

Fleet Lifespan Overview

Observations:

1. 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.
2. The data below does not take into account vendor markups over time, or adjustments to resale value that may apply due to vehicle type and maintenance.

Fleet Unit Number	Item	Year	Historical Vehicle Cost	Resale Value* <small>*Assuming the asset is worth 20% at the end of its service life</small>	Replacement Value	Replacement Date as per By-law Schedule	Recommended Replacement Date	Years of Service Life* <small>*Service life is the amount of time that the vehicle can render service to the community</small>	Remaining Years of Service Life	Remaining Recommended Years of Service Life	January 2015 to June 2021 Maintenance Cost
P-371	Pumper	2012	\$ 605,135.71	\$ 121,027.14	\$ 950,000.00	2028	2028	18	7	7	\$ 67,080.44
P-372	Pumper	2010	\$ 475,130.98	\$ 95,026.20	\$ 800,000.00	2028	2021/2022	18	7	0/1	\$ 129,211.60
P-373	Pumper	2013	\$ 193,980.86	\$ 38,796.17	\$ 750,000.00	2031	2030	18	9	9	\$ 39,328.98
R-391	Command Rescue	2010	\$ 302,900.00	\$ 60,580.00	\$ 600,000.00	2028	2032	18	7	11	\$ 21,361.74
A-394	Aerial	2005	\$ 823,888.00	\$ 164,777.60	\$ 1,500,000.00	2023	2023	18	2	2	\$ 76,076.75
M-396	Mobile	2011	\$ 40,133.00	\$ 8,026.60	\$ 65,000.00	2020	2023	9	-1	2	\$ 13,764.01
M-398	Mobile	2014	\$ 29,349.00	\$ 5,869.80	\$ 45,000.00	2023	2023	9	2	2	\$ 5,975.46
M-399	Mobile	2010	\$ 26,681.72	\$ 5,336.34	\$ 45,000.00	2019	2021	9	-2	0	\$ 5,385.44
			\$ 2,497,199.27	\$ 499,439.85	\$ 4,755,000.00						\$ 358,184.42

VALUATION CALCULATIONS & SUMMARY

Below is a summary of calculations that help to estimate the fleet's service life and value over time.

Fleet Unit Number	Historical Vehicle Cost		Replacement Value	Replacement Value Increase	Maintenance & Repair Costs January 1, 2015 to June 30, 2021	% Total Maintenance & Repair Cost January 1, 2015 to June 30, 2021	
P-371	\$	605,135.71	\$	950,000.00	57%	\$ 67,080.44	11%
P-372	\$	475,130.98	\$	800,000.00	68%	129,211.60	27%
P-373	\$	193,980.86	\$	750,000.00	287%	39,328.98	20%
R-391	\$	302,900.00	\$	600,000.00	98%	21,361.74	7%
A-394	\$	823,888.00	\$	1,500,000.00	82%	76,076.75	9%
M-396	\$	40,133.00	\$	65,000.00	62%	13,764.01	34%
M-398	\$	29,349.00	\$	45,000.00	53%	5,975.46	20%
M-399	\$	26,681.72	\$	45,000.00	69%	5,385.44	20%
	\$	2,497,199.27	\$	4,755,000.00	97%	358,184.42	19%

Fleet Unit Number	Years of Service Life	Years of Remaining Service Life	% Remaining Service Life	Years of Remaining Recommended Years of Service Life	% Remaining Recommended Service Life
P-371	18	7	39%	7	39%
P-372	18	7	39%	0/1	6%
P-373	18	9	50%	9	50%
R-391	18	7	39%	11	61%
A-394	18	2	11%	2	11%
M-396	9	-1	-11%	2	22%
M-398	9	2	22%	2	22%
M-399	9	-2	-22%	0	0%
	117	31	21%	32/33	26%

Fleet Unit Number	4 Year Avg Yearly Cost for Maintenance & Repairs	6 Year Avg Yearly Cost for Maintenance & Repairs	Avg Annual Maintenance & Repair Cost (up to June 30, 2021)	Estimated Costs for Maintenance and Repairs for Remaining Recommended Years of Service Life <small>Based on avg. annual maintenance costs, plus 3.6% inflation/contingency</small>
P-371	\$ 4,429.29	\$ 10,679.15	\$ 9,582.92	\$ 67,080.48
P-372	\$ 16,062.73	\$ 15,758.42	\$ 18,458.80	\$ 18,458.84
P-373	\$ 4,189.56	\$ 5,975.23	\$ 5,618.43	\$ 50,565.87
R-391	\$ 3,486.32	\$ 3,461.81	\$ 3,051.68	\$ 33,568.48
A-394	\$ 9,222.45	\$ 11,358.61	\$ 10,868.11	\$ 21,736.25
M-396	\$ 2,919.05	\$ 2,269.75	\$ 1,966.29	\$ 3,932.61
M-398	\$ 1,293.09	\$ 995.91	\$ 853.64	\$ 1,707.31
M-399	\$ 1,317.47	\$ 897.57	\$ 769.35	\$ 769.38
	\$ 42,919.97	\$ 51,396.44	\$ 51,169.20	\$ 197,819.22

Although this vehicle is recommended for immediate replacement, 1 year has been added as a placeholder to populate the estimated cost to repair for another year beyond its service life.

