

for the classification of streets according to traffic requirements. Probably the best classification is that of Washington, D.C., which is as follows:

Main thoroughfares	160 ft.
Secondary thoroughfares	120 ft.
Local streets	60 ft. to 90 ft.

The German city standards, given above, appear to be more reasonable and logical than those of London or Washington, and there is a distinct advantage in having more or less range within each classification, as against fixing the width hard and fast to a single figure. It ought to be practical to classify most of the streets of a city either as main thoroughfares, secondary thoroughfares, or local streets, and to apply to them one of the standard widths adopted for their respective classifications.

(4) To determine such classification, however, requires an estimate of the recent and future traffic requirements of the streets of any given class. It does not seem wise to begin by fixing the width of the street at, say, 50 ft. or 60 ft. or 100 ft., and then apportioning that width as favorably as may be between roadway and sidewalk. It is better to begin at the other end and try to decide what traffic capacity in roadway and sidewalk the street should provide for, thus determining which class it falls in; and then, applying the unit of measurement adopted for car lines, for vehicles, for pedestrians, for trees, &c., decide upon the required width. For example, here are three illustrations of this method:

I. An average main thoroughfare is to have, say,	
A double-track car line	20 ft.
6 lines of vehicles, 3 on each side of tracks, 8 ft. each	48 ft.
20 lines of pedestrians, 10 lines on each of the two sidewalks, 2 ft. each	40 ft.
Total for an average main thoroughfare.....108 ft.	
II. An average secondary thoroughfare is to have, say,	
A double-track car line	20 ft.
4 lines of vehicles, 2 on each side of tracks, 8 ft. each	32 ft.
16 lines of pedestrians, 8 lines on each of the sidewalks, 2 ft. each.....	32 ft.
Total for an average secondary thoroughfare... 84 ft.	
III. An average local street is to have, say,	
Roadway for 3 lines of vehicles, 8 ft. each.....	24 ft.
12 lines of pedestrians, 6 lines on each of the two sidewalks, 2 ft. each	24 ft.
Total for an average local street..... 48 ft.	

These are only averages, and are given simply as illustrations of the method of standardization proposed and its application. The range of street widths for such a classification might be as follows:

Main thoroughfares	from 90 ft. to 180 ft.
Secondary thoroughfares ...	from 60 ft. to 90 ft.
Local streets	from 40 ft. to 60 ft.

Such a standardization would naturally differ from city to city as conditions and requirements differed. Its advantages would be twofold: first, in fixing the range of normal street requirements of three or more important classes; secondly, indefinitely and conscientiously trying to determine in advance to which class a particular street belonged. Of course, even with such a classification there would be many exceptions—special streets having special requirements, and, therefore, calling for special provisions. But if no standards whatever are fixed—and this is the important practical point—there is danger that the normal differentiation of the

streets of one class from those of another will be constantly overlooked, or that private interests through pressure and influence may succeed in securing action which is in conflict with the public requirements. It was largely to prevent these results that street width standards, in most cases un-intelligent and indiscriminating, were adopted by cities in the past. Where no standards whatever have been adopted many illustrations can be found of the abuses that have crept in, particularly the failure to allow sufficient street width for main and secondary thoroughfares.

In the discussion thus far no reference has been made to trees, grass strips or other planting in the streets, or of space set aside primarily for the adornment of the street, or for ensuring the benefits of light and air and an appearance of spaciousness. Such reference was omitted merely to simplify the subject and bring it within the compass of a brief paper. Of course, trees are desirable, not only in residence streets, but also in most business streets. Of the many arguments against the greater use of trees in our business streets, the only sound argument in most instances is that there is no room for them. But as with traffic, so with trees. The same method should be applied. If we are to have trees, we must determine the width requirements of a line of trees or two lines of trees, or whatever else is needed. Except for temporary effects, it is not good policy to plant trees in a space that is needed for roadway or sidewalks; nor is it good policy to plant one or more lines of trees in a space that is inadequate for their successful growth. If, for instance, it is decided that six feet is the minimum space in which a line of trees of a given species can flourish, then we should standardize that width for that species of tree and provide it. Exceptions there would be undoubtedly to standards for trees as for roadways and sidewalks, but they would be recognized as exceptions and justified because of exceptional conditions.

The traffic and use of many city streets increase from year to year, tending to shift some streets from one classification to another. How to provide a method of meeting this increase is a difficult question to answer. The utmost foresight must be exercised, and then adjustments and widenings made to meet new conditions. The problem is how, by the exercise of skill and foresight to design and arrange streets to fulfil their functions, and then from time to time how to re-design and rearrange them to meet new requirements. In the case of streets where increased traffic is expected, the most practical method of providing for it, perhaps, would be to reserve some extra space between the roadway and sidewalk, or in the centre of the roadway, or between the sidewalk and the buildings utilizing this space temporarily as an area planted with trees and shrubs or merely with grass.

The evils that might follow from the adoption of an un-discriminating set of standards or from an un-intelligent application of a discriminating set, have not been overlooked. They might be serious. But it is my opinion that under our present city organization such evils would ordinarily be less than those that almost inevitably follow from a lack of any established standards and from the policy of determining street widths piecemeal as each is presented for decision.

There is a prospect of at last having a satisfactory treatment of the low-grade zinc ores of southeastern British Columbia. The announcement is made that Dr. Gordon French's experiments looking towards a commercial process of the reduction of the refractory zinc ores of the Kootenay have been successful. These experiments have been conducted for a year at Nelson. If everything works out all right on a large scale it will mean much for mining in the Kootenay and Boundary districts.