Economic Impact, Structure & Market Perspectives of the Manitoba Trucking Industry

Prepared for

Manitoba Department of Highways & Government Services
Manitoba Trucking Association

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FOREWORD

In March 1999, the Manitoba Trucking Association (MTA) and the Manitoba Department of Highways & Government Services (H&GS) requested the Transport Institute to conduct a study of the economic impact and structure of the Manitoba trucking industry for the 1998 fiscal year. The economic impacts would include both the for-hire and private carrier sectors of the motor carrier industry.

The MTA, H&GS and the Transport Institute would like to thank all for-hire and private carriers who took the time to complete the Manitoba Trucking Industry Survey and interviews conducted in the fall of 1999. We appreciate the assistance received from individuals and organizations consulted, in particular, Bob Dolyniuk, General Manager of MTA, Adam Hrabinski, Michael Basford, and Jack Craven of the Transportation Policy & Service Development Branch, Bruce McCormick, Manager, Carrier Profiles of the Transportation Safety & Regulation Branch of H&GS, Clare Moster, Secretary of the Motor Transport Board, and Wilf Falk, Director, David Greenwood, Assistant Director and Don Grant, Project Officer, of the Manitoba Bureau of Statistics.

Several members of the Transport Institute made significant contributions to this study. They include Research Associate Darren R. Gorman, former Research Associates Scott J. Shurvell and Zhaokun Wang, and Professional Associate Al Phillips. These four individuals created and managed the trucking economic database, provided the economic impact and qualitative analysis, and helped prepare the report.

Many other members of the Transport Institute contributed in the survey phase of the study: Research Associates Michael A. Crockatt and Darren Prokop, Research Affiliates Victor Rueda and Meyer Lapkin, and our support staff, Jill Dutka and Kathy Chmelnitzki. Finally, we wish to thank Mary Prentice for making follow-up calls that helped maximize the survey sample and assure its accuracy.

Every effort has been made to ensure that the data has been expressed fully and accurately in this report; the Transport Institute takes full responsibility for any errors or omissions.

Dr. Barry E. Prentice
Director,
Transport Institute,
University of Manitoba
EXECUTIVE SUMMARY

The trucking industry presents an interesting dichotomy. On the one hand it is the most ubiquitous form of freight transportation and the largest source of male employment in every province of Canada (Statistics Canada). On the other hand, few people appreciate the true size and scope of the trucking industry, or its importance to the general economy. Most of the time, the trucking industry is simply taken for granted. Only when an unusual event occurs, such as the recent protests over rising fuel costs, does the significance of the trucking industry become obvious. The absence of an accurate economic indicator for trucking and its related activities has led to an under-appreciation of its importance.

The structure of the trucking industry helps to explain its lack of public profile. Unlike some sectors of the economy that are dominated by a handful of giant corporations, the trucking industry is incredibly diverse. While many large trucking firms exist, a great number of very small trucking firms compete in the same market. Moreover, the market is highly segmented. Each trailer type represents a sub-market that could be considered an industry in its own right.

Finally, trucking is an industry that by definition is “on the move”. It is difficult to get an appreciation for the size of the trucking industry because all the equipment is dispersed. Only at the trailer compounds of the large carriers is it possible to gain some measure of the physical magnitude of the trucking industry.

These same characteristics make the trucking industry hard to study. It is such a dynamic sector that even an accurate list of the companies is hard to obtain. Moreover, many in the industry feel “surveyed-to-death”, and/or have no time to spare on non-core activities. This is magnified when the survey is, by its nature, long and requires detailed numerical data. Cooperation from the industry was excellent and the period of data collection was extended to maximize participation.

The analysis contained in these pages sets a new standard for the estimation of economic impacts. In addition to an aggregate measure of the for-hire and private trucking sectors, this study ties the economic impact to a structural profile of the industry. To our knowledge, the economic impact of trucking has never been measured as accurately or comprehensively in any jurisdiction of North America.

An Economic Impact (EI) study can identify and measure the economic significance of the trucking industry – and portray its role as an economic generator. The economic impacts of the Manitoba trucking industry are reported in several different ways. First, the impacts are reported as direct and total. The difference is that direct impacts are those created by trucking activity, while the total impact considers the re-spending of money generated by the trucking activity. Second, the impacts are reported in regional and national dimensions. Economic activity that stays within provincial boundaries is measured as GDP (Gross Domestic Product) at factor cost. This excludes imported
inputs like petroleum and equipment whose economic impact occurs outside Manitoba. At the same time, Manitoba trucking creates further economic activity in the services provided and goods purchased beyond its borders. The national impact of the Manitoba trucking industry is captured as gross expenditures.

The Manitoba trucking industry employs both residents and non-residents of Manitoba, and it purchases goods and services from both within and outside Manitoba. Direct economic activity creates a “ripple effect” on employment as re-spending occurs in the Manitoban and the Canadian economies. The provincial impacts of the trucking industry are calculated in terms of employment numbers and labour income.

Motor carriers in Manitoba are a major generator of economic activity within the province, generating $1.18 billion in 1998. As a result, trucking is responsible for 5 percent of the 1998 GDP of $26.19 billion. Table A presents a summary of the total economic impact on Manitoba from the Manitoba trucking industry carriers. Total direct impacts account for approximately $633.8 million in trucking-related GDP, 16,902 full-time equivalent jobs and over $370 million in labour income. Including indirect and induced economic activity, the total economic impact generated by the Manitoba trucking industry is approximately $1.18 billion in output, full-time employment of approximately 33,000 and $654.9 million in salaries, wages and benefits.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Net Contributions to Manitoba GDP ($'000)</th>
<th>Manitoba Employment (Person-Years)</th>
<th>Manitoba Labour Income ($'000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB For-Hire Total Direct</td>
<td>502,492</td>
<td>10,641</td>
<td>278,363</td>
</tr>
<tr>
<td></td>
<td>Multiplier</td>
<td>1.86</td>
<td>1.95</td>
</tr>
<tr>
<td></td>
<td>Indirect &amp; Induced</td>
<td>432,143</td>
<td>10,109</td>
</tr>
<tr>
<td>Total MB For-Hire</td>
<td>934,635</td>
<td>20,750</td>
<td>492,703</td>
</tr>
<tr>
<td>MB Private Total Direct</td>
<td>131,258</td>
<td>6,261</td>
<td>91,656</td>
</tr>
<tr>
<td></td>
<td>Multiplier</td>
<td>1.86</td>
<td>1.95</td>
</tr>
<tr>
<td></td>
<td>Indirect &amp; Induced</td>
<td>112,882</td>
<td>5,948</td>
</tr>
<tr>
<td>Total MB Private</td>
<td>244,140</td>
<td>12,209</td>
<td>162,231</td>
</tr>
<tr>
<td>Total</td>
<td>Total Direct</td>
<td>633,750</td>
<td>16,902</td>
</tr>
<tr>
<td></td>
<td>Indirect &amp; Induced</td>
<td>545,025</td>
<td>16,057</td>
</tr>
<tr>
<td>Total Economic Impact</td>
<td>1,178,775</td>
<td>32,959</td>
<td>654,934</td>
</tr>
</tbody>
</table>

Source: TI/MTA/H&T Survey

Note: the above figures have been rounded to the nearest thousand.

Economic impact within Manitoba has many spillovers into the rest of Canada because goods are imported into the province. Table B shows the gross expenditure impact on Canada from Manitoba trucking activity, inside and outside of Manitoba borders. For-hire carriers direct spending in Manitoba had an impact on the Canadian economy of $959.6 million. When Manitoba’s for-hire carriers spent outside of Manitoba, they contributed another $272 million in direct expenditures, for a total of $1.23 billion on the Canadian economy. By adding the spin-offs benefits from suppliers to the trucking industry and the subsequent rounds of consumption spending throughout Canada (the indirect and induced impact), another $1.85 billion is generated. In total, Manitoba’s for-hire carriers have a total gross-expenditure impact on Canada of $3.08 billion.

### Table B Trucking Industry Economic Impacts on Canada

<table>
<thead>
<tr>
<th>Classification</th>
<th>Gross Expenditure Impact on Canada from Manitoba Trucking Expenditures in Manitoba ($'000)</th>
<th>Gross Expenditure Impact on Canada from Manitoba Trucking Expenditures outside Manitoba ($'000)</th>
<th>Total Gross Expenditure Impact on Canada from all Manitoba trucking expenditures** ($'000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB For-Hire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Direct</td>
<td>959,584</td>
<td>272,014</td>
<td>1,231,598</td>
</tr>
<tr>
<td>Multiplier*</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Indirect &amp; Induced</td>
<td>1,439,376</td>
<td>408,021</td>
<td>1,847,397</td>
</tr>
<tr>
<td>Total MB For-Hire</td>
<td>2,398,960</td>
<td>680,035</td>
<td>3,078,995</td>
</tr>
<tr>
<td>MB Private</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Direct</td>
<td>250,657</td>
<td>31,391</td>
<td>282,048</td>
</tr>
<tr>
<td>Multiplier*</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Indirect &amp; Induced</td>
<td>375,986</td>
<td>47,087</td>
<td>423,073</td>
</tr>
<tr>
<td>Total MB Private</td>
<td>626,643</td>
<td>78,478</td>
<td>705,121</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Direct</td>
<td>1,210,241</td>
<td>303,405</td>
<td>1,513,646</td>
</tr>
<tr>
<td>Indirect &amp; Induced</td>
<td>1,815,362</td>
<td>455,108</td>
<td>2,270,470</td>
</tr>
<tr>
<td>Total Economic Impact</td>
<td>3,025,603</td>
<td>758,513</td>
<td>3,784,116</td>
</tr>
</tbody>
</table>

Source: TI/MTA/H&T Survey

Note: the above figures have been rounded to the nearest thousand.

* Expenditure multiplier is estimated to be between 2.5 and 3.5. We used the lower end.

** Some leakage could occur through international trade and trucking activity outside Canada, but this cannot be estimated.

Private trucking in Manitoba has less of an impact on the total Canadian economy, contributing direct gross expenditures of $282 million, with roughly 90 percent of this coming from trucking activity in Manitoba. Private carriers in Manitoba generate total indirect and induced economic activity of $423 million and give a total gross expenditure
economic impact for Manitoba private trucking on Canada of $705 million. Together, for-hire and private trucking in Manitoba have a total gross expenditure economic impact on the Canadian economy of $3.78 billion.

Manitoba’s trade pattern has changed dramatically since deregulation (MVTA 1987) and freer trade (CUSTA 1988, NAFTA 1994). Truck movements have grown slowly on Canada’s east-west corridor and grown rapidly north-south. Figure 1 and 2 present an index of growth based on 1987 volumes. In order of growth rate, north-south is far ahead of east-west or intra-provincial (Manitoba) trucking. The impacts of institutional change and macroeconomic events are evident in the pattern of trucking activity. At the same time, the economic impact of the trucking industry is a function of the larger economy that it serves. When the economy is subject to recession, the trucking industry grows slowly, and vice versa.

The United States accounts for the greatest increase of outbound and inbound freight movements, with most of these gains occurring after the signing of NAFTA in 1994. Freight movements in Canada generally declined up to 1993; Manitoba intra-provincial freight movements dropped 43 percent compared to 1987. Post-NAFTA, Manitoba truckers experienced increases to all regions. Truck movements to the U.S. by 2001 are forecast to be five times greater than in 1987. By comparison, inter-provincial movements increase by only half to Western Canada (58 percent) and marginally to Eastern Canada (12 percent). Trucking activity within Manitoba is only expected to recover its former size. This is shown in Figure 1.

**Figure 1 Trucking: Relative Regional Changes in Outbound Freight**

![Graph showing relative regional changes in outbound freight](image-url)
Turning to inbound truck freight movements, all traffic declined between 1987 and 1993. Since 1994, import growth has exceeded the rate of increase within Manitoba. The spread between the regions with inbound activity is less than outbound activity. Trucking activity only tripled from the United States (216 percent), followed by Eastern Canada (197 percent), and Western Canada (181 percent). This can be seen in Figure 2.

The market focus of the Manitoba trucking industry has become more outward looking. In 1987, Manitoba’s transborder truck movements to the United States were roughly 0.65 million tonnes. Movements to and from the rest of Canada in 1987 totaled 4.2 million tonnes. Prior to NAFTA (1994), that gap had been reduced by half but interprovincial movements were still 3.3 times transborder movement. By 2001, the U.S. will have surpassed Eastern Canada as a destination for truck freight and is gaining on Western Canada. Overall, trans-border and inter-provincial trucking has grown significantly relative to intra-provincial trucking in Manitoba. From roughly half of the market in 1987, extraprovincial trucking (interprovincial plus transborder) has grown to 70 percent of total tonnage.

By 2001, 70 percent of Manitoba’s trucking revenues will be obtained from extraprovincial services. In fact, almost the entire growth of Manitoba trucking depends on the export of services. Given estimated total revenues of $1.2 billion, the export of trucking services in 1998 equals $840 million. By comparison, the $840 million of trucking services exports is greater than Manitoba’s three largest commodity exports: wheat ($515 million), aircraft parts ($453 million) and canola oil ($407 million).
terms of industry classification, the Manitoba trucking industry would be the fourth largest source of export earnings following agriculture ($1.8 billion), food industries ($1.0 billion) and transportation equipment ($1.0 billion).

The base data of this study has been gathered in the midst of a longer term expansion. Consequently, the current estimate of the economic impact in 1998 is conservative in light of the trucking industry’s recent continued expansion. At the same time, this study serves as a benchmark that can be used to calibrate the longer term trend, providing the structure (firm size, etc.) remains constant. This study makes that next step by documenting the structural profile of the trucking industry. A capsulization of the findings are presented below:

**Equipment:**
- For every straight or small truck, approximately 6 tractors are operated by for-hire trucking in Manitoba.
- For every tractor, approximately 2 straight or small trucks are operated by private trucking in Manitoba.
- For every tractor, roughly 2 units of trailers are kept in inventory by for-hire trucking in Manitoba.
- For every tractor, roughly 1.4 units of trailers are kept in inventory by private trucking in Manitoba.
- Owner-operator and leased operator use is most prevalent with tractors, followed by straight trucks and then followed by trailers.

**Costs:**
- For every $10 spent on variable costs, approximately $8 is spent on fixed costs, and roughly $7 is spent on owner-operator costs by for-hire trucking in Manitoba.
- For every $10 spent on variable costs, approximately $4 is spent on fixed costs, and roughly $2 is spent on owner-operator costs by private trucking in Manitoba.

**Labour:**
- For every 15 drivers, approximately 10 non-driving personnel are required to ensure that for-hire trucking activity takes place in Manitoba.
- For every 15 drivers, approximately 40 non-driving personnel are associated with private trucking activity in Manitoba.
- For every 10 for-hire carrier drivers, approximately 11 power units are provided by Manitoba for-hire trucking.
- For every 10 private carrier drivers, roughly 25 power units are provided by Manitoba private trucking.
- 82 percent of for-hire carriers’ labour force has a grade 12 education, or less.
- 89 percent of the private carriers’ labour force has a grade 12 education, or less.

**Freight Rates:**
- 13 percent of all Manitoba-based for-hire carriers increased their freight rates since 1994 compared to 33 percent of out-of-province for-hire carriers. Another 20 percent
of Manitoba-based carriers lowered their rates with 50 percent leaving their rates unchanged.

- About one quarter of all Manitoba-based for-hire carriers expect no change in freight rates by 2004. Out of province carriers are even more optimistic, with about 1 in 10 anticipate no change in freight rates by 2004.

**Revenues:**

- 46 percent of all Manitoba-based for-hire carriers expect company revenues from Western Canada to increase by 2004 compared to 43 percent of out-of-province carriers.
- 21 percent of all Manitoba-based for-hire carriers expect company revenues from Eastern Canada to increase by 2004 compared to 44 percent of out-of-province carriers. Another 5 percent foresee a decrease with 30 percent foreseeing no change.
- 47 percent of all Manitoba-based for-hire carriers expect company revenues from within Manitoba to increase by 2004 compared to 66 percent of out-of-province carriers. No for-hire carriers foresee a decrease with 26 percent foreseeing no change.
- 39 percent of all Manitoba-based for-hire carriers expect company revenues from the United States to increase by 2004 compared to 66 percent of out-of-province carriers. No for-hire carrier foresees a decrease, and 14 percent foresee no change.
- 3 percent of all Manitoba-based for-hire carriers expect company revenues from Mexico to increase by 2004 compared to 22 percent of out-of-province carriers. No for-hire carrier foresees a decrease with 32 percent foreseeing no change.
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1.0 Introduction

1.1 Trucking – A Catalyst for Growth

Over 80 percent of Canada’s trade with the US – our largest trading partner – is moved by truck. Each year trucks cross the Canada-US border over 10 million times. Trucks operate 24-hours per day, every day, along every road and highway, linking businesses and Canadians coast-to-coast.

Economically, trucking is the main generator of transportation activity in the province, capturing about 69 percent ($1.18 billion) of all transportation and storage value ($1.71 billion) for 1998. As a percentage, trucking is responsible for approximately 5 percent of the 1998 GDP of $26.19 billion.

Trucking is the preferred transportation mode among shippers because of speed, price, reliability of service, volume, coverage and security. Trucking plays an essential role in the manufacturing and retail process; it hauls a higher share of finished goods than other modes, and it hauls a significant portion of value added goods, relative to other modes. Although trucking is a strong competitor to the air and rail modes, it is also complementary. Trucking is the key to efficient intermodal transport and usually serves as the interface between the shipper/receiver and other transport modes.

1.2 The Changing Truck Transportation Industry

Many economic/market forces have increased trucking activity in Canada and the US. These macroeconomic factors have also influenced motor carrier activity in the province of Manitoba. These factors include:

- Economic deregulation that reduced restrictions on competition among carriers (Motor Vehicle Transportation Act [MVTA, 1987]);
- CUSTA (1988) and NAFTA (1994) encouraged more north-south trade, which favoured trucking;
- Globalization of markets increased trade activity;
- Intermodal competition/collaboration with the railways increased drayage activities;
- Price competition among carriers and tight profit margins made trucking rates affordable;
- The end of the Western Grain Transportation Act (1995) encouraged more value-added food processing that was generally all truck-based; and,
- Abandonment of railway branchlines and consolidation of the grain elevator system has increased the frequency and the length of truck hauls.

Prior to the MVTA (1987), the regulated environment restricted carrier flexibility, stifled innovation and restricted new entrants from coming into the market. It also created an environment under which high cost, inefficient providers could exist. Economic deregulation reduced restrictions on competition among carriers and provided the freedom to innovate and provide new and more cost effective services. The demise and

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failure of carriers created the gap that was quickly filled by a wide array of new entrants offering new services that customers demanded. The patterns in which freight were handled also shifted as customers requested new levels of service and alternative options to those that had previously been provided. Over the 1990-99 period, the number of for-hire trucking firms operating in Manitoba increased 65 percent.

Market segments that had exclusively been the domain of a specific carrier type began to change. Some examples of these shifts are as follows:

- Truckload carriers (TL) moving into the down-weight freight market with direct, half, third and quarter shipping loads; squeezing less-than-truckload (LTL) carriers;
- Geographic expansion of local cartage firms from a single centre to a regional and national presence;
- Parcel carriers moving into the up-weight freight market;
- Regional providers offering an expanded market for next day service with less break bulk handling;
- Increased fleet specialization in Manitoba (i.e., dry vans, flat decks, refrigerated);
- Shift to owner-operator and brokers offering greater variability, flexibility, and less asset investment;
- Growth of intermodal services where the benefits of other modes (i.e., rail, air, etc.) might be combined with truck to offer reduced cost and/or increased speed; and,
- New levels of service to meet shipper demand for quality and just in time (JIT) delivery.

1.3 Warehousing, Distribution and Trucking

Three of Canada’s twenty-five largest employers in the for-hire trucking industry are headquartered in Winnipeg. Although substantial portions of their business are conducted out-of-province, the majority of their expenditures are for goods and services purchased in Manitoba. Conversely, many trucking firms based outside Manitoba move goods to, from and within the province. Their expenditures also contribute to the Manitoba economy.

