



REPORT N° FIN2018-025

Date	18/07/2018
Submitted by	Rob Kehoe
Subject	Asset Management Plan - Fleet
File N°	F06 Fleet Management Plan

1) **NATURE/GOAL :**

This report addresses the fleet and equipment component of the City's asset management strategy and proposes an enhanced financial methodology for the replacement of fleet assets.

2) **DIRECTIVE/PREVIOUS POLICY :**

Corporate Asset Management Plan INF2017-044

3) **DEPARTMENT'S RECOMMENDATION :**

WHEREAS Council has approved an Asset Management Strategy further detailed in its Corporate Asset Management Plan INF2017-044; and

WHEREAS a primary principle of asset management includes a sustainable funding model; and

WHEREAS Municipalities have few options in addressing the financing of capital assets; and

WHEREAS The City's existing contribution to the fleet reserve is \$260,000;

BE IT RESOLVED that the contribution to the Fleet reserve be increased annually for the next 5 years by \$50,000 to ensure the cost effectiveness and sustainability of the City's fleet assets.

BE IT FURTHER RESOLVED that Council endorse option 1 of the financing section of this report that the City build its vehicle reserve contribution over the next few years with the goal of financing vehicles with 20 year or less useful life from reserves and those greater than 20 years using debt.

4) **BACKGROUND :**

The Director of Finance and Economic Development prepared a detailed report in the 2016 budget guideline report FIN2016-008 identifying the significant lack of annual contributions to the City reserves. That report recommended a minimum of \$200,000 annual increase in the contribution to reserves to reach the goal in the longer

term given that reaching the goal immediately would prove excessive for ratepayers.

The City has improved its contributions although they remain less than ideal.

Last year, the Director Infrastructure and Planning presented a report on the overall asset management strategy for the City. That report focused more on the hard services of the City including transportation, waste water and water services.

This report addresses the policy for fleet replacement.

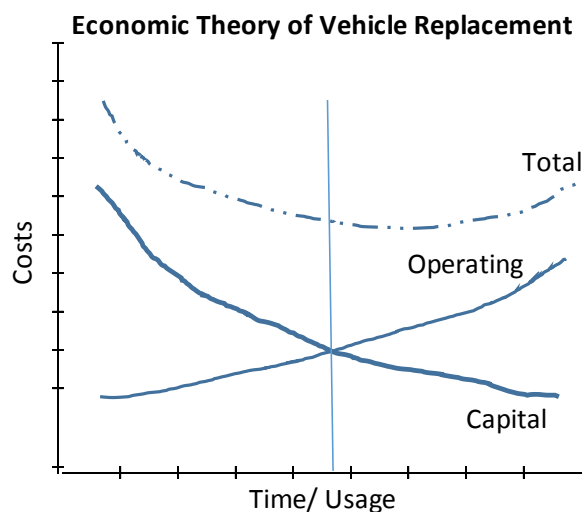
5) **DISCUSSION :**

i) Vehicle Replacement Cycle Guidelines

There are industry standards for the replacement of different types of vehicles. They are based on the total cost of ownership approach and they indicate the point in an assets life where it costs more to continue operating the asset versus repairing it. Replacing vehicles and equipment based on optimum life is one of the key pillars of a good fleet replacement methodology. As an asset begins to reach high operating hours and/or kilometres, unscheduled downtime and associated maintenance costs can begin to escalate. Timing of the replacement of vehicles and equipment is impacted by vehicle type, and the nature and intensity of its use. Effective lifecycle analysis and timely replacement are important for controlling vehicle costs, availability, reliability and safety. Over time, using this approach will provide tangible benefits to the ratepayers of Clarence-Rockland including improved service delivery and lower property taxes.

The Economic Theory of Vehicle Replacement

The economic theory of vehicle replacement is well described in this policy statement from the American Public Works Association:



“Vehicle life-cycle cost analysis enables management to evaluate new equipment purchases and on a case by case basis determine if it is more economical to retain equipment or purchase new. This economic replacement model follows the following premises:

- as a unit ages, average maintenance and operations costs increase
- as a unit grows older, investment costs decrease
- and there is a point in a vehicle’s life at which the total average cost is minimal which is the optimum economic life point.

