

## **For Information Only**

### **Status on Winter Control Equipment**

Presented To: Operations Committee

Presented: Monday, Sep 16, 2019

Report Date: Wednesday, Aug 21, 2019

Type: Managers' Reports

#### **Resolution**

For Information Only

#### **Relationship to the Strategic Plan / Health Impact Assessment**

This report refers to operational matters.

#### **Report Summary**

This report seeks to fulfill Operations Committee resolution # OP2019-6 which requests information regarding the status of winter control equipment including age, hours and kilometers of service.

#### **Financial Implications**

There are no financial implications associated with this report.

#### **Signed By**

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## **Background**

This report seeks to fulfill Operations Committee resolution # OP2019-6 which requests an information report to the Operations Committee regarding the status of winter control equipment including age, hours and kilometers of service for the purpose of right sizing the City's fleet.

Specifications for City fleet are developed by both Fleet Services as well as the various operating departments. Fleet services are responsible for the planned and emergency maintenance of this equipment. Maintenance is mainly performed from the Fleet and Transit Garage located at 1160 Lorne Street. Additionally, a fleet technician is located at each of the Frobisher, Suez and Rayside depots in order to further assist operations with technical issues.

In addition to the City owned fleet, roads operations has established service contracts whereby the vendor supplies the labour and equipment and is wholly responsible for maintenance and ensuring the equipment is available for use. These contracts are administered by roads operational staff and this contracted equipment is not included in this report.

Operationally, each of the five City depots is responsible for winter maintenance of their particular jurisdiction. As such, Appendix A lists the vehicles and equipment according to their use in winter control activities and provides for the depot, unit number, model year, manufacturer, type of equipment and hours or kilometers of the vehicle/equipment.

## **Operational Use - Vehicles and Equipment**

Appendix A lists vehicles/equipment primarily by their operational use. Vehicles and equipment have been categorized into 8 separate operational uses. Operationally, these units are largely administered at the depot level according to the number of assets (roads, sidewalk) in the jurisdiction of each depot.

Table 1 below summarizes Appendix A data in terms of number of units, average age and average kilometers/hours as well as provides some context to the purpose and choice of vehicles/equipment that are used to perform winter control tasks.

**TABLE 1 - Winter Control Vehicle/Equipment Summary**

Operational Use	Description	Number of Vehicles / Pieces of Machinery	Average Age	Average KM's or Hours
Load Plow Trucks & Snow Removal	The City's fleet of 10 loaders is used in winter control to load multi-function trucks with sand and/or salt for spreading on City streets. They are also utilized to load dump trucks with snow that is removed from the downtown areas and road right of ways. Similarly, the 5 backhoes are also used for snow removal from medians and right of ways as well as ditches in order to ensure water flow through culverts.	15	11	11,747
Plow/Ice Blading - Roads	This category is comprised of 5 graders. Graders are utilized for plowing some roads due to their relative mobility. Additionally, graders are utilized late in the winter season in order to remove ice build-up in residential areas as a result of snow accumulating and becoming packed over the winter months. In the summer, these units are used for grading gravel roads and shouldering of paved roads.	5	7.5	5,223
Plow / Sand / Salt - Roads	In order to service the 23 plow routes in the City, multi-function units were introduced in the mid 2000's in order to minimize the number of pieces of equipment in the City fleet. The advantages of multi-function plows are that they can be utilized as a dump truck for summer road activities by inserting a cover over the sand/salt dispensing system as well as only requiring one piece of equipment to simultaneously plow and sand/salt the 3,600 km's of roadway in the winter. The size of a multi-function truck does present some drawbacks as it relates to maneuverability particularly in small areas such as cul de sacs and in residential neighbourhoods with narrow roadways. The underbody plow is more maneuverable than a multi-function and can provide more efficient plowing in tighter spaces while dispensing sand/salt. It is a single purpose vehicle and has limited use in the summer maintenance program.	40	4	89,729
Plow / Sand / Salt of Parking Lots, Cul de Sacs and Laneways	Medium duty vehicles are utilized in winter control to plow and spread material in smaller, tighter areas that require extra maneuverability. Areas such as parking lots, cul de sacs and laneways that cannot be serviced with the City's conventional plow fleet are where these trucks would be used. The plows are removed from these units in the summer to allow for these vehicles to be used as standard work trucks.	7	7	48,337

