STAFF REPORT

THE CORPORATION OF THE TOWN OF COBOURG

Report to:	Mayor and Council Members	**Priority:**	☐ High ☒ Low
Submitted by:	Gene Thompson, Deputy Fire Chief, gthompson@cobourg.ca	**Meeting Type:** Open Session ☒ Closed Session ☐	
Meeting Date:	**September 13, 2021**		
Report No.:	Fire-001-21		
Submit comments to Council			

Subject/Title: **Capital Budget Fire Department Fleet Replacement Report**

RECOMMENDATION:

THAT Council receives the following report for information purposes

FURTHER THAT Council reviews the appendices 1-7 in connection with this report.

1. STRATEGIC PLAN

This report contributes to the following strategic plan outcomes:

1. **People:** The Town supports and cares for the social and physical well-being of its citizens.
2. **Programs:** The Town provides efficient and effective corporate, community, business and recreational services for its residents, businesses, and visitors.

2. PUBLIC ENGAGEMENT

N/A

3. PURPOSE

To provide an overview of the Cobourg Fire Department's fleet that details vehicle specifications, lifecycles, costs, and usage.

To provide information to Council to support with capital budget planning in 2022 and beyond for the Town of Cobourg.

Cobourg Fire Department Mission Statement:

The mission of the Cobourg Fire Department, through delivery of programs and services, to protect life and property in our community from the adverse effects of fire, sudden medical, environmental, and other emergencies, both natural and man-made.

4. ORIGIN AND LEGISLATION

This report has been produced in response to a request from Council to prepare a document the summarizes key elements, costs, and facts regarding the Cobourg Fire Department's fleet.

Applicable legislation for this report, and which focuses on the maintenance and procurement of fire rescue vehicles includes, but is not limited to:

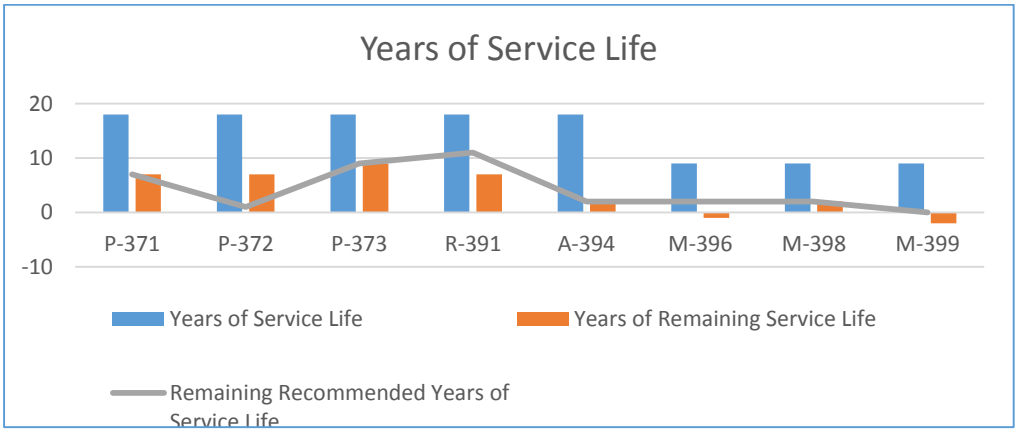
1. A by-law governing the management of a reserve fund for the replacement of vehicles and equipment (Appendix 1 - By-Law No. 078-2041)
2. National Fire Protection Association 1901 (Standard for Automotive Fire Apparatus, 2009)
3. The Standards Council of Canada (SCC) Standard for Automobile Fire Fighting Apparatus (CAN/ULC-S515-13-R2018).

5. BACKGROUND

The Cobourg Fire Department maintains a fleet of 8 fire rescue vehicles including pumper trucks, response command trucks and administration vehicles. A full description of these may be found in Appendix 2 - Fleet Details.