Commercial trucks account for approximately 4 percent of all vehicles registered in Manitoba, but are responsible for the transportation of 95 percent of all goods shipped within the province. Tractors represent roughly three-quarters of the total fleet of commercial power units in service in Manitoba. On average, each tractor contributes approximately $40,000 per year to federal/provincial tax revenues making the trucking industry a significant contributor to Manitoba's tax base. Over the 1990-99 period, the number of for-hire trucking companies operating in Manitoba increased by approximately 65 percent.

Winnipeg’s strategic central location has made it a logistical distribution and re-distribution gateway for North America. Table 1 shows that in 1999, Winnipeg had a cost advantage over other Canadian cities for warehousing and distribution. This solid and diversified foundation in trade and manufacturing depends on an effective and efficient transportation system.

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4 These three are TransX, Paul’s Hauling Group, and Reimer Express Lines (Roadway Express). See *Today’s Trucking*, March 1999 issue.
Trucking firms operating in Winnipeg have access to major east-west and north-south routes that facilitate rapid and reliable truck-trade activity. Winnipeg’s Perimeter Highway provides access in all directions, using the Trans Canada Highway for east-west travel to the rest of Canada. Provincial Trunk Highway #75 provides access for south-north travel through US Interstate #29 at Emerson.

This transportation network links Winnipeg with all of Canada and the Mid-Continent International Trade Corridor via I-29 and I-35. The Corridor is one of the fastest growing north-south trade routes between Canada, the US and Mexico. In the past decade, the Canada-US Free Trade Agreement (CUSTA), the North American Free Trade Agreement (NAFTA), and changes to the General Agreement on Tariffs and Trade (GATT) have shifted Manitoba’s predominant trade orientation from traditional east-west domestic movements to north-south international movements.

**1.4 Manitoba Trade-Freight Activity**

Table 2 describes for-hire tonnage of freight movements estimated for Class I and Class 2 carriers with annual revenues greater than $1 million dollars. Origin-destination for-hire freight movements are presented on an intra-provincial, inter-provincial and trans-border basis. Class I and II for-hire carriers generated 3.5 million tonnes of intra-provincial freight over the 1996-97 period, accounting for 35 percent of total for-hire revenue. Inter-provincial tonnage of 2.2 million tonnes from Manitoba to other provinces (outbound freight) and 2.8 million tonnes of freight to Manitoba (inbound freight) represented 50 percent of total trucking activity. Manitoba-U.S. trans-border freight of over 1.5 million tonnes accounted for 15 percent.

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Table 1 Total Annual Operating Cost, Selected Cities ($US)

<table>
<thead>
<tr>
<th>City/Province</th>
<th>Total Annual Operating Costs ($'000)</th>
<th>City/State</th>
<th>Total Annual Operating Costs ($'000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winnipeg, MB</td>
<td>$17,316</td>
<td>Sioux Fall, SD</td>
<td>$15,513</td>
</tr>
<tr>
<td>Ottawa, ON</td>
<td>17,778</td>
<td>Memphis, TN</td>
<td>16,001</td>
</tr>
<tr>
<td>Mississauga, ON</td>
<td>18,074</td>
<td>Dallas, TX</td>
<td>16,508</td>
</tr>
<tr>
<td>Montreal, QC</td>
<td>18,165</td>
<td>Denver, CO</td>
<td>16,936</td>
</tr>
<tr>
<td>Toronto, ON</td>
<td>18,432</td>
<td>Atlanta, GA</td>
<td>17,125</td>
</tr>
<tr>
<td>Saskatoon, ON</td>
<td>18,929</td>
<td>St.Louis, MO</td>
<td>17,163</td>
</tr>
<tr>
<td>Calgary, AB</td>
<td>19,852</td>
<td>Cincinnati, OH</td>
<td>17,281</td>
</tr>
<tr>
<td>Edmonton, AB</td>
<td>20,257</td>
<td>Milwaukee, WI</td>
<td>17,312</td>
</tr>
<tr>
<td>Halifax, NS</td>
<td>22,658</td>
<td>Chicago, IL</td>
<td>17,981</td>
</tr>
<tr>
<td>Vancouver, BC</td>
<td>23,114</td>
<td>Minneapolis, MN</td>
<td>19,101</td>
</tr>
</tbody>
</table>


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A considerable lag exists between Statistics Canada data collection and its publication. Although this data is three years old, it is the latest available at the time of this study’s preparation.
Table 2: Manitoba For-Hire Truck Traffic, tonnes per year, 1996-1997

<table>
<thead>
<tr>
<th>ORIGIN</th>
<th>Intraprovincial - Manitoba</th>
<th>Interprovincial - Outbound</th>
<th>Transborder - Outbound USA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Manitoba</td>
<td>Eastern</td>
<td>Western</td>
<td>USA</td>
</tr>
<tr>
<td>Intraprovincial - Manitoba</td>
<td>3,546,897</td>
<td>981,193</td>
<td>1,234,725</td>
<td>1,006,057</td>
</tr>
<tr>
<td>Interprovincial – Inbound Eastern Canada</td>
<td>887,662</td>
<td></td>
<td></td>
<td>887,662</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,943,100</td>
<td></td>
<td>1,943,100</td>
</tr>
<tr>
<td>Transborder – Inbound – USA</td>
<td>518,868</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>6,896,527</strong></td>
<td><strong>981,193</strong></td>
<td><strong>1,234,725</strong></td>
<td><strong>1,006,057</strong></td>
</tr>
</tbody>
</table>


It is interesting to note that for-hire freight volumes destined to the US exceed volumes destined to Eastern Canada. In terms of inbound for-hire freight tonnage destined to Manitoba, Western Canada is the dominant source. Eastern Canada follows Western Canada by about one half the volume, while inbound trans-border U.S. freight is about one quarter of Western Canada’s total.

The majority of truck traffic crossing the international border at Emerson-Pembina involves movements originating in or destined for Manitoba. Figure 1 illustrates the daily truck traffic that crosses the major Western Canadian international and interprovincial borders. Forty-five percent of movements through prairie province border crossings pass through Emerson-Pembina. Trucking movements through the North Portal-Portal (Saskatchewan-North Dakota) and Coutts-Sweetgrass (Alberta-Montana) border crossing account for 22 and 32 percent, respectively. In 1997, Manitoba’s cross border 2-way truck movements at Emerson are 832 trucks per day. In addition, 200 trucks per day cross Manitoba’s eastern border at Sprague. Manitoba’s north-south truck volume is more than twice the 2-way truck movements across the Manitoba-Ontario border.
For northbound loaded movements through the Emerson scale, the top six commodities account for one-half of all movements. Machinery and equipment (including general machinery, oil field equipment and transport equipment) accounted for 13 percent, fresh farm products for 11 percent and building materials and tools for nine percent. Table 3 lists commodity movements by percent for northbound and southbound trucks. The commodity information was derived from the UMTIG\(^6\) Border Crossing database, developed from surveys of trucking movements at the Emerson weigh scale located near the Manitoba-North Dakota border. The surveys collected information about commodities and origin-destination (O-D) patterns.\(^7\)

Trucking is critical to trade along the Mid-Continent Trade Corridor, and especially the Red River Trade Area. Trucking is most competitive over distances less than 1,500 kilometres. This is reflected in the difference in activity levels in the northern relative to the southern US states. Figure 2 illustrates that more than one-quarter of all northbound movements originate in Minnesota; 12 percent originate in North Dakota; another 12 percent originate in Illinois; and 6 percent each originate in both Wisconsin and Iowa. The remaining 38 percent of movements originate in other states or provinces. Of these northbound movements, UMTIG estimated that between 60 and 85 percent of the movements were destined for Manitoba.

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\(^7\) Canada and US Customs were contacted to obtain northbound and southbound truck volumes passing through Emerson during the 1997 fiscal year.
Table 3 Major Commodities by Truck with Known O-D Patterns  
Weigh Scale: Emerson Border Crossing

<table>
<thead>
<tr>
<th>Major Commodity</th>
<th>Northbound Truck Movements</th>
<th>Southbound Truck Movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinery &amp; Equipment</td>
<td>13.4</td>
<td>Machinery &amp; Equipment</td>
</tr>
<tr>
<td>Fresh Farm Products</td>
<td>11.1</td>
<td>Fresh Farm Products</td>
</tr>
<tr>
<td>Building Materials &amp; Tools</td>
<td>9.2</td>
<td>Building Materials &amp; Tools</td>
</tr>
<tr>
<td>Miscellaneous Products</td>
<td>7.3</td>
<td>Miscellaneous Products</td>
</tr>
<tr>
<td>Paper &amp; Products</td>
<td>6.9</td>
<td>Paper &amp; Products</td>
</tr>
<tr>
<td>Processed Foods</td>
<td>5.7</td>
<td>Processed Foods</td>
</tr>
<tr>
<td>Mixed Cargo</td>
<td>5.0</td>
<td>Mixed Cargo</td>
</tr>
<tr>
<td>Chemicals &amp;/or Drugs</td>
<td>4.2</td>
<td>Chemicals &amp;/or Drugs</td>
</tr>
<tr>
<td>Wood &amp; Products</td>
<td>4.2</td>
<td>Wood &amp; Products</td>
</tr>
<tr>
<td>Hopper Commodities</td>
<td>3.4</td>
<td>Hopper Commodities</td>
</tr>
<tr>
<td>All Other Comm. Combined</td>
<td>29.6</td>
<td>All Other Comm. Combined</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0</strong></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>


Figure 2 Origin-Destination of Northbound Loaded Trucks, *all commodities*,  
*Emerson Scale, 1998*

For southbound movements through Emerson, the top five commodities (Table 3) account for one-half of all movements. Machinery and equipment, and paper and products account for 12 percent; fresh farm products for 11 percent; wood and products for 9 percent; and building materials and tools for 7 percent. Figure 3 shows that major US destinations of the five commodities combined are Minnesota, Kansas, Texas, Wisconsin, Michigan, Illinois, New York, South Dakota, North Dakota and Indiana. Eighty percent of machinery and equipment; 58 percent of paper and products; 72 percent of fresh farm product; 76 percent of wood and products; and 68 percent of building materials and tools movements originate in Manitoba.

Figure 3 Origin-Destination of Southbound Loaded Trucks, all commodities, Emerson Scale, 1998


1.5 Trends in Trade & Truck Activity

In 1987, the amendment of the Motor Vehicle Transportation Act (MVTA), which reduced restrictions on carriers’ flexibility to satisfy their customers, encouraged new entrants into the market, and created an environment that fostered innovative ways of doing business. Figures 4 and 5 show the outbound and inbound movements of freight by for-hire trucking between Manitoba and the rest of Canada from 1987 to 1996, with a forecast from 1997 to 2001. Note that intraprovincial trucking (Manitoba) is presented in both illustrations to provide a base of comparison.

8 The for-hire carrier forecasts are based on the growth rates of Manitoba trade activity within the Province and between the other Canadian provinces.
The economic recession that struck Canada in 1989 and lasted into the early 1990’s masked the impact of the freer trade with the U.S. (CUSTA 1998). As will be shown later, only truck movements to the U.S. sustained their 1987 levels prior to NAFTA (1994). Interprovincial inbound and outbound activity had dropped about 500,000 tonnes by 1993. Activity within the province by comparison dropped 1,500,000 tonnes. The subsequent rise in activity, post-NAFTA, is forecast to continue over the short term. Manitoba growth in trucking appears to be growing internally with rising activity to Western Canada (provinces west of Manitoba) and the United States.

Intraprovincial trucking accounts for a significant share of the total, but has offered the least growth since deregulation. From 1987 to 1996, the tonnage moved within Manitoba dropped from roughly 4.3 million tonnes to roughly 3.5 million tonnes, a decline of 18.6 percent. Some changes in logistical practices might explain this decline, but the contraction of disposable income in Manitoba is likely responsible for about half of this drop. The other half likely relates to the reduction of trade and its multiplier effects.

Outbound movements from Manitoba to the rest of Canada were greatest to Western Canada. In 1996, Manitoba shipped 1.2 million tonnes of goods to Western Canada. For Eastern Canada (provinces east of Manitoba), outbound movements were 0.9 million tonnes (or 44 percent). This is shown in Figure 4. From 1994 to 1996, outbound activity to Western Canada increased 31 percent, to Eastern Canada it was 16 percent. By 2001, Eastern Canada is expected to have an increase of 48 percent with Western Canada having expected growth of 80 percent. As the Canadian economy evolves, Manitoba outbound freight activity is shifting more to Western Canada and away from Eastern Canada.

Figure 4 For-Hire Intra and Inter-Provincial Outbound Truck Movements
Tonnes, 1987-2001

Source: Statistics Canada, Trucking in Canada; (53-222); for years 1992-1996, data obtained on a special run from Statistics Canada.
Figure 5 demonstrates inbound truck freight movements in tonnes from the rest of Canada to Manitoba. In 1996, Manitoba received from Western Canada about 1.9 million tonnes of freight by for-hire trucking or 69 percent of the total from the rest of Canada. Inbound movement from Eastern Canada totaled approximately 0.9 million tonnes (or 31 percent). From 1994 to 1996, inbound activity from Western Canada increased 51 percent and from Eastern Canada it was 63 percent. Inbound freight activity further illustrates the growing integration of Manitoba into the larger economy of Western Canada and away from Eastern Canada.

Figures 6 and 7 depict southbound and northbound truck freight activity between Manitoba and US regions. Freight tonnage to/from US regions allow for regional trend analysis with a forecast to 2001.

For 1998, Manitoba southbound movement of goods to US regions totaled 1.4 million tonnes. The US northern region accounts for the bulk of total southbound freight activity, representing 988 thousand tonnes, or 71 percent of the total. The west (179 thousand tonnes, or 13 percent), south (171 thousand tonnes, or 12 percent) and northeast (50 thousand tonnes, or 4 percent) account for the remainder of US destined truck freight. Since NAFTA (1994), Manitoba southbound for-hire freight tonnage has grown 57.6 percent.

The western region has experienced the greatest share of Manitoba for-hire export truck freight. Over the 1994-98 period, Manitoba truck freight to western US states increased 159 percent, while truck freight to the south increased 75 percent. Freight tonnage to northern US states has also experienced dramatic growth. Northern US truck tonnage

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Source: Statistics Canada, Trucking in Canada; (53-222); for years 1992-1996, data obtained on a special run from Statistics Canada.

Figure 5 For-Hire Intra and Inter-Provincial Inbound Truck Movements
Tonnes, 1987-2001

![Graph showing freight movements](image-url)

8 The for-hire carrier freight forecasts are based on the growth rates (including 3-year forecast) of Manitoba trade activity with US Regions.
from Manitoba increased 59 percent over the same period. Manitoba truck freight to northeastern US states experienced a 46 percent decline. The 5-year freight forecast depicts an increasing growth trend with an average tonnage growth rate of 13 percent. Regional average growth rates indicate 19 percent to the west, 14 percent to the north and 13 percent to the south. The northeast is forecast to decline by 2 percent.

The impacts of institutional change and macroeconomic events are evident in the pattern of trucking activity. At the same time, the economic impact of the trucking industry is a function of the larger economy that it serves. When the economy is subject to recession, the trucking industry grows slowly, and vice versa.

For 1998, Manitoba for-hire northbound movements of goods from US regions were estimated at approximately 710 thousand tonnes. Truck freight from the US northern region accounts for just over 501 thousand tonnes, or 71 percent of total northbound freight. The south (91 thousand tonnes, or 13 percent), west (87 thousand tonnes, or 12 percent) and northeast (31 thousand, or 4 percent) account for the remainder of northbound tonnage. The 5-year freight forecast depicts an increasing growth trend with an average northbound growth rate of approximately 12 percent. Regional average northbound freight growth indicates 11 percent from the northeast, 12 percent from the north and west, and 16 percent from the south.
The relative shares of Manitoba trucking is changing over time. Table 4 presents the market shares for external or extraprovincial (interprovincial and transborder) trucking and intraprovincial trucking for 1987, 1996 and a forecast for 2001. At the mid-point in time, intraprovincial trucking accounts for 35 percent, inbound and outbound interprovincial trucking (Eastern and Western) are 50 percent of the total, while the balance, or 15 percent, is generated by transborder trucking to the United States. Based on the trends presented below, the share attributed to intraprovincial trucking is shrinking at the expense of interprovincial and especially transborder trucking, which are growing more rapidly.

By 2001, 70 percent of Manitoba’s trucking revenues will be obtained from extraprovincial services. In fact, almost the entire growth of Manitoba trucking depends on the export of services. Given estimated total revenues of $1.2 billion, the export of trucking services in 1998 equals $840 million. By comparison, the $840 million of trucking services exports is greater than Manitoba’s three largest commodity exports: wheat ($515 million), aircraft parts ($453 million) and canola oil ($407 million). In terms of industry classification, the Manitoba trucking industry would be the fourth largest source of export earnings following agriculture ($1.8 billion), food industries ($1.0 billion) and transportation equipment ($1.0 billion).

---

### Table 4: Market Focus of Manitoba Trucking, 1987-2001* (forecast)

<table>
<thead>
<tr>
<th>Year</th>
<th>Intraprovincial Manitoba</th>
<th>Extra-Provincial</th>
<th>Transborder US</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M. tonnes</td>
<td>Percent</td>
<td>M. tonnes</td>
<td>Percent</td>
</tr>
<tr>
<td>1987</td>
<td>4.3</td>
<td>47</td>
<td>1.7</td>
<td>19</td>
</tr>
<tr>
<td>1996</td>
<td>3.5</td>
<td>35</td>
<td>1.9</td>
<td>19</td>
</tr>
<tr>
<td>2001*</td>
<td>4.4</td>
<td>32</td>
<td>2.4</td>
<td>17</td>
</tr>
</tbody>
</table>

Source: Statistics Canada, Trucking in Canada (53-222); for years 1992-1996, data obtained on a special run and directly from Statistics Canada.

The market focus of the Manitoba trucking industry has become more outward looking. In 1987, Manitoba’s transborder truck movements to the United States were roughly 0.65 million tonnes. Movements to and from the rest of Canada in 1987 totaled 4.2 million tonnes. Prior to NAFTA (1994), that gap had been reduced by half but interprovincial movements were still 3.3 times transborder movement. The U.S. has now surpassed Eastern Canada as a destination for truck freight and is gaining on Western Canada. Overall, trans-border and inter-provincial trucking had grown significantly relative to intra-provincial trucking in Manitoba. From roughly half of the market in 1987, extraprovincial trucking (interprovincial plus transborder) has grown to 70 percent of total tonnage.

The impacts of institutional change and macroeconomic events are evident in the pattern of trucking activity. The free trade agreements (CUSTA 1988, NAFTA 1994), had a positive impact on transborder truck movements to the United States. At the same time, the economic impact of the trucking industry is a function of the larger economy that it serves. When the economy enters a recession, the trucking industry grows slowly, and can contract. When a period of rapid economic growth resumes, the trucking industry booms, too.

Figures 8 and 9 illustrate the key trends in intra-provincial, inter-provincial and trans-border truck freight movements. The key regions of interest based on the amount of tonnage moved are Manitoba, Western Canada, Eastern Canada, and all the US regions (USA). Note that all regions start from a base value of 100 for 1987. Thus, for each year considered, it is always compared to 1987. Movements away from 100 indicate the relative increase or decrease in truck freight tonnage activity.

The United States accounts for the greatest increase of outbound and inbound freight movements, with most of these gains occurring after the signing of NAFTA in 1994. Freight movements in Canada generally declined up to 1993; Manitoba intra-provincial freight movements dropped 43 percent compared to 1987. Post-NAFTA, Manitoba truckers experienced increases to all regions. Truck movements to the U.S. by 2001 are forecast to be five times greater than in 1987. By comparison, inter-provincial
Figure 8 Trucking: Relative Regional Changes in Outbound Freight

Source: Statistics Canada, Trucking in Canada (53-222); for years 1992-1996, data obtained on a special run and directly from Statistics Canada.

