

at the Toronto Exhibition Grounds. Before many years, their safety and convenience resulted in the discarding of the older system. An electric system 7 miles in length was opened at St. Catharines in 1887, using the double overhead trolley. This was followed by the completion of the Ottawa Electric railway in 1891, and the electrification of the Montreal and Toronto systems in 1892. The street railways of other eastern cities were generally electrified during the nineties, while in the newer western cities electricity was used from the commencement. In the cities of the East, electric street railways are generally operated by private companies under franchises from the city, while in a considerable number of cities of Ontario and the West the street railways are owned and operated by the city, a fact which is indicated in Tables 24 and 25 by the word "municipal" in the name of the railway. In 1921, on the expiry of the 30 year franchise of the Toronto Street Railway Company, the line in this second largest city of Canada was taken over by the city and is now being operated by a transportation commission.

Where possible, water-power with turbine engines is used for generating purposes. Where this is not available, steam power is necessary, and although this is a more expensive method, modern devices have greatly reduced the cost per h.p. Many difficulties are met in operating the cars during the winter season, due to snow, ice and sleet. These, however, have been overcome by the use of sweepers, scrapers and plows. The single overhead trolley system has been found the most suitable and is in general use.

Great advances have been made during recent years in the construction and use of suburban or inter-urban lines, their mileage now comprising a large percentage of the total. The greater part of this track is in the Toronto, Niagara and Lake Erie district, on which considerable freight traffic is carried, and on the Pacific coast, where the British Columbia Electric railway operated 421 freight cars in 1920.

Development of Electric Railway Traffic.—Figures for the year 1893 show that 30 companies with a paid-up capital of about \$9,000,000 operated 256 miles of railway. By 1897, 35 companies made returns showing 583 miles of track, 1,156 cars, 26,431,017 miles run, 83,811,306 passengers carried and capital of \$18,727,355. In 1904, 46 companies showed 766 miles of track, 2,384 cars, 42,066,124 miles run, 181,689,998 passengers, and capital of \$30,314,730. Steady increases up to 1922 show that during that year 65 companies actually in operation, had 2,494 miles computed as single track, 5,048 cars, 116,711,189 miles run and 738,908,949 fare passengers carried, with a capital of \$188,258,974. The number of employees in the service of electric railways on Dec. 31, 1922, was 18,099 as compared with 17,015 in 1921. Total salaries and wages for the year 1922 were \$24,988,119, as against \$32,976,728 in 1921.

Statistics of Electric Railways.—Summary statistics of the operation of electric railways in Canada from 1901 to 1922 inclusive are given by years in Table 21. In Table 22 statistics of the mileage and equipment are given for the last four railway years, and annual statistics of the capital liability of electric railways are furnished from 1908 in Table 23. Detailed figures for railways of the miles operated, the capital liability, the earnings and operating expenses are given for 1921 in Table 24 and for 1922 in Table 25, while Table 26 gives by years from 1894 to 1922 the number of passengers, employees and others killed and injured on electric railways in Canada.