Plow / Sand / Sweep - Sidewalks	In order to maintain 350 km's of safe sidewalks during the winter, the City uses Municipal Tractors with various attachments to plow and blow snow as well as sand the sidewalk. In the spring these units are equipped with sweepers that clear the sand onto the roadway for pickup by the road sweeping and collection equipment. These units are utilized in the summer for roadside grass and shrub cutting as well as some asphalt and concrete grinding.	29	6.75	3,147
Snow Removal	These two large snow blowers are primarily used to remove snow in the downtown core. They can quickly handle large volumes of snow and efficiently move the snow from the roadway to a dump trunk for transport.	2	13	809
Street Sweeping	The City has 4 vacuum style street sweepers that are used to clean streets of winter sand and other debris. City forces are heavily augmented in the spring with contracted street sweeping services for spring clean up. Additionally, 2 tanker/flushers are also used to wet and clean city streets from winter sand and debris	6	6.8	38,475
Winter Control Supervision	These vehicles are used by non-union staff to patrol roads and inspect any deficiencies.	19	4.4	130,953

## Winter Control Replacement

A number of factors are considered in making the decision to replace vehicles/equipment.

Consideration is given to age, use (km/hours), service provided, and condition of the vehicle/equipment.

Given the City's experience with these types of vehicles/equipment, the following expected useful life timelines and usage (KM's/Hours) are a guide.

Table 2 -Expected Useful Life		
Vehicle/Equipment	Age (Years)	KM's/ Hours
Loaders, Graders, Backhoes	12-15	15,000-20,000
Multi-Function Plows	10	300,000
Medium Duty	10	150,000
Municipal Tractors	12	10,000
Sweepers	10	N/A
Light Duty Trucks	7	200,000

The expected useful lives of the equipment listed above are similar to many municipalities. Municipal Benchmarking Network Canada (MBNCan), publishes age based data from the 17 participating municipalities in regards to light (light duty trucks), medium (medium duty) and heavy duty (multi-function plows) vehicles. Table 3 below displays the average age data from MBNCan for these periods.

<b>Table 3 -MBNCan Average Age of Vehicles (All Municipalities)*</b>		
	<b>2017</b>	<b>2018</b>
Light Duty	6.0	6.2
Medium Duty	7.3	7.3
Heavy Duty	7.1	7.4

\*The results in Table 3 are all-inclusive of municipal vehicles that include winter control units.

## **Conclusion**

There are some units in the winter control fleet that are beyond their expected useful life. However, the average age of the winter control fleet is similar in age to other municipalities that are involved in MBNCan.

