

Building Better Fleet: An Asset Management Plan for Fleet Services



Fleet Services

INTRODUCTION

The City of Saskatoon's fleet services are provided by the Fleet Services Section of the Facilities & Fleet Management Division, Asset & Financial Management Department. Services provided include purchasing, rental, maintenance/repair, and replacement of vehicles and equipment. Fleet Services is funded through revenue generated from rental rates that are charged to civic departments and Boards.

A 2008 audit conducted by Robert Prosser & Associates Inc. indicated that areas of the City's fleet had bypassed their life expectancy and some were in a condition that seriously impacted the ability of various departments to provide expected levels of service.

Since 2013, in order to advance the replacement plan, rental rates were adjusted. This increase in rental rates has generated an additional \$6.0 million over a period of four years which has been transferred to reserves. This adjustment to rental rates has closed the identified funding gap and if funding levels remain the same, Fleet Services should be in a position to replace vehicles in a timely manner.

CURRENT INVENTORY

The City's active fleet assets are estimated to have a replacement value of \$97.2 million. Table 1 is a summary of the fleet asset groups, and Table 2 is a more detailed breakdown of the many different asset categories of fleet. Both Table 1 and 2 show the asset group or category's replacement value and the percentage of the value that each asset group/category represents.

Table 1: Summary Fleet Asset Inventory (in millions of \$)

Asset Group	Inventory	Replacement Value	% of Fleet*
Heavy Equipment	194	57.2	58.8%
Civic Vehicles	531	26.3	27.0%
Other	82	6.3	6.5%
Police Vehicles	184	7.5	7.7%
Total	991	97.3	100.0%

*Based on \$ value

Table 2: Detailed Fleet Asset Inventory

Asset Category	Inventory	Replacement Value	% Fleet*
Civic Vehicles			
1 Ton Truck	141	10,978,000	11.3%
1/2 Ton Truck	93	4,107,000	4.2%
3/4 Ton Truck	60	2,879,000	3.0%
1/4 Ton Truck	70	2,450,000	2.5%
3/4 Ton Van	37	1,545,000	1.6%
Mini Van	50	1,397,000	1.4%
1 Ton Van	29	1,210,000	1.2%
1/4 Ton SUV	29	875,000	0.9%
1/2 Ton Van	12	450,000	0.5%
Crew Truck	1	150,000	0.2%
Light Sedan	4	88,000	0.1%
Hybrid Car	3	87,000	0.1%
Mini Car	2	44,000	0.0%
TOTAL	531	26,260,000	27.0%
Police Vehicles			
Police Sedan	96	3,945,000	4.1%
Police SUV	58	2,631,000	2.7%
Police Mini Van	20	561,000	0.6%
Police 1 Ton Van	4	158,000	0.2%
Police 3/4 Ton Van	2	88,000	0.1%
Police Motorcycle	2	60,000	0.1%
Police 1/2 Ton Van	2	70,000	0.1%
TOTAL	184	7,513,000	7.9%
Other Vehicles			
Asphalt Patcher	12	1,490,000	1.5%
Sidewalk Cleaner	10	1,400,000	1.4%
Skid Steer	12	660,000	0.7%
Snow Blower	3	600,000	0.6%
Trailer	18	626,000	0.6%
Forklift	11	423,000	0.4%
Trencher	2	360,000	0.4%
Tractor	3	300,000	0.3%
Compressor	7	140,000	0.1%
Floor Scrubber	2	180,000	0.2%
Wood Chipper	2	104,000	0.1%
TOTAL	82	6,283,000	6.3%

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Asset Category	Inventory	Replacement Value	% Fleet*
Heavy Equipment			
Garbage Truck	35	12,040,000	12.4%
Tandem Truck	43	7,850,000	8.1%
Bucket Truck	23	6,115,000	6.3%
Sweeper	19	6,050,000	6.2%
Motor Grader	17	4,900,000	5.0%
Loader	12	4,320,000	4.4%
Sewer Flusher/Vac	8	3,600,000	3.7%
Compactor	3	3,600,000	3.7%
Backhoe	10	3,030,000	3.1%
Digger Truck	4	1,280,000	1.3%
Roller	8	1,068,000	1.1%
Dozer	1	1,050,000	1.1%
Water Truck	4	800,000	0.8%
Hoist Truck	3	680,000	0.7%
Line Painter	1	450,000	0.5%
Boiler Truck	3	360,000	0.4%
TOTAL	194	57,193,000	58.8%
Grand Total	991	97,249,000	100.0%

