENGAGING THE PUBLIC</u>: to maintain a shared dialogue with the public on services, neighbourhood collaboration and winter conditions;</li><li>2. <u>COORDINATION OF WINTER OPERATIONS</u>: to provide effective coordination of service activities and liaison with the public during storm events;</li><li>3. <u>STREET PLOWING</u>: to maintain safe passage and the usability of public streets during and after adverse winter weather conditions;</li><li>4. <u>WINTER SIDEWALKS</u>: to maintain safe pedestrian access and usability of designated sidewalks and walkways throughout the winter season;</li><li>5. <u>SALT MANAGEMENT</u>: to optimize supply and usage of road salt and other winter materials while minimizing their environmental impact;</li><li>6. <u>SNOW AND ICE REMOVAL</u>: to expand access of pedestrians and vehicles by removing accumulated snow from the public rights-of-way;</li><li>7. <u>MAINTAINING STREET RIGHT-OF-WAY</u>: to ensure availability of the rights-of-way for safe and efficient movement of pedestrians and vehicles;</li><li>8. <u>EQUIPMENT RESOURCES AND FACILITIES</u>: to optimize use of winter service resources through preparation, operator care and timely repair;</li><li>9. <u>WINTER DRAINAGE</u>: to keep drainage systems open and functional, and ready for periods of rainfall, mild temperatures and snow/ice melt;</li><li>10. <u>WINTER ASPHALT MAINTENANCE</u>: to provide emergency repair of street defects and potholes for roadway safety and winter driveability;</li><li>11. <u>RESPONSIBILITIES AND REPORTING</u>: to clearly delineate responsibilities and reporting protocols for effective winter operations and service; and</li><li>12. <u>TRAINING AND PLAN ADMINISTRATION</u>: to ensure overall readiness for winter operations and continuous improvement of this <i>Plan</i>.</li></ol> |

**PART 1:** ENGAGING THE PUBLIC

**PURPOSE** To maintain a shared dialogue with the public on services, neighbourhood collaboration and winter conditions.

**COOPERATION** The success of winter operations depends very much on the public sharing responsibility in mitigating the effects of winter conditions and having realistic expectations of municipal service. The cooperation and assistance of citizens, businesses and property owners is key to **achieving the underlying goal of a “liveable winter city”**. True success will be realized through a collaborative effort of stakeholders, working together to reduce hazards, assist neighbours and minimize costs.

The City will be responsive to the concerns and issues of citizens; to understand where service is effective and where greater emphasis needs to be given.

**EMPHASIS** Our public information activities will emphasize:

- ▶ Establishing a constructive community dialogue on the notion of a **“liveable winter city”**;
- ▶ Promoting joint responsibility for desired outcomes;
- ▶ Encouraging citizens to clear snow and ice from neighbourhood fire hydrants, walkways and catch basins, and to prevent extra snow being dumped or pushed onto sidewalks and the street right-of-way;
- ▶ Presenting Reports to Council, preparing briefing packages, and being available to the media to provide updates;
- ▶ Participating in neighbourhood or ward meetings, and establishing a dialogue with community groups and organizations;
- ▶ Inspecting and giving notice of right-of-way obstructions, travel lane restrictions and other impediments to winter service;
- ▶ Communicating on policies and by-laws, and their enforcement;
- ▶ Encouraging businesses to clear ice and snow from their building frontage and adjacent sidewalk; and
- ▶ Connecting with property owners and private snow plowing contractors to ensure By-Law provisions concerning the public right-of-way are respected; reminding them of their responsibility to not dump or push snow onto sidewalks and streets.



|                |   |
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| INFORMATION    | <p>The model for public information shall include public service advisories (PSAs) in advance of storm events, regular updates during significant winter emergencies, and a designated spokesperson available to the media.</p> <p>The public needs to understand the many variables that affect snow and ice control, including equipment availability, snowfall accumulations, temperatures, wind conditions, type of precipitation (i.e. freezing rain or plain snow), and the time of day the precipitation occurs. Clean-up times will vary depending upon severity of conditions and priority of street.</p> <p>Additional staff shall be assigned to take calls during significant storm events and our Customer Service Desk will relay citizen concerns directly to plowing / sanding operation Foremen.</p> |
| LIABILITY      | <p>Exposure to liability is a reality of municipal service delivery. As such, careful attention will be paid to the service parameters set out in this <b>Plan</b>. The City's exposure to liability is controlled when the <b>Plan</b> is followed and services are delivered as consistently as possible.</p>   |
| EXPECTATIONS   | <p>The City of Saint John, the community and individual citizens need to appreciate the realities of winter conditions in an era of climate change and the challenges inherent to mitigating these conditions. We need to further temper expectations in line with the severity of winter weather events and the resources available to counter these events.</p> <p><b>“Best” outcomes are realized when “shared responsibility” for mitigating winter conditions become a way of life; ingrained in the community’s psyche.</b></p>   |
| RESPONSIBILITY | <p><b>Deputy Commissioner:</b> establish public information protocols and provide human resources for public information activities.</p> <p><b>Communications:</b> establish public information protocols, support public information activities, and coordinate media liaison.</p>   |