**Appendix "A"**  
**Winter Control Equipment -City of Greater Sudbury**

<b>Operational Use</b>	<b>Depot</b>	<b>Unit</b>	<b>Model Year</b>	<b>Manufacturer</b>	<b>Type of Equipment</b>	<b>Kms/hrs</b>
Load Plow Trucks & Snow Removal	Black Lake	S181	2006	Komatsu WA320-5L	Loader	17,175
Load Plow Trucks & Snow Removal	Black Lake	S417	1996	Volvo L50C	Loader	9,245
Load Plow Trucks & Snow Removal	Frobisher	S17611	2011	John Deere 624K	Loader	19,516
Load Plow Trucks & Snow Removal	Northwest	S180	2014	John Deere 624K	Loader	6,813
Load Plow Trucks & Snow Removal	Northwest	S182	2007	Komatsu WA320-5L	Loader	17,268
Load Plow Trucks & Snow Removal	Northwest	S414	1999	JCB 416	Loader	19,000
Load Plow Trucks & Snow Removal	St. Clair	S1412	2007	Komatsu WA320-5L	Loader	18,700
Load Plow Trucks & Snow Removal	St. Clair	S1418	2008	John Deere 624J	Loader	10,200
Load Plow Trucks & Snow Removal	Suez	S1413	2008	John Deere 624J	Loader	14,936
Load Plow Trucks & Snow Removal	Suez	S40917	2017	John Deere 624K-II	Loader	1,338
Load Plow Trucks & Snow Removal	Black Lake	S1395	2008	John Deere 310	Backhoe	9,241
Load Plow Trucks & Snow Removal	Chelmsford	S1393	2008	John Deere 310	Backhoe	7,909
Load Plow Trucks & Snow Removal	Frobisher	S39609	2009	John Deere 310	Backhoe	9,358
Load Plow Trucks & Snow Removal	St Clair	S39710	2010	John Deere 310	Backhoe	7,585
Load Plow Trucks & Snow Removal	Suez	S1401	2008	John Deere 310	Backhoe	7,918
Plow/Ice Blading - Roads	Black Lake	S35411	2011	Volvo G960	Grader	7,323
Plow/Ice Blading - Roads	Frobisher	S35111	2011	Volvo G960	Grader	3,889
Plow/Ice Blading - Roads	Northwest	S353	2011	Volvo G960	Grader	3,509
Plow/Ice Blading - Roads	St. Clair	S19012	2012	Volvo 770G	Grader	6,598
Plow/Ice Blading - Roads	Suez	S35012	2012	Volvo 770G	Grader	4,798
Plow/Sand/Salt - Roads	Black Lake	S13415	2015	Western Star 4700 SF	Multi-Function	125,492
Plow/Sand/Salt - Roads	Black Lake	S61018	2018	Freightliner SD114	Multi-Function	52,391
Plow/Sand/Salt - Roads	Black Lake	S61118	2018	Freightliner SD114	Multi-Function	56,989
Plow/Sand/Salt - Roads	Black Lake	S61618	2018	Freightliner SD114	Multi-Function	46,993
Plow/Sand/Salt - Roads	Black Lake	S645	2008	International 7400	Multi-Function	261,635
Plow/Sand/Salt - Roads	Black Lake	S66910	2010	2010 Freightliner	Multi-Function	176,483
Plow/Sand/Salt - Roads	Frobisher	S13116	2016	Western Star 4700 SF	Multi-Function	90,871
Plow/Sand/Salt - Roads	Frobisher	S60416	2016	Western Star 4700 SF	Multi-Function	69,635
Plow/Sand/Salt - Roads	Frobisher	S60516	2016	Western Star 4700 SF	Multi-Function	90,073

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Plow/Sand/Salt - Roads	Frobisher	S61420	2020	International HV613	Multi-Function	-
Plow/Sand/Salt - Roads	Frobisher	S61819	2019	International HV613	Multi-Function	9,044
Plow/Sand/Salt - Roads	Frobisher	S61915	2015	Western Star 4700 SF	Multi-Function	103,820
Plow/Sand/Salt - Roads	Frobisher	S626	2020	International HV613	Multi-Function	-
Plow/Sand/Salt - Roads	Frobisher	S640	2006	International 7400	Multi-Function	214,475
Plow/Sand/Salt - Roads	Frobisher	S641	2006	International 7400	Multi-Function	251,491
Plow/Sand/Salt - Roads	Northwest	S13316	2016	Western Star 4700 SF	Multi-Function	94,500
Plow/Sand/Salt - Roads	Northwest	S60918	2018	Freightliner SD114	Multi-Function	46,776
Plow/Sand/Salt - Roads	Northwest	S63414	2014	Western Star 4700 SF	Multi-Function	103,219
Plow/Sand/Salt - Roads	Northwest	S642	2006	International 7400	Multi-Function	256,162
Plow/Sand/Salt - Roads	Northwest	S64320	2020	International HV613	Multi-Function	-
Plow/Sand/Salt - Roads	Northwest	S64815	2015	Western Star 4700 SF	Multi-Function	132,200
Plow/Sand/Salt - Roads	Northwest	S66810	2010	Freightliner	Multi-Function	169,887
Plow/Sand/Salt - Roads	St. Clair	S60718	2018	Freightliner SD114	Multi-Function	43,844
Plow/Sand/Salt - Roads	St. Clair	S61218	2018	Freightliner SD114	Multi-Function	43,140
Plow/Sand/Salt - Roads	St. Clair	S61318	2018	Freightliner SD114	Multi-Function	32,623
Plow/Sand/Salt - Roads	St. Clair	S61519	2019	International HV613	Multi-Function	13,150
Plow/Sand/Salt - Roads	St. Clair	S61719	2019	International HV613	Multi-Function	9,065
Plow/Sand/Salt - Roads	St. Clair	S62013	2013	International 7400	Multi-Function	61,881
Plow/Sand/Salt - Roads	St. Clair	S62320	2020	International HV613	Multi-Function	-
Plow/Sand/Salt - Roads	St. Clair	S624	2006	International 7400	Multi-Function	263,893
Plow/Sand/Salt - Roads	St. Clair	S66714	2014	Western Star 4700	Multi-Function	80,590
Plow/Sand/Salt - Roads	St. Clair	S67012	2012	Western Star 4700 SF	Multi-Function	175,770
Plow/Sand/Salt - Roads	St. Clair	S63120	2020	International HV607	Underbody	-
Plow/Sand/Salt - Roads	Suez	S60616	2016	Western Star 4700 SF	Multi-Function	84,312
Plow/Sand/Salt - Roads	Suez	S60818	2018	Freightliner SD114	Multi-Function	45,483
Plow/Sand/Salt - Roads	Suez	S62519	2019	International HV613	Multi-Function	11,836
Plow/Sand/Salt - Roads	Suez	S63918	2018	Freightliner SD114	Multi-Function	41,579
Plow/Sand/Salt - Roads	Suez	S63514	2014	Western Star 4700	Multi-Function	73,980

