Short Title

Adjustment to Technological Change on the Canadian Railways

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Technological Change and the Adjustment Process on the Canadian National and Canadian Pacific Railways

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Abstract

Technological change has greatly affected railway employees' job security within the last fifteen years. This fact has received considerable attention from the unions and reached a head when 2,800 employees booked off sick in protest against the Canadian National's decision to institute certain run-throughs on its lines. The result has been the Freedman report which, though it has been the main cause of the rash of technological change agreements over the past three years, has not offered a solution to the problem of the employees' adjustment to change.

This problem of adjustment to technological change has placed great strain on the collective bargaining relationship to the extent that the efficacy of the collective bargaining machinery has been questioned. The implication is drawn that government policy can provide the necessary atmosphere to allow collective bargaining to handle the problems which adjustment to change presents.

TECHNOLOGICAL CHANGE AND THE ADJUSTMENT PROCESS ON THE CANADIAN NATIONAL AND CANADIAN PACIFIC RAILWAYS

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by

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INTRODUCTION

The main problem that has faced and still faces the railways and the unions in the area of technological change is the reconciliation of the conflict between management's need for freedom and flexibility in introducing change and the worker's desire for security of employment and protection from loss of skills.

On the one hand, the railways wanted unlimited right to introduce technological change even if it meant severe hardship to employees who have been employed in the railroad industry for varying periods of time. This is not meant to imply that railway management would not try to ease the adverse impact of the change. However, they were of the opinion that in order to manage effectively these matters had to be handled according to their own discretion. In this they were supported by the ideological management rights clause which was found in the majority of collective agreements until recent times.

On the other hand, the ideal solution from the unions' point of view would be to have no employees separated from their jobs except by voluntary separation, retirement or death. This is not to say that the unions wanted to imprison the railways within a system of obsolete or uneconomic methods and procedures, but they considered that, though technological change might be beneficial to the railways or to the country as a whole, this is small consolation to a worker who has been laid off or to the union which sees its membership and its influence dwindling.

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Between these two opposite points of view some compromise had to be worked out if tolerable labour-management relations were to be maintained. The most promising result has been a technological change agreement signed as part of the master agreement between the railways and the non-operating unions in 1967, and inspired to a great extent by the Freedman report. 1/ This agreement recognises the right of the employer to implement technological changes, but requires that as much advance notice as possible be given to the unions and provides for measures to minimize the adverse effects of the change on employees. We would, however, ask ourselves whether this is a satisfactory solution.

This issue of management rights or prerogatives has a long history, as long perhaps as the employer-employee relationship itself. The history of collective bargaining is more or less the history of the growth in importance of the institution. There has been a gradual expansion of the areas covered by collective bargaining to the extent that no longer do students of industrial relations question, as they formerly did, the right of unions to negotiate on such items as pensions, work loads and promotion policies. Technological change is one such item that has given rise to much controversy, but is perhaps unique in the amount of strain it has placed on the institution of collective bargaining.

The period covered by the study is 1948 to 1966, a time in which many important technological changes were introduced on the railways. Nevertheless,

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^{1/} The Report of the Industrial Inquiry Commission on Canadian National Railways "Run-Throughs", Ottawa: Queen's Printer, 1965.

some history of the railways and the labour unions operating therein is essential in order to sketch the background for succeeding chapters. The changes themselves and their employment effects are examined, as well as the negotiated provisions which have assisted in the adjustment of workers to the change. Some basic aspects of collective bargaining theory are then viewed and an attempt made to look at the railway experience in the area of technological change in the light of that theory. Special emphasis is placed on two spectacular incidences of change, the Firemen's 2/ and "Run-through" issues 3/ Implications are then drawn for policy changes.

Because of the predominance of the Canadian National and the Canadian Pacific railways, the two nation-wide systems, the study will concentrate on these operations alone. It is, however, a fair analysis of what has happened in the Canadian railway industry as a whole, since these two systems, whose operating revenues represent 85 per cent of the total Canadian railway operating revenues, $\frac{4}{}$ dominate the industry. The other railways, which are mainly regional in nature, in most cases merely follow the pattern set by the Canadian National and the Canadian Pacific.

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^{2/} The proposal of the Canadian Pacific, in 1956, to remove firemen from employment on diesel locomotives in freight and yard service.

³/ See footnote 1/.

^{4/} The Dominion Bureau of Statistics, <u>Railway Transport</u>, <u>Part VI</u>, Ottawa: Queen's Printer, 1965.

CHAPTER 1

THE RELEVANT HISTORICAL BACKGROUND

The Railways

The construction of the Canadian Pacific Railway to unite British Columbia with the rest of Canada was part of the national transportation policy at the beginning of Confederation. After unsuccessful attempts to interest other parties in the building of the railway the government started the project as a public enterprise. Later they entered into agreement with a syndicate (subsequently known as the Canadian Pacific Railway Company) to build a transcontinental line in ten years, 1880 to 1890. Under the agreement the company

"was given free the 710 miles of track constructed or under construction by the Government and representing a cost of \$37,791,435; a cash subsidy of \$25,000,000; a land subsidy of 25,000,000 selected acres; exemption from import duties on materials for construction, from taxes on land for twenty years after the patents were issued and on stock and other property for ever; exemption from regulation of rates until 10 per cent per annum was earned on the capital; and a monopoly clause by which the Canadian Pacific was practically freed from competition between its line and the American border." 5/

This monopoly clause met with serious objection in the West and was rendered

virtually null and void in 1888 in return for some consideration. 6/

In the meantime the railway had been completed in 1885, and in 1886 began

to operate as a link between Eastern and Western Canada. To secure full benefit

from the undertaking, however, the Canadian Pacific decided to expand in the East.

^{5/} Report of the Royal Commission into Railways and Transportation in Canada, Ottawa, 1932, pp. 77-8.

 $[\]underline{6}$ The Dominion Government guaranteed interest on a bond issue of \$15,000,000 by the Canadian Pacific.

The provision under which the government agreed that the company would be exempt from regulation of rates until a 10 per cent annual dividend could be paid also met with strong criticism. This provision was modified in 1897 by means of the famous Crow's Nest Pass Agreement. $\underline{7}$ / Under this agreement the Canadian Pacific agreed to make certain reductions in the rates on specified classes of freight and merchandise in return for a government subsidy of \$3,360,000. The agreement also contemplated the formation of the Board of Railway Commissioners of Canada, a statutory body which eventually took office in 1904. It made no provision for termination of the agreement. In other words the Canadian Pacific bound itself to maintain these rates ad infinitum. This is particularly important inasmuch as the Crow's Nest Pass rates have existed unchanged (except for a few years after World War I) since 1897, and have had and still have no serious effect upon the earning capacity of the railways. The rates are statutory and can only be altered by Parliament.

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The Canadian National Railways came into being in 1918. They were designed to absorb into a single system all railways controlled or owned by the Federal government. The Drayton-Acworth Commission of 1917, in considering the railway situation, had found a condition of over-extension, unnecessary duplication, deficient equipment and complete financial impotence, and had recommended a similar course of action. However, contrary to the recommendation of the Commission, the Canadian National Railway system was not made into a strictly

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^{7/} See the <u>Report of the Royal Commission on Transportation</u>, Ottawa: 1951, pp. 238-9, 247.

Originally this agreement applied only to lines of the Canadian Pacific Railway in existence in 1897, but the rates were subsequently extended to all railways and formed the basis of the western freight rate structure.

commercial enterprise, and it soon found itself operating, with substantial deficits, consolidated lines that were in many respects competitive. Also, many of these lines competed directly with those of the Canadian Pacific.

The problems and financial plight of these two systems were great enough to lead to the establishment of another Royal Commission in 1931. A direct result of the report of this Commission was the passage of the Canadian National-Canadian Pacific Act of 1933, an Act which permitted co-operative measures between the two systems. The chief measure adopted was passenger train pooling. Despite this and other co-operative measures, however, the situation of the railways continued to be grave and there was talk of amalgamation and unification, conditions which had been expressly forbidden by the Act.

During World War II things improved as railway traffic, both military and civilian, reached the highest level in Canadian history. Wages, freight rates, prices of materials and equipment were all frozen. The Canadian National had large surpluses even after meeting all the interest on its huge debts, and the Canadian Pacific was able to resume dividends, though at lower rates than they had paid in the 1920's. However, in 1946, after the war and when price and wage controls had been lifted, rates and fares remained the same and the position of the railways, with strong competition from highway carriers for certain types of business, again deteriorated.

This state of affairs led to the establishment of yet another Royal Commission in 1948. The main question, as the Commission saw it, was whether the transport-

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ation services were to be regarded on a strictly commercial basis, or whether their existence should be justified by their contribution to national welfare. In its report the Commission did not deal adequately with the problem, and the proper balance between the commercial and the national approaches was not achieved by its recommendations. It recommended continuance of the Canadian National-Canadian Pacific Act, rejected the Canadian Pacific's claim that the Crow's Nest Pass rates were unfair, and suggested that federal subsidies might provide the link between national policy and public enterprise.

The situation was more or less the same when the Royal Commission of 1959 was appointed. The Crow's Nest Pass agreement still haunted the railways, and still required them to carry grain and grain products to export positions at a loss. The appointment of the Royal Commission followed the passage of the Freight Rates Reduction Act by which increases authorized for the railways in normal class and commodity rates were 'rolled back' and the rates frozen at these reduced levels. The freeze was accompanied by a payment in partial compensation for the enforced reduction.

The Commission in its report spoke of the effect of the Crow's Nest Pass rates on the railway capacity to earn, and also of the unprofitability of some railway operations, but critized outmoded management and labour practices as contributing to the inability of the railways to operate more efficiently and compete more effectively. In the end the Commission recommended that in future the losses associated with the Crow's Nest Pass rates should be borne by the government which imposed the rates. It also advocated the lifting of the burden of excess plant and passenger services, but only as far as was necessary to bring the railways into line with the "economic realities of a competitive environment". The Commission's apparent intention was to put the railway operations on as commercial a basis as possible consistent with their role as instruments in the achievement of national stability and growth.

As a result of the recommendations the railways received interim payments under the Freight Rates Reduction Act, as well as payment on a declining basis over five years in respect of uneconomic passenger train services and payment over fifteen years in respect of uneconomic branch lines. It was also the opinion of the Commission that, subject only to certain regulations with respect to minimum and maximum rates, the railways should be free to make rates just like any other business.

After the Commission reported, legislation along the lines suggested by the findings was awaited. This eventually came in 1967 in the form of the National Transportation Act. The Act does not repeal the Crow's Nest Pass pact but provides for "equality of competitive opportunity for the railways to promote efficiency and for measures to prevent inequities in freight rates."

The Unions

There are eighteen labour unions to which Canadian railway workers belong. Seventeen are international, United States-based, and almost exclusively craft unions; the other, the Canadian Brotherhood of Railway, Transport, and General Workers is national in sentiment and industrial in scope. These unions can be

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further subdivided into two distinct groups, the running trades unions, $\underline{8}$ / and the non-operating brotherhoods. $\underline{9}$ /The running trades or 'operating unions' represent those workers who actually operate the trains, whereas the 'non-ops', as they are familiarly called, are those unions not engaged in the actual running of the trains.

All these unions have long been organized and represent about 90 per cent of all Canadian railway workers. In addition, the industry is a labour-intensive one with wages to labour accounting for approximately 54 per cent of total railway expenses. 10/ These two factors combine to make shippers, the government, and the public at large very fearful of a railway strike. 11/ They also point to the reason why technological improvements which lead to wholesale displacements of labour are of crucial significance.

10/ Railway brief to the 1966 conciliation board.

 $1\underline{1}$ Three strikes have occurred since World War I.

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⁸/ The running trades unions are: The Brotherhood of Railroad Trainmen, the Brotherhood of Locomotive Engineers, and the Brotherhood of Locomotive Firemen and Enginemen.

^{9/} The non-operating unions are: The International Association of Machinists, the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers, the Brotherhood of Railway Carmen of America, the International Brotherhood of Electrical Workers, the United Association of Journeymen and Apprentices of the Plumbing and Pipe-Fitting Industry of the United States and Canada, the International Molders and Allied Workers Union, the Sheet Metal Workers International Association, the Brotherhood of Maintenance of Way Employees, the Brotherhood of Railway and Steamship Clerks, Freighthandlers, Express and Station Employees, the Brotherhood of Railroad Signalmen, the Transportation-Communication Employees Union, the Commercial Telegraphers Union, the International Brotherhood of Firemen and Oilers, Helpers, Roundhouse and Railway Shop Employees, and the Brotherhood of Sleeping Car Porters, Train, Chair car, Coach Porters and Attendants.

The running trades were the first to organize and win recognition. Though they act together on all important issues, they negotiate individually with the railways. This can be partly explained by the fact that each union can by itself tie up railroad operations if it strikes. Also, being the better paid group, they negotiate independently of the non-operating group. The non-operating employees gradually organized after the turn of the century. Within this group are the shop crafts employees, the men who work mainly in the railway shops. They include such crafts as machinists, boilermakers, electricians, plumbers, carmen and pipefitters. Though such groups as the machinists and boilermakers rely heavily on the railway shopmen for their membership, the shopmen typically belong to the same unions as the corresponding craftsmen in outside industry. Thus "except in centres where the largest shops are located, the railway members are scattered and outnumbered in the locals to which they belong. For that reason their interests are largely subordinated to those of the majority craftsmen elsewhere employed, notably in the building industry".12/ The other unions of the non-operating group include maintenance of way employees, porters, clerks, signalmen, and telegraphers among others, but membership is not confined to the railway industry.

Joint Bargaining

Today the non-operating unions bargain in groups with the exception of the Canadian Brotherhood of Railway, Transport, and General Workers, which bargains independently. The railways also join forces in presenting their cases before

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^{12/} H. A. Logan, <u>Trade Unions in Canada</u>, Toronto: The Macmillan Company of Canada, 1948, p. 145.

conciliation boards. As a matter of fact the regional railways that are signatories to the master agreement are content to have the Canadian National and the Canadian Pacific present their cases for them. After the master agreement is signed on matters of common interest to all unions, each union then signs its own agreement with the companies with which it deals.

Joint bargaining really began in 1931 when the running trades and telegraphers formed a joint committee to discuss a proposed wage reduction. After this initial set of negotiations the group was extended, at the request of the original unions, to include all international railway organizations. Subsequently, the running trades unions, feeling it in their interests, withdrew from the general group in 1948. Since then they have bargained singly and separately from the non-operating unions, who continued, at least until 1965, to bargain as a single group on a national basis.

The Canadian Brotherhood of Railway, Transport, and General Workers joined the non-operating group in submitting identical demands, and continued to do so until the 1963-64 negotiations when they submitted separate demands. They, however, subsequently withdrew them before conciliation began, and replaced them with demands similar to those of the other non-operating unions.

In 1965 there was a great change, the non-operating unions submitting their demands in three separate bodies. Thus, from a situation in which virtually all railway unions bargained jointly, there has been the withdrawal of the running trades in 1948, of the Canadian Brotherhood of Railway, Transport, and General Workers in 1963, and finally a split of the non-operating group into the shop crafts and the

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'residual non-ops'.13/

These events have significance in the area of technological change and labourmanagement relations. Perhaps the main reason for the existence of four separate groups is the fact that the railways have insisted that the demands under joint bargaining be submitted to them in such a form that they will be common to all the union organizations. This had led to the omission, until the master agreement has been signed, of issues of a peculiarly local nature or that would have specific application to one union. Then the issue was in the closed period where, without the strike threat, it was settled solely at the discretion of the railways. This also took away from any one union the benefit of joint bargaining on issues peculiar to it. An attempt was made by the unions to overcome this difficulty at the 1965-66 negotiations by submitting with the usual demands an Addenda notice as follows:

"The Master Agreement to be signed following these negotiations shall contain a clause providing that, within fifteen days from the date of the signing of this Master Agreement items addended to the national notice preceding this Agreement shall be open to negotiations between the Organizations and Railways concerned in accordance with the provision of the Industrial Relations and Disputes Investigation Act."14/

This Addenda notice was, therefore, very important. The majority of changes that had been introduced tended to affect only one union at a particular time, or at least to affect different unions in different ways; also many changes were local in character. It was thus difficult to solve the problem when submitting joint demands

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^{13/} A phrase coined by the railways in the 1965-66 negotiations.

¹⁴/ The demands of the Associated Non-Operating Railway Unions, November, 15, 1965. The information was supplied by the International Railway Unions Research Bureau, Montreal.

on a national basis. (The Task Force on Labour Relations which reported in December, 1968 made a recommendation which might assist in the handling of this problem).15/ The aim in submitting the Addenda notice was not only to retain the benefits which joint bargaining held, but also to be able to solve on an individual basis problems which to some of the unions, at any rate, were becoming increasingly vexatious. Even so, the Addenda notice did not prevent a further division of the non-operating group into smaller units for purposes of collective bargaining.

Wage Negotiations

Before the issue of technological change assumed such a measure of importance, wages provided the predominant source of conflict in railway labour management negotiations. In the early stages this conflict took the form of disagreement over whether Canadian railroad workers should have wages on par with their United States counterparts. Until 1917 the Canadian railway workers tended to have the higher wages. Then, in 1918, basic rates in both countries became equal when a Canadian Royal Commission on Transportation recommended the adoption of the 'McAdoo Award'.16/ Thereafter United States railroad wages tended to outstrip

^{15/ &}lt;u>Canadian Industrial Relations</u>. The Report of the Task Force on Labour Relations, Ottawa: Queen's Printer, 1969, p. 142, paragraph 453.

¹⁶/ Mr. W. A. McAdoo was appointed Director General of Eailways when the United States government, as a result of unrest and strikes, took over the operation of the railroads in that country. The wage increases which a Commission appointed by him recommended are referred to as the 'McAdoo Award'.

Canadian railway wages. The wage rates in Canada have never again approached the American level, and are unlikely to do so. In the meantime a variety of standards for wage comparison have been used and contested between the two parties.

The durable goods standard 17/ has been the most popular of these standards. It was first used as an explicit reference in 1950. However, even before 1950, it had been for some years the effective if unnamed reference for the earnings of the non-operating railway employees. The railways were the first to suggest the use of the standard in the 1950 negotiations, at a time when railway employees were earning slightly higher wages than workers in the durable goods industries. In 1956, however, when a significant decline of railway wages from the durable goods standard had been generated, the railways began to oppose the standard while union acceptance became evident for the first time. The conciliation board which investigated the dispute upheld the validity of the durable goods standard, and subsequent standards submitted by the railways in later negotiations were also rejected by subsequent conciliation boards. Never, however, has anyone or any conciliation board suggested an automatic application of the standard. In fact the 1964 conciliation board, chaired by Mr. Justice F. Craig Munroe, recommended a set of adjustments to the simple

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^{17/} The Durable Goods Industries, according to the Dominion Bureau of Statistics' Standard Industrial Classification Manual, are: (1) Wood Products; (2) Iron, Steel, and Non-Ferrous Metal Products; (3) Transportation Equipment; (4) Electrical Apparatus and Supplies; (5) Non-Metallic Mineral Products.

standard to render it even more comparable to non-operating employees .18/

Summary

The building of the railways in Canada had reached considerable proportions by the middle of the 19th century. However, it was not until 1880 that construction was begun on the Canadian Pacific as part of the terms of the union between British Columbia and the Dominion. The Canadian National later came into being as a result of the Drayton-Acworth Royal Commission of 1917, a majority of the Commissioners recommending, and the Federal government accepting, that a number of railways which had either collapsed or were on the verge of collapse as private enterprises, together with other lines wholly owned by government, should be consolidated into a single system.

- (b) An upward adjustment to reflect the fact that a higher proportion of railway employees are men, who normally receive higher wages than women;
- (c) An upward adjustment to reflect the fact that while there are many large and small firms and establishments among durable industries, the two major railways are the largest non-governmental employers in the country, and wages are demonstrably higher in large establishments;
- (d) An upward adjustment to correct for a more highly skilled railway labour force, or conversely, a downward adjustment if relatively more durable goods employees are skilled workers.



^{18/} See The Labour Gazette, Vol. lxiv; p. 579. The recommended adjustments were:

⁽a) A downward adjustment in the figure for durables to reflect the fact that a higher proportion of railway employees live and work in rural areas where wages are normally lower than in urban centres;

The earning capacity of the railways, as instruments of national policy, suffered because of certain limitations placed upon them by the government. Specifically, among other things, the Crow's Nest Pass pact, which had originally been part of a contractual agreement between the Canadian Pacific and the Federal government but was extended to cover all railways, bound the railways to maintain ad infinitum low rates for the conveyance of grain and grain products to export positions in the west of Canada.

The organization of railway unions in Canada is almost as old as the railways themselves. These unions are, with one exception, 19/ international unions. Some are exclusively railway unions while others, though relying greatly on the railway industry for membership, have members in other industries.

In negotiations between these parties the emphasis on wages has been predominant throughout most of their history. In the period under review (1948-66), the railways have presented a united front. The unions, on the other hand, did not always bargain together. The running trades unions have negotiated apart from the non-operating unions and independently of each other, while the non-operating group bargained together. The non-operating group, however, is usually the first to negotiate and their agreement sets the standard for the other negotiations.

In such an atmosphere the problem of an appropriate standard of comparison for railway workers assumed a great deal of importance, especially since many

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¹⁹/ At the time of writing discussions were taking place between the one national union and an international union with a view to amalgamation.

railway jobs were not performed in outside industry. Before the second World War parity with United States railway workers was the goal of the unions. This was vigorously opposed by the railway management and was not achieved. The average wages paid to employees in durable goods industries taken together was then introduced, supported by the railways and reluctantly accepted by the unions. This subsequently became the effective standard of comparison. However, there has never been complete agreement between the parties as to what the standard involves, and it has undergone some refinements to make it more applicable to the railway industry.

