THE ROLE OF TRANSPORT IN MANITOBA'S ECONOMIC FUTURE

Proceedings of a Conference held in Winnipeg
July 21 and 22, 1987

Edited by E.W. Tyrchniwich

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The Role of Transport in Manitoba's Economic Future:
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FOREWORD

I am pleased to present the proceedings from a conference on the "Role of Transport in Manitoba's Economic Future" sponsored by the University of Manitoba Transport Institute and held in Winnipeg on July 21 and 22, 1987. This conference was part of the UMTI's mandate of bridging the gap between traditional academic activities and the needs of the transport industry, transport users, and policy makers.

This conference explored the conceptual and practical dimensions that transport can play in a region's economic development. Although the focus was primarily on Manitoba, the concepts and issues discussed were of great relevance to other provinces and regions of Canada. The specific conference objectives were to identify and clarify the role of transport in Manitoba's economic future and to suggest ways in which transport might be used more effectively to enhance Manitoba's economic future.

More than one hundred participants from the grain and trucking industry, railways, federal and provincial governments, and universities discussed issues relating to Manitoba's economic future, trade liberalization, Canada's evolving transport policy environment and developments in transport technology. It is hoped that these proceedings will be useful, not only to the people who attended the workshop, but to others with an interest in Manitoba's economic future.

A number of organizations have participated in the planning and financing of this conference. I would like to gratefully acknowledge the assistance of: Manitoba Highways and Transportation, federal Department of Regional Industrial Expansion, Canada/Manitoba Transport Industry Development Advisory Committee, Transport Canada and CN Rail.

E.W. Tychniewicz
Director

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I. OVERVIEW OF ISSUES*

The Role of Transport in Regional Economic Development: An Overview

E.W. Tyrlhniwicz**

Historically, transport has played an essential role in the economic growth of every region of Canada. Its current and future role in regional economic development is not quite so clear. Some, particularly provincial governments, argue that transport should be a key instrument of regional development policy. Others contend that in economically mature regions transport is becoming less effective in influencing patterns of trade and development. Academics have long found this topic a fertile field of endeavour.

Yet, the issue of the role and influence of transport in regional economic development still attracts public scrutiny. The debate surrounding the Freedom to Move paper on transport regulatory reform and the recent passage of Bills C-18 and C-19 has not lessened the controversy. In keeping with the objectives of this Conference of clarifying the role of transport in regional economic development, this paper addresses a number of concepts that must be understood if any meaningful progress is to be made in understanding the role of transport in regional economic development. Some of the concepts

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*Session chaired by Nick Mulder, Assistant Deputy Minister, Transport Canada.

**Director of UMII and Professor of Agricultural Economics, University of Manitoba. The assistance of David Honeyman in the preparation of this paper is acknowledged.


include: definition of regional economic development, definition of a region, non-transport factors influencing regional economic development, and transport instruments for regional economic development.

Defining Regional Economic Development

Regional economic development means different things to different people. Some of these perspectives include increases in regional per capita income, increases in regional employment, increases in regional value added activities, and improvements in regional "quality of life". Considerable volumes of data have been amassed to illustrate the existence of regional disparities in income. See, for example, the Economic Council of Canada, *Western Transitions*, 1984. For purposes of this paper, we will accept that these income disparities exist without getting into a discussion on the accuracy of the data.

However, the other dimensions of regional economic development are less clear. On the matter of employment, a common objective of government policies in the area of regional development is the creation of jobs. But are these permanent jobs? It is not uncommon that many regional development projects create a large number of jobs during the construction phase of the project, but with negligible employment once the project is in place. Similarly, an increase in value added activity can be quite nebulous in terms of job creation, especially if the value added activity comes at the expense of another region, or if considerable amounts of public funds are expended (in the form of infrastructure support or tax holidays) to lure the value added activity into the region.

Numerous attempts have been made to define and quantify "quality of life." Many measures come to mind: better roads, more frequent air service, reasonably priced consumer goods, and access to recreational and social services. These measures are perhaps more important from a socio-political perspective than an economic perspective.

A workable definition of regional economic development is complicated by the divergent perspectives of "stakeholders" in the regional development process. At the local community level, the winners and losers are usually identifiable and generally unanimous in their views. At the provincial level, government financial restraints result in the need to make difficult choices among sub-region or sectors to be targeted. The situation is even more difficult at the federal level where balancing regional growth requires that certain developed regions might lose out to less developed regions. A further complication is the choice of targets, e.g., regions or sectors or a combination of the two.

Clearly, there is no easy answer to what is regional economic development. For purposes of this paper, and hopefully this Conference, let us take it to mean long run growth in per capita income. This definition implies that regional development policies and
projects will have a lasting effect on the particular region. If this happens, regional quality of life is likely to improve as well.

Defining a Region

Implicit in the discussion of regional economic development is some concept of a region. There is a tendency to use geographical designations such as the Prairies, Manitoba, Winnipeg, the North, the Interlake, etc. Although this is convenient for policy implementation purposes, complications arise when we attempt to analyze the impact of policies and projects. Within any geographic designation there will be pockets of relatively more advanced and dynamic sub-regions. For policy analysis, a functional or descriptive designation may be more useful.

George Wilson\textsuperscript{4} distinguished at least three general types of regions for purposes of analyzing the role of transport in regional growth. These included:

1. Empty regions where little or nothing in the form of economic activity is currently going on.
2. Poor regions where there is much economic activity but where per capita output is low and relatively stagnant.
3. Developed regions where per capita output is high and/or increasing rapidly.

A more detailed classification of regions and their development issues was developed by Transport Canada for the First Ministers Conference on the Economy in 1978.\textsuperscript{5} This classification has considerable validity and it is presented below.

1. Remote regions: Those remote from the more heavily settled areas and characterized by a widely dispersed population, very small centres, little normal economic activity, and little potential for development.
2. Frontier regions: Those located far from developed areas and having a small dispersed population, but potential for development usually exists usually because of natural resources.

\textsuperscript{4}G.W. Wilson, "The Role of Transportation in Regional Economic Growth," in Tyrvniewicz and Tangri, 1970.

3. Resource regions: Those based on mining, parts of forestry and/or fishing activity, often relatively far from heavily populated areas (but with some population centres), considerable economic cycles, and little economic and social diversifications.

4. Agricultural regions: Those with different products and levels of productivity, sizable economic swings, varying distances from heavily populated areas, relatively small communities, a history of extensive migration, and little economic and social diversification.

5. Depressed regions: Those which may have once experienced economic prosperity, but generally characterized by slow growth, low levels of expectations, varying sizes of population centres, and relatively diversified but small-scale and structurally weak industrial activity.

6. Developed regions: Those with a strong and broad economic base, large population centres, and extensive economic and social diversification.

Although this classification may be useful for analytical and policy purposes, it is not perfect. Over time, a region may shift from one category to another, particularly if regional development policies are effective, or if the markets for a particular natural resource become depressed for a long time. Indeed, the initial categorization of some regions may be debatable. Although the basis for categorizing regions may be generally agreed to, the choice of policy instruments that might be employed to bring about regional development in different types of regions is often contentious.

Non-Transport Factors Influencing Regional Economic Development

Before dealing specifically with how transport policy instruments can influence regional economic development, it may be useful to summarize the non-transport factors influencing regional economic development. Depending upon the region and its stage of economic development, these factors will have varying degrees of importance. No attempt is made to attribute any order of importance in this listing.

Clearly, natural resource endowment, including climate, determines the potential for economic development based on primary industry. Closely related to this is the geography and demography of a region. A remote region with a small population base that is primarily export oriented will respond differently to growth stimulants than will a

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6 It could be argued, not entirely facetiously, that a seventh category should be added - most favoured region in a political sense. Such regions are generally less affected by economic forces than by political largess.
developed region with a large population base and a highly developed service sector.

A key determinant of a region's economic growth is the current and potential market for its products. Markets are directly influenced by factors such as short term demand and supply conditions, longer term changes in consumer preferences, the emergence of new suppliers, and the emergence of new products. With respect to export markets, policies of foreign governments can swamp normal market conditions. For example, the current grain subsidy "shoot-out" between the U.S. and the European Economic Community has had a devastating effect on other grain exporting countries, their grain exporting regions, and their farmers. Consequently, it is essential that a discussion of a region's growth potential include a realistic assessment of its competitive position in the various markets for its products.

Government policies, at local, provincial and federal levels can have a significant effect on a region's growth. Taxation policy, especially at the federal and provincial levels, can influence the rate of growth in different sectors and regions. Changes in monetary policy, e.g., interest rates, can have a far-reaching effect. For example, the effect of a one percent increase in interest rates on a 1000 acre farm with a $300,000 debt would be an increase in operating costs of $3,000. Compare this with an increase in grain freight rates; grain freight rates would have to increase by $3/t to have the same impact on operating costs on that farm.

Policies aimed at improving Canada's trade position are critical to every part of the country. The current trade liberalization discussions with the U.S., if successful, have the potential to significantly alter patterns of sectoral and regional growth. Similarly, Canadian tariff policy provides protection for selected sectors of the economy. Agricultural supply management schemes, federal and provincial, influence the location of production and processing of selected agricultural products in different regions of Canada. Thus, industries which have been sheltered by protective Canadian tariff policy, import quotas, and agricultural supply management schemes may well be forced to deal with more competition. While location will always provide a certain amount of protection for local producers, harmonization of Canadian and U.S. trade policies would reduce the scope of some of the policies that now influence regional location of some industries.

The list of government policies aimed at regional development would not be complete without mentioning the wide range of industrial incentives programs of the Department of Regional Industrial Expansion, as well as various Federal-Provincial sub-agreements relating to agriculture, water, tourism and transportation.

It is expected that the Federal government's "Western Economic Diversification Strategy" will have as its objective the reduction of Western susceptibility to cycles inherent in a dependence on
agriculture and resources. Such strategies have been the focus of regional development planning for some time now. Despite the myriad policies that governments have used in the past, it is concluded by some that these programs have had little positive impact on regional disparities.\footnote{T. Courchene, "Avenues of Adjustment: The Transfer System and Regional Disparities," in D.J. Savoie (Ed.), The Canadian Economy: A Regional Perspective, 1986.} One could even ask why money should be spent to counteract economic forces which are mainly dependent on world market conditions. Questions of this type have led to suggestions that perhaps the money would be better spent on helping people adjust and on building up the region's existing advantages rather than trying to close the gap between places.

As is well known to those familiar with the current Canadian policy environment, there is considerable pressure for greater emphasis on efficiency criteria in formulating policy. The issue is that if a cost minimization or market oriented approach is strictly adhered to, regional imbalances in industrial opportunities may be exacerbated unless other corrective actions are taken to channel investment into depressed or remote regions. Of course, regional imbalances may be optimal, but they may not be politically acceptable. It is therefore necessary to qualify solutions based on allocative efficiency criteria to allow for equity considerations.

While many policy changes are claimed to have the purpose of providing long term advantages to regions, this is not readily believed by those individuals and communities that have been forced to adjust to lower incomes in the short run. Indeed, uncertainty as to the magnitude of gains and losses is the heart of the politico-economic debate in grain transport system modernization. In the long run, however, the fact remains that we must remain competitive in world markets if we are to have exports and hence employment and income growth. Unfortunately, this means there will be losers in the process of change.

This discussion of factors influencing regional economic development is neither exhaustive nor fully explained. Yet, it is important to bear in mind that these factors may be at least as, if not more, important than the transport factors that are the focus of this conference.

Transport Instruments for Regional Economic Development

It is really not surprising that there is a wide spectrum of views on the role of transportation in regional development. There are many ambiguities which surround the debate on appropriate roles for transportation and what government can/should do about using transportation to achieve regional development, and what the effects of improved transportation might be. On the latter point, G.W. Wilson
stated that the effects of improved transportation generally reduce to questions of the magnitude of the quantifiable net benefits, who receives them, and what is done with them.\textsuperscript{8} However the fact that there are net benefits is not a sufficient cause to invest in transportation; the investment should have the greatest net benefit of all alternatives. Heads has suggested that perhaps all increases in transport capacity result in desirable effects provided that the scarce resources should not have been employed elsewhere.\textsuperscript{9} To determine the latter, it is necessary to deal with the vagaries of discounting, political motivations, and determining the importance and existence of the social costs and benefits of external economies and diseconomies, to name but a few.

Basically, four facets of transport can be related to regional economic development: facilities, equipment, prices, and service. Each of these can be used in a variety of ways for a variety of roles. For purposes of regional development, these roles can be broadly grouped into two categories: developing infrastructure and facilitating trade. Government transport policy can influence these roles in three ways: provision of infrastructure, rate and service regulation, and subsidization. The developing infrastructure role suggests that transport facilities and equipment are put into place ahead of the demand for them. The existence of these facilities will presumably stimulate economic activity in the region. Drawing on the earlier classification of regions, this role is most appropriate for frontier regions, and somewhat less so for remote and resource regions. Improvements in transport should be related to investments in complementary sectors of the region as part of an overall strategy for regional development.

Once the basic transportation network is in place, transport has little generative power of its own for stimulating economic development. The role of transport then shifts to one of facilitating trade. One underlying assumption here is that the region's population base is too small to consume its existing or potential production, and consequently markets must be found outside the region. Under these circumstances the focus shifts to transport prices and services in regional development, and the role of rate and service regulation and subsidies.

This paper will not attempt to provide the "blueprint" for the appropriate role of federal and provincial government policies vis-a-vis rate and service regulations and subsidies in the context of regional development. A number of issues are raised that must be addressed in identifying that appropriate role. These include:

\textsuperscript{8}G.W. Wilson in Tychniewicz and Tangri, 1970.

\textsuperscript{9}J. Heads, Comments on G.W. Wilson in Tychniewicz and Tangri, 1970.
1. Identification of the type of region, and a realistic assessment of the economic potential of the region, including markets.

2. Articulation of an overall development strategy for the region.

3. Assessment of the adequacy of the regional transport system in light of the overall development strategy.

4. Identification and assessment of alternative policy instruments for implementing the regional development strategy (non-transport as well as transport).

5. Assessment of the impact of alternative transport policy instruments.
   a) rate regulation
   b) service regulation
   c) subsidies
   d) user charges

6. Development of transport technology appropriate for the overall regional development strategy.

7. Periodic review of regional development strategy and the impact of transport policy instruments in achieving the strategy.

Concluding Remarks

Regional economic development is a highly emotional issue in Canada, and political considerations often supersede economic analysis. The trade-offs between economic efficiency and equity are hotly debated. Transport is seen by many as a key factor in regional development, often with almost magical curative powers. The purpose of this paper was not to resolve the debate over the effectiveness of transport as a regional development tool. Rather, it was intended to identify and clarify some of the conceptual issues that often get blurred in the heat of the debate. It is left for others at this Conference to make more definitive statements on the effectiveness of transport as an instrument of regional economic development.
The Manitoba Economy: Past, Present and Future

G. Mason*

1.0 Introduction

Many misunderstandings persist about the Manitoba economy. For example, it is still widely perceived that this is an agricultural province. Many underestimate the importance of manufacturing and related services; historically much of the stability of the economy has been due to a diversified manufacturing base.

While the observation that Manitoba has a diversified economy is not new, there is much research to support the contention that stability is due to manufacturing diversity. A fairly high commitment to public involvement over the past few decades is also important.

Also the importance of transportation and communications (a major component of the service sector) has changed over the past two decades. Structurally, Manitoba has evolved - unfortunately many of our perceptions have not maintained pace.

This paper reviews past, present and future economic performance, first in a national and then a provincial context. Then the role of transportation, both as a group within the manufacturing sector and as a component of the service sectors, is examined. Finally, the future of the economy, especially as it relates to the manufacturing base, is reviewed.

2.0 Structure and Evolution in Manitoba's Economy

The term "structure" can be interpreted very precisely within the context of an input-output model, where purchases and sales between economic sectors are detailed. Input-output techniques are expensive and are also subject to well known restrictions.\(^1\)

More loosely, structure refers to relative proportions among various sectors in terms of value added, employment, or gross domestic product. By monitoring changes in these indicators, very general perspectives on the structure of the economy are possible.

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*Director of the University of Manitoba Research Ltd., Social Sciences Division.

\(^1\)These include the assumption of constant prices and constant returns to scale. Also, they require a comprehensive definition of the notion of a "sector." Typically, I-O tables do a poor job of tracking transactions with and within the service sectors.
Evolution is also an elusive concept. It tends to be viewed positively with respect to human institutions. In economics, the movement from agrarian to industrial and now post-industrial societies is often taken as the "natural" course for an economy. Some argue that it may be possible for an economy to skip full industrialization and move from a primary extraction phase to "post-industrialization." Canada is sometimes alleged to be in that position, a view which is quite misleading.

The three Prairie provinces are usually aggregated into one of Canada's "economic" regions, when their economic performance has been quite different. The approach taken here is to compare the Manitoba economy to the other Prairie provinces.

2.2 Early Development (1900-1931)

It is a truisim to state that agriculture dominated early economic development in all three Prairie provinces, propelled by the National Policy which consisted of preferential tariffs on imported manufactures, the transcontinental railway and an aggressive campaign to encourage European migration. From 1896-1916, Prairie population quintupled, wheat production rose twelve times, and the value of wheat exports increased by 3000%.

This rapid growth of the major "staple" encouraged the rapid expansion of rail branch lines (a subsequent mixed blessing), as well as retail and financial services to support the larger population, market the grain, manufacture and process the output, and mechanize, for productivity enhancement.

By 1910, Winnipeg had become the financial and brokerage center in western Canada and had also begun to dominate in key manufacturing activities (most notably food processing). Even at this stage it was apparent that, compared to Saskatchewan and Alberta, the Manitoba economy was relatively less dependent on primary agriculture.

From 1921-26 grain prices slumped and the Manitoba economy began to further diversify into manufacturing. By 1926, over 70% of Manitoba's total output was derived from non-agricultural activities, compared to 54% for Alberta and 38% for Saskatchewan.

2Dinosaurs have a slightly different perspective on evolution.

3Rostow's evocative ideas using the five stages of economic growth did much to reinforce this concept.

4Post-industrialization refers to service-oriented economies relying upon information exchange rather than manufacturing as the basis of wealth generation.
2.3 Post-Depression Trends

After 1926 world grain prices recovered, the wheat economy revived rapidly, only to be stalled by the crash of 1929 and more importantly the droughts of 1932-35. With the price of wheat plummeting, the Canadian government responded with protectionism. The economy of all three provinces began to diverge significantly at this point. The population of Saskatchewan, which had grown rapidly until 1931 started to decline, a trend which was to persist until 1970. Manitoba's growth spurt in manufacturing began to ease, but further consolidation of the service sector continued in support of agriculture and a rapidly expanding manufacturing base.

In 1947 oil was discovered in Alberta and the dynamic of Prairie economic development changed. Manitoba continued to develop its manufacturing base and services sector, but overall growth was modest compared to the pre-1919 era. The advent of diesels reduced the demand for labour in rail transport and Winnipeg's role as a maintenance facility for transportation ebbed. Long-haul air and road transport further reduced Winnipeg's role as a distribution centre for the east-west movement of primary and secondary commodities.

Alberta's population grew rapidly after 1950 in response to the oil economy. Both Calgary and Edmonton became construction centers and Calgary attracted increasing numbers of head offices for emergent oil conglomerates.

The comparative changes in the structure of the three provinces can be seen by changes in the composition of the labour force.

![Figure 1: Percentage of Total Labour Force (1911)](image)

--- Manitoba
--- Saskatchewan
--- Alberta
2.4 Post-War Developments

Throughout the fifties these trends continued. All three provinces exhibited greater proportions to the workforce in the service sector. This was partly due to the evolution of technology (i.e., industry was moving toward greater technological development), and also partly due to the growth of government. Figure 2 illustrates these trends and demonstrates that the structures of the three Prairie provinces, at least with respect to gross labour market classifications, have become similar. The fact that the three economies employ labour in similar proportions can be misleading. As argued below, the linkages from agriculture to services, and from manufacturing to services is the essential feature to understand regional and national economies from a structural perspective. Aggregate categories, such as the proportions employed in a given sector, are insufficient for any penetrating analysis.

![Diagram](image)

**Figure 2: Percentage of Labour Force**

- - - Manitoba
- - - Saskatchewan
- - - Alberta

Recently the situation has become difficult to appreciate. The very rapid increase in the construction and services sector in Alberta prompted by two successive oil price inflations has been replaced by initial deep recession and only recently very modest resurgence. Saskatchewan grew steadily throughout the seventies and even survived the recession of 1982 quite well. It appeared as though this province was destined for very significant growth, especially in high technology. Now, with the collapse of key primary products, most notably oil, potash and wheat, the ability of government to subsidize innovative forays into manufacturing has dwindled and the provincial treasury faces a very substantial deficit.
The Manitoba economy throughout the 1970-1982 period was characterized by reasonable growth in services, some decline in manufacturing and a very stable economic climate. For some, this "stability" has been reassuring; others see decline and are pessimistic.

3.0 The Current Economic Context

3.1 North American Projections

No economic forecast is complete without first evaluating American economic prospects. That economy so dominates our own economic fortunes that it must set the stage for consideration of the Canadian and Manitoban context.

Over the past year the American economy has produced mixed signals. On the one hand forecasts for growth in the first quarter of 1987 are being revised slightly upward, based upon improved consumer spending throughout the summer. Various leading indicators are showing renewed positive movement, including the stock market, single family starts, industrial production and employment.

But cautionary notes for 1987 are being sounded by those who point to an end of the consumer surge due, in part, to creative financing for new cars and stable interest rates, but much more to the tax reform package which ended many tax deferral and avoidance practices and induced consumers to accelerate their spending in late 1986. Consumer credit has been pushed to high levels and the savings rate has declined, lowering forecasts of spending in the new year. How much steam there is left in the consumer sector of the North American economy is debatable. Other negative indicators are factory orders and new home sales, all of which have dipped.

A key to current U.S. forecasts is the level of net exports which have modestly responded to a depreciated dollar. Import prices which were expected to match the dollar decline have not risen much, suggesting that foreign firms have elected to trim prices rather than lose the stable American market. Overall, the U.S. economy is expected to grow at about 2.8%, and while this is not a calamity, it is far from the 4% which assures continued expansion and a base for Canadian manufacturing exports.

5In general, the recovery from 1983-85 has been consumer-led in both the U.S. and Canada, with cars and appliances leading the way.

6Despite this low growth it remains a fact that the U.S. economy needs less growth to reduce unemployment. Possible factors may include less generous unemployment insurance schemes and a crippled union movement that cannot oppose replacement of high-wage employees and part-time work.
Renewed concern has recently been expressed over the state of the U.S. economy. The trade and federal deficits continue to remain at very high levels; the U.S. has been transformed into the world's largest creditor - three years ago to the world's largest debtor. The spectre of a financial crisis grows, at least in the minds of the bankers.

These uncertainties continue to plague the U.S. economy. The expectation of a recession in late 1987 or early 1988 is also high, largely because the consumer cannot assume higher debt and the law of averages. To have a fifth year of growth strikes many observers as quite unlikely.

3.2 Canadian Projections

Notes of pessimism are creeping into otherwise positive Canadian economic forecasts. Growth in 1986 was about 3% (real GNP), but this is expected to decline to 2.8% in 1987. These growth levels are modest and insufficient to substantially reduce unemployment. It is difficult to diagnose the source of the pessimism - perhaps forecasters are disbelieving that the economy can turn in a fourth year of sustained growth.

One key to this creeping pessimism is the slight edging upward of interest rates. The recession of 1981/82 clearly showed how effective high interest rates were in reducing inflation and provoking a recession. Many economists have suspicions that both the Federal Reserve and Bank of Canada still view fighting inflation as more important than stimulating the economy to prevent recession. Inflation is creeping upward in both Canada and the United States, renewing fears of a tight money policy.

Another concern is the beleaguered consumer, who having led the way out of the 1981-82 recession, assumed high debt loads (reduced savings levels) and satisfied the pent-up demand for big ticket items. Significant tax increases have also been announced by all provincial governments and some additional tax increases remain from past federal budgets. The extent of withdrawal of spending power remains a major factor in economic growth projections and many retailers may find the next twelve months quite disappointing. Only if interest rates remain low, (or better decline), can consumers be expected to show any enthusiasm.

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8Recent Statistics Canada surveys confirm the very high debt loads of Canadian households.
Business investment will also be modest and the recent gains in non-residential construction over the past two years are expected to decline.

Selected regional housing markets (Vancouver, Winnipeg, Toronto and Montreal) are expected to remain strong, propelled by low interest rates and the tail-end of the "baby boomers" who are buying their first homes. Forecasts also expect spending on plant and machinery to continue, as firms seek new ways to raise productivity, and non-residential construction is likely to continue at a rapid pace, especially in southern Ontario.

With a possible weakness projected in consumer spending and the decline of non-residential investment in oil and gas, grains and primary metals, the Canadian economy has few sources of support for economic growth. Certainly manufacturing is booming in southern Ontario and Quebec and this is the one bright spot in the economy.

3.3 Manitoba Prospects

The consensus among forecasters is that, in the short-run, Manitoba may continue to perform slightly above national averages. Unemployment is the second lowest in the country after Ontario, and projected growth rates are above any other region, except southern Ontario. Much of the basis for these favourable figures can be found in an active public sector investment, relatively strong performance from selected sectors in manufacturing, and expansion in some service sectors. An important question is whether the current strategy of using debt to support public sector investment has long-term viability. The recent provincial budget elected to maintain services by imposing significantly higher taxes. This remains the basic question for Manitoba economic policy.

However, there are indicators of weakness. For example, after a very strong recovery in 1985, retail sales have slumped sharply in 1986. The growth rate for consumer spending in Manitoba lags behind the three other western provinces and at a projected rate of 1.1% over 1986 is well behind the national average of 3.9%. Recent consumer intentions surveys for the province show increased pessimism.

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9Manitoba has had a high growth rate in its labour force, and the unemployment rate is due to strong growth in manufacturing employment over the last year or so.

10Consumer Intentions, June 1987, University of Manitoba Research Ltd.
Figure 3: Unemployment (%)

Figure 4: Employment Growth
Figure 5: Retail Sales

Figure 6: Consumer Prices
Population change is also interesting. After several years of absolute decline, Manitoba population increased and for a period of time exceeded the Canadian rate of increase. For the past few years, both Canada's and Manitoba's rate of increase has decreased, but now it appears as though Manitoba is moving back to a lower rate of increase than Canada as a whole.

In the longer term, there will be continued drift of population away from rural areas to regional centres such as Brandon and Winnipeg. It is expected that by 2000 (just 13 years away), 50% of the Manitoba population will live in the Winnipeg metropolitan area.

The next section of the paper considers manufacturing in general. One aspect of transportation, namely the manufacturing of equipment, plays an important role in the Canadian and Manitoba economies.

4.0 Manufacturing

The general decline in manufacturing as a contributor to national employment is well chronicled. In terms of employment the manufacturing sector has employed a smaller percentage of the workforce
with each successive year since the second world war. In terms of output and value added, Canadian manufacturing has exhibited steady growth, reflecting a search for profit through technical change.

![Manufacturing Employment Graph]

**Figure 8: Manufacturing Employment**

![Manufacturing Shipments Graph]

**Figure 9: Manufacturing Shipments**

11 It sometimes comes as a surprise to learn that over 50% of the Canadian workforce was employed in services in the mid-thirties and that this number has grown to almost 70%. 
One important precursor of economic health is the level of investment. In manufacturing, real investment has increased in Canada, but tended to fluctuate and decline slightly for Manitoba. This decline for the province is noticeable after the 1974 recession, and more recently after the 1981/82 recession. The recovery in 1984/85 has not been sustained and real investment in Manitoba manufacturing has failed to reach previous 1979/80 peaks, further confirming the general decline. More than any other economic indicator, these data are the most ominous for the manufacturing sector in that they set a general trend for expansion.

![Index of real manufacturing investment](image)

Figure 10: Real Investment in Manufacturing

Manufacturing in Manitoba has been weakened by the two recessions in the seventies and eighties. While general manufacturing has showed mixed performance, the transportation equipment sector has generally performed at national averages. First, with respect to national performance, Figure 11 shows that the proportion of workers in total manufacturing comprised of those in the transport equipment industries, has declined steadily over the past decade. This reflects the general trend of increased capital/labour ratios (i.e., technical change). Figure 14 shows the same relationship for Manitoba, although there have been slightly higher percentages of workers who have been employed in Manitoba transportation equipment industries than at the national level.

12Adjusted for inflation.
Figure 11: Industry of Employment (Canada)

Figure 12: Industry of Employment (Manitoba)
Figure 13: Occupational Structure (Canada)

Figure 14: Occupational Structure (Manitoba)
In terms of occupation, similar trends are evident (Figures 13 and 14) except that declines are a little more pronounced. Just under 4% of all workers in Manitoba and Canada are employed in transportation service occupations.

Finally, the comparative performance of transportation manufacturing compared to other sectors is seen in Figure 14. Compared to Canada as a whole, employment growth in Manitoba transportation equipment has exceeded that of the rest of Canada by a considerable margin. However, the percentage distribution of workforce has shifted toward Ontario, and away from other regions of Canada.\(^\text{13}\)

\[\text{Figure 15: Index of Employment in Transportation Equipment}\]

\(^{\text{13}}\)About 65% of all transport equipment workers are located in Ontario, and even a lower growth rate of employment there can produce a relative shift of workers toward that region. Manitoba has a little over 3% of transport equipment workers in Canada and a sustained and rapid increase in that sector's workforce would be required to produce an increase in its share of employment in transportation equipment.
5.0 Manitoba's Economic Future

Economic forecasts tend to be conservative and avoid explanations as to why the forecast of good events has not come true. It seems that people are more inclined to accept forecasting error when the future turns out better than predicted; forecasts which history proves optimistic are seen as dramatic proof of the incompetency of economists.

5.1 General Trend

The trends noted above stress a stable population base for Manitoba, declining manufacturing, a service sector which will also stabilize with population, and rates of growth that will be at the national norms for the next 5 years or so. Beyond this the future becomes less robust. In particular, consider the following general conjectures:

1. No new minerals or primary resources will be discovered in Manitoba over the next decade;

2. The relative prices of primary resources will change slowly—in particular, the price of oil, will rise at annual rates which are near current inflation levels (4-5% per annum) for the next three years. They will then exceed inflation levels by about 2-3% reflecting constrained supply;

3. The wheat economy may never recover its former role as a basis for wealth generation anywhere in the West and particularly in Manitoba where agriculture will become more diversified. Producers will also ship larger shares of products to consumers within the North American continent;¹⁴

4. Manufacturing will demonstrate a mixed performance. Although some sectors (electrical products, printing and publishing, and specialty clothing) will continue to flourish, and even within weak sectors there are, and will be outstanding firms. Sectors such as transportation equipment and food and beverages may face continued risks;

5. Free trade will result in the closure of some industries (e.g., brewing) while stimulating others (machinery). The net impact is extremely difficult to predict. In any event,

¹⁴It seems likely that both the Soviet Union and China will maintain their progress with respect to agriculture. In addition, Argentina and Australia, along with Common Market countries, will remain significant competitors in world grain markets. Both demand and supply conditions for world grain appear to have changed and stabilized implying that the Canadian producer will face strong competition.
the full scope of the eventual free trade deal will be less than originally conceived; and

6. Winnipeg will continue to grow in population, implying a declining economic rural base. Some regional settlement areas will flourish (e.g., Morden and Winkler), others will remain stable (e.g., Dauphin and Brandon), while many others, based on primary industries, may decline (Leaf Rapids, Thompson). These long-term readjustment trends are now well established and the internal migration of economic activity and people toward Winnipeg, has profound socio-economic and political implications.

Many will find this scenario bleak, while others will be comforted by the stability offered. Perhaps the most important trend is the relative weakness of the manufacturing sector which influences transportation in its guise as equipment and rolling stock (i.e., manufacturing) and as a goods mover (services). More generally, the weakness in Manitoba manufacturing poses problems for the entire economy.

5.2 Implications of Weak Manufacturing

There is a school of thought which argues that services can compensate for a weak agricultural and manufacturing base. A typical example is provided by the recent Western Transition study of the Economic Council of Canada.15

The general thrust of the argument is that economic progress proceeds in stages, from primitive hunting and gathering, through farming, to manufacturing. The rapid growth of information processing and computers has encouraged talk of a new and modern stage, characterized by the phrase "post-industrial society." Ostensibly, we are seeing modern economies such as the U.S. move into this new era. Some countries (Canada is often cited as an example) can by-pass full industrialization, or so it is argued.

The weakness in Canadian manufacturing has been noted by many observers, with the Science Council of Canada being the most forceful.16 For the most part, the rationale for strengthening manufacturing has been rather vague, and confined to statements about the need to ensure high valued and stable employment. The report of the Science Council makes some of the same vague statements that characterize the more informal analyses of trade associations, but it does point to an essential truth.


Manufacturing and services are inextricably linked. More generally, agriculture, manufacturing and services are all linked in the production, distribution and consumption cycle that underlies the modern economy.

Agriculture is a good example. In Manitoba, agriculture currently employs about 4% of the total workforce, and accounts for 6% of gross domestic product. Does that mean Manitoba agriculture is not important? No, certainly not. As can be seen in looking at a particular crop such as sugar beets, the viability of harvesting beets influences the manufacture of sugar, its marketing and finance, the distribution of the final product and advertising. As the viability of the beet industry is influenced by weak world prices, so is the viability of a range of manufacturing and services. These dependencies vary from very tight connections such as the manufacture of sugar to quite loose relationships, such as advertising.

In manufacturing a similar range of dependencies exist. The weakening of Manitoba's manufacturing base poses serious problems to services in general and to transportation in particular. If we produce fewer commodities in Manitoba, fewer trucking firms will be viable as the demand for inputs and final product markets contract. It is likely that a sizeable percentage (perhaps as high as 35%) of Manitoba's transportation sector depends on moving manufacturing input or output.

High technology also depends on viable manufacturing. Much of high technology is services (consulting, design, process engineering, computer programming, etc.). Without a domestic manufacturing base requiring these services, engineers, technicians and other professionals will migrate away and Manitoba will not have skilled people upon which to base new manufacturing. Furthermore, export of these high technology services, widely touted as an element of post-industrial strategy, will not be possible without operating plants to hone professional and technical skills.

The usual advice proffered to government and manufacturing by policy analysts is that we ought not to try and develop indigenous technologies, but rather adapt and import innovations to lower average costs and attain international competitiveness. Overall this is a reasonable approach. But, why cannot Manitoba have innovations and technologies which are state-of-the-art? This is most desirable, since the economic rent\(^{17}\) usually accrues to the original owners of the idea. The incremental wealth contributed by importing technologies is small compared to the wealth obtained by the originator of the new idea.

\(^{17}\) Economic rent refers to the surplus earned by virtue of ownership of a resource or skill. In high technology, the originator who implements an idea earns maximum rent, while the innovator who applies another's idea has a reduced return.
There seems to be a widespread notion that development of high technologies lies with massive investment in facilities, usually public. It appears to have worked in agriculture where inventions such as Canola are widely (and repetitively) cited. But these may be exceptions. For high technology to flourish, we need a vibrant manufacturing base, not just to provide incentive to originate new ideas, but also to adopt these ideas quickly.

Another sobering note on services is warranted. Most service jobs which have been added in the last decade or so have been in low-skill, low-wage areas, often using young people and women in entry level positions. When analysts speak of using services to propel the economy, they usually refer to high technology jobs. These are very much in the minority of service employment. For example, Manitoba manufacturing probably employs more janitors than engineers and inventors.

There is no reason to believe that high wage services, such as robotics, computer aided design, etc. will be an export of any significance in Manitoba. The investment pattern revealed in Figure 12 above is one of the most important indicators of the future of the Manitoba economy. It foretells a progressive weakening of manufacturing, and in turn, places at risk almost 40% of the service sector. The types of employment threatened range from senior partners in consulting firms, to design engineers, truck drivers, market researchers, typists and janitors.18

6.0 Summary

This review has not been particularly optimistic. Placed against the current background of optimism over the Manitoba economy, certain weaknesses have been noted. The steady disinvestment in manufacturing, coupled with the likelihood that agriculture will experience continued difficulty, indicates serious challenges for the Manitoba economy in the next decade.

There are many pluses to the Manitoba economy. As Scrooge was told by the Ghost of Things Yet to Come, these scenarios need not emerge. They are conditional on doing nothing. Manitoba is doing many things right. The identification of key industries such as health and the active promotion of the province by the government is an example of useful initiatives. More is needed, particularly from the business community, labour organizations, and the media to soberly review the facts and respond with energy.

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18The inability to place clear numbers on the magnitudes of the links between services and manufacturing is a crucial flaw in our economic intelligence. Undertaking quantitative research to measure those links is a first priority.
Discussant: R. Andersen*

The theme of this conference is the Role of Transport in Manitoba's Economic Future. The two papers delivered this morning serve to set the framework for the more detailed considerations to follow. In his paper, Mason describes fairly well Manitoba's economic evolution, and reflects the uncertainties and challenges before us in the next decade. Tychniewicz's paper on the Role of Transport in Regional Economic Development attempts to describe regional economic development and sets out the factors which influence regional economic development, both transport and non-transport factors.

The purpose of my remarks this morning is to push a little further on what I view as some of the key comments made in the presentations. These remarks are personal, not official, but no doubt reflect my exposure to those issues over time.

In his concluding comments, Tychniewicz identifies a number of issues which must be addressed in identifying the appropriate role of transport policy in the context of regional development. This includes the articulation of an overall development strategy for the region as an essential part of developing a rational analysis.

I want to return to that point a little later, but discussion of economic development strategy always presupposes a view of the economy and where it is going. Hence, I must begin by putting up front my assumptions about where the economy, of which Manitoba is part, is heading. Different assumptions might lead to different conclusions about development strategy, and hence the role of transport.

My first assumption, shared by many, is that our past experiences with the business cycle no longer hold. During much of our history, a round of Canadian growth would begin with an upturn in the world economy, which would touch off higher sales of resource products. Higher incomes in the resource regions then generated a new demand for the country's consumer and financial services. The expansion which started in 1983 began with an export base that was felt most strongly in manufacturing. Total exports between 1982 and 1986 rose by over 40%. With half of Canada's manufacturing sectors in Ontario and a quarter in Quebec, Central Canada was the disproportionate gainer of growth. The Manitoba economy picked up enough to keep moving along. However, the worldwide slump in resources - from food to energy to minerals - had a disproportionate regional impact because of the heavy reliance on primary products in the western regions. In Alberta and Saskatchewan, about two thirds of goods are the outputs of farms, mines

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and oil and gas fields. The mining industry remains a mainstay in Northern Manitoba and appears to be struggling.

During the '82 to '86 period, the export growth of pulp, paper, metals, minerals, chemicals and fertilizers did not keep pace with the gains in the manufacturing sector. Revenues from the export of food and energy, which still underlies Western Canada, fell because of low prices, low demand, or both.

I would conclude that the world is changing. We have to adjust to the new environment and become more competitive. Mineral resources are being affected by the introduction of new technology and less expensive substitutes. The transportation manufacturing industry, from aerospace to trucks and components, to buses, to automotive vehicles and parts, to agricultural equipment, is or will be impacted on by major new developments from new advanced industrial materials to electronic process control systems. Feeder industries, such as the machinery industry, foundries and metal fabrication, must respond with increasing quality control, new technology and frequently better service. Traditional industries, from furniture to textiles to clothing and food processing, will be required to improve productivity, and introduce new technology at a pace not hitherto experienced while dealing with the other normal pressures of their business.

The conclusion, from my perspective, is that both government and industry must pay increasing attention to understanding what is going on in the various industry sectors. Thus, the department of regional industrial expansion in Manitoba is making increasing efforts to understand the key industry sectors and the emerging pressures as well as opportunities. We are putting increasing emphasis on the need to encourage investment and to introduce, adopt, adapt or transfer technology. We are continuing to develop, enhance and strengthen our efforts to support industry in export marketing.

But what of an economic development strategy? While not always explicit, one can see clear development of trends in the Western Provinces over time. Indeed, the Western Provinces have carried the concept of developing an indigenous provincial industrial capability quite far. This may relate to an historical sense of alienation and the present divergence of economic interest existing between the country's industrial centre and its resource-based periphery. In any event, the Western provincial strategies appear to share a common thread: the recognition that effective exploitation of resources is the key to prosperity. While methods differ somewhat amongst provinces, the trends are much the same.

British Columbia for instance has moved from emphasizing assistance to resource industries and support infrastructure, such as roads, prior to the 1970s, to an emphasis on resource management (husbanding natural resources) and to attempting industrial diversification in order to overcome the cyclical boom and bust nature of the resource based industry.
Alberta has an articulated industrial policy designed to increase the level of local involvement in natural resource development, especially resource-related manufacturing and service activity. This includes a comprehensive technology development initiative through the Alberta Research Council.

Saskatchewan has attempted to develop an economic strategy building on resource extraction with major projects, often public sector, or joint ventures with the private sector, plus general encouragement of manufacturing and resource processing with support to local small and medium businessmen and entrepreneurs. Saskatchewan also pays special attention to high technology, for example, by attracting Northern Telecom's fibre optics manufacturing using Sask Tel's drawing power, or by developing an innovation park (research park) and financing research in technologies of interest.

Manitoba, with a more traditional manufacturing base, has also evolved its industrial policy over the past twenty years. In the 1960's, industrial decline was addressed in part through a series of industry-government conferences and establishment of provincial agencies (e.g., Manitoba Design Council, Manitoba Development Corporation and Manitoba Research Council). In the 1960's and 1970's, assistance to industry was emphasized. In 1977, emphasis shifted from focus on individual projects to selected industrial sectors with some emphasis on technological competence, and through industrial and financial assistance, to decentralizing, in part, the industrial base out of Winnipeg. The sectors of attention were those with existing commercial strength and with significant commercial potential. They included food and beverage, health care products, light machinery, transport equipment, the aerospace industry and electronics industries.

The important point to note is that the Western Provinces' general industrial development strategies are not in conflict or competition to any significant degree based as they are on different sectoral and product area niches. Thus, I would hazard a guess that Manitoba, roughly half of whose domestic shipments of manufactured goods supply the rest of Western Canada, will continue to do well in the Prairie markets based on specialization within its relatively diversified manufacturing base. In a general sense, future prosperity may depend upon industries' ability in Manitoba to rapidly adapt to changing technology and marketing conditions as well as a changing policy environment, and successfully not only hold local markets, but penetrate the markets south of the border. As part of an industrial strategy, I note that Premier Pawley has publicly served notice of his priority areas, including a:

1. Major new health industry initiative;
2. New science and technology initiative;
3. New transportation development initiative;
4. New industrial development agreement; and

5. New mineral and renewable energy resource initiatives, (especially energy intensive).

It is difficult to guess, at this stage, the implications of such developments on the transportation sector, or to assess the transportation policy implications if such policy and the transportation service sector is to support such developments. In addition, there are significant and more immediate external forces which may have a direct bearing on developments. These include a potentially successful free trade initiative with a host of both consequent opportunities and industrial adjustment requirements. It also includes the potential impact of transportation deregulation as has already occurred in the United States.

The overview of the Manitoba economy given this morning, I believe made it clear that this is no time to be sanguine. Yet, I remain optimistic both about Canada's future over the next twenty-five years, and about Manitoba's indigenous capacity to adapt and rise above the pressures of the day. Individual companies and select sectors have demonstrated remarkable resilience and capacity to succeed in the past. A number of the major national transportation firms resident in Manitoba are already making moves, including into the United States, apparently in anticipation of greater competitive pressures and there is no reason to believe success in an increasingly competitive market place will elude their grasp.

I have tried to share my belief that some fairly radical changes are occurring which will affect the Western economies. I have also tried to show some evolution within provincial government policy and federal policy towards increased industrial diversification in the West. One could expect that as the world evolves, and perhaps in the near term, this will create new opportunities as well as industrial adjustment problems. To get at the role and nature of transportation policy to support such changes is beyond my scope. However, if you share at least in part, my view that such changes, willy-nilly will occur, it is clear that this conference has a significant task before it; namely, to postulate correctly the general direction of change and to begin to identify the implications for the transportation industry; the transportation equipment manufacturing industry, of course, but particularly the transportation services industry. I wish you a good conference.
Discussant: J.B. Wallace*

Tychniewicz's interesting and informative paper has given us a conceptual framework on which to base the deliberations of this conference for the next two days.

Mason has given us his view of the Manitoba economy - past, present and future. While others may take either a more optimistic or more pessimistic view of our future he too has given us a benchmark on which to base our comments.

I would like to comment briefly on both papers while, at the same time, placing an increased emphasis on issues which I believe to be of major importance.

Tychniewicz notes that some people contend that, in economically mature regions, transport is becoming less effective in influencing patterns of trade and development. Unfortunately, since many major economic decisions are made by government officials and corporate executives domiciled in these economically mature regions, they may be in danger of arbitrarily dismissing the effectiveness of transportation in other regions.

The paper deals with a number of concepts including a definition of regional economic development, definition of a region, non-transport factors influencing regional economic development and transport instruments for regional economic development.

The use of increases in regional per capita income as a proxy for regional economic development is probably as good as any other broad definition.

A problem comes when one tries to use improvements in "quality of life" as a measure of regional economic development. I would suggest that regional economic development is, perhaps, a misnomer and perhaps, we should drop the word "economic" and consider regional development in a broader sense. The important role of economics should not be forgotten but we should recognize that regional development is based on more than economics alone.

This broader view would provide a means of dealing with concepts such as "quality of life" as a measure of regional development. Changes in the quality of life are likely to be psychological, social or environmental and not necessarily measurable by standard economic indicators. Tychniewicz notes that quality of life measures are "perhaps more important from a socio-political perspective than an economic perspective." I believe that we must develop multidiscipli-

*Executive Director, Transportation Policy and Research Division, Department of Highways and Transportation.
nary definitions which allow decisions to be made on the broadest possible base.

Turning to the classifications of regions and their development, I consider the issues developed by Transport Canada for the 1978 First Minister's Conference on the Economy to be perfectly acceptable as a basis for discussion.

Tyrchniewicz notes that, while useful, this classification is not perfect since over time "a region may shift from one category to another, particularly if regional development policies are effective..." This classification system would be most useful if it could be tied to a monitoring system which would allow for regions to be moved from one category to another and realigned where necessary. This would also provide some measure of the effectiveness of various policy instruments under given circumstances.

The paper deals effectively with the subject of non-transport factors influencing regional economic development and makes clear that they may be even more important than the transport factors on which we are focusing at this conference. This underscores the importance of examining a wide range of factors in any examination of regional development.

I would now like to make some comments on transport instruments for economic development. Tyrchniewicz notes that "the developing infrastructure role suggests that transport facilities and equipment are put into place ahead of the demand for them." We also have the situation where infrastructure has been put in place and then, due to circumstances or policy decisions, is underutilized. In such circumstances, I see a clear need for special efforts to enhance and develop the use of such facilities.

There are numerous examples of transportation infrastructure or services being introduced as pilot programs or tests and then, when the local people's expectations have been heightened, the service disappears. The citizens of Thicket Portage and Pikwitonei are still looking for regular rail bus service.

There is an obvious need for better long range planning and coordination. Effective use of transportation in regional development requires vision, imagination and a good deal of old fashioned common sense.

Because of the shared jurisdiction in transportation, planning will only be optimized when there is true cooperation between the various levels of government.

Turning to Mason's review of the Manitoba Economy - Past, Present and Future, I would note that his projections seem somewhat pessimistic but, given the difficulty of economic forecasting, he may well be right.
In looking at Canadian projections, he warns of the problem of a slight edging upward of interest rates. This last week the C.D. Howe Institute warned of "rumblings" indicating the possibility of renewed inflation.

On Friday, Statistics Canada gave an upbeat report on Canada's economic indicators but also reported that inflation had edged up to 4.8 percent, higher than it has been in over three years.

While having a somewhat more optimistic outlook, I still respect Mason's views, but I would like to make some specific comments on certain aspects of his paper.

He focuses his attention on the performance of the Manitoba economy, particularly manufacturing. Although these factors do affect the health of the Manitoba transport sector, other factors are also important.

1. Much of the revenue earned by Manitoba's transport sector is not related to the province's own transportation needs. This implies that one should also examine the performance of other provincial economies in order to gain a comprehensive view of the prospects for Manitoba transportation. While he does review forecasts for the U.S. and Canadian economies he does not make any specific linkages between the forecasts and the future of Manitoba transportation.

2. Examining economic performance only gives an idea of how transportation will be affected in terms of the demand for transport services. It seems likely, however, that the main factors affecting the Manitoba transport sector in the near future will come from the supply side - deregulation, increased presence of U.S. carriers through a liberalized trade agreement, tax reform, etc.

The issue of Manitoba's economic performance is, therefore, only one factor to consider in assessing the future of Manitoba transportation and should be viewed in context.

One of the direct comments on the Manitoba transport sector concerns the impact that a weak manufacturing base will have on the trucking industry. He estimates that about 35% of the Manitoba transport sector depends on manufacturing and that a weak performance in the latter sector will decrease the demand for trucking services and make fewer trucking firms viable.

This conclusion is probably over-pessimistic. The analysis is somewhat ambiguous in that his forecast of Manitoba's manufacturing performance ranges from "decline" to "relative weakness" to "a mixed performance". No data is presented to show that the manufacturing sector will actually shrink in absolute terms. The investment data in Figure 10 show that recent investment levels are still in excess of
replacement needs, indicating a net expansion of this sector in terms of invested capital. This seems to indicate that at worst the volumes of inputs and outputs shipped by manufacturing firms in the province will stagnate but not actually decline. This in turn, should provide at least a stable market for trucking firms which service the manufacturing sector, not the contracting market indicated by Mason.

These remarks aside, there is good reason to watch the performance of the indicators highlighted by the paper and his warning is timely.
Discussant - E.A. George*

As the third discussant I guess I am considered to be the clean up batter, and therefore, I will modify my remarks so as not to reargulate what has already been said, but rather to draw attention some of the things more relative to the Winnipeg and local government level of activities. I share the previous two speakers views that the papers presented are very stimulating in terms of getting the conference underway. From the others that I have read, it appears that the next few days are going to be very instrumental in examining the transportation considerations of our province.

The areas that I would like to highlight, in reference to this morning's papers, are that of the decline in manufacturing as expressed in Mason's paper. Reading it startled me to the extent that I did some scouting and found that not necessarily all members of that industry sector subscribe to that notion. I think that there are certain important flags that Mason has raised but, upon talking to members representing the manufacturing sector, I take heart in their opinion that things are not as gloomy as expressed in that paper.

I would like to highlight some of the points that were raised in those discussions; of primary importance is the fact that manufacturers in Manitoba are definitely taking on new technologies. A unique asset to Manitoba, specifically Winnipeg, is the Canadian Institute of Industrial Technology. I see that asset as having a long range future and that it should be taken full advantage of. The efforts that are being made at the present time to bring the private sector into that facility bodes well for the future of the manufacturing and technologies in Manitoba. It is also going to have a spin-off effect on the rest of Canada.

I also found that manufacturers are definitely up-grading their plants. While we may not have taken on the capital outlay that would put us into a more favourable position, nonetheless, we find that there are individual plants that are upgrading with computer aided manufacturing systems. This is an on-going process and may not impact to the same extent as in other parts of Canada, nonetheless, I believe it is putting Manitoba's manufacturing sector into a favorable position for the future. Manufacturers are up-grading their personnel requirements and we must make reference to the role of educators in this respect. In Manitoba we must make sure that the people who are graduating from the technical schools as well as the universities are capable of coming on stream with an adequate understanding of the new technologies currently being incorporated.

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There is a need, as expressed in Mason's paper and by other speakers, for establishing quality control and quality assurance in our manufacturing sector. That, in fact, is happening. Of course, as we increase our productivity, it is imperative that we develop better marketing skills in pursuing foreign markets. I agree with the previous speaker who said that we should look to people that are, in fact, compatible with our lifestyle. I believe that we have not addressed our efforts to the area immediately south of here, namely the prairie states with a population of somewhere around 7 million people. That particular market is ready for our products and we are capable.