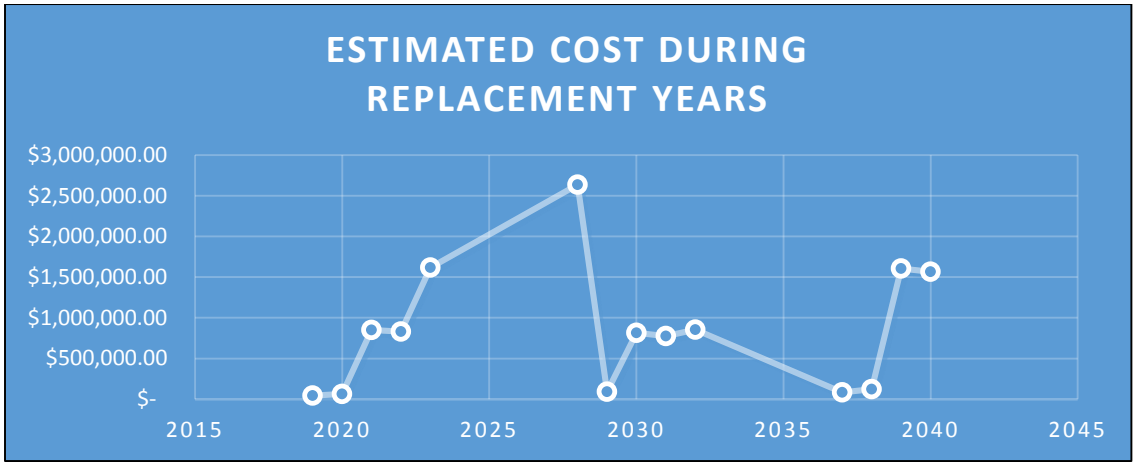
Fleet Service Life

The Fire Department's fleet service life is currently positioned at, or below its half-life threshold. The result of this is that to keep these vehicles in prime condition and ready to respond to emergencies, they are subject to an average increase in the cost of maintenance and repairs within the last 6 years. As of the submission date of this report, five vehicles in the current fleet will require replacement by 2023. (Appendix 3 - Vehicle Service Life Value, Maintenance & Repairs)



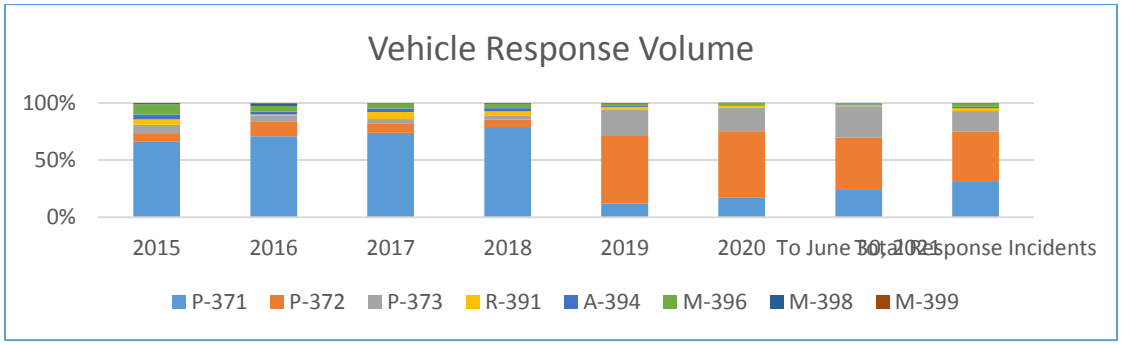
Budgeting and Capital Forecast

The Cobourg Fire Department has created a report called "*20-Year Capital Forecast for Fleet Replacement According to By-law No. 078-2014*", which details the estimated costs associated with replacing current fleet vehicles between 2019 and 2040. (Appendix 4 - 20-Year Capital Forecast). As an example, this forecast aims to explain that in 2023 approximately $1,617,275.75 should be allocated to accommodate the replacement of vehicles A-394, M-396 and M-398. In addition, a separate fund allocation of $858,636.80 would also serve to prepare for the replacement of vehicle P-372 by 2028.