At a time when the issue of wages far surpassed any other negotiable issue in its importance to the worker, the idea of a suitable standard occupied much time in negotiations. However, in recent years technological displacement on the railways has caused a great deal of concern. Formerly, the issue was not negotiable inasmuch as it was considered management's right to introduce change as they saw fit whether or not the change resulted in huge employee displacement. But in recent years agitation and concern over the effect of technological change has placed it firmly on the bargaining table to the extent where it now appears to be rivalling wages as the single most important issue in railway union-management negotiations. The issue has also put a great deal of strain on the bargaining relationship so that the units in which the unions negotiate are becoming more fragmented. It is now therefore appropriate to turn attention to a consideration of the technological changes.

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CHAPTER 2

TECHNOLOGICAL CHANGES IN THE CANADIAN RAILWAY INDUSTRY

This chapter outlines some of the factors which lead to changes in employment with particular emphasis on the role of technological change. The following chapter will provide some empirical data on the changes in employment in the railway industry, and give some indication of the effect of technological change.

Technological change is not the sole, though it is perhaps the most important, factor affecting the workers' job security. Among the other factors two might be mentioned as being significant in the railway context. These are as follows:-

- (1) Seasonal patterns; and
- (2) Competition from other forms of transport.

Seasonal Patterns

"Seasonal unemployment is the result of variations in economic activity that take place regularly within the period of a single year."20/ The climate is obviously the main cause of seasonal unemployment in Canada and has a direct effect on a number of industries. The construction industry is one such industry; others are crop production, fishing, food processing, and the tourist trade. In addition the Canadian winter has indirect effects on many manufacturing industries and on the transportation industry.

^{20/} Economics and Research Branch of Department of Labour, <u>Seasonal Unemployment</u> in Canada, Ottawa: Queen's Printer, 1960, p. 3

Technological improvements have resulted in a significant decline in seasonal fluctuations since the turn of the twentieth century. Better planning, improved techniques and machinery have made it possible for a greater number of business operations to be conducted in the winter months, and have made it economically feasible to transfer certain operations from the winter to the summer. The construction industry has benefited to the extent that seasonal fluctuations have been reduced considerably and the length of the construction season increased. However, even under full employment conditions it has been estimated that about 4 per cent of the labour force in Canada is unemployed in mid-winter because of seasonal factors .21/

The seasonally unemployed are those who lose their jobs because of the seasonal drop in employment but are still counted by the labour force survey as remaining in the labour force. This means that people who withdraw from the labour force and no longer seek employment are not considered seasonally unemployed. This factor has application to the railway industry. In the summer when passenger travel is at its peak, the railways employ a fair number of students who enter the labour force for the summer only. When employment is terminated at the end of the summer the students return to school and thus leave the ranks of the unemployed. Naturally, the railways are unwilling to carry a permanent staff geared to peak periods and so incur greater costs in off-peak periods. The expedient used is to hire temporary, part-time employees to cover the peak periods which are mainly in the summer months, and the student

2<u>1</u>/ <u>Ibid</u>., p. 12.

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seeking summer work is perhaps the best choice in the circumstances.

An instance of seasonal unemployment on the railways is seen in the case of the maintenance of way employees engaged in building and repairing bridges and buildings, the 'extra-gangs' who re-lay steel, re-ballast the road-bed, and construct new lines. In another case, though certain employees on passenger trains do not become seasonally unemployed, they do not earn as much money because there is not the same volume of business in the winter as in the summer.

Competition from other forms of Transport

The threat that competition from other forms of transport offers to the workers' job security is a very serious one. From the earliest days of settlement in Canada the governments have extended favours and grants to provide or assist in providing transportation facilities for the country. At first, the main outlay was for the development of inland navigation, railways being employed merely to transport goods around the break in navigable water. However, as the railways demonstrated their economic advantages, they became the recipients of more and more public funds, and indeed played an important role in the Confederation arrangement. Inland waterways continued to offer effective competition to railways in the carrying of heavy freight, but railways were the dominant power in Canadian transportation.

After 1920 the provincial governments tended to withdraw from further investment in the railways and to concentrate on highways as automobiles, trucks, and buses became more plentiful. Moreover, revenue was collected from virtually all

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users of highways by means of a tax on gasoline and various license fees. This made the venture so lucrative that the network of provincial highways grew rapidly. The railways were, then, having difficulties at a time when highways were profitable.

The railway situation improved during the war years when the railways had a record volume of traffic, but deteriorated again after the war ended and price and wage controls were removed. Airlines had also entered into the picture in the 1930's with the result that today railways compete with highway carriers almost everywhere in Canada, with steamships along the Great Lakes and the St. Lawrence River. Pipelines for natural gas and petroleum, and power lines for hydro-electricity reduce the demand for coal which typically moves by rail. Civil aviation is potentially a strong competitor for certain kinds of traffic. Railways gain something from these new competitors since they must still move the heavy goods which are involved, but by and large the railways have suffered from the competition.

In the past the railways were able to ignore shippers' needs because they had a virtual monopoly over land transportation beyond a few miles distance. In the words of the Royal Commission on Transportation (1961):

"With no desire to minimize the complicating effects of competition between the railways themselves, it can justly be said that the Company policies which guided the development of the railway system of Canada reflected in large part the substantial monopoly position the railways enjoyed in the transportation field, and that railway operations tended to adapt themselves to the fact that shippers had virtually no suitable means of transport at their disposal. The railway rate structure, in particular, proved responsive to this circumstance and the development of 'a value of service' pricing system in which the value of the commodity assumed a crucial role was a logical outcome of the existing environment. Under this system of differential pricing the railways hauled bulk commodities (21)

"which had a relatively low value per pound such as grain, coal, ore, gravel, etc., at low rates which sometimes covered little more than actual out-of-pocket costs, and recovered most of their overhead costs from the high rates applicable to more finished goods with a much higher value per pound such as clothing, tobacco, hardware, machinery, etc."22/

However, the railway monopoly is a thing of the past. The main reason is perhaps found in the fact that the pattern of Canadian industry was shifted as a result of the decline in importance of primary products and the growing importance of the manufacturing industry. Thus the railways, which by virtue of their advantage in carrying bulky commodities, were particularly important in a predominantly agricultural economy, now receive vigorous competition in the highly industrial climate of today from other modes of transportation, particularly the motor carrier whose characteristics are more suited to shipments over short or medium distances on fast, regular and flexible schedules. The output of the transportation industry has increased to be sure, but the output of the railway industry, though increasing, has been at a somewhat slower rate. Table 1 shows how the increased volume of transportation in the post-war period has been distributed over the main modes of transportation. A major share has gone to pipelines; the proportion moving by road has increased by 50 per cent; the proportion moving by water has remained virtually steady; while the proportion moving by rail has dropped from 67.5 per cent in 1948 to 42.4 per cent in 1964.

The railways are still best suited for the transportation of very bulky commodities, but their overall advantage in the transportation industry has been eroded by vigorous competition.

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^{22/} The Royal Commission on Transportation, Ottawa; Queen's Printer, 1961, Vol.1, p.4.

Technological Change

Perhaps the most important single justification for the feeling of job insecurity on the railways in recent years has been technological change, judging from the prominence of job security items in the union demands between 1960 and 1966. Seasonal unemployment is not as large as might be expected, due to such things as student employment in the summer. Competition itself would not have been disastrous because, though the railways have suffered from competition, the overall growth of the transportation industry has seen an increase in railway ton miles. However, technological change and the mechanization of production have seriously affected railway employment. The effects of technological change are rather unpredictable. Some of the most notable changes have been the exit of old and the entrance of new machines; but job content is also affected and certain skills become obsolete. Not all changes are adverse, for growth and progress are closely connected with technological change and the benefits are usually spread throughout the economy. Nevertheless, the employee in any particular job that becomes obsolete has a serious problem. Though some people may sing praises of technological change, a worker whose job has become redundant is likely to find little consolation in the fact that he is the victim of progress. He is without a job and he experiences the difficulties and hardships that accompany such a situation.

There have been a number of technological changes which have in varying ways affected railway employees' job security. Some employees have spent all their working lives on the railways. The average length of service among railway employees is comparatively high, a condition which has arisen partly out of the applicability of seniority rules and partly out of the relative stability of railway employment in past years.

Proof of the long service of many employees was submitted by the railways in the 1954 conciliation board hearings:

"On the railways the number of employees in the non-operating group here represented with 10 or more years' service is 46% of the total; those with 15 or more years' service, 28%; and those with 20 or more years' service, 24%. This is substantially in excess of the average industrial company as is shown by a survey made recently by the Quebec Industrial Relations Institute of 33 companies in the Montreal area which grant 3 weeks' vacation with pay. This survey showed none of the companies had as much as 46% of their employees receiving 3 weeks' vacation with pay; indeed the highest proportion reported was 34%. The number of companies with more than 28% was only 3 and with more than 24%, 5 or only 15% of the total number of companies."23/

There is some evidence that, in 1958, approximately 21 per cent of all railway employees had 25 years of service or more, according to the Report of the Chairman of the Board of Conciliation of that year.24/ Thus, in any attempt to assess the effect of technological changes on railway employees the high percentage of long service employees must be considered. The attachment to the railways is both social and economic, and is often underestimated. In fact some are of the opinion that the sense of family identification on the railways has, in the past, been just as strong as in any of the primary industries.

24/ The Labour Gazette, Vol. Iviii; p. 1014.

²³/ Information supplied by the International Railway Unions Research Bureau, Montreal.

Apart from competition there are other factors which tended to encourage reform on the railways. There had been a relatively low rate of investment on railways in most countries during the depression years of 1929 on, mainly due to the fact that their financial situation had been seriously affected by the drop in traffic. Canada was no exception. After the depression period was over, the coming of the war forced the railways to run down their equipment; great demands were made on the railways during the war and equipment was not properly maintained. The problem continued for a few years after the war, years in which it was difficult to get the required equipment. There was thus a pent-up demand for investment, maintenance and equipment which provided an opportunity for the introduction of technological change. In addition, the wage demands may have induced the railways to adopt more capital-intensive techniques. At any rate this was the time when most of the important changes were introduced on the railways.

Some of these changes will now be discussed in greater detail. The most spectacular has been dieselization, but there were other significant changes, such as centralized traffic control, trailer-on-flat car operations, humpyards, and integrated data processing.

Dieselization

Although the Canadian National pioneered in this type of power in 1925 when it helped to design and put into service the first diesel-electric locomotive in North America, nevertheless it was 1948 before diesel locomotive operation in general (25)

mainline freight service was begun on the Canadian National and 1952 before the railways were more than 50 per cent dieselized. The conversion to 100 per cent dieselization was completed on the Canadian National in 1960, and on the Canadian Pacific a year later. This has been undoubtedly the most pervasive factor affecting railway employment.

When compared with the steam engine the diesel engine requires less servicing, suffers less from the effects of cold weather, offers more power per unit and thus the ability to draw heavier loads, no smoke and soot, and possesses greater speed and operating flexibility. Moreover, these advantages are gained at lower cost per train mile.

Steam locomotives required servicing facilities every 100 to 125 miles, and were given a major overhaul every 120,000 miles. In contrast the diesel engine requires considerably less servicing, only at 350 to 450 mile intervals, and are given major overhauls every 240,000 to 360,000 miles depending on the type of engine. With the concentration of maintenance facilities at fewer points, many engine-houses became redundant on both main and branch lines, and related expenses such as heating, shop maintenance, power and lighting have been eliminated. This led to the disappearance of a number of duties, among which were the lighting of engines, the cleaning of fires, ashpans and boiler tubes, the disposing of ashes, and the washing of boilers.

Again, diesel locomotives do not need protection from the weather nor the same housing for servicing. It is possible to leave diesel units outside in the cold weather between runs by idling motors or using automatic protective measures to (26)

keep the motors warm. This eliminates the need for watchmen who were employed on steam locomotives. Also, steam engines, after servicing, were available for only 12 hours a day, whereas a diesel engine can be on duty for 21 out of 24 hours per day. Further, the actual operation of a diesel-powered train is physically much less strenuous for the driver. There is, too, the saving on fuel. Diesel is not only cheaper than coal, but further savings have been achieved through reduced labour costs in its storage and handling. Finally, there is the potential saving of labour in the actual running of the trains, the fireman (or assistant driver) not being required.

The diesel has improved the competitive ability of the railroads markedly. Speed of both passenger and freight trains have been progressively increased to the extent where trans-continental rail passenger travel time has been cut almost in half since it was inaugurated.

Centralized Traffic Control

Centralized traffic control is a system of railroad operation in which the old method of train order or time table authority is replaced by remote control of electric signals and switches from a master panel. The dispatcher who operates the panel sees a whole region in miniature before him on the control panel. Lights on the panel indicate the location and progress of all trains in the region at all times, thus enabling the dispatcher to direct the movement of trains over distances ranging in length from a few miles to several hundred miles.

Centralized traffic control was introduced on Canadian railways in 1930. However, like dieselization, without which centralized traffic control did not produce

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much economic benefit, it was 1948 before the Canadian National used it on any large scale and well into the 1950's before the Canadian Pacific used the system on a section of its Montreal to Toronto line. Thereafter, both railways continued to expand the system and by 1965 centralized traffic control covered train movements on over 3,500 miles of Canadian National track, while the Canadian Pacific had over 1,000 miles of centralized traffic controlled tracks.

Although centralized traffic control is applicable to multiple-track operations, it has largely been confined to single track lines where it has had the effect of permitting the reduction of double-track to single-track operation or at least increasing traffic capacity on single lines and postponing the need for double tracks. By one estimate, 25/ centralized traffic control has the effect of raising the capacity of a single-track line by about 80 per cent when it is adequately equipped with passing tracks. All this is accomplished without any sacrifice of safety, for centralized traffic controls are so devised and interlocked that it is impossible to set up conflicting train movements.

Some of the advantages of centralized traffic control derive from speedier movements through yards, reduction of tractive power requirements, less idle car time, reduction in the maintenance of signals and roadbeds, elimination of stops and less consumption of fuel as a result of the reduction in waiting time.

One economic consideration in the introduction of centralized traffic control is the fact that without it the railways would not be utilizing the full potential of the

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^{25/} J. C. Nelson, <u>Railroad Transportation and Public Policy</u>, the Brookings Institution, 1959, p. 156.

diesel engines for higher speeds, heavier loads and tighter schedules. The full benefits of dieselization cannot be had without collateral improvements such as siding extension, re-arrangement of yards and improved signals. This makes it very difficult to pinpoint all the savings of centralized traffic control.

However, economic motivation is not the only consideration in centralized traffic control and associated changes. The concomitant increase in safety is equally important, for when capital and other costs involved in the switch to centralized traffic control are examined, it is found that net saving is not always high enough in some cases to warrant introduction of the system on economic grounds alone.

Trailer-on-Flat-Car Operations

Trailer-on-flat-car operations, or more familiarly 'piggy-back', is "simply a form of ferry service in which the transport unit of one carrier is moved by another."26/ Looked at in this way, the operation is not a recent innovation, and has many applications apart from the operation that this subheading indicates. However, as applied to the railway industry, the service involves the transportation of a fully loaded truck or trailer on a railway flat car over long distances. Originally only rail-owned trailers were carried, but the practice has been refined to such an extent that now not only rail-owned trailers, but also highway common-carrier trucks and trailers are carried on railway flat cars. Fully loaded trailers are placed

^{26/} William W. Hay, <u>An Introduction to Transportation Engineering</u>, John Wiley and Sons, Inc., New York - London, 1961, p. 327.

on specially constructed flat cars and are then unhitched from the cab and unloaded at the place of destination. Unnecessary handling of the goods in transit is thus avoided.

The service, unsuited as it obviously is for short hauls, combines the doorto-door flexibility of road transport with the low-cost line haul advantages, and serves as a good example of the integration principle as applied to transportation.

Trailer-on-flat-car merchandise services were first introduced by the Canadian National in 1952 as an experiment on their Toronto-Montreal run. At that time only railway-owned trailers were used. However, the operation was so successful in reducing freight handling costs and providing faster delivery service to consignees that it was rapidly extended. The Canadian Pacific inaugurated its piggyback services in 1954. In the years following the service was expanded, and in 1957 both railways introduced common-carrier piggyback services between Montreal and Toronto. In other words trailers other than railway-owned trailers were also carried on the railway flat cars. The service is today used extensively on both railways.

With more and more business establishment: being located away from railway tracks, piggyback service allows the railways to compete more effectively. In addition, much of the expense, disadvantages, and nuisance of highway travel can be avoided or at least substantially reduced. These inconveniences include such things as traffic congestion, delays, restrictive limitations on weight and size, the risk of accidents and the fear of traffic violations.

Piggyback services have also meant that competition with trucks is now less intense, for truck trailers, instead of competing for freight, have become an actual

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freight item as well as a freight container. Furthermore, it has led the railway to integrate their transportation services by purchasing or acquiring controlling interest in a number of trucking companies.

Automatic Humpyards

Automatic humpyards are perhaps the nearest approach to complete automation of a specific operation yet introduced in the whole railway industry. The operation is most clearly described in a Canada Department of Labour study as follows:

"When a train arrives in the receiving yard, a switching locomotive takes over and pushes the series of freight cars up a grade (the hump), from which, under the force of gravity, they descend into the various classification tracks after being uncoupled. The movement of the cars down the grade is governed, both as to speed and direction, by remote control."27/

Whereas in the older type yard these movements were accomplished manually, now once the cars are pushed up the 'hump' in the automatic humpyard they are directed and controlled downhill by television, radar, radio, computers and centralized traffic control. When operating properly, train makeup time is drastically reduced. Cars move through the yards more quickly and damage to freight and freight cars is lessened, making it a more efficient service with economic saving to the railways.

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^{27/} Economics and Research Branch of the Canada Department of Labour, <u>Techno-</u> logical Changes in the Railway Industry - Maritime Area of C.N.R., Ottawa: Queen's Printer, 1964, p. 15.
The first automatic humpyard was built in Montreal in 1949 by the Canadian Pacific. Since then the Canadian Pacific has put into operation another at Toronto, and the Canadian National has built four larger and more advanced yards in Moncton, Montreal, Winnipeg, and Toronto. These yards tend to perform work usually done in two or more smaller yards. They are not only capable of reducing train makeup time by as much as 75 per cent but greatly affect the employment situation. There is an increased demand for supervisory personnel and for persons employed in the repair and maintenance of signal and communications equipment, but there is a greater reduction in engineers, firemen, yard crews, switch tenders and car checkers. Moreover, not only is there a large displacement of labour in places where the humpyard is introduced, but there is also an adverse effect on the employment levels in the flat yards in the region.

Even so it is difficult to isolate the specific employment effects that the humpyard brings about. The humpyard was made possible only by the development of a centralized traffic control system which controls traffic entering or leaving the yard. Movement of cars from the hump to the classification tracks is handled by pushbutton control through retarders and power operated switches. This serves to illustrate the difficulty in being exact about the effects of technological changes that are inextricably interrelated.

Integrated Data Processing

Although it is only one part of the process of technological change that has been taking place on the railways, the use of computers and mechanical tabulators in the

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administration departments matches more closely the picture of technological change held by most people.

Integrated data processing first made its appearance on both railways in 1955. To gain the benefits of automation in the mass handling of paper work, filing, the control of records, and the mechanization of stenographic and clerical functions, information on many phases of railway operation was recorded automatically at the source and transmitted over the communications network to a central processing location. By using advanced electronic data processing machine installations it is possible to supply information promptly to all levels of management, virtually without manual intervention, for such purposes as sales, payroll operations, car tracing, revenue and car accounting operations research and equipment control.

Since integrated data processing was first implemented, there have been refinements to the system directed towards providing more sophisticated control information. Integrated data processing systems have greatly increased the productivity in the industry while actually providing increased employment opportunities in the clerical area. This might seem strange at first, since it might be expected that computers would reduce the work force. However, especially on the railways, integrated data processing has allowed management to collect information that was formerly impossible to collect in a short enough space of time to be economically useful, and an increased clerical work force is now necessary to cope with the bigger work load.

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However, though increasing overall employment opportunities in the clerical field, integrated data processing has given rise to the usual adjustment problems. The employment for timekeepers, clerks, posters, caculator operators, ledger and payroll typists has declined. On the other hand clerical positions specific to integrated data processing made their appearance, and there were increases in employment at the supervisory level. Integrated data processing, however, is only part of the long trend towards office mechanization which began with the introduction of the typewriter around the time of the First World War, and the effect might therefore be tied in with other economic, organizational, personnel and employment factors applicable in the same situation.

Summary

Technological change is perhaps the most significant factor that affects the employee's job security on the railways, but it is not the only factor, Seasonal patterns affect certain maintenance of way employees and substantially reduces the pay packet of other employees. Also, the presence or absence of competition has been felt by the railways throughout the whole of the history. At first the railway enjoyed a virtual transportation monopoly and geared its pricing policies to suit this state of affairs. Today, other forms of transportation, especially the motor carrier, provide effective competition, and this has affected the job security of the railway employees inasmuch as it has forced the railway management to be more vigilant in restricting costs. In an industry which uses as much labour as the railways one such expedient is to economize on the use of labour.

