

use of the property becomes more intensive and as it becomes occupied by large buildings, these alleys become more and more useful for the service of such buildings, relieving the street from the more objectionable and unsightly necessities of such service, such as for instance, the collection of garbage.

In all modern street planning, we must necessarily take into consideration the immense change in traffic conditions which is taking place. The motor bus is rapidly replacing the street car. The number of passengers carried by street cars in London in 1914 showed practically no increase over those carried in 1911. For the same period, however, passengers carried by motor buses showed an increase of about 60 per cent. It is true, of course, that London is not so adequately supplied with street cars as some American cities. However, the great convenience and flexibility of motor bus transportation will inevitably increase its use in our cities regardless of the facilities afforded by street car systems. The effect of this development upon the street system should be carefully considered by municipal engineers. When this traffic is properly controlled by the municipality—and it is as much the function of the municipality to supply adequate means of transportation as it is to provide an abundant supply of water or electric energy—it may be that the tendency to congestion of travel on certain streets will be reduced because it will be possible to occupy more streets with lines of bus transportation than it was possible to occupy with street cars. This will have a tendency to scatter this traffic and to utilize more fully the street system. On the other hand the great increase of motor-driven vehicles has led to an enormous increase in street traffic. The streets in any city which a few years ago were suburban in their character now carry heavy traffic. There are some thoroughfares towards which, on account of their location, traffic tends to flow in vast quantity. The planning of streets so to care for this increasing traffic will probably call for increasing widths, not only of the main thoroughfares but of many secondary streets as well. The Royal Commission on London Traffic recommended that the principal arterial highways be 140 ft. in width and that the streets be graded down to a minimum of 40 ft. In my judgment, no street should be less than 60 ft. in width except where situated on steep sidehills or where it will manifestly have nothing more than purely local use. The question as to the width of a street opens up, of course, an interesting and essential feature in city platting.

It is now recognized that the greatest municipal mistake of the 19th century was the failure to control the development of suburban areas. One of the marked features of the last century was the tremendous growth of cities—a growth fostered and made possible by modern developments and methods of transportation and inter-communication. There is little doubt that this remarkable growth will continue for many years to come. The modern city is beginning to lose its squalor and unattractiveness and is becoming the most healthy and most desirable spot on earth in which to live. For this and many other reasons, the continued rapid growth of cities is assured. The development of cities, however, will not be confined to the great centres of population. All cities at all favorably situated will continue to grow. It is important, therefore, that not only our larger cities, but that the smaller communities shall embrace every opportunity to lay out systematically and with foresight as may be possible the territory which they will some day occupy. All of our cities and towns will from time to time extend

their boundaries and add new territory. This territory will usually be already platted and its future fixed. Too often this platting will have been done without reference to the needs of the future city and without any consultation whatever with the city authorities. Now, in order to secure the proper development of this suburban territory—that is to say, of areas outside the present official boundaries of our towns and cities—it is essential that the control of the platting and laying out thereof be vested in some authority in which the city would have, if not the paramount, at least an equal, voice. In providing for this control of the development of suburban areas, it will frequently happen that other municipalities are included in the district tributary to some growing city. It will be necessary, of course, to consider the rights and privileges of such municipalities. We should not, however, lose sight for one moment of the fact that the public interest and convenience of the whole community and not of any part thereof should be the controlling factor in these decisions. The law might require, for instance, that cities should have the power to create a zone outside of the existing boundaries, in which zone they should have a voice in the development and platting of the streets. All plats within this zone prior to approval by the legislative body vested with this authority should bear the approval of a commission composed of the county engineer, the city engineer and possibly a state officer, say, for instance, the professor of municipal engineering at the state university. Or the law might provide that plats within such district or zone should not become effective until approved by some state officer, as for instance the State Commissioner of Public Lands. Or possibly this approval by a state official might not be required except in cases of inability to agree between the county and city authorities. Another method would be the creation of town planning commissions with power to lay out all such lands and to require all plats to conform thereto. These suggestions are purely tentative, but I am sure that the problem is one of great importance to all of our cities, both great and small.

Another power which the city should have is that of compulsory replatting. In many of our cities areas were platted many years ago when the country was covered with thick timber or sage-brush and no one except a few prophetic souls realized that it would one day be covered with a dense population. These plats were often laid out entirely on paper in accordance with the controlling section lines. No regard was paid to hills or valleys or any other features of topography. They were laid out in many instances by real estate promoters interested solely in securing the greatest possible number of lots per acre. The real estate promoter of the type so familiar to our western cities has been the curse of modern city development.

It is reported that a four years' programme of harbor development is being undertaken at Aomori, Japan, including two detached breakwaters, two moles and a quay. The works are estimated to cost about \$775,000.

According to statistics published by the Spanish Consejo de Minera 439,835 tons of pig-iron and 387,314 tons of manufactured forms of iron and steel were produced in Spain in 1915, as against 382,044 and about 330,000 tons respectively in the previous year.

During the last fiscal year San Francisco has constructed more pavement under public assessment than during any other like period of the city's history. The total area paved was 472,253 sq. yds. The average costs for various types were as follows:—Asphalt, \$1.01; bituminous rock, \$2.14; basalt rock, \$3.42; vitrified brick, \$3.35.