Vehicle Emergency Call Response Volume

In 2020, the Fire Department's fleet responded to 1,455 calls for fire, medical and agency support.



Of these, P-372, responded to 849 or 58% of all calls. P-372 also represents the greatest cost in maintenance and repairs at 30% among the existing fleet. When vehicles such as P-372 require downtime for service, it can be predicted that these events will impact the fire department's ability to respond to emergencies.

For further details on vehicle incident response statistics, see Appendix 5 - Vehicle Response Volume.

Procurement:

The typical time frame to procure a pumper truck is about 18 months, while a platform may take upwards of 22 months. These time frames are beyond the request for proposal submission, which may take 3-4 months alone to construct, review and approve. (Appendix 6 - Fleet Procurement Process) The following points provide an overview of this process.

- *Fire Department RFP Requirements*

  To ensure a new fire vehicle conforms with fire department service standards, the following RFP requirements must be met:

  1. The dealership must be licensed to sell vehicles in Ontario.
  2. The dealership shall have 24 hr./day factory trained and authorized service technicians trained in servicing and maintenance of the fire vehicle offered.
  3. The dealership service centre shall have a minimum of one FULLY equipped service vehicle which will carry spare parts and repair equipment needed to work on the fire department's vehicle.
  4. Fire vehicle manuals are to include, but not limited to, chassis manual, wiring, hydraulic diagrams, and lubrication charts.
  5. The dealership must provide a complete manufacturer's record of fire vehicle construction details including vehicles' actual weights.
  6. Written documentation indicating that the fire vehicle follows applicable regulations such as the *Highway Traffic Act* (Ontario) and the Canadian Motor Vehicle Safety Standards.
  7. Written documentation that the fire vehicle meets the requirements of National Fire Protection Association 1901-2009 and has passed the testing requirements of CAN/ULC=S515; and
  8. A factory trained and authorized delivery engineer who shall instruct designated Cobourg Fire Department staff.

- *Contract and Order Review*

  This involves obtaining critical information such as mission and use of the vehicle, pump size, tank size, aerial reach, overall height and length restrictions, and other critical needs. The specification also includes

responsibilities for the bidder including submission dates, question periods, penalties, delivery, and insurance requirements.

- *Approval Package and Pre-Construction Visit*

  After the order is submitted, there can be an approval or pre-construction meeting to verify and finalize the details of the vehicle order. Subject matter experts may be included to speak with fire department representatives about design considerations and system specifications. Therefore, this meeting may include reviewing the sales drawings and layout to finalize the features, paint codes, major components, system requirements, and to answer questions. The final approval drawings are marked with changes if required, and the finalized order details are confirmed by all parties involved.

- *Detailed Engineering*

  Before any fire vehicle manufacturing can begin, the final design and drawings must be reviewed and approved by the vendor engineering team. This process ensures the compatibility of all bid specifications, confirms the operational functionality of added components and systems, and creates a manufacturing timeline with detailed work instructions and assembly prints.

- *Manufacturing*

  At the completion of the detailed engineering phase, vendor representatives provide the dealer and customer with a final order showing all compatible options, the final configuration, and a detailed construction timeline to meet the requests outlined in the bid specification and approval package.