Figure 9 Trucking: Relative Regional Changes in Inbound Freight

Source: Statistics Canada, Trucking in Canada (53-222); for years 1992-1996, data obtained on a special run and directly from Statistics Canada.
movements increase by only half to Western Canada (58 percent) and marginally to Eastern Canada (12 percent). Trucking activity within Manitoba is only expected to recover its former size. This is shown in Figure 8.

Turning to inbound truck freight movements, all traffic declined between 1987 and 1993. Since 1994, import growth has exceeded the rate of increase within Manitoba. The spread between the regions with inbound activity is less than outbound activity. Trucking activity only tripled from the United States (216 percent), followed by Eastern Canada (197 percent), and Western Canada (181 percent). This can be seen in Figure 9.

1.6 Study Scope & Objectives

The economic impact (EI) of the Manitoba trucking industry is measured for fiscal 1998. The EI analysis provides an estimate of trucking-related GDP at factor cost (Manitoba) expenditures (Canada), employment (Manitoba and Canada) and labour income (Manitoba).

The base data of this study has been gathered in the midst of a longer term expansion. Consequently, the current estimate of the economic impact in 1998 is conservative in light of the trucking industry’s recent continued expansion. At the same time, this study serves as a benchmark that can be used to calibrate the longer term trend, providing the structure (firm size, etc.) remains constant. This study makes that next step by documenting the structural profile of the trucking industry.

Specific objectives of the EI study are to:

1. A) quantify the direct impacts of the Manitoba trucking industry in terms of the economic activities of both for-hire and private carrier sectors;

   B) calculate the “multiplier effects” that result from the initial direct economic impact; and,

2. Document the structure and inherent qualitative characteristics of Manitoba’s for-hire and private trucking industries, and:

3. Assess the perceptions of Manitoba carriers on the future expansion and markets for their services.

1.7 Organization of the Study

The preceding sections outlined trade activity, market drivers and market shifts that affect Manitoba’s trucking industry. Subsequent sections cover the main body of the report. Those who are not interested in the technical details of the research may wish to move directly to the results in Section 3.

Section 2 describes the economic impact methodology, the trucking databases from which the population was defined, survey design and the representative sample of trucking-related companies. The classification structure used to disaggregate carriers into
sub-groups is also explained. Explanations are provided for firm classifications and the underlying statistical sampling method.

Section 3 provides the economic impact results of Manitoba’s trucking industry. The net contribution to provincial GDP, employment, and labour income is provided for both for-hire and private carriers. Impact activity is also disaggregated according to firm classifications. Further, total expenditure impact of Manitoba trucking activity on the Canadian economy is presented.

Section 4 provides information on the structure of the for-hire and private trucking in Manitoba. Found within, are detailed counts and percentages of power units, trailers, expenses incurred including expenses per kilometer, employees assignments, their current levels of education and educational perceptions as to what trucking industry skills are needed to ensure its viability in the future.

Section 5 contains a perceptions analysis of Manitoba’s trucking industry on various changes that have taken place, or are expected to take place in the near future. Carrier views on past and future freight rates provide an indication of the economic health of the industry. Further, views of expected future revenues indicate the degree of carrier optimism of trade-transport activity across regions in North America.

### 2.0 Study Methodology

The methodology used by the Transport Institute to assess the economic impact of Manitoba’s trucking industry is a hybrid of an activity/site specific model and an input-output (I/O) model – a survey of direct economic activity coupled with multipliers from an I/O model. Input-output models examine the market transactions that take place in an economy and demonstrate how activity within one industry gets transmitted throughout the entire economy. These models convert production in one industry into consumption in other industries, while at the same time showing the inputs to production that are found in each industry. An input-output model traces the flow of goods and services between the industries in the province.

The nature of input-output models limit their flexibility. First, I/O models make use of coefficients that are generated in national economy-wide models. These coefficients are used to calculate the amount or dollar value of output from production that is generated from one unit of input or one dollar’s worth of input in an industry. Nationally generated coefficients create difficulties when examining a regional or local economy. An industry in a region can have unique characteristics because of different goods and services it provides. In this study, regional multipliers which have been refined to suit Manitoba’s economy were obtained from the Manitoba Bureau of Statistics. A national multiplier for Canada was also used to capture the impact of Manitoba trucking on Canada from expenditures made in Manitoba and also from expenditures made outside Manitoba, but still in Canada.

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11 For example, the for hire sector of the Manitoba trucking industry is much larger than the private trucking sector. In other provinces, such as Ontario, these proportions may be reversed.
A second problem with I/O models can occur when the headquarters of firms are located at national or international sites that are beyond the local scope that is being studied. In such cases, the impacts of inter-sectoral relationships within the target area can, at times, be overstated. In this study, for-hire and private carriers that have either their headquarters or regional offices located in Manitoba were examined for their measures of local and national economic activity. Those out-of-province carriers that do not have regional offices or headquarters in Manitoba, were screened for economic and structural activity that is only relevant to Manitoba. With information obtained from the self-administered survey, multipliers were used to estimate the combined indirect and induced economic impact from provincial trucking on the Manitoba economy.

One of the Transport Institute’s aims was to ensure a consistent methodological underpinning. The Transport Institute did not want to incorporate all trucking-related activity and risk over-estimating the economic impact to Manitoba and Canada. Researchers were cognizant of the potential for double-counting the activity of trucking-related firms that are subsidiaries of larger trucking firms or that are affiliated with other carriers. For example, the sales revenues of parts suppliers to a for-hire carrier are part of the total economic impact. However, at the same time, revenues to the parts suppliers are expenses to the for-hire carrier. If carrier expenses (suppliers’ revenues) are not deducted from carrier gross revenues they may inflate the true magnitude of economic activity.

A more meaningful unit of measurement of trucking-related activity may be carrier expenditures. Carrier net-expenditures are purchases of goods and services by which the value was added in Manitoba. Carriers gross-expenditures are actual purchases of goods and services that have an associated impact on the entire nation. These measures are better at capturing the direct impacts because they are easier to identify and more likely to eliminate double-counting. Also, trucking firms are more comfortable in disclosing information on expenditures, rather than revenues, due to the confidential nature of commercial operations. Consequently, surveys were sent only to carriers (for-hire and private). Through the use of net-expenditures and the multiplier process, estimates of the contributions made by suppliers to the trucking industry were derived.

The response rate is always a concern with survey-based studies, but the response rate alone cannot be used to assess the overall success of the study. While the absolute level of the response rate can be a factor for success, the true usefulness of the data set in representing the target population is more dependent on the quality of the sample than the response rate itself. A properly drawn sample of only one thousand individuals can be used to successfully estimate the characteristics of a population numbering in the millions. The sample in this study provides more than an adequate representation of the population, especially when referring to the larger carrier group. This is true in measuring both economic impacts and the structure of the industry.

A consistent methodological framework is important so that future comparisons can be made. EI studies and the supporting structural information generated from surveys are static. As useful as it is to gain an understanding of the trucking activity at any point in time, one would better appreciate changes that have been affecting the trucking industry over several time periods. Providing an assessment of trucking benefits (expenditures, employment, income, taxes, etc.) at various points in time, and an assessment of structural changes, helps to determine whether such benefits are shrinking, constant, or growing.
2.1 Population Definition and Sample Frame

2.1.1 Nature of the Databases

The population for the trucking industry in Manitoba was estimated from two main administrative data sources. First, the 1998 trucking database from the Transportation Safety & Regulation (TSR) Branch of Manitoba Highways & Government Services. This database is the branch’s Carrier Profile System (CPS) that fulfills the Province’s commitment to National Safety Code requirements. The database includes all motor carriers that have vehicles that are base plated in Manitoba and weigh in excess of 4500 kg or 9,900 lbs. The CPS profile is obtained on a weekly basis from the Manitoba Public Insurance Corporation and the Driver and Vehicle Licensing branch of Manitoba Highways & Government Services. The CPS profile encompasses all roadside inspections, convictions, accident reports and facility audit results involving motor carriers.

The TSR database contained a total of 20,746 firms, of which 8,496, or 41 percent, were considered by Manitoba Highways and Government Services to engage in for-hire and/or private trucking activity, inside and outside Manitoba. TSR provided carrier names, addresses, and postal codes. Population classifications were established by the Transport Institute based on the number of Manitoba truck/tractor power units controlled by individual motor carriers.

The Transport Institute also obtained a 1998 database from Manitoba Highways & Government Services’ Motor Transport Board (MTB). This database lists those carriers that hold a valid public service vehicle operating authority certificate to operate licensed and insured vehicles in Manitoba. This certificate is commonly referred to as running rights to provide for-hire transportation service in the province of Manitoba. The MTB database contained a total of 3,290 firms engaged in for-hire trucking activity only, inside and outside Manitoba. The MTB database is divided into three dBASE files comprising Canada, US and Manitoba public service vehicles (PSV). CANPSV contained 1,855 records of firms that have head-offices located outside of Manitoba, but still within Canada. USAPSV contained 752 records of US based companies, while MANPSV contained a total of 683 records of Manitoba based companies.

The MTB for-hire database can be viewed as a partial subset of the TSR database. The latter includes not only for-hire carriers but also private carriers that operate in Manitoba and hold a valid Manitoba licence plate for their vehicles. However, the TSR database does not include out-of-province plated carriers that conduct for-hire carrier business operations in Manitoba. To the extent that out-of-province for-hire carriers contribute economic activity to the province, it was necessary to capture the injection of trucking activity.

Private carriers operating from head-offices located out-of-province, and not base-plated in Manitoba, are not included in the TSR database. The amount of economic activity that this group generated in Manitoba is not measured, but casual observation suggests that it is not large.
Duplication is a significant difficulty with both databases. Figure 10 illustrates the overlapping relationship between records in the databases. The impetus for using the MTB database in conjunction with the TSR database was to capture out-of-province for-hire activity, not present in the TSR database. Of the 8,496 firms in the TSR database, 3,496 firms, or 41 percent were removed because of duplicate records of carriers and non-trucking entries. Subsequently, the usable portion of the TSR database was reduced to exactly 5,000 firms.\(^\text{[12]}\)

Duplicate records exist because vehicle owners register, de-register, and re-register vehicles with the Driver and Vehicle Licensing Branch of Manitoba Highways & Government Services throughout the year. Duplicate records of the same firm would be reported several times in the TSR database. It was necessary to remove duplicate records and non-trucking entries in order to avoid a biased estimate as to the true population.

The MTB database contained 3,290 firms, of which a total of 305 records are common to both TSR and MTB databases. These common records were counted as one entry towards the population total, and duplicates were subsequently removed from the TSR database. A decision was made to remove the 1,855 records from the CANPSV file, except for 88 large for-hire carrier records.\(^\text{[13]}\) The reason is the desire to capture only those out-of-

\(^{[12]}\) For instance, some carriers were found to have five duplicate records as opposed to one. Duplication exists for entries of smaller trucking sized firms owning/operating 4 truck/tractor power units or less. Non-trucking entries in the TSR database include provincial and municipal government departments, cities, townships, villages, districts and councils, school divisions and boards, research agencies, crown corporations, and native treaty bands. These entries were removed because they did not fit for-hire carrier nor private trucking definitions.

\(^{[13]}\) Today’s Trucking conducts an annual survey of the largest for-hire carriers in Canada, based on total pieces of equipment (trucks, tractors, and trailers). This survey, along with the Transport Institute’s own internal document on large carriers in Manitoba was used to identify those carriers from the CANPSV list that generate the largest economic impact.
province for-hire carriers that would make a significant contribution to economic activity in Manitoba.

For the same reason, the 752 US carriers listed in USAPSV were not surveyed. Since US carriers do not have large trucking operations in Manitoba, their underlying contribution to the Manitoba economy would be minimal. US carriers that transport goods through the provinces tend to do so with Manitoba as a thoroughfare to other Canadian destinations.

As for the MANPSV files of 683 records, 305 records common to the TSR database were removed leaving 378 records. The common records were to be treated as a separate entity in the final population count. Of this remaining total, 99 duplicates were further removed yielding 279 unique for-hire carrier records. Overall, 2,618 total records from the MTB database were removed. Adding the 88 large sized out-of-province carriers to the remaining 279 records from the MTB database gives a total of 367 firms. These remaining 367 firms were added to the 5,000 firms remaining in the TSR database, along with the 305 common firm records, to generate an overall total of 5,672 firms/records. This formed the initial study population from which a random survey sample was drawn.

Trucking firms that have 3 vehicles or less were not included in the study due to incomplete and insufficient survey responses. Another reason for their exclusion is that these individuals are often the owner-operators that undertake contract work for larger firms. Including their numbers would result in double-counting. Upon survey follow-ups, this smaller grouping cited that although they owned a power unit weighing over 4,500 kilograms, they did not fit the for-hire carrier or private carrier definition. These firms operated vehicles that could be classified as trade or utility vehicles that were used neither for private nor for-hire transport of goods. This led to the removal of 4,775 records in the TSR database as seen in Figure 9. Thus, by adding the remaining 225 records from the TSR database, the 367 records from the MTB database and the 305 records common to both TSR and MTB databases, the population for use in this study was estimated at 897 firms/records.

### 2.2 Survey Design & Study Approach

The survey was designed to capture the economic contribution that the trucking industry makes to the Manitoba economy, and to provide structural information on Manitoba’s trucking industry that is not currently available through industry associations or Statistics Canada. Members of Manitoba’s trucking industry were asked to provide detail on the composition of equipment used, expenses, kilometers driven, employee assignments and education levels. Qualitative questions were also included to elicit industry perceptions on freight rates, trade activity, and educational needs.

#### 2.2.1 Survey Pre-Test

A small sample was used to field test the survey. The pre-test of the survey ensures that the surveys capture the necessary information, and identifies any areas that cause difficulty or confusion. Draft surveys were sent to five major for-hire trucking companies in Manitoba and the Manitoba Trucking Association. Follow-up phone calls were made to the pre-test participants to obtain their opinions about clarity and question intent. Overall, industry comments regarding the pre-test were positive. Only minor changes had
to be made to the design. Comments provided on survey questions were very useful, especially in establishing the separation of for-hire and private carrier classifications, and in providing pre-coded responses for some key questions.

2.2.2 Data Collection

Following the survey pre-test, a self-administered survey mail-out was implemented. A randomly selected sample of 1,920 firms were chosen from the refined MSR and TSR population databases of 5,672 trucking related firms. The goal of data collection for an EI study is to obtain the most accurate and relevant information possible on the defined activity. Quality standards of the survey were set to:

i. Provide an organized survey structure;
ii. Capture the necessary information; and,
iii. Secure the cooperation of as many survey participants as possible through follow up contacts.

2.2.3 Carrier Classification Structure

In order to quantify the economic impacts for a wide array of carriers, similar carriers were grouped into distinct classification categories. The classification structure for the Manitoba Trucking Industry was conducted on the basis of trucking-related expenditures and/or total power units in Manitoba. The resulting carrier classifications are:

<table>
<thead>
<tr>
<th>Classification Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Extra Large</td>
</tr>
<tr>
<td>Large</td>
</tr>
<tr>
<td>Medium</td>
</tr>
<tr>
<td>Small</td>
</tr>
</tbody>
</table>

This classification system facilitated subsequent data weighting procedures designed to extrapolate the findings of the sample to the overall population of the target Manitoba trucking industry. A separate grouping was used for out-of-province trucking activity. All out-of-province carriers fit the extra-large (XL) - small (S) classification structure but their associated economic activity within Manitoba is relatively small. Therefore, the economic impacts of all out-of-province carriers were aggregated as a separate group.

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14 It was found that there exists a strong correlation between the number of power units that a firm possesses and its expenditure levels (a Pearson correlation coefficient of 0.929 was obtained with a level of significance at 1 percent). Allocating firms to specific classification sizes required using as a proxy the number of carrier power units (obtained from the TSR and MTB databases) with trucking-related expenditures.
2.3 Economic Impact & Structure – Population/Sampling Approaches & Limitations

In order to conduct the economic impact of the Manitoba trucking industry, one would hope to acquire data on the entire target population. That is, information on all members of the for-hire trucking industry (including organizations carrying out the for-hire function as part of their regular operation) as well as private carriers. However, under EI analysis, this seldom happens. Knowing the target population requires extrapolating a sample based upon that population. Extrapolation does not occur without its own inherent difficulties. These arise when researchers attempt to make the link between the sample and the population the sample is expected to represent.

In theory, the collection of information from all members of the for-hire trucking industry should be straightforward. However, even if a full capture of population data is not completed, the impacts of the missing information can be accounted for by substituting proxy values into the data classification (i.e., for-hire, private carrier) sets based upon the known data. Where it has been reasonable to do so, the economic activity of non-respondents has been estimated either by substituting the data of a comparable respondent or, if more than one response was received for a specific classification, a weighted average was used. This mean-substitution process is common in such research designs. During the process, outliers that skewed the data upward or downward were also subjected to mean-substitutions in order to minimize the variance in the distribution of values. This helps to re-balance the mix of firm characteristics and provide reliable estimates.

In cases where the economic activity of non-respondents could not be estimated with confidence, rather than risk overstating the impact, no estimates were used. The data estimates are only intended to round out the analysis. In events where participants did not supply complete responses, attempts to obtain missing data were made by contacting firms directly. Where firms were unwilling to provide specific information, standard statistical techniques were used to smooth the data. The Transport Institute is confident that the sampling and mean substitution process has provided an accurate quantification of the population to which the economic multiplier effect applies.

In cases where a trucking firm operates as a “mixed” carrier where its business is engaged in both for-hire and private trucking activity – the percentage of its for-hire and private trucking activity was separated into the appropriate carrier grouping (i.e., for-hire, private carrier) and classification size (based on expenditure level and truck/tractor power units). The sorting process allows mixed “for-hire” activity to be captured and aggregated with firms engaged in 100 percent for-hire activity. For example a trucking firm that functions as 20 percent for-hire and 80 percent as a private carrier was sorted in the carrier groupings based upon their level of activity in each grouping.

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15 Based on information obtained from the survey, 21 percent of for-hire carriers and 42 percent of private carriers conduct business activity that is considered to be that of a mixed carrier.
The above table presents survey response rates for each of the for-hire and private carrier classifications. The response rate for the larger carriers was quite good, and provides enough information to generate very accurate estimates for those groups. For the XL group, 10 out of 14 for-hire firms responded to the survey, representing a 71 percent response rate. As for the Small and Medium carriers, enough information was obtained to generate good estimates, but some difficulties still remain. The structure for this segment of the trucking industry is heterogeneous. Unlike the Large and Extra Large trucking firms that primarily engage in for-hire TL and LTL operations, and employ a known percentage of owner-operators, these smaller groupings have less in common with each other. Hence, extrapolation of the sample to that of the population by substituting proxy values was not done as in the case of the larger carriers. Instead, an average representative was generated from the sample, which was further aggregated to the level of the population. This forces a homogenous result for a heterogeneous population. Further research targeted more specifically at that group would be warranted to more fully capture the composition and impacts of this segment of the for-hire sector.

However, for the purposes of extrapolation to the population, this distribution of data weights (the inverse of the Response Rate) is ideal. Larger firms, with a disproportionate impact on the industry, have the lowest weights, while weights progress upwards through the group strata such that smaller firms (with lesser individual impact) have higher weights.

Those individual, organizations, or firms that have one to three vehicles presented significant problems. Members of this grouping did not readily fill out the survey. Upon follow-up phone calls, these individuals often cited that though they owned a power unit weighing over 4,500 kilograms, they did not fit the for-hire carrier or private carrier definition. These firms operated vehicles that could be classified as trade or utility vehicles that were used neither for private nor for-hire transport of goods. Furthermore, these individuals may be owner-operators that are contracted for work by the larger firms and were therefore not included. As a result, the figures and estimates of this group are not reported in this study. This led to the removal of 4,775 records in the TSR database as seen in Figure 10. Thus, the population that is used in this study comprised 897 firms/records.

