

DATE ISSUED: February 25, 2005

REPORT NO. 05-055

ATTENTION: Public Safety and Neighborhood Services Committee  
Agenda of March 2, 2005

SUBJECT: Status Report on Fire Engine Replacement Program

REFERENCE: Manager's Report #03-158 – Presented on July 23, 2003  
Manager's Report #04-036 – Presented on February 5, 2004

### SUMMARY

Issue – Should the City Council direct the City Manager to negotiate a contract for leasing 50 Fire Apparatus for the next 14 years?

Manager's Recommendation(s) –

Direct the City Manager to negotiate a contract for leasing 50 Fire Apparatus for the next 14 years.

Fiscal Impact – None.

### BACKGROUND

In the City Manager report titled "Fire-Rescue Department Fleet Status," issued on July 23, 2003, Fire-Rescue proposed to convene an interdepartmental work group to study the feasibility of a fleet replacement program to ensure that Fire-Rescue's front line apparatus fleet is consistent and reliable. Based on the analysis of the interdepartmental group and direction from the Public Safety and Neighborhood Services Committee, Fire-Rescue decided to focus the fleet replacement program on the replacement of fire engines with a seven year lease program.

On July 29, 2004, the Purchasing Division issued a Request for Proposal (RFP) to lease or lease-purchase 50 Fire Apparatus. The RFP closed on November 19, 2004 and staff commenced to evaluate technical and price submissions separately. Currently staff is developing a Best and

Final Offer, the next step in the RFP process, to ensure open and fair competition and to arrive at a proposal which provides the best value for the City.

## DISCUSSION

Committee direction is requested to negotiate for a 14-year contract for leasing front line Fire Apparatus. After issuing of a Best and Final Offer and negotiation with the proposer, which offers the best value to the City, staff will return to Committee with a contract award recommendation.

Since the City is still discussing and will be negotiating the contract for the acquisition of these apparatus and does not want to afford any proposer an advantage through the release of this report, the information presented in this report represents averages of the lease and lease-purchase proposals received. Through utilization of these averages, the cost of leasing versus lease-purchasing fire apparatus is illustrated. Please note that after completion of negotiations and selection of a proposal, which offers the best value to the City, staff expects lower costs for leasing are represented through averages in the paragraphs, tables, and chart below.

To understand the impact of leasing versus lease-purchasing 50 Fire Apparatus over 19 years, the following replacement schedule for lease versus lease-purchase is assumed. To upgrade the existing fleet over the next seven fiscal years, eight engines will be acquired in Fiscal Year 2006 and seven engines will be acquired, per Fiscal Year, from Fiscal Year 2007 until Fiscal Year 2012.

For the leasing proposal, in Fiscal Year 2013, eight new engines will be acquired to replace the engines from Fiscal Year 2006. Similarly, all engines leased from Fiscal 2006 until Fiscal Year 2012 will be replaced with new equipment between Fiscal Year 2013 and Fiscal Year 2019. In contrast, the lease-purchase proposal assumes that the 50 engines acquired will remain in Fire-Rescue's fleet for 12 years in accordance with the National Fire Protection Association standards (NFPA 1901, Annex "D"). In Fiscal Year 2018, the eight engines acquired through lease-purchase in Fiscal Year 2006 will be replaced and in subsequent contract years, the engines acquired through lease-purchase between Fiscal Year 2007 and Year 2012 will be replaced between Fiscal Year 2018 and Fiscal Year 2024. Table 1 illustrates the change in engine requirements for a full cycle of fleet replacement after the initial acquisition for the lease and lease-purchase option.

Table 1

Replacement Schedule of Fire Engine Fleet for Lease and Lease-Purchase Options

Fiscal Year	Engines Acquired at the end of the Fiscal Year through a 7 Year Lease	Engines Acquired at the end of the Fiscal Year through a 7 Year Lease-Purchase
FY 2006	8 Engines	8 Engines
FY 2007	7 Engines	7 Engines
FY 2008	7 Engines	7 Engines
FY 2009	7 Engines	7 Engines
FY 2010	7 Engines	7 Engines
FY 2011	7 Engines	7 Engines
FY 2012	7 Engines	7 Engines
FY 2013	8 Engines	0 Engines
FY 2014	7 Engines	0 Engines
FY 2015	7 Engines	0 Engines
FY 2016	7 Engines	0 Engines
FY 2017	7 Engines	0 Engines
FY 2018	7 Engines	8 Engines
FY 2019	7 Engines	7 Engines
FY 2020	8 Engines	7 Engines
FY 2021	7 Engines	7 Engines
FY 2022	7 Engines	7 Engines
FY 2023	7 Engines	7 Engines
FY 2024	7 Engines	7 Engines

