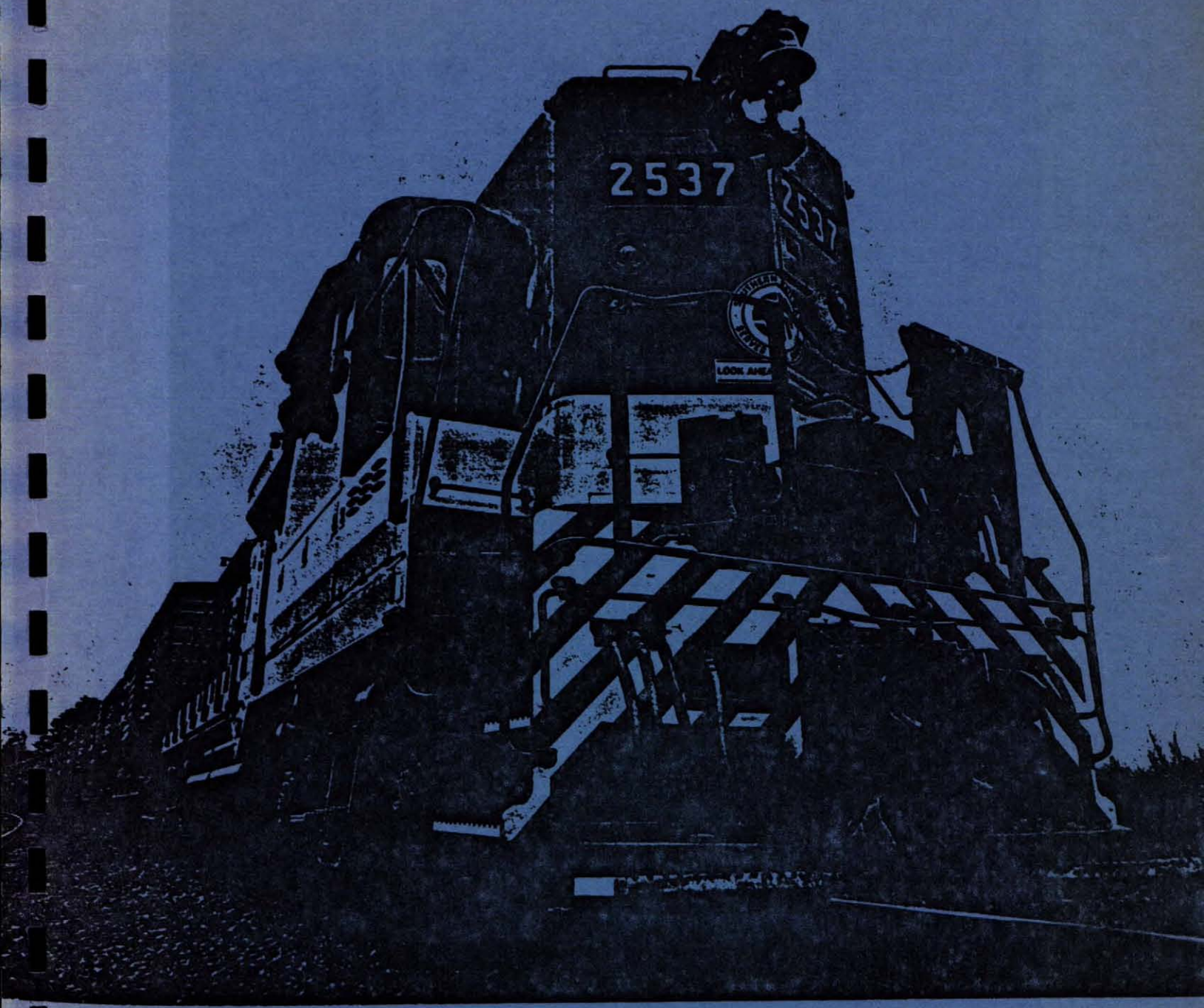
THE STRUCTURE OF RAILWAY FREIGHT RATES



REGIONAL ECONOMIC EXPANSION
WESTERN REGION HEADQUARTERS
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P R E F A C E

This report reviews the structure of railway freight rates -- the type of freight rates, freight costs and revenues and specific rate anomolies. The basic objective of the report is to convey an overall understanding of the freight rate issues, the various factors which affect the structure of that industry and the carriers who serve it.

The paper was prepared by the Regional Analysis Branch in Saskatoon and is made available as a contribution to the discussion of this important transport issue. The views expressed do not reflect the policy of the Department of Regional Economic Expansion.

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I INTRODUCTION

This paper is an attempt to explain the complex structure of Canadian railway freight rates. In so doing, it is necessary to describe it in broad, general terms and to leave out much of the qualifying detail; it does, however, give a reasonable and accurate overview of the current situation.

Rail freight rates have been a matter of public concern in Canada since before confederation and continued to be an important area of debate in Canada. Freight rates vary according to distance, weight of shipment, type of commodity, differences in type of service, marketing and competitive factors. These differences in freight rates may be explained in terms of the cost structure of the railroad enterprise, the varying intensity of demand for freight services and the mix or composition of traffic available to the railway.

Railway freight rates, and their relationship to economic development, have for many years been of special interest to Western Canada. While the National Transportation Act of 1967 has made possible an extensive number of freight pricing adjustments as well as service changes in general, the West continues to view the existing structure of rail rates as placing serious constraints on the region's economic growth objectives and as discriminatorily hindering individual development opportunities. These concerns centre to a varying extent on the overall level of railway pricing and on a range of specific rate disparities which have persisted.

Canada is a large country with railway service being provided mainly by two large railways with hauls up to 4 000 miles to some markets. Certain sectors such as the agricultural, fishery, and the extractive mineral and wood products industries are important especially outside of central Canada. On the other hand, manufacturing industries and Canada's population are concentrated in southern Ontario and southwestern Quebec. These geographic and spatial differences have led to longstanding regional conflicts over transport and industrial development opportunities. At present, the structure of Canadian economic activity is changing and going through a transitionary evolution.

II BACKGROUND

Rail freight rates and allegations of freight rate disparities have been a matter of public concern in the Prairie Provinces of Canada for almost one hundred years. While there is a general recognition that, in order for the railways to be viable enterprises, they must obtain revenues to cover their expenses, including a return on capital; allegations have been made over the years to the effect that these revenues are raised through a freight rate structure which imposes unduly heavy burdens on the Prairie Provinces.

