

14. Application of roller bearings.
15. Stainless steel passenger cars.
16. Plastic materials in passenger cars.
17. Automatic car washing machines.
18. Self-propelled passenger units.

General and Transportation:

19. Mechanization of data processing.
20. Centralized traffic control.
21. Increase in automatic block signals.
22. Installation and modernization of interlocking plants.
23. Automatic crossing gates.
24. Automatic hump yards.
25. Introduction of piggyback.
26. Introduction of merchandise services.

27. The railways formerly built their own steam locomotives, some freight and passenger cars, other types of equipment and manufactured many replacement parts. On the other hand, all diesels and related parts, as well as passenger and freight cars in recent years have been purchased from manufacturers.

28. This has had a twofold effect. As an offset to the decrease in railway employment, it has not only increased employment in outside industries which formerly shared the work with the railways, but also it has resulted in the creation of entirely new industries. Typical examples are manufacturing of diesels, radiator cores, chrome plating and steel wheels.

29. The railways have also spent large sums on new types of equipment, thereby creating employment in other industry. Examples are, electronic data processing equipment, modern signalling equipment and new types of track machines.

I. (c) *Effects of Traffic Fluctuations:*

30. **Exhibit IX** shows passenger traffic from 1952 to 1959. As noted previously **Exhibit III** showed freight traffic. Gross ton mileage has been used as the freight traffic indicator. This measure is defined as carrying one ton of freight one mile and includes the weight and contents of the cars. From 1952 to 1959 gross ton miles decreased 9.3 percent, and from the high freight traffic year of 1956 declined 14.8 percent.

31. As noted earlier, the trend of freight traffic which comprises 80% of railway business has a substantial effect on railway employment. Freight traffic is affected not only by the economy of the country, but also by the successive increases in freight rates made necessary by substantial increases in labour costs, including fringe benefits, and material prices over the past decade.

32. Post-war increases in freight rates have exposed higher valued traffic to severe competition from other forms of transportation. Lower valued bulk commodities such as coal, iron ore, building sand, gravel and crushed stone, to mention just a few, have been fairly well retained by the railways on short haul movements through adjustments in freight rates to meet competition from other forms of transportation. On long haul movements, the rates necessary to move the traffic are at a level which does not permit the railways' principal competitors to handle it and operate profitably. As for grain traffic, the largest movement takes place in western Canada at a rate level arbitrarily maintained by statute. The rates are the same or lower than they were in