TO:	**GENERAL COMMITTEE**
SUBJECT:	**APPROVAL OF FLEET ASSET MANAGEMENT PLAN**
WARDS:	**ALL**
PREPARED BY AND KEY CONTACTS:	**S. DREWETTE, CET, SENIOR ASSET MANAGEMENT PROGRAM COORDINATOR, EXT 5153**
SUBMITTED BY:	**K. OAKLEY, P. ENG., ASSOCIATE DIRECTOR OF CORPORATE ASSET MANAGEMENT**
GENERAL MANAGER APPROVAL:	**B. ARANIYASUNDARAN, P.ENG., PMP, GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT**
CHIEF ADMINISTRATIVE OFFICER APPROVAL:	**M. PROWSE, CHIEF ADMINISTRATIVE OFFICER**

RECOMMENDED MOTION

1. That the May 2024 Fleet Asset Management Plan be approved.

PURPOSE & BACKGROUND

Purpose:

2. The main objective of this Staff Report is to obtain Council approval for the Fleet Asset Management Plan (AMP), in compliance with provincial regulations.

3. Additionally, the Staff Report and AMP serve to provide foundational information to Council about:

   a) The City's fleet of vehicles and equipment and their age, condition, and the risks related to these assets;

   b) The state of the City's Fleet Replacement Program and the ongoing work to minimize the total-cost of ownership while maintaining a safe and reliable fleet to support City services;

   c) The levels of service that the fleet currently provides to the community, the levels of service that the City proposes over the next 10 years, and the lifecycle and financial strategies to achieve the proposed levels of service.

4. The objective of asset management is to promote the City's financial sustainability through well-informed investment decisions that enable desired services, minimize costs, and maintain an acceptable level of risk.

5. The Province of Ontario's *Infrastructure for Jobs and Prosperity Act, 2015 (IJPA)* was enacted to "establish mechanisms to encourage principled, evidence-based and strategic long-term infrastructure planning that supports job creation and training opportunities, economic growth and protection of the environment, and incorporate design excellence into infrastructure planning". The IJPA applies to the province but also to the broader public sector, including municipalities.

6. The first regulation under the IJPA was Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure. O. Reg 588/17 set deadlines for Ontario municipalities to develop asset management plans and advance the maturity of their asset management programs. The City is well positioned to achieve the milestones specified in the regulation, as summarized in the table below:

Provincial Prescribed Milestone	City of Barrie status
Phase 1 (by July 1, 2019): Strategic Asset Management Policy	Adopted June 2019
Phase 2 (by July 1, 2022): Asset management plans for core infrastructure assets which include water, wastewater, stormwater, and transportation (roads, bridges, and culverts); these plans for core assets must include current levels of service and costs to maintain these levels.	Stormwater – Approved by Council in Q1, 2021 Transportation – Approved by Council in Q2, 2021 Water – Approved by Council in Q4, 2021 Wastewater – Approved by Council in Q1, 2022
Phase 3 (by July 1, 2024): Asset management plans for all other municipal assets, including current levels of service and costs to maintain these levels.	Facilities, Recreation and Culture, and Parks – Approved by Council in Q2, 2023 **Fleet – Subject of this report**
Phase 4 (by July 1, 2025): Builds on phases 2 and 3 where plans shift from current levels of service to focus on proposed levels of service and related lifecycle management and financial strategies for all assets.	**Fleet – Subject of this report** All remaining City assets – Underway with expected completion in Q2 of 2025
Updates and Annual Progress Reviews	The Strategic Asset Management Policy must be reviewed, and updated, if necessary, every five (5) years. AMPs must be updated every five (5) years. Following completion of the Phase 4 (2025) requirements, Council must conduct an annual review of its asset management progress on or before July 1 in each year.

Background:

7. The 2024 Fleet Asset Management Plan serves as an update to the City's previous asset management plan for fleet, completed in 2011. This update will address the O.Reg 588/17 requirements for the 2024 and 2025 deadlines with respect to the City’s fleet assets.

8. The development of asset management plans is led by the Corporate Asset Management Department (CAM) but relies heavily on guidance and input from other departments who provide data and subject matter expertise specific to the assets in their service area. This AMP is the culmination of a collaborative effort involving staff from the CAM, Operations, and Finance departments.