It was also necessary that the economic structure and market perceptions of the trucking industry be scaled up to the level of the estimated population. Standard statistical practice calls for weights to be applied to the sample data. Before extrapolating the sample to that of the population, the sample data needed to be cleaned of all logical inconsistencies. Most gaps in the sample data arose from incomplete filled records that required the values in the fields to be removed, adjusted, and proxied. This smoothing technique of the weighted data generated a good estimate as to the true for-hire and private trucking population.
2.4 Economic Impact Methodology

2.4.1 Economic Impact Study Method

The economic impact of the Manitoba trucking industry is the summation of direct, indirect and induced impacts. The total economic impact is calculated by multiplying the direct impact by the appropriate economic multiplier. For this study, the economic impact was quantified for the 1998 fiscal year.

2.4.2 Direct Economic Impact

The direct economic impact is defined as the economic benefits (i.e., employment, income, GDP valued at factor cost, and gross-expenditures) generated by those working in the Manitoba trucking industry or in direct support of the industry’s work. Those engaged in for-hire and private carrier operations generate the direct impact. Activities that produce these impacts typically entail employment of trucking personnel and the purchase of locally produced goods and services. The distinguishing feature is that the direct impact is the immediate consequence of trucking activity.

For the purposes of this study, Manitoba’s trucking activity has been disaggregated into for-hire and private carrier classifications. This breakdown allows economic impact analysis to account for the different types of activities that take place across various sectors engaged in trucking.

2.4.3 Indirect and Induced Economic Impact

Indirect economic impact of the Manitoba trucking industry is attributable to firms that supply services (i.e., fuel, maintenance, repair, etc.) materials and other inputs to the organizations involved in the direct economic activity. Trucking-related expenditures (net and gross) from direct trucking activity becomes the revenue of indirect activity. For example, trucking firm spending on tires becomes revenue of a tire supplier. A part of these revenues represent a portion of the profits accruing to the tire supplier, which can be used to increase the supplier’s warehouse space and distribution network among other things. The spending of trucking-related firms on goods and services represents output for other firms further down the production chain, bringing about indirect employment, income and tax activity. This shows that direct tire spending lead to indirect growth in related businesses.

Induced economic impact is the effect of successive rounds of spending which begin with the spending of income received by individuals involved in direct and indirect economic activities. These “trickle-down” impacts represent the multiplier effects of the direct and indirect impacts. The result is increased employment, income and spending over and above the levels for which the direct and indirect economic activities are responsible.
2.4.4 Regional Economic Leakages of Direct and Indirect Economic Impacts

Economic activity does not occur in a vacuum: economies are not insulated from the rest of the world, and are interdependent on each other. As established earlier in this report, Manitoba’s economy is dependent on trade activity that occur both domestically and beyond its borders. With trucking being the primary mode by which most goods are transported inside and outside of the province, it is important to account for economic activity in the form of leakages and injections in the provincial region, especially if production takes place across borders.

Leakages include the purchase of imports (such as tractors made in Kelowna, BC) that result in income being removed from the region. Injections include the sale of exports (such as trailers made in Winkler, MB) that result in income being brought into the region. Imports are subtracted from calculations of provincial Gross Domestic Product (GDP), whereas exports are included. It is important not to overestimate the contribution made by Manitoba trucking to the provincial GDP. For example, gasoline and diesel expenses are imported to Manitoba, and should not be included in any calculation of Manitoba truckings’ contribution to provincial GDP.\(^{16}\)

Gross expenditure, as a measure of economic impact, has advantages and disadvantages. Gross expenditures are easier to collect, but include the double-counting of intermediate goods and services. They also capture the import activity that occurs between jurisdictions. In order to measure the net direct impact on Manitoba of trucking at factor cost, the gross expenditures have to be adjusted in two stages. First, an intensity ratio is used to convert gross expenditures into net expenditures, exclusive of imported outputs. Second, the economic multiplier is used to derive the direct economic impact on the GDP at factor cost.

2.4.5 Intensity Ratios and Economic Multipliers

Indirect and induced effects of trucking-related activity are difficult to measure directly. Data collection to measure indirect effects would require surveying a large number of firms for which trucking activity may account for only a small portion of their overall business. Similarly, measuring the induced effects would require surveying the entire economy. Instead, economists use economic multipliers to estimate the indirect and induced impacts. A multiplier is defined as the change in the total impact to gross domestic product (based on the direct impact to GDP) that results from the initial change in trucking industry output that brings it about.\(^{17}\) Similarly, multipliers are used in calculating the total impact to labour income and the total impact to employment.

If all leakages are excluded, direct impacts can be transformed by economic multipliers to add indirect and induced impacts. In this study, the employment numbers and labour income are simply multiplied by the appropriate economic multiplier because only employment within Manitoba is counted. Expenditure data must be modified, as

\(^{16}\) To the extent that imports are important to Manitoba trucking, as in the purchase of capital equipment and machinery, it is important to note the role that imports have in the production process, even though they are not captured in GDP. For example, production that takes place continuously across borders may be underestimated, especially if imported inputs to production are greater than exports.

\(^{17}\) Technically, we mean autonomous, exogenous, or pre-determined (out-of-model) expenditure.
described above, to account for leakages, because we wish to obtain a measure of the impact that occurs exclusively in the Manitoba economy.

Intensity ratios and economic multipliers are provided by the Manitoba Bureau of Statistics (MBS)\(^{18}\). These multipliers are derived from a statistical model of input-output data that trace Manitoba inter-industry flows of goods and services. The MBS multipliers are widely accepted for conducting impact analyses and are recognized as being comprehensive and accurate. As a result, the indirect and induced employment and labour income impacts can be measured by applying the appropriate multiplier to the direct impacts. Traditional industry multipliers are broken down for forty-five industry classifications. Although the industry classifications are very broad and make it difficult to identify multipliers for specific trucking activities, the “transportation” industry multipliers were deemed appropriate to calculate the total economic impact per unit of direct impact.\(^{20}\)

Proper use of the MBS economic multipliers requires that they be applied only to the value-added component of output in Manitoba’s economy. Value-added (or GDP factor cost) is a firm’s net value of output (value of a firm’s output minus the value of their inputs).\(^{21}\)

The calculation of GDP at factor prices is a two step process. The first step is to apply the MBS’s intensity ratios\(^{22}\) to the gross-expenditure data that was gathered from survey respondents. The intensity ratio converts the gross-expenditure data into net-expenditures (or the total economic impact on Manitoba, exclusive of leakages).

The second step is to divide the total economic impact in Manitoba by the economic multiplier to sort out the direct impact from the indirect and induced impacts. The quotient is the direct economic impact of trucking to the Manitoba GDP measured at factor cost.

Gross expenditures of Manitoba firms do not have to be adjusted to obtain a measure of the impact on the national economy, if one assumes that imports and exports of trucking inputs are roughly equal. Of course, some leakage could occur through international trade and trucking activity outside Canada, but this could not be estimated. The gross expenditure multiplier used for Canada’s trucking industry is estimated to be between 2.5 and 3.0.\(^{23}\) In order to avoid over-estimating this impact, the Transport Institute chose the multiplier with the lower value.


\(^{19}\) The multipliers are derived from MBS’s Economic Impact Assessment Model. The data in the MBS model are further derived from Statistics Canada’s Inter-Provincial Input-Output Tables for 1990. Any significant structural changes in Manitoba’s economy since 1990 will invalidate the indirect and induced impacts calculated in this study.

\(^{20}\) Transportation multipliers of 1.86, 1.77 and 1.95 were applied to the impact measures (i.e., GDP at factor cost, employment and labour income) for both for-hire and private carrier classifications.

\(^{21}\) Since one firm’s output is another firm’s input in a production process, only the net contribution from that process is counted towards Gross Domestic Product (GDP).

\(^{22}\) An intensity ratio is a multiplier. For the transportation industry in Manitoba, an intensity ratio of 0.974 was applied to all direct gross expenditure values to arrive at total GDP valued at factor cost.

\(^{23}\) Upon discussion with the Manitoba Bureau of Statistics, a multiplier range of 2.5 to 3.5 is their reasonable estimate of spin-offs and respending from Manitoba trucking activity in the Canadian economy.
2.4.6 Units of Measurement

Four measures of the economic impact of the Manitoba trucking industry were assessed. Included are estimates of Gross Domestic Product (GDP) at factor cost, gross-expenditures on goods and services, as well as estimates for employment and labour income. These units of measurement are defined as follows:

i. **GDP at Factor Cost (Net-Expenditures)** – represent the sum of all value added in the economy (plus indirect business taxes minus subsidies), or equivalently, the value of all final goods and services produced in the provincial economy. It is equivalent to gross-expenditures once adjusted by an intensity ratio, and the removal of indirect and induced economic activity.

ii. **Gross-Expenditures** – represent the actual purchases of goods and services that are spent locally that have an impact beyond the local region. In this study, the scope of this economic area is from activity occurring within Manitoba that is affecting Canada as a whole.

iii. **Employment** – employment totals are reported in terms of person-years of trucking-related employment. One person employed full-time for a period of one year represents one-person year of employment. Alternatively, two part-time employees who work twenty hours per week are considered to be equivalent to one full-time employee.

iv. **Labour Income** – measures the total annual wages, salaries and benefits received as a result of trucking-related employment. This also includes overtime paid to local employees.

3.0 Economic Impact Results

For ease of computation and analysis, the economic impact of trucking-related Gross Domestic Product (GDP), employment and labour income are categorized separately for for-hire (FH) and private carrier (PC) classifications. Tables 5-9 present classification structure, economic measures and the summary of direct impacts for for-hire carriers. Similarly, Tables 10-14 present the private carrier summary. Table 15 provides the total of economic impacts on Manitoba from both carrier classifications. Table 16 gives the gross-expenditure economic impact on Canada from Manitoba trucking activity.

The trucking industry can be divided into two major components: (1) for-hire trucking and (2) private trucking. For-hire carriers carry freight for a fee providing either truckload (TL) or less-than-truckload (LTL) services, or a combination of the two in domestic and/or international markets. For-hire carriers can be further categorized according to the types of freight they carry:

i. **General Freight Carriers:** handle various types of freight in general-freight trailers;
ii. **Household Goods Carriers:** use specialized trailers to transport furniture and other personal household goods;

iii. **Liquid Bulk Carriers:** use tanker trucks to transport liquids (i.e., petroleum, milk, and chemicals);

iv. **Dry Bulk Carriers:** use dump or hopper-bottom trailers to haul goods such as grain, fertilizer and gravel; and,

v. **Specialty Freight Carriers:** use specialty equipment to transport automobiles, logs, other trucks, etc.

Companies with private carrier operations maintain a fleet of trucks and trailers to haul their own freight and occasionally haul freight for other firms. These private trucking firms employ drivers to haul and distribute their freight, but their principal business is not trucking. Private trucking competes with for-hire trucking firms, and at times, also employ for-hire carriers for some of their own freight transportation needs. Typical examples of private trucking operations are retail distributors of consumer products, chemical product producers, construction companies, pulp and paper companies, beverage distributors, or wholesale distributors of agricultural products.

Owner-operators are self-employed truck drivers who work under contract for either for-hire trucking companies or companies engaged in private trucking. They typically use their own tractors and trucks.

### 3.1 For-Hire Carriers (FH)

#### 3.1.1 Carrier Classification Structure

Table 5 presents the for-hire carrier classification structure. The table provides four classifications (XL-Xlarge, L-large, M-medium and S-small) used to estimate the economic impact of for-hire firms. The industry structure is based on the relation of Manitoba expenditures of actual purchases of goods and services spent locally, as well as firm size attributable to the number of Manitoba power units (i.e., truck or tractor) each

<table>
<thead>
<tr>
<th>Classification</th>
<th>Est. # of Firms in pop.</th>
<th>MB Power Units (i.e., truck or tractor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>14</td>
<td>4,144</td>
</tr>
<tr>
<td>L</td>
<td>58</td>
<td>2,676</td>
</tr>
<tr>
<td>M</td>
<td>132</td>
<td>1,679</td>
</tr>
<tr>
<td>S</td>
<td>223</td>
<td>1,176</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td><strong>427</strong></td>
<td><strong>9,675</strong></td>
</tr>
<tr>
<td><strong>Out-Of-Province</strong></td>
<td><strong>92</strong></td>
<td><strong>212</strong></td>
</tr>
<tr>
<td><strong>Total MB For-Hire Activity</strong></td>
<td><strong>519</strong></td>
<td><strong>9,887</strong></td>
</tr>
</tbody>
</table>

**Source:** TI/MTA/H&T Survey

**Classifications:**
- **XL** = Firms for which MB Exp. > $10M and/or 150+ power units.
- **L** = Firms for which MB Exp. are $1M-$10M and/or 20-149 power units.
- **M** = Firms for which MB Exp. are $0.5M-$1M and/or 8-19 power units.
- **S** = Firms for which MB Exp. are $250,000-$0.5M and/or 4-7 power units.
firm controls.

The table shows that the estimated number of firms engaged in for-hire trucking in Manitoba is 519 firms. Of this total, 21.5 percent, or 92 for-hire firms are located out-of-province. Classification XL consisting of 14 trucking firms for which Manitoba expenditures exceed $10 million and/or which control over 150 power units. This classification generates the greatest for-hire impact. Total Manitoba for-hire power units comprise approximately 9,900 power units, of which over 200 are operated by out-of-province carriers.

3.1.2 Trucking-related GDP at Factor Cost (FH)

Table 6 presents Manitoba trucking-related GDP valued at factor cost for the for-hire component, expressed in thousands of dollars. This is the value of all final goods and services (output) produced in the local economy that is directly attributable from the Manitoba trucking industry. The largest contribution of direct economic GDP is represented by the XL classification, with just over $299 million in trucking-related output. Classification L is the next largest contributor consisting of firms for which Manitoba expenditures are between $1-10 million, and/or which control 20-149 power units. This classification contributes a direct impact of approximately $92 million. Classifications M and S account for approximately $44 and $47 million, respectively.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Direct</th>
<th>Multiplier</th>
<th>Indirect &amp; Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>299,208</td>
<td>1.86</td>
<td>257,318</td>
<td>556,526</td>
</tr>
<tr>
<td>L</td>
<td>91,664</td>
<td>1.86</td>
<td>78,832</td>
<td>170,496</td>
</tr>
<tr>
<td>M</td>
<td>44,538</td>
<td>1.86</td>
<td>38,303</td>
<td>82,841</td>
</tr>
<tr>
<td>S</td>
<td>47,109</td>
<td>1.86</td>
<td>40,513</td>
<td>87,622</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>482,519</td>
<td></td>
<td>414,966</td>
<td>897,485</td>
</tr>
</tbody>
</table>

Source: T/M/TA/H & T Survey

note: the above figures have been rounded to the nearest thousand.

Classifications:
XL = Firms for which MB Exp. > $10M and/or 150+ power units.
L = Firms for which MB Exp. are $1M-$10M and/or 20-149 power units.
M = Firms for which MB Exp. are $0.5M-$1M and/or 8-19 power units.
S = Firms for which MB Exp. are $250,000-$0.5M and/or 4-7 power units.

In addition to direct trucking-related product, indirect and induced product is determined by the application of the appropriate economic multiplier to the direct product. The indirect and induced activities are the effects of successive rounds of trucking-related spending from the for-hire component within Manitoba. The total contribution of the four classifications to the Manitoba economy, derived from for-hire trucking-related GDP is approximately $0.9 billion. Total for-hire classifications directly contribute $482.5 million, and generate $414.9 million in indirect and induced economic activities.\(^\text{24}\)

\(^{24}\) Actual calculations, as explained in Section 2, work backwards from gross expenditures. In this case, the gross expenditures are $959,584,000. Using an intensity ratio of 0.974, the total economic impact of $897,485,000 is derived.
3.1.3 Employment (FH)

Employment totals are reported in terms of person-years of employment. One person-year of employment is equivalent of one person, employed full-time for a period of one year. Alternatively, two part-time employees who work twenty hours per week are considered to be equivalent to one full-time employee. For-hire employment figures for the Manitoba trucking industry are presented in Table 7.

The Manitoba trucking industry is directly responsible for over 10,000 person-years of for-hire employment. Of this total, approximately 4,500 person-years of employment, or 45 percent, are directly provided by the XL for-hire carrier classification, followed by approximately 2,500 direct full-time equivalent jobs from for-hire firm classification L. Classifications M and S provide for approximately 1,900 and 1,300 full-time person-years, respectively.

In addition to direct for-hire employment, the Manitoba trucking industry is responsible for 9,656 person-years of indirect and induced employment, of which approximately 4,300 person-years, or 44 percent, are attributable to the XL for-hire carrier classification. The total impact of economic activities of the Manitoba for-hire component is 19,820 person-years of employment in Manitoba.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Direct</th>
<th>Multiplier</th>
<th>Indirect &amp; Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>4,511</td>
<td>1.95</td>
<td>4,285</td>
<td>8,796</td>
</tr>
<tr>
<td>L</td>
<td>2,488</td>
<td>1.95</td>
<td>2,364</td>
<td>4,852</td>
</tr>
<tr>
<td>M</td>
<td>1,876</td>
<td>1.95</td>
<td>1,782</td>
<td>3,658</td>
</tr>
<tr>
<td>S</td>
<td>1,289</td>
<td>1.95</td>
<td>1,225</td>
<td>2,514</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,164</strong></td>
<td><strong>9,656</strong></td>
<td><strong>19,820</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: TI/MTA/H&T Survey
* denotes full-time equivalent jobs (in person-years).

Classifications:
- XL = Firms for which MB Exp. > $10M and/or 150+ power units.
- L = Firms for which MB Exp. are $1M-$10M and/or 20-149 power units.
- M = Firms for which MB Exp. are $0.5M-$1M and/or 8-19 power units.
- S = Firms for which MB Exp. are $250,000-$0.5M and/or 4-7 power units.

3.1.4 Labour Income (FH)

For-hire labour income of $262.8 million per year is directly attributable to economic activity of the Manitoba trucking industry. Table 8 shows that firms in the XL for-hire classification are responsible for the largest portion of labour income – 51.3 percent – of all for-hire classifications listed, with payrolls of $135 million in wages, salaries and benefits. With the inclusion of $202.4 million in indirect and induced labour income, the trucking industry generated $465.2 million in total labour income in 1998.

The economic multiplier of 1.86 converts this to $482,519,000 direct GDP impact at factor cost, and $414,966,000 indirect and induced impact.
The industry’s total direct for-hire labour income contribution of $262.8 million represents 1.7 percent of the total annual labour income in Manitoba. One dollar out of approximately every $59 in wages and salaries in Manitoba is the result of for-hire trucking-related activity. The average annual salary of $25,860 or an average weekly income of $497.31 is derived from the estimates of total direct labour income divided by total direct employees.

The much higher average provincial wage levels could be explained by the definition of the transportation industry classification. The classification includes transport modes other than truck (i.e., air, rail, marine) which pay more than trucking, subsequently pulling the transportation average upward.

3.1.5 Direct Impact – Summary (FH)

Table 9 presents a summary of direct impacts for all classifications of for-hire carriers operating in Manitoba as well as for those for-hire carriers located out-of-province but contributing to the Manitoba economy. Total direct impacts account for approximately $502 million in trucking-related product, 10,641 full-time equivalent jobs and $278.4 million in labour income. Out-of-province for-hire activity is small, contributing between 4-6 percent of the Manitoba for-hire total.

---

Table 8   Labour Income*, For-Hire Carriers, 1998

<table>
<thead>
<tr>
<th>Classification</th>
<th>Direct</th>
<th>Multiplier</th>
<th>Indirect &amp; Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>134,951</td>
<td>1.77</td>
<td>103,912</td>
<td>238,863</td>
</tr>
<tr>
<td>L</td>
<td>58,904</td>
<td>1.77</td>
<td>45,356</td>
<td>104,260</td>
</tr>
<tr>
<td>M</td>
<td>36,408</td>
<td>1.77</td>
<td>28,034</td>
<td>64,442</td>
</tr>
<tr>
<td>S</td>
<td>32,585</td>
<td>1.77</td>
<td>25,090</td>
<td>57,675</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>262,848</td>
<td></td>
<td>202,393</td>
<td>465,241</td>
</tr>
</tbody>
</table>

Source: TI/MTA/H&T Survey


* includes salaries, wages & benefits.

