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**Report**  
**Budget Committee**  
Committee of the Council of  
The Corporation of the City of Brampton

**Date:** March 16, 2015

**Budget Committee**

**Date:** Mar 30, 31 & Apr 2, 2015

**File:** I.ACSNOW; I.ACLEAF

**Subject:** **2015 Service Level Scenarios – Winter Maintenance and Fall Leaf Vacuum Program**

**Contacts:** Michael J. Parks, Director, Road Maintenance and Operations, Maintenance and Operations Division, Planning and Infrastructure Services Department, 905-874-2572

**Overview:**

- The Planning and Infrastructure Services Committee directed staff to refer the Winter Service Program and current minimum maintenance service levels to the Budget Committee for consideration of additional service level scenarios for the 2015 operating budget.
- Additional service level scenarios for driveway snow windrow clearing and increasing sidewalk clearing to include the entire City sidewalk network are provided.
- Increased service level option of plowing by reducing the threshold from 7.5 cm to 5 cm to minimize snow pack has been provided.
- In response to a request made by Regional Councillor Gibson to return the Fall Leaf Vacuum Program to 2008 service levels, costs have been provided.

**Recommendations:**

1. **THAT** the report from Michael J. Parks, Director, Road Maintenance and Operations, Maintenance and Operations Division, Planning and Infrastructure Services Department dated March 16, 2015, to the Budget Committee meeting of March 30, March 31 and April 2, 2015 re: **2015 Service Level Scenarios – Winter Maintenance and Fall Leaf Vacuum Program (I.ACSNOW; I.ACLEAF)** be received; and
2. **THAT** the current winter service levels be maintained; and
3. **THAT** the costs for reducing the plow threshold to 5 cm be received for information purposes; and

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4. **THAT** the costs to return the Fall Leaf Vacuum Program to 2008 service levels be received for information purposes.

### **Background:**

At the Planning and Infrastructure Services Committee meeting held on February 23, 2015, the following Item P&IS032-2014, clause 2 was approved:

*That the Winter Service program and current minimum maintenance service levels be referred to the Budget Committee to consider whether additional service level scenarios should be considered for the 2015 winter budget.*

### **Current Situation:**

#### Overview of Winter Services

The Planning and Infrastructure Services Department is responsible for maintaining the City of Brampton's road, sidewalk, transit stop and park recreation trail networks, recreation facility and fire hall parking lots, Rose Theatre Garden Square and City Hall Ken Whillans Square, in a safe and passable condition in accordance with the provisions of the Municipal Act and Council approved Levels of Service.

#### Infrastructure Maintained (2014-2015 winter season)

Maintenance and Operations maintains the following infrastructure:

- Roads – 3,685 lane kms
- Courts – 1,029
- Sidewalks and walkways – 840 kms
- Transit stops – 2,260
- School crosswalks – 250
- Park recreation trails – 241 km
- Recreation facility parking lots – 62
- Fire Hall parking lots – 15 (includes 2 volunteer stations)
- Rose Theatre Garden Square
- City Hall Ken Whillans Square and West Tower

#### Winter Service Levels

The current winter service levels are outlined in Appendices 1 & 2.

#### Winter Service Delivery Challenges

##### **Extreme Cold Temperatures:**

Prolonged stretches of extreme cold temperatures greatly affect winter maintenance efforts, as the effectiveness of salt (NaCL) used to treat roads, sidewalk, parking lots, etc., is greatly reduced when temperatures drop below – 9°C. While rock salt will still generally achieve the desired outcome on arterial and collector roads due to higher

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traffic volumes, it takes an extended period of time on local roads. Staff has responded to these extreme temperature situations by pro-actively stockpiling a limited supply of Magnesium Chloride (MgCL) treated salt. The MgCl treated salt has proven to be more effective in initial extreme cold temperature tests, so staff has incorporated the costs of using this material into the winter materials budget.

