

**Report to
Rapport au:**

**Council
et au Conseil**

6 November 2019 / 6 novembre 2019

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**Submitted by
Soumis par:**

**Donald Dinelle, Director, Fleet Services, Innovative Client Services Department /
Directeur, Service du parc automobile, Services novateurs pour la clientèle**

Contact Person

Personne ressource:

**Yan St Louis, Manager, Fleet Lifecycle and Safety, Fleet Services, Innovative
Client Services/Gestionnaire, Sécurité et cycle de vie du parc automobile,
Services du parc automobile, Services novateurs pour la clientèle
613-580-2424 ext. / poste 24884, Yan.St-Louis@ottawa.ca**

Ward: CITY WIDE / À L'ÉCHELLE DE LA VILLE File Number: ACS2019-ICS-FLT-0001

**SUBJECT: 2020 MUNICIPAL VEHICLE AND EQUIPMENT PLAN – INFORMATION
SUPPLEMENTAL TO THE BUDGET ESTIMATES**

**OBJET: PLAN DES VÉHICULES ET DE L'ÉQUIPEMENT MUNICIPAL POUR
2020 - RENSEIGNEMENTS SUPPLÉMENTAIRES AUX PREVISIONS
BUDGÉTAIRES**

REPORT RECOMMENDATIONS

That Council receive the 2020 Vehicle and Equipment Replacement and Growth Plan as described in this report as an accompaniment to the Draft Budget 2020.

RECOMMANDATIONS DU RAPPORT

Que le Conseil prenne connaissance du Plan de croissance et de remplacement des véhicules et de l'équipement de la Ville de 2020, comme le décrit le présent rapport dans le cadre du budget provisoire de 2020.

EXECUTIVE SUMMARY

The 2020 Municipal Vehicle and Equipment Plan sets out the funding requirements for replacement and growth of the City of Ottawa's Municipal Fleet as well as operational support vehicles for Transit Operations. It details the needs and costs of vehicle and equipment renewal, and growth requirements for consideration and approval in the 2020 City Budget process. The proposed 2020 funding envelope for the City's Municipal Fleet vehicle and equipment replacement is \$28,753,000, which will replace a total of 288 vehicles and equipment. The total vehicle and equipment growth requests are 11 new vehicles with new capital funding of \$1,414,000 and operating costs of \$371,135.

The proposed 2020 funding envelope for Transit Operations' operational support vehicle replacement is \$1,800,000, which will replace a total of 29 vehicles.

SOMMAIRE EXECUTIF

Le Plan de croissance et de remplacement des véhicules et de l'équipement de la Ville de 2020 fixe les exigences de financement en la matière pour le parc automobile municipal ainsi que pour les véhicules de soutien opérationnel des Opérations du transport en commun. Il détaille les besoins et les coûts relatifs à la croissance et au remplacement des véhicules et de l'équipement qui devront être examinés et approuvés dans le cadre du processus budgétaire 2020 de la Ville. L'enveloppe de financement de 2020 proposée pour le remplacement des véhicules et de l'équipement du parc automobile municipal s'élève à 28 753 000 \$, ce qui permettra de remplacer 288 véhicules et pièces d'équipements. Il faudra aussi se procurer 11 nouveaux véhicules, ce qui équivaut à un nouveau financement des immobilisations de 1 414 000 \$ et à des coûts de fonctionnement de 371 135 \$.

L'enveloppe de financement proposée pour 2020 concernant les véhicules de soutien opérationnel des Opérations du transport en commun est de 1 800 000 \$, ce qui permettra de remplacer 29 véhicules.

BACKGROUND

This report sets out the consolidated 2020 Plans for renewal and growth requirements of the City's Municipal Fleet and for Transit Operations' operational support vehicles. The Ottawa Police, Ottawa Public Library, OC Transpo revenue-generating vehicles and Ottawa Community Housing Corporation vehicle replacement and growth programs are addressed by their respective organizations and are not discussed in this report. The requirements reflect the funding included in the 2020 City Budget process. Leased and rental vehicles are not part of these replacement and growth requirements.

This report is provided for information purposes as support to the Draft 2020 Budget. As such, all 2020 Budget documentation and decisions in the Budget process supersede the content in this report. The Draft 2020 Operating and Capital Budgets will include the replacement and growth expenditure items and will be tabled per the usual budget process. The purchase of these vehicles and the associated costs are subject to the approval of Council as part of the 2020 City Budget approval.