- *Final Inspection*

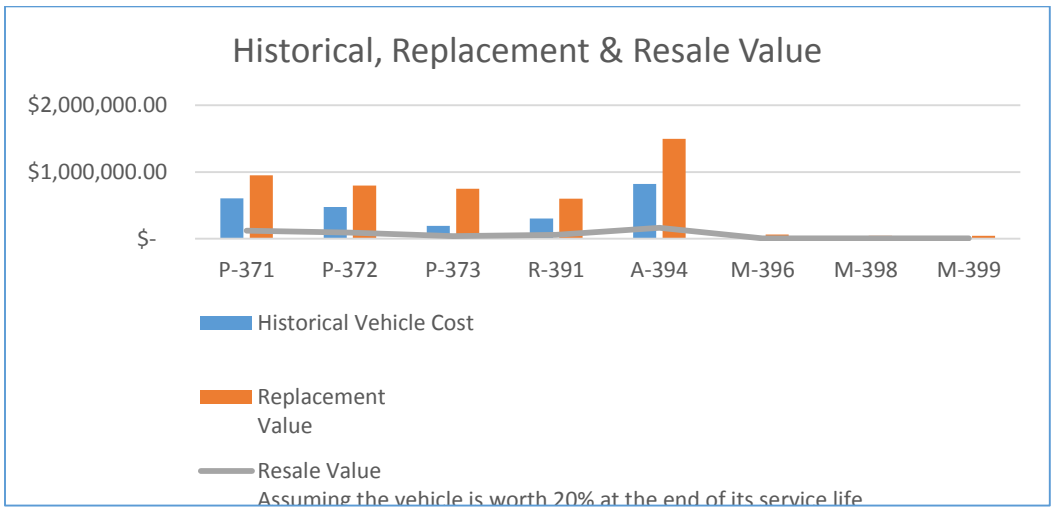
  When vehicle manufacturing is complete, an evaluation is performed which confirms that each item detailed in the order is both functioning correctly and precisely crafted to the required specifications.

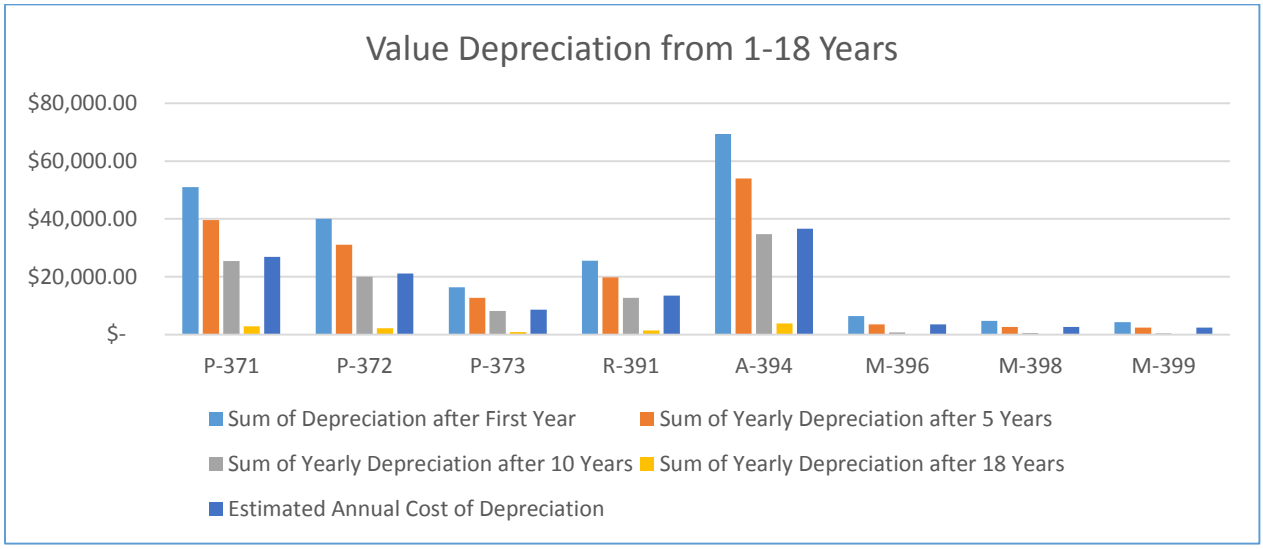
6. ANALYSIS

The Fire Department has reviewed historical purchase and service records of its fleet between January 1, 2015, to June 30, 2021, to arrive at an analysis that considers the effect of vehicle age, standard maintenance, and emergency repairs on the resale value of units P-371, P-373, P-373, R-391, A-394, M-396, M-398, and M-399. These details have provided the Town of Cobourg with data that will serve to understand projections for current and future fleet value and the impact of replacing these vehicles. (Appendix 3 - Vehicle Service Life Value, Maintenance & Repairs) In general, it can be predicted that the longer a vehicle is in service,

