
MEMORANDUM

PWC-C 17-2020

Subject: Councillor Information Request - Snowplow Costs

Date: June 16, 2020

To: Public Works Committee

From: Shawn McCauley, Associate Director Transportation Operations

The purpose of this memorandum is to provide a response to the following information request made at the Public Works Committee meeting held on January 14, 2020:

Councillor Gale requested information respecting any potential cost savings from snow clearing operations due to the mild winter we have had so far. He also inquired about the duties of plow operators when there is no snow clearing being done.

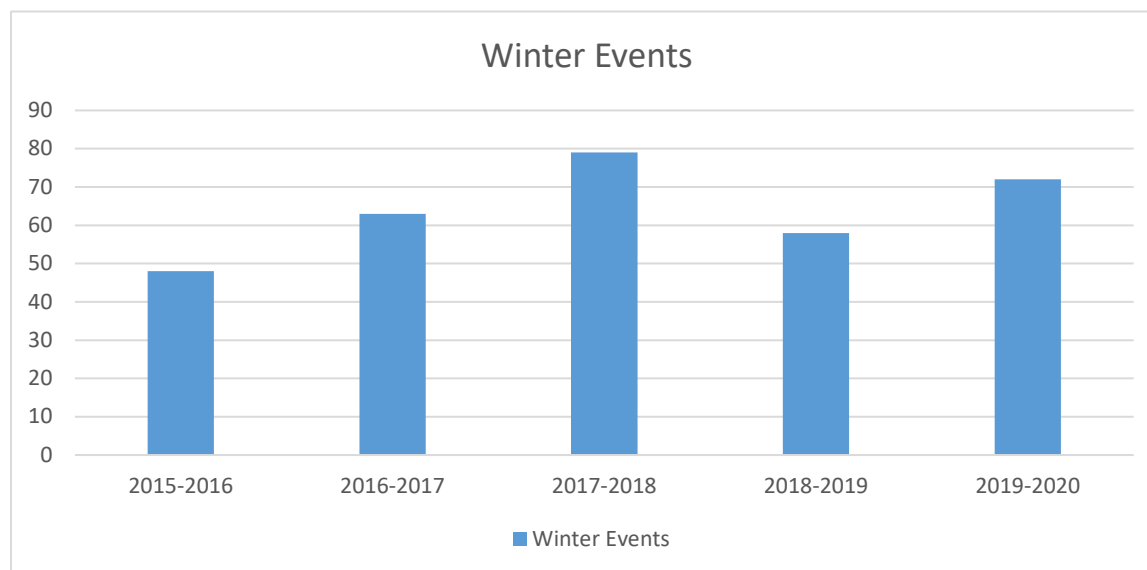
Winter Operations

The Transportation Operations division operates a “hybrid” business model during the winter season utilizing Niagara Region staff, City of St. Catharines staff and an Area Maintenance Contractor (currently Steed and Evans Limited).

- Niagara Region staff maintain 19 plow routes covering 996 lane kilometres.
- City of St. Catharines manages 126 lane kilometres of Regional Roads through amalgamation of Region Roads within in the City’s own routing system.
- Steed and Evans Limited maintains 10 plow routes covering 673 lane kilometres.

Although the 2019 – 2020 winter season was relatively mild, a significant number of smaller winter events were experienced that required a response from our winter operations staff, including several early storms in October and November 2019. The table below shows a summary of winter events over the last five (5) winter seasons. Even though the number of winter events falls within the historical range experienced over the last four (4) winter seasons, the total of 72 winter events is higher than the four (4) year average of 62 winter events.

