two feet wide, and walks on each side twelve or thirteen feet in width. This is the plan of Yonge Street, Toronto, and is generally followed throughout the province; but a roadway thirty feet wide would be ample for many municipalities.

For residential streets—or any street not in the business section—a design which meets with a great deal of favor consists of a roadway 24 feet wide, bordered on each side by a 6-inch concrete curb. Between the curb and the walk is a strip of sod about 6 feet wide; then the sidewalk 5 feet wide; then the remainder of the allowance (9 ft. 6 ins. on a 66-ft. street) is sodded and in appearance added to the depth of the lawns. When streets have been graded and boulevarded in this way, the usual effect is to cause the owners of private property to remove fences, improve their lawns, plant flowers, and make free use of paint. Many residence streets in towns and cities are only 18 or 20 feet from curb to curb and traffic is not inconvenienced. With a narrow roadway the cost of construction is less, maintenance is less, and the appearance of a street is improved by the sodded boulevards.

Selection of Pavements.

There is no "best" material or pavement uniformly adapted to all conditions. The best pavement or road is one which is best suited to the traffic to which it is subjected; which is best laid; and which is chosen with a view to local conditions. A granite block pavement on concrete foundation is the acme of strength and durability, but is utter extravagance on the side street of a village, where a cheap macadam or gravel would suit every need; the best of pavements can be spoiled by using poor materials and inferior workmanship; and stone-concrete, using material brought in by rail, would rarely be considered good judgment if a gravel-concrete pavement, using good local material, could be laid for half the cost. The best pavement is one which gives satisfactory service at least cost—the cost not being first cost alone, but cost after a term of years.

The general treatment of a street and the type of pavement to be laid on it, should depend on varying requirements and conditions, such as,—

(a) The size and wealth of the town or city.
(b) The amount and class of traffic on the street.
(c) The class of street, whether business, residential, etc.
(d) Local materials available for road construction.

Influence of Size and Wealth.

Large cities have greater scope for choice in the matter of pavements than have smaller cities and towns. Wealth is concentrated in large cities, property values are high, and the cost of a pavement is a minor consideration as compared with service. Also, where the amount of paving is great, it is possible to install extensive plants for laying and maintaining certain kinds of pavements, which are impossible in smaller communities. Thus, the use of granite block pavements on heavy concrete foundations is largely confined to wholesale districts or heavily travelled thoroughfares of large cities—subject to the traffic of heavily loaded drays and trucks, and where a quiet pavement is not imperative. In the same way, the extensive plant required to construct and maintain sheet asphalt confines the use of that material to the larger cities.

Traffic.

The amount and class of traffic on a street is an important factor in the selection of a pavement. While roads and pavements disintegrate to some extent by mere exposure to weather, yet the chief cause of destruction is wear under traffic. Many country roads, particularly the main arteries radiating from important towns and cities, carry much more traffic than some city streets. The number of vehicles passing certain points in large cities is very great; thus a 12-hour census of traffic showed over 3,400 vehicles per hour passing Hyde Park Corner in London, England. At the other extreme, some side streets of cities do not carry a dozen vehicles per day, and these only private carriages or delivery wagons. The main county roads adjacent to Toronto have shown a traffic of from 500 to 800 vehicles in ten hours. A traffic of from 100 to 200 vehicles per day is more common adjacent to the smaller cities. To the latter traffic main streets of most villages and towns in Ontario may safely be adjusted.

The growing use of heavy motor trucks is creating a new situation with respect to traffic. The frequent passing of light vehicles causes surface wear; but heavy vehicles shatter the road foundations, particularly when used in the spring when snow is melting and frost is leaving the ground; or in the autumn when the soil is softened after continuous rain. Heavy motor vehicles or heavy vehicles of any kind create a greater need for deep foundations to distribute the wheel load over a greater area of sub-soil.

Class of Street.

Town and city streets may be divided into several well-defined classes:—

(1) Streets of the business section, on which front stores and offices.

(2) Main thoroughfares carrying traffic in and out of the town or to the railway stations, and on which traffic converges.

(3) Important residential streets, not main thoroughfares.

(4) Residential or "side" streets of secondary importance.

The class of street affects the choice and design of a pavement. In a business section, sidewalks are laid to the street line, and the pavement should ordinarily be laid from walk to walk. A pavement is needed which standing horses cannot tear up, and which can be kept clean and free from dust. On a purely residential street, the roadway may be narrowed, the sidewalks may be narrow, sod and trees and a quiet pavement are desirable. On a main thoroughfare, carrying traffic to a station or leading to the country, a wider roadway is needed, and one resistant to wear. Some pavements, such as those of granite block or paving brick, are noisy, and are objectionable on residential streets. Some, such as bituminous surfaces, or concrete, are more easily kept clean than others, and are therefore suitable for retail business blocks; while a limestone macadam, unless oiled, is essentially dusty.

Local Materials.

Local materials should be used as far as practicable to avoid heavy freight charges, and extra cost of handling from the railway cars. Trap rock is a hard, tough stone for road surfaces, and limestone is soft, susceptible to wear. But it will generally be more economical to use a local limestone, and treat it with oil, rather than to import the more durable trap rock by rail. In this the amount of traffic is a factor, and under conditions of heavy traffic, trap rock may be the cheaper in a term of years. Local deposits of gravel may be used in various