

Subject: Cost for Winter Maintenance Enhancement Options

Purpose and Background

The City of Markham is currently conducting winter maintenance review per Council request. Part of the exercise is to conduct a financial analysis on different enhancement options. Staff reviewed the existing program and budget against various alternatives based on common resident concerns. This briefing note summarized the findings in questions and answers format.

Discussion

Local Road Service Level

To improve local road service level, staff review options as outlined in the following table. Preliminary analysis is based on last 3 years historic average.

Options	Annual Cost	Increase Cost	Salt (Tonnage)	Material Costs	Equipment Costs
Current (Plow Local at 7.5 cm)	\$ 2,723,495		2970	\$ 240,910	\$ 2,482,585
Plow Local at 6 cm	\$ 4,357,592	\$ 1,634,097	4752	\$ 385,456	\$ 3,972,136
Plow Local at 5 cm	\$ 5,991,689	\$ 3,268,194	6534	\$ 530,002	\$ 5,461,687
Plow All Streets as Primary *	\$ 11,836,572	\$ 9,113,077			

* Salt consumption will be increased significantly

Windrow Assistance Program Enhancement

Preliminary estimate to improve timing of the current windrow assistance program:

	Current (8 Hours)	Reduce to 6 Hours	Reduce to 4 Hours
Equipment	15	23	30
Material	n/a	n/a	n/a
Staff	n/a	n/a	n/a
Operating Cost	\$ 227,450.70	\$ 341,176.04	\$ 454,901.39
Stand By Cost	\$ 114,174.72	\$ 175,067.90	\$ 228,349.44
Total Cost	\$ 341,625.42	\$ 516,243.95	\$ 683,250.83

Preliminary estimate to provide windrow removal to approved resident situated on Primary and Secondary roads below 7.5cm criteria.

# Driveways	Rate	Occurrences	Total	Total Cost
1300	9.36	41	\$ 498,888.00	\$ 507,668.43

City Wide Windrow Program

5 cm service level for local plow

Vaughan's Model	Stand By	Operating	Total	Hauling for Locals	Budget
82,000 +/- Driveways	\$1,736,500	\$294,400	\$2,030,900	\$2,500,000	\$4,530,900
Markham	Stand By	Operating	Total	Hauling for Locals	Budget
81,000 +/- Driveways	\$1,736,500	\$294,400	\$2,030,900	\$2,500,000	\$4,530,900

7.5 cm service level for local plow

Vaughan's Model	Stand By	Operating	Total	Hauling for Locals	Budget
82,000 +/- Driveways	\$1,736,500	\$294,400	\$2,030,900	\$2,500,000	\$4,530,900
Markham	Stand By	Operating	Total	Hauling for Locals	Budget
81,000 +/- Driveways	\$1,736,500	\$147,200	\$1,883,700	\$2,500,000	\$4,383,700

Pathway Review

Preliminary cost analysis for both winter and spring maintenance:

Winter Maintenance	Length (km)	Cost Impact
Pathways in Parks/Valley land	151.76	\$ 306,382.19
Pathways to Schools	34.56	\$ 69,771.80
Total	186.32	\$ 376,154.00

Spring Repair	Cost Impact	Assumption
Repair / Asphalt	\$ 12,390.00	10% of annual pathway resurfacing program
Turf Repair	\$148,869.68	10% of total pathway km of \$7.99/m in house maintenance cost
Limestone Repair	\$ 85,334.56	10% of total pathway km of \$2.29/m ² in house maintenance cost
Program Oversight	\$90,000	
Total	\$336,594.24	

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