Assuming that the contract will be approved by the Mayor and City Council and the first eight engines will be ordered late Fiscal Year 2005 or early Fiscal Year 2006, after an average construction period of nine months, by end of Fiscal Year 2006, the first phase of engines will be delivered to the City. At this time, the sales tax payment, which is currently estimated to be about \$220,000, will be due. However, the first lease or lease-purchase payment will not be due until Fiscal Year 2007. In Fiscal Year 2007, in addition to the first lease or lease-purchase payment, the City also will have to pay the sales tax for the seven engines ordered at the beginning of Fiscal Year 2007. The table below illustrates the fiscal impact to the City for the Engines replacement program for Fiscal Year 2006 until Fiscal Year 2025.

The data in Table 2 reflect the assumption that the current interest rate provided by proposers is constant. However, all interest rates are tied to an index. Therefore, the financing costs will vary given the fluctuation of the index. Additionally, the data in Table 2 reflect the assumption of an annual average increase in the production of the engines as provided by proposers or based on the Producer Price Index for Fire Equipment, published by the U.S. Bureau of Labor Statistics.

Table 2  
Fiscal Impact of Leasing versus Lease-Purchasing Engines between Fiscal Year 2006 and Fiscal Year 2025

<b>Fiscal Year</b>	<b>Lease Cost (incl. Sales Tax)</b>	<b>Lease Purchase Cost (incl. Sales Tax)</b>	<b>Maintenance &amp; Repair Cost for Lease-Purchased Engines*</b>	<b>Total Cost for Lease-Purchased Engines</b>	<b>Difference in Cost between Lease &amp; Lease Purchase</b>
FY 2006	<b>\$218,491.80</b>	\$218,491.80	\$0.00	<b>\$218,491.80</b>	<b>0.00</b>
FY 2007	<b>\$598,190.10</b>	\$665,209.14	\$0.00	<b>\$665,209.14</b>	<b>(67,019.05)</b>
FY 2008	<b>\$965,700.70</b>	\$1,098,223.23	\$0.00	<b>\$1,098,223.23</b>	<b>(132,522.53)</b>
FY 2009	<b>\$1,343,428.21</b>	\$1,543,450.73	\$0.00	<b>\$1,543,450.73</b>	<b>(200,022.52)</b>
FY 2010	<b>\$1,731,646.21</b>	\$2,001,141.03	\$0.00	<b>\$2,001,141.03</b>	<b>(269,494.83)</b>
FY 2011	<b>\$2,131,546.87</b>	\$2,472,634.52	\$0.00	<b>\$2,472,634.52</b>	<b>(341,087.66)</b>
FY 2012	<b>\$2,543,219.32</b>	\$2,958,085.33	\$0.00	<b>\$2,958,085.33</b>	<b>(414,866.02)</b>
FY 2013	<b>\$3,069,767.00</b>	\$3,223,762.53	\$0.00	<b>\$3,223,762.53</b>	<b>(153,995.54)</b>
FY 2014	<b>\$3,130,992.56</b>	\$2,755,455.08	\$189,363.44	<b>\$2,944,818.52</b>	<b>186,174.04</b>
FY 2015	<b>\$3,225,253.54</b>	\$2,328,351.01	\$365,708.14	<b>\$2,694,059.15</b>	<b>531,194.38</b>
FY 2016	<b>\$3,320,619.93</b>	\$1,888,429.99	\$552,463.10	<b>\$2,440,893.09</b>	<b>879,726.84</b>
FY 2017	<b>\$3,420,233.71</b>	\$1,437,016.14	\$750,094.22	<b>\$2,187,110.36</b>	<b>1,233,123.35</b>
FY 2018	<b>\$3,522,847.78</b>	\$1,320,444.21	\$959,085.99	<b>\$2,245,143.70</b>	<b>1,277,704.08</b>
FY 2019	<b>\$3,628,223.90</b>	\$1,449,750.01	\$768,334.44	<b>\$2,217,465.40</b>	<b>1,410,758.50</b>
FY 2020	<b>\$3,793,423.63</b>	\$1,578,621.23	\$594,100.41	<b>\$2,172,721.64</b>	<b>1,620,701.98</b>
FY 2021	<b>\$3,869,082.30</b>	\$2,218,605.49	\$419,866.38	<b>\$2,638,471.87</b>	<b>1,650,477</b>
FY 2022	<b>\$3,985,564.05</b>	\$2,876,504.18	\$245,632.35	<b>\$3,122,136.53</b>	<b>1,109,060</b>
FY 2023	<b>\$4,103,411.79</b>	\$3,554,244.02	\$71,390.32	<b>\$3,625,634.34</b>	<b>549,168</b>
FY 2024	<b>\$4,226,508.20</b>	\$4,252,046.55	\$0.00	<b>\$4,252,046.55</b>	<b>(25,538)</b>
FY 2025	<b>\$4,353,312.16</b>	\$4,633,937.13	\$0.00	<b>\$4,633,937.13</b>	<b>(280,625)</b>

