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CITY OF **VANCOUVER**

ADMINISTRATIVE REPORT

Report Date: January 31, 2008
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RTS No.: 7006
VanRIMS No.: 03-2400-10
Meeting Date: February 12, 2008

TO: Vancouver City Council

FROM: General Manager of Engineering Services

SUBJECT: Fleet Addition – Rear Loading Refuse Trucks

RECOMMENDATION

A. THAT, Council approves the allocation of $836,000 from the Truck and Equipment Plant Account to add four rear loading refuse trucks to the Sanitation Operations fleet.

B. THAT, the capital and operating costs be repaid to the Truck and Equipment Plant account through annual charges of $295,900; $221,900 to be provided from the existing Street Cleaning Operating Budget and the Solid Waste Utility Budget, and the remaining $74,000 be added to the 2009 Solid Waste Utility Budget.

COUNCIL POLICY

Council approves expenditures from Reserves, including the Truck and Equipment Plant Account.

Council approves all increases in service levels, including the addition of vehicles and equipment to the fleet.

PURPOSE

The purpose of this report is to seek Council approval to add one manual rear loading and three semi-automated rear loading refuse trucks to the Sanitation Operations Fleet. The four additional units are required to collect yard trimmings from properties and to pick up litter and abandoned and oversized garbage from the streets.

BACKGROUND

The City of Vancouver provides residential yard trimmings and garbage collection to approximately 88,000 properties in Vancouver. Collection of yard trimmings and garbage had historically been performed by manually lifting materials into the hoppers of rear loading refuse trucks.

In 2004 Council approved implementation of automated collection of yard trimmings and garbage that included the use of fully automated and semi-automated trucks. Fully automated collection allows for carts to be lifted, emptied and returned entirely through the use of a remotely controlled hydraulic arm. The main benefits of automated collection over manual collection included reduced collection worker injuries, increased diversity and longevity of workforce, reduced plastic bag usage and better lane aesthetics. Appendix A contains a copy of a November 9, 2006 memo to Council which summarizes the success of the implementation of automated collection from both a worker safety and a public service perspective.

Semi-automated units make use of rear loading refuse units with hydraulic tippers that require the operator to move the collection carts into position behind the rear loading truck before the carts are hydraulically lifted and dumped into the hoppers. Semi-automated units are required to collect yard trimmings and garbage in areas with narrow lanes and dense street parking and to pick up abandoned and oversized garbage throughout the City. This is because the larger arm mechanism of the automated units makes the collection from narrow and densely parked City lanes more difficult.

Prior to the implementation of the Automated Collection Program, the Sanitation Operations fleet consisted of 34 rear loading refuse units that required manual lifting of carts when disposing of garbage and yard trimmings into the truck. The fleet was used for the collection of property garbage, yard trimmings, abandoned and oversized garbage.

The implementation of the Automated Collection Program included the automation of the entire 34 unit refuse fleet. In 2003 staff identified which routes required automated pick-up and which routes required semi-automated pick-up service. Based on the research, 29 of the rear loading refuse units were replaced with fully automated trucks and five units were replaced with semi-automated trucks. The fully automated units were to provide the majority of the waste collection service and the semi-automated units were to deal with narrow lanes, abandoned garbage, and oversized garbage.

DISCUSSION

Prior to the Automated Collection Program, the 34 rear loading refuse units were sufficient to deal with yard trimmings collection, garbage from properties, abandoned garbage and oversized garbage. This fleet included sufficient capacity to accommodate maintenance and repairs to ensure that collection services could continue when a unit was out of service.

When the Automated Collection Program was implemented, a decision to temporarily hold back four rear loading refuse units, which were being replaced with the automated units, was made in order to ensure that any potential start-up issues from the automated fleet could be addressed without service disruptions.

Now that the Automated Collection Program has been rolled out it is apparent that there is a need for the four units that were held back. This is due primarily to two reasons. Firstly, the yard trimmings collection has seen an increase of 63% since automation because of the implementation of a year round collection program and the unlimited leaf collection program implemented in 2006. Secondly, a manual refuse unit used to be able to pick up abandoned and oversized garbage while doing its regular collections. Fully automated units can not do this; hence more semi-automated units than were anticipated are needed.

The continued reliance of the four units that have been held back since automation have shown that the held back units are needed and sufficient to keep up with operational requirements.

With the proposed addition of the four rear loading trucks into the Sanitation Operations fleet, the new 38 unit Sanitation Operations fleet will consist of:

- 29 automated units
- Eight semi-automated units
- One manual rear loading unit

FINANCIAL IMPLICATIONS

The four units held back from disposal will surpass their economic replacement lives and will be due for replacement later this year. The existing units will be used in 2008 as a procurement process is undertaken to obtain replacement units. The procurement and outfitting process is expected to be completed late this year and the replacement units will therefore go into service in early 2009. The cost of the new units, including the estimated one-time capital cost and total annual cost are listed in Table 1.

Table 1: Anticipated Vehicle Capital and Operating Costs

Vehicle Number	Proposed City-Owned Vehicle Class	Expected Vehicle Life	One-time Capital Costs[1]	Total Annual Cost		
				Capital	Operating[2]	Subtotal
C1555	Semi-automated, Rear Loader	7 Years	$212,000	$37,700	$36,800	$74,500
C1564	Semi-automated, Rear Loader	7 Years	$212,000	$37,700	$36,800	$74,500
C1567	Manual Rear Loader	7 Years	$200,000	$35,600	$36,800	$72,400
C1568	Semi-automated, Rear Loader	7 Years	$212,000	$37,700	$36,800	$74,500
TOTAL			$836,000	$148,700	$147,200	$295,900

1. One-time capital costs consist of purchase price and outfitting.
2. Operating portion of the Annual Rental rate consists of fuel, maintenance, and insurance costs.