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Quite apart from these restrictions on the use of labour, the railways have been implementing labour-displacing technological changes. Undoubtedly, the most significant change has been dieselization. But other changes have been introduced with varying effects on the employees' job security. Among these are centralized traffic control, automatic humpyards, piggyback operations, and integrated data processing. The majority of these changes are interrelated so that it is difficult to isolate the employment effects of any one change. However, it is clear that the changes have resulted in great displacement of labour. The next chapter will examine the employment effects of these changes in more detail.

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CHAPTER 3

AN ANALYSIS ON THE CHANGES IN EMPLOYMENT

In this chapter employment figures in the years 1952, 1957, 1963 and 1966 are compared with those in 1948 (see Tables II to XI). The year 1952 is chosen as the year when the aggregate employment on both the Canadian National and the Canadian Pacific was at the highest. 1957 represents a sort of turning point for, after that year, employment in almost every category starts on a continual downward course. The year 1963 is like the year 1948 in many employment categories.

The analysis is conducted in terms of four reporting divisions used by the Dominion Bureau of Statistics in <u>Railway Employment - Part VI</u>: "General", "Ways and Structures or Road Maintenance", "Equipment Maintenance", and "Transportation". The Transportation division is further subdivided into Train Transportation and Non-Train Transportation.

The titles Road Maintenance, Equipment Maintenance, and Transportation also indicate the functions performed in these divisions; Train Transportation refers mainly to those workers directly engaged in the operation of the trains, and Non-Train Transportation includes those not directly involved in the running of the trains. "General", however, can be said to include all employees who cannot be included in the other reporting divisions.

Comparisons between the 1948 and 1966 employment data is made difficult by the fact that the method of railway employment classification by the Dominion Bureau of Statistics was altered in 1956 and again in 1964. The changes were made necessary to a large extent by changing technology. Jobs are continually being upgraded and new titles must be found. New positions are established and old positions either disappear or lose their importance. However, with the help of railway officials, a method was worked out which gives more accurate results the larger the group under consideration. Smaller occupational classifications cannot be relied on as heavily, but as an indicator of the situation over time the statistics have great validity. The 1956 method of classification and grouping has been maintained throughout as closely as has been possible.

Between 1948 and 1966 total employment for the four reporting divisions taken together dropped from 91,536 to 72,372, a decrease of 21 per cent on the Canadian National, and from 67,032 to 46,797, a decline of 30 per cent on the Canadian Pacific. Over roughly the same period the intercity revenue ton miles of the railways increased by 44 per cent, even though the railways' share of the total intercity revenue ton miles dropped from 67.5 per cent to a little over 42 per cent.28/

In the reporting divisions there was a decrease in overall employment in all but the "General" division of the Canadian National which showed a 10 per cent increase. In fact the "General" division of the Canadian National is the only division that showed an increase over 1948 in every year between 1948 and 1966. In 1952 the increase was 16 per cent over the 1948 figure, in 1957 13 per cent, and in 1963 3 per cent, but rising again to 10 per cent by 1966.

The "General" Division

The "General" division includes the administrative and higher level technical

 $2\underline{8}$ See Table 1.

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expertise.29/ Modern technology tends to require more of these employees. However, in the case of the railways this factor must be balanced against the declining share of the railways in the transportation market. For the Canadian National the trend towards more employees prevailed. In the case of the Canadian Pacific there has been an 8 per cent drop in employment in the "General" division, from 11,527 to 10,644 employees.

Within the "General" division itself the major expanding occupational groups were the Executives, Officers and Assistants, and the Professional and Sub-Professional Assistants. The executive increase on the Canadian Pacific was slight, while the group expanded steadily though not spectacularly on the Canadian National. The professional group became progressively larger on the Canadian National after 1956, while the Canadian Pacific experienced mild fluctuations in this category throughout the whole period. The number of employees in the clerical group, the largest single occupational category in the railways, expanded rather mildly until 1953 and then declined on both railways. Of the other groups in the "General" division, miscellaneous trade workers experienced the greatest decline on both railways. Employment of storemen and stores labourers declined substantially on the Canadian Pacific, but there was little change on the Canadian National. The other groups showed no remarkable change.

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^{29/} Information on the breakdown of the reporting divisions was supplied by railway officials.

The "Ways and Structures" or "Road Maintenance" Division

This division, responsible as it is for the construction and maintenance of all track and structures and signal installations, was hard hit by technological and other changes. As noted in the Department of Labour's study of the Canadian National's Maritime area 30, "the decline reflects the increased use of heavy construction equipment, the lower maintenance requirement of improved roadbeds, and the use of more mobile maintenance gangs". Employment in this division declined by 32 per cent on the Canadian National and by 46 per cent on the Canadian Pacific.

The two largest groups under this division, the extra gang labourers and the sectionmen, suffered heavy declines on both railways. The nature of these jobs explains the reason. Extra gang labourers include employees in extra gangs engaged in special or seasonal track maintenance or construction work, such as ballasting, lifting or laying track, ditching, and snow removal. Also included are cooks and kitchen helpers in extra gang boarding cars. Their decline reflects both the increased use of heavy equipment and the improved condition of roadbeds. The sectionmen include employees in track section gangs engaged in regular repair and maintenance work. These have been affected by similar improvements as well as by the automatic signalling and switching devices which enable fewer men to look after a greater portion of track.

30/ Op. cit., p. 51

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Employment figures for extra gang labourers and sectionmen declined by 73 per cent and 40 per cent respectively on the Canadian National, while for the Canadian Pacific the corresponding figures were 80 and 49 per cent. In most of the other groups the declines were large except for the supervisory personnel which increased slightly. Centralized traffic control is perhaps the main technological change affecting this division.

The "Equipment Maintenance" Division

This division is responsible for the maintenance and servicing of all motive power, car, shop and power plant equipment. It experienced a 40 per cent decline in employment on the Canadian National, and a 36 per cent decline on the Canadian Pacific. Except in the case of the electrical workers on both railways, and pipefitters and sheet metal workers on the Canadian National, all occupations had more or less heavy declines in employment. Blacksmiths and boilermakers, helpers to mechanics and stationary engineers, firemen, and oilers were among the hardest hit on the Canadian National in percentage terms, while the same categories together with the coach cleaners were the most affected on the Canadian Pacific.

Dieselization appears to be mainly responsible for the employment pattern in this division. Consequently, the electrical workers, who are in greater demand for work on diesel engines than they were for steam engines, were the only category that had a significant increase in employment.

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The "Transportation" Division - Non-Train

This division had an overall increase in employment figures between 1948 and 1953, fluctuated until 1957, but has since declined in numbers. Over the whole period there has been a decrease of 7 per cent on the Canadian National, and 27 per cent on the Canadian Pacific. In the individual occupations, in contrast with other divisions, there has been a slight decrease in supervisory personnel. Dieselization again is mainly responsible for the declines, making it possible to have a greater number of railway cars on any one train. On the other hand, there has been a slight increase in the number of certain unskilled occupations, more people being required to tend the bigger trains.

The change of the Canadian Pacific's attitude to passenger traffic is reflected in the great drop in the number of dining, sleeping and parlour car employees. The number of sleeping and parlour car conductors has fallen from 177 in 1952 to 47 in 1966, the porters and other train attendants from 807 to 307 in the same period. Indeed all occupations on the Canadian Pacific in this division with the exception of yardmasters and assistant yardmasters (which showed a very slight increase) experienced declines. On the Canadian National, the Canadian Pacific's withdrawal in many areas of passenger traffic is reflected in the slight increase in the dining, sleeping, and parlour car employees. Floating equipment employees, those classes of employees on ferries, barges, steamships, motor vessels and other floating equipment ancillary to railway operations also showed an increase over the 1948 figure.

The "Transportation" Division - Train

In this division there was an increase in employment up to 1952, a decrease until 1955, another upsurge in 1956 and 1957, but a steady decrease since that time. Between 1948 and 1966 the division had an 18 per cent decrease in employment on the Canadian National and a 30 per cent decline on the Canadian Pacific. The effects of dieselization are nowhere more apparent than in this division, even though the reduction in freight shed jobs is primarily due to the new loading machinery and to trailer-on-flat-car operations. The big losers are the firemen and firemen helpers in freight and yard service, whose services on diesel locomotives were deemed unnecessary by a Royal Commission in 1957.31/ Even so there is still some wonder at the fact that the Canadian National in 1966 still had on their payroll some 1,390 freight and yard firemen and helpers, and the Canadian Pacific 1, 201. This can in part be attributed to the success of the unions in pleading the case of the employees involved, and in part to the benevolence of the railways. Nevertheless, the railways appeared to be overly generous in the negotiations, to the extent that today we have the strange situation in which firemen, whose services were deemed redundant as long ago as 1957, earning some of the highest salaries paid to railway employees.

Once again the Canadian Pacific's partial withdrawal from passenger traffic can be seen in the massive reduction in road passenger employees, especially since the turn of the 1960's. The average percentage reduction, inclusive of supervisory employees, has been in excess of 60 per cent. However, the diminished importance

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^{31/ &}lt;u>Report of the Royal Commission on Employment of Firemen on Diesel Locomotives</u> in Freight and Yard Service on the CPR, Ottawa: Queen's Printer, 1957.

of passenger traffic, an area that is more labour intensive than is freight operations, has not led to the same significant decline on the Canadian National, for with the Canadian Pacific's withdrawal the Canadian National has been carrying most of the passenger traffic. The result has been, in some cases, an increase in the employment of road passenger employees on the Canadian National. Over the whole period there has been a slight increase in the number of yard foremen and yard engineers on the Canadian Pacific and a somewhat larger increase on the Canadian National.

Summary

It can be noted that dieselization, of all the technological changes introduced on the railways, had the most noticeable effect on employment throughout the period 1948 to 1966. However, the fact that the greater proportion of employment changes tended to occur in the late fifties indicates the way in which the effects of technological changes often take a while to permeate through the system. In all divisions it can be observed that unskilled labourers suffered declines in employment. This is not surprising for although, especially on the railroads, the unskilled still contribute greatly to total employment, modern technology tends to reduce the demand for unskilled classes of workers. Thus the major expanding occupations were in the technical, white collar field, and in the various groups operating the heavy and expensive equipment and devices now in use on the railways. There were also mild increases in other supervisory categories.

CHAPTER 4

THE TECHNOLOGICAL CHANGE PROVISIONS

It should first be noted that the impact of technological change on collective agreements is reflected through other provisions than specific technological change provisions. Any true assessment of the impact of technological change must therefore take this factor into account by considering all provisions which alleviate the impact of change. Viewed in this way, provisions which soften the adverse effects of change on the workers can be broken down into three categories as follows:-

- (a) Shorter hours, longer vacations, pensions and early retirement,
 which cause the available employment to be shared among a
 greater number of workers.
- (b) Severance pay and supplementary unemployment benefits, which assist those laid off until new jobs can be found.
- (c) Retraining and Relocation Schemes, which prepare redundant workers for new jobs.

Shorter Hours

In the controversy over shorter hours it is sometimes forgotten that the fortyhour week is no longer standard. Shorter hours have already been achieved in a number of industries. In fact some authorities believe that the shorter work week is no longer viewed absolutely. It is viewed in many instances (a) as an opportunity for a shorter base from which premium pay should operate, and (b) as an opportunity for moonlighting. This to some extent negates the effectiveness of the shorter work week. However, to the extent that a shorter work week makes it necessary for management to refrain from laying off employees or to hire new personnel to complete the same amount of work formerly done by a smaller staff in a longer work week or day, the shorter work week either alleviates the effect of a technological change or causes the same work to be shared among a greater number of people.

While overtime with its premium rate is welcome to large numbers of workers, some managements are criticized by unions for scheduling overtime rather than increasing the number of workers on their payrolls. To discourage this practice for which unions say penalty rates of time and a half is not a sufficient deterrent, more and more unions are demanding higher overtime rates and trying to put a limit to the number of hours overtime that can be worked on any one day.

The situation in Canadian manufacturing in the period 1957 to 1966 is summarized in Tables XII and XIII. It can be seen from these tables that the 40-hour work week is by far the most common for non-office employees. However, the trend is still towards a shorter work week, for there seem to be more and more people working less than 40 hours per week and less and less working more than 40 hours per week. For office employees, the 40-hour week is a thing of the past for most workers, the $37\frac{1}{2}$ -hour work week being the most common. In any case the percentage of employees working less than 40 hours per week far exceeds those working 40 hours or more.

On the railways the 40-hour week is prevalent. It was the subject of collective bargaining negotiations as early as 1946, and was eventually won through an arbitration award by Mr. Justice R. L. Kellock effective June 1, 1951, after it had been the main point in contention in the railway strike of 1950. Neither the International Brotherhood of Sleeping Car Porters, Train, Chair Car, Coach Porters and Attendants with members on the Canadian Pacific, nor the Brotherhood of Railroad Trainmen and the Canadian Brotherhood of Railway, Transport, and General Workers which represent their counterparts on the Canadian National were party to the negotiations which brought about the institution of the 40hour week in 1951. At that time these employees had been working 240 hours per month, and had won a reduction to a 208-hour month.

Agitation for a basic 40-hour week for sleeping, dining, and parlour car employees had to wait until after the introduction of the Canada Labour (Standards) Code of 1965, when the 40-hour week for "employees whose working conditions are within the legislative authority of the Parliament of Canada" became law. The Code, however, did not guarantee retention of take-home pay, and stipulated that an employer could make application to the Minister of Labour for deferment of these hours-of-service provisions. The railways asked for and won such a deferment.

The decline in passenger traffic had reduced the sleeping, dining, and parlour car employees, and immediate introduction of the 40-hour week with retention of takehome pay might have allowed the unions involved to maintain its membership at a respectable level or even increase it momentarily. In the end, however, the unions had to settle for a gradual reduction in the hours from the 208-hour month (6-day week) to a 173 1/3-hour month (5-day week) with a modified form of retention of take-home pay.

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Longer Vacations

Another way of reducing hours of work and thus either preventing employees from being laid off or opening up job opportunities for the unemployed and new entrants to the labour force has been the lengthening of paid vacation periods. Once limited primarily to salaried white-collar workers, paid vacations for manufacturing workers have expanded considerably.

Since 1948 the trend towards longer paid vacations and the shortening of the length of service required to qualify for them is borne out by the statistics for manufacturing industries. For example, two weeks vacation with pay after one year's service or less is usual in Canadian industry. The 1966 edition of the Department of Labour's "Working Conditions in Canadian Industry" has 76 per cent of all office employees surveyed, and 51 per cent of all non-office employees enjoying two weeks vacation with pay after one year's service or less. Paid vacations of three and four weeks also show great gains over the 1948 figures. The details are set out in the tables which follow, for non-office and office employees respectively. Complete data are available only from 1951, with the exception of 1952 when no survey was undertaken. (See Tables XIV and XV).

In 1951 the most common service requirement for non-office employees receiving two weeks vacation was five years. By 1966 one year was the most popular qualification. For office employees there has been little change in service requirements over the period. In 1951, 46 per cent of the non-office employees in manufacturing received three weeks vacation; by 1966 the percentage was 78. The increase for office employees was from 55 to 89 per cent. Fifteen years service was the most usual requirement throughout most of the period but in 1965 for non-office employees, and in 1962 for office employees, ten years became the predominant requirement.

Four weeks vacation regardless of length of service was almost non-existent in 1951, but by 1966 about half of the non-office employees, and two-thirds of office employees in manufacturing qualified for four weeks vacation, the majority after less than twenty-five years service. Information on five weeks vacation was first included in the survey in 1965. In 1966, 10 per cent of non-office employees and 14 per cent of office employees received vacations of this length.

Unlike in the case of the 40-hour week the Federal legislation of 1965 required adjustment only in the case of hourly employees, and this was effected with little ado. Vacation provisions in effect for the salaried employees were at least as liberal as those required by the law. The history of vacation provisions on the railways is documented in Table XVI, which shows that the railways compare favourably, though not spectacularly, with the experience in Canadian manufacturing. The implication, therefore, would seem to be that vacation with pay has not been a very effective force in alleviating the effects of technological change on the railways.

Pensions and Early Retirement

In recognition of the difficulties confronting older workers who are displaced, a large number of unions have sought to ease the burden through pensions that supplement social security benefits or that help to provide for their wants until they are eligible for such benefits. In some cases early and liberalized benefits are provided under union-management pension funds in order to make it easier for senior employees to retire, thus securing job opportunities for younger workers or preventing their displacement.

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The post-war years, which have seen substantial improvements in the wages and working conditions of Canadian workers, have also seen a marked rise in the number of industrial pension plans. In 1936-37 approximately 8 per cent of Canadian workers were estimated to have pension plans. In 1946-47 the estimate had risen to almost 25 per cent.32/ In 1966 it was 75 per cent.33/ These plans affect the lives of the employees involved in various ways, not only in the protection they afforded, but also in the bearing they have on such questions as labour turnover and on policies affecting the recruitment and retention in employment of older workers. The plans also vary substantially in the nature of their provisions, the contribution, administration and benefit formulae, the age of retirement, vesting, and other aspects of retirement policy.

While some unions urge pension plans with vesting rights, others do not, thus permitting the loss of accumulated pension rights for workers who leave the industry and the union. Rates of contribution vary, not only in the level of pension benefit, but also in the type of supplementary benefits that may be provided and the age stipulated for retirement. The age and sex of the people in the working force also play a role in the cost of a pension plan.

Most plans in Canada are 'contributory' with both the employer and the employee making regular contributions. In 1966, out of the 75 per cent of employees having

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^{32/} Industrial Pension Plans in Canada - 4 studies, Economics and Research Branch-Department of Labour, Queen's Printer, 1959.

^{33/} Working Conditions in Canadian Industry, Economics and Research Branch, Canada Department of Labour, Ottawa: Queen's Printer (Annual), pp. 88, 186.

pension plans in Canada, 77 per cent (58 per cent of all employees) were on contributory plans, while for the other 23 per cent (17 per cent of all employees) the employer bore the whole cost.34/

One of the reasons why contributory plans are popular in Canada is the fact that the employee's contribution is deductible for income tax purposes. In the United States where only the employer's contribution is deductible, non-contributory plans are almost as popular as contributory plans.35/

Retirement Policy

One significant result of the widespread growth of pension plans in Canada has been the increasing extent to which firms have had to formalize their retirement policy. Matters that have to be considered in such a policy are the age at which benefits are payable, whether retirement is compulsory at that age, and what happens if retirement is postponed. In most plans the usual retirement age is 65 years, although there is a trend towards age 60 for women. The employee, however, is not normally obliged to retire at that age.

Though the possibility that retirement creates job vacancies exists, there is the other side to be considered. If the employee is still competent to perform the job, compulsory retirement might actually reduce the income of an older worker and throw him into the labour market at an age when it is difficult for him to find a new job, even though his skill and experience would still be useful to his employer. However, the existence of a comparatively early retirement age that is not compulsory is desirable in that it preserves the worker's freedom to retire if he so wishes.

^{34/} Working Conditions in Canadian Industry, 1966, op. cit., p. 88.

^{35/} Industrial Pension Plans in Canada, op. cit., p. 2

The policy of the railways at all times has been to bear not less than one half of the overall cost of their pension plans plus all the costs of administration. In fact prior to 1935 on the Canadian National, and between 1903 and 1937 on the Canadian Pacific, the pension plans were non-contributory. Since then, however, both schemes have been improved but on a contributory basis. The right to non-contributory provisions earned up to 1934 on the Canadian National was preserved but was frozen as of that date. The normal retirement age on both railways is 65 years, but service beyond that age may be allowed. On the Canadian Pacific there is provision for early retirement with reduced pension allowance for employees between 60 and 65 years of age who have completed at least 35 years of service with the company. Contributions of employees are refunded on termination of service, but there is no vesting of the employer's contribution.

The advent of the Canada Pension Plan on January 1, 1966 necessitated new arrangements. With the Canada Pension Plan earnings up to \$5,000 a year were pensionable with contributions of 1.8 per cent of earnings between \$600 and \$5,000 for both employer and employee; retirement pension was 25 per cent of average pensionable earnings up to \$5,000 a year with a maximum of \$104.17 a month after a 10 year operation of the plan.

In the Canadian National, the 1935 pension plan was part of a contract between the employer and employees and so could not be altered. The decision was made to 'deck' or simply add the Canada Pension Plan to the 1935 plan. The other plan, however, was improved and co-ordinated with the Canada Pension Plan to the point where the employee's contribution rate became 5 per cent on earnings up to the Canada Pension Plan's maximum, and $6\frac{1}{2}$ per cent on the excess. For the Canadian Pacific, after the Canada Pension Plan became the law of the land, the employer's contributions remained the same with one exception; for service after March 31, 1966, the contributions are 4.42 per cent up to the maximum stipulated by the Canada Pension Plan, and 6 per cent for earnings in excess of this amount.

Severance Pay, Supplementary Unemployment Benefits, Retraining and Relocation Schemes

These provisions are treated together for convenience.

Severance pay is a lump sum payment by an employer to an employee whose employment is permanently ended, usually for causes beyond the employee's control. The payment can aid the displaced worker's re-employment opportunities in several ways. The money may be used to pay for training to make him more employable, or the worker may use the money to finance his move to another geographical area where jobs are more plentiful. Again, he may use the money to pay private employment agency fees, or in the extreme case, open a business for himself. The available evidence, however, seems to suggest that most often severance pay is used to soften the financial burden of job displacement rather than to aid in finding a new job.

In 1955 the automobile industry pioneered in the development of supplementary unemployment benefit plans. These plans are intended to supplement unemployment insurance payments by the government. Since their adoption there have been constant efforts by unions to increase the sums paid under the plans and to lengthen the period of the benefits.