\* This column represents the additional Maintenance and Repair cost for lease-purchased versus leased engines which are older than 7 years.

The second column of Table 2 identifies the average lease costs between Fiscal Year 2006 and Fiscal Year 2024. After replacing the existing engine fleet with leased apparatus in Fiscal Year 2013, the City will be leasing 50 engines thereafter where the cost for leasing increases only by about 3% with the assumption of a constant interest rate.

The third column shows the cost of lease-purchasing 50 fire engines between Fiscal Year 2006 and Fiscal Year 2025. The cost for lease-purchasing increases faster than the cost for leasing until Fiscal Year 2013. Starting with Fiscal Year 2014, the first order of lease-purchased engines will be paid off and the cost for lease-purchasing versus leasing declines until Fiscal Year 2024.

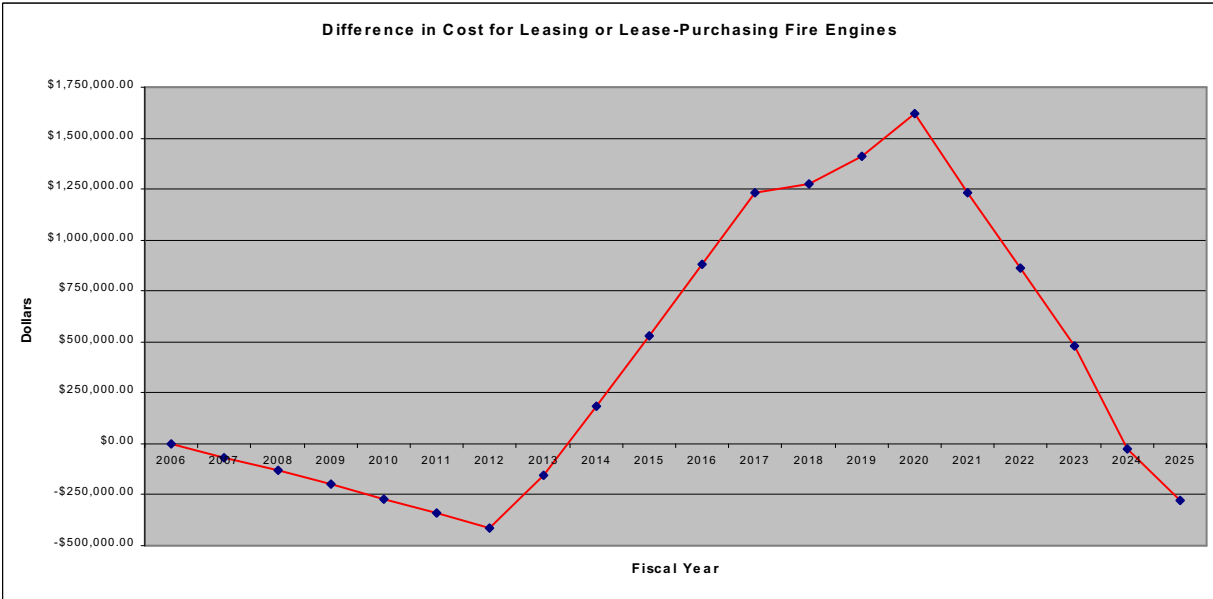
The fourth column of Table 2 captures the additional cost for Maintenance and Repair (M&R) of lease-purchased versus leased engines, which are older than seven years. Since the first engines are not scheduled to arrive until the end of Fiscal Year 2006, the additional annual M&R cost for these lease-purchased engines is not expected to increase until Fiscal Year 2014. Additionally, since at the end of Fiscal Year 2018, new lease-purchased engines will replace engines which are