Classifications:
XL = Firms for which MB Exp. > $10M and/or 150+ power units.
L = Firms for which MB Exp. are $1M-$10M and/or 20-149 power units.
M = Firms for which MB Exp. are $0.5M-$1M and/or 8-19 power units.
S = Firms for which MB Exp. are $250,000-$0.5M and/or 4-7 power units.

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26 Statistics Canada reports that the average weekly earnings, by industry, for the Manitoba transportation sector in 1998 was $700.45, Statistics Canada, Annual Estimates of Employment, Earnings, and Hours, SC Cat. No. 72F0002X1B, 1986-98. Average weekly earnings are based on Transportation SIC code 451-459.

27 For instance, higher wage levels in the air mode are skewed upward due to higher earnings in the airline and aerospace industry. Also rail wage levels are skewed upward due to heavy unionization, unlike trucking. The air and rail modes are included in the transportation standard industry classification (SIC) category.
3.2 Private Carriers (PC)

3.2.1 Carrier Classification Structure

Table 10 presents the private carrier classification structure. Like Table 5, classifications (L-S) are used to estimate the economic impact of private carriers. Again, the industry structure is based on the relation of Manitoba expenditures of actual purchases of goods and services spent locally, as well as firm size attributable to the number of Manitoba power units (i.e., truck or tractor) each firm controls. Due to lower levels of trucking-related expenditures and relatively smaller trucking operations – indicated by lower truck/tractor power units – there were no private carriers that fit into the XL classification.

Table 10 shows that the estimated number of firms engaged in private trucking in Manitoba is 378 firms. Of this total, 63.5 percent, or 240 private firms are those for which Manitoba expenditures are between $250,000-$0.5 million, and/or which control 4-7 power units. The total number of power units is approximately 4,300. No estimates were made as to the number of private carriers located out-of-province but operating in Manitoba. Since the trucking survey revealed no indication as to the scope of private trucking activity out-of-province, no estimates were made as to the number of firms and accompanying truck/tractor power units.
3.2.2 Trucking-related GDP at Factor Cost (PC)

Table 11 presents Manitoba trucking-related GDP valued at factor cost for the private carrier component, expressed in thousands of dollars. As it was with for-hire trucking, this is still the value of all final goods and services produced in Manitoba’s economy that is a direct result of activity from Manitoba’s private carriers. The largest contribution of direct economic product is represented by the L classification, with approximately $73 million in trucking-related output. The L private classification consists of 55.9 percent of total direct product. Classification S is the next largest contributor consisting of firms for which Manitoba expenditures are between $250,000-$0.5 million, and/or which control 4-7 power units. This classification contributes to a direct impact of $32.0 million. Classification M accounts for approximately $25.8 million.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Direct</th>
<th>Multiplier</th>
<th>Indirect &amp; Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>73,338</td>
<td>1.86</td>
<td>63,071</td>
<td>136,409</td>
</tr>
<tr>
<td>M</td>
<td>25,858</td>
<td>1.86</td>
<td>22,238</td>
<td>48,096</td>
</tr>
<tr>
<td>S</td>
<td>32,062</td>
<td>1.86</td>
<td>27,573</td>
<td>59,635</td>
</tr>
<tr>
<td>Total</td>
<td>131,258</td>
<td></td>
<td>112,882</td>
<td>244,140</td>
</tr>
</tbody>
</table>

Source: TI/MTA/H&T Survey

Note: the above figures have been rounded to the nearest thousand.

Classifications:
L = Firms for which MB Exp. are $1M-$10M and/or 20-149 power units.
M = Firms for which MB Exp. are $0.5M-$1M and/or 8-19 power units.
S = Firms for which MB Exp. are $250,000-$0.5M and/or 4-7 power units.

In addition to direct trucking-related product, indirect and induced product is determined by the application of the appropriate economic multiplier to the direct product. The indirect and induced activities are the effects of successive rounds of trucking-related spending from the private component within Manitoba. Table 11 shows that total L-S classifications directly contribute $131.3 million, and generate $112.9 million in indirect and induced economic activities. The total contribution of the three classifications to the Manitoba economy, derived from private trucking-related product is $244.1 million.

3.2.3 Employment (PC)

Private carrier employment figures for the Manitoba Trucking Industry are presented in Table 12. The Industry is directly responsible for approximately 6,261 person-years of private carrier employment. Of this total, approximately 2,800 person-years of employment, or 44.8 percent are provided by the L private carrier classification, followed by approximately 2,200 direct full-time equivalent jobs, or 34.5 percent, from the S private carrier classification. The L classification comprises firms for which Manitoba expenditures are between $1-10 million and/or which control 20-149 power units.
In addition to direct private carrier employment, the Manitoba trucking industry is responsible for 5,948 person-years of indirect and induced employment, of which approximately 2,662 person-years, or 44.8 percent, are attributed to the L private carrier classification. The total impact of economic activities of the Manitoba private carrier component is 12,209 person-years of employment in Manitoba.

3.2.4 Labour Income (PC)

Private carrier labour income of approximately $91.7 million is directly attributable to economic activity of the Manitoba trucking industry. Table 13 shows that firms in the L private carrier classification are responsible for the largest portion of labour income – 40.5 percent – of all private carrier classifications listed, with payrolls of $37.1 million in wages, salaries and benefits. With the inclusion of $70.6 million in indirect and induced labour income, the trucking industry generates $162.2 million in total labour income from private carriers.

<table>
<thead>
<tr>
<th>Table 12 Employment*, Private Carriers, 1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification</td>
</tr>
<tr>
<td>L</td>
</tr>
<tr>
<td>M</td>
</tr>
<tr>
<td>S</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: TI/MTA/H&T Survey


* denotes full-time equivalent jobs (in person-years).

Classifications:
L = Firms for which MB Exp. are $1M-$10M and/or 20-149 power units.
M = Firms for which MB Exp. are $0.5M-$1M and/or 8-19 power units.
S = Firms for which MB Exp. are $250,000-$0.5M and/or 4-7 power units.

<table>
<thead>
<tr>
<th>Table 13 Labour Income*, Private Carriers, 1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification</td>
</tr>
<tr>
<td>L</td>
</tr>
<tr>
<td>M</td>
</tr>
<tr>
<td>S</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: TI/MTA/H&T Survey


note: the above figures have been rounded to the nearest thousand.

* includes salaries, wages & benefits.

Classifications:
L = Firms for which MB Exp. are $1M-$10M and/or 20-149 power units.
M = Firms for which MB Exp. are $0.5M-$1M and/or 8-19 power units.
S = Firms for which MB Exp. are $250,000-$0.5M and/or 4-7 power units.
The industry’s total direct private carrier labour income contribution of $91.7 million represents 0.6 percent of the total annual labour income in Manitoba. One dollar out of every $167 in wages and salaries in Manitoba is the result of private trucking-related activity. The average annual salary of $14,639 or an average weekly income of $281.52 is derived from the estimates of total direct labour income divided by total direct employees.

The large number of private construction firms found in the private classification could explain the lower average annual salary and weekly income figures of the private carrier sector as compared to the for-hire sector. Trucking activity that takes place in the construction sector tends to employ seasonal workers. The seasonal impact upon workers means that there are fewer weeks in the year for private carrier employees to earn the wage levels as earned year round in the for-hire sector.

Unlike the for-hire industry, employees working for private carriers are engaged in work besides just trucking. For instance, in the construction industry, workers primarily do construction-related work as their primary activity. Trucking activity is secondary and merely used to facilitate the construction business. Consequently, employees are compensated for the construction work and the ancillary truck driving activity that they undertake. For-hire carriers engage only in trucking activity. Therefore, wage levels in the industries that private carriers are involved in (i.e., manufacturing, construction and retail trade) pay less on a yearly basis than what for-hire employees earn in the trucking industry. This explains why wage levels are biased downwards for private carriers.

3.2.5 Direct Impact – Summary (PC)

Table 14 presents a summary of direct impacts for all classifications of private carriers based in Manitoba. While out-of-province private carriers also contribute to the Manitoba economy, no estimates were made as to the magnitude of this activity. Total direct impacts account for approximately $131.3 million in trucking-related product, 6,261 full-time equivalent jobs and $91.7 million in labour income.

Table 14  Summary of Direct Impacts, Private Carriers, 1998

<table>
<thead>
<tr>
<th>Classification</th>
<th>Trucking-related GDP ($'000)</th>
<th>Employment (Person-Years)</th>
<th>Labour Income ($'000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB Private Carriers</td>
<td>131,258</td>
<td>6,261</td>
<td>91,656</td>
</tr>
<tr>
<td>Out-Of-Province Private Carriers*</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MB Private Total</td>
<td>131,258</td>
<td>6,261</td>
<td>91,656</td>
</tr>
</tbody>
</table>

Source: TI/MTA/H&T Survey

Note: the above figures have been rounded to the nearest thousand.

* no survey response to this classification, therefore no estimate is made.

28 The economic activities of non-Manitoba private carriers were omitted from the study because the trucking databases obtained by Manitoba Highways & Government Services did not include out-of-province private carriers base-plated from Manitoba.
3.3 Total Economic Impacts on Manitoba (FH + PC)

Table 15 presents a summary of the total economic impact on Manitoba from Manitoba trucking industry carriers. Total direct impacts account for approximately $633.8 million in trucking-related GDP, 16,902 full-time equivalent jobs and over $370 million in labour income. Including indirect and induced economic activity, the total economic impact generated by the Manitoba trucking industry is over $1.17 billion in output, approximately 33,000 full-time employees and $654.9 million in salaries, wages and benefits.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Net Contributions to Manitoba GDP ($'000)</th>
<th>Manitoba Employment (Person-Years)</th>
<th>Manitoba Labour Income ($'000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB For-Hire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Direct</td>
<td>502,492</td>
<td>10,641</td>
<td>278,363</td>
</tr>
<tr>
<td>Multiplier</td>
<td>1.86</td>
<td>1.95</td>
<td>1.77</td>
</tr>
<tr>
<td>Indirect &amp; Induced</td>
<td>432,143</td>
<td>10,109</td>
<td>214,340</td>
</tr>
<tr>
<td>Total MB For-Hire</td>
<td>934,635</td>
<td>20,750</td>
<td>492,703</td>
</tr>
<tr>
<td>MB Private</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Direct</td>
<td>131,258</td>
<td>6,261</td>
<td>91,656</td>
</tr>
<tr>
<td>Multiplier</td>
<td>1.86</td>
<td>1.95</td>
<td>1.77</td>
</tr>
<tr>
<td>Indirect &amp; Induced</td>
<td>112,882</td>
<td>5,948</td>
<td>70,575</td>
</tr>
<tr>
<td>Total MB Private</td>
<td>244,140</td>
<td>12,209</td>
<td>162,231</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Direct</td>
<td>633,750</td>
<td>16,902</td>
<td>370,019</td>
</tr>
<tr>
<td>Indirect &amp; Induced</td>
<td>545,025</td>
<td>16,057</td>
<td>284,915</td>
</tr>
<tr>
<td>Total Economic Impact</td>
<td>1,178,775</td>
<td>32,959</td>
<td>654,934</td>
</tr>
</tbody>
</table>

Source: TI/MTA/H&T Survey

Note: the above figures have been rounded to the nearest thousand.

3.4 Trucking Industry Economic Impacts on Canada

Table 16 shows the gross expenditure impact on Canada from Manitoba trucking activity, inside and outside of Manitoba borders. For-hire carriers direct spending in Manitoba had an impact on the Canadian economy of $959.6 million. When Manitoba’s for-hire carriers spent outside of Manitoba, they contributed another $272 million in direct expenditures, for a total of $1.23 billion on the Canadian economy. By adding the spin-offs benefits from suppliers to the trucking industry and the subsequent rounds of consumption spending throughout Canada (the indirect and induced impact), another
$1.85 billion is generated. In total, Manitoba’s for-hire carriers have a total gross-expenditure impact on Canada of $3.08 billion.

Private trucking in Manitoba, on the other hand, has less of an impact on the total Canadian economy, contributing direct gross expenditures of $282 million, with roughly 90 percent of this coming from trucking activity in Manitoba. In comparison to for-hire trucking, private trucking has approximately three-quarters of its total direct gross-expenditure economic impact occurring within provincial borders. Clearly, for-hire trucking is the catalyst for trucking-trade activity beyond Manitoba.

| Table 16 Trucking Industry Economic Impacts on Canada For-Hire & Private Carriers, 1998 |
|---------------------------------|---------------------------------|---------------------------------|
|                                  | Gross Expenditure Impact on Canada from Manitoba Trucking Expenditures in Manitoba ($'000) | Gross Expenditure Impact on Canada from Manitoba Trucking Expenditures outside Manitoba ($'000) | Total Gross Expenditure Impact on Canada from all Manitoba trucking expenditures** ($'000) |
| Classification                   |                                  |                                  |                                  |
| MB For-Hire                      |                                  |                                  |                                  |
| Total Direct                     | 959,584                         | 272,014                         | 1,231,598                        |
| Multiplier*                     | 2.5                             | 2.5                             | 2.5                             |
| Indirect & Induced               | 1,439,376                       | 408,021                         | 1,847,397                        |
| Total MB For-Hire                | 2,398,960                       | 680,035                         | 3,078,995                        |
| MB Private                       |                                  |                                  |                                  |
| Total Direct                     | 250,657                         | 31,391                          | 282,048                          |
| Multiplier*                     | 2.5                             | 2.5                             | 2.5                             |
| Indirect & Induced               | 375,986                         | 47,087                          | 423,073                          |
| Total MB Private                 | 626,643                         | 78,478                          | 705,121                          |
| Total                            |                                  |                                  |                                  |
| Total Direct                     | 1,210,241                       | 303,405                         | 1,513,646                        |
| Indirect & Induced               | 1,815,362                       | 455,108                         | 2,270,470                        |
| Total Economic Impact            | 3,025,603                       | 758,513                         | 3,784,116                        |

Source: TI/MTA/H&T Survey

Note: the above figures have been rounded to the nearest thousand.

* Expenditure multiplier is estimated to be between 2.5 and 3.5. We used the lower end.

** Some leakage could occur through international trade and trucking activity outside Canada, but this cannot be estimated.

Private carriers in Manitoba generate total indirect and induced economic activity of $423 million and give a total gross expenditure economic impact for Manitoba private trucking on Canada of $705 million. Together, for-hire and private trucking in Manitoba have a total gross expenditure economic impact on the Canadian economy of $3.78 billion.
4.0 Economic Structure Results

The goal of this section is to provide information on Manitoba’s trucking industry that is not currently available at sources such as industry associations or Statistics Canada. Manitoba’s trucking industry was asked to provide data on the composition of equipment, expenses, kilometers driven, employee assignments and education levels. Qualitative questions were also included to elicit industry perceptions on educational needs.

4.1 Power Units Analysis

Power units are defined across three categories: tractors, straight trucks, and small trucks. Tractor/trailer units are defined as Class 8 vehicles weighing in excess of 33,000 lbs. (15,000 kg). Straight trucks are defined as Class 5, 6, or 7 medium sized trucks that range in weight from 19,501 lbs. (8,864 kg) to 33,000 lbs. Small trucks are lightweight vehicles weighing 19,500 lbs. or less. These power units are further grouped into company owned, owner-operator, or leased-operator vehicles. Respondents were asked the number of tractors they use in long haul or short haul movements.

For-hire carriers in Manitoba operate a total of 9,887 power units. Referring to Figure 11, from this total, 6,986 power units (71 percent) are highway/line haul tractors, 1,453 (or 15 percent) are city/local tractors, with the remainder comprising 1,448 straight and small trucks. Of these straight and small trucks, Figure 12 shows the types of power units that form this category. Notice that dump/gravel trucks are the largest component of straight trucks used by for-hire carriers. Survey respondents were asked to classify the nature of their business as for-hire, private or a mixture of both. In this particular case, those companies that indicated their operation to be a mixed carrier business, maintained
an inventory of construction power units and trailers which led to such large numbers of dump/gravel trucks. *For every straight or small truck there are approximately 6 tractors operated by for-hire trucking in Manitoba.*

The majority of the for-hire carriers’ tractor inventory in Manitoba belongs to XLarge carriers with 4,080 (or 48 percent of the total) tractor power units. The Large, Medium, Small and Non-MB for-hire carriers follow, respectively, with 2,252 (27 percent), 1,087 (13 percent), 833 (10 percent), and 188 (2 percent) tractor units, as shown in Figures 13 and 14.

As such, tractor use is heavily consolidated in Manitoba with the XLarge classification making up the 14 largest for-hire trucking firms in Manitoba. As for trucks, the ordering
is somewhat reversed with Medium sized for-hire carriers holding 592 power units or 41 percent of the truck inventory. For-hire carriers that are Large (29 percent), Small (24 percent), XLarge (4 percent), and Non-MB (2 percent) firms that complete the total power units follow this. This can be seen from Figures 15 and 16.

Of the total for-hire tractor units used, 61 percent are company owned, with owner-operators and leased-operators taking shares of 35 percent and 4 percent respectively. This is shown in Figure 17. Owner-operators are self-employed drivers that work under contract for either for-hire trucking firms or companies engaged in private trucking. They typically use their own road tractors and trailers. Leased-operators are operators that lease equipment from a trucking firm. As one-third of all tractors used are owner-operators, for-hire firms have the flexibility to adjust their rolling stock to any swings in the economy. During recessions, firms can reduce their output and divest themselves of the variable costs associated with employing owner-operators. During expansionary periods, firms can increase output and hire owner-operators, as they need them.

Looking at straight trucks in Figure 18, the percentage of company owned trucks increases to 81 percent, and owner-operator and leased-operator trucks fall to 17 percent
and 2 percent, respectively. This would be expected given that owner-operators are more likely to use a tractor than a straight truck.

Private trucking’s inventory of power units used is the opposite of for-hire trucking’s. Of the total 4,287 power units in private trucking, 2,694 (or 63 percent) are straight and smaller trucks, with 814 (19 percent) city/local tractors and 779 (18 percent) highway/line haul tractors filling out the remainder of the total, as shown in Figure 19.

![Figure 19 MB Private Tractor Counts, Tractor Type Classification](Image)

Looking at Figure 20, the 3 largest private straight trucks are those classified as “Other”, dump/gravel, and small trucks. “Other” trucks include vans, low-bed trucks, delivery trucks, service trucks, and various pick-up trucks ranging in weight from ½-5 tonne trucks. Trucks classified as “Other” includes both the heavier straight trucks and the lighter smaller trucks. They were grouped together to simplify the analysis. The primary business activity of most private trucking companies in the survey was construction, so it is expected that dump/gravel trucks form a larger portion of total straight trucks. For every tractor there are approximately 2 straight or small trucks operated by private trucking in Manitoba.
The shares of tractors and trucks differ less between private carrier classifications than they do for for-hire carrier classifications. As can be seen from Figures 21 and 22, the shares of private tractor units are roughly similar as the Large, Medium, and Small private carriers have 683 (43 percent), 419 (26 percent) and 490 (31 percent) tractors, respectively.
Figures 23 and 24 show shares existing with private straight trucks. Compared to Figures 13 and 15, it is shown that the bulk of for-hire power units for both tractors and straight trucks are concentrated with the XLarge and Large for-hire carriers. Small and Non-MB carriers received a comparatively smaller portion of the total power units. Since for-hire trucking has a greater number of tractors that travel long distances than private trucking, it would appear that the XLarge and Large for-hire carriers are attempting to take advantage of declining average total costs that come about from having a larger fleet of highway/line-haul tractors. Private trucking would not realize such declines in average total costs because they are driven less.

In private trucking, company ownership is preferred for both tractors and straight trucks. This can be seen from Figures 25 and 26, where company tractor and truck ownership is 79 percent and 90 percent, respectively, and is somewhat larger than the percentages found with for-hire trucking in Figures 17 and 18. Private carriers may prefer company ownership more so than for-hire trucking because the trucking activity supports other operations that affect their business.
4.2 Trailers Analysis

For-hire trucking companies have 15,952 total trailers in their inventory. Looking to Figures 27 and 28, the Xlarge carriers have the greatest number of trailers with 8,518 (or 53 percent) units. As expected this is followed by carriers classified as Large, Medium, Small, and Non-MB, each capturing respectively 19 percent, 14 percent, 7 percent, and 6 percent of the total units (totals do not add to 100 percent due to rounding error). For-hire carriers carry a larger inventory of trailers for trailer-spotting purposes. This pattern of trailer shares given to each classification is quite similar to the pattern of shares of tractors by for-hire trucking as shown by Figures 13 and 14. For every tractor there are roughly 2 units of trailers kept in inventory by for-hire trucking in Manitoba.

