It is stated, in what may be called a preface, as follows: "The extension of adequate transportation facilities should, and usually does, precede the population, but in Toronto of late years, the conditions have been reversed."

I have yet to learn of a single city of the first class, where "adequate transportation facilities" have been provided prior to absolute necessity. Toronto is not by any means alone in this misfortune. Everywhere it is the same story of crowded and congested streets, and the incapacity to meet transit requirements. New York, though spending 300 millions on new subways and other methods of transportation, falls short of meeting the requirements of the situation, and will never probably catch up to it. The increase in population far exceeds the capacity of transportation. Philadelphia, Chicago and Boston are building subways and elevated railways and otherwise trying to catch up with belated facilities as fast as money can be provided.

Here in Montreal we have the same conditions, and our city officials look no further than they can see, and seem indifferent to the whole question, other than what is pressing at the moment.

This leads up to what I wish to say with reference to the Toronto report. The suggestions offered for increased facilities of transportation, to my mind, provide only for the immediate present. The report takes account of the radial entrance east and west into Toronto, but misses, I think, to provide real rapid transit for the city itself. The unfortunate water front is again to be utilized for additional railway traffic. Thirty years ago the writer lived in Toronto, and the old Union Station on the water front was not far distant, and easily to be reached by the entire population. A few years later, a second station was built, again on the water front, but by this time the population had expanded and it became increasingly inconvenient to reach it. Twenty-five years have passed, and a still larger and more magnificent station is to be built, and still on the water front. A map of Toronto, of the present day, has only to be glanced at to see how remotely removed this station is from the mass of the travelling public. What will be the state of things twenty-five years hence?

This is more or less aside from the question of rapid transit in the city itself, though connected with it, because the people must be brought into close communication with all these stations; and more rapidly than they are at present. Semi-rapid transit, whatever that covers, will not meet the need of the case.

The report further states: "We presume that persons who can travel from the central area to their abodes, or vice versâ, in 35 minutes, do not require more capid transit." If this is all the rapid transit Toronto is to have, I am sorry for Toronto. A man leaving his office, say, south of King Street, should not have to spend 35 minutes on the journey home to any part of greater Toronto. The fact is, no surface transportation can give real rapid, or even semi-rapid, service. The time is coming when, as I have stated on several occasions, surface cars will be removed from the congested streets in the central areas of our large cities. Our streets are dangerously crowded with vehicles, in addition to the tram cars, and they should be free for these vehicles alone. Rapid travel to and from our homes and offices can be secured only by underground lines, with motor buses and street cars as feeders thereto.

Speeding up the service of street cars adds but little to the relief of congestion, and materially increases the

dangers to the public. If it is argued, as it may be, that subway transportation will not bring adequate returns at once, it must be remembered that the municipalities have other duties to their citizens, and two of these are safety and speed in travel; for, without these, cities cannot grow.

In closing, I am constrained to say, the report as a whole is a valuable contribution to transportation literature, and interesting in its treatment of the east and west radial lines, but does not seem to offer a real solution of the rapid transportation of passengers in the city of Toronto itself.

The suggestion that a permanent commission be appointed to further investigate, construct and control all transportation improvements in the city and suburbs is an excellent one, and is in line with what I have been advocating for Montreal for several years. There must be local bodies created, jointly by the provinces and cities, with paramount authority to supervise this most important of questions—urban transportation.

F. STUART WILLIAMSON, M.Can.Soc.C.E. (Consulting Engineer, Montreal.)

Montreal, January 4th, 1916.

ADVANCES IN SEWAGE DISPOSAL.

During recent years, marked progress in sewage disposal has been made in Canada. A recent investigation made by the Commission of Conservation revealed the following:—

In Ontario, of the total number of municipalities having sewerage systems, 37 per cent. treat their sewage; in Quebec, 12½ per cent.; in Manitoba, 33 per cent.; in Saskatchewan, 80 per cent.; in Alberta, 43 per cent.; in British Columbia, 44 per cent. The Maritime Provinces cannot be compared on the same basis, as most of the sewerage systems there discharge directly into the ocean, and treatment would be superfluous.

Conditions with regard to sewage disposal are better in the west, largely because the systems have been more recently installed, after the necessity of treatment had become apparent to all. The great majority of the systems in the eastern provinces were installed before this necessity had become so universally recognized, and, as they were not laid out for this purpose, it is in some cases costly to make the change. However, marked improvement is also to be noted, and practically all new sewerage systems either include treatment plants or are designed and installed with the view to the future installation of such plants at the minimum expense.

In the report of City Engineer A. B. Manson, of Stratford, Ont., for the year 1915, it is stated that 16,632 square yards of pavement were laid. The city placed 5,264 yards of base, and all surface, by day labor. Two miles of macadam roadways were resurfaced or repaired. Four miles of concrete sidewalks were laid by day labor. The sedimentation tanks for the sewage disposal works were placed in operation, about 350,000,000 gallons of sewage being treated annually, at a maintenance cost of \$3.15 per million gallons. The cost per ton for incinerating garbage was 21 cents. Additional sanitary sewers were constructed to the extent of 1.71 miles.