

2007 | Manitoba Transportation Report

Prepared for:
Manitoba Infrastructure and
Transportation



March 2007
Transport Institute, University of Manitoba



UNIVERSITY
OF MANITOBA



2007 | Manitoba Transportation Report

Prepared for:
Manitoba Infrastructure and
Transportation

March 2007

Transport Institute, University of Manitoba



UNIVERSITY
OF MANITOBA



This report has been financially supported by the Manitoba Department of Transportation and Government Services. The views expressed do not necessarily represent those of the Department. The Department provides no warranties as to the validity or accuracy of the information presented herein.

Table of Contents

1.0	Transportation and Warehousing and the Regional Canadian Economy	2
2.0	Economic Impact of Transportation in Manitoba - \$3.22 Billion in 2005	20
3.0	Macro Trends Affecting Transportation	38
	<i>Economic Indicators</i>	40
	<i>Monetary and Energy Indicators</i>	53
4.0	Market, Trade, and Transportation Trends	64
	<i>Markets</i>	64
	<i>International Trade</i>	68
	<i>Import/Export Traffic by Mode</i>	72
	<i>Emerging Transportation Issues</i>	77
5.0	Trade	80
	<i>Methodology</i>	80
	<i>Manitoba's Exports</i>	82
	<i>Manitoba's Imports</i>	87
	<i>Export Routing and Usage of Transportation Infrastructure</i>	90
	<i>Interprovincial Flow-Through Trade</i>	100
	<i>Rail Commodity Traffic Flows</i>	100
	<i>Truck Commodity Traffic Flows</i>	106
6.0	Federal Revenues and Expenditures	112
7.0	Climate and the Environment	117
	Glossary	122

Introduction

Transportation, like every other business sector, has undergone significant change in the past decade. Keeping in touch with developments in the sector, and maintaining awareness for the effect they have on Manitoba's economic development has become a difficult task. It is essential that a vehicle exists to continually assess global developments impacting the transportation sector, and to apprise policy makers of the potential impacts that changes in the sector may have on the Manitoba economy.

With the support of Manitoba Infrastructure and Transportation, the University of Manitoba Transport Institute (UMTI) has developed a Report on Transportation. The target audience is the Minister of Infrastructure and Transportation, and executive officers in the department responsible for policy development. The Report identifies key transportation and trade trends in Manitoba, and assesses critical drivers affecting the economic development of transportation.

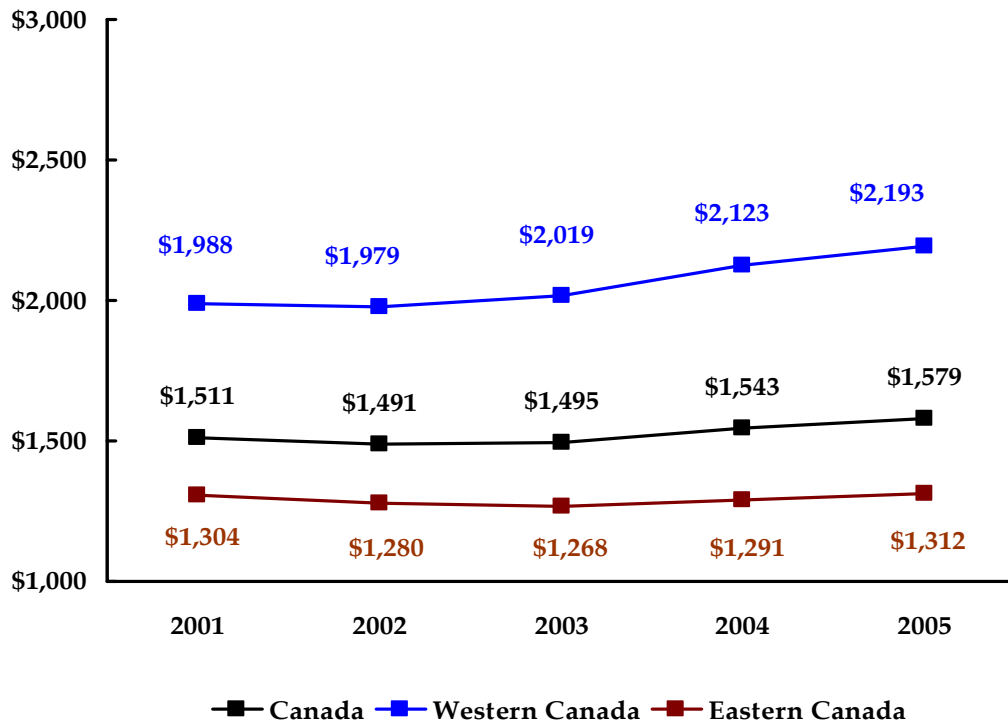
Data presented in this report is the latest available Statistics Canada, Manitoba Bureau of Statistics and industry data that is available to our researchers.

1.0 Transportation and Warehousing and the Regional Canadian Economy

Canada comprises the second largest national land mass on the globe, with likely the lowest population density among industrialized nations. This, coupled with our dependence on international trade, incorporates a significant spatial element to virtually all aspects of our economy. While Transportation and Warehousing is important to Canada as a whole, it is a more important part of the economy in the west than the east.

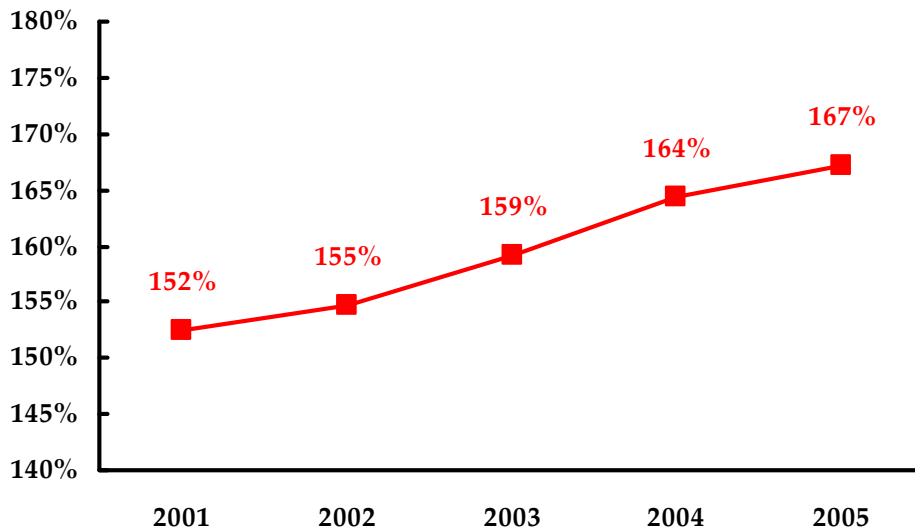
Figure 1.1 shows per capita gross domestic product from Transportation and Warehousing in western Canada versus eastern Canada. Transportation and Warehousing on a per capita basis is more important in western Canada than eastern Canada.