**PART 2:** COORDINATION OF WINTER OPERATIONS

**PURPOSE** To provide effective coordination of service activities and liaison with the public during storm events.

**WOC** A **Winter Operations Centre** (WOC) will be activated by the Deputy Commissioner for each significant winter emergency that meets the criteria outlined in the Winter Operations Centre Activation Standard Operating Procedure. When activated, the WOC coordinates the overall operational response, keeps municipal officials informed and liaises with the public. When activated, the WOC will remain in place until the recovery phase after the storm event.

The Customer Service Desk forms part of the WOC.

Working with Corporate Communications, the WOC will provide regular information updates, disseminated to the Commissioner, the City Manager, the Mayor and Council, the media as well as the general public. The City of Saint John website and e-mail notifications (for parking bans) will be used.

**INFORMATION** Timely and informative communications to the local media and the general public is vital during snow and ice control operations, and in follow-up thereto. This **Plan** has made public information an essential priority for winter operations; maintained throughout the winter season.

**COORDINATION** Coordination activities include the following:

- ▶ The **Winter Management Plan for Streets and Sidewalks** (the **Plan**) shall be updated by October 31<sup>st</sup> of each year;
- ▶ Training sessions on the **Plan** for all Municipal Operations staff by the end of November each year;
- ▶ Full equipment readiness inspection by the end of November each year;
- ▶ Winter operations mode into effect on the second Sunday of November;
- ▶ Ongoing public notifications concerning South Central and North-East-West (NEW) overnight parking bans, weather warnings, PSAs, and other information necessary for service coordination;
- ▶ Winter Operations Centre (WOC) will be established for all significant winter storm emergencies;



- ▶ Operations shall be conducted in accordance with this **Plan**, with necessary field direction and operational adjustments as directed by the Deputy Commissioner or designate; and
- ▶ Operational managers, foremen and operators shall maintain ongoing coordination of operations and service activities.

WEBSITE            The **Winter Management Plan for Streets and Sidewalks** shall be posted on the City website and include information on routing and street priorities and winter parking restrictions.

REMINDERS        “**Winter Safety Reminders**” shall be conveyed to the public prior to the winter season.

STORM SEVERITY   Storm temperatures, severity and successive storms will limit or preclude attainment of objectives, and severely restrict our capacity to clear ice/snow-pack from street and sidewalk surfaces.

RESPONSIBILITY    **Deputy Commissioner:** activated the WOC if warranted.

**Manager:** staff the WOC and provide updates, direct operations, prioritize activities, and assist in drafting PSAs.

**Foreman:** coordinate with operational managers and equipment operators, and provide updates to the WOC.

**Operator:** report on field conditions and status of assigned route.

**Customer Service Desk:** provide contact with public and assistance to the WOC.

**Communications:** coordinate media liaison and information updates.



PART 3: STREET PLOWING

PURPOSE To maintain safe passage and the usability of public streets during and after adverse winter weather conditions

CONTENT Plowing activities during a snow storm are:

- ▶ Plow accumulated snow off the travelled lanes of public streets to facilitate basic accessibility for emergency vehicle movement; and
- ▶ Apply de-icing (salt pre-wetted with brine solution) and abrasive (mix) materials in strategic locations on street (i.e. intersections, steep hills etc.) to facilitate vehicle traction and safety of movement.

Plowing activities post snow storm are:

- ▶ Plow remaining snow off the travelled lanes of public streets to ensure basic traffic movement;
- ▶ Push back snow to widen travel lanes, open drainage courses/basins to facilitate safe travel and maneuvering; and
- ▶ Apply de-icing (salt pre-wetted with brine solution) and abrasive (mix) materials as required per particular street priority.

PRIORITIES The structure of priorities forms the basis for all winter operations. Generally, plowing operations focus on Priority 1 and 2 streets first; then move to Priority 3 and 4 streets. The Priority descriptions are:

1. Arterial streets, highway connections, emergency routes;
2. Major bus routes, schools, community centres, business districts;
3. Collector streets, minor bus routes, industrial parks; and
4. Local or subdivision streets.

OBJECTIVES\* A summary of street priority objectives during a snow storm are:

Create a basic level of accessibility on **the City's** Priority 1 and 2 type streets to accommodate emergency service vehicles.



