City of Richmond

Report to Committee

To:	Community Safety Committee	**Date:**	April 26, 2011
From:	John McGowan Fire Chief	**File:**	02-0650-07/2011-Vol 01
Re:	**Status of the Equipment Replacement Reserve Fund**		

Staff Recommendation

1. That report titled ***"Status of the Equipment Replacement Reserve Fund"*** from the Fire Chief dated April 26, 2011 be received for information.

John McGowan
Fire Chief
(604-303-2734)

Att. 2

FOR ORIGINATING DEPARTMENT USE ONLY					
ROUTED TO:		CONCURRENCE	CONCURRENCE OF GENERAL MANAGER		
Budgets		Y ☑ N ☐			
REVIEWED BY TAG	YES ☑	NO ☐	REVIEWED BY CAO	YES ☑	NO ☐

Staff Report

Origin

The purpose of this report is to provide information regarding the status of the Equipment Replacement Reserve Fund to support the Council term goal of ensuring that the City has the capacity to meet the financial challenges of today and in the future, while maintaining appropriate levels of service through:

> *"Maintenance of healthy City financial reserves".*

Findings Of Fact

Equipment Replacement

Operating a fire service that supports Council mandated services and response to routine, specialized, minor and major incidents and meets industry standards to deliver these services 24/7, requires a contingent of equipment, including emergency vehicles, support vehicles and other capital assets such as Self Contained Breathing Apparatus ("SCBA") and hose.

Managing and maintaining this equipment to ensure it is operationally and financially viable requires constant attention and evaluation. Replacement costs are balanced against repair costs, including the operational downtime when vehicles are unavailable for use while being repaired. When equipment is being repaired, without adequate back-up resources, there are safety risks to the community for the provision of emergency responses.

The operational viability of emergency vehicles is guided by the National Fire Protection Association ("NFPA") standards. NFPA sets industry standards in North America for fire and public safety; specifically in terms of emergency vehicle replacement to ensure the safety and protection of the emergency responders and the citizens in the community.

The NFPA is an international non-profit organization that was established in 1896 to reduce the burden of fire and other hazards on the quality of life by providing and advocating for consensus on codes and standards, research, training and education. The organization membership includes up to 100 nations and exceeds 750,000 individuals. NFPA is responsible for over 300 codes and standards with the Fire Code being of that is most widely used.

NFPA has identified a fifteen (15) year life cycle for frontline service emergency vehicles with an additional five (5) years of service in a secondary role, for a total of twenty (20) years. With inspections and appropriate service and maintenance Fire-Rescue has been able to extend vehicle life cycles out to twenty-two (22) years.

The recommended replacement life cycle for the City of Richmond fleet of support vehicles is ten (10) years. Richmond Fire Rescue ("RFR") follows these standards as . An annual thorough inspection of the vehicles has the potential to extend the life cycle.

During the annual inspection process, RFR takes the following factors into consideration to inform the equipment replacement decision:

- Industry standards from the NFPA.
- Vehicle conditions, including mileage, and maintenance costs.
- Community need and service provision.
- Equipment efficiencies and sustainability.
- New technology and innovations.
- Community risks.

RFR's inventory of emergency vehicles consists of front line vehicles, used for initial, primary response and second line vehicles for back up purposes (i.e. when front line vehicles are being repaired or there is a large incident).

When there is new inventory added to the front line, the existing front line vehicles are reassigned to the second line, provided they've met the annual inspection standards. The previous second line unit is then scheduled for decommissioning.

Other equipment such as SCBA and fire fighting hose are funded from this reserve. These items also have a specific life cycle and require replacement on an regular basis.

The Equipment Replacement Schedule (Attachment 1) shows current equipment and respective replacement year in order to maintain the existing service levels. The NFPA standards were used as a guideline to establish the replacement year for emergency vehicles. However, based on the current vehicle condition and usage, some of the life spans have extended to more efficiently manage the reserve. This schedule does not address any additional levels to the equipment inventory.

Equipment Depreciation Fund Bylaw

In 1965, a reserve fund ("Equipment Depreciation Fund Bylaw") was established to set monies aside annually for the expressed purpose to purchase replacement equipment for RFR. In 2002, the reserve was restructured to include the Fire Rescue Vehicle Reserve sub-fund and renamed Equipment Replacement Reserve Fund ("Reserve").

The regular activity of allocations and draw downs of funds in the Reserve has resulted in an un-audited balance of $1,712,660 as at December 31, 2010.

