

**Subject: 2024 Fleet Vehicle and Equipment Plans – Information Supplemental  
to the Budget Estimates**

**File Number: ACS2023-FCS-FLT-0003**

**Report to Council 8 November 2023**

**Submitted on November 8, 2023 by Laila Gibbons, Director, Fleet Services,  
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**Ward: Citywide**

**Objet : Plans de remplacement des véhicules et des biens d'équipement de  
2024 – Information complémentaire des estimations budgétaires**

**Numéro de dossier : ACS2023-FCS-FLT-0003**

**Rapport au Conseil le 8 novembre 2023**

**Soumis le 8 novembre 2023 par Laila Gibbons, Directrice, Service du parc  
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**Quartier : À l'échelle de la ville**

#### **REPORT RECOMMENDATION(S)**

**That Council receive the 2024 Municipal Fleet Vehicle and Equipment Replacement Plan, the 2024 Municipal Vehicle and Equipment Growth Plan, and the 2024 Transit Operations Support Vehicle and Equipment Replacement Plan as described in this report as supplemental information to the Draft Budget 2024.**

## RECOMMANDATION(S) DU RAPPORT

**Que le Conseil municipal prenne connaissance du Plan de remplacement des véhicules et des biens d'équipement municipaux de 2024, du Plan de croissance des véhicules et des équipements municipaux de 2024 et du Plan de remplacement des véhicules et des biens d'équipement pour le soutien des services de transport en commun de 2024, comme le détaille le présent rapport à titre d'information complémentaire au budget provisoire de 2024.**

## EXECUTIVE SUMMARY

The 2024 Vehicle and Equipment Plans set out the funding requirements for replacement and growth of the City of Ottawa's municipal fleet as well as Transit Operations support vehicles. The plans detail the needs and costs of vehicle and equipment renewal, and growth requirements for consideration and approval in the 2024 City Budget process. This report also provides an update on development of the City's Green Fleet Strategy and related work around green fleet.

The proposed funding envelope for the **2024 Municipal Fleet Vehicle and Equipment Replacement Plan** is \$31,000,000, which will replace a total of 165 vehicles and equipment.

The proposed funding envelope for the **2024 Municipal Fleet Vehicle and Equipment Growth Plan** includes 25 new units with capital funding of \$4,049,000 and annual operating costs of \$896,450.

The proposed funding envelope for the **2024 Transit Services Support Vehicle and Equipment Replacement Plan** is \$1,801,000, which will replace a total of 19 vehicles and equipment. Transit Services does not have any growth support vehicles in 2024.

## RÉSUMÉ

Les Plans de remplacement des véhicules et des biens d'équipement de 2024 font état des besoins relatifs au financement du remplacement et de la croissance du parc automobile municipal de la Ville d'Ottawa ainsi que des véhicules servant aux services de transport en commun. Ces plans précisent les besoins et les coûts du renouvellement des véhicules et des équipements, ainsi que les exigences relatives à la croissance du parc automobile municipal à étudier et à approuver dans le cadre du processus d'établissement du budget de la Ville pour 2024. Le présent rapport fait également le point sur l'élaboration de la stratégie relative au parc de véhicules verts de la Ville et des travaux entourant ce parc de véhicules verts.

L'enveloppe budgétaire proposée pour le **Plan de remplacement des véhicules et des biens d'équipement du parc automobile municipal de 2024** se chiffre à 31 000 000 \$, ce qui permettra de remplacer au total 165 véhicules et biens d'équipement.

Le **Plan proposé pour la croissance des véhicules et des biens d'équipement du parc municipal de 2024** comprend 25 véhicules neufs dont le financement en immobilisations s'élève à 4 049 000 \$ et dont les coûts d'exploitation s'établissent à 896 450 \$.

L'enveloppe budgétaire proposée pour le **Plan de remplacement des véhicules et des biens d'équipement servant aux services de transport en commun de 2024** se chiffre à 1 801 000 \$, ce qui permettra de remplacer 19 véhicules et biens d'équipement. Les Services de transport en commun ne posséderont en 2024 aucun véhicule de soutien de la croissance.

