

Request for Decision

Snow Removal Report

Presented To:	Operations Committee
Presented:	Monday, Nov 18, 2013
Report Date	Thursday, Nov 14, 2013
Type:	Managers' Reports

Recommendation

For Information Only

Background

Summary

During winters with excessive snowfalls, the number of complaints about snow bank heights and corresponding access to/from private driveways increases. High snow banks also create concerns for access to parking in the downtown business core, for ensuring adequate sight lines at intersections, and for ensuring there is sufficient road width for vehicular traffic.

The existing snow removal policy is adequate to ensure a reasonable level of service to address snow banks in the downtown core, for sight lines at intersections and for lane widths. Additional snow removal is not recommended principally because there has not been a demonstrated need and, the logistical requirements for additional snow removal are viewed as impractical.

Removing snow banks or reducing the height of snow banks to improve sight lines at private driveways would require an enhanced service policy change and is not recommended. Such a policy change would transfer liability to the City and result in a higher probability of claims for vehicle and pedestrian collisions. Additionally, this policy enhancement would result in prohibitively expensive and unnecessary snow removal operations to mitigate against potential claims.

Background

In response to many questions and concerns and as requested by Council, staff has prepared a report summarizing existing snow removal activities along various classifications of roadways throughout the City. Snow removal is the process of removing snow banks that accumulate along the side of roadways after the snow plowing activity. The graph attached as Appendix 'A' depicts the ACR calls (received from public) related to specific activities over the past five winter seasons. As highlighted, 17,317 winter related ACR calls were recorded over the past five winter control seasons (Nov. 1, 2008 to April 30, 2013) of which 1,809 ACR calls (10%) were related to snow banks/sight line concerns. The percentage of ACR calls related to snow banks/sight line concerns rose to 15% (686 calls) during the past winter control season given the larger snow fall quantity experienced in the City. Snow bank/sight line calls include issues with sight lines at intersections and private driveways, and snow accumulation along roadways.

Signed By

Report Prepared By

Randy Halverson
Manager of Operations
Digitally Signed Nov 14, 13

Division Review

David Shelsted
Director of Roads & Transportation
Services
Digitally Signed Nov 14, 13

Recommended by the Department

Tony Cecutti
General Manager of Infrastructure
Services
Digitally Signed Nov 14, 13

Recommended by the C.A.O.

Doug Nadorozny
Chief Administrative Officer
Digitally Signed Nov 14, 13

The volume of calls for snow banks and sight lines are dependent on the type of winter. As noted in Appendix 'A', there was a significantly higher volume of calls during the 2008/2009 and 2012/2013 winter seasons. These winter seasons had significant snowfall without any warm periods or rainfall events that would naturally reduce the snow bank height.

The report provides Council with clarification on how the existing policy addresses issues raised by property owners. The issues include, but aren't limited to; snow removal at the end of driveways and commercial entrances, bus stops, additional snow removal in the downtown business districts (parking meter access), and snow removal in dead ends and cul-de-sacs. Staff reviewed various snow removal techniques including snow pickup (with loaders/backhoes and trucks), snow blowing (large snow blowers, graders, sidewalk plows and trucks) and snow benching (graders, loaders and trucks). Opinions are also provided on enhanced snow removal for issues not covered in the current policy.

Existing Service Level

The current service model provides budget for snow removal in the various downtown business districts up to twice per year. The trigger point for snow removal in the various downtown business districts is based on snow bank height and time of year. Select bus stops are cleared after each major snow event. Sight lines at intersections and pedestrian cross walks are cleared of snow when visibility is hindered (snow bank height greater than 1.5 metres). Roadway snow clearing is conducted only when lane widths become too narrow. Residents and other private property owners are responsible for maintaining sight lines on their own driveways.

The current budget for this activity is approximately \$650,000 and is based on an average expenditure from the past five (5) years. The annual budget for snow removal at 110 bus shelters and 257 bus stops is approximately \$80,000. All of the bus stop snow removal is currently being performed by contractors. Bus stop snow removal occurs during the night shift subsequent to the end of a general callout (accumulation of 8 cm of snow).

Community Comparison

Staff polled four other northern municipalities (North Bay, Sault Ste. Marie, Thunder Bay and Timmins) to compare snow removal policies. All have similar policies as it relates to snow removal in the central business districts and sight lines at intersections, but differ on number of bus stops receiving snow removal and snow removal along roadways. All communities polled use lane width as a trigger point for snow removal along roadways. Timmins and Sault Ste. Marie perform full snow bank removal along roadways as part of their regular winter control activities, and is primarily related to the extent of on-street parking and different weather patterns than we experience in Sudbury.

Snow Removal Techniques

Table 1 provides a summary of alternative snow removal techniques and their applicability for various applications.

Table 1				
Snow Removal Technique	Applicability	Pros	Cons	Current Usage
<u>Snow Blowing</u> - snow hauled to the snow dump (Operation utilizes snow blowers, loaders, graders, MT's and trucks)	Urban areas with paved boulevards (mainly Class 1 – 3 Roads)	Very thorough Limited potential for damage	Expensive	Central business districts
<u>Snow pickup</u> – snow hauled to snow dump (Operation utilizes loaders, MT's, trucks)	Urban / Rural areas	Very thorough Limited potential for damage Can be used as fill in work during the winter months	Expensive Slow	Sight lines at intersections Bus stops

<u>Snow benching</u> – snow deposited in ditches / behind curbs (Operation utilizes graders and loaders)	Urban / Rural areas	Fast Smaller banks will remain Requires snow pickup at driveways	Potential for front yard damage in residential areas Not a viable option in areas with sidewalks abutting curb / boulevard	Rural areas where open ditches are present only when roadway width is an issue
--	---------------------	--	---	--

Staff also looked into snow melting units, but found this technique to be costly and difficult because of the issues associated with discharging melt water in storm sewers and open ditches.