![Figure 27 MB For-Hire Trailers – Total Firm Classification](image)

![Figure 28 MB For-Hire Trailers – % Firm Classification](image)

Figure 29 demonstrates the breakdown of trailers used by for-hire trucking. Dry/heated trailers make up 5,981 units of the total and deck trailers (flat and drop) make up another 3,073 units. Together these two trailer types (bolded) make up 57 percent of the total units.

Of the total for-hire trailer units used 97 percent are company owned, with the remaining 3 percent being owner-operator units, as shown in Figure 30. Since the for-hire carriers rely on transporting others’ freight, it would be expected that such high proportions of the total trailers are company owned. Figure 31 shows a breakdown of the trailers that are company owned. Figure 32 shows a breakdown of owner-operator trailer with deck trailers capturing 68 percent of the units. Both refrigerated trailers, and dry/heated trailers take the other 17 percent and 13 percent respectively.

With private trucking, 2,150 total trailers are estimated to be in their inventory. Figures 33 and 34 show that the split among the three private carrier classifications is almost equal with Medium carriers holding 774 (or 36 percent of the private total) trailers, followed by Small private carriers with 763 units (35 percent) and Large carriers holding 613 trailers (or 29 percent). Again this pattern of trailer shares roughly matches the pattern of tractor use shown in Figures 21 and 22, except most private tractors are in the Large classification and that most private trailers are held by Medium sized firms. For every tractor there are roughly 1.4 units of trailers kept in inventory by private trucking in Manitoba. Compared to for-hire trucking, private trucking uses fewer trailers per
tractor. For-hire carrier services need to be more flexible with respect to loading/unloading which is under their customer’s control.

Figure 29 MB For-Hire Trailer Counts, Trailer Type Classification

Figure 30 MB For-Hire Trailers - % Owned/Owner-Operated

Figure 31 MB For-Hire Trailers - % Owned, by Trailer Type
Within private trucking the two most commonly held trailer types are deck (flat and drop) and dump trailers. This is shown in Figure 35. Many companies in the private carrier sector work in the construction industry. Given that the dump trailer counts in for-hire trucking as shown in Figure 29 (sixth largest overall in that sector) are larger than those in private trucking, one may conclude that a large amount of construction activity, in terms of trailer use, is done on a for-hire basis. On the other hand, there are more private dump trucks than for-hire dump trucks (see Figures 12 and 20).

Just as with for-hire trucking, only a small percentage of private carrier trailers (8 percent) are held by owner operators. The trailers these owner operators do hold are dump, deck, and a mixture of others such as logging, trombone, A-Frame, and converter trailers. The remaining 92 percent of private trailers belong to companies. Regarding the various forms of uses of trucking equipment, we can summarize that owner-operator and leased operator use is more prevalent with tractors, followed by straight trucks and then followed by trailers.
4.3 Expenses Analysis

Economic indicators are important measures of the financial performance, economic efficiency, and competitiveness of carriers in Manitoba’s trucking industry.

4.3.1 Cost Category Split

The for-hire carriers had total Manitoba expenses of $960 million in 1998. Of this total, $571 million (or 60 percent of the total) in expenses are attributed to Xlarge for-hire carriers. As for the other for-hire carriers, Large firms’ expenses are $175 million (18 percent), Medium carriers have expenses of $85 million (9 percent), Small firms are at $90 million (9 percent), and out-of-province carriers have $38 million in expenses (or 4 percent of the total). The total expenses for private carriers are $251 million, about \( \frac{1}{4} \) of for-hire trucking’s expenses. Large private carriers have expenses of $140 million (or 56 percent of total expenses), Medium firms have $49 million (20 percent), and Small carriers have $61 million in expenses (or 24 percent).

Manitoba’s for-hire trucking is larger than private trucking, when looking at the magnitude of overall expenditures. Others have found that the for-hire and private trucking shares in the rest of Canada are for the most part evenly split, with a slight edge going to private trucking.29 Considering the small size of Manitoba’s market relative to

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29 See comments by Fred Nix in the Prairie Provinces Transportation System Study, December 1998, Transport Canada. Upon further discussion with Fred Nix, he pointed out that efforts to measure the size of Canada’s trucking industry have led to mixed results and endless and fruitless debates. His best estimate was that the value of private trucking was about the same or higher than for-hire carriers.
Canada’s, it is notable that 9 of Canada’s 50 largest for-hire carrier head offices are located in the province. This can explain part of the difference of a larger for-hire carrier sector. At the same time, Manitoba does not have many large company operations that have large private carrier fleets.

**Figure 36** shows that the expenses on rent/mortgage, capital purchases and leases, depreciation and all “other” expenses such as insurance and administration (the total fixed costs) make up about 32 percent of the costs that are faced by for-hire trucking. Spending on gasoline and diesel, repairs/maintenance and salaries, wages, and benefits (labour income) to both driving and non-driving staff (total variable costs) comprise another 41 percent of company costs, with the remaining 27 percent covering the expenses paid to owner-operators. Considering owner-operators as a variable cost, again, highlights a very flexible cost structure facing for-hire carriers in Manitoba. *For every $10 spent on variable costs, approximately $8 is spent on fixed costs, and roughly $7 is spent on owner-operator costs by for-hire trucking in Manitoba.*

**Figure 36 MB For-Hire Expense Categories**

Turning to private trucking, and using the same classifications for costs as above, **Figure 37** shows that of the total expenses faced by private carriers, 23 percent are fixed costs, 62 percent are variable costs, and the remaining 15 percent of expenses are payments to owner-operators. *For every $10 spent on variable costs, approximately $4 is spent on fixed costs, and roughly $2 is spent on owner-operator costs by private trucking in Manitoba.* Variable costs in for-hire and private trucking are greater than fixed costs. Fixed costs are larger for for-hire than private carriers because they have more trailers and terminal facilities.

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30 Based on total company vehicles, which includes power units and trailers. See *Today’s Trucking.*
Now, looking at total variable costs, consider owner-operator expenses as a variable cost. For both trucking sectors, labour income to driving staff plus the owner operator expenses equal 43 percent of the total expenses. Where the difference between the trucking sectors lies is with larger owner operator expenses, arising from proportionally more owner-operators being employed by for-hire carriers. Another interesting difference between for-hire and private trucking is that fuel expenses are 6 percent and 16 percent, respectively. This may be due, in part, to the fact that cost savings per kilometer are realized as for-hire carriers travel longer distances than private carriers. The primary explanation however, is that owner-operators are supplying fuel as well as equipment to the cost mix.

### 4.3.2 Total Expenses per Kilometer

A useful measure of company efficiency is the total company expenses divided by the total company kilometers driven. This is a measure of the average distance-related total costs for firms in the trucking industry. Across all for-hire trucking firms, 17 percent of carriers have expenses per kilometer up to $0.80. Another 20 percent of for-hire carriers have costs per kilometer between $0.81 and $1.05, and 31 percent of carriers face costs/km over $1.05. About 32 percent of respondents stated no answer. With private trucking the percentages for each respective grouping is 19 percent, 17 percent, and 37 percent. The mix between groupings is similarly balanced for the two trucking sectors. Another 27 percent of private carriers gave no response, because some respondents stated that they do not consider the number of kilometers driven by their company to be of importance to their operations.

Looking at each of the Manitoba for-hire carrier classifications, 77 percent of XLarge carriers face expenses per kilometer over $1.05 (the highest average total cost group). Also, 11 percent of the XLarge carriers face costs/km up to $0.80 (the lowest average total cost group), with the mean being $1.22/km. With Large for-hire carriers, 37 percent face the highest average total costs, 15 percent face the lowest average total costs, with a mean of $1.43/km. For Medium carriers, the numbers are, respectively, 22 percent, 28
percent, and $1.88/km. Small carriers encounter a high, a low, and a mean of 36 percent, 9 percent, and $1.52/km, respectively. For out-of-province carriers, the respective values are 22 percent, 22 percent, and $1.05/km. The average total cost for all private carriers is $1.51/km.

The data show that as firm size increases, average total costs are decreasing, demonstrating the existence of declining average total costs for for-hire carriers. The existence of a very high average total cost for Medium carriers is because of high costs/km (over $1.50/km) by 17 percent of Medium sized carriers. The out-of-province carriers have a lower average total cost because they are all large long haul carriers.

For each of the private carriers based in Manitoba, 60 percent of Large carriers face the highest average total costs, 30 percent face the lowest average total costs, with a mean of $1.97/km. For Medium private carriers, 36 percent, 36 percent, and $1.31/km are faced respectively. With the Small carriers the numbers respectively are 33 percent, 11 percent, and $1.17/km. For all private carriers, the average total cost is $1.33/km. Unlike the case with for-hire carriers, private carriers average total costs increase as the firm size increases.
4.4 Human Resources Analysis

Employment is estimated at 10,641 full-time equivalent jobs in the for-hire carrier sector of Manitoba’s trucking industry in 1998. Of this, 4,195 jobs are non-driver/support staff positions such as administration, maintenance, freight handlers/dock workers, operations, sales, and recruitment/training. The remaining 6,446 jobs are vehicle drivers that either work as company drivers, owner-operators, or as leased-operators. For every 15 drivers, there are approximately 10 non-driving personnel required to ensure that for-hire trucking activity takes place in Manitoba.
Figure 42 summarizes the breakdown of the number of drivers in each for-hire carrier classification as was shown by Figures 38 to 41. As expected, the two largest for-hire carrier groups, the XLarge and Large classification, contain 65 percent or 4,214 of all for-hire drivers in the province. Small and Medium sized for-hire carriers comprise a total of 2,004 (31 percent) drivers with out-of-province (Non-MB) for-hire carriers capturing 3 percent of the vehicle driving workforce.

It is estimated based on the surveyed population that for-hire trucking company drivers comprise 67 percent of the vehicle-driving workforce, with owner-operators and leased-operators capturing 29 percent and 4 percent, respectively. This is shown in Figure 43. In particular, for the largest three classifications, these percentages are similar. For only those firms classified as Small is it found that 74 percent of drivers are company drivers with the remaining 26 percent being owner-operator drivers.
Of the 4,195 non-driving/support staff who are integral to for-hire trucking, most (2,464 jobs or 59 percent) of these positions are found in administration and operations as seen by the two columns in Figure 44. For-hire trucking firms that fit the XLarge and Large classifications, have most of their support staff (2,507 positions or 60 percent) perform specialized activities in administration, operations, maintenance, or freight handling/dock working. This is not true for Medium or for Small for-hire firms. The results show that the Small trucking firms have no personnel working in maintenance and freight handling. Yet these are activities that smaller firms cannot avoid. It is quite likely that those for-hire companies that are smaller in scale will need their office people to perform a multitude of tasks as opposed to the larger for-hire trucking firms that have people working in specialized areas. This is especially true in examining such specialized company functions such as sales and training, where larger trucking firms can afford to have people staff these areas, but smaller ones cannot. This is also likely true for the out-of-province, for-hire carriers that have limited personnel primarily performing freight handling and administrative activities. Typically with smaller firms, they will have their maintenance handled by third parties. With freight handling, the smaller trucking firms have their drivers help with this activity and in some cases the owners will assist when necessary. Activities described as “Other” include such things as security, yard work, roofing, manufacturing, and so forth.

Figure 44 Total MB Non-Driver Support Staff

As for private trucking, the results indicate that 6,261 full-time equivalent jobs exist in this sector of Manitoba’s trucking industry in 1998. Of this total, 4,570 jobs are characterized as being non-driver positions. The remaining 1,691 jobs are those of private carrier drivers. For every 15 drivers, there are approximately 40 non-driving personnel associated with private trucking activity in Manitoba. Compared to for-hire trucking,

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31 Employees that work for both types of carriers tend to perform multiple functions for a firm, which may lead to an overestimation of results. It is possible that respondents may have entered more positions for one person, but we have no way of knowing that this pattern of behaviour was common or not.
private trucking makes less efficient uses of its resources as reflected by private trucking’s larger non-driving staff. Private trucking may be less efficient because of more empty back hauls, and larger fleets than is necessary because equipment may be held to meet peak delivery periods, and so on.

Looking at the composition of the private trucking sector, the Large classification contains most of the private carrier drivers in the province with 884 drivers or 52 percent of the total. The Medium and Small classifications contain the remaining 48 percent. An out-of-province classification does not exist for private trucking because the trucking databases provided by Manitoba Highways and Government Services do not include out-of-province plated private carriers.

Private trucking in Manitoba is done primarily in-house since 86 percent of drivers are company drivers, compared to 67 percent of for-hire trucking being done by company drivers. Private carriers make less use of owner-operators’ only 14 percent of drivers fit this grouping, with 10 percentage points out of these owner-operators belonging to the Large private carrier classification. Furthermore, leasing does not appear to be an option used by private trucking.

The top four non-driving/support staff positions for private carriers are in operations, followed by “Other” staff activities, administration, and freight handlers/dock workers. This total translates into 3,826 positions or 84 percent of non-driving jobs. With for-hire carriers, in contrast, the top four non-driving jobs in descending order are in administration, operations, maintenance, and freight handling, respectively. These total to 3,720 positions or 89 percent of non-driving jobs in the for-hire sector. Little difference in absolute terms is observed between both non-driving categories, but if one keeps in mind that for-hire trucking is roughly 4 times as large as private trucking based on the direct expenditure economic impact, one can see the differences that exist with labour force usage in private trucking as compared to for-hire trucking.

Administrative office staff for private trucking is roughly one-third the size of that found with for-hire trucking. Most of the size difference lies with the Xlarge, Large, and Medium classification on the for-hire side of the industry. The Small classification for both sectors is roughly the same.

Large private carriers have operations staffs that are roughly 3.5 times as large as those of Large for-hire carriers. But, the size of the sales staff for private carriers is roughly double that of for-hire carriers. These size differences in employment levels are necessary for private carriers because carrying freight is not their primary business. Thus, larger staff levels in sales and operations would be expected for conducting non-trucking related business, and more workers may be employed in shipping and receiving.

Table 17 summarizes estimates of the total number of employees that are employed by the Manitoba trucking industry throughout Canada. Manitoba’s for-hire carriers employ 73 percent of their entire workforce in Manitoba with the remaining 27 percent working elsewhere in Canada. Manitoba’s private carriers on the other hand, employ nearly all (99 percent) of their employees within Manitoba’s borders. As discussed in Section 3.4, trucking-trade activity that occurs outside Manitoba is handled primarily by for-hire trucking, with
nearly one third of the for-hire workforce needed to work with roughly one-quarter of the economic activity that occurs outside of Manitoba.

As stated in Section 4.1, the total number of power units available to Manitoba’s for-hire carriers in Canada is 9,887. There are 8,761 drivers available, giving a disutilization rate of 1.13:1. For every 10 for-hire carrier drivers, there are approximately 11 power units provided by Manitoba for-hire trucking. With private carriers, 4,287 power units are available. With 1,734 drivers employed, the rate of disutilization is 2.47:1. For every 10 private carrier drivers, there are roughly 25 power units provided by Manitoba private trucking. Clearly, for-hire trucking makes more efficient use of its power units. To the extent that non-driving staff may perform multiple functions for a private carrier firm such as driving vehicles, vehicle disuse may not be as common. Nevertheless, the nature of private carriers operations demand lower rates of power unit use in comparison to for-hire carriers because of the need to have a vehicle ready and available for specific needs.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Manitoba Trucking Employees Working in Manitoba</th>
<th>Trucking Employees Working outside Manitoba as a result of Manitoba Trucking Activity</th>
<th>Total Trucking Employees Working in Canada as a result of Manitoba Trucking Activity</th>
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</thead>
<tbody>
<tr>
<td>MB For-Hire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drivers</td>
<td>6,446</td>
<td>2,315</td>
<td>8,761</td>
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<td>Non-Divers</td>
<td>4,195</td>
<td>1,576</td>
<td>5,771</td>
</tr>
<tr>
<td>Total MB For-Hire Employees</td>
<td>10,641</td>
<td>3,891</td>
<td>14,532</td>
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<tr>
<td>MB Private</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Drivers</td>
<td>1,691</td>
<td>33</td>
<td>1,724</td>
</tr>
<tr>
<td>Non-Divers</td>
<td>4,570</td>
<td>51</td>
<td>4,621</td>
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<tr>
<td>Total MB Private Employees</td>
<td>6,261</td>
<td>84</td>
<td>6,345</td>
</tr>
<tr>
<td>Total</td>
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<tr>
<td>Drivers</td>
<td>8,137</td>
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<tr>
<td>Non-Divers</td>
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<td>Total Employees</td>
<td>16,902</td>
<td>3,975</td>
<td>20,877</td>
</tr>
</tbody>
</table>

Source: TI/MTA/H&T Survey

Note: Employment numbers are expressed as full-time equivalent person-years.

Note: Some leakage could occur through international trade and trucking activity outside Canada, but this cannot be estimated.
4.5 Education Analysis

Of the 10,641 full-time equivalent jobs in the Manitoba for-hire trucking sector in 1998, 8,707 positions or **82 percent of for-hire carriers have a grade 12 education, or less.** This is seen in **Figure 45.** Another 1,116 (or 10 percent) received some post-secondary education, but only 7 percent have completed a college or university program.

**Figure 45 MB For-Hire, Education Level, by Employee**

Examining the for-hire carrier classifications, of the 8,707 people that have a Grade 12 education or less, 3,190 (or 37 percent) are employed with XLarge for-hire carriers. Another 2,239 (or 26 percent) work for Large carriers, 1,622 (19 percent) for Medium, 1,204 (14 percent) for Small, and 452 (5 percent) with out-of-province, for-hire carriers. Of employees that have some post-secondary education, about 68 percent (1,321 persons), work primarily for XLarge carriers. Only 4 percent of those work for the Small for-hire carriers. This is shown in **Figure 46.**

The workforce in private trucking is not much different. Out of the 6,260 people that are directly employed in private trucking, 5,595 persons or **89 percent of the private carrier workforce has a grade 12 education, or less.** Roughly 6 percent received some post-secondary education, and only 5 percent have completed their post-secondary studies.

Within the private carrier classification, roughly 46 percent (2,547 persons) that have completed Grade 12 or less work for large carriers. There are another 1,938 people (35 percent) working for Small carriers, and 1,110 (19 percent) at Medium carriers. Unlike for-hire carriers, those that do have at least some post-secondary education are not
concentrated within the larger carriers. In private trucking, the Large and Small carriers are for the most part the same with 38 percent and 34 percent, respectively. The remaining 28 percent of employees reside with Medium sized firms.

**Figure 46 MB For-Hire, Education Level, by Employee**
- Total Firm Classification

Current levels of education and training in Manitoba’s trucking industry may be a cause for concern as the industry continues to adopt more technology. For-hire and private carriers were asked about the types of training needed by their staffs to help them best serve their customers, today and in the future. The following table summarizes the responses given.