## **BACKGROUND**

This report sets out the consolidated 2024 plans for renewal and growth requirements of the City's municipal fleet.

The Municipal Fleet Vehicle and Equipment Replacement and Growth Plans are 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 fleet required for growth. In response to this motion, Fleet Services' Vehicle and Equipment Plans report has been provided annually in advance of budget and since 2019, has been tabled with the annual Budget at City Council.

Since December 2018, Fleet Services has expanded the report content to include Transit Operations' support vehicles, those vehicles which do not generate revenue, to ensure that both Fleet Services and Transit Services are compliant with Council motion 27/139. As a result, the report includes the 2024 Transit Operations' Support Vehicle and Equipment Replacement Plan and ensures operational planning and integration between both Fleet and Transit Services.

The Ottawa Police Services, Ottawa Public Library, and OC Transpo revenue-generating vehicles and growth programs are addressed by their respective organizations and are not discussed in this report. Further, leased and rental vehicles are not part of these replacement and growth requirements.

Consistent with previous budget years, an advance purchase against the 2024 budget

was authorized by the Chief Financial Officer to allow for the ordering of specialized equipment such as ambulances and combo trucks due to the long build time required, and pickup trucks due to the units being grounded and GM having eight units available to purchase in Q4 2023.

This report is provided for information purposes alongside the City's 2024 Draft Budget. The Draft 2024 Operating and Capital Budgets include the replacement and growth expenditure items outlined in this report, and are subject to the approval of Council as part of the 2024 budget process.

## DISCUSSION

### 2024 Fleet Vehicle and Equipment Replacement and Growth Plans

#### 1. 2024 Municipal Fleet Vehicle and Equipment Replacement Plan

The City's municipal fleet consists of 2,788 vehicles and equipment that are owned by the City and grouped into five operational classes: ambulances, fire trucks, heavy vehicles, light vehicles, and equipment.<sup>1</sup> The fleet is relied on daily to deliver municipal services across 2790 km<sup>2</sup>. The fleet includes a wide variety of units ranging from compact By-law cars to the compactor at Trail Road landfill weighing in at just over 60 tonnes. The current replacement value of the fleet is estimated at approximately \$492 million. The detailed breakdown of the existing fleet is shown in Table 1 below.

Table 1: 2022 municipally owned fleet breakdown by classification

<b>Classification</b>	<b>Total Number of Fleet Units</b>	<b>Total Current Replacement Value</b>
Ambulances	103	\$27,000,000
Fire Trucks	114	\$140,000,000
Heavy Vehicles	468	\$142,000,000
Light Vehicles	941	\$71,000,000
Equipment	1162	\$112,000,000
<b>Total</b>	<b>2788<sup>1</sup></b>	<b>\$492,000,000</b>

<sup>1</sup> The total number of City owned vehicles is 37 units less than in 2022. This is due to 32 units, valued at \$3,500,000, that were grounded in 2023, sold and temporarily replaced with rental units until replacement units are available to purchase. The other five units are attachments that have been merged, and will be life cycled with the main unit.

To ensure the municipal fleet is made up of the right number, size and type of vehicles and equipment to support City operations, Fleet Services assesses every vehicle and piece of equipment in the fleet through a comprehensive review at each annual client meeting. This review considers the age, use, and maintenance costs of the service's existing fleet, the future needs of the service, and consideration of marketplace availability.

In addition to this regular review to ensure the municipal fleet is made up of the right numbers and types of vehicles and equipment, it's critical to ensure vehicles and equipment coming to the end of their life cycle are replaced at the optimal point.

Replacement at the optimal point in the life cycle has many benefits including that the operating cost will be at its lowest point and the vehicle reliability is protected by minimizing on-the-road failures and maximizing vehicle availability.