A summary of street priority objectives post snow storm are:

Priority 1/2: 8 hours after end of storm - travel lanes passable; and  
48 hours after end of storm - travel lanes pushed back and appropriate anti-icing material applied.

Priority 3/4: 12 hours after end of storm - travel lanes passable; and  
72/96 hours after end of storm - travel lanes pushed back and appropriate anti icing material applied.

Storm severity, temperature fluctuations, localized conditions and successive storms will limit or prevent attainment of our stated objectives.

PLOW ROUTES

City streets are organized into 30 winter plow routes which are:

| ROUTE DESCRIPTION                              | AREA        |
|--|-------------|
| Foster Thurston / Milledgeville (East)         | North       |
| Milledgeville (West)                           | North       |
| Mount Pleasant Area                            | North       |
| North End / Sandy Point Road                   | North       |
| Old North / Douglas Avenue Area                | North       |
| Main St. / Millidge / Somerset / Chesley Drive | North       |
| One Mile / Peninsula Loop                      | South/North |
| South Central Peninsula / Uptown               | South       |
| South Peninsula / Waterloo Village             | South       |
| Loch Lomond from Hickey - and subdivision      | East        |
| Champlain / Eastwood (Heather Way)             | East        |
| Loch Lomond from Eldersely to end              | East        |
| Golden Grove / Churchland / Hillcrest          | East        |
| Westmorland Road / Rothesay Avenue Area        | East        |
| Rothesay Ave / Rothesay Road / Drury Cove      | East        |
| Old Black/Bayside / Latimore / Elderdale       | East        |
| Old East / Bayside Drive                       | East        |
| Red Head Road to Mispec - and subdivisions     | East        |
| Silverwood / Forest Hills / Glen Falls         | East        |
| Dever Road / Milford and Randolph areas        | West        |
| Fundy Heights                                  | West        |
| Greendale / Quinten Heights / Scotiaview       | West        |
| Lower West / Main Street West                  | West        |
| Lower West / Riverview Drive                   | West        |
| Manawagonish / Fairville / Catherwood areas    | West        |
| Sand Cove road / Bleury / Wilson Area          | West        |



|  |      |
|--|------|
| Westfield Road / Martinon Area               | West |
| Westfield Road / Bay Street Area             | West |
| Westgate / Islandview area                   | West |
| Lorneville / Ocean Westway / Bay / Westfield | West |

|                |   |
|----------------|---|
| RESPONSIBILITY | <p><b>Manager:</b> program delivery and performance in area of jurisdiction.</p> <p><b>Foreman:</b> level of service, resource usage in snow management zones.</p> <p><b>Operator:</b> plow route efficiently/effectively; use materials carefully.</p> |
| MEASURES       | <p>Percentage of kilometres plowed to the service level objective(s) as per the calculated storm severity index; and</p> <p>Cost per street kilometre serviced (calculated annually).</p>   |



PART 4: WINTER SIDEWALKS

PURPOSE To maintain safe pedestrian access and usability of designated sidewalks and walkways throughout the winter season.

CONTENT Only the designated sidewalks in each priority grouping will be serviced in accordance with the objectives set out below; other sidewalks will not be serviced.

Sidewalk plowing or snow blowing activities during a snow storm are:

- ▶ Plow or blow accumulated snow off Priority 1 and 2 sidewalks for minimal pedestrian passage.

Sidewalk plowing or blowing activities post snow storm are:

- ▶ Plow or blow accumulated snow off of all designated sidewalks; and
- ▶ Subject to Priority, one to four days after the storm, apply winter de-icing and/or abrasives materials (treated sand or salt) to sidewalk surfaces.

PRIORITIES The structure of priorities forms the basis for all winter operations. Generally sidewalk plowing / blowing operations focus on Priority 1 and 2 sidewalks first; then move to Priority 3 and 4 sidewalks. The Priority descriptions are:

1. Major retail areas and major Saint John Transit bus stops;
2. Immediate school areas;
3. Remaining arterial streets; and
4. Remaining local or subdivision streets.

OBJECTIVES\* Priority objectives during snow storm are:

Create a basic level of accessibility **on the City's** Priority 1 and 2 sidewalks, for the purpose of emergency services.

Priority objectives post snow storm are:

Priority 1: 12 hours after end of storm – basic pedestrian passage  
Within 48 hours after end of storm – walking surface with salt or sand applied at least once.



Priority 2/3: 24 hours after end of storm – basic pedestrian passage  
Within 3 days after end of storm – walking surface with salt or sand applied at least once.

Priority 4: 72 hours after end of storm – pedestrian passage  
Within 4 days after end of storm – walking surface with salt or sand applied at least once.