As shown by **Figure 47**, most for-hire trucking firms believe that training in transportation management, computers, driver training, communications and/or interpersonal skills, safety and dangerous goods training, and mechanics are necessary employee skills required for today’s and tomorrow’s customers. With private trucking, Figure 30 indicates that these same skills are generally needed. There is a difference on the degree of emphasis for particular skill today over tomorrow. For instance, materials handling and awareness of industry trends are important at present to private trucking but not at all in the future. Yet, computer, negotiation/conflict management skills, and communication and/or interpersonal skills are not viewed to be as crucial today as they will be in the future. This may be the case as firms anticipate the structure of the industry changing in the future and they need their workforce to accommodate these changes in order to be competitive. For example, truckers may need to communicate better because they have to use on-board satellite communication systems to communicate with the carrier. They may also need to become more computer literate.
**Figure 47 Carrier Training Requirements, Current & Future**

<table>
<thead>
<tr>
<th>For-Hire Carriers</th>
<th>Percent (%) of Respondents</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Current</td>
</tr>
<tr>
<td>Professional Management in Transportation</td>
<td>24</td>
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<tr>
<td>Computers / Electronic Commerce Skills</td>
<td>22</td>
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<tr>
<td>Driver Training</td>
<td>19</td>
</tr>
<tr>
<td>People Skills / Communication Skills</td>
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<tr>
<td>Training in Safety and Dangerous Goods</td>
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<tr>
<td>Mechanical Skills</td>
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<td>General Business and Management Skills</td>
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<td>Quality Management</td>
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<tr>
<td>Logistics</td>
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<td>Marketing</td>
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<tr>
<td>Accounting</td>
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</tr>
<tr>
<td>General Problem Solving Skills</td>
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<tr>
<td>Materials Handling Skills</td>
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</tr>
<tr>
<td>Negotiation / Conflict Management Skills</td>
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<tr>
<td>Awareness of Industry Trends</td>
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<tr>
<td>Human Resources Management</td>
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<tr>
<td>Administration</td>
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</table>

<table>
<thead>
<tr>
<th>Private Carriers</th>
<th>Current</th>
<th>Future</th>
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</thead>
<tbody>
<tr>
<td>Quality Management</td>
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</tr>
<tr>
<td>Driver Training</td>
<td>34</td>
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<td>People Skills / Communication Skills</td>
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<td>Training in Safety and Dangerous Goods</td>
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<td>Mechanical Skills</td>
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<td>Computers / Electronic Commerce Skills</td>
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<td>Negotiation / Conflict Management Skills</td>
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<td>Professional Management in Transportation</td>
<td>11</td>
<td>6</td>
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<tr>
<td>General Business and Management Skills</td>
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<tr>
<td>Accounting</td>
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<td>3</td>
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<tr>
<td>Materials Handling Skills</td>
<td>16</td>
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<tr>
<td>Awareness of Industry Trends</td>
<td></td>
<td>20</td>
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<td>Logistics</td>
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<td>Marketing</td>
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<td>General Problem Solving Skills</td>
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<td>Human Resources Management</td>
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<tr>
<td>Administration</td>
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</table>
5.0 Perceptions Analysis

For-hire carriers and private carriers were asked to provide their perceptions of the various changes that have taken place, or are expected to take place, in Manitoba’s trucking industry. These viewpoints are valuable as they provide an indication of the industry’s perceived economic well-being from those that directly serve the customer. Qualitative questions asked carriers about their views on 1999 freight rates versus those in 1994 and what those rates might be like by 2004. Carriers were also asked to indicate their viewpoints on revenue being generated from Canadian regions, U.S. regions, and Mexico in 2004.

5.1 For-Hire Carriers

5.1.1 Viewpoints on Past Freight Rates

The survey asked for-hire carriers to indicate their perceptions concerning the levels of freight rates in 1994 compared to those of 1999. This is presented in Figure 48. Across for-hire trucking as a whole, 45 percent of the firms in the sample indicated that freight rates have not changed. This compares to 25 percent indicating their rates to be lower in 1999 versus 1994. Another 17 percent of firms indicated that their present rates were higher, with the remaining 13 percent not providing a response. With most freight rates not changing since 1994, a combination of increased competitiveness from deregulation, CUSTA, NAFTA, and the Bank of Canada’s commitment to reducing inflation during the early 1990s may have created difficult economic conditions for many for-hire carriers. With almost half of for-hire firms indicating no change in freight rates, the industry has had fairly stable revenue margins.

Figure 48 MB For-Hire Perceptions of Freight Rates - Past Rates (1994) vs. Current Rates (1999)

Medium and Small for-hire carriers were the least likely to report having raised their rates. Among Small carriers, only 9 percent raised their rates with 55 percent having no
change in rates today relative to 1994. With Medium Carriers, 17 percent raised their rates. For Large and Xlarge carriers, the percentages were 21 and 22 percent, respectively. It is interesting to point out that the out-of-province carriers surpassed all Manitoba-based carriers when it came to increasing rates, with 33 percent reporting increased rates.

Overall, 13 percent of all Manitoba-based for-hire carriers increased their freight rates since 1994 compared to 33 percent of out-of-province for-hire carriers. Another 20 percent of Manitoba-based carriers lowered their rates with 50 percent leaving their rates unchanged.

5.1.2 Viewpoints on Future Freight Rates

For-hire carriers were then asked to indicate their perceptions of where they expect freight rates to be in 2004 as compared to the present. Future perceptions of for-hire carriers are presented in Figure 49. Looking at for-hire trucking as a whole, carriers responded with 23 percent foreseeing no change in rates. As for freight rate increases, 70 percent of surveyed firms felt an increase of some kind would occur. Eighteen percent of carriers indicated an expected rate increase of up to 5 percent, 32 percent stated an increase of between 6-10 percent, 19 percent stated an increase between 11-20 percent, and 1 percent of for-hire carriers foresee an increase between 21-30 percent. The remaining 7 percent of the for-hire trucking population gave no answer. No for-hire carrier believed that freight rates would be any lower in 2004 than they are today – an indication that rates are already low and cannot drop any further. Since freight rates are pro-cyclical, the percentages indicate that the industry is optimistic and foresees continuing economic growth.

Figure 49 MB For-Hire Perceptions of Freight Rates - Current Rates (1994) vs. Future Rates (2004)
The majority of Manitoba-based for-hire carriers are expecting their future freight rates to rise by 2004. The greatest freight rate increases are expected among the Medium and Small for-hire carriers. For Xlarge carriers, 33 percent expected no rate increase, while 50 percent indicated an increase of no more than 5 percent. With the Large carriers, 37 percent indicated no change in future freight rates with 63 percent foreseeing a future rise in rates. Of that 63 percent, 41 percent expect a rate increase of between 6 and 10 percent. About 33 percent of Medium carriers see no increase in future freight rates, but 56 percent do, with about three-quarters of Medium carriers foreseeing a 6-20 percent increase. Another 11 percent of Medium carriers had no response on considering future rate changes. Small carriers are very confident, with only 18 percent foreseeing no change in future freight rates with about 46 percent expecting an increase between 6 and 20 percent. Only Small and Medium for-hire carriers give no response about their future perception on rates; this was 9 and 11 percent, respectively. Manitoba-based carriers fare quite well compared to the out-of-province carriers who are less optimistic about having no change in future freight rates. Only 11 percent of the latter carriers expect rates to not change, with about half of the remaining 89 percent foreseeing their rates increase between 6 percent and 10 percent as compared to today.

Overall, about one-quarter of all Manitoba-based for-hire carriers expect no change in freight rates by 2004. Out of province carriers are even more optimistic, with about 1 in 10 perceiving no change in freight rates by 2004.

Expectations of higher freight rates by 2004 demonstrate the positive outlook held by Manitoba’s for-hire carriers. Recent increases in fuel prices have cut into already tight carrier profit margins, likely prompting more carriers to expect to raise their freight rates much before 2004.

5.1.3 Viewpoints on Future Revenues: Domestic

Trade is very important to Manitoba, and it is advisable to know how confident the for-hire trucking industry is about its future. Carriers were asked to comment on regions where they believed their future revenues would be growing, declining, or experiencing no change (as a gauge of future optimism). Three Canadian regions were considered: Western Canada, Eastern Canada and Within Manitoba.

5.1.3.1 Western Canada

Figure 50 presents the perceptions of future revenues for for-hire carriers in Western Canada. The figure shows that 29 percent of firms see no change in their future revenues coming from this region. One percent of the firms actually foresee a decrease. Yet, for-hire carriers are mostly optimistic, with 45 percent of for-hire trucking firms expecting their revenues to increase by 2004. Of this 45 percent, 65 percent of respondents expect revenues to increase up to 20 percent, with 35 percent of carriers seeing their revenues increase over 20 percent. The balance of 25 percent of for-hire carriers gave no response.
Examining Manitoba based for-hire carriers, 22 percent of Xlarge carriers indicated no future change in revenues from Western Canada. Of the other carriers, 42 percent of Large operators expected no change, with 22 percent of Medium carriers stating the same, and 27 percent of Small for-hire carriers expected no change by 2004. For those carriers that are optimistic, the Small and Medium sized carriers were the most confident about their future revenues coming from Western Canada. For Small and Medium carriers, 36 and 38 percent, respectively, expect to see their revenue increase over 10 percent by 2004. Xlarge and Large carriers were not as confident, with 22 and 21 percent, respectively, expecting their revenues from Western Canada to increase up to 10 percent. Manitoba for-hire carriers are more optimistic than their out-of-province counterparts where, for the latter, 33 percent indicated no expected change in revenues, 33 percent foreseeing a revenue rise up to 10 percent, and only 11 percent foreseeing an increase over 10 percent.

Overall, 46 percent of all Manitoba-based for-hire carriers expect company revenues from Western Canada to increase by 2004 compared to 43 percent of out-of-province carriers.

5.1.3.2 Eastern Canada

As with Western Canadian revenues, 29 percent of for-hire carriers are expecting no change in revenues by 2004 from business in Eastern Canada. Considering those that are more optimistic, 25 percent of for-hire carriers expect revenues from Eastern Canada to be higher by 2004. Of this 25 percent, about ¼ of carriers expect revenues to increase up to 20 percent, with the other ¼ of carriers seeing their revenues increase over 20 percent. Only 4 percent foresee a decrease in expected revenues. For-hire perceptions of future revenues in Eastern Canada are presented in Figure 51.
Of the for-hire carriers based in Manitoba, 22 percent of the Xlarge carriers expect no change in revenues in 2004, with 47 percent of Large carriers agreeing with this stability. As for their levels of optimism, the Xlarge carriers are the most confident about increased revenue coming from Eastern Canada, since 44 percent of these carriers expect revenues to rise by more than 10 percent. The Large, Medium, and Small carriers were not as confident as 25 percent, 11 percent, and 9 percent, respectively, expected revenue increases up to no more than 10 percent. Out-of-province carriers appeared to be more optimistic about revenues coming from Eastern Canada than the Manitoba-based carriers. Although 22 percent of the Non-Manitoba carriers foresee no change by 2004, 33 percent see their revenues increasing up to 10 percent, and 11 percent see their revenues rising above 10 percent.

Overall, 21 percent of all Manitoba-based for-hire carriers expect company revenues from Eastern Canada to increase by 2004 compared to 44 percent of out-of-province carriers. Another 5 percent foresee a decrease with 30 percent foreseeing no change.

5.1.3.3 Within Manitoba

For-hire trucking is quite confident about continued revenues being created within Manitoba’s boundaries. While 23 percent of Manitoba-based carriers expect no change in company revenues by 2004, 51 percent expected revenues to increase, with only 2 percent foreseeing a decrease. Of the 51 percent that are optimistic about increasing revenue within Manitoba, about 90 percent expect revenues to increase up to 20 percent, with the remaining 10 percent expecting increases over 20 percent. For-hire perceptions of future revenues within Manitoba are presented in Figure 52.
Of Manitoba’s for-hire carriers, 44 percent of the Xlarge carriers and 47 percent of the Large carriers each expect no change in revenues. This compares with 27 percent of Medium carriers and 18 percent of Small carriers expecting no revenue changes within Manitoba. Of those firms that are optimistic about their revenues increasing within Manitoba, the Medium and Small firms appear to be the most optimistic, since 27 percent in these classifications expect revenues to rise over 10 percent by 2004. Xlarge carriers, 22 percent and 26 percent of Large carriers, respectively, are foreseeing rises of no more than 10 percent. Even the out-of-province carriers were quite optimistic about trade activity within Manitoba as 55 percent of these carriers expect a rise in revenues up to 10 percent, with another 11 percent seeing an increase above 10 percent.

Overall, 47 percent of all Manitoba-based for-hire carriers expect company revenues from within Manitoba to increase by 2004 compared to 66 percent of out-of-province carriers. No for-hire carriers foresee a decrease with 26 percent foreseeing no change.

5.1.4 Viewpoints on Future Revenues: International

With the implementation of NAFTA in 1994, the movement of goods between Manitoba, the United States, and Mexico has increased. As more trade activity takes place, more revenues are generated for trucking firms. The perceptions held by for-hire trucking of any changes in their revenue is an indicator of the importance of future trade between Manitoba and its southern neighbours, United States and Mexico.
5.1.4.1 United States

Figure 53 presents for-hire perceptions of future revenues in the U.S. Of the Manitoba-based for-hire carriers, only 14 percent expect no change in their future revenues from U.S. trucking in comparison to what they earn today. Roughly 43 percent are quite optimistic about increased revenues, with 26 percent of for-hire carriers expecting revenue to rise up to 20 percent, and the other 17 percent expecting revenues to increase by over 20 percent. No decreases in revenues from U.S. business were expected.

Figure 53 MB For-Hire Perceptions of Future Revenues
- United States (2004)

Of the Manitoba for-hire carriers, 31 percent of the Large carriers, 16 percent of the Medium, and 9 percent of the Small carriers expect no change in future revenues as a result of U.S. business. The Xlarge firms are the most confident group when it comes to their revenues increasing from the United States. 66 percent of these carriers expect revenues to increase by over 10 percent. As for out-of-province carriers, 11 percent see no change in revenues from the United States but 44 percent expect revenues to increase over 10 percent.

Overall, 39 percent of all Manitoba-based for-hire carriers expect company revenues from the United States to increase by 2004 compared to 66 percent of out-of-province carriers. No for-hire carrier foresees a decrease, and 14 percent foresee no change.

5.1.4.1.1 Areas of Growth in the United States

Truckers who expected growth in U.S. business were subsequently asked to indicate which states or regions would be the source of that growth. Their responses were then grouped into U.S. regions.32 The questionnaire structure allowed up to four responses to be given.

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32 The U.S. regions, as defined by Statistics Canada and the US Census Bureau are North, West, Northeast, and South. The North comprises the states of Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, North Dakota, South Dakota, ...
Looking at all of for-hire trucking, of those firms that responded, the majority of U.S. business is expected to take place in the North (157 percent), followed by the West (39 percent), then the Northeast and the South, both with 22 percent. The North exceeded 100 percent because in several instances the respondents provided multiple responses (up to 4), which were subsequently grouped into this “North” category.

For 1998, merchandise exports and imports to each respective region are $3.7 billion and $4.5 billion, $1.0 billion and $0.5 billion, $0.5 billion and $0.7 billion, and $0.7 billion and $1.6 billion. The merchandise exports to the United States represent 76 percent (or roughly $6.0 billion) of Manitoba’s total foreign exports, and merchandise imports from the U.S. represent 86 percent (or roughly $7.3 billion) of total foreign imports. In all, for-hire carriers are expecting these regions to be the same key trade partners by 2004 as they are today, with the West playing more of a significant role than the South presently does. The out-of-province carriers are largely driving the trade activity to the West.

Focusing on just Manitoba-based for-hire carriers, the key revenue earning regions ranked by percentage of responses are the North (160 percent), followed by the West (25 percent), the South (31 percent), and the Northeast (21 percent).

Examining the carrier classifications, the X-Large, Large, and Medium for-hire carriers expect the key U.S. regions, in order, to be the North, South, West, and Northeast. For Small and out-of-province carriers, they expect most of their revenue from the U.S. to come from the North, West, and Northeast. No revenue is expected from the South at all. Interestingly, neither did the out-of-province carriers indicate any revenue earning potential from the states in the South region.

5.1.4.2 Mexico

Survey respondents did not appear as confident about revenues coming from Mexico as had been the case with the other regions examined. About 30 percent of all for-hire carriers indicated that they see no change in their future revenues from Mexico. Of all for-hire trucking firms, only 6 percent are optimistic about their revenues increasing. Of that 6 percentage, about 83 percent are expecting revenue to increase by no more than 20 percent and the remaining 17 percent of firms see revenues increase over 20 percent. Another 64 percent gave no response. This is shown in Figure 54.

Of the Manitoba for-hire carriers, 36 percent of Small carriers foresee no change, with 17 percent of Medium carriers also seeing no change in their future revenues from trucking to Mexico. For Xlarge and Large carriers the numbers are higher with 44 percent and 47 percent, respectively, expecting revenues to stay constant. Of those firms that are optimistic about revenue increasing it is only the Xlarge and Large carriers that expect this. This is likely because of declining average total costs that they experience from trucking such long distances and also their ability to form strategic alliances with other

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U.S. or Mexican trucking firms. A full 33 percent of Xlarge carriers expect revenues to rise over 10 percent; with 5 percent of Large carriers expecting revenues to rise up to 10 percent and another 5 percent expecting revenues to increase over 10 percent. As for the out-of-province carriers, 22 percent expect no change in revenues in 2004 but 11 percent expect revenues to rise up to 10 percent with another 11 percent expecting revenues to increase over 10 percent.

Figure 54 MB For-Hire Perceptions of Future Revenues - Mexico (2004)

Overall, 3 percent of all Manitoba-based for-hire carriers expect company revenues from Mexico to increase by 2004 compared to 22 percent of out-of-province carriers. No for-hire carrier foresees a decrease with 32 percent foreseeing no change.

Figure 55 assesses for-hire optimism regarding revenues in 2004, by region. Manitoba carriers are the most optimistic about revenue increases within Manitoba itself, followed by Western Canada and the U.S. Few Manitoba for-hire carriers foresee a decrease in revenues with no decrease foreseen in the U.S. and Mexico. This could explain increased north-south truck freight opportunities, especially with the Northern United States.

Excluding the U.S. at 14 percent, approximately one-quarter of carriers foresee no change in revenues. Also, 34 percent are confident that business will be better by 2004 than it is today. The percentage of carriers that are uncertain and “do not know” what will happen with revenue in 2004 increases for regions further away from Manitoba. Of course, given the tumultuous and cut-throat competitive environment truckers face, it is not surprising to see 40 percent of for-hire carriers indicate that they are uncertain as to what the future holds.
5.2 Private Carriers

While private carriers are not generally in the business of trucking for others, freight rates may be used to measure the internal efficiency of a firm’s transportation operations. This is not always the case, as some private carriers provide for-hire service (a mixed carrier) and therefore charge to external clients.

5.2.1 Viewpoints on Past Freight Rates

Of all private carriers in the population, Figure 56 shows that 40 percent indicated that there was no change in their freight rates today when compared to those in 1994. Approximately 13 percent of private carriers perceived lower rates today, 29 percent indicating their rates to be higher. The remaining 18 percent were unsure as to the shift in freight rates since 1994. Overall, the financial situation faced by private trucking is similar to that of for-hire trucking, with a slightly greater percentage of private carrier firms benefiting from charging higher freight rates.

The Medium sized private carriers were the most likely to have raised their rates with 50 percent having higher freight rates today than in 1994. Another 7 percent have lower rates, 36 percent haven’t changed them, with the remaining 7 percent not providing a response. For Large private carriers, 20 percent have higher rates today, 30 percent lower, another 30 percent stated no change, with 20 percent providing no answer to the question. Of those Small carriers that raised their rates, 22 percent did so, with 11 percent having lower rates, 44 percent reporting no change, and 22 percent being unsure.

Private carriers use their own internal freight rates to establish how efficient their operations are in comparison to for-hire carriers.
5.2.2 Viewpoints on Future Freight Rates

Private carriers have basically the same positive perceptions as for-hire carriers when it comes to charging freight rates in the future compared to rates in 1999. Looking at private carriers as a whole, Figure 57 shows that 17 percent of carriers foresee no change in freight rates, with no private carrier indicating decreased rates by 2004. As for freight rate increases, 9 percent expect an increase of up to 5 percent, 27 percent foresee a rise in rates between 6 percent and 10 percent, 25 percent indicate a rise between 11 percent and 20 percent, 4 percent expect rates to rise between 21 percent and 30 percent, with 7 percent foreseeing a rise over 30 percent. The remaining 11 percent of private carriers did not provide a response.