Replacement vehicles also typically have lower greenhouse gas (GHG) emissions due to improved technology and the shift to hybrid or electric vehicles where available. This contributes to meeting the Council-approved target established in the Climate Change Master Plan ([ACS2019-PIE-EDP-0053](#)) to reduce GHG emissions from City operations based on 2012 levels by 30 percent by 2025, 50 percent by 2030, and 100 percent by 2040.

Conversely, deferring vehicle replacements beyond the optimal point in their life cycle has negative impacts such as: rapid increase of operating costs which is especially dramatic for heavy equipment; capital investment for required replacements is only deferred, not eliminated; vehicle resale value declines or is eliminated; and vehicle downtime increases.

Fleet Services uses the Fleet Funding Model tool that considers age, usage, and maintenance costs to identify the optimal replacement point for each type of unit in the municipal fleet. In 2021, Fleet Services reviewed and updated the threshold replacement age used by the model in response to the rising costs and operational disruption caused by the aging fleet. These updated values are based on a review of industry standards and the maintenance costs and performance of fleet units. For example, light fleet units are now planned to be replaced at 10 rather than 12 years of use.

The thresholds for replacement of a fleet unit vary by type and use, for example:

- **Combo trucks:** 10 years old, 250,000 kilometers, or cumulative maintenance cost exceeding the cost to replace (~\$360,000). Note: Combo trucks travel about 20,000 kilometers per year, and maintenance costs typically exceeds \$50,000 per year as they approach the 10-year threshold.
- **Cars, pick-ups, and vans:** 10 years old, 225,000 kilometers, or cumulative maintenance cost exceeding the cost to replace (~\$35,000 to \$72,000). Note: light vehicles travel about 10,000 to 20,000 kilometers per year.
- **Front end loaders:** 15 years old, 12,000 engine hours, or cumulative maintenance cost exceeds the cost to replace (~ \$500,000 to \$600,000). Note: heavy equipment works about 900 hours per year, and annual maintenance cost are approximately \$20,000 to \$25,000 beyond five years of operation.

The Fleet Funding Model's calculation of optimal replacement considering costs and benefits results in a recommended 2024 funding envelope of \$31,000,000 to replace a total of 165 vehicles and pieces of equipment in the Municipal Fleet. All of the units to be replaced in 2024 are at end of life. The recommended lower number of replacement vehicles and equipment in the funding envelope in 2024 is related to the larger number of specialized pieces of heavy equipment due for renewal, specifically, fire trucks, graders and combo trucks.

This investment will ensure the reliability of the fleet to support the critical services the City provides every day. An additional benefit of this investment is the avoidance of maintenance costs by a projected amount of up to \$1.4 million, given the age and condition of the City's fleet; and rental costs by a projected amount of \$985 thousand in 2024. Rental vehicles would be required to replace light vehicles that are not available to support operations due to ongoing repairs or their condition. As previously mentioned, if the investment is not made, the need for capital is deferred to the next budget year and not eliminated.

After the initial thresholds are applied by the funding model, staff adjust the timeframes to match resourcing levels, stagger replacements to support operations, time replacement purchases to capitalize on external funding, or take advantage of a new or upcoming replacement option that would further the City's goals regarding service delivery, fiscal responsibility, and reduction of GHG emissions.

## **Green Options and Supply Chain**

Staff have reviewed available hybrid and electric options which meet the needs of the operations and identified 43 units for possible replacement with green alternatives.

The 43 units that have the ability to be replaced with hybrid and electric models could result in over 1,615 fewer tons of GHG emissions over their life cycle. The initial capital cost of hybrid and electric vehicle purchases is higher than their traditional fuel counterparts with those increased costs reflected in the replacement plan. Future operating costs should offset the initial increased capital cost throughout the lifecycle of the vehicle.

Due to significant market constraints because of supply chain limitations that have yet to stabilize after the pandemic, green unit availability continues to be limited. Vehicle manufacturers are anticipating that supply chain shortages will continue over the next year or two affecting the availability of hybrid and electric vehicles. Until such time that the automotive market stabilizes, it may be required to replace hybrid or electric units that are up for lifecycle, with a traditional fuel vehicle to meet operational needs and maintain City services. With these challenges, staff forecast approximately 30 per cent of identified green units will be delivered in 2024.

