

### **Part 1: Engaging the Public**

Communication with the public began immediately upon policy approval. Following the 2010 *Winter Management Plan Communications Plan*, staff felt that they received much less calls inquiring about details of the Plan. Such communication included;

- *Winter Management Plan* information was available to the public at the Town Hall style Ward Meetings held on December 1, 2010.
- Vehicle flyers were developed, translated and placed on vehicles by City staff from November 9 and December 10, 2010 and by Parking Commission personnel from November 15 and December 4, 2010 (between 00:01 and 07:00) as notification to citizens that they were illegally parked. Vehicle flyers were also distributed throughout Saint John neighbourhoods between November 17 and December 20, 2011.
- The updated 2010 - 2011 *Winter Management Plan* including updated maps for all street plowing priorities and streets excluded from the Winter Street Parking Restrictions were translated and placed on the City website.
- 38,000 copies of the November 2010 issue of the City's InSight magazine were distributed to Saint John households and were made available on the City website.
- There were several local radio and local television media interviews given. Advertisements were placed in the local print media. Various public advisories and media releases occurred throughout the winter season. 11 additional media advisories were issued when necessary to inform residents of additional snow clearing / cutting, etc.
- Notifications that were posted in the news section of the City website also went through the notification system, Twitter and posted on the City Facebook page.
- Service response to 138 citizens who requested contact from a management representative with 934 more calls dealt with by Service Support representatives on a daily basis during the winter season. Calls during major storm events were not logged due to high volumes.
- 1 Copy of the "By-law Relating to the Public Streets in the City of Saint John and to Prevent Certain Nuisances in the Said City" was hand delivered by City of Saint

John By-law Officers to a business, where violations were observed placing snow and / or ice onto City streets and sidewalks, as a courtesy warning.

**Part 2: Coordination of Winter Operations**

The Winter Operations Centre (WOC) was established to provide coordination of service activities and liaise with the public during storm events. The WOC was activated on 6 occasions; December 27, 2010, January 12, 16, 21, 2011 and February 2 and 25, 2011. In other situations (January 3 and 27 and February 5, 8, 14 and 28 and April 4, 2011), the Operations Managers directed operations based on a comparatively low Storm Severity Index (SSI). Media advisories were issued by Saint John Communications to indicate the WOC was operational.

The annual review of the WOC Standard Operating Procedure (SOP) has been completed by Managers in September 2011. Changes to the SOP include: inclusion of scheduling administrative personnel to deal with anticipated high call volumes as required, adding # Common Council and # City Manager to the communication list when advising that the WOC is activated and deactivated and changes related to new managers. The Winter Operation Centre becomes activated either partially or fully each time a Full Plowing operation commences, depending on the anticipated storm event conditions, and is closed when the weather forecast is favourable and the majority of snow clearing operations is complete.

**Part 3: Street Plowing**

The purpose of street plowing is to maintain safe passage and the usability of public streets during and after adverse weather conditions. City streets were organized into 31 winter plow routes for servicing. Operators follow the structure of priorities for all City streets as detailed within the *Plan*. The City of Saint John currently services approximately 752.5 centre-line kms of municipal streets. The % of kms serviced to the service level objective @ storm severity index were;

		% kms serviced to objective		
Date	SSI	I	II	
• December 27, 2010:	51	100	100	
• January 3, 2011:	29	100	100	



2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

• January 12, 2011:	52	100	100
• January 16, 2011:	20	100	100
• January 21, 2011:	67	100	96
• January 27, 2011:	44	100	100
• February 2, 2011:	34	100	100
• February 5, 2011:	40	100	100
• February 8, 2011:	67	95	92
• February 14, 2011:	64	98	96
• February 25, 2011:	57	100	100
• February 28, 2011:	63	94	91
• April 1, 2011:	22	100	100

I and II represent the 2 service objectives for each street priority listed in the *Winter Management Plan*. Issues occurred during the higher SSI storm events as a result of reduced equipment availability. Winter operations are hard on equipment. Equipment availability along with the SSI are critical factors to achieving service objectives. In some situations, the Objectives could not be measured accurately since another storm event started before the Objective could be achieved.

In addition to the severity of conditions, the Winter Parking Ban contributed to reducing the opportunity for incidents with parked vehicles during snow clearing operations. Snow plow Operators and Supervisors expressed how well streets could be maintained when there were no parked vehicles to hamper operations. The number of insurance claims provided for 2008 to 2011 between January 1 and May 20 were 189, 271, 104 and 147 respectively (2011 being a much harsher winter than 2010 with respect to the number of snow events). The effectiveness of the winter parking ban is also shown in the total claim cost (including reserves for claims not yet resolved) for the same period of time going from \$41,207.89, \$96,736.79, \$43,036.12 to 24,984.18 from 2008 to 2011 respectively.

By decreasing the number of times a unit is required to return to complete street plowing operations (greater efficiency) significantly lowers overtime costs, reduces wear and tear



on equipment, increases the ability to schedule personnel effectively and improves the quality of plowing.

Saint John Transit has not made any adjustments to their major and minor bus routes such that there will be no impact on street priorities in the 2011 – 2012 winter season.

