

ITEM	5
MANAGER'S REPORT NO.	32
COUNCIL MEETING	1983 05 02

RE: 1982 REFUSE COLLECTION AND DISPOSAL REPORT

MUNICIPAL MANAGER'S RECOMMENDATION:

1. *THAT the recommendation of the Director Engineering be adopted.*

* * * * *

TO: MUNICIPAL MANAGER

83 04 20

FROM: DIRECTOR ENGINEERING

SUBJECT: 1982 REFUSE COLLECTION AND DISPOSAL REPORT

RECOMMENDATION:

1. THAT this report be received for information purposes.

BACKGROUND:

On 83 03 14, Council considered the subject report and adopted the following motion:

"THAT this subject matter be referred back to staff for the preparation of a further report containing the additional information requested by Council.

The major items of concern to Council were the separation of costs between collection and disposal and a further explanation/clarification of the proposed method of the vehicle amortization."

REPORT:

PART I - SEPARATION OF COSTS

For economic reasons, special vehicles are not assigned to pick up commercial and industrial refuse separately. Commercial customers who use ordinary garbage cans are served by rear and side loading vehicles integrally on the same routes as residential customers. Similarly, commercial customers who use containers are served by front-end loading vehicles on the same routes as are residential customers who use containers. Because of this mix of commercial and industrial refuse, it is difficult to arrive at collection and disposal costs for residential customers on a per living unit basis. We have, however, devised a formula and a rationale which we feel gives

(cont'd)

a meaningful and realistic cost analysis. We have separated the rear and side loading operation from the front-end loading container operation and have made allowance for container commercial service by calculating a value for an equivalent living unit. By combining these costs, an overall cost per living unit can be calculated.

Calculations:

Rear Loaders Pickup - Various Classifications

Single family	31,200 units
Strata Title group housing	865 units
Other group housing	76 units
Low-rise apartments	2,660 units
Commercial (Small Business) (Equivalent)	<u>865 units</u>
TOTAL	<u>35,666 units</u>
Total cost - Residential/Commercial (rear-loaders)	\$2,291,298

Deduct:

Disposal	\$253,217
Street Cleaning	310,015
Revenue	<u>138,409</u>

701,641

Net collection cost Residential/Commercial (rear loaders)

\$1,589,657

Net collection cost per living unit

1,589,657
35,666

= \$44.57

Disposal cost per living unit

253,217
35,666

= \$7.10

Container Service (Front End Loaders)

High Rise Strata Title Units

5073 units generate 1589 c. yds. weekly

3.19 units generate 1 c. yd. weekly

Weekly collection comercial/ industrial 892 c yds.

This is equivalent to 892 x 3.19 = 2,845 units

Total actual and equivalent units: 5,073 + 2,845 = 7,918 units

Total Cost Container Service (front-end loaders)

\$ 345,511

(cont'd)

ITEM	5
MANAGER'S REPORT NO.	32
COUNCIL MEETING	1983 05 02

Deduct:
 Disposal Cost \$ 49,922
 Revenue 236,868

Net collection cost container service (front end loaders) \$ 286,790
 Net collection cost per unit 58,721
 Disposal cost per unit = \$7.42
 = \$6.30

OVERALL REFUSE SERVICE

Collection - Net Cost
 Residential/Commercial (rear loaders) 1,589,657
 Containers (front end loaders) 58,721
 TOTAL \$1,648,378
 Total Equivalent Units 35,666 + 7,918 = 43,584
 Overall net collection cost per living unit 1,648,378
 = \$37.82

Disposal
 Disposal cost rear loaders 253,217
 Disposal cost containers 49,922
 TOTAL \$ 303,139
 Disposal cost per unit 303,139
 = \$6.95
Total Net Cost of Overall Refuse Service
 Collection \$37.82
 Disposal 6.95
\$44.77

PART II - AMORTIZATION - TRANSFER TO VEHICLE REPLACEMENT RESERVE

In 1977 the refuse service for the first time appeared as a separate section in the Engineering Budget and was operated as a "quasi-utility". This was the year the refuse fleet was renewed and the new vehicles no longer contributed to the overall equipment "Rotary" fund.

Since then, all running costs, repairs and general maintenance costs have been charged directly to the refuse budget. To explain the method used for ensuring the replacement of vehicles, we will use an example of one of the new 25 cubic yard vehicles purchased in 1977 - Vehicle No. 340.

(cont'd)

The purchase price of the vehicle in 1977 was \$56,500 and, for replacement purposes the vehicle was given an eight-year life. Depreciation was allowed over that period starting at 16% in the first year and finishing at 9% in the eighth year. Depreciation was calculated as follows:

113

1978 -	56,500 x 16%	=	\$ 9,040
1979 -	56,500 x 15%	=	8,475
1980 -	56,500 x 14%	=	7,910
1981 -	56,500 x 13%	=	7,345
1982 -	56,500 x 12%	=	6,780
1983 -	56,500 x 11%	=	6,215
1984 -	56,500 x 10%	=	5,650
1985 -	56,500 x 9%	=	5,085
			<u>\$56,500</u>

We now have in the replacement fund the original price of the vehicle but in the meantime the replacement cost of the vehicle has been rising each year due to inflation and mechanical improvements (technological change). To allow for these increases, we use a formula as follows: Each year the replacement cost is multiplied by the percentage depreciation, the depreciation for that year is subtracted and the resultant difference, in addition to the regular depreciation amount, is transferred to the vehicle replacement fund. For example if the replacement cost in 1978 had been \$75,000, the transfer would have been 75,000 x 16% - 9,040 = \$2,960. That would mean a total of \$9,040 + 2,960 or \$12,000 would be placed in the vehicle replacement fund in that year.

At the end of the eighth year, no further transfers are made for depreciation and only inflation and technological transfers are made. Progress is monitored each year to ensure that sufficient monies are being transferred.

If the vehicle's life is extended beyond eight years the refuse operating budget would benefit because no further charges are made for depreciation and, of course, the monies set aside for replacement continue to earn interest for an extended period.

EEO/WMR/ch

cc: Director Finance


DIRECTOR ENGINEERING