Unions see severance pay and supplementary unemployment benefits as performing an employment stabilization function. Indeed it was hoped that these provisions might encourage mobility by permitting the worker to investigate labour market opportunities without a sense of desperation. However, it is the opinion of some union officials that in some cases these payments have actually discouraged workers from seeking new employment, especially in other geographical areas, until the benefits have been almost exhausted.

Relocation and Retraining

"Thirty years ago displaced workers could be trained for new jobs, using their old skills as a starting point. Today with the increasing use of automation, many skills are meaningless. The automated and semi-automated factories demand a set of skills which are more verbal and conceptual than manual."36/

Unions have sponsored, sometimes alone and sometimes with industry, government agencies, or both, a variety of programs to help prepare those currently employed for more demanding jobs or to retrain workers displaced by technological advance for skills more in demand in Canadian industry. The question arises as to how much responsibility should management have to undertake training programs for workers in terms of their long-run survival in the labour market. Should management adopt a short-run approach to training for predictable requirements within the individual firm, or should it broaden its role in training to a more all-pervasive one which makes a contribution to the training of the skills of the labour force to meet the requirements of the economy as a whole? To what extent should management's programs of training be co-ordinated with those of public training and educational facilities? What unionmanagement responsibilities are there for training on a joint basis, bearing in mind that retraining often necessitates considerable expenditure of time, energy and money?

^{36/}W. Haber et al: The Impact of Technological Change, The Upjohn Institute for Employment Research: Michigan, 1963, p. 22.

On the railways the principle of severance pay was first encountered as a result of the Canadian National-Canadian Pacific Act of 1933.37/ Two main schedules of compensation were introduced into the Act to provide security for those employees whose jobs might be lost through co-operative measures between the two major systems. However, it was 1958 before the railway unions made their first demand relating to severance pay. Not only the Canadian National-Canadian Pacific Act, but more particularly the settlement reached after the diesel issue between the Canadian Pacific and the firemen, had some influence on the demand which read as follows:

"The principle of severance pay shall be recognized and established. The Railways and Railway Express Agency, Inc. shall set aside four cents per hour per employee for severance pay, to be allocated among employees whose services are being terminated, on a basis of amounts and years of service to be mutually agreed upon."38/

In making this proposal the union stated that it was not simply to cushion the hardship of unemployment resulting from technological and organizational changes, when they in fact have occurred, but to limit unemployment and to make it more likely that technological and organizational changes will be effected through the normal turnover of the labour force. They were particularly concerned because railway unemployment resulting from technological and organizational changes tended to be local and concentrated in its effect and to bypass the job security that seniority arrangements ordinarily provide. Technological changes displaced particular skills and crafts, and organizational changes reduced or eliminated employment in particular areas. Employees with considerable seniority were laid off, often with very little prospect of being rehired,

³⁷/ See Page 6.

^{38/} The Labour Gazette, Vol. lviii; p. 998

or when they were not laid off, had to accept duties and wages much less favourable than those they previously enjoyed. The answer, the unions felt, was a severance pay plan.

The unions did not win their request on this occasion, and again raised the issue together with those of supplementary unemployment benefits and retraining in 1961 in connection with an all-embracing job security demand by the non-operating unions. The demand contemplated no separations except "through the process of attrition to the extent that employees leave the service by reason of death, retirement, resignation, or dismissal". It also envisaged retraining programs "to afford the employees an opportunity to qualify themselves without loss in pay for new or changed work methods".

The railways were more amenable to the idea of severance pay and retraining, but in their counter-proposal geared their protection to long service employees with over 20 years service with the railways. The issue was settled by the unanimous report of the conciliation board under Mr. Justice F. Craig Munroe which recommended among other things:

- "(2) Commencing January 1, 1963, each railway company shall establish a fund in an amount equal to one cent per hour worked (or paid for) by all its employees covered by the collective agreements on and after the same date.
- "(3) Each such fund will be administered by a joint committee and shall be expended in such a manner as the said committee shall determine for any one or more of the following purposes:
 - (a) Severance pay to employees laid off permanently;
 - (b) Supplementary unemployment benefits to employees laid off subject to recall;
 - (c) Retraining programs;

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- (d) Re-allocation of employees;
- (e) Such other related purposes as the said committee may agree upon."39/

As a result of the Board's recommendation a job security fund was set up but was not put into operation until some two years later. By this time the fund had already accumulated amounts in excess of \$6,000,000. Moreover, though it was called a job security fund, it offered no job protection, but rather a system of cash payments for employees who lost their jobs.

The fund was not used for the retraining or relocation of employees except insofar as the employee elected to use his severance pay or supplementary unemployment benefits to retrain or relocate himself. Amendments to seniority and related rules changes which delayed the implementation of the job security agreement of 1962 were not completed until December, 1965, and so severance pay and supplementary unemployment benefits did not become effective until January 16, 1966. As a matter of fact, even while final details of the 1962 agreement were being worked out, the unions, motivated by some reductions in railway employment, and encouraged by the report of the Industrial Inquiry Commission on Canadian National Railways "Run-Throughs" (the Freedman Report), were submitting another job security demand in November, 1965.

Whereas the job security agreement that followed the 1962 negotiations had not offered any job protection, in spite of the fact that the demand had been framed in those terms, the new demand, if granted, would have given ample job protection. The first demand had permitted a one per cent per year reduction in the work force, but this demand made no allowance in this regard; also, the 1962 demand provided for something less than full job protection for employees with less than five years' service, whereas this demand would almost have the effect of a life-time employment guarantee for all employees.

This demand had followed closely on the report of Mr. Justice Freedman on Canadian National's run-through problem, a report which had recommended that negotiations should take place before a substantial technological change could be introduced. The unions had also been heartened by the introduction in 1963 of a private member's bill, Bill C-15, in the House of Commons. This Bill sought to amend Section 182 of the Railway Act in order to provide that railway employees who lose their employment as a result of changes beneficial to a railway, should be compensated by that railway for the cost of rehabilitating themselves with new skills that are saleable in the labour market, for the cost of removal expenses to a new job, pension compensation for early retirement or such other compensation as the Board of Transport Commissioners might deem best for the restitution of the discharged employee. The Standing Committee on Railways, Canals and Telegraph lines recommended favourably on suggestions contained in the Bill, but the Bill died in the House of Commons with Section 182 unamended.

The railways objected to the new demand which sought to establish a fixed minimum number of jobs which would increase if business increased sufficiently, but once increased, a new minimum level would be set subject to modification only to the extent that local union officers would agree to work force reductions in respect of any class or seniority group. The demand, if granted, would thus have put the railways in a very difficult position. For example, the railways would have been hesitant to try to recapture business from its competitors, especially traffic of a seasonal nature or of uncertain duration because of the continuing costs that would accrue from the increased employment level that would be established for the following and ensuing years.

However, the unions did not win their request. When the conciliation board which looked into the dispute reported, there were three separate reports. The reports of the unions' and management's nominees leaned heavily toward the original position of their respective parties. The report of the Chairman leaned in favour of the position taken by the Railways on this issue, but agreed with the opinion of the unions as stated before the Board that "the Railway Companies must continue to accept a responsibility for minimizing the adverse effects of changed working conditions upon their employees". Accordingly, he recommended that the joint committee established to administer the job security funds should immediately undertake a study of the existing government programs and examine the need for expansion of the purposes for which payments may be made out of the existing Job Security funds, and for any necessary increase in the scale of payments.

In relation to the request of the unions that the recommendations of the "Freedman Report" be included in the new collective agreements the Chairman thought it premature to accede to the request, since the Report was then under study by the Government of Canada. However, he expected that "good sense would prompt the Railway Companies not to introduce major changes without first engaging in meaningful discussions with the unions and employees concerned".

No agreement was reached as a result of the conciliation hearings, but after a strike, mediation under Mr. H. Carl Goldenberg, Q.C., brought about the following

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settlement relative to job security and technological change:

"Article VI - Job Security

As soon as may be mutually agreed by all unions concerned, there shall be established a joint committee of eight members drawn from the Executive Officers of the unions and a like number from the railways signatory to the Job Security Agreement dated November 16th, 1964, which shall study the existing Job Security Plan in conjunction with existing and proposed Government programs and make recommendations to their respective principals upon the need for expansion of the purposes for which payments shall be made out of the existing Job Security Funds; upon the need for any increase in the existing weekly benefit of \$12.00; for any change in the period of qualification and any reduction in the present 30 day waiting period. Such recommendations shall be made not later than six months following the date of commencement of the study and if, within 60 days thereafter, agreement between the principals has not been reached, either party may refer the matter to a referee for final and binding determination. If the parties fail to agree on the naming of a referee the Minister of Labour shall be requested to do so. The expenses of such referee shall be borne equally by the parties.

"Article VII - Technological, Operational and Organizational Changes

1. It is agreed between the parties that on the introduction by the Company of technological, operational and/or organizational changes the following provisions will apply:

(a) the Company will not put into effect any such change which is likely to be of a permanent nature and which may effect a material change in working conditions with adverse effects on employees covered by this agreement without giving as much advance notice as possible of any such proposed change to the unions concerned, and, in any event, not less than 90 days if a relocation of employees is involved and 60 days' notice in other cases, with a full description thereof and with appropriate details as to the consequent changes in working conditions and the number of employees who would be adversely affected;

(b) that it will negotiate with the unions measures to minimize the adverse effects of the proposed change on employees, which measures may, for example, be with respect to severance, loss of wages, expenses of moving and travelling of employees required to relocate, retraining and the merging of seniority lists within organizations and/or such other measures as may be appropriate in the circumstances.

2. If the negotiations do not result in mutual agreement within thirty calendar days of the commencement of such negotiations, or such other period as may be agreed upon between the parties, the matter shall be referred immediately for mediation to a Board of Review, on which each of the parties will be equally represented by senior officers.

3. The Board of Review shall, within a fixed period to be determined by it, make its findings and recommendations. If such recommendations are not acceptable to either party, the matters remaining in dispute shall be referred immediately for decision to a referee selected by the parties, or failing that, appointed by the Minister of Labour. The matters to be decided by the referee shall not include any question as to the right of the Company to make the change, which right the unions acknowledge, but shall be confined to measures for minimizing the adverse effects of the change; and if there is also a dispute with respect thereto, to the question as to whether such change would materially or permanently affect working conditions.

- 4. The decision of the referee shall be final and binding.
- 5. These provisions do not cover cases where:

(a) workers are affected by a recognizable general decline in business activity, such as a recession or by fluctuations in traffic;

(b) the workers affected are casual workers subject to irregular employment because of the nature of the work they perform or seasonal employees outside their normal period of employment;

(c) there is a normal reassignment arising out of the nature of the work in which the employees are engaged."40/

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^{40/} The Master Agreement dated March 14, 1967 between seven railways and seven non-operating unions. The information was supplied by the International Railway Unions Research Bureau, Montreal.

Such, then, is the state of the provisions that help in the adjustment of railway employees to technological change. They can be classified into three stages. The first stage covers the period when the management rights clause was virtually sacrosanct. Then adjustment took the form of such provisions as shorter hours and longer vacations, benefits that were originally sought as genuine fringes because of the fact that preoccupation with employee displacement had not yet reached large proportions.

In the second stage, as railway employee displacement accelerated in the late fifties, provisions were sought which could be more closely identified with the issue of technological unemployment. Severance pay and supplementary unemployment benefits were demanded as a means of assisting those displaced until new jobs could be obtained. Management ruled in the area of technological change, but the unions could not ignore the threat that labour displacement was presenting. They appealed, however, to management's desire to maintain good relations with the union, and were not very militant when the problem of change and employee displacement arose.

In the final stage we find the unions introducing demands which make specific mention of technological change. The report of the Industrial Inquiry Commission into Canadian National Railways' run-throughs has been a source of inspiration not only to the railway unions but to labour bodies throughout Canada. The result has been a rash of technological change agreements which, though conceding management's right to introduce change, makes provision for as much advance notice as possible. The stability of these agreements, however, might be questionable since unions seem intent on winning agreements that more closely reflect the recommendations of the Freedman report. Indeed the argument as to whether collective bargaining as an institution is competent to deal with the problem of technological change merits some further analysis.

CHAPTER 5

TECHNOLOGICAL CHANGE AND THE THEORY OF COLLECTIVE BARGAINING ON THE CANADIAN RAILWAYS

The aim in this chapter is to put forward some of the basic issues faced in collective bargaining and to discuss their relevance in the area of technological change on the railways. The Firemen's issue, the Run-through issue as well as one of its consequences, the Freedman report, are all discussed in some detail as being instances where collective bargaining has been put to the severe test. It is hoped that this approach will provide some insight into how the institution of collective bargaining can or cannot be expected to cope with technological change.

Collective bargaining is basically the process of adjusting often divergent *tiew*points about employment relationships with a view to eventually reaching agreements or reconciliations among these viewpoints. It involves workers dealing jointly or 'collectively' with their employers, and since unions and managements are the negotiators, any theory must encompass some analysis of union behaviour and some ideas about management's aims and objectives.

Unions and managements mainly have different philosophies. Management is concerned, among other things, with its competitive position and sufficient profits to enable the enterprise to pay dividends and promote expansion. The union leaders, on the other hand, though they have a vested interest in the viability of the enterprise, are usually more determined to satisfy their members and to be re-elected to office. However, in trying to win its goals, the unions usually have to work through the employers. Thus the attitudes of the employers can be an important determinant in the type of union that operates in the establishment. A suitable compromise is thus the aim of these differing philosophies. On the railways the parties have been engaging in collective bargaining since the turn of the twentieth century. They not only accept but have come to respect each other. The majority of the unions have their headquarters in the United States, but exercise a great deal of autonomy in their relationships with the railway companies. In only one case, that of the Brotherhood of Sleeping Car Porters, is the Canadian head of the union not elected by the Canadian members of the union. Nevertheless, the international flavour of the unions does have its influence on the collective bargaining relationship, as will be shown in a later portion of this chapter.

Range of possibilities at the bargaining table

When the parties come to the bargaining table there are a range of possibilities in the type of organizations that can confront each other. The bargaining unit is the term used for the actual employer and employee groups that are covered by a particular contract. However, the bargaining unit can cover a single union and a single, oneplant employer, many unions and many employers, or some combination of these arrangements. Unions almost always seem in favour of extending the bargaining area, a move generally designed to bring under one agreement all those individuals, employer and employee alike, who might otherwise compete against each other by setting different wages and prices, thereby making it impossible to maintain any standard. But there are other unions which favour the idea of pattern-setting in which they pick out the company from which they expect to obtain a favourable settlement and then try to bargain other firms up to that level. Even when doing this, however, they tend to favour a multi-union unit.

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In the multi-employer or multi-union situation, there must be substantial agreement among the parties on the terms they will jointly accept before they can negotiate an agreement with the other party. In the multi-employer group there will be not only the industry's most prosperous companies but also its weakest firms. The common terms must somehow be made to facilitate both extremes. On the other hand, when unions join together for purposes of collective bargaining, there will be included both the stronger and the weaker unions. They usually feel, however, that the combined group will be able to negotiate better terms than any individual union could negotiate on its own. Nevertheless, there have been instances in which the unions have insisted on bargaining alone, and other instances in which larger units have been broken into smaller units because there is the feeling that within the larger group the interests of some people suffer as opposed to others within the group. This can happen, for example, when the skilled workers feel that their interests have been subordinated to those of the unskilled members. However, when an individual union or employer breaks away from the larger group and insists on negotiating a separate agreement, it is usually because he feels that he can win better terms as an individual than as a member of the larger group.

On the railways there is essentially a multi-union, multi-employer situation. Though the Canadian Brotherhood of Railway, Transport and General Workers and the operating unions now tend to negotiate their own separate contracts, the agreements they each sign usually echo the tone of the agreement negotiated between the non-operating craft unions and the railways.

The multi-union bargaining situation has important implications in the area of technological change. The railways, in agreeing to joint negotiations on a national

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basis, have insisted that only demands that are common to all unions can be submitted to the joint bargaining table. It was, however, discovered that technological changes tended to be local in nature and that, even where they applied to all unions, they affected them in different ways. It was thus difficult to make a particular technological change the subject of a national joint demand. The unions, therefore, in their quest for some general principles which could be applied to particular cases, chose the expedient of an Addenda demand in their 1966 negotiations. This type of demand sought to bind the railways to agree to negotiate issues with individual unions after the agreement had been signed. The demand, however, was refused.

The foregoing points out one area where collective bargaining has experienced difficulty in adjusting to the technological problem on the railways. However, even though the Addenda demand failed on that occasion, it reveals the fact that collective bargaining is flexible enough to cope with the problem in a multi-union, multi-employer situation.

Union Demands

In actual negotiations the tendency has been for the majority of unions in industry to submit a long list of demands covering almost every aspect of the union-management area. This seems to have become more evident in recent years as the subject matter of collective bargaining has widened. In addition the traditional management rights clause found in a number of contracts assigned to management any area not specifically covered by the contract. Thus it is understandable that the union would try to bring within the sphere of collective bargaining matters which substantially affect the welfare of its members. Some demands are submitted to serve warning to management

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that certain problems exist which require attention. Again, a demand may be put forward which reveals that the union is giving serious consideration to a major demand which it will not fight on this round but which it wants management to start thinking about now. Still other demands may be included to satisfy a particular segment or powerful part of the union, but which the negotiators know have little chance of success. In the final analysis, however, the large demand is viewed by most negotiators as giving the union room in which to maneuver and test management's reaction as to what is feasible.

The tendency on the railways in recent years has been for the unions to submit a long list of demands covering a wide area of union-management relations. Among these demands they have consistently included matters which tend to alleviate the adverse impact of technological change. In this respect their United States affiliation has played a significant role. The determination to win the 40-hour week in their 1950 negotiations was strengthened by the fact that in early 1948 United States railway employees were granted a 40-hour five day work week with no reduction in take-home pay. Again, many aspects of the job security demand of 1966 closely paralleled a similar job protection agreement that had been won by United States railway employees. However, there was one aspect of technological change in which the Canadian railway worker fared better than his United States counterpart, and that was in the type of agreement won by the Brotherhood of Locomotive Firemen and Enginemen in their dispute with the railways over the employment of firemen on diesel locomotives.

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Role of objective economic data

Justification of the union's demands or the company's counter-proposals usually rests as much on non-economic data and other factors as on objective economic data. Some people feel that objective economic data should be the main, or even the sole determinant of the conditions that prevail in the final contract. Information on such things as the level of wages paid in the community or in a comparable industry, changes in the cost of living, the unit costs entailed by the specific demands, the ability of the company to pay sometimes help to determine but almost never alone dictate the eventual settlement. Perhaps the main reason for this is found in the political character of unions. Union leadership must be able to reconcile the interests of divergent groups within the union. What the strongest segment of the union desires is usually demanded by the union whether it can be economically justified or not. But even if the parties should be able to agree on what facts are relevant and what conclusions should be drawn from them, external non-economic factors must still be considered.

In railway labour-management negotiations objective economic data are used in an effort to determine wage rates. It is in this context that there have been many attempts made to find a suitable standard with which to compare railway wages. However, when negotiations switch to the question of fringes and other issues, the same type of arguments are not used. This state of affairs is particularly applicable in the area of technological change where it is difficult to rely on solutions used in other industries. Many technological changes are peculiar to the railroad industry, and the lessons gained from change in another industry can be applied only in a very general way. Purely objective economic data become of limited value in union-management

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negotiations when the union knows that a great number of employees will be adversely affected by a technological change.

The role of the Government

The role of the government and its relationship with the particular industry is perhaps the most important external factor affecting labour-management relations. In an industry which is considered of national importance, or one with which the government deals frequently, the government can restrict or enhance the earning capacity of the company. The extent of government involvement can thus be an important factor in collective bargaining, and can have a large role in determining the type of agreement reached, or whether agreement is reached at all.

In the area of technological change the government has a very significant role to play. In times of expanding economic activity it is easier to make adjustments that become necessary because of technological change. Government's primary responsibility is thus to create a buoyant economy. In addition, it is only natural that governments, as guardians of the economy, will intervene to attempt to solve problems which lead to severe social stress and consequent political pressures. It is also normal for governments to try to guide the direction of events in industries where situations unfavourable to the national interest seem to be looming on the horizon. To the extent that collective bargaining and union-management initiative lead to lasting agreements and avoid work stoppages which lead to public inconveniences, direct intervention is likely to be at a minimum. It is in the light of this that government intervention in railway negotiations seems to indicate that collective bargaining is not working as well as it might in that industry. Indeed, throughout the period under review no collective agreement between the railways and the unions was finalized without recourse to conciliation, and it is likely that the level of union expectations in the light of the "Freedman report" has been raised to the extent that reaching agreement of a lasting nature might be more difficult.

On the other hand, government can make adjustments in the area of technological change much easier by the adoption of appropriate policies. This, in my opinion, is the area where collective bargaining can derive most help in its attempt to cope with the problem of technological change. I return to this problem at a later stage.

The impasse in negotiations

An impasse sometimes occurs notwithstanding how earnestly the parties may attempt to reach an agreement. This can occur at the bargaining table itself, or when the union submits the terms of the agreement for ratification by the rank and file. The strike (or lock-out) is the best known device used to break an impasse. It is sometimes forgotten that a strike can have a good effect. It can bring an increased awareness of each other's problems, or it can provide a clearing of the air and a reminder to both parties that the well-being of the individual worker should never be forgotten in favour of exclusive attention to the interests of the union and company institutions. But the strike is not the only available means for settling impasses.