Figure 1.1: Per Capita GDP from Transportation and Warehousing by Region
\$000,000



As shown in Figure 1.2 the importance in western Canada is growing relative to eastern Canada. The ratio of gross domestic product per capita was 152% in 2001. It rose to 167% in 2005.

Figure 1.2: Ratio of Per Capita Contribution to GDP: Western Canada Compared to Eastern



The rate of increase in this ratio has been 2.25% per year since 2001. This indicates that Transportation and Warehousing is ever increasingly important in western Canada relative to eastern Canada.

Within western Canada, the importance of the Transportation and Warehousing sector varies by province. As shown in Figure 1.3, on a per capita basis the sector is most important in Alberta, and least important in Manitoba.

**Figure 1.3: Per Capita GDP from Transportation and Warehousing by Province
Western Canada**
\$000,000

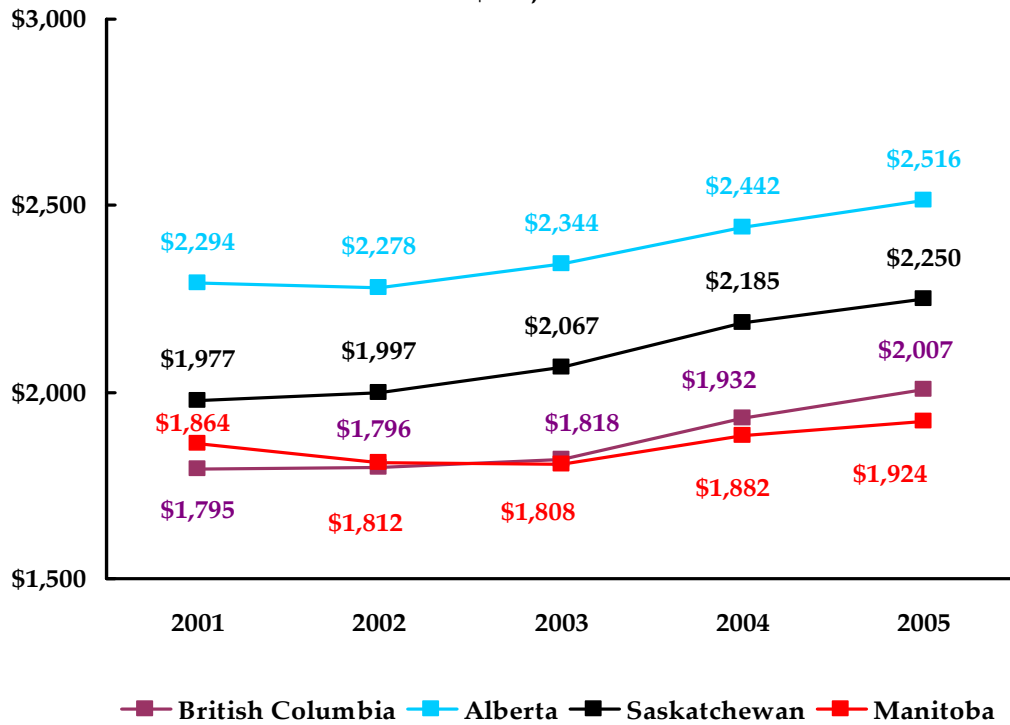
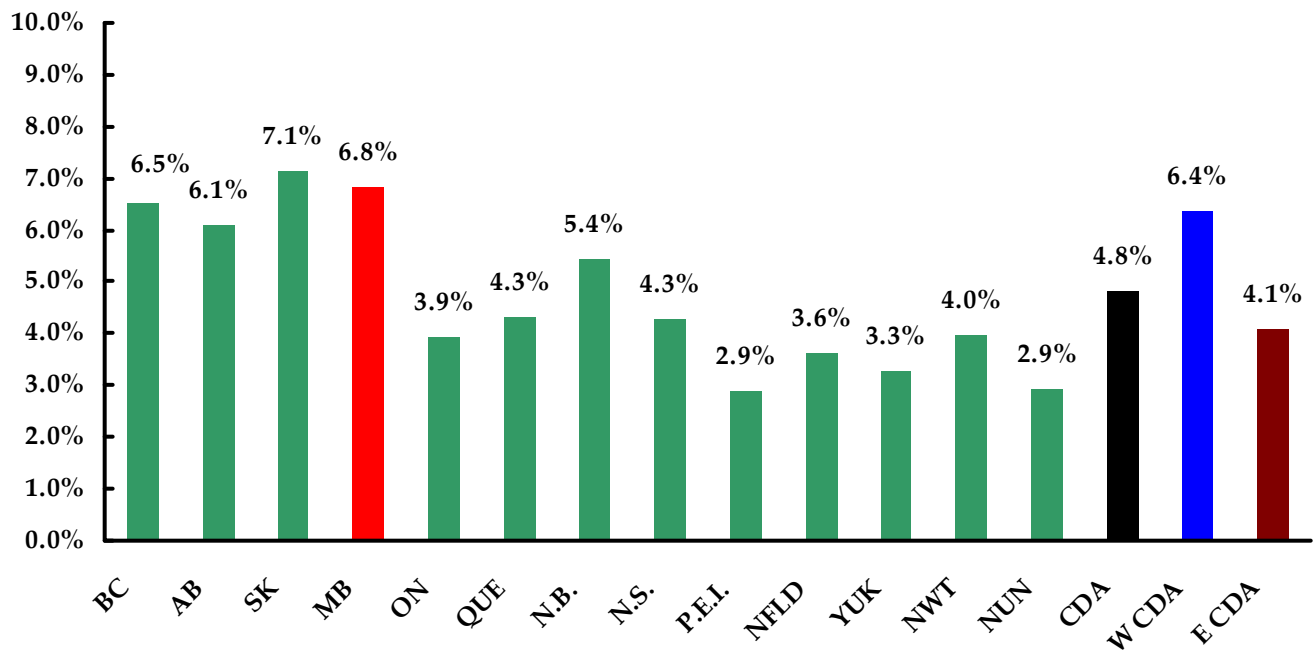


Figure 1.4 shows the importance of Transportation and Warehousing as a percent of total provincial GDP by region. There are some differences between regions, however in all cases the importance of Transportation and Warehousing is greater in western Canada than in eastern Canada. The lowest share of GDP related to Transportation and Warehousing in Western Canada in 2005 was 6.1% for Alberta. Comparatively the province with the highest share in eastern Canada, New Brunswick, was 5.4%. Other western provinces had shares of GDP that were more than 6%, while typical eastern provinces had shares in the 3% to 4% range.

