



REPORT

REPORT TO: Mayor Bonnette and Members of Council

REPORT FROM: Chris Mills, Commissioner of Transportation and Public Works

DATE: October 8, 2019

REPORT NO.: TPW-2019-0019

RE: 2019 Winter Control Operations

RECOMMENDATION:

THAT Report No. TPW-2019-0019, dated October 8, 2019, regarding 2019 Winter Control Operations, be received for information purposes only.

BACKGROUND:

The purpose of this report is to advise the Planning, Public Works and Transportation Committee on last winter events that have resulted in a number of public inquiries and concerns regarding ice buildup on local streets and sidewalks.

Compared to previous years, Public Works responded to a significant increase in the number of winter control events in 2019. Significant fluctuations in temperature combined with changing precipitation and blowing snow created unfavorable conditions on our roads, sidewalks, pathways and parking lots.

There are three areas where concerns were specifically raised. These are with blowing snow and icy road conditions on our roads, ice buildup on sidewalks, and ice buildup on local roads.

As a result, staff conducted a detailed review of the current Winter Maintenance Strategy with a view to recommend changes that would help improve the Town's response to extreme weather fluctuations on the public.

In discussions with neighboring communities, similar issues and challenges were experienced with winter control. They are also reviewing their practices to address the impacts of changing winter weather conditions. We will continue to monitor their work for best practices.

Over a six-week period, the weather events changed from snow to ice pellets to freezing rain to rain and back to snow again. Each of these types of precipitation and changes to the climate resulted in a wide range of surface conditions. As a result, this created unique challenges regarding how the event was approached and managed.

The following is a summary of major weather events that contributed to the road and sidewalk conditions:

Week of January 20th – January 26th:

Temperatures ranged from -15C (wind chill of -23) to 5C. Precipitation changed from snow to freezing rain to rain then back to snow.

Week of January 27th – February 2nd:

The week began with a total snow fall of 42 cm over three days. The highest snow fall since 1968. Temperatures fell to -17C (wind chill of -24C) and winds picked up, causing blowing snow conditions on rural roads.

Week of February 3rd – February 9th:

Temperatures rose to 11C and as they continued to fluctuate throughout the week, the precipitation changed from ice pellets (5cm total) to rain and back to snow.

Week of February 10th – February 16th:

Approximately 20cm of snow fell midweek. As temperatures increased to 2C the precipitation changed to rain. Temperatures then fell to -7C (wind chill of -14C).

Week of February 17th – February 23rd:

The week started with wind chills below -20C and a snowfall of 5cm before temperatures increased to 2C. With temperatures hovering around the freezing mark the week ended with back to back days of freezing rain.

Week of February 24th – March 2nd:

Although the week began with temperatures around 6C, high winds (90-120km/hr) caused a series of flurries that resulted in blowing snow, heavy drifting and dangerous driving conditions. Driving conditions were so hazardous that the neighbouring community of Wellington County closed their roads. By midweek, approximately 20cm of snow fell in Halton Hills and temperatures fell to -8C, (wind chills approached -27C).

CURRENT PRACTICES

Provincial Standards:

All municipalities are required to adhere to Provincial Minimum Maintenance Standards, Municipal Act, 2001- O. Reg 239/02 for road maintenance activities. These standards include minimum requirements for snow and ice clearing. Halton Hills meets or exceeds

these standards. These standards were endorsed by Council and are included in Attachment "A".

Winter Road Patrol:

From November 15 until April 15 the municipal road network, along with regional roads, are monitored three times a day, seven days a week by Halton Hills staff. There are specific routes that are continuously followed and any road conditions that need attention are reported and staff are dispatched accordingly. It should be noted that winter road conditions vary greatly within Halton Hills from the south to the north.

Blowing Snow or Icy Conditions:

The winter control process begins with snow clearing on arterial and collector roads and then moves to local streets, parking lots, and sidewalks. Once the majority of streets are plowed, staff starts clearing municipal parking lots and sidewalks. Staff may be reassigned to road clearing should weather conditions dictate.

There are specific areas where blowing snow is a concern and when weather reporting indicates pending blowing conditions, staff are dispatched to those areas. It should be noted that standard salting operations may not be effective in blowing conditions. At times, sand is used. In addition, heavy traffic can create icy conditions with blowing snow.

Ice Build Up on Sidewalks:

The Town currently plows sidewalks and walkways based upon By-Law 10-0093 which considers the road category, traffic volume, and sidewalks part of school routes.

Public Works currently clears over 157 kilometers of sidewalk in the community. There are approximately 239 kilometers in total throughout Halton Hills.

In addition to the sidewalks in the Town, there are 66 walkways that connect streets to parks or other area streets. Public Works staff currently clears 19 of these walkways as part of their sidewalk snow clearing activity.

The priority for Public Works staff is to plow the Fire Station, Recreation and Parks, and public parking lots first. Once these are completed, staff then focuses on sidewalk clearing operation.

Ice Buildup on Local Roads:

The ice buildup on the local roads was a significant issue this year and one that many municipalities experienced. The Minimum Maintenance Standards and Town approved snow clearing standards state that the local roads are prioritized after arterial and collector roads. That being the case, snow and ice buildup was excessive due to the significant freeze, thaw cycles. By the time staff were able to get to the local roads, this ice accumulation was very difficult to remove with traditional equipment.

In addition, there was a significant amount of on-street parking that created hazards and risks when trying to clear the ice. It is recommended that on-street parking be reviewed as part of the update to the Uniform Traffic Control By-law 84-01, as amended.