older than 12 years, the additional M&R cost is expected to decrease in the following fiscal year. The additional M&R costs include all parts and labor costs associated with maintaining and repairing the aging fire engine fleet. These are derived from actual costs based on repairs performed on the fire engine fleet during FY1999 – FY 2002. Current parts and labor costs are adjusted by 3% and compounded for future fiscal years.

The fifth column of Table 2 adds the known costs for lease-purchasing fire engines over the next 20 years. Finally, the last column of this table calculates the difference, per fiscal year, of leasing or lease-purchasing fire engines, given the assumptions outlined previously.

As can be seen from the data in Table 2 and illustrated in the chart below, during the first seven years of the program, the cost of leasing fire engines is lower than the cost of lease-purchasing fire engines. As newly leased fire engines replace older fire engines, the cost of leasing fire engines increases in comparison to the cost of lease-purchasing fire engines. That trend, however, is reversed as soon as twelve-year old lease-purchased fire engines need to be replaced. In Fiscal Year 2025, by the end of the replacement cycle of lease-purchased fire engines, the cost of leasing fire engines is less than the cost of lease-purchasing fire engines. Thus, as can be inferred from Chart 1, the cost difference between leasing and lease-purchasing is cyclical.

Chart 1  
Difference in Cost for Leasing and Lease-Purchasing Fire Engines between Fiscal Year 2006 and Fiscal Year 2025



In addition to the quantifiable cost factors incorporated in the previous analysis, with a continuous replacement cycle of leased fire engines, the City:

- decreases apparatus down-time
- increases availability of front line apparatus
- reduces the need for additional reserve apparatus beyond current projections
- increases the overall reliability of the fleet

- improves repair productivity through standardization of apparatus
- improves operational safety through standardized equipment and gauges
- reduces cost of parts and supplies on hand
- reduces the cost of training due to standardization
- reduces the cost of labor for repairs and maintenance
- reduces the cost associated with writing specifications and the bidding process

#### ADDITIONAL UPDATES ON REPLACEMENT OF FIRE ENGINES

In Fiscal Year 2004, the City ordered one S&S Fire Brush Engine and early this Fiscal Year the City ordered another two engines. The first engine was delivered in December and the other two engines are expected to be delivered late this summer. Additionally, this Fiscal Year, the City ordered three 105 ft Quints. The pre-construction conference was held last month and in February staff reviewed the drawings provided by the manufacturer. In March, construction of these apparatus will commence with an expected delivery by end of this calendar year. One of the 105 ft Quints is purchased with CCDC sales tax funds. The other two 105 ft Quints were ordered through the City's Vehicle Equipment Financing Program. Due to the delay in the issuance of the Fiscal Year 2003 Comprehensive Annual Financial Report (CAFR), the City's lessor will not be able to fund this equipment until the Fiscal Year 2003 and Fiscal Year 2004 CAFRs are audited. Should it be necessary, Fire-Rescue will request Council approval in Fiscal Year 2006 for a reimbursement resolution to accept delivery of the apparatus by the end of this calendar year. Lastly, for the 100 ft Tractor-trailer Purchasing issued a bid in mid-February with an expected bid closing date at the end of March. The ordering of the tractor-trailer is scheduled for the end of the current fiscal year. The Tractor-trailer is funded through CCDC Sales Tax revenues.

#### ALTERNATIVE

Direct the City Manager to negotiate a contract for lease-purchasing 50 Fire Apparatus for the next 14 years.

Respectfully submitted,

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Jeff Bowman  
Fire Chief

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Walter Rossmann, C.P.M.  
Purchasing Agent

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Approved: P. Lamont Ewell  
City Manager

BOWMAN/WR/FD