A request to upgrade Tilley Lane from a Priority 4 street to a Priority 2 street was received and approved. There is a community health centre and community group offices located in the Carleton Community Centre that receive a lot of traffic from elderly residents.

**Part 4: Winter Sidewalks**

The purpose of sidewalk plowing is to maintain safe pedestrian access and usability of designated sidewalks throughout the winter season. The City’s sidewalks are organized into 14 winter plow routes for servicing. Operators followed the structure of priorities for all City sidewalks as detailed within the *Plan*. The City of Saint John currently services approximately 240.69 kilometres or 60.8% of the City’s sidewalk inventory. The % of kms serviced to the service level objective @ storm severity index was;

Date	SSI	kms serviced to objective	
		I	II
• December 27, 2010:	51	98	100
• January 3, 2011:	29	99	100
• January 12, 2011:	52	96	99
• January 16, 2011:	20	100	100
• January 21, 2011:	67	95	96
• January 27, 2011:	44	80	90
• February 2, 2011:	34	65	85
• February 5, 2011:	40	n/a	n/a
• February 8, 2011:	67	90	90
• February 14, 2011:	64	95	95



2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

- February 25, 2011: 57 90 n/a
- February 28, 2011: 63 80 n/a
- April 1, 2011: 22 100 100

I and II represent the 2 service objectives for each street priority listed in the *Winter Management Plan*. Issues occurred during the higher SSI storm events as a result of reduced equipment availability. Winter operations are hard on equipment. Equipment availability along with the SSI are critical factors to achieving service objectives. n/a ratings for objectives indicate that another snow event occurred prior to the timeline for the service objectives expiring.

During the past winter season, The Level 1 Service Objectives were met 15% of the time and the Level 2 Service Objectives were met 31% of the time. Reasons for not meeting the Service Objectives include reduced equipment availability, response timing, quantity and type (wet, heavy) of snow, additional snow being deposited on sidewalks from street plowing, contractor plowing and consecutive storm events, and the addition of almost 4 kilometres of sidewalks being serviced since the Winter Management Plan was adopted in 2009 without addition of associated resources.

Many requests from the public to service additional sidewalks (of the 39.2% not serviced) were received during the 2010-2011 season. Some sidewalks from those requests began to receive service during the season while decisions for the majority of requests were held until the season was over. The total addition (roughly 1690 m) represents roughly a 0.7% increase in servicing with current resources. Since 2009 Policy adoption, 1.6% (3,857m) of sidewalk inventory has been added for servicing utilizing existing resources. The sidewalks added during the 2010-2011 season included:

- Evergreen Avenue from Loch Lomond Road to Hemlock (Approx. 200m)
- Both Sides of Brunswick Place from Douglas Avenue to Dead End (Approx. 220m)
- South (Even) Side of Taylor Avenue from Belyea Street to Somerset Street (including a path that connects Taylor to Somerset (Approx. 400 m)
- North (Odd) Side of Loch Lomond Road from the Airport Arterial to the Airport General Store (Approx. 600 m)
- South (Odd) Side of East Street from Shillington Road to Sunnybrook Terrace (Approx. 90 m)

- North Side of Lake Drive South from Mount Pleasant Avenue to the Pavillion (Approx. 180 m)

An Information Letter to Council, titled "Winter Sidewalk Plowing Requests" was submitted on January 13, 2011 as a response to a large number of citizen requests for additional winter sidewalk service. A news release dated January 26, 2011 was issued indicating that "City committed to sidewalk service".

Recently, the additional 70 unresolved requests for additional service were evaluated. Several resource-related options were considered at the beginning of this evaluation process.

The first option was to consider the addition of some sidewalks, maintain the resource (funding) allocations and reduce the service level standard (response time). A reduction in the service level standard (response time) comes with the risk of "losing the sidewalks", which can occur when wet, heavy snow or ice is not removed prior to a sudden and extreme drop in temperatures causing anchor ice on the sidewalks that is very difficult or impossible to remove. This option is therefore not recommended.

The second option was to consider the addition of the sidewalks, maintain the service level standard and increase the resource (funding) allocations. Staff understands allocation of additional funding is not probable and therefore this option was discounted.

The third option was to consider the addition of some sidewalks that fall within the criteria of those that should be serviced while removing an equal length of sidewalks from the current service list and maintain the same service level standard and resource (funding) allocations. This option is ultimately recommended and is discussed more fully in the subsequent paragraphs.

Recommending sidewalks to no longer service, even with adding other sidewalks to be serviced in their place, was not an easy task. Staff re-affirmed criteria used in recommending which citizen-requested sidewalks should be added to the service list, which requests should not be implemented, and the sidewalks that should be removed from the list to account for the added inventory. The following criteria were used to recommend which sidewalks should be serviced:

- Higher pedestrian volumes are anticipated, triggered by presence of retail areas or Saint John Transit routes
- Continuity of a pedestrian system is maintained
- Sun exposure aids in melting of snow and ice



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

- Efficiency of servicing by the sidewalk plowing equipment
- Higher vehicle volumes or speeds

The following table describes the evaluation of each citizen request against these criteria, including recommendations of sidewalks to be serviced starting in the 2011-2012 season and those requests that are recommended to be denied. Since addition and removal of serviced sidewalks form part of the Winter Management Plan policy document, Common Council is asked to consider these recommendations.