Table 1: Summary of winter events over the last five (5) winter seasons

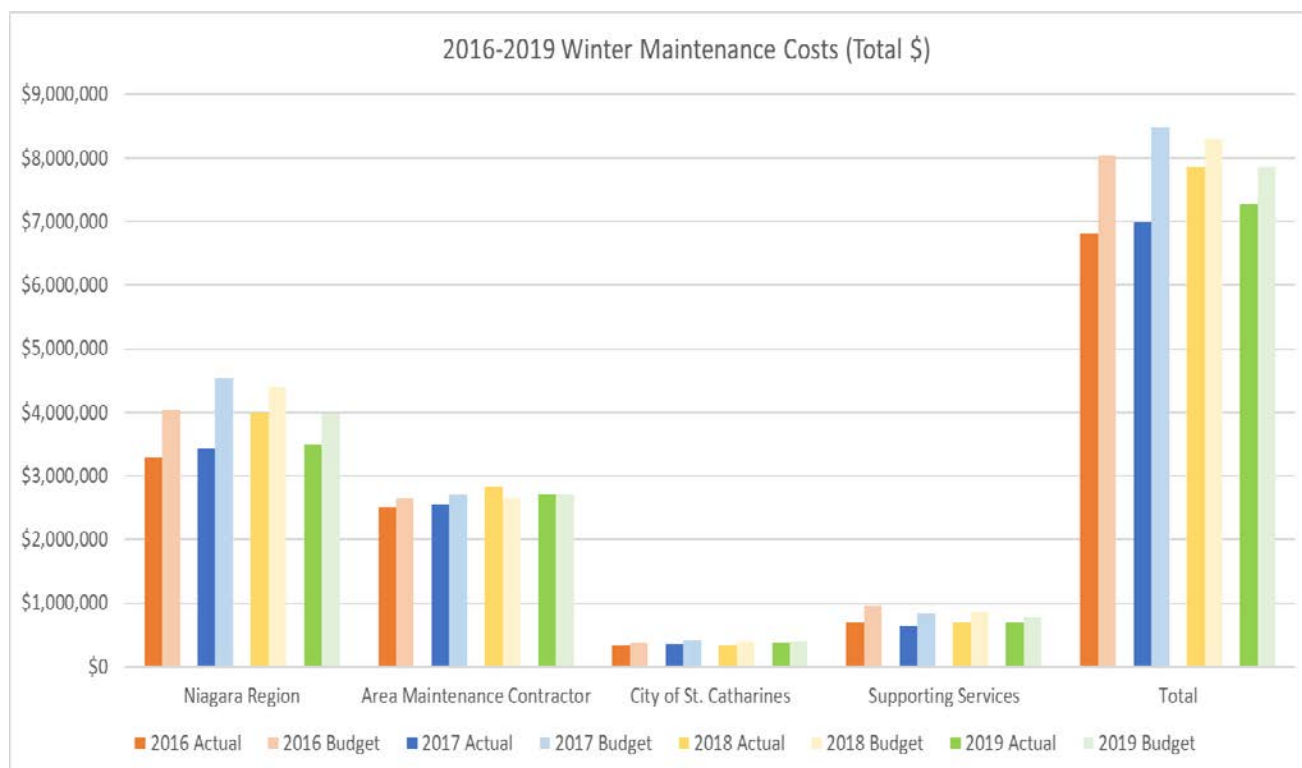


The 2020 operating budget for winter maintenance is \$7,999,226, to date (April 2020) the Niagara Region has incurred costs of \$3,990,863, including savings of \$269,706 on winter materials, \$31,022 on equipment including fuel savings, and \$99,651 on overtime.

The annual winter maintenance budget is broken into four sections, Niagara Region, Area Maintenance Contract, City of St. Catharines and Supporting Winter Services. Costs for supporting winter services include services such as snow fence erection and removal, winter sand cleanup and winter drainage. These services are delivered through a combination of Niagara Region staff and outside contractors. Table 2 summarizes these costs over the last four years.

Appendix 1 - Winter Maintenance Costs - gives a detailed breakdown of actuals versus budget for 2016 to 2019.

Table 2: Winter Cost Summary



Budget savings are reflected in the overall Transportation Services department operating results for the year. In addition, the new area winter maintenance contract has incorporated provisions in it to assist with providing more cost-effective delivery of winter maintenance activities. Report PW 24-2020, recommending the award of the new contract, is to be considered at the June 16, 2020 Public Works Committee.

Winter Maintenance staff have a variety of activities they perform when there is no winter activity forecasted.