Private carriers, like for-hire carriers, expect their freight rates to rise by 2004. The greatest increase in freight rates for private carriers are expected to come among smaller carriers. This may indicate a perceived need for smaller carriers to improve on their profit
Among Large private carriers, 10 percent expected no rate increase, while 70 percent indicated a rate increase. Of this 70 percent, about three-quarters foresee an increase of between 6 percent and 10 percent. The remaining one-quarter of carriers gave no response. With Medium carriers, 7 percent stated that their rates by 2004 would remain as they are today, with 86 percent expecting rates to rise, and the remaining 7 percent indicating no response. Of that 86 percent, two-thirds of carriers expected freight rates to rise up to 10 percent. For Small carriers, 22 percent foresee no change in their future rates, but 67 percent do.

5.2.3 Viewpoints on Future Revenues: Domestic

5.2.3.1 Western Canada

The perceptions of future revenues for private carriers in Western Canada are positive. While 27 percent of private trucking expects no change in revenues by 2004, 39 percent do expect an increase, with only 1 percent foreseeing a decrease. Of the 39 percent indicating rising revenues, about three-quarters of carriers expect it to increase up to 20 percent, with the remaining one-quarter of carriers seeing an increase in revenues over 20 percent. This is shown in Figure 58.

Looking at perceptions across carriers size classifications, Large private carriers had the only pessimistic outlook, with 10 percent foreseeing a drop in revenues from Western Canada by 2004. Of those expecting no change in their sales revenue, 20 percent of Large carriers perceive this to be the case, followed by 14 percent of Medium carriers and 33 percent of Small carriers. Large carriers are not at all optimistic about increased revenues being generated from this region in the near future. The Medium carriers are the most optimistic with 36 percent expecting increases in revenues of over 10 percent. Optimism

Using internal profit margins, private carriers can measure the performance of their trucking fleet in comparison to for-hire carriers.
among Smaller carriers is balanced with 22 percent foreseeing a revenue rise up to 10 percent and another 22 percent expecting increases in revenue above 10 percent.

5.2.3.2 Eastern Canada

The view on Eastern Canadian revenue generation among private carriers is less optimistic than among for-hire carriers. While 24 percent expect revenues to remain unchanged by 2004, only 14 percent of private carriers can claim to see increases from this region. This is shown in Figure 59. Of those carriers expecting revenues to increase, all 14 percent are seeing a rise of above 20 percent. The remaining 62 percent of carriers gave no response when asked about their future Eastern Canada revenue perception. Private carriers expected no decreases in revenues from Eastern Canada.

Figure 59 MB Private Carrier Perceptions of Future Revenues – Eastern Canada (2004)

While no private carrier is pessimistic about future revenue growth from Eastern Canada, only Small carriers are optimistic, with 22 percent expecting growth over 20 percent. Another 33 percent of Small carriers expect no change.

5.2.3.3 Within Manitoba

Compared to perceptions about Eastern Canadian revenues, private carriers are more optimistic about future revenue generation within Manitoba, but not as much as are for-hire carriers. Considering those that are optimistic about Manitoba revenues, 35 percent expect revenues to be higher by 2004. Of this 36 percent, 95 percent foresee revenues increasing up to 20 percent with only 5 percent of private trucking seeing a rise in revenues over 20 percent. Pessimism is not a factor with only 1 percent indicating a drop in revenues by 2004, with 19 percent expecting revenue to be unchanged. The remaining 44 percent were non-responses. This is shown in Figure 60.
Large private carriers have mixed views on revenue growth within Manitoba by 2004. Of this carrier type, 10 percent expect a decrease, another 10 percent expect no change, with 20 percent foreseeing increases of between 6 percent and 10 percent. Medium and Small carriers are more optimistic about revenue generated within Manitoba as 43 percent and 33 percent, respectively, expect increases of up to 20 percent. Roughly 14 percent and 22 percent of these later carriers, respectively, expect no change.

5.2.4 Viewpoints on Future Revenues: International

5.2.4.1 United States

Private trucking is not as confident about future revenue coming from the United States as for-hire trucking is with 17 percent foreseeing unchanged revenues and only 14 percent expecting revenues to rise over 30 percent by 2004. There are no expected decreases in revenue but 69 percent of private carriers gave no response about their future revenue perceptions. It appears that the U.S. market has a small influence on private trucking’s overall business. This is shown in Figure 61.

For Large and Medium carriers, 10 percent and 7 percent, respectively, expect revenues from the U.S. to remain unchanged by 2004. Neither carrier group is optimistic about revenue growth. Only Small carriers foresee revenue growth with 22 percent of the Small carriers expecting increases over 30 percent. Another 22 percent of the Small carriers foresee revenues from the U.S. as unchanged in the near future.
5.2.4.2 Mexico

Mexico is not viewed as a major future revenue source for private trucking as 24 percent of carriers foresee no change in revenues with the remaining 76 percent providing no answer to the question. There are no expected decreases in revenue. It may not be too surprising that no private carrier indicated any increase in sales revenue by 2004 given that private trucking in Manitoba does not have a large fleet and thus its long haul presence is expected to be minimal. Again, as with U.S. business, Mexican business has a small impact on private trucking. This is shown in Figure 62.

Figure 62 MB Private Carrier Perceptions of Future Revenues – Mexico (2004)
Appendix A Manitoba Trucking Industry Survey

All information will be kept strictly CONFIDENTIAL. Information about your firm will not be disclosed to third parties. If there are any questions or concerns while filling out this survey, please call Darren Gorman or Michael Crockatt. In Winnipeg, call 474-9097. Outside of Winnipeg call toll free 1-800-432-1960, ext. 9097. A postage paid envelope is provided, but if you would prefer to fax your response, please photocopy this survey single-sided and fax to (204) 474-7530.

SECTION A – YOUR COMPANY

The Transport Institute, at the University of Manitoba, exists to bridge the gap between the transportation industry, government, and the research community. We publish a newsletter of current activities that take place in Manitoba’s transportation industry. By providing us with your address you will receive a complimentary subscription.

1. Please review the information on the label at the bottom of this page, and edit or add as needed to give us a more complete view of your company:

   Name of Firm:

   Address:

   Your Name:

   Title/Position:

   Telephone Number:

   Fax Number:

   E-mail Address:

   Web-Site Address:
SECTION B – INDUSTRY PROFILE

We need to know more about the make up of Manitoba’s trucking industry. By providing us with information about your company’s operations, we can report on the trucking sector’s contribution to Manitoba’s economy.

2. When looking at the nature of your business would you say that your company operates primarily as a:

- For-hire Carrier. That is, a company that undertakes the transport of goods for compensation.

  OR AS A …

- Private Carrier. That is, a company whose principal occupation is not trucking for others, but maintains its own fleet of vehicles (owned or leased) for transporting its own freight.

IF YOUR COMPANY FUNCTIONS AS BOTH AS A FOR-HIRE AND A PRIVATE CARRIER, PLEASE PROVIDE YOUR BEST ESTIMATE OF THE FLEET’S TIME SPENT AS A:

For-Hire Carrier: _____________ %

Private Carrier _____________ %

3. Please indicate the total number of kilometers travelled by your company’s vehicles in 1998 or your most recent full (12-month period) fiscal year: _____________ km

4. If your company has been operating for less than 12 months, please tell us when you started your business: _____________

5. Of the total kilometers travelled by your company’s vehicles in 1998, or your most recent full (12-month period) fiscal year, please provide an estimate of the percentage of kilometers travelled within Manitoba: _____________ %

6. Again, of that same number of total kilometers travelled by your company’s vehicles in 1998 or your most recent full (12-month period) fiscal year, what is your best estimate of the percentage of kilometers travelled in the United States: _____________ %

7. In 1998, or your most recent full (12 month period) fiscal year, what percentage of your company’s trucking revenue was from intermodal transport? _____________ %

8. In which city or town and in which province or state is your company’s head office located? _______________________________
**SECTION C - HUMAN RESOURCES**

*We would appreciate if you could provide us with information about the people that work at your company. IF SOME OF YOUR STAFF FIT INTO MORE THAN ONE CATEGORY, PLEASE ESTIMATE WHICH CATEGORY SUITS EACH BEST, AND ENTER EACH STAFF MEMBER ONLY ONCE.*

9. Regarding the vehicle drivers that work at your company, how many of them are:

<table>
<thead>
<tr>
<th>Company Total</th>
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<tbody>
<tr>
<td>a) Full Time Company Drivers</td>
</tr>
<tr>
<td>b) Full Time Owner Operators</td>
</tr>
<tr>
<td>c) Full Time Lease Operators</td>
</tr>
<tr>
<td>d) Part Time Company Drivers</td>
</tr>
<tr>
<td>e) Part Time Owner Operators</td>
</tr>
<tr>
<td>f) Part Time Lease Operators</td>
</tr>
</tbody>
</table>

10. And of those drivers or owner-operators, how many have their primary residence in Manitoba?

<table>
<thead>
<tr>
<th>Manitoba Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Full Time Company Drivers</td>
</tr>
<tr>
<td>b) Full Time Owner Operators</td>
</tr>
<tr>
<td>c) Full Time Lease Operators</td>
</tr>
<tr>
<td>d) Part Time Company Drivers</td>
</tr>
<tr>
<td>e) Part Time Owner Operators</td>
</tr>
<tr>
<td>f) Part Time Lease Operators</td>
</tr>
</tbody>
</table>

11. Now, thinking about the support/non-driver staff that work at your company, how many of them would you classify as:

<table>
<thead>
<tr>
<th>Company Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Administration/Office</td>
</tr>
<tr>
<td>b) Maintenance</td>
</tr>
<tr>
<td>c) Freight Handlers/ Dock Workers</td>
</tr>
<tr>
<td>d) Operations</td>
</tr>
<tr>
<td>e) Sales</td>
</tr>
<tr>
<td>f) Recruitment/Training</td>
</tr>
<tr>
<td>g) Other (Please Describe Main Task)</td>
</tr>
</tbody>
</table>

12. And of those support/non-driver staff, how many have their primary residence in Manitoba?

<table>
<thead>
<tr>
<th>Manitoba Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Administration/Office</td>
</tr>
<tr>
<td>b) Maintenance</td>
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<tr>
<td>c) Freight Handlers/ Dock Workers</td>
</tr>
<tr>
<td>d) Operations</td>
</tr>
<tr>
<td>e) Sales</td>
</tr>
<tr>
<td>f) Recruitment/Training</td>
</tr>
<tr>
<td>g) Other (Please Describe Main Task)</td>
</tr>
</tbody>
</table>
Expenses are important information about your business. When combined with the expense information from other trucking companies as well as other trucking-related businesses, they will help generate an estimate of the trucking industry’s impact on the Manitoba economy.

13. For 1998, or your most recent full (12-month period) fiscal year, please tell us about your company’s total expenses. What was the total amount that your company spent on trucking operations? Please include all business costs associated with your trucking business, not just direct trucking costs. And of those total trucking business expenses, what percentage would you say were spent in Manitoba? If your company’s fleet functions at least in part as a private carrier (as described in Question 2 on Page 2), please only report your business cost associated with trucking. Please fill in the Manitoba percentage of your total expenses beside the dollar amount.

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Spent in Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total costs and expenses of your trucking business:</td>
<td>$___________.00  ____%</td>
</tr>
</tbody>
</table>

14. Looking at the total expenses in Question 13, what was the amount that your company spent on each of the following categories? And within each of those expense categories, what percentage would you say were spent in Manitoba? Please fill in the Manitoba percentage of each type of expense beside the dollar amount.

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Spent in Manitoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasoline, diesel expenses:</td>
<td>$___________.00  ____%</td>
</tr>
<tr>
<td>Rent, Mortgage (PIT) expenses:</td>
<td>$___________.00  ____%</td>
</tr>
<tr>
<td>Salaries/wages/benefits to:</td>
<td></td>
</tr>
<tr>
<td>Non-Driving Staff:</td>
<td>$___________.00  ____%</td>
</tr>
<tr>
<td>Driving Staff:</td>
<td>$___________.00  ____%</td>
</tr>
<tr>
<td>Expenses paid to owner operators:</td>
<td>$___________.00  ____%</td>
</tr>
<tr>
<td>Capital Purchases and Leases:</td>
<td>$___________.00  ____%</td>
</tr>
<tr>
<td>Repairs, Maintenance, oil:</td>
<td>$___________.00  ____%</td>
</tr>
<tr>
<td>Depreciation:</td>
<td>$___________.00  ____%</td>
</tr>
<tr>
<td>All Other expenses: (insurance, administration, etc.)</td>
<td>$___________.00  ____%</td>
</tr>
</tbody>
</table>
SECTION E – INVENTORY OF TRUCKING EQUIPMENT USED BY YOUR FIRM

We would appreciate information about the equipment used by your firm. Please, as much as possible, consider trucks and tractors separately from trailers. Question 15 below deals with trucks and tractors. Question 16 on the next page deals with trailers.

15. First, thinking about trucks and tractors, how many of each of the following types of units does your firm operate?

<table>
<thead>
<tr>
<th>Tractors *</th>
<th>Owned/Leased by Company</th>
<th>Owner-Operator</th>
<th>Leased Operator</th>
<th>Company Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Highway/Line-haul Tractors</td>
<td>_______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>b) City/Local Tractors</td>
<td>_______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Straight Trucks **</th>
<th>Owned/Leased by Company</th>
<th>Owner-Operator</th>
<th>Leased Operator</th>
<th>Company Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Bulk Tanker Trucks</td>
<td>_______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>b) Dump/Gravel Trucks</td>
<td>_______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>c) Refrigerated Trucks</td>
<td>_______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>d) Dry/Heated Trucks</td>
<td>_______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>e) Flat Deck Trucks</td>
<td>_______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>f) Other (Specify)</td>
<td>_______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Smaller Trucks ***</th>
<th>Owned/Leased by Company</th>
<th>Owner-Operator</th>
<th>Leased Operator</th>
<th>Company Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other (Please Specify)</td>
<td>_______</td>
<td>______</td>
<td>______</td>
<td>______</td>
</tr>
</tbody>
</table>

And for each of the types of trucks or tractors you reported, please tell us how many are owned or leased by your company. Also tell us, how many are owner-operator units (an operator that brings his/her own truck to the carrier), and how many are leased operator units (a carrier that leases the equipment to an operator). Please fill in your answers above, beside the appropriate description.

* While the combined tractor/trailer unit is defined as a class 8 vehicle (33,000+ lbs), we are only interested in the number of tractor units from your inventory. Trailers are addressed separately in Question 16.
** Straight trucks are defined as class 5, 6, or 7 medium sized trucks that range in weight from 19,501 lbs to 33,000 lbs.
*** Light trucks are defined as straight trucks weighing 19,500 lbs or less.
16. Now, thinking about trailers, how many of each of the following types of units does your firm operate?

<table>
<thead>
<tr>
<th>Type of Trailer</th>
<th>Owned/Leased by Company</th>
<th>Owner-Operator</th>
<th>Company Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Tank (Liquid and Dry Bulk)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Dry/ Heated Trailers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Refrigerated Trailers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Dump Trailers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Deck Trailers (Flat and Drop)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Container-Chassis Trailers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) Hopper Trailers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) Cattle Trailers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (Specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (Specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

And for each of the types of trailers you reported, please tell us how many are owned or leased by your company, and how many are owner-operator units. **Please fill in your answers above, beside the appropriate description.**
In a globally competitive world, a skilled workforce is essential to gaining a competitive edge. This involves ensuring that the right levels of education are present to meet the demands of industry. By telling us about your company’s present education and future needs, we would gain a better understanding of what needs to be done to ensure the viability of trucking in Manitoba for the 21st century.

17. Regarding the education of your company’s workforce, how many of your employees that primarily reside in Manitoba have a level of education that is:

a) Less than Grade 12
b) Completed Grade 12
c) Some Post-Secondary, no Degree
d) College Certificate
e) Bachelors Degree
f) Masters or Ph.D. Degree

If this information is not readily available, please provide your best estimate.

18. Thinking of your staff that primarily reside in Manitoba, what type of further training for your staff would help your company serve your customers now? Please be as specific as possible.

19. What type of further training of your Manitoba based employees would help your company best serve your customers in the future?
SECTION G – YOUR PERCEPTIONS OF CHANGES IN THE INDUSTRY

In an uncertain world, no one can accurately predict the future of the trucking industry. But we would appreciate your view of the factors that are important to your firm over the near future.

20. First, please think back 5 years to the freight rates you had charged in 1994. Do you believe that you are generally charging freight rates in 1999 that are:

Higher than 1994 □ OR Lower than 1994 □ OR About the same as 1994 □

21. Now please think ahead five years to 2004. Do you expect to be charging freight rates that will be:

a) Higher in 2004 □ ➔ What percentage increase do you expect by 2004?
   ________% OR
b) Lower in 2004 □ ➔ What percentage decrease do you expect by 2004?
   ________% OR
c) About the same in 2004 □

22. Still thinking ahead 5 years to 2004, what change in your company’s revenues do you expect to see generated from each of the following regions:

<table>
<thead>
<tr>
<th>Regions</th>
<th>No Change</th>
<th>Growth</th>
<th>Decline</th>
<th>By how much?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Canada</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>________%</td>
</tr>
<tr>
<td>Eastern Canada</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>________%</td>
</tr>
<tr>
<td>Within Manitoba</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>________%</td>
</tr>
<tr>
<td>Mexico</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>________%</td>
</tr>
<tr>
<td>United States</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>________%</td>
</tr>
</tbody>
</table>

➔ If you expect growth in business with the United States, from what state(s) do you think most of that growth will come from? _______________________________

THANK YOU FOR YOUR TIME AND EFFORT IN COMPLETING THIS SURVEY. AGAIN, IF YOU HAVE ANY QUESTIONS OR CONCERNS FILLING OUT THIS SURVEY, AND YOU ARE CALLING FROM WITHIN WINNIPEG, DIAL 474-9097. IF CALLING FROM OUTSIDE OF WINNIPEG, PLEASE CALL 1-800-432-1960 EXTENSION 9097, AND ASK TO SPEAK WITH DARREN GORMAN OR MICHAEL CROCKATT. WE WOULD BE GLAD TO HELP YOU. ONCE THE SURVEY IS COMPLETED PLEASE MAIL IT IN THE ATTACHED SELF ADDRESSED – POSTAGE PAID ENVELOPE. IF YOU WOULD PREFER TO FAX YOUR RESPONSE, PLEASE PHOTOCOPY THIS SURVEY SINGLE-SIDED AND FAX TO (204) 474-7530.
Appendix B United States Region Classification

The states that make up the various United States regions, as reported by Statistics Canada.

<table>
<thead>
<tr>
<th>NORTHEAST:</th>
<th>NORTH:</th>
<th>SOUTH:</th>
<th>WEST:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut</td>
<td>Illinois</td>
<td>Alabama</td>
<td>Alaska</td>
</tr>
<tr>
<td>Maine</td>
<td>Indiana</td>
<td>Arkansas</td>
<td>Arizona</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Iowa</td>
<td>Delaware</td>
<td>California</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>Kansas</td>
<td>Dist. of Columbia</td>
<td>Colorado</td>
</tr>
<tr>
<td>New Jersey</td>
<td>Michigan</td>
<td>Florida</td>
<td>Hawaii</td>
</tr>
<tr>
<td>New York</td>
<td>Minnesota</td>
<td>Georgia</td>
<td>Idaho</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Missouri</td>
<td>Kentucky</td>
<td>Montana</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>Nebraska</td>
<td>Louisiana</td>
<td>Nevada</td>
</tr>
<tr>
<td>Vermont</td>
<td>North Dakota</td>
<td>Maryland</td>
<td>New Mexico</td>
</tr>
<tr>
<td></td>
<td>Ohio</td>
<td>Mississippi</td>
<td>Oregon</td>
</tr>
<tr>
<td></td>
<td>South Dakota</td>
<td>North Carolina</td>
<td>Utah</td>
</tr>
<tr>
<td></td>
<td>Wisconsin</td>
<td>Oklahoma</td>
<td>Washington</td>
</tr>
<tr>
<td></td>
<td></td>
<td>South Carolina</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tennessee</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Texas</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Virginia</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>West Virginia</td>
<td></td>
</tr>
</tbody>
</table>
References


Today’s Trucking, March 1999.


Data Bases