Sidewalk Requested to be Serviced	Length of Requested Sidewalk	Staff Recommendation	Rationale for Recommendation
St. George Street from Lancaster Street to Ludlow Street (Odd Side)	290 m	Approve	Maintains continuity as portion of sidewalk on Even Side of another block of St. George ends. Even Side of this street to be removed from serviced list.
Brunswick Place from Douglas Avenue to Dead End (Even Side)  Note: Requested by two citizens	75 m	Approve	Provides access to Harbourview High School. Note this is a change from the addition of both Even and Odd sides in the 2010-2011 season. Odd Side sidewalk in poor shape and narrow and does not provide direct access to the school.
Prospect Street West from Walnut to Church (Odd Side)	210 m	Approve	Heavy truck traffic to and from Moosehead Breweries uses this street.
Gault Road from 300 m north of Valentine to Pipeline Road	730 m	Approve	Gault Road contains heavy vehicle traffic and is on a Transit route. The sidewalk provides continuity from Manawagonish Road.



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

West (Even Side)  Note: Requested by two citizens			
Dufferin Avenue (Odd Side)	190 m	Approve	Curling rink and doctor's office on this street would create higher pedestrian traffic.
Davenport from Gilbert to Boyd, all of Boyd and McKenna from Boyd to Gilbert (Even Side)	250 m	Approve	These sidewalks are on a Transit bus route.
Ready Street (Even Side)	280 m	Approve	Maintains continuity from Main Street to Catherwood Street. Odd Side of this street to be removed from serviced list as it ends part way along street.
Skyline from Harmony to Westmorland (Odd Side)  Note: Requested by two citizens	35 m	Approve	Maintains continuity between Harmony and Westmorland
Hickey Road from Heather Way to Park Place (Even Side)	90 m	Approve	This is a newly constructed sidewalk and the addition provides continuity from Heather Way.
Glen Road from	150 m	Approve	Maintains continuity from other serviced



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

Morgan to Glenview (Even Side)			section of Glen Road sidewalk. This section also serves a high density residential area that would generate higher pedestrian and vehicle traffic.
Rothesay Road from City Limit to Brookville Lime Quarry (Even Side)	1000 m	Approve	This is a newly constructed sidewalk on a busy arterial street.
Harding Street West (Even Side)	200 m	Approve	Transit stop is on this side of street. Odd Side of this street to be removed from serviced list.
Driscoll Drive from Dunn to Sand Cove (Even Side)  Note: This is a staff observation	60 m	Approve	Maintains continuity between serviced sidewalks of Dunn and Sand Cove.
Rodney Street from Market Place to Watson (Even Side)  Note: This is a staff observation	490 m	Approve	Rodney Street is the only parallel street in this area of Lower West without at least one side serviced. One section is on a Transit Route.
Market Place from Duke Street W to Winslow (Even Side)  Note: This is a	150 m	Approve	This section of Market Place is now part of Harbour Passage.



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

staff observation			
Winslow Street from Watson to Market Place (Odd Side)  Note: This is a staff observation	470 m	Approve	Provides some service to this street similar to other Lower West streets. The Odd side receives more sunlight.
Centennial Drive from Manawagonish to Horsler (Odd Side)  Note: This is a staff observation	180 m	Approve	A heavily used Transit bus stop is on this sidewalk.
Walkway between Somerset and Rockland	10 m	Approve	Forms much shorter pedestrian connection between these two streets. Note there is no recommendation to service Rockland Road sidewalk as this is a dead end street with low pedestrian and vehicle volumes.
<b>Subtotal:</b>	<b>4860 m</b>	<b>Of citizen-requested sidewalks to receive service that Staff recommend approval.</b>	
Canon Street (Even Side)  Note: Requested by two citizens	90 m	Deny	Request was to change from Odd Side to Even Side but Odd Side contains a place of worship.



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

Mollins Drive (Even Side)	720 m	Deny	Request was to remove this sidewalk from serviced list but many school children use it.
Westmorland Road from Braemar to Gerard (Even Side)	200 m	Deny	Odd Side is a continuous sidewalk that is already serviced, which provides access to Forest Hills school area.
Sunnybrook Terrace from East Street to Dead End (Odd Side)	100 m	Deny	A continuous serviced pedestrian system already exists through this subdivision. This dead end section would also contain low vehicle volumes.
Upland Road and Reading Crescent  Note: Requested by four citizens	590 m	Deny	The sidewalk on Upland is steep with an abrupt drop-off on the back side of the sidewalk, which would make servicing this sidewalk very difficult. The remaining sidewalks within this neighbourhood that are on a Transit route is on a short section of Reading between Upland and Roxbury, and servicing this small section would not lead to a continuous serviced sidewalk along Upland nor does a sidewalk exist along Roxbury to Westmorland Road.
Lansdowne Avenue from Visart to Pugsley (Even Side)	150 m	Deny	Visart, Churchill and Beaverbrook already form a continuous serviced pedestrian system in this area. This section of Lansdowne Avenue would also have limited vehicle traffic.
Walkway connecting St. Coeur to	70 m	Deny	Fences are on both sides of this walkway, which provides no location for depositing