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Plow/Sand/Salt - Roads	Suez	S67512	2012	Western Star	Multi-Function	133,122
Plow/Sand/Salt - Roads	Suez	S67915	2015	Western Star 4700SF	Multi-Function	122,741
Plow/Sand/Salt of Parking Lots, Cul de Sac	Black Lake	S62712	2012	2012 Ford F450 4X4	Medium Duty	64,128
Plow/Sand/Salt of Parking Lots, Cul de Sac	Frobisher	S58412	2012	F450 w/dump	Medium Duty	66,093
Plow/Sand/Salt of Parking Lots, Cul de Sac	Northwest	S57211	2011	F450 4x4	Medium Duty	38,725
Plow/Sand/Salt of Parking Lots, Cul de Sac	St. Clair	S03412	2012	Ford F450 Dump, plow & sander	Medium Duty	57,218
Plow/Sand/Salt of Parking Lots, Cul de Sac	Suez	S44119	2019	F350 pick up w/plow	Medium Duty	1,769
Plow/Sand/Salt of Parking Lots, Cul de Sac	Suez	S11910	2010	Ford F450	Medium Duty	95,556
Plow/Sand/Salt of Parking Lots, Cul de Sac	Suez	S1028	2008	Ford F450 Dump, plow & sander	Medium Duty	14,872
Plow/Sand/Sweep - Sidewalks	Black Lake	S23919	2019	Trackless MT7	Municipal Tractor	600
Plow/Sand/Sweep - Sidewalks	Frobisher	S24317	2017	Trackless MT7	Municipal Tractor	1,582
Plow/Sand/Sweep - Sidewalks	Frobisher	S26019	2019	Trackless MT7	Municipal Tractor	-
Plow/Sand/Sweep - Sidewalks	Frobisher	S232	2006	Trackless MT5T	Municipal Tractor	5,522
Plow/Sand/Sweep - Sidewalks	Frobisher	S23716	2016	Trackless MT6	Municipal Tractor	965
Plow/Sand/Sweep - Sidewalks	Frobisher	S25419	2019	Trackless MT7	Municipal Tractor	840
Plow/Sand/Sweep - Sidewalks	Frobisher	S25713	2013	Trackless MT6	Municipal Tractor	4,336
Plow/Sand/Sweep - Sidewalks	Frobisher	S26118	2018	Willee	Municipal Tractor	363
Plow/Sand/Sweep - Sidewalks	Northwest	S26218	2018	Willee	Municipal Tractor	175
Plow/Sand/Sweep - Sidewalks	Northwest	S1242	2007	Trackless MT5T	Municipal Tractor	3,895
Plow/Sand/Sweep - Sidewalks	Northwest	S1251	2009	Trackless MT6	Municipal Tractor	2,981
Plow/Sand/Sweep - Sidewalks	Northwest	S25610	2010	Trackless MT6	Municipal Tractor	3,634
Plow/Sand/Sweep - Sidewalks	Northwest	S25816	2016	Trackless MT6	Municipal Tractor	1,027
Plow/Sand/Sweep - Sidewalks	Northwest	S1260	2008	Trackless MT5T	Municipal Tractor	5,950
Plow/Sand/Sweep - Sidewalks	St. Clair	S1240	2007	Trackless MT5T	Municipal Tractor	7,382
Plow/Sand/Sweep - Sidewalks	St. Clair	S1246	2008	Trackless MT5T	Municipal Tractor	7,172
Plow/Sand/Sweep - Sidewalks	St. Clair	S1250	2008	Trackless MT5T	Municipal Tractor	5,883
Plow/Sand/Sweep - Sidewalks	St. Clair	S231	2006	Trackless MT5T	Municipal Tractor	4,995
Plow/Sand/Sweep - Sidewalks	St. Clair	S23616	2016	Trackless MT6	Municipal Tractor	1,790
Plow/Sand/Sweep - Sidewalks	St. Clair	S23817	2017	Trackless MT7	Municipal Tractor	1,456

