



Meeting Date: December 6, 2023

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Report No: PWE 43-2023

Subject: Middlesex Centre Winter Maintenance Plan

Recommendation:

THAT Council receive for information report PWE 43-2023 Re Middlesex Centre Winter Maintenance Plan;

AND THAT Council approve the Winter Maintenance Plan for the Municipality of Middlesex Centre as attached in Appendix A.

Purpose:

The purpose of this report is to seek approval for the Municipality of Middlesex Centre's winter maintenance levels of service, through the adoption of the Winter Maintenance Plan.

Background:

The Municipality's Transportation Division of the Public Works and Engineering Department provides a full suite of winter maintenance services including roadway de-icing, roadway plowing, sidewalk clearing, and snow removal when required. Where mechanically possible, these services are delivered consistently and equitably to all areas of the Municipality in accordance with Provincial Legislation.

At the present time, the Division maintains the Municipality's 603 km of centerline road network and approximately 36.8 km of sidewalks.

There are no Provincial regulations requiring municipalities to have a winter maintenance plan. However, in discussion with the Municipality's Insurer, it was strongly suggested that in order to defend the Municipality in a claim, the Municipality should have a Council approved plan coupled with administration staff documenting operational activities demonstrating that the Municipality is complying with the Council approved plan and the Minimum Maintenance Standards.

Analysis:

As with most Ontario municipalities, winter control activities are carried out by the Municipality's Public Works and Engineering Department, which is closely monitored by the community. These activities include traditional activities such as: snow plowing, sanding/salting, snow removal, sidewalk snow plowing, and pre-treatment of roadways to avoid ice build-up.

Ontario municipalities must comply with the Minimum Maintenance Standards (MMS) contained in Ontario Regulation 239/02 (as amended) made under the Municipal Act during the winter maintenance periods. There are 3 winter-related and 9 year-round minimum maintenance standards to comply with and to document. It specifically covers activities such as:

- Routine patrolling
- Icy roadways
- Shoulder drop-offs
- Debris
- Signs
- Traffic control signal systems
- Bridge deck spalls
- Snow accumulation
- Potholes
- Cracks
- Luminaires
- Regulatory or warning signs
- Surface discontinuities

Within the MMS, Roadway Classifications are determined based on Average Annual Daily Traffic (AADT) volumes and posted speed limits. The classification of a road is determined by the below chart as per O. Reg 239/02.

Classification of Highways (O.Reg 239/02)

Columns 1 Average Daily Traffic	Column 2 91-100 km/h speed limit	Column 3 81-90 km/h speed limit	Column 4 71-80 km/h speed limit	Column 5 61-70 km/h speed limit	Column 6 51-60 km/h speed limit	Column 7 41-50 km/h speed limit	Column 8 1-40 km/h speed limit
53,000 or more	1	1	1	1	1	1	1
23,000-52,999	1	1	1	2	2	2	2
15,000-22,999	1	1	2	2	2	3	3
12,000-14,999	1	1	2	2	2	3	3
10,000-11,999	1	1	2	2	3	3	3
8,000-9,999	1	1	2	3	3	3	3
6,000-7,999	1	2	2	3	3	4	4
5,000-5,999	1	2	2	3	3	4	4
4,000-4,999	1	2	3	3	3	4	4
3,000-3,999	1	2	3	3	3	4	4
2,000-2,999	1	2	3	3	4	5	5
1,000-1,999	1	3	3	3	4	5	5
500-999	1	3	4	4	4	5	5
200-499	1	3	4	4	5	5	6
50-199	1	3	4	5	5	6	6
0-49	1	3	6	6	6	6	6

Based on the aforementioned roadway classifications, the MMS further dictates the minimum response time to address snow accumulation based on depth as follows:

Class of Highway	Depth (cm)	Time (hours)
1	2.5	4
2	5	6
3	8	12
4	8	16
5	10	24

Similar minimum response times are also specified for ice formation prevention, patrolling frequency, inspection of regulatory and warning signs, repairs of potholes, shoulders, sidewalk, luminaries, etc.

Commercial Vehicle Operator’s Registration (CVOR) Hours of Service

The Ministry of Transportations’ Ontario Regulation (O. Reg) 555/06 titled “Hours of Service” under the Highway Traffic Act came into effect January 1, 2007. The following is a summary of key points that will affect municipalities regarding hours of work for drivers operating under the municipal C.V.O.R. Depending on the severity of winter experienced, this legislation may affect the level of service delivery for winter maintenance activities.

As of January 1, 2007;

- Drivers of CVOR classified vehicles must take a minimum of 10 hours off duty every day, eight of which must be consecutive.
- The CVOR operator (Municipality) must make sure that the driver has taken 36 consecutive hours off duty (both driving and non-driving duties) in the previous 7days.
- The CVOR operator (Municipality) must require every driver to keep a daily log in accordance with Reg. 555/06.

Highway Traffic Act

The following is an applicable excerpt that is specifically related to the winter maintenance program from the Highway Traffic Act R.S.O. 1990, Chapter H.8 Section 170:

Vehicles interfering with traffic;

(12) Despite the other provisions of this section, no person shall park or stand a vehicle on a highway in such a manner as to interfere with the movement of traffic or the clearing of snow from the highway. R.S.O. 1990, c. H.8, s. 170 (12) Application of subs. (12), where by-law in force.