Storm severity, temperature fluctuations, localized conditions and successive storms will limit or prevent attainment of our stated objectives.

SIDEWALKS

Sidewalk service levels cannot mirror (in practical terms of time, consistency and quality) what is possible on streets. This reflects the physical characteristics of sidewalks (limited width and lack of direct drainage), effects of pedestrian traffic versus vehicles, and limitations of sidewalk equipment. Service expectations need to be tempered; severity of weather is a much more determinant of sidewalk conditions.

Of **the City’s 372.2** kilometres of sidewalk, 229 or 61.5% are designated for winter service. Resource limits make it impossible to provide consistent and satisfactory service to the entire inventory.

S/W ROUTES

Winter sidewalk operations are organized into **13** sidewalk plow routes; each assigned a primary sidewalk equipment unit and operator. Winter sidewalk route maps are attached hereto.

| ROUTE   | SERVICING AREA                  | KM SERVICED |
|---------|---------------------------------|-------------|
| South 1 | Old East and North of Union     | 21.2 km     |
| South 2 | SC Peninsula (NW quadrant)      | 10.3 km     |
| South 3 | SC Peninsula (NE quadrant)      | 14.6 km     |
| South 4 | SC Peninsula (South quadrants)  | 17.6 km     |
| East 1  | Glen Falls, Golden Grove        | 19.1 km     |
| East 2  | Loch Lomond, Champlain Hts      | 18.1 km     |
| East 3  | Rothsay Ave, Westmorland        | 18.9 km     |
| North 1 | University Ave, Millidgeville   | 15.2 km     |
| North 2 | Old North End, Douglas, Chesley | 17.1 km     |
| North 3 | Wellesley Avenue                | 13.8 km     |
| North 4 | Mount Pleasant, Sandy Point     | 19.4 km     |
| West 1  | Sand Cove, Fairville Blvd.      | 21.5 km     |



|        |                                  |         |
|--------|----------------------------------|---------|
| West 2 | Lower West                       | 24.1 km |
| West 3 | Manchester, Dever, Westfield Rd. | 16.7 km |

**SNOW REMOVAL** Heavy and successive snowfalls and general accumulation may result in the need to remove snow (blow and/or truck away) from sidewalks. Sidewalk snow removal will be integrated with general snow removal operations, in accordance with the structure of priorities.

**RESPONSIBILITY** *Manager:* program delivery and performance in area of jurisdiction.  
*Foreman:* level of service, resource usage in snow management zones.  
*Operator:* service route efficiently/effectively; use materials carefully.

**MEASURES** Percentage of kilometres plowed to service level objective at the calculated storm severity index; and  
Cost per sidewalk kilometre serviced (calculated annually).



PART 5: SNOW AND ICE REMOVAL

|                |  |
|----------------|--|
| PURPOSE        | To enhance pedestrian and vehicle movements by removing accumulated snow from the travelled portion of the street rights-of-way.   |
| CONTENT        | <p>Snow and ice removal operations involve a combination of internal and contracted resources to remove (truck away) accumulated snow from the street rights-of-way. Activities are:</p> <ul style="list-style-type: none"><li>▶ Inspect and report on snow accumulation, identify critical areas;</li><li>▶ Free blow or remove snow/ice from designated streets and sidewalks as determine needed by operations staff;</li><li>▶ Site, operate and manage snow dumps in strategic locations; and</li><li>▶ Remove snow/ice build-up along sidewalk and gutter lines as temperatures warm up.</li></ul> |
| RESPONSIBILITY | <p><b>Deputy Commissioner:</b> initiate snow removal operations.</p> <p><b>Manager:</b> establish snow removal plans, organize resources, report.</p> <p><b>Foreman:</b> supervise operations, effective use of resources, report.</p> <p><b>Operator:</b> operate equipment efficiently and effectively, report.</p>  |
| MEASURES       | <p>Kilometres serviced to service level objective;</p> <p>Loads removed and cost of removal by per load.</p>   |