I think that it is important to realize that new products and services are being developed. Reference was made earlier to the buggy whip; that our people are not in the dark ages, that they are keeping abreast of current innovations and that they are adjusting their production accordingly. Efforts are being made to counteract any declining trend by establishing new, vibrant sectors of activity. A good example of this is the the health care industry, a billion dollar industry in Canada and Manitoba. I believe that Manitoba can have its fair share of that particular sector and efforts are being made in that direction. However, if new strategies are not implemented, then the scenario as described in Mason's paper will indeed take place. I think with that thought in mind, we must make sure that all efforts are made to ensure that our manufacturing sector continues to improve its position, not only in the Canadian market, but also internationally. I believe that it goes without saying that, as a result of the increased productivity of our manufacturing and other services, transportation is certainly crucial and that we must make sure that the policies and programs developed enhance the role of transportation. I believe that the remaining papers to be presented will probably echo that sentiment. It is imperative that we have good transportation services to deliver our goods and services. Merely noting that Manitoba represents 4% of the Canadian population should make us realize that we cannot consume all that we produce in Manitoba. Because eight of the fourteen national trucking firms have head offices in here, Manitoba has been and will continue to be the headquarters for transportation industries in Canada. It is in our own best interest to ensure that such companies remain and flourish.

On a positive note, I believe that we are in relatively good shape. Yesterday we had an enquiry from an Ohio firm looking at Winnipeg to set up operations in Canada. They pointed out to us that Winnipeg had locational advantages as a result of being the geographic center of Canada.

In reference to some of the comments made in the papers, I agree that quality of life factors are very important. These factors must be taken into account when firms are looking to establish operations in Canada.

In the area of air transportation, Winnipeg must have the facilities to overhaul new aircraft as the aging DC-9's and 727's are
taken out of service. This is a valid concern and should not be ignored. Because it is of utmost importance that economic strategies be developed, our corporation has offered to help the Mayor and his task force in ensuring that the economic development strategy for Winnipeg coincides with the Manitoba strategy and the Western Canada initiative. In this way we can have homogeneous and compatible objectives for the future.

Finally, in response to concerns about the North Portage Development winding down and there being nothing to take its place, I would like to say that there are other projects on the drawing board. The private sector has indicated confidence in our economy and is coming forward with investment ideas. We expect that, within the next three or four months, there will be announcements of projects which will prevent layoffs that might have otherwise occurred. I trust that these comments will help to stimulate some discussions after the break.
II. LUNCHEON ADDRESS*
Role of Transportation in Manitoba’s Economic Future: A Federal Government View

L. Dugay**

I am pleased to be here at the official opening of the University of Manitoba Transport Institute. The establishment of the Institute is a direct result of the federal and provincial governments commitment to work together towards the development of the transportation industry in Manitoba. An initiative pursuant to the Canada Manitoba Sub-agreement on Transportation Development, the new transportation institute will serve as an important research and analysis centre for transportation issues and problems facing Manitoba and indeed the entire country.

I would like to speak to you today about the role of transportation in Manitoba’s economic future from the perspective of the Federal Government. In 1984, the Federal Government enunciated its economic priorities in a document entitled the Agenda For Economic Renewal. Regional development was identified as one of the key elements of this national economic strategy.

There is a delicate balance between the objective of maximizing the benefits of an efficient transportation system and the need to serve regional interests.

We believe that an efficient and competitive transportation system provides the best possible base for regional economic development. All regions of Canada deserve the most efficient, economical and up-to-date services that only a transportation industry unhampered by burdensome regulations can deliver.

The primary intent of our regulatory reform in transportation is to reduce regulatory burden, stimulate competition between carriers and give the country a transportation system which is more dynamic, innovative and better adjusted to user requirements and the markets in which they compete. This does not and will not conflict with our commitment to promoting regional development.

At the first Ministers meeting in Regina, we endorsed the concept that transportation is a key to regional economic development.

*Session chaired by A.M. Runciman, Chair, Board of Governors, University of Manitoba.

**Member of Parliament, St. Boniface, speaking on behalf of the Hon. John Crosbie, Minister of Transport.
The Federal government has demonstrated its commitment to the principle in a variety of individual projects, in continuation of regional assistance under the Western Grain Transportation Act and other acts and through cooperative endeavors under the Economic and Regional Development Agreements.

Bill C-18, the new National Transportation Act, complements this economic emphasis on regional development.

When Bill C-18 was first tabled, it recognized the principle that transportation is a key to regional economic development. Many witnesses and members of the House of Commons Standing Committee felt this should be strengthened. Mr. Crockie agreed.

The bill now says that the commercial viability of transportation links should be balanced with regional development objectives, so that the economic strengths in each region can be realized. This principle will be part of the definition of public interest to be applied by the new Agency in its decisions.

An efficient, effective and competitive transportation system is a prerequisite for lasting economic development in all regions. Bill C-18 will give us just such a system.

As well, to ensure that the Agency takes full account of regional needs and opportunities, the legislation will now require that:

- At least one member of the Agency is from B.C., the Prairie Provinces, Ontario, Quebec and the Atlantic Provinces; and

- If the Agency establishes regional offices, one will be in Atlantic Canada and one will be in Western Canada.

The establishment of regional offices and the responsibilities of such offices, is under active consideration by a transition team charged with developing an orderly transfer of responsibilities from the Canadian Transport Commission to the new National Transportation Agency.

As well, the new NTA contains an explicit, on-going authority for the Minister of Transport to enter into agreements in support of the National Transportation Policy. The authority is broad and flexible to respond to changing circumstances. Specifically, it will permit agreements with the provinces to promote economic and regional development via the ERDA delivery system.

In short, I believe that our transportation initiatives in support of both regional development and regulatory reform are complementary as well as essential to the well-being of Canada as a whole and of each of its regions.
It is expected that most of the regulatory reform proposals will be beneficial to the economic well-being of the country as a whole; however, some of the proposals are expected to be particularly helpful to certain regions.

The West, Atlantic Canada, and the North, should benefit from the fact that new air carriers will be able to enter the market more easily and compete with existing carriers. These services will be better adjusted to market and regional needs. Furthermore, improved rates will be available on air links between regions because of increased competition at the national and regional level.

Also, the Minister of Transport will have the authority to grant a subsidy in cases of urgent necessity where it is required to maintain an essential air service.

Some people are concerned that Canada could lose the benefits of greater competition if ownership becomes too concentrated.

Given the nature of our domestic air market, it is possible that the efficiencies necessary to give travellers the best service at the best price can be achieved only with a relatively small number of healthy competitive national carriers.

There is, in any case, a variety of safeguards to deal with excessive concentration:

- first, the power now exercised by the Canadian Transport Commission to review mergers and acquisitions in light of the public interest will be continued in the new National Transportation Agency;

- second, the recently-enacted Competition Act provided for the review of any transaction that would substantially reduce competition;

- and finally, under the proposed legislation, new carriers can enter the market and existing carriers can add new routes much more easily.

For all of these reasons, the government is confident that Canadians can have the benefits of regulatory reform and healthy, efficient and competitive carriers at both the national and regional levels.

The ground rules for Canada's railway shippers and carriers are also significantly altered.

Under the current legislation, competition between the railways is limited and, in practice, often non-existent.
For example, railway companies are now free to jointly discuss and set freight rates. And all rates must be made public through the Canadian Transport Commission. In other words, a shipper and carrier cannot privately negotiate a contract that addresses their particular needs. They cannot make contracts in the way that businesses ordinarily do.

As a result, our railways now operate below maximum efficiency. They lose business to rail carriers in the United States, where private contracts are permitted, and to trucking.

Both shippers and carriers have called for the right to contract privately for rail services. Bill C-18 provides for such contracts as part of an overall plan to encourage efficiency and competition in the rail sector.

Bill C-18 also zeroes in on what has been described as Canada's no. 1 rail transportation problem - the "captive" shippers. It gets to the heart of this problem by increasing the interswitching limit from four miles to 30 kilometers and by introducing competitive line rates.

Shippers located in urban areas, who are located beyond the current four mile interswitching limit will benefit from the expanded limit while captive shippers located beyond the expanded interswitching limit, and in particular, many western Canadian resource producers, will benefit from competitive line rates.

These two measures will provide competitive options, services, routes and very likely competitive rates as well.

With respect to the abandonment of branch lines not covered by the Western Grain Transportation Act, the new Agency and the Minister of Transport will be given many more options for dealing with applications. The most significant new option will allow the Minister of Transport to use monies, which otherwise would be spent to subsidize the line, to help shippers and communities adjust to an alternative service such as trucking.

In response to concerns that the new procedures might result in wholesale abandonment of large numbers of branch lines immediately following proclamation, and given that the Agency will only be able to cope with a certain number of applications at any time, Bill C-18 has been amended to limit abandonments by any railway to four per cent of its total mileage in any of the first five years after proclamation.

When Bill C-19, the new Motor Vehicle Transport Act, is enacted both shippers and carriers will benefit.

There will be less economic regulation through the elimination of the public convenience and necessity entry test. The move to reverse onus by January 1, 1988 will mean that only those applications of major
importance will go to a public hearing. This will result in less need for costly legal services and a considerable saving for truckers.

The phasing-out of economic regulation over a five year period commencing January 1, 1988, means that truckers will have well over a decade to adjust to a less regulated environment. While some shippers feel that this is too long to wait, the 5 year transition period represents a reasonable balance of opinions, as well as a consensus among the provinces that will be implementing the reforms.

The remaining restrictions on rates and routes to be served will be gradually eliminated. This will give both shippers and carriers more flexibility to tailor price and service packages to meet their respective needs and circumstances.

In response to uneasiness expressed by a few provinces, including Manitoba, concerning the final step to fitness only, Bill C-19 now includes a provision to study the effect of the reform in the fourth year of the transition phase (1991). We are confident that this study will not show serious problems. But if it does, the Governor in Council can extend the transition period.

Another issue worthy of elaboration concerns the equal treatment of truckers on both sides of the Canada/U.S. border. In 1982, the United States imposed a moratorium on the issuing of licenses to Canadian truckers. The power to reimpose the moratorium remains in the United States law and, in addition, a bill now before congress would reinforce and extend this power.

The Minister of Transport and this government believe that if Canadian truckers are treated unfairly in the United States, Canada should be able to reciprocate against American truckers in this country. Thanks to an amendment approved by the Standing Committee on Transport, Bill C-19 will provide the Governor in Council with this countervailing power.

Given the close economic relationship between the two countries, we do not anticipate that this power will ever need to be invoked. But we are enacting a regulatory regime that is meant to stand the test of time.

Throughout the development of these bills, the government has held firmly in mind the need to have a balanced package, especially with respect to the interests of shippers and carriers. We have also been very conscious of the need to make Canadian products more competitive in domestic and international markets, where the costs of transportation are a vital element.

We believe that Bills C-18 and C-19 are a balanced package. They are not simply deregulation. They do remove unnecessary regulations. And they do protect the public interest where that is really necessary, for example, in the special regime for northern air services. Thus
Bills C-18 and C-19 are a made-in-Canada policy, and will serve to benefit Manitoba and the west by promoting a more balanced, efficient and competitive transportation system that is conducive to economic growth.

In addition to the role of the economic regulatory legislation in the development of the western economy, the federal government entered into sub-agreements with Manitoba for the development of the Port of Churchill and the development of the transportation industry in general in the province. A number of important projects have been undertaken pursuant to the Churchill Sub-Agreement, such as boxcar rehabilitation, the rail line stabilization study, construction of Churchill's new tugboat, removal of asbestos insulation in the elevator, the construction of a hydro electric power line, and the dredging of the port. There have also been significant accomplishments under the transportation development sub-agreement. Accomplishments such as the renovation of the Winnipeg railway station, air infrastructure improvements, various transportation studies and system analysis, the establishment of the Transportation Industry Development Advisory Committee and the establishment of the Institute we are celebrating today. In sum, Transport Canada spent $121 million in Manitoba in 1986, not including subsidies, and a total of $462.8 million to date over the last three years.

Research and development in the field of transportation also remains a priority for Transport Canada. The federal government recognizes the crucial importance of science and technology as the main engine for future economic growth. Along with all the provinces and territories, it announced in March, 1986, Canada's first national S&T policy. The aim of this policy is, and I quote, "To bring Science and Technology fully into gear on the economic, social, cultural and regional development of our country by encouraging cooperation among governments, and between the public, quasi-public and the private sector". This institute would be a concrete example of this policy.

Earlier this year, the federal government announced the Canadian strategy for S&T called "Innov Action". "Innov Action" will focus federal S&T activities and initiatives in five specific areas:

- industrial innovation and technology diffusion;
- strategic technologies;
- management of federal resources; an investment of over $4 billion a year;
- human resources; and
- public education.

Further, "Innov Action" will encourage greater cooperation between universities and industry. This institute would again provide a mechanism for such cooperation.

In the field of transportation, the federal research and development initiatives, past and current, contribute substantially to
improve the overall efficiency and effectiveness of the transportation system and to the enhanced competitiveness of the industries it serves. Some examples of these are:

- research in rail technology, such as track/train dynamics, rail wear and locomotive efficiency improvements, will lower the costs of transporting western commodities such as coal, potash and grain to markets.

- research with Motor Coach industries of Winnipeg has led to the development of an accessible intercity bus equipped with a lift for disabled persons. Two of these buses are now in use in Canada and 30 more have been sold into the U.S. This represents not only a key achievement towards industrial objectives but is also supportive of public policy on improved accessibility to transportation systems.

- a multi purpose rural vehicle capable of functioning as a paratransit vehicle and quickly transformed into an ambulance was developed under a federal research and development program. The vehicle has now been transferred to the community of Minitonas, Manitoba and is currently in service.

- In support of energy objectives and enhanced use of domestic energy resources, two methanol buses are under test trials in Winnipeg which will help to determine the economic and operational feasibility of such technology. If successful this may not only become a market for further use of Canada's natural gas reserves but could contribute significantly to improved urban air quality through reduced emissions.

The federal government's role in the coordination of transportation policy and economic development policy is crucial to Manitoba, the West and indeed the entire country. Through the implementation of the new regulatory legislation, continued pursuit of joint transportation initiatives through the ERDA sub-agreements and continued effort in the area of research and development, the federal government is pursuing policies which recognize the importance of transportation to the economy.

This government will continue to recognize the particular importance of transportation to Manitoba in terms of its potential for economic development. The Institute which we are opening today will be an important component in developing the transportation industry in the province, and its research and education of individuals in the field of transportation will be invaluable to the province and to the country.
III. CURRENT POLICY ENVIRONMENT*

The Evolving Transport Policy Environment in Canada**

A.C. Phillips***

I. Introduction

Transportation policy and the existing regulatory framework governing transportation in Canada is undergoing a process of evolution as current legislative change seeks to implement "deregulation" as a competition policy to govern the Canadian transport industry.

The purpose of this paper is to outline this process by identifying the key changes to national transportation policy and the existing regulatory framework governing air, rail and motor transport in Canada. This paper will assess the likely effects of these changes and their impact on transportation's role in promoting regional economic development in a deregulated environment.

II. The Rationale for Transportation Regulation Versus Deregulation

There are a number of reasons why transportation has traditionally been regulated. These include the following:

1. Transportation has been viewed as a public utility.

   - i.e., the capital intensive nature and high fixed costs associated with starting a transportation service create both economies of scale and a barrier to entry in the transportation industry. In order to prevent the unnecessary duplication of resources and facilities as well as to prevent the exercise of monopoly power and potential anticompetitive practices such as predatory pricing, regulation of entry and rates is necessary to protect consumers against market domination by large carriers, monopoly pricing and inadequate service.

2. Transportation regulation is necessary to ensure safety.

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*Session chaired by A.V. Mauro, President, Investors Group Ltd.

**The comments and views expressed in this paper are those of the author alone and are not intended to be relied upon as legal advice. Persons seeking specific legal interpretations of the legislation should consult their own legal advisor.

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3. Transportation regulation serves as the means to coordinate the various modes of transportation to ensure adequate service.

4. Transportation regulation promotes regional economic development by ensuring low cost, reliable, year-round transportation.

5. Transportation regulation promotes stability in the supply of transport services by regulating entry and exit and by regulating rates to prevent rate wars and predatory pricing.

6. Transportation regulation may promote and allow for cross-subsidization between profitable and non-profitable routes and ensure greater service to more communities.

7. Transportation regulation may encourage a system of price discrimination by regulating rates and fares to encourage greater utilization of capacity.

Deregulation, in contrast, is based on the rationale that transportation is not a public utility but a business as well as a "natural" industry no longer deserving of special protection from the rigours of competition. Consequently, deregulation advocates the removal of government regulation of entry, exit and pricing of transport services to allow market forces of supply and demand to operate freely to determine the number of competitors, the routes operated and the prices charged. This market oriented competition policy is necessarily coupled with a policy of strict application and enforcement of antitrust or competition laws of general applicability in order to guard against potential industry concentration, monopoly power and anticompetitive practices such as predatory pricing or predatory scheduling. It advocates the removal of independent regulatory tribunal discretion in both licencing and price control matters. It also advocates that the pricing of transport services should be dictated by the demands and costs associated with serving particular markets and that regulation based on cross-subsidization should cease as it promotes inefficiency and a misallocation of resources. Deregulation proponents argue that deregulation is necessary to achieve an innovative, efficient, low-cost, and adequate transportation system.

III. The Function of Independent Regulatory Tribunals in Transportation

The creation of regulatory tribunals independent from both the executive branch of government and the judiciary has been the primary method of implementing a national transportation policy and regulating the transportation industry in Canada.

A regulatory tribunal performs two primary functions of economic regulation: (i) a licencing function to control entry and exit from
the industry and (ii) a price control function to control fares or rates. With respect to licencing, discretion is usually granted under the legislation creating the tribunal to hear applications from parties seeking a licence, to hear arguments from those who are opposed and to decide the matter on statutory criteria such as whether the "public convenience and necessity" warrants a new licence being issued. Similarly, the tribunal may regulate the rate setting process to allow, disallow or suspend any proposed rate or rate increase where such rates or fares are not "just and reasonable" or are "unjustly discriminatory" or "unduly preferential" or contrary to the "public interest".

While the tribunal must formulate it's opinion as to whether the statutory criteria has been met in light of the purposes and policy outlined in the enabling legislation, the broad language statutory criteria itself gives the tribunal the discretion to identify specific economic factors it considers relevant to the formulation of its opinion. Thus, the exercise of discretion by the tribunal results in a more specific policy making function in itself. It also represents a refinement of the national transportation policy set out by Parliament.

IV. National Transportation Policy in Canada and its Regulatory Framework

Since 1967, the economic regulation of transportation in Canada has been governed by the national transportation policy and the regulatory framework established by the National Transportation Act of 1967.

Section 3 of this Act set out a national transportation policy based on regulated "intermodal competition" which was to be applied to all modes of transportation including air, rail, and interprovincial motor transport. Specifically, all modes were to compete with each other under a coordinated system of regulation in order that each mode would be as free as possible to compete with any other mode, each mode would bear a fair proportion of the real costs of resources provided at public expense, and each mode would receive compensation for imposed public duties. Each mode would also carry traffic under tolls and conditions of carriage that would not constitute an unfair disadvantage in respect of any other mode, an undue obstacle to the interchange of commodities or an unreasonable discouragement to the development of primary or secondary industries or to export trade. The objectives of this national transportation policy were (i) to achieve an economic, efficient and adequate transportation system making the best use of all available modes of transportation at the lowest total cost, (ii) to protect the interests of users of transportation, and (iii) to maintain the economic well-being and growth of Canada.

Put simply, achieving a balance between an adequate and an economic and efficient transport system at the lowest total cost in order to protect the users of transportation and to maintain the economic well-being and growth of Canada, was to be accomplished through a coordinated system of regulated intermodal competition.
The National Transportation Act of 1967 also created a regulatory framework to implement this national transportation policy by establishing the Canadian Transport Commission (CTC) as an independent regulatory tribunal with the object of coordinating and harmonizing the operation of all modes of transport. Given this object and the intermodal competition policy for transport, the CTC is organized on a modal committee basis. For our purposes, this includes the Air Transport Committee (ATC) which regulates (i) entry to the air transport industry through the licensing of carriers and the allocation of routes, (ii) exit from the industry through the discontinuance of air service and (iii) air fare levels and increases. Secondly, there is also the Railway Transport Committee (RTC) which primarily regulates exit from the railway industry (i.e., abandonment applications for the discontinuance of uneconomic rail service) and rail freight rates. Lastly, the Act established the Motor Vehicle Transport Committee but this Committee was never established as the regulation for motor transport has been delegated to provincial motor transport boards through the Motor Vehicle Act of 1954.

As a consequence, we have federal jurisdiction over air and rail being exercised by the Canadian Transport Commission, in particular the Air Transport Committee and the Rail Transport Committee of the CTC, and federal jurisdiction over extraprovincial motor transport being delegated to and exercised by provincial motor transport boards which also exercise provincial jurisdiction over intraprovincial motor transport. In Manitoba, jurisdiction over extraprovincial trucking is exercised by the Manitoba Motor Transport Board under Part VIII of the Highway Traffic Act of Manitoba.

The Air Transport Committee and the Rail Transport Committee of the Canadian Transport Commission as well as the Motor Transport Board in Manitoba are the three primary independent regulatory tribunals regulating transportation in air, rail and extraprovincial motor transport in Canada under the National Transportation Act of 1957, let us look at how these tribunals regulate air, rail and extraprovincial motor transport in practice.

(i) Air Transport Regulatory Structure

With respect to the licencing function of the Air Transport Committee, the ATC is empowered under the Aeronautics Act to grant licences for commercial air service where in its opinion the services are required by the present and future "public convenience and necessity". The determination of FCN represents a test which an applicant has to meet in order to be granted a licence to operate on a proposed route. Moreover, a number of secondary policy factors have been outlined in practice when applying to the Air Transport Committee to obtain a licence and these have included the following:

1. establishing a need for the service between the points you wish to serve;
2. providing a forecast of traffic to meet unmet demand;

3. providing a convenient operating schedule;

4. insuring that your operating equipment is of the sufficient size and capacity to meet the forecast of traffic demand;

5. showing you intend to provide a unique and innovative service;

6. showing that the existing service is inadequate; and

7. showing that the revenues based on competitive rates would exceed your cost of providing and operating the new service.

With respect to exit or abandonment, a carrier cannot merely stop service at will or upon short notice. A decision of the Air Transport Committee is required and it must be based on an opinion that the service is no longer required by the "public convenience and necessity". Similarly, air fares are regulated by the ATC and all airlines are required to file their tariffs for approval. Moreover, the Air Transport Committee may suspend or disallow such tariffs prior to their effective date whenever the ATC deems that the fares are not "just and reasonable" or are "unjustly discriminatory or unduly preferential". Just and reasonable fares are fares that cover cost and pay as large a return on capital invested as other securities of a similar risk. Unjustly discriminatory fares are fares covering traffic of the same description moving under substantially similar circumstances and conditions which are not charged equally to all persons at the same rate.

In exercising its discretion in either licencing or fare control, the Air Transport Committee must give due regard to the national transportation policy outlined in Section 3 of the National Transportation Act. It must also consider the specific factors that it deems to be relevant to its determination of "public convenience and necessity" in licencing or "just and reasonable" rates not being "unjustly discriminatory" or "unduly preferential" in fare control. In addition, the Air Transport Committee must give due regard to any policy guidelines issued by the Minister of Transport. Though the Tribunal is independent in the sense that these policy guidelines are not binding on the ATC with respect to the exercise of its discretion in licencing or price control, the policy guidelines carry great weight as the decisions of the Canadian Transport Commission are subject to review by political appeal pursuant to Section 64 of the National Transportation Act on the Minister of Transport's own motion. As a consequence, while the Canadian Transport Commission exercises an independent adjudication and secondary policy making function, its decisions are subject to review on political appeal by the Minister of Transport.
(ii) Rail Transport Regulatory Structure

Turning to rail, the most important regulations for the Rail Transport Committee concern rail abandonments and rail freight rates.

Abandonments are governed by a "public interest" test similar to the "public convenience and necessity" test for abandonments in aviation. Specifically, an applicant has to show that a rail line is both uneconomic and that its abandonment is not contrary to the public interest before a rail line may be abandoned.

Rail rates are regulated in a manner different from the air mode. First, rail rates have to be filed with the Rail Transport Committee and once filed they are conclusively deemed to be lawful and may come into effect within 30 days without the approval of the Rail Transport Committee. This means that there is no interim power of suspension prior to the effective date of a filed tariff in rail as exists in the air mode. Moreover, these tariffs are usually established collectively by the railways and published as open tariffs by tariff bureaus like the Canadian Freight Association. The Railways are required to charge the published rates. They are not allowed to rebate to customers any portion of the rates. The RTC, however, may disallow a rate after it has become effective and following a hearing where that rate violates the rate ceiling or the rate floor provisions of the Railway Act or is deemed to be "prejudicial to the public interest" under Section 23 of the National Transportation Act.

The rate ceiling provision was designed to protect captive shippers against excessively high rates and it provides a formula for the calculation of rail rates at a certain percentage over the variable costs of the traffic movement. The rate floor provision requires that all movements by rail be compensatory by covering the variable costs of the movement which include an adequate rate of return on capital. Owing to problems with the rate ceiling provision, however, which has been ineffective in practice, captive shippers have been left to complain of excessively high rail rates under Section 23 of the National Transportation Act. Under Section 23 of this Act, a shipper has to show the rate he is being charged is "prejudicial to the public interest". This has been a very time consuming, difficult and expensive provision for most small shippers as Section 23 applications may take as long as five to seven years to complete. Moreover, there is no retroactive compensation for rates which are found to be prejudicial to the public interest after such lengthy hearings.

(iii) Extraprovincial Motor Transport Regulatory Structure

As a result of the Supreme Court of Canada decision in the Winner case which declared that extraprovincial motor transport was within federal jurisdiction to regulate, the Motor Vehicle Transport Act of 1954 was enacted by Parliament to provide for the delegation of federal power to provincial motor transport boards to regulate extraprovincial
transport with respect to traffic moving into or through a province. In addition, these boards also exercise provincial jurisdiction to regulate intraprovincial trucking. As a result, we have had ten provincial motor transport boards in Canada exercising federal power over extraprovincial motor transport but whose power to remedy, their composition and the nature of their discretion in licensing as stipulated under provincial statute varies from province to province.

Since Part III of the National Transportation Act of 1967 dealing with extraprovincial motor transport was not enacted, extraprovincial motor transport is not regulated by the Canadian Transport Commission. As a result, there is no uniform system of regulation governing extraprovincial motor transport as there is in air and rail. Moreover, there cannot be effective coordination of transportation regulation among the modes of transportation contrary to our national transportation policy based on intermodal competition and its reliance on the CTC to coordinate and harmonize regulation among the various modes of transportation.

Due to the lack of a coordinated system of regulation for extraprovincial motor transport, an applicant has had to apply to each autonomous provincial motor transport board for a number of authorities or licences when he wished to move between provinces. Ultimately, the scope of his authority depended on the least authority that was given to him by an individual province.

In Manitoba, the regulation of entry is subject to the Manitoba Motor Transport Board’s discretion under Section 290(2) of the Highway Traffic Act of Manitoba to issue a public service vehicle (PSV) licence to operate extraprovincially. Specifically, the Board has been required to address two tests:

(i) whether the existing transport facilities are insufficient; or

(ii) whether the public convenience will be promoted by the establishment of the proposed service.

Specifically, Section 3(2) of the Motor Vehicle Transport Act of Canada gives the Manitoba Motor Transport Board the discretion to issue an extraprovincial licence to carriers. Discretion is then exercised under Section 290(2) of the Highway Traffic Act of Manitoba. Satisfying the public convenience criteria requires the Board to formulate an opinion based on evidence. Superior courts have no jurisdiction to substitute their opinion for that of the Board. Superior courts only have the supervisory jurisdiction to ensure that the Board’s exercise of discretion is done so legally and pursuant to the rules of natural justice and fairness. Thus, whether the public convenience will be promoted is a formulation of an opinion by the Manitoba Motor Transport Board based on evidence which is a condition precedent to the exercise of their discretion to issue an
extraprovincial licence under Section 290(2) of the *Highway Traffic Act*.

In practice, an applicant for a PSV licence under Section 290(2) has attempted to outline the following factors so that the Board will exercise its discretion and formulate its opinion that the public convenience will be promoted by the establishment of the applicant’s proposed service:

1. that the existing motor carrier service is insufficient to meet the present needs and future foreseeable demands of shippers;

2. any special or unique features of the applicant’s proposed service that has not been provided by other licenced carriers;

3. that the issuance of the certificate would not impair the general overall service being provided the public by existing licenced carriers;

4. that the applicant has not operated illegally in the past;

5. existing shipper support for the applicant’s proposed service and that the support is not based on unrealistic promises of lower prices;

6. a demonstrated financial ability to provide the services; and

7. that the applicant's equipment is both safe and adequate for the proposed service.

In Manitoba, Section 284(1) of the *Highway Traffic Act* requires that no one can operate a public service vehicle for gain or compensation without a PSV certificate. Section 290(2) of the Act says that you cannot get a PSV certificate without satisfying the criteria of public convenience or insufficiency of service. However, there are two exceptions to this rule. First, under Section 288(1) of the Act, the Board may exempt certain commodities from the necessity of holding a PSV certificate. These are commonly known as “exempt commodities” and include such commodities as grain, sugar beets, sand and gravel. Second, under Section 289(1) of the Act, the Board may designate a commodity that may be carried by an existing PSV holder without the necessity of proving public convenience or insufficiency of service. These commodities are set out in a list published by the Manitoba Motor Transport Board and are known as “designated commodities”. These include fresh fruits and vegetables, fertilizer, wood products, coal and motor vehicles to name a few.
V. Transport Deregulation Policy Moves and Legislation

Given a discussion of the existing national transportation policy and its regulatory framework, let us now look at the deregulation proposals and legislation of the current Conservative Government as set out in Bill C-18, being the Transportation Act of 1997 and Bill C-19, being the Motor Vehicle Transport Act of 1986. In reviewing the provisions of this new legislation, one will quickly realize that Canada is embarking on a deregulation policy.

(i) A National Transportation "Deregulation" Policy and
A New Regulatory Agency

First, under the proposed legislation, the Canadian Transport Commission and its modal committees are to be abolished and the CTC is to be replaced by a new body called the National Transportation Agency.

Second, the Agency will be bound by directions that may be issued by the Minister of Transport acting through the Governor-in-Council but only after a proposed direction is referred to the Standing Committee on Transport and the Agency is "consulted". As a consequence, the independence of the new Agency will be reduced in that the Agency will be bound by the Minister's directions and not merely required to have "due regard for" the policy guidelines issued from time to time by the Minister of Transport.

Third, the National Transportation Agency will be required to take into account a newly amended national transportation policy which includes the following factors:

1. A safe as well as economic, efficient and adequate network of viable and effective transportation services making the best use of all available modes at the lowest total cost.

2. A transport system which exists to serve the needs of shippers and travellers rather than one which merely protects the interests of users of transportation.

3. Competition and market forces are to be the prime agents providing economic, efficient and adequate transportation at the lowest total cost.

4. Economic regulation of carriers and modes of transportation is to occur only in respect of those services and regions where regulation is necessary to serve the transportation needs of shippers and travellers and such regulation will not unfairly limit the ability of any carrier or mode of transportation to compete freely with any other carrier or mode of transportation.

5. Intra as well as intermodal competition is to be encouraged so that the economic regulation of carriers can be minimized.
6. Carriers so far as practical are to bear a fair share of the cost of facilities and services provided at public expense and are to receive fair and reasonable compensation for publicly imposed duties.

7. Transportation is recognized as key to regional economic development and commercial viability of transportation links is to be balanced with regional economic development objectives in order that the potential economic strengths of each region may be realized.

(ii) Changes to the Existing Regulatory Framework and its Operation

(a) Air Transport

For air transportation licencing and the control of entry to and exit from the industry in southern Canada, the "public convenience and necessity" test is to be abolished. The control of entry will only be subject to a "fit, willing and able" test that focuses on the safety of carrier operations through Department of Transport certification and the possession of adequate liability insurance. In southern Canada, there will no longer be any service, route or equipment restrictions on the carriers themselves. Carriers wishing to discontinue or abandon service or reduce the frequency of their service to less than one flight a week will be able to do so upon 120 days advance notice or within a shorter period as may be prescribed or ordered by the Agency on application by the licensed carrier. Carriers will no longer have to show that the abandonment is consistent with the "public convenience and necessity" test.

In northern Canada, licencing of carriers to serve northern and remote air service routes will continue but in a more liberalized manner than under the existing regulatory system. Specifically, for the North (i.e., the designated area), it is proposed that the onus will no longer be on the applicants, but rather it will be on those parties, (i.e., an interested community, person or another carrier) who feel that the granting of a new licence will jeopardize the continuation of an essential air service to object. Such intervenors will have to satisfy the Agency that the new service which is proposed "would lead to a significant decrease or instability in the level of domestic service". In effect, this appears to be a reverse onus test and one no longer based on "public convenience and necessity". However, licence conditions will continue to be imposed as the Agency deems appropriate "within the public interest" to serve both northern points within the designated area as well as southern Canadian points "deemed to be within the designated area" with respect to the routes, the points or areas to be served, schedules, size and type of aircraft to be operated, fares, insurance and the carriage of passengers.

With respect to fares, carriers themselves will be permitted to establish fare levels and to lower fares without regulatory approval. However, increases in basic passenger fares on so-called monopoly
routes where there is no "alternative, effective, adequate and competitive transportation service", will be appealable to the National Transportation Agency unless the fares form part of a confidential contract. The Agency may upon complaint disallow such increases if it determines that the increases are unreasonable. Moreover, carriers licensed to operate into the North (i.e., the designated area) may be subject to review of both basic fare levels and basic fare level increases where either the level or the increase is considered unreasonable but only upon complaint. Consequently, it appears that all fare increases by carriers in the southern domestic air transport markets (i.e., outside the designated area where there is likely to be more than one carrier as well as alternative, effective, adequate and competitive transportation) will not be subject to review at all. Moreover, the legislation does not provide any safeguard for excessive fare decreases and predatory pricing in either the northern or southern air transport markets.

Lastly, the Transportation Act of 1987 provides for financial assistance for those domestic services deemed by the Minister of Transport to be "essential" on the day the Act comes into force in order to maintain the service in question "or some level thereof". Unfortunately, the legislation is not clear on how or who will determine the level of services as being essential. Moreover, the term, "essential air service" or "essential level of air service" is not defined in the legislation and the terms and conditions of the assistance are also subject to the approval of the Governor-in-Council.

Mergers or acquisitions of a 10 percent interest or more of a federally regulated transport undertaking (i.e., an airline) which has assets or annual sales in excess of 10 million dollars (or any greater amount the Governor-in-Council may specify in the future) will be subject to review by the new Agency but only if an objection to the proposed merger or acquisition is received after notice of the proposed merger or acquisition is given by the new Agency. If these conditions are met, the test which the Agency must employ is whether the merger or acquisition would be "against the public interest" as defined by the new transportation policy outlined in Section 3 of the Transportation Act of 1987. The existing change of control or interest acquisition requirements under Section 27 of the National Transportation Act of 1967 and Sections 21 and 22 of the Air Carrier Regulations that a proposed merger or acquisition of an interest must not in the opinion of the Air Transport Committee "unduly restrict competition or otherwise be prejudicial to the public interest" has been repealed. Moreover, the Agency has a 120-day time limit (or longer if the Agency and the acquirer agree) to render its decision and if it fails to do so, it will be deemed to have decided that the merger or acquisition is not against the public interest. Moreover, within 30 days of the Agency's decision or deemed decision, the Governor-in-Council may rescind the Agency's decision as the case may be. In addition, these provisions do not affect the operation of the Competition Act with respect to the acquisition of any interest in a transport undertaking.
(b) Rail Transport

With respect to rail, the major changes under the deregulation legislation include: (i) increased access for local shippers to competitive railway lines; (ii) greater freedom to set rates through negotiated confidential contracts; (iii) an improved line abandonment procedure; and (iv) improved shipper remedies in the form of mediation, final offer arbitration and a streamlined 'public interest' appeal procedure under Section 59 of the Transportation Act of 1987.

Increased access for "captive" or local shippers served exclusively by one railway is being accomplished in two major ways. First, the interswitching limit in urban areas is being extended from 4 miles to 30 kilometres (i.e., approximately 18 miles) from an interchange point. This allows those shippers who are local to one railway in an urban area to have access to a competing railway line through the interchange of rail cars as long as they are located within 18 miles from the nearest interchange point. Second, for those shippers located outside the interswitching limit there is a provision providing for the establishment of competitive line rates by either the originating carrier or the Agency whenever a shipper can arrange a deal with another carrier to route his traffic with the second carrier at the nearest point of interchange. The first carrier under the competitive line rate provisions will be obligated to provide the access to that interchange at a competitive line rate as well as to interchange the traffic to the second carrier. However, the negotiated confidential contracts will be limited to such traffic as not more than 50% of the total number of miles over which the traffic is to be moved by rail or 750 miles, whichever is greater. Moreover, CLR's will not be applicable to the movement of trailers or containers on flat cars or on less than carload traffic unless the containers arrive at a port in Canada by water for further movement by rail or by rail for further movement by water.

Greater freedom to set freight rates will also be accomplished by the abolition of collective rate-making through open published tariffs as well as the prohibition on granting rebates. In it's place, a system of negotiated confidential contracts between shippers and carriers utilizing volume discounts or traffic commitments will be allowed. However, the rate floor provision of the Railway Act requiring rail rates to be compensatory based on the variable costs of the movement has been retained.

The new legislation also gives the Agency more choices to decide what to do with uneconomic branch lines and empowers the Agency to establish short line operations, provide financial assistance, provide 3 year reviewable subsidies or allow branch lines to be abandoned without a time delay. The abandonment application procedure has also been changed. Upon application for abandonment, any person may oppose the application or another railway may apply to acquire or lease the line. However, if no opposition or offer to acquire the branch line is
made, the Agency must order abandonment. If an application is opposed, the Agency must then determine whether the branch line is economic or uneconomic. If the branch line is found to be uneconomic, the Agency must then determine whether there is a reasonable probability of the branch line becoming economic in the foreseeable future. If uneconomic with no reasonable probability of the line becoming economic, the Agency must order abandonment of the branch line. However, abandonment may be delayed up to five years by the Governor-in-Council where the abandonment would have a significant impact on a large region of Canada or shippers, where there is a lack or adequate alternative transportation or where the abandonment would be contrary to the public interest. If the line is economic or uneconomic with a reasonable probability of the line becoming economic in the foreseeable future, the line may be retained but only if the Agency determines that the operation of the branch line is required by the “public interest” as set out in Section 167 of the Act.

Improved shipper remedies will be accomplished by the introduction of mediation services to be provided by the National Transportation Agency at the request of any party and by the use of final offer arbitration in “private interest” disputes between shippers and carriers over the rates or conditions associated with the carriage of goods by air other than carriage internationally, the carriage of goods by railways other than the movement of grain to which the Western Grain Transportation Act applies or multimodal container traffic which will be moved by a rail/water combination via a port in Canada.

Disputes involving “public interest” matters, (i.e., where a person or organization has reason to believe that the effect of any rate or the act or omission of any carrier may prejudicially affect the public interest in respect of the rates or conditions of carriage of goods within, into or from Canada), will be subject to appeal to and investigation by the Agency under Section 59 of the Transportation Act of 1987. In effect, this section amounts to a newly amended Section 23 of the National Transportation Act of 1957. There is no longer a “prima facie” hearing stage and there is a 120 day time limit placed on the Agency to render its decision. As a consequence, complaints over rail rates considered to be “prejudicial to the public interest” will be resolved much more quickly. Moreover, decisions will take effect retroactively from the effective date of any rate found to be prejudicial to the public interest and unlawful. As a result, a prejudicial rate will no longer be charged for an excessively long period in the hearing stage without retroactive compensation.

It is interesting to note the amendments made to the legislation concerning rail transport prior to third reading by the Standing Committee on Transport. First, the provisions establishing terminal running rights were removed from the legislation. Terminal running rights have originally proposed to improve shipper access to competitive railway lines. They would have allowed a railway to seek the right to run trains over the tracks of another railway in order to pick up and deliver goods within 50 kilometres of any point where the
two railways’ lines crossed. Second, despite the rail lobby to eliminate the competitive line rate provisions, these provisions were amended so that the scope of their application actually increased. In addition, the new Act has provided for the yearly review of the impact of these provisions on the financial viability of the Canadian railways so that if the railways are seriously affected by these provisions, they may be suspended entirely or with respect to specific traffic. Lastly, the abandonment sections have been amended to prohibit the railways from abandoning more than 4 percent of its total route mileage in each of the first 5 years after the Act comes into force.

(c) Extraprovincial Motor Transport

With the move to adopt a deregulation policy for trucking in Canada there has been a number of changes to the existing regulatory framework and its operation.

(1) The Memorandum of Understanding Reform Proposals

The deregulation reform process began with the release of a report by the Canadian Conference of Motor Transport Administrators (CCMTA) to the Council of Ministers Responsible for Transportation and Highway Safety in Canada in September, 1984. This report also outlined a draft Memorandum of Understanding Respecting a Federal, Provincial, Territorial Agreement on the Economic and Administrative Regulation of Truck Transport to be signed by all federal and provincial transport ministers. This Memorandum of Understanding was amended slightly and signed by the Council of Ministers. In an effort to harmonize extraprovincial regulatory reform and implement the reform proposals contained in the Memorandum of Understanding, the Ministers agreed to the following plan of action to be taken in a phased manner during the years 1985 and 1986.

1. Shifting the burden of proof of entry from the applicant to the respondent in a manner consistent with the entry standards prepared by the Canadian Conference of Motor Transport Administrators as revised and adopted by the Council of Ministers.

- This proposal was based on the assumption that the public interest is bound to be served by the provision of a new or expanded service and that the burden to prove otherwise should rest on the respondent provided the applicant was financially able and had the equipment and experience necessary to ensure the service offered (i.e., a fitness test). His application should be granted unless there was proof that the public interest would not be served by the granting of his application.

- The entry standard proposed required a respondent to show on reasonable grounds that the granting of an extraprovincial licence application would potentially be detrimental to the users of transportation services, public economic and social development,
or to interprovincial and international commerce provided the respondent first established prima facie evidence of a number of adverse effects including a reduction in service availability or dependability of service, lack of fitness, undue reduction in competition, market concentration or dominance, price/service/capacity discrimination, net employment impacts etc.

2. Eliminating the requirement to obtain approval for all extraprovincial motor carrier rates and charges where such approval was still required (i.e., Quebec and Newfoundland).

3. Developing and implementing common lists of designated commodities, the transportation of which may be undertaken without a requirement to prove public convenience and necessity.

4. Streamlining and reducing existing licence categories on a basis which would be compatible between jurisdictions including the implementation of common commodity definitions using the Standard Transportation Commodity Code (STTC).

5. Elimination of all routing restrictions and elimination of the practice of specifying points beyond jurisdictional boundaries with the exception of the Yukon.

6. Streamlining the process of transport board licence applications including the introduction of the revised entry standards.

7. To create a nationally uniform definition of the term fitness and to develop guidelines in respect thereof.

8. To give further study and report by September 1986 on:

   (a) the elimination of the public convenience and necessity test entirely in favour of a fitness test and

   (b) the expansion of the common list of commodities, the transportation of which would be undertaken without a requirement to prove public convenience and necessity.

(2) Manitoba Motor Transport Board Policy Reforms

Following the Memorandum of Understanding in February, 1985, the Manitoba Motor Transport Board issued a number of policy pronouncements and took action to implement the matters agreed upon under the Memorandum of Understanding.

(a) A Revised Entry Policy

Firstly, on May 11, 1985 the Manitoba Motor Transport Board issued Policy Statement No. 6 to shift the burden of proof on entry from the applicant to the respondent. Specifically, the policy stated that in all applications for authority to operate extraprovincially, where the
application and supporting documents established a "prima facie" case that the application should be granted, the Board would presume that the addition of the further competitive transportation service as proposed would promote the public convenience. Respondents at the hearing of such an application would then be required to satisfy the Board that the public convenience would not be promoted by the establishment of the proposed service.

However, on June 15, 1985, the reverse onus policy was suspended as it appeared other jurisdictions in Canada would not be shifting the burden of proof from the applicant to the respondent in applications for extraprovincial operating authority until some time in the following year. The reason for the reversal was that there was concern expressed that the Manitoba Motor Transport Board, by proceeding with a reverse onus policy up to a year and a half before the rest of the country, would result in an undesirable lack of uniformity and procedure and place Manitoba-based carriers at a disadvantage. Consequently, the reverse onus policy was suspended until further notice to be implemented in conjunction with the other jurisdictions.

As a consequence of the lack of initiative undertaken by other provinces to implement a reverse onus policy, on September 27, 1986, the Manitoba Motor Transport Board issued a new entry policy as Policy Statement No. 10 and rescinded the early reverse onus Policy Statement No. 6. It also provided evidentiary guidelines to parties to an application for a certificate of operating authority. Specifically, the Board provided a general statement of evidentiary policy which it felt to be consistent with section 290(2) of the Highway Traffic Act. The Board stated that in formulating its opinion as to whether the public convenience would be promoted, the Board would determine whether the benefits to the users of transportation services and the general public of granting the application outweigh the detriments to the public interest which may result therefrom. Although the Board reiterated that the applicant shall bear the ultimate burden of persuading the Board that an application should be granted, the Board shifted the evidentiary onus. In other words, if an applicant can provide evidence which, in the absence of evidence to the contrary, demonstrates that the establishment of its proposed service would provide a benefit to a user of transportation services or the public generally, an evidentiary onus will then be placed upon the respondent in the proceeding to refute the evidence of benefit or satisfy the Board that the granting of the application would be potentially detrimental to the public interest.

The Board also identified a number of examples of public benefits and these include:

1. the enhanced operational efficiency of the applicant's service such as a significant reduction in empty miles which will lead to a reduction in rates or an enhancement of service to users;
2. the lessening of the likelihood of abuses of market power by the addition of a further competitor in an insufficiently competitive or overly concentrated market;

3. the lessening of any demonstrated discriminatory practice;

4. any innovation in equipment, facilities, service, tracing, security, billing, etc., that better meets the needs of users;

5. the elimination of a substantial volume of interlining in favour of economically feasible single-line service;

6. the extension of a proven innovative and efficient service in order that existing users will be provided a broader, more complete service by the applicant;

7. the facilitation of intermodal competition;

8. a reduction in the level of private carriage;

9. a net increase in employment or an improvement in working conditions in Manitoba; and

10. the facilitation of trade.

In addition, the applicant must provide evidence of benefit to each particular market segment it intends to serve. It must demonstrate that the proposed service will be feasible and that the benefit must not be merely transitory or merely speculative.

The Policy also stated that the applicant need not establish that the service it proposes cannot be performed as well by existing carriers to allow a finding that the public convenience will be promoted by granting the application. Similarly, nothing in this Policy Statement was intended to affect the burden upon an applicant to demonstrate its fitness to perform the proposed service.

The Board also outlined examples of matters detrimental to the public interest which the Board may find will potentially result from the establishment of a proposed service:

1. A deterioration in the stability of the trucking industry, its infrastructure or the level of its investment and reinvestment which is likely to lead to a reduction in service availability, transport options, or dependability and continuity of service.

2. An adverse effect on the operations of a respondent such as:

(a) a reduction in terminal or other facilities

(b) a reduction in employment by the respondent or a deterioration of working conditions with the respondent
(c) an increase in the imbalance of the operations of the respondent or the imposition of any other inefficiencies
(d) an adverse effect on the respondent's ability to continue existing service to the public due to a reduction in total business, loss of particular traffic in a geographical area, network effects or other factors; to an extent contrary to the public interest.

3. Market concentration that is likely to lead to abuses of market power.

4. Excessive price, service or capacity discrimination.

5. An adverse effect on the economic or social development of Manitoba, including the level of employment and working conditions in the Province.

6. An adverse effect on the level of public safety.

(b) A "To The Border Only" Policy

Pursuant to Policy Statement No. 3 of April 6, 1985, the Motor Transport Board of Manitoba stated that it would no longer specify points of origin or destination beyond the boundaries of a province in a certificate authorizing the extraprovincial transportation of property issued pursuant to Section 3(2) of the Motor Vehicle Transport Act unless the applicant specifically requested a restriction on the out-of-province origin or destination of its freight.

However, on May 4, 1985, this policy was suspended when Reimer Express challenged the Board's jurisdiction to adopt a "to the border only" policy before the Manitoba Court of Appeal. Consequently, the policy was suspended until the question of the Board's jurisdiction was determined by the Court.

On February 7, 1986, the Manitoba Court of Appeal stated that the sole issue in the appeal before it was whether a provincial board must concern itself with the ultimate destination and point of origin outside its own province or may limit its consideration to that part of the transportation that occurs within its provincial territory. The Court of Appeal went on to state that if a provincial board need not concern itself with the point of origin or destination of a service outside the province, transportation of freight in Canada would be the sum of separate units rather than a single, seamless one. Each separate unit would be approved without reference to the suitability of it being connected to an adjoining unit. An extraprovincial transportation undertaking must be considered as an entire unit and not the sum of provincial segments. The Court went on to say that although the Memorandum of Understanding agreed to by the federal and provincial ministers of transport on behalf of their respective governments, provided that the elimination of the practice of specifying points of
destination and departure beyond provincial boundaries was in the best interest of the nation, this question was one for Parliament to decide.

(c) An Expanded List of Designated Commodities

On April 6, 1985, the Manitoba Motor Transport Board published a notice of its proposed list of ease of entry or designated commodities, the transportation of which may be authorized by the Board without proof of public need or convenience. In order to facilitate the adoption of a common list of ease of entry commodities for the Prairie region, the Board proposed to participate in joint public hearings with the Saskatchewan Highway Traffic Board and the Alberta Motor Transport Board. After a lengthy public hearing process, the Motor Transport Board published an expanded list of designated commodities on January 23, 1986. At the same time, the Board expressed its concern regarding the inadvisability and the unfairness of deregulating through successive extensions of a list of designated commodities and the need for national uniformity in the levels of regulation and in the timing and manner of implementation of changes, the need to respond in a timely manner to pressures for reform and the need to eliminate uncertainty as soon as practicable. As a consequence, the commodities in the expanded list were allowed to be transported by any qualified carrier without proof of public need or convenience when transported in their final movement extraprovincially. At the same time, the Board expressed its intention that the Board would not accept an application for designated commodity authority from a carrier based in another jurisdiction unless that jurisdiction also granted substantially similar privileges to Manitoba-based carriers.

(d) A Corridor Authorities Policy

On April 6, 1985, the Manitoba Motor Transport Board also issued Policy Statement No. 4 regarding a corridor authorities policy. By this policy, the Board was of the view that the public convenience would be promoted by the granting of all applications by fit carriers for authority to transport property through the province on a corridor operation upon the Board being provided with satisfactory evidence that the applicant holds authorities from the jurisdictions of origin and destination. This policy was consistent with the general attitude exhibited by other jurisdictions in favour of relaxation of regulatory control at an extraprovincial level.

(e) Adoption of Common Commodity Code Definitions

On April 6, 1985, the Board also gave notice that a new policy statement respecting common commodity definitions pursuant to the Memorandum of Understanding would be developed and published accordingly. Consequently, on November 9, 1985, the Board adopted the Standard Transportation Commodity Code to describe all subject commodities in applications for operating authority which was to become effective January 2, 1986.
(f) An Expanded List of Exempt Commodities

On September 27, 1986, the Board also expanded the list of exempt commodities whereby persons operating a public service vehicle were no longer required to hold a PSV certificate and file a liability insurance bond with the Board for the movement of these commodities.


In July, 1985, the Conservative Government released their White Paper on transport regulatory reform entitled "Freedom to Move". As part of this document, the Government proposed to reform extraprovincial trucking regulations with the object of providing the trucking industry with greater means for more economic and flexible service to shippers and to reduce the administrative burden of regulation. Overall, the White Paper called for greater uniformity and harmonization of the differing provincial regulations across Canada as well as for the easing of entry and exit requirements.