*Based on \$ value



Police SUV



Compact Hybrid Car



Side Arm Garbage Truck



Hoist Truck

PHYSICAL CONDITION OF FLEET

In order to proceed with an Asset Management Plan, the following questions need to be addressed:

1. What is the current fleet condition?
2. What is the desired condition level?
3. How fast would City Council like to reach the desired condition level (expenditure level)?

The City's vehicles and equipment are evaluated for condition based on estimated service life (ESL) of the vehicle compared to actual service life, using either the age of the asset or the timeframe when the asset is estimated to reach its end of service life based on usage. For example, a minivan is estimated to have an ESL of 12 years or 230,000 km. The actual age of the vehicle is 8.4 years but it has been driven 242,443 km. This minivan is considered to be at the end of its service life (100%+) because of the excess usage. The rating structure shown in Table 3 has been used in the industry to rate vehicles and equipment from very good to very poor condition.

Table 3: Rating Structure

Condition Description	% of Estimated Service Life Used	Explanation
Very Good (VG)	0-20% ESL	New unit, no wear/tear.
Good (G)	21-50% ESL	Normal maintenance costs, good overall condition, low KM.
Fair (F)	51-80% ESL	Maintenance costs begin to rise, moderate KM usage.
Poor (P)	81-100% ESL	Unit needs to be replaced, high KM, maintenance costs at a steep incline, body condition deteriorating.
Very Poor (VP)	>101% ESL	Unit no longer operational, potential safety issues, not economically feasible to maintain.

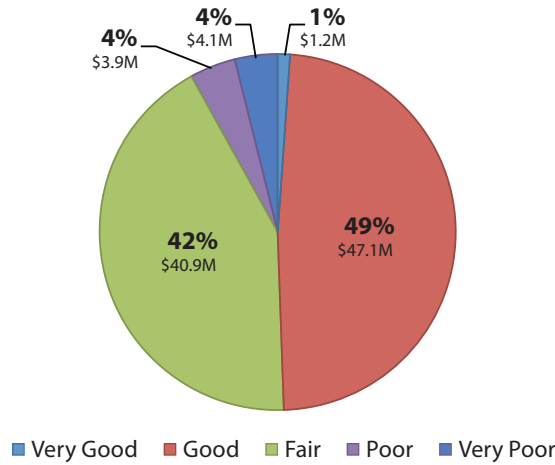
To determine the condition of the fleet assets, service life or kilometers used were the only two factors considered. However, before Fleet Services considers assets for replacement the asset is inspected and prioritized on a number of factors including: safety, cost of maintaining, technological advancements, etc.

Ideally, equipment would be replaced at its optimum point based on its economic life cycle, which is before the equipment becomes more costly to maintain.

The following graph summarizes the fleet's asset condition assessment by replacement value, which shows on average that 49% of the total value of the asset pool is in good/very good condition, 42% is in fair condition and 8% is in poor to very poor condition. On average, the City's fleet is in good condition, indicating that 21%–50% of its useful life has been utilized. This assessment is based on the average of each asset category and the amounts are based on the replacement values. The goal is to have the average asset condition in the good category.

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**Condition Assessment
Profile of Assets by Replacement Value**
(in millions of \$)



EXPENDITURE LEVELS

The Administration evaluates the condition of the City’s assets in order to develop annual programs to maintain its assets at a minimum cost. Condition assessments or evaluations are conducted and used to establish condition levels as well as develop annual capital improvement plans.

The level of service for each type of asset is defined; however, as the level of service increases for the asset, so does the cost of maintaining the asset. In order to be able to compare the level of investment for all assets corporate-wide, five levels of expenditures are identified in Table 4. It should be noted that expenditure levels are not condition assessments but lead to a change in the asset condition over time. “A” represents the highest level of expenditure and “F” represents no expenditure.