Analysis

RFR has forecasted the sustainability of the Reserve based on three scenarios projected until 2027. The year of 2027 was used as the point in which the full life cycle of all equipment is complete and begins to repeat.

Based on historical data of inflation and in consultation with Emergency Vehicle suppliers an inflationary rate of 2.25% has been used in the calculations of the equipment costs for each scenarios. Full details of the scenarios below and the Reserve balances are illustrated in Attachment 2.

Scenario 1 - Increase the annual contributions by $400,000

An annual increase of $400,000 to the Reserve is required to ensure the sustainability of the Reserve. This amount would enable the replacement cycle to continue as planned taking into consideration the present and future costs of equipment.

A reserve, as a means to fund equipment, allows for proactive planning and provides assurance that emergency response equipment is always in good operational readiness to meet the City's safety mandate. A reserve that is maintained with a favourable balance has the ability to earn interest, thereby increasing the available funds to purchase equipment. The other benefit is that having a reserve enables the City to avoid financing costs.

Having a sustainable replacement strategy demonstrates fiscal responsibility and removes the likelihood of unforeseen expenses, which have a negative impact on budgets. Therefore Scenario 1 will be used to prepare the 2010 surplus appropriation request and be included in the 2012 capital budget processes.

Scenario 2 - Status quo

With the current annual contribution of $683,300 and the current replacement cycle, the Reserve is projected to be in a negative balance by 2016. Subsequent to 2016 any future replacements will have to be cancelled, leased or other options investigated.

The position of not replacing vehicles will require the life cycle to be further extended. This will put the City in a position of risk; whereby costs of maintenance may increase significantly, services will diminish and both citizens and employees safety is put at risk.

Scenario 3 - Lease financing

Utilizing lease financing, as an alternative may be advantageous when funding is required for other purchases or investments; when a specific cash flow is required; a down payment cannot be made; or there is insufficient funds to purchase. However, when there are funds to purchase equipment, especially equipment that has a long term life span, the end result of lease financing is more costly.

Lease financing for fire equipment is available through the Municipal Finance Authority of British Columbia (MFA) or through a dealer/manufacturer. MFA leases specifically for government and therefore has the better rates and plans. MFA offers two leasing plans; non-renewable or renewable.

The non-renewable option offers up to 60 months term, with ownership at the end of the lease, affords the flexibility to act as your own purchaser and are able to choose any supplier. The lease rates are variable at prime minus 1% . The payment schedule is fixed and therefore the interested

is adjusted on the final payment. The current MFA lending rate as of March 18, 2011 is 2.0 % (prime rate less one percent). The estimated lending rate for 5 years is 3.20%.

Leases are renewable up to maximum of 25 year term based on lease option. However Municipalities must go through Alternative Approval Process. The process requires notice in the local paper once a week for two consecutive weeks the describe the lease, areas to which it applies, method and deadline for elector responses.

Lease financing has less front end impacts however bottom line, leasing costs. Comparing Scenario 1 to Scenario 3 the cost increase from leasing is approximately $1.3 million.

Financial Impact

None at this present time. Scenario 1 is recommended to be considered as part of the 2010 surplus appropriation and the 2012 capital budget processes.

Conclusion

This report is provided as information on the status of the Equipment Replacement Reserve Fund for RFR.

If the situation remains status quo, as illustrated in Attachment 2, the current funding levels are inadequate. Without an increase in contributions to the Reserve, a negative balance will result in 2016 which will greatly impact the City's capacity to fund future capital replacements.

To ensure that the citizens of Richmond continue to receive appropriate levels of fire rescue services and that RFR's emergency vehicles comply with NFPA and industry standards, the Reserve requires revision. A sustainable replacement strategy demonstrates fiscal responsibility and removes the likelihood of unforeseen expenses.

Therefore Scenario 1 will be used to prepare the 2010 surplus appropriation request and be included in the 2012 capital budget processes.