The Federal Government proposed to revise the Motor Vehicle Transport Act of 1954 to reflect the Memorandum of Understanding signed by the federal and provincial transport ministers on February 27, 1985. As a first step, the White Paper agreed to a shifting of the burden of proof on entry from the applicant to the respondent, eliminating rate approval, creating a list of exempt commodities, streamlining operating licences and licence categories and streamlining the licence application process by amending the Motor Vehicle Transport Act to reflect these reforms. As a second stage, the White Paper called for the replacement of the public convenience and necessity test with a simple fitness test and the elimination of rate filing.


First, extraprovincial truck transport is defined as the transport of goods by means of an extraprovincial truck undertaking. An extraprovincial truck undertaking means a work or undertaking for the transport of goods by motor vehicle other than a bus connecting a province with any other or others of the provinces or extending beyond the limits of a province. Specifically, this covers movements into, in, across or out of any particular province.

Second, in terms of licencing, where a licence is required for intraprovincial trucking, no person shall operate an extraprovincial truck service unless it holds a licence issued under the authority of the Act. Under the Act, the Federal Government delegates the discretion to licence extraprovincial trucking to provincial motor transport boards on the like terms and conditions as intraprovincial transport. However, before a provincial transport board can exercise
its power to licence an extraprovincial service, an applicant must submit evidence that it meets the prescribed criteria relating to fitness of the applicant to hold such a licence. The fitness criteria will be stated in regulations to be passed by the Governor-in-Council pursuant to Section 8 (1) of the Act. This criteria will be based on an agreement between the Government of Canada and the governments of all the provinces. In the absence of such agreement, the Federal Government itself will establish the fitness criteria. This criteria will be required to include safety and insurance requirements and may include some requirements relating to bonding coverage.

Third, notwithstanding the fitness test, provincial transport boards shall not hold a public hearing with respect to an application for a licence to operate an extraprovincial truck undertaking in that province unless an interested person objects to the issue of that licence. That person must also provide the board with evidence that satisfies the board that in the absence of evidence to the contrary, the operation of the extraprovincial truck undertaking in respect of which the licence is sought would "likely be detrimental to the public interest".

It is interesting to note that following the Standing Committee on Transport's amendments after second reading of Bill C-19, there is no longer any definition of factors relating to this public interest test. Originally under Bill C-19, public interest was defined to include such factors as (i) the interest of users of transportation services; (ii) the economic or social development of Canada or (iii) the interprovincial or international trade or commerce. Other detrimental consequences were also defined and these included:

(i) a negative effect on the stability of the trucking industry such as a reduction in service availability, in price and service options or in dependability of service;

(ii) an undue lessening of competition in the provision of transportation services;

(iii) increased market concentration or market dominance in the trucking industry;

(iv) discrimination in price, service or allotment of available capacity and provision of transportation services;

(v) detriment to consumers generally;

(vi) a net negative effect on the employment of persons by the providers and users of transportation services, whether those services are provided by the undertaking or not; and

(vii) an adverse effect on an interested person.
Thus, it appears we have a reverse onus test based on a broad language criteria of "public interest" which is no longer defined in any specific detail. This leaves the determination of "likely detriment to the public interest" to the discretion of each individual provincial motor transport board with respect to extraprovincial trucking. It leaves one to wonder whether or not this discretion will lead to a lack of uniformity in discretionary decision making with respect to extraprovincial motor transport licensing applications. Moreover, it could indicate the lack of consensus among the various provincial motor transport boards with respect to the factors outlined in Bill C-19 as being part of a public interest test.

In addition there were amendments made by the Standing Committee on Transport following second reading with respect to the sunset period of the reverse onus provision in the legislation. Specifically, the reverse onus policy now based on "detriment to the public interest" will cease to have effect five years after the day on which the Act comes into force (i.e., January 1, 1993) as opposed to a three year provision which existed originally under Bill C-19. Moreover, there is now a provision that after the expiration of three years after the coming into force of the reverse onus policy and before the expiration of four years, the Minister of Transport will undertake and complete a comprehensive review of the operation and effects of the reverse onus policy. Moreover, following the review, the Minister, after consultation with the government of each province, may continue the reverse onus policy in his discretion. Thus, it appears that after a four year review of general performance with respect to the reverse onus policy based on "detriment to the public interest" with public interest not being defined in any specific way, it will be open to the Minister of Transport, following consultation with the provincial governments, not to continue the reverse onus policy. The reverse onus policy will cease to have effect after five years on January 1, 1993 when we will move to a fitness only test.

Lastly, under the Act, the Government may pass regulations exempting certain extraprovincial movements of commodities from the application of the reverse onus licensing policy as well as exempting certain corridor operations from the reverse onus policy. In addition, the Federal Government may pass regulations to determine and certify that an applicant for an extraprovincial licence or the holder of such a licence continues to meet the requirements related to safety that are included in the fitness test criteria prescribed by regulation. The Act requires that it be a condition of every licence that the holder thereof will continually comply with the safety requirements and fitness requirements as prescribed under the regulations.

VI. National Transportation Policy and Regional Economic Development

Ever since Canada became a nation, national transportation policy has evolved as an integral element of national economic policy. Canada as a nation characterized by vast distances, a small and scattered population along its southern border, the location of its natural
resources in relation to the majority of its population and its
dependence on export markets and international trade. As a
consequence, transportation plays a major role in the economic growth
of Canada.

Because transportation is so integrally tied with national
economic policy in Canada, it is important to insure that our national
transportation policy is consistent with our national economic policy,
particularly its emphasis on the utilization of our natural and human
resources to improve the well being of all Canadians in all regions of
the country. Indeed, transportation has been a key element of national
economic policy to foster and promote the development of the various
regions of Canada for the benefit of the entire nation. This is
evident from the role that governments have played in the development
of the transportation infrastructure in Canada since Confederation.

Historically, transportation generally, and the building of a
national transcontinental railway in particular, established a single
cohesive political and economic unit called Canada in a deliberate
effort to avoid the annexation of many western territories into the
economy of the United States. From our earliest days, there has always
been an interplay between the economic and efficient principles of
commercial enterprise and the public policy objectives of national
unity and regional economic development.

Economic growth in Canada has been tied to the development of
transportation. Transportation in Canada developed due to the distance
that separated Canada's producing regions from its consumer markets.
Moreover, development of the country's resources depended upon safe,
reliable, low cost transportation to facilitate the flow of products to
both domestic and export markets. Consequently, there has been
considerable government assistance from the earliest days for the
construction of waterways, railways, highways, airports and pipelines.
Through a national transportation policy, the Federal Government of
Canada has sought to achieve both rapid economic expansion as well as
the equalization of the benefits and opportunities associated with such
expansion in all regions of Canada.

The MacPherson Royal Commission (Vol. 2 Chapter 7 p. 180) stated
that, "National transportation policy is that particular component of
the total national policy which is concerned with the effective use of
transportation resources in Canada. It's primary function is to ensure
that the transport system provides the comprehensive service which is
economically adequate for the transportation needs of the country as a
whole." It also stated that, "the principle concern of national
transportation policy should be with the ways and means of achieving
the most efficient transport system to serve the needs of the economy."

However, the Commission also stated (p. 181) that, "this
conclusion though a central theme of the report did not disregard the
use of transportation as an instrument of national policy. Rather it
conveys that, for transportation as an instrument of national policy to
be most salutary for Canada in the future, its adaptations to the exigencies of the new competitive environment will warrant more consideration than may have seemed necessary in the past. The Commission stated that the primary objective of national policy in Canada has always been to preserve and enhance the health, political and economic welfare of the Canadian people. The Commission states (p. 192):

"We must, if we are to obtain an adequate understanding of the complexities of transportation policy in Canada, recognize the fact that the transportation system which has become established in this country is essentially dualistic in nature reflecting both its function as an instrument of national policy and as a vehicle of private enterprise operating along the lines of commercial principles. The existence of this situation has meant that national transportation policy in Canada has traditionally had to serve two masters - the dictates of public necessity and the requirements of commercial enterprise. Since the objectives of the former are not necessarily consistent with those of the latter - they are, in fact, often in conflict - the successful execution of transport policy in Canada has never been a simple task."

The Commission goes on to state (p. 195):

"There is a danger, however, that an approach to national transportation policy which is excessively preoccupied with its financial aspects may tend to overlook the political objectives which would not otherwise have been attained. It can also result in a lack of understanding of the complex character of Canada's transportation structure and the problems which beset it."

With the move to deregulation and greater reliance on market forces and commercial principles of freedom to manage without unnecessary and restrictive economic regulatory controls over entry, exit of rates, it is necessary to analyze the deregulation legislation in an effort to see whether or not the goals of promoting national unity, regional economic development and a national economic policy based on a goal of maximizing and equalizing opportunities and benefits for all Canadians in all regions of the country can be effectively attained. The key question to determine is how transportation under the new deregulation legislation will promote economically viable and efficient transportation services and at the same time carry out national economic and regional development objectives.

The following provisions in the Transportation Act of 1987 (i.e., Bill C-18) call for the maintenance of a balance between reliance on market forces under deregulation and the achievement of regional economic development objectives.

First, Section 3 of the Act which outlines the new national transportation policy calls for a balance between an economic and
efficient transport system with an adequate network of viable and effective transportation services, making the best use of all available modes of transport at the lowest total cost. The inclusion of "viable and effective" connotes that the provision of adequate service will now involve considerations of commercial viability.

Second, Section 3 also states that transportation will be recognized as key to regional economic development. However, this objective goes on to state that commercial viability of transportation links is to be balanced with regional economic development objectives in order that the potential economic strengths of each region may be realized. While this amendment provides for a more specific definition of regional economic development, there is no definition of commercial viability nor the conditions under which an operation may be required to provide adequate service as an imposed public duty or as part of any regional economic development objectives. The requirement of "fair and reasonable compensation" for imposed public duties likely means direct subsidies will be available for those commercial enterprises required to provide adequate or essential service which may not necessarily be commercially viable and that transport firms should no longer be forced to rely on cross-subsidization from more lucrative routes to maintain essential or adequate transportation services.

Third, the composition of the National Transportation Agency to provide for at least one representative from each region of Canada including the Pacific Region, the Prairie Region, Ontario, Quebec and the Atlantic Region emphasizes the role the Agency will be expected to play in balancing both commercial, economic and efficient considerations with adequate, effective and essential transportation services as part of both the economic and regional development objectives set out in the national transportation policy.

Fourth, Section 266 of the Act provides for a comprehensive review of the Act in January, 1992 to assess the effect of the legislation on shippers, travellers and carriers and on trade, regions and their economic development and where necessary or desirable to recommend amendments to the national transportation policy set out in Section 3 of the Act or any other legislation that relates to the economic regulation of transportation as well as the effect of confidential contracts for the transport and rail freight on rail shippers and on the efficiency of the rail transportation system in the various regions of Canada.

Turning from the national transportation "deregulation" policy objectives to the likely effects of the specific provisions relating to each mode of transport contained in the deregulation legislation, the following provisions, in my view, will have a serious impact on the discretionary process required to balance commercial viability considerations and regional economic development objectives and ultimately on Manitoba's economic future.
(i) Air Transport

With respect to Canadian air transport, the provisions which provide for freedom of entry and pricing in southern Canada are similar to the deregulation provisions enacted in the United States.

In the U.S., deregulation led to many new carriers initiating service and to existing carriers adopting new routes and dropping others at will. Immediately after deregulation the number of scheduled carriers in the United States grew from 36 airlines before deregulation to a peak of 229 scheduled certified interstate carriers early in 1984. These included 22 brand new airlines, former intrastate carriers that entered interstate markets, former charter airlines that received authority to offer regular scheduled air service and former commuter airlines that expanded their operations to include interstate service. Overall, between 1978 and 1984 there was an increase in departure frequency and weekly available seats. The U.S. air transport industry also saw that the large interstate trunk carriers tended to withdraw from many thin, less profitable, low density and short distance routes and they concentrated on the longer, denser routes more suited to the aircraft types in their fleet. As a result, intrastate carriers expanded into larger interstate markets with commuter or regional air service growing where local intrastate service had been cut back. The interstate trunk carriers also rationalized their route networks by promoting one or more hub airports as switching points where passengers could make a number of on-line connections. Though this reduced long haul non-stops, it was more efficient in terms of cost and number of passengers carried to more destinations as the hub system enhances a carrier's ability to provide feed traffic for its longer haul services. Moreover, regional air carriers formerly classified as commuter carriers which largely use turbo prop aircraft consequently expanded into many local service markets formerly served uneconomically by jet service. Moreover, they signed joint feed and scheduling agreements with the interstate trunk carriers to provide feed traffic to the mainline hubs of the interstate trunk carriers. This was coupled with a cut back in jet service by interstate trunk carriers to small and medium size communities.

In the United States then, there were many changes in service, particularly non-stop service, convenience of connections, frequency of service and type of aircraft used depending on the market and the nature of competition. Many small communities experienced the loss of jet service and connection convenience though there was more frequent service from commuter carriers using smaller turbo prop aircraft with fewer seats.

Freedom of pricing in the U.S. also led to lower fares on more competitive dense routes, higher fares on thin routes and overall a more complex fare structure with price disparities not related to distance travelled. In addition, during the early years after deregulation, the U.S. airline industry suffered a decline in profitability, severe losses and number of bankruptcies including

Since 1984, however, the U.S. airline industry has become more concentrated through mergers and acquisitions in that there are now 6 major carriers which together control almost 80% of the market in terms of total revenue passenger miles. Moreover, each of these airlines has developed market dominance in the hub airports in which they are based such that it becomes very difficult for a new entrant airline to break into a new market dominated by one of major carriers. These include Texas Air, United, American, Delta, Northwest and TWA.

In Canada, we have also experienced considerable merger activity and increasing concentration in the airline industry since the liberalization policy outlined in the "New Canadian Air Policy" was introduced in May, 1984. In particular, Pacific Western Airlines purchased Canadian Pacific Airlines in January, 1987. This followed CP Air's acquisition of Eastern Provincial Airways in eastern Canada two years ago as well as the remaining regional carriers in Canada including Nordair and Quebecair. This now leaves Canada with two major airlines being Air Canada and the PWA/CP Airline which was recently renamed Canadian Airlines International. Together these two airlines control approximately 90% of the Canadian airline industry. The only remaining airline of any significance is Wardair International. In addition, the two mainline carriers, Air Canada and Canadian Airlines, have signed a number of agreements with small local commuter carriers in various regions of Canada to provide feed service to the mainline network. In effect, practically all of the airlines in Canada are divided into two camps with the smaller aligned commuter carriers providing regional feed service with turbo prop aircraft mainline hubs of the two largest carriers pursuant to joint feed or scheduling agreements. In Manitoba, for example, Canadian has signed Calm Air as well as Norcanair out of Saskatoon. Air Canada, in contrast, has acquired an interest in Austin Airways and Air Ontario.

As a consequence, in my view, it is quite possible that the smaller communities that are served by jet service will lose it. Although they may acquire turbo prop service which may be more frequent, it may also be more inconvenient as there will likely be more stops enroute and the service schedule will be dictated by the schedule of the larger carriers. There will be fewer direct flights, there will likely be more hub airports requiring on-line connections and safety may become a cause for concern. In addition, it may be more difficult for non-aligned smaller carriers to enter new air transport markets to successfully compete with an aligned carrier as they will not have the advantage of the use of shared designator codes, access to large advertising budgets, shared maintenance facilities, ground handling agreements, interline ticketing and on-line baggage connections nor participation in frequent flyer programs.

With respect to airfares, though there may appear to be lower fares in the short term, the level of concentration and the creation of
a virtual duopoly in the Canadian industry indicates that the capacity for outright competition and number of discount seats may be quite severely restricted while the average economy fares increase through tacit price collusion. Moreover, unless there is some safeguard introduced to guard against excessive fare discounts, predatory pricing and predatory scheduling in addition to the anticompetitive merger and competitor dissolution tactics that have been signed, I expect that Wardour and some of the existing local carriers will have a tough time surviving let alone expanding. As a result, there may be fewer than three mainline carriers in Canada in the long term and less competition on local or regional routes serving the mainline hubs such as Winnipeg. In addition, the incumbent carriers will likely charge higher prices as their market power increases. As a consequence, it is difficult to see how an innovative, low cost adequate and efficient air transport system will be achieved by this deregulation policy in the absence of strict competition law enforcement.

(ii) Rail Transport

In terms of the potential consequences of the deregulation legislation for the rail mode, there are a number of key provisions which merit attention in the future.

First, confidential contracting holds the promise of being able to negotiate lower freight rates if you are a large enough shipper who can promise the railway sufficient volume over a long period of time. Smaller shippers, however, will likely continue to ship their products under published tariffs though there will be more remedies available to counter escalating high rates the have been signed. I expect that Wardour line rates or final offer arbitration and mediation or Section 59 investigations by the National Transportation Agency where matters of public interest are involved. It is important to note that a shipper may not refer a matter for both final offer arbitration and public interest investigation (i.e., he must choose one or the other). Moreover, he is not allowed to choose either if he has sought to establish a competitive line rate for the movement of his goods.

The big question for small shippers then, is whether these methods of redress will prove effective or whether they will just amount to a new form of re-regulation for rail rates. Mandated joint line rates or competitive line rates as they are known under the legislation, however, will force Canadian railways to interchange traffic at the border with U.S. railways for transcontinental movement rather than have the Canadian roads carrying the majority of resources traffic from western Canada to eastern North American points. There will definitely be a drain on revenues for Canadian railroads. The question remains whether this drain will prove disastrous in that Canadian railways may not likely have the sufficient capital required to maintain their rail infrastructure in Canada particularly when coupled with the provision in the legislation which prohibits the railways from abandoning more than 4% of their total route mileage in any one year following the enactment of the legislation. Despite a concerted lobby on behalf of
the railways to drop the competitive line rate provision, the railways were only successful in achieving a review of this issue in January, 1992. It is quite possible that the adequacy of the rail infrastructure to promote regional economic development will be severely impaired by the time the review is conducted.

(iii) Extraprovincial Motor Transport

In terms of extraprovincial motor transport regulation, the provisions under the Motor Vehicle Transport Act of 1986 give rise to concern in a number of areas.

First, although there will be a reverse onus test introduced with a five year sunset provision subject to review after four years, there is no agreement among the provinces on how the reverse onus test will operate in practice. There is a distinction being drawn between the legal burden and the evidentiary burden of showing that a proposed service will be likely detrimental to the public interest so that in Manitoba, the applicant may still carry an evidentiary burden to establish public benefit where a respondent establishes prima facie evidence that detriment to the public interest is likely. Consequently, the hearing process may not be that different although there is some question about the order of proceedings given the shifting of the legal burden.

Secondly, the amendments after second reading of the legislation indicate that the provinces were unable to agree on a uniform definition of public interest including the factors which comprise it. In Manitoba, a balancing of likely public detriment versus public benefit given the factors identified earlier will likely still be the licencing test in Manitoba for extraprovincial motor transport. This is not significantly different, in my view, from a licencing test based on public convenience. In Ontario, however, the entry test under the Truck Transportation Act though also based on a reverse onus as required by the federal legislation, requires a respondent opposed to an application for an extraprovincial authority in Ontario to show that the grant of the authority "will have a significant effect on the public interest". This Act also defines "public interest" in terms of broad economic factors such as (i) the existence of a dependable and viable trucking industry, (ii) the availability of appropriate trucking services to shippers, (iii) the ultimate Ontario consumers of goods and services, (iv) overall or net effect on employment within Ontario and the gross provincial product and (v) the public interest as set out in policy statements issued by the Lieutenant Governor in Council. Thus, there appears to be a lack of uniformity already between the approaches of Manitoba and Ontario with respect to a reverse onus licencing test for extraprovincial motor transport based on "detriment to the public interest". It will be more difficult for a respondent to oppose new authorities in Ontario compared to Manitoba because the Truck Transportation Act requires the respondent to show with certainty that the grant of authority "will have" a "significant" detrimental effect on the "public interest" which is defined by relatively vague factors.
Manitoba's entry policy will likely focus on "likely" public detriment based on a balance of probabilities together with an evidentiary burden on the applicant to show public benefit where both the factors of public detriment and public benefit are quite specifically defined by policy statement. This potential lack of uniformity in policy and procedure for the shifted burden of proof or reverse onus entry test for extraprovincial motor transport as set out in the Motor Vehicle Transport Act of 1986, has caused the Standing Committee of Motor Carriers of the CCMTA to establish a task force to study and recommend a uniform national policy and procedure for the implementation and administration of the shifted burden of proof or reverse onus entry test.

Third, until regulations are passed by the Federal Government after consultation with the provinces establishing a comprehensive and uniform definition of fitness as well as the safety requirements that are now mandatorily required to be part of the fitness test, there will continue to be uncertainty over the implementation of this legislation.

As a result, although the legislation was intended to promote uniformity among all provinces to overcome one of the major problems which existed under the old legislation, it appears that the lack of uniformity will continue to be a source of problems as the exercise of discretion by provincial motor transport boards exercising federal authority over extraprovincial motor transport will not necessarily be uniform in either the entry test employed or the procedure used.

In terms of effects, we may see differing effects in both the truck-load (TL) and the less-than-truck load (LTL) markets. In the United States in the truck-load market, weak restrictions on entry and exit led to an unstable sector with low profits and no movement toward consolidation. There were many new companies which were small and mostly non-union competing for market share with the result being low profits and widespread bankruptcies. In contrast, in the LTL market, consolidation through acquisition and mergers took place and a small number of large firms emerged to dominate. Through higher rates justified by improved service and innovation these larger companies were able to establish a high level of profitability.

One of the major concerns in Canada given the deregulation proposals may be that large U.S. trucking firms may acquire terminals in Canada with very little network expansion. Once these terminals are established, traffic that formerly moved within Canada could be shipped to U.S. points for carriage below the border at excessively low rates in order to drive Canadian competition out of the market. Once Canadian competition was reduced, motor transport rates may subsequently rise. Another concern is over the regulation of intraprovincial trucking by the provinces themselves and its relationship to a deregulated extraprovincial trucking regulatory framework in Canada.
VI. Conclusion

It appears from the new legislation that deregulation is being implemented with emphasis on market competition to provide the needed economic and efficient transport system. However, national transportation policy also calls for adequate and effective transportation links and regional economic development.

The majority of the provisions in the legislation attempt to remove restrictive economic regulatory controls under the assumption that all modes of transport are businesses whose services can be supplied and priced through the interplay of free market forces. With the removal of independent tribunal discretion over licencing and rate control, in my opinion, it will be more difficult for a National Transportation Agency bound by the directions of the Minister of Transport to assess the effects of deregulated competition both within and among the modes of transportation in Canada and within a national economic policy framework which is complicated by a move toward free trade with the United States. While mention of regional economic development as a continued goal of national transportation policy is made, the specific provisions to alter the regulatory framework (i.e., to deregulate entry, exit and fares for southern air services as well as liberalize northern air services, to provide for increased shipper access by rail primarily for captive shippers moving resource commodities out of western Canada and to legislate a uniform extraprovincial trucking entry test but to delegate its implementation due to an inability to define either the public interest or fitness) indicate that the legislation as a package for implementing deregulation tends to be poorly structured to accomplish the balancing required by the competing objectives under the national transportation policy respecting a commercially viable, economic and efficient transport network versus an effective and adequate transport system promoting economic and regional development in Canada.

Though the Agency's independence compared to the former CTC has been somewhat reduced by the introduction of binding Ministerial policy directions, both the Agency and the provincial motor transport boards will continue to have considerable regulatory discretion in both the implementation of the legislative provisions and in the balancing of competing national transportation policy objectives. The size and complexity of the changes, in my view, connote more a re-regulation of transportation with somewhat more emphasis on commercial principles in the exercise of regulatory discretion but not the wholesale abolition of regulatory discretion and blind faith being placed in market forces as characterized by U.S. deregulation moves.

The success of our "deregulation" policy will depend, as it did on our prior "regulatory" policy, on the exercise of regulatory discretion in a balanced and informed manner to promote viable, economic and efficient transportation services which are also effective and adequate to meet the needs of Canada as a nation and its economic and regional development.
Though the regulatory framework has changed, the challenge to exercise discretionary decision making and balance competing interests and objectives remains fundamental to the effective implementation of any national transportation policy in Canada.
Trade Liberalization and Manitoba's Transport Sector

B.R. Prentice*

Introduction

Since the early settlement of Western Canada, public policy measures have tended to reinforce Manitoba's inherent economic advantages as a centre for transportation and distribution. Canadian governments have implemented restrictive import policies to encourage an east-west flow of domestic trade and have financed transportation development initiatives which favoured Manitoba's role as an entrepot. It is widely held that if left solely to market forces, the flow of goods in North America would tend to follow a north-south orientation. The extent to which east-west commerce has developed in Canada illustrates the power of transportation initiatives and associated regulations and trade restrictions to influence traffic patterns.

After a century of effort to forge an east-west trade axis, the Government of Canada has entered negotiations with the United States with the intent of liberalizing north-south trade. Proponents of trade liberalization maintain that further integration of the Canadian and U.S. economies would benefit both countries. If producers were given assured access to a larger North American market, they would be encouraged to specialize and to invest in more efficient production units. Through improved efficiency and rationalization of the North American industries, Canada and the U.S. would become more competitive in overseas markets.

While there is general agreement that the macroeconomy of both countries could gain from trade liberalization, some questions have been raised about the distribution of the benefits. Undoubtedly, some industries and regions would be subject to considerable adjustment. In addition, there are concerns about changes in the ownership of certain industries and how regional development and trade patterns might be affected by trade liberalization.

Coincidental with this initiative to liberalize trade, the Canadian government has launched a major reform of the economic regulations governing transportation. When combined with trade liberalization, the new transportation policy could have a significant impact on the volume and balance of transborder transportation services.

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As a traded service, transportation is an important source of capital investment and employment earnings in the Province of Manitoba. In 1984, the motor carrier industry alone generated a net gain of $74 million in the trade of trucking services with the U.S. and other parts of Canada (Norway). In total, the transportation service industry accounts for about 8-9 percent of the gross provincial product, and provides incomes for over 30,000 residents. Any policy changes which diminish Manitoba's share of the transport services trade would have a direct impact on the provincial economy.

As a facilitator of trade, the efficiency and costs of transportation affect the range and volume of goods that flow through the borders of Manitoba. In particular, the manufacturing sector relies on the transport industry to procure its necessary inputs and distribute its output across Canada and to the United States. If a new trade agreement is reached, the transport industry could experience a marked growth in the demand for services between Manitoba and the rest of North America. At the same time, trade liberalization is likely to increase the competition from U.S. carriers of international traffic.

The combined impact of the trade liberalization policy and the new national transportation policy creates uncertainty about the future of Manitoba's transport sector. Neither the form of the final "free trade" agreement, nor the sensitivity of the Manitoba economy to a more liberalized trade regime for goods and transport services, are known. At the present time, the main impacts of these changes appear to fall on the trucking industry and those sectors of the economy which are most dependent on tariff barriers for their survival.

The paper begins with a review of the various forms of trade liberalization and the economic theory of tariffs and transportation costs. Subsequently, the anticipated results of the Canada-U.S. trade negotiations are discussed with respect to the potential impact on Manitoba's export trade with the United States. The discussion then turns to an examination of the potential direct and indirect impacts of trade liberalization on Manitoba's transport sector. The paper concludes with some comments on foreign ownership and the expected consequences of trade liberalization.

Forms of Trade Liberalization

The outcome of the current trade negotiations between Canada and the U.S. has the potential to alter the established patterns of industrial activity and increase trade flows in the North American economy. The degree of change will depend to a great extent, however, on the form of trade liberalization that is finally negotiated. The possibilities range from selected bilateral trade preferences to a completely integrated economic union (Chacholiades). The salient features of these various forms of trade liberalization are presented below.
Preferential trading clubs:

Preferential trading clubs are formed when two or more countries agree to offer each other reciprocal reductions on tariffs or other measures, while retaining their previous level of protection against non-club members. The main problem with preferential trading clubs is "trade deflection". Differences in the external tariffs of the member countries create the incentive for importers to seek entry through the country with the lowest external tariff.

The Commonwealth Preference System, of which Canada has been a member since 1932, is one of the oldest and largest preferential trading clubs. As international tariff levels have declined, the problem of trade deflection has diminished, but the trading club also has become less effective in fostering trade between its members.

Free Trade Areas:

Free trade areas, or associations, are created when two or more countries remove all tariffs and quantitative barriers affecting their mutual trade, while maintaining their original barriers against the rest of the world. The scope for restrictions within a free trade area includes barriers to labour and capital flows, and the protection afforded to domestic industries by differences in regulatory regimes. Lack of a common currency also may act as a delayed form of protection within a free trade area, as changes in currency exchange rates favour certain national industries and penalize others. The European Free Trade Area, which includes most West European countries outside the European Economic Community (EEC), is the best current example of a free trade area.

The problem of trade deflection is more serious in free trade areas because duty free access within the member countries provides a greater incentive to divert trade through the lowest-duty country. Similarly, trade deflection may bias foreign investors to take advantage of the free trade area by establishing "final" assembly plants in the least restrictive member. Sectoral free trade agreements also can be subject to this problem. This appears to be happening in the case of the Japanese automobile manufacturers that are building assembly plants in Canada to take advantage of the Canada-U.S. Auto Pact.1

1 The Auto Pact permits duty free treatment of automobiles and original equipment parts providing they contain 50 percent North American value added. In addition to duty free entry to the U.S. market through the Auto Pact, the Japanese companies can use these exports to earn a remission of Canadian duties on auto imports from Japan. This has become an important source of friction because the U.S. Government views the Canadian duty remission program to be the equivalent of an export subsidy. A detailed discussion of the issue is contained in Wonnacott.
Customs Unions:

Customs unions advance the concept of a free trade area by adopting a common external tariff schedule and harmonizing other policies affecting imports (with the exception of capital). By establishing a common tariff, customs unions avoid the problems of trade deflection, but may create a problem of trade diversion which can be as extreme. This can occur when the members of the customs union choose to set their common tariff at the level of the most restrictive member. For example, the EEC which was originally formed as a customs union established very high import levies on agricultural imports. When the United Kingdom joined the EEC in 1977, it accepted the rules of the Common Agricultural Policy, including the variable import levies. As a result, U.K. food imports were diverted from low cost suppliers, such as Canada, to higher cost suppliers like France.

Common Markets:

A common market is the level of integration beyond customs unions. In addition to free movement of goods and services, and common external trade barriers, a common market permits the free movement of labour and capital. The EEC has been working toward the status of a common market by gradually eliminating internal barriers and harmonizing policies that affect trade.

Economic Unions:

Economic union is the ultimate form of economic integration. Under economic union, the members adopt a common currency, uniform government expenditure and taxation policies. Economic unions are generally associated with political union, although some have been formed by treaty agreements (e.g. 1958 Benelux Treaty).

The Confederation of Canada is an excellent example of economic union. Each province has authority to govern education, health, and trade within its borders, while extra-provincial trade, transport, and other macroeconomic matters are subject to central control.

The Canadian example also illustrates that even within economic unions the exchange of goods and services may be less than perfectly free. Numerous provincial regulations and discriminatory policies exist which undermine "free trade" within Canada. A case in point, and of particular relevance to this paper, are the discrepancies and differences in provincial regulations that govern the trucking industry in Canada. As a result of these differences, the costs of moving goods between provinces in some parts of the country may be higher than the costs for corresponding distances within, or between, other provinces. In this manner, provincial regulations afford local industry a level of protection similar to an import tariff.
Trade Liberalization and Transportation Policy Harmonization

The major reforms of transportation regulations which have occurred in the United States, and which are pending in Canada, may be coincidental with the timing of the "free trade" negotiations, but are entirely consistent with the policy thrust. In fact, it can be argued that if the new transportation policy had not been undertaken prior to the proposed trade liberalization, it would have had to follow in any case. As Munro notes, the harmonization and rationalization of transport policies has been a key feature of all major free trade groupings. Without transport policy harmonization, the benefits of trade liberalization are reduced and the agreement is in danger of being undermined.

The effects of discriminatory government aids working through the transport sector are felt, of course, whether trade between countries is free or carried on subject to protection. But it is in a free trade area that transport policies which discriminate against imported goods are most pernicious. (Munro:p.16)

The nature of the linkage between free trade and transportation policy harmonization can be best explained with reference to international trade theory.

Tariffs and Transportation: Theoretical Considerations:

From a theoretical perspective, the effects of tariffs and transportation costs are identical. Both add to the costs of moving goods between countries and protect local industries from import competition. Conlon demonstrates the impact of tariffs and transportation costs using a simple two-country model.

A detailed description of Conlon's model is presented in the Appendix, the main points of which can be summarized as follows. If tariffs and transportation costs were zero, all goods would be either exported, or imported, depending on each country's comparative advantage. In theory this would lead to the maximum production for a given quantity of resources, and consequently the maximum consumption. At the other extreme, if tariffs or transportation costs were sufficiently high, there would be no trade. Each nation would have to be completely self-sufficient and, without the gains from trade, total consumption would be significantly lower.

Typically, tariffs and transportation costs are some fraction of the good's value, and three categories of goods can be defined: imports, exports, and non-traded commodities. The size of the non-traded goods sector depends on the value of the tariffs and transportation costs. This is illustrated in Figure 1.
Figure 1: Trade Impacts of Tariffs and Transportation Costs on Range of Goods Produced and Total Consumption

In this simple two-country model, the home country's exports are the foreign country's imports, and vice versa. With zero tariffs, or transportation costs, trade and consumption are maximized. Increasing tariffs and transportation costs act like a wedge and each country produces some non-traded goods, in addition to its production of exports. As tariffs and transportation costs increase, however, total consumption declines because of the greater loss of the potential gains from trade.

Total consumption decreases as tariffs and transport costs increase because there is less scope for specialization and the gains which accrue to economies of scale. Although both countries still use the same amount of capital and labour resources in production, total consumption is reduced. Moreover, as these countries try to produce the same range of goods from the non-traded goods sector, their economies will become characterized by sub-optimal plant sizes and short production runs.
This problem, which is generally referred to as "excess diversity", is characteristic of many highly protected economies. Excess diversity may be created by foreign manufacturers that establish small branch plant operations in order to circumvent restrictive tariffs, as in the case of Canada, or to overcome the barrier of distance, as exemplified by Australia. In the case of Manitoba, high tariffs and geographic isolation are likely to have been jointly responsible for creating the highly diversified, but relatively small scale manufacturing economy.

The primary difference between tariffs and transportation costs is their origin. Tariffs are institutional barriers to trade which have been created to achieve certain political objectives, while transportation costs are a more natural barrier to trade. In practice, however, transportation costs generally exceed the opportunity costs of overcoming geographical constraints.

A significant part of transportation costs is created by government taxation, investment and regulatory policies. For example, transportation costs can be increased by discriminatory licensing practices that restrict competition, and by taxes or regulations which affect the cost of labour, equipment, etc. Alternatively, direct and indirect subsidies can be given to domestic carriers and shippers to compensate for reduced tariff protection. If transportation policies are not harmonized, the participants in a free trade agreement may be tempted to use such measures to protect local industry by increasing the relative cost of imported goods. Consequently, the benefits of specialization which might result from a free trade area can be slowly undermined by a series of transport policy measures.

Expected Results of the Canada-U.S. Trade Negotiations:

Although the details of the current Canada-U.S. trade negotiations are unknown, the general outline of the proposed agreement could have the following form:

- elimination of all tariffs by 2000 A.D.
- removal of discriminatory government procurement rules
- partial exemption from trade remedy laws
- improved access for financial and transportation services

If these results can be obtained, Canada and the U.S. could be classed as a free trade area. The U.S. and Canada would retain separate external tariff schedules, but collect no duties from their mutual trade. Since Canadian tariffs are generally higher than those in the U.S., further reductions of Canadian tariffs would likely occur in order to avoid the problem of trade deflection.
Impacts of Trade Liberalization on Manitoba's Trade with the U.S.

The effects of trade liberalization on Manitoba's transport sector are mainly indirect because the demand for transport services is derived from the needs of the goods producing industries. If the volume of trade between the U.S. and Manitoba increases, the transport sector will benefit as well. Of course, this depends on whether increased north-south trade is truly additional, or merely displaces the current east-west flow of goods. In any case, the fortunes of Manitoba's transport sector are tied to the fate of the manufacturing and distribution industries. In the following section, the impact of trade liberalization on Manitoba's goods producing industry is considered.

Tariff Protection:

Table 1 contains a summary of the manufacturing sector (1984), the composition of Manitoba exports and imports of manufactured goods to the U.S. in that year, and the average Canadian and U.S. import tariff rates. Average tariff values may tend to under-estimate the true level of tariff protection because they are weighted by the volume of trade. For specific goods, the tariff rates could be high enough to virtually eliminate trade. The lack of trade in these goods would give them a low weighting and as a result under-estimate the average tariff barrier. Nevertheless, these data are suggestive of the present level of Canadian and U.S. tariff protection.

There is a tendency to discount the impact of removing tariff protection because many tariffs have already been eliminated and many others have been reduced to low levels. The significance of tariffs may be inferred from the data in Table 1; sectors with the greatest volume of trade are those which have the lowest Canadian and U.S. tariffs, while those industries with the highest tariffs have the lowest trade volumes.

Export performance is affected by both domestic market tariff protection as well as external tariff barriers (Wonnacott). For example, the actual barrier to specialization and trade in furniture and fixtures is about 18.9 percent. This is the combined effect of the U.S. tariff barrier (4.6 percent) and the Canadian tariff protection (14.3 percent) for furniture and fixtures. The domestic tariff allows Canadian producers to set their prices 14.3 percent above the border price, while their exports would have to be 4.6 percent below the border price to compete in the U.S. market. If specialization and longer production runs do not yield Canadian furniture makers at least 18.9 percent in cost savings, they will find it more attractive to produce goods for the domestic market. Consequently, tariffs encourage producers to manufacture a full product line (at higher costs), rather than specialize in the production of items in which their competitive advantage is greatest.
Table 1 Canadian and U.S. Import Tariffs for Selected Sectors, Post-Tokyo Round (1987), and Associated Trade between Manitoba and the U.S.A.

<table>
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<th>Industrial Sector</th>
<th>1984 Trade Between Manitoba and the U.S.A.</th>
<th>Canadian Tariffs*</th>
<th>U.S. Tariffs*</th>
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<td>Exports ($'000)</td>
<td>(percent)</td>
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<td>55,949</td>
<td>6.6</td>
</tr>
<tr>
<td>Printing and publishing</td>
<td>83,682</td>
<td>2,741</td>
<td>1.1</td>
</tr>
<tr>
<td>Chemicals and plastics</td>
<td>144,210</td>
<td>40,295</td>
<td>7.9</td>
</tr>
<tr>
<td>Petroleum products</td>
<td>4,843</td>
<td>58,847</td>
<td>0.4</td>
</tr>
<tr>
<td>Rubber products</td>
<td>4,967</td>
<td>48</td>
<td>7.3</td>
</tr>
<tr>
<td>Nonmetal mineral products</td>
<td>9,218</td>
<td>9,660</td>
<td>4.4</td>
</tr>
<tr>
<td>Glass products</td>
<td>2,365</td>
<td>-</td>
<td>6.9</td>
</tr>
<tr>
<td>Iron and steel</td>
<td>13,408</td>
<td>30,425</td>
<td>5.1</td>
</tr>
<tr>
<td>Nonferrous metals</td>
<td>15,847</td>
<td>38,596</td>
<td>3.3</td>
</tr>
<tr>
<td>Metal products</td>
<td>22,182</td>
<td>17,906</td>
<td>8.6</td>
</tr>
<tr>
<td>Nonelectrical machinery</td>
<td>178,231</td>
<td>22,330</td>
<td>4.6</td>
</tr>
<tr>
<td>Electrical equipment</td>
<td>181,565</td>
<td>96,756</td>
<td>7.5</td>
</tr>
<tr>
<td>Transportation equipment</td>
<td>768,342</td>
<td>206,024</td>
<td>0.0</td>
</tr>
<tr>
<td>Agricultural Machinery</td>
<td>363,630</td>
<td>175,535</td>
<td>0.0</td>
</tr>
<tr>
<td>Plastic Products</td>
<td>9,396</td>
<td>8,160</td>
<td>na</td>
</tr>
<tr>
<td>Food and Beverages</td>
<td>163,954</td>
<td>99,659</td>
<td>na</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>49,982</td>
<td>15,964</td>
<td>5.5</td>
</tr>
</tbody>
</table>

* Canada-U.S. tariffs trade weighted
na = not available

Sources: Wonnacott, Paul. The United States and Canada: The Quest For Free Trade, and Statistics Canada
It is difficult to predict which industries will gain or lose most from the elimination of tariffs. Undoubtedly, those firms that now surmount tariff barriers and export to the U.S. will be more competitive, while those firms that are dependent solely on the domestic market and have significant tariff protection are the most vulnerable to change.

A perspective on the potential for gains and losses may be gained by examining the structure of the manufacturing sector in Manitoba. In Table 2, the number of firms, employment and value-added are presented for each sector, with the net balance of trade and the combined Canada-U.S. tariff.

The clothing industry stands out as the sector which will be most importantly affected by eliminating tariffs. It has the highest combined tariff level (42.1%), and is the second largest source of industrial employment (6,962 jobs). Ironically, this sector, which has the highest level of tariff protection, may have the most to gain from free trade with the U.S. Manitoba is currently a net exporter of clothing to the U.S. ($9.74 million in 1984), and has a large base of firms (93), which produce a diversified range of goods. Many of these firms (e.g. producers of winter clothing) could benefit from the further specialization which access to the U.S. market would permit.

The electrical equipment industry is another potential winner. Although the balance of trade is in favour of the U.S., exports are sizable. These data are biased by large volumes of telephone equipment exports, but further specialization in this sector could benefit other smaller firms as well.

The results of freer trade for the furniture/fixtures and metal products industries will be mixed. A large number of firms may be forced out of these industries, although total employment and value-added could actually increase following the rationalization of production. It is worth observing that the sectors with the highest employment, and value-added (agricultural machinery, transport equipment, food and beverages, printing/publishing) have very low, or zero, tariffs.\textsuperscript{2} The manufacturers of furniture/fixtures and metal products that are currently exporting to the U.S. will likely benefit from free trade. Those firms which have been active solely in the domestic market may find the import competition excessive.

\textsuperscript{2} These industries also have large trade imbalances with the U.S., but that may be explained in part by the import of components, such as engines, and the distribution function performed by Manitoba based firms. This latter point is discussed in the following section.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(#)</td>
<td>Employed</td>
<td>Added</td>
<td>($’000)</td>
</tr>
<tr>
<td>Textiles</td>
<td>41</td>
<td>351</td>
<td>$</td>
<td>x</td>
</tr>
<tr>
<td>Clothing</td>
<td>93</td>
<td>6,962</td>
<td>168,078</td>
<td>9,740</td>
</tr>
<tr>
<td>Leather products</td>
<td>8</td>
<td>436</td>
<td>14,254</td>
<td>4,230</td>
</tr>
<tr>
<td>Footwear</td>
<td>3</td>
<td>x</td>
<td>x</td>
<td>-299</td>
</tr>
<tr>
<td>Wood products</td>
<td>100</td>
<td>1,932</td>
<td>59,296</td>
<td>65,032</td>
</tr>
<tr>
<td>Furniture and fixtures</td>
<td>56</td>
<td>1,846</td>
<td>51,027</td>
<td>1,684</td>
</tr>
<tr>
<td>Paper products</td>
<td>24</td>
<td>1,746</td>
<td>104,465</td>
<td>24,130</td>
</tr>
<tr>
<td>Printing and publishing</td>
<td>207</td>
<td>4,636</td>
<td>201,983</td>
<td>-60,941</td>
</tr>
<tr>
<td>Chemicals and plastics</td>
<td>28</td>
<td>991</td>
<td>73,937</td>
<td>-103,915</td>
</tr>
<tr>
<td>Petroleum products</td>
<td>4</td>
<td>x</td>
<td>x</td>
<td>54,004</td>
</tr>
<tr>
<td>Rubber products</td>
<td>5</td>
<td>x</td>
<td>x</td>
<td>-4,919</td>
</tr>
<tr>
<td>Nonmetal mineral products</td>
<td>56</td>
<td>x</td>
<td>67,871</td>
<td>442</td>
</tr>
<tr>
<td>Glass products</td>
<td>2</td>
<td>x</td>
<td>x</td>
<td>-2,365</td>
</tr>
<tr>
<td>Iron and steel</td>
<td>6</td>
<td>x</td>
<td>x</td>
<td>17,017</td>
</tr>
<tr>
<td>Nonferrous metals</td>
<td>11</td>
<td>x</td>
<td>132,793</td>
<td>22,749</td>
</tr>
<tr>
<td>Metal products</td>
<td>145</td>
<td>3,759</td>
<td>124,033</td>
<td>-4,276</td>
</tr>
<tr>
<td>Nonelectrical machinery</td>
<td>28</td>
<td>x</td>
<td>x</td>
<td>-155,901</td>
</tr>
<tr>
<td>Electrical equipment</td>
<td>39</td>
<td>3,020</td>
<td>189,453</td>
<td>-84,809</td>
</tr>
<tr>
<td>Transportation equipment</td>
<td>60</td>
<td>5,627</td>
<td>247,144</td>
<td>-562,318</td>
</tr>
<tr>
<td>Agricultural Machinery</td>
<td>34</td>
<td>3,209</td>
<td>139,785</td>
<td>-188,095</td>
</tr>
<tr>
<td>Plastic Products</td>
<td>40</td>
<td>915</td>
<td>51,220</td>
<td>-1,236</td>
</tr>
<tr>
<td>Food and Beverages</td>
<td>184</td>
<td>9,595</td>
<td>464,961</td>
<td>-64,295</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>116</td>
<td>1,168</td>
<td>36,443</td>
<td>-34,018</td>
</tr>
</tbody>
</table>

* Canada-U.S. tariffs trade weighted
na - not available
x - data classified as confidential

Sources: Wonracott, Statistics Canada
The sectors with most to lose from free trade are likely to be rubber products, footwear, glass products, and textiles. In general, these industries have been minor exporters and, despite the high Canadian tariff, have experienced considerable import penetration. From the provincial perspective, the loss of employment and value-added, while regrettable, is not likely to be large.

Manufacturers which already have zero tariffs might appear to have little to gain from the free trade agreement. For most of these producers there will be few direct benefits, but indirectly all manufacturers could gain from the improved efficiency of their supply base. Free trade could reduce the cost of sourcing inputs and encourage the growth of those supply industries that are internationally competitive.

In the case of transport equipment manufacturers, an agreement to halt discriminatory government procurement could produce the greatest benefit of free trade. At the present time, the U.S. "Buy American" policy inhibits Canadian manufacturers of public transit equipment from participating in some U.S. contracts. Of course those industries that have benefited from provincial or federal government procurement policies in Canada would have more competition for domestic contracts as well. On balance however, the transport equipment manufacturers of Manitoba should gain because of the differences in market size.

The partial exemption from trade remedy laws (e.g. countervail duties), and improved access for financial and transportation service industries will have indirect impacts on the trade of goods. Trade remedy laws create uncertainty for producers which might wish to serve the North American market from a Manitoba base. If Canada could gain some partial exemption from the precipitous use of countervail actions, it could assist in attracting manufacturing investment to the province.

The inclusion of financial and transport service industries will have its major impact through the cost side of goods trade. Most of the transportation services will be effectively opened to U.S. access by the new regulatory regime. In fact, some observers have suggested that free trade in some transportation services may have already occurred through acquisition (Tausz).

Distance as a Barrier to Trade:

As discussed earlier, the protection offered to domestic producers by transportation costs can be considered as equivalent to an import tariff. With the reform of transport regulation, it is possible that the institutional parts of the transborder freight rates will be reduced. In Table 3, average freight rates are presented for U.S. and Canadian domestic truckload shipments and for transborder hauls. These data illustrate the effect which traffic imbalances have on the protection that is provided by transportation costs. The direction of
travel with the greater volume of freight is referred to as the "fronthaul", while return trips are referred to as the "backhaul". Carriers typically charge more for fronthaul loads in order to cover the risk of an empty backhaul. In addition, competitive conditions in the market will cause fronthaul rates to exceed backhaul rates. Transborder freight rates suggest that the northbound shipments are treated as fronthauls, while southbound shipments serve as backhauls.

Table 3 Average Canadian and U.S. Truckload Freight Rates for Domestic and Transborder Routes, 1987.

<table>
<thead>
<tr>
<th>Carrier</th>
<th>Domestic Fronthaul</th>
<th>Domestic Backhaul</th>
<th>Transporter Southbound</th>
<th>Transborder Northbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian</td>
<td>1.83 (48)</td>
<td>1.37 (35)</td>
<td>1.66 (86)</td>
<td>2.05 (57)</td>
</tr>
<tr>
<td>U.S.</td>
<td>1.95 (110)</td>
<td>1.72 (56)</td>
<td>1.70 (29)</td>
<td>2.09 (72)</td>
</tr>
</tbody>
</table>

(brackets contain the number of observations)

Source: Prentice, B.E. and M.D. Hildebrand. Transportation Barriers to Canada-U.S. Trade of Agricultural Products

On average, truckload rates of U.S. carriers are higher than the rates of Canadian carriers in either the domestic markets or transborder. Transborder freight rates are generally higher than internal freight rates in either the U.S. domestic market, or the Canadian domestic market. Northbound freight rates are considerably higher than southbound rates, but are almost identical for U.S. and Canadian carriers. These differences in north-south freight rates offer Canadian producers more protection from import competition than their U.S. counterparts. In fact, the "backhaul" nature of southbound transborder freight rates offers U.S. producers less protection from Canadian imports than from other domestic competitors.

Distance from markets tends to increase the protection offered by freight rates, although the protection is not a linear function of distance because of rate tapering. The rates in Table 3 are a mix of all distances; in Table 4 these rates have been recalculated according to the length of haul.
Table 4 Freight Rate Tapering in Canada and U.S. for Truckload Shipments in Domestic and Transborder Routes, 1987.

<table>
<thead>
<tr>
<th>Distance</th>
<th>Canadian Carriers</th>
<th>U.S. Carriers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Domestic Transborder</td>
<td>Domestic Transborder</td>
</tr>
<tr>
<td>less than</td>
<td>2.23 2.71</td>
<td>1.94 2.21</td>
</tr>
<tr>
<td>500 miles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>from 500 to</td>
<td>1.81 1.86</td>
<td>1.87 1.99</td>
</tr>
<tr>
<td>1200 miles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>greater than</td>
<td>1.41 1.61</td>
<td>1.85 1.73</td>
</tr>
<tr>
<td>1200 miles</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Prentice, B.E. and M.D. Hildebrand. Transportation Barriers to Canada-U.S. Trade of Agricultural Products

In most cases, mileage-based freight rates decrease with distance. The data in Table 4 were divided into three distances: less than 500 miles, from 500 to 1200 miles, and greater than 1200 miles. In all cases, freight rates decline with distance and transborder rates generally exceed domestic freight rates. Given that most Canadian manufacturers are located within 150 miles of the border, they receive considerable protection from nearby import competition. At the same time, transborder rates beyond 500 miles do not impose a significant barrier on Canadian firms, relative to their nearby U.S. competitors, in shipping to more distant U.S. markets.

The protection afforded by location will vary depending on the proportion of transportation costs in the firm's overall costs of production. For those industries in which transportation forms a large proportion of costs, transport costs will be a major factor influencing location. For industries in which transport costs are a small component of total costs, factors such as reliability of transport are likely more important decision variables. Table 5 offers a summary of the relative importance of transport costs as calculated in a study of British industry.