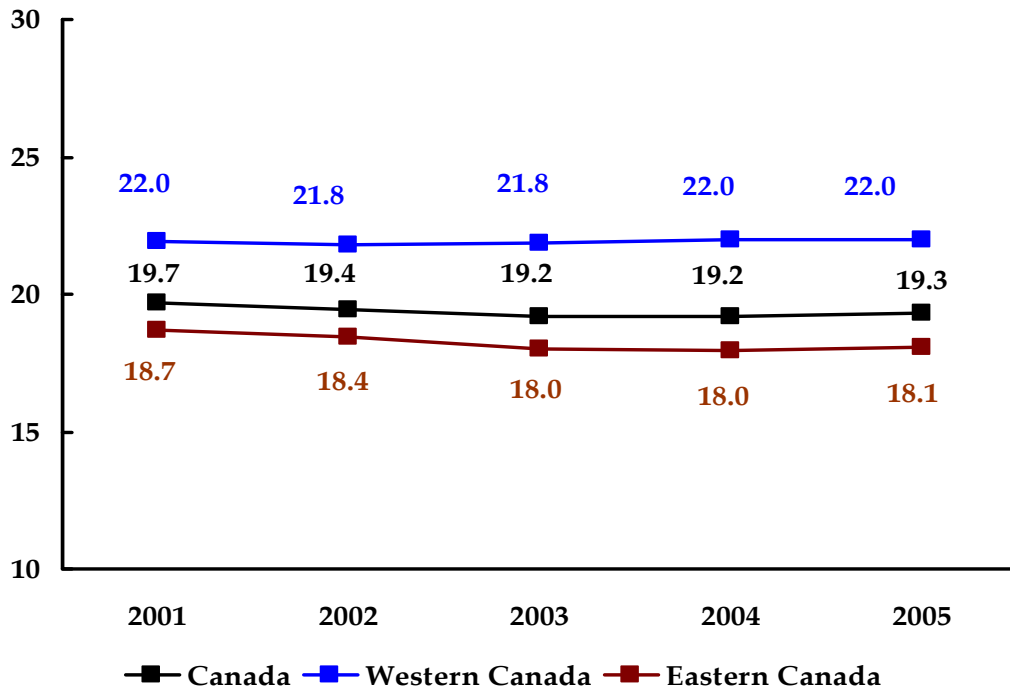
Figure 1.4: Transportation and Warehousing Contribution to GDP by Region: 2005



At 6.8%, Manitoba had the second highest proportion of GDP arising from Transportation and Warehousing in Canada in 2005. Only Saskatchewan was higher at 7.1%. At 6.8% of GDP, the share of GDP from Transportation and Warehousing in Manitoba is 2.0% higher than the national average.

Figure 1.5 shows employment in Transportation and Warehousing per thousand population.

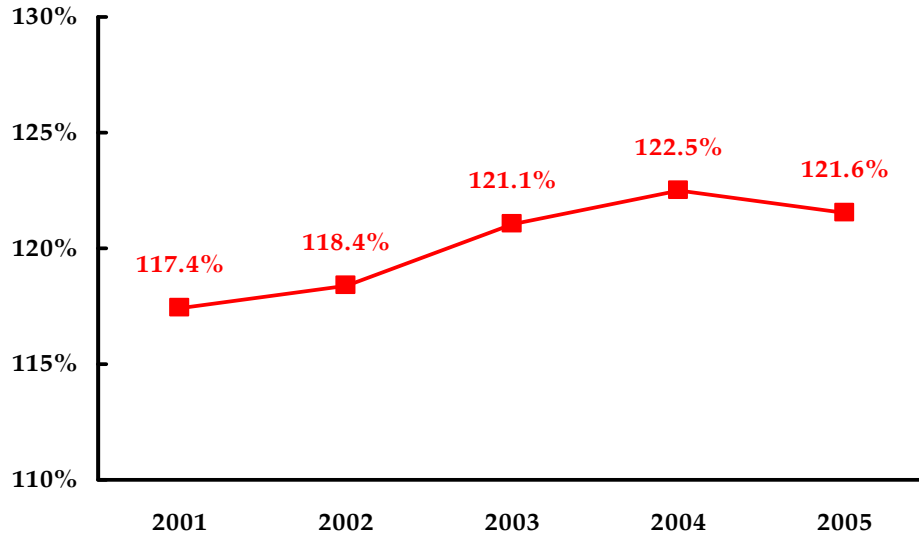
Figure 1.5: Employment in Transportation and Warehousing per 1,000 Population by Region



In western Canada, employment in Transportation and Warehousing has been consistently around 22 employees per 1000 persons since 2001. Comparatively employment in eastern Canada has decreased slightly to 18.1 employees per 1000 persons in 2005 from 18.7 employees per 1000 persons in 2001.

Similar to the comparison based on GDP per capita, Transportation and Warehousing employment per capita has become increasingly important in western Canada relative to eastern Canada during the past 5 years. In 2001 the ratio was 117.4%. It increased to 121.6% in 2005 as shown in Figure 1.6

**Figure 1.6: Ratio of Per Capita Transportation and Warehousing Employment:
Western Canada Compared to Eastern**



Transportation and Warehousing employment per thousand persons is highest in Manitoba, followed by Alberta. British Columbia and Saskatchewan are similar. (Figure 1.7). Manitoba is trending down slightly, while Alberta is trending upwards. British Columbia and Saskatchewan are stable.

Figure 1.7: Employment in Transportation and Warehousing per 1,000 Population by Province: Western Canada