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

Scotiaview			snow with a sidewalk plowing operation.
Belleview Avenue from Spar Cove to Pokiok  Note: Requested by two citizens	540 m	Deny	Sidewalk is on a bus route but a lot of street contains no houses and would not have a lot of vehicle traffic. Continuity to Bridge Street or Spar Cove is not possible at westerly end of sidewalk section.
Riverview Drive from Prince Street to Dead End	850 m	Deny	Low vehicle traffic and not on a bus route. A lot of street contains no houses.
First Street from Cranston to Cedar Grove (Odd Side)	100 m	Deny	Adjacent Second Street is serviced and is on a Transit route and forms part of a continuous serviced pedestrian system connecting Cranston to Mount Pleasant.
Durham Street (Even Side)	220 m	Deny	The Odd Side of Durham is already serviced.
Hawthorne Avenue Extension from Arrow Walk to Fisher Lakes access (Odd Side)  Note: Requested by four citizens	420 m	Deny	Sidewalk not on a Transit route and would contain little vehicle traffic. A continuous serviced pedestrian system for area is on Arrow Walk Road.
Sherbrooke Street from Benji to Bleury (Even Side)	300 m	Deny	Odd side of street is currently serviced, which continues to Sand Cove Road.



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

Manchester Avenue from St. Coeur to Manawagonish (Odd Side)	320 m	Deny	Even side of street is currently serviced, which continues to Carle Avenue.
Delhi Street from Waterloo to City Road (Odd Side)	120 m	Deny	Adjacent City Road and Waterloo are serviced, with Waterloo being on a Transit route.
Barker from Somerset to Cranston and Cranston from Barker to First (Odd Side)	100 m	Deny	Opposite sides of both streets are already serviced. Inquiring citizen has access to a walkway on their own property to access driveway from house.
Douglas Street from Clarendon to Dead End	140 m	Deny	Douglas is a dead end street with low vehicle traffic and adjacent Clarendon is serviced.
Walkway between Parkhill and Braemar	60 m	Deny	Braemar Drive sidewalk is not serviced. A continuous serviced pedestrian system is along Parkhill and Gerard.
Kennedy Street Note: Requested by two citizens	240 m	Deny	This is a dead end street that would contain little vehicle traffic.
Gooderich Street (Even Side)	370 m	Deny	Entire length of Odd Side sidewalk is serviced on this street.



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

Bonita Avenue from Micheal to Cindy Lee (Even Side)	180 m	Deny	Surrounding streets in subdivision are on Transit route and are serviced creating a continuous serviced pedestrian system.
Newport Crescent from Millidge Avenue to Dead End	100 m	Deny	This is a dead end street with low vehicle volume. A continuous serviced pedestrian system is on Millidge Avenue.
Lawrence Street from Sand Cove to Havelock	470 m	Deny	Surrounding streets form a continuous serviced pedestrian system and are on a Transit route.
Demille Street	90 m	Deny	This is a short dead end street with a continuous serviced pedestrian system on Fundy Drive.
Wyatt Crescent	680 m	Deny	This is a short looped street with a continuous serviced pedestrian system on Heather Way.
Charlotte Street West (Even Side)	820 m	Deny	Odd Side of this street is already serviced.
Second Street (Even Side)	100 m	Deny	Odd Side of this street is already serviced, which contains a Transit stop.
Balmoral Crescent	770 m	Deny	A continuous serviced pedestrian system on a Transit route is on perimeter of this neighbourhood.



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

Vista Ridge Crescent  Note: Requested by two citizens	380 m	Deny	This street is a small loop with little vehicle volume. This sidewalk would not connect to a continuous serviced pedestrian system.
Dresden Avenue	520 m	Deny	A continuous serviced pedestrian system is already on the surrounding Golden Grove and Parkhill.
Pugsley Avenue  Note: Requested by two citizens	700 m	Deny	A continuous serviced pedestrian system is already on the surrounding Beaverbrook, Somerset, Gorman and Wellesley.
Byron Street	270 m	Deny	Adjacent Gerard is serviced, which makes same connection as Byron to Parkhill and Westmorland.
Technology Drive	460 m	Deny	This street is on a Transit route but bus stop is at the end of this street. This is a dead end street. A continuous serviced pedestrian system is already on the surrounding Ropewalk, Somerset and Millidge.
Falcon Crescent	320 m	Deny	This street is a low vehicle volume loop. A continuous serviced pedestrian system is already on the surrounding Eagle and Shillington.
Eastwood Drive	220 m	Deny	This street is a low vehicle volume dead end street. A continuous serviced pedestrian system is already on the