Other methods used for settling these deadlocks can be mediation, conciliation, arbitration, economic warfare or some combination of these methods. The government sets out the conditions within which these deadlocks are broken, and these conditions can play an important part in the negotiations between the parties. For example, the legal requirement in Canada that the union cannot call a strike until the conciliation process is exhausted might prevent the parties from making any serious attempt at negotiation lest the mediator, conciliator, or arbitrator should try to split the difference between the respective positions prior to the impasse.

In the area of technological change it is likely that there will be an impasse despite any prior agreement, if the change result in great suffering for any group of workers or communities at large. The type of technological change agreement that is now being concluded gives the employer the right to implement the change but requires advance notice and agreement to negotiate provisions to alleviate the impact of the change. This type of agreement is likely to be disregarded when a union or entire community faces economic extinction. This was the issue at stake in two well known instances where collective bargaining appeared to have failed. These issues, the Firemen's and Run-through issues, are now discussed in more detail.

The Firemen's Issue

This issue is concerned with the proposal of the Canadian Pacific Railway, in 1956, to remove firemen from employment on diesel locomotives in freight and yard service. The officers of the company had felt for some time that firemen were unnecessary on diesel locomotives. They had, previously in 1954, given formal notice to the union, but withdrew it in the face of strong union protest. Subsequently, the Canadian National had also proposed that firemen be no longer employed on diesel engines. However, they also withdrew their notice when the union objected strenuously.

But in 1956, soon after a similar proposal was made on United States railways, the Canadian Pacific reiterated its intention to dispense with the services of firemen on diesel locomotives in freight and yard service. The matter came to a head when the railway and the Brotherhood of Locomotive Firemen and Enginemen were re-negotiating their collective agreement. When a settlement was not reached, a conciliation board was established in accordance with the provisions of the Industrial Relations and Disputes Investigations Act. The majority report of the Board supported the company's position. The unions, however, rejected the report and went on strike in support of their position. The employees decided to return to work only after it was decided to set up a Royal Commission 41/ to investigate the matters in dispute.

During the course of the Royal Commission hearings the Company made a proposal that guaranteed that no firemen with more than a year's seniority suffered loss of income, but did not provide for continuing employment as a fireman. One cannot be sure whether this proposal would have been accepted had it been made before negotiations had begun. However, the reply of the union was to the effect that the proposal was too little and too late. The report of the Royal Commission did not improve the position of the workers affected, for the Royal Commission came to the conclusion that firemen were indeed not required on diesel locomotives in freight and yard service, and recommended that the terms and conditions offered by the Company in their proposal should be accepted by the unions.

The "Run-Through" Issue

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The issue arose out of the decision of the Canadian National Railways, in 1964, to eliminate the train stops at Nakina, Ontario, and Wainwright, Alberta. Furthermore.

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^{41/} The Royal Commission on Employment of Firemen on Diesel Locomotives in Freight and Yard Service on the Canadian Pacific Railway, Ottawa: Queen's Printer, 1958.

the plan of the Canadian National was to eliminate fifteen of the old terminals over the period 1964 to 1969, with a saving in operating costs of nearly \$1,000,000 a year.

This run-through was not the first to be put into effect by the Canadian National. The run-through problem had a history dating back to 1958. Since then the railway had succeeded in instituting run-throughs in a number of other places. In any case, runthroughs were becoming more and more a part of the Canadian National's organizational planning and were bound to be introduced sooner or later, in some degree, at least throughout Northern Ontario and the Prairie region. These run-throughs were usually implemented during the closed period of the agreement, and the union representatives were told that the actions of the railway were not in contravention of the collective agreement.

The unions protested, and in one such protest before a conciliation board headed by His Honour Judge J. B. Robinson, the Brotherhood of Railroad Trainmen requested that:

"No material change or alteration of conditions of employment shall be made during the currency of the contract unless mutually agreed to by both parties."42/ The majority report, however, did not recommend adoption of the union's proposal, but recommended that "the Company should discuss impending changes in operations which would substantially affect the work security of the employee or their earnings. Should such discussion fail to produce agreement, the Company would have the right to proceed with action on its own". The report, therefore, though recognizing the problem, endorsed the theory of residual rights by suggesting discussion as the sole and sufficient prerequisite to the institution of change.

42/ Information supplied by the Brotherhood of Railroad Trainmen.

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The run-throughs of 1964 assumed greater proportions. Had they been instituted as planned they would have caused almost total disaster to the communities of Nakina and Biggar. Nakina, with a population of 763 persons, was essentially a railway town. It owed its origin to the Canadian National, which was also its principal employer. Biggar, though not a railway town in the same sense, relied on the Canadian National for 64 per cent of the total income of all the workers in the town. Thus there was, in addition to reduced railway employment, indirect displacements because the dominant source of employment in the community would disappear in the wake of the technological change. Moreover, the Canadian National attempted to institute the run-throughs without prior consultation with the union officers, and without adequate proposals to minimize the impact of the change. In fact, announcement of the proposed run-throughs was delayed until only four weeks before they were to take effect. 43/

The result was that there was a one-day strike by 2,800 crewmen on October 25, 1964, an action which led to the establishment of the Industrial Inquiry Commission to look into and report on the run-throughs of the Canadian National.44/

The Freedman Report

The content of the Freedman Report was unexpected by both parties. Some union officials still believe that, had the Canadian National correctly gauged the seriousness of the situation in the run-through issue, they could have won a compromise with

44/ <u>Ibid</u>.

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^{4&}lt;u>3</u>/<u>Report of the Industrial Inquiry Commission on C.N.R's 'Run-Throughs'</u> - The Honourable Mr. Justice Samuel Freedman, Commissioner.

the union and have avoided the revolutionary Freedman report. The report merits closer examination because of the impact it has had on labour-management relations in Canadian industry in general and on the railways in particular.

Although the Company had the right on the basis both of law and existing usage to institute run-throughs, Mr. Justice Freedman believed that it should not continue to have the unfettered right. He felt that the institution of run-throughs should be a matter for negotiation. The situation which management can use to make unilateral changes in working conditions during the contract period "is a manifest inequity which clamours for attention and correction".45/ In the dispute which led to the commission of inquiry new agreements had already been signed by the Company and the unions, each for a period of three years. Thus the parties were in the closed period and the Company, on the basis of the residual rights theory, had the power to implement the run-throughs. Mr. Justice Freedman, however, felt that it was anomalous that the law stipulated that, during the open period when there was no contractual relationship between the parties, management was prohibited from altering a term or condition of employment, but that, during the closed period when a contract was in effect, management did have the right to alter terms or conditions of employment. The Commission felt that the Company should be required to give to the unions 30 days notice of a proposed run-through as a prelude to negotiations.

The Commissioner recommended that either party should have the right to refer to an arbitrator the question whether a proposed change is a material one. If the arbitrator should decide that the change is a minor one, the Company would be at liberty to go ahead with its plans. The Commissioner recommended certain time

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^{4&}lt;u>5</u>/<u>Ibid.</u>, p.92

limitations on the arbitrator so that management would not be unreasonably delayed in its plans. If, on the other hand, he should hold that management's plans do involve a material change in the terms or conditions of employment, then the proposal would be subject to negotiation. Should agreement not be reached, implementation of the change would be forbidden until the contract had expired and the union had regained the right to strike.

The Commission was of the opinion that an obligation rests on management to minimize the adverse effects of a run-through. "That obligation has its root in the principle that when a technological change is introduced the cost of reasonable proposals to protect the employees from its adverse consequences is a proper charge against its benefits and savings".46/ Specifically it recommended that any employee who was required to change his place of residence as a result of a run-through should be compensated by the company for financial loss suffered in the sale of his house for less than its fair value; also, if a dislocated employee was not a homeowner but occupied his residence under an unexpired lease, he should be protected by the company from monetary loss arising from the need to terminate it.

In relation to the role of government, the Commission concluded that the government had an obligation to intervene when the existence or stability of a community is threatened by a run-through or its consequences and should act accordingly in the timing and phasing of run-throughs.

The Freedman report obviously has significance far beyond the field of railway operations. The terms of reference had required the Commission to inquire into:

46/ Ibid., p. 139.

- "(1) The industrial situation arising from the running of certain trains of the Canadian National Railways through the terminals of Nakina, Ontario, and Wainwright, Alberta, on October 25th, 1964, and
- "(2) any matters incidental or relating thereto."47/

Thus the scope of the inquiry, in the view of the Commission, was widened considerably to include other situations similar in their general nature and effect. The application could be made to technological changes other than run-throughs. Since the Freedman report was published in 1965, there has been a great increase in the number of technological change demands in negotiations. Many of these demands have been successful although not to the extent envisaged by the Freedman report. The technological change clause contained in the master agreement of March 14, 1967, between the railways and the unions is a case in point.48/ The text of the Freedman report was used substantially by the unions in supporting their demands before the conciliation board, and the agreement won and the contracts signed reflect the influence of the report.

Were the government to act along the lines suggested in the report, the effects would embrace all those who fall within the jurisdiction of the Federal labour code, and probably eventually find their way into provincial jurisdiction as well. However, the report has a serious shortcoming and is unlikely to be adopted in its entirety by any government. This shortcoming concerns the recommendation which would give the unions the right to decide whether or not a technological change of major significance ought to be introduced. This recommendation in particular was strongly criticized by employers, but more interestingly, the unions, when they had a chance

48/ See pages 59 and 60.

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^{47/} Order-in-Council P.C. 1964 - 13/1892, dated December 10, 1964.

it confronted them with undesirable alternatives:

"either to give formal agreement to the introduction of technological change that in a specific instance could be adverse to some of its members; or unreasonably to insist on a change being delayed."49/

As the Honourable Jean Marchand, then Minister of Manpower and Immigration, put

it:

"I can imagine many circumstances in which, if the issue had to be formalized, the union could not take the positive step of agreeing. For that would be asking the workers to do more than accept the manpower adjustments as a reasonable way of handling the situation that the technological change creates. The formal agreement would have the appearance, at least, of involving the workers in endorsing management's decision about the technological change itself. I am doubtful whether this is fair. We can ask workers as a whole to recognize the benefits of technological change in general. But that is very different from asking the workers affected by a particular change to vote for it."50/

Some employers were also doubtful about the recommendation that would require that the union be given as much advance notice as possible. They feared the possibility that once competitors are aware of the plans of a company, the cost of implementing a change is likely to rise considerably.

However, despite its shortcomings, the Freedman report has performed a valuable service to industrial relations in Canada. It has focussed more attention on the problem of adjustment to change to the extent where there has been a re-evaluation of the hard line employer approach to the management rights issue. It has also served as a frame of reference for further study and research on the adjustment process.

^{49/}W. T. Wilson, "Forward from Freedman" in the <u>Business Quarterly</u>, Vol. 32, No. 4, The University of Western Ontario School of Business Administration.

⁵⁰/ Speech to a Conference organized by the Economic Council of Canada, Ottawa: March 21, 1967.

Both the Firemen and the run-through issues were primarily products of the same technological change. The coming of dieselization eliminated the need to have firemen on the trains and has also made it possible for the trains to run for longer distances without a change of crew than was possible in the days of the steam engine. It was, therefore, good business which led the railways to decide to remove firemen from the diesel locomotives and to reduce operating costs by running through terminals. However, both of the proposals led to open conflict between the employers and employees.

On both occasions one of the parties declared that the particular issue was not negotiable. In the case of the firemen's issue it was the union's spokesman who said:

However, at the time of the run-through issue it was the railway which considered the issue non-negotiable:

"Canadian National has the duty and the responsibility to carry on its business and operate its transportation services, in all respects, in the most efficient manner possible. In the discharge of that responsibility, it is the Company's right, as well as obligation, and not that of the employee or the brotherhoods, to determine how the business is to be managed and operated."52/

Again, on both occasions it appeared that the collective bargaining process

failed to solve the issue. The unions were aware of the right of the railways to institute

the changes but challenged the institution of the changes without prior consultation and

without adequate provisions for those adversely affected by the change. Even in the

case of the firemen's issue where the very existence of the union was at stake, their

spokesman had affirmed:

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^{51/} Statement by Mr. W. E. Gamble, union spokesman, to the conciliation board, June 27, 1956, <u>The Labour Gazette</u>, February, 1957, p. 179.

⁵² C.N.R's Brief to the Industrial Inquiry Commission into Canadian National's runthroughs, Paragraph 27.

"If the Company had seen fit to accompany its proposal on the diesel issue with a concrete blueprint spelling out in detail what provision it was willing to make for the 1,000 odd firemen who would be immediately cut off the payroll, and not inconsiderable number of other firemen who would ultimately lose their employment if the Company's request were granted, the no-compromise position which the union throughout maintained might have been at least in some respects relaxed or modified."53/

The right of management to introduce technological change, whenever it saw fit to do so, was part of the collective agreement insofar as the residual rights clause was respected. Thus it would seem that the unions had little cause for complaint as far as the railway contractual obligation was concerned. However, the firemen and run-through issues brought the inadequacies of the process into sharper focus. Enlightened management could and often did invite discussion and participation in the problems arising out of a technological change. But when the discussions took place during the closed period of the contract, the residual rights theory was the determining factor, not only in the implementation of the change itself, but also on the measures used to alleviate the adverse effects of the change. The history of railway negotiations was that labour and management eventually arrived at a meeting of the minds on matters which fell under the residual rights doctrine. However, there was no obligation on the part of management to consult with the union during the closed period of the contract. Moreover, no changes with such adverse consequences had occurred in recent years. It was also puzzling that the railways did not consult with the unions on these occasions.

The problem surrounding the firemen's issue was more complex and might have taken place even if the parties had an agreement of the type negotiated in the 1966 dispute .54/ It involved the survival of the union and the trade of the firemen. Under

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^{53/} Statement by Mr. W. E. Gamble, op. cit., pp. 178-179

⁵⁴/ See pages 59 and 60.

these conditions it is hard to imagine that the union leaders would have voluntarily agreed to a pact which recognized management's right to implement the change, or failing that, to put the matter before an impartial referee. This is not meant to imply that an organization has a right to hold up technological change because of what might happen to it as an organization independent of the total effects of such change. There is some doubt whether this is appropriate either to the company or to the union. We live in a society where change is always taking place. The ten largest unions in 1966 were not the ten largest unions of 1900. Likewise, the ten largest companies in 1966 were not the ten largest companies in 1900. However, these factors are unlikely to make much difference to the union when its very existence is being threatened. The attitude of the railway company in this instance merely made it easier for the union to take the stand which they adopted.

The foregoing discussion illustrates cases where collective bargaining as practiced on the railways does not appear to have led to an amicable agreement on technological change. In general terms it is evident that technological change has put a lot of stress on the collective bargaining relationship. It has undermined the membership base of many unions which rests in the blue-collar workers who are being eliminated by technological change. In addition, there seems to be an increasing number of cases in which the union members have refused to ratify settlements negotiated by their representatives. However, it must not be concluded that technological change presents insurmountable problems to collective bargaining. Indeed we must proceed to examine the question as to what ingredients might be necessary to allow collective bargaining to play as effective a role as possible.

In the two issues that have been highlighted it may well be argued that the railways mishandled the problems. However, it appeared that, on both occasions, the magnitude of the change was the main factor inhibiting agreement at an early stage. It is not true to say that there was no provision for dealing with technological change. It was simply that it fell within the management rights clause. Rather, the basic problem in both cases was the allocation of the costs of the change. In the firemen's issue it was clear that the use of firemen was made unnecessary on diesel engines, but yet the union considered the issue non-negotiable. Implementation meant extinction of the union. Again, in the run-through issue, the change itself affected not only the employees that would be either displaced or transferred, but also the economic viability of two communities. It would have been unreasonable to expect complete agreement by the union, in the first instance, or by the communities at large in the second case. It seems to me that the employer has a responsibility to those whom he displaces without a marketable skill in the labour market, especially those who have given long years of service to the enterprise. The adverse impact of technological change is likely to affect a restricted number of persons, while the benefits are spread throughout the economy. The change is introduced for the benefit of the enterprise, its investors, the consumers of the product, and presumably the economy as a whole. The responsibility and cost of adjustment ought not therefore to fall solely on the employee, or for that matter the employer, but on society in general:

"This differentiation between beneficiaries and sufferers from technological change presents us with a moral as well as an economic problem. Society as a whole is, by and large, a beneficiary. Is it morally acceptable for most of us to enjoy benefits of new technologies without utilizing every (81)

"possible means of minimizing the losses and assisting the re-adjustment of those who are not beneficiaries but sufferers? Society has a moral obligation to accept the cost of necessary programs to this end as a charge against the benefits of technological advance."55/

Government represents the medium through which society can contribute its share of the costs. Its role is perhaps more important when people are indirectly affected by change. We tend to identify the effects of technological change as the immediate impact effect. There are, however, many instances where employees in one industry may be displaced because another competing industry has introduced a technological change. We seem to be relatively insensitive to this second kind of situation. We see, therefore, that the problem of change cannot be completely resolved on the individual enterprise or union level, since the repercussions of the new technique will be felt by groups outside the units directly affected. The implication is thus drawn that government should help to alleviate the individual and social costs of introducing advanced technology. It is not enough for governments to maintain their traditional kinds of assistance and intervention in labour-management relations and in the labour market. Measures such as free employment services for job placement of the unemployed and for career counselling, as well as old age insurance and income protection through unemployment compensation must be improved. There is some indication that the Canadian government is aware of the problem in that there are some policies which are aimed specifically at protecting the citizen against the adverse effects of technological change. But there is need to do even more.

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^{55/} Somers, Cushman and Weinberg, <u>Adjusting to Technological Change</u>, Harper and Row, New York, 1963, p. 207.

To the extent that the economy is buoyant, measures negotiated to protect the affected employee will be more effective; but where the government has failed to achieve a high level of employment and to provide appropriate public policies (these are spelled out in the next chapter), the consequences of technological change are likely to be more severe. Then government intervention will have to be more direct, creating new employment opportunities, retraining, assisting in labour mobility, or supporting the income position of those displaced.

An important barrier to union action in the area of technological change was highlighted by the Freedman Commission. This is the stipulation in the Industrial Relations and Disputes Investigation Act, that there shall be no strikes during the term of an agreement. If this were not so, then management would be forced to solve the problems of new technology during the term of an agreement, or run the risk of a strike. The Prime Minister's Task Force on Labour Relations proposed an interesting solution to this problem without having to change the present legal framework entirely. It recommended:

"that the negotiating parties have power by mutual agreement to opt out of the restraint on the strike and the lockout and the requirement to establish machinery for the settlement of disputes resulting from the permanent displacement of personnel occasioned by industrial conversion arising during the period when an agreement is in force."56/

This proposal, if adopted, would at least have the effect of building in a measure of protection to the unions and perhaps hasten the advent of appropriate public policies.

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^{56/} Canadian Industrial Relations, op. cit., p. 195.

In the meantime, in the absence of such policies or legal amendments collective bargaining is severely hampered in its attempt to deal with technological change. Yet there is much that can be done within the present framework. Much more forward planning and joint consultation can be brought to bear upon the situation with respect to planned technological changes. Some unionists feel that formal joint consultation may gradually encroach on 'union preserves'. Another reason for lack of enthusiasm for consultation is the fear of management that this will involve an invasion of their right to manage. Thus there can be opposition from both sides. However, this forward planning can do much to erase some of the mistrust that now exists when a change is put into effect. The agreement concluded between the railways and unions on March 14, 1967, apart from providing for as much advance notice as possible, aims at dealing with the technological change after it has occurred. Much more important, in my view, is what must be done before plans for the change are finalized. This line of action implies that unions must be able to acquire, and management willing to impart, some knowledge of planned changes. It also runs contrary to traditional management thinking about what is regarded as confidential information. Despite the difficulties management ought to be able, in most cases, to give considerable advance notice of a change. Where such notice is likely to present very great problems, the obligation could be waived with the approval of the appropriate government department upon the joint request of the union and the employer.57/

A policy of active co-operation would mean that much retraining could be undertaken before the change is implemented, thereby making it possible to retain more employees and effect the change more smoothly. It would be undertaken within the framework of wider seniority units, so that employees who are likely to be displaced from their jobs are not retrained in vain.

This widening of seniority units, however, is easier stated than applied, for both managements and unions have been known to oppose wider seniority units. On the employee side, it is likely to receive opposition from those who might find themselves 'bumped' by technologically displaced employees from another and perhaps unrelated part of the company. The employer, on the other hand, has been known to refuse, in instances where it was not contractually bound to do so, to apply seniority rules to employees who were to be trained for new jobs. Nevertheless, retraining programs are unlikely to have maximum effect unless the mobility created by wider seniority units is present.

The conclusion, then, as to whether collective bargaining is competent to cope with technological change must be a qualified one. Government policies can greatly increase the effectiveness of the collective bargaining machinery. However, even without these policies there is much that can be done by union and management themselves. If the economy is buoyant there will be many more jobs for displaced employees, and through collective bargaining the union can concentrate on negotiating more favourable benefits to tide the employee over between jobs. It is, therefore, not right to put too great a blame on collective bargaining for its inability to handle the adjustment problem, when government fails to provide a congenial atmosphere. Specific instances of change will exert pressures on the institution, even if government acts appropriately with its policies. The institution itself may be restructured by the change because of the prominence given to certain occupational groups by the new technology. Traditional approaches might have to be scrapped to achieve maximum performance, but the basic machinery of union and management reaching some lasting compromise between their divergent views is not likely to fail in the area of technological change.