Fleet Unit Number	Resale Value <small>Assuming the vehicle is worth 20% at the end of its service life</small>	Annual Straight Line Depreciation	Sum of Depreciation after First Year <small>Depreciation is based on initial vehicle cost, resale value, and the number of periods/years over which the vehicle is depreciated</small>	% of Depreciation after 1 Year	Sum of Yearly Depreciation after 5 Years	% of Depreciation after 5 Years	Sum of Yearly Depreciation after 10 Years	% of Depreciation after 10 Years	Sum of Yearly Depreciation after 18 Years	% of Depreciation after 18 Years
P-371	\$ 121,027.14	\$ 26,894.92	\$ 50,958.80	8%	\$ 39,634.62	7%	\$ 25,479.40	4%	\$ 2,831.04	0%
P-372	\$ 95,026.20	\$ 21,116.93	\$ 40,011.03	8%	\$ 31,119.69	7%	\$ 20,005.51	4%	\$ 2,222.83	0%
P-373	\$ 38,796.17	\$ 8,621.37	\$ 16,335.23	8%	\$ 12,705.18	7%	\$ 8,167.62	4%	\$ 907.51	0%
R-391	\$ 60,580.00	\$ 13,462.22	\$ 25,507.37	8%	\$ 19,839.06	7%	\$ 12,753.68	4%	\$ 1,417.08	0%
A-394	\$ 164,777.60	\$ 36,617.24	\$ 69,380.04	8%	\$ 53,962.25	7%	\$ 34,690.02	4%	\$ 3,854.45	0%
M-396	\$ 8,026.60	\$ 3,567.38	\$ 6,421.28	16%	\$ 3,567.38	9%	\$ 713.48	2%	\$ -	
M-398	\$ 5,869.80	\$ 2,608.80	\$ 4,695.84	16%	\$ 2,608.80	9%	\$ 521.76	2%	\$ -	
M-399	\$ 5,336.34	\$ 2,371.71	\$ 4,269.08	16%	\$ 2,371.71	9%	\$ 474.34	2%	\$ -	
	\$ 499,439.85	\$ 115,260.58	\$ 217,578.66	11%	\$ 165,808.69	7%	\$ 102,805.81	3%	\$ 11,232.91	0%

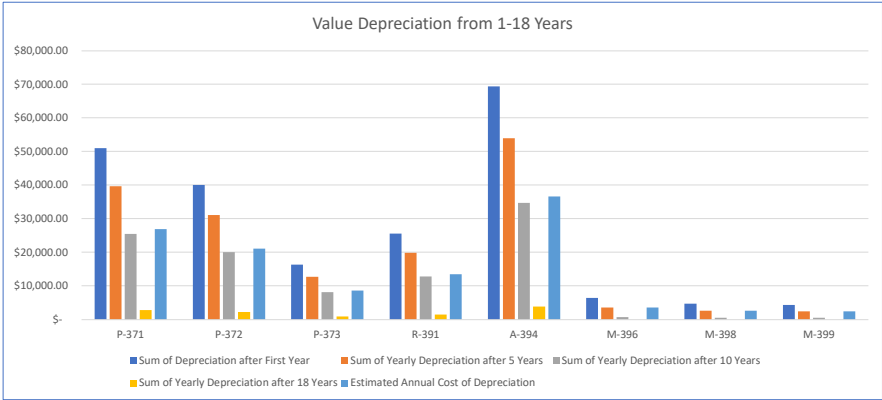
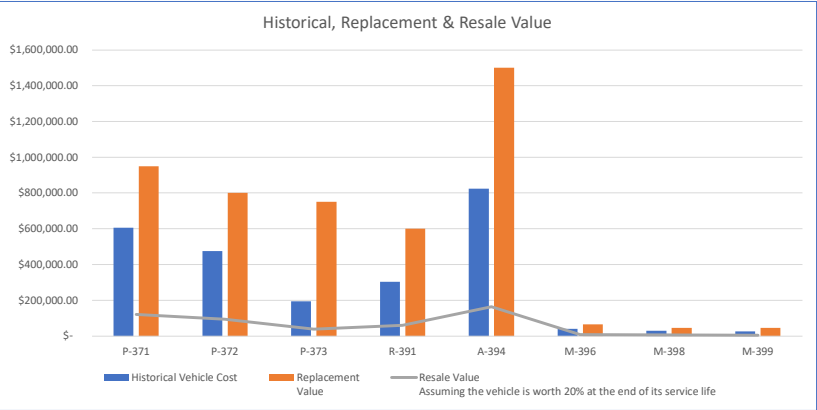
Fleet Unit Number	Estimated Annual Cost of Depreciation	Estimated Annual Rate of Depreciation
P-371	\$ 26,894.92	4%
P-372	\$ 21,116.93	4%
P-373	\$ 8,621.37	4%
R-391	\$ 13,462.22	4%
A-394	\$ 36,617.24	4%
M-396	\$ 3,567.38	9%
M-398	\$ 2,608.80	9%
M-399	\$ 2,371.71	9%
	\$ 115,260.58	49%