Day Shifts/Weekends

During extended periods of warmer weather during the winter months there is a corresponding increase in the need for other road maintenance repair activities to ensure compliance with Ontario Regulation 239/02 (Minimum Maintenance Standards).

1. An increase in freeze thaw cycles which leads to an increase in the need for pothole repair.

2. Shoulder maintenance - milder weather conditions lead to rutting and shoulder drop offs.
3. Drainage maintenance - ensuring culverts and catch basins are functioning.

Night Shifts

1. Washing/cleaning and minor maintenance of all vehicles in the yards. This ensures our fleet is ready to respond, avoids calling in fleet staff on overtime to perform routine maintenance.
2. Yard Maintenance, done in house, reduces costs by not having to utilize a contract cleaning contractor.
3. Receive deliveries of some winter materials after hours. Avoids overtime charges to receive order.
4. Perform brine station preventative maintenance to avoid breakdowns during winter storm events.
5. Snow fence material loaded for the next day. Increases the number of daylight hours spent in the field actually installing fence.
6. Reduce overtime calls to respond to request for service, instead of calling staff in. Night shift staff responds to potholes, debris, drainage problems, signs and trees.
7. The required annual illumination inspection can be completed utilizing night staff without incurring overtime costs.
8. Job training, mandatory health and safety and human resource training is completed during shifts on line.

The shift schedule allows flexibility to add or subtract staff based on weather forecasts, during the start of the schedule if milder conditions are forecasted. The schedule also provides the capability to save on unnecessary overtime costs if weather conditions permit, by not replacing staff who are absent (vacation, sick, etc.) from a scheduled shift.

Other Maintenance items were started due to an early spring:

1. Debris Pickup.
2. Tree Maintenance.
3. Roadside Maintenance.

4. Bridge/ Culvert inspections.
5. Winter Sand Cleanup.
6. Annual Inspections of assets (Bridges, culverts, guide rail).

Respectfully submitted and signed by

Shawn T McCauley, B.B.E., C Tech
Associate Director Transportation Operations

Appendices

Appendix 1 Winter Maintenance Costs

Appendix 1
2016-2019 Winter Maintenance Costs
Budget vs Actuals

Niagara Region

Total Lane Km's Maintained	989	989	990	996
Year	2016	2017	2018	2019
Winter Budget	4,037,881	4,533,599	4,399,064	3,977,551
Winter Actual	3,287,709	3,425,507	3,995,834	3,493,415
Budgeted Cost per lane Km	4,083	4,584	4,443	3,994
Actual Cost per Lane Km	3,324	3,464	4,036	3,507

Area Maintenance Contractor

Total Lane Km's Maintained	668	670	674	673
Year	2016	2017	2018	2019
Winter Budget	2,650,000	2,700,000	2,650,000	2,700,000
Winter Actual	2,504,624	2,559,293	2,821,368	2,719,652
Budgeted Cost per lane Km	3,967	4,030	3,932	4,012
Actual Cost per Lane Km	3,749	3,820	4,186	4,041

City of St. Catharines

Total Lane Km's Maintained	125	122	126	126
Year	2016	2017	2018	2019
Winter Budget	381,000	406,000	400,000	400,000
Winter Actual	329,728	353,490	348,617	378,549
Budgeted Cost per lane Km	3,048	3,328	3,175	3,175
Actual Cost per Lane Km	2,638	2,897	2,767	3,004

Supporting Services

Total Lane Km's Maintained	1782	1781	1790	1795
Year	2016	2017	2018	2019
Winter Budget	968,289	842,888	852,498	768,726
Winter Actual	687,276	648,681	686,215	691,618
Budgeted Cost per lane Km	543	473	476	428
Actual Cost per Lane Km	386	364	383	385

Total

Total Lane Km's Maintained	1782	1781	1790	1795
Year	2016	2017	2018	2019
Winter Budget	8,037,170	8,482,487	8,301,562	7,846,277
Winter Actual	6,809,336	6,986,972	7,852,034	7,283,234
Budgeted Cost per lane Km	4,510	4,763	4,638	4,371
Actual Cost per Lane Km	3,821	3,923	4,387	4,058