

Subject: Vaughan Model - Winter Maintenance Financial Comparison

Purpose and Background

The City of Markham is currently conducting winter maintenance review per Council request. A component of the exercise is to conduct a financial comparison against the City of Vaughan's winter maintenance model. Staff reached out to the City of Vaughan and obtained last three years financial data. This briefing note summarized the findings.

Discussion

The following highlight the differences between the City of Vaughan's and the City of Markham's winter maintenance models.

Programs:

	Vaughan	Markham
Windrow Program	<ul style="list-style-type: none"> City wide removal since 2004 	<ul style="list-style-type: none"> Senior and disability removal (4,776 approved driveways in 2019)
Level of Service	<ul style="list-style-type: none"> Plow at 5 cm for all roads 	<ul style="list-style-type: none"> Bare pavement for Primary and Secondary roads Plow at 7.5 cm for local roads
Sidewalk Program	<ul style="list-style-type: none"> 100% in house 	<ul style="list-style-type: none"> 90% contracted and 10% in house
Salt Consumption	<ul style="list-style-type: none"> Salt to achieve bare surface citywide when snow less than 5cm. Use significantly more salt 	<ul style="list-style-type: none"> Plow to achieve bare surface on Primary/Secondary roads, followed with salt to de-ice

Network Size:

	Vaughan	Markham
Operations Yard		
# Yards (with salt distribution)	3	1
Yard Area (sq. meter)	153,845	41,076
Salt Dome Capacity (tonnage)	28,000	8,000
Network Size		
Primary (Class 2 and 3)	225 km	864 km
Secondary (Class 4)	994 km	164 km
Local (Class 5)	1,000 km	1,171 km
Rear Lane (Class 6)	13 km	133 km
Sidewalk	1,018 km	1,078 km
# of residential driveways	82,000	81,000

Financial:

Winter Season	Vaughan		
	Budget*	Actual *	Variance
2017/2018	\$10,438,736	\$13,124,937	-\$2,686,201
2016/2017	\$10,131,930	\$13,399,066	-\$3,267,136
2015/2016	\$9,956,931	\$9,412,519	\$544,412

*Vaughan sidewalk program is conducted in house, however budget and actual provided by Vaughan do not include non-personnel cost (i.e. equipment, fuel, insurance, etc). The non-personnel sidewalk cost is estimated to be \$2.5M in addition.

Winter Season	Markham		
	Budget	Actual	Variance
2017/2018	\$9,056,078	\$7,916,938	\$1,139,140
2016/2017	\$9,010,532	\$8,909,770	\$100,762
2015/2016	\$8,757,448	\$6,465,047	\$2,289,401

Comparison

Winter Season	Vaughan Actual	Markham Actual	Actual Variance
2017/2018	\$13,124,937	\$7,916,938	\$5,207,999
2016/2017	\$13,399,066	\$8,909,770	\$4,489,296
2015/2016	\$9,412,519	\$6,468,047	\$2,944,472

Winter Season	Vaughan Salt Consumption	Markham Salt Consumption	Variance
2017/2018	37,028 t	26,213 t	10,815 t
2016/2017	42,580 t	19,533 t	23,047 t
2015/2016	24,274 t	19,276 t	4,998 t

Findings

- Vaughan's financial budget has not been updated for a number of years to reflect the actual cost of their winter maintenance program. Vaughan advised the 2019/2020 winter budget would reflect historic actual expenditure.
- Vaughan is currently retaining consulting service to conduct winter maintenance level of service review.
- Vaughan's winter financials in both budget and actual does not include the full budget such as in house sidewalk non-personnel costing.
- Vaughan utilize salting operation instead of plowing to avoid windrow clearing.
- The contractor manages Vaughan resident winter maintenance complaints inclusive of the windrow program.

Conclusion

- Vaughan's average expenditure is 54% (\$4.21M) higher than Markham excluding the in house sidewalk non-personnel cost that is approximately \$2.5M.
- Vaughan consumes 60% (12,953 tonnes) more salt on average in comparison to Markham.

Attachments

- Vaughan Maintenance Model Costing Comparison

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Date Finalized:	March 28, 2019		
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Template last revised: 2018-Oct-10 (ST)