PART 6: SALT MANAGEMENT

|               |  |
|---------------|--|
| PURPOSE       | <p>To optimize supply and usage of road salt and other winter materials while minimizing their environmental impact.</p> <ul style="list-style-type: none"><li>▶ To control consumption of road salt through effective management, without compromising public safety; and</li><li>▶ To ensure an adequate supply of winter materials are available at all times throughout the winter season.</li></ul>   |
| MATERIALS     | <p>The primary de-icing material is road salt (sodium chloride NaCl); a proven, cost effective solution for our climate. When applied to streets with light snow accumulation or ice, salt will melt the snow or ice; facilitating easier removal.</p> <p>Pre-wetting salt with brine solution, immediately prior to application, increases the effectiveness of road salt. Pre-wetting also enhances adhesion so that the salt material stays on the road surface.</p> <p>Road Salt is effective to about -10 to -12°C. Below -10 to -12°C, pre-wetted salt can be used. Pre-wetted salt is effective approximately -15°C. An alternative to using salt in when temperatures are below -10 to -12°C is a sand/salt mix (3-5:1 sand-salt ratio) is used to enhance traction. Sand provides an abrasive quality while salt inhibits freezing prior to application and provides some ice melting upon application.</p> <p>Anti-icing is the application of brine that remains on a surface and continues to delay the formation and reformation of ice for a certain period of time and prevents adhesion of ice to the asphalt to make mechanical removal easier. Anti-icing typically is not performed during a snow event but rather up to 48 hours in advance of a snow event.</p> <p>Sand/salt mix is used as the primary de-icing/traction material on rural roads and on all roads when temperatures are below the effective activation range for salt and/or brine.</p> <p>Other products or methods are continuously evaluated and, where operationally and cost effective, will be considered for use.</p> |
| SUPPLY/DEMAND | <p>Road salt is in high demand during the winter season and supplies are limited; therefore careful usage of this commodity is an important part of the winter management strategy.</p>  |



|               |  |
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| WEATHER       | <p>Weather plays an important role in determining the type and amount of material that is appropriate for a given situation. Temperature trends and type/amount of precipitation are key factors.</p> <p>Storm/temperature severity and successive storms will affect usage levels and can limit effectiveness of salt and restrict the capacity to de-ice streets and sidewalks.</p>  |
| CONSUMPTION   | <p>Average annual consumption of materials over last five years:</p> <ul style="list-style-type: none"><li>▶ Road Salt                      12,963 metric tons (MT)</li><li>▶ Abrasive Sand                2,915 metric tons (MT)</li></ul>  |
| FACILITIES    | <p>Salt and sand/salt mix are stored in two weather-protected municipal facilities. Each building has an asphalt floor to prevent leaching into the environment and to reduce exposure of the material to moisture.</p> <ul style="list-style-type: none"><li>▶ McAllister Drive Facility: 8,000 Metric Ton capacity shed</li><li>▶ Bay Street Facility: 13,500 Metric Ton capacity structure</li></ul>  |
| PRE-SEASON    | <p>Supplies of sand and salt are replenished annually by November 10<sup>th</sup>.</p>   |
| MANAGING USE  | <p>Foremen, operators and staff undergo training on the use of de-icing materials.</p>   |
| SALT BRINE    | <p>Salt brine shall be produced at the McAllister Drive and Bay Street facilities. An adequate supply shall be available to support operations.</p>  |
| USAGE CONTROL | <p>Forecasted weather plays an important role in determining the ongoing impact of de-icing materials.</p> <p>Excessive salt usage is expensive and can affect the environment, while too much sand creates sewer and clean-up problems.</p> <p>Equipment is kept in good operating condition. Spreading equipment shall be thoroughly inspected and calibrated prior to the winter season. Operators inspect equipment daily throughout the winter to ensure equipment is in running order.</p> |
| TRAINING      | <p>Annual information sessions are held to update operators on the application of winter de-icing materials. This is conducted at or around shift change in conjunction with best practices for snow-plowing and other operational strategies.</p>   |



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| RESPONSIBILITY | <p><b>Manager:</b> manages material inventory, re-order points and usage.</p> <p><b>Foreman:</b> preparation/mixing, storage, allocations and usage.</p> <p><b>Operator:</b> care of equipment, operability and usage.</p> <p><b>Purchasing:</b> supply agreements, order in accordance with procedures.</p> |
| MEASURES       | <p>Usage and cost by kilometre serviced (calculated annually);</p> <p>Available inventories monitored on regular basis.</p>  |

**PART 7: MAINTAINING STREET RIGHT-OF-WAY**

|              |  |
|--------------|--|
| PURPOSE      | <p>To ensure availability of the street right-of-way (R-O-W) for safe and efficient movement of pedestrians and vehicles.</p>  |
| PUBLIC R-O-W | <p>The street right-of-way (R-O-W) is intended to provide space for public infrastructure and the movement of people, goods and vehicles. The travelled portion of the R-O-W must be clear of ice and snow, to a sufficient width to:</p> <ul style="list-style-type: none"><li>▶ Meet winter streets and pedestrian service objectives;</li><li>▶ Support emergency and utility services;</li><li>▶ Provide for street drainage; and</li><li>▶ Facilitate safe, effective movement of pedestrians and vehicles.</li></ul> <p>Outside of the travelled portion of the R-O-W, curbs/gutters or shoulders define the edge of travelled portion of the ROW; directing rain water and snow melt to catch basins, storm sewers or ditches.</p> <p>Medians and other R-O-W space also provide essential storage capacity for placement of snow and ice pushed back from streets and sidewalks.</p> <p>It is essential that clear priority be given to maintaining the intended purposes of the street R-O-W. Failure to do this will mean undue limitations on winter service effectiveness and avoidable costs.</p> |
| BY-LAWS      | <p>Policies and by-law provisions for traffic, on-street parking, and street or sidewalk obstructions are designed to enhance effectiveness of service delivery and helps control service costs.</p>   |



**Appendix “E”** includes municipal by-laws that help the City deal with the circumstances, persons or objects that compromise its ability to clear streets and sidewalks of snow and to re-establish the functions of the street R-O-W in winter conditions.