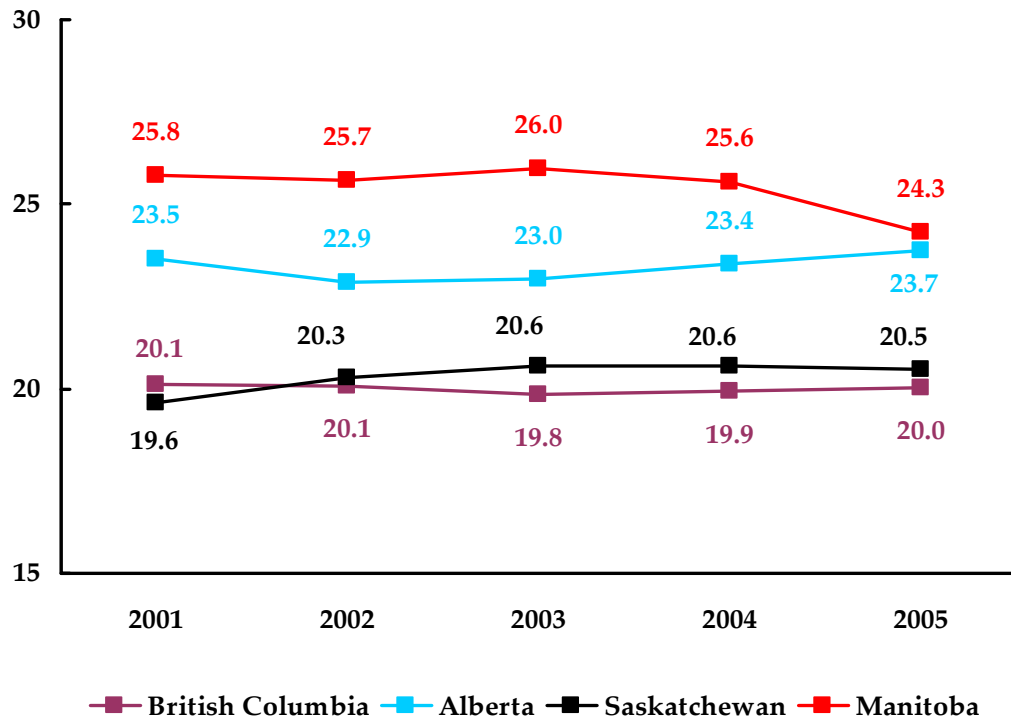
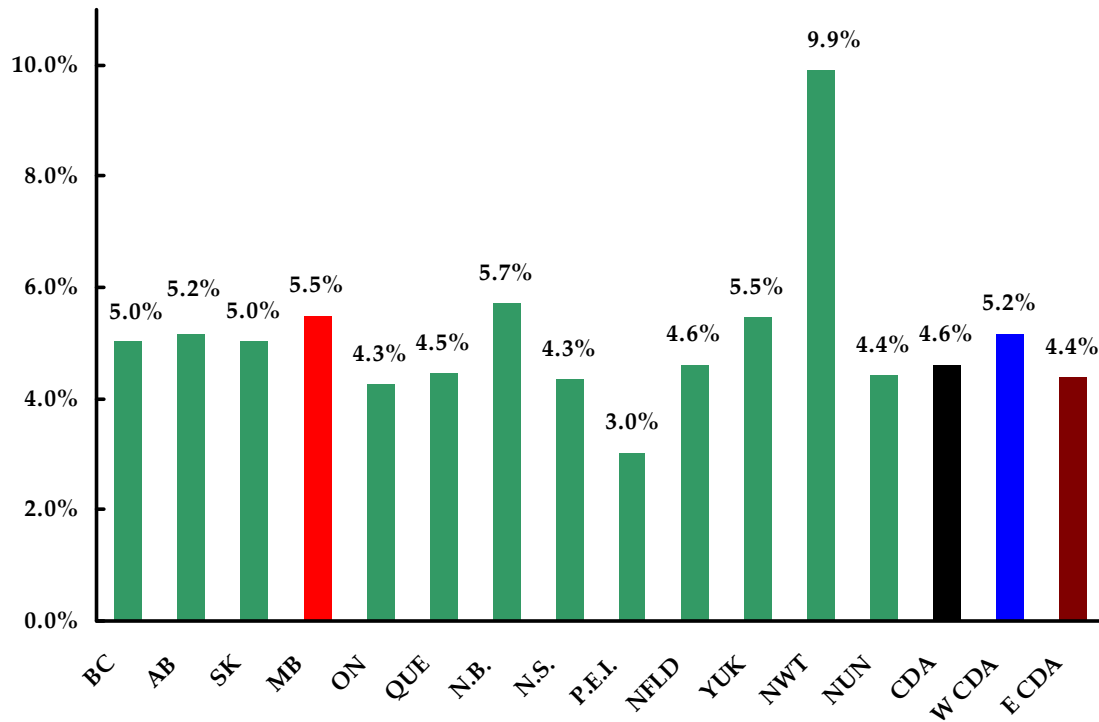


Figure 1.8 shows the share of total employment from Transportation and Warehousing for each region. In western Canada 5.2% of jobs were in Transportation and Warehousing in 2005. This compares to 4.4% for eastern Canada and 4.6% nationally. In western Canada, the share of jobs related to Transportation and Warehousing was most important in Manitoba¹ at 5.5% followed by Alberta at 5.2%.

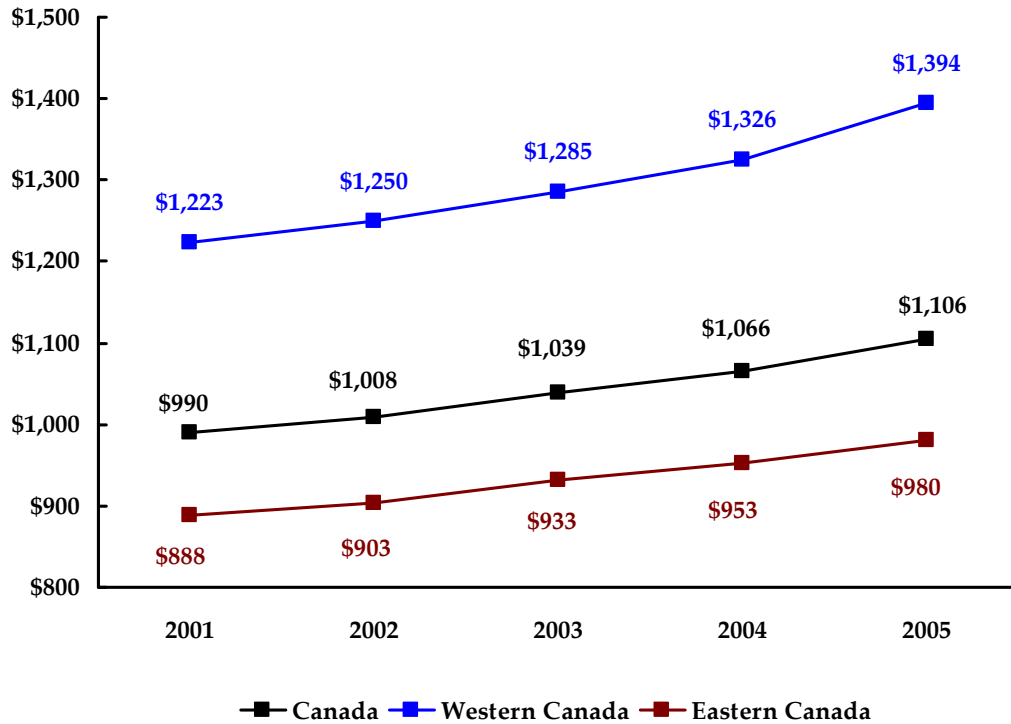
Figure 1.8: Transportation and Warehousing Contribution to Employment by Region: 2005



¹ While the ratio is higher in the Northwest Territories and the same in the Yukon, the size of the population and number of jobs is small.

Labour income attributable to Transportation and Warehousing per capita for Canada, western Canada and eastern Canada are shown in Figure 1. 9.

