

The major findings of a comparative analysis of U.S. and Canadian rail systems and safety practices are:

1. The Canadian and U.S. rail systems differ substantially in size and structure. The Canadian system is comprised of two primary railroads, the Canadian National (CN) and the Canadian Pacific (CP). CN has been Government-owned since 1923 and CP is privately owned. Both lines are transcontinental. In contrast, the United States has approximately 56 major railroads, none of which are transcontinental or Government-owned. The Consolidated Rail Corporation (Conrail) is the only U.S. freight carrier that has recently received sizable Government subsidies or investments. In general, the U.S. rail system and related Government structure is considerably more complex than the Canadian. The extent to which that difference in complexity may account for the relative effectiveness of safety measures in the two countries could not be determined for this report.
2. The U.S. rail fatality rate, on a train-mile basis, was an average of 47.6 percent higher than the Canadian for the 11-year period 1966-76. This higher U.S. fatality rate, especially in grade-crossing and trespasser fatalities, seems to reflect the fact that, since the U.S. population and rail system are considerably larger than the Canadian, the level of exposure to rail hazards is much higher in the United States.
3. On the whole, the U.S. derailment rate is much higher than the Canadian. However, derailment rates vary widely among U.S. carriers. The average derailment rates of the nine largest (in ton-miles) U.S. carriers were similar to those of the Canadian railroads for 1976 and 1977. However, the average derailment rates for the second 10 U.S. railroads are significantly higher than the rates for the Canadian railroads for those same years. Derailments in the United States are continuing to increase, while derailments in Canada have stabilized.
4. The continued rise in U.S. derailment rates seems to be a result of deferred maintenance and increased axle loadings on freight equipment. U.S. derailment rates will probably continue to climb until the economic condition of some U.S. rail carriers improves. The stabilization of Canadian derailment rates seems to stem from a combination of factors, which include the priority railroad management gives to track maintenance, the economic health of the industry and the availability of capital for it, and favorable Canadian tax structures.
5. In Canada, the National Transportation Act of 1967 changed Government economic policy to encourage greater balance among transportation modes. Under the new policy, railroads gained greater control over their rate structure. Although no direct correlation can be made between this change in policy and rail safety records, the change does appear to have strengthened the economic position of the rail industry in Canada and may be one of the underlying causes of improved rail safety.
6. Several Canadian approaches to rail safety appear to work well and may be worth considering for the United States. They include:
 - Emphasis by railroad management on safety accountability and adoption by management of a systematic approach to safety that includes training, the development and use of accident data, and a high priority placed on track maintenance.
 - Creation of a no-fault system of insurance compensation for work-related injuries.
 - Government use of risk analysis to guide railroad inspection.
 - Government use of risk analysis in the allocation of funds for grade crossings.

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- Government use of stop orders rather than penalties as a means of enforcing safety standards.
 - Mandatory use of the Hazardous Information Emergency Response form, which outlines the basic information

- needed for immediately responding to accidents, in all shipments of dangerous commodities.
- Participation and cooperation between labor and management in a Government-sponsored forum.