Under delegated authority provided to the City Treasurer, an advance order for \$4 million worth of equipment identified in this report was placed in 2019. The order was related to the contract extension for curbside residential collections.

Additionally, under delegated authority provided to the City Treasurer, early procurement of up to \$7.7 million worth of equipment identified in this report will be placed in late 2019. The advanced order primarily relates to heavy, and some specific winter equipment, for which long build times are a challenge. This would allow for vehicles to be received before the 2020-2021 winter season whereas procurement in the new year results in their delivery mid-season. Early procurement of spring equipment allows for new equipment to be available, avoiding the labour and costs associated with servicing old equipment for readiness at the start of the season. This will result in savings as the existing equipment will be retired before the season and will not be refurbished in anticipation of deployment.

Changes to the Municipal Vehicle and Equipment Replacement Plan Report

The Municipal Fleet Vehicle and Equipment Replacement and Growth Plan has been developed annually in anticipation of the City's annual Budget process. In January 2005, Council motion 27/139 directed staff to provide pre-budget reports for the purchase of any new growth or replacement fleet. This report details the proposed vehicles and equipment to be purchased for the replacement and growth municipal fleet, as well as potential expected costs.

Since December 2018, procurement of Transit Operations' operational support vehicles – which do not generate revenue - are coordinated and procured through Fleet Services. As a result, the report content is expanded in scope to include these vehicles. This change ensures that both Fleet Services and Transportation Services are compliant with Motion 27/139 and reflects the new operational integration and collaboration in the procurement of vehicles between Fleet Services and Transit Services.

DISCUSSION

The replacement and growth needs of the municipal fleet - the vehicles and equipment used for City operations and services - are prepared annually by Fleet Services. In preparation, the City service areas identify their respective growth and/or replacement requirements. Fleet Services uses this information to prepare minimum vehicle specifications to cost-effectively meet departmental requirements. In 2018, Fleet Services significantly enhanced this process with the development of the Fleet Funding Model and the continued work on right sizing the fleet. The final result is an analysis and collective decision between Fleet and its service area clients which takes into consideration the age and usage of the vehicle, repair and maintenance costs, as well as other considerations such as the potential for municipal fleet standardization, vehicle pooling / sharing, and procurement opportunities.

2020 Municipal Vehicle and Equipment Replacement Plan

The City's municipal fleet consists of 2,775 vehicles and equipment grouped into five operational classes: ambulances, fire trucks, heavy vehicles, light vehicles and equipment. The current replacement value of the fleet is estimated at approximately \$309 million. The detailed breakdown of the fleet is shown in Table 1 below. These figures do not reflect vehicles and equipment for OC Transpo (revenue-generating), Ottawa Police Services, Ottawa Public Library, or Ottawa Public Health.

Table 1: 2019 Municipal Fleet Breakdown by Classification

Classification	Total Number of Fleet Units	Total Current Replacement Value
Ambulances	82	\$13,000,000
Fire Trucks	105	\$82,000,000
Heavy Vehicles	452	\$101,000,000
Light Vehicles	926	\$39,000,000
Equipment	1210	\$74,000,000
Total	2,775	\$309,000,000

To identify needs, staff considers the optimal point in the lifecycle of the vehicles and equipment determined by a combination of age, usage, and maintenance costs. The replacement at the optimal point in the lifecycle has many benefits: total funding which includes capital and operating costs, is at its lowest point; and vehicle reliability is protected, minimizing on-the-road failures and maximizing vehicle availability.

Conversely, deferring vehicle replacements beyond the optimal lifecycle has negative considerations: annual operating costs increase rapidly, and dramatically for heavy equipment; capital investment is only deferred, not eliminated; vehicle resale value declines or is eliminated; and vehicle downtime increases.

There is variability in the optimal lifecycle for the City's municipal fleet. Generally, the expected life can range between 4.5 – 18 years. This variability is caused by differences in units and class, operating environments, maintenance of the units and specific uses.

A comprehensive fleet management strategy is dependent on an efficient replacement model. Delayed vehicle replacement not only increases the age and operating costs but also results in an accumulation of vehicles or equipment requiring replacement.

