

speeds that exceed the capacities of the roads, even though structurally they may be sound; (2) the measurement of needs, which will be reported in a later section, is perhaps the best indicator of the extent to which the highway plant is—or will become—inadequate for the next decade.

During the years 1956–64, inclusive, the States built, reconstructed, or resurfaced a total of 317,000 miles of rural State highways, an average of over 35,000 miles per year. This same network of roads totaled 620,000 miles in 1955; 681,000 miles in 1964. Thus, in terms of turnover, the entire system can be expected to have some degree of improvement over a period of about 20 years. No similar data are available for local roads and streets.

From a physical standpoint, some studies have assigned the following depreciation rates for highways:

|                        | <i>Annual<br/>rate<br/>(percent)</i> |
|------------------------|--------------------------------------|
| Right-of-way .....     | 0                                    |
| Grading .....          | 1                                    |
| Surface and base ..... | 3                                    |
| Structures .....       | 2                                    |

From values determined in Bureau of Public Road studies, an annual weighted rate of 1.39 percent could be used for cost amortization purposes. Obviously, this rate would not necessarily be a typical one, nor would it reflect obsolescence.

The record of rural mileage built by the State highway departments since 1923 is as follows:

|               | <i>Miles</i> |
|---------------|--------------|
| 1923–40 ..... | 550,000      |
| 1941–60 ..... | 632,000      |
| 1961–64 ..... | 136,000      |

Because many roads have been reconstructed or resurfaced more than once during this time, this tabulation can afford only a measure of the volume of construction activity, but not an approximation of the age distribution of the rural State highway system.

#### (b) *Ownership Patterns*

As will be seen from appendix table A, the States are responsible for some 743,000 miles of roads and streets, or about 20 percent of the total; local governments administer nearly 2.8 million miles of highways or 76 percent; while about 4 percent of the mileage is under Federal control, chiefly in the public domain areas. Trafficwise, however, the main rural roads, which are generally State-administered routes, carry about 75 percent of all vehicular travel on rural roads. Thus, based on traffic volumes, the States have a far larger share of responsibility for highways than the mileage statistics would indicate.

It is estimated that the current value of the Nation's highways (excluding toll facilities) was \$63 billion at the end of 1964.

### B. COSTS AND USER CHARGES

#### 1. CONSTRUCTION AND OPERATING COSTS

Typical construction costs: Many factors determine the cost of building a mile of highway, not the least of which is the cost of land acquisition, which in some urban areas can exceed the physical costs