Fleet Value

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 similar to 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).

Fleet Unit Number	Historical Vehicle Cost		Replacement Value	Resale Value <small>Assuming the vehicle is worth 20% at the end of its service life</small>
P-371	\$	605,135.71	\$ 950,000.00	\$ 121,027.14
P-372	\$	475,130.98	\$ 800,000.00	\$ 95,026.20
P-373	\$	193,980.86	\$ 750,000.00	\$ 38,796.17
R-391	\$	302,900.00	\$ 600,000.00	\$ 60,580.00
A-394	\$	823,888.00	\$ 1,500,000.00	\$ 164,777.60
M-396	\$	40,133.00	\$ 65,000.00	\$ 8,026.60
M-398	\$	29,349.00	\$ 45,000.00	\$ 5,869.80
M-399	\$	26,681.72	\$ 45,000.00	\$ 5,336.34

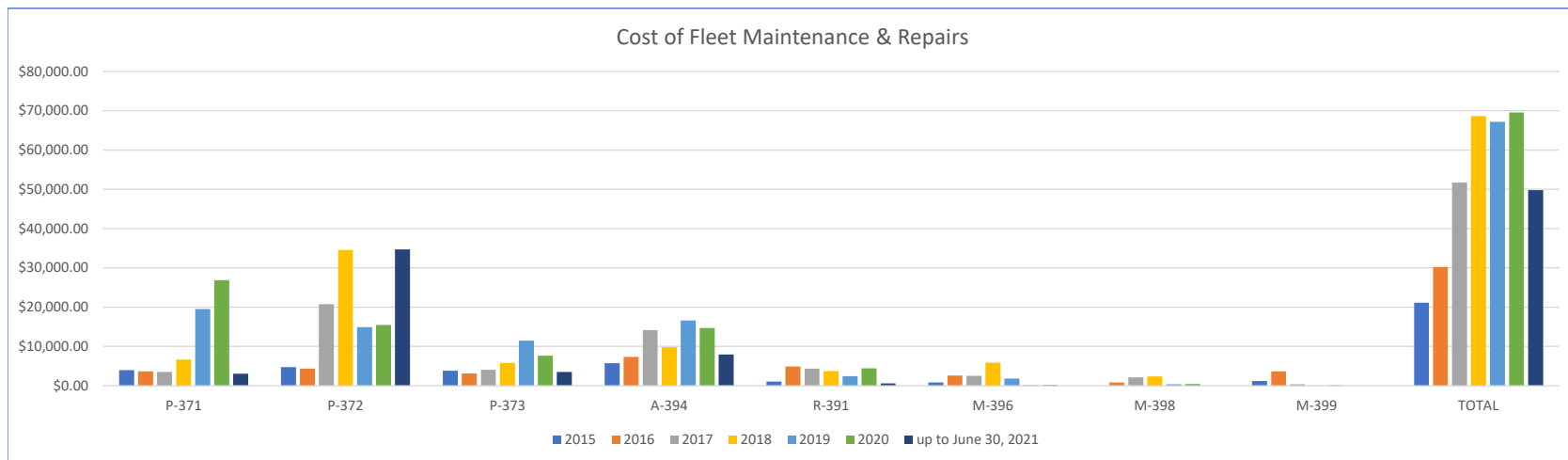
Fleet Unit Number	Sum of Depreciation after First Year		Sum of Yearly Depreciation after 5 Years	Sum of Yearly Depreciation after 10 Years	Sum of Yearly Depreciation after 18 Years	Estimated Annual Cost of Depreciation
P-371	\$	50,958.80	\$ 39,634.62	\$ 25,479.40	\$ 2,831.04	\$ 26,894.92
P-372	\$	40,011.03	\$ 31,119.69	\$ 20,005.51	\$ 2,222.83	\$ 21,116.93
P-373	\$	16,335.23	\$ 12,705.18	\$ 8,167.62	\$ 907.51	\$ 8,621.37
R-391	\$	25,507.37	\$ 19,839.06	\$ 12,753.68	\$ 1,417.08	\$ 13,462.22
A-394	\$	69,380.04	\$ 53,962.25	\$ 34,690.02	\$ 3,854.45	\$ 36,617.24
M-396	\$	6,421.28	\$ 3,567.38	\$ 713.48	\$ -	\$ 3,567.38
M-398	\$	4,695.84	\$ 2,608.80	\$ 521.76	\$ -	\$ 2,608.80
M-399	\$	4,269.08	\$ 2,371.71	\$ 474.34	\$ -	\$ 2,371.71



