




*Fighting Fires, Saving Lives and Promoting Safety.*

**Phillip A. J. Charron**  
*Fire Chief*

## MEMORANDUM

TO: Thomas A. Golden Jr., City Manager 

FROM: Phillip A. J. Charron, Chief of the Fire Department

DATE: September 28, 2022

SUBJECT: MOTION OF 8/09/22 REQUEST CITY MANAGER REPORT TO THE CITY COUNCIL AS TO THE STATUS OF FIRE TRUCKS IN THE LOWELL FIRE DEPARTMENT.

The Lowell Fire Department maintains a fleet of 43 vehicles. This includes a large array of equipment used for everything from fire response to training and staff functions. With an average age of 15-16 years, the fleet situation is problematic. Over the last two decades, vehicles have not been replaced at the rate required to keep fire department equipment within a reasonable lifespan. Depending on the vehicle, this is generally within the 12 to 16 year range. This has led to apparatus and support vehicles spending more time under repair. National Fire Protection Association (NFPA) standards recommend apparatus replacement at the 15 year mark. It is a generally accepted fleet practice that support vehicles that receive heavy use should be replaced at 12 years of age.

An older fleet leads to more maintenance costs and greater frequency of repairs. While many repairs are handled in house, the most significant repairs require the vehicle be sent out to a workshop. This action generally takes a vehicle out of service for multiple weeks requiring a replacement vehicle to be used. Replacement vehicles or spares need to be in good working condition and should go through a comprehensive rehabilitation process after being taken out of front line service. Fire vehicles are operating so far past their lifespan that a rehabilitation is no longer cost effective. They end up being disposed of before they can go into the reserve.

As the fleet ages, our repair shop is finding it harder to keep up with maintenance and repairs. They spend their days going from one major mechanical or electrical issue to another in an attempt to keep trucks in service. As a result, many minor issues with vehicles and apparatus do not get addressed. Repairs to lights, air conditioners, vehicle heaters and mirrors continuously get pushed back by more serious power train, front end, hydraulic or pump related failures. Three times since our spare engine was repaired and returned to the city, we have attempted to place it in service at Engine #1 so that the Dracut Engine could be



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returned to that town. Each time we attempt this another truck experiences a significant maintenance issue and has to be replaced by the spare.

Lastly, and most important, is firefighter safety. Fire vehicles are required to accelerate and decelerate rapidly. Heavy use and street conditions combine to cause serious wear on chassis and front end assemblies. Wear and tear on engines, transmissions, pumps and hydraulic aerial systems is severe, as these are called upon to operate in extreme environmental conditions for long periods of time. Other vehicle systems that take a beating include, brakes, coolant and compressed air. Compromise to any of these components can carry with it significant concerns for the safety of firefighters, both in regards to response and fire ground use. A building fire is not the place for a major vehicle to have a mechanical failure.

The Lowell Fire Department has developed a working document that indicates an ideal vehicle/apparatus replacement plan as outlined below:

## Fire Vehicle Replacement Outline

Fire Engine replacement approximately every year

Oldest 2 Engines to replace Spare Engines (after rehab)

Ladder truck replacement every 4 years

Oldest Ladder to replace Spare Ladder (after rehab)

Rescue replacement every 12 years

Remove Spare from the inventory

Car #1, 2, and 3 replacement every 4 years

- Car #1 to replace Car #5
- Car #2 to replace Car #22
- Car #3 to replace Car #23
- Car #5 to replace Car #6
- Car #22 to replace Car #4
- Car #23 to replace Car #7

Car # 8, 9, 10, 11 replacement every 12 years



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Car #14, 16, A #25 and 26 replacement every 12 years

EM#1, 2, Truck #11 and 12 replacement every 12 years

FC60, Spec Ops., and Brush Trucks every 20 years

Academy vehicles to be replaced by Truck 24

Replace Truck 24 every 12 years

Using this outline, we will be developing a 20 year revolving vehicle replacement plan that will be implemented starting next fiscal year. This plan will cover 100% vehicle replacement, reserve vehicle rehabilitation and the potential introduction of electric technology amongst our support vehicles. Future proposals may entertain several options including but not limited to:

Leasing equipment with a rotating replacement plan.

Utilizing Operational budget monies in conjunction with the Capital Plan.

Creating and developing infrastructure to support limited electric vehicle use.