9. The Fleet AMP encompasses the following assets:

Category	Sub-category	Description
Vehicles	Light-duty Vehicles	SUVs, small trucks, and cargo vans used for administrative purposes and light transportation of materials, tools, or equipment. Includes trucks up to 5500 series.
	Medium-duty Vehicles	Vehicles such as medium-sized trucks and vans with a gross vehicle weight rating (GVWR) higher than light-duty vehicles but lower than heavy-duty vehicles. Includes 6500 series trucks and cube vans as well as street sweepers.
	Heavy-duty Vehicles	Includes large trucks and specialized vehicles with a GVWR exceeding a certain threshold. This category includes the City's single and tandem axle snowplows.
	Firefighting Apparatus	Consists of fire trucks, pumpers, ladder trucks, and other specialized vehicles equipped for firefighting and emergency response purposes. Excludes light-duty vehicles used by Barrie Fire & Emergency Services.
Equipment	Trailers	Refers to units that are licensed for road use and are drawn, propelled, or moved by a vehicle or equipment. Trailers serve various purposes including transportation of materials, tools, or equipment.
	Light Equipment	Includes small motorized equipment such as lawnmowers and small utility vehicles used for maintenance, landscaping, or light construction tasks.
	Medium Equipment	Mid-sized motorized equipment such as lawn mowers 11 ft or larger, ice resurfacing machines, and sidewalk plows.
	Heavy Equipment	Large motorized equipment such as excavators, bulldozers, loaders, and other specialized equipment.

10. This AMP excludes a number of small engines and/or handheld equipment which isn't classified as fleet under the Fleet Policy. The AMP also excludes the fleet assets associated with Barrie Transit and the Barrie Police Service, and any vehicles the City rents to support its operations.

11. In 2019, the capital Fleet Replacement Program was established along with the Fleet Management Reserve to pro-actively plan and manage the replacement of fleet assets and ensure reliable funding to do so. The goal of this program is to bring the City's fleet replacements in-line with industry best practices to minimize the total cost of ownership for fleet assets while ensuring the reliability and safety of the City's fleet. The Fleet AMP provides a forward-looking plan to continue the Fleet Replacement Program from 2024-2033.

12. Plans to complete the conversion of the City's fleet to electric and low-carbon alternatives are under development and not included within the scope of this AMP.

ANALYSIS

State of the Assets

13. Understanding the value, age, and condition of the City's assets is the first step in developing a plan to manage them. Knowing an asset's remaining life and current condition helps determine the timing of

necessary lifecycle activities to ensure it continues to function and provide service. All information presented in the Fleet AMP and this report is based on data up to the end of 2023.

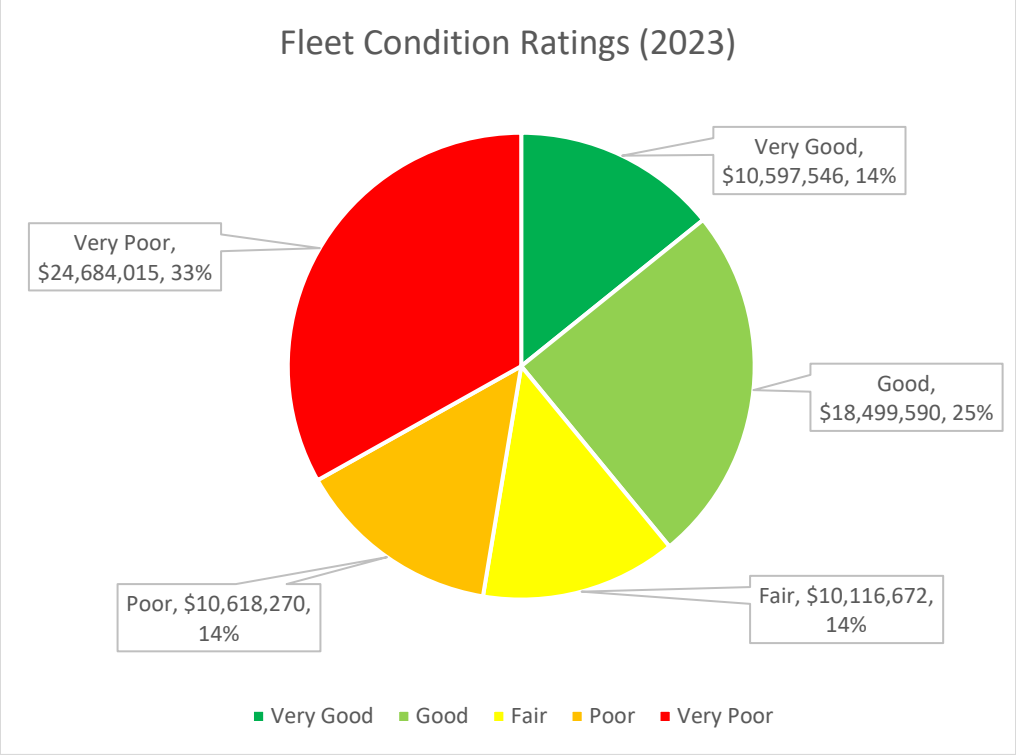
14. The City owns a total of 534 fleet assets, including vehicles and equipment with a current replacement value (CRV) of approximately $75 million (2023$). Detailed breakdowns of the City's fleet assets are available in appendix A of the AMP.