RIGHT-SIZING THE FLEET

In 2017, Fleet Services initiated a project to right-size the fleet. In short, every vehicle and piece of equipment in the municipal fleet was reviewed with the goal of ensuring the number and type of vehicle are appropriate for the job they need to perform. This significant exercise examined operational requirements, low usage, seasonal usage,

shared usage, and standardization. This ongoing initiative is expected to be completed in early 2020.

This work has provided insights that have resulted in extended vehicle life:

- **Vehicle Sharing:** Some users need reliable access to a vehicle, but only periodically for low kilometer needs. These clients now support inter-departmental needs by sharing vehicles. Users who do not travel far, will take over another user's vehicle that has high kilometers but is still relatively young, instead of replacing their units with a new unit.
- **Strategic use of vehicles' lifecycle:** While it may seem counter intuitive for a supervisor to drive a crew cab, this project discovered otherwise. Supervisors travel many kilometers; instead of replacing the vehicle while its age is still low, it is more economical to shift use of this crew cab to their staff who do not drive far but require the extra cargo space.

FLEET FUNDING MODEL BUILT IN-HOUSE

Fleet Services set out to develop a reliable and robust approach to forecast the optimal operating and capital costs associated with vehicle and equipment replacement, and to provide Fleet Services with a lens capable of better managing the long-term health of the Fleet Reserve and supporting the annual budget process. The key attributes and outcomes of this work include:

- **Collaborative Effort – Finding the Best Tool:** Fleet and IT Services partnered to lead an extensive research, benchmarking and consultation exercise to determine if there was an existing product or platform to build upon. After engaging other municipalities and reaching out to corporations, consulting firms and software developers across North America, IT Services and Fleet Services determined there was no existing available software product that could produce long-term forecasting to meet the unique needs and diversity of the City's fleet. Given Fleet Services had the technical knowledge and software development skills in-house, it was decided Fleet Services should build the software application themselves.
- **Innovation - A First for a Municipality in Canada:** The development of this model has made the City of Ottawa a leader in fleet forecasting, and there has been much interest from other municipalities across Canada.

- **Sophistication - Looking Beyond Vehicle Age:** Forecasting the replacement of a diverse fleet is complicated if you only focus on the age of the vehicle. In this Ottawa-built solution, it was decided to evaluate other critical measures: usage (kilometers driven or hours in operation), and maintenance costs - an industry standard is a vehicle should be replaced before the cost to maintain it exceeds the cost to replace it. Automating the monitoring of these three variables (age, usage, and maintenance cost) enabled the product to have a high level of sophistication and precision.
- **Flexibility – Scenario Oversight:** The system was not only designed to help determine when a vehicle should be replaced, it was also built to allow flexibility. The software easily works with hypothetical scenarios including what happens when: capital funding is restricted; the life of a given class of vehicle has to be extended; or there is a decision to standardize a certain portion of the fleet, such as snow plows or fire trucks.
- **Portability – Supporting Our Partners:** The software was designed to not be dependent on the City's third-party Fleet Management Information System. This decision provides Fleet with the ability to change the system in the future without affecting the funding model. This also means that in the future, Fleet Services' partners, including Ottawa Police Service and Transit Services, can have access to the model software, and there is potential to consider sharing the model with other Canadian municipalities.
- **Changing the Conversation – Helping Clients Make Better Decisions:** The system projects the impact on every vehicle and piece of equipment 10 years into the future (and 20 years if needed). With this extensive level of foresight, Fleet Services is better positioned to facilitate client planning, right sizing, and standardization.
- **Fleet Reserve – Improved Management:** Fleet Services is better positioned than ever to understand the impacts, opportunities and challenges of managing a large and diverse fleet. The long-term effect of ebbs and flows in spending associated with modern fleet management are more apparent. For example, the standardization of large groups of vehicles like snow plows, garbage trucks, and light vehicles clearly indicate which years there will be reduced spending of capital, and which years require a significant influx.

PROPOSED REPLACEMENT OF VEHICLES AND EQUIPMENT IN THE 2020 BUDGET

The results of the Fleet Funding Model propose a 2020 funding envelope for Municipal Vehicle and Equipment Replacement is \$28,753,000, replacing a total of 288 vehicles and equipment in the municipal fleet, as presented in Table 2.