### Parking on Local Streets During Winter Events:

Plow operations are continually impeded by parked vehicles. Therefore, staff has worked closely with Enforcement to establish a streamlined process whereby the parked vehicle locations are reported, logged, attended to by officers and then followed up by plow operators in situations where the vehicle(s) have been towed. It is also standard practice for plow operators to return to streets that they could not initially access. While these practices allow for the clean-up of the locations that would otherwise not be plowed properly due to the parked vehicles, staff has typically had to resort to re-deploying plows for a second time during off-peak times to achieve the desired results.

### Snow Pack and Messy/Slushy Conditions on Local Roads Between Winter Events:

While the Council approved levels of service exceed the Minimum Maintenance Standards set out in Regulation 239/02 in the Municipal Act, staff recognize that messy/slushy conditions can still be a concern on local roads. This past winter as a pilot we slushed off certain areas, and are considering doing this going forward in future years. This additional effort will have a negligible impact on the budget.

### Additional Service Level Scenarios

#### Driveway Snow Windrow Clearing:

Previous reports to Council have estimated the costs of providing this service, based on Vaughan and Toronto's programs. Vaughan remains the only municipality in the GTA that endeavours to provide this service Citywide. Vaughan's program is to remove the windrow from 80% of the width of each driveway and Toronto's program is to clear a minimum 3 m wide opening. It is estimated that out of approximately 124,000 driveway openings fronting on City of Brampton roads, approximately 100,000 of these could feasibly be cleared as part of a driveway windrow snow clearing program. This is due to restrictions in property frontage and boulevard snow storage capacity. The updated estimated cost to provide this service including additional snow clearing, administration and damage repairs is provided below in Table 1. Further considerations are detailed in Appendix 3.

Staff is recommending that the current winter levels of service not be amended to include a driveway snow windrow clearing program due to the program's high cost and that not all residents will receive the service.

**Expanding Sidewalk Clearing Service:**

As of Fall 2014, the City's sidewalk network has grown to a total of 1886 kms. Sidewalks meeting the Council approved criteria totalled 44% of the total sidewalk network. The remaining 56% is required to be maintained by Brampton property owners as per By-Law 242-76. Based on the current average route size, 77 additional pieces of sidewalk equipment and 7,000 tonnes of material would be required to carry out this service.

The estimated cost of expanding this service, including standby and operating hours for additional contractor equipment, additional sand/salt mix and sod repairs, is detailed in Table No. 1. Further considerations are detailed in Appendix 3.

Staff is recommending that the current winter levels of service not be amended to expand City sidewalk maintenance to the entire sidewalk network, due to the program's high cost and it's challenges as identified in Appendix 3.

**Reducing the Plowing Threshold to 5cm:**

It was suggested that to minimize snow pack on local roads, the plowing threshold could be reduced from 7.5 cm to 5 cm. In an average winter season, it is anticipated that five additional plowing events will be required. The estimated cost of reducing the plow threshold including additional operating hours for existing equipment is detailed in Table No. 1. Further considerations are detailed in Appendix 3.

Staff is recommending that current winter levels of service not be amended to reduce the plow threshold to 5 cm as it is a non-effective use of equipment and causes more frequent windrows to be created.

**TABLE NO.1.**

<b>Service Level Increase</b>	<b>Cost Considerations</b>	<b>Estimated Budget Increase</b>
<b>Driveway Snow Windrow Clearing:</b> To provide driveway windrow clearing service to approximately 100,000 of 124,000 driveways opening onto City right-of-ways.	Windrow clearing	\$2,180,000
	Snow removal	\$2,000,000
	Admin costs	\$250
	Costs associated with damages	\$50
	<b>Total Budget Increase</b>	<b>\$4,480,000</b>
<b>Expanding Sidewalk Clearing Service:</b> To provide sidewalk clearing service on the remaining 56% of the City sidewalk network, not currently cleared by City	Additional equipment	\$3,030,000
	Additional material	\$168,000
	Costs associated with damages	\$12,000
	<b>Total Budget Increase</b>	<b>\$3,210,000</b>
<b>Reducing the plow threshold for local roads to 5cm.</b>	<b>Total Budget Increase</b>	<b>\$535,000</b>
<b>Total Budget Increase For All Winter Service Level Increases</b>		<b>\$8,225,000</b>

Fall Leaf Vacuum Program

In December 2008, Council approved staff's recommendation to limit the Fall Leaf Vacuum Program to the downtown core only. All other areas, including those previously serviced by the program, would now be serviced by the Region's Garden Waste Collection Program.