CHAPTER 6

SUMMARY AND IMPLICATIONS FOR POLICY

The technological changes that have been discussed in this study were, to all intents and purposes, implemented on the railways over the seven year period 1948 to 1955. Dieselization was pioneered by the Canadian National as early as 1925, but diesel locomotive operation on Canadian railways did not commence until 1948. Centralized traffic control was first introduced in 1930 but was not used on a large scale until eighteen years later. Automatic humpyards made their appearance in 1949, trailer-on-flat-car merchandise services in 1952, and integrated data processing in 1955. The employment effect of all these changes are evidenced by a marked decline in railway employment since the late 1950's.

Before the diesel engine came into general use, employees affected by changes on the railways were absorbed into the stream of expanding railway employment (see Tables II to XI). Many factors contributed to this phenomenon, but perhaps the most important fact was that the railways, for a long time, had enjoyed a virtual monopoly in land transportation beyond a few miles distance in a largely agricultural economy. Also competition from other forms of transportation was not particularly strong. In addition the political considerations that influenced the development of the Canadian railways saw, for a time, the uneconomical use of much of Canada's railway mileage. There was a lot of duplication of railway tracks, and the railways were developed beyond the needs of the country, especially in the area of passenger travel. The Royal Commission of 1931-32 commented on this state of affairs as follows:

"Not only was there duplication in the operation of passenger trains, but practically identical schedules were adopted when a 'staggered' service would have better adapted to serve the public convenience. These wasteful practices extended to house delivery of tickets, the multiplication of "city ticket offices, to radio activities, costly advertising, and the establishment of a standard of passenger travel quite beyond the requirements of the country.

Had this competition existed between private companies, each dependent on its own resources to raise the capital and to pay the bill, it is likely that years of adversity would have brought wisdom. But one of these competitors was backed by the long purse of the State, and the consequences of these errors and extravagances must be borne by the taxpayers, and in this connection we must not lose sight of the fact that the Canadian Pacific, the principal rival of the Canadian National Railway, was at the same time the largest taxpayer."58/

Also because they were the instruments of national policy, the railways have been burdened with fixed rates for the conveyance of Western Canada's grain production for export, rates that demand conditions do not justify. In addition the Canadian National, as the national railway, found itself from its very inception harnessed with many unremunerative lines that the government had taken over from certain distressed railways.

These factors, and in particular the unnecessary duplication of lines, might not have existed in efficient railway systems with less government influence, but they tended to lead to more employees in the industry than would otherwise have been the case. However, as competition from other forms of transport, especially road motor transportation, became more effective, the railways introduced technological change with labour-displacing effects. Government policy, through the Board of Transport Commissioners, has also allowed them to eliminate much of the wasteful competition between themselves and to compete more effectively with other means of transportation.

This modernization of the railways has led to a decline in railway employment and has meant loss of employment to many workers whose skills were not required by

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^{58/} The Report of the Royal Commission on Railways and Transportation in Canada, 1931-32, op. cit., p. 43.

the new technology. In an industry that uses large quantities of labour, technological change, for the most part, means fewer employees with greater skills doing the same or even an increased amount of work. Such has been the case on the railways. On one hand, the volume of railway business in terms of intercity revenue ton miles has increased by 47 per cent between 1948 and 1965, though its share of the total intercity revenue ton miles has decreased (see Table 1). On the other hand, however, there has been a 25 per cent drop in railway employment on the two nation-wide systems over the same period (Tables II to XI).

Dieselization has been the single most important technological change and has been mainly responsible for the significant changes in employment. However, in many cases it is difficult to isolate the employment effects of any particular change. For example, centralized traffic control produces its greatest economic benefit when combined with the faster speeds, heavier loads and tighter schedules of the diesel engine. Also, automatic humpyards were made possible by the development of a centralized traffic control system. Again, integrated data processing has brought about the disappearance of many routine clerical tasks by taking care of the mass of detail of railway business. This difficulty in isolating the employment effects of a specific change has important implications for policy, and means that successful policies in this area are likely to be more general than specific, treating the overall problem rather than attempting to deal with specific instances of change.

Nevertheless, employment declines can, in some instances, be related to specific technological changes. The effect of dieselization is especially noticeable in the employment of firemen, blacksmiths and boilermakers. Centralized traffic

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control and other automatic signalling devices have greatly affected the occupations of sectionmen, extra gang labourers, crossing watchmen and gatemen. Integrated data processing, though adversely affecting some accounting occupations which require less skill, was responsible for the appearance of clerical occupations specific to integrated data processing, and automatic humpyards, while creating the need for additional supervisory personnel, resulted in less employment for engineers, switchtenders, yard labourers and other operating employees. On the whole, workers whose skills were peculiar to the railroad industry suffered more than those who could gain employment elsewhere. The presence of so many of these types of workers added to the problem of adjustment to technological change.

This factor was brought into sharper focus by the dispute in 1957 between the Brotherhood of Locomotive Firemen and Enginemen and the Canadian Pacific concerning the employment of firemen on diesel locomotives in freight and yard service. This issue was complicated by the fact that the railways did not immediately come up with a proposal to accommodate the firemen whom they intended to displace. However, the more interesting question in the area of technological change was whether we could have expected that the union would have willingly agreed to any proposal by the company. The situation was such that the employment of firemen on diesel locomotives was no longer necessary, and the firemen had no other industry to which they could turn in search of employment. Thus agreement with any proposal still meant the eventual extinction of their craft and the demise of their union.

The problem that the firemen faced can be paralleled with the problems of the blacksmiths and boilermakers who also suffered severe declines in employment as a

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result of dieselization. Whereas in 1948 the Canadian Pacific employed 835 blacksmiths and boilermakers, in 1966 only 264 were employed, a 68 per cent decline in employment. The difference in their response to the introduction of diesel locomotives can be explained by the fact that their occupations are in demand in other industries. Their unions are not solely railway unions, but craft unions with membership in other industries. The blacksmiths and boilermakers who are railway workers might even be outnumbered in the locals to which they belong. Thus displacement from the railway industry does not create the same crisis as it does in the case of the firemen, since it is possible for them to find employment either in the same area, or after relocation.

The problem of adjustment to technological change on the railways led to another crisis, in 1964, when a decision by the Canadian National to eliminate train stops at Nakina, Ontario, and Wainwright, Alberta, led to a situation in which over 2,800 crewmen booked off sick as a means of protest. As in the case of the firemen's issue, the circumstances surrounding the change was the reason given for the conflict. However, the real villain was the failure of the collective bargaining process to cope with technological change. In the case of the firemen there was the threat to the existence of the union; in the run-through issue there was the threat to the existence of two communities. In both cases, however, management was acting within their rights to implement changes which benefited the company. In the case of the diesel issue adequate notice was given of the change, but in the run-through issue the announcement of the change was delayed until the last minute. The problem was, therefore, not adequate notice. It was whether a technological change which adversely affected the conditions of

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employment should be left to the sole discretion of management. In the eyes of the union the situations surrounding the two disputes gave them the justification for bringing the matter into the open, a justification which they felt was otherwise lacking in view of the fact that the contract and existing usage both supported the position of management in the implementation of technological changes. There had been technological changes before which had displaced employees. Similarly, the runthrough issue had a history dating back to 1958. It was the magnitude of the effect of the changes which gave the employees the necessary courage to bring out into the open an issue which had been boiling below the surface, whether management should have the sole discretion in the introduction of technological change and the adjustment of employees to the change.

Neither management nor labour expected the far-reaching recommendations of the Freedman report. Though its recommendations were in favour of labour, the labour movement was not in a position to make the Freedman recommendations feasible in the present state of industrial relations. The report would give the unions the right to negotiate whether or not a major technological change ought to be introduced. In a case such as the firemen's issue it is not difficult to see that the unions, given their present attitudes, would never agree to the introduction of the change. The responsibility to decide whether a change ought to be introduced would at best be a difficult one for the union officials to accept, but if it is to have any chance of success, it would require that the unions acquire a great deal more knowledge of the industry than they now have. Specifically the union, before making a reasonable decision, would have to be in a position to be able to consider the effect that a maintenance of the same number of employees would have on the railways' ability to

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compete with other forms of transportation. If a maintenance of the status quo would result in the crippling of the industry to the extent where employment would eventually be less, then prudence would dictate that they sanction the change. However, at present there is a deficiency in the knowledge of the unions as to what a given change involves, and without the possession of such comprehensive data, it is hard to see how the Freedman recommendations could be widely implemented.

In the meantime, since the Freedman report the railways and the unions have negotiated agreements to accommodate workers who have been adversely affected by technological change. Until very recently, adjustment to change took the form of measures which caused the available employment to be distributed among a greater number of workers. Such measures included shorter hours of work, longer vacations, and more statutory holidays, and were adopted throughout much of the 1950's. Though they were not openly sought as ways to counteract or alleviate the adverse effects of change, yet there is no doubt that these benefits, to some extent, facilitated adjustment to change in that they postponed the arrival of the moment when it was necessary to displace employees, or at least caused the number of displaced employees to be fewer than they might have been in the absence of such benefits.

However, in 1958 the unions began to seek more direct methods of accommodation. They realized that workers were being laid off more frequently, and that these layoffs were not being balanced by new hirings. It was this realization that led the unions to seek severance pay, a benefit which would have the effect of assisting those laid off until new jobs could be found. There is little doubt that the firemen issue of the previous year had inspired this demand. However, the absence of severance pay clauses in the majority of collective agreements in outside industry was so marked

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that no recommendation was made on the demand by the conciliation board which looked into the dispute, not even by the union nominee. The union was not successful in winning this kind of benefit until 1962 when a job security fund was set up after a recommendation by the conciliation board chaired by Mr. Justice Munroe. The job security fund was to be used not only for severance pay, but also for such other purposes as supplementary unemployment benefits, retraining programs, and the relocation of employees displaced by change. Thus the situation had moved from one in which adjustment took the form of indirect measures to one in which the right of management to make the change was conceded but measures were negotiated to make the adjustment to change as painless as possible.

It was at this stage that the Freedman report appeared and altered considerably the approach taken by the unions. The unions were emboldened by the recommendations of the report and requested that reduction in employment below a certain level should be negotiable. This was tantamount to requesting that negotiations take place on major technological changes, one of the recommendations of the Freedman report. They did not succeed in their demands, which perhaps reveals that conciliation board chairmen are not inclined to be revolutionary in their recommendations. However, the matter of technological change and its effect on employees was more seriously discussed, and the positions of both sides clarified with the result that a series of technological change agreements have been signed. The language of the contract still concedes to the railways the right to make the changes, but aims at working out mutually satisfactory adjustment provisions. The peace, however, is an uneasy one, as illustrated by articles in union newspapers 59/ and it is to be expected that in future years the

^{59/} See especially "Forward from Freedman? ... Really Now, Mr. Wilson." in Trainman News, March, 1968.

unions will strive to win agreements which more closely reflect the recommendations of the Freedman report.

Closer consideration leads to the question whether collective bargaining, in its present state and unassisted, can cope with the problem that adjustment to technological change presents. The conclusion is that its role is severely limited but that more can be cone within the present context to enhance the effectiveness of collective bargaining. For example, a freer exchange of ideas between labour and management before a decision is made to introduce a change can do much to lessen the distrust that at present exists in the area of technological change. This would enable the union to see the extent to which a particular change is necessary for the long-run survival of the company, and also allow much more to be done to ease the impact of the change when it is introduced. This encroaches on the area at present regarded by management as confidential information, but would be an improvement over the present state.

However, even when all this is accomplished, there still remains the problem as to whether the costs of a change which presumably benefits society as a whole ought to fall solely on the particular union and management involved. The thought is that society ought to undertake part of the responsibility and cost of adjustment and government is the means by which society can fulfill this responsibility. To the extent that the government maintains a high level of employment in the economy, adjustment is likely to be easier. But there is every indication that the government will have to offer more in the way of public policies than their present traditional kinds of assistance cover if collective bargaining is to play an effective role in the adjustment of workers to technological change.

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Policy Implications

Technological change carries within itself the potential for much economic good. However, the effects that it has on the economic security of the employees has given rise to the question whether the collective bargaining process, as it is now known, is competent to handle all the problems that adjustment to technological change presents.

Historically, the introduction of technological change has been left to the sole discretion of the employer and has been covered by the management rights clause found in the majority of collective agreements. In recent years, however, the need for job security has received more emphasis as a bargaining issue, as job separations arising from technological change have accelerated.

The question as to whether the technological change itself should be negotiated received no great consideration in Canada until the Freedman report was made public. Whether his recommendations will ever be implemented in their entirety in any industry is a matter of the utmost speculation. It is certainly unlikely in the near future, for it would require a drastic change in the attitude of both parties. However, even if the right to introduce change unilaterally is universally conceded to management, the collective bargaining process will still undergo great strain in providing accommodative measures to change. With so much at stake, it is expected that the worker, through his union, will fight valiantly to retain his job, especially if there is no suitable alternative job which he can perform elsewhere. But even if the worker can get himself another job, accumulated seniority and other attachments related to length of service might still lead him to want to hold on to his job. A part of the answer lies in the public policies adopted by the government. It seems to me that the government must encourage, and perhaps actively promote, the broadening of seniority units so that attachments to a particular job becomes less. If the employee knows that he can transfer his seniority and other rights to another job, he is less likely to think of the loss of any one job as a grave misfortune. Then too, a more effective labour market policy can facilitate labour mobility and reduce the cost to the employee of moving from one job to another. There is also the responsibility of the government to place more emphasis on education at all levels, to provide students with a wider foundation of knowledge, to train the youth to be more flexible so that they can more easily meet the requirements of a new job if they should be technologically displaced. Again, the government must maintain a high level of employment so that there is a much greater chance of displaced employees finding new jobs. Finally, there is the need to intensify efforts to relieve the pressure from economically distressed communities.

The other part of the answer to the problem might also come in the form of legislation, as suggested by the Freedman report. But collective bargaining will have a vital role to play, though there is some indication that traditional methods, approaches, and attitudes will need to be re-examined. Success will also demand that co-operation between management and labour reach a higher and more sophisticated level. It is virtually impossible to effect an adequate agreement when the parties are unalterably opposed to each other because of their failure to appreciate each other's position. Fortunately, this is not the case on the railways. However, they too could gain from the increased collaboration with each other prior to the implementation of a change.

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The area of collective bargaining might be enlarged to include many aspects of the labour-management relationship that have not been previously subject to negotiation. Specifically, as the Freedman report suggests, the famous management rights clause might have to be scrutinized with a view to excluding the matter of change from the sole aegis and supervision of the employer. There is much data that is now termed confidential that could be released to the unions without damage to the efficient running of the organization. This would allow more effective planning to take place and assist in the smooth introduction of technological change. Also, to assist workers in relocation and retraining, more effective manpower and employment policies will have to be undertaken. However, in the final analysis there is every indication that the success of collective bargaining in dealing with technological change will depend in large part on government's development of adequate public policies.

TABLE 1

CANADIAN INTERCITY REVENUE TON MILES BY TYPE OF CARRIER (1948-1965) (in Millions)

Year	Rail		Roads (i)		Water	<u>c (ii)</u>	Pipeline	s (iii)	Total	
	Ton	% of	Ton	% of	Ton	% of	Ton	% of	Ton	
	Miles	Total	Miles	Total	Miles	Total	Miles	Total	Miles	
1948	59,080	67.5	5,193	6.0	23,204	26.5	-	-	87,477	
1949	56,338	65.3	5,920	6.9	24,010	27.8	-	-	86,268	
1950	55,538	61.2	7,597	8.4	27,017	29.7	610	0.7	90,762	
1951	64,300	61.3	8,238	7.9	28,885	27.5	3,472	3.3	104,895	
1952	68,430	60.6	8,903	7.9	30,865	27.3	4,689	4.2	112,887	
1953	65,267	56.9	9,778	8.5	32,845	28.6	6,817	6.0	114,707	
1954	57,547	54.2	10,012	9.4	29,618	27.9	9,058	8.5	106,235	
19 55	66,176	53.8	10,248	8.3	34,348	27.9	12,302	10.0	123,074	
1956	78,820	54.3	10,614	7.3	39,406	27.2	16,193	11.2	145,033	
1957	71,047	52.6	10,679	7.9	36,657	27.1	16,687	12.4	135,070	
1958	66,357	50.8	14,080	10.8	34,260	26.2	15,956	12.2	130,653	
1959	67,957	47.8	14,397	10.1	39,659	27.9	20,260	14.2	142,273	
1960	65,445	46.8	13,841	9.9	36,869	26.4	23,640	16.9	139,795	
1961	65,828	43.3	16,099	10.6	39,169	25.8	30,791	20.3	151,887	
1962	67,937	41,6	16,585	10.1	42,720	26.2	36,005	22.1	163,247	
1963	75,796	42.4	16,704	9.3	46,559	26.0	39,880	22.3	178,939	
1964	85,033	42.4	18,181	9.0	54,164	27.0	43,334	21.6	200,712	
1965	87,190	41.8	19,411	9.3	55,063	26.5	46,836	22.4	208,575	

(i) Estimated prior to 1957 by using the trend of Canadian registrations, United States Bureau of Public Roads average load and average miles travelled with 1957 Motor Transport Traffic Statistics as the base. Private trucking is included.
(ii) Estimated by using cargo data in "Shipping Statistics" together with assumed average distances for major water lanes. The ton miles figures were then adjusted according to the fluctuations of canal traffic in previous years.
(iii) Includes trunk and gathering lines.

N.B. Figures for Air Traffic revenue ton miles amount to less than one tenth of 1 per cent in each of the 18 years, but are included in the total ton miles figure.

Source: Dominion Bureau of Statistics, Weekly Bulletin, February 17, 1967, pp.7-8.



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TABLE II

EMPLOYEES BY NUMBER AND CLASSIFICATION (CANADIAN NATIONAL)

	"General"	1948	1952	%	1957	%	1963	%	1966	%
1.	Executives, Officers and Assistants	216+ 752	236+ 832	9	1,274	21	1,545	60	1,560	61
2.	Professional and Sub-Professional Assistants	573+ 558	891+ 767	47	1,173	4	2,109	86	2,676	137
3.	Chief, Assistant Chief and Supervisory Clerks	-	-	-	879	-	905	-	878	-
4.	Clerks, Stenographers and Office Machine Operators	10,546	11,885	13	11,555	10	9,129	-13	10,549	-
5.	Telephone Switchboard Operators, Office Boys and Sorters	108	122	13	519	380	146	35	150	39
6.	Janitors and other Building Attendants	569	749	32	795	40	545	-4	89	-84
7.	Service Vehicle Operators	-	-	-	202	-	123	-)	00
8.	Miscellaneous Trade Workers	1,186	1,287	9	48	-96	290	-76) 124	-90
9.	Police Inspectors, Sergeants, Special Agents and Investigators	96	99	4	116	21	129	34	150	56
10.	Constables and Policemen	372	442	19	483	30	448	20	577	55
11.	Stores: General Foremen, Foremen and Assistants	107	117	9	154	44	139	30	156	4 6
12.	Storemen and Stores Labourers (non-clerical)	1,512	1,769	17	1,525	1	1,615	7	1,406	-7
	Sub-total (1-12)	16,595	19,196	16	18,723	13	17,123	3	18,315	10

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EMPLOYEES BY NUMBER AND CLASSIFICATION (CANADIAN PACIFIC)

	"General"	1948	1952	%	1957	%	1963	%	1966	%
		234+	242+	•						
1.	Executives, Officers and Assistants	613	641	4	1,019	20	994	17	936	11
2.	Professional and Sub-Professional	412+	614+							
	Assistants	244	249	32	380	-42	366	-44	1,154	76
3.	Chief, Assistant Chief, and Super- visory Clerks	-	-	-	824		832	-	662	_
4.	Clerks, Stenographers, and Office Machine Operators	7,822	8,252	5	8,191	5	7,138	-9	6,428	-18
5.	Telephone Switchboard Operators, Office Boys and Sorters	75	91	21	395	427	326	335	237	216
6.	Janitors and Other Building Attendants	335	343	2	450	34	355	6	126	-62
7.	Service Vehicle Operators	-	-	-	42	-	37	-)	101	0.9
8.	Miscellaneous Trade Workers	579	623	8	36	-94	24) -96)	101	-00
9.	Police Inspectors, Sergeants, Special Agents and Investigators	116	125	8	122	5	119	2	209	80
10.	Constables and Policemen	305	375	23	427	40	396	30	426	40
11.	Stores: General Foremen, Foremen and Assistants	135	151	12	100	-26	91	-33	91	-33
12.	Storemen and Stores Labourers (non-clerical)	657	693	5	598	-15	399	-39	274	-58
	Sub-total (1-12)	11,527	12,399	8	12,936	12	11,077	-4	10,644	8

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TABLE IV

EMPLOYEES BY NUMBER AND CLASSIFICATION (CANADIAN NATIONAL)

