Presentation to the Audit Committee
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AUDITOR GENERAL TORONTO

Winter Road Maintenance Program – Phase 2 Analysis: Deploying Resources

(confidential portions of presentation)

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Presentation Overview

- **Results – Confidential Attachment 1**

  A. Cost Benefit Analysis

  B. Adjusting the Fleet Size and Fleet Deployment

- **Summary – Confidential Attachment 1**

A. Cost Benefit Analysis

Conclusion:

The contracted services model which is based on the 2015-2022 contractor rates currently provides better value for money to the City than an in-house solution.

Should the contract prices in the next contract cycle increase significantly, it is important to reassess whether the contracted services model would still be more cost-effective.

B. Adjusting the Fleet Size and Fleet Deployment

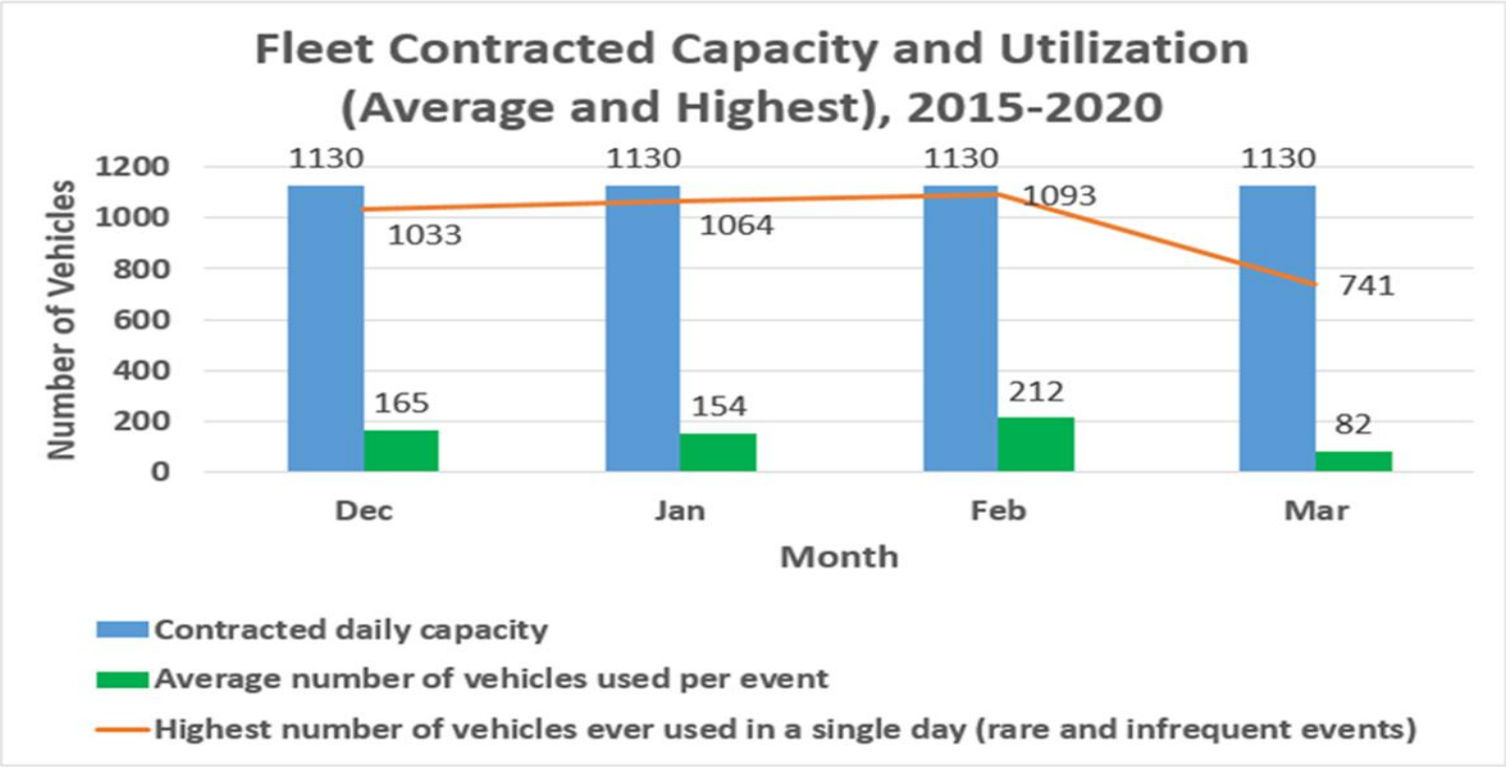
Why is Fleet Size/Deployment Important?

- Daily standby is paid for each contracted vehicle for their availability. **Higher fleet size means higher total standby costs.**
- Standby payments make up a significant portion of the total contractor payments (**73% or $332M over 7 years, $474M over 10 years**)
- **Optimizing fleet size based on historical use can result in significant cost savings using the current contract services model**

B. Adjusting the Fleet Size and Fleet Deployment

The contracted capacity for fleet size appears **higher than what is needed** based on historical utilization.