Table 2: Municipal Fleet vehicle and Equipment Capital Replacement

Classification	Number of Units	Current Replacement Value
Ambulances	15	\$2,553,000
Fire Trucks	6	\$3,600,000
Heavy Vehicles	48	\$10,800,000
Light Vehicles	138	\$5,900,000
Equipment	81	\$5,900,000
Total	288	\$28,753,000

These vehicles are being proposed for replacement as they exceed the following examples of minimum standards:

- Snow Plows: 10 years old, 250,000 kilometers, or to-date maintenance cost exceeds the cost to replace (~\$300,000). Note: snow plows travel about 20,000 kilometers per year, and maintenance cost in its last few years exceeds \$50,000 per year.
- Light Vehicles: 12 years old, 225,000 kilometers, or to-date maintenance cost exceeds the cost to replace (~\$25,000 to \$40,000). Note: light vehicles travel about 10,000 to 20,000 kilometers per year.
- Heavy Equipment (graders, front end loaders): 15 years old, 12,000 engine hours, or to-date maintenance cost exceeds the cost to replace (~ \$300,000 to \$350,000). Note: heavy equipment works about 900 hours per year, and annual maintenance cost approximates \$20,000 to \$25,000.

The details of the specific vehicles and equipment planned for replacement using 2020 capital funding are set out in Document 1 – 2020 Vehicle and Equipment Replacement Plan. This detailed plan was developed based on the related optimal replacement lifecycles, individual vehicle assessments, and in-depth client

consultation.

Transportation Services manages a fleet of 328 operational support vehicles within Transit Operations. The fleet is a mix of light and heavy vehicles with various lifecycles of 3 to 15 years or more. The proposed 2020 funding envelope for Transit Operations' operational support vehicle replacement is \$1,800,000, which will replace a total of 29 vehicles. This will fund the lifecycle replacement of operational support vehicles identified by Transportation Services, including those used for security, supervision, bus maintenance, winter maintenance, stores, and others.

2020 GROWTH REQUESTS –VEHICLES AND EQUIPMENT

In addition to the replacement needs, Fleet Services worked with City departments to identify new growth to the Municipal Fleet required to meet the City's service delivery requirements. The 2020 Municipal Fleet vehicle and equipment growth requests for all departments total 11 units. These new units are reflected in the Draft Budget 2020 and represent an additional \$1,414,000 in capital costs and annual estimated operating costs of \$371,135. The attached Document 2 – 2020 Vehicle and Equipment Growth Plan provides the estimated capital acquisition cost as well as the estimated annual operating cost for each of the units.

DONATIONS

In the last year, the Community and Protective Services Committee approved the donation of four (4) ambulances and one (1) snowmobile with associated sled, in accordance with the City of Ottawa's Disposal of Fleet Vehicle and Equipment Policy, for a total estimated value of \$36,850.

RURAL IMPLICATIONS

This report has no rural implications.

CONSULTATION

This report did not require public consultation and is subject to the overall consultation processes of the Draft 2020 Budget process.

COMMENTS BY THE WARD COUNCILLOR(S)

This is a City-wide report.

ADVISORY COMMITTEE(S) COMMENTS

There are no advisory committee comments.

LEGAL IMPLICATIONS

There are no legal impediments to approving the information in this report.

RISK MANAGEMENT IMPLICATIONS

Risk considerations have been addressed in the recommended plan within the 2020 Draft Budget process.

FINANCIAL IMPLICATIONS

The Draft 2020 Operating and Capital Budgets will include these expenditure items and will be tabled following the usual 2020 City of Ottawa Budget Process. The purchase of these vehicles and the associated costs are subject to the approval of Council as part of the 2020 City Budget.

ACCESSIBILITY IMPACTS

Staff will ensure that applicable accessibility standards are adhered to during the execution of the Municipal Vehicle and Equipment Capital Replacement Plan.

ENVIRONMENTAL IMPLICATIONS

The replacement of old vehicles has a positive impact on the environment because new vehicles are more fuel efficient and built to conform with current emissions standards.

TERM OF COUNCIL PRIORITIES

This report supports key priority areas of Transportation and Mobility, and Sustainable Environmental Services.

SUPPORTING DOCUMENTATION

Document 1 – 2020 Vehicle and Equipment Replacement Plan

Document 2 – 2020 Vehicle and Equipment Growth Plan

DISPOSITION

The Innovative Client Services Department will implement the recommendations as approved by Council.