15. Optimal service lives for fleet assets have been established based on industry best practices. Typically, after a certain age, the maintenance cost for fleet assets rises sharply, as more expensive repairs are needed to keep the asset working. At the same time, the resale or trade-in value of fleet assets decreases over time. The goal when setting service lives for fleet assets is to minimize the total cost of ownership by optimizing the capital purchase cost, operating and maintenance cost, and resale value of each asset.

16. The table below summarizes the age of the City's fleet assets in comparison to their optimal service lives and the oldest individual asset in each sub-category. There are currently 99 vehicles and 79 pieces of equipment, representing one third of all fleet assets that are past their optimal service lives.

Category	Sub-Category	Average Optimal Service Life (years)	Average Age (years)	Assets Beyond Their Optimal Service Life	Oldest Individual Asset (years)
Vehicles	Light-duty Vehicles	7	4.9	67	32
	Medium-duty Vehicles	11	10.2	6	20
	Heavy-duty Vehicles	11	12.0	22	27
	Firefighting Apparatus	16	10.5	4	32
Equipment	Trailers	15	9.1	9	49
	Light Equipment	13	12.8	49	38
	Medium Equipment	9	8.8	17	21
	Heavy Equipment	11	7.7	4	19
TOTAL Fleet		**10.4**	**8.3**	**178**	**49**

17. Comparing the age of each asset to its optimal service life gives an overall indication of the condition of the City's fleet. Using this methodology, approximately 52% the City's fleet is currently in fair-or-better condition. The one third of fleet assets that are older than their optimal service lives are in very poor condition. The City is implementing a new fleet management system which will enable more sophisticated methodologies for assessing fleet asset condition, incorporating additional data such as mileage and maintenance history. These will be implemented in future updates to the fleet AMP.



Risk Assessment

18. A key goal of asset management planning is to enable decisions that minimize risks to the City. Assets are classified using a 5-point scale, ranging from very high to very low risk. Very high-risk assets are characterized as having a high likelihood of failure due to age or poor condition, and their failure would result in substantial impacts on the City.

19. The risk profile for the City's fleet is outlined in detail in the AMP. Staff are managing the greatest risks, of particular note:

    a) 10%, or $7.3 million worth, of the City's fleet are in the very high-risk category. This includes seven Firefighting Apparatus which are on order or identified for replacement in 2025 and 2026 pending capital plan approval.

    b) 5%, or $3.8 million worth, of the City's fleet assets are in the high-risk category. All of these are planned for replacement pending approval of forecasted budgets from 2025-2027.

    c) 15 of the City's 32 snowplows are past their optimal service lives. While considered lower risk individually, having such a large number of aging snowplows poses a much greater risk to service. 14 new snowplows are on order and expected to be delivered in 2024 and 2025.

Levels of Service & Lifecycle Strategies

20. A key focus for managing the City's fleet is to ensure that it has the capacity, functionality, and reliability to support service delivery at appropriate levels. Additionally, the City's fleet needs to be managed safely to protect both the public and City employees and comply with regulation. These service attributes (capacity, function, reliability, and safety) form the basis for measuring the levels of service provided by the City's fleet.

21. O. Reg. 588/17 requires that the City track and report levels of service (LOS) measures. Community LOS are qualitative descriptions, in plain language, of what the community can expect from City services. Technical LOS are specific, measurable standards or criteria that describe how well the City's assets should perform in order to meet their intended purpose.