There will be a one time charge to the Truck and Equipment Plant Account of $836,000, which will be repaid over the service lives of the units through annual capital rates totalling $148,700. The annual operating cost of the units will total $147,200 resulting in a total annual cost of $295,900. $221,900 of the $295,900 is to be provided from the existing Street Cleaning Operating Budget and the Solid Waste Utility Budget, and the remaining $74,000 will be added to the 2009 Solid Waste Utility Budget.

PERSONNEL IMPLICATIONS

There are no personnel implications as the new units will be operated by existing staff as the total number of vehicles currently in service will not change.

CONCLUSION

The additional four rear loading refuse trucks will allow Sanitation Operations to meet the increased demands for yard trimmings, abandoned garbage, and oversized garbage. There will be a one time charge of $836,000 for the purchase of four rear loading refuse trucks with funds to come from the Truck and Equipment Plant Account. Total annual operating cost of $295,900 will be funded from the existing Street Cleaning Operating Budget and the Solid Waste Utility Budget, plus an increase to the 2009 Solid Waste Utility Budget.

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Appendix A:

Memorandum

Automated Collection of Garbage
and Yard Trimmings - November 9, 2006

CITY OF VANCOUVER

ENGINEERING SERVICES
T.R. Timm, P.Eng., General Manager

MEMORANDUM

November 9, 2006

TO: Mayor and Councillors

CC: Judy Rogers, City Manager
Syd Baxter, City Clerk

FROM: T.R. Timm, P.Eng., General Manager of Engineering Services

SUBJECT: Automated Collection of Garbage and Yard Trimmings

This memorandum provides an update on the success of the implementation of automated collection of solid waste in Vancouver. Conversion to automated collection for residential garbage and yard trimmings collected by City crews took place between October 2005 and July 2006.

I am pleased to report that the program can be considered a success both from a worker safety as well as a public service perspective. These represent the two significant goals we had for the program and we are achieving the anticipated results in all areas.

Injury and Sick Time Reductions

One of the primary goals of implementing the automated collection program was to reduce collection worker injuries. Fully automated collection minimizes manual lifting and enhances worker safety and comfort.

In the short time since the switch to automated collections, the Sanitation Branch has experienced significant reductions to injury and sick time. In particular, no time loss injuries have occurred involving fully automated collections. Collection injuries occurring in 2006 are related largely to manual collections that occurred before conversion to the automated program.

Projected totals for 2006 (based on year to date statistics) compared to the annual average over years 2002 - 2005 are shown in Table 1.

Table 1: Garbage & Yard Trimmings Collection Injuries & Sick Time

Year	Injuries*		Sick Time
	Total	Lost Hours	Hours
2002-2005 average	30	5,869	8,760
2006 projected total	14	1,500	3,400

* Includes Health Care Only, Short Term Disability and Recurrence Short Term Disability

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Comparison of projected 2006 year end statistics to 2002 - 2005 average indicates:

- 53% reduction in the number of injuries
- 74% reduction in lost time hours due to injury
- 61% reduction in sick time hours

With the reductions achieved thus far, the Workers' Compensation and sick time cost savings to Engineering Services is estimated at approximately $200,000 per year (through reduced salary fringe benefit costs). Given that 2006 is a year of transition for the program, WCB claims and sick time is expected to decline further, which will continue to reduce salary fringe benefit costs in the future.

Implementation Cost

The implementation of a fully automated collection program requires significant capital investment, largely due to the cost of supplying carts to residents. The automated collection program in Vancouver was successfully implemented for less than the estimated cost.

The total cost of implementing the automated collection program is projected to be appreciably less than forecast in the January 29, 2004 Council report when implementation of Automated Collection was approved. The savings are predominantly due to the cart supply and distribution contract cost that was approximately $3.5 million less than anticipated ($10 million rather than $13.5 million).

The Solid Waste Utility fee increases for implementing and operating the automated system was originally estimated (Jan. '04) to average $18 per customer per year (garbage and yard trimmings collection), however the lower actual implementation costs results in an average increase of $16 per customer per year, or $2 less per customer per year than originally forecast.

Telephone Survey Results

The introduction of the automated collection program was a significant change to the collection services provided by the City. In September 2006, staff retained Synovate Ltd. to conduct a telephone survey of Vancouver residents to measure satisfaction with the new automated collection system.

The results of the survey indicate a high satisfaction rate with the automated system using carts. A few of the main questions and results are highlighted below. A complete summary of the survey results is attached.

How satisfied are you with the City's new cart collection service for garbage?

Very Satisfied	66%
Somewhat Satisfied	28%
Somewhat Dissatisfied	4%
Very Dissatisfied	1%
Total Satisfied	94%
Total Dissatisfied	5%

Do you prefer the new garbage cart collection system or do you prefer the old style garbage cans and bag collection?

Prefer using the cart system	86%
Prefer using old style can and bag collection system	5%
No preference	8%

How satisfied are you with the City's new cart collection service for yard trimmings?

Very satisfied	54%
Somewhat satisfied	28%
Somewhat dissatisfied	6%
Very dissatisfied	2%
Don't use the service (or haven't used it yet)	9%
Not aware of service	1%
Total satisfied	82%
Total dissatisfied	8%

Do you prefer using the new yard trimmings cart collection service or do you prefer the old style bag, yard can and bundle collection?

Prefer using the carts	85%
Prefer using old style cans, bags, and bundles	7%
No preference	5%

Engineering Services is pleased with the program's success and is confident the benefits of automated collection will continue to strengthen as the program matures.

T.R. Timm, P.Eng.
General Manager of Engineering Services
Phone: 604.873.7300

REM/

Attach.