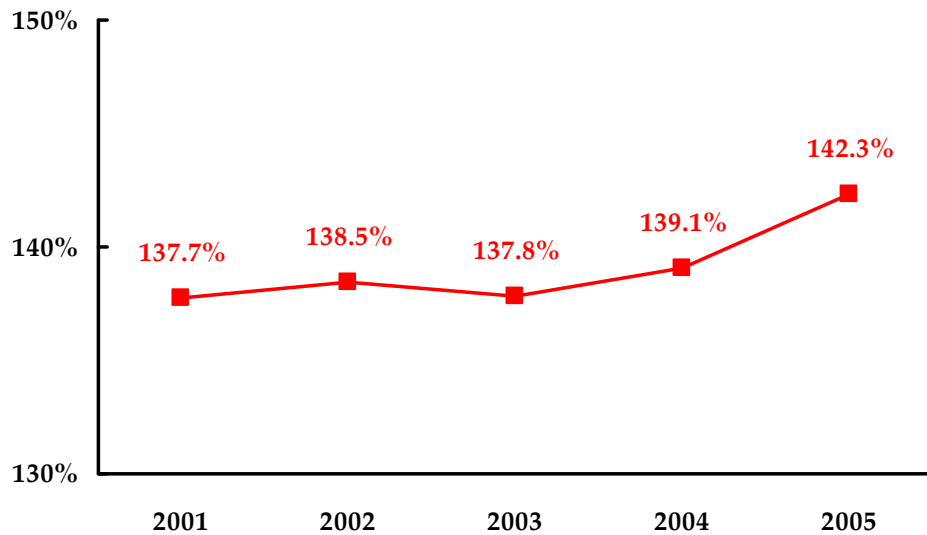
Figure 1.9: Labour Income from Transportation and Warehousing per Capita by Region



Per capita labour income has risen in western Canada, eastern Canada, and Nationwide over the last 5 years. Per capita labour income from Transportation and Warehousing in western Canada reached \$1,394 per person in 2005. The annual growth rate per annum from 2001 was 3.25%. Comparatively per capita labour income was \$980 in eastern Canada, with a growth rate of 2.5% per year since 2001.

Figure 1.10 shows the ratio of per capita income from Transportation and Warehousing in western Canada relative to eastern Canada since 2001. The ratio was relatively steady between 2001 and 2004 at around 139%. In 2005 it rose to 142.3%. This indicates that in relative terms Transportation and Warehousing is becoming more important in western Canada than eastern Canada.

Figure 1.10: Ratio of Per Capita Contribution to GDP: Western Canada Compared to Eastern



Alberta has the highest per capita labour income from Transportation and Warehousing in western Canada as shown in Figure 1.11. This is followed by British Columbia. Saskatchewan has the lowest per capita labour income. Labour income per capita has grown in these three provinces. Conversely in Manitoba labour income per capita has been relatively stable.

**Figure 1.11: Labour Income from Transportation and Warehousing per Capita
Province: Western Canada**

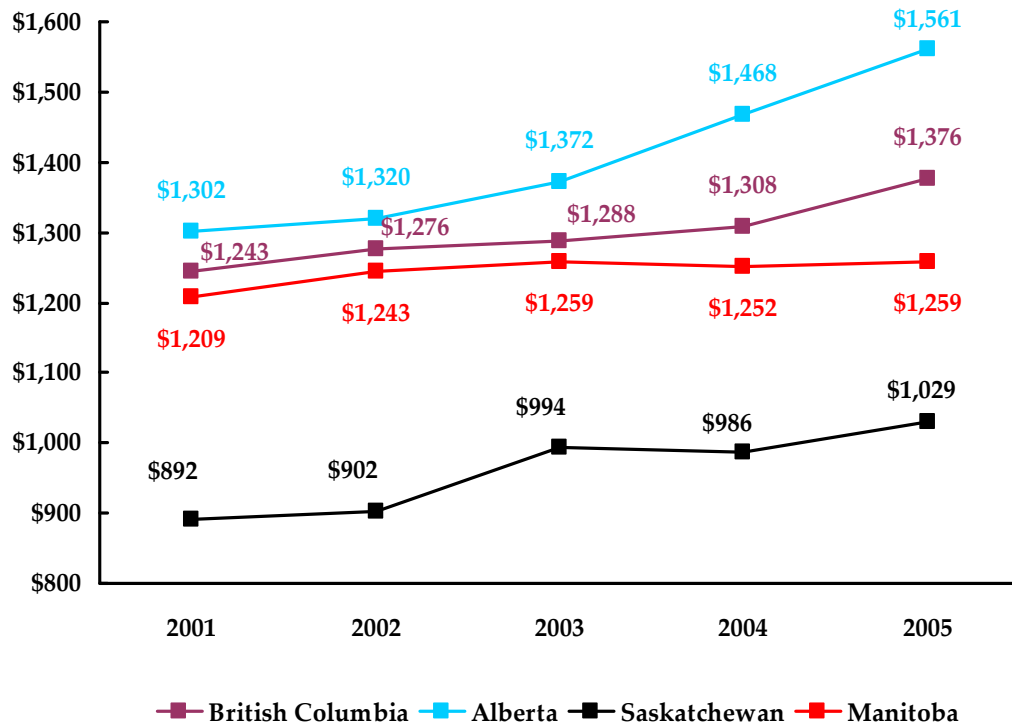
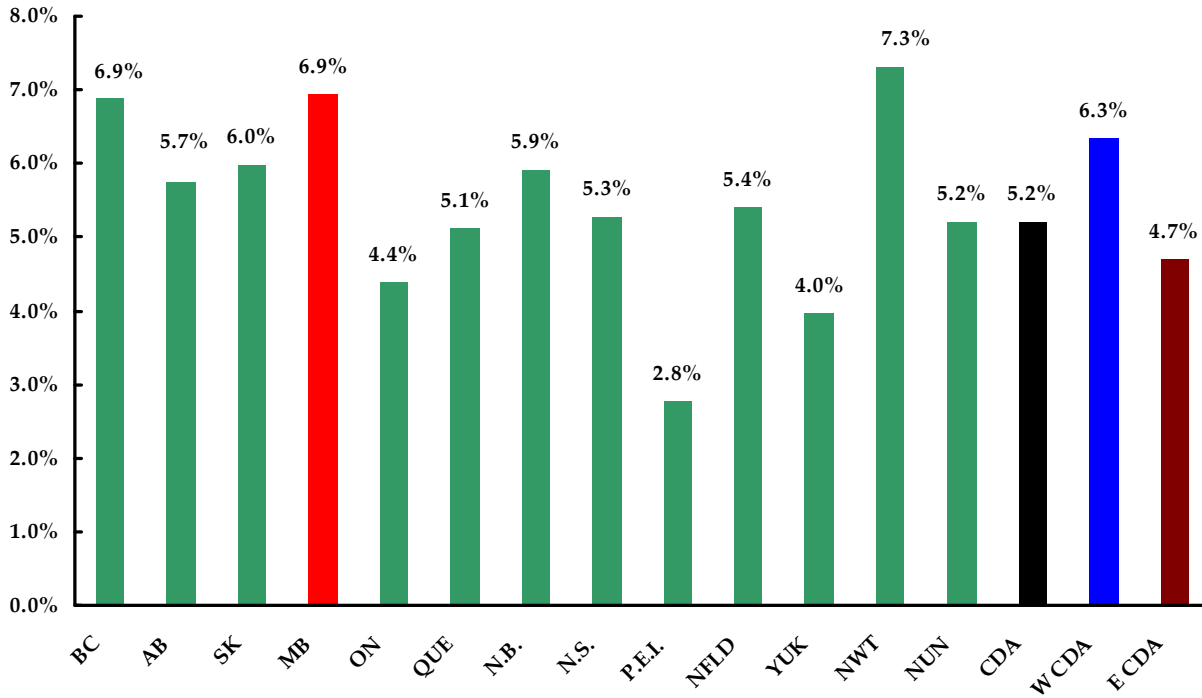