Over the last 30 years, the railways have been faced with increasing competition from highway transport. As a matter of record, freight revenues are now substantially higher for motor carriers than for railways in Canada. Total freight revenues of Canadian domiciled motor carriers in 1974 were $2.97 billion, as compared with $2.16 billion for the railways. Therefore, it has been suggested that the degree of monopolistic power which the railways once enjoyed in the provision of general freight services has been much reduced. As a result, the National Transportation Act passed by the Canadian Parliament in 1967 relied primarily upon competition as a means of avoiding rail freight rate disparities. With the exception of the statutory grain rates, the railway companies were left free to fix freight rates without regulatory approval; tariffs had merely to be filed with the Canadian Transport Commission giving the required 30-day notice.

III FREIGHT RATE STRUCTURE

Freight rates vary according to distance, weight of shipment and type of commodity. Also, differences in type of service, marketing and competitive factors influence the rate structure. These differences may be explained in terms of the cost structure of the railway enterprise, the large variety of demand and intensity for freight services, and the mix or composition of traffic available to the railway.

The freight rate structure of Canadian railways can be classified into four broad groups: (a) the domestic rate structure, including export and import rates via Canadian ports; (b) the international or Canada-United States rate structures; (c) the unsubsidized statutory rate structure of Crows Nest Pass rates on grain and grain products for export; and (d) subsidized rate structures, such as provided for by the Marine Freight Rates Act.

Of these four broad groups, the domestic traffic group in 1974 provided the CNR and CP rail companies with 62 percent of their overall revenues. The domestic traffic group included export and imports via Canadian ports and 'At-and-East' grain traffics, excluding Crows Nest grain and M.F.R.A. traffic. Canada-United States traffic provided the railroads with 21.5 percent of their revenues while the Crows Nest grain traffic added only 4.5 percent to revenues in 1974.

In addition to the factors influencing the rate structure, which have been described above, the Canada-United States, or international, rate structure is subject both to the laws of Canada and those of the United States.

IV TYPES OF RAIL FREIGHT RATES

The railway freight rate structure as a whole is made up of a very large number of different types of rates. Rates vary by individual commodity and by region. This structure has evolved in response to the need to provide rates on all commodities between all pairs of rail points, the necessity to meet carrier competition effectively, and the profits stimulus for adjustment of rates to the marketing requirement of products as far as is practical. Within the different types of rates, three special structures are common even though deviations from the structure have been necessary to meet the varied competitive conditions.

The three basic kinds of rate structures are distance-related rates, group rates and base-related rates. Distance rates are appropriate in cases where specific competitive conditions are not major factors. Group rates, or blanket rates, are rates which are uniform over a traffic originating or terminating area. They are a common form of rate to meet the need of various producers to compete in a large common market area. An example of a group rate is the tariff on lumber from British Columbia to the United States east coast. The rate to any point between Chicago and New York is the same amount. Base-and-related rates are made up of a base rate for a point or a group of points to which are added or subtracted a rate differential or arbitrary rate. This differential rate recognizes to some extent differences which apply over distance in either cost or competitive conditions.

The distribution of railway traffic by type of rate may be reported in various ways because there are many different types of tariffs. The actual designation of a rate may be related to a specific commodity or group of commodities in commodity rates or it may relate to a class rating or a classification in class rates. The following is a brief discussion of the five major categories of freight rates.

A class rate is simply a rate applicable to a class rating to which articles are assigned in the freight classification and which moves under the Canadian Uniform Class Rate Tariff (except in the Maritime Region where special tariff provisions apply). These class rates provide rates for every commodity that moves or might move between all points in Canada served by the railways. They provide a general rate structure for all commodities and shipments and, in fact, are the ceiling for railway rates.

The second type of rate defined in the Railway Act is a commodity rate. A commodity rate is one applicable to a specific article or group of goods described or named in the tariff containing the rate. Commodity rates are tailored rates, designed to enable producers to meet competitive conditions in the markets for their products. Therefore, commodity rates are commonly set and/or adjusted after negotiations between the railway and shippers. Many low-bulk commodities subject to severe market competition move under these rates; for example, coal, sulfur, and potash. These rates are commonly referred to as "noncompetitive commodity rates". Noncompetitive rates apply to movements for which there does not exist an alternative mode.

A competitive rate is defined in the Railway Act as a class or commodity rate that is issued to meet competition. That is, the rate may be made by assigning a commodity to a lower class rate than would otherwise apply by quoting a commodity rate on the commodity within the competitive tariff. Competitive rates are established by the railways to meet competition from other modes of transport; i.e., by truck or water carriers, and they are often arrived at by negotiation between the railways and the shippers.

The fourth category of rate is the agreed charge. The rate in an agreed charge is made on the established basis of rate making and is expressed in cents per hundred pounds or some other unit of weight or measurement as is appropriate. Agreed charge rates are made by contract between a railway company and a shipper. These rates are less than the prevailing rates and provide that the shipper agrees to ship by rail all or a specified portion of his traffic to which his rate applies.

The fifth and last category of rate is the statutory rate. The term "statutory rate" has been used to designate the rates on shipments of grain and grain products moving out of Western Canada to Thunder Bay, and for export purposes, to Churchill, Vancouver and Prince Rupert.

Since March 23, 1967, when the current regulatory provisions came into force, railway companies have been free to publish freight rates without regulatory approval by filing tariffs with the Canadian Transport Commission. Increases in rates are required to be filed on 30-day notice. Decreases in freight rates may be acted upon prior to filing of the tariff with the Commission.

Changes in the level of rates over time show the effects of traffic characteristics, technology and marketing innovations, and more recently, of inflation on the general level of charges faced by shippers. General changes in rate levels are shown normally by using revenue per ton-mile figures. The revenue per ton-mile is an extremely crude figure when given for wide categories of traffic as its level is subject to change with many changes in traffic composition. These include changes in the commodity mix, the load per car, and the average length of haul. The ability of the railways to reduce their rates and the revenue per ton-mile is dependent on cost reductions, resulting from new technology, as well as on the effect of competitive forces causing rates to move closer to costs.

V FREIGHT COSTS -- OUTPUTS -- REVENUES

The total freight revenues for Canadian domiciled freight carriers were $6.7 billion in 1974. Of that, the modal distributions were: 5 percent for air carriers, 14 percent for water carriers, 46 percent for truck carriers, and 35 percent for railway carriers.

In 1975, over 83 percent of Canadian railway revenues were derived from freight services. The railways, however, did not enjoy a high rate of return on their railway assets. In fact, the class I railroads (CN and CP) had a negative rate of return on assets. Even excluding the extremely poor financial year of 1975, the average rate of return for the years 1973 and 1974 was only .8 percent for Canadian National Railways and only 4.7 percent for Canadian Pacific Limited. Such rates of return are far too low to either generate internally or to attract from external sources sufficient investment capital to meet the needs for replacement and modernization of the railway systems.

