

these is 57,600,000. The present population of Toronto is about 345,000, and the rides per head per annum are 280; the product of these is 96,600,000, or 1.7 times as great now in the case of Toronto as it was then in the case of London.

In the year 1874 New York City found it necessary to provide itself with some means of exclusive travel, and installed the beginning of the elevated railway system. At that time the population of the City would have been about 1,617,000, and the number of rides per head about 52. The product of these is 84,000,000, so that the ratio of the corresponding product in Toronto's case to the product in New York's is as 1.15 is to 1.

It may now be in order to set out the various kinds of exclusive travel lines which may be constructed, and point out briefly the advantages and disadvantages of each, and then draw the conclusion as to what we consider to be best fitted for Toronto.

First—The Deep Level Subway:

Access to the stations in this type is gained by means of elevators. The various "tube" railways in London are an illustration of the possibilities of this type. The advantages of this kind of subway are chiefly those of construction, since there is much less interference with the cellars, pipes, sewers, etc., which lie immediately below the surface; also, as these tubes are driven by the shield method, compressed air can be applied, and for heavily water-charged ground or subaqueous work this system is the best yet devised. The points against this system are the depth below the surface, compelling passengers to descend to and rise from the trains in elevators, and the cost of working the elevators, which forms a serious part of the operating expense.

Second—The Shallow Subway:

Access to the stations in this type is gained by means of stairs from the street surface, the line being placed so that the rails are as near as possible to the surface of the streets under which they run. This type is far more accessible than the deep level tube, but it is more expensive to build; this is seen by comparing the relative cost of the deep level tube lines and those of the shallow type which have been built in London. The tube lines in London have cost between \$2,916,000 and \$3,402,000 per mile of double track to build, while the shallow subways have cost between about \$2,669,000 and \$4,195,000 per mile of double track. In this connection it may be remembered that most of the London shallow subways having been built in the days of steam traction, have had expensive ventilation systems that have added to their cost. Greater disturbance to the street during construction is caused by this type than by the first, and altogether it may be said that while the constructional difficulties are greater, the transit facilities offered are much better.