(13) The provisions of subsection (12) with respect to parking or standing in such a manner as to interfere with the movement of traffic or with the clearing of snow from the highway do not apply to a portion of a highway in respect of which a municipal by-law prohibiting or regulating parking or standing in such a manner as to interfere with traffic or with the clearing of snow from the highway, as the case may be, is in force. R.S.O. 1990, c. H.8, s. 170 (13).

Penalty

(14) Every person who contravenes this section is guilty of an offence and on conviction is liable to a fine of not less than \$20 and not more than \$100. R.S.O. 1990, c. H.8, s. 170 (14).

Powers of officer to remove vehicle

(15) A police officer, police cadet, municipal law enforcement officer or an officer appointed for the carrying out of the provisions of this Act, upon discovery of any vehicle parked or standing in contravention of subsection (12) or of a municipal by-law, may cause it to be moved or taken to and placed or stored in a suitable place and all costs and charges for removing, care and storage thereof, if any, are a lien upon the vehicle, which may be enforced in the manner provided by the Repair and Storage Liens Act. R.S.O. 1990, c.H.8, s. 170 (15).

Required Winter Maintenance Program

During the winter maintenance period, there are three (3) supervisory staff and two (2) lead hand staff on rotation and on call, 16 permanent equipment operators, two (2) full time mechanics/operators, and six (6) seasonal equipment operators. The winter maintenance period runs from November 1st to March 31st of each year, the Municipality operates three staggered shifts 5:00 a.m. to 1:30 p.m., 7:30 a.m. to 4:00 p.m., and 3:30 p.m. to 12:00 midnight. Monday to Friday. With a weekend and holiday patrol shift from 5:00am to 3:30pm. Staff are also tasked with patrolling during each shift to inspect and document roadway conditions. Staff are also deployed 24/7 as required to address winter storms beyond the aforementioned shifts as deemed necessary by the on-duty supervisor or lead hand.

The Municipality's winter maintenance program is equipped with:

- 14 pieces of combination road plowing and de-icing equipment
- 5 road plowing graders
- 3 front-end loaders
- 2 rubber tired backhoes; and,
- 2 sidewalk machines
- 1 one ton with plow and sander
- 1 ¾ ton with plow and sander

The Municipality also tracks weather conditions and deploys road temperature sensors outfitted to its fleet which monitors the road network for snow and ice detection in real time. Additionally, all divisional winter maintenance fleet is outfitted with a GPS based Automatic Vehicle Location (AVL) system. AVL is a means for determining the geographic location of a vehicle and transmitting this information to software where that data can be used/stored.

Snow Clearing Operations

The Municipality's winter maintenance response team has established a Winter Operations Plan as detailed in Appendix A below. Following a snowfall event, it can take:

- 8-12 hours to clear priority roads; and,
- 24 hours for all Municipal roads

A larger or continuous snowfall event may extend the time necessary to clear snow from local streets and cul-de-sacs.

As noted above the road classification dictates which roads take first "priority" (Classes 1-3) secondary and tertiary priority roads being Class 4, 5, and 6 roads will follow.

Priority roads (Class 1-3) carry the higher volumes of traffic and are most easily identified as main (arterial) roads or collector roads. These are the roads containing the highest AADT for which motorists predominantly use in and out of the Municipality. All remaining roads are primarily residential or secondary routes which are systematically plowed after the 'priority' routes are completed.

Sidewalks are cleared after snow accumulates in excess of eight centimetres (two and a half inches), and generally after roads are cleared. Sidewalk clearing is generally completed within 48 hours after the end of the storm; however, when a heavy snowfall, or successive winter events may occur, additional time is required by the Municipality to clear all sidewalks. Sidewalks are cleared to a snow packed condition, as the snow equipment does not allow for clearing down to bare concrete.

Winter Maintenance Resource Sharing

The County of Middlesex and some of the surrounding lower tier municipalities have in place an agreement/understanding, that in the event one or more of either the County or a lower tier municipality find themselves in a situation where staffing levels are inadequate to meet the requirements of the legislated minimum maintenance standards that staff, equipment, & materials would be shared (if available) to collectively assist each other as needed.

Respective municipal staff would track the date and time of request, location of request assistance, and the; equipment time, staff time, and material used in the event that the municipality is asked for assistance. Following the winter maintenance season invoices would be issued by the respective municipalities for reimbursement of the costs associated with these activities. A supervisory contact list and mapping information has been shared with each other in the event the sharing of resources is required.

Financial Implications:

All winter maintenance activities described within this report and the documents in Appendix A, are supported by the existing approved budget.

Strategic Plan:

This matter aligns with following strategic priorities:

- Sustainable Infrastructure and Services

This report and appended operating plan look to maintain a consistent level of service for residents in a cost-effective manner to ensure the safety of the public in adverse weather conditions.

Attachments:

Appendix A – Middlesex Centre Winter Maintenance Plan