**OBSTRUCTION**

Section 30.1 of *A By-Law Relating to the Public Streets in the City of Saint John and to Prevent Nuisances in the Said City* provides that:

*“No person shall place, put, throw, deposit or sweep upon the paved or main-travelled portion of any street or a sidewalk, or cause to be placed, put, thrown, deposited or swept upon the paved or main-travelled portion of any street or a sidewalk, any snow or ice”.*

Penalties for violations are prescribed in the *By-Law*.

**PARKING**

Vehicles parked or abandoned on City streets during the winter seriously disrupt service and create hazards for public safety. Parked cars interfere with emergency vehicles, impede buses and passengers, make clearance of snow from the right-of-way virtually impossible and increase costs. Service cannot be effective or operations efficient when plows or snow removal equipment must try to navigate around parked obstacles. For quality and cost-effective maintenance of winter streets and sidewalks, on-street parking needs to be restricted during the winter months.

Section 113(5) of the *Motor Vehicle Act* permits the municipality to prohibit on-street parking without a traffic control device (sign), providing the restriction is for purposes of winter snow control and does not extend beyond the midnight to 7 am time period.

**Appendix “D”** details *Winter Street Parking Restrictions* that prohibit parking on all municipal streets.

**SUSTAINABILITY**

Achieving consistent winter service standards across the community, at reasonable cost to taxpayers, depends on streets being free of parked vehicles and other impediments to service. Available off-street parking space must be fully utilized to free vehicle clogged streets. Taxpayers should not be expected to subsidize those owners who do not make adequate provision for parking. Service inefficiencies and added costs can be avoided.



**PART 8: EQUIPMENT RESOURCES AND FACILITIES**

**PURPOSE** To optimize use of winter service resources through preparation, operator care and timely repair.

**EQUIPMENT** Winter services require dedication of heavy equipment. Maintaining the operational availability of these resources is critical to the service:

- ▶ Heavy trucks equipped with front plows and spreader units;
- ▶ Heavy trucks equipped with front and wing plows;
- ▶ Light trucks (1 tons) equipped with front plows;
- ▶ Graders equipped with plows and wings;
- ▶ Loaders equipped with front plows and wings;
- ▶ Loaders equipped with front plows only;
- ▶ Yard loaders with front buckets only;
- ▶ Bulldozer for the snow disposal facility;
- ▶ Heavy snow blowers (attachments for above loaders);
- ▶ Wheeled (Trackless) sidewalk units with attachments;
- ▶ Tracked (Bombardier) sidewalk units with attachments;
- ▶ Heavy truck to provide material support to sidewalk units;
- ▶ Light truck to provide material support to sidewalk units;
- ▶ Backhoes (for winter drainage support);
- ▶ MasterVac unit (for winter drainage support);
- ▶ Asphalt recycling machines (for winter asphalt maintenance); and
- ▶ Various light equipment and vehicles for support and supervision.

**FACILITIES** The following facilities support winter service operations:

- ▶ MUNICIPAL OPERATIONS & ENGINEERING COMPLEX (175 ROTHESAY AVENUE) Winter Operations Centre (WOC), with Resource Desk for inquiries and support; and staging for plow routes and some sidewalk units;
- ▶ MCALLISTER DRIVE: Staging for plow routes and some sidewalk units; salt, brine and sand management facility; and storage site for supplies;
- ▶ BAY STREET (MATERIALS BUILDING): Salt, brine and sand management facility;



- ▶ MANAWAGONISH ROAD: Staging for plow routes and some sidewalk units and storage site for supplies;
- ▶ BOARS HEAD ROAD: Staging for most sidewalk units, and sidewalk support vehicles; and
- ▶ SNOW DISPOSAL FACILITIES: Locations for dumping of the snow and ice removed from City streets – Sydney Street (South Central Peninsula) Bayside Drive and Bay Street (contractor).

SUPPLIES Winter supplies include: cutting edges for plows, tire chains; cold mix for pothole patching; propane for asphalt recycling equipment; and calcium chloride for thawing frozen catch basins.

