

sewerage. Including debt service, user charges cover only 10 to 12 percent of the governmental refuse removal expenditures. Details of the relationships between user charges and expenditures by type of government are given in table XII.

TABLE XII.—*Expenditures and revenue in sanitation other than sewerage for local governments, 1962*

[Dollar amounts in millions]

Type of local government	Expenditures		Sanitation other than sewerage revenue from current charges	
	Amount ¹	Percent distribution	Amount	Percent distribution
Total	\$981-\$1,200	100.0	\$121	100.0
Counties	27- 31	2.8	7	5.8
Municipalities	893- 1,100	91.0	105	86.8
Townships	51- 58	5.2	4	3.3
Special districts	10- 11	1.0	5	4.1

¹ APWA calculations.

Source: U.S. Department of Commerce, Bureau of the Census.

In the private refuse disposal field, user charges, of course, must cover all expenditures.

(c) *Extent to Which the Costs of Refuse Disposal Facilities Are Met Out of the General Tax Resources and General Obligation Bonds*

According to APWA surveys, it is estimated that about 35 to 36 percent of the communities finance their refuse collection and disposal operations through service charges, 50 to 52 percent through general taxes, and 12 to 15 percent through a combination of taxes and service charges.

The extent to which general obligation borrowings of local governments are used for this purpose is not known. However, it is believed that the cost for acquiring incinerators in many cases is financed through general obligation bond issues. Revenue bonds amortized by service charges have also been issued for such purposes.

C. TRENDS OF CAPITAL OUTLAYS

1. THE TRENDS OF ANNUAL CAPITAL OUTLAYS FOR REFUSE COLLECTION AND DISPOSAL FACILITIES DURING THE 1946-65 PERIOD

Suitable data on the annual capital outlays for refuse collection and disposal facilities during the 1946-65 period are not available. However, based on estimates obtained by the APWA from 47 communities, it is estimated that from \$725 to \$950 million were expended for capital outlays during the 1956-65 decade. This amount is estimated to break down from \$467 to \$612 million for collection equipment and facilities, \$87 to \$114 million for sanitary landfills and \$171 to \$224 million for incinerators. Based on the same survey, the total capital investment for refuse removal facilities during the 1946-55 decade is estimated at about \$325 to \$450 million.

The estimates for the past decade appear to be valid if one considers that the capital investments have not been spread evenly over 1956-65.