Both Canadian National and Canadian Pacific contend that the main problems creating low rates of return in their industry are related to losses on passenger traffic and grain transportation. Aside from the fact that it is financially unattractive for a railway company to carry freight traffic at rates which do not recover the variable costs of transportation, Section 276 of the Railway Act requires compensatory rates to exceed the variable costs involved. The exception to this economic principal and Section 276 of the Railway Act is the statutory rates on grain and grain products.

A. The Mix or Composition of Freight Traffic:

In 1974, the latest year for which complete figures are available, the distribution of traffic between the various commodity groups for CNR and CP Rail, excluding Canada-United States traffic, presents some interesting anomolies. Commodity flow analysis for the year 1974 shows that 45.8 percent of the freight revenues were derived from the transportation of primary products of the farm, mines and forests and that 67.7 percent of the railway output or workload was in respect of these products. At the same time, manufacturers and miscellaneous and piggy-back movements contributed 54.2 percent of revenues and required only 32.3 percent of railway output. Except

for animals and their products, the revenue contributions in terms of work performed, revenue per ton-mile, was substantially less from such primary products than from manufacturers and miscellaneous products and substantially less than the average revenue per ton-mile for all commodities. For example, the average revenue per ton-mile for statutory grain and grain products was .51 cents, while the average revenue per ton-mile for manufacturers and miscellaneous products was 2.50 cents and for animals and related products, the revenues per ton-mile were 3.19 cents. If the proportion of such primary products in the total mix or composition of traffic had been much less than it was, it is clear that the average revenue per ton-mile (1.44 cents) would have been substantially higher. To put it another way, the higher average revenue per ton-mile on manufacturers and miscellaneous products and animals and animal products assists in the transportation of primary products at revenues per ton-mile less than the average for all commodities.

B. The Regional Composition of Freight Traffic:

Excluding Canada-United States traffic, the regional composition of railway freight traffic is as follows: 46.9 percent of railroad revenues came from Western Canada but required 66 percent of the railway outputs in ton-miles. The Ontario-Quebec revenues were 47.8 percent requiring 30.6 percent of railroad output, and the Maritimes contributed 5.3 percent to revenues and used 3.4 percent of railroad outputs.

The low 1974 average revenue per ton-mile derived from traffic originating in the four western provinces (1.03 cents per ton-mile) compared to eastern Canada (2.23 cents per ton-mile) reflects the high proportion of export-oriented grain and grain products and mine products shipped from the four western provinces, whereas eastern Canada shipped a much higher proportion of high-rated manufactured products in the traffic mix. Nearly 24 percent of the tonnage originating in the western provinces is statutory grain which accounts for 27 percent of the ton-miles and is carried at Crows Nest rates at an average revenue per ton-mile of .51 cents.

Only 24 percent of domestic railway revenues in respect to traffic originating in Ontario and Quebec relates to primary products, whereas nearly 69 percent of such revenues in Western Canada derive from such products.

Over 13 percent of freight revenues in Western Canada relate to grain traffic moving under statutory Crows Nest rates. The Snavely Commission on the Costs of Transporting Grain by Rail has recently confirmed that these rates are not compensatory and fall far below the associated variable costs.

These differences in the mix or composition of traffic as well as statutory rates are important constraints on the degree of possible differentiation in freight rates. It is thought that a high proportion of low-rated primary products are cross-subsidized and supported by relatively high rates and revenues on manufactured products, which are better able to support the higher rates involved. At the same time, too high a level of rates on manufactured products expose such traffic to attrition by competitive modes of transportation.

C. Regulation, Subsidies and Competition Policy:

The railroads feel that, in general, regulation and subsidies are dealt with in isolation instead of being treated as closely interrelated subjects. They argue that it is a mistake to treat them separately because the promotion of transportation through subsidies, without regard to its effect on regulatory programs, can seriously erode the effectiveness of regulation. They feel that promotional and regulatory programs tend to be in conflict.

The remarkable growth of competition in the Canadian transportation market is well documented. However, it might be useful to highlight some of the key developments in the 1950s which so drastically altered the market structure of the transportation system.

Substantial federal funding of the Trans-Canada Highway and the St. Lawrence Seaway, together with the construction of several west to east oil and gas pipelines, effectively removes the railways' monopoly over the long-haul transcontinental freight market. As well, provincial funding of thousands of miles of limited access highways eliminated the last vestige of monopoly the railways might have held over the intraprovincial freight market.

As for passenger transportation, with the advent of the automobile, the railways' share of the total passenger market by the 1920s had become relatively small. Their

monopoly over the transcontinental market disappeared in the 1950s, assisted by federal funding of an expanded chain of airports and supporting airway facilities.

Since 1972, combined truck/rail revenues have more than doubled, with truck revenues still accounting for more than half.

While there are no commercial water channels on the Prairies, the St. Lawrence Seaway, being physically located in the east, is very important to Western Canada as about half the tonnage it carries originates on the Prairies. As such, it is as much a transportation artery for the west as for the east.

We should also recognize that most resource-based bulk freight movements, particularly throughout Western Canada, are handled almost exclusively by rail. This traffic is shown in the CTC's Waybill Analysis as noncompetitive rail traffic, from which many conclude that it is subject to monopoly pricing. Much of this traffic is shipped to world export markets where it is sold in competition with alternative foreign supplies. In practice, however, the level of railway rates make it possible for Canadian producers to effectively market their products in these markets in competition with foreign supplies, thousands of miles from the source of production. There is usually little modal competition for this traffic, and low commodity rates are published by the railways to assist Canadian producers to compete effectively and expand their marketing opportunities. Market competition is a much more effective regulator of freight rates than is modal competition. Most western traffic is subject to market competition. Other than statutory grain rates, commodity rates are, by a wide margin, the lowest rates in the rail freight rate structure.

While conventional wisdom, outside the business community, would suggest that economics have never been the real reason for regulation of the transportation industry, an objective analysis of the evolution of Canadian transportation regulations suggests otherwise. For competition to be effective, it must be based on economic reality.

Whatever else the National Transportation Act may be, the railroads feel it has been an instrument for achieving efficient transport. Competition, its central theme, is the free play of market forces, because the market place is where competitive carriers offer alternative combinations of transportation price and service. It is also where shippers choose that combination of price and service

that meets their transportation requirements. Neither carriers nor shippers seem to be motivated by a desire to achieve public policy objectives but rather by self-interest. It is this self-interest which seems to ensure that the resulting transportation system is efficient. Where shippers have alternatives to choose from, efficiency seems to be the key to survival for carriers.

Even though each carrier has its own unique set of cost and service characteristics, a coordinated transportation system in the economic sense is achieved when each carrier exploits its individual characteristics to provide, in conjunction with other carriers, the lowest cost transport system. This, in practice, is what seems to have been happening since the National Transportation Act became operative. There have been substantial shifts of traffic between carriers and more importantly there have been significant intermodal developments which enable two or more carriers to participate in the same traffic, each exploiting what it does best.