Currently, the Fall Leaf Vacuum Program remains restricted to the downtown core only and is fully contracted out. The Region then removes the collected leaves and reimburses Brampton the amount it would have paid its waste collection contractor. Last year, the net cost to the City was \$50,000. 2014 was the first year of a two year contract with an additional optional year. If the City were to return to the 2008 service levels, whereby areas 30 years and older would receive fall leaf vacuum service, it is estimated that this would cost an additional **\$375,000** to complete the total of 800 curb kms that would meet the criteria for this service.

**Corporate Implications:**

Financial Implications:

The following chart indicates the Estimated Operating Costs associated with the options outlined in this report. The estimated costs could be higher or lower depending on the severity of winter:

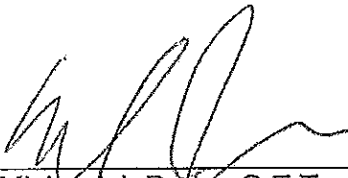
Service Level Increase	Description	Estimated Annual Cost	Equivalent Tax Levy Increase
Driveway Snow Windrow Clearing	To provide driveway windrow clearing service to approximately 100,000 of 124,000 driveways opening onto City right-of-ways.	\$4,480,000	1.24%
Expanded Sidewalk Clearing Service - (All City Owned Sidewalks)	To provide sidewalk clearing service on the remaining 56% of the City sidewalk network, not currently cleared by City	\$3,210,000	0.89%
Reduce plow threshold to 5 cm.	To provide additional plowing by reducing the plow threshold for local roads to 5 cm.	\$535,000	0.15%
Expanded Leaf Vacuum Services (Reinstatement of 2008 service levels)	To provide Leaf Vacuum services to Areas 30 years and older.	\$375,000	0.10%

**Strategic Plan:**

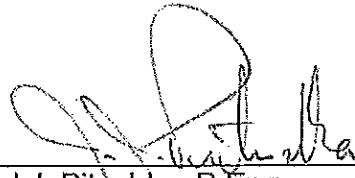
This report outlines the winter maintenance initiatives that efficiently and effectively achieve the Strategic Plan priorities of creating and maintaining streets and transportation networks that accommodate motorists, pedestrians, cyclists and transit.

**Conclusion:**

The recommendations submitted by staff in this report will continue to provide Brampton residents with a safe and passable road and sidewalk network each winter season, while respecting potential environmental impacts and taking into account the future sustainability of winter operations. Proactive monitoring of local roads and the removal of messy/slushy conditions between winter events will further improve road conditions for residents.



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 Operations  
 Maintenance and Operations



J.J. Pitushka, P.Eng.,  
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**Appendices:**

- Appendix No. 1 - Winter Service Levels - Roads, Sidewalks, School Crosswalks And Transit Stops
- Appendix No. 2 - Winter Service Levels For Park Trails, Parking Lots, Rose Theatre And City Hall
- Appendix No. 3 - Service Level Review Options

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Approval for Submission:		
	Initials	Date
Chair, SMT	N/A	
Department Chief	MB	15/03/15
Chief Administrative Officer	B	26/3/15

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**APPENDIX NO. 1 - WINTER SERVICE LEVELS  
ROADS, SIDEWALKS, SCHOOL CROSSWALKS AND TRANSIT STOPS**