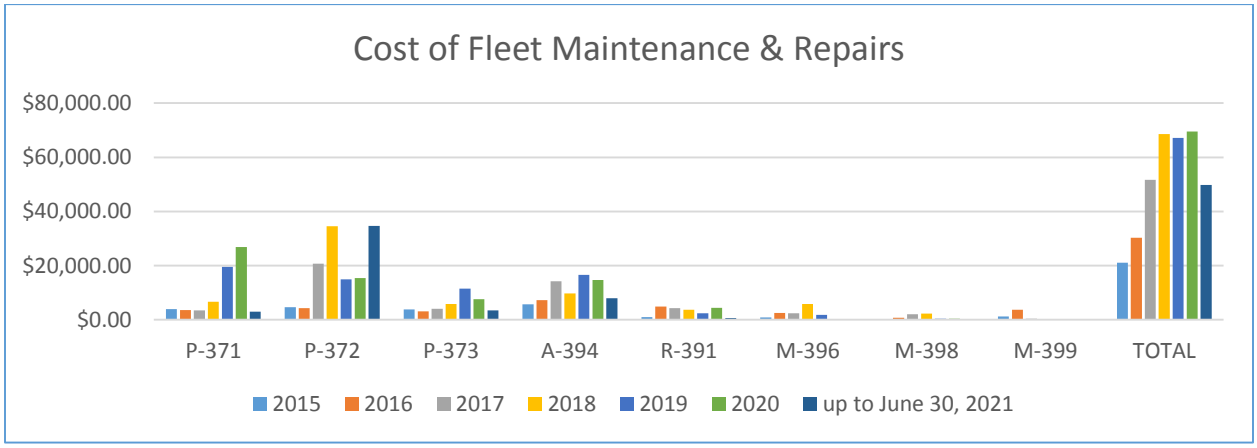
- it will require more frequent repairs,
- it will retain less resale value, and

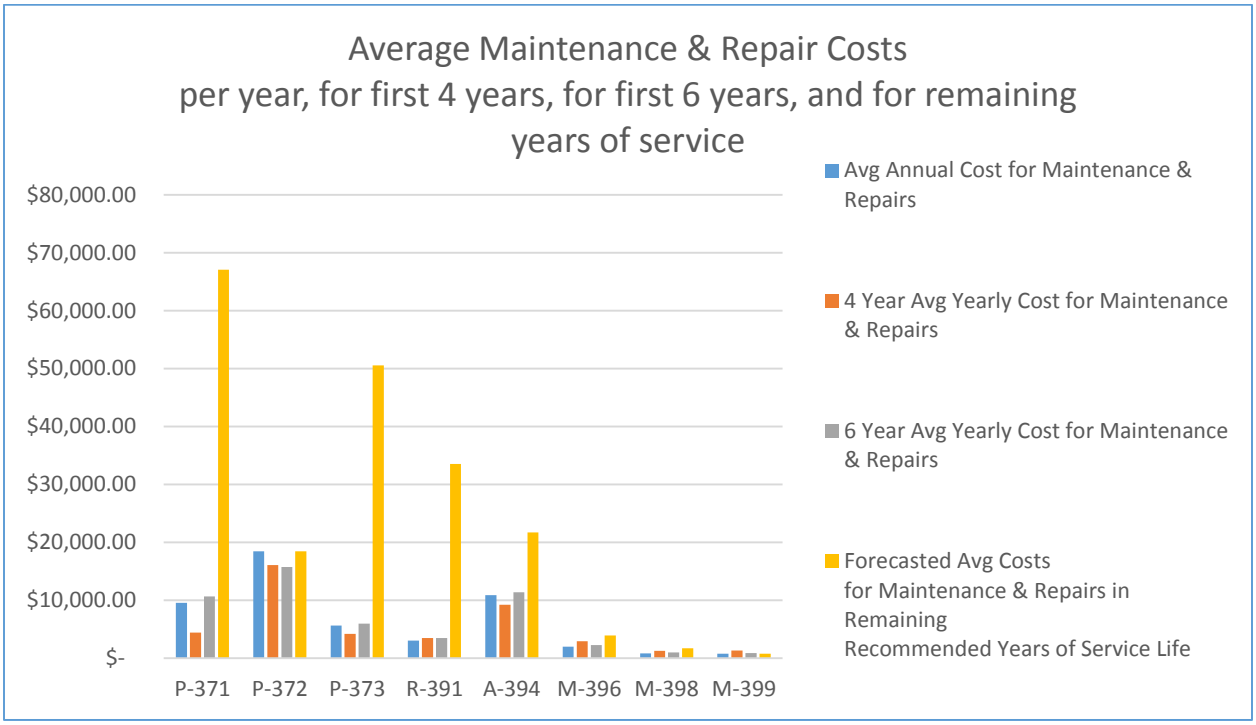
- there is a greater likelihood that emergency response will be negatively affected.