Table 4: Expenditure Levels

Expenditure Level	Asset Condition	Description
A	Getting Better Quickly	Sufficient expenditures to keep assets in the desired condition and to increase asset condition/value quickly over time.
B	Getting Better	Sufficient expenditures to keep assets in the desired condition and to increase asset condition/value slowly over time.
C	Maintain Assets in Current Condition	Sufficient expenditures to keep asset in constant condition over time.
D	Getting Worse	Insufficient expenditures to maintain asset condition. Over time asset condition will deteriorate.
F	Getting Worse Quickly	No expenditures. Asset condition/value decreased rapidly.

Table 5 aligns the desired condition and expenditure level and also shows the required funding to meet a level “B” expenditure level averaged at \$6.7 million annually.

Currently, there is a funding gap of \$1.0 million. This amount can be addressed through a bylaw revision by redirecting funds from the Acquisition Reserve to the Replacement Reserve. This bylaw amendment would be consistent with the intent of the 2013 rental rate adjustment.

Table 5 also categorizes the equipment according to its condition. For example, the assets assigned a very good rating would be those in new or relatively new condition. On the other end of the scale, those that have been assigned a very poor condition will have reached the end of the useful life cycle and/or have very high kilometers, therefore, driving up the cost of maintenance.

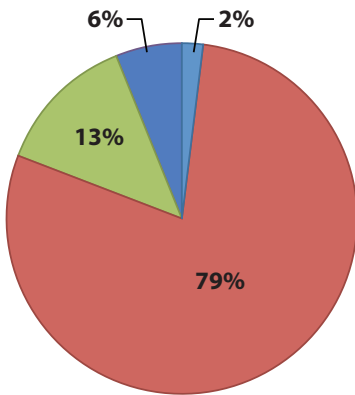
Table 5: Condition of Asset and Desired Condition and Expenditure Level (in millions of \$)

Asset	Physical Condition Actual	Physical Condition Desired	Desired Expenditure Level	Required Average 12 Year Funding*	Average 12 Year Budgeted Funding	Average 12 Year Funding Gap
Police Vehicles	<ul style="list-style-type: none"> • 0% Very Good • 45% Good • 53% Fair • 1% Poor • 1% Very Poor 	Good	Level C	0.6	0.6	0.0
Heavy Equipment	<ul style="list-style-type: none"> • 2% Very Good • 79% Good • 13% Fair • 0% Poor • 6% Very Poor 	Good	Level C	2.8	2.4	0.4
Civic Vehicles	<ul style="list-style-type: none"> • 0% Very Good • 42% Good • 49% Fair • 9% Poor • 0% Very Poor 	Good	Level C	1.7	1.5	0.2
Other	<ul style="list-style-type: none"> • 3% Very Good • 36% Good • 39% Fair • 22% Poor • 0% Very Poor 	Good	Level C	1.6	1.2	0.2
Total				6.7	5.7	1.0

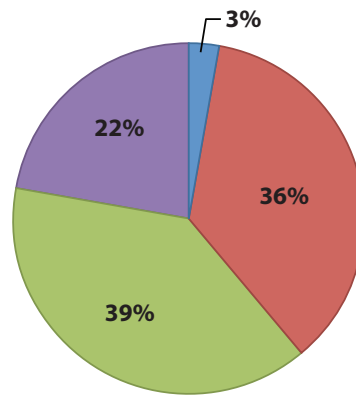
Equipment in the desired good condition generally has normal maintenance costs, good overall condition and low kilometers. Overall, the City’s fleet is in good condition and once the replacements have been made for 2017, the average condition will continue to fall within the desired good condition level.

