The administration of the Motor Vehicles Act, including the issuance of permits for motor vehicles, licenses for chauffeurs, etc.

The administration of the provisions of the Municipal Act with respect to plans and specifications for steel and concrete bridges.

Consultation with town, city and township councils with respect to road and street improvement.

The construction of model and experimental roads.

Educational measures such as the publication of reports and bulletins, addressing public meetings, and the instruction of county road superintendents.

Miscellaneous matters such as traffic census, the testing of road materials, road surveys and estimates.

Three-fold Classification.—It will be seen that the general trend of recent road legislation in Ontario has been toward a three-fold classification, so desirable for management and distribution of cost, and which is being evolved in the following manner:

(1) Local or Township Roads, each carrying the traffic or little more than the traffic which is created by the farms adjoining the road; such roads to be controlled by and at the expense of township councils under a township superintendent.

(2) Leading Market or County Roads, the roads radiating from local market or shipping points, which carry a considerable accumulation of traffic; such roads to be controlled by, and to be at the expense of, county councils and cities, aided by a provincial subsidy.

(3) Main Roads between important cities and other terminal points, under the control of the Provincial Department of Public Highways.

The Imperial Munitions Board and the United States Shipping Board have been in consultation recently with regard to co-operation in the production of wooden ships in Canada and the United States. Standardized types of vessels have been agreed upon, and there will be a common schedule of prices and contracts. Arrangements are now being made to have a considerable number of wooden ships for ocean transportation built on the Pacific coast. In Canada, R. P. Butchart, of Victoria, will take charge of the business organization of the industry for the Imperial Munitions Board.

Following two years of reaction and shrinking traffics the railways of Canada established new high records in the statistical year ended June 30th last, according to the annual statement of the Comptroller of Statistics. In the 12 months 1,852 miles of new lines were brought into operation, making the total in Canada 37,434. In addition a considerable proportion of 3,150 miles, classified as under construction, was really in operation by permission of the Railway Commission. Railway capital was increased during the year by the issue of $468,387 in stocks and $17,598,499 in bonds, bringing the total up to $1,893,877,819. In addition, there was a further liability of $81,481,504. The Dominion Government was operating 4,178 miles of road, the capital cost of which was $306,053,937, although they had no stocks or bonds outstanding. Railways received from the Dominion Government in the statistical year cash subsidies amounting to $1,240,435, making the total of such aid given by the Dominion, the Provinces and the municipalities $240,062,359. Many high records were established in 1915-16 for freight and passenger traffic. The number of passengers carried was 49,027,671 and the quantity of freight 109,659,088 tons, an increase over the previous 12 months of 2,705,636 passengers and 22,454,255 tons of freight. Gross earnings in 1915-16 amounted to $263,527,157, as compared with $199,843,072, and operating expenses to $180,542,259, as against $147,731,099 in the previous year. The number of railway employees in the country increased from 124,142 in 1915 to 144,770 in 1916, and their remuneration from $90,215,727 to $104,300,647.

OPERATION OF THE ONTARIO HYDRO-ELECTRIC NIAGARA SYSTEM.*

THE operation of the Niagara System for the year 1916 was attended with gratifying success. In no other year, and especially since the war commenced, have the lines and apparatus of this system been called upon for such extraordinary duty. This condition was occasioned by the rapid recovery of industry, together with the enormous development of the manufacture of war munitions in Canada.

During the months of November to April, inclusive, and from July to October, power was purchased for transformation and transmission from two, and indirectly three, sources, the supplying plants being linked together by the Commission's transforming station at Niagara Falls. On April 30th the temporary contract with the Toronto Power Company expired, and from this date until July 26th, when the first generating unit from the Canadian Niagara Power Company was connected, the total load of the Niagara System was carried by the Ontario Power Company. On August 21st a second unit at the Canadian Niagara Power Company's plant was paralleled with the first, and from this date until the end of October the amount of power available from this company amounted to approximately 25,000 horse-power. As these generating stations were operating at maximum capacity, extreme caution was necessarily exercised in the operation of the system in order to preserve equilibrium at all times.

Electrical storms during the past year were much more frequent and severe than in previous years. The Niagara System was subjected to these storms on sixty different days. On eight days these storms traversed practically the entire system, and were particularly severe. The balance of the storms traversed only portions of the system, mainly in the Niagara Peninsula, Preston, Stratford and Chatham districts, and were more or less severe. No total system interruption occurred from lightning causes during the summer, and when it is considered that the Commission has in operation approximately 1,200 miles of high and low tension lines overstretching a strip of Ontario approximately 215 miles long and averaging 60 miles wide, all lines being subjected to the accumulation of electrical discharges, which must be dissipated by passage to ground, the efficiency of the protective apparatus is strikingly evident.

Work of a special nature carried out by the Line Maintenance Department, and required by reason of the rapid increase of load, included the erection of a temporary 12,000 volt double circuit pole line of No. 4/0 copper conductor between the power house of the Canadian Niagara Company's station and a point (on the present line between the Hydro and Toronto Power Company transforming stations) approximately 1,800 feet south of the Commission's station. Both circuits of this pole line are still in service pending the installation of the balance of the underground feeders to the Canadian Niagara Power Company's plant.

The erection of a fourth No. 4/0 copper, three-phase circuit 15.5 miles long, on the 46,000 volt tower line between Niagara Falls and Welland was completed and placed in operation.

The single or three-phase circuit of No. 2 aluminum between the high tension station and the municipal

*From the ninth annual report of the Ontario Hydro-Electric Power Commission.