

fact that the overall decline in each of the regions has been of approximately the same order, Atlantic 17.4 percent, Central 19.7 percent and Western 18.6 percent.

22. The respective functional groups, however, show marked differences and each will be discussed in detail beginning on page 11.

	General	Way and Structures	Equipment	Transportation
Atlantic	5.2%	24.7%	35.4%	4.4%
Central	4.1	18.0	37.4	12.0
Western	9.3	8.8	30.4	20.1

I (b) *Effects of Technological Changes:*

23. Exhibit VIII shows the increase in inventory of diesel locomotives and the reduction in steam locomotives during the period 1952-1959. Diesels now handle virtually all the traffic for Canadian National and Canadian Pacific. Steam is now held for standby service only.

24. The estimated economies achieved by the railways for the most recent year, 1959, due to the introduction of diesel units and related facilities in replacement of steam amounted to \$154 million. This economy was made possible through an investment of approximately \$600 million. The introduction of the diesel locomotive on Canadian railways made it possible to provide more efficient service and continue to compete for traffic in spite of rapidly increasing labour and material costs, which have absorbed these savings.

25. The major avenues of cost reduction from the diesel have been:

1. Reduced maintenance costs.
2. Improved availability for service.
3. Reduced fuel costs.
4. Reduced crew costs through operation of longer and heavier trains.

26. Other significant technological changes are listed here and will be referred to under the appropriate headings in section B II.

Way and Structures:

1. Elimination of coal docks, water stations, ash pits and shop facilities.
2. Increase in use of track machines and introduction of more modern machines, permitting extension of track sections and improved methods of track patrol.
3. Use of highway vehicles to transport maintenance forces.
4. Treated ties.
5. Flame hardening of new rail ends.
6. Installation of rail lubricators on territories of heavy rail curvature.
7. Increased use of power tools and bridge and building forces.
8. Use of timber and steel to lengthen life of bridges and substitution of culverts and fill for bridges.

Equipment:

9. Extensive shop innovations, including new and improved types of tools and more efficient methods.
10. Wheel turning machines for diesels.
11. Nailable steel floors in cars.
12. Metal door posts in freight cars.
13. Steel wheels rather than cast iron wheels.