Although these data are not directly applicable to Manitoba, they are suggestive of the differences among industry groups. It seems reasonable to conclude that the textile/clothing, printing, and higher-valued manufacturing industries (e.g. machinery, aerospace, etc.) are likely to have located in Manitoba for reasons other than transportation costs. Industries which are more sensitive to transport costs, such as food processing, building products, and perhaps the metal industries, are likely to have been influenced by the transportation advantages of a Manitoba location.
Table 5: Transport costs for selected British industries as a percentage of net output (1963)

<table>
<thead>
<tr>
<th>Industry</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watches and clocks</td>
<td>1.08</td>
</tr>
<tr>
<td>Engineer's small tools and gauges</td>
<td>1.75</td>
</tr>
<tr>
<td>Mens and boys tailored outerwear</td>
<td>1.94</td>
</tr>
<tr>
<td>Footwear</td>
<td>2.18</td>
</tr>
<tr>
<td>Motor vehicle manufacturing</td>
<td>2.64</td>
</tr>
<tr>
<td>Pharmaceutical preparation</td>
<td>2.92</td>
</tr>
<tr>
<td>Printing, publishing, etc.</td>
<td>2.92</td>
</tr>
<tr>
<td>Tobacco</td>
<td>3.33</td>
</tr>
<tr>
<td>Toys, games and sports equipment</td>
<td>5.14</td>
</tr>
<tr>
<td>Iron and steel (general)</td>
<td>7.76</td>
</tr>
<tr>
<td>Brewing and malting</td>
<td>11.70</td>
</tr>
<tr>
<td>Fruit and vegetable products</td>
<td>13.33</td>
</tr>
<tr>
<td>Animal and poultry feed</td>
<td>17.04</td>
</tr>
<tr>
<td>Brick, fireclay and refractory goods</td>
<td>22.27</td>
</tr>
<tr>
<td>Soft drinks, wines, cider</td>
<td>23.76</td>
</tr>
<tr>
<td>Sugar</td>
<td>24.24</td>
</tr>
<tr>
<td>Confectionery</td>
<td>24.71</td>
</tr>
<tr>
<td>Coal-mining</td>
<td>25.24</td>
</tr>
<tr>
<td>Milk products</td>
<td>27.54</td>
</tr>
<tr>
<td>Chalk, clay sand and gravel extraction</td>
<td>29.78</td>
</tr>
</tbody>
</table>

Source: Button, K.J. *Transport Economics*

Manitoba's Dependence on Trade with the U.S.:

The volume of trade between Manitoba and the U.S. has a bearing on the impact which trade liberalization could have on the transport sector of the province. One method of putting Manitoba's trade with the U.S. in perspective is to calculate the value of this trade as a percentage of the Gross Provincial Product (GPP). For purposes of comparison, a similar measure was prepared for each province and is presented in Table 6.

These data indicate that the Manitoba economy is among the least dependent on the U.S. market for export earnings, and among the most dependent on the U.S. for imported goods. Exports to the U.S. from Manitoba are equivalent to only 7.8 percent of the GPP, compared to the average of 19.1 percent for the nation. Only Newfoundland (6.6 percent) and Prince Edward Island (6.2 percent) are less dependent than Manitoba on exports to the United States. In terms of its U.S. import dependence, however, Manitoba is second only to Ontario. The value of U.S. imports is almost double the value of Manitoba's export sales to the U.S. and equal 13.5 percent of the GPP.
The relatively large value of U.S. imports helps to shed light on the future of Manitoba's role as a distribution centre. Concern has been raised that Canada-U.S. trade liberalization could change the "gateway" status of Manitoba's location. As one critic has noted: "Winnipeg (Manitoba) is in the center of the Canadian economy, but on the northern outskirts of the North American economy." (Loewen:p.7).

According to this line of thinking, trade liberalization with the United States could weaken Manitoba's role as a distribution centre for western Canada, while doing little to improve the province's access to the larger North American economy. Another commentator describes this possibility as the "Fargo factor", and asks: "Why aren't Fargo and Grand Forks as big as Winnipeg? They share our geography and they've always had free trade with the U.S.A." (Denton:p.31)

This is an important issue for Manitoba's transport sector because it depends on longhaul extraprovincial and international movements for a significant proportion of its revenue. If Manitoba loses its locational advantage as a distribution centre, these carriers will be disadvantaged and eventually forced to re-locate. While difficult to refute, this concern is not well supported by either theory or trade data.

The concept of market boundaries may explain the economics of Winnipeg's location as a distribution centre. As goods are moved farther from the point of production, transport costs increase and delivered prices rise. The market boundary is reached at the location where the delivered prices from two or more producing regions are equal. Accordingly, industry and distribution will tend to locate at the centre of the market, as determined by the boundaries of competing markets.

Winnipeg has no competing centres encroaching on its market to its north and only distant market centres to its east and west. Whereas Fargo and Grand Forks have pressure from all directions (including Winnipeg to the north), that suppress their market boundaries.

A more detailed analysis of Manitoba imports from the U.S. indicates that Manitoba already serves as an important gateway for U.S. goods. In 1984, imports of automobiles and trucks equalled $656 million for Manitoba, versus $188 million for the rest of Western Canada. On a population basis, these imports should have equalled only $93 million for Manitoba. Given that the import of cars and trucks is duty-free, the use of a Manitoba gateway is significant. Undoubtedly many other U.S. end product imports are entering Manitoba for transshipment east to Northwestern Ontario, or west to Saskatchewan and

---

3 A more detailed summary of U.S.-Manitoba imports and exports is presented in the Appendix.
Table 6  Trade with the United States, by Province, as a Percentage of Gross Product in 1984

<table>
<thead>
<tr>
<th>Province</th>
<th>Gross Provincial Product (millions)</th>
<th>Trade with the U.S.A Imports (millions)</th>
<th>Trade with the U.S.A Exports (millions)</th>
<th>Trade with the U.S.A as a Percentage of Gross Product Imports</th>
<th>Trade with the U.S.A as a Percentage of Gross Product Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newfoundland</td>
<td>$ 5,995</td>
<td>$ 83.8</td>
<td>$ 398.2</td>
<td>1.4</td>
<td>6.6</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>10,444</td>
<td>471.3</td>
<td>1,005.6</td>
<td>4.5</td>
<td>9.6</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>1,224</td>
<td>24.0</td>
<td>76.6</td>
<td>2.0</td>
<td>6.2</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>8,074</td>
<td>532.3</td>
<td>1,406.2</td>
<td>6.6</td>
<td>17.4</td>
</tr>
<tr>
<td>Quebec</td>
<td>97,631</td>
<td>8,365.9</td>
<td>12,984.1</td>
<td>8.6</td>
<td>13.3</td>
</tr>
<tr>
<td>Ontario</td>
<td>167,741</td>
<td>49,674.2</td>
<td>48,200.5</td>
<td>29.6</td>
<td>28.7</td>
</tr>
<tr>
<td>Manitoba</td>
<td>16,636</td>
<td>2,240.5</td>
<td>1,298.9</td>
<td>13.5</td>
<td>7.8</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>17,437</td>
<td>975.5</td>
<td>2,906.7</td>
<td>5.6</td>
<td>16.7</td>
</tr>
<tr>
<td>Alberta</td>
<td>57,628</td>
<td>2,921.5</td>
<td>9,334.2</td>
<td>5.1</td>
<td>16.2</td>
</tr>
<tr>
<td>British Columbia</td>
<td>49,974</td>
<td>3,242.8</td>
<td>5,640.2</td>
<td>6.5</td>
<td>11.3</td>
</tr>
<tr>
<td>Yukon &amp; Northwest Territories</td>
<td>1,702</td>
<td>-</td>
<td>5.9</td>
<td>-</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Canada</strong></td>
<td><strong>$436,870</strong></td>
<td><strong>$86,531.8</strong></td>
<td><strong>$83,257.1</strong></td>
<td><strong>15.7</strong></td>
<td><strong>19.1</strong></td>
</tr>
</tbody>
</table>

Source: Statistics Canada

Alberta because Manitoba offers favorable transportation access from U.S. industrial centres.

The international border also creates an important advantage for Winnipeg as a U.S. distribution location. The elimination of tariffs would not remove all institutional protection from the Canadian market. Labels in Canada must be printed in French and English, metric weights and container standards are enforced, and in some cases, import quotas, licensing, and distribution regulations are imposed. These measures, which are generally referred to as non-tariff barriers, make it
desirable for U.S. firms to distribute goods in Canada from local production facilities or warehouses.

The removal of tariffs could make Winnipeg more attractive to U.S. firms as a distribution centre. The increased flow of goods between Canada and the U.S. could make local distribution more profitable because more truckload shipments could be distributed from Manitoba. Also the financial burden of maintaining inventories in Canada would be less because currently duties must be paid on entry, or products must be stored in bonded warehouses.

Eckler predicts that manufacturers will find it more profitable to sub-contract their distribution functions to specialized firms as the full impacts of transport re-regulation occur. Manitoba firms offering distribution services (e.g. freight forwarders, public warehouses, etc.) are well suited to increase these activities under free trade. 

Increased trade with the U.S. will have a corresponding benefit for the modes of transport that serve this market. Data on Canadian exports to the U.S. by mode of transport and province are presented in Table 7. Corresponding data for U.S. imports were not available. It can be assumed, however, that the modes used to carry imports from the U.S. would follow a pattern similar to Canadian exports to the U.S.

Export shipments are reported by road, rail, water, air and other means of delivery. On average, slightly over half of all Canadian exports to the U.S. are shipped by truck and one quarter are delivered by rail. In the case of Manitoba, over three-quarters of export sales are shipped by truck, while rail shipments account for only 11.5 percent of deliveries. An examination of Manitoba trade data suggests why truck transport has such a dominant role in the U.S. export trade. Few commodities that are suited for rail shipment to the U.S. originate in the province. The majority of the agricultural/food and crude/manufactured industrial goods which are shipped to the U.S. are more suited to truck transport. Consequently, the impacts of trade liberalization on Manitoba's transport sector will be borne almost entirely by the trucking industry.

Impacts of Trade Liberalization on Manitoba's Motor Carrier Industry

At the present time, neither U.S., nor Canadian carriers are allowed to pickup and deliver freight within each other's boundaries. This practice, which is referred to as cabotage, is prohibited by customs and emigration regulations. Customs regulations bar the operation of foreign equipment (except for international carriage), while immigration rules prevent the use of non-resident drivers in each country.

4 The other forms of delivery are primarily pipelines and power transmission lines.
Table 7  Canadian Exports to the United States, by Province and Mode of Transport, for 1984.

<table>
<thead>
<tr>
<th>Province</th>
<th>Road</th>
<th>Rail</th>
<th>Water</th>
<th>Air</th>
<th>Other*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nfld.</td>
<td>$286.3</td>
<td>$23.0</td>
<td>$86.4</td>
<td>$2.2</td>
<td>$0.3</td>
<td>$398.2</td>
</tr>
<tr>
<td></td>
<td>(71.9%)</td>
<td>(5.8%)</td>
<td>(21.7%)</td>
<td>(0.6%)</td>
<td>(-)</td>
<td></td>
</tr>
<tr>
<td>N.S.</td>
<td>$373.6</td>
<td>$287.6</td>
<td>$330.8</td>
<td>$9.4</td>
<td>$4.2</td>
<td>$1005.6</td>
</tr>
<tr>
<td></td>
<td>(37.2%)</td>
<td>(28.6%)</td>
<td>(32.9%)</td>
<td>(0.9%)</td>
<td>(0.4%)</td>
<td></td>
</tr>
<tr>
<td>P.E.I.</td>
<td>$68.4</td>
<td>$0.4</td>
<td>$1.6</td>
<td>$4.1</td>
<td>$0.1</td>
<td>$76.6</td>
</tr>
<tr>
<td></td>
<td>(89.3%)</td>
<td>(0.5%)</td>
<td>(4.6%)</td>
<td>(5.3%)</td>
<td>(0.1%)</td>
<td></td>
</tr>
<tr>
<td>N.B.</td>
<td>$475.0</td>
<td>$141.1</td>
<td>$315.5</td>
<td>$4.8</td>
<td>$469.8</td>
<td>$1406.2</td>
</tr>
<tr>
<td></td>
<td>(33.8%)</td>
<td>(10.0%)</td>
<td>(22.4%)</td>
<td>(0.3%)</td>
<td>(33.4%)</td>
<td></td>
</tr>
<tr>
<td>P.Q.</td>
<td>$6887.6</td>
<td>$4123.0</td>
<td>$1031.3</td>
<td>$511.1</td>
<td>$431.1</td>
<td>$12984.1</td>
</tr>
<tr>
<td></td>
<td>(53.0%)</td>
<td>(31.8%)</td>
<td>(7.9%)</td>
<td>(3.9%)</td>
<td>(3.3%)</td>
<td></td>
</tr>
<tr>
<td>Ont.</td>
<td>$32021.3</td>
<td>$12622.7</td>
<td>$577.2</td>
<td>$2411.9</td>
<td>$567.4</td>
<td>$48200.5</td>
</tr>
<tr>
<td></td>
<td>(66.4%)</td>
<td>(26.2%)</td>
<td>(1.2%)</td>
<td>(5.0%)</td>
<td>(1.2%)</td>
<td></td>
</tr>
<tr>
<td>Man.</td>
<td>$984.6</td>
<td>$149.5</td>
<td>$3.0</td>
<td>$40.8</td>
<td>$121.0</td>
<td>$1298.9</td>
</tr>
<tr>
<td></td>
<td>(75.8%)</td>
<td>(11.5%)</td>
<td>(0.2%)</td>
<td>(3.1%)</td>
<td>(9.3%)</td>
<td></td>
</tr>
<tr>
<td>Sask.</td>
<td>$949.3</td>
<td>$551.4</td>
<td>$90.1</td>
<td>$10.2</td>
<td>$1305.7</td>
<td>$2906.7</td>
</tr>
<tr>
<td></td>
<td>(32.7%)</td>
<td>(18.9%)</td>
<td>(3.1%)</td>
<td>(0.4%)</td>
<td>(44.9%)</td>
<td></td>
</tr>
<tr>
<td>Alta.</td>
<td>$772.9</td>
<td>$129.2</td>
<td>$26.7</td>
<td>$34.3</td>
<td>$7271.1</td>
<td>$9334.2</td>
</tr>
<tr>
<td></td>
<td>(8.3%)</td>
<td>(13.2%)</td>
<td>(0.3%)</td>
<td>(0.4%)</td>
<td>(77.8%)</td>
<td></td>
</tr>
<tr>
<td>B.C.</td>
<td>$1794.8</td>
<td>$2093.8</td>
<td>$1095.1</td>
<td>$47.7</td>
<td>$608.8</td>
<td>$5640.2</td>
</tr>
<tr>
<td></td>
<td>(31.8%)</td>
<td>(37.1%)</td>
<td>(19.4%)</td>
<td>(0.8%)</td>
<td>(10.8%)</td>
<td></td>
</tr>
<tr>
<td>Yukon &amp;</td>
<td>$2.6</td>
<td>$0.9</td>
<td>-</td>
<td>$2.3</td>
<td>$0.1</td>
<td>$5.9</td>
</tr>
<tr>
<td>NWT</td>
<td>(44.1%)</td>
<td>(15.3%)</td>
<td>(38.9%)</td>
<td>(1.7%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Other means pipelines and electrical transmission
Source: Bisson, B.G., et al. "Transportation and Free Trade-Implications for the Atlantic Provinces" - Statistics Canada Special Computation
Without the right of cabotage, Canadian carriers can only pick up return loads in the U.S. which are destined for delivery in Canada, and vice versa. Canadian carriers are unlikely to accept an empty run of 1,000 miles back to Canada, but they may incur a substantial empty run in the U.S. before picking up the return load. Absence of cabotage has less impact on U.S. carriers because most Canadian destinations are relatively close to the border. If a return load cannot be obtained in Canada, the cost of returning empty to the nearest U.S. load is considerably less than for their Canadian counterparts.

A number of other regulatory and taxation differences exist that add to the cost of transborder movements and, in some cases, provide economic advantages to domestic carriers. Such measures as vehicle weights and dimensions regulations, hours of work rules, vehicle trip fees, fuel taxes, and customs procedures are applied uniformly and do not constitute a particular benefit to foreign or domestic carriers. Nevertheless, regulatory inconsistencies do affect the efficiency of transborder carriage and increase transborder freight rates\(^5\).

Taxation differences also affect the competitive position of Canadian and U.S. trucking firms (Prentice and Hildebrand, Norwich). The U.S. has more liberal depreciation allowances for equipment, lower corporate tax rates, and fewer mandatory employee-related costs (e.g., Manitoba payroll tax). Although the Canadian Government is moving to harmonize Canada-U.S. taxation rates, under free trade the importance of maintaining comparable tax systems will increase. Fortunately for the Canadian industry, the lower exchange rate value of the Canadian dollar has offset its current tax disadvantages.

In most analyses of the motor transport industry, it is common to discuss Less Than Truckload (LTL) and Truckload (TL) movements separately. TL movements are door-to-door shipments usually involving only one shipper and one receiver. The industry is characterized by relatively low fixed costs, intense competition and narrow profit margins. LTL movements are made up of many small shipments which are consolidated into truckload quantities at origin terminals and sorted for final delivery at destination terminals. Revenues for LTL freight are higher than for TL freight, but the costs of operating a network of terminal facilities also is greater.

Prospects for LTL Freight Carriers:

The exclusion of cabotage rights in the proposed Canada-U.S. trade agreement seems likely. Point-to-point movement of freight in Canada will have to be moved with Canadian trucks and drivers. Nevertheless there is concern about the large U.S. LTL firms expanding their operations in the major Canadian traffic centres. Through the use of

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5 On average, these measures increase the cost of transborder shipments by 10 to 15 percent, as was previously shown in Tables 3 and 4.
their large U.S. network, they could have a service and profit advantage in transborder movements. Moreover, some of these giant carriers have the financial resources to use "hyper-competitive" pricing strategies that could force smaller Canadian operators out of the market (Norgay).

Data for international traffic are not broken down for IIL and TL movements, but interline payments give some indication of IIL's importance. Based on the data in Table 8, Ontario appears to dominate the international IIL freight market, and will be most affected by competition from U.S. based carriers.

Table 8 Revenue Earned and Interline Payments on International Trips to the United States by Canadian Domiciled Carriers, 1985

<table>
<thead>
<tr>
<th>Destination</th>
<th>Percentage of Transborder Revenue Earned</th>
<th>Interline Payments by Canadian Carriers for Transborder Trips To Parent Firms To Non-Parent Firms</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic</td>
<td>77.5 22.5</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Quebec</td>
<td>61.4 38.6</td>
<td>419 1259</td>
<td>20 41</td>
</tr>
<tr>
<td>Ontario</td>
<td>54.6 45.4</td>
<td>2849 2982</td>
<td>23191 12914</td>
</tr>
<tr>
<td>Mb. &amp; Sask.</td>
<td>48.4 51.6</td>
<td>0 0</td>
<td>2105 2105</td>
</tr>
<tr>
<td>Alberta</td>
<td>62.1 37.9</td>
<td>0 0</td>
<td>2173 7510</td>
</tr>
<tr>
<td>B.C. &amp; Territories</td>
<td>46.4 53.6</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Canada</td>
<td>56.2 43.8</td>
<td>3268 4241</td>
<td>27489 22570</td>
</tr>
</tbody>
</table>

Sources: Clavel, L. "A Survey of the Transborder Trucking Industry" and Statistics Canada

6 "A free trade agreement is bound to stack the deck against Canadian companies that lack the extensive network of warehouses and trans-shipment points to which the larger American companies have access. A detailed study of the implications remains to be done but there is little cause for optimism that there will be any important benefits from free trade for the Canadian trucking industry. The opposite is more than likely." (Rotstein:p.29)
The large relative proportion of interline payments made to non-parent firms (in 1984) suggests that the benefits of integrated international operations have been limited. This may be explained by the cost of acquiring operating authorities in Canada, but it also reflects the limited scope for scale economies when equipment and labour must be segregated to operate in each country.

Of more importance for Manitoba's transport sector is the movement of LTL freight in the domestic market. In Table 9, the balance of LTL and TL freight movements between Central Canada and Manitoba and the rest of Western Canada are presented. In 1985, more LTL freight (306,662 tonnes) moved east to west, and more TL freight (80,049 tonnes) moved west to east, leaving an annual freight imbalance of 225,813 tonnes of freight moving east to west.

Table 9 Balance of Truckload and Less Than Truckload Freight between Central Canada and Manitoba and the Rest of Western Canada, 1985

<table>
<thead>
<tr>
<th></th>
<th>Less Than Truckload (tonnes)</th>
<th>Truckload (tonnes)</th>
<th>Total (tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>East to West Movements</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Canada to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manitoba</td>
<td>156,437</td>
<td>246,846</td>
<td>403,283</td>
</tr>
<tr>
<td>Rest of Western Canada</td>
<td>398,623</td>
<td>475,758</td>
<td>874,381</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>555,060</td>
<td>722,604</td>
<td>1,277,664</td>
</tr>
<tr>
<td><strong>West to East Movements</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manitoba to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Canada</td>
<td>121,784</td>
<td>308,470</td>
<td>403,254</td>
</tr>
<tr>
<td>Rest of Western Canada to Central Canada</td>
<td>126,614</td>
<td>494,983</td>
<td>621,597</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>248,398</td>
<td>803,453</td>
<td>1,051,851</td>
</tr>
<tr>
<td><strong>Balance of Freight</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East &gt; West</td>
<td>306,662</td>
<td></td>
<td>225,813</td>
</tr>
<tr>
<td>West &gt; East</td>
<td></td>
<td>80,849</td>
<td></td>
</tr>
</tbody>
</table>

Source: Kulczycki, John. "Analysis of Origin and Destination of Less Than Truckload and Truckload Longhaul Movements of Freight by Highway in Canada" (Statistics Canada Special Computation)
Manitoba with about 15 percent of the region's population received
32 percent of the westbound freight and accounted for 38 percent of the
eastbound freight. More importantly in terms of revenue however,
Manitoba carried 28 percent of the westbound IIL freight and
almost half of the eastbound IIL freight. Manitoba appears to transship
as much freight to and from Central Canada as it receives/ships
locally. These data provide an estimate of Manitoba's role as a
distribution centre for Canadian goods in Western Canada.

One concern raised by Bisson et al. is that IIL general freight
could be moved by large U.S. carriers through U.S. gateways that would
completely circumvent Canada. For example, IIL cargo originating in
Toronto could move via Chicago to Winnipeg, rather than being carried
by a Canadian-based IIL carrier. If this were permitted, Manitoba
based IIL carriers could lose an important part of their traffic.
While such movements might be economically feasible (especially in the
light of the current east-west IIL freight imbalance), the rules
governing cabotage could be tightened very quickly to prevent such
circumvention, if it were to become significant.

In addition to the prospects of trade liberalization, the IIL
carriers in Manitoba have some major concerns stemming from the new
transportation policy. Under Bill C-19, new applications for operating
authorities will be judged on the basis of a "reverse onus test", until
1993, and subsequently may be granted on the basis of a "fitness test".
The new entry procedures are expected to open Canadian carriers to a
flood of competition from financially strong U.S.-based carriers
(Kennedy). Although the provinces may use some discretion in the
interpretation of these entry regulations, it is clear that the
monetary value of operating authorities are depreciating rapidly.

In addition to the increased competition from within the motor
carrier industry, under Bill C-18, intermodal competition in long haul
trucking is expected to increase. Specifically, the railways will be
permitted to use confidential contracts with their shippers that could
undercut longhaul truck rates (Kennedy). Under confidential rail
rates, piggy-back, container and "pool-car" operations could compete
more vigorously for IIL freight.

Prospects for TL Freight Carriers:

There are a number of large TL carriers based in Manitoba which
are active in transborder carriage. Following re-regulation in the
U.S. trucking industry, Canadian TL carriers were given open access to
the U.S. market and made significant market share gains (Cubukgil).
The possibility of reciprocal access for U.S. TL carriers in the
Canadian market raises some concerns for Canadian carriers.

In a recent study of transborder trucking, Canadian and U.S.
carriers were asked how they expected changes in Canadian transport
regulation would affect their competitive position. These data which
are presented in Figure 2, indicate that 62 percent of the Canadian
Figure 2  U.S. and Canadian Truckload Carriers' Views on the Impact of Canadian Transportation Regulations on Their Competitive Positions in Transborder Trade

Canadian Carriers
Change in Competitive Position

- No Change: 62.0%
- Improve: 21.0%
- Worsen: 17.0%

U.S. Carriers
Change in Competitive Position

- No Change: 28.0%
- Improve: 53.0%
- Worsen: 19.0%

Source: Prentice, B.E. and M.D. Hildebrand. Transportation Barriers to Canada-U.S. Trade of Agricultural Products
carriers believe their competitive position will worsen, while 17 percent believe there will be no change and 21 percent think it might improve. These opinions are mirrored by U.S. truckers: 53 percent think their competitive position will improve, while 28 percent expect no change and only 19 percent think their business will worsen.

Transborder operators also were asked how they felt a Canada-U.S. free trade area would affect their business. The responses to the specific questions are presented in Figure 3. The majority of Canadian and U.S. carriers agreed that transborder traffic and the length of haul would increase. U.S. carriers were more positive about the increased traffic (probably reflecting their current restricted access), while Canadians agreed more strongly on the probability of longer hauls.

With respect to equipment and labour costs, most U.S. carriers expected no change as a result of a free trade agreement. Canadians were generally divided on this issue. About half believed, or hoped, that free trade would have a positive impact on labour and equipment costs.

In general, U.S. and Canadian TL carriers are optimistic about the regulatory changes affecting Canadian transportation and the free trade negotiations. Although greater U.S. competition may decrease their market share, Canadian carriers are hoping that the increased size of the market after free trade will generate more revenue.

The views of many Canadian TL carriers may be summarized by the comments of one of the Prentice-Hildebrand survey respondents:

"Free trade with the U.S.A. would make for increased trans-border shipping and allow manufacturers lower overall production costs by locating their facilities in the most logical location and shipping finished products to the consumer, instead of forced operation of plants in areas due to pressure created by tariffs and duties or outright government demands.

If free trade were to include transport deregulation, all trucking firms would be able to compete on a level playing field. As it now stands, large amounts of Canadian trucking dollars are spent in acquiring operating authority, defending against authority applications, the Canadian authority situation does more harm to Canadian trucking trying to protect itself from American competition than good, as it makes it impossible for Canadian trucks to return to Canada with freight unless they have the authority in the province where the loads may be consigned to. This severely encumbers smaller carriers with huge cost of sales looking for the proverbial needle in the hay stack."

Figure 3 U.S. and Canadian Truckload Carriers' Views on the Impact of "Free Trade" on Transborder Trade

**Canadian Carriers**

- **Increased Transborder Traffic**
  - No: 30.0%
  - Yes: 70.0%

- **Longer Transborder Hauls**
  - No: 23.0%
  - Yes: 77.0%

- **Lower Equipment Costs**
  - No: 44.0%
  - Yes: 56.0%

- **Lower Wage Demands**
  - No: 50.0%
  - Yes: 50.0%

**U.S. Carriers**

- **Increased Transborder Traffic**
  - No: 12.0%
  - Yes: 88.0%

- **Longer Transborder Hauls**
  - No: 40.0%
  - Yes: 60.0%

- **Lower Equipment Costs**
  - No: 34.0%
  - Yes: 66.0%

- **Lower Wage Demands**
  - No: 12.0%
  - Yes: 88.0%

Source: Prentice, B.E. and M.D. Hildebrand. *Transportation Barriers to Canada-U.S. Trade of Agricultural Products*
Concluding Comments

Economic theory posits that free trade between nations will improve their joint efficiency, but it is extremely vague on the distribution of these benefits. A legitimate concern is the employment effects of trade liberalization, if it leads to greater foreign ownership. As Foersten points out, improved computerization and telecommunications have removed the need to maintain large numbers of managerial staff in close proximity to the production process. The expansion of U.S. investment in Canada through acquisition could result in the transfer of many "white collar" jobs to the location of the parent U.S. firm.

This has particular relevance for the motor carrier industry in Manitoba where nine of the top 15 largest extra-provincial carriers in Canada have their headquarters. If free trade/transport regulatory reform leads to greater U.S. ownership of the Canadian trucking industry, Manitoba could suffer.

In view of the importance of the trucking sector, measures to preserve Canadian ownership are reasonable. Obviously direct measures to bar foreign investment would be contrary to the thrust of the current policy direction, but some indirect support for the industry to help it adjust to the more competitive environment might be appropriate. Specifically, the regulatory reform will create significant capital losses for the Canadian trucking industry as operating authorities become easier to obtain. After the U.S. deregulation, U.S. trucking companies were granted generous tax write-offs to compensate for the de-capitalization of their operating authorities. A corresponding program in Canada could not be challenged by the U.S. industry as an "unfair" subsidy.

Granted there may be differences between the U.S. and Canada regarding the issue of operating authorities. Canadian firms have already been able to write-off their costs of acquiring operating authorities, while the U.S. firms were not. Also, the calculation of an appropriate value for non-traded operating authorities presents a dilemma in determining a reasonable and equitable compensation system. These factors complicate the process, but do not defeat the wisdom of assisting Canadian trucking companies to adjust to the new economic environment. The issue is not whether individual motor carriers should be compensated for government policy-induced capital losses, but whether financial assistance is necessary to maintain Canadian ownership of the industry.

Consequences of Trade Liberalization:

Transportation plays a dual role in economic growth and development. The function of transportation in international trade cannot be divorced from the role it plays in the location of production and distribution. Location has been one of Manitoba's most important assets and simultaneously, a key liability. On the one hand, Manitoba
has benefited through its role as a "gateway" - providing warehousing, distribution and transport services to and from western Canada. On the other hand, the manufacturing sector of the Manitoba economy has been disadvantaged by its distance from the industrial heartland of North America and the costs of reaching major overseas shipping ports.

In conjunction with the relatively high tariff protection, transborder freight rates have helped to create a manufacturing sector in Manitoba which is diverse, but relatively small scale. If trade liberalization encourages the specialization of manufacturing in Manitoba it could tend to increase the number of larger firms and the volume of Manitoba-U.S. trade. Smaller firms could face increased competition from U.S. imports, but the differential in transborder freight rates would still provide some locational advantage in the Manitoba market. The net effects for the transport sector will depend on whether trade liberalization with the U.S. increases transborder traffic more than it reduces trade with Central Canada.

The importance of Winnipeg (and Manitoba) as a distribution center is unlikely to be impaired by trade liberalization. The logistical advantages of serving western Canada from Winnipeg, will continue to make it an important centre. The border will still remain and with it many non-tariff barriers will continue to affect trade. Manitoba will continue to be the most convenient route for U.S. shippers east of the Mississippi to access the system of railroads, highways, and airports serving the northwest. As Canada-U.S. trade expands, strategic Canadian distribution points, such as Winnipeg, will be critical for U.S. firms serving Canadian markets.

The end result of trade liberalization for the transport sector is open to conjecture, but little more. The economic forces are so complex and de-centralized that it is virtually impossible to forecast the impacts with any precision. Moreover, changes in the regulation of Canadian transportation could have more profound consequences for Manitoba's transport sector than trade liberalization with the U.S. In particular, the motor carrier industry appears subject to major challenges from U.S.-based LTL carriers, and increased intermodal competition in Canada.

The degree of inter-dependence of the Canadian and U.S. economies is already so great that the repercussions for Manitoba of any free trade agreement are unlikely to be dramatic. Instead, trade liberalization will serve as a catalyst to hasten the further integration of Manitoba into the larger North American economy. To the extent that Manitoba is a strategic gateway to the northwest region of the continent, trade liberalization should create a positive stimulus for the provincial economy and its transport sector.
References


Appendix

Theoretical Model of Tariffs and Transport Costs

Conlon presents the following model to illustrate the impact of tariffs and transportation costs on the range of commodities produced.

Assume that Country I and Country II have a nominal wage ratio of $W^1/W^2$ expressed in common currency units. They use the relative labour inputs $a^1/a^2$ in the production of a certain commodity A. If transfer costs (tariffs and transportation costs) were zero, the ratio of labour inputs to wage rates would determine the trade flow. For example, if $a^1/a^2 < W^2/W^1$, Country I would export commodity A to Country II.

Adding tariffs and transportation charges to the model creates a range of non-traded goods. Assume that at cost $t$, goods can be shipped in either direction between the two countries, but are always paid by the supplying country. If the ratio of labour inputs plus transfer costs is less than the relative wage rates, $(a^1 + t)/a^2 < W^2/W^1$, commodity A will be shipped from Country I to Country II, while if $W^2/W^1 < a^1/(a^2 + t)$, commodity A will be shipped from Country II to Country I. If the value of $W^2/W^1$ lies between $a^1/(a^2 + t)$ and $(a^1 + t)/a^2$, then commodity A will not be traded.

Without transfer costs, goods are either imported, or exported. The impact of transfer costs is to create a third category or non-traded goods. The size of this class of non-traded goods varies directly with the cost of transport and the level of tariff protection.

In the expanded version of this model, which is illustrated in Figure 1, all commodities ($z_1, z_2, z_3 \ldots$) are ranked according to the "home" country's increasing comparative (labour) cost:

$$a(z_1)/a^*(z_1) < a(z_2)/a^*(z_2) < a(z_3)/a^*(z_3) < \ldots < a(z_n)/a^*(z_n)$$

where the asterisk represents the foreign country.

In the first case, Figure 1a, the transfer costs (tariffs and transportation) are assumed to be zero. The home country has a comparative labour advantage in all goods to the left of R, which are its exportables. Goods to the right of R are the home country's importables.

In the second case, Figure 1b, transfer costs create a wedge between the home country's importables and its exportables. These non-traded goods will be sold only in the domestic market at the current level of transfer costs. If either tariffs or transportation costs were reduced, some of these non-traded goods would be sold in the foreign country's market.

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7 To be algebraically correct, $t$ should be $t/W^1$ for Country I and $t/W^2$ for Country II. Conlon's notation is used in order to be consistent with his illustrations.
Appendix Figure 1 Role of Tariffs and Transportation Costs in a Two-country Trade Model

(a) 

Ratio of money wages in common currency units

\[
\frac{W^*}{W} = \Lambda(Z_j)
\]

\[
\frac{W^*_0}{W_0}
\]

\[
\frac{a(t_x)}{a^*(t_x)} < \frac{a(t_1)}{a^*(t_1)} < \frac{a(t_2)}{a^*(t_2)} < \ldots < \frac{a(t_{n-1})}{a^*(t_{n-1})}
\]

Ratio of real labour cost

\[
\Lambda(Z_j) = \frac{a(t_j)}{a^*(t_j)}
\]

(b) 

\[
\frac{W^*}{W} = \frac{a(t_j)}{a^*(t_j)}
\]

\[
\frac{W^*_0}{W_0}
\]

O Home country exportables

X Non-traded

M Home country importables

\[
\Lambda(Z_j) = \frac{a(t_j)}{a^*(t_j)}
\]

Source: Conlon, R.M. Distance and Duties: Determinants of Manufacturing Australia and Canada.
<table>
<thead>
<tr>
<th>Class Description</th>
<th>Import Value ($'000)</th>
<th>Export Value ($'000)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Live animals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cattle</td>
<td>na</td>
<td>37,456</td>
</tr>
<tr>
<td>swine</td>
<td>na</td>
<td>57,621</td>
</tr>
<tr>
<td>other</td>
<td>na</td>
<td>1,483</td>
</tr>
<tr>
<td><strong>Food, feed, beverages</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>meats</td>
<td>12,000</td>
<td>32,780</td>
</tr>
<tr>
<td>fish</td>
<td>7,659</td>
<td>33,790</td>
</tr>
<tr>
<td>other</td>
<td>163,954</td>
<td>33,089</td>
</tr>
<tr>
<td><strong>Crude materials, inedible</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>furf, and hides</td>
<td>24,519</td>
<td>5,173</td>
</tr>
<tr>
<td>seed</td>
<td>4,640</td>
<td>47,113</td>
</tr>
<tr>
<td>peat moss/crude materials</td>
<td>11,199</td>
<td>8,742</td>
</tr>
<tr>
<td>scrap metal/waste products</td>
<td>15,742</td>
<td>10,045</td>
</tr>
<tr>
<td>crude petroleum/coal</td>
<td>197</td>
<td>19,115</td>
</tr>
<tr>
<td><strong>Fabricated materials, inedible</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>leather products</td>
<td>1,844</td>
<td>6,074</td>
</tr>
<tr>
<td>rubber products</td>
<td>4,967</td>
<td>48</td>
</tr>
<tr>
<td>wood products</td>
<td>15,327</td>
<td>80,359</td>
</tr>
<tr>
<td>paper products</td>
<td>31,819</td>
<td>55,949</td>
</tr>
<tr>
<td>textiles</td>
<td>25,030</td>
<td>1,338</td>
</tr>
<tr>
<td>chemicals and plastics</td>
<td>144,210</td>
<td>40,295</td>
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<tr>
<td>petroleum products</td>
<td>4,843</td>
<td>58,847</td>
</tr>
<tr>
<td>iron and steel</td>
<td>13,408</td>
<td>30,425</td>
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<tr>
<td>nonferrous metals</td>
<td>15,847</td>
<td>38,596</td>
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<tr>
<td>metal products</td>
<td>22,182</td>
<td>17,906</td>
</tr>
<tr>
<td>non-metal mineral products</td>
<td>9,218</td>
<td>9,660</td>
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<tr>
<td>electricity</td>
<td>-</td>
<td>94,464</td>
</tr>
<tr>
<td>other</td>
<td>16,439</td>
<td>1,195</td>
</tr>
<tr>
<td><strong>End products, inedible</strong></td>
<td>1,646,181</td>
<td>549,988</td>
</tr>
<tr>
<td>engines, pumps, bearings, etc</td>
<td>63,559</td>
<td>13,124</td>
</tr>
<tr>
<td>material handling equipment</td>
<td>53,676</td>
<td>1,366</td>
</tr>
<tr>
<td>industrial machinery</td>
<td>60,986</td>
<td>7,840</td>
</tr>
<tr>
<td>agricultural machinery</td>
<td>363,630</td>
<td>175,553</td>
</tr>
<tr>
<td>transportation equipment</td>
<td>768,342</td>
<td>206,024</td>
</tr>
<tr>
<td>electrical equipment</td>
<td>181,565</td>
<td>96,756</td>
</tr>
<tr>
<td>furniture and fixtures</td>
<td>7,430</td>
<td>9,114</td>
</tr>
<tr>
<td>clothing</td>
<td>3,593</td>
<td>13,333</td>
</tr>
<tr>
<td>footwear</td>
<td>330</td>
<td>31</td>
</tr>
<tr>
<td>printed matter</td>
<td>83,682</td>
<td>2,741</td>
</tr>
<tr>
<td>plastic products</td>
<td>9,396</td>
<td>6,160</td>
</tr>
<tr>
<td>miscellaneous manuf.</td>
<td>49,982</td>
<td>15,964</td>
</tr>
</tbody>
</table>

**Total**                         | $2,193,994           | $1,271,551           

Source: Statistics Canada
Discussant: G. Reimer

I. Comments on the Paper

"The Evolving Transportation Policy Environment in Canada"

I would like to congratulate Mr. Phillips on doing an excellent job of reviewing the history of transportation regulation in Canada and bringing us up to date on where we are right now as it concerns our regulatory system.

Obviously my personal review of the paper tended to focus on those portions dealing with motor transportation. I used to think that I was the only person who understood the intricacies of motor carrier regulation in Canada but I am happy to note that there are now at least two of us.

I agree with Mr. Phillips that it is highly likely that motor carrier boards will administer the new legislation in different ways, nor in my view is that entirely bad. For more than 30 years the provincial motor transport boards have varied considerably in their approach and this I believe will continue to be the case.

This will also make the transition period more familiar and therefore somewhat easier to live with.

Philosophically, if we had no entry regulation nor other regulation for motor transportation in Canada, I would embrace that kind of a system. Generally I believe that the least government is the best kind. However, in view of the fact that we have had a regulated industry in Canada and since I also believe in the maxim "if it isn't broke, don't fix it", I was opposed to any drastic change in the regulatory system. I believed, and still do, that in Canada we have the finest motor carrier industry in the world. If you can tell me about another country in the world where cities as far apart as Winnipeg and Toronto can receive a two day LTL service, or cities as far apart as Toronto and Vancouver can receive a three day service by motor carrier, I would like to know about it.

In the light of the tremendous motor carrier service available in Canada, I felt the existing system should only be 'fine tuned' and that a drastic change was not only unnecessary but also undesirable. However, Bill C-18 and C-19 are now all but 'set in stone' and we, therefore, have to make the best of what we have. I believe that the resilience of our industry (coupled with the fact that free and easy entry may yet be a few years down the road) should enable us to make the necessary adjustments so as to continue to provide a service which

*Executive Vice-president, Reimer Express Lines Ltd.
is efficient in terms of both cost and prompt delivery to Canadian shippers.

I never let one of these opportunities go by without commenting on the fact that while we may have so called deregulation on the entry side of the business, we, in fact, have a great deal more regulation to deal with than ever before in our history.

Those of you who are familiar with the new employment equity legislation will realize that it will create a regulatory burden many times greater than entry regulation ever was.

True deregulation is something that will not happen. To take away control of entry while imposing a massive new regulatory burden doesn't make a great deal of sense to me. But what would someone who simply hauls goods 'to keep this land alive', know? We all know that providing 2500 jobs out in the field is not nearly as important as someone in Ottawa dreaming up ways of making it more difficult to maintain them.

Our legislators and bureaucrats should realize that while employment equity may sound like 'Nirvana' in the ivory towers of Ottawa, the massive paperwork burden that is created to enforce it could well be labeled 'an act to ensure increased unemployment in Canada.'

I realize that I may have strayed somewhat from the subject at hand, but I couldn't pass up this opportunity to voice some of the things I feel strongly about.

II. Comments on the Paper

"Trade Liberalization and Manitoba's Transport Sector"

This is a subject with which I am not nearly as familiar as the one I have already commented on. However, I have found the paper very interesting and instructive.

One of the things I found helpful, and perhaps comforting, was the form which Prentice felt free trade might take. I think many of us have a fear that if the free trade act is negotiated we will have free trade all at once and overnight.

Prentice indicates that it might, instead, be the year 2000 by the time all tariffs between Canada and the United States are eliminated and true free trade exists.

If that is the case, then we will have the opportunity to make adjustments to the new reality. If free trade were to come quickly and the result were a dramatic shift in traffic flows from East-West to
North-South, that would, of course, have serious repercussions for the many carriers (including the one which I am associated with) and their employees who are primarily in the East-West cross Canada marketplace.

While I have many fears about free trade, I am excited about the potential for Manitoba manufacturers to increase their exports to the U.S. At the same time, of course, free trade forces people to face up to reality.

If our taxes, the costs of providing government imposed social benefits, or labor, are too high in comparison to the U.S. then free trade will expose all such artificial barriers and cause us to either take corrective action or else to wither and to die.

Prentice, in his paper, suggested that with 'reform of transport regulation, it is possible that the institutional parts of the transborder freight rates will be reduced'. I would like to suggest that the regulatory burden on our industry was not great enough to have its removal bring about any reduction in freight rates. I believe that instead, the additional costs of new government social legislation will more than off-set any potential saving resulting from the removal of entry restrictions.

I appreciate the freight rate figures Prentice produced which indicated that Canadian domestic freight rates are lower than those in the U.S. for truck load movements. This would seem to indicate that those who expect lower rates as a result of so called 'deregulation' may have a long wait indeed.

I suppose the item in Prentice's paper which I most heartily agreed with was the suggestion that Canadian motor carriers should be compensated for the loss of the value of their operating authority. Since U.S. carriers were compensated through the tax system (following deregulation in their country), there is a reason why Canadian carriers shouldn't receive similar consideration from the Canadian government. Our industry has been pressing the case for such compensation in Ottawa but without success. I believe we will need to retain Prentice to help us make our case with the federal government.

I certainly appreciate Prentice's remarks about the importance of the trucking industry to Manitoba. I believe it is important that this industry and the jobs it is providing to our province be preserved.
Discussant: R. Adams*

My remarks are going to be somewhat asymmetrical between the two papers. Let me make a few comments about the first paper. I found it a very informative, clear-headed policy analysis as was noted in my introduction. I am an economist and perhaps the reason I found it interesting was because it was not written by an economist, and therefore muddled up with a great deal of theoretical baggage before it got to the policy analysis that was required. I find a great difficulty dealing with my colleagues in the profession who have almost extricated themselves from the theoretical position that markets are going to achieve a position known as optimality and that, therefore, the onus of truth is on anyone else who comes forth with any other objective that is not attainable through the market place.

I certainly found the paper very straightforward, clearly indicating that regional development is a legitimate national policy goal, and the problem, therefore, is the ability to design a mix of policies, including use of regulations in a sensible way which evolves with the changing times, along with prices and the market system where that is appropriate. I found that an elucidating approach to the subject, having weeded through a number of complex analysis over the past year and a half with my colleague Don Moruyay, in negotiations with the Federal Government on this issue, who are not always quite as clear in terms of what their goals are and where regional development, especially, fits into the mix.

There was a passing remark in the paper at the end of the presentation, about the link between transport deregulation and the issue which I currently am spending about 50 to 60% of my time on, and that is the Canada/U.S. trade negotiations - the so-called "free trade negotiations". It was suggested that the linking of the two complicates the process of deregulation or "re-regulation", as the author makes the point in the paper. I reacted to that in an interesting way because I think that is probably true. However, where I was coming from, was the argument that is very frequently being made, that the two are intrinsically linked as part of the policy of the Federal Government. Indeed, a point that was made in the subsequent paper, that a need to re-regulate in Canada is essential if one is going to try to implement the free trade area with the United States. So there is a sense in which I would necessarily concur, that perhaps the linking of the two complicates the one and the other. But there is another argument that the linking of the two is absolutely essential, especially if you are going to proceed with trying to implement a free trade area within North America.

*Assistant Deputy Minister, Manitoba Department of Industry, Trade and Technology.
I am going to concentrate most of my comments on Prentice's paper. I found the paper not only interesting, but also useful. Let me re-emphasize a point that he makes very well in the paper and that is the significance of the transportation sector in Manitoba. Particularly in Manitoba, it is disproportionately significant. We have trouble fixing one on the Canadian economy because we have our economic fingers, as it were, in so many pies. We are an extraordinarily well diversified economy.

Transportation is an interesting case where we are one of the leading provinces in Canada and there are not many other examples. I think, however, that we have got to be very careful about one of the points made in the paper and that is about the pressure coming from a free trade area for harmony. Now I am open to argument on this and, in fact, we, in the Government of Manitoba, have been making exactly, as it were, a converse argument. The difference in tax rates between Canada and the U.S. will, at least in the long run, be adjusted for through the tax rate mechanism as long as fiscal policy and monetary policy are not constrained by a free trade agreement. Right now, neither side is talking about those kinds of constraints.

The same argument applies in a very important way, I believe, to the differences between our social policies between Canada and the U.S. The argument was made not only theoretically, but empirically, in a paper by Clarence Barber which he did for us as we were beginning to get into these kinds of things. The differences in tax structure, in tax rates and social policies, and they way they are financed translates through the price mechanism and the exchange rate mechanism. Therefore, the argument that Reimer made earlier is going to be very potent politically but it is not, I believe, correct economically. I think we should be very cautious about that part of the argument. If we enter into a free trade agreement with the United States, we have to harmonize with them in our tax structure and our social policies. I think that there is, at least, an argument theoretically and I believe it in demarcated on the research we have done empirically, that that is not the case as long as exchange rates are free to adjust over time. However, there is a variant of the harmonization argument that I believe probably is valid and it is made in a very forceful way in the paper. In fact, more forceful than I had even thought of and that is the necessity to look at harmonization of the regulatory regimes as they apply to transport because of the theoretical links between tariffs and transportation rates. I must say that it was put in a more forceful way than I had probably thought through and I would probably also say that I am not sure whether the two sides leading these negotiations have thought this through very carefully. This is touching a bit on the question: "where is this agreement going and what will it look like?" The negotiations on transportation, transportation regulations and, indeed, the transportation services sector, which is the title under which the negotiations are being carried under that component, are not going well. A great deal has been said about the differences between the Canadian position and the American position on the disputes
settlement mechanism. Less attention is being paid in terms of public coverage to the many outstanding differences between the Canadian side and the American side on transportation services and the point came through very clearly in the paper. I believe I've got this correct, either you run undermining the successes you might achieve through a free trade area. Interestingly, sufficient attention is probably not being given to that point on either side of the border.

I want to say something about a subject that is addressed very forcefully in the paper, but frankly was more clearly addressed, I believe, in the presentation. That is the issue about the potential shift away from Manitoba as a distribution centre, the 'gateway' argument. The argument that has been made most recently, perhaps by Loewen and his paper is cited in Prentice's paper. I must say I found the verbal presentation more convincing than I did the argument in the paper. I think that what you expressed verbally, you might want to look at putting into the paper. I must say that, personally, I remain to be convinced on that point. Prentice put the point very carefully: namely, that Manitoba would not lose its role as a distribution centre or a gateway to the northwest. I have no problem accepting that variant of the argument, but I am still not convinced that there will not be down-sizing and that is an issue that we will have to address as analysts, making recommendations to government at some point.

The point about the infrastructure being there and therefore being used is a useful and valid one; but I am still not convinced that there will not be this shift in the centre of distributional gravity. Although Manitoba is not going to disappear as a distributional centre, I remain to be convinced that there will not be some down-sizing in the province as a result of the fact that we are now dealing with 'a cord along a circle', the analogy being used, rather than the centre of the ribbon, in distribution economics.

I will forego the temptation to move on and make some comments about the characterization of the agreement that is contained in the paper because I do want to try to constrain my comments within the time limit. I also have some differences about the differential affect on different sectors of the tariff reductions, although they are not great. Food and beverage is an area that I will mention, as I am not sure that I agree with you. The bottom line certainly is the question about the net impact of a free trade are on a series of different accounts: the job account, the national output account and also the efficiency and the productivity account, but in a way they are secondary to what I think Canadians will ultimately be looking for when they ask the question, "Is this a good deal or not?"

I found the paper rather depressing in one sense because Prentice was honest enough to say that he found it impossible to estimate the impact of the agreement on the transportation sector. That is a question that is going to be asked and it is going to be asked legitimately. Also given that I am liable to find myself on the firing line trying to answer the question, I found Prentice's rather frank
analysis, rather depressing, as well as perhaps a bit disappointing. Ultimately, the transportation sector is going to be only one small component, but in this province it is going to be an important component of that bottom line calculation. No one is denying that there are going to be some sectors that are gainers and where there is going to be definite benefit, both in terms of output, productivity and jobs. However, no one is denying that there is going to be, even taking the adjustment period into account, down-sizing rationalization and, consequently, loss of jobs. The exact calculation is going to depend on the exact wording and the detail which we do not know yet. That will not be known, likely till at the earliest, the end of September or the beginning of October.

Transportation will be one set of calculations that will have to be done, along with a series of virtually impossible predictions; but absolute predictions that look at the balance between the job loss and the job gains, output loss and output gains as well as the constraints on a whole series of other non-quantifiable factors that are extremely important to national policy in this country, such as regional development and also our ability to mount independent economic policy. Those will be the less quantifiable factors on which we are going to have to balance any net gains in jobs or net output in this agreement. For Manitoba, transportation is going to be a critical subcomponent because of its importance within our economy.
Discussant: A. Cerilli*

Our Union represents workers in air, rail, water and road transport and we have been concerned about the Canadian transport industry since the time the United States introduced deregulations in the late 1970's and early 1980's. I would like to congratulate the two presenters particularly on their fine papers, "The Evolving Transport Policy Environment" and "Trade Liberalization and Manitoba's Transport Sector", as they confirm our fears that there will be winners and losers in the transport industry. The presenters did not, however, deal with the adverse effects on society, the communities, and workforce, and I would like to have heard from them in this regard.

We have been concerned about a number of areas in the legislation, specifically:

(1) reverse onus in trucking, which means easy entry;

(2) competitive line rates, which will create a mess for our railways;

(3) the Safety Code; and

(4) hours of work.

With the ever-increasing transport of hazardous waste and dangerous goods, it is our view that the safety code and hours of work regulations should have been implemented prior to any change as outlined in Bills C-18 and C-19. It is our opinion that the public will eventually demand a safe transport industry.

