

43. The net increase in borrowed capital, as shown on Page 36, amounted to \$73,893,054. The balance of financial requirements were obtained from depreciation reserves.

OPERATING PERFORMANCE

1. Improvements in efficiency due to technological advances, though gradual and often masked by random factors, can be traced in the record of operating performance over a reasonably long period of time.

2. The year 1951 was a record year of industrial activity and rail traffic, and it is appropriate to compare it, in respect of the units in operating performance, with the year 1928, since this was the peak traffic year of the inter-war period.

3. During this interval of time striking improvements have been recorded in the utilization, capacity, and unit output of the Railway's equipment. The mileage obtained per serviceable freight car day increased from 32.6 to 45, and the daily mileage of serviceable freight locomotives rose from 107 to 152. The average carload increased from 25.2 to 29.9 tons, while the average freight train increased from 1409 to 1749 tons. Average freight train speed rose from 13.1 to 16.1 miles per hour, and gross-ton miles per train hour—a highly significant composite measure of performance—increased from 18,500 to 28,100. For comparative purposes these figures exclude the Newfoundland District.

4. The overall comparison shows that in quantity the Canadian National has furnished 58% more freight transportation with 12% fewer locomotives and 12.4% fewer freight cars, and in terms of quality the average speed has been raised by 23%. This improvement was accompanied by a significant decline in fuel consumption, and the use of relatively less manpower.

TECHNOLOGICAL IMPROVEMENTS

Motive Power

5. In terms of equipment the diesel locomotive continues to offer the most promising field for improved efficiency. Following the completion of a comprehensive study, approval in principle has been given to a five-year programme of partial dieselization directed towards those freight, passenger, and yard services where relatively intensive utilization of locomotives can be obtained, and advantage taken of the greater availability and lower operating costs of this type of power. This programme will involve large capital expenditures, and can only be justified by the substantial economies made possible not only in train operations but also through the rearrangement of servicing and repair facilities.

6. The Canadian National was the first railway in North America to experiment with diesel-electric locomotives. During 1951 the addition of 103 diesel units, including 39 switchers and 10 road switchers, brought to 280 the total units in service at the year-end, at which time approximately 17% of all through freight traffic on the System was being hauled by diesels. A modest increase in this type of power will be made in 1952 but more servicing facilities must be provided before additions can be substantial. Meanwhile a training programme for personnel who will be engaged in operating and maintaining diesel locomotives has been organized and is in active operation.