related to the era of community development. Such installations are not prevalent, however. A preliminary investigation of existing storm sewers reveals that deterioration is not usually a problem. Many old brick sewers, and some wooden sewers, are in service today and many are in good condition. Most replacements of original installations generally can be attributed to insufficient capacity, improper elevations or other factors related to changes or redevelopment within the urban areas. Figure 1 depicts the estimated ages of storm sewers based on the above.

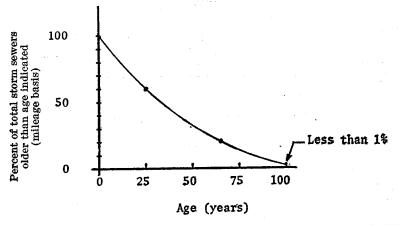


FIGURE 1.—Age of storm sewers in the United States, as of mid-1965.

Source: Prepared by the APWA from information contained in publications of the U.S. Department of Commerce, Business and Defense Services Administration, Water Industries, and Engineering Services Division.

(d) Ownership of Storm Sewer Systems

The ownership of underground systems of urban storm and combined sewers in the United States lies almost totally with local public agencies. These include the following: cities, towns, and villages; counties; and sewer districts or authorities. Although such sewers are constructed in urban areas by private land developers and by State highway departments, the ownership of such facilities is usually transferred to local public agencies upon completion and approval of construction.

A survey of storm sewer facilities made in 1966 by the APWA resulted in responses, regarding ownership, from urban areas having a total of 27,461 miles of underground storm sewers, both separate and combined. This mileage represents approximately 15 percent of the total mileage of underground storm and combined sewers in the urban areas of the country. The responses regarding ownership are tabulated in table IV. This indicates that 84 percent of storm sewer facilities are municipally owned, 11 percent county owned, and 5 percent are owned by public sewer districts or authorities.

The same survey indicates that aboveground (open channel) storm sewer systems are also totally owned by local public agencies, although there are some few exceptions. The responses, shown in table IV, indicate for open channels 58 percent municipal ownership,