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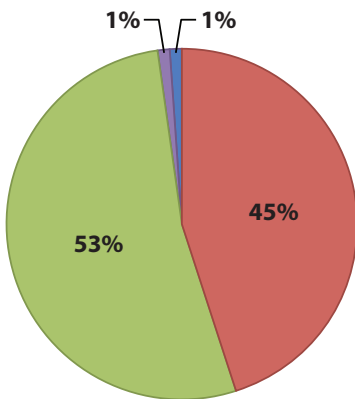
Condition of Heavy Equipment



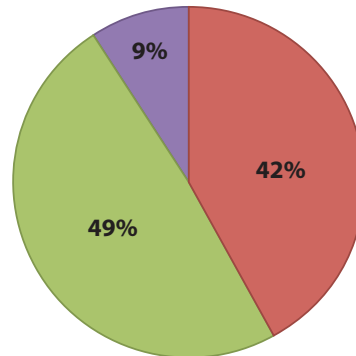
Condition of Other



Condition of Police Vehicles



Condition of Civic Vehicles



■ Very Good ■ Good ■ Fair ■ Poor ■ Very Poor

PRESERVATION PROGRAMS

Fleet Services manages the maintenance of civic assets using an electronic fleet management system. Each unit is assigned a preventative maintenance schedule as soon as it is put into service. From these set parameters, the unit is then monitored based on hours or kilometers used to determine the preventative maintenance schedule.

POTENTIAL PLAN TO ADDRESS THE FUNDING GAP

The Fleet Services maintenance program is currently funded through the Fleet Services operating budget at an amount of \$15 million. The rental fee charged to the various departments as per the operating budget covers the maintenance, including the contribution to the Capital Replacement Reserve. The existing funding gap of \$1.0 million identified in Table 5 could be addressed through a bylaw amendment, resulting in no additional property tax impact.

Fleet Services' rental rates are designed to cover the full lifecycle cost of a vehicle, including maintaining and replacing the unit. Rates are determined using a number of factors, including expected life, the severity of how it will be used, expected maintenance cost and the expected replacement value. Estimates are determined using historical information and industry standards. Exceptions are always considered on a case-by-case basis in regard to a unit which has potentially surpassed its useful life prior to its expected replacement and will be considered within the allotted funding available for vehicle replacements.

Unit rates combine pools of common assets with similar functions. For example, 1/2 ton trucks that are used more frequently, severely, or have significantly different capital up-fit costs may be moved into rate pools with different rental rates. In order to ensure that rates are fairly balanced, some costs are charged directly to the department, including non-standard up-fit costs and damage caused by negligence, operator error or other preventable damage. The primary goal of using this format is to provide departments with the ability to predictably budget their monthly fleet costs without incurring large, unexpected maintenance expenses or having to plan for funding to replace units at the end of their life cycle.

Over the last four years, the rental rate has not only covered the operating and capital costs but has generated an average annual surplus of \$1.5 million. At the end of each year, the surplus is transferred to the Acquisition Reserve as per the bylaw. Over the last three years, a portion or all of this surplus has been transferred from the Acquisition Reserve to the Capital Replacement Reserve. Fleet Services' Capital Replacement Reserve provides funding for fleet replacements only with any additions to the fleet funded through the individual departments requiring the vehicle. However, once this additional piece of equipment is purchased, it becomes the responsibility of Fleet Services to maintain and replace at the end of its life cycle. Fleet Services no longer requires the Acquisition Reserve as departments have their own. Pending a bylaw amendment to eliminate the Acquisition Reserve, the amount of revenue generated through current rental rates is sufficient to fund the operating costs and the Replacement Reserve. This level of funding will allow the replacement of fleet to be made in a timely manner which will ensure the average condition continues to fall within the good condition.

Fleet Services



Asphalt Patcher Trailer



Wheel Street Sweeper



Tractor



Motor Grader



1 Ton Truck



Sewer Flusher Vac Truck

CLIMATE ADAPTION STRATEGY

Fleet Services recognizes the importance of adapting to the climate in which it operates. It is mandatory with all newly procured assets that they meet the latest emissions criteria for greenhouse gas.

Fleet Services is also introducing anti-idle options to reduce emissions which will save money on fuel.

Another initiative of Fleet Services is adding technological advancements to allow departments to carry on operations in all types of weather conditions.



City of
Saskatoon