K Howell

Kim Howell
Deputy Chief - Administration
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KH:kh

Attachment 1

RICHMOND FIRE RESCUE PLANNED REPLACEMENT

Replacement Year	Description	2011 Estimated Cost without inflation	Age
2011	1994 Ford Ranger Pick-up	$ 23,700	17
2011	1997 Spartan Quint	$ 1,200,000	14
2011	2001 Ford Explorer Sport trac	$ 40,000	10
		$ 1,263,700	
2012	1997 Spartan Quint	$ 1,227,000	15
2012	SCBA Airpacks Replacement	$ 230,063	
2012	Hose Replacement	$ 15,337	
		$ 1,472,400	
2013	1996 GMC Yukon (Batallion 2)	$ 83,641	17
2013	1998 Ford Ranger Pick-up	$ 24,778	15
2013	SCBA Airpacks Replacement	$ 235,239	
2013	Hose Replacement	$ 15,682	
		$ 359,340	
2014	1992 Superior Pumper	$ 855,225	22
2014	Hose Replacement	$ 16,035	
		$ 871,260	
2015	1995 International Pumper	$ 874,467	20
2015	Hose Replacement	$ 16,396	
		$ 890,863	
2016	2001 Spartan Quint	$ 1,341,214	15
2016	1990 Superior Pumper	$ 894,142	26
2016	2001 Dodge Passenger Van	$ 50,295	15
2016	2001 Chevrolet S10	$ 23,258	15
2016	Hose Replacement	$ 16,765	
		$ 2,325,674	
2017	1990 Superior Pumper	$ 914,260	27
2017	2005 Jeep Liberty	$ 27,428	12
2017	2005 Jeep Liberty	$ 27,428	12
2017	2005 Ford Ranger Pickup	$ 27,085	12
2017	2005 Ford Ranger Pickup	$ 27,085	12
2017	2005 Ford Ranger Pickup	$ 27,085	12
2017	SCBA Airpacks upgrade	$ 228,565	
2017	Hose Replacement	$ 17,142	
		$ 1,296,078	
2018	2004 Salsbury Pumper	$ 934,832	14
2018	2008 Dodge Nitro	$ 28,045	10
2018	2008 Ford Ranger Pickup	$ 27,694	10
2018	Hose Replacement	$ 17,528	
		$ 1008,099	
2019	2009 Ford Escape	$ 51,055	10
2019	2004 Salsbury Pumper	$ 955,865	15
2019	1999 Haz Mat	$ 597,415	20
2019	1998 GMC Step Van	$ 59,742	14
2019	1990 Chevrolet Step Van	$ 59,742	26
2019	Hose Replacement	$ 17,922	
		$ 1,741,741	

Replacement Year	Description	2011 Estimated Cost without inflation	Age
2020	2000 Ford F350	$ 61,086	20
2020	2004 Salsbury Pumper	$ 977,372	16
2020	2005 Ford Excursion	$ 97,737	15
2020	Hose Replacement	$ 18,326	
		$ 1154,521	
2021	2004 Salsbury Pumper	$ 999,362	17
2021	SCBA Airpacks upgrade	$ 249,841	
2021	Hose Replacement	$ 18,738	
		$ 1,267,941	
2022	2006 Spartan Pumper	$ 1,021,849	16
2022	1994 Ford Ranger	$ 30,272	28
2022	1995 Ford Ranger	$ 30,272	27
2022	Hose Replacement	$ 19,160	
		$ 1,101,553	
2023	2008 Mechanical Support	$ 163,256	15
2023	2001 Chev S-10 Pickup	$ 27,178	22
2023	2001 Chev S-10 Pickup	$ 27,178	22
2023	2001 Chev S-10 Pickup	$ 27,178	22
2023	Hose Replacement	$ 19,590	
		$ 264,380	
2024	2009 Pumper	$ 1,068,348	15
2024	Hose Replacement	$ 20,032	
		$ 1,088,380	
2025	SCBA Airpacks upgrade	$ 273,097	
2025	Hose Replacement	$ 20,482	
		$ 293,579	
2026	2011 Fire Apparatus	$ 1,675,448	15
2026	Hose Replacement	$ 20,943	
		$ 1,696,391	
2027	2012 Fire Apparatus	$ 1,713,146	
2027	Hose Replacement	$ 21,414	
		$ 1,734,560	

2010 to 2027 Scenerio Comparisons

Attachment 2

Scenario 1 - Increase Annual Contributions YEAR	2010	2011	2012	2013	2014	2015	2016	2017	2018
OPENING BALANCE	1,152,498	1,712,660	1,566,513	1,208,743	1,956,878	2,208,056	2,444,654	1,251,173	1,063,418
Annual Reserve Contribution	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300
Contribution required		400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000
Purchases (2.25% inflation per year)	-181,000	-1,263,700	-1,472,400	-359,340	-871,260	-890,863	-2,325,674	-1,296,078	-1,008,099
Interest	57,862	34,253	31,330	24,175	39,138	44,161	48,893	25,023	21,268
BALANCE	1,712,660	1,566,513	1,208,743	1,956,878	2,208,056	2,444,654	1,251,173	1,063,418	1,159,888

