

**Neglect of Engineering In Cities.**

Waste and consequent high taxation in our cities are due to neglect and not to extravagant use of engineering. When cities are getting into financial difficulties they cut down the engineering service, whereas it is usually greater engineering service and efficiency that are needed. The last thing we seem to think of is to get rid of the causes of waste. We go on providing palliatives to remove effects. City councils do not employ engineers to plan the cities but keep them busy dealing with the evils that result from want of planning. It is time to apply the scientific and business principles that have made a success of industrial organization to the social organization of the city.

There is need for stock-taking of all engineering work periodically in all cities. Without this a city council cannot tell what part of its city undertakings is paying and what is losing money. Plans of mileage of streets, sewers and watermains are often the result of a combination of partial records and guesses. Maps are not available showing distribution of population in relation to public services.

Mr. A. G. Dalzell has referred in an article to the proposal to investigate the sedimentation of the Fraser river for the purpose of directing harbor improvements and new industries and keeping navigation open, and has suggested that if it is important to study how atoms of sand are deposited in the mouth of a river, it is also necessary for engineers to study how atoms of humanity are building up communities for good and evil. He has shown how engineering skill is directed to improvement of physical conditions but lacks opportunity to apply the same skill to the improvement of social conditions.

**Surveying and Planning Vancouver.**

It is not too late to plan Vancouver. Its future growth will be greater than its past growth. Growth has two forms—development of new areas and re-development of areas already built upon. The geographical area for study should be the region comprising Vancouver, North Vancouver, Point Grey, South Vancouver, Burnaby and New Westminster. This should be surveyed by engineers to ascertain present conditions. This survey would deal with harbors, railway transportation, main arterial highways, classification of areas of land suitable for different purposes, etc. The regional survey and plan can only be prepared by the aid of the provincial government. It is merely a guide for the preparation of the plan for each city or other municipal unit. On its basis the plan of each city should be prepared.

Railways and waterways have to be studied in relation to selection of industrial areas. Consideration has to be given to the purposes of the arterial highway system; its effect on cost of transportation, safety and economy in street space and construction. The connection between width of streets and heights and densities of buildings and between narrower streets for residential areas and wider streets for industrial areas raises important problems.

Regional water supply and sewage disposal require study. Street and lot sub-division for residential purposes are unsuitable for industrial purposes, and both need different types of planning. Mr. A. G. Dalzell's report on Ward 8 made to this branch was a revelation of the folly of letting a city grow without a plan. Ward 8 was sub-divided in 1885. The main highway, Fraser avenue, was placed where it had to be carried over the steepest ridge, rendering a costly and waste-

ful cut necessary. About 80 acres, or a fifth of the whole, was re-claimed peat bog. Some \$6,000 had to be spent in piling for sewers alone. The street on which the main branch sewer was laid settled 2½ feet during construction. The estate was developed by the provincial government and no provision was made for water supply, sewers or sanitation. The Saskatchewan Town Planning Act provides that no land of muskeg, marsh, or peat formation, or which is subject to flooding shall hereafter be sub-divided or sold in lots for building purposes until such land is thoroughly drained at the expense of the owners; also that where any area cannot be economically provided with local improvements owing to character or levels of the land not more than two houses shall be erected to each acre. Under a proper town planning scheme Ward 8 would have been developed on economical principles and been an asset instead of a loss to the city.

Mr. Dalzell estimated that the cost of a 50 foot lot in this ward was about \$2,080, without proportion of cost of parks, firehalls, etc.

The cost of development at Shaughnessy Heights was shown to be about half that of ward 8. In a site in an English housing scheme the land and improvements cost under \$500 for a 50 foot lot or less than a quarter of ward 8. The chief causes of these high costs in Ward 8 are want of planning and classification of the land, causing scattered building and expensive construction. In 1917 there were 153 feet of street frontage per family and 38 per cent of the area was taken up with streets and lanes as against 31½ per

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