

actual costs, however, will be higher because of the steady upward trend of construction cost. Our sewage treatment plant construction cost index shows an average annual increase of about 2.3 percent of the 1957-59 base of 100 over the period 1930 to 1963. The index has varied considerably from time to time because of war and the fluctuating economy. Estimates of future trends are risky at best, but projections are necessary and we have estimated an average annual increase of 2.5 percent through 1980. This is less than the 4.6 percent experienced from 1947 through 1957 and higher than the 1.6 percent of the past 5 years.

The application of this data and the estimates indicate that we shall need to spend \$341 million annually through 1975 to replace facilities which become obsolescent because of age, technical advancement, or population relocation. An additional \$262 million will be necessary to provide for population growth. Thus, we see that an annual expenditure of \$603 million will be necessary to maintain the status quo.

If we desire to eliminate the backlog by 1975, we shall be required to spend an additional \$264 million annually.

Therefore, elimination of the backlog, replacement of obsolete treatment works, and provision for the continuing population growth in our urban areas, will require an average annual expenditure of over \$867 million for municipal waste treatment works through 1975. This, however, is in terms of 1964 dollars and does not account for constantly rising construction costs. When we allow for this factor, the average annual cost increases to \$983 million to eliminate the backlog and to remain current on the needs resulting from growth and obsolescence.

(b) The estimates contained in (a) above assume that equal amounts of the backlog are eliminated each year while keeping current on needs developed by growth and obsolescence. Each year, that construction is postponed, will add to the ultimate cost because of the annual increase in the cost of construction.

(c) An analysis of the January 1, 1966 study by the Conference of State Sanitary Engineers shows that the backlog of need falls into the following population size group:

Total backlog: Municipal waste treatment needs—1966

	Number	Population served	Estimated cost in thousands
Population size group:			
Under \$500.....	1,460	419,848	\$93,296
\$500 to \$1,000.....	1,287	897,510	158,954
\$1,000 to \$5,000.....	2,087	4,288,538	715,050
\$5,000 to \$10,000.....	350	2,395,813	243,058
\$10,000 to \$25,000.....	251	3,826,157	273,764
\$25,000 to \$50,000.....	88	3,207,613	198,524
\$50,000 to \$100,000.....	58	4,327,534	236,237
Over \$100,000.....	59	18,034,761	724,600
Total.....	5,640	37,397,774	2,643,483