Total Cost for Fleet Maintenance & Repairs

The figures below represent the cost of maintenance and repairs to fleet vehicles, however they do not take into account the costs associated with technological life and economic life. Technological life considers obsolescence compared with a new vehicle that's built using today's technology in manufacturing, safety and operational aspects, such as fuel efficiency. Economic life refers to the effect that the vehicle's maintenance, testing and downtime have on the department's capital and operating budgets. Similar to 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 gained through technological and economical life diminishes.

Year	P-371	P-372	P-373	A-394	R-391	M-396	M-398	M-399	TOTAL
2015	\$3,939.40	\$4,689.19	\$3,775.10	\$5,687.03	\$1,009.98	\$809.01	\$0.00	\$1,210.95	\$21,120.66
2016	\$3,634.41	\$4,323.38	\$3,131.31	\$7,285.11	\$4,888.03	\$2,573.68	\$782.68	\$3,648.75	\$30,267.35
2017	\$3,515.40	\$20,733.62	\$4,037.89	\$14,170.00	\$4,331.85	\$2,459.22	\$2,088.86	\$344.05	\$51,680.89
2018	\$6,627.96	\$34,504.71	\$5,813.94	\$9,747.67	\$3,715.43	\$5,834.30	\$2,300.82	\$66.14	\$68,610.97
2019	\$19,500.68	\$14,869.08	\$11,464.86	\$16,596.12	\$2,385.07	\$1,830.34	\$382.07	\$115.55	\$67,143.77
2020	\$26,857.04	\$15,430.54	\$7,628.29	\$14,665.71	\$4,440.47	\$111.94	\$421.03	\$0.00	\$69,555.02
up to June 30, 2021	\$3,005.55	\$34,661.08	\$3,477.59	\$7,925.11	\$590.91	\$145.52	\$0.00	\$0.00	\$49,805.76
Total Cost for Maintenance & Repairs January 1, 2015 to June 30, 2021	\$67,080.44	\$129,211.60	\$39,328.98	\$76,076.75	\$21,361.74	\$13,764.01	\$5,975.46	\$5,385.44	\$358,184.42



Fleet Service Life & Maintenance

The Cobourg Fire Department's fleet service life is currently positioned at, or below its half-life threshold. The result of this is that in order 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.

Fleet Unit Number	Years of Service Life	Years of Remaining Service Life	Remaining Recommended Years of Service Life
P-371	18	7	7
P-372	18	7	1
P-373	18	9	9
R-391	18	7	11
A-394	18	2	2
M-396	9	-1	2
M-398	9	2	2
M-399	9	-2	0
		31	34

Fleet Unit Number	Avg Annual Cost for Maintenance & Repairs	4 Year Avg Yearly Cost for Maintenance & Repairs	6 Year Avg Yearly Cost for Maintenance & Repairs	Forecasted Avg Costs for Maintenance & Repairs in Remaining Recommended Years of Service Life
P-371	\$ 9,582.92	\$ 4,429.29	\$ 10,679.15	\$ 67,080.48 over 7 years (or approx. \$9,582.93/remaining years)
P-372	\$ 18,458.80	\$ 16,062.73	\$ 15,758.42	\$ 18,458.84 over 1 year
P-373	\$ 5,618.43	\$ 4,189.56	\$ 5,975.23	\$ 50,565.87 over 9 years (or approx. \$5,618.43/remaining years)
R-391	\$ 3,051.68	\$ 3,486.32	\$ 3,461.81	\$ 33,568.48 over 11 years (or approx. \$3,051.68/remaining years)
A-394	\$ 10,868.11	\$ 9,222.45	\$ 11,358.61	\$ 21,736.25 over 2 years (or approx. \$10,868.13/remaining years)
M-396	\$ 1,966.29	\$ 2,919.05	\$ 2,269.75	\$ 3,932.61 over 2 years (or approx. \$1,966.31/remaining years)
M-398	\$ 853.64	\$ 1,293.09	\$ 995.91	\$ 1,707.31 over 2 years (or approx. \$853.66/remaining years)
M-399	\$ 769.35	\$ 1,317.47	\$ 897.57	\$ 769.38 over 1 year
	\$ 51,169.20	\$ 42,919.97	\$ 51,396.44	\$ 197,819.22