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

			surrounding Eagle and Shillington.
Parkhill Drive from Wildwood to Gerard	210 m	Deny	A continuous serviced pedestrian system is already on the surrounding streets.
Guilford Street (Even Side)	550 m	Deny	The Odd Side of this street is already being serviced.
Sea Street	860 m	Deny	This is a low vehicle volume dead end street. A continuous serviced pedestrian system is already on the surrounding streets.
Cranston Avenue (Odd Side)	740 m	Deny	The Even Side of this street, which contains a school, is already serviced.
Clifton Street West	200 m	Deny	A continuous serviced pedestrian system on a Transit route is already on the surrounding streets.
Tartan Street	160 m	Deny	This is a low vehicle volume looped street. A continuous serviced pedestrian system is already on Millidge Avenue.
Manawagonish Road from Manchester Avenue to 40 m to the west (Odd Side)	190 m	Deny	The Even Side of this street, which continues further along the street, is already serviced.



2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

Heather Way (Even Side)	1050 m	Deny	The Odd Side of this street, which provides access to more connecting residential streets, is already serviced.
<b>Subtotal:</b>	<b>15740 m</b>	<b>Of citizen-requested sidewalks to receive service that Staff recommend denial.</b>	

In order to service the 4860 m of staff-recommended sidewalks from the citizen requests while maintaining the current total inventory of serviced sidewalks, the following sidewalks are recommended to no longer be serviced:

Sidewalk to be Removed from Serviced List	Length of Sidewalk	Rationale for Recommendation
Taylor Avenue from MacLaren to Belyea (Even Side)	370 m	Odd Side of this street was added to Serviced List.
St. George Street from Lancaster Street to Ludlow (Even Side)	290 m	Odd Side of this street being added to Serviced List.
Ready Street (Odd Side)	280 m	Even Side of this street being added to Serviced List.
Harding Street West (Odd Side)	200 m	Even Side of this street being added to Serviced List.
Harding Street	130 m	This is a short street. Odd Side of street to continue to be



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

(Even Side)		serviced. Even Side has fewer houses fronting the street.
St. Andrews Street (Even Side)	125 m	This is a short street. Odd Side of street to continue to be serviced. Even Side has fewer houses fronting the street.
Horsfield Street (Even Side)	130 m	This is a short street. Odd Side of street to continue to be serviced. Even Side receives less sun and there is one portion of this side where snow is difficult to push to side of sidewalk.
Brinley Street (Even Side)	100 m	This is a short street. Odd Side of street to continue to be serviced, which contains a place of worship.
McAllister Drive from Mountainview to Loch Lomond (Even Side)	300 m	Few developed properties front this section of sidewalk. A new set of traffic signals at McAllister/ Mountainview provides a street-crossing opportunity for pedestrians. Sidewalk on other side of street will continue to be serviced.
McAllister Drive from Mountainview to Westmorland (Odd Side)	1080 m	Few developed properties front this section of sidewalk. A new set of traffic signals at McAllister/ Mountainview provides a street-crossing opportunity for pedestrians. Sidewalk on other side of street will continue to be serviced.
Visart Street from Churchill to Harrington (Even Side)	80 m	Sidewalk on other side of street will continue to be serviced.
Churchill Boulevard from Visart to Somerset (Even Side)	700 m	Sidewalk on other side of street will continue to be serviced and forms connection with Visart sidewalk. Several intersections along Churchill provide crossing opportunities for a pedestrian to access the serviced side.



## 2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

University Avenue from Arlington to Sandy Point Road (Odd Side)	540 m	No sidewalks are on Sandy Point to create a continuous serviced pedestrian system and no residential properties exist beyond Arlington.
Simms Street (Even Side)	130 m	Sidewalk on other side of street will continue to be serviced, which provides access to Saint John Energy building.
Havelock Street from Fundy Drive to Windsor (Even Side)	70 m	Sidewalk on other side of street will continue to be serviced, which provides access to a school.
St. James Street from Watson to Victoria (Odd Side)	260 m	Sidewalk on other side of street will continue to be serviced, which forms a continuous serviced pedestrian system on adjacent section of St. James Street.
Ludlow Street from St. James to Queen (Even Side)	65 m	Sidewalk on other side of street will continue to be serviced, which forms a continuous serviced pedestrian system on adjacent section of Ludlow.
Prince Street from Lancaster Avenue to Champlain Street (Odd Side)	490 m	Sidewalk on other side of street will continue to be serviced. Sidewalks on both sides of the adjacent section of Prince from Champlain to Watson will continue to be serviced as one side provides access to a pedestrian bridge over Highway 1 and the other side provides access to a daycare.
<b>Total:</b>	<b>5340 m</b>	<b>Of sidewalks that Staff recommends no longer servicing to permit the servicing of other recommended sidewalks.</b>

The slightly larger number of recommended sidewalks to discontinue service (5340 m) compared to the number of recommended sidewalks to begin servicing (4860 m) accounts for a portion of the 1690 m added during the 2010-2011 season.