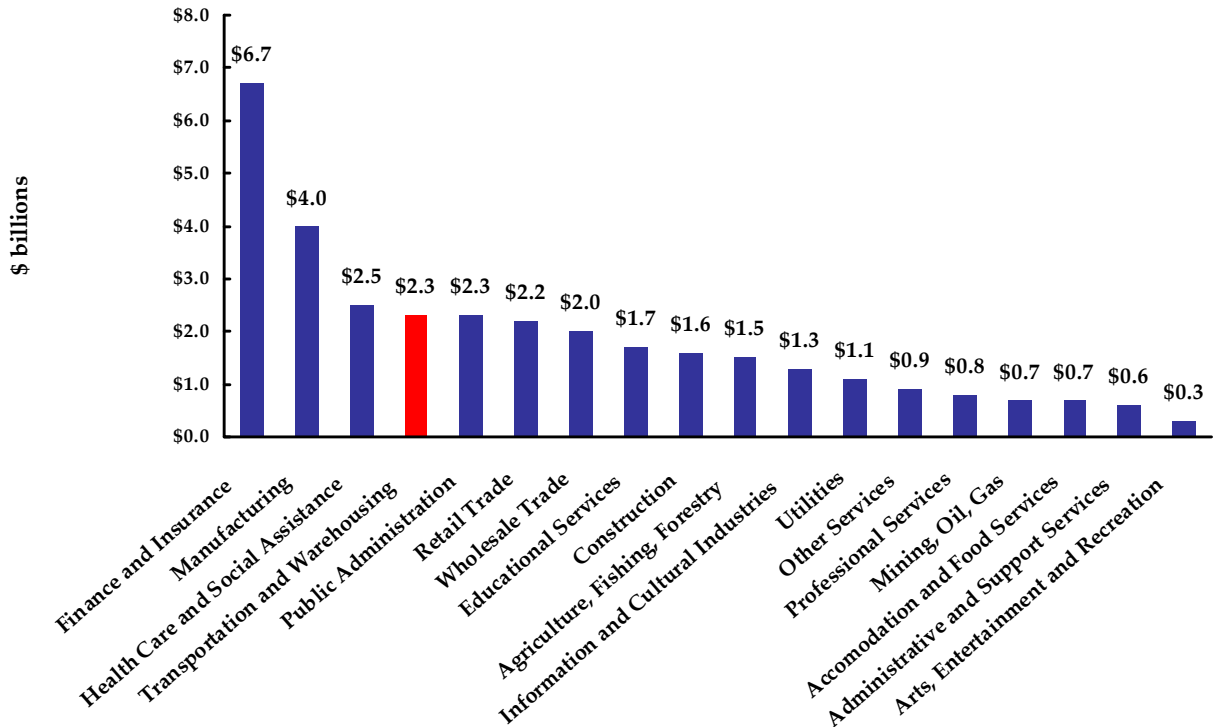
Figure 1.12 shows the share of labour income due to Transportation and Warehousing for each region. Nationally 5.2% of labour income was the result of Transportation and Warehousing. In western Canada the share was 6.3%, while in eastern Canada it was 4.7%. Manitoba and British Columbia with 6.9% were the highest amongst the western provinces.

Figure 1.12: Transportation and Warehousing Contribution to Labour Income by Region: 2005



In 2005, Transportation and Warehousing was the fourth most important sector of the Manitoba economy, contributing \$2.3 billion to GDP.² As shown in Figure 1.13. It was more important than sectors such as retail trade, wholesale trade, agriculture and mining, construction, information and cultural industries. It was less important than finance and insurance, manufacturing and health and social assistance.

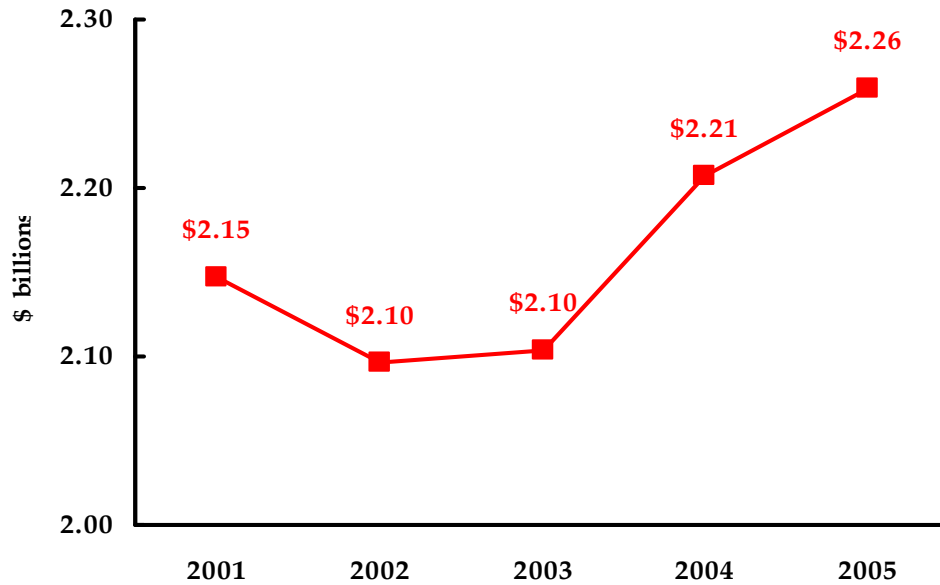
Figure 1.13: GDP of Sectors of the Manitoba Economy: 2005



² The GDP measured by Statistics Canada in the section is the direct contribution of Transportation and Warehousing and directly related sectors. It excludes induced effects discussed in Section 2.

In terms of total GDP contribution in Manitoba, Transportation and Warehousing has been growing. In 2001 the GDP contribution was \$2.15 billion. This fell slightly in 2002 then increased to reach \$2.26 billion in 2005 (Figure 1.14). Growth over the time period was 1.25% per year.

Figure 1.14: GDP Level Transportation and Warehousing: Manitoba



As shown in Figure 1.15, Transportation and Warehousing was 6.83% of the total Manitoba economy in 2005. This was unchanged from 2004, and an improvement from 2002 and 2003. It is below the level experienced in 2001.