Service Attribute	Community LOS	Technical LOS
Capacity and Function	The City's fleet has enough vehicles and equipment, and they're suitable for the tasks needed to provide services to the community.	Inventory count of fleet assets owned by the City. Functional descriptions of vehicles and equipment owned by the City.
Reliability and Safety	The City ensures that its fleet is well-maintained and managed to provide dependable services while prioritizing the safety of both the community and City staff.	% of fleet assets that are past their optimal service lives. % of Fleet Assets in fair-or-better condition.

22. In accordance with O.Reg 588/17, the AMP identifies two LOS scenarios - the current LOS for the City's fleet as well as the proposed LOS that the City intends to achieve from 2024-2033. For both scenarios, the AMP also identifies required lifecycle strategies and associated costs.

23. The AMP proposes to maintain the current LOS for capacity and function of the fleet over the next 10 years. This will require that a new fleet complement be added as the City's infrastructure and services continue to expand to support housing and employment growth.

    For reliability and safety of the City's fleet, the AMP proposes improvements to optimize fleet service lives and increase the overall condition of the fleet. This effort has been underway for a number of years. Funding the capital Fleet Replacement Program in the 2024-2033 capital plan would provide this LOS improvement.

24. The table below compares the capital growth, capital renewal and operations and maintenance needs (lifecycle strategies) and associated costs to achieve the two LOS scenarios. The lifecycle strategy to achieve the proposed LOS results in average forecasted annual expenditures approximately $1 million higher than the strategy to maintain the current LOS. Detailed discussions of lifecycle strategies and available options are provided in the AMP.

Lifecycle Activity	Proposed Strategy	Proposed LOS	Current LOS
Capital Growth	Forecasted complement based on historic fleet growth to maintain current LOS	$1.0 M/yr*	
Capital Renewal	Continuation of the Fleet Replacement Program to bring fleet assets in-line with optimal service lives	$5.6 M/yr*	$4.6 Myr*
Operations and Maintenance	Fleet Operations budget forecast to maintain current LOS	$5.9 M in 2024, increasing to $7.4 M by 2033	

*Average annual needs over 10-year forecast

25. Although the forecasted budget for operations and maintenance activities is shown to increase over the 10-year period, it cannot be assumed that these increases will be sufficient to maintain the fleet as the City continues to grow. The costs for parts, fluids, tools, equipment, fuel, and other expenses continue to be impacted by inflation. Furthermore, Fleet Operations has already identified a need for additional space, equipment, and technicians in order to keep up with preventative maintenance.

Financial Strategy

26. Funding for additional fleet to accommodate growth is approved through the capital plan. These requests are typically funded from Development Charge related reserves and do not impact the Fleet Management Reserve.

27. Fleet operations and maintenance activities are funded primarily from tax revenues. The operations and maintenance budget forecast shown in this AMP are based on the forecasts presented in the approved 2024 budget. The Fleet Operations operating budget is forecasted to increase by an average of approximately 2% per year to align with increased demands on existing vehicles, and historical underfunding of capital replacements. As discussed above, further increases to the Fleet Operations budget will be needed to maintain service levels as the fleet continues to grow along with the City's infrastructure and services.

28. The City's Fleet Replacement Program is funded from the Fleet Management Reserve, which receives annual contributions from water and wastewater rates as well as tax revenues. Additionally, $9 million in debt issuance has been approved to support the Fleet Replacement Program since 2019. Currently, the forecasted expenditures for the Fleet Replacement Program from 2024-2033 are substantially larger than the projected contributions to the reserve. The Fleet Management Reserve is forecasted to have a negative balance starting in 2025.

29. Including current balances, forecasted reserve contributions, and debt servicing from the Fleet Management Reserve, a total of approximately $37 million is projected to be available to support the Fleet Replacement Program from 2024-2033. This results in an average shortfall of $1.9 million per year. In order to achieve the proposed LOS, the City will need to increase funding to the Fleet Management Reserve, or consider alternatives, such as additional debt.

30. Currently, a portion of the annual contributions to the Fleet Management Reserve are funded from water and wastewater rates. There are 91 fleet assets used by the City's Infrastructure department to support Water and Wastewater Operations with a total replacement value of approximately $8 million. In order to better align funding sources with service areas and maintain the principle of total cost recovery for water and wastewater operations, Fleet Management Reserve funding from water and wastewater rates could be increased as shown below.