	1010	1904	%	1957	<u>%</u>	1963	<u>%</u> _	1966	%
Duides and Duilding Masters Boodmasters									
and Assistants	_	_	_	416	_	437	_	512	_
Maintenance of Way and Scale Inspectors	_	-	_	49	_	-53	_	100	_
Bridge and Building Department Foremen	293	327	12	374	28	310	6	300	3
Bridge and Building Department Carpenters									
and Bridgemen	1,233	1,499	22	1,656	34	1,102	-11	1,054	-15
Blacksmiths, Pipefitters and Tinsmiths	226	242	7	170	-25	177	-22	169	-25
Masons, Painters and other Journeymen	264	324	23	586	122	506	92	500	91
Helpers, Bridge and Building Department	344	405	18	328	-5	119	-65	129	-63
Labourers, Bridge and Building and Signal									
Department	Include	d in No. 2	5	539	-	209	-	183	-
Work Equipment Operators and Helpers	410	588	43	751	83	645	57	868	112
Pumpmen	231	187	-19	31	-87	9	-96	5	-98
Extra Gang and Snowplow Foremen	201	231	15	265	32	219	9	201	_
Section Foromon	2 097	2 0/5	_1	2 063	_1	9 911	-26	1 009	_99
Labourers Extra Gang	4 578	5 068	-1	4 237	-1	2,211 2,148	-20 -53	1,995	-34 -73
Sectionmen	9,817	10,570	8	9,649	-2	6,450	-34	5,941	-40
Concercit and Applications Concercit Francescon and									
General and Assistant General Foremen and	96	20	15	95	95	0.9	954	09	954
Inspectors Foreman (Signal and Floatnical Transmission)	40 99	50	117 117	00 17	30 104	94 106	204 961	94 95	204 59
Foremen (orgnar and Electrical Transmission)	20	50	11.(104	100	201	20	52
Signal and Interlocker Maintainers and Helpers	325	420	29	524	61	745	129	879	170
Linemen and Groundmen (Electrical Transmission)	23	23	-	16	-30	25	9	109	374
Sub-total (13-30)	20 981	22 909	9	22 636	8	15 563	-26	14 234	-32
	 Bridge and Building Masters, Roadmasters and Assistants Maintenance of Way and Scale Inspectors Bridge and Building Department Foremen Bridge and Building Department Carpenters and Bridgemen Blacksmiths, Pipefitters and Tinsmiths Masons, Painters and other Journeymen Helpers, Bridge and Building Department Labourers, Bridge and Building Department Labourers, Bridge and Building and Signal Department Work Equipment Operators and Helpers Pumpmen Extra Gang and Snowplow Foremen Section Foremen Labourers, Extra Gang Sectionmen General and Assistant General Foremen and Inspectors Foremen (Signal and Electrical Transmission) Signal and Interlocker Maintainers and Helpers Linemen and Groundmen (Electrical Transmission) 	Bridge and Building Masters, Roadmasters and Assistants - Maintenance of Way and Scale Inspectors - Bridge and Building Department Foremen 293 Bridge and Building Department Carpenters - and Bridgemen 1,233 Blacksmiths, Pipefitters and Tinsmiths 226 Masons, Painters and other Journeymen 264 Helpers, Bridge and Building Department 344 Labourers, Bridge and Building and Signal 0 Department 1nclude Work Equipment Operators and Helpers 410 Pumpmen 231 Extra Gang and Snowplow Foremen 201 Section Foremen 2,987 Labourers, Extra Gang 4,578 Section Foremen 26 Foremen (Signal and Electrical Transmission) 23 Signal and Interlocker Maintainers and Helpers 325 Linemen and Groundmen (Electrical Transmission) 23	Bridge and Building Masters, Roadmasters and Assistants - - Maintenance of Way and Scale Inspectors - - Maintenance of Way and Scale Inspectors - - Bridge and Building Department Foremen 293 327 Bridge and Building Department Carpenters and Bridgemen 1,233 1,499 Blacksmiths, Pipefitters and Tinsmiths 226 242 Masons, Painters and other Journeymen 264 324 Helpers, Bridge and Building Department 344 405 Labourers, Bridge and Building and Signal Department Included in No. 2 Work Equipment Operators and Helpers 410 588 Pumpmen 231 187 Extra Gang and Snowplow Foremen 201 231 Section Foremen 2,987 2,945 Labourers, Extra Gang 4,578 5,068 Sectionmen 9,817 10,570 General and Assistant General Foremen and Inspectors 26 30 Foremen (Signal and Electrical Transmission) 23 50 Signal and Interlocker Maintainers and Helpers 325 420 Linemen and Groundmen (Electrical Transmission) <td>Bridge and Building Masters, Roadmasters and AssistantsMaintenance of Way and Scale InspectorsBridge and Building Department Foremen Bridge and Building Department Carpenters and Bridgemen29332712Bridge and Building Department Carpenters and Bridgemen1,2331,49922Blacksmiths, Pipefitters and Tinsmiths2262427Masons, Painters and other Journeymen Helpers, Bridge and Building Department26432423Helpers, Bridge and Building Department34440518Labourers, Bridge and Building and Signal DepartmentIncluded in No. 25Work Equipment Operators and Helpers41058843Pumpmen231187-19Extra Gang and Showplow Foremen20123115Section Foremen Inspectors2,9872,945-1Labourers, Extra Gang Sectionmen4,5785,06811Signal and Assistant General Foremen and Inspectors263015Foremen (Signal and Electrical Transmission)2350117Signal and Interlocker Maintainers and Helpers 2332542029Linemen and Groundmen (Electrical Transmission)2323-</td> <td>Bridge and Building Masters, Roadmasters and Assistants416Maintenance of Way and Scale Inspectors449Bridge and Building Department Foremen and Bridgemen29332712374Bridge and Building Department Carpenters and Bridgemen1,2331,499221,656Blacksmiths, Pipefitters and Tinsmiths2262427170Masons, Painters and other Journeymen Department26432423586Helpers, Bridge and Building Department Department34440518328Labourers, Bridge and Building and Signal Department158843751Pumpmen231187-1931Extra Gang and Snowplow Foremen20123115265Section Foremen Sectionmen2,9872,945-12,963Jabourers, Extra Gang Sectionmen4,5785,068114,237Section Foremen Signal and Electrical Transmission235011747Signal and Interlocker Maintainers and Helpers Sub-total (13-30)20,98122,909922,636</td> <td>Bridge and Building Masters, Roadmasters and Assistants - - - 416 - Maintenance of Way and Scale Inspectors - - - 49 - Bridge and Building Department Foremen 293 327 12 374 28 Bridge and Building Department Carpenters and Bridgemen 1,233 1,499 22 1,656 34 Blacksmiths, Pipefitters and Tinsmiths 226 242 7 170 -25 Masons, Painters and other Journeymen 264 324 23 586 122 Helpers, Bridge and Building Department 344 405 18 328 -5 Labourers, Bridge and Building and Signal Department Included in No. 25 539 - Work Equipment Operators and Helpers 410 588 43 751 83 Pumpmen 231 187 -19 31 -87 Extra Gang and Snowplow Foremen 2,987 2,945 -1 2,963 -1 Labourers, Extra Gang 4,578 5,068 11 4,237 -7 Section Foremen 9,817</td> <td>Bridge and Building Masters, Roadmasters and Assistants - - - 416 - 437 Maintenance of Way and Scale Inspectors - - - 49 - 53 Bridge and Building Department Foremen 293 327 12 374 28 310 Bridge and Building Department Carpenters and Bridgemen 1,233 1,499 22 1,656 34 1,102 Blacksmiths, Pipefitters and Tinsmiths 226 242 7 170 -25 177 Masons, Painters and other Journeymen 264 324 23 586 122 506 Helpers, Bridge and Building Department 344 405 18 328 -5 119 Labourers, Bridge and Building and Signal Department Included in No. 25 539 - 209 Work Equipment Operators and Helpers 410 584 43 751 83 645 Pumpmen 201 231 15 265 32 219 Section Foremen 2,987 2,945 -1 2,963 -1 2,2148 Sectio</td> <td>Bridge and Building Masters, Roadmasters and Assistants - - - 416 - 437 - Maintenance of Way and Scale Inspectors - - - 49 - 53 - Bridge and Building Department Foremen 293 327 12 374 28 310 6 Bridge and Building Department Carpenters and Bridgemen 1,233 1,499 22 1,656 34 1,102 -11 Blacksmiths, Pipefitters and Tinsmiths 226 242 7 170 -25 177 -22 Masons, Painters and other Journeymen 264 324 23 586 122 506 92 Helpers, Bridge and Building Department 344 405 18 328 -5 119 -65 Labourers, Bridge and Building and Signal Department Included in No. 25 539 - 209 - Work Equipment Operators and Helpers 410 588 43 751 83 645 57 Pumpmen 201 231 18 -12 2,963 -1 2,211 <</td> <td>Bridge and Building Masters, Roadmasters and Assistants - - - 416 - 437 - 512 Maintenance of Way and Scale Inspectors - - - 49 - 53 - 100 Bridge and Building Department Foremen 293 327 12 374 28 310 6 300 Bridge and Building Department Carpenters and Bridgemen 1,233 1,499 22 1,656 34 1,102 -11 1,054 Blacksmiths, Pipefitters and Tinsmiths 226 242 7 170 -25 177 -22 169 Masons, Painters and other Journeymen 264 324 23 586 122 506 92 500 Helpers, Bridge and Building Department 344 405 18 328 -5 119 -65 129 Labourers, Bridge and Building and Signal Included in No. 25 539 - 209 - 183 Work Equipment Operators and Helpers 410 588 43 751 83 645 57 868 Pumpmen<</td>	Bridge and Building Masters, Roadmasters and AssistantsMaintenance of Way and Scale InspectorsBridge and Building Department Foremen Bridge and Building Department Carpenters and Bridgemen29332712Bridge and Building Department Carpenters and Bridgemen1,2331,49922Blacksmiths, Pipefitters and Tinsmiths2262427Masons, Painters and other Journeymen Helpers, Bridge and Building Department26432423Helpers, Bridge and Building Department34440518Labourers, Bridge and Building and Signal DepartmentIncluded in No. 25Work Equipment Operators and Helpers41058843Pumpmen231187-19Extra Gang and Showplow Foremen20123115Section Foremen Inspectors2,9872,945-1Labourers, Extra Gang Sectionmen4,5785,06811Signal and Assistant General Foremen and Inspectors263015Foremen (Signal and Electrical Transmission)2350117Signal and Interlocker Maintainers and Helpers 2332542029Linemen and Groundmen (Electrical Transmission)2323-	Bridge and Building Masters, Roadmasters and Assistants416Maintenance of Way and Scale Inspectors449Bridge and Building Department Foremen and Bridgemen29332712374Bridge and Building Department Carpenters and Bridgemen1,2331,499221,656Blacksmiths, Pipefitters and Tinsmiths2262427170Masons, Painters and other Journeymen Department26432423586Helpers, Bridge and Building Department Department34440518328Labourers, Bridge and Building and Signal Department158843751Pumpmen231187-1931Extra Gang and Snowplow Foremen20123115265Section Foremen Sectionmen2,9872,945-12,963Jabourers, Extra Gang Sectionmen4,5785,068114,237Section Foremen Signal and Electrical Transmission235011747Signal and Interlocker Maintainers and Helpers Sub-total (13-30)20,98122,909922,636	Bridge and Building Masters, Roadmasters and Assistants - - - 416 - Maintenance of Way and Scale Inspectors - - - 49 - Bridge and Building Department Foremen 293 327 12 374 28 Bridge and Building Department Carpenters and Bridgemen 1,233 1,499 22 1,656 34 Blacksmiths, Pipefitters and Tinsmiths 226 242 7 170 -25 Masons, Painters and other Journeymen 264 324 23 586 122 Helpers, Bridge and Building Department 344 405 18 328 -5 Labourers, Bridge and Building and Signal Department Included in No. 25 539 - Work Equipment Operators and Helpers 410 588 43 751 83 Pumpmen 231 187 -19 31 -87 Extra Gang and Snowplow Foremen 2,987 2,945 -1 2,963 -1 Labourers, Extra Gang 4,578 5,068 11 4,237 -7 Section Foremen 9,817	Bridge and Building Masters, Roadmasters and Assistants - - - 416 - 437 Maintenance of Way and Scale Inspectors - - - 49 - 53 Bridge and Building Department Foremen 293 327 12 374 28 310 Bridge and Building Department Carpenters and Bridgemen 1,233 1,499 22 1,656 34 1,102 Blacksmiths, Pipefitters and Tinsmiths 226 242 7 170 -25 177 Masons, Painters and other Journeymen 264 324 23 586 122 506 Helpers, Bridge and Building Department 344 405 18 328 -5 119 Labourers, Bridge and Building and Signal Department Included in No. 25 539 - 209 Work Equipment Operators and Helpers 410 584 43 751 83 645 Pumpmen 201 231 15 265 32 219 Section Foremen 2,987 2,945 -1 2,963 -1 2,2148 Sectio	Bridge and Building Masters, Roadmasters and Assistants - - - 416 - 437 - Maintenance of Way and Scale Inspectors - - - 49 - 53 - Bridge and Building Department Foremen 293 327 12 374 28 310 6 Bridge and Building Department Carpenters and Bridgemen 1,233 1,499 22 1,656 34 1,102 -11 Blacksmiths, Pipefitters and Tinsmiths 226 242 7 170 -25 177 -22 Masons, Painters and other Journeymen 264 324 23 586 122 506 92 Helpers, Bridge and Building Department 344 405 18 328 -5 119 -65 Labourers, Bridge and Building and Signal Department Included in No. 25 539 - 209 - Work Equipment Operators and Helpers 410 588 43 751 83 645 57 Pumpmen 201 231 18 -12 2,963 -1 2,211 <	Bridge and Building Masters, Roadmasters and Assistants - - - 416 - 437 - 512 Maintenance of Way and Scale Inspectors - - - 49 - 53 - 100 Bridge and Building Department Foremen 293 327 12 374 28 310 6 300 Bridge and Building Department Carpenters and Bridgemen 1,233 1,499 22 1,656 34 1,102 -11 1,054 Blacksmiths, Pipefitters and Tinsmiths 226 242 7 170 -25 177 -22 169 Masons, Painters and other Journeymen 264 324 23 586 122 506 92 500 Helpers, Bridge and Building Department 344 405 18 328 -5 119 -65 129 Labourers, Bridge and Building and Signal Included in No. 25 539 - 209 - 183 Work Equipment Operators and Helpers 410 588 43 751 83 645 57 868 Pumpmen<

TABLE V

EMPLOYEES BY NUMBER AND CLASSIFICATION (CANADIAN PACIFIC)

	'Road Maintenance'' (Ways and Structures)	1948	1952	%	1957	%	1963	%	1966	%
13.	Bridge and Building Masters, Roadmasters and									
	Assistants	-	-	_	345	-	318	. –	320	_
14.	Maintenance of Way and Scale Inspectors	-	-	-	7	-	11	-	99	
15.	Bridge and Building Department Foremen	241	255	6	229	-5	180	-25	150	-38
16.	Bridge and Building Department Carpenters and									
	Bridgemen	1,084	1,257	16	1,015	-6	700	-35	546	-50
17.	Blacksmiths, Pipefitters and Tinsmiths	153	174	14	102	-33	72	-53	52	-66
18.	Masons, Painters and other Journeymen	195	208	7	274	41	241	24	181	-7
19.	Helpers, Bridge and Building Department	107	124	16	69	-36	57	-47	34	-68
20.	Labourers, Bridge and Building and Signal Department	t Inclu	ded in No.	. 25	357	-	218	-	186	-
21.	Work Equipment Operators and Helpers	205	268	31	396	93	456	122	561	174
22.	Pumpmen	102	79	-20	24	-76	1	-99	1	-99
23.	Extra Gang and Snowplow Foremen	159	143	-10	123	-23	67	-58	99	-38
24.	Section Foremen	2,565	2,567	-	2,373	-7	1,718	-33	1,484	-42
25.	Labourers, Extra Gang	3,362	3,369	-	1,965	-42	856	-75	662	-80
26.	Sectionmen	6,142	7,200	17	6,358	4	3,963	-35	3,158	-49
. 27.	General and Assistant General Foremen and									
	Inspectors	26	37	42	18	-31	14	-46	10	-62
28.	Foremen (Signal and Electrical Transmission)	-	-	-	27	-	27	-	37	-
29.	Signal and Interlocker Maintainers and Helpers	344	436	27	402	17	395	15	368	7
30.	Linemen and Groundmen (Electrical Transmission)	-	-	-	44	-	11	-	7	-
	Sub-total (13-30)	14,685	16,118	10	13,776	-6	9,302	-37	7,955	-46
TABLE VI

	"Equipment Maintenance"	1948	1952	%	1957	%	1963	%	1966	_%	
31.	General Foremen. Foremen and Assistant										
	Foremen	1,733	2,071	20	1,928	11	1,654	-5	1,402	-19	
32.	Blacksmiths	422	447	6	280	-34	157	-63	145	-66	
33.	Boilermakers	806	906	12	625	-22	292	-64	279	-65	
34.	Carmen, Coach and Locomotive (A)	1,543	1,836	19	1,708	6	1,279	-30	1,363	-29	
	11 11 11 (B)	273	291	7	In	cluded	in 34(A)				
35.	Carmen, Freight (C)	4,133	5,632	36	4,562	8	3,582	-15	3,831	-9	
	'' '' (D)	95	93	-3	Inc	luded	in 35(C)		-		
36.	Electrical Workers	673	921	37	1,182	76	1,057	57	1,159	72	
37.	Machinists	2,863	3,368	18	2,730	-5	1,793	-37	1,899	-34	
38.	Moulders	66	79	20	, 36	-45	, 8	-88	6	-91	
39.	Pipefitters and Sheet Metal Workers	776	953	23	952	23	783	1	888	14	
40.	Helpers to Mechanics	5,409	6,665	23	4,560	-16	1,420	-74	1,371	-75	
41.	Apprentices (Helper)	-		-	-	-	-	-	-	-	
	" (Regular)	1,386	1,346	-3	1,205	-13	629	-55	864	-38	
42.	Coach Cleaners	1.133	1.273	12	1.048	-8	591	-48	671	-41	
43.	Classified Labourers (Shops, Enginehouses)	3,282	3,646	11	2,505	-24	1.131	-66	1,191	-64	
44.	Unclassified Labourers	1,440	1,724	20	1,129	-22	696	-52	754	-48	
45.	Stationary Engineers, Firemen, Oilers	405	483	19	513	27	156	-61	129	-68	
	Sub-total (31-45)	26,438	31,735	20	24,964	-6	15,228	-42	15,952	-40	

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EMPLOYEES BY NUMBER AND CLASSIFICATION (CANADIAN NATIONAL)

TABLE VII

EMPLOYEES BY NUMBER AND CLASSIFICATION (CANADIAN PACIFIC)

	"Equipment Maintenance"	1948	1952	%	1957	%	1963	%_	1966	%
91	Conoral Foromon Foromon and Assistant									
91.	General Foremen, Foremen and Assistant	959	1 0/9	9 9	040	11	000	F	750	10
		000	1,040	16	549 170	24	000	-0 -0	130	~12
32.	Blacksmiths	212	313	19	179	-34	115	-58	115	-58
33.	Boilermakers	563	541	-4	348	-38	153	-73	149	-75
34.	Carmen, Coach and Locomotive (A)	989	1,455	47	1,165	9	704	-45	650	-51
	'' '' (B)	295	311	6	In	clude	ed in 34	4(A)		
35.	Carmen, Freight (C)	2,591	3,777	46	3,600	33	2,829	4	2,722	1
	" " (D)	118	170	44	In	clude	ed in 3	5(C)		
36.	Electrical Workers	420	554	32	722	72	666	59	644	53
37.	Machinists	2,169	2,368	9	1.887	-13	1.262	-42	1,217	-44
38.	Moulders	63	. 59	-6	39	-38	9	-86	. 7	-88
39.	Pipefitters and Sheet Metal Workers	584	780	34	578	-1	404	-31	390	-33
40.	Helpers to Mechanics	3.623	4,424	22	3.538	-2	2.077	-43	1.835	-49
41	Apprentices (Helper)	-,	-, 2	_		-	_,	_	_,	
	" (Regular)	800	- 898	12	629	21	391	-51	466	-42
42.	Coach Cleaners	894	931	4	953	7	609	-32	424	-53
43.	Classified Labourers (Shops, Enginehouses)	1.487	1.743	17	1.655	11	906	-39	982	-34
44	Unclassified Labourers	1 600	1 949	22	1 646	3	944	-41	842	-47
45	Stationary Engineers Firemen Oilers	302	336	11	300	-	208	_91	142	-53
10.	bationary Engineers, ritemen, oners	502	000	**	500		200	-01	1 <i>71</i>	-00
	Sub-total (31-45)	17,623	21,654	23	18,188	3	12.085	-31	11,335	-36

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TABLE VIII

EMPLOYEES BY NUMBER AND CLASSIFICATION (CANADIAN NATIONAL)

	"Transportation" Non-Train	1948	1952	%	1957	%	1963	%	1966	%
46	Chief Train Disnatchers	Included	in 47		90	_	79	_	100	_
40. 47	Train Dispatchers	345	420	22	336		306	_11	207	_1 <i>4</i>
48	Supervisory Agents and Assistants	283	328	16	333	18	385	-11	209	-1 1 -26
49	Agents and Caretaker Agents (Small Station)	10	7	-30	189	-	10	-	209	-20
50.	Station Agents Telegraphers and Telephoners	3 193	3.749	17	3 823	20	2 660	-17	2 334	-27
51.	Levermen (Non-Telegrapher) at Interlockers	100	104	4	96	_4	14	-86	2,001	-97
52.	Baggage, Parcelroom and Station Attendants	Included	in 54	-	516	_	371	-	397	-
53.	General Foremen. Foremen-Freight Sheds	361	383	6	388	7	216	-40	225	-38
54.	Freight Handlers and Freight Shed Operators	3,220	4.106	28	2.739	-15	1.410	56	2,991	-7
55.	Labourers	426	776	82	614	<u>44</u>	497	16	728	71
56.	Dining Car and Restaurant Inspectors	179	174	-3	166	-7	71	-60	120	-33
57.	Dining Car Steward, Chefs, Cooks and Waiters	1.200	1,210	1	969	-19	594	-50	1.279	7
58.	Restaurant Managers, Chefs, Cooks and Waiters	-	· -	_	454	-	265	_		-
59.	News Agents	-		_	-	-	_	-	_	_
60.	Sleeping and Parlour Car Conductors	88	75	-15	91	3	70	-20	113	28
61.	Porters and other Train Attendants	598	660	10	716	20	469	-22	640	7
62.	Bridge Operators	62	48	-23	86	39	72	17	65	5
63.	Crossing Watchmen and Gatemen	428	395	-8	383	-11	215	-50	190	-56
64.	Floating Equipment Employees	439	941	114	457	4	439	-	558	27
	<u>Sub-total</u> (46-64)	10,932	13,376	22	12,446	14	8,136	-26	10,290	-6
65.	Yardmasters and Assistant Yardmasters	378	427	13	401	6	326	-15	364	-4
66.	Switchtenders	221	239	8	236	7	208	-6	146	-34
67.	Hostlers	315	336	7	465	48	246	-22	214	-32
	<u>Sub-total</u> (65-67)	914	1,002	10	1,102	21	780	-15	724	-21