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Plow/Sand/Sweep - Sidewalks	St. Clair	S1249	2009	Trackless MT6	Municipal Tractor	4,685
Plow/Sand/Sweep - Sidewalks	St. Clair	S24510	2010	Trackless MT6	Municipal Tractor	3,142
Plow/Sand/Sweep - Sidewalks	St. Clair	S24719	2019	Trackless MT5T	Municipal Tractor	-
Plow/Sand/Sweep - Sidewalks	St. Clair	S248	2004	Trackless MT5T	Municipal Tractor	7,062
Plow/Sand/Sweep - Sidewalks	St. Clair	S25313	2013	Trackless MT6	Municipal Tractor	2,649
Plow/Sand/Sweep - Sidewalks	St. Clair	S25912	2012	Trackless MT6	Municipal Tractor	3,256
Plow/Sand/Sweep - Sidewalks	Suez	S1252	2009	Trackless MT6	Municipal Tractor	1,557
Plow/Sand/Sweep - Sidewalks	Suez	S234	2006	Trackless MT5T	Municipal Tractor	5,784
Plow/Sand/Sweep - Sidewalks	Suez	S23516	2016	Trackless MT6	Municipal Tractor	2,572
Snow Removal	St. Clair	R967	1996	Blanchet B-96-6BTA-5.9-SP	Blower	1,414
Snow Removal	St. Clair	R95216	2016	RPM Tech LM220M	Blower	204
Street Sweeping	All	S1814	2008	Freightliner/Whirlwind	Sweeper	58,495
Street Sweeping	All	S20011	2011	Elgin	Sweeper	45,470
Street Sweeping	All	S81314	2014	Freightliner/Whirlwind	Sweeper	25,496
Street Sweeping	All	S81115	2015	Freightliner/Whirlwind	Sweeper	18,749
Street Sweeping	Frobisher	S82011	2011	Freightliner M2	Tanker/flusher	54,609
Street Sweeping	St Clair	S82114	2014	Western Star 4700	Tanker/flusher	28,030
Winter Control Supervision	Capreol	S43614	2014	FORD	F150	220,822
Winter Control Supervision	Capreol	S44412	2012	DODGE	1500	245,899
Winter Control Supervision	Chelmsford	S1546	2008	CHEV	Silverado	167,157
Winter Control Supervision	Chelmsford	S47318	2018	FORD	F150	5,864
Winter Control Supervision	Chelmsford	S49813	2013	FORD	F150	259,330
Winter Control Supervision	Frobisher	S43913	2013	FORD	F150	205,652
Winter Control Supervision	Frobisher	S44317	2017	FORD	F150	41,530
Winter Control Supervision	Frobisher	S52618	2018	FORD	F150	11,249
Winter Control Supervision	Frobisher	S54918	2018	FORD	F150	11,425
Winter Control Supervision	St Clair	S44512	2012	DODGE	1500	161,493
Winter Control Supervision	St Clair	S48413	2013	FORD	F150	176,667
Winter Control Supervision	St Clair	S50614	2014	FORD	F150	112,154

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Winter Control Supervision	St Clair	S53312	2012	DODGE	1500	134,480
Winter Control Supervision	St Clair	S53420	2020	Nissan	Frontier	-
Winter Control Supervision	St Clair	S01918	2018	FORD	F150	20,280
Winter Control Supervision	Walden	S49013	2013	FORD	F150	189,600
Winter Control Supervision	Walden	S49513	2013	FORD	F150	222,145
Winter Control Supervision	Walden	S535	2020	Nissan	Frontier	-
Winter Control Supervision	Walden	S54713	2013	FORD	F150	153,132