To be efficient, a railway system requires maximum flexibility both in pricing and service standards. Such a pricing system encourages railways to provide the type of service demanded by the shipper and in turn encourages shippers to arrange their demands on the railway system so as to minimize transportation costs and encourage efficiency. That this has been achieved, at least insofar as rail transport is concerned, is evident from an analysis of the trend in the railways' average revenue per ton-mile since 1959, when the government froze normal rates and the MacPherson Commission was appointed (Chart I). In that year, on average, railways earned 1.79 cents per ton-mile from their total traffic mix. With the implementation of the Act and its emphasis on competition, the railways' average revenue per ton-mile dropped continuously through 1971, at which time it stood at 1.36 cents or 24 percent below the 1959 level.

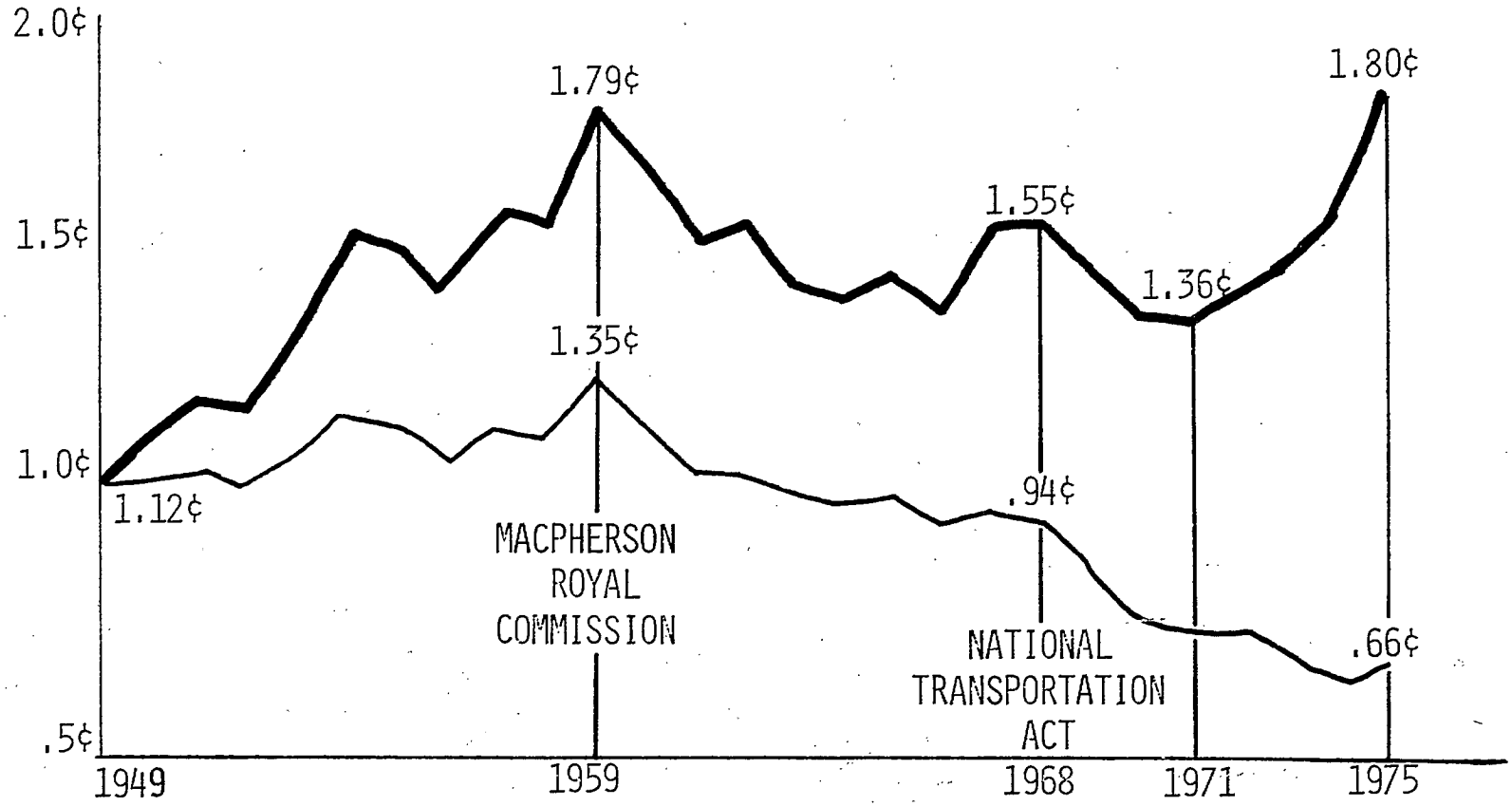
The acceleration of inflation, particularly after the oil crisis in 1973, required rate increases. By 1975, the railways' average revenue per ton-mile had increased to 1.80 cents but this was about the same level as it was in 1959. In 1976, the last year for which official figures are available, the figure stood at 2.17 cents or only 21 percent higher than in 1959.

CHART I

FREIGHT RATES

CURRENT DOLLARS VS. 1949 CONSTANT DOLLARS

AVERAGE REVENUE PER TON-MILE



SOURCE: CTC WAYBILL ANALYSIS

CURRENT DOLLARS

CONSTANT DOLLARS

An examination of the trend in constant dollars shows that the railways' average revenue per ton-mile has fallen sharply as indicated in Chart I and Table I. In 1959, the average revenue per ton-mile in constant dollars (1949 equals 100) was 1.35 cents. By 1975, it had fallen to 0.66 cents or only 49 percent of the 1959 level. The 1976 figure was 0.67 cents, little change from 1975. Some of this sharp decrease was due to changes in the mix of traffic but much of it reflects the growth of competition and efficiencies developed by the railways through the introduction of new rail technology. The National Transportation Act has provided an environment that produced significant improvements in car utilization and train performance as indicated in Chart II. Revenue ton-miles to the end of 1976 increased by 61 percent; gross ton-miles per train hour rose by 65 percent, and average train weight was up 51 percent.

While the railways are still not commercially viable, in the sense that their return on investment is not adequate to support the industry's massive capital and maintenance requirements, the principal causes for this are known and are capable of resolution. Specifically, part of the revenue shortfall is the uncompensated losses attributable to statutory grain rates and, to a lesser degree, unremunerative passenger services.

As a consequence of action taken by the Minister of Transport to deal with grain and passenger losses, the Snavely, Hall and VIA Rail reports have shown that these uncompensated losses can, and hopefully will, be resolved. These problems require solutions not only for the railways, but also for shippers and the Canadian economy. It seems futile to suggest that rail transportation in Canada can serve basic Canadian needs if the railways are not commercially viable. The average rates of return achieved over the past few years on railway assets have been largely inadequate to either generate internally or attract externally investment funds in the amounts necessary to meet the replacement and modernization needs of the railway system.