<b>INFRASTRUCTURE</b>	<b>SERVICE LEVEL</b>	<b>METHODOLOGY</b>
Arterial/Collector Roads	<ul style="list-style-type: none"> <li>Continued treatment until storm ends</li> </ul>	<ul style="list-style-type: none"> <li>Treated with salt brine prior to snow accumulation or freezing rain</li> <li>Plowed and treated with salt or salt brine as required</li> </ul>
Local Residential Roads (including Courts)	<ul style="list-style-type: none"> <li>Safe and passable</li> </ul>	<ul style="list-style-type: none"> <li>Roads treated with salt</li> <li>Plowed after snow accumulation approaches 7.5 cm (3") during a single winter event or if icy/rutted roads a likelihood</li> </ul>
Private Streets	<ul style="list-style-type: none"> <li>Maintenance is responsibility of property owners</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
Sidewalks/Walkways	<ul style="list-style-type: none"> <li>Safe and passable</li> </ul>	<ul style="list-style-type: none"> <li>City owned sidewalks and unassumed sidewalks (that are continuously connected) plowed and receive a sand/salt treatment on:               <ul style="list-style-type: none"> <li>Arterial and major collector roads</li> <li>Roads serviced by Brampton Transit</li> <li>Boulevards which measure less than 0.9 m (3') between back of curb and sidewalk face</li> <li>Fronting City property including buildings, facilities and park lands</li> <li>Reverse frontage</li> </ul> </li> <li>All other sidewalks are responsibility of property owners</li> </ul>
School Crosswalks	<ul style="list-style-type: none"> <li>Safe and passable</li> </ul>	<ul style="list-style-type: none"> <li>Cleared and treated with salt or sand/salt mix as required</li> </ul>
Transit Stops	<ul style="list-style-type: none"> <li>Safe and passable</li> </ul>	<ul style="list-style-type: none"> <li>Cleared and treated with salt or sand/salt mix as required</li> </ul>
Completion Times	<ul style="list-style-type: none"> <li>Within 24 hours after end of winter event; 48 hours or greater if event is severe or prolonged</li> </ul>	<ul style="list-style-type: none"> <li>End of weather event confirmed by Environment Canada data</li> </ul>
Snow Removal	<ul style="list-style-type: none"> <li>Snow removed when storage space is maximized and/or vehicle/pedestrian traffic is hindered</li> </ul>	<ul style="list-style-type: none"> <li>Generally done concurrently:               <ul style="list-style-type: none"> <li>Downtown area</li> <li>Bridge decks</li> <li>Curb face sidewalks</li> <li>Courts</li> </ul> </li> </ul>
Patrols	<ul style="list-style-type: none"> <li>24 hours/day, 7 days/week including weekends and statutory holidays</li> </ul>	<ul style="list-style-type: none"> <li>Specific routes and timelines assigned in accordance with Province's Minimum Maintenance Standards for Municipal Highways</li> </ul>

For roads and sidewalks, all service levels are to be completed within 24 hours after the end of the winter event, 48 hours or more for severe or prolonged events. A severe event is defined as one that requires resources to be deployed for more than 14 hours continuously. This requires a "Significant Event" to be declared by senior management in accordance with the Highway Traffic Act to allow for equipment operators to work beyond 14 hours in a 24 hour period.

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**APPENDIX NO. 2 - WINTER SERVICE LEVELS FOR  
PARK TRAILS, PARKING LOTS, ROSE THEATRE AND CITY HALL**

<b>INFRASTRUCTURE</b>	<b>SERVICE LEVEL</b>	<b>METHODOLOGY</b>
Park Recreation Trails	<ul style="list-style-type: none"><li>• Safe and passable 48 hours after the end of winter event</li></ul>	<ul style="list-style-type: none"><li>• Treated with salt and plowed as required</li></ul>
Bridges along Trails	<ul style="list-style-type: none"><li>• Safe and passable 48 hours after the end of winter event</li></ul>	<ul style="list-style-type: none"><li>• Treated with sand/salt mix and plowed</li></ul>
Fire Hall Parking Lots	<ul style="list-style-type: none"><li>• Safe and passable 12 hours after the end of winter event</li></ul>	<ul style="list-style-type: none"><li>• Treated with salt and plowed as required</li></ul>
City Facility Parking Lots	<ul style="list-style-type: none"><li>• Safe and passable 24 hours after the end of winter event</li></ul>	<ul style="list-style-type: none"><li>• Treated with salt and plowed as required</li></ul>
Rose Theatre Garden Square and City Hall Ken Whillans Square	<ul style="list-style-type: none"><li>• Safe and passable 12 hours after the end of winter event</li></ul>	<ul style="list-style-type: none"><li>• Treated with salt and plowed as required</li></ul>