The cost of maintenance and repairs between 2015-2021 is equal to 65% of the fleet resale value. Most vehicles have a remaining service life 7-9 years, which may further impact the maintenance / repair to resale ratio.





The figures provided above and in a more fulsome way in Appendix 3, represent the cost of maintenance and repairs to fleet vehicles. Like personal vehicles, as the age of the fleet increases, it can be predicted that the costs associated with maintenance and repairs will become more frequent, while the value available from existing service life diminishes.

7. FINANCIAL IMPLICATIONS/BUDGET IMPACTS

Cost savings may be found the earlier vehicles are secured from their scheduled replacement date. Waiting to replace the vehicles 1 year before and any time after the replacement date may lead to increased manufacturing and inflation costs.

The financial impacts are outlined in the Appendices 3 and 4 attached to this report. The provision of a multi-year forecast (Appendix 4) will assist in the anticipation of fire response vehicle expenses and replacement dates.

The implementation of a capital budget program for the Fire Department will result in annual expenditures and funding reserve planning. The introduction of the financial data provided by the Fire Department is recommended for the 2022 annual operating budget.

Over time, statistics show that the cost for replacing a fire rescue vehicle at the end of its service life has increased substantially since its original purchase date. It can be predicted that the earlier a vehicle is replaced, the greater its resale value. Therefore, a higher resale value will have a more meaningful impact for offsetting the cost of replacement. In addition, and like the effect on personal vehicles, the costs of repair and maintenance on a fire rescue vehicle that is at, or near, its end of service life will occur more frequently and will cause further depreciation (and likely within an accelerated time frame).

8. CONCLUSION

The Fire Department is committed to preplanning future replacements of its fleet and other fire rescue apparatus to support the Town of Cobourg and recognizes that time is of the essence.

Report Approval Details

Document Title:	Cobourg Fire Department - Capital Budget Fleet Replacement Report - Fire-001-21.docx
Attachments:	- Appendix 1 - By-Law No. 078-2041.pdf - Appendix 2 - Fleet Details.pdf - Appendix 3 - Vehicle Service Life, Value Maintenance and Repairs.pdf - Appendix 4 - 20-Year Capital Forecast.pdf - Appendix 5 - Vehicle Response Volume.pdf - Appendix 6 - Fleet Procurement Process.pdf
Final Approval Date:	Sep 3, 2021

This report and all of its attachments were approved and signed as outlined below:

Gene Thompson - Sep 3, 2021 - 11:15 AM

Tracey Vaughan, Chief Administrative Officer - Sep 3, 2021 - 12:39 PM