

in the region of about 2,350 houses. Taking the figure of 2,350 as the shortage in houses and an estimated population of 168,000 it will be found that for every seventy people there is another house needed.

A survey of housing conditions is needed not only to ascertain facts with regard to the shortage, but also to find out the best means of raising the standards of existing dwellings and improving sanitary conditions.

#### Railway Situation

The numerous railways that serve this area make it a great railway centre, and perhaps unrivalled for rail transportation facilities. At Gardenville gravity freight yards, near Depew, some \$25,000,000 is to be spent, and the yards completed in the next ten years; \$6,000,000 has already been appropriated.

At the Lake Erie end of the region there is only one railway bridge, and that single tracked. Trains are said to cross at the rate of one about every seven minutes, and there are 15,000 cars of merchandise passing through every month. The C.P.R. may consider it desirable to build bridges at Goat Island to cross the Niagara River and give them their own bridge entrance into Buffalo.

As far as the cities and towns are concerned, the greatest problem is that of grade separation. In this matter the railways have had the upper hand in the past, and it is time that the general interests of the public were safe-guarded in connection with railway enterprises to a greater extent than hitherto. But it is not the railway corporations that are to blame; the fault lies with the local authorities in not taking action in time. Portions of Niagara Falls, Ontario, and Niagara Falls, New York, are practically devoted to switching, and this right on some of the busy streets. For example, in Niagara Falls, Ontario, there are 14 level crossings. It would be an advantage to have the tracks of the electric radial railways moved from the central streets of cities and towns in certain cases. In other cases, streets are too narrow for double tracking.

#### Highways and Waterways

Even a preliminary survey of conditions on the Canadian side, across from Buffalo, would seem to indicate that that area is being hampered in its development by the lack of a highway bridge. A "peace bridge" has been proposed as a memorial, and it is stated that bills are now before the governor of the State of New York, one for a bridge at Buffalo, and one for a bridge at Niagara Falls. Apart from the question of the peace bridge, there is no doubt as to the need for a bridge at Buffalo across the Niagara River, but the means of communication on both sides of the river need to be studied before the site of the bridge is settled.

The Niagara River, as a waterway between Lakes Erie and Ontario is, of course, impossible for navigation. On the Canadian side the Welland Canal provides a waterway between the lakes.

The great improvement which is taking place in regard to the waterways which feed the district will be certain to greatly increase the population and industries of the region in the near future, and they will also tend to create changes in regard to local conditions of development and settlement of land. A regional survey and plan is needed to deal with expected growth and change of conditions, even if no other development of transportation facilities were taking place. It is also important, as we shall see later, to consider the park system of the region, and perhaps the drainage system also, in connection with the abandonment of old waterways.

#### Power Situation

The rapidity with which the demand for electrical energy has grown is indicated by the fact that the first modern power development at Niagara Falls took place in 1890, with an initial installation providing for the production of 100,000 h.p. At the present time the total production is 650,000 h.p. At Power Glen, adjacent to St. Catharines, there is also a development of some 52,000 h.p. There is also under construction a plant to produce an additional 400,000 h.p. The principal development is that of the Hydro-Electric Power

Commission of Ontario, which is constructing a canal 8½ miles long to divert the flow of 10,000 second ft. of water and provide for the ultimate development of 300,000 h.p. at Queenston. This enterprise will cost \$25,000,000, and will not be completed until 1921.

There has been some criticism of the construction of the open cut, which is having an injurious effect on adjacent property, and will make the city of Niagara Falls, Ont., an island. Whether this criticism is justified or not, and whether part of the canal should have been in tunnel, as apparently would have been practical, does not concern us, but the fact that it is made shows that no such scheme should be carried out without careful study of all the factors, including those outside the purview of the hydro-electric engineers, before this kind of enterprise is begun. The day should be past when great corporations, whether railway or power companies, should be permitted to ignore the effects of their enterprise on the industries, property and lives of the community as a whole.

#### Water Supply and Sewage Disposal

Lake Erie is the source of water supply for the urban population in this region, water being obtained either via the Welland Canal or the Niagara River. There is pollution of the Niagara River, practically none of the cities or towns treating their sewage. This pollution will be increased, with the completion of the Welland Ship Canal and the entrance of the water from the Welland River into the system. It has been decided to have a pipe line extending from Lake Erie to Lake Ontario to supply the cities and towns along the canal.

The Tonawanda Chamber of Commerce is considering a scheme of sewage disposal for their whole area. F. W. Barrally, city engineer for Tonawanda, has done some preliminary work on this scheme which, it is claimed, provides for sewage disposal and drainage of the outlying area along the Niagara River, and incidentally for the development of power. It would avoid the very serious pollution of the Niagara River, and would use the old Erie Canal as a drainage canal for sewage from Buffalo to Tonawanda. There is urgent need for study of the sewage disposal problem of the whole district so as to get an economical and efficient system.

#### Parks and Tourists

Both the rural and urban areas seem to be deficient in parks. It might almost be stated that the cities and towns have no parks. An estimate had been made that from 1885 to 1907, 15,000,000 visitors have viewed Niagara Falls. In spite of all that has been done, it cannot be said that sufficient care and vigilance has been taken to preserve the remarkable scenic beauties of this region, or to regulate industrial development so as to prevent injury to the amenities of the district, with loss of convenience or efficiency. The commercial value alone of the great combination of natural and historic features is such as to justify the expenditure of more money and effort in conserving them. At old Niagara, with its large "Commons," there are points of historic interest, and the ruins at Fort Erie at the southerly end of a possible park system should also be preserved.

But it is a regional and not a local problem. The district has been endowed by nature with exceptional gifts, extensively as well as intensively. People should be attracted here to spend days instead of hours. All these matters I have referred to, create one big problem that requires big men to solve it and raise it above the level of the politics of the village pump. The whole question of the development of this region in all of its ramifications is big enough to be dealt with internationally. As an immediate practical measure I suggest that a permanent conference or a joint town planning commission of representatives of all the municipalities in the region, be created to prepare a regional survey and a general plan for the area; that federal, state and provincial aid be invited towards the preparation and carrying out of a comprehensive scheme. This need not be done in any way that is unconstitutional, or so as to interfere with local autonomy. It need not involve that any municipality now engaged in preparing its own scheme suspend its operations, but merely that it recognizes that it is only part of a greater whole, and that whatever it does should be made to fit a regional plan.