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Request for Decision

Fire Apparatus Purchase - 100' Aerial Truck

Resolution

THAT the City of Greater Sudbury authorizes Greater Sudbury Fire Services (GSFS) to proceed through a tender process to purchase a 100' Aerial truck with a more simple and robust construction than the current options within the fleet;

AND THAT the funding of this vehicle will be through internal financing being repaid from future capital envelopes.

Finance Implications

The purchase of this 100' Aerial truck will be funded through internal financing that will be repaid from future annual capital envelopes.

Signed By

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Executive Summary

The current aerial apparatus that meets By-Law 2014-84 Establish and Regulate the City of Greater Sudbury Fire Services (E&R By-law) with regards to a 100-foot ladder is a very large and heavy apparatus that is experiencing significant down time due to required repairs and maintenance. The E&R By-law currently requires a 100-foot aerial ladder to be available within the City for fire and emergency response, with a major reason being the Fire Underwriters Survey Classification Standard for Public Fire Protection stating: "The needed length of an aerial ladder, an elevating platform and an elevating stream device shall be determined by the height of the tallest building in the ladder/service district." The proposed replacement would be a more simple and robust vehicle able to fulfill functions of an aerial device while also carrying the necessary equipment to act as a rescue vehicle.

Advantages of the proposed vehicle are:

- Increased compartment space,
- Increased ground ladder storage,
- Significantly lighter weight and decreased vehicle footprint during ladder operations,
- Lower maintenance cost,
- 20-25% less expensive than the current vehicle.

Background

The Division's only 100-foot ladder is a 2003 American Lafrance (ALF) quintuple combination apparatus (quint) purchased new in 2004. A quint apparatus is a truck with an aerial ladder, ground ladders, an on-board water tank, a pump, and fire hose. This type of apparatus is designed to work as a pumper and as an aerial device.

The vehicle was purchased at a cost of $1,060,305 and has a recorded life-cycle of 25 years. If replaced at the end of its life-cycle in 2028, the estimated replacement cost would be $1,849,327 based on a 2.25% annual inflation rate. The truck was purchased with three (3) 75-foot aerials with the idea of aerial ladder trucks throughout the Greater City. This idea has proven financially unsustainable and tactically unnecessary. The concept of One City-One Service allows for an aerial truck to respond from a central location to wherever it is needed. This is reflected in the Emergency Services Strategic Plan (ESSP) priority detailing Resource Optimization.

Currently there are several issues with the ALF:

1. Being a Quint apparatus, the vehicle is very large and very heavy.
2. Over the last five (5) years the average yearly repair cost for the truck was approximately $75,000 per year.
3. The original vendor, American Lafrance, is now out of business and parts are difficult to find and purchase.
4. The truck has been relegated to a little used spare and is unavailable when in for repairs.

As a result, preliminary market research has revealed that the truck could only be sold for $25,000 to $75,000 depending on the outcome of the diagnostics. This is not much of a return, but could be looked at a substantial savings in repairs per year. The vehicle has worth as a little used spare, and the on-board pump still functions well. It can serve as a replacement Engine when resources are stretched.

The ALF is currently 12 years old. Ideally, an aerial apparatus will be in front-line service for ten years, and then become a spare vehicle.

The proposed vehicle is a single axel 100-foot aerial ladder with no pump or water tank. The style of vehicle fits with the Greater Sudbury Fire Service (GSFS) concept of a simple and robust fleet. There are several reasons for this change in aerial design for GSFS:

1. The proposed vehicle has full height and depth compartments on both sides of the truck. Our current aerial ladders are limited in the amount of equipment they can carry due to space.
2. Because there is no pump and the truck is not a tandem axel, the proposed vehicle has ample compartment space in the lower half of the body. Stowing heavy tools up high can potentially cause firefighter back injuries. This point is reflected in the ESSP, where a stated priority is Employee Wellness and Health & Safety.
3. The increased cabinet space allows for the concept of a Rescue Ladder truck. The new Aerial Ladder truck can carry the current load of a ladder truck, with space for future equipment (eg. technical rescue). Other cities operating a ladder in this fashion are Toronto, Montreal, FDNY, Boston, and Chicago.
4. The choice of a vehicle with no pump, not water tank, and an aluminum aerial ladder results in a vehicle as much as 30,000 pounds lighter than the ALF. This leads to lowered concern for weight limits on area bridges and for wet road and laneway conditions in the spring. The lower weight also decreased wear and tear for responses overall.
5. The outrigger spread (the distance from the stabilizing "feet" that prevent the truck from tipping during aerial ladder operations) is reduced due to the lighter weight vehicle and ladder. This is especially

critical to know considering most of the time the aerial ladder deploys on the street and extends its aerial to the fire building. Wider outrigger spreads push the truck further onto the road reducing vertical reach. Setting up the vehicle further onto the street also puts the deployed ladder closer to hydro wires.

6. The truck in this report is capable of carrying additional ground ladders due to the absence of a pump and water tank, which gives fire personnel more options during an emergency response.

A new quint is between 20% and 25% more expensive than the vehicle detailed in this report. This would provide capital savings as stated in the ESSP priority explaining Resource Optimization. This would lead to the savings being invested in other needed fire equipment whose purchase may be delayed due to fiscal constraints. The simple and robust nature of the truck in this report would mean a reduced maintenance cost when considering tires, brakes, and reduced wear and tear with a lower vehicle weight, as well as no testing or maintenance for an on-board pump. This would align with the ESSP priority of Financial Sustainability.

Recomendation

GSFS will proceed through the tender process to purchase a 100-foot Aerial Truck. It is estimated that cost for this type of truck is in the range of $1 to $1.2 million. It is recommended that the purchase of this truck be funded through internal financing with repayments from the future annual capital envelopes.