Figure 1.15: Trend in Share of Manitoba GDP

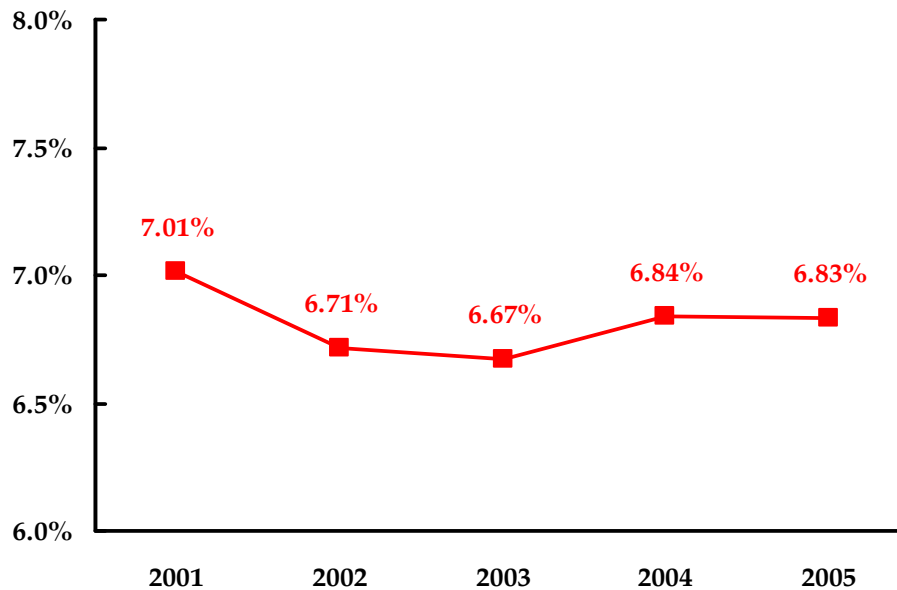
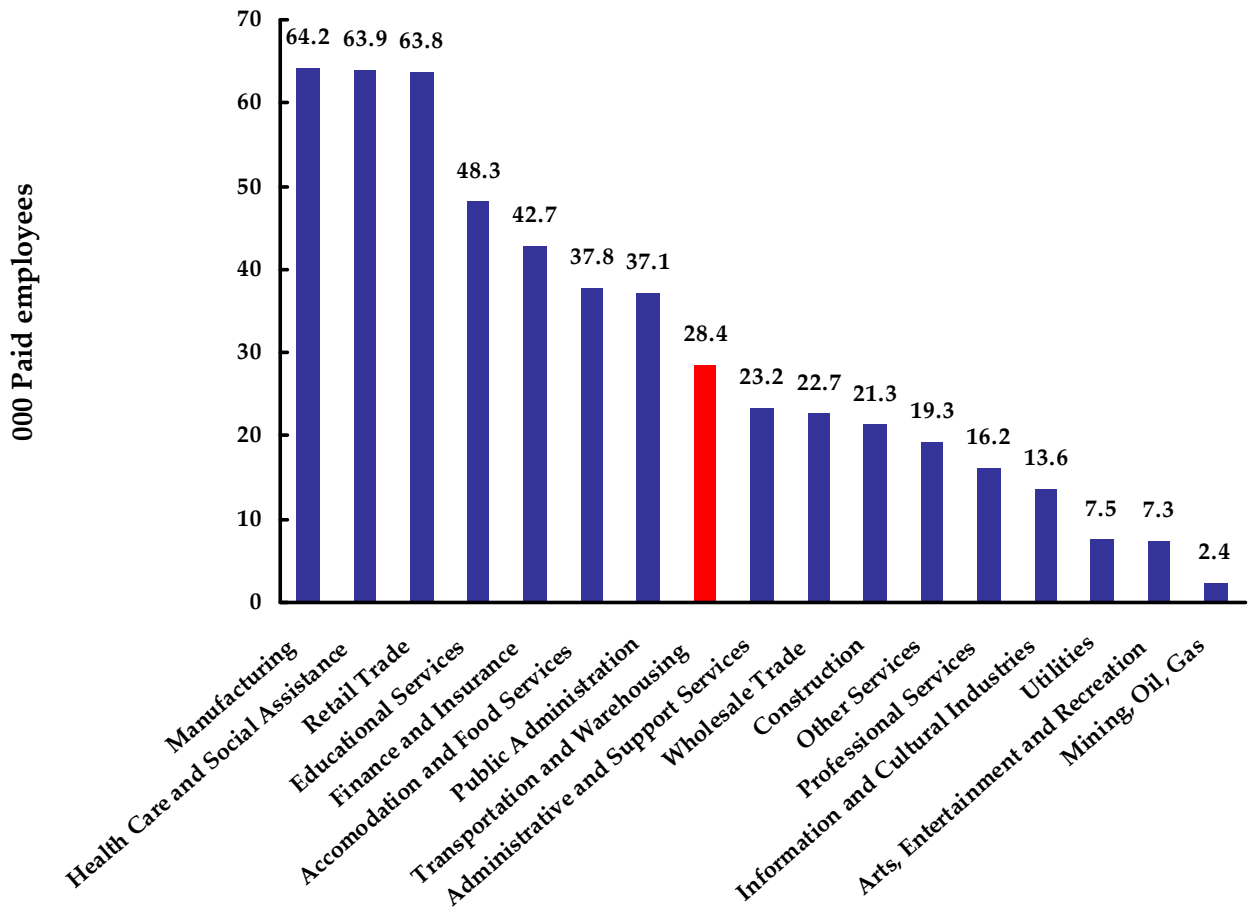


Figure 1.16 shows paid employment by sector for Manitoba in 2005. In terms of paid employment, Transportation and Warehousing is the eighth largest sector of the Manitoba economy, following such sectors as manufacturing, retail trade and public administration. It is larger than sectors such as wholesale trade, construction and information and cultural services³.

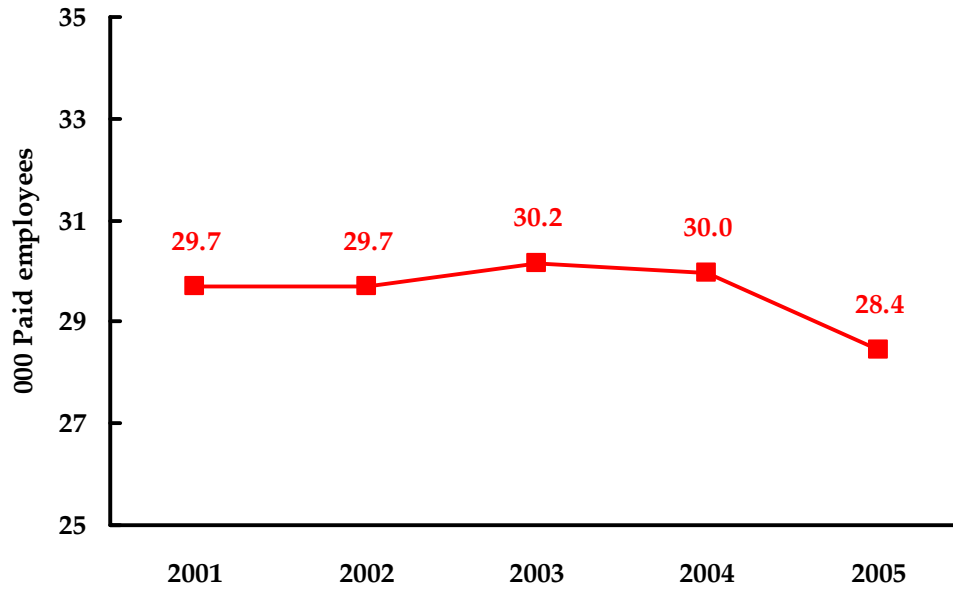
Figure 1.16: Paid Employment by Sector of the Manitoba Economy: 2005
000 Paid Employees



³ Agriculture is not included in the count of paid employees in the Statistics Canada data.