Funding Source	Current Annual Contributions	Proposed Annual Contributions ($2023)	Annual Proposed Funding Increase ($2023)
Wastewater	$215,000	$315,000	$100,000
Water	$345,000	$545,000	$200,000

31. If the above funding increases from water and wastewater rates are implemented, the remaining shortfall to be covered from tax revenue and/or debt financing is approximately $1.6 million per year on average.

Conclusions

32. The Fleet AMP summarizes the state, levels of service, risk, and funding needs of the City's fleet assets. It provides important guidance on the required capital funding needed to support the continued implementation of the Fleet Replacement Program.

33. The City has made substantial progress in improving pro-active replacement of fleet assets since the implementation of the Fleet Replacement Program in 2019. The program is funded through the Fleet Management Reserve. Adequate funding for this program and reserve is required in order to minimize the total cost of ownership and provide a reliable and safe fleet to support City services.

34. The analysis presented in this staff report and the 2024 Fleet AMP are a snapshot in time. The City will need to continue to monitor and update the needs of the fleet to ensure that lifecycle and financial strategies stay current as market conditions, technology, and the City's service expectations evolve over time. In accordance with O.Reg. 588/17, the Fleet AMP will be updated at least every five years.

35. Future updates to the fleet AMP will incorporate further details about the City's plans for electric vehicle conversion as well as investigation into rationalizing the fleet with policies around shared and pooled fleet assets.

Advancing Asset Management

36. Asset management decisions are made by staff in all areas of the City and by Council. The value of asset management planning is in providing data to inform these decisions, identifying areas for improvement, documenting risks, and outlining the requirements for long term sustainability.

37. Development of asset management plans is an iterative process that includes improving data, processes, systems, staff skills, and organizational culture over time. The Fleet AMP has been developed using available data and the expertise of City staff. The City is making substantial strides to improve its fleet asset management capabilities, including the implementation of a new fleet management system that will enable better tracking of assets and maintenance activities, as well as better analysis capabilities. This system will be used to improve the prioritization and timing of fleet asset replacements, and further enhance the City's ability to minimize the total cost of ownership for fleet assets.

38. In 2025, an updated AMP will be completed for all City assets which will enable the needs of each service area to be considered in the context of other needs across the City's services and the over $8 billion in assets that support them.

ENVIRONMENTAL AND CLIMATE CHANGE IMPACT MATTERS

39. Conversion of fleet assets to electric and other low-carbon alternatives is a key element of the City's ongoing climate change mitigation. Conversion of the City's light-duty fleet to electric vehicles is underway, and detailed plans to continue this effort are under development. The impacts of these efforts will be included in future updates to the Fleet AMP.

ALTERNATIVE

40. The following alternative is available for consideration by Council:

Alternative #1 Council could choose not to approve this Staff Report and the attached Fleet Asset Management Plan.

This alternative is not recommended, as the Asset Management Plan provides useful information and guidance for the City to use in future decision making around operations and maintenance strategies, capital budgeting and more. In addition, not having Council approval of the Asset Management Plan would jeopardize the City's compliance with Ontario Regulations. Being out of compliance could impact the City's ability to compete for grants and external funding from the provincial and federal governments.

FINANCIAL

41. There are no direct financial implications for the Corporation resulting from the proposed approval of this report. However, the Financial Strategy presented in the AMP and this staff report provide funding recommendations that must be considered along with the needs, risks, and service levels of the City as a whole.

42. The information in the Fleet Asset Management Plan will be used to help inform capital and operating budget requests and serve as input into other studies. Failure to adequately fund capital investment in fleet will result in increased pressure on operating budgets.

LINKAGE TO 2022–2026 STRATEGIC PLAN

43. The recommendation(s) included in this Staff Report support the following goals identified in Council's 2022-2026 Strategic Plan:

☒ Responsible Governance

44. The Fleet AMP provides important information about the lifecycle needs of the City's fleet of vehicles and equipment which is used to support important services across the City.

45. The AMP supports pro-active planning to minimize the total cost of ownership for the City's fleet, while also ensuring suitable capacity, functionality, reliability, and safety of fleet assets enabling the City to support the services our community needs while keeping tax increases low.