YEAR	2019	2020	2021	2022	2023	2024	2025	2026	2027
OPENING BALANCE	1,159,888	524,645	463,917	288,554	276,073	1,100,514	1,117,444	1,929,514	1,355,013
Annual Reserve Contribution	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300
Contribution required	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000
Purchases (2.25% inflation per year)	-1,741,741	-1,154,521	-1,267,941	-1,101,553	-264,380	-1,088,380	-293,579	-1,696,391	-1,734,560
Interest	23,198	10,493	9,278	5,771	5,521	22,010	22,349	38,590	27,100
BALANCE	524,645	463,917	288,554	276,073	1,100,514	1,117,444	1,929,514	1,355,013	730,853

Scenario 2 - Status Quo YEAR	2010	2011	2012	2013	2014	2015	2016	2017	2018
OPENING BALANCE	1,152,498	1,712,660	1,166,513	400,743	732,718	559,413	363,038	-1,279,336	-1,892,114
Annual Reserve Contribution	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300
Purchases (2.25% inflation per year)	-181,000	-1,263,700	-1,472,400	-359,340	-871,260	-890,863	-2,325,674	-1,296,078	-1,008,099
Interest	57,862	34,253	23,330	8,015	14,654	11,188	0	0	0
BALANCE	1,712,660	1,166,513	400,743	732,718	559,413	363,038	-1,279,336	-1,892,114	-2,216,913

YEAR	2019	2020	2021	2022	2023	2024	2025	2026	2027
OPENING BALANCE	-2,216,913	-3,275,354	-3,746,574	-4,331,216	-4,749,469	-4,330,548	-4,735,629	-4,345,908	-5,358,999
Annual Reserve Contribution	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,301
Purchases (2.25% inflation per year)	-1,741,741	-1,154,521	-1,267,941	-1,101,553	-264,380	-1,088,380	-293,579	-1,696,391	-1,734,560
Interest	0	0	0	0	0	0	0	0	0
BALANCE	-3,275,354	-3,746,574	-4,331,216	-4,749,469	-4,330,548	-4,735,629	-4,345,908	-5,358,999	-6,410,258

Scenario 3 - Leasing YEAR	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
OPENING BALANCE	1,152,498	1,712,660	2,106,513	2,060,543	1,899,714	1,893,973	1,697,756	1,198,693	466,148	-184,819	-1,102,980
Annual Reserve Contribution	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300
Small Vehicles & Equipment (2.25% inflation/	-181,000	-63,700	-245,400	-359,340	-16,035	-16,396	-90,318	-381,818	-73,267	-188,461	-177,149
Interest	57,862	34,253	42,130	41,211	37,994	37,879	33,955	23,974	0	0	0
Subtotal	1,712,660	2,366,513	2,586,543	2,425,714	2,604,973	2,598,756	2,324,693	1,524,148	1,076,181	310,020	-596,828
Lease payments	0	-260,000	-526,000	-526,000	-711,000	-901,000	-1,126,000	-1,058,000	-1,261,000	-1,413,000	-1,435,000
Reserve Balance	1,712,660	2,106,513	2,060,543	1,899,714	1,893,973	1,697,756	1,198,693	466,148	-184,819	-1,102,980	-2,031,828

YEAR	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OPENING BALANCE	-2,031,828	-2,784,107	-3,371,511	-3,813,335	-4,069,066	-4,113,249	-4,303,892	-4,645,006	-4,950,602	-5,024,691	-5,099,283
Annual Reserve Contribution	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300	683,300
Small Vehicles & Equipment (2.25% inflation/	-268,579	-79,704	-101,124	-20,032	-20,482	-20,943	-21,414	-21,896	-22,389	-22,893	-23,408
Interest	0	0	0	0	0	0	0	0	0	0	0
Subtotal	-1,617,107	-2,180,511	-2,789,335	-3,150,066	-3,406,249	-3,450,892	-3,642,006	-3,983,602	-4,289,691	-4,364,283	-4,439,391
Lease payments	-1,167,000	-1,191,000	-1,024,000	-919,000	-707,000	-853,000	-1,003,000	-967,000	-735,000	-735,000	-372,000
Reserve Balance	-2,784,107	-3,371,511	-3,813,335	-4,069,066	-4,113,249	-4,303,892	-4,645,006	-4,950,602	-5,024,691	-5,099,283	-4,811,391