

materials. Consequently it is assumed that about 30 percent of the existing open dumps in urban areas will not be converted to sanitary landfills, leaving about 4,000 open dumps to be converted. Since not all of these open dumps are located in or near metropolitan areas, nor do they belong to outlying communities in a metropolitan complex, their capital investment values for conversion to landfills is calculated at \$50,000 each. In turn, the conversion of open dumps to sanitary landfills is estimated to require about \$200 million during the 1966-75 decade.

In addition, it is estimated that about half of the existing 1,000 sanitary landfills will need replacement in the 1966-75 decade at an average cost of \$80,000 each. This will add \$40 million to the sanitary landfill investment needs.

It seems that the waste disposal needs in rural areas do not presently justify that each of the 13,600 communities be required to operate a sanitary landfill. Consequently, it may be assumed that refuse disposal in rural areas will be operated, more or less, on a countywide basis. This in turn might suggest that about 70 percent of the existing open dumps in rural areas will be closed. Because of their smaller size and lower land costs, the capital investment needs for sanitary landfills in rural areas are estimated at \$25,000 each, including part of the cost for the equipment needed. Thus, the capital investment needs for 4,100 sanitary landfills in rural areas are estimated to be approximately \$100 million. The equipment for sanitary landfills in rural areas will not be used on a full-time basis for landfill operations.

The capital investment needs for collection and transfer equipment plus maintenance and storage facilities are estimated at \$1.42 billion during the 1966-75 decade. This includes the replacement of almost all noncompactor trucks of existing truck fleets, costing an average of \$13,000 each. The current proportion of noncompactor units, including open trucks, is estimated at 30 percent of the total fleet, thus requiring a replacement of 10,000 to 12,000 units resulting in an investment of \$130 to \$156 million. Of course, not all of the open trucks will need to be replaced since a certain number of such trucks will be needed for the collection of oversized (bulky) wastes. In addition, it is estimated that the average sanitary landfill in rural areas would be served by four heavy duty compactor collection vehicles of 24 to 28 cubic yard loading capacity to minimize the cost impact of long-distance hauling. The cost of these vehicles is calculated at \$20,000 each. Therefore, the 16,400 vehicles required for the waste disposal service in rural areas would require \$328 million in capital investments. Consequently, about 34 percent of the total estimated capital investment needs for refuse collection facilities are judged to be needed for providing service where none currently exists or updating the current service to acceptable levels. The remaining \$936 million are estimated to be needed for the replacement of worn out compactor trucks, the purchase of new vehicles, and the provision of the necessary maintenance and storage facilities.

The foregoing estimates have been made on the assumption of a population growth from 195 million people in 1965-66 to 230 million in 1975. In addition, it has been estimated that the production, collection, and disposal of solid wastes will increase, on a nationwide average from the present 0.75 ton per capita per year to 1 ton per capita per year in the next decade.