Another problem area which should not be ignored is compensation for "imposed public duties" and the regulatory environment in Canada and the United States. Compensation for "imposed public duties" is based on the railways' shortfall in variable costs for those frieght services that are being compensated and only 80 percent of the shortfall for passenger services. In the case of passenger service, it is felt that full compensation needs to be introduced. The

TABLE I

Freight Rates - Current Dollars versus 1949 Constant Dollars

Average Revenue per Ton-mile

	GNE Implicit Price Index (1971 = 100)	GNE Implicit Price Index (1949 = 100)	Average Revenue per Ton-mile in Current Dollars (¢)	Per Ton-mile in 1949 Constant Dollars (3/2) * 100 (¢)	
1949	53.5	100.0	1.12	1.12	
1950	54.8	102.4	-	-	
1951	61.0	114.0	1.29	1.13	
1952	63.7	119.1	1.28	1.08	
1953	63.6	118.9	1.39	1.17	
1954	64.6	120.7	1.54	1.28	
1955	65.0	121.5	1.52	1.25	
1956	67.4	126.0	1.45	1.15	
1957	68.8	128.6	1.57	1.22	
1958	69.8	130.5	1.55	1.19	
1959	71.2	133.1	1.79	1.35	= 21% increase over 1949
1960	72.1	134.8	1.65	1.22	
1961	72.4	135.3	1.51	1.12	
1962	73.4	137.2	1.55	1.13	
1963	74.8	139.8	1.46	1.04	
1964	76.6	143.2	1.40	0.98	
1965	79.1	147.9	1.48	1.00	
1966	82.6	154.4	1.43	0.93	
1967	85.9	160.6	1.54	0.96	
1968	88.7	165.8	1.55	0.94	
1969	92.6	173.1	1.47	0.85	
1970	96.9	181.1	1.37	0.76	
1971	100.0	186.9	1.36	0.73	
1972	105.0	196.3	1.43	0.73	
1973	114.7	214.4	1.46	0.68	
1974	131.1	245.0	1.56	0.64	
1975	145.2	271.4	1.80	0.66	= 29% decrease from 1966

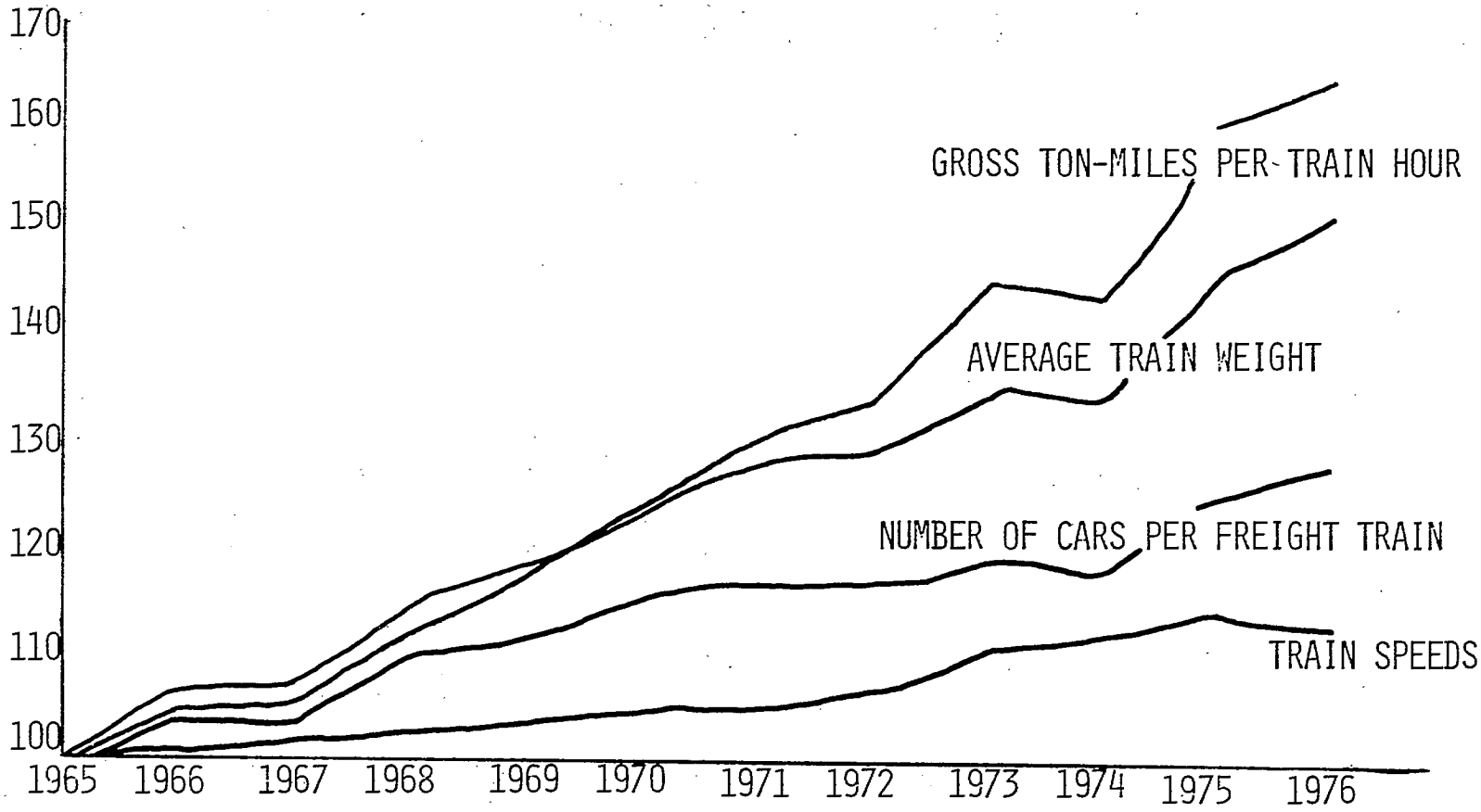
Note: Gross national expenditure (GNE) implicit price index is the broadest measure of goods and services price changes. This index is available from Statistics Canada (CANSIM Number D40625) on a 1971 = 100 basis. We have then converted it to an index based on 1949 = 100 (Column 2).

Source: CTC Waybill Analysis 1949-1975
Based on 1% Continuous Sample of Carload Freight Waybills

CHART II

TRAIN EFFICIENCY -- CP RAIL

INDEX 1965 = 100



SOURCE: CANADIAN PACIFIC RAILWAY RECORDS

railways suggest that compensation which covers variable costs alone is not "adequate" as prescribed by the Act. They feel that the failure to include overhead costs is a defect in the way the Act is now being applied. Approximately 30 percent of the railway services are being provided as an "imposed public duty". The railways feel it is unrealistic to expect the overhead costs associated with these services to be recovered from taxpayers, shareholders or other traffic either jointly or severally.

