



MANAGEMENT REPORT

Date: July 24, 2024
To: Infrastructure, Transportation and Safety Sub-committee
From: Fire Chief Anderson
Report Number: ITS24-015
Attachments: Proposal Evaluation

Title: Procure New Fire Apparatus using Canoe Procurement Group

Objective: To obtain Council approval to proceed with procurement/replacement of the 2007 Rosenbauer Fire Engine, with a Pierce Quintuple Combination Pumper apparatus, through use of the Canoe Procurement Group.

Background: The 2007 Rosenbauer Engine, known as 'Engine 2', is scheduled for replacement in 2027, using capital reserve funds, as at that time it will be 20 years old. Based on the National Fire Protection Association, front line apparatus should be 15 years or younger, while reserve apparatus should not exceed 20 years. Engine 2 is now 17 years old as a front-line apparatus. Since COVID shutdowns created considerable supply chain issues and cost increases far past the pale of ordinary inflation, the turn-around time for a custom fire apparatus with a pump now averages between 30 – 42 months, from the date of ordering.

During a recent maintenance procedure, it was revealed that the frame and chassis mounting are starting to show signs of risks to emergency vehicle safety. Due to heavy rust jacking and build up on the frame, hardware is breaking and stretching. The rear spring bracket mounting hardware has snapped the heads off the bolts due to this stretching.

Rust jacking occurs when oxidation or rust creates layers that bow and push out, permitting divots in the frame and which can allow foreign debris to enter between the rust, causing further damage. The result is the frame eventually rusts out or breaks as the metal bows out. With the amount of rust and scale that was removed to resecure the spring hangers and fuel tank, the technician indicated that the frame and flange on the unit are becoming very weak and may be unreliable going forward. If there were any cracks or compromised parts of the frame or flange, the vehicle would be unsafe, and it would be necessary to put the unit out of service permanently.

After the rust scale was removed and the frame inspected, the 310T certified technicians agreed that the life span of Engine 2 is at risk and may be deemed unsafe if further frame rust jacking continues. They recommended the replacement of this unit before such a problem occurs. The Fleet Supervisor concurs with their recommendation and analysis.

In 2015, the fire vehicle identified as 'Pumper 1' was a Quintuple Combination Pumper apparatus and was also removed from service due to rust jacking, subsequently replaced with a regular Engine/Pumper. That was the last time that Stratford effectively had the capability to respond with two aerial vehicles, one being a Quintuple Combination Pumper and the other a platform aerial vehicle. "Quintuple" refers to the five functions that this apparatus provides: pump, water tank, fire hose, aerial device, and ground ladders. A Quintuple Combination Pumper serves the dual purpose of an engine and a ladder truck.

Stratford Fire Department began performing undercoating for all vehicles in 2017, as regular maintenance. This increases operating costs but is intended to prevent future rust jacking issues and extend the useful life of the vehicles.

Analysis: If the City were to permanently remove Engine 2 from service, without a replacement, it would not immediately impact our actual response capabilities. However, when any other vehicle had to be removed from service for regular maintenance, which occurs often¹, this would impact our response capabilities as the City would be absent two vehicles (out of four) and in some situations resulting in a single pump to protect the entire City.

If Engine 2 were to be removed from service before a new replacement apparatus is available, the remaining options would be to rent a vehicle or purchase a second-hand vehicle. Availability of rental vehicles is low, and a good second-hand fire apparatus is limited, and would also involve another procurement process. Due to the scarcity of second-hand apparatus, the Ontario Fire Marshal has written a letter to all Fire Chiefs requesting them to advise his office when a second-hand vehicle becomes available, so it can be advertised throughout the Ontario Fire Service. Of note, once a vehicle is procured as second-hand, it is no longer grandfathered and there will be an additional expense to the recipient, on top of the purchase cost, to bring it up to code regarding visual/audio warnings, reflective tape, cab safety measures, tires, etc. Aside from these options, the City could lose its current capabilities for fire response for a prolonged period of time.

The intent has been to replace Engine 2 with a Pierce Quintuple Combination Pumper, keeping in line with the City's vision of building better infrastructure, and returning to the 2015 service level of having an aerial vehicle available for initial response at each end of the city and providing a back-up vehicle for times when the aerial vehicle is out

¹ Fire vehicles are complex and contain significant equipment on each vehicle that must be regularly maintained to ensure optimum performance.

of service. A large benefit of a Quintuple apparatus is that it has a nozzle at the end of the ladder to provide an elevated master stream for higher infrastructure. It is not classified as a platform truck, such as the aerial truck procured 3 years ago, as the ladder on the Quintuple is not made to withstand the weights that the platform aerial can.