With the current supply challenges, staff continue to work closely with all vendors on the Light Fleet Standing Offer list to ensure the City is made aware of when green units may become available. Through this work, Fleet Services was able to purchase three electric ice resurfacing machines, three electric SUV's, three hybrid SUV's and four hybrid half ton pick-up trucks in 2023. We are also expecting delivery of five additional electric half ton pick-up trucks and four electric SUV's by the end of the year.

## **Green Fleet Strategy & Green Fleet Update**

The City of Ottawa's Climate Change Master Plan and Energy Evolution pillar set new corporate targets to reduce GHG emissions by 100 per cent below 2012 levels by 2040. In line with these goals, Fleet Services is developing a Green Fleet Strategy which will better position the City to meet these targets, and remain in closer alignment with the models presented in Energy Evolution.

This strategy will offer a comprehensive, long-term roadmap that will demonstrate the City's leadership in reaching its climate goals through transitioning to a low carbon fleet. The approach will consider the wide diversity of fleet units, client needs, market

conditions, education, training, procurement, monitoring, and the required infrastructure to support expanded opportunities and new technology.

Development of the Strategy is underway, with current condition assessments and alternative fuels and vehicle technology reviews already complete. Staff plan to present the Green Fleet Strategy to Council in 2024.

Part of the current focus is on evaluating the criteria for each technology through to 2040, providing a ranking of technologies to prioritize each asset class, and the developing a technology roadmap and scenario-based options reduction analysis. A draft light vehicle roadmap has been developed using this approach with work now continuing on the development of the heavy vehicle roadmap before shifting to the medium vehicles.

Guidelines for replacement of lower emitting powertrains (Light duty units), developed under the previous green fleet plan, have been operationalized. Fleet's direction for light duty units will continue to be to always look at electric and hybrid alternatives first; even when the market continues to predict that challenges for BEV (battery electric vehicle) and HEV (hybrid electric vehicle) availability will continue through 2024.

Green options have been tested and are commercially sold within the light vehicle class and for many pieces of equipment. 241 units from the City's fleet inventory will have been replaced, or growth units have been purchased, by the end of 2023 with hybrid or electric alternatives. Of the green vehicles in service by the end of 2023, 60 are fully electric and 181 are hybrid. Units, with viable and available green options, will continue to be transitioned as part of their regular lifecycle replacement schedule.

Further, the City was successful in securing \$247,500 in funding from Natural Resources Canada through the Zero Emission Vehicle Infrastructure Program to support EV charging infrastructure from 2023 to 2026.

### **Summary of 2024 Municipal Fleet Vehicle and Equipment Replacement Plan**

Specific vehicles and equipment to be replaced are set out in detail in Document 1 – 2024 Municipal Fleet Vehicle and Equipment Replacement Plan and summarized in Table 2 below.

Table 2: 2024 Municipal Fleet Vehicle and Equipment Capital Replacement Summary

<b>Classification</b>	<b>Total Number of Units</b>	<b>Total Current Replacement Value</b>



Ambulances	15	\$3,900,000
Fire Trucks	4	\$9,200,000
Heavy Vehicles	45	\$7,700,000
Light Vehicles	43	\$3,900,000
Equipment	58	\$6,300,000
<b>Total</b>	<b>165</b>	<b>\$31,000,000</b>

## **2. 2024 Municipal Fleet Vehicle and Equipment Growth Plan**

Fleet Services worked with City departments to identify growth to the fleet required to meet the City's service delivery requirements. The 2024 Municipal Fleet Vehicle and Equipment Growth Plan includes 25 new units for all City departments. Of note, 19 of the 25 growth units have green options on the market. An evaluation will be undertaken on the 19 vehicles to determine if a green alternative will meet operational needs.

These new units are reflected in the Draft Budget 2024 and represent an additional \$4,049,000 in capital costs and annual estimated operating costs of \$896,450.