I have been of the view that regardless of an agreement being reached on free trade between Canada and the U.S., the deregulation of the Canadian transport industry has always been part of the free trade deal. The harmonizing of deregulation in both countries will give the giant American transport industry a deregulated Canada to operate in, by transporting goods north and backhauling south. For example, the huge Roadway Express with $2 billion U.S. in revenues and a 570 terminal network operation, is presently aggressively expanding into Canada, as well as Manitoba. The backhaul of goods south by the American trucking companies will adversely affect Canadian truckers, shippers, and manufacturers. In the short term, shippers and manufacturers may benefit, however, the loss of revenues to Canadian transport companies will affect Canadian society as a whole, and in the American experience, there is no proof that consumers have benefited from deregulation.

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*Regional Vice President, Canadian Brotherhood of Railway, Transport and General Workers.
I feel that a number of areas have to be addressed and cannot be divorced from Bills C-18 and C-19. They are:

(1) the impact to society as a result of the loss of jobs and tax revenues;

(2) the impact on workers in general, their levels of pay, pensions, benefits, etc.;

(3) the implementation of Bills C-18 and C-19 prior to implementation of the safety code and regulations dealing with hours of work;

(4) services to small communities and the North; and

(5) insurance coverage and costs to transport companies.

The foregoing are areas which have not been dealt with by any of the presenters. In addition, we believe that present and future labour negotiations, particularly in the transportation industry, is an area which calls for a new and honest approach by the parties and must include the following issues or points, as concessionary negotiations simply do not work:

(1) retraining;

(2) job security;

(3) long-term benefits; and

(4) severance pay.

A deregulated transportation industry in Manitoba (and Winnipeg) also requires a new approach and long-term planning, for the strong possibility that it will play a reduced role as a transportation centre.

We must pay more attention to the American experience as to the effects, good or bad, deregulation has had on that industry in all of the areas I have previously mentioned.

A number of our concerns were summed up in 1965, by Justice Samuel Freedman, which in my view are still prevalent today. Justice Freedman, in his one-man commission report dealing with CN's unilateral introduction of operational and technological change in the workplace—particularly run-throughs resulting in a subsequent work stoppage, has dealt with the questions of obligations to employees and communities; companies' responsibility; unions' responsibility; and the nation's responsibility. In summary, Justice Freedman concluded that no change should be made which would adversely affect workers and communities, before giving as much advance notice and planning as possible. His report has given us the opportunity of looking through the window which would take into account the economic survival of any segment of society at the expense of another, and we quote from his report, commencing with quotations as follows:
"We are confronted with the problem of how to deal with displacement and dislocation, with the need for retraining, with the creation of new skills, with the survival of an enterprise and the investment of new capital, with material and human losses, and with the question of how to distribute new benefits between wages, social welfare and leisure. These are complex and rapidly changing issues which cannot be tackled successfully unless; first, there is mutual concern and mutual recognition of the legitimate role of each party; second, there is realization that neither the responsibility for nor the cost of adjustment can be imposed solely upon one of the parties or let fall upon the weak; and third, there is a comprehension of the need for objective analysis, for information, for prior study, for consultation and forward planning, and for a readiness to deal with realities."


"This differentiation between beneficiaries and sufferers from technological change presents us with a moral as well as an economic problem. Society as a whole, by and large, a beneficiary. Is it morally acceptable for most of us to enjoy the benefits of new technologies without utilizing every possible means of minimizing the losses and assisting the readjustment 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."


There is much wisdom in the words quoted above and the Commission is pleased to adopt them as the basis of its approach to the problem now being considered."

In closing, and in the short time left, I want to refer back to the approach that has been taken by all of the presenters so far — winners and losers. My remarks have basically been to highlight and emphasize the need for a new approach in that the company which will be financially bankrupt and workers caught in the financial squeeze, must be considered as the losers. Who is going to be responsible for them? Will they share in the profits of the winners? What will happen to communities which lose their economic base and the question — will the winners voluntarily share their prizes with the losers — must be a concern to all of us.
Who will be the winners and will Canadians accept the deal on free trade as a good one, and will Canadians accept deregulations as a good deal? It is my view that Canadians as a whole will be the losers.
IV. BANQUET ADDRESS

The Role of Transport in Manitoba's Economic Future: A Provincial Government View

J. Plohmans

I am very pleased to be here this evening on the occasion of the first official function in the Transport Institute's new facilities.

We are proud of the institute. Manitoba shared with Canada in financing the construction of this fine building and, in addition, we provided program development funds at a time when Transport Canada's university programs were being cutback and cancelled. Provincial government support for this institute reflects our belief in Manitoba as a centre of transportation in Canada.

I would like to thank Dr. Ed Tyrchniewicz and his colleagues for the invitation to speak here tonight and compliment them for having selected for their conference theme, "The Role of Transport in Manitoba's Economic Future."

I understand that you have benefitted today from a number of excellent papers which have provoked interesting discussions. I know these will prove helpful in meeting the challenges of tomorrow.

These discussions reflect the two-fold objectives of this conference: first, to identify and clarify the role of transport in Manitoba's economic future; and second, to suggest ways in which transport might be used more effectively to enhance Manitoba's economic future.

In keeping with these objectives, I would like to take a few minutes to look at the Manitoba economy and speculate on its direction for the next ten years. I know Dr. Mason has dealt with this in some depth this morning, but this brief reference on my part will provide a useful framework on which to base my later remarks on the role of transportation.

In common with the rest of Canada, and many parts of the world, Manitoba faces economic problems although our province's diverse economic structure protects us from the volatility experienced in the rest of western Canada as a result of their resource dependency.

*Session chaired by Arnold Naimark, President, University of Manitoba.

**Minister of Manitoba Highways and Transportation.
While avoiding boom and bust cycles, we still face severe problems due to low prices for agricultural commodities and stiff world competition in the resource and manufacturing sectors.

Despite these problems we are justifiably proud of our accomplishments. In the past six years we have moved our economy from nation-trailing to nation-leading.

Last year, 13,000 new jobs were created and Manitoba's unemployment rate of 7.7 percent in 1986 was the second lowest in Canada for the fourth consecutive year.

In his paper earlier today, Dr. Tychniewicz equated increased personal income with economic development. It is interesting to note that from 1981 to 1986, personal income in Manitoba increased at an average annual growth rate of 7.7 percent compared to 6.9 percent for all of Canada, moving us up to 94 percent of the national per capita average.

In terms of our medium to long term economic future, in March of this year the Royal Bank issued long-term forecasts in its document entitled "Provincial Outlook of 1995."

In its forecasts, the Royal Bank ranked Manitoba with Ontario and Quebec as a growth leader in the decade to 1995. Manitoba's real gross domestic product is expected to grow at an average annual rate of close to 3.3 percent in the coming ten years, somewhat faster than the national average.

Employment expansion is expected to develop at an annual rate of about 2 percent so that unemployment will fall to 7 percent by 1990 and 6 percent by 1995.

The Royal Bank also expects Manitoba to out perform the rest of the country in terms of disposable income growth and consumer spending or in other words, to continue as a nation leader.

This relatively healthy economy did not come about completely by accident. It has been shaped by progressive policies and involves the positive attitude and hard work of all Manitobans. Transportation has played an important role but there must be positive action particularly by the federal government and its agencies if it is to continue to contribute to the same degree in the future.

The role of transportation in Manitoba's economic future obviously will vary from region to region within the province, as it has in the past. I too will accept, as a basis for discussion, the six types of regions outlined in Transport Canada's 1978 discussion paper, "Transportation: A National and Regional Perspective." This paper distinguished six types of regions - remote, frontier, resource, agricultural, depressed and developed. I would like to discuss Manitoba's transportation future with these classifications in mind.
The transportation sector is important, perhaps vital, to Manitoba, both as a service industry and for the manufacturing sector. It is estimated that there are as many as 58,000 people employed in transportation related jobs in Manitoba.

Because of our geographic location, the manufacturing sector in our province, which is highly developed, is extremely dependent on transportation to get its products to domestic and foreign customers. It is estimated that 40 percent of output is sent from our province to other parts of Canada while 10 percent is exported outside Canada.

From its earliest days, Manitoba has been a centre for transportation and distribution and remains so today, despite attempts to downgrade and undermine this historic role. I site such examples as the partial move of regional headquarters functions from Winnipeg to Edmonton by CN in 1985, the recent divestiture involving Winnipeg and Vancouver, Transport Canada's lack of enthusiasm on developing Canadian rail bus technology, CN's negative position on the new articulated grain car and so on.

Winnipeg is a railway centre served by four railroads, and employing approximately 12,000 Manitobans. Canadian National has a major car and locomotive repair facility at Transcona shops and we are told by the federal government and CN it will continue to grow in importance. The Sylwington Yard in St. Boniface is one of the most modern in the world.

CP Rail has huge terminal yards in Winnipeg as well as the facilities of the Weston Shops (the new diesel shop just recently opened) for the repair and rebuilding of rail cars and locomotives.

Winnipeg is also a centre for air services: transcontinental, transborder, regional and local. Our province has a good network of airports, including several provincial airports which provide the only year-round access for native communities in the north, about 20 such airports.

As highways have developed, so has the motor carrier industry. Winnipeg's central position on the Trans-Canada highway and its role as a distribution centre has meant that nine of the 15 largest trucking firms in Canada have their headquarters in Winnipeg.

Last, we have our Maritime link. The port of Churchill, which allows direct distance advantage deep-sea shipping access to the heart of the continent, is an important contributor to Manitoba's economy and is strategically important to the West and Canada as a nation.

What is the role of transportation in Manitoba's economic future? Well, I believe it will centre on two major questions; firstly, how well we are able to enhance and develop our existing facilities; and secondly, our ability to use transportation as a tool of regional
economic development. Both of these depend very much on the federal question mark and its recognition of this need.

Manitoba has a mixture of mature and developing transportation systems. In developed regions with mature systems, it is only necessary to maintain and enhance what already exists. This can be readily done provided fairness is ensured in deregulation, free trade, and federal decisions involving Manitoba.

In remote, frontier, resource and agricultural regions transportation must continue to be an instrument of regional economic development.

Opinions on the use of transportation in this role vary but we can identify two main schools of thought.

First, we have those who believe that the solution lies in building transportation infrastructure in the hope that development will follow; and second, those who believe that transportation should be used as a catalyst where other positive factors such as resources and markets are present.

We do not subscribe to the unsubstantiated and unjustified construction of speculate infrastructure. We can’t afford to. We do, however, and I want to make this point here, believe in maximizing the use of existing infrastructure where there is proven potential. An example is the retention of grain branch lines which also access reserves of minerals and forest products.

Given Manitoba’s abundant resources and opportunities, our government favours the use of transportation as a catalyst in regional economic development. It should play a developmental role while, at the same time, supporting the enhancement of mature systems. Our representation at various hearings on the National Transportation Act and our transportation agreements signed with the federal government in 1984, support these positions.

I would now like to outline what I feel to be the key elements, the critical requirements necessary to optimize the contribution of transportation to the future of Manitoba’s economy, the problems or challenges associated with these key elements and the actions necessary to deal with them.

You have no doubt noticed my references to the federal government from time to time. As you know, transportation is a shared jurisdiction in Canada and one of the critical requirements is for the establishment of mutual goals, rather than the confrontation which is too often evident today. This confrontation, and the jurisdictional disputes that accompany it, often acts as a disincentive to the optimum use of our transportation resources. And the setting of mutual goals can best be accomplished by strong political direction to entrenched eastern oriented bureaucrats at the federal level.
One of our greatest challenges is the need to ensure that each mode is maximized for the tasks for which it is best suited. We can no longer afford the expensive luxury of duplicate infrastructure and services. At the same time, the solution does not lie in the unilateral withdrawal by the federal government from its traditional responsibilities with a subsequent cost transfer to provinces and municipalities.

In meeting this challenge, I was pleased with the recent support of the other western transportation ministers for a new, more equitable and less confrontational approach to rail line rationalization. An approach, I might add, that we have been seeking for some time. It is one that involves the economic analysis of all transportation alternatives, the participation of all affected parties and calls for transitional funding to compensate the losers as a result of any changes that are made, that proposal now rests with John Crosbie.

In endeavouring to optimize the use of each mode, there is a need for a clear and unequivocal national highway policy similar to that present in most European countries and the United States. In Canada, the federal government collects more than $2 billion annually in fuel related taxes while returning virtually nothing in western Canada to assist in the provision of highway infrastructure. Our economic future would be greatly assisted by a national highway policy based on a portion of this revenue being redistributed to the provinces in an equitable manner.

At the same time that we are striving for the optimum use of each mode we are also striving to overcome the inherent defects in the new national transportation policy enunciated in Bills C-18 and C-19. I will continue to express my governments concern on such critical issues as about U.S. infiltration in transportation services, a meaningful developmental role for transportation, reasonable freight rates to small and captive shippers, efficient service to small communities and all aspects of safety.

Linked to the problem areas associated with Bills C-18 and C-19 is another area of concern which has the potential for very serious negative impacts on our country, both politically and economically-free trade. Given the limitations of time, I will not dwell on the broader aspects of the free trade discussions but will confine my remarks briefly to free trade in transportation services.

Manitoba has been expressing concerns in this area for many months and in many different forums so my officials were astonished recently to find, in a meeting with the Federal Deputy Negotiator on free trade, that he had not heard of any concerns about transportation services and was totally unaware of any potential negative impact. This was precisely the same attitude portrayed by John Crosbie when I raised concerns with him directly at ministerial meetings. Our regulated transportation industries gave us, at the very least, a bargaining chip
in free trade discussions. I believe Bills C-18 and C-19 are throwing the bargaining chips away with nothing in return.

Indications from the free trade negotiation process lead me to believe that cost-shared transportation subsidies and similar arrangements which are part of a domestic issue - regional economic development - have become part of an international issue in which they have been identified by the U.S. as a trade irritant. And yet, we are removing them in actions totally removed from the free trade discussions through Bills C-18 and C-19. It is totally unbelievable and unacceptable.

Manitoba's future as a transportation and distribution centre will be placed in jeopardy if Canada's trade patterns shift to a north-south pattern rather than the current east to west. Why then should we not ensure that minimum safeguards are in place? I believe such action that would be a prudent, reasonable step, considering what we have at stake.

Another key element in transportation development is the need for joint planning.

The federal government has stated that its' preferred method of dealing with regional economic development is the economic regional development agreements process. Although there have been some day-to-day problems this process has generally served all parties well even though it is not necessarily flexible enough to ensure the developmental role of transportation.

We are now in the second half of two transportation related ERDA subsidiary agreements, one on transportation development, which included construction of the transportation institute, and the other a major agreement on Churchill. A positive continuation of this process could allow for joint planning for the next decade which, as I said earlier, is so essential in transportation.

Our interest and hope in the ERDA process lies in the recognition of the need for an effective, balanced, coordinated federal system of regional development and equalization.

In this regard, we are seriously concerned about the possibility that Ottawa's western diversification plans, which probably just include repackaging of existing programs and money, may include establishment of an agency in Calgary which would take over a significant portion of the federal responsibility for regional development planning and programming. What are Manitoba's guarantees of fair treatment? How would Manitoba benefit?

As Premier Howard Pawley noted recently, the possibility of split federal responsibilities for economic development might weaken or undercut the ability of the government of Canada to pursue effectively the national policy principles on regional development which all
governments endorsed just two years ago. Those are the uncertainties but with the current eastern orientated policies and politics perhaps the only get better. But there is uncertainty, and development policy becomes even more uncertain when combined with what appears to be philosophical contradictions in federal transportation policy.

One of these contradictions is the clash between competition and user pay. The "Freedom to Move" document which resulted in Bill C-18 was supposedly based on a desire to make Canada competitive in world markets. This competitive philosophy is hard to reconcile with the federal "User Pay" policy for transportation services that could render Canadian exports too expensive to meet world competition.

Another major contradiction is the role of Crown corporations in economic development. It has been generally accepted in the past that the main difference between Crown corporations and private corporations is that the Crowns can provide transportation services that respond to the government's social and regional economic objectives more effectively than those provided by private corporations.

After years of being regarded as instruments of regional economic development, we now see Crown corporations such as Canadian National being told that they must be businesses with a concentration on the things that are really federal policy and the simple solution would seem to be that Crown corporations should still respond to the government's social and economic objectives but, should they incur losses in doing so, they should be fully compensated for this "imposed public duty." Therein lies the realization of the developmental role of transportation.

While gleefully accepting this new federal mandate to operate as a "business," CN has started to enumerate a national transportation policy of its own. We see an Assistant Vice President roaming across the country advocating the closure of the port of Churchill. At the same time, Canada and Manitoba have a signed ERDA subsidiary agreement to jointly enhance and develop the port of Churchill involving 55 million Manitoba dollars and CN is a party to this agreement. Lack of clear public statements by the Federal Minister on these issues encourages these kinds of contradictions and is harmful to Manitoba's and Canada's interests.

Of equal concern, given the right of the railways to offer incentive rates and confidential contracts, is the very real possibility that major carriers can become the arbitrators of regional economic development through the selected use of rate incentives. This re-emphasizes the need for a cooperative system regarding rail rationalization so that all affected parties can participate effectively to ensure that regional economic interests are paramount over the narrow interests of the railways.
We face a decade in which economic gains will only be achieved by hard work, cooperation and enlightened policies. While we may be assisted by advances in technology we will also be faced with the fact that technological advances usually reduce jobs. These are major challenges but ones I believe Manitoba is ready to face.

I have discussed a number of problems which will make progress difficult but progress there will be. The problems must not be regarded as insoluble, they must be seen as challenges.

If we are to use transportation more effectively to enhance Manitoba's economic future, we must recognize that our policies cannot be based on narrow theoretical economics alone. There will always be related factors such as quality of life, regional development, sovereignty, or defence, which must be considered in reaching a political decision.

We cannot afford to become negative or give in to adversity. We must work together as politicians, academics, civil servants, operators, shippers and consumers to provide an efficient and effective transportation system that meets our economic needs and the challenges of the future.

We must share our vision of Manitoba and our country with all Canadians and through our vision we must show the way, through sharing and the creation of understanding we will meet these new challenges. Our economy as well as our transportation role will continue to be on the leading edge. We will continue nation leading.
V. SPECIFIC ISSUES

The Economic Importance of the Transportation Service Sector

E. M. Ludwick**

1. Transportation as a Service Industry

The Canadian economy and, indeed, any economy can be thought of as consisting of three basic sectors of activity. The primary or resource exploitation sector consists of enterprises involved in agriculture, mining, fishing, etc., while secondary industries include construction and manufacturing. Primary and secondary industries together are considered as the goods producing sector. The third component of any economy is the tertiary sector, more commonly known as the service industries sector.

A simplistic definition of services is: "intangible economic commodities produced for sale or distribution through the market mechanism or through established programs or institutions" while goods are tangible. A further distinction between goods and services is that goods are transferable whereas only when a service is embodied in a good, can its ownership be exchanged; that is, services are provided to the purchaser simultaneously with their production.

Four basic categories of services are defined as follows:

1. Services embodied in goods such as motion pictures, musical recordings, etc.;
2. Services which are complementary to trade in goods such as transportation services;
3. Services which substitute for trade in goods such as franchises, chartering, leasing, etc.; and,

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*Session chaired by Otto Lang, Executive Vice-President, Pioneer Grain Company.

**President, General Manager, Ludwick and Associates.

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1 Department of Regional Industrial Expansion, Task Force on Trade in Services Background Report, Ottawa, October 19, 1982.
4. Services which are sold without a relationship to goods such as banking, life insurance, professional services, etc.

Notwithstanding certain changes which have seen some industries in the service sector grow dramatically while others have declined, in general services appear to have been growing significantly as a proportion of the overall economy of developed countries as shown in Table 1.

The growing importance of the service sector to the Canadian economy is further highlighted in a Canadian Employment and Immigration Commission Task Force Report (July, 1981) entitled "Labour Market Development in the 1980's". Between 1950 and 1979, total employment in the Canadian economy doubled from 5 million to 10.4 million. Within this growth, employment in the service sector more than tripled to seven million jobs in 1979 from only 2.2 million in 1950. Furthermore, of the 2.7 million new jobs created in Canada in the past decade, approximately 2.2 million (over 80%) were created by service sector industries. The previously referenced DRIE report highlights that there have been marked differences among the performance of the various service sector industries. Importantly for our purposes here, transportation, storage and communications in fact did not increase their relative position in total Canadian employment. The above-mentioned CEIE report notes that in 1946 this sector accounted for 8.9% of jobs while in 1979 it accounted for only 8.7% of jobs.

Table 2 shows that between 1971 and 1983, the contribution made to gross domestic product by "marketed services" increased relative to that of the "non-marketed services" and "goods producing" sectors. Among "marketed services", only the hotel and restaurant sector and the transportation service sector failed to increase their contribution to GDP in that 13 year period. Looking at the 1985 statistics for the transport and storage sector, the contribution to gross domestic products held relatively steady in the neighbourhood of 6%. Thus compared to the "marketed services", transportation has not been a factor in the gradual restructuring of the economy from a goods producing orientation to a services orientation. An important reason for this is the fact that transportation services are of a derived demand nature; to the extent that inputs of production and final products are transported because distance separates buyers and sellers, the demand for transportation services is a direct function of the demand for goods. It is evident therefore that the fortunes and growth or otherwise of transportation services largely are tied to those of the goods producing sectors.
<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>CANADA</th>
<th>FG</th>
<th>FRANCE</th>
<th>ITALY</th>
<th>JAPAN</th>
<th>U.K.</th>
<th>U.S.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>'60</td>
<td>'68</td>
<td>'60</td>
<td>'78</td>
<td>'60</td>
<td>'78</td>
<td>'60</td>
</tr>
<tr>
<td>Services' Proportion of GNP:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60%</td>
<td>65%</td>
<td>41%</td>
<td>49%</td>
<td>52%</td>
<td>58%</td>
<td>46%</td>
</tr>
<tr>
<td>Services' Employment Share:</td>
<td></td>
<td></td>
<td>38%</td>
<td>48%</td>
<td>39%</td>
<td>51%</td>
<td>29%</td>
</tr>
</tbody>
</table>

### Table 2
GDP Originating by Industry in Constant 1971 Prices

<table>
<thead>
<tr>
<th>Industry</th>
<th>1971</th>
<th>1983</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Industries</td>
<td>8.0</td>
<td>6.1</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>22.9</td>
<td>20.6</td>
</tr>
<tr>
<td>Construction</td>
<td>7.0</td>
<td>5.6</td>
</tr>
<tr>
<td>Utilities</td>
<td>2.0</td>
<td>3.4</td>
</tr>
<tr>
<td><strong>Total Goods</strong></td>
<td>39.9</td>
<td>35.7</td>
</tr>
<tr>
<td><strong>Marketed Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Producer Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance, Insurance &amp; Real Estate</td>
<td>11.5</td>
<td>13.8</td>
</tr>
<tr>
<td>Other Business Services</td>
<td>3.1</td>
<td>4.7</td>
</tr>
<tr>
<td>Distributive Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport and Storage</td>
<td>6.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Communications</td>
<td>3.0</td>
<td>4.2</td>
</tr>
<tr>
<td>Wholesale and Retail Trade</td>
<td>11.8</td>
<td>12.4</td>
</tr>
<tr>
<td>Personal Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotels and Restaurants</td>
<td>2.6</td>
<td>2.4</td>
</tr>
<tr>
<td>Entertainment and Recreation</td>
<td>0.6</td>
<td>0.9</td>
</tr>
<tr>
<td>Other Personal Services, including membership organizations</td>
<td>1.0</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Sub-Total Marketed Services</strong></td>
<td>39.8</td>
<td>46.6</td>
</tr>
<tr>
<td><strong>Non-Marketed Services</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and Welfare</td>
<td>5.3</td>
<td>5.5</td>
</tr>
<tr>
<td>Education</td>
<td>6.4</td>
<td>5.0</td>
</tr>
<tr>
<td>Public Administration and Defense</td>
<td>7.4</td>
<td>7.2</td>
</tr>
<tr>
<td>**Sub-Total Non-Marketed Services</td>
<td>19.1</td>
<td>17.7</td>
</tr>
<tr>
<td><strong>TOTAL SERVICES</strong></td>
<td>58.9</td>
<td>64.3</td>
</tr>
</tbody>
</table>
2. Scope and Dynamics of the Canadian Transportation Industry and the Economic Significance of its Various Components

The fact that transportation services are intimately related to the output of the goods producing sector which is in relative decline compared to service industries, should not belittle the importance of the transportation industry to the nation. Viewed as a cost of doing business, transportation charges embodied directly and indirectly in the production of Canadian produced goods constitute a significant proportion of overall costs of production ranging from 1% to over 13% in primary industries, and as high as 11% in manufacturing. Furthermore, over 54% (value) of Canada's exports are characterized by 10% of their value at the Canadian border being made up of transportation charges. Viewed as a generator of wealth in themselves, transportation (and storage) industries have accounted for over 6% (over $8.3 billion in 1985) of Canada's gross domestic product. While this may appear to be a relatively small proportion of GDP, transportation's interlinkage with other economic activities can significantly affect overall economic development performance. As such, it behooves us to understand and treat transportation services as important elements of economic development as opposed simply to conveyances of goods and people and to consider them as vital to the enhancement of domestic productivity, international trade facilitation, and as an item of domestic economic activity and trade unto themselves.

Although Canada is a significant origin and destination of goods moving overseas, Canada has no significant nationally-registered deep sea merchant marine. Thus revenues generated by Canadian domiciled or international water borne shipping companies belies the importance of overseas marine transport to Canada. The following observations can be made concerning Canada's marine transport industry in 1984:

- The industry was composed of 320 marine carriers including 214 for-hire carriers, and 48 private, 30 government and 28 sight-seeing activity carriers.
- For-hire carriers accounted for nearly 55% of industry revenues.
- Among the for-hire carriers, 37% (those earning revenues over $1 million) accounted for over 91% of revenues.
- Over 26,000 people were employed and were paid wages and benefits of approximately $869 million with the for-hire

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2 Skoulas, Nicolas, Transportation Costs and their Implications for Price Competitiveness in Canadian Goods Producing Industries, Research monograph No. 9, Research Branch, Bureau of Competition Policy, Consumer and Corporate Affairs Canada, Ottawa, Ontario, 1981.
carriers accounting for approximately 33% of employment and 36% of wages and benefits in Canada's marine transport industry.

- Government carriers, which accounted for only 19% of industry revenues, accounted for over 55% of the industry's employment and 53% of the industry's payroll.

- All carriers considered together operated equipment (over 2,000 vessels) whose original cost was valued at $3.2 billion which was 37% depreciated at the end of 1984.

- Canada's marine transport industry contributed approximately 0.5% to 1984 GDP and earned 10% of the combined income earned by all modes.

Canada's railway industry consists of three Class I railways - CN, CP, and Via. These account for 90% of railway activity in Canada as measured by a variety of indicators, plus a number of smaller regional local or specialized railways (including extensions of U.S. roads into Canada) such as the Algoma Central Railway, British Columbia Railway, Ontario Northland Railway, Burlington Northern, etc.

The rail sector earned over $7.6 billion in revenues (about 35% of revenues earned by all transport modes considered together) against $6.9 billion in expenses. The labour-related importance of Canadian railways is demonstrated by employment of over 93,000 people and a payroll just under $3 billion (or 42% of operating expenses). In fact, just a few years ago, the railways were some of the largest employers in Canada. In 1984, the railways owned approximately $9.4 billion worth of assets (net of depreciation) consisting of, among other things, locomotives, numbering in the several thousands, and cars in the several hundreds of thousands. In terms of contribution to GDP (1.6%), rail transport is the second most important component of the transportation industry.

Trucking in Canada consists of two basic elements: private trucking by companies whose principal activity involves something other than the provision of transportation services (e.g., manufacturing); and, for-hire carriers who, as their name implies, haul the goods of any person or organization. In 1984, the Canadian trucking industry consisted of 5,200 for-hire carriers and 2,950 private truckers. Private and for-hire carriers employed a similar number of people totalling over 176,000 who were paid wages and salaries in excess of $4.1 billion.

In most cases, private trucking is viewed as a cost of doing business as opposed to a revenue generator by firms who operate fleets. Usually decisions to operate a private fleet of trucks instead of using for-hire carriers are based on a comparison by transportation users of the relative cost-effectiveness of selecting alternative means for addressing each particular service requirement. Observations
concerning the trucking industry's structure and performance relate to the for-hire sector:

- For-hire carriers earned revenues of $7.1 billion (approximately 33% of the revenues of the total earned by the four modes) against expenses of $6.8 billion yielding 1984 profit levels of under 5% on sales.

- Firms (9%) earning revenues over $2 million took in 70% of revenues. The 20 largest firms accounted for close to 27% of the for-hire industry's revenues.

- Net assets of the for-hire industry amounted to approximately $3.5 billion including among other capital items, over 144,000 pieces of equipment.

- From the point of view of Gross Domestic Product, trucking is the most important transportation mode having made a 2.3% contribution to GDP in 1984.

In 1984, 588 carriers in Canada's air transport industry earned revenues of over $4.8 billion, approximately 22% of the combined earnings of the four modes. The seven largest of these (i.e., Class I airlines) earned 87% of this amount. Whether in response to loosening of economic regulation in the early 1980's or in anticipation of further regulatory reform measures and/or in an attempt to combat losses, the last year has been characterized by substantial consolidation to the point where, at least in an ownership sense, there are now only three major airlines in Canada - Air Canada, Canadian Airlines International and Wardair. The industry, as it stood in 1984, employed over 42,000 people who were paid wages and salaries over $1.4 billion. The Class I carriers owned 81% of the industry's $5.6 billion in assets used to carry approximately 19 million passengers and 940 million pounds of cargo. Air transport contributes approximately 1.4% to GDP.

Thus, in conclusion, Canada's transportation industry is a significant employer and generator of wealth as summarized in Table 3.
Table 3
Importance of Canada's Transportation Industry
- Selected Indicators - 1984

<table>
<thead>
<tr>
<th>Mode</th>
<th>Employment (Thousands)</th>
<th>Revenues ($ Billions)</th>
<th>Contribution to GDP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine</td>
<td>26</td>
<td>2.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Rail</td>
<td>93</td>
<td>7.6</td>
<td>1.6</td>
</tr>
<tr>
<td>Motor</td>
<td>176</td>
<td>7.1*</td>
<td>2.3</td>
</tr>
<tr>
<td>Air</td>
<td>42</td>
<td>4.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Four Mode Total</td>
<td>337</td>
<td>21.8</td>
<td>5.8</td>
</tr>
</tbody>
</table>

* For-hire only

Adding in urban transit, pipelines and other minor elements lumped into the transportation category under the Canadian system of national accounts, in 1983, the "Transport and Storage" classification was the origin of 6.1% of Gross Domestic Product. (Storage itself in 1983 accounted for less than 4% of the classification's GDP or about 0.2% of total GDP and has been declining perhaps due to an increase in stockless production or just-in-time inventory management.)

3. The Role of Transportation Services in Manitoba's Economy

The Canadian trend to shift somewhat away from a goods production orientation towards a service production orientation is as evident in Manitoba as elsewhere. Table 4 shows that services had grown in importance to 71.5% of GDP in 1984, a 7.5% increase in the contribution of services to GDP since 1961. The most notable exception to the general rise in importance of the various services industries in Manitoba, as in Canada as a whole, is transportation whose contribution to Manitoba GDP dropped almost 24% in 24 years. The relative decline in the importance of Manitoba's transportation service sector quite closely parallels the same phenomenon in Manitoba's manufacturing sector.

Another indicator of the positioning of transportation services in the overall Manitoba economy is wages and salaries as shown in Table 5. In 1961, the transportation sector accounted for 15% of total wages and salaries paid in the province. This ratio has declined but appears to be holding steady at 11% in recent years. In terms of actual employment, Statistics Canada's Labour Force Survey indicates that the
34,000 transportation industry jobs in Manitoba in 1976 which accounted for 8% of total provincial employment that year, dropped to 30,000 jobs or 6.25% of total Manitoba employment in 1985.

An initial reaction to the above figures might be that transportation in Manitoba is an industry in decline. While there is some merit to this point in a relative sense (i.e., comparing individual sectors) and in terms of some absolute measures (e.g., employment), the importance of transportation services (apart from the conveyance of goods) to the economy of Manitoba is highlighted by other key indicators. For example, Table 5 shows that Manitoba's transportation industry wage and salary earners drew over $100 million in 1981 as compared to a figure approaching $1 billion in 1986.

The true importance of transportation services to Manitoba lies in the fact that this Province's transportation industry generates a contribution to GDP significantly proportionately greater than does the country as a whole. Table 6 shows that only the territories have a transportation component to their economy greater than that of Manitoba.

Returning to the concept of transportation as a service industry also highlights the importance of the industry in terms of its ability to generate activity in other sectors of the Manitoba economy. Table 7 notes multipliers generated by Statistics Canada's Interprovincial Input-Output Model and indicates that for every dollar of GDP earned in Manitoba's transportation service industries, $1.77 (that is, an additional 77 cents over and above the initial direct dollar) in GDP is generated. Thus in 1985, Manitoba's transportation industry's direct contribution to GDP was $1.3 billion in a $16 billion economy (Manitoba Bureau of Statistics estimates) but was responsible for the generation of a further billion dollars in economic activity. The total contribution (direct and indirect) of transportation to the Manitoba economy is therefore $2.3 billion or over 14% of total GDP.
Table 4  
Manitoba Gross Domestic Product at Factor Cost  
(Percentage of Total GDP at Current Year Prices)  

<table>
<thead>
<tr>
<th>GDP by Industry</th>
<th>1961</th>
<th>1984</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture (includes fishing,</td>
<td>6.1</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>hunting and trapping)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td>0.2</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td>Mining</td>
<td>4.5</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>14.7</td>
<td>11.5</td>
<td>-21.8</td>
</tr>
<tr>
<td>Construction</td>
<td>5.5</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td>2.4</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td><strong>Total Goods Producing Industries</strong></td>
<td>33.5</td>
<td>28.5</td>
<td>-14.9</td>
</tr>
<tr>
<td>Transportation</td>
<td>11.3</td>
<td>8.6</td>
<td>-23.9</td>
</tr>
<tr>
<td>Communication</td>
<td>2.3</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>1.0</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Trade</td>
<td>15.7</td>
<td>11.5</td>
<td></td>
</tr>
<tr>
<td>Finance, Insurance and Real Estate</td>
<td>12.8</td>
<td>17.2</td>
<td></td>
</tr>
<tr>
<td>Business Services</td>
<td>15.3</td>
<td>23.9</td>
<td></td>
</tr>
<tr>
<td>Public Administration</td>
<td>8.2</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td><strong>Total Services Producing Industries</strong></td>
<td>66.5</td>
<td>71.5</td>
<td>+7.5</td>
</tr>
<tr>
<td><strong>Gross Domestic Product at Factor Cost</strong></td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 5
Wages and Salaries of Manitoba’s Transportation Industry

<table>
<thead>
<tr>
<th>Year</th>
<th>Transportation Wages and Salaries (Current Year $ Millions)</th>
<th>% of Total Manitoba Wages and Salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>138.355</td>
<td>15.24</td>
</tr>
<tr>
<td>1966</td>
<td>166.592</td>
<td>13.12</td>
</tr>
<tr>
<td>1971</td>
<td>232.026</td>
<td>11.66</td>
</tr>
<tr>
<td>1976</td>
<td>418.532</td>
<td>10.60</td>
</tr>
<tr>
<td>1981</td>
<td>779.287</td>
<td>11.88</td>
</tr>
<tr>
<td>1982</td>
<td>822.544</td>
<td>11.41</td>
</tr>
<tr>
<td>1983</td>
<td>862.683</td>
<td>11.29</td>
</tr>
<tr>
<td>1984</td>
<td>939.240</td>
<td>11.38</td>
</tr>
<tr>
<td>1985</td>
<td>948.953</td>
<td>10.95</td>
</tr>
</tbody>
</table>

Average of last 14 years (1971-85) = 11.31

Source: Manitoba Bureau of Statistics
<table>
<thead>
<tr>
<th></th>
<th>Total GDP (Millions)</th>
<th>Transportation GDP (Millions)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yukon and NWT</td>
<td>881</td>
<td>91.320</td>
<td>10.37</td>
</tr>
<tr>
<td>Manitoba</td>
<td>10,396</td>
<td>749.884</td>
<td>7.21</td>
</tr>
<tr>
<td>British Columbia</td>
<td>32,919</td>
<td>1751.969</td>
<td>5.32</td>
</tr>
<tr>
<td>Ontario</td>
<td>103,062</td>
<td>4136.954</td>
<td>4.01</td>
</tr>
<tr>
<td>Alberta</td>
<td>34,811</td>
<td>1395.477</td>
<td>4.01</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>6,132</td>
<td>244.696</td>
<td>3.99</td>
</tr>
<tr>
<td>Quebec</td>
<td>62,977</td>
<td>2281.077</td>
<td>3.62</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>5,497</td>
<td>194.467</td>
<td>3.54</td>
</tr>
<tr>
<td>Newfoundland</td>
<td>3,781</td>
<td>127.667</td>
<td>3.38</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>759</td>
<td>25.114</td>
<td>3.31</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>10,960</td>
<td>359.792</td>
<td>3.28</td>
</tr>
<tr>
<td>CANADA</td>
<td>244,602</td>
<td>11358.417</td>
<td>4.64</td>
</tr>
</tbody>
</table>

* Source: Special run for this paper by Statistics Canada Input-Output Division Transportation. Data includes air transport, services incidental to transportation, water transport, railway transport, truck transport, interurban and rural bus transportation, urban transportation, taxicab operations and pipeline transport.
<table>
<thead>
<tr>
<th>Industry</th>
<th>GDP Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation and food services</td>
<td>1.768</td>
</tr>
<tr>
<td>Transportation and storage services</td>
<td>1.767</td>
</tr>
<tr>
<td>Amusement and recreation services</td>
<td>1.672</td>
</tr>
<tr>
<td>Education and health services</td>
<td>1.544</td>
</tr>
<tr>
<td>Other personal and miscellaneous services</td>
<td>1.543</td>
</tr>
<tr>
<td>Finance, insurance and real estate services</td>
<td>1.521</td>
</tr>
<tr>
<td>Services to business management</td>
<td>1.482</td>
</tr>
</tbody>
</table>

Source: Statistics Canada Structural Economic Models: Interprovincial Input-Output Model Highlights

It is also noted that for every direct transportation job that exists in this province, a further 0.939 jobs (e.g., 1.939 total employment creation multiplier) are generated elsewhere in the Manitoba economy. Every dollar earned by a Manitoba transportation industry employee also generates an additional $0.66 (i.e., $1.66 total income creation multiplier) elsewhere in the Manitoba economy.

4. The Future of the Transportation Service Sector in Manitoba's Economy

Manitoba has long enjoyed the presence of a strong transportation service sector. Phrases like "Winnipeg the transportation hub" and "Winnipeg the gateway to the west" are typical of the general recognition that, for at least geographic and economic if not political reasons, there exists in this province a transportation service sector which is greater than would be commensurate given the size of the local market for the services of transportation suppliers.

Using regional economic development terminology, employment (or other measure of economic activity) can be thought of as being of one of two types. For the purposes of this paper, "basic" employment is that which relates to the production of goods and services which are consumed within the local economy while "non-basic" economic activity is that which relates to the production of goods and services which are
consumed outside (that is, exported from) the local or regional economy. For reasons which are many, varied, and which have changed over the years of this country's history, Manitoba's transportation service sector is characterized by a considerable non-basic element. Pollutions and some operations concerning the current status of the three dominant modal employers, truck, rail, and air in Manitoba.

Driven by strong entrepreneurship as evidenced by the often stated claim that 9 out of 15 of Canada's largest motor carriers are headquartered in Manitoba, the Manitoba trucking industry is unique to Canada in terms of its high level of interprovincial and international activity. Of the total of $510 million in revenues earned by Manitoba domiciled motor carriers in 1984, over $340 million (67%) was earned on extra provincial shipments (i.e., shipments originating from and/or destined to locations outside of Manitoba). Almost one fifth of Manitoba domiciled carriers' total revenues were earned on shipments that either originated from or were destined to Manitoba shipments not involving Manitoba industries.3

Due to competition with motor carriers for the transportation of manufactured goods, railways increasingly have oriented themselves as haulers of bulk resource commodities such as grain, potash, coal, sulphur, etc., which are predominantly produced in western Canada. Taking grain as an example, it is helpful for both CN and CP Rail to maintain corporate staff in Winnipeg to facilitate communication with and servicing of the grain industry whose marketing and executive decision making, if not the production of grain itself, are centered in Winnipeg. Furthermore, as the railway's operation's western focus has become more acute, both railway companies have enhanced or concentrated their capital intensive equipment maintenance and repair functions here, rather than pursuing and even perhaps discontinuing, smaller scale investment in other locations.

Commercial aviation in Manitoba has had a colourful history over the years featuring wide swings in non-Manitoba market-specific (i.e., non-basic) activity. In particular, Canada's national crown-owned airline, Air Canada, conducts several activities in Winnipeg which employ people at levels far greater than would be required to service the local passenger and cargo market. As an example, Canadian Airlines International employs about 430 people in Manitoba which is the basic level required to conduct the firm's ground and air crew, reservations, ticketing and other functions needed to serve enplaning and deplaning passengers and cargo originating from and destined to the Manitoba market. Since Air Canada and Canadian Airlines International operate about the same number of flights in and out of Manitoba, their basic local market employment levels in the province should be about the same. However, Air Canada employs approximately 2,300 people or close

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to 1,900 more than its putative local need due to the operation here of its computerized reservation system, finance department, and maintenance of the DC-9 and 727 fleet.

For an economy to have a high level of non-basic employment can be a blessing and curse simultaneously. From an economic development and general prosperity perspective, non-basic employment is highly desirable. However, in difficult times, such employment may be in jeopardy leaving only the basic employment level as being somewhat assured depending on the extent to which (usually for reasons of capital immobility) the non-basic activity (and employment) is captive to the regional economy in question.

Of course, different kinds of developments will have a different impact on basic versus non-basic employment. For example, regulatory reform legislation with its emphasis on competition and downward influence on the price of transportation services will instigate and has instigated across the board rationalization of operations resulting in reductions in staffing levels everywhere. However, while such streamlining means the loss of some portion of both basic and non-basic jobs in Manitoba, the province will still continue to enjoy a disproportionately high contribution of the transportation service sector to the Manitoba economy by comparison to other provinces.

In terms of potential threats to employment in and the general size of Manitoba's transportation sector, each mode faces its own peculiar set of circumstances. As mentioned previously, the increasingly western bulk haul orientation of rail transport has led railways to rationalize and consolidate facilities and, to a large degree, Manitoba (specifically Transcona and Westport shops in Winnipeg) has benefitted at the expense of other locales. There is, however, a limit which, it is submitted, likely has been reached, to which a railway can pare back and still remain operable. Thus in an interesting terminological turn of events, Manitoba's rail transport sector can be thought of as being relatively captive to employment and investment levels in place.

In recognition of the unlikelihood of anything but minor reductions in railway employment in Manitoba, the provincial government has been able to tax the sector with impunity. At the new rates provided for in the 1987 Manitoba budget, the two railways will pay diesel locomotive fuel taxes to Manitobaamounting to over $24 million next year. However, as the railway locomotive diesel fuel tax exists in varying but similar levels in other provinces, railways have nothing to gain by relocating major facilities, such as shops, elsewhere. This tax is purely punitive as it bears no relation to any specific service provided by the provincial government. It, thus, has taken on the character of a "sin" tax and can be expected to increase every year.

Another major tax faced by all transportation companies and, for that matter, all but the smallest of Manitoba businesses, is the payroll tax which again is punitive in that it has nothing to do with
firms' profitability or even revenues. This tax will cost Manitoba's transportation sector as much as $21 million next year of which railways will pay about $8 million. Again, because of the great expense involved in relocating a "plant", this anti-employment tax likely will only induce reductions in employment of magnitude sufficient to offset the tax. In view of railways' likely inability to recover the value of these two taxes through freight revenues however, the only means they have to offset the effects of these taxes is through corresponding reductions in their annual expenditures including wage and salaries. However, any such actions will have little effect on the relative importance of rail transport within the Manitoba economy.

In comparison to the rail transport sector, Manitoba's air transport industry is somewhat less captive to employment levels and investments in place. In the case of Air Canada, a 27 year lease on a new building in Winnipeg and relatively immobile multi-million dollar computer facilities can be thought of as tying "non-basic" employment levels to their current location. As concerns "basic" employment by the air industry here, it could be argued that nothing could threaten those jobs which relate to the handling of Manitoba traffic. However, while it is not likely that baggage handlers or airport ticket counter staff will be reduced by any significant number, national airlines operating in Manitoba do have the option of basing air crews and reservations staff in other provinces. Finally, aircraft maintenance can be done in any of several locales other than Winnipeg so depending on the weighting of costs and revenues, not a magnitude maintenance functions now here could be thought of as being relatively footloose.

In these circumstances, apart from the nuisance payroll tax which everybody in Manitoba is subjected to, the airline industry has not yet been singled out for any particular punitive taxation. Moreover, the government of Manitoba may find it hard to resist the temptation of taxing the airline industry by (for example) imposing a tax relating somehow to computers. Such a tax would be difficult to combat directly by threat of relocating the taxed facility and thus, would punish transportation firms like Air Canada, in particular, and other companies who have had the audacity to replace clerks and adding machines with modern technology.

As concerns the potential impact of privatization of Air Canada on that firm's employment levels here, the President has stated that Air Canada has been running like a private company in recent years and is as mean and lean as it needs to be. However, the more Air Canada operates like a private company, that is, the more freedom it has from the constraints of political direction, the less likely it will be that public or political outrage can be used as a tool to stop Air Canada from making intelligent business decisions. Soon therefore all firms in Manitoba's air transport industry will be in a position to take any necessary evasive or retaliatory action by relocating the footloose aspects of their operations. In these circumstances, logic (although
not politics) would suggest that apart from streamlining to offset general (as opposed to punitive, specific) taxation, Manitoba should continue to enjoy an air transport sector which is proportionately more important to the Manitoba economy in comparison to other provinces.

Because of the importance of trucking to the Manitoba economy, particularly in view of the high levels of extra-provincial earnings by Manitoba-domiciled carriers, the stability of trucking industry employment and income owing to the presence of several major trucking companies' head offices being a major concern. There are no grounds to believe that there will be an alteration in whatever factors have caused Manitoba (Winnipeg) to serve as a head office location for a significant number of Canada's major motor carriers. That is, there is no reason to believe that a motor carrier headquartered in Manitoba will switch its head office to say, Ontario because of regulatory reform in Canada. Even Manitoba's punitive payroll tax which will cost Manitoba's trucking companies close to $4 million next year, should not create sufficient impetus to make it worth truckers; while to relocate to other parts of Canada. Rather, in the event of a Canada/U.S. free trade agreement which includes transportation services, the significant differences in Canadian and American approaches toward trucking and business in general may have an impact on the relative attractiveness of a Canadian (Manitoba/Ontario/etc.) location for a head office as opposed to an American location. In other words, if Manitoba carriers switch their head office locations away from Manitoba, the new location of choice will not be in another Canadian province, but in a state in the U.S. for the following reasons.

Canadian motor carriers who earn a significant portion of their revenues in transborder trade have learned or are or should be learning, that it is financially advantageous to them to become "American" carriers who happen to have Canadian carriers. A first major reason is that Canadian carriers are not allowed to seek positioning (domestic) traffic in the United States. That is, while a Canadian motor carrier can haul goods originating in Canada destined for the United States and can come back with goods originating in the United States destined for Canada, such a carrier cannot seek domestic U.S. traffic (i.e., totally within the States) which allows him to use equipment profitably. Although the same rule applies to U.S. carriers operating in Canada, the proximity of Canadian east to the border means very short, empty hauls (in Canadian territory) before being able to access backhaul traffic in the United States. Thus, current labour immigration and cabotage rules favour American-based carriers even if their owners are "Canadian".

Equally important factors favouring "American-based" carriers are various financial and tax provisions. For example, American carriers can write off their capital investments (equipment) in three years, 77% in the first two years, while the Canadian write-off period is seven years. Furthermore, the lesser intervention in the general economy requiring less tax revenue support in the U.S. compared to Canada is yet another incentive to Canadian truckers to Americanize, i.e.,
American truckers get to keep more of their money than do Canadian truckers.

Motor carrier deregulation in the United States has recognized and at least to a certain extent, attempted to compensate for the "hardships" imposed on carriers. For example, U.S. law has required carriers to write off the dwindling value of their operating authorities. No such measure is anticipated in Canada and a Canadian trucker moving his head office to the United States would not be able to benefit in this particular regard. However, with this measure, U.S. carriers are on a better competitive footing than their Canadian counterparts. A more important U.S. measure, again unanticipated in Canada, is the requirement that shippers pay all accounts within 15 days, to a maximum (if mutually satisfactory carrier/shipper agreement is reached) of 30 days. In the United States, the average period of account settlement as a result of this measure has been 22 days; in Canada, the average length of time for shippers to pay carriers has been 50 days. The advantages of being an "American" carrier are therefore obvious — in the U.S., a motor carrier is primarily in the transportation business while in Canada, a motor carrier is also in the finance business.

Another matter of concern to Canadian carriers headquartered in Manitoba or elsewhere in Canada is the treatment of outside drivers variously known as independent contractors, owner-operators, brokers, etc. In the United States and in Canada currently, these owner-operators are beyond the recourse of taxation officials when they are considering the individual files of the engaging motor carriers. The outcome of a current case in Newfoundland might have a very important impact on Canadian carriers' ability to control costs in the event that the court in question decides that owner-operators' relationship to engaging carriers is not arm's length.

The above-mentioned matters apply to motor carriers whose head offices are situated anywhere in Canada and no less to those with head offices in Manitoba. An additional aspect peculiar to Manitoba's large motor carriers' is the orientation of the trades plied by these carriers. Some of the largest Manitoba domiciled motor carriers (Motorways/Direct, Reimer/Intercity, Arnold Bros., Imperial and Atomic) are primarily involved in East-West long-haul transportation. Besides the aforementioned benefits of relocating their head offices to the United States, these carriers will face difficulties (if they remain Manitoba domiciled) associated with the evolving North-South (as opposed to East-West) trade and traffic orientation. Such difficulties will be exacerbated by the current free trade negotiations and the expected hyper-competitive intermodal transportation environment resulting from provisions in C-16 (National Transportation Act, 1986) which likely will see Canadian railways aggressively and successfully compete for a significant portion of the transnational traffic. Manitoba domiciled extraprovincial carriers require to remain viable. Finally, further restructuring and consolidation in the Canadian trucking industry through mergers and acquisitions is expected. Thus,
the extent of trucking’s future contribution to the Manitoba economy will depend further on whether existing Manitoba trucking firms are acquirors or takeover targets.

5. Conclusions

In consideration of the various elements and circumstances facing the three main transport modes, several conclusions can be drawn concerning the future of the transportation service sector in Manitoba. First of all, streamlining and general rationalization by transportation firms of all kinds including the many national scale firms which have a strong local presence here will mean ongoing reduction in sectoral employment across Canada but Manitoba will still enjoy a transportation service sector component to its economy greater than that of other provinces.

Apart from streamlining, the railways are relatively captive to their capital investments here and thus, the rail sector will maintain its relative importance within Manitoba’s economy. Airlines will also continue to look at their operations with a view to reducing costs but likely will not make any structural changes which would affect air transport’s contribution to the Manitoba economy. Of all the modes, trucking in Manitoba is the most footloose, faces perhaps the greatest array of challenges in the months and years to come and is therefore the most susceptible to structural change including flight from Manitoba.