Re-evaluation of the criteria used to prioritize sidewalks has also occurred. Currently, the street and adjacent sidewalk have the same priority in the Winter Management Plan. Realized through the first two seasons of operating within the Plan, was that pedestrian and motorist activity is often different on a given street. For example, a residential street may have lower vehicle volumes and therefore a lower priority for snow clearing but the sidewalk may be more heavily used if the residential street is close to a school or retail area..

Below are the recommended priorities for Winter Sidewalk servicing. They are based on the rationale that sidewalks that have a higher volume of pedestrians or higher concentration of school children should be a higher priority than other sidewalks. Adjacent land uses that generate pedestrians, such as retail areas, major Transit bus stops or schools generally provide an indication of higher pedestrian use.

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

Staff has redefined the priority of each serviced sidewalk using these criteria. Staff also redefined the boundaries of the 14 sidewalk plowing routes provided the recommended added and removed sidewalks and experience obtained over the first two winter seasons of this new Winter Management Plan.

### **Part 5: Snow and Ice Removal**

A comprehensive review and update of the City of Saint John Contingency Plan for an Overnight Parking Ban in the South Central Peninsula was completed on November 23, 2009. This Contingency Plan is an additional resource to the *Winter Management Plan*.

Snow removal operations are necessary to improve sight lines at intersections and allow for enhanced winter traffic and pedestrian passage on more urban narrow streets in the South Central Peninsula, Lower West side and Old North End. Each subsequent snowfall will lead to narrowing of streets due to the volume of snow accumulating near the curb from street plowing operations. The snow is 'pushed back' as far as it can go after each



2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

storm ends to make room for the next snow event. Snow removal operations information is presented as follows;

Year	Total Snowfall	# of loads	Cost / load
2009 – 2010	151.9 cms	3695	\$55.49
2010 – 2011	232.3 cms	4845	\$75.50

Three major issues prevented greater efficiencies. The type of snow in some situations can be very wet and heavy, on the February 28, 2011 snow event, making it more difficult for snow blowers to remove. This type of snow plugs up blower chutes resulting in manual labour and time to remove. In this situation, snow removal operations take longer to complete requiring additional resources increasing the cost / load. Blower equipment availability was a problem due to mechanical issues, some of which were related to the wet, heavy snow. When the blower equipment is unavailable, much slower loading equipment such as loaders are utilized. With using loaders, more operator labour is required and productivity is cut by nearly 50%. The location of the Disposal Facility (Snow Dump) is far from ideal. A round trip from the South Central Peninsula to the current location on Bayside Drive is approximately 12kms with an ideal round trip time of 30 minutes for travel and dumping. This time increases significantly for West Side operations.

**Part 6: Salt Management**

During the 20102011 winter season, approximately 14,909 metric tonnes of salt and 4,500 metric tonnes of abrasive sand for the salt/sand mixture were utilized with an inventory of approximately 500 metric tonnes of salt and 2,500 metric tonnes of abrasive sand available for the 2010-2011 winter season. The total storage capacity for salt is 14,000 tonnes and salt/sand mix is 7,500 tonnes.

	Salt used	Inventory	Salt Cost	Sand used	Inventory
2009-2010	12,506	4,000	\$602,409.07	2,000	5,000
2010-2011	14,909	500	\$791,142.83	4,500	2,500

Late in the 2010-2011 winter season, regional and national salt shortages occurred reminiscent of the shortages experienced in 2008 and 2009 that reduced the capacity for municipalities to provide adequate coverage to the roadway network increasing the risk to motorists and pedestrians. Much more salt could have been used if the supplier could have



delivered more. A strategy was developed to maximize the use of available salt inventory by applying more salt/sand mixture in the rural areas of Saint John that did not generally require intensive street sweeping or storm sewer catch basin cleaning services in the spring.

In the 2009 – 2010 winter season, Operations personnel completed an evaluation of the anti-icing (brine solution) application equipment and determined that it did not produce a satisfactory result. Inconsistent supplier brine quality can clog distribution nozzles. Due to this issue and the lack of funding provided in the 2010 General Fund Operating Budget for the Roadway Maintenance Service, brine application could not be initiated in the 2010-2011 winter season. The potential for incorporating an anti-icing inhibitor that is eco-friendly, directly onto the salt at the time it is being offloaded into storage facilities, which will increase performance while using less salt is being investigated for the 2011-2012 winter season. A cost / benefit analysis will be completed and a pilot project initiated based on a positive result.

**Part 7: Maintaining Street Right of Way**

The purpose of this section is to ensure availability of the right-of-way for safe and efficient movement of pedestrians and vehicles. Policies and By-law provisions for traffic, on-street parking and street or sidewalk obstructions are designed to enhance the effectiveness of the service delivery and to help control service costs.