Staff are recommending a Pierce manufactured Quintuple Combination Pumper. The current platform aerial apparatus is manufactured by Pierce so there would be similarities and continuity between the vehicles resulting in a reduced training time for staff, making it quickly operational. The Pierce Emergency Vehicle Technicians and garage is located in Woodstock, resulting in the convenience of a rapid pick-up and delivery time for maintenance and warranty work, meaning less loss of operational time due to the close proximity. Currently, the City's other fire vehicles are serviced in Brampton, the next closest Emergency Vehicle Technician garage, which is almost a 2 hour drive each direction. Pierce is considered throughout the service as a very reliable manufacturer and was also ranked #1 when Canoe undertook their competitive process. Pierce will also provide a 5.5% rebate off of the Manufacturer's Suggested Retail Price, if procured through Canoe, which is one of the highest rebates provided. If a Quintuple were ordered custom today, it is anticipated that it would be ready for delivery late 2027 or early 2028. The service technicians do not believe Engine 2 will be road-safe that long. The order of a custom truck is very expensive and customarily subject to delivery delays, resulting in many fire departments purchasing stock or demo models that will suit their community.

A custom-build purchase is typically done through the Request for Proposal process where all the scope and specifications are articulated and evaluated. However, based upon the current condition of Engine 2, timing is also being considered as a significant variable. Municipal buying groups are a reasonable option for this type of purchase, and through the Canoe Procurement Group (Canoe), a stock model could be ready much earlier and be less expensive than if a custom-build is pursued. The Canoe vetting process ensures competitive pricing that can be secured in today's dollars and allows for a quicker turnaround. Most fire vehicle suppliers also offer a minimum 3 - 5% discount from the manufacturer's suggested retail price through Canoe.

Over the past few years there have been unprecedented and significant price increases in fire service vehicles. A recent quote received on a Quintuple, by the same manufacturer as our platform truck, and the current cost of a stock truck they are working on, set for delivery in April 2026, is nearly \$2.2 million, with another price increase scheduled for August. Stock models are often sold quickly, and demo models are scarce. This is significantly higher than what was identified in the 10-year forecast in previous years.

Replacing Engine 2 with a similar Engine/Pumper apparatus to what is there now was considered, but, it would require foregoing the enhanced capability having a second aerial apparatus with master stream would present, and would definitely not reflect the

increased growth of the City. The average cost of an Engine/Pumper apparatus is from \$1.9 – 2.0 million (slightly lower than the proposed solution). Leasing to own, versus purchasing has also been considered. Manufacturers will not take back a fire service vehicle at the end of a leasing period, so ownership is the only option. The most common leasing payment options are over 36, 48 or 60 months, but they can be as long as 10 years, depending on whether a residual/balloon payment is due at the end of the term. The average interest rates for this option are around 7.85%. As an example, a \$2.2 million dollar truck, with \$400K down payment, plus sales tax on down payment (recoverable) of approximately \$52,000, over a 60-month term at 7.81% would result in monthly payments of approximately \$33,000, with a \$1 residual. The difference in the overall cost over 5 years is primarily the interest carrying costs. The Quintuple and aerial vehicles are not yet available in a hybrid or electric option and there has not been any indication of if or when they will be.

To summarize, staff are seeking Council authorization to proceed with the procurement of the new fire vehicle in advance of the 2027 scheduled replacement date to ensure service delivery can remain uninterrupted and the City can get the best value for money. It is noted that the current pricing is significantly higher than what has been included in the 10-year capital forecast. The result is that in 2025 and years beyond, there will be a required increase to the transfers to capital reserve funds. This will be the case whether proceeding now, or waiting, to ensure sufficient reserve funds are available for this and other projects included in the 10-year forecast.

This vehicle was identified in the Development Charges background study for 2028, so 32.5%, or \$715,000 of this purchase can be funded from Development Charges (DC Reserve Fund has \$1.5 million available). The balance of \$1,485,000 will come from the Fire Capital Reserve Fund.

Once a vehicle solution is secured, if there are any significant variances from the figures noted in this report, staff will return with an informational report outlining those, and any financial implications.

Financial Implications:

Financial impact to current year operating budget:

Once a truck becomes available with the supplier, the City would be required to put 10% down to secure it. This would come from the reserve fund with the balance due upon delivery, likely 2026. Future repairs and maintenance would be nominal due to the warranty on the new vehicle.

Financial impact on future year operating budget:

Capital Reserve payment will be increased due to the considerable elevation in manufacturing costs to ensure sufficient funds are available for this and other planned purchases in the forecast period.

Link to asset management plan and strategy:

Engine 2 is past its recommended front-line response age of 15 years and because the intent is to use it as a secondary response unit for the last 5 years of its useful life, it was scheduled for replacement in 2027, at 20 years.

Alignment with Strategic Priorities:

Intentionally Change to Support the Future

This report aligns with this priority as it will permit the fire department to service growth of the City with two vehicles with master streams and elevated ladders, enhancing the City’s capability of firefighting with future higher infrastructure.

Alignment with One Planet Principles:

Not applicable: There are no alignment definitions that support the subject of this Management Report.

Staff Recommendation: THAT staff be authorized to use the Canoe procurement group to proceed with the procurement process to purchase a Pierce Quintuple Combination Pumper fire apparatus.

Prepared by: Neil Anderson, Director of Emergency Services/Fire Chief
Recommended by: Joan Thomson, Chief Administrative Officer