OTHER Contracted resources are also used, including: hired tandem trucks and dump trailers for snow removal; loaders with front plows for several plow routes; and bulldozers for maintenance of snow dumps.

READINESS A summary of equipment care and readiness activities are:

- ▶ Preventive maintenance servicing and MVI for all winter equipment completed as required;
- ▶ Contract resource specifications advertised by August 31<sup>st</sup>;
- ▶ Inventory of supplies and orders placed by October 1<sup>st</sup>;
- ▶ Spreader control systems checked and calibrated as required;
- ▶ Winter tires inspected, ordered and installed by November 15<sup>th</sup>;
- ▶ Heavy equipment, truck bodies and plow attachments are repaired and painted as required; and
- ▶ Thorough interior/exterior cleaning/washing after every snow event.

RESPONSIBILITY **Manager**: assigned fleet, inspect, arrange contract resources.

**Foreman**: preparedness and servicing of assigned fleet resources.

**Operator**: inspect, clean and wash, report required servicing/repair.

**Fleet Services**: preventive maintenance and timely repairs.

MEASURES Equipment availability rate: by section and overall fleet;

Incidents of equipment downtime greater than 12 hours;

Cleanliness of equipment and documented walk-around inspections.



PART 9: WINTER DRAINAGE

**PURPOSE** To keep drainage systems open, functional and ready for periods of rainfall, mild temperatures and snow/ice melt.

**CONTENT** A summary of winter drainage activities are:

- ▶ Inspect, remediate and mark all key drainage points prior to the winter season;
- ▶ Minimize build-up of snow and ice at catch basins and system inlets and outlets;
- ▶ Inspect all key catch basins and storm system inlets weekly over the winter season;
- ▶ Remove ice and snow from key catch basins and storm system inlets during periods between winter storms;
- ▶ Steam frozen culverts; apply de-icing materials to frozen catch basins and stormwater laterals; and
- ▶ Respond to localized flooding and clear compromised drainage systems.

**OBJECTIVES** Key catch basins and storm system inlets open and operational during periods of precipitation and mild temperatures (snow/ice melt).

Program effectiveness tied to snow and ice removal and demanding drainage issues in some snow management zones.

Storm/temperature severity and freeze/thaw fluctuations will impact drainage and could limit effectiveness of mitigation measures.

**RESPONSIBILITY** *Manager:* organize general program deployment.  
*Foreman:* coordinate inspections, record, direct crews.  
*Drainage Crews:* service key drainage points as directed.  
*Customer Service Desk:* enter requests for service.  
*Municipal Engineering:* identify winter drainage infrastructure issues.

**MEASURES** Record of drainage inspections;  
Percentage of identified drainage issues addressed; and  
Percentage of key catch basins/storm inlets open.



PART 10: WINTER ASPHALT MAINTENANCE

PURPOSE To provide emergency repair of street defects and potholes for roadway safety and winter driveability.

CONTENT A summary of winter asphalt maintenance activities:

- ▶ When applicable inspect street system to identify surface defects and potholes resulting from alternating freeze thaw cycles in the road base and vehicular traffic;
- ▶ Receive requests for service and organize action response to reported road defects;
- ▶ Deploy crews to make emergency (temporary) street surface repairs with cold mix asphalt or recycled hot mix;
- ▶ Issue public notices and media advisories on road conditions during freeze/thaw cycles.

OBJECTIVES Service response by priority based on need:

- 1: Arterial streets, highway connections, emergency routes;
- 2: Major bus routes, schools, community centres, business districts;
- 3: Collector streets, minor bus routes, industrial parks; and
- 4: Local or subdivision streets.

Storm/temperature severity, successive storms and snow removal needs will impact our ability to undertake emergency asphalt repairs.

RESPONSIBILITY **Manager:** organize and prioritize asphalt repair activities.  
**Foreman:** coordinate inspection, recording and repairs.  
**Maintenance Crews:** carry out repairs using appropriate materials.  
**Customer Service Desk:** enter service requests.

MEASURES Recorded street system inspections:  
Number of calls for service acted upon; and  
Number of days between pothole reported and pothole repaired.



**PART 11: RESPONSIBILITIES AND REPORTING**

**PURPOSE** To clearly delineate responsibilities and reporting protocols for effective winter operations and service.

**COMMISSIONER** The Commissioner shall approve the *Winter Management Plan for Streets and Sidewalks* and oversee delivery of associated services, and report issues and outcomes to the City Manager and Common Council.

**DEPUTY COMM.** The Deputy Commissioner is responsible to the Commissioner for winter operations and execution of this *Plan*.