As for rail regulation in Canada and the United States, it is true that Canadian railways enjoy greater pricing flexibility under our form of commission regulation. However, this applied to about 70 percent of Canadian rail traffic. The balance is subject to direct government regulation or what might be described as a second tier of rate control. The railways feel this is by far a more onerous type of pricing constraint. There seems to be no parallel in the United States.

The railroads find it interesting that the rate structure of railways is expected to produce sufficient net operating revenue to pay all operating expenses, plus sufficient net income to meet interest charges and provide for new capital requirements. Other carriers by virtue of their use of publicly financed facilities are able to offer service at rates which cover only a portion of total costs. Where several carriers are competing for the same traffic in these circumstances, the one striving to recover full costs will obviously suffer some loss of traffic and some erosion of its rate structure. The main concern of shippers is with comparative rates, not total economic costs. If the quality of service is comparable, the shipper will probably give his business to subsidized, and therefore low-rated, carriers even though the total real cost, including that paid by the general taxpayer, exceeds the rates charged by the self-supporting carrier. This puts the railways in a bit of a dilemma as they can only cope with this situation by reducing rates, improving service or both. In an effort to prevent traffic diversion and the maintenance of their revenue requirements, the railways feel they must then adjust other rates up where possible. This exposes additional traffic to increased competition and the process of erosion continues.

The conflict between government subsidy and regulatory policy to date, in general, remains unresolved. It seems unrealistic to expect competition to produce an economic allocation of traffic among carriers as long as the rates

of one carrier must reflect its total economic costs while those of other carriers, which benefit from indirect subsidies, reflect varying portions of the real costs of operation. The railways suggest that as long as this situation exists, regulatory efforts to achieve a coordinated system of transportation in the economic sense, and competitive equality between carriers, will not be successful no matter how well it is designed.

VI SPECIFIC RATE COMPLAINTS OF THE WESTERN PROVINCES

The complaints of the western provinces about freight rates have often been general. However, in 1973, the western provinces brought forth a number of specific examples of rates which they considered to be anomolies detrimental to the development of industries in Western Canada and have continued to talk about them ever since. The rate anomolies or rate inequities cited are examples where rate differences are not or do not seem to be related to differences in the costs of providing the real service. The complaints focus on certain aspects of rail rates which arise from, or are believed to be caused by, value-of-service pricing. The main complaints of the western provinces deal with the relationship between the rates on finished goods and raw materials from which they were produced, the relationship between long and short haul rates, and the existence of larger zones in eastern Canada than Western Canada for the application of zone or blanket rates. In addition, the western provinces have been concerned about the relative levels of east-bound and west-bound rates, the lack of intermodal competition in certain regions of the West, and the problems of shippers in negotiating rates.

The reasons for variations or differentiation in freight rates have been broadly described above. There are, however, some particular features of freight rate structure which require some additional explanation. The features selected are those which are most frequently referred to, but they do not constitute an exhaustive list.

A. Rates on Raw Materials Versus Rates on Finished Products:

The first complaint alleges that western industries are charged higher rates for finished or processed goods than on raw materials and that this discriminatory rate relationship impedes the development and growth of plants in the Prairies to process raw materials produced there. While the effects on industrial location of the relationship between rates on raw materials and rates on the finished products made from them will not be discussed in detail here, a few general comments are in order.

Freight rates on primary products generally provide only a modest contribution above variable costs, otherwise they could not be economically moved; whereas shipments of

the same weight of manufactured products having a high value per pound are generally charged a much higher freight rate. In the case of the primary products, the very low freight rate is generally a relatively higher proportion of the total delivered value, whereas very much higher freight rates on highly-manufactured products comprise only a small percentage of the total delivered value. In addition, the higher value revenue per ton-mile on manufactured and miscellaneous products assists in the transportation of primary products at revenues per ton-mile less than the average for all commodities.

In general terms then, the proposition that rates on all raw materials and all finished products should be the same would logically require that all shipments be charged the same uniform rate per ton-mile. This would result in considerably higher rates on raw materials than now prevail and would seriously inhibit their movement, if not prohibit it entirely. It is also doubtful that substantially lower rates on highly-manufactured products would increase their movements and would no longer partially offset the revenue losses on the transportation of raw materials. The end result would likely be a much lower volume of traffic to support the present railway system, quite apart from the other incalculable effects on the economy.

As an example, recent studies by the CTC conclude that unjust discrimination in rail rates is not a factor detrimental to the development of the meat packing industry in Alberta. The CTC review of rate anomolies for the Minister of Transport showed that the rates complained of were truck competitive rates and much of the traffic, in fact, moved by truck. If a problem exists, it was not "caused" by indiscriminant railway pricing.

Two studies specifically on the livestock and meat industries are of even more relevance. The Commission of Inquiry into the marketing of beef and veal, 1976, concludes that "freight rates are not a significant deterrent to the location of packing house activity in Western Canada". This conclusion is consistent with the more detailed findings of a special CTC report.

However, both of these reports do recognize that holding down grain rates to the statutory level does have a distorting effect on the location of industry. For example, the combined effect of statutory grain rates (Crows Nest

Pass rates), feed freight assistance, and the eight-cent tariff per bushel on United States corn imports may explain the heavy outflows of feeder cattle from Western Canada to the central United States.

Therefore, the CTC concludes, with the exception of the effect of the statutory rates, that there is no general disadvantage to the development of industry in Western Canada caused by unjust discrimination in freight rates, although on a case-by-case basis and from time to time, this may be the case. It is to be hoped that the negotiating process between the railway and shippers resolve such matters and that, failing commercial resolution, the regulatory process would be effective in resolving matters on a case-by-case basis.

B. Long-and-Short Haul Rates:

Long-and-short haul pricing refers to the practice of charging higher rates to intermediate points than to more distant points. More specifically, long-and-short haul discrimination refers to a situation in which the freight rate for the movement of goods of a like commodity carried under similar circumstances and conditions over the same line or route is greater for a shorter distance than for a longer distance.

This second category of complaint alleges that, because Prairie communities are assessed by the railways higher rates on steel products, canned goods and other manufactured goods than the rates on the same commodities for the longer hauls from central Canada to Vancouver, this long-short haul discrimination favors the location of wholesaling, jobbing, and manufacturing on the west coast rather than in the Prairies. It is contended that the distance advantage of the Prairies to and from central Canada is disregarded in railway rate making.

