The above railways are selected from those with a greater mileage than 300, but the following table gives similar figures for five of the smaller roads:

TABLE II.

Name of railway.	Gross earnings.	Mileage.	Gross earnings per mile
Algoma Central and Hudson Bay	$545,054	134	$4,067
Bay of Quinte	238,333	89	2,689
Kingston & Pembroke	225,936	109	2,054
Midland Ry. of Manitoba	61,155	98	624
New Brunswick & P.E.I.	37,726	36	1,048

A third method is that of estimating the receipts per head of tributary population. This method is only applicable to those parts of the country where a fairly accurate estimate can be made of the location and magnitude of the population. In Eastern Canada maps can be obtained from the Dominion Government giving the location of all existing railways, highways, buildings, etc., on a scale of one mile per inch. These are a great help in making the population estimate. The proposed road will usually pass through some territories in which it may reckon on obtaining all the traffic. An example of this is where a new railway location is through a valley separated from other railways by intervening hills. The new railway can, in a case like this, assume that it will receive all the traffic from that district. In the case of a new railway passing through a town or village already served by a railway, it cannot expect to obtain half the traffic from that town, but only a proportion of it, depending on the relative importance of the two railways, the transportation facilities to and from the depots, distance from the centre of population, nature of the roads, convenience of the train service and sundry other features.

A fourth method is to make a comparison of the production or the producing character of the country which the railway will tap and that of some territory as nearly similar as possible, and note the revenue of the railway serving that territory. An even better way is to combine the third and fourth methods and compare the new and existing roads by means of their tributary population and by dividing the gross earnings of the existing line by its tributary population, a fair approximation is obtained to the probable gross earnings per capita of tributary population of the proposed route. Allowance has to be made, however, for the different character of the locality served by the existing railway.

The fifth and last method of estimating the probable revenue is probably the most accurate. This method is to make a very close estimate of the amount of business that will be obtained from all the different sources of revenue. This requires a great deal of careful study of all the manufactories, mines, lumber mills, farms and every industry located near the proposed route. It is not difficult to make such an estimate when the railway is being built through a country well populated and not previously served by a railway. But in a great many parts of Canada an estimate of the revenue cannot be based on the existing conditions but only on the future estimated conditions of the country after it has been developed by the railway itself. A factory may also be located in the country to be served and it is usually safe to assume that its business will be increased by the advent of the railway. With regard to farms, an experienced man can make a close estimate of the business to be obtained from them, and the distances their produce will have to be transported to the nearest market. In making this estimate other transportation facilities for the farmers have to be considered. Each proposed station on the route will have to be studied independently and information of each source of revenue gathered together, and also information as to the probable markets for the products at each point. The following table gives the percentages of the different sources of revenue for freight traffic for all the railways in the Dominion of Canada and also for the United States.

TABLE III.

Sources of revenue.	Percentage Canada.	Percentage U.S.
Products of agriculture	19.33	8.13
Products of animals	3.53	2.10
Products of mines	35.20	56.23
Products of forests	15.82	11.67
Manufacturers	18.16	14.42
Merchandise	3.03	3.69
Miscellaneous	4.93	3.72
	100.00	100.00

The relations between freight and passenger earnings varies for different parts of the country, but is approximately the same for all the roads in the same locality. The following table gives the proportions of freight, passenger and other earnings on different Canadian railways:

TABLE IV.

	Freight revenue. %	Passenger revenue. %	Other revenue. %
Alberta Ry. and Irrigation Co.	71	25	4
British Yukon Railway	75	24	1
Intercolonial Railway	65	32	3
Prince Edward Island Railway	48	50	2
Canadian Northern Railway	74	19	7
Can. Northern Ontario Ry.	68	29	3
Can. Northern Quebec Ry.	72	26	2
Canadian Pacific Railway	68	30	2
Central Ontario Railway	68	29	3
Dominion Atlantic Railway	57	42	1
Grand Trunk Railway	63	35	2
Halifax & South Western Ry.	51	48	1
Kingston & Pembroke Railway	72	29	1
Ottawa & New York Railway.	54	43	3
Quebec Central Railway	68	31	1
Quebec & Lake St. John Ry.	63	34	2
St. Lawrence & Adirondack Ry.	60	39	1
Timiskaming & Nor. Ont. Ry.	56	39	5
Vancouver, Victoria & Eastern Railway	66	32	2

Whatever method is used for estimating the volume of traffic there are always a number of conditions which affect this volume in different ways. For instance, the proximity to the probable source of traffic is a feature to which great attention should be paid. In Eastern Canada where there is keen competition between different railways the locating engineer must subordinate all other requirements to that of locating the road where it will be in a position to obtain the maximum of business. It is always advisable to spend more money on freight and passenger facilities in the cities and towns served by the road, even at the expense of cheaper construction on the line between the cities. There are some good local examples of railways going to great expense to reach the heart of the business districts of the towns and cities where there is or is likely to be competition from other railways. The Campbellford, Lake Ontario & Western