If Manitoba wishes to be assured of a continuing healthy transportation service industry component to its economy, the government here must orient itself not towards taxing what is strong because its putatively is best able to pay, but towards enhancing what is strong to make it stronger yet. Among other things this may be interpreted by some to suggest proactive participation in defense of the industry’s interests from external threats which participation or intervention to a certain extent has been evident. Moreover, adjustments to known external threats are being made by the industry which is preparing itself to do battle in changing national and international trade and transportation environments. What is long overdue is an examination and rectification of internal (made-in-Manitoba) threats to the continued viability of Manitoba’s transportation service sector in all its aspects.
Transport and Manitoba's Agricultural Sector

A.G. Wilson

The location of Manitoba, the keystone province of Canada, ensures that transportation is of prime importance to the prosperity of the local economy. The major city in the province, Winnipeg, is located a few miles west of the longitudinal centre of Canada and about 200 miles north of the geographical centre of North America. Distance to the closest seaboard port, Churchill, is about 800 miles and to those ports having year around accessibility is in excess of 1300 miles. The dominant products of agriculture surplus to domestic consumption must therefore travel long distances to outside markets. Even the major cities on this continent lie hundreds of miles from Manitoba.

The resource base of agriculture in the province includes a substantial area of fertile land; a well trained labour force composed largely of private operators; a support infrastructure of agribusiness providing labour saving equipment, fertilizers, chemicals and finance; various modes of transport; an abundance of electric power; and a highly effective research program conducted at the University of Manitoba and the three federal research stations. Agriculture can therefore be expected to make a major contribution to the economy of the province. This sector has not, however, necessarily developed in accordance with natural comparative advantage, national economic policy having exerted a major influence on agricultural production.

Given the location of the province with respect to major outlets for agricultural products, these products should be high in value relative to transportation costs. The distances involved preclude, to a large extent, extensive use of trucks for the transport of low value bulk products, rail being the only economic mode of transport to many markets. The minimization of transport costs becomes essential to agriculture in the province. This can be accomplished by large volume movements and by the conversion of products into more processed forms. Since production occurs over an extended area, collection becomes a major undertaking prior to either bulk shipment or processing, the latter being dependent on volume for efficiency. Rising transportation costs increase the desirability of further processing before outward shipment.

Agriculture in Manitoba has been and continues to be greatly affected by national economic policy in general and agricultural policy in particular. Interprovincial trade in some commodities is assisted by subsidies while in others is discouraged by barriers introduced in an attempt to increase the net returns. Price supports for individual

*Transport Institute, University of Manitoba. The assistance of Roslyn Gerrie and Pamela Miller on the preparation of this paper is gratefully acknowledged.
products and input subsidies tend to distort production so that it does not reflect natural comparative advantage.

Attention will be given in this paper to the market environment for agricultural production in the province. A brief discussion of international and domestic agricultural policy will be followed by an assessment of how these policies currently affect production in the province and the penetration of potential markets. The impact of these policies along with that of trade liberalization upon the transportation requirements of agriculture will be assessed. This will provide the background for an examination of the structure of agriculture in the province and the contributions of both agriculture and agribusiness to the local economy. Use of transportation when servicing the needs of the province will then be reviewed. Finally, the dynamics of the agricultural transport environment will receive attention. This will enable informed comment to be made regarding agricultural transport to the year 2000 A.D.. The discussion will encompass changes foreseen in the organization of the transport system, the mix of products moved, and the direction of movement required to service available markets. Attainable reductions in transport costs will also be set forth. The overall impact of transportation on the rural community will be appraised, the community being a concept in transition.

The Market Environment for Agricultural Products

A fundamental premise is that production should occur in response to the needs of the market. In no case is this more evident than in agriculture. Producers neglect consideration of such needs at their peril. Manipulation of markets, however, has been and continues to be a hallmark of national economic policy. This is particularly evident in the markets for agricultural products. Shortages of food in time of war have led countries deficit in food production to aspire to self-sufficiency. Domestic production has been encouraged by price support activities and accompanied by duties and quotas on imported commodities which effectively limit imports. This situation prevails irrespective of the trade liberalization accomplished to date since exceptions are made for agriculture under the terms of the General Agreement on Tariffs and Trade (GATT). Furthermore, the desire for expansion of processing exhibited by individual provinces within Canada is also very evident in certain cases. This desire is expressed by restrictions imposed ostensibly for price support purposes. This effectively represents an extension of the so-called National Policy introduced in Canada over one hundred years ago.

International markets for the major crops produced in areas having temperate climates such as Manitoba are directly affected by the current agricultural policies being pursued by the European Economic Community (E.E.C.) and the United States. The policies of the former which consist of target prices for domestic products, threshold prices (and quotas) for import products, and export restitutions for surplus products have done much to distort international trading patterns based
on comparative economic advantage. The result is major surpluses in many products within the E.E.C. This is particularly true in grain and dairy products. These policies have the support of a vociferous and somewhat politically powerful agricultural lobby. Monies received from taxes on imports have been used to subsidize exports. With production becoming increasingly surplus to domestic needs, massive subsidies are required to move the surplus into international markets. The increased volumes made available in these markets depress prices to the disadvantage of other exporters, including Canada.

Agricultural policies in the United States are comprised of production control, loan rates, target prices, and deficiency payments to maintain producer prices. Actual prices are determined largely in competitive domestic markets such as those for grain and livestock. Loan rates, which are the amounts offered by the U.S. government in the form of non-recourse loans on products on a unit basis, have served as floor prices, particularly for the grains, in the domestic market and because of the dominance of the United States in the trade in these products, in the export market as well. The United States, therefore, becomes a residual supplier to many markets, both as a result of the undercutting of the loan rates by competitors and also from the actions of such importers as the Soviet Union where purchases reflect political and ideological objectives as well as economic concerns. Under these conditions, a decline in the U.S. share of the international market is to be expected. The United States, in turn, has adopted a system of price and restitution program of the E.E.C. as being designed to penetrate foreign markets largely at its expense. Consequently, loan rates have been lowered below clearing levels in export markets and in certain cases have been accompanied by an export enhancement (quantity based) program in an attempt to either regain or maintain market share. Prices to domestic producers are maintained by deficiency payments. Meanwhile, the returns to producers in other exporting countries are reduced to non-recoverable levels as a result of this so-called "trade war." The government of Canada has therefore been put in the position of having to make payments to producers in the short run to enable them to remain financially solvent. In the long run, prices in international markets will, hopefully, be more in accordance with the true demand and supply situation in an environment where production is not artificially stimulated and where demand is allowed to be expressed freely. Under a situation may ensue if present negotiations with respect to trade under G.A.T.T. are successful. The current "Uruguay Round" of negotiations is to be completed by 1991.

While international markets are of prime interest to Manitoba agriculture, the development of the industry has been largely shaped by domestic policy, particularly at the federal government level. The National Policy introduced over 100 years ago was comprised of three main tenets: tariffs to protect the manufacturing industry in the central provinces; railways to retain the west in confederation; and immigration to populate the west and thereby provide traffic for the railways. The prairies were found to be particularly well suited to wheat production, this arising with the introduction of adapted
varieties. New milling technology was available to process this "hard" wheat. Federal government policy included the development of research stations for the advancement of production technology. It also extended to stabilization of rail rates, primarily on the movement of "crops" earlier as the "out of the Crows Nest Pass Agreement of 1947. Under the terms of this agreement, the Canadian Pacific Railway received a subsidy for the construction of the Crows Nest line in exchange for coal bearing lands and the fixing of rates outward on grain and inward on settlers effects. The primary intent of the government was to preclude penetration by the United States into the Kootenay area of British Columbia. With only minor changes, these rates on grain remained in effect until 1983.

Settlers locating on the prairies were led by the climatic vagaries of the area, widely fluctuating prices, and their individual backgrounds to oppose exploitation based on monopoly and to agitate for regulation of the grain trade. The search for "equity" and stability continues and is presently expressed through the Canadian Wheat Board and other marketing boards and also in such organizations as the Canadian Grain Commission. It was by no accident that Winnipeg became the head office location of the grain trade with all intercontinental railways passing through the city.

The historical emphasis on grain production and the use of railway rates as an arm of government policy continue to this day. The latter essentially represents an extension of the National Policy introduced a century earlier as the "out of the Crows Nest Pass Agreement of 1947. Freight assistance on feed grains from the prairies to British Columbia and from Thunder Bay to beyond Montreal. The effect of this policy is to encourage movement of feed grains from the prairies for conversion into livestock elsewhere in the country notwithstanding that one of the stated objectives of the policy is "to encourage the growth of livestock and feed grains across Canada according to natural factors and the natural potential of the various regions of Canada." The Western Grain Transportation Act of 1983 provides, amongst other things, for an annual subsidy on the movement from the prairies of a prescribed list of export grains and products of $658.6 million on the movement of up to 31.5 million tonnes plus a share of the increase in costs due to inflation. The subsidy is paid to the railways, not to the producer. While the rate paid by the producer can be expected to increase over time as volumes rise and inflation continues, the grain producer does not experience full cost rates under the Act. Grain production therefore continues to be fostered. The higher net returns received by grain producers work to the disadvantage of livestock producers, an illustration of continuance of the National Policy of fostering "manufacturing", in this case livestock production, outside the prairie region. The recent payment of part of the current year's increase in the producer's share of the rates by the federal government

in order to support the incomes of prairie grain producers must, therefore, be viewed as a continuance of the National Policy. The
demonstrated hurt to prairie livestock producers has caused many
researchers to recommend payment of the subsidy payable under the Act
directly to producers on the prairies. This issue remains unresolved.

The policy as described above has had a significant influence on
livestock production and its associated processing industry within the
prairie region. The policy has essentially promoted achievement of
self-sufficiency in livestock production in other regions in Canada.
Consequently, outlets for processed products in excess of local prairie
requirements must be sought in markets in the U.S. and also offshore.
In addition, the emphasis on grains and oilseeds has tended to detract
from the production of other products suited to the prairie region.
Production of such products must therefore be seen as occurring in
spite of rather than as a result of the policy.

National policy with respect to marketing boards also tends to
thwart the expression of natural comparative advantage in the
production of those products subject to supply control. National
marketing boards, to be effective, require the delegation of certain
marketing powers by the various provinces to the central body. It is
therefore surprising that Manitoba, which has certain advantages in
poultry and egg production, has been a party to national boards which
deter complete attainment of the benefits which should arise from these
advantages. While modernization of the boards efficiency pays no under the Act
has been encouraged as a result of the reduction in price risk, the
benefits have been reaped by those producers active when the boards
were established. New entrants are discouraged by the quota values
arising from control of supply and also by the presence of the quotas
themselves. The distribution of quotas by the national boards amongst
the provinces tends to be based less on comparative advantage than on
provincial self-sufficiency. Manitoba is therefore unable to attain
its full potential. As a result, outward movements of poultry and
associated products are reduced.

Current efforts to liberalize trade in agricultural products
between Canada and other countries, if successful, will be seen to have
differential impacts upon producers on the prairies. Any reduction in
existing tariffs or elimination of quotas will augur well for those
currently producing for the export market. For others, the result will
be a weakening of the privilege arising from domestic policies. It
comes as no surprise, therefore, that grain, cattle and hog producers
on the prairies are in favour of trade liberalization whether bilateral
as with the United States or multilateral as under GATT, while poultry,
egg and milk producers and others protected by domestic policies are
opposed. While success in these negotiations is by no means assured,
trade liberalization will benefit Manitoba significantly in the
aggregate while bringing about adjustment in the patterns of production
and processing. This would be consistent with the statement by the
Ministers in their strategy of agriculture that they are "committed to
the dynamic and continued vitality of the Canadian agriculture and food
sector". A complementary effect of trade liberalization could well be the free movement of agricultural products within Canada, thereby fulfilling the expressed intent of the Constitution.

The transportation requirements of Manitoba to the year 2000 A.D. will be seen to be influenced greatly by international and domestic policies. These policies affect the product mix as well as the degree to which processing is undertaken. They also have a significant impact on the volumes of product which must be transported. Current policies emphasize the production and marketing of grain relative to other products. In other words, they are extensions of the policies under which the prairies were developed. Existing production and processing patterns reflect these policies.

Given the current distribution of political power within Canada, there is little likelihood of significant change in production patterns in Manitoba over the next thirteen years except in so far as trade liberalization may occur. While output continues to increase as a result of technology, necessitating an expansion of the capacity of the transport system, no radical change in the mix of products is foreseen. Developments in the transport of products will nonetheless continue. It is therefore, appropriate to review the structure of agriculture in the province, molded as it is by policy, and to examine existing trends before assessing the dynamics of the present environment for agricultural transport in the province.

Manitoba Agriculture in Perspective

Significant changes have occurred in agriculture in Manitoba over the last two decades. Present trends can be expected to continue since, as indicated above, the current economic and political environment can be expected to continue. A review of agriculture in the province therefore, has merit. This review will cover population trends, use of cropland, livestock numbers and investment, and be followed by a discussion of the outputs of product and the inputs used. Farm income will then receive attention.

1. Population

While the population of the province is increasing slowly over time the distribution between rural and urban dwellers continues to change. The share of the population living in the major towns and cities is gradually increasing. The share living in rural areas is, on the other hand, gradually decreasing. However, the number of persons living in rural areas who are not agricultural producers is increasing. Meanwhile the number of producers has fallen substantially, there being 26 per cent fewer in 1981 than in 1966. This is indicative of the

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labour saving technology introduced on the farm and the attendant increase in the size of farm units. This is significant in terms of the transportation requirements of agriculture.

From 1966 to 1981, the number of farm operators in the province declined from 39747 to 29442. Over that period, the modal size of farm declined from the 240 - 299 acre class to the 70 - 239 acre class. The average size of farm, on the other hand, increased from 480 acres to 649 acres, the largest farms and the smallest farms showing a propensity to increase in number.

2. Use of Farm Land

The total area farmed in the province appears to have reached a plateau of about 19.1 million acres. The area considered to be improved continues to increase as land development projects on existing farms take place. The area improved increased from 12.4 million acres in 1966 to 13.6 million in 1981. The same trend was apparent in the area cropped, 10.9 million acres being used for this purpose in 1981 as compared to 8.7 million acres in 1966.

3. Crops Produced

Over the 1966 to 1985 period, the acreage in wheat increased by 47 per cent, in barley by 111 per cent, in rye by 98 per cent and in canola by 492 per cent. Most of the additional area sown to these crops was drawn from the acreage previously devoted to summerfallow which declined over the period from 1966 to 1985 by 2.33 million acres, a proportional decline of 72 per cent. The area sown to oats declined between 1966 and 1985 by 65 per cent while that in flax declined by 5 per cent. The area in mixed grains declined by 32 per cent while that in tame hay increased by 27 per cent.

The shift in cropping patterns reflects the changes which have occurred in the production technology of both crops and livestock. The availability of markets has also been a factor. Herbicides have enabled continuous cropping to occur to a greater degree than in earlier times. The decline in oat acreage reflects both the economics of the crop and the replacement of draft animals by mechanical power. Livestock production has become more specialized.

The increasing areas in the crops which are largely export oriented point to an expanding need for transportation capacity. This will become apparent when the output of the respective crops is discussed below.

4. Livestock

Historically, cattle and hog numbers have shown a cyclical pattern, the duration of the respective cycles being dependent largely on length of the period from conception to maturity and also on input costs. Cattle numbers reached a peak in 1976 and this was followed by
<table>
<thead>
<tr>
<th>Year</th>
<th>Grains &amp; Oilseeds</th>
<th>Livestock &amp; Products</th>
<th>Special Crops</th>
<th>Horticulture</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>tonnes $\text{(k000)}$</td>
<td>units $\text{(k000)}$</td>
<td>tonnes $\text{(k000)}$</td>
<td>tonnes $\text{(k000)}$</td>
<td>tonnes $\text{(k000)}$</td>
</tr>
<tr>
<td>1976</td>
<td>5,727,400</td>
<td>585,618</td>
<td>19,598,000</td>
<td>329,825</td>
<td>3,005,069</td>
</tr>
<tr>
<td>1977</td>
<td>6,676,700</td>
<td>675,661</td>
<td>19,331,000</td>
<td>344,764</td>
<td>3,162,802</td>
</tr>
<tr>
<td>1978</td>
<td>6,726,800</td>
<td>873,970</td>
<td>20,534,000</td>
<td>420,593</td>
<td>3,038,300</td>
</tr>
<tr>
<td>1979</td>
<td>5,230,300</td>
<td>876,643</td>
<td>21,643,000</td>
<td>536,193</td>
<td>3,019,137</td>
</tr>
<tr>
<td>1980</td>
<td>4,767,900</td>
<td>868,964</td>
<td>22,278,000</td>
<td>533,482</td>
<td>2,059,487</td>
</tr>
<tr>
<td>1981</td>
<td>7,562,100</td>
<td>1,193,750</td>
<td>21,800,000</td>
<td>523,856</td>
<td>3,172,192</td>
</tr>
<tr>
<td>1982</td>
<td>8,146,100</td>
<td>1,152,034</td>
<td>21,422,000</td>
<td>561,949</td>
<td>3,235,371</td>
</tr>
<tr>
<td>1983</td>
<td>6,618,400</td>
<td>1,147,556</td>
<td>21,893,000</td>
<td>583,393</td>
<td>2,922,400</td>
</tr>
<tr>
<td>1984</td>
<td>7,751,500</td>
<td>1,356,008</td>
<td>22,890,000</td>
<td>601,412</td>
<td>2,772,386</td>
</tr>
<tr>
<td>1985</td>
<td>9,982,600</td>
<td>1,440,437</td>
<td>24,301,000</td>
<td>684,887</td>
<td>2,915,074</td>
</tr>
</tbody>
</table>

SOURCE: Manitoba Agriculture Yearbook
a decline which continued until 1984. Currently numbers are trending upwards. Dairy cattle numbers are gradually declining as productivity increases. During the last decade the number of hogs has gradually increased, the maximum over the period being reached in 1985. Sheep numbers remain limited. The data on poultry are incomplete with respect to numbers. The numbers, however, tend to remain relatively stable, supply control being exercised by marketing boards. In aggregate livestock numbers continue to be affected by national policies and, in the case of poultry, by marketing boards.

5. **Output of Agriculture**

The output of agriculture both in terms of quantity and value varies greatly over time. This is shown in Table 1. Grain and oilseeds output was at a record level in 1985, both with respect to volume and value. The same was true for livestock and livestock products. It must be recognized that the numbers of livestock include poultry along with cattle, hogs and sheep. The livestock industry, nonetheless, appears to have greater stability than that of grains and oilseeds. Special crops output is very significant in terms of quantity and value. The value of product arising from horticulture reached a record level in 1985. It becomes very apparent that agriculture productivity is increasing. Higher yielding wheat varieties may give rise to even greater volumes of output in the future. The effect of introduction of such varieties upon net farm income continues to be a matter for debate.

The data on production indicate that wheat, barley, flaxseed and rapeseed are the dominant field crops in Manitoba. From a transportation point of view, however, the volumes of these crops which are marketed are more important. Data on marketings for the most recent ten crop years are provided in Table 2. Wheat constitutes most of the tonnage marketed, only small quantities being absorbed on the farm. Barley marketings are substantially lower than production and reflect significant use of this grain as feed on the farm where produced. Most of the oilseed production, on the other hand, is marketed.
TABLE 2
MARKETING OF PRINCIPAL CROPS, MANITOBA,
CROP YEARS 1976/77 TO 1985/86

<table>
<thead>
<tr>
<th>Years</th>
<th>Spring Wheat</th>
<th>Durum Wheat</th>
<th>Oats</th>
<th>Barley</th>
<th>Rye</th>
<th>Flax Seed</th>
<th>Rape Seed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976/77</td>
<td>1830</td>
<td>89</td>
<td>260</td>
<td>974</td>
<td>66</td>
<td>122</td>
<td>128</td>
</tr>
<tr>
<td>1977/78</td>
<td>2464</td>
<td>54</td>
<td>283</td>
<td>1165</td>
<td>63</td>
<td>263</td>
<td>257</td>
</tr>
<tr>
<td>1978/79</td>
<td>1837</td>
<td>77</td>
<td>116</td>
<td>1039</td>
<td>42</td>
<td>234</td>
<td>473</td>
</tr>
<tr>
<td>1979/80</td>
<td>2339</td>
<td>109</td>
<td>39</td>
<td>921</td>
<td>94</td>
<td>368</td>
<td>472</td>
</tr>
<tr>
<td>1980/81</td>
<td>1792</td>
<td>111</td>
<td>43</td>
<td>994</td>
<td>73</td>
<td>213</td>
<td>274</td>
</tr>
<tr>
<td>1981/82</td>
<td>2643</td>
<td>169</td>
<td>85</td>
<td>1354</td>
<td>134</td>
<td>202</td>
<td>313</td>
</tr>
<tr>
<td>1982/83</td>
<td>3320</td>
<td>160</td>
<td>85</td>
<td>1390</td>
<td>183</td>
<td>353</td>
<td>345</td>
</tr>
<tr>
<td>1983/84</td>
<td>2907</td>
<td>123</td>
<td>79</td>
<td>1222</td>
<td>163</td>
<td>285</td>
<td>304</td>
</tr>
<tr>
<td>1984/85</td>
<td>3120</td>
<td>145</td>
<td>80</td>
<td>1327</td>
<td>153</td>
<td>364</td>
<td>474</td>
</tr>
<tr>
<td>1985/86</td>
<td>4559</td>
<td>277</td>
<td>101</td>
<td>1582</td>
<td>118</td>
<td>453</td>
<td>537</td>
</tr>
</tbody>
</table>

SOURCE: Statistics Canada, Farm Supply and Disposition

6. Farm Cash Receipts, Input Costs, and Net Income from Farm Operations

Cash receipts by source are shown in Table 3. The data indicate that farm cash receipts increased substantially in dollar terms over the 1976-85 period. In real terms, the increase was much less impressive. While income increased by 125 per cent in aggregate, 51 per cent of this increase represents inflation. In the meantime, input costs have risen by 81 per cent. Producers, to remain viable, have been required to increase their productivity. While the rate of increase in farm input costs has tapered off in recent years, farm prices of most products have declined from their earlier peaks.

Crops and livestock tend to utilize different modes of transport. The distribution of farm cash receipts between crops and livestock therefore becomes of interest. Data in this regard are provided in Table 3. These data indicate the tendency for the proportion of cash receipts received from grain in Manitoba to increase and for that received from livestock to decrease. In comparison, the miscellaneous receipts exhibit considerable variability. The relative shares of the receipts from the various sources reflect in part the effect of the continuation of the National Policy referred to earlier and also, the impact of marketing boards in the case of poultry.
TABLE 3
PROPORTION OF CASH RECEIPTS BY SOURCE, MANITOBA, 1976-85

<table>
<thead>
<tr>
<th>Year</th>
<th>Grain per cent</th>
<th>Livestock per cent</th>
<th>Miscellaneous per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>56.5</td>
<td>40.0</td>
<td>3.5</td>
</tr>
<tr>
<td>1977</td>
<td>55.0</td>
<td>42.4</td>
<td>2.6</td>
</tr>
<tr>
<td>1978</td>
<td>54.4</td>
<td>43.7</td>
<td>1.9</td>
</tr>
<tr>
<td>1979</td>
<td>56.8</td>
<td>42.4</td>
<td>0.8</td>
</tr>
<tr>
<td>1980</td>
<td>58.5</td>
<td>40.2</td>
<td>1.3</td>
</tr>
<tr>
<td>1981</td>
<td>60.4</td>
<td>36.5</td>
<td>3.1</td>
</tr>
<tr>
<td>1982</td>
<td>60.0</td>
<td>38.8</td>
<td>1.2</td>
</tr>
<tr>
<td>1983</td>
<td>63.4</td>
<td>34.7</td>
<td>1.9</td>
</tr>
<tr>
<td>1984</td>
<td>63.0</td>
<td>35.0</td>
<td>2.0</td>
</tr>
<tr>
<td>1985</td>
<td>62.5</td>
<td>35.7</td>
<td>1.8</td>
</tr>
</tbody>
</table>

SOURCE: Processed from Canada Grains Council, Statistical Handbook 1986

Net farm income in Manitoba has been highly variable over time. The fluctuations in income largely reflect variation in crop production, farm prices, and input costs. This variability becomes evident from Table 4 where the data on the net income from farm operations over a period of years are presented. The data point to the desirability for income stabilization schemes since the variability experienced impacts on the efficiency of resource use. This variability also indicates the need for credit, particularly in the short term.

TABLE 4
NET INCOME FROM FARM OPERATIONS, MANITOBA, SELECTED YEARS

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Income thousand dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>44,828</td>
</tr>
<tr>
<td>1966</td>
<td>137,438</td>
</tr>
<tr>
<td>1971</td>
<td>152,176</td>
</tr>
<tr>
<td>1976</td>
<td>282,500</td>
</tr>
<tr>
<td>1977</td>
<td>288,205</td>
</tr>
<tr>
<td>1978</td>
<td>349,342</td>
</tr>
<tr>
<td>1979</td>
<td>247,250</td>
</tr>
<tr>
<td>1980</td>
<td>47,412</td>
</tr>
<tr>
<td>1981</td>
<td>419,689</td>
</tr>
<tr>
<td>1982</td>
<td>300,310</td>
</tr>
<tr>
<td>1983</td>
<td>83,158</td>
</tr>
<tr>
<td>1984</td>
<td>366,053</td>
</tr>
<tr>
<td>1985</td>
<td>651,728</td>
</tr>
</tbody>
</table>

SOURCE: Manitoba Agriculture Yearbook Statistics Canada-Agricultural Statistics 21-603E
The Importance of Agriculture to the Provincial Economy

One measure of the strength of the provincial economy is the output of goods and services. The contributions of the various sectors in terms of gross domestic product at factor cost are presented in Table 5. The data indicate that the Manitoba economy is becoming increasingly service oriented; service industries now accounting for over 70 percent of the total output. In addition, the output of such industries is growing at a faster rate than that of the goods producing industries.

<table>
<thead>
<tr>
<th>Year</th>
<th>Agric.</th>
<th>Mining</th>
<th>Manufacturing</th>
<th>Construction</th>
<th>Utilities</th>
<th>Industries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>million dollars</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1976</td>
<td>542</td>
<td>208</td>
<td>948</td>
<td>457</td>
<td>195</td>
<td>2,349</td>
</tr>
<tr>
<td>1977</td>
<td>582</td>
<td>137</td>
<td>930</td>
<td>441</td>
<td>206</td>
<td>2,296</td>
</tr>
<tr>
<td>1978</td>
<td>687</td>
<td>200</td>
<td>1,040</td>
<td>409</td>
<td>294</td>
<td>2,630</td>
</tr>
<tr>
<td>1979</td>
<td>668</td>
<td>437</td>
<td>1,296</td>
<td>437</td>
<td>339</td>
<td>3,177</td>
</tr>
<tr>
<td>1980</td>
<td>601</td>
<td>481</td>
<td>1,507</td>
<td>425</td>
<td>300</td>
<td>3,314</td>
</tr>
<tr>
<td>1981</td>
<td>863</td>
<td>378</td>
<td>1,751</td>
<td>496</td>
<td>282</td>
<td>3,769</td>
</tr>
<tr>
<td>1982</td>
<td>849</td>
<td>404</td>
<td>1,535</td>
<td>502</td>
<td>402</td>
<td>3,692</td>
</tr>
<tr>
<td>1983</td>
<td>662</td>
<td>431</td>
<td>1,562</td>
<td>490</td>
<td>419</td>
<td>3,564</td>
</tr>
<tr>
<td>1984</td>
<td>1,060</td>
<td>501</td>
<td>1,727</td>
<td>488</td>
<td>495</td>
<td>4,271</td>
</tr>
<tr>
<td>1985</td>
<td>1,343</td>
<td>516</td>
<td>1,801</td>
<td>531</td>
<td>545</td>
<td>4,735</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Transp. Finance,</th>
<th>Public</th>
<th>Ttl Serv.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&amp; Insurance</td>
<td>Admin-</td>
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1 Includes Forestry, Fishing, Hunting and Trapping

SOURCE: Manitoba Statistical Review - 1986

NOTE: Numbers may not add due to rounding
Over the 1976-85 period, the gross domestic product at factor cost increased steadily. This growth represented both the effect of inflation and the real growth which occurred. The nominal growth in aggregate was 126 per cent. Service producing industries increased by 138 per cent while the goods producing industries increased by 102 per cent. The growth in domestic product of the individual service industries was as follows: transportation and communication 131 per cent; finance, insurance and real estate 238 per cent; services 146 per cent; public administration 66 per cent; and trade 157 per cent. It should be noted that the rate of growth in transportation and communication by this measure was slower than that of some of the other services.

The growth of the domestic product at factor cost arising from the goods producing sectors is of particular interest. The growth in the output of agriculture over the 1976-85 period was 148 per cent, significantly above the rate of growth of the goods producing sectors in aggregate. The rates of growth shown by the other members of the goods producing sector were: mining 148 per cent; manufacturing 90 per cent; construction 16 per cent; and utilities 179 per cent.

The proportional contributions of the individual sectors to the gross domestic product at factor cost are presented in Table 6. The dominance of the services sector is very apparent. This sector exhibits a gradual growth. The next sector in importance is that of finance, insurance, and real estate which grew rapidly. The transportation and communications sector's relative contribution to total output has remained around 12 per cent. This is approximately equal to that of manufacturing at the end of the period, though the relative contribution of manufacturing shows a propensity to decline. A parallel situation exists in the case of the trade sector. The proportional contributions of the mining and utilities sectors remain comparatively stable at slightly in excess of 3 per cent. Meanwhile, the relative contribution of the construction sector declined significantly to just over 3 per cent. The contribution of agriculture, though highly variable between years, appears to be increasing reaching 8.4 per cent in 1985. The output of the remaining sector, public administration, appears to be in a period of incipient decline.
### TABLE 6

**PROPORTION OF GROSS DOMESTIC PRODUCT AT FACTOR COST BY SECTOR, MANITOBA, 1976-85**

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<tr>
<th>Year</th>
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<th>Manufacture</th>
<th>Construction</th>
<th>Utilities</th>
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<th>Public Administration</th>
<th>Ttl Services Producing</th>
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<td>6.1</td>
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</table>

**SOURCE:** Derived from Table 5

The various goods producing sectors have different requirements for transportation services. Often specialized equipment is required for particular products. Agriculture and mining largely require equipment to move product in bulk and a dedicated fleet. The needs of manufacturing are varied and cover a broad spectrum of equipment. Similarly, while the prime requirement of construction is for the movement of products in bulk, often these products require either specialized or dedicated equipment. The potential for a relative increase in the output of the transportation sector appears limited in
the light of the relative decline in the output of the goods producing industries.

In a period of high unemployment, the number of people employed assumes great significance. In Manitoba, the number of persons employed varies widely between the sectors. Employment data are provided in Table 7. The number of persons employed in the province has been gradually increasing. The service industries sector experienced the largest growth in employment. Within this sector, employment in the services component has shown the greatest increase. Employment in the trade and commerce sector has increased at a lesser rate. The same is true for the finance, insurance, and real estate sector. Meanwhile, employment in the public administration sector continues to grow. Little trend is evident in the number of persons employed in the transportation communications and utilities sector. While the number of persons employed in agriculture varies significantly from year to year, there appears to be little prospect for any long term increase. The same situation holds true for manufacturing. Employment in construction exhibits the cyclical nature of this sector.

The data in Table 7 are also expressed in terms of the proportion of total employment accounted for by each sector. Over 90 per cent of those employed are engaged in non-agricultural pursuits. The proportions of the employment accounted for by manufacturing, construction, and transportation are declining. These declines are offset by increases in the financial, insurance and real estate, and also the services sector. Public administration accounts for a growing proportion of the persons employed.

**Agribusiness Activity in Manitoba**

The contribution of agribusiness to the provincial economy is substantial. Agribusiness activities include those of provision of services to agriculture as well as those relating to the conversion of agricultural products into forms more suitable for ultimate consumption. Some of these products are semi-finished in nature and ultimately transformed into the products which arrive on retail shelves. Limited data are available on the contributions of some agribusiness activities to the economy. The contributions of others are highly significant and therefore, recorded by Statistics Canada. These activities include slaughtering and meat processing; production of agricultural implements; processing of dairy products; manufacturing animal feeds; processing various forms of food; flour milling and the manufacturing of cereals; evisceration and processing of poultry; baking food products; and brewing operations. Most of these activities entail significant use of transport which is being provided primarily by truck.

The nine activities identified in Table 8 made a substantial contribution to the provincial economy. Their total output rose from under $1 billion in 1976 to almost $1.5 billion dollars in 1982, data
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<th>Agriculture</th>
<th>Other</th>
<th>Primary</th>
<th>Manufacturing</th>
<th>Transp.</th>
<th>Construc.</th>
<th>Commun. &amp; Utilities</th>
<th>Trade &amp; Insurance</th>
<th>Real Estate</th>
<th>Services</th>
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**SOURCE:** Statistics Canada, *Labour Force Annual Averages*
on all the activities not being available since that date. On average, the value added by the activities represents slightly over one quarter of the value of the goods manufactured, the value added in nominal terms rising with inflation.

Meat slaughtering and processing is a major activity in the province. The aggregate value of livestock slaughtered remained relatively constant over the data period, increases in the number of animals slaughtered being offset by declines in their unit values. This activity now involves the purchase of over $400 million worth of animals annually. The finished products are valued in excess of $500 million. In the process over $80 million in value is added, this being about 16 per cent of the value of the meat products produced.

The relative stability of the dairy industry is reflected in the data provided with respect to dairy processing. The cost of inputs steadily increased over the period in response to inflation and higher production costs. Likewise, the values of products produced also increased. Value added approximates 25 per cent of the value of processed product sold. There is a slight tendency for this proportion to increase over time. Manufactured products now approach $200 million in annual value with the cost of inputs approximating $150 million.

Miscellaneous food processing is an important activity in the province. The value of inputs approached $60 million in 1984. This was associated with a value of products manufactured of over $80 million, the proportion of value added to value of manufacture being about 27 per cent. This proportion remained relatively stable over the period of record.

The manufacture of flour and cereal products is an activity experiencing a general decline over time. This is not very apparent when values are expressed in nominal dollars. Export contracts vary by years and this situation is reflected in the variability of the values of the inputs used and the outputs produced. The value added is likewise variable. As a result, value added as a proportion of the value of the flour and cereal products produced ranged from 11.2 to 41.5 per cent over the 1976 - 1982 period. After the latter date, data are not available.

The growth of the poultry industry in the province is reflected in the data on the poultry processing activity. In dollar terms the cost of inputs increased from $27 million in 1976 to $56 million in 1984. The value of the processed poultry likewise increased from $35 million to $76 million. Value added represents slightly over one quarter the value of the output, this proportion being relatively stable over time, the proportion registered for 1981, 39 per cent, appearing as an aberration.

The baking activity in the province exhibited a degree of stability over the data period. This reflects the relatively low population growth in the province. The value of inputs used also
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<td>63.4</td>
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Source: Calculated from Statistics Canada 31.202
reflects the price of flour, a major ingredient. It is apparent from
the data that an increasing proportion of the output of bakeries is
made up of products rather than bread. The relatively greater value
added by this activity as compared flour milling, for example, is
indication of the extent of processing involved. The relatively
propensity increase with this rising as a proportion of the value of
output to 63.4 per cent in 1984, the value of inputs used that year
being in excess of $15 million and the value of the output over $46
million.

While the inputs utilized by the brewing industry are limited,
especially being confined to water, hops, yeast and adjuncts, the
output is highly valued. While inputs valued at $10 million were
utilized in 1976, the value of these had increased to $16.5 million by
1982. The products produced in 1976 were valued at $29 million, the
value of such rising to $49 million by 1982. The value added in
brewing is relatively the highest of any activity listed in the table,
this rising by 1982 to $31 million. As a share of product value, this
represented 64.5 per cent in 1976 and 63.8 per cent in 1982.

One industry providing inputs to agriculture is agricultural
implement manufacturing. The values of both the inputs used by this
industry and the products produced vary widely between years. Demand
for implements reflects both farm prices and output and therefore
implement manufacturing tends to vary widely over time. Over the data
period the inputs used ranged in value between $93 million and $192
million and the implements produced ranged in value from $70 million
to $331 million. The value added in manufacturing was impressive,
being the greatest of all the agribusiness activities, and ranged from
$68 to $227 million annually. As a proportion, value added represented
from 41 per cent to 67 per cent of manufactured value.

Feed manufacturing developed greatly in the province over the data
period as livestock producers were led to capitalize on the feed
efficiency available from feeding balanced rations. Expansion was
also fostered by the concentration of production, particularly in the
cases of poultry and hogs, into large units, some of which lacked their
own feed supply. While many different feed products are produced,
those in greatest demand are used in poultry production. Farm grains
remain the largest input. The data indicate that the value of inputs
increased from $56 million in 1976 to $112 million in 1984. Feed
manufacturing is a relatively simple process with the value of the
output being $70 million in 1976 and $143 million in 1984. Value added
Value added as a proportion of the value of output ranged from 13 per
cent in 1979 to 19.5 per cent in 1984. No significant trend in this
proportion is apparent.

Agribusiness activity in the province contributes significantly to
the economy. At the present time, the output of the activities of
record is valued at nearly $1.5 billion. The value of the total output
may be considered significant. The values of many agribusiness
activities reflect the degree to which agriculture is prosperous. Consequently, year to year variation is apparent in the value of total output. This variation is reflected in the demand for transportation services.

The Transportation Needs of Agriculture

The market for Manitoba agricultural products is greatly influenced by the policies of foreign governments and also by those of the federal and provincial governments. Such policies affect the volumes moved and their direction of flow. Indeed, these policies influence the location of production and also that of the market. In addition, such policies determine to a large degree the viability of Manitoba agriculture. Manitoba is a surplus producer of grain and also livestock. Markets for these products must therefore be sought outside the area. A good transportation system is a necessary condition for penetrating these markets.

A large proportion of the grain produced in Manitoba is moved out of the province and exported out of the country. Consequently, sales and returns are greatly affected by the policies of both grain exporting and importing countries; foremost amongst these are the farm programs of the European Economic Community and the United States. The effect of the export subsidy aspects of these programs greatly affects the returns of Canadian producers, the Canadian Wheat Board being forced to be price competitive in order to maintain sales. It is therefore essential that transportation within Canada be as economical as possible and that sufficient capacity is available to move the increasing volume of grain enroute to export. Other than for the limited volumes of flax and malting barley exported to the United States, grain shipped from Manitoba for export moves by rail to ports enroute to off-shore destinations.

In contrast to the situation in grain, most of the livestock produced in Manitoba moves to local markets and ultimately for domestic consumption. Such movement is almost entirely by truck whether in either the live or processed state. A significant volume is, however, exported to the United States. Exports of live cattle and beef are approximately equal in value, the U. S. market absorbing about 10 percent of Canadian production. Substantial volumes of both hogs and pork products are exported to the United States.

Milk is produced under quota allocated by national and provincial marketing agencies. The purpose of the quota is to limit supply to domestic needs thereby providing a measure of price and income stability to producers. Imports are controlled. Dairy product prices in Canada are amongst the highest in the world and necessitate any surplus being exported at a loss. Internally, milk and dairy products move almost entirely by truck.

Poultry and egg production is regulated under provincial and national marketing boards. The quotas are such as to foster provincial
self-sufficiency while at the same time maintaining a minor national deficit in output. Restricted imports from the United States allow domestic demand to be fulfilled at the price established. Canada is a high cost producer of poultry and eggs in comparison to the United States. Trucks are largely used for the transport of these products.

Fruit and vegetable production in Canada is limited largely by the climate. Exports are primarily directed to the United States with a significant volume of potatoes moving off-shore. Exports from Manitoba are largely confined to the root (storage) crops. On the other hand, large volumes of fruit and vegetables are imported from the United States, Mexico, the Caribbean countries, and also from South America. Within the province, the major proportion of the movement is by truck. A large proportion of the fresh fruit arriving in Manitoba is also transported by truck. Local production of most fruits and vegetables is protected in season by tariffs. Such are imposed in order to provide a local outlet for the output since this comes on the market after prices are depressed in the United States.

Agricultural products will therefore be seen to be marketed under conditions regulated by national governments. Domestic production is highly protected. Exceptions are made for agriculture under the General Agreement on Tariffs and Trade (G.A.T.T.). Such exceptions have differential effects on Canadian agriculture. Those producers engaged in grain and livestock production are pleased that agriculture is to be discussed under the Uruguay Round of negotiations. Producers of regulated products view such discussion with trepidation. The same situation applies under the current free trade negotiations with the United States. Grain producers would be little affected since they are already exporting a large share of their output. Livestock producers welcome the discussions in as much as they wish to retain the United States as an outlet for their products. Producers operating under marketing boards fear free trade since major adjustments would be required in order for them to be competitive with producers elsewhere. Achievement of free trade is, however, not expected to have a major impact on transport requirements in as much as grain and livestock are the major agricultural products produced in Manitoba, these already moving into export markets at competitive prices.

Utilization of Transport by Manitoba

Information on the total use of transport in serving both the public and private needs of Manitoba is not available. Rail shipments and receipts are officially recorded. On the other hand, data on truck shipments are limited to estimates of the movement by commercial trucking firms. Truck movements involving private firms and individuals are not recorded. This assures that a major share of the truck movement escapes analysis.
1. Shipments and Receipts by Rail

The Canadian Transport Commission undertakes an annual waybill analysis of carload all-rail traffic based on a 1 per cent sample. The analysis includes approximately 97 per cent of the total tonnage of local carload revenue traffic originated by both CN and CP Rail. The data provided by this analysis are therefore indicative of all rail traffic in Canada. Shipments and receipts by rail are recorded on an area basis, Manitoba being considered one such area. The situation revealed by the data is described below.

In Appendix Table A Manitoba rail shipments are recorded by volume and destination. Consequently, the data appearing in the Manitoba column refer to shipments both originated and terminated within the province. Shipments of all commodities are shown as well as those which do not include statutory grain. These grain shipments are recorded separately as are also shipments of agricultural products, animal and animal products, and manufactures and miscellaneous. Data on minerals, forest products, and piggyback movements, while available, are not presented separately. Total rail shipments within Canada appear to be reaching a plateau, the volume fluctuating substantially between years. Shipments from Manitoba exhibit a similar pattern. The volume of shipments originated and terminated within the province declined by two thirds between 1978 and 1985. This reflects, in part, the switch from rail to trucks for short haul movements.

When statutory grain is excluded, Manitoba shipments by rail to all areas are shown to have declined in volume, the decline in aggregate being about 50 per cent. Much of this decline can be accounted for by the greater volumes being moved by trucks. Shipments of statutory grain greatly increased in volume over the data period. While most of the shipments went to Ontario (Thunder Bay), an increasing though fluctuating volume moved to British Columbia (Vancouver and Prince Rupert). Movement within Manitoba (to Churchill and for processing), though limited in volume, was highly variable between years. Aggregate movement of statutory grain for Canada as a whole more than doubled in volume over the data period. Agricultural products movements (excluding those products classed separately) declined greatly over the period as this movement largely shifted from rail to truck. The same situation prevailed for animals and animal products, the total volume of these being moved by rail becoming relatively insignificant. While shipments of Manitoba manufactured products declined in aggregate over the data period, those to Ontario increased. Movement of manufactured products within the province declined as trucks absorbed a greater volume of the traffic.

In Table 9, Manitoba rail shipments in aggregate are expressed as a proportion of all rail shipments within Canada. The volumes of the various categories of shipments originated in the province are expressed in terms of their proportion of total shipments. The volume of statutory grain originated in the province is also expressed in terms of the proportion represented of the total statutory grain.
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<tr>
<th>Year</th>
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<th>Commodity Group</th>
<th>Manitoba Share of Total Statutory Grain Shipments</th>
<th>Statutory Grain</th>
<th>Share of Total Statutory Grain</th>
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<td>Commodity Group</td>
<td>Manitoba Share of Total Statutory Grain Shipments</td>
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1 Excluding Statutory Grain
2 Not Included in Products of Agriculture

SOURCE: Calculated from Appendix Table A
movement. The importance of statutory grain in this traffic to railways is shown by expressing the tonnage of grain relative to the total tonnage of all traffic.

Manitoba's share of the total movements by rail averaged approximately 6.6 per cent over the data period, the share varying from a low of 5.8 per cent in 1984 to a high of 7.8 per cent in 1978. The contributions of the different commodity groups to total Manitoba shipments when expressed in proportional terms changed greatly over the data period. While commodities other than statutory grain accounted for 68.1 per cent of the shipments in 1968, this had declined to 28.0 per cent by 1985. Conversely, statutory grain accounted for 31.9 per cent of the shipments in 1968 and 72.0 per cent in 1985. Meanwhile, manufactures declined from 23.6 per cent of the Manitoba shipments to 11.7 per cent. Movements of the products of agriculture and livestock and livestock products declined to a relatively insignificant status on a proportional basis.

Manitoba accounted for about 16.4 per cent of the total shipments of statutory grain over the data period. The importance of the statutory grain traffic to the railways becomes obvious when these shipments are expressed in terms of the total volume of rail traffic for the country as a whole. This proportion averaged 19.2 per cent between 1978 and 1985. From a low of 12.1 per cent in 1974, the proportion rises to 27.8 per cent in 1982 and 1983.

The data indicate that statutory grain made up the largest proportion of rail shipments from Manitoba. Furthermore, the proportion grew markedly over the data period. The proportion represented by other commodities declined significantly as trucks were utilized in preference to the rails. Since statutory grain is a relatively low valued product moving to a highly competitive export market, it is essential that the movement be efficient. Indeed, the railways are endeavouring to reduce the aggregate cost of grain movement by adopting efficiency measures which necessitate adjustment in marketing procedures.

Shipments received by rail in Manitoba over the 1968-85 period are recorded in Appendix Table B. Rail receipts declined substantially over the period. Movement within Manitoba fell dramatically. Receipts from Alberta increased over the period, many of these receipts being manufactured articles. While receipts from the Maritimes also increased, these were relatively insignificant in terms of volume. Receipts from Quebec and Saskatchewan declined while those from Ontario exhibited variability but with no apparent trend.

The majority of the receipts represented commodities other than statutory grain, with most Manitoba receipts of statutory grain arising in Saskatchewan in connection with the movement to Churchill. Other statutory grain was received for milling and brewing purposes. A limited volume of statutory grain was moved within the province. The total volume of statutory grain received in Manitoba declined over the
period, there being substantial year to year fluctuations. Receipts of the products of agriculture by the province declined in similar fashion to those of Canada as a whole, the total volume being limited. The volume of animals and animal products received by rail was relatively insignificant both in Manitoba and Canada as a whole, the movement having largely shifted to trucks. Receipts of manufactured goods by rail, while substantial, declined over the data period. Increasing volumes of these products were received from Ontario and Alberta, these being more than offset by declines in the receipts from other areas. Within province rail movement declined dramatically as the traffic shifted to trucks.

The rail receipts described are presented by commodity group as proportions of total Manitoba rail receipts in Table 10. The share of receipts classed as manufactured products rises over the data period reaching almost 40 per cent in 1985. These products made up a major share of the receipts of commodities other than statutory grain. The share of receipts represented by statutory grain varied widely over the period and approximated 12 per cent. Receipts of products of agriculture exhibited greater proportional stability hovering around the mean of 6.7 per cent. Meanwhile, the proportion of receipts made up by animals and animal products declined into insignificance. Manitoba's share of aggregate receipts by rail in Canada declined over the data period from 5.9 per cent to 2.9 per cent.

2. Shipments and Receipts by Truck

The data with respect to truck movements are much less comprehensive than those by rail. In Table 9 shipments of two classes of commodities, live animals and food, feed, beverages and tobacco are recorded over the most recent eight years for which the data are available. Movements of live animals out of Manitoba were limited primarily to those to Ontario, the volume in aggregate being limited. Most of the shipments by truck are terminated within the province, the movement therefore being largely local. The volume of food, feed, beverages, and tobacco shipped was substantially greater than that of live animals. Sizeable volumes of shipments were made to Quebec, Ontario, Saskatchewan, Alberta, and British Columbia. Shipments terminating within the province, however, represented on average over one half of the total shipments.

Shipments to Manitoba by truck were substantially below those shipped out of the province. This becomes apparent from the data presented in Table 9. Most of the shipments of live animals originated in Saskatchewan, the total volume being limited. Shipments of food, feed, beverages and tobacco were received primarily from Quebec, Ontario, Saskatchewan, Alberta, and British Columbia. The total volume received from each was relatively small.

The data on truck movements are estimates and as indicated previously are incomplete. They represent movement by "for hire" carriers. The bulk of the truck movements, particularly within the
### TABLE 10
PROPORTION OF TOTAL RAIL RECEIPTS BY COMMODITY GROUP, MANITOBA, 1968 - 1985

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1 Excluding Statutory Grain
2 Not Included in Products of Agriculture

SOURCE: Calculated from Appendix Table B
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**Live Animals**

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1 Estimated

SOURCE: Statistics Canada 53-224
province, are not recorded. Since there is no reason to believe the
total tonnage moved by all modes has declined, the volume moved by
trucks must have increased in order to offset the declines registered
in movements by rail, particularly in the case of products of
agriculture as well as that of animals and animal products. Indeed,
most of the declines occurring in rail movements are in those movements
originating or terminating within the province. This within province
movement has been largely taken over by trucks.

The Dynamics of the Agricultural Transport Environment

The agricultural transport environment is molded by the policies
of both the federal and the provincial governments. Existing federal
policy as expressed in Manitoba, represents an extension of the
National Policy introduced over one century ago. There is little
prospect that this policy will change. Provincial policy operates
within the general parameters of the federal policy. Support for
agriculture is shown in such areas as tax adjustments, support for
marketing boards, and the construction of roads and highways. This
policy can also be expected to continue. While the policies of both
levels of government are subject to modification, the political
environment within which agriculture operates can be expected to
continue.

Agriculture in the province reflects both the natural conditions
which exist and also agricultural policy. Considerable success has
been achieved in adjusting to the former while declining voting
strength precludes any significant control over the latter in an
increasingly urban society. Trade liberalization holds forth the
prospect of encouraging export oriented production, as in grain, cattle
and hogs, to continue. On the other hand, the output of poultry, dairy
products and some vegetable crops may suffer due to greater exposure to
international competition. On the whole, any change experienced by
agriculture in the province can be expected to be minor. In other
words, existing trends in agriculture are projected to continue in the
future. The number of agricultural producers in the province is
declining. Meanwhile, the number of rural and urban dwellers continues
to increase. While the total area farmed in the province remains
relatively fixed, an increasing proportion of this area is used in crop
production as the area devoted to summerfallow declines. Cropping
patterns reflect the export orientation of the industry; wheat, barley
and canola output increasing markedly over time. Cattle and hog
production is increasing also while that of dairy cattle is declining.
Agriculture is becoming less labour intensive as greater dependence is
placed on mechanization. While only a replacement market exists for
most farm machines, the tendency is for the size of the units to
increase. The number of trucks on farms continues to expand.
Associated with mechanization is the use of fertilizers and pesticides.
Cash expenses are increasing, often at a faster rate than receipts,
giving rise to wide fluctuations in net farm income in the absence of
effective income stabilization. The value of agricultural output in
the province is increasing at a faster rate than other goods producing
sectors but at a slower rate than the service sectors. On the other hand, little trend is evident in agricultural employment. The contribution of agriculture to the provincial economy is significant.

The above trends have been accompanied by an increase in the use made of trucks to move products to market. The convenience of trucks, other costs notwithstanding, continues to bring about a shift away from use of rail movement. The primary exceptions are the long distance movement of grain to export under the Western Grain Transportation Act. Most other agricultural products are moved primarily by truck. While heavy bulk industrial materials continue to be moved by rail along with long distance movement of manufactured products, most other products also move by truck. This is rendered possible by the development of an extensive road and highway system in the province. In rural areas substantial upgrading of roads has accompanied the consolidation of the school system. It can, therefore, be said that the road network has been developed to fulfil the needs of all sectors of the economy of the province and not just those of agriculture.

Since most of the agricultural products produced in the province are sold in distant markets, often where intense international competition exists, minimizing the cost of transportation is essential to producer economic welfare. In no case is this more apparent than in export grain which has become the dominant source of the outbound provincial traffic of the railways. Under the Western Grain Transportation Act, the federal government provides a subsidy equal to $658 million annually plus a share of the rail cost increases due to inflation on the movement of "grain" to "export". This sum is paid to the railways. The "shipper" of the grain pays the balance of costs of the railways on the movement through a rate structure. Calculation of the appropriate subsidy and rate is made annually. The "method of payment" of the subsidy continues to be a matter of dispute as payment to the railways (resulting in a lower rate to producers) fosters the movement of grain out of the province while discouraging the conversion of grain into livestock products since the price of grain locally is higher than would be the case if the grain producer paid the entire cost of movement. The merit of the transportation subsidy is not, however, now in dispute.