From the beginnings of freight rate regulation, long-and-short haul discrimination has been permitted where it can be shown that it is compelled by competitive forces. The competitive forces which bring about long-and-short haul discrimination may be the result of competition from highway transport or water carriers or may be the result of market competition. One example of market competition in Canada is the "offshore" competition of goods imported through Vancouver from Japan and the west coast of the United States. To meet this, railways and shippers frequently lower their price to

those points or areas where the competition is most effective, but they do not extend such lower prices to intermediate points or areas where it is weak or ineffective.

Canadian railways are free, under the statutes, to meet or not to meet competition. They also choose to meet it to whatever degree they see fit, provided that the competitive rates are compensatory. Obviously, the competition which induced the railways to establish the competitive freight rates would still be effective in the market place whether or not the railways choose to meet it. If a railway company were obliged to extend competitive rates to intermediate points which were not subject to competition, it might choose not to meet the competition at all because the reduction in its growth revenues might be greater than what it would lose from the traffic affected by the competition. The loss of the revenue contribution by the competitive rates would then have to be recovered, to the extent feasible, from all other traffic by way of higher freight rates.

There are a number of special market-competitive rate situations in Western Canada, as distinct from central Canada. Such situations occur when producers are located in areas on both sides of the international boundary and where they are shipping the same products to market areas on both sides of that boundary. Such products include fruits, lumber and wood pulp.

Arguments against long-and-short haul discrimination are that it is inefficient and inequitable. Such rate discrimination is thought to be inefficient and inequitable because freight rates are not directly related to the variable costs of rail service; industries at intermediate points may be adversely affected; and the competition to other modes serving the long-haul points may be detrimental to these modes.

If it is accepted that railway enterprises have the responsibility for their commercial viability and that they must ordinarily practice freight rate discrimination to be viable, then determination of the reasonableness of long-and-short haul discrimination must rest on the judgment, in a case-by-case basis, as to whether competitive circumstances surrounding the movements warrant the resulting price differentials.

C. Rate Grouping for Blanket or Zone Rates:

A third complaint is that the Prairies do not enjoy the advantage of blanket or group rates to the extent that the railways have arranged such rates for central Canada. Hence, while group rates that give the smaller population centres within a group the same rates as the large centres may encourage industrial development in small cities in central Canada, it is argued that the lack of similar application of group rates in the Prairies hinders development at the smaller cities and towns in that region.

Rate groupings have also been the subject of many studies because they are frequently the source of complaint of unjust railway rate discrimination. A rate group exists when the rail rate is the same for all origin points within an area or to all destination points within an area. For some traffic, particularly resource-based commodities, there may be both origin and destination groups.

Four types of rate groups may be recognized. In the first type, rates are fixed in blocks of a number of miles to avoid a municipality or point-to-point rates. The size of the block increases as hauls get longer. The uniform class rates scales are based on this principal. The second type is compelled by competition, usually water competition, which can affect the relatively large areas. The railways are forced to establish uniform rates over an area in order to remain competitive. The third type of rate grouping is created to meet the needs of producers, or sometimes distributors, who are diffused throughout an area and for whom it is desirable that they all be treated alike to avoid significant competitive transport advantages among them. This often applied to homogeneous resource-based products for which differences in transportation may be significant in marketing. The fourth type is really a combination of the previous two. Situations exist where intermodal competition affects an area in which some producers are located, but the competitive rate zone is extended beyond the competitive area to encompass the larger area in which other producers are located.

Unfortunately, large rate groups tend to undermine particular locational advantages and they also shift radically the incidents of highway transport. For example, the fact that Toronto and Montreal are in the same rate group as east-west traffic has resulted in the concentration of highway transport competition to and from Toronto because truckers cannot afford to compete over the longer distances to and from Montreal at freight rates that are the same as to and from Toronto.

The extremely large rate groups embracing Toronto and Montreal, consisting of the triangles -- Windsor, Owen Sound, Toronto, Ottawa, and Montreal, have not brought about a fusion of industrial activity throughout those rate groups, as is plainly apparent from the large areas therein which have little or no industrial activity.

A contrast which exists in the rate groupings of eastern and Western Canada is that the western resource industries enjoy larger origin and destination groupings than do the comparable resource industries in eastern Canada, but the grouping structure available for western manufacturing is more limited than its eastern counterpart. This pattern appears to be consistent with the market, intramodal and intermodal competition forces present. Some of the western provinces desire to have more rate groupings, especially for manufacturing. Whether or not this would favor the development and dispersion of industry is not clear. The averaging of freight rates between the more favored large cities and the more remote small communities may make the large cities less desirable locations, and it is in those locations the West has the greatest opportunity to attract new secondary industries.

D. Differences in East-Bound and West-Bound Rates:

The provinces often assert that the directional level of freight rates accentuates the concentration of manufacturing activities in eastern Canada. They suggest that the rates of the west-bound goods are lower than the rates on similar commodities moving east. To make such comparisons requires a careful analysis of traffic provisions and the volume of traffic actually moving under those tariffs. This has not been done for this study. However, from a regional standpoint, there does exist major differences in the composition of traffic between eastern and Western Canada. In 1974, the latest year for which complete figures are available, only 37 percent of domestic railway ton-miles in respect to traffic originating in Ontario and Quebec related to primary products, whereas such products accounted for some 83 percent of the total ton-miles originating in Western Canada. Some 27 percent of domestic ton-miles originating in the western provinces related to grain traffic moving under statutory Crows rates.

Calculation from the 1974 Waybill Analysis shows that the average rail rate into Western Canada from east of Thunder Bay was $52.62 per ton compared with a rate of $32.87 per ton in a reverse direction. The lower east-bound rates

can, in part, be explained by the high proportion of grain traffic moving under the lower statutory Crows Nest rates. A more careful examination of a number of manufactured commodities shows that the revenue per ton from western provinces to eastern provinces (mostly Ontario) was systematically below the revenue per ton in the opposite direction. Therefore, the available evidence does not support the view that freight rate differences by direction systematically prefer industries located in the east over those in the West. In fact, research results into the rate making process through shipper interviews does not support the notion of discrimination against east-bound as compared with west-bound movements.

E. Intermodal Competition:

Competitive forces of one kind or another have to be present in transport markets if they are to limit railway rates and rate discrimination. While such forces do exist in most markets, the realities are that in some markets the traffic can move efficiently only by railroad, the number of railways is usually limited to two or three, and some areas and many points are served only by one railway. Hence, if competition is to work effectively as to railway prices, the shippers must negotiate effectively in terms of their intermodal, intramodal, and locational alternatives and utilize potential competition in a sophisticated manner in their negotiations with the railways. At times, they must deal collectively with the market power of the railways with the contravailing powers of all shippers in an industry.