Fleet and Resources:

To carry out the snow clearing process, the Town uses 2 graders, 17 tandem axle trucks, 6 single axle trucks, 11 3-tonne small plow trucks, 7 sidewalk plows, 3 tractors with plows and 4 4-wheel loaders.

A Fleet Management Strategy is currently being completed that will provide input to the Corporate Asset Management Strategy PLCY-2018-0003. This strategy will consider the equipment being used for our current operations and will determine if there is a need for new and different equipment based upon the review of the winter maintenance practices above.

The Town deploys 45 staff working 24/7 to maintain our road network to minimum winter maintenance standards. Town staff are deployed through three 8-hour shifts. During critical time periods the shifts are increased to 12 hours subject to Ministry of Labour requirements.

OPTIONS FOR ENHANCING THE WINTER MAINTENANCE PROGRAM

Blowing Snow and Icy Conditions:

Staff are proposing a number of enhancements to the program:

- The winter patrol program will be updated with more emphasis placed on the specific “problem areas” in Halton Hills. Criteria for immediate response will be based on the wind and resultant blowing snow, the traffic volume, the road geometrics, and the potential for early ice buildup. Patrol staff will respond quickly and call out staff accordingly.
- Communication protocols will be enhanced to include electronic notifications and warnings to the community.
- Signage will be reviewed and enhanced in areas where conditions dictate.

Ice Buildup on Sidewalks:

To enhance the sidewalk clearing program an additional six (6) seasonal staff will be required to fully utilize existing equipment. In order to fund the additional seasonal resources, the following approaches have been considered:

- Re-locate resources from other activities to obtain additional seasonal staff.
- Transfer the responsibility of plowing the Fire Hall parking lots (3) and the Gellert Community Centre parking lot from Public Works to a private contractor, similar to

the two Arenas. This would free up approximately 4 seasonal staff and allow them to respond to municipal sidewalk plowing on a priority basis. Under this option, the Town would still need to hire, or re-allocate from other programs, two (2) additional seasonal staff.

Any changes to service provisions will be determined through the Operating Budget process. The preliminary costs are included in the financial section.

Local Road Ice Buildup:

There are a number of initiatives that were considered in order to address the ice buildup on local roads as described earlier in this report.

Changes to the snow clearing and winter maintenance standards regarding increasing salt application are not recommended. Halton Hills obtains its water from well based systems and these systems can be negatively affected by excessive salt usage. The Source Water Protection Act requires municipalities to have salt management plans in order to protect the natural environment. As such, the Town will continue to look for ways to minimized salt usage.

A number of initiatives will be implemented to manage ice buildup, should it reoccur.

- The Town currently has a grader scheduled for replacement. It is proposed to replace it with a compact unit that would serve two purposes. Firstly, it would be utilized for much of the shoulder grading on right of ways where access is limited. Secondly, it will be utilized to deal with local road ice issues, should they arise.
- Staff will review the utilization of a Two-Stage plow that incorporates ice and slush clearing capabilities. This piece of equipment has been added to the scheduled purchase of a Tandem snowplow in 2019. Staff will evaluate the effectiveness during the winter season. A Two-Stage plow is illustrated in Attachment "B".
- Parking restrictions and enforcement during winter storms will be reviewed. Other municipalities implement parking restrictions during storms to enable municipal equipment to effectively and safely clear the roads. These restrictions would be in place until the storm is over and the roads plowed.

RELATIONSHIP TO THE STRATEGIC PLAN:

This Report aligns with the strategic objective H.1 to provide infrastructure and services that meets the needs of our community in an efficient, effective and environmentally sustainable manner.

FINANCIAL IMPACT:

The financial impacts of the recommendations outlined in the Report are as follows:

- The cost implications of the blowing snow and icy conditions recommendations are minimal.
- The Purchasing Department obtained quotations for parking lot winter maintenance for the Fire Headquarters (D3), Maple Ave Fire Station (D2), Acton Fire Station (D1), and Gellert Community Centre from the existing contractor responsible for plowing Mold-Masters SportsPlex. According to the quotation, the winter season contract would be approximately \$25,000 for each fire station and \$49,000 for the Gellert Community Centre including plowing and salting after 5cm of snow for a total of \$124,000.
- At this time staff will reallocate resources from other services to obtain the additional seasonal staff.
- Sufficient funds are available to purchase a grader through the Equipment Replacement Reserve.
- The acquisition of a Two-Stage plow has been included in the purchase of the scheduled tandem replacement for 2019.

COMMUNICATIONS IMPACT:

Any changes to winter control service levels will be communicated prior to operations commencing in the fall as part of our regular snow clearing news release.

SUSTAINABILITY IMPLICATIONS:

The Town is committed to implementing our Community Sustainability Strategy, Imagine Halton Hills. Doing so will lead to a higher quality of life. The relationship between this report and the Strategy is summarized below:

This Report is not applicable to the implementation of the Community Sustainability Strategy.

PUBLIC ENGAGEMENT:

Public consultation was not required for this report.

CONSULTATION:

The option for transferring snow clearing responsibilities at the Gellert Community Centre and three Fire Halls has been discussed with the responsible Commissioners.

CONCLUSION:

Following the challenging winter conditions experienced earlier this year, staff have reviewed our winter control operations. As noted in the report, the changes identified will allow staff to better address ice buildup on roads and sidewalks. Staff will continue to monitor changing weather patterns and adjust our response as required to keep our roads and sidewalks safe during the winter months.

Reviewed and Approved by,

A handwritten signature in black ink, reading "Brent Marshall". The signature is written in a cursive style with a large, stylized 'B' and 'M'.

Brent Marshall, Chief Administrative Officer