Various Reports to Common Council were submitted and policy changes were adopted throughout the winter season to address concerns. A summary of submitted Reports to Common Council are as follows;

M&C Number	Date	Title
City Solicitor	10/12/10	Overnight Winter Parking Restriction Amendment to the Traffic By-Law – Parking ban from November 15 to April 15 changed to between December 1 to March 31 each year.
Info. of Council	01/13/11	Winter Sidewalk Plowing Requests
2011-08	01/17/11	Overnight Winter Parking Restriction – Lower West Douglas Avenue and Spring Street areas

2010- 2011 WINTER MANAGEMENT PLAN DETAILED ANALYSIS

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City Solicitor	01/21/11	Overnight Winter Parking Restriction Amendment to the Traffic By-Law – Parking restriction changes to Winslow & Third Streets, Woodlawn Avenue and Victoria Lane.
2011-34	02/23/11	Overnight Winter Street Parking Restrictions on Lancaster Street
City Solicitor	04/06/11	Overnight Winter Parking Restriction Amendment to the Traffic By-Law – Parking restriction changes to Lancaster Street and Sutton Street
2011-135	05/31/11	Champlain Street West Overnight Winter Parking
City Solicitor	06/08/11	Overnight Winter Parking Restriction Amendment to the Traffic By-Law – Parking restriction changes to Champlain Street

In November 2010, the City Solicitor has determined that if the City wishes to provide flexibility in setting the end date for the general overnight parking ban due to unseasonably good weather, also being reminded that the Winter Parking Ban duration was reduced by a month for the 2010-2011 winter season, that the City simply not enforce the Traffic By-law when there is no snow on the ground. The City may not delegate its power to regulate parking to one of its officials.

Copies of the “By-law Relating to the Public Streets in the City of Saint John and to Prevent Certain Nuisances in the Said City” were hand delivered by City of Saint John By-law Officers to residences and private snow ploughing operators, where violations were observed placing snow and / or ice onto City streets and sidewalks, as a courtesy warning. Generally, citizens and business owners are compliant after receiving the warning. There are ongoing situations on a section of Princess Street and Canterbury Street near the local high schools based on repeated request for assistance in removing snow placed on the sidewalk and road impeding access to pedestrians and school buses. These areas will be monitored carefully and appropriate action taken during the next winter season.

The Saint John Parking Commission is adding a new on-line parking space matching service in 2011 that assists in connecting property owners with off street parking needs to those with off street parking availability. This new initiative can be accessed at [www.shareyourride.ca](http://www.shareyourride.ca).

### **Part 8: Equipment Resources and Facilities**

The current location of the Snow Collection and Disposal Facility on Bayside Drive is not ideal as it is located within an environmentally sensitive wetland. However, there are currently no other opportunities to operate such a facility in Saint John. City personnel will continue to address and mitigate environmental concerns regarding leachate quality, through environmental controls such as silt fencing, hay bales and land grading, and refuse on the ground once the snow melts. A Phase 1 Environment Site Assessment must be completed at an estimated cost of \$5,409 + HST in 2012. The City also works cooperatively with a local contractor to dispose of snow in a West Side location.

In October 2010, Common Council authorized staff to engage an engineering consultant (Stantec) to carry out a preliminary investigation and cost estimate for the development of a snow collection and disposal facility within the former Lantic Sugar Refinery site. A final report and preliminary design was submitted. The site development was estimated at \$139,600 not including HST with annual site operations estimated to cost \$65,000 with a three year average annual snow disposal tandem rental cost estimate of \$194,897. Based on a projected decrease in tandem rentals of approximately 50% and associated costs (\$97,448.56) due to this closer location for snow removal and disposal, the payback period for such an investment is estimated at 1.4 years. Due to competing interests in this parcel of land, the former Lantic Sugar Refinery is not being considered for this the purpose of a snow collection and disposal facility. Therefore, it will be necessary to ensure the appropriate environmental monitoring and enhancements are made to the existing facility located on Bayside Drive.

At the beginning of each winter season, an equipment inspection is completed to ensure equipment and operator readiness. The majority of equipment was prepared to operate despite some pieces of equipment requiring major repair. In one such case, one piece of equipment was not available for the duration of the winter season. Two snow plow routes were contracted.

Equipment availability prior to and during a storm event has no margin for error since there is no equipment redundancy. Municipal Operations is working very closely with the Materials & Fleet Management Department to ensure a reliable fleet. Some level of equipment redundancy would increase the capability for continuous operations. During numerous storm events this past winter season, the level of response was limited for a period of time due to a number of pieces of equipment requiring repairs simultaneously. Mechanic's shifts were adjusted to better deal with equipment repairs throughout the winter season in an effort to reduce equipment down time with some success.



Post winter season inspections have been completed for all snow clearing and removal equipment and repairs are being scheduled in such a manner that this equipment is fully operational prior to November 2011. By completing these repairs in a coordinated manner, it reduces the opportunity for the frequency and severity of equipment failure making emergency repairs during storm events more manageable.

Equipment storage outside of the winter season presents a large opportunity to maintain the equipment integrity and readiness for the next winter season. In 2012, an Equipment Storage Plan is being developed to better manage the lesser utilized equipment such as snow blowers where fuel lines, hydraulic lines, bearings and seals must be replaced each year. A business case analysis will produce temporary versus permanent options.

Based on available resources, 5 routes were identified without an available resource assigned to it. 2 snow plow routes; Plow Route 30: South Bay and Plow Route 31: Morna were successfully contracted. Therefore, 2 loaders were leased to plow 2 routes and existing resources were utilized to service the 1 remaining route.