Since the grain producer pays that portion of the rate not offset by the subsidy, it is in his interest that the cost of transporting the grain be minimized. Costs are greatly influenced by the extensiveness of the rail gathering system. Movement off the branch lines tends to be relatively higher in cost than that off main lines. The cost of movement off some branch lines is much higher than that of others. These costs are not experienced directly by the producers using these lines since under the Western Grain Transportation Act the cost of the grain movement is aggregated, the subsidy deducted, and remaining costs paid collectively by all producers at rates related to distance. This situation has caused the Senior Grain Transportation Committee established under the Act to identify the high cost rail lines and to provide information on these lines to producers.
Abandonment of some of these high cost lines would be beneficial to all producers collectively but not necessarily to the producers delivering grain to elevators on these lines. For example, the Committee has identified 177 miles of grain dependent branch lines in Manitoba experiencing losses of from 42 to 180 cents per tonne. In other words, under the initial C.W.B. prices for wheat and barley for the next crop year, 1987/88, of $110 and $60 per tonne respectively, wheat could only move 262 miles on the 42 cent line and 83 miles over the 132 cent line before having a net value of zero. Comparative distances for barley are 143 miles and 45 miles, respectively. The importance of these data become apparent when grain from Manitoba has to move, on average, over 500 miles to export position.

Elimination of high cost branchlines has other ramifications than the savings in cost experienced by the railwys in the movement of grain. With the closure of elevators on the branch lines producers have to change their hauling patterns, the distance of haul by truck usually entailing greater use of the roads. Closure of the elevators on these lines tends to lower overall handling costs as a result of the greater throughput experienced by the remaining elevators. Attempts to abandon branchlines tend to be opposed by producers hauling to these lines because of the additional trucking costs experienced. Municipalities are also opposed due to their concerns over the potential damage to their road systems. The province also tends to be opposed as it sees the costs associated with a federal responsibility, the railways, shifted to itself in the form of increased costs for roads and highways. Local communities fear abandonment will result in their demise. In many cases, the savings arising from abandonment of the high cost lines would far exceed any costs experienced by participants in the system as a whole. Consequently, further abandonment of lines can be anticipated.

Greater use of trucks in the movement of grain regardless of the pace of rail abandonment can be expected to occur. The economics associated with commercial trucking are such as to encourage hauling of agricultural products greater distances to reap the benefits from markets offering more attractive prices. Trucks can, therefore, be expected to play an increasing role in the transport of agricultural produce, the dominance of trucks over rail already being well established in the transport of products other than grain. This dominance of trucks is already evident in many other industries. Consequently, the highway infrastructure necessary for greater grain movement is already largely in place. Local and provincial roads may require upgrading from their present state to accommodate the increase in traffic. Fuel taxes and licence fees now more than to offset provincial expenditures on roads and highways, so the extra traffic should increase provincial net revenue.

Agriculture in Manitoba is highly dependent on export markets. The location of these markets continues to change as additional countries develop and others become self sufficient. The products
desired change as consumer income increases. Thus, the outlets for Manitoba produce also change. Meat, for example, finds an outlet in California and Japan amongst other places. Grain is exported in increasing quantities to developing countries, developed countries often now being self sufficient. These market changes have a decided impact on the direction of the flow of Manitoba produce. Charging demand as reflected in the price structure for grain dictates an increase in the volume being moved through ports on the Pacific Coast. This has prompted the Canadian Wheat Board to propose pricing of export grain at Vancouver where the price received now approximates that available at ports on the lower St. Lawrence River rather than that at Thunder Bay. While no action has been taken to introduce this price structure, the long term implications of the proposed change for Manitoba producers are apparent.

Summary

Current trends in agriculture are expected to continue in response to existing physical conditions and the policies in place. The shift from rail to road transport will continue. In grain, the shift has been limited in the past but can be expected to increase as the year 2000 A.D. approaches. The necessity of minimizing transportation costs to enable producers to be competitive in distant markets which is so apparent in grain, can be expected to result in further abandonment of railway branchlines in the province. Elevator operations will become more efficient as a result of the grain diverted from these lines. The centre of the rural community, currently in a state of transition, will shift from being school oriented toward being service centre oriented. This will reflect the greater mobility of producers. At the same time, their vision of the community will expand. Gradualism will continue to mark the pace of change.
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**Source:** Canadian Transport Commission, Commodity Flow Analysis, Specific Years
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**SOURCE:** Canadian Transport Commission, Commodity Flow Analysis, Specific Years
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2 Not included in Products of Agriculture

SOURCE: Canadian Transport Commission, Commodity Flow Analysis, Specific Years
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**SOURCE:** Canadian Transport Commission, Commodity Flow Analysis, Specific Years.
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**SOURCE:** Canadian Transport Commission, *Commodity Flow Analysis, Specific Years*
### APPENDIX TABLE B(b)

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**Commodities Other Than Statutory Grains**

**SOURCE:** Canadian Transport Commission, *Commodity Flow Analysis, Specific Years*
### Appendix Table B(c)

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**Statutory Grains**

**Source:** Canadian Transport Commission, *Commodity Flow Analysis, Specific Years*
### APPENDIX TABLE B(d)

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SOURCE: Canadian Transport Commission, Commodity Flow Analysis, Specific Years
### APPENDIX TABLE B(2)

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**SOURCE:**
Canadian Transport Commission, Commodity Flow Analysis, Specific Years
### APPENDIX TABLE B(6)

#### RAIL RECEIPTS OF PRODUCTS BY ORIGIN, MANITOBA, 1968-85

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<tr>
<th>Year</th>
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<th>Manitoba</th>
<th>Saskatchewan</th>
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**SOURCE:** Canadian Transport Commission, Commodity Flow Analysis, Specific Years.
Developments in Transport Technology

N.E. Rudbuck*

Abstract

A brief review is made of technology trends in transportation and of developments that could have an impact on Manitoba's economic future. This is supported with illustrations of specific equipment, systems, and technologies that are of current interest and appear to offer good prospects for long-term future growth. The paper discusses the type of long-term commitment to R&D that is needed to be competitive in the modern technological society.

Introduction

Transportation is of vital importance to the country and it is essential that the transportation system be safe, efficient and economical. It must also serve the needs of all regions of the country and all segments of the population, including mobility disadvantaged persons. This challenge is being met by Transport Canada through Freedom to Move legislation which will reduce government intervention in the market place and through an unprecedented program of legislative and regulatory reform affecting all elements of the transportation system. But maintaining a safe and efficient national transportation system is a challenge that also requires innovation and the best modern technology.

Canada has demonstrated its technical capability in transportation through developments ranging from the Challenger and Dash-8 aircraft, through to the MV Arctic (the world's largest and most efficient Arctic class cargo-lobbreaker), and the innovative Sky Train transit system in Vancouver. In our modern society, technology is advancing rapidly, and continued research, development, and innovation is essential to maintain the competitiveness and enhance the safety of the system. As a hub of the transportation network, Winnipeg and Manitoba are well placed to participate in the advancement and exploitation of new transportation technology.

This paper outlines some of the current and expected future trends in transportation technology, illustrated by specific examples. The intention is to highlight the role technology plays in the transportation system, with particular emphasis on areas of interest to Manitoba. It is hoped that this presentation will stimulate thoughts on how transportation technology might be used to enhance Manitoba's economic future.

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Technology Trends

The Environment

The transportation system is mature, sophisticated and complex. The various modes of freight and passenger transport are interlinked in an integrated network. It is no longer sufficient to think in terms of single products or pieces of equipment when considering technology development. It is necessary to anticipate the impact that technological developments will have on the entire system.

The emphasis on civil and mechanical engineering design that formed the basis of the existing system has shifted as a result of the explosion in electronics and information technology. It is difficult to think of a single current development that does not include, or was not made possible by, the application of modern electronics and computing capability. To participate in the innovations that will shape our transportation future, it is essential to be at ease with the new computer-based environment in which a tiny chip contains more computing power than previous main-frame computers occupying an entire floor. Small, inexpensive, and efficient, microprocessor chips are revolutionizing our transportation system, making possible equipment designs and operational procedures undreamed of just a decade ago.

The growing application of advanced industrial materials is also having a major impact on technological development. As our fundamental understanding of physics and chemistry increases, with particular reference to the atomic and sub-atomic composition of matter, we are able to form materials or composites that are lighter, stronger, and more durable than conventional metals or natural products.

While allowing our imagination free rein to explore technological opportunities, it is worthwhile to recognize a fundamental fact regarding our transportation system. It is a mature system that has expanded rapidly over a period of many years, but this period of major expansion in transportation infrastructure has ended. It is unlikely that we will see large-scale construction of new roads, ports, railway lines, or airports in the near future. The emphasis in the coming years will be on exploiting the available infrastructure to optimize utilization and economic benefits. Attention must also be devoted to maintenance of existing infrastructure and rehabilitation of older structures. Older systems will be modernized, making use of the latest electronics technology to improve efficiency and effectiveness.

Electronics

The application of electronics to transportation has had a major effect on the industry and this is expected to continue and increase in importance. Electronics permeates all aspects of transportation from vehicle design and manufacture to operation and maintenance. Microprocessors are finding applications on board vehicles, with their use in fault diagnosis and maintenance becoming a practical reality.
Extensive systems for radio navigation are available in most areas of the country, providing both area navigation and precision approach in selected terminal areas. Highly precise satellite navigation systems, providing location accuracy within a few metres in three dimensions, will be widely available and used in the next five to ten years. Modern communication technology allows control centres to remain in contact with vehicles for two-way exchange of voice or data information. These control centres can be linked together into networks to establish on-line, real-time links across the country. As long as the trend towards lower cost of electronics continues, and there is every indication that it will, we can expect to see this technology being applied at an ever increasing rate over the foreseeable future.

**Computer Software**

The techniques for computer software development have lagged behind the rapid development of powerful, low-cost microelectronic processors but we appear to be on the verge of a major breakthrough in this area. The powerful electronic processing capability and the large memory storage capacity now available are being used to simplify the programming task and to develop new types of computer software.

The new software techniques are referred to as artificial intelligence (AI), in simpler forms, as knowledge-based systems. These techniques will allow machines to make decisions normally considered the domain of human experts. Through the application of deductive logic techniques, the computer will be able to come out with the "best" answer even when the factors essential for decision-making are not all known or cannot be quantified. Using these new programming techniques, computers will begin to have decision-making capabilities approaching or equaling those of the human manager or operator, albeit in a narrow field. It is not intended to suggest that we are all about to be replaced by computers, but it is important to recognize that these advances in technology are changing the way in which transportation companies must operate if they want to remain competitive. AI has been identified by all major industrialized countries as a strategic technology whose impact will be felt throughout their economies.

Natural-language computer programming techniques resulting from this technology will allow managers and other non-computer-specialists to write their own computer programs. The whole field of software development will undergo a radical change.

**Computer Applications**

Already we are seeing modern electronics and information technology being applied to routine tasks in the work place. The use of robotics for production line tasks, led by the Japanese auto makers, provides a highly visible example of this technology. Computer aided engineering (CAE) and manufacturing (CAM) techniques are providing the
capability of performing routine tasks and freeing humans for more challenging activities. Computer techniques allow exploring many alternatives to obtain an optimum design for a product that will be better, more reliable, and more economical to manufacture. CAM techniques, including robotics, ensure a uniformly high-quality product output. Winnipeg is fortunate in having the Canadian Institute for Industrial Technology. It will help establish a national expertise in industrial technology from which local industry should obtain major benefits.

Automation is changing the office environment and will impact upon operations and maintenance. Computer-simulated voice messages now provide instructions in some automobiles and in the cockpits of new aircraft. Advances being made in voice recognition will lead to direct voice input of data into computer terminals for reservation systems and eventually even the office typewriter. No longer is the computer restricted to the accounting department for financial data processing, it is relevant in all aspects of business and industry.

Advanced Materials

The goal of developing lighter weight, higher speed and more efficient aircraft has provided the impetus for continued development of advanced materials. These new materials have the potential to reduce aircraft weight by 30-40%. They consist of advanced powder metallurgy alloys and what is known as composite materials. Composite materials consist of high strength fibres embedded in a matrix that can be either an organic resin or a metal. The most common fibre currently used is graphite, but fibres are also made of glass, boron, silicone carbide, Kevlar and filamentary metals. The matrix holds the composite together and allows the material to be formed into various shapes. The matrix also makes it possible to tailor the material to obtain the desired properties of strength and stiffness. Composite materials are stronger than steel, stiffer than titanium, and lighter than aluminum. In addition, they offer unique mechanical properties, such as resistance to corrosion and to high temperatures.

The use of composite materials is not restricted to the aircraft industry. Their high strength to weight ratios, ease of forming, and resistance to corrosion make them attractive and cost-effective for other transport applications. They are now being used in automobiles and are starting to appear in buses. As these materials become more readily available and their costs reduced, advantage will be taken of advanced materials to produce more cost-effective designs.

Freight Transportation

Freight transportation in Canada has been the object of stiff competition between the rail and road modes, with trucking companies gaining an ever increasing share of the market. Although the St. Lawrence Seaway and Great Lakes waterway system accounts for a sizable share of bulk commodity movements east of Thunder Bay, it will not be considered further since this mode is not of direct relevance to Manitoba.

The railways have seen their market share being steadily eroded by truckers, particularly their share of lighter weight, higher value merchandise. Rail and parcel express no longer move by rail. Travellers have all but abandoned the railway. Approximately 50% of general cargo and intermodal containers are now moved by truck and we are even seeing some bulk commodities being hauled over our roads. The railways have had difficulty in responding to this competition, but fundamental changes are taking place in the rail system. The railways are moving more toward a line haul operation with local distribution by road rather than branch or spur rail lines and new technology is being applied to improve efficiency.

Likewise, trucking fleets and trucking operators are innovating and offering improved services. Some of the more interesting technological changes in the rail and road mode will be described. A brief outline will also be provided of marine technology applicable to transportation through the port of Churchill.

Rail Freight

General

A five-year augmented rail freight research and development program carried out by Transport Canada in collaboration with the Canadian railway industry was completed in March 1986. Transport Canada contributed $10 million to this joint effort and it is estimated that the railways and the supply industry contributed a like amount over the five-year period. This program provided an impetus to railway innovation in Canada from which benefits are continuing to flow. A number of the technology developments described in this paper were stimulated by or resulted directly from this R&D effort.

Advanced Train Control

Conventional railway signalling systems use track circuits and electro-mechanical relays to control the signals. These systems are highly reliable and are designed on the "fail safe" principle so that equipment failure will not result in unsafe train operation. However, they have serious drawbacks that limit their application:

1. They are very expensive, so that major segments of track remain as unsignalled "dark territory".
2. Safety is dependent on the alertness of the locomotive engineer in performing routine tasks over extended periods of time. As demonstrated by recent railway accidents in Canada and the U.S., the human operator represents a weak link in the system. The greatest cause of operations-related accidents is human error, not equipment failure.

3. They cannot provide real-time train control (which would maximize system efficiency) since they are based on wayside signals with no direct link into the locomotive cab.

Transport Canada's Transportation Development Centre (TDC) in collaboration with BC Rail began experimenting with electronic train control in the mid-1970s. This led to the demonstration of a Location, Identification, and Control (LIC) system of electronic train control under the augmented rail freight R&D program. The system used passive transponders in the track to verify train position, radio links back to the dispatch centre and computer control to monitor operations, provide alarms, and, if necessary, automatically brake the train in a dangerous situation.

The LIC system stimulated interest in electronic train control among Canadian railways and demonstrated the feasibility of this technology. However the LIC system would have required further development to adapt it to mainline railway use and the railways were reluctant to support development of a system that would be proprietary to one manufacturer. In 1984 the Canadian railways, under the auspices of the Association of American Railroads (AAR), joined forces with five major American railways to specify and encourage development of a standardized North American Advanced Train Control (ATC) system.

The ATC system, which uses modern electronics technology and computers to control train operations more efficiently and safely, is now beginning to be tested on North American railways. CN Rail and CP Rail are participating in this development effort and are planning test projects. Manufacturing companies working with the railways are eligible for financial support under a program jointly managed by the Department of Regional Industrial Expansion and Transport Canada.

Advanced Train Control is the most exciting and potentially the most significant technological development for the railways. Estimates on the size of the North American market for this equipment go as high as $3 billion. The ATC system could fundamentally change the way in which railways operate, making them safer, and more efficient. While fully automatic train operation is not a practical possibility in the foreseeable future, ATC is a step in that direction.

End-of-Train Indicator

The familiar caboose is synonymous with train operations. However, it is being replaced by the "electronic caboose" or end-of-train indicator, which is capable of automatically transmitting brake
line pressure and other vital parameters from the rear of the train to the locomotive cab. Canadian railways estimate savings in excess of $50 million annually through the use of this technology, principally through elimination of the caboose.

The Canadian producer of this equipment has captured 80% of the market among the deregulated U.S. railways where this equipment is now in widespread service. The Canadian Transport Commission has recently approved use of the end-of-train technology on the Quebec North Shore & Labrador Railway, but is still considering applications by the two major railways to implement this type of operation. This matter has been under review for the past two years.

High Productivity Integral Train

The railway system was originally developed using simple design and trial-and-error techniques. This worked well enough as long as the technology was not being pushed close to its limits. The situation changed in the 1960s and 1970s with the introduction of ever increasing car weights and longer trains in a drive towards improved efficiency. A series of spectacular accidents on a number of different railways demonstrated the need for a better understanding of the forces and dynamics of train operation. As a result of extensive train/track dynamics R&D activity, we now have an excellent understanding of the forces at the wheel/rail interface under dynamic conditions, their effect on the roadbed structure, and the forces involved throughout the train in the operation of long heavy trains. Many other aspects of train operations have also been analyzed in detail, such as wind resistance, energy utilization, brake operation, and braking forces. Canadian railways have been in the forefront of this activity. It has been made possible by the evolution of modern computing techniques that enable analysis and resolution of problems too complex to address using manual techniques.

The knowledge gained from this research activity has been put to good use. Incremental improvements have been made on a continuing basis over the past decade in track, track structure, wheels, bogies, couplers, and brakes. Virtually all aspects of the system have been improved and this has been complemented by the use of the improved knowledge of train dynamics to train operating personnel. While most of these changes are not readily visible to non-railroaders, the railway system today is vastly safer and more productive than it was a decade ago.

This knowledge is also being used today to design new generations of trains - high productivity integral trains. As railways move towards specialized types of line haul service, there is less need for railcar interchange and compatibility with other railways. This permits the design of special-purpose trains dedicated to meet specific service requirements. These trains fall into two general categories:
1. Bulk commodity integral train (an extension of the current unit train concept); and

2. Intermodal integral train.

Both concepts are designed to take advantage of the latest technology and to combine all of the best elements into a train that will be more productive and cost-effective than anything operating on our railways today. While these trains will be limited to specific line haul services, they represent a strong response to the challenge of moving bulk commodities and manufactured products to markets in the most efficient manner. The integral train will ride on lightweight steerable trucks and will incorporate features such as lightweight aluminum bodies and reduced aerodynamic drag to achieve a significant reduction in tare weight and fuel consumption. In-train forces will be sufficiently reduced through the use of slackless draw bars and the trains will be equipped with an advanced microprocessor-controlled braking system. Initial prototypes are being assembled and tested by a number of North American railways, including CP Rail.

Railways are also moving towards double stack container cars assembled in specially designed integral trains incorporating many of the technological features described above. Alternative configurations for an intermodal integral train feature simplified roll-on/roll-off or automated types of loading arrangements using robotic tractors. Integral trains are expected to be shorter than conventional trains and to run at more frequent intervals to provide improved customer service.

Other concepts being investigated for intermodal traffic include the "Rail Master" concept, which uses what has become known as a "rail compatible trailer" (RCT), a highway trailer that can also operate on railway track. To maximize highway payload, the Rail-Master does not carry either the rail wheels or the rail brake equipment when operating in the highway mode. This railway equipment can be rapidly coupled together to form train units. Units are now under test at the Transportation Test Centre in Pueblo, Colorado and some are entering trial service.

It is not possible to describe in detail all the innovations which are possible and which are taking place in the railway industry. The intention is to point out that major, fundamental changes are taking place in the industry. The railways recognize the need to improve their efficiency and increase their competitiveness with respect to the trucking mode and are taking advantage of new technology to maintain their inherent advantage in long haul transport.

**Truck Technology**

**Towards Uniform Vehicle Weight & Dimension Regulations**

A cooperative project involving the trucking industry and the federal and provincial transportation departments has been carried out
under the auspices of the Roads and Transportation Association of Canada (RTAC) to develop the technical basis for uniform standards for vehicle weights and dimensions across Canada. Weight and dimension regulations fall within provincial jurisdictions and the variations in regulations from province to province have impeded the efficiency of interprovincial trucking. Research studies and test projects have been carried out across Canada over the past few years to:

- Understand the impact of heavy trucks on the highway structure and highway maintenance costs; and
- Examine the stability of different vehicle configurations and evaluate their safety under all operating conditions.

A knowledge base has now been established that will permit moving towards standard regulations for highway vehicle weights and dimensions. Over the next few years, the barriers impeding efficient interprovincial truck movements will be reduced and in many cases eliminated. There is also the possibility that larger and longer vehicle configurations will be appearing on highways. The efficiency of trucking operations will be improved and at the same time there will be greater assurance that the types of vehicles allowed to move on highways will be safer to operate than many current vehicles.

Vehicle Suspensions

The analytic capability now available as a result of modern computer technology is allowing the development of more sophisticated vehicle suspension systems. Understanding the dynamic interaction between a truck and the highway will permit optimizing vehicle suspension design to achieve maximum payload while meeting regulatory standards and minimizing damage to the roadway. Some of the techniques now being used by truck designers are the product of train/track dynamics research activities and are expected to produce similar benefits - vehicles that are safer, ride better, and impart lower dynamic loads on the roadway.

The long-term potential of active suspensions is also being investigated. An active suspension would allow modifying the suspension characteristics, particularly damping values, under microprocessor control to ensure that vehicle suspension is optimized to match the road over which it is running. Truck designers and operators should keep abreast of the developments in vehicle suspension technology.

C-SHRP

A five-year, $5 million program will address the development of new and more cost-effective technology for construction and maintenance of our highway infrastructure. The Canadian Strategic Highway Research Program (C-SHRP) will parallel a similar, but much longer research program already underway in the United States. The Canadian program
will focus on cold weather problems. This R&D activity will provide opportunities for the Canadian research community, and offers substantial benefits to provinces in the form of reduced highway maintenance costs. One of the highway test sections will be located in Manitoba.

Special-Purpose Vehicles

The speed, flexibility, reliability, and relative economy of trucking give it inherent advantages which have allowed the industry to expand and grow. Its market share has steadily increased over the past three decades, principally at the expense of the railway industry. But the competition is starting to get stiffer with reduced government involvement in the transportation sector. Not only is there increasing competition between truck and rail, but also among trucking companies and between domestic firms and U.S. based transporters. These competitive pressures are being met by the development of special purpose truck configurations which respond to specific market needs and by a rapidly increasing application of electronics and computer technology within the industry.

Just as railway companies are developing special-purpose trains, we are seeing more and more special-purpose trucks on our roads. These vary from longer doubles and triples to innovative trailer designs. An example of this is the Chameleon convertible bulk carrier/flatbed trailer, now in production with Westbank-Willock Corporation of Regina, Saskatchewan. The Chameleon will allow the haul of grain or other bulk commodities in one direction and a container or other appropriate load in the other, thus avoiding an empty back haul. While it is not appropriate for all routes, it offers tremendous economic advantages in special-purpose applications that might otherwise require two types of trailer and significant amount of non-productive empty back haul.

The convertible trailer is not a new design concept. It has been tried many times before, but has never achieved any measure of success. What makes the Chameleon different from other designs is the trailer material. It is strong, tear-resistant, and can withstand over 50,000 open and close cycles under all temperature conditions. This advanced material makes possible the realization of a design concept long recognized as advantageous but never before successfully developed. The Chameleon concept appears to have an excellent chance of success.

Another special-purpose vehicle with which TDI has been involved is a refrigeration truck, using CO₂ cooling, that can transport perishable products such as fish to market without deterioration in product freshness and quality and can do so more economically than mechanical refrigeration units. Fibre-reinforced plastic tank cars provide another illustration of the use of new materials in truck transport. Fibre-reinforced plastic offers lower cost and greater resistance to corrosion for the transport of certain chemicals and toxic waste materials. Transport Canada's highway vehicle R&D encourages innovation in the trucking industry and provides for prompt
updating of federal safety regulations. The R&D is facilitating productivity improvements through technical change, while ensuring that new vehicles offer the same or improved safety as compared with conventional designs.

Vehicle Monitoring, Dispatch, and Control

Technical innovation in the trucking industry is not limited to new designs of tractors or trailers. Computer automation has brought about major changes in trucking operations. The application of electronics on-board vehicles is increasing rapidly and we are seeing computerization of the monitoring, dispatch, and control function.

The Society of Automotive Engineers (SAE) has developed a recommended practice for electronic data interchange between microcomputer systems on board heavy duty vehicles (J1587). This recommended practice defines the format of the message and data to be communicated among the various vehicle subsystems. It includes provision for future vehicle sensors that would measure engine parameters, brakes, fuel, tires, and the like, as well as data on the weight and condition of the cargo. Provision is also made for interface between the vehicle electronics and the dispatch or maintenance centre. By establishing the standards, SAE has opened the door for electronics manufacturers to produce compatible components that can be connected together by designers to build cost-effective vehicle electronic systems.

Computer terminals are now fairly common in police and taxi vehicles and have found their way into trucks used in urban delivery service. These terminals increase the efficiency of dispatch operations and will find their way into long haul trucking operations. The availability of on-board display terminals and microprocessors is an important step towards automatic vehicle monitoring and navigation aids. Numerous efforts have been made to develop systems that would automatically report the position of vehicles to a dispatch centre without the need for driver involvement and some success has been achieved. Simple types of fixed-route vehicle monitoring systems are in operation with transit companies. Efforts to develop an accurate and economical random-route vehicle monitoring system are continuing but to date this technology has not gained widespread acceptance. With the planned implementation of the global positioning system in the early nineties, it will be possible to determine the location of vehicles anywhere in the world accurately and cost-effectively. This could provide the breakthrough that will permit widespread application of automatic vehicle monitoring. TDC is experimenting with a vehicle location system based on cellular telephone technology to track vehicles transporting certain dangerous commodities.

The dispatch office will also change significantly. Artificial intelligence techniques and knowledge based systems will be used to provide significantly improved dispatching more efficiently and cost-effectively than is currently possible. These systems will be
programmed to take advantage of the knowledge and skills of the most experienced operators to automatically handle both routine and non-routine types of dispatching on a fully automated basis. Such systems, which interface with terminals on-board vehicles, are already at the development stage. The application of electronics and computer technology to trucking offers many opportunities for companies that can understand the market needs and respond with reliable, cost-effective hardware and software systems.

Marine Technology

Recognizing the importance of the Port of Churchill to the province of Manitoba, let us briefly discuss the marine technology that could improve port and shipping operations. However, it should be recognized that the volume of shipments through Churchill will be determined by the economic realities of the market place, and not by our technical ability to keep the port open throughout the winter season or produce ships capable of transiting Arctic ice.

Considerable development has been carried out by Transport Canada with respect to shipping in Arctic waters, largely centered on the Canadian Arctic Shipping Pollution Prevention Regulations (CASPPR). These regulations must be strict enough to prevent any serious environmental incident but not so as to inhibit economic development in the North. Research related to regulatory development has provided an excellent understanding of Arctic ship technology requirements. This is demonstrated by the new bow designed for the MV Arctic, which provides a 50% improvement in ice transiting capability compared with conventional technology.

We have the ability to design highly efficient icebreaking cargo ships and we also have a good understanding of what is required to maintain ports open under winter conditions. Experiments were conducted over a number of years at Thunder Bay with various types of bubbler equipment and other techniques to permit docking and facilitate vessel loading and unloading under winter conditions. But even with the best technology it is not possible to overcome the forces of nature when, for example, strong winds blow broken ice against the shoreline creating heavy ice packs that completely block access to the port.

Also, the cost of shipping operations under severe winter conditions makes it difficult for Canadian goods to remain competitive with foreign products. Given the prevailing conditions of strong international competition in the prices of agricultural products and the low cost availability of many other raw materials from developing nations, Canadian producers are obliged to use the most efficient transportation means available.

Passenger Transportation

Despite sizable subsidies by Transport Canada, train travel has shown little indication of a resurgence in popularity. The decline in
ridership continues even though ticket prices are often well below operating costs.

Bus companies in Canada have felt the impact of competition from the subsidized rail passenger system. The high quality, subsidized train service has attracted passengers away from buses on key intercity routes. This has reduced the economic viability of bus operations, and in some cases, seriously threatened the survival of this industry. Changes to VIA Rail’s pricing policy introduced in 1985 have alleviated the detrimental aspects of this price competition but both the bus and rail passenger modes are facing a weak market for their services.

The major threat to bus and rail transport comes from the continuing popularity of the automobile for short trips and the economic advantages of air transport for longer voyages. An increasing number of communities are being served by small commuter airlines, which came into existence in part as a result of economic regulatory reform. The relatively low cost of fuel at present benefits the automobile user and the air traveller.

Technology does offer some alternatives, particularly with respect to bus transport. Some of the technology opportunities that could be of interest to firms in Manitoba will be outlined.

Bus Technology

Despite difficult economic conditions, or perhaps because of it, bus companies will be obliged to use the most efficient modern technology. Manufacturers of intercity buses are facing increased competition from foreign companies which have set up production in North America and are offering high-quality service and the growing excursion market. Canadian bus manufacturers have done well in the U.S. market but their position is under threat.

Prevost Car Inc. of Quebec is beginning production of a new generation of high-quality intercity bus using an innovative design approach. Prevost’s 40-foot articulated bus makes use of advanced materials, sophisticated design techniques and ergonomics to improve ride and passenger comfort and reduce operating expenses. Tests have shown that the bus’s handling characteristics are superior to those of a conventional 39-foot intercity coach.

Motor Coach Industries (MCI) of Winnipeg has recently made a submission to the federal government, under its Unsolicited Proposals Program, for support in the development of a prototype 45-foot intercity coach. In addition to greater interior space, the new coach would feature improvements to the suspension system (developed with CAE), on-board air quality, and accessibility features, including washrooms for disabled persons. As this proposal is still under review within Transport Canada, it is inappropriate to discuss it in any detail at this time. However, it is clear that Transport Canada has a concern for the Canadian bus industry and in improving the
accessibility of this mode for all travellers. MCI has already demonstrated its ability to address accessibility issues through its participation in the development of an elevator-style wheelchair lift for coaches in collaboration with Transport Canada and TES Ltd. of Ottawa. This accessibility feature of their current bus design has been a direct reason for the selection of MCI equipment in two recent contract awards for lift-equipped buses.

It must also be admitted that Transport Canada has a vested interest in improved bus technology that could offer a publicly acceptable alternative to trains on certain routes. Rail passenger service is an important transportation mode in many parts of the country even though the ridership level is low. This has been made clear by public reaction against past efforts to reduce or eliminate train service. One way of addressing the concerns of the travelling public while pursuing the development of cost-efficient alternatives to rail service is to ensure new high-quality bus services have first been tested in operational service and gained public acceptance before any changes are made to the train schedule.

The Prevost articulated intercity bus will be tested in service between Montreal and Quebec under an economic agreement between Canada and Quebec. Featuring buses with three-abreast seating configurations, the demonstration service should provide a good indication of public reaction to new bus technology.

Railbus Technology

This paper does not deal with rail passenger transport technology in any detail since the opportunities in this area appear limited without increased public utilization of the rail mode. However, I would like to mention the railbus since considerable efforts were made towards development and demonstration of railbus technology in northern Manitoba. The railbus appears to offer a viable alternative to passenger rail services in remote communities not readily accessible by either road or air. It would also appear to have application on some of VIA's low density routes.

Having demonstrated the feasibility of railbus service, TDORC has no current involvement in this area. Future decisions on utilizing railbus technology will be made by VIA Rail, which has responsibility for providing rail passenger service.

Based on TDORC's experience with the railbus and earlier development of the LRC train, it can be said that the environment surrounding rail passenger transportation in Canada does not support innovation and change. It is not possible to place the blame for this situation on any one organization. The "system" works in such a way that innovation takes so long, is so slow and costly that it becomes impractical. It took over five years of concerted efforts involving a large number of persons and organizations to mount a small non-revenue railbus passenger demonstration service in the Thompson-Pikwitonei-Thicket
Portage area. The major part of these efforts was directed toward overcoming institutional problems, not resolving technical difficulties.

By contrast, there has been absolutely no difficulty to date in testing and evaluating the Prevost articulated intercity bus, even though it does not meet length requirements in some of the jurisdictions where it has operated. The only real impediment to mounting the passenger demonstration service was the manufacturer's reluctance to risk having the interior finish of his only prototype damaged by public usage.

Air Transportation

Canada has two manufacturers of small aircraft, neither is located in Manitoba. Both these companies, as well as the major U.S. aircraft manufacturers, do require high-quality parts and components. The market is relatively open, provided that rigid design and quality standards can be met. Bristol Aerospace, along with many other Canadian manufacturers, has been taking advantage of this opportunity.

An excellent opportunity exists with respect to the provision of electronic equipment for Transport Canada's air traffic control system. Transport Canada is supporting research and development into all areas with potential for bringing about improvements in efficiency or safety. The Canadian Airspace System Plan\(^2\) outlines Transport Canada's intentions with respect to the procurement of new systems. It is recommended that electronic firms having an interest in this field review the plan to identify areas in which they may participate. Development support is available for promising concepts through TDA or directly from the Aviation Group.

Examples of development activities currently underway include ergonomic design of a new air traffic control workstation, improved techniques for baggage inspection and explosive detection, and microwave landing system test equipment. Transport Canada is committed to improving the safety, capacity, productivity, and economy of the air navigation system and is prepared to do this in collaboration with Canadian industry. Equipment developed for the Canadian system could have attractive export potential.

Urban Transportation/Energy

It would be a serious omission to discuss the subject to transportation technology in Winnipeg without mentioning the urban bus. In looking at opportunities in new technology, it is essential to examine and build upon existing strengths. Not only is Winnipeg a centre of bus manufacture but it is also recognized as having one of

\(^2\) Canadian Airspace System Plan, Transport Canada TP4334E, April, 1986.
the best and most dynamic transit services in Canada. This combination of manufacturing capability and operating experience offers excellent opportunities for development and growth.

While Transport Canada does not have a direct responsibility in urban transit, it does have an interest in this area. Most of the petroleum is consumed in urban areas. The urban transit system is fuel efficient and offers good opportunity for substituting alternative fuel for conventional liquid petroleum fuel. Transport Canada provides support to the Department of Energy, Mines, and Resources (EMR) in this area by participating in the energy research and development program.

Winnipeg is participating with EMR in the MILE project to test methanol as an alternative to diesel fuel. As you may be aware, liquid methanol has a high energy content and is an attractive fuel for use in internal combustion engines. It can be produced from coal or from natural gas. Canada is cooperating with the U.S. where interest in methanol fuel is high owing to their large coal reserves. Canadian interest in methanol fuel is related to the production of methanol from natural gas, which is in abundant supply in this country.

While there are still technical problems to be overcome in the use of methanol fuel, it is currently considered the best long-term alternative to conventional gas or diesel fuel. Other potential fuels have greater limitations: propane is in limited supply and is already being well exploited; natural gas has a relatively low energy content; and the use of hydrogen fuel is still far in the future. The ultimate viability of fuel used in Canada is determined directly depends upon the availability and cost of conventional petroleum fuels. The future availability of oil is difficult to predict and is subject to sudden major changes caused by events outside of Canada's control. Hence, research into alternative fuels must continue.

With respect to the urban buses being produced in Canada, it should be noted that they are a generation behind the buses operating in the U.S. and Europe. The standard buses running in the streets of our cities are economical and reliable, but lack some features of styling, passenger comfort and convenience found in buses elsewhere. It seems inevitable that a new generation of buses will gain acceptance in the Canadian market place within the very near future. It would be unfortunate if some Canadian cities started to procure offshore equipment in preference to Canadian-made buses, but this is the risk we run if our technology does not keep pace with the state-of-the-art.

Winnipeg's Strength

Winnipeg is one of Canada's largest transportation centres. It is regional or national headquarters for a number of air, rail, and trucking companies. Maintenance and overhaul facilities for CN Rail and CP Rail are located here. In addition, the city is home to a major manufacturer of intercity buses, two manufacturers of urban buses,
North America's only trolley bus manufacturer, plus a number of truck body manufacturing firms.

As a consequence of its extensive transportation activity, Winnipeg has a large pool of personnel trained in all aspects of the transportation business. Management, technical, marketing, skilled labor, and other talents are readily available. This is complemented by a first-class university, which includes a transport institute that is establishing itself as a centre of excellence in transportation studies. There is no doubt that basic human resources and the talent for development of high technology transportation equipment exist in this area.

As a result of Winnipeg's established rail, air, and truck operations, the city also has available supporting manufacturing and machine shops to supply high-technology components and sub-assemblies. In addition, there are electronic firms and engineering companies with the capability of undertaking technical development in the transportation field.

It seems clear that Manitoba in general, and Winnipeg in particular, have the potential of making a major contribution towards ensuring that Canada's transportation system services the country's requirements efficiently and safely, ranking second to none in the world with respect to quality and accessibility.

High Tech: A Long-Term Investment

Those who think that high technology industry can be set up overnight and in a few years generate large numbers of well-paying jobs are due for disappointment. Investment in high technology is a long-term venture. True, it will produce some short-term benefits in terms of a small number of new jobs and these jobs are important, since they will employ highly skilled professionals - the graduates of our universities and technical schools. Without such jobs, they would be obliged to look elsewhere for employment and their talents will be lost to this region of the country and perhaps, even to Canada.

But it takes time to recruit and train personnel and build up design teams, and an even longer period for new products to reach the manufacturing stage, when the real payoffs begin. Technological development must be well planned, coordinated, and supported over this time frame to produce the desired results. However, there is a growing realization in Canada that a strong technological base is essential for long-term industrial development. It is not a question of whether an investment should be made in new technology, the question is: "In what field?" It is hoped that this conference will produce some insight into the answer to that question for Manitoba.
Conclusions

A brief outline has been made of technology developments in transportation that could have an impact on the economic future of Manitoba. This has been supported by illustrations of specific products, systems, and technologies that are of current interest and appear to offer good prospects for long-term future growth. It is clear that Manitoba has the capability to expand as a centre of transport in Canada and that this role can make a contribution to the regional economy of the region. The challenge is to select the most appropriate areas and methods of taking advantage of this opportunity. This is a challenge I leave to the local transportation specialists in the province who understand the situation best and who are in the best position to decide on this question and to act on the results.
Discussant: M. Crilly

It is not only the prerogative but also the duty of your discussants to be critical and constructively so. I shall also try to be a little bit provocative. Our three session speakers have offered us some fine food for thought and I hope that our three chefs will take it as a compliment when we ask for some larger helpings of one or other of your dishes.

I offer these comments with humility, it is very difficult to create something original and so very easy to criticize it.

1. Wilson’s paper on "Transport and Manitoba's Agricultural Sector"

I found your paper a learned piece, with a comprehensive description of agriculture in Manitoba, of its transportation needs, of the historic shift from rail to truck, and of the operation of the Western Grain Transportation Act. You gave us a nice summary of the forces at play on the issue of branchline rationalization.

But you do tantalize us with some references to things occurring which have major policy implications. For example, you rightly point out the great push for rationalization and efficiency in transportation today. You say "the railways are endeavouring to reduce the aggregate cost of grain movement by adopting efficiency measures which necessitate adjustment in marketing procedures". We would like to know what you are talking about and to have you explain it - are you talking about the quota system? about choice of route from Western Canada? about hopper car allocation? Let us know and give us a bigger helping!

You also make the straight statement that "fuel taxes (for trucks) and licence fees now more than offset provincial expenditures on roads and highways, so the extra traffic should increase revenue". I think this is a sufficiently contentious statement today that it really does warrant backup and explanation by footnote and/or references, please.

You close with a reference to the Canadian Wheat Board proposal of some 18 months ago to effectively change the basis of pricing of export grain from Thunder Bay to the St. Lawrence, with the effect that Great Lakes/Seaway costs now borne by all producers (both east- and westward shipping) would be borne only by those borne eastward. You mention that there are longterm implications for Manitoba, but you should have said a great deal more about this subject. Is it true, for example, that some lower valued Manitoba

*President, Western Transportation Advisory Council.*
grains would become essentially uneconomic due to transportation costs?

You close with a statement that "gradualism will mark the pace of change". Surely the outstanding issue today is to what extent we can really afford gradualism. The issue is streamlining the system - how far and how fast. What obstacles are in the way and which of these are legitimate ones? What interests really must be safeguarded? Do we need to change the Western Grain Transportation Act?

2. Ludwick's paper on "The Economic Importance of the Transportation Service Sector"

Ludwick begins by making the well supported conclusion that transportation behaves more like an arm of manufacturing or goods-producing resource industry than it does the service sector. He does a useful job in providing a coherent factual description of the relative sizes, internal structure, and economic significance of each mode with the most recently available data.

But there are two major points where I would quarrel with Ludwick in the rest of his paper. He says that the transportation contribution to gross domestic product in Manitoba dropped some 24% in 24 years, as if this were a bad thing. He speaks of transportation as "an industry in decline". He has wrongly come to this conclusion simply because he is measuring transportation not by its output, but by what it is using up. In fact, I am sure that a very strong argument could be made that transportation is doing an even larger job than it has been in the past, using relatively fewer resources or inputs. That is, transportation is becoming much more productive.

Ludwick's distinction between "basic" and "non-basic" transportation is a useful one here. For the "basic" transportation, which is the part directly serving the transportation needs of the Manitoba economy, we would surely want the amount of economic resources used to do the job to be as small as possible. For the "non-basic" services which are produced in Manitoba, but sold outside its boundaries, in competition with similar service offered by other areas, we surely want as large as possible a contribution to GDP.

I have trouble with the statement that transportation is an industry in decline because intuitively our lives and our industries are becoming more and more transportation-intensive; people are more mobile today and products are being transported longer distances and under more exacting service levels. In theory, if all our transportation links were "superconducting" offering no obstacle to movement, our country would be better off - even though the GDP of transportation would have dwindled to zero!
I also have some problems with the last quarter of Ludwick's paper. He makes a bold call for "an examination and rectification of the internal threats to the continued viability of Manitoba's transportation service sector" and alludes to heavy local taxation in the preceding pages. My main complaint here is that he has not presented any solid evidence to support his arguments. In fact, I understand that trucking head office employment in Manitoba has actually been expanding in recent months and under the current tax regime too. What does this mean for Ludwick's implication that the industry will be harmed without tax relief? If he wishes to step into this arena, his conclusions would be much more valuable if they were supported with solid evidence and argument.

3. Rudbeck's paper on "Developments in Transport Technology"

I found Rudbeck's paper particularly well argued and organized. He gives us some real insights into an exciting future and suggests strong potential for Manitoba in technological development. The two main opportunities, in electronics and in new materials science, are fascinating ones, but I will not enter a discussion of particular developments which Ted has described so ably in layman's terms.

I find the really fascinating part of technology is not in the technical detail itself but in what technology does to organizations, economics, and in the problems and opportunities it creates.

By way of extending Rudbeck's theme, I would like to offer some questions and observations, through five short questions.

(a) Rudbeck has pointed to dramatic implications for transport operations and logistics in the new computer age. What is poorly understood to date is the implications for the marketing side. There are, today, examples in operation of vastly improved information and even control by shippers who are able to see right through the carrier's operation and interrogate the carrier's computers about the status of his shipment. It may turn out that the impact of technology on the relationship between shippers and carriers is vastly more important than we have realized. Could it be that the carriers with the scale and resources to revolutionize the information and control available to shippers will be the carriers who will win the greatest market share?

(b) What are the implications for people? Do we have to wait half a generation to realize the full gains of technology because people just cannot adjust quickly enough? This goes back to the impassioned call yesterday by Al Cerilli of the Canadian Brotherhood of Rail, Transport, and General Workers in this conference. I am convinced that our ability to
invent and install technology has vastly outpaced our ability to cope with the human side of the transition.

(c) How do we change regulation to avoid obstructing technological advance? There are so many standards which are stated in terms of design, not in terms of performance,—witness the regulatory problems of building plastic, as opposed to steel tank cars or the 22 foot door required by the regulations for the rail bus.

(d) For research and development, how do we value research and development and how do we ensure that longterm investments are made, with sustained support through the economic cycle and through electoral changes?

(e) Overall, what is it that limits the rate at which we can and should adopt technology? What obstacles can and should be worked on and what has to be safeguarded?

In conclusion, our three speakers have worked hard on our behalf and have done a fine job. They have provided us with some hard information and that is important. But it is also important for them to ask the right questions even if they cannot reach the answers. Those questions would be a fine dessert to the good food they have offered us.
Discussant: A.M. Ianesdown*

First of all, let me say that I was delighted to be asked to participate in the Conference and in the opening of the new building. Although we had some noise problems coming up from the basement yesterday, it appears that the matter has been resolved, for which we are all thankful.

I enjoyed very much going through the three papers from our session on "Specific Issues", and in listening to their presentation this morning. I recognized that the first two are more along the lines of economic assessment papers (the liberal use of tables and charts are a dead give away!). Because of my own background, I will tend to concentrate my remarks on the third paper: Radhack's dealing with transport technology. However, before doing so, there are a few observations I would like to make on these papers by Ludwig and Wilson.

A point that caught my attention in the first paper was the author's comments on the Manitoba payroll tax. I was glad to see someone else who feels so strongly about the irksome nature of this tax. Although the sums involved are not vast in the majority of cases, it seems somewhat regressive to tax employment at the same time as the country is trying to develop employment opportunities. I well remember when the tax came in, and I was supporting a couple of graduate students at the time, my feeling of utter rage at having to put up $100 or so as a penalty for creating jobs! The reaction was not rational but it was very strong. I would hope someday when provincial revenues become more stabilized again, this irritating tax can be repealed.

The second point in Ludwig's paper that struck me, which I found significant but somewhat disturbing, was the dwindling proportion of our economic activity that manufacturing represents in Manitoba. I believe the figures mentioned were a drop from 14.7 per cent of GDP to 11.5 per cent from 1961 to 1984. How significant this drop will be while the service sector's proportion rises, in terms of our trying to build up the transportation sector here in Manitoba, is a question I feel must concern us in the future.

In the recent past, we have seen some manufacturing losses or lost potential here in Manitoba that I find disturbing. We are all aware of the loss of the CF18 maintenance contract to our province, when the rules were changed in Ottawa after the trials were opened. But the loss that I felt was even more galling, was that of the NSC manufacturing centre downtown. From time to time, I worked with the head of our Industrial Engineering program on graduate matters so I have some ongoing contact with the department. When the Centre was announced, and while it was being built, there was a great deal of enthusiasm among the industrial engineers, especially for some aspects

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of industrial engineering of particular interest to a region like Manitoba. These centered on the concepts of "flexible manufacturing" and computer control of processes, a combination that allows a relatively small or medium sized plant to gain near assembly line advantages from relatively small runs without the vast capital investment of the conventional assembly line, or the need for world scale markets. It seemed just the sort of thing for light and medium manufacturing and overhaul contracts likely to be generated here. When the Centre was cancelled in the fall of 1984, it was really a blow to those who were trying to develop high-tech manufacturing skills and techniques appropriate to a Canadian region like Manitoba. I can only hope, as tenants are found for the Centre building downtown, that their activity represents a partial replacement, at least, for this loss. Perhaps in the future, the need of governments to "score points" against their predecessors at the expense of regional manufacturing capability will be somewhat less dramatic.

There was a point I have gained from Wilson's paper that was a bit of a surprise to me. That is, that the agriculture business and the transportation business are approximately the same size in Manitoba. I would have guessed, from impressions, rather than from the data, that transportation would have been about one third the size of agriculture here. However, Wilson's figures show that it was about 102 percent of agriculture in 1985 (approximately 8.6 percent versus 8.4 percent of the GDP), that is, they are of equal significance. These figures (as do I) emphasize the importance of the role the transportation sector in Manitoba's economy.

While the first two papers establish the economic framework in Manitoba of which transportation is a part, and also the relative significance of the transportation sector in Manitoba, Radbeck examines technology trends and developments in transportation that could be significant in the future in Manitoba. In discussing the technology environment in which we find ourselves, he points out the remarkable power of electronics and the computer in the field.

He also emphasizes the fact that we will not be seeing much major new construction of transportation facilities. Rather, we will be seeing efforts to use the existing system more effectively through better analysis, control and communications and through more emphasis on repair and rehabilitation.

Turning to the railway and trucking fields, which are of major interest to me, I found a wealth of points and ideas of note. Because of the fierce competition that is developing in the transportation of freight, we will be seeing the steady introduction of technological changes that increase safety, increase speed of delivery and reduced costs in both the railway and trucking industries over the next decade or two. Many of these changes or technical innovations are important to our region as they will affect us directly, or will involve members of our region in their research and development.
In the railway area, the topic of the advanced train control system was raised with signalling being one of the principal components. Rudbeck made the point, so painfully demonstrated near Hinton, Alberta last year and again north of Washington earlier this year, that the human element is often the weak link in terms of railway safety, as it is on the road, in the air, and at sea. This is a crucial point in development for the future. The steps being taken at the present time by the Canadian railways to develop and implement equipment that will ease their burden somewhat, i.e., remove some of the safety decisions from the crew, are significant. This problem of the human element in safety is not just a North American phenomenon. Some of this type of equipment has been in operation, in a limited sense, in Europe and elsewhere.

Swedish Rail, for example, along with a number of their suppliers, particularly, Ericksson in Stockholm, have done quite a bit of work in this area. It is not nearly as sophisticated or complex or comprehensive as proposed in the full-blown advanced train control system described by Rudbeck, but some of the equipment is now in routine use, providing us with some valuable early experience. Swedish Rail started from the problem of safety rather than from train control efficiency because about 10 years ago, it became apparent that the accident rate on the system had been climbing steadily year by year, and it seemed at first to be inexplicable. What was discovered in a series of studies of some 7 or 8 years ago, was that the attitude of railway employers had been changing. Gone was the feeling of professionalism displayed by the engine driver or conductor or brakeman of the old days (inspite of low pay and poor working conditions). In its place the modern train crew were treating their work as just a job, and in many cases were simply not paying the same kind of meticulous attention to their work as their predecessors had. There was drinking on the trains, problems of inattention, and sleeping on the job. The railway company decided that they had to go one of two ways: either try to bring discipline into a system with employees scattered all over the country, which physically provides extreme difficulties; or they had to start working on means of overriding some of the functions that the drivers were missing, such as stopping at red lights and running into the rear end of other trains. The Hinton problem is what they were wrestling with. They went out and devised some equipment which they are now in the process of installing. I believe the railway system is now about 70% protected with this equipment.

An interesting point which we must get our railway people to recognize and consider, is that although the Swedes started this venture as a safety matter (a cost that Swedish Rail would simply have to bear), they soon realized when they got into the first phase that the calculated rate of return on the safety investment, because of reduction of damage and line closing during accidents and incidents, was turning out to be around 8%. This was not a great amount, but much better than a purely negative (cost) item. Last year, at the Third International Heavy Haul Railway Conference in Vancouver at the end of EXPO, Mr. Lars Andersen, chief engineer for Swedish Rail, pointed out
that one year later they recalculated their rate of return on their safety equipment and it has risen to over 16%. The reduction in down time, accident claims, and cost of inquiries has turned out to be more significant than estimated in the previous analysis. Thus the safety program is now in competition with other potential investments on a commercial basis! An optimistic note for those advocating better and safer train operations.