Additional Snow Removal

The current policy requires the City to remove snow banks to address parking in the downtown core, to access bus stops, to improve sight lines at intersections and to ensure adequate roadway lane widths. Additional snow removal on roadways could be performed for the purpose of enhancing parking opportunities and/or improving the driven lane width.

Staff reviewed various additional snow removal options for traveled roadways. Options could include additional snow removal on arterial roadways to removing snow banks on all urban and rural roadways. Preliminary estimates suggest that these additional removal activities could result in annual budget enhancements ranging from \$650,000 to over \$4,000,000.

In analyzing these additional snow removal options, the following concerns were identified and would require further consideration:

- The City operates a minimum number of snow dump sites which may not be conveniently located for larger scale removal operations;
- Significant snow removal operations cannot be completed by existing City staff and will require a separate contract(s) to ensure the availability of contractor staff and equipment. This may require the City to pay standby charges throughout the winter and in years where additional snow removal is not required;
- The sheer magnitude of the removal requirements present logistical challenges for removing the snow in a reasonable period of time;
- The enhanced service levels described above assumes staff will be able to enter into a service contract that will provide the proper amount of equipment and staff to complete the work. To put the effort required to perform snow removal in context, the current snow removal effort in downtown Sudbury takes five, eight hour shifts and requires a loader with snow blower attachment, two graders, three municipal tractors, nine semi-trailer dump trucks, a crew cab utility truck and 17 staff to complete. The total length of roadway serviced in this scenario is 8.5 km (1.7 km per eight hour shift);
- The additional snow removal will take time to be completed, and depending on the weather, some areas may not receive snow removal services before the snow banks naturally melt to the point that sight lines are no longer of concern.

Any consideration for additional snow removal should be weighed against the existing policy and the need for additional removal. The existing policy allows staff to remove snow if the travelled roadway does not provide a reasonable width to accommodate traffic.

The winter control budget is based on a five year average cost for snow removal. Staff are allowed to exceed the five year average budget during years with heavy snow fall. If staff receive complaints regarding the width of roads, the existing policy allows staff to measure the width against a standard and to remove snow if necessary.

It is the opinion of staff that the current snow removal policy and funding envelope provide a reasonable level of service on the travelled roadway and additional snow removal is not necessary.

Service Enhancement Considerations

The current service level for snow removal is designed to address parking in the downtown cores, access to bus stops, sight lines at intersections and lane width. The current policy places the responsibility for maintaining sight lines at

driveways and commercial entrances with the property owner and vehicle operator.

Sight lines at private driveways and commercial entrances are extremely variable. Sight lines depend on the orientation of the entrance, width and length of the entrance, proximity to adjacent driveways and climate conditions such as extent of sunshine and wind. Further complicating the available sight visibility at private driveways is the style of vehicle. Pick up trucks and other high seated vehicles have better capability to see over snow banks.

Snow removal techniques are not practical for partial snow bank height removal. In urban roadways, conventional snow removal equipment is not designed for partial height removal. In addition, complications would arise from pushing snow at partial height such as might be accomplished with a wing blade. This practise would be difficult to manage due to the many objects and structures that exist in boulevards, such as mailboxes, fire hydrants, fences and sidewalks.

For reasons stated above, it would be difficult to establish a partial bank height standard or preferred removal methodology. Where snow removal is required, it is more practical to remove the full height of the bank, particularly in urbanized roadways.

As previously mentioned, the current snow removal policy obligates the owner of a private entrance to remove snow to accomodate vehicle movement. This policy is consistent with the Highway Traffic Act, which obligates the vehicle driver to enter a public roadway in a safe manner. Should the City change the responsibility for snow removal policy to transfer responsibility of snow bank height from the property owner to the City, there would be a substantial increase in the City's liability.

Increased liability would stem from a policy that creates a reasonable expectation of service by the driver of the vehicle and property owner. The obligation to monitor performance with this enhanced service level would then rest with the City.

To mitigate against potential claims, it would be necessary to meet or exceed the minimum service level at all times. Since it is practically impossible to know what size of vehicles use any specific driveway, the policy would impose an unnecessary requirement to remove snow at all driveways.

In summary, any policy to remove snow at private entrances is not recommended for the following reasons:

- The City would unnecessarily transfer liability for safe vehicle operation from the vehicle operator to the City and increase the probability for claims from both vehicle and pedestrian collisions;
- Available technologies and the presence of numerous conflicts in road ways would result in unnecessary full height snow removal although only partial height removal is required;
- In an effort to mitigate potential claims for non-compliance with driveway clearing policies, it would be required to unnecessarily remove snow banks from many driveways that practically would not require the service;
- An increase in snow removal will also increase the claims for private property damage (ie. mailboxes).

Appendix 'A' Winter Maintenance Calls Recorded on ACR