F. Problems of Shippers in Negotiating Rates:

Shippers, particularly those with large volumes of traffic and those marketing through cooperative or marketing agencies, have long been active in negotiating initial rates and changes in rates with the railways and other modes. Extension of rate making freedom to the railways by the 1967 act has made it easier for the carriers to respond to specific competitive or cost-related arguments of a particular shipper or group of shippers without fear of facing excessive unjust discrimination cases.

In practice, the situation requires a shipper or shippers to have actual or potential alternative ways to ship the products to markets, including by private carrier

vehicles. The shipper must be aware of alternative sources of supply, location of plants, and possibilities of shifting or exchanging production sources. Usually, all of these activities, including keeping up with alternative costs, rates and services and measuring the affects on the shippers' business of alternative methods of shipment, require a traffic transport management organization.

Obviously, small shippers generally have less knowledge of transport markets than the large shippers and less organizational ability to study transport alternatives and negotiate with the railways. Their lesser traffic volumes also make them less important to the railways, although collectively their traffic may be significant to a railway. For those reasons, and because railway regulation originally sought primarily to protect the small shippers, the question of how well small shippers fare in their negotiations with the railway is of considerable interest in a country that has significant deregulated railway transport.

Industrial shippers generally argue that the long continued statutory rates on export grains means that the railways run deficits on grain traffic, which is a substantial portion of all railway freight traffic in Canada, and that this necessarily presses the railways to place the burden of such losses and of contributions to constant cost upon other shippers, especially on the shippers of high-value manufacturers.

VII ISSUES

Freight rates have historically been a highly emotional and political issue in Canada, particularly in the West and the Atlantic provinces. The main complaints have been that:

(a) the freight rate structure has been biased in favor of central Canada at the expense of the western and Atlantic provinces and has discouraged industrial development in those regions;

(b) there is less competition in the western and Atlantic provinces, with the result that shippers, and more particularly shippers captive to the railways, have been and are being 'gouged';

(c) cost information has not been readily available to provincial governments against which they could assess the appropriateness of particular rates of interest to them; and

(d) the regulatory body has not been responsive to the perceived needs of the western and Atlantic provinces.

Some of the inequities in the present freight rate structure are real; others are perceived. The federal approach for dealing with the problem has been to carry out objective and comprehensive studies of the perceived problems. Some western grievances have been substantiated. For example, there is considerable question about the desirability of charging higher rates for short-haul than for long-haul movements. It is difficult to justify higher rates for the movement of some processed products than those charged for the unfinished materials on other than 'value of service' grounds. Such rates in western eyes inhibit the development of industry. In other cases, however, analysis has shown that the stated problems were not grounded in fact or that solutions advanced by provincial governments were not realistic.

Since the two main railways are under federal jurisdiction, the federal government has been the target of most of these grievances, both real and perceived. A number of solutions to these problems have emerged which are aimed at resolving the overall freight rate issue. They have been subject to much discussion but little resolution. Some of the key elements being discussed are that:

(a) the rate structure should be such as to provide an adequate return on investment and cash flow to the railways to enable them to finance operations, maintenance, and expansions (obtain commercial viability);

(b) the possibility of establishing a new basis for the freight rate structure, including the possibility of basing freight rates on a combination of variable and fixed costs, rather than on long run variable costs alone;

(c) the rate structure should be fair to all shippers;

(d) the system should be equitable among regions;

(e) the rate structure should be seen as fair, by providing for cost disclosure of railway cost data;

(f) there should be provisions for meeting special regional developmental needs, perhaps through a special developmental fund; and

(g) the regulatory body(s) should be more responsive, perhaps by decentralization of some of the functions of the CTC.

Although the Prairie Provinces have long had the benefit of low statutory rates on grain and grain related products, they have complained of high discriminatory railway freight rates since before the completion of the Canadian Pacific Railway. Their contention that the railway rates have restricted economic and industrial development in Alberta, Saskatchewan and Manitoba have continued to be pressed since enactment of the 1967 act. In particular, at the Western Economic Opportunities Conference (WEOC) in Calgary in 1973 between the Prime Minister of Canada and the Premiers of the four western provinces, the provinces sharpened their attack on railway rate discrimination and claimed that "the development of the western region of Canada is inhibited by the lack of positive policy direction and the discrimination inherent in our present system of freight rates".

Some specific issues are:

1. There are fundamentally different views of the role of transport in the national political economy.

2. There are misunderstandings of rate making and the role of transport in the political economy. There are persons that treat a number of anomolous rates as though they are characteristic of the whole rate structure.

3. The freight rate structure, that is, the means by which the railroads collect revenues, should be equitable, be felt to be equitable, and be seen to be equitable, both regionally and to shippers. The railroad should receive the revenues they need for sound operation and maintenance for expansion or, more simply, they should be commercially viable in their overall operations, recognizing that they will obtain a higher return on the movement of some commodities than on others.

4. Railways base many rates on the value of products. Finished goods are, therefore, charged higher rates than raw materials. Sometimes this rate differential reflects the distinctive physical characteristics and more specialized railway rolling stock requirements of the processed goods. However, since location decisions may be affected by such rate relationships, it is argued that rates should be set wherever possible at levels that do not discourage industrial development in Western Canada. The Prairie Provinces still complain that higher rates for short hauls to the Prairies than for longer hauls to the west coast and higher rates on processed commodities than on the raw materials are retarding industrial and economic development in the Prairies.

5. Another railway rate issue that still demands public policy attention is that transport competition is not present and effective in all railway markets. For example, there are complaints in Canada from some shippers that they are captive to the railways without sufficient regulatory remedies.

6. Notwithstanding the large amount of commercial freedom existing Canadian regulations give to the railway firms, they are still subject to the severe limitation of statutory rates and to rate level hold downs, some of which have been compensated by rate subsidies by the federal government. The most significant case of statutory rates results from the Crows Nest Pass Agreement of 1897 and an amendment to the railway act in 1925, which ensured the rates on grain and flour traffic moving from the Prairies to Thunder Bay, to Vancouver and other Pacific ports for export, or to Churchill for export are held at the 1897 level of .5 cents per ton-mile. No direct subsidy compensation has been paid to the railways for these unprofitable Crows Nest Pass rates, although government compensation for maintenance of branch lines in the Prairies for

the grain trade offsets deficits from export grain traffic, at least partially. Feed grain rates, too, have been subject to a federal subsidy. From July 1973 through December 1974, there were rate level hold downs. The railways held down nonnegotiated rates at the request of the Minister of Transport. The railways were compensated by subsidy payments for this hold down.

7. The immediate concern facing Western Canadians and the railways in Canada due to the deterioration of railroad tracks and railbeds is the whole question of compensatory rates, rail line abandonment, and rail rehabilitation.

8. There does not seem to be a concensus on what the role of transportation is in terms of regional development.