- The peak capacity of 1,130 vehicles has never been used and less than 50% of total contracted vehicles were used for most snow events



B. Adjusting the Fleet Size and Fleet Deployment

The **timing** of deployment and **vehicle type** are also important considerations.

- The unused contracted capacity is **greatest during shoulder seasons (Oct/Nov, Mar/Apr),** a period when salters may be needed more than plows due to warmer ground temperature.

B. Adjusting the Fleet Size and Fleet Deployment

Unused Local Roads Fleet Capacity in March (2015-2020)

Year	Number of vehicles		
	Contracted capacity	Maximum-ever single day use	Unused capacity
2016	367	221	146
2017	367	0	367
2018	367	0	367
2019	367	41	326
2020	367	0	367

B. Adjusting the Fleet Size and Fleet Deployment

Important to have the right type of vehicles at the right time –

Salters generally needed more than plows for shoulder seasons

B. Adjusting the Fleet Size and Fleet Deployment

Unused Fleet Capacity (2015-2020)

Type	Contracted Capacity	Permanent Unused Daily Capacity[1] (number of vehicles)					Average number of vehicles used per event				
		NOV	DEC	JAN	FEB	MAR	NOV	DEC	JAN	FEB	MAR
DLA trucks	16						4	4	3	3	3
Depot graders	42	35		2		11	0	4	3	4	1
Salt trucks	60	4	4	4	4	4	7	16	17	21	8
Salt trucks (Comb.)	128	1				2	25	46	41	50	28
Driveway machines	76	n/a				26	1	5	4	6	1
Bus stop machines	112	n/a		6		16	0*	9	8	11	3
Depot driveway machines	52	n/a		1		25	0*	3	3	4	1
Depot plows (non-comb.)	65	n/a	4	4	3	25	1	5	4	5	1
Front-end loader	126	n/a				29	1	9	6	10	2
Hand crew trucks	37	n/a				0	1	7	7	11	5
Local road plows	161	n/a				54	2	11	8	12	3
Sidewalk plows	221	n/a	2	3	2	2	9	42	47	71	24
Other	34	n/a	4	5	4	7	2	4	3	4	2
Total	**1130**	**40**	**14**	**25**	**13**	**201**	**53**	**165**	**154**	**212**	**82**

**rounded down to zero*

[1]Permanent unused daily capacity refers to the number of vehicles that remained unused daily throughout that month (calculated as the difference of the contracted capacity and the maximum-ever single day use for a type of vehicle in that month, e.g. maximum-ever single day use of local road plows was 107 vehicles on March 2, 2016 against the contracted capacity of 161 local road plows. This means that on each day in March, there were at least 54 unused vehicles. Maximum-ever number of vehicles used in a single day indicate rare or infrequent events. As a result, the unused capacity is higher than indicated above.)

B. Adjusting the Fleet Size and Fleet Deployment

Cost savings between $35M to $86M could have been achieved if fleet size and deployment had been managed to optimal levels, with virtually little or no risk to achieving service levels.

7-Year Savings that could have been achieved with optimal fleet capacity

(based on historical fleet utilization data since 2015)

Month	Contracted Capacity	Optimal Capacity			7-Year Savings (Million $)			Avg. # of days in a year when there would have been a vehicle shortfall		
		Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3
Oct	16	10	0	0	$0.3	$1	$1		0.6	1
Nov	232	230	185	160	$0.2	$5	$8	0.2	0.6	3
Dec	1130	1072	1020	980	$4	$8	$11		1.6	5.8
Jan	1130	1087	1020	995	$3	$8	$9		1.2	1.4
Feb	1130	1097	1030	1000	$2	$6	$8		2.6	3
Mar	1130	780	490	480	$24	$44	$45		1.8	2.2
Apr	248	165	70	65	$2	$4	$4		1.6	2
Total	**805***	**726***	**629***	**607***	**$35**	**$76**	**$86**	**0.2**	**10**	**18.4**
% Reduction in Fleet Size		-10%	-22%	-25%						

**Weighted Daily Average Capacity*

Summary

1. Looking back, Transportation Services made the **most cost effective decision in choosing a contracted services model** for the Winter Maintenance Services Program.

2. Going forward for the next contract cycle, Transportation Services has decided to change the contract services model to be performance-based and the tender is currently in process. **If contractor rates are significantly higher than the current cycle, our conclusion needs to be re-evaluated** and another cost-benefit analysis performed.

3. Also going forward, the Division needs to have **flexibility in the next contracts** and **use its operational data to adjust the fleet size and deployment timing** of the contracted services fleet by type of vehicle to **improve cost-effectiveness.**

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