Figure 1.17 shows the trend in Transportation and Warehousing paid employment in Manitoba. According to Statistics Canada paid employment data, employment in the Transportation and Warehousing sector was relatively steady at around 30,000 employees from 2001 to 2004. In 2005 there was a decline to 28,400 employees.

Figure 1.17: Trend in Transportation and Warehousing's Total Employment



As a percent of total paid employment, Transportation and Warehousing's share fell to 5.47% in 2005, below longer term norms in the 5.8% to 5.9% range (Figure 1.18)

Figure 1.18: Trend in Share of Manitoba Paid Employment

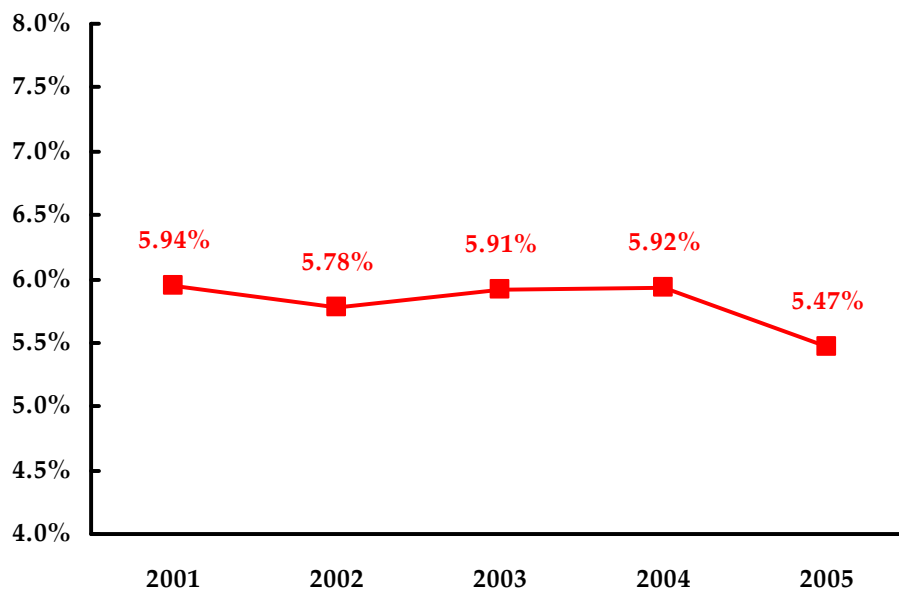


Figure 1.19 shows the ranking of total labour income in Manitoba by sector. At \$1.5 billion, Transportation and Warehousing is approximately one half the size of the largest sector, manufacturing.

Figure 1.19: Total Labour Income by Sector of the Manitoba Economy: 2005

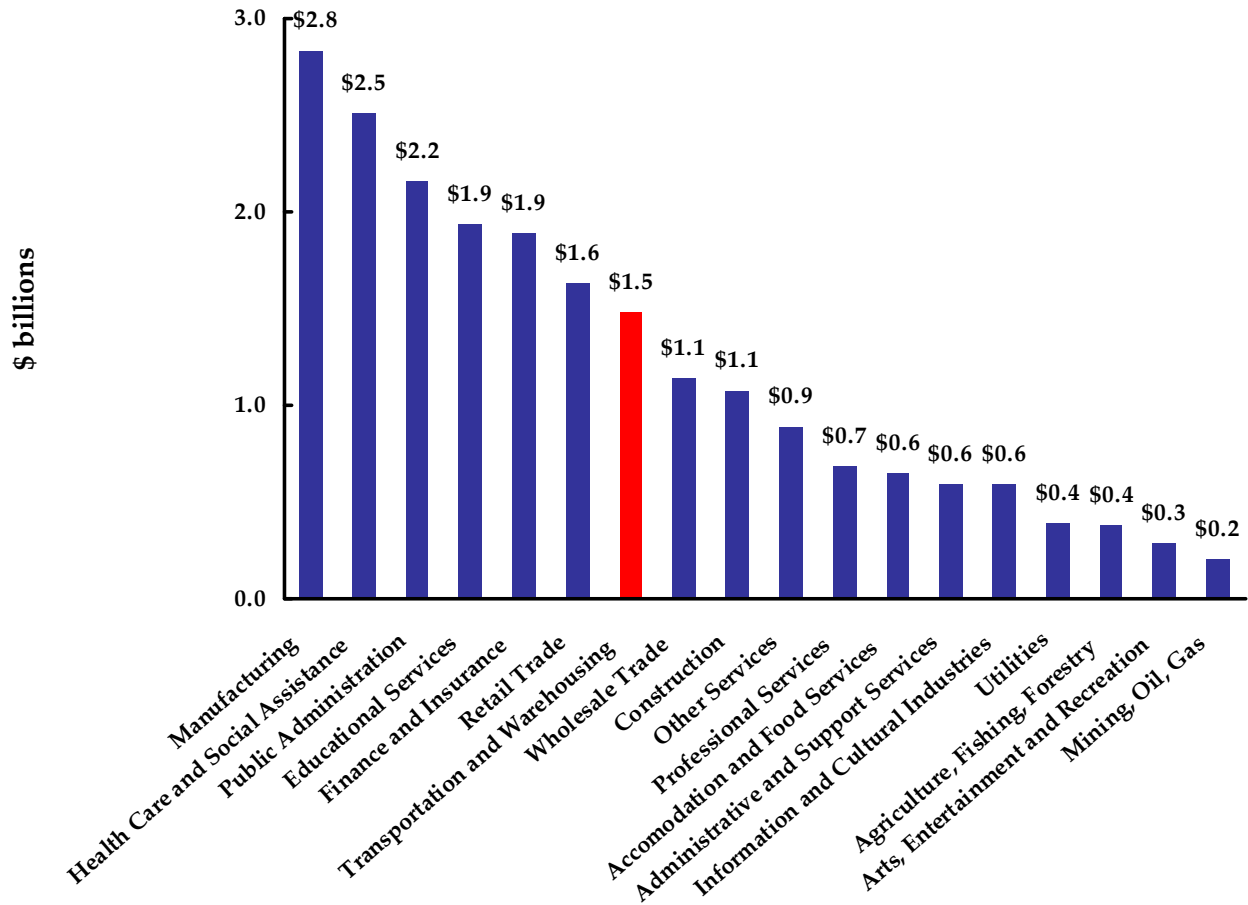