The accepted economic theory of vehicle replacement maintains that vehicle capital costs decline over time while vehicle operating costs will increase. The combination of these two trends will produce a U-shaped total cost curve and a vehicle should be replaced at the flat portion of this curve. Retaining assets beyond this point leads to the following adverse conditions:

- Increase in total operating cost
- Increase in turnaround time as the complexity of repairs increase
- Decrease in overall asset availability
- Increase in fleet asset failure—the older the fleet, the greater the opportunity a catastrophic failure will occur
- Decrease in salvage (residual) value as an asset ages
- Customer satisfaction with the fleet asset will dissipate
- Operator safety is compromised as vehicle components are subject to increased wear and tear; safety enhancements available on new assets are bypassed when fleet assets are not replaced
- Fleet creep occurs as customers seek to have more backup assets to fill the void created when fleet assets are in for service more often and for longer periods of time”

Ideally, the City would engage a consultant to perform a detailed analysis of the City’s existing fleet to determine historic usage including mileage, repair costs, downtime, service disruptions, etc. – similar to what other cities such as Prince George and Norfolk County have done. Rather than take that approach, staff are recommending that the City establish its vehicle replacement cycle based on an assessment of industry standards, Norfolk County and the City of Prince George. Staff are suggesting this partly as a result of the lack of historical information and the cost benefit of engaging a consultant based on other empirical data that is available.

How is the City Doing?

In line with the Ministry of Infrastructure guidelines on developing Asset Management Plans, staff have addressed the key questions in its asset management plan:

- What do we own?
- What are the attributes?
- What does it cost?
- How long will it last?

Table 1 summarizes and appendix A illustrates the 48 vehicle existing inventory of the City. 34 vehicles or 71% are still within their useful life while the balance of 14 vehicles or 29% are over their useful lives. In theory, there should be no vehicles that are still in inventory beyond their useful lives. However, there are exceptions including vehicles that have been well maintained, vehicles with lower than intended mileage, etc. Notwithstanding this, most of these vehicles should have been replaced but have not due to the lack of capital funding. These decisions are costing the City on the operating budget side due to additional maintenance costs as was discussed earlier in the economic theory of vehicle replacement.

Table 1: Fleet asset Inventory			
	Units	Replacement value	Useful Life
Crew cab 4x4	2	115,000	8
Cube Van	1	55,000	7
Dump Box, Plow	6	2,010,000	10
Dump Box, Plow, Salt Box	2	750,000	10
Dump Box, Plow, Water Tank	1	375,000	10
Pickup	20	855,000	7
Pickup, Salt Box, Plow	1	50,000	7
Pumper	4	2,240,000	20
Quint	1	900,000	20
Rescue	1	350,000	20
Service Van	2	87,000	7
Squad	3	165,000	10
SUV	2	60,000	7
Tanker	2	800,000	20
Grand Total	48	8,812,000	

ii) Capital Financing Approach

In a perfect world, assets would be financed as they are used and the City would tax the ratepayer for the use of vehicles in a year. Although this makes perfect sense, it is not practical as ratepayers would never accept the fluctuations in tax rates to finance such an approach. Could you imagine paying for a pumper fire truck in one year. As such, municipalities use a balanced approach to financing municipal assets – using Pay-as-you-go to tax ratepayers in the current year for the depreciated cost of the fleet inventory and using debt financing for financing the replacement of longer term more expensive assets. Fleet additions are financed based on using the balance of remaining funds in the replacement reserve, other sources or debt.

It is evident by the many studies by the Federation of Canadian Municipalities (FCM), the Association of Ontario Municipalities AMO and others that municipalities are struggling to maintain their existing infrastructure under current tax and rate levels. The City continues to deal with downloading from senior levels of government that put a greater strain on budgets and municipalities ability to adequately maintain its assets. To do so would require immediate property tax rate increases that most municipal Council's are unwilling to place on their ratepayers. As such, the capital financing approach must take this into consideration or the Asset Management Plan – Fleet will be a difficult sell for Council.