The initial problems with getting the end of train indicators to function reliably is an interesting point in my view, because it highlights a problem in the railways, the almost maddening slow pace of adoption of new technological ideas. The railway industry can, at times, be justly faulted for this slowness. There is another side to the coin as well, and sometimes this conservative attitude is in the best interest of railways and users. A couple of years ago at a symposium on truck technology in Nottingham, England, London Transport's chief engineer pointed out that his downtown tube lines were really heavy haul lines, carrying as much traffic per year as we see in Canada on a heavy main line (30 to 40 million gross tonnes). He was criticized for his slowness in adopting technological changes that would relieve some of the troublesome matters in operation and maintenance he had been describing. In reply, he emphasized that on a system like his, with very tight working conditions, tight timetables, and very limited work time per day, an innovation had to be proven before adoption. He had to be very careful on the real system (he was addressing himself to a number of academics who had been proposing this, that, and the other) because a failure of even an "insignificant" detail could cause chaos if it were, for example, to mean that a contract tranche of 300, 500 or 1000 passenger units didn't quite work.

We must also recognize with the traffic we see in parts of the country, notably in the mountains, we also have to work with very limited work block time, in tight physical constraints, and often on single track. Here also, persistent failure due to a component on the trains or in the track or train control system could wreak havoc. Therefore, due caution and meticulous attention to appropriate pre-adoption testing is very warranted. What we have to weed out is the use of slowness and "need for caution" as an unjustifiable smoke screen just to prevent change. We saw this tactic adopted not too long ago at CRC hearings on the rail bus proposal for northern Manitoba. Over a year was wasted countering sheer nonsense being passed off by the railway industry as "technical wisdom".

The comments on unit trains and integral trains I found significant, because of the steady shift we have seen in the past two decades from the rail to trucking in the freight area. The railways are being forced to go after that freight business that they can do best against some pretty stiff competition. So the points that were raised are worth emphasizing. The area of growth for the railways seems to be in the movement of heavy, low value commodities in large quantities, and in the movement of containers. This area of container movement is growing in North America at a rapid pace. A very big step
was double stacking, that is, carrying twice the number of containers per train, per length of track occupied, or per crew used. The American railroads that are in this business are seeing a very positive response by their shippers. It is a very big growth industry involving the building of the railway cars, the handling of the containers, the building of new yards, or the transforming of old yards.

A related phenomenon that is occurring (and one which we should keep in mind as we think regionally of manufacturing and maintenance) is that of railway "land-bridging" which has been growing rapidly over the past few years. Many Japanese shippers, for example, have chosen to cut transportation time by shipping containers through Seattle or Los Angeles or Vancouver by fast train to the east rather than pushing their (containerized) traffic slowly by sea and through the Panama Canal and up the eastern seaboard. In many instances, containers are reloaded on the east coast at Port Elizabeth, Halifax, or Montreal and are sent by fast ship to Europe. This is not a form of shipping we would have expected 15 or 20 years ago. Incidentally, on Soviet Railways, a significant part of their business (and a great earner of hard currency) is land-bridging commodities - mostly containerized - between Japan and Europe, the other way round the globe. The Trans-Siberian is running a number of unit trains of containers from Vladivostok to Germany, Britain and other EEC countries loaded in both directions. We are seeing this type of business growing in Canada with double stacking in eastern Canada, expansion of yards, and interest in fast land-bridge work. It seems to be a natural for unit trains.

RandBacke mentions the matter of standardization and uniform rules particularly, with respect to long-distance trucking. In this matter of "standardization", there is a fair bit of pushing and shoving going on intermodally between rail and trucking. The size of containers is a case in point. It seems that just when an agreement on length is reached, the trucking industry goes for a two or three foot increase in length for quite understandable reasons. Naturally, the emergence of 53 foot containers causes some anxiety with railway firms who have just had their equipment upgraded to handle 48 footers! I would hope that the railway companies, in their drive for container traffic, have specialists on their teams who excel at ferreting out changes to come in the area of weights and dimensions so that we can maintain the option of intermodality without major equipment problems. (This comment applies also to the containership people although they are not really part of our Manitoba scene.) Since I teach a senior course to our Civil Engineering students on Pavement Design, some comments on this topic caught my attention. In my opinion, we know much less in this area than we often pretend we do. We have at our disposal nowadays very powerful programs to do analysis, but we still are having great difficulties in understanding the properties of the materials we use for construction which must be clearly delineated in these powerful programs, and in understanding how these real materials actually behave under the variety of loads we apply. This subject and its pitfalls, we hope, will be the subject of a mini-conference here in the not too distant future. For example, in some on-going graduate
work here, we have found that one of these very important coefficients we use over and over again in analysis is dependent on a single set of data from one institution, based on a single type of granular material. We have done on-site tests on a number of our own, and in Ontario and two highways here in Manitoba and find that we are getting variations of up to 800 percent between different materials from different sites! We clearly have a way to go on this problem. Perhaps, this is the role of the technical academic, i.e., to identify and chase these discrepancies until they are resolved. Unless this type of question is resolved, we may find ourselves going in circles trying to estimate how much damage is done to a pavement by various wheel configurations and weights coming out of the weights and dimensions negotiations mentioned by Radback.

Another example of lack of knowledge in the pavement field creeping up on us, comes to mind. That is, our difficulty in establishing what axle loads actually are borne by a pavement. We often do our calculations on the basis of static loads, i.e., the loads we would obtain at a physical weight scale. However, once the vehicle is in motion, how are axle loads determined? That is, what is a pavement really experiencing? When we take into account the roughness of the road surface and the dynamic properties of the vehicle (e.g. springiness) we find that these axle loads are constantly changing, in fact, so much so that at times some wheels are right off the pavement. I would not have believed that this lifting of wheels during travel could have been measured. It was in Germany, in fact, on the Autobahn, A colleague and I were driving rather fast, I admit, about 160 to 170 mph, on a 10 lane auto bahn between Mannheim and Frankfurt, while beside us in a faster lane, several heavily loaded tank trucks passed us slowly (travelling about 170 to 180 km/hr)! I got a chance, as the passenger in our small vehicle, to observe the behaviour of these twin and triple axle articulated rigs running at high speed on a modern, smooth highway. To my surprise, some wheels were bouncing along with first one set of wheels, and then another, right off the pavement. Others bounced along like slow motion kangaroos, with (at times) all wheels of one set off the pavement. It was rather like looking inside an old player piano -- unless you knew the code, the tune would remain secret! Clearly we are dealing with a very complex phenomenon, the solution of which will be very significant in pavement evaluation (and evaluation of capacity, in weights and dimensions studies). To make matters worse, we found that the strength of a pavement is dependent on the loading rate - the faster, the stronger. If you want proof, try parking a semi-trailer on a Safeway parking lot in Winnipeg for a week and chances are it will have sunk to the axles!

Perhaps in closing my remarks, I might suggest that there are many things happening in the transportation field, especially in the movement of freight, which are linked to Manitoba. In some cases, the results of ongoing R&D will be applicable here. In other cases, the research and development so necessary for understanding and better use of our resources can be, and is being done here. Transportation involves many notions from the high-tech world of the future. There is
work to be done, and there are resources here to undertake this work if we pursue it as a legitimate part of our activity.

This conference is a part of that pursuit in the exploration of the role of transportation in Manitoba's economic future. I am extremely grateful at being asked to participate today and to be able to share some thoughts with such a distinguished group. Many thanks to you, Mr. Chairman, and to you, dear colleagues, and our audience.
I found it interesting looking over Ludwick's paper, he found that the streamlining and rationalization being undertaken by all transportation firms is due largely to deregulation and other factors which affect the entire nation's transport system. The resulting reductions in employment will occur right across Canada and will not occur disproportionately in Manitoba. Other comments about Ludwick's paper, perhaps, I should leave to some of the politicians.

I noticed with interest that Wilson talked about the contribution that agriculture can make to the province and the need to minimize transportation costs. Like Ludwick, Wilson sees transportation requirements in Manitoba to be influenced greatly by factors outside of the province. One our problems is to minimize transportation costs. Efficiencies in the transportation system are necessary if our products are to remain competitive. In developing the systems that are required, there are certain points which are really self evident. They are that the decisions relating to developing these systems must be based on facts and not on assumptions. Secondly, it is necessary to consider all costs when assessing alternatives to the existing system. Thirdly, transferring costs from one component of the system to another merely shifts the burden, it does not resolve the problem.

The focus will be on affecting optimum utilization of existing transportation resources. It would be unfair to leave you with the opinion that railway abandonments would be offset by massive highway rebuilding improvement projects sponsored by the Provincial Government. This can only take place to the extent that coordinated programs recognize the need to take some of the savings accruing from abandonment and allocate these funds to offset the costs transferred to the province, municipalities, and users when lines are abandoned.

Responsible programs must be established to encourage the development of an efficient, safe, and low-cost system without burdening some of the participants with undue costs. As Wilson points out, in many cases the savings derived from abandonment far exceeds any costs experienced by the participants in the system. If this is true, then there is no logical reason why compensation should not be forthcoming to the losers in abandonment proceedings. I think it is also important to mention that it should continue to be necessary to evaluate community impact in abandonment proceedings.

I have worked with Rudbeck on one of his projects and I will comment on that later. I was happy to see his observations that Manitoba is well placed to benefit from some of the new transportation technology. A word of caution is in order and that is regarding the

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introduction of any major technological changes on transportation equipment and operations to ensure that there is no sacrifice in safety to progress or the environment. This can be achieved through coordinated development and the introduction of new systems and equipment. Reference is made to the uniform standards of vehicle weights and dimensions.

A related initiative is the introduction of a national safety code for highway transportation. These are presently being worked on. These initiatives toward development of the uniform standard for the operation of commercial vehicles over inter-provincial highways is overdue. Standardization is essential to the sponsorship of a safe and efficient road transportation system. These programs would be more readily achieved if the Federal Government were to designate and sponsor an inter-provincial road network. Rail passenger service is the only service available to a number of small remote communities. There is a desperate need to upgrade some of the transportation facilities. For example, it does not make economic sense to use a four or six car train to serve a community of 200 people. It was because of that the whole question of the rail bus came up. We were interested because we have many of these rural communities. There are also many remote communities through other parts of Canada. The suggestion first came up in 1981 so I have to quarrel with Ruxback's two years. That may have been to get some decisions that were required because he no-qod to antithetical problems. This can be you one example. A rail bus is about the same size as one of our snow plows. In our naivety, we felt that perhaps a building that would accommodate a snow plough would be adequate for accommodating a rail bus. If that is the case then you need a ceiling of about 14 feet. However, we discovered that in order to have that shelter for the rail bus connected to the rail system we had to have a door on it that was 22 feet 6 inches high. The only way you can get around that is by applications to the Canadian Transport Commission. Now, we wanted to build that rail bus shelter on land which was Provincial Government Department of Highways' property. However, we could not make that application to the CTC. It had to be a railway. So it is this kind of institutional problem that, I think, Ruxback was referring to. There are many others, for example we had to have a lighted number on the rail bus to tell which one of the vast fleet of rail buses this one was. As Ruxback says, there were institutional problems.

One of Manitoba's interests, of course, as we have many small communities, and reference was made to it during the conference, is a multi-purpose vehicle for the transportation of a mobility disadvantaged. In many small communities there is a problem. These vehicles are expensive. The small communities can't afford something like a handy-van. They also have trouble because they require an ambulance and our thought was that if you can combine the two vehicles, that would be great as you could then bring the services to the smaller communities. Transport Canada agreed to develop a design and have one built and I am glad to say that that vehicle is now being tested and demonstrated in Minitonas. It started operation just last year so it
is fairly soon to tell just how soon it would be used. It is not intended as an ambulance, rather it is intended as an emergency vehicle when the ambulance is not required. These are problems that need to be resolved. In addition to the need for the long distance for the heavy haul type of thing, Rudbeck has provided sound advice. He stated that while Manitoba has a capability to expand it’s role as the centre of transportation in Canada, this demands selecting appropriate projects and methods. Clearly, this would be directing our efforts to building on our existing technological manufacturing bases.
VI. LINCHEM ADDRESS*

The Role of Transportation in Manitoba's Economic Future: A CN Rail Perspective

R. Walker**

I appreciate the opportunity to talk to you today about the role of railways in Manitoba's economic development. Railways are a favourite topic of mine and, since the future of our railway is vitally linked to economic development, the two subjects fit together very nicely.

I am aware, from your program, that both Mr. Duguay and Mr. Flohman have already addressed this subject. As I have not heard or read either of those addresses, I am sure that we share some curiosity about the extent to which our views coincide - or do not coincide. Knowing both gentlemen, I will be very much surprised if, on basic issues, there are significant differences. But I will be astonished if we agreed totally.

As my responsibilities encompass Western Canada, I am going to discuss the role of railways in economic development within that broader context. After that, I will touch on some issues that are particularly Manitoba issues.

The subject is an important one and I congratulate Ed and his colleagues for organizing a seminar to discuss it. The extent to which we can achieve some common views will be a measure, not only of the success of the seminar, but of our ability to put those views into practice for the benefit of Western Canada and for the railways that serve it.

To establish a context for talking about the role of the railways in economic development, it is necessary, I think, to talk about the role of the railways in Western Canada's economic structure today - and for at least the next decade.

The role is not a static one. Our role today is different from what it was when railways were the chosen instruments for linking Canada together and for opening Western Canada to immigration and to agricultural development and, in those days, there wasn't much choice. In times not that long ago, transportation was just as important as it is today and a hell-of-a-lot harder to come by. At that time, there were two basic problems. The first was to link the west coast to the rest of Canada, so that it would remain part of Canada. The second was

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*Session chaired by Ed W. Tychniewicz, Director, University of Manitoba Transport Institute.

**Senior Vice-President, CN Rail.
to populate Western Canada and provide a means for the commerce of that population to develop and function and prosper. Neither motor vehicles, air transport, nor pipelines were very well developed in those days, so the natural choice was railways. They replaced the river systems as the transportation network of Western Canada, accomplished much of the desired objectives, and did a remarkably good job of it. Governments, at all levels, were very much involved, each for their own reasons. The railway companies, dozens of them, saw a need and an opportunity, and undertook to fill it. Certainly in those days the role of the railways in economic development, let alone the development of a nation, was not in any doubt at all. Perhaps issues were clearer in those days or, more likely, there weren't quite as many of them.

From today's perspective, I sometimes wish that those railway builders had curbed their enthusiasm a touch in constructing branch lines, but they were building for the needs of their times and they deserve our applause and our gratitude. The legacy is a pretty good one.

But that was yesterday. Western Canada's economy has developed, its population has grown, and its transportation network has exploded.

Passenger traffic for the most part has left the railways to travel overhead at 30 thousand feet or to drive the family automobile on one of the finest road networks in the world. That same road network carries a huge and growing volume of freight traffic. The landscape beneath our feet is interwoven with pipelines to the extent that one can hardly dig a posthole without checking first to find out what might be down there. In reading the papers, one can be forgiven for wondering if the most serious transportation problems today don't have to do with the creation or preservation of hiking trails and bicycle paths or finding a way to control the myriad of recreational vehicles.

Transportation has developed, diversified, become commonplace, and is taken for granted. In pursuit of efficiency and markets, transportation has also become more specialized. In two generations, we've not only solved the problem of transportation but saturated it. And with all of these marvellous developments, railways are still here, still vital, still necessary, still developing, and still contributing. But what is their role today and in the years ahead?

In Western Canada today, the basic workload of the railways comprises bulk commodities; grain, coal, potash, sulphur, forest products, and petrochemicals. These commodities move by rail because rail can do it better. We have an inherent advantage - high volume, low cost. But there was a time when our inherent advantage encompassed a much broader range, such as consumer goods, mail, livestock, fruit and vegetables, meat, passengers, etc. Today, much of that traffic has moved to other modes because they have developed an advantage. And so it should be, if commerce and development are to be best served.
Good examples include long-distance passenger travel and the transport of natural gas. Trucks handle the bulk of short-haul freight and, regrettably, an increasing volume of long-haul. That's transportation evolution. Some of that traffic is returning to rail in pool cars, in piggybacks, and in containers. The evolution will continue.

Incidentally, elements of that evolution are both disturbing and deserving of serious attention. Trucking, private and for-hire, accounts for two-thirds of Canada's surface freight business and carries out that business on a road network provided by the public purse. There is a continuing trend towards longer and heavier truck configurations. This trend should raise concern from the standpoints of economics; that is, the real cost of trucks and of safety of the road system for the general public.

Western Canada is at an early stage of economic development. We have an abundance of natural resources, our population is small, and for some long time, our survival and well-being will depend heavily on exports. It follows, then, that the meat and potatoes of railway traffic will continue to be bulk commodities. As our western economy develops, that traffic mix will change and so will the railway diet. The modal share of traffic through this evolution will depend on a number of factors, including technological developments, innovation, productivity, and marketing.

The purpose of a business is generally described as "to define or develop a need and to fill that need at a profit." Railways have the same purpose and objective.

And yet to ascribe to railways no motive other than profit is to understare their role at this stage of Western Canada's development. The criticality of the traffic we handle, and that only we can handle effectively and economically, is such that our role takes on some aspects of a vital utility. That places on our shoulders a responsibility somewhat beyond that enjoyed by most modes. It also results in others -- governments and customers -- having a very large interest and stake in what we do and how we do it.

Most important, it results in a less simplistic decision-making process on our part. It's not simply a question of "can we make a profit in this activity or traffic movement?" but "what impact does our involvement have on the broader base of development, employment, exports, customer viability, etc?"

We have a major role to play in development and that role will continue for a long time. As Western Canada's development continues, its infrastructure grows, and its economic base diversifies, the importance of that role will diminish because more of its transportation needs will be capable of being met by other modes. But that day is not yet.
That doesn't mean that profit is not important. It's critical to maintaining and upgrading our plant and facilities and our equipment, to researching and implementing better ways of doing things, to expanding, and to paying a dividend to our shareholders. But because railways are still vital to the well-being of Western Canada, we must not only be profitable, but fulfill our service responsibilities as well.

How can we do this? More specifically, how does it apply to development? Perhaps some examples: someone wants to open or develop a mine. There's no railroad to the location. We build a spur line or a siding or whatever's necessary to permit the product to move to market. We invest in the equipment to haul the product. We accept the initial cost because over the life of the project we will recoup our investment and make a profit. This is a pretty straightforward business proposition.

Or a new company starts up and needs a lower freight rate for a period of time while markets are being developed and established. We offer development rates on the premise that after the business is established our initial sacrifice will be rewarded by the traffic we can handle. Those are normal business activities and there are usually a half-dozen in various stages of discussion.

Then there is the other type of development where a government wishes to open up or develop an area or create a different type of economic activity in an area. A railway may be an essential ingredient. The reason for the undertaking may be impeccable, but there may or may not be a payoff for the railway. Then the initiative rests with the government and, if there is no payoff in traffic that warrants the required railway investment, then some portion of the costs will rest with government as well. There are numerous examples across Western Canada.

I should stress that this role we play in developing new markets doesn't only take place when there is a new kid on the block. We work with the people who ship their freight via CN day-in and day-out as partners in a process to keep them competitive and to keep them shipping in spite of the competitive pressures of the world market. We try to know as much as we can of their business, so that we can work with them to provide the packages of price, equipment, and service that will mean sales for their products and business for us to handle.

So, we are a part of development. The nature of our involvement depends on the particulars of a project but, the essence of our involvement is prudent business judgement, coupled with a highly developed sense of responsibility. What we cannot do is involve ourselves financially in development endeavours, however laudable, where they constitute a burden that must eventually and inevitably be carried through higher freight charges by our customers.
Which brings me to the issue of what we term "imposed public duties": that is, services which we are required to provide that are not economically viable but are judged to be essential for the public good. Our position is very simple. If the service is indeed judged to be essential, but is not viable, then it should be paid for from the public purse and not through increased freight charges to railway customers. Hardly anyone has ever disagreed with our position. The National Transportation Act of 1967 recognized the principle, as does C-18. We heartily commend and eagerly await its full application.

One subject on which I expect we might have some disagreement with Manitoba is the Port of Churchill. Manitoba's views are well known. CN takes no position on Churchill's importance from the standpoint of northern sovereignty, nor its potential for tourism. We are concerned because today it represents a serious financial drain and the prospects for improvement are not obvious. We respect Manitoba's views and, if they and/or the federal government wish to undertake further development, then we are prepared to assist as the operator of the line, as an agent, as a contractor, but not, please, at the expense of the corporation or our customers.

As some of you may know, we are presently undertaking on behalf of the federal government, a further study to determine if the line can be sufficiently stabilized to handle traffic in hopper cars. We believe that our role in this study is quite appropriate and we share with others a good deal of interest as to its conclusions.

Many of you will be aware, as well, of our participation with the City of Winnipeg, with Manitoba, and with the federal government, in the development of our East Yard property. This historic project, long discussed, is now on its way to the great satisfaction of all participants. CN's role in this development has been important. The project itself is evidence of what can be achieved in the development sense, when all parties with a stake in an issue, approach its resolution with good will and determination.

CN has also played a part in the Limestone hydro project. During the life of the project, we expect to handle some 3,500 carloads of freight for the construction of this massive Manitoba development.

CN's involvement in the Manitoba economy is very extensive:

- We have over 6,000 employees in the province.
- Our annual payroll exceeds $200 Million.
- Transcona Shop, employing over 2,000 people, is the largest industrial plant in Western Canada.
- Symington Yard, our train classification facility in Winnipeg, is one of the busiest yards in Canada.
- Our Transportation Training Centre in Gimli is the only one of its kind in Canada and the most advanced in North America.

- In Fort Rouge, we have one of our main Computer Centres.

- Winnipeg is the headquarters of our Prairie region, responsible for operations in Saskatchewan, Manitoba, and Northwestern Ontario.

We are very much involved in the economy of Manitoba, have been for many years, and will continue to be in the future. While our presence and our payroll does not relate directly to development, it represents a significant part of Manitoba's economic base. A strong and healthy economic base is a vital prerequisite of any private sector development.

There are other factors that impact on developments as well. One of them is the tax structure in the province. The Manitoba tax structure as it affects railways is particularly onerous.

For CN, our provincial taxes in Manitoba, following the recent provincial budget, will amount to nearly $32 Million - more than $5 Million higher than any other province in Western Canada.

This represents over $5 per ton for every ton originated in the province. This figure is more than three times the comparable number in any province in the West.

Redress of this very expensive anomaly would represent a positive contribution to the climate for development in Manitoba.

To summarize:

1. The Railway's primary role and its importance to Western Canada today is to provide low-cost, dependable service to the bulk commodity and export industries and we must earn a profit in the process.

2. We welcome the opportunity to take part in development and do so in many ways.

3. Provincial governments' taxation and highway policies are areas of major concern to us.

CN is in business for the long term - in Canada, in Western Canada, and in Manitoba. We plan on being a part of the evolving transportation scene. As in the past, Manitoba, and other provinces, will find us ready and willing to participate appropriately in economic development.
Discussant: N. Mulder*

I have been asked to comment on the first two papers delivered at this Seminar on Transportation and Regional Development.

I want to talk about yesterday morning - sum it up - and about where we go from here. Yesterday's discussion was general but interesting; it was a conceptual one that dealt with the long-range perspective on transportation and regional development on the Manitoba economy.

We heard from Tychniewicz that the link between transportation and regional development is important and involves various factors. First, when they are linked, the target should be on using transportation to increase per capita income in whatever region you are talking about. Second, there are many different regions in the country and each of these has different circumstances, different needs and potential, and different transportation requirements. Third, when dealing with regional development one should initially consider the various non-transportation factors and measures and how they can be used to help that region. For instance, in many regions, transportation may not necessarily be the most essential or the primary factor; a lot of other non-transportation issues may be more important to regional development.

Finally, there are many transportation instruments. Tychniewicz listed, for example, four of them (regulations, subsidies, user charges and capital assistance). Each of these instruments should be used in different ways, depending on what kind of region or on what type of development. He also outlined an approach as to the possibility of linking those two; the analytical and planning steps one should follow. I hope that is a fair summary of what Tychniewicz said.

According to Mason, who covered the long-term trends in the Manitoba economy, the word is that Manitoba, contrary to what some people think, is really a diversified economy, not just an agricultural or resource-based one; it has a lot of manufacturing and service activities, particularly in Winnipeg. The Manitoba economy is operating, has operated and will continue to operate at about the Canadian average - sometimes a little below, sometimes a little above. According to Mason, the prospects for the Manitoba economy are somewhat pessimistic; due to slow growth and weak prices in resource development, general economic growth will be very moderate and centred largely in Winnipeg. But there is an optimistic side, depending on the assumptions that may or may not come true. Certainly among members of the Panel, there was a debate about whether or not Mason was too pessimistic: a number of other people were more optimistic, especially about the future of Winnipeg. Also, there are probably different

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regional prospects in Manitoba, more favourable for Winnipeg, and less so for the rural areas and the north, depending again on agricultural and forestry development and so on. In the discussion the fact also came up that Manitoba is not one region but many.

It seems to me that the two main speakers and the discussants who commented on the papers agree in substance with the main points of Tyrchniewicz and Mason. There were a few minor variations or dissensions. For instance, Wallace had some comments about some of the regional development aspects and transportation uses; George, about the prospects for Winnipeg. However, in substance they said they agree with about 80 or 90 percent of what was said by the two main paper presenters.

Out of all that, I draw the conclusion that transportation is important to Canada and will continue to be so; that, according to the Panel and the audience, transportation is more important to Manitoba than to the rest of the country and will likely continue to be more important; that transportation is essential for the regional development prospects throughout Manitoba; and that transportation can and must continue to be used as a tool for development throughout Manitoba. However, as long as you agree with Tyrchniewicz's approach, one should use different instruments at different times for different parts of the Manitoba economy.

What did we not hear from the Panel? We did not hear too much about where we go from here. We also did not hear about what has worked well and what has not worked well in the past in using transportation as a tool for regional development.

I would like to fill in those gaps. Tyrchniewicz talked about four transportation levers that could be used for regional development. I think there are six different instruments that can and have been used to regional development.

First, regulations. Historically, Canada has used regulation for general economic development and certainly for regional development purposes. There are many types of regulations: entry, exit, rate regulation, service regulation, and one which will be more important in the future, technical regulation of one kind or another. I think that in the past there has been good justification for entry and exit regulation and certainly for rate and service regulation. While the debate continues, I personally think we should have little, if any, entrant or exit regulation in the future. There is also much less need for rate and service regulation, maybe in some parts of the country, like the north or remote areas, but in most parts of the country where there is enough competition we do not need it any more. There will be more technical or "social" regulations: for safety purposes, for example, to make sure that the transportation firms meet operational and technological safety standards; that they meet minimum levels of health and labour requirements; or in facilitating social objectives such as improved physical access for the disabled.
The second instrument that has been and is still being used for regional development are crown corporations. They certainly have been used very extensively across the country - Air Canada, CN Rail, VIA, Marine Atlantic, etc. My own view is that crown corporations, as a tool for development, have had their day. They should be either privatized or placed much more at arm's length from the government. For example, when CP eliminated its vice-president from Winnipeg, there was hardly a murmur in Manitoba. But now when CN hasn't even announced its re-organization plans for the west, there is a lot of brochaha out here. Just one example of how one transportation firm which is a crown corporation gets treated differently from its private sector counterpart. If CP can re-organize, why not CN? Is the latter to be inefficient while the other can improve its bottom line? A crown corporation, if it is going to be used for development, should be treated just like any other. If for some valid reason we do not want a crown corporation to do certain things we should be up front and say you cannot do it and, therefore, we will pay you for doing something that is in the "public interest".

Third, O&M subsidies have been used very extensively. There is a very mixed picture as to how well they have worked. In general, subsidies are very much a double-edged sword; while they help out in a number of areas, they also hold back a lot of development. The direct O&M subsidies certainly help to open up markets and to generate income for those various items very extensively across the country - air the farmers who get it. Similarly, national unity is assisted through subsidies for VIA Rail, de-isolation through ferry subsidies, and northern development through subsidies for small airports. However, subsidies also have led to inefficiencies and have become inflexible tools. Quite often they help people who do not need help (the rich travelling by train) or distort economic development (the Crown benefit only going to the railways).

Fourth, low user charges, i.e., less than full cost recovery, are also a double-edged sword. To some extent they help to open up or keep markets and to stimulate industrial development. However, they also lead to inefficiencies, improper resource allocation, etc. A low rate of cost recovery for air services or Coast Guard facilities helps the users but also leads to higher public deficits, inflated demands and diverts traffic from those modes or facilities that must pay all or most of the charges.

Fifth, capital assistance of various kinds — (grants, contributions, loans, soft loans, conditional loans) have been used extensively over the past one hundred years by governments to finance transportation infrastructure for regional development purposes. While costly, and at times questionable, capital grants tend to be better, more finite, more flexible and more targeted than blanket subsidies or low cost recovery levels.

The final one is taxation. It is not referred to very much in the literature on regional development. Through exemptions from income tax
measures, through capital cost allowances and various things along that line, transportation has been helped and in some cases hindered. For example, a couple of years ago the Government of Canada increased the capital cost allowances for railway investments primarily for the west and this has certainly helped CN and CP and, in turn, freight shippers to Vancouver, perhaps at the expense of Great Lakes/St. Lawrence River traffic.

I have outlined various transportation instruments used for regional development. I now want to draw some conclusions from them. In the past, the first four (regulation, crown corporations, subsidies and low cost recovery lines) have been used relatively more than the last two (capital assistance and taxation). Increasingly, we have to move away from the first three or four. There is merit in doing away with a lot of regulations as we are doing now through the new Freedom to Move legislation. However, there is merit in continued "technological" regulations for safety, the disabled, etc. We should put our crown corporations at arm's length, privatize them, or treat them like their private counterparts. We ought to take a hard look at direct O&M subsidies because the blanket subsidies frequently do not work very well, are inflexible and benefit many who do not need help. We ought to have better and more consistent cost recovery policies. There is no reason why we cannot have higher cost recovery on the air and marine side even though we will never have full cost recovery for ferries in the Atlantic Provinces or for air services in the north. Capital assistance is one instrument that has relative merit. In capital assistance can be finite, targeted and flexible. Taxation is a much under-utilized tool for regional development; as long as it is explicit, targeted and finite, it could be used more effectively.

Transportation is essential for economic development in Canada and for each region in the country. However, transportation is relatively less important now and in the future to this country and its regions than it has been over the past fifty to one hundred years. I know a lot of people wax eloquently like Sir John A. MacDonald about using transportation as an instrument of "national policy". To some extent that is still true, but relatively much less so than in previous decades. In Sir John A. MacDonald's era there was no electricity, there were no pipelines, no telecommunications systems, no telephones, no computers, no TV's and radios and all the other techniques and tools we now use for national unity, interregional communication or for the communication or transportation of information, services and goods. It does not mean that transportation is not essential or important, but relatively speaking over the next twenty-five to fifty years, it is going to be a lot less important than it has been in the last fifty to one hundred years.

Nevertheless, transportation should and can be used as a tool for regional development. However, we should not take a uniform approach; we should adopt different techniques for different regions. We will have to look at what kind of region it is, what the development
circumstances are, what non-transport tools can be used and then finally, which specific transport instrument should be used. The choice of those transport measures ought to be considered carefully. These measures should be joint as much as possible; private and public; all levels of government; they cannot be left just to Ottawa.

The transport tools we use should be regionally differentiated. There is not much use in providing the same type of assistance all across the country for every region when every region needs different kinds of transportation assistance. They should be flexible, tuned to specific circumstances, specific times, specific firms or communities and finally, they should be finite. They should either by law contain a sunset clause or by agreement have a specific termination date or at least a public review period.

**FEDERAL TRANSPORTATION ASSISTANCE**

Approximate Annual Expenditures
(FYs 1986-87 and 1987-88) ($ millions)

<table>
<thead>
<tr>
<th>Service</th>
<th>Amount ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain transportation</td>
<td>900</td>
</tr>
<tr>
<td>Marine services</td>
<td>750</td>
</tr>
<tr>
<td>Rail passenger</td>
<td>600</td>
</tr>
<tr>
<td>Air services</td>
<td>500</td>
</tr>
<tr>
<td>Ferry and coastal services</td>
<td>150</td>
</tr>
<tr>
<td>Special freight rate subsidies</td>
<td>100</td>
</tr>
<tr>
<td>Highway construction</td>
<td>100</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>20</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>50</td>
</tr>
</tbody>
</table>

**$3,170**

*Expenditures by Transport Canada and the Canadian Transport Commission; do not include transportation assistance from other federal departments, tax expenditures by the Department of Finance, or operating losses by crown corporations not offset by government assistance (e.g., CN's O&M losses on Transcanada).*  

The above table shows in millions of dollars, the approximate annual expenditures that are currently being paid by the Canadian Transport Commission and Transport Canada. They total about $3.2 billion a year. We are allocating about $900 million per year to the grain transportation system, the Crow Benefit payments to the railways, the special $2.50 per tonne freight rate assistance during this current year, the branch line rehabilitation program, assistance for the Port of Churchill and so on. For marine services, the $750 million is largely the result of a very low cost recovery level, about 5 percent of the cost of Transport Canada's marine services. While we now recover most of the O&M cost of the Seaway (after writing off all of the capital costs and associated interest) and all of the costs of
our major ports, for Transport Canada's internal operations (the Coast Guard and small ports and wharves), the system is subsidized by about $750 million. The Government spends about $600 million on VIA Rail this year. That will likely not decrease nearly as much as the Government had wanted it to a couple of years ago. For air (net operating losses; less than full cost recovery; most of it for air navigation service) we subsidize the system indirectly by about $500 million per year. That is a lot of money but proportionately per passenger very much less than for rail passenger.

For ferries, the Government spends about $150 million in operating subsidies and capital grants (largely in the Atlantic Provinces but approximately $20 million to British Columbia and Quebec). Most of it is for Marine Atlantic; but several private operators get operating subsidies as well. The federal government also has several freight rate subsidies: the At 'n East program for subsidizing flour and grain movement, and the Atlantic and Maritime freight rate subsidies. These total about $100 million per year, most of it benefiting the Maritime Provinces, etc.

For highways, Transport Canada currently allocates about $100 million per year: about $15 million each for the West and Quebec; the rest in the Atlantic Provinces. For research and development - and that is also a subsidy of sorts - we spend about $20 million. Then we have other odds and ends of assistance totalling about $50 million. For example, funding of a containerization program for TerraTransport in Newfoundland, subsidizing the O&M losses of two bridges in Montreal, etc.

All these programs total well over $3 billion per annum; a large sum and it does not include tax expenditures. Are we getting good value for our money? Can we do better; get more bang for the buck? I want to generalize a bit in answering these questions. At least $1 billion of that total is for safety purposes of one kind or another (coast guard force; air and marine navigation). A lot of that must continue to be spent; we cannot recover all those costs. The Government can never charge people whose boat goes down off the coast; you're not going to say: "pay me first, then we'll come and rescue you". The same for the air traffic control system; while cost recovery can be increased, we will never get all the money back, particularly not for the north and the less prosperous areas of the country. So I expect that we will continue to spend about one billion dollars or so for safety per year for a long time; as cost recovery inches upwards, expenditures will rise as well; the operating losses will have to come out of the public purse.

There is about another billion that we will probably spend on direct and indirect subsidies no matter what. For example, ferry services to Newfoundland will continue to need regular operating subsidies. There is socio-political merit in subsidizing grain transportation in the west to some extent and several, although certainly not all, of the rail passenger services. While some of the
funding for these subsidy programs could and should be reduced, it will be several years before that is going to get tackled in a serious manner.

But there are still about $1 billion in expenditures that could be cut or more importantly can be spent more effectively for regional development and other purposes.

There are a lot of debates going on in the west about whether or not the grain transportation payment (the Crow benefit) should be paid differently (e.g., directly to the farmers) to generate a more diversified transportation system and a more diversified economy; whether or not we should spend less on branch lines and use the money for other things and so on.

In the Atlantic Provinces, CN is subsidizing TerraTransport at the rate of $40 million per year. Many question whether Newfoundland needs the railway and whether the money should be spent on more necessary requirements like a better Newfoundland highway system. Why should we subsidize rail passenger services in the Central Canadian Corridor; again, those funds could be allocated for more legitimate and effective purposes. Some of our highway expenditures and freight subsidies (e.g., At 'n East) could be spent more effectively. One could go on.

The bottom line is that about $1 billion in federal transportation dollars could be spent more effectively. If we put our act together, that billion (plus the leveraged extra billion from other governments and the private sector) would be available for more targeted and up-to-date assistance for regional development. The money can be spent more effectively and could generate more balanced and self-sustaining regional development. Freed up funds could also be used more effectively through assisting research and development, specific high priority highways links, urban transportation, new equipment and intermodal systems.

The regional transportation needs for the future are different from those of the past. Many of the government transportation instruments and expenditures for regional development are outdated. They ought to be updated to meet the needs for the 1990s and the next century.
Phillips presented an excellent overview of the new legislation and indicated substantive changes that may result from that legislation. To summarize the changes; in the case of air, perhaps the major factor is the "designated area" concept.

In the case of rail, secret contract rates will be allowed, there will be no ceiling on rates and there are changes relative to line abandonment. Relative to truck transport, the respondent must now show public detriment and the test has shifted from "public convenience" to "commercial viability".

Dealing with these factors broadly, I see difficulty with the "designated area" concept. Experience in the past indicates that where you have "designated areas", a no-man's land is created on the boundaries of the "designated area". Pressure then increases to be included in the "designated area" and there develops a shifting economic impact by way of artificial boundaries.

My concern regarding rail rates is the question of the "relationship" between rates and the impact on shippers. Frequently in the past, competing shippers were less concerned with the absolute level of rates than with the relationship of rates to a common destination. The fact that contract rates are permitted without disclosure introduces a potential problem.

"Agreed charges" or contract rates were argued years ago. In a country such as Canada with a developing economy, there is danger in allowing a transportation organization effective control of where development will take place by way of differential rates.

For example, in the movement of pulp and paper, there are dominant shippers in specific markets. A new producer who is closer to the market could be penalized if the carrier was determined to protect established traffic moving the longer distance. Past problems that were resolved under existing regulations may rise once again. There is a real possibility under the new regulations of favouring existing shippers to the detriment of new enterprise.

Phillips commented that the new system is intended to serve shippers and travellers rather than protect users. I find it difficult to distinguish between shippers, travellers, and users. In the final analysis, it will be an economic test. Whatever system prevails will have to meet the needs of shippers and travellers, the movement of commodities and people, or it will fail.

*President and Chief Executive Officer, Investors Group.
Prentice dealt at some length with trade liberalization in Manitoba's transport sector. His basic theme was that we need access to the U.S. market. This need would impact on trade patterns and the transport sector and raises the question of foreign ownership. Those industries that would tend to be beneficiaries of freer access to the U.S. market and those that might be losers were identified. He indicated that truck-load rates favour Manitoba's access to the U.S.

Liberalized access for U.S. carriers raises the question of "cabotage". One of the basic problems confronting Canadian carriers relative to the United States, is that our population is huddled along the U.S. border. This provides an opportunity for U.S. carriers to access the Canadian market as the "stub-end" of rail, air, marine, and truck operations. For the Canadian carrier, to offset that advantage there must be deep penetration into the United States. We cannot simply access a border point in the United States and reach the same market sector as the U.S. carrier into Canada.

If we eliminate the rules against cabotage, and permit, for example, a U.S. carrier to pick up traffic in Toronto and deliver it to Winnipeg, Regina, or Vancouver, there could be serious erosion of traffic for Canadian carriers. Since access to Canadian traffic appears certain, Canadian carriers must be provided deep penetration into the U.S. with similar rights between points in the U.S.

Now what of the future? As I read the legislation, it appears that we are going to see the replay of a very old movie.

Yesterday, reference was made to the fact that when rail regulation started early in the century, it was in the hands of the Railway Committee of the Privy Council. It was decided that the political implications of that arrangement warranted the setting up of an independent agency. As a result, the Board of Railway Commissioners was established which eventually became the Canadian Transport Commission with various sub-committees. The basic rationale for such a body recognized that there were regional differences in this country and that national systems must reflect these divergent needs.

The circle has now come full round and we are told that what is now necessary is a new concept called "freedom to move". However, when you cut through the legislative underbrush, we are back to the political approach of the Railway Committee.

The agency will be subject to ministerial direction and must constantly bear in mind, implications for regional economic development. Under prior legislation, applicants could appeal to the Governor in Council. Such appeals could be argued on the basis of national policy and the needs of specific economic regions. Such a procedure was in keeping with the spirit of the current legislation, in that under the current legislation, the minister can direct that in the national interest, or in the interest of a particular economic region, an order be made.
There will, however, be changes in the industry and particularly in the area of financial structure and operations. Transportation tends to be capital intensive. The cost of equipment, rights-of-way, energy, and labour are relatively high.

We are witnessing a total change in the ownership of equipment. The function of a transportation company is to sell transportation service. The ownership of equipment or right-of-way are incidental factors.

Recently, we have seen dramatic changes in equipment ownership by airlines. Entire fleets are sold and leased back, generating tremendous cash flow while providing use of that equipment on a cost effective basis. This is particularly attractive where there is little opportunity to use the capital cost allowances relative to the ownership of the equipment.

The same principle could apply to the capital associated with railroad tracks and terminals. The rights-of-way and terminals could be owned by another corporation, private or public, and leased to rail companies. There is also the need for capital to replace existing equipment with new energy and labour efficient equipment. These factors will impact in varying degrees in the future.

Another area of concern relates to competition between provinces in granting assistance to transportation agencies. We have seen the purchase of rail line equipment by grain companies and provinces. Will the future see similar arrangements for highway equipment? Will we see provinces owning railway facilities or air facilities? Unless there is some co-ordinated approach, provincial action could have a "Baltic" impact on Canadian transportation.

To conclude: From the standpoint of regulation, I am filled with deja vu. Canada is determined to relive history, to see if we can do it better than we did in the first 83 years of regulation. I expect little change in the short term. Transportation in Canada is political. The very nature of the country demands political solutions to economic problems. There are, however, entrepreneurial and fiscal factors that will provide opportunities in all fields of transportation.

On the U.S. side, caution is necessary. The U.S. is and will remain for some time our major market. Whether by agreement or arrangement, we must access that market. Transportation will be a critical factor in maintaining and enhancing any trade agreement.
Discussant: O.E. Lang*

Wilson did a very good job of analyzing the way in which, under the current system, the cost of branch lines and grain handling on the branch lines is essentially borne by the farmer. We have a system where essentially and theoretically the Federal Government's contribution is fixed and any increases in cost and growth in cost or remnant of cost is borne by the producers. I say essentially and theoretically because, of course, the special $2.00 a tonne grant to try to offset the increase which was going to occur this year is a bit of a restoration of "old crow" and one doesn't quite know what to make of that. But essentially there has been a widespread increase and knowledge and understanding of this issue and that it does now cost the farmer.

There has also been in recent years a growth and understanding by the grain companies about what the future of lines really is. So even without decisions having been made, the decision is starting to happen and of course the cost of the elevator operation is a very real cost of the system that has to be taken into account. We were reminded quite rightly by Wes Graham that you have to take into account other costs, whether it be roads or costs to communities and so on. Certainly in the case of elevators it is a matter of us being located where the lines were and the lines went there for historic reasons, elements long gone. If I say to you today, and I don't think I would get many arguments from colleagues throughout the grain industry, we probably all today could quite easily serve the industry just as well if we forthwith closed 20 per cent of our elevators. Of course, if we did that without any reflection on lines and what their future is, we would likely leave a few on every line. In fact, the actual coverage from a farmer's point of view, the total distance of haul might not be much different if we did it a little more selectively and left some lines out altogether with no elevators and made sure that the elevators that were retained were on other lines. Why we don't move quickly in that way to close is, of course, because of competition. When any one of us closes one elevator, we lose a little market share. If we all closed 20 per cent at once, of course, we would have a plus and a minus impact and would likely serve the farmer far more efficiently with those fewer elevators. That kind of thing is going to happen and in effect, of course, we see it now.

Indeed, there is an increasing tendency I sense in the industry towards the proposition which the four western ministers have enunciated, and which the Senior Grain Transportation Committee has adopted, that there should be compensation for the losers. There are problems with that and some people have always seen problems because there have been losers without compensation right up to this very moment in terms of where elevators have closed or even on occasion

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*Executive Vice-President, Pioneer Grain Company.
where some rail lines have closed. I think in the Senior Grain Transportation Committee, we have tended to feel that the political need for compensation, to get over the local political problem of reaction against closure, because they, after all, suffer all the loss in that circumstance, is such that the compensation is needed even with the iniquity that is involved in the contrast between those who will benefit from it and those who will not. The question of compensation is perhaps going to raise a couple of tough issues. One without a doubt, is reflected in the Manitoba-Ottawa road impact debate, which is really about measuring damage or loss. There are widely divergent views about the impact of longer grain hauling upon roads. I suppose that once that is resolved one can make progress. It is a big issue, though, because one side of the argument about the impact on roads has a number so great that it leads to a different conclusion about the right economic solution. For that reason it isn’t a matter of first closing lines and then deciding how the compensation is determined.

If one takes the more modest view of impact upon roads for moving grain slightly more miles (but probably in more effective commercial vehicles which may do less damage to roads), then it is easy to see that the compensation need not involve much for extra haulage by farmers nor much for road costs. In any case, we are not talking a new expenditure by the Federal Government which may be a very important issue. As the Senior Grain Transportation Committee sees it, compensation can come out of the system as though it were a grain cost for a few years until the compensation has been paid. In other words, it is really a matter of substitute grain rate.

This question of how we get to where we ought to be in transportation as well in much of our organization, is a very tough one. We have branch lines where we would not have them if we had today’s technology at the time those branch lines were built. We have elevators every six miles which we would not have if we had either technology in the way of transport or costs of capital investment for elevators at today’s scale at the time they were built.

We have other examples of that in the rural area; we have roads in Saskatchewan laid out on a one mile basis in one direction and two mile basis in the other direction. In today’s world what would we have chosen, five miles one way and twenty miles the other perhaps. I have often thought that in long run thinking we should be bold enough on occasion to bring farmsteads to the roads instead of always taking roads to the farmsteads, in other words, putting them where they would have been if we had had the right system in the first place. In regard to some of our towns, and impact upon towns (it would be very tough for politicians to think this way) but there are times when you ought to say, rather than keep a town alive a little longer, would it not be better in fact to move the town to another location, join it with another, and have it all happen more quickly. We tend in politics to spend a little money propping up a thing that is going to thereby live a little longer but is going to die as surely in the end.
In Ludwig's paper, I thought I saw a group of very important issues having to do with taxation and really this bears back on Dr. Wilson's as well. It holds open for me a whole question for governments about taxes, and when it is or is not appropriate to tax an element which is in effect an aspect of production rather than an aspect of consumption. Or in this case, when Manitoba and then Saskatchewan and then eventually "willy nilly" Alberta puts taxes on diesel fuel, do they really think through that the 24 million dollars that comes from the railways in Manitoba which is 60 per cent reflected in grain rates, and between Alberta, Manitoba and Saskatchewan together they may be putting $2.00 a tonne on every tonne of grain that is moved through a diesel tax. Is that where they meant the tax to go? Yet here is the clearest example because in this case we have a formula for the cost of moving the grain; it is not even the railway setting the rates — the rate is determined by statute, but that cost goes right into the rate and is charged back against the farmer.

As I say, did the governments really mean to tax the farmer when they put that tax on a ready villain, the railways and diesel fuel. Taxes, I think, have been highlighted for us again in terms of competition, free trade, and how we stand with the United States. Indeed, some of those issues which Ludwig's paper opened up are really intriguing. It raises a whole issue of what kind of can we have opened in moving toward the new relationship with the United States. Can we have an expectation that Canadian producers, if they move towards a free environment could face a tax regime where, in this case it's a federal tax, capital write-off in three years existed in the United States and in seven years in Canada. I have no doubt our rule is the better one of the two in terms of the realistic write off of equipment, but it raises the whole issue of how we get to some kind of similarity and what we have to move into next in the way of similarity of rules, such as our tax regimes in relation to things affected by free trade.

Ludwig's paper raised the issue of cabotage for me, and furnishing enough, raised a question of whether perhaps, it has to work the other way because in his paper he really said there is a danger that, in addition to some local considerations which he referred to in the payroll tax and so on, but there is a danger that the trucking companies that we now have may be better off located in the United States. Better off because cabotage in the north south movement is less important to those truckers because they have such a short distance to get back and forth and then get a load again. That led me to the other side of the thought then, that perhaps we have to get rid of cabotage in order to retain our trucking companies in Manitoba even realizing that our companies would help the buildup of north south movement, and that we may lose some of the east-west movement which is now a Canadian movement. It is a question, it seems to me, that the authorities — that governments — are going to have to address as they look at the whole question of our relationships.

Perhaps it is obvious as well, that costs, like costs of regulations, are things that we have to look at and look at again and
really more vigorously when we face a competitive environment with a neighbor. Things like pay equity legislation and affirmative action legislation are creating horrendous problems in terms of administrative loads upon companies, and therefore real costs. Noble as the objectives are, it certainly raises with me the issue of whether or not the objectives should not be achieved, perhaps with a little more patience, but through education, publicity, and admonition rather than through regulation.

Rudack took us through a very fascinating story in technology and all the things that are happening or can happen and will happen, and of course, in my view, the railroads have been a really astonishing example of what has gone on. I can think back, obviously before Dr. Bt's time, to when the steam engine rather than the diesel was pulling the box car rather than the hoppers and on light rail rather than heavy rail. I can remember all the rest of the things which have occurred to make the system more efficient and clearly these things are underway, going on and moving along in a very satisfactory way, by and large. Here and there we get ourselves in the way of progress and again, I will come back to one of the examples which Mulder looked at, which is the Via Rail existence and our political inability to continue what had begun as a bit of a throttling down and a rationalization of the structure.

I see in one of the papers, a reference to the control of Via's rates - this was in Rudack's paper -- Via rates in 1985. I went through the same exercise in the first year of Via's existence when I actually told them to scrap some special rates they were putting on that were absolutely predatory from any logical point of view. They were proposing them with a subsidy in their back pocket and they were only going to be measured by their deficit in the end. I am happy to say that I got away with that one politically and till this day I don't know whether many people know that I had to say, "go and raise your rates." The problem was, of course, that they were competing with buses which were, by and large, not subsidized in a very full way. I guess I'm on Wilson's side there in terms of what taxes on fuel and taxes do in paying for their share of the roads, but I was struck by that again when I saw in Ted Rudack's paper the reference to how backward we are in development of buses, of convenience and good quality. Of course, that might be exactly because with Via Rail subsidized competition beside them, there is no way that any bus operator in Canada could afford to buy a good bus. I know that in those days when I was dealing with those special Via rates, I was also dealing with bus companies who were asking for help to get regulations that allow them to have a bus that is 8 inches wider or 12 inches wider and that is permitted to travel across the whole of the country. I think we have to examine how subsidies like that do, in fact turn around and hurt us and may have in fact led to no development of the kind of bus we really need because nobody in Canada could afford it. The Canadian bus producer would not want to develop a bus just for another market if his Canadian one was closed to him.
That leads to another idea in the road ahead in terms of bus transportation versus rail and perhaps, versus automobile as well. I commend it to the provincial people here present for consideration. It has occurred to me that particularly as we get the safer and more efficient buses, if we can begin to get them, we have to adopt across Canada another little rule and that is that buses ought not be subject to speed limits. Both from an energy point of view and a safety point of view, I submit that it is better to persuade 20 people by having very quick passage on a bus to move out of their automobiles and stop consuming energy there, and to take those 20 vehicles off the road and improve safety even if the faster bus has a little negative element itself in regard to both of those aspects.

I think in a broad way we have to look at every one of our actions whether regulatory or whether by way of subsidy, to see what kind of a negative impact it can have and the way ahead will be clearer for us. Certainly, I think that Mulder's view that subsidies could be better spent, jumps out at you in many examples. The way our branch lines are run, the way we move in some of our trucking and regulatory rules are further evidence of what we can do to improve in the days ahead.
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