**MANAGERS** RESPONSIBILITIES

Managers are responsible for:

- ▶ Service delivery within his/her area of responsibility;
- ▶ Recommending human resource and equipment requirements, and assigning those resources;
- ▶ Managing inventory of anti-icing, de-icing and abrasive materials and other supplies such as cutting edges, tire chains and cold mix;
- ▶ Coordinating and sharing of resources with other areas;
- ▶ Proper use, maintenance and inspection of equipment;
- ▶ Monitoring of work progress and quality control;
- ▶ Scheduling of crews, including call-ins and overtime;
- ▶ Reporting progress and other information to key stakeholders; and
- ▶ Annual training of staff on this *Plan*.

REPORTING

Managers shall report to the Deputy Commissioner on:

- ▶ Plow / Sidewalks route completion;
- ▶ Exceptions (rights-of-ways which could not be cleared due to restrictions such as parked cars or excessive snow);
- ▶ Equipment and personnel availability; and
- ▶ Trouble spots and areas where conditions are unusually bad.



## FOREMEN

RESPONSIBILITIES

Foremen play a vital role during snow events by coordinating activities in the field. They provide firsthand information to their manager or the Winter Operations Centre regarding conditions, changing weather and equipment status.

Reporting to the Manager, each Foreman is responsible for:

- ▶ Ensuring that operations are carried out safely, efficiently and in accordance with this *Plan*;
- ▶ Preparing personnel for winter operations by reviewing routes, assigned equipment and reviewing procedures;
- ▶ Maintaining an accurate call out roster;
- ▶ Calling in their crew as authorized during a winter event;
- ▶ Updating the applicable winter call-in list(s);
- ▶ Reacting to changing conditions during snow events by reassigning personnel and resources where required;
- ▶ Proper use, maintenance and care of equipment;
- ▶ Monitoring work progress and performing quality control checks;
- ▶ Control of working hours and productivity of individual operators;
- ▶ Reporting progress and other information to the Manager and/or the Winter Operations Centre, depending on circumstances;
- ▶ Adherence to safety and standard operating procedures; and
- ▶ Participating in annual training/exercises in preparation for winter.

REPORTING

Foremen are responsible for tracking the progress of their operators and reporting to the Manager or the Winter Operations Centre, as required, on the following:

- ▶ Snow event response ( sanding/salting; plowing and push back);
- ▶ Route completion, estimated from individual operator progress reports;
- ▶ Exceptions (right of ways that could not be plowed due to restrictions such as parked cars or excessive snow and ice);
- ▶ Equipment and personnel availability; and



- ▶ Trouble spots (areas where conditions are unusually bad and might affect traffic flow).

## OPERATORS

RESPONSIBILITIES

Operators are directly engaged in service delivery to citizens. Using their training, experience and judgment, they are expected to respond to ever changing circumstances to provide best service at all times.

Each operator is responsible to the foreman for:

- ▶ Learning his/her assigned route, including street priorities and levels of service;
- ▶ Performing and documenting pre/post vehicle operation checks, ensuring that accessories such as flashlights, shovels, signs and PPE are available;
- ▶ Operating equipment in a safe, efficient manner;
- ▶ Proper use, maintenance and care of assigned equipment; and
- ▶ Monitoring and reporting on route progress.

REPORTING

Operators shall report on the following to their foremen:

- ▶ Completion status of his/her route;
- ▶ Equipment damage or deficiencies as soon as possible;
- ▶ Problematic issues including vehicles and illegally dumped snow blocking access;
- ▶ Accidents or incidents; and
- ▶ Any changes in local street or weather conditions.

## WOC

Upon activation of the WOC the Deputy Commissioner will monitor operational progress during the storm. Members of staff involved in snow response have a role to play in ensuring complete and accurate status reporting.

The public shall be kept informed throughout the event. The WOC shall provide a spokesperson for the media and communiqués for the public through Corporate Communications.

The WOC shall maintain liaison with Fleet and Materials Management regarding supplies, equipment status and repair priorities.



PART 12: TRAINING AND PLAN ADMINISTRATION

PURPOSE To ensure overall readiness for winter operations and continuous improvement of this *Plan*.

RESPONSIBILITY The Deputy Commissioner is responsible to the Commissioner for the administration and continuous improvement of the *Winter Management Plan for Streets and Sidewalks*, including coordination of staff training and exercises related thereto.

ANNUAL REVIEW Overall effectiveness of the *Plan* and its various components shall be reviewed and updated annually before October 31<sup>st</sup>.

TRAINING Training on the *Plan* shall provide management and operators with an understanding of service standards and performance expectations over the winter season and prepare Municipal Operations for delivery of essential winter street maintenance and sidewalk services.

All staff employed in the delivery of winter street maintenance and sidewalk services shall complete this training and participate in an annual refresher seminar.