City's 2018 Fleet replacement contribution

In the 2018 budget, Council authorized \$260,000 as a contribution to replace vehicles. The reserve for Fleet has only \$50,000 resulting from it being used annually to replace vehicles, as the historical contributions have not been sufficient to create the a sufficient reserve.

As is clear, the historical contributions and the resulting balance in the reserve are insufficient to replace vehicles in a cost effective manner. As a result, the City finds itself in the position that it either must borrow for vehicle replacements (that should be paid for in cash) or delay replacements altogether.

Financing options

Although there are many variations of financing options, this report will summarize them into essential three categories: depreciation or sinking fund approach, debt financing and a Hybrid or balanced approach.

Depreciation or sinking fund approach

In this approach, user departments are charged for the use of vehicles – essentially a depreciation cost plus a financing charge – and the funds are placed in a replacement reserve for eventually replacement of the vehicle. This approach allocates the vehicle cost to the service which promotes “full” service costing. However, sinking fund accounting is

administratively burdensome and is not recommended for smaller fleets such as the City's.

Debt financing

Debt financing is advantageous for municipalities as it essentially allocates the cost of a capital asset over its useful life and the ratepayers that benefit from the asset pay for it. Great then why don't we debt finance all capital assets? Debt financing should be used only to the extent that there is ongoing revenue to support the debt servicing costs including interest. Plus, interest charges are beyond the control of a municipal government and can add a significant cost to a capital asset. To reflect some of the disadvantages of debt financing, the Province of Ontario have legislated that Ontario municipalities cannot incur debt servicing costs beyond a limit of 20% of revenues.

Hybrid or Balanced Approach

The proposed approach is to use a balanced approach to vehicle financing taking advantage of the benefits of a sinking fund and debt approach to financing.

This is the approach that the City is currently using. However, the historical contributions have not been sufficient to build a rolling reserve. This report recommends that the City's annual contribution to its fleet reserve be increased from \$260,000 to \$500,000 and that this be done by increasing the fleet contribution by a minimum of \$50,000 for the next 5 years. This recommendation reflects the fact that the City must increase its contribution to reserves for other assets as well.

Table 2 below identifies various options for financing vehicle replacements and compares them against the status quo.

- **Option 1 – Capping the \$ amount**

Under this approach, we would cap the dollar amount where a project would be financed by debt – either \$250,000 or \$500,000. For example, under the \$250,000 option, assets costing more than \$250,000 would be debt financed and those under that amount would be paid for from reserve contributions.

- **Option 2 – Capping the Useful Life**

Under this approach, we would cap the useful life of an asset where a project would be financed by debt – either 10 or 20 years. For example, under the 10-year option, assets with useful lives beyond 10 years would be debt financed and those under 10 years would be paid for from reserve contributions.

Table 2: Various Financing Options

		OPTIONS			
		1 - Cap Debt		2 - Cap Useful Life	
	Status Quo	\$250,000	\$500,000	10	20
Reserve contribution	\$260,000	202,518	560,018	172,518	\$502,518
Reserve balance *	\$50,000	1,060,857	4,015,857	821,357	\$3,160,857

* The amounts in the “options” columns are reserve fund levels that would be in place had the City implemented this strategy at the outset.

6) **CONSULTATION:**

N/a

7) **RECOMMENDATIONS OR COMMENTS FROM COMMITTEE/ OTHER DEPARTMENTS :**

This report was shared with the management team

8) **FINANCIAL IMPACT (expenses/material/etc.):**

Council direction on this report will be considered during the 2019 budget review.

The recommendation proposes an increase in the fleet contribution by 50,000 per year for the next 5 years subject to approval during the detailed budget review.

9) **LEGAL IMPLICATIONS :**

N/a

10) **RISK MANAGEMENT :**

N/a

11) **STRATEGIC IMPLICATIONS :**

This report supports the City’s asset management strategy which is included as one of the pillars of the City’s Strategic Plan.

12) **SUPPORTING DOCUMENTS:**

Appendix A – Detailed Fleet Assets