### **Part 9: Winter Drainage**

Prior to November 2010, a number of major drainage points were identified by using paint on the middle of the road with an arrow pointing towards a catch basin and / or a mark on the curb located above the catch basin.

A record of weekly drainage inspections was developed and 506/658 (77%) of inspections of the storm system catch basins were open during these inspections. 152/658 (23%) of catch basins were cleared of snow and / or debris immediately and were kept open on an ongoing basis.

There were approximately 14 winter drainage issues identified in the 2010 - 2011 winter season that lead to ice accumulation on roadways. These issues are in various stages of resolve, from investigation (Riverview Drive), survey (King William Roadway), plan, design (Ragged Point Road, Garnett Road, Bell Manor Road, Churchland Road, Lorneville Road, Acorn Drive, Everleigh Court, Woodward Avenue, Highfield Avenue) and completion of work (McGill Road, Loch Lomond Road, Hickey Road). Some work can be done relatively easily while other larger projects are included in the Municipal Operations & Engineering General Fund Capital Program (sections of Kingsville Road, Saint Clair Avenue, Reed Street, Alward Street, Black Street and Woodward Avenue).

**Part 10: Winter Asphalt Maintenance**

The purpose of Winter Asphalt Maintenance is to provide emergency repair of street defects and potholes for roadway safety and winter driveability. From December 2010 to April 2011, over 550 potholes have been repaired using approximately 140.9 metric tonnes of Tech-Mix at a cost of \$22,290.38 (material only) leaving an inventory of 0 metric tonnes. Saint John Water has taken on the responsibility of performing temporary repairs to utility service cuts and is reflected by the lower tonnage and cost of Tech Mix used. The 2010-2011 winter season presented many challenges regarding pothole repairs. Streets were snow covered or inundated with water for the majority of the winter season hampering efforts. More focus was spent on snow removal than the previous winter season leading to a reduced capacity for pothole repairs.

	Tech-Mix	Cost	Potholes
2009-2010	263.3 tonnes	\$40,810.81	700
2010-2011	140.9 tonnes	\$22,290.38	550

There were occasions where City personnel were required to repair the same pothole numerous times, especially at the corner of Union and Smythe Streets. Tech-Mix (cold mix) is placed into the pothole and hand compacted. Vehicle tires, especially heavy commercial trucks and trailers, often have some of the Tech-Mix stick to their tires when traveling over the pothole, especially on hard turns like Union Street that effectively removes the material over a period of time and ongoing repairs are required. Once asphalt production facilities open in the spring, these street defects and potholes are permanently repaired using hot mix asphalt. 43 tonnes of hot asphalt material (\$6,317) was required to apply a more permanent repair the Union and Smythe Streets damage.

In the summer of 2011, A Preventative Maintenance Program was developed to identify roadway structures (catch basins and manholes) that require repairs prior to the next winter season to minimize plow equipment damage. 433 structures exhibited some type of failure. Utilizing existing resources, 37 permanent repairs were completed through the asphalt resurfacing program (27), the Capital Program (10) and <120 temporary repairs (asphalt collaring) were done until permanent repairs can occur.

**Part 11: Responsibilities and Reporting**

Reporting mechanisms have been developed to address the deliverables of the *Winter Management Plan* that include adjustments to shift reports, Standard Operating

Procedures, route completion tracking forms for street and sidewalk plowing, and snow removal activities.

There is opportunity for review of these existing documents and the ability to make continuous improvements to them. Several other Standard Operating Procedures must be developed to continuously improve the level of service provided to the public, especially with respect to By-law enforcement activities. Continuing into the 2012 – 2012 winter season, further reporting mechanisms must be developed to better reflect the Measures associated with each Part of the *Winter Management Plan* such that meaningful and accurate benchmarks can be established and measured against on an ongoing basis.

### **Part 12: Training and Plan Administration**

An information and training session was held with all Municipal Operations Managers and Foremen in early November 2010 to discuss the details of the *Winter Management Plan* and to plan for the upcoming winter season. Personnel were exposed to new equipment pre and post trip inspections to better identify and report necessary minor repairs before they became larger ones resulting in longer periods of equipment downtime. No junior personnel received the formal winter course, front end loader and tandem operation training in 2010. A number of junior personnel did receive informal peer training by spending time in equipment with experienced equipment operators. Formal training will be conducted in November 2011 to expand operational capability for street plowing operations.

A Post winter season debriefing session was held in June 2011 to discuss the benefits and opportunities for improvement for each Part of the *Winter Management Plan*. Many opportunities such as some minor adjustments to some of the longer routes were suggested in an effort to make the street plowing operations more manageable. The Sidewalk maintenance routes were examined and adjusted to reflect the severe volume from the public requesting additional service. Some routes were adjusted to reflect the priority for additional service while less priority sidewalks were removed from the Plan. Routes were then analyzed and adjusted to meet the new service priority structure. The street plowing and Winter Street Parking Restriction route maps have been updated on the City website and individual route are being updated into the new ESRV system to reflect route changes and to include new streets and sidewalks that were added to the City's transportation network inventory.