Document 2 – 2024 Municipal Fleet Vehicle and Equipment Growth Plan provides the estimated capital acquisition cost as well as the estimated annual operating cost for each of the units.

## **3. 2024 Transit Operations' Support Vehicle and Equipment Replacement Plan**

Transit Operations manages 348 support vehicles and equipment. These units include vehicles and equipment used for security, supervision, bus maintenance, winter maintenance, and stores. The proposed 2024 funding envelope to support Transit Operations' Support Vehicle and Equipment Replacement is \$1,801,000, which will replace a total of 19 vehicles and equipment. Transit Services does not have any growth support vehicles in 2024.

## **Advanced Funding Exercised in 2023**

Early procurement for certain vehicles and equipment is required in order to have the vehicles and equipment available and in place in order to meet the upcoming year's operational needs. Under delegated authority exercised by the Chief Financial Officer, and in accordance with the Delegation of Authority By-law, early procurement of up to

\$8,060,000 worth of vehicles and equipment identified in the replacement plan will be placed in late 2023.

The advance order includes 33 vehicles, including 10 combination trucks, 15 ambulances and 8 pickup trucks. The combination trucks and ambulances require advance ordering to accommodate for longer build times, particularly due to the ongoing delays and shortages still being experienced from the COVID-19 pandemic on manufacturing and supply chains. As for the pickup trucks, these are due to units being grounded and GM having eight units available to purchase in Q4 2023.

### **FINANCIAL IMPLICATIONS**

The Draft 2024 Operating and Capital Budgets will include these expenditure items and will be tabled following the 2024 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 2024 City Budget.

### **LEGAL IMPLICATIONS**

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

### **COMMENTS BY THE WARD COUNCILLOR(S)**

This is a City-wide report.

### **ADVISORY COMMITTEE(S) COMMENTS**

No advisory committee comments were collected for the purposes of this report.

### **CONSULTATION**

This report did not require public consultation and is subject to the overall consultation processes of the Draft 2024 Budget process.

### **ACCESSIBILITY IMPACTS**

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

### **ASSET MANAGEMENT IMPLICATIONS**

The recommendations documented in this report are consistent with the City's [Comprehensive Asset Management \(CAM\) Program](#) objectives. The implementation of the Comprehensive Asset Management program enables the City to effectively manage

existing and new infrastructure to maximize benefits, reduce risk, and provide safe and reliable levels of service to community users. This is done in a socially, culturally, environmentally, and economically conscious manner.

### **CLIMATE IMPLICATIONS**

The City is committed to replacing older fleet vehicles with new vehicles that have better fuel efficiency and less greenhouse gas emission impacts (where market availability allows), assisting in meeting the Council-approved targets to reduce GHG emissions from City operations based on 2012 levels by 30 per cent by 2025, 50 per cent by 2030, and 100 per cent by 2040. For example, the 43 light fleet units that have the ability to be replaced with hybrid and electric models could result in more than 1,615 fewer tonnes of GHG emissions over their life cycle.

### **DELEGATION OF AUTHORITY IMPLICATIONS**

Under delegated authority exercised by the Chief Financial Officer, early procurement of up to \$8,060,000 worth of vehicles and equipment identified in the replacement plan will be placed in late 2023. This exercise of delegated authority is in accordance with the Delegation of Authority By-Law Schedule B.

### **RISK MANAGEMENT IMPLICATIONS**

Risk considerations have been addressed in the recommended plan within the 2024 Draft Budget process.

### **TERM OF COUNCIL PRIORITIES**

This report supports the 2023-2026 Term of Council Priorities of: a City that is green and resilient.

### **SUPPORTING DOCUMENTATION**

Document 1 – 2024 Municipal Fleet Vehicle and Equipment Replacement Plan

Document 2 – 2024 Municipal Fleet Vehicle and Equipment Growth Plan

Document 3 – 2024 Transit Operations' Support Vehicle and Equipment Replacement Plan

### **DISPOSITION**

The Finance and Corporate Services Department will implement the recommendations as approved by Council.