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TABLE VIII

EMPLOYEES BY NUMBER AND CLASSIFICATION (CANADIAN NATIONAL)

	"Transportation" Non-Train	1948	1952	%	1957	%	1963	%	1966	%
46.	Chief Train Dispatchers	Included	in 47		90	_	72	_	100	_
47.	Train Dispatchers	345	420	22	336	-3	306	-11	297	-14
48.	Supervisory Agents and Assistants	283	328	16	333	18	385	36	209	-26
49.	Agents and Caretaker Agents (Small Station)	10	7	-30	189	_	10	-	8	-20
50.	Station Agents, Telegraphers and Telephoners	3,193	3,749	17	3,823	20	2,660	-17	2,334	-27
51.	Levermen (Non-Telegrapher) at Interlockers	100	104	4	96	-4	14	-86	. 3	-97
52.	Baggage, Parcelroom and Station Attendants	Included	in 54		516	-	371	-	397	-
53.	General Foremen, Foremen-Freight Sheds	361	383	6	388	7	216	-40	225	-38
54.	Freight Handlers and Freight Shed Operators	3,220	4,106	28	2,739	-15	1,410	-56	2,991	-7
55.	Labourers	426	776	82	614	44	497	16	728	71
56.	Dining Car and Restaurant Inspectors	179	174	-3	166	-7	71	-60	120	-33
57.	Dining Car Steward, Chefs, Cooks and Waiters	1,200	1,210	1	969	-19	594	-50	1,279	7
58.	Restaurant Managers, Chefs, Cooks and Waiters	-	-	-	454	-	265	-	33	-
59.	News Agents	-	-	-	-	-	-	-	-	-
60.	Sleeping and Parlour Car Conductors	88	75	-15	91	3	70	-20	113	28
61.	Porters and other Train Attendants	598	660	10	716	20	469	-22	640	7
62.	Bridge Operators	62	48	-23	86	39	72	17	65	5
63.	Crossing Watchmen and Gatemen	428	395	-8	383	-11	215	-50	190	-56
64.	Floating Equipment Employees	439	941	1 1 4	457	4	439	-	558	27
	<u>Sub-total</u> (46-64)	10,932	13,376	22	12,446	14	8,136	-26	10,290	-6
65.	Yardmasters and Assistant Yardmasters	378	427	13	401	6	326	-15	364	-4
66.	Switchtenders	221	239	8	236	7	208	-6	146	-34
67.	Hostlers	315	336	7	465	48	246	-22	214	-32
	<u>Sub-total</u> (65-67)	914	1,002	10	1,102	21	780	-15	724	-21

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TABLE IX

. <u> </u>	"Transportation" Non-Train	1948	1952	%	1957	%	1963	%	1966	%
16	Chief Trein Dispatchers	Inch	dod in 17		40	_	20		20	_
40. 47	Train Dispatchers	233	288	24	-±0 229	-2	39 204	_ _19	190	
48	Supervisory Agents and Assistants	196	219	12	280	43	266	36	127	-35
49	Agents and Caretaker Agents (Small Station)	97	98	1	120	24	61	-37	40	-59
50	Station Agents Telegraphers and Telephoners	2.300	2,499	9	2 367	3	1 926	-16	1 817	-21
51.	Levermen (Non-Telegrapher) at Interlockers	104	107	3	2,001	-15	73	-30	36	-66
52.	Baggage Parcelroom and Station Attendants	Inch	ided in 54	Ŭ	510	-	356	-	343	-
53.	General Foremen, Foremen-Freight Sheds	174	173	_	195	12	197	13	178	_
54.	Freight Handlers and Freight Shed Operators	3.179	3.093	-3	2.089	-34	2.724	-14	2.534	-20
55.	Labourers	584	597	2	497	-15	380	-30	493	-16
56.	Dining Car and Restaurant Inspectors	146	143	-2	38	-74	25	-83	115	-21
57.	Dining Car Steward, Chefs, Cooks and Waiters	973	763	-22	789	-19	536	-45	421	-57
58.	Restaurant Managers, Chefs, Cooks and Waiters	-	_	_	118	_	138	_	14	_
59.	News Agents	184	167	-9	140	-24	105	-43	109	-41
60.	Sleeping and Parlour Car Conductors	167	172	3	177	6	95	-43	47	-72
61.	Porters and other Train Attendants	704	792	13	807	15	440	-38	307	-56
62.	Bridge Operators	33	37	12	33	-	30	-9	20	-39
63.	Crossing Watchmen and Gatemen	1 1 2	113	-	105	-6	64	-43	50	-55
64.	Floating Equipment Employees	231	196	-15	35	-85	18	-92	16	-93
	Sub-total (46-64)	9,417	9,456	_	8,665	-8	7,677	-18	6,877	-27
65.	Yardmasters and Assistant Yardmasters	280	301	8	370	32	323	15	300	7
66.	Switchtenders	132	122	8	152	15	97	-27	69	-48
67.	Hostlers	245	238	-3	308	26	79	-68	68	-72
	Sub-total (65–67)	657	661	1	830	26	499	-24	437	-33

EMPLOYEES BY NUMBER AND CLASSIFICATION (CANADIAN PACIFIC)

TABLE X

EMPLOYEES BY NUMBER AND CLASSIFICATION (CANADIAN NATIONAL)

	"Transportation" Train	1948	1952	%	1957	%	1963	%_	1966	%	
68.	Road Passenger Conductors	429	452	5	463	8	312	-27	333	-22	
69.	Road Freight Conductors	1,311	1,399	7	1,360	4	1,112	-15	1,246	-5	
70.	Road Passenger Brakemen and Baggagemen	985	1,102	12	1,147	16	704	-29	742	-25	
71.	Road Freight Brakemen	3,349	3,709	11	3,486	4	2,243	-33	2,471	-26	
72.	Yard Foremen and Car Retarder Operators	915	972	6	1,135	24	1,157	26	1,222	34	
73.	Yard Helpers	2,080	2,269	9	2,707	30	2,361	14	2,295	10	
74.	Road Passenger Engineers and Motormen	511	559	9	599	17	386	-24	425	-17	
75.	Road Freight Engineers and Motormen	1,884	1,902	1	1,753	-7	1,200	-36	1,356	-28	
76.	Yard Engineers and Motormen	837	965	15	1,077	29	959	15	1,064	27	
77.	Road Passenger Firemen and Helpers	497	555	12	581	17	321	-35	313	-37	
78.	Road Freight Firemen and Helpers	2,006	2,176	8	2,022	-	1,138	-43	1,008	-50	
79.	Yard Firemen and Helpers	872	990	14	1,231	41	949	9	382	-56	
	<u>Sub-total</u> (68-79)	15,676	17,050	9	17,561	12	12,842	-18	12,857	-18	
	Total Transportation (46-79)	27,522	31,428	14	31,109	13	21,758	-21	23,871	-13	
	Total Classes (1-79)	91,536	105,268	15	97,432	6	69,672	-24	72,372	-21	

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TABLE XI

EMPLOYEES BY NUMBER AND CLASSIFICATION (CANADIAN PACIFIC)

,

	"Transportation" Train	1948	1952	%	1957	%	1963	%	1966	%	_
68.	Road Passenger Conductors	334	336	-	305	-8	186	-44	114	-66	
69.	Road Freight Conductors	1,171	1,109	-5	1,014	-13	812	-31	878	-25	
70.	Road Passenger Brakemen and Baggagemen	792	870	10	721	-9	406	-49	221	-72	
71.	Road Freight Brakemen	2,549	2,811	10	2,440	-4	1,857	-27	2,091	-18	
72.	Yard Foremen and Car Retarder Operators	837	731	-13	891	6	726	-13	862	3	
73.	Yard Helpers	1,856	2,092	13	2,400	29	1,823	-2	1,843	-1	
74.	Road Passenger Engineers and Motormen	439	497	13	434	-1	230	-48	138	-69	
75.	Road Freight Engineers and Motormen	1,493	1,633	9	1,272	-15	907	-39	985	-34	
76.	Yard Engineers and Motormen	760	734	-3	808	6	698	-8	771	1	
77.	Road Passenger Firemen and Helpers	468	530	13	426	9	175	-63	86	-82	
78.	Road Freight Firemen and Helpers	1,636	1,850	13	1,376	-16	853	-48	848	-48	
79.	Yard Firemen and Helpers	788	764	-3	858	9	579	-27	353	-55	
	<u>Sub-total</u> (68-79)	13,123	13,957	6	12,945	-1	9 ,253	-29	9,190	-30	
	Total Transportation (46-79)	23,197	24,074	4	22,440	-3	17,428	-25	16,504	-29	
	Total Classes (1-79)	67,032	74,245	11	67,340	-	49,895	-26	46,797	-30	

NOTES ON TABLES II - XI

Source: Dominion Bureau of Statistics, <u>Railway Transport</u> (Part VI - Employment Statistics) Ottawa: Queen's Printer 1948-66.

The method of classification was altered on two occasions during the period under review, in 1956 and again in 1964. The 1956-64 classifications are maintained wherever possible, but the relationship over the period is explained in detail below.

Pre-1956

- (a) Classes 1 and 2 (1956) included the following classes:-
 - (1) Executives, General Officers and Assistants
 - (2) Division Officers
 - (3) Assistant Engineers and Draftsmen
 - (4) Other miscellaneous officials.

In the present table 1956 Class 1 = Pre-1956 Classes 1 + 4; and 1956 Class 2 = Pre-1956 Classes 2 + 3

- (b) Clerks and Telephone Operators were individual and separate categories.
- (c) Office Boys, Attendants, Messengers and miscellaneous trade workers were reported collectively.
- (d) Classes 9, 10, 11 and 12 were reported in the Transportation Division.
- (e) Classes 13 and 14 were reported as Division Officers (2).
- (f) Classes 20 and 25, Labourers, were reported collectively.
- (g) Class 31 was separated into two classes, General Foremen and Department and Gang Foremen.
- (h) Class 34, Carmen, Coach and Locomotive, were divided into A and B. Class 35, Carmen, Freight was divided into C and D.
- (i) Class 46, Chief Train Dispatchers, was reported with Train Dispatchers.
- (j) Class 52, Baggage, Parcelroom and Station Attendants, was reported with Freight Handlers and Freight Shed Operators.
- (k) Classes 56, 57 and 58 were reported in two classes, viz:-
 - (i) Dining Car and Restaurant Inspectors, Conductors, Stewards;
 - (ii) Dining Car and Restaurant Helpers and Attendants.

1964 and after

"General"

(i) Class 1 includes pre-1964 Classes 1, 13, 27, 31 and 46 and are classified by the Dominion Bureau of Statistics in the following way:-

(a)	Managerial	and	Supervisory	(General)
(b)	11	**	11	(Road Maintenance)
(c)	11	11	11	(Equipment Maintenance)
(d)	**	11	11	(Transportation)

(ii) Class 2 includes pre 1964 Classes 2, 9, 14 and 56 and is classified by the Dominion Bureau of Statistics thus:

(a)	Professional,	technical,	and	Staff	assistants	(General)
(b)	**	11	**	11	**	(Road Maintenance)
(c)	11	11	11	11	11	(Equipment Maintenance)
(d)	11	11	11	11	11	(Transportation)

- (iii) Class 3 becomes two separate classes, viz:-
 - (a) Chief Clerks, Assistant Chief Clerks and Office Supervisors (General)
 - (b) Chief Clerks, Assistant Chief Clerks (Transportation)
- (iv) Classes 4 and 5 become five (5) separate categories, viz:-
 - (a) Clerks and related occupations (General)
 - (b) Clerical (Road Maintenance)
 - (c) Clerical (Equipment Maintenance)
 - (d) Clerks and related occupations (Transportation)
 - (e) Checkers (Transportation)

(v) Class 6 is now called General Office Service Attendants.

(vi) Classes 7 and 8 are reported collectively as:-

Miscellaneous Tradesmen and Service Vehicle Operators.

- (vii) Class 11 becomes Foremen, Assistant and Sub-Foremen (Stores).
- (viii) Class 12 becomes two separate classes:-
 - (a) Storemen (non-clerical)
 - (b) Stores Labourers.

Road Maintenance

- (i) Classes 16, 17, 18, 22 and 62 are reported collectively as Bridge and Building Tradesmen and Bridge Operators.
- (ii) Class 20 becomes Bridge and Building Signal and Work Equipment Labourers.
- (iii) Class 21 becomes two separate classes:-
 - (a) Signal and Interlocker Maintainers and Mechanics,
 - (b) Work Equipment Helpers.
- (iv) Classes 26 and 63 are reported collectively.
- (v) Class 29 becomes two separate classes:-
 - (a) Signal and Interlockers Maintainers and Mechanics,
 - (b) Signal Helpers and Apprentices.

Equipment Maintenance

- (i) Classes 32 and 33 are reported collectively.
- (ii) Classes 34 and 35 are reported collectively.
- (iii) Classes 30 and 36 are reported collectively.
- (iv) Classes 37 and 38 are reported collectively.
- (v) Class 45 becomes two separate classes, viz:-
 - (a) Stationary Engineers,
 - (b) Stationary Firemen and Oilers.

TRANSPORTATION

- (i) Class 47 becomes Train Dispatchers and Traffic Supervisors.
- (ii) Classes 49, 50 and 51 are reported collectively as:-

Station Agents, Telegraphers, Caretaker Agents and Levermen.

- (iii) Class 58 becomes two separate classes viz:-
 - (a) Restaurant Managers, Chefs and Cooks,
 - (b) Restaurant Waiters and Kitchen Helpers.

- (iv) Class 57 becomes two separate classes, viz:-
 - (a) Dining Car Stewards, Chefs and Cooks,
 - (b) Dining Car Waiters and Kitchen Helpers.
- (v) Class 72 becomes Yard Foremen and Car Retarder Operators.

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TABLE XII

HOURS OF WORK OF NON-OFFICE EMPLOYEES IN CANADIAN MANUFACTURING INDUSTRY 1959-1966

.

	<u>1959</u>	<u>1960</u>	<u>1961</u>	1962	1963	1964	<u>1965</u>	<u>1966</u>
Number of employees	819,401	809,736	778,475	822,623	853,647	892,462	922,557	960,575
	%	%	%	%	%	%	%	%
Under 40 hours per week	4	3	4	4	5	6	6	5
40 hours per week	66	67	68	69	70	70	71	72
Over 40 hours per week	30	30	28	27	25	24	23	23
		'n	PABLE XIII					
HOURS O	F WORK OF	- OFFICE EMI	PLOYEES IN	- CANADIAN	MANUFAC	TURING INDU	JSTRY 1959-	1966
	<u>1959</u>	1960	<u>1961</u>	<u>1962</u>	<u>1963</u>	1964	<u>1965</u>	<u>1966</u>
Number of employees	229,233	234,618	242,360	252,546	263,814	275,719	290,343	292,540
	%	%	%	: %	%	%	%	%
Under 40 hours per week	78	78	78	78	78	78	79	80
40 hours per week	18	18	18	19	19	20	19	18
Over 40 hours per week	4	4	4	3	3	2	2	2

Source: Working Conditions in Canadian Industry, 1959-1966 - Economics and Research Branch, Canada Department of Labour

TABLE XIV

PAID VACATION AND SERVICE REQUIREMENTS OF NON-OFFICE EMPLOYEES IN CANADIAN MANUFACTURING 1951-1966

	<u>1951</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>1956</u>	1957	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
Number of Employees	772	802	803	766	799	805	758	819	810	778	823	854	892	923	961
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Two Weeks	89	92	93	93	93	96	96	94	86	88	88	88	89	89	88
After 1 year or less	14	15	16	16	16	18	23	23	20	23	24	25	25	29	37
After 2 years	9	10	1.0	11	12	13	14	14	14	13	12	11	11	11	11
After 3 years	16	22	26	27	28	30	28	28	26	26	26	27	28	29	25
After 5 years	48	40	35	37	36	32	28	26	25	23	23	22	23	17	13
After other periods	2	5	6	2	1	3	3	3	1	3	3	3	2	3	2
Three Weeks	46	52	54	61	63	67	74	71	72	72	73	74	75	77	78
After less than 10 years	*	*	*	1	1	1	4	5	6	7	7	8	8	15	23
After 10 years	*	*	2	2	3	5	8	8	11	19	21	22	25	25	28
After 11–14 years	1	2	*	1	1	2	4	4	4	6	7	10	9	12	11
After 15 years	20	29	37	44	47	50	50	47	45	35	34	31	29	22	15
After other periods	25	21	15	13	11	9	8	7	6	5	4	3	4	3	. 1
Four Weeks	2	4	5	7	10	12	15	26	31	33	36	40	41	47	52
After less than 25 years	*	*	*	*	*	*	1	2	4	4	9	15	18	26	38
After 25 years	2	3	4	6	8	10	11	22	25	27	25	23	21	19	14
After other periods	*	1	1	1	2	2	3	2	2	2	2	2	2	2	*
Five Weeks														5	10
After 25 years														3	6
After other periods					• •	_								2	4
-	*r I N	neans 1 Data on No surv	ess tha 5 weel rey was	an half ks vaca made	of 1 pe tion di in 1952	er cent d not n 2.	nerit re	eportin	g until	1965.					

Source: Working Conditions in Canadian Industry, Economics and Research Branch, Canada Department of Labour, 1951-1966.

TABLE XV

PAID VACATION AND SERVICE REQUIREMENTS OF OFFICE EMPLOYEES IN CANADIAN MANUFACTURING 1951-1966

	<u>1951</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	1966
Number of Employees	158	183	196	196	205	225	227	229	235	242	253	264	276	290	293
covered (in thousands)	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Two Weeks	98	99	97	98	99	98	98	98	90	91	92	93	93	93	94
After 1 year or less	89	89	87	89	90	91	89	89	79	82	85	85	87	85	86
After 2 years	4	5	5	5	5	5	6	6	7	7	5	5	4	5	5
After other periods	5	5	5	4	4	2	3	3	3	2	2	3	2	3	3
Three Weeks	55	62	62	69	72	77	81	82	83	83	84	85	86	87	89
After less than 10 years	2	1	2	*	*	3	4	6	7	7	8	9	10	22	30
After 10 years	2	3	3	5	10	12	16	17	22	28	33	35	39	33	36
After 15 years	23	32	43	51	51	52	52	49	46	38	31	26	23	17	12
After 20 years	15	16	7	7	6	4	3	2	2	2	2	1	1	1	1
After other periods	13	10	7	6	5	6	6	8	6	8	10	14	13	14	10
Four Weeks	3	4	6	8	13	16	20	32	37	41	47	50	52	60	65
After less than 25 years	*	*	*	*	*	*	2	4	5	7	13	16	20	34	50
After 25 years	2	3	5	6	9	12	14	25	28	31	31	31	29	23	15
After other periods	1	1	1	2	4	4	4	3	4	3	3	3	3	3	*
Five Weeks														8	14
After 25 years														6	10
After other periods														2	4

*means less than half of 1 per cent.

Data on 5 weeks vacations did not merit reporting until 1965.

No survey was made in 1952.

Source: Working Conditions in Canadian Industry, Economics and Research Branch, Canada Department of Labour, 1951-66

TABLE XVI

CHRONOLOGY OF CANADIAN RAILWAY EMPLOYEES' VACATION WITH PAY PROVISIONS

	<u>1944</u>	<u>1948</u>	<u>1954</u>	<u>1957</u>	<u>1960</u>	<u>1965</u>	<u>1966</u>
1 week after 2 years' service 1 week after 1 year's service	x(1)	x					
$1\frac{1}{2}$ weeks after 3 years' service			x		·		
2 weeks after 5 years' service 2 weeks after 3 years' service 2 weeks after 2 years' service 2 weeks after 1 year's service		x x(2) x(4)	x	x(3)		x(5)	
3 weeks after 15 years' service 3 weeks after 12 years' service			х				x
4 weeks after 35 years' service 4 weeks after 25 years' service 4 weeks after 22 years' service				x	x		x

Notes

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- (1) Recommendation of the Wartime Wages Control Order P.C. 5963.
- (2) This applied only to the Telegraphers.
- (3) A Government bill introduced in the House of Commons provided minimum paid vacations for employees under federal jurisdiction.
- (4) Monthly-rated employees were receiving 2 weeks vacations after one year's service in 1948.
- (5) The Federal Labour (Standards) Code of 1965 granted 2 weeks vacations after one year's service to all employees under federal jurisdiction.

Source: Information supplied by the International Railway Unions Research Bureau, Montreal.

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