

Vehicle replacement schedule

Introduction:

Fire Department vehicles should not be considered similarly to most other departmental or private vehicles. The public depends on their emergency responders, when called, to arrive on the scene in a timely manner with the appropriate resources and equipment. Proper replacement of vehicles is paramount to the continued ongoing of any proactive fire district. All service maintenance and replacement of fire apparatus must be done under a proactive approach. Waiting till something breaks or is out of service is an unacceptable response for the public.

Replacement:

Replacement schedules are identified and planned for by the fire agency but generalized best practices for fire apparatus are derived from the National Fire Protection Association (NFPA) 1901.

According to the NFPA 1901 Standard (2016 Ed.) Annex D Guidelines for First Line and Reserve Fire Apparatus: "To maximize firefighter capabilities and minimize risk of injuries, it is important that fire apparatus be equipped with the latest safety feature and operating capabilities.

"It is a generally accepted fact that fire apparatus, like all types of mechanical devices, have a finite life. The length of that life depends on many factors, including vehicle mileage and engine hours, quality of preventative maintenance program, quality of driver training program and rules enforcement, whether the vehicle was used within the design parameters, whether the fire apparatus was manufactured on a custom or commercial chassis, quality of workmanship by the original manufacturer, quality of the components used, and availability of replacement parts, to name a few."

"In the fire service, there are fire apparatus with 8 to 10 years of service that are just plain worn out. Alternatively, there are also fire apparatus that were manufactured with quality components, that have had excellent maintenance, and that have responded to a minimum number of incidents that are in serviceable condition after 20 years. Most would agree that the care of fire apparatus while being used and the quality and timeliness of maintenance are perhaps the most significant factors in determining how well a fire apparatus ages." Without question, the most important factors to consider in evaluating the need for replacing fire apparatus are critical enhancements in design, safety, and technology.

In the last 10 to 15 years, much progress has been made in upgrading functional capabilities and improving the safety features of fire apparatus. Apparatus more than 15 years will not include the safety upgrades required by the recent editions of the NFPA fire department apparatus standards. The changes, upgrades, and fine tuning of NFPA 1901 have been truly significant, especially in the

area of safety, fire departments should seriously consider the value (or risk) to firefighters of keeping fire apparatus more than 15 years in front-line service.”

Replacement schedule: See Appendix A for a full amortization schedule

The chart below shows the year of manufacture and year of replacement for each specific apparatus in district inventory.

(dates of manufacture and dates of anticipated replacement 10 years for command and utility vehicles and 20 -25 years for engines and apparatus.)

Vehicle	Manufacture	Replacement	Replacement
	Year	Year	Cost - present
E2310	2013	2033	\$900,000.00
E2311	2002	2022	\$900,000.00
E2336	2023	2033	\$500,000.00
E2346	2024	2044	\$250,000.00
WT2350	2023	2043	\$750,000.00
B2303	2008	2018	\$85,000.00
U2390	2011	2021	\$85,000.00
U2397	2014	2024	\$85,000.00

The Felton Fire Districts service and response matrix is built upon the availability of each of these vehicles being available and in service. NFPA 1710 and 1720 recommend a minimum of 15 firefighters to respond to any structure fire and more when hazards are significant. Each fire engine holds four firefighters, so we need all three engines available to deliver the firefighters, supply the water and hose to the incident. Adding the command vehicles to the response brings us to the minimum totals for response.

When any one of these vehicles is out of service a degradation in services to the community is inevitable. Short-term downtimes for service and maintenance can be planned and prepared for, but unanticipated breakage and longer downtimes leave our community at true risk.

Felton Fire Districts problem is compounded by the lack and availability of reserve or spare apparatus over the minimum response needs.

In prior years Felton has not used a dedicated approach to budgeting for vehicle replacement costs, choosing to pull out of contingency reserves opposed to providing an annual capital vehicle replacement plan. Such practices have depleted our reserves and are no longer sufficient to provide for apparatus replacement when it is needed.

Funding:

Two funding options exist for purchase of fire apparatus.

One is pay as you go budgeting, amortizing the replacement cost of the vehicle over the lifespan of the predecessor vehicle ensures you arrive at the end of vehicle life with enough funds for a comparable replacement vehicle.

The second option is financing the vehicle. Financing is less desirable due to the added cost of interest and the short term of the loans. Presently (2025) interest rates to finance fire apparatus are at approximately 4.5% for a ten-year loan. As an example, on the above rate and term the district would pay an additional \$219,000 dollars for the cost of the vehicle if financed.

Amortized replacement schedule:

The following charts identify the vehicle, dates of replacement and budgeted amount needed to fund the replacement of the vehicles under a pay as you go process.

Vehicle	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
E2310	\$112,500	\$112,500	\$112,500	\$112,500	\$112,500	\$112,500	\$112,500	\$112,500	\$45,000	\$45,000	\$45,000
E2311	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000
E2336	\$27,778	\$27,778	\$27,778	\$27,778	\$27,778	\$27,778	\$27,778	\$27,778	\$27,778	\$27,778	\$27,778
E2346	\$13,157	\$13,157	\$13,157	\$13,157	\$13,157	\$13,157	\$13,157	\$13,157	\$13,157	\$13,157	\$13,157
WT2350	\$41,667	\$41,667	\$41,667	\$41,667	\$41,667	\$41,667	\$41,667	\$41,667	\$41,667	\$41,667	\$41,667
B2303	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500
U2390	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500
U2397	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500
Vehicle	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	
E2310	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	
E2311	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000	
E2336	\$27,778	\$27,778	\$27,778	\$27,778	\$27,778	\$27,778	\$27,778	\$25,000	\$25,000	\$25,000	
E2346	\$13,157	\$13,157	\$13,157	\$13,157	\$13,157	\$13,157	\$13,157	\$13,157	\$12,500	\$12,500	
WT2350	\$41,667	\$41,667	\$41,667	\$41,667	\$41,667	\$41,667	\$41,667	\$37,500	\$37,500	\$37,500	
B2303	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	
U2390	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	
U2397	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	\$8,500	

In conclusion fire district vehicles represent a very large portion of the capital outlay of the fire district and a haphazard or irresponsible approach to the funding and replacement of the vehicles is unacceptable by anyone's standards.

With a few exceptions it should be expected to replace all apparatus moving forward at the twenty to twenty five year mark and all command vehicles at the ten-year mark as long as this budgeting process is applied and funding measures are put in place within the community to fund the fire district as appropriate.