**APPENDIX NO. 3 - SERVICE LEVEL REVIEW OPTIONS**

Issue	Comments	Options	Additional Impact to Annual Budget	Additional Considerations
Arterials, Collectors and Roads with Schools	No changes.	N/A	None	None
Local Residential Roads (including courts)	Salted when less than 7.5 cm accumulation in a single event. Plowed and salted when 7.5 cm or more accumulation in a single event.	<ol style="list-style-type: none"> <li>1. Maintain current service levels and plow messy/slushy local roads when required.</li> <li>2. Reduce plow threshold to 5 cm.</li> </ol>	<p>Negligible</p> <p>\$535,000 (based on 5 additional plow operations)</p>	<p>None</p> <ul style="list-style-type: none"> <li>• Not effective use of equipment</li> <li>• More frequent windrows are created</li> </ul>
Driveway Snow Windrow Clearing	Service is not currently provided for approx. 124,000 driveways on City owned roads. Residents who meet the Snow Removal Financial Assistance criteria can receive up to \$100/\$150 per winter season to help offset costs to clean driveways and sidewalks.	<ol style="list-style-type: none"> <li>1. Maintain current service level</li> <li>2. Remove snow windrows, where possible, at driveways on City owned roads</li> </ol>	<p>None</p> <p><b>\$4,480,000</b></p> <p>This figure is comprised of an average annual cost of \$20 per driveway, based on the Vaughan and Toronto programs, for 100,000 driveways, plus additional snow removal, administrative and damage repair costs.</p>	<p>None</p> <ul style="list-style-type: none"> <li>• Discriminatory service, as staff estimates that only 100,000 of 124,000 driveways would be serviceable, due to lack of boulevard snow storage in many subdivisions.</li> <li>• Insufficient time to procure the required resources to implement this program for 2015-2016 winter season.</li> <li>• Availability of custom built attachments for the equipment required for this operation.</li> <li>• Additional space required to store 86 tractors or graders.</li> <li>• Additional time and resources required to create and maintain an inventory of driveways meeting criteria for clearing, preparation of route maps, communications to residents, quality assurance for operations and response to resident concerns. Vaughan and Toronto staff reported that this program generates their highest volumes of service requests.</li> <li>• Additional snow removal operations required due to encroachment of driveway windrow piles into streets, after 3 to 4 plow events.</li> <li>• Repairs to driveways and private curbs, as a result of damage caused by windrow clearing equipment.</li> </ul>

**APPENDIX NO. 3 - SERVICE LEVEL REVIEW OPTIONS CONT.**

Issue	Comments	Options	Additional Impact to Annual Budget	Additional Considerations
Sidewalk Clearing	Current level of service criteria provides for the clearing of 831 kms out of the total 1886 kms of sidewalk.	<ol style="list-style-type: none"> <li>1. Maintain current service level.</li> <li>2. Clear all City owned sidewalks.</li> </ol>	<p>None</p> <p>\$3,210,000</p> <p>This figure is comprised of additional contractor equipment standby and operating costs, sand/salt mix required and sod repairs.</p>	<p>None</p> <ul style="list-style-type: none"> <li>• Enforcement of By-Laws related to right-of-way obstructions (private driveway curbs, retaining walls, plantings, etc.) to ensure safe, unimpeded access for sidewalk to be cleared.</li> <li>• Additional parking enforcement to ensure access to clear sidewalks is not obstructed by parked vehicles.</li> <li>• Additional space required to store 77 pieces of equipment and 7,000 t of material.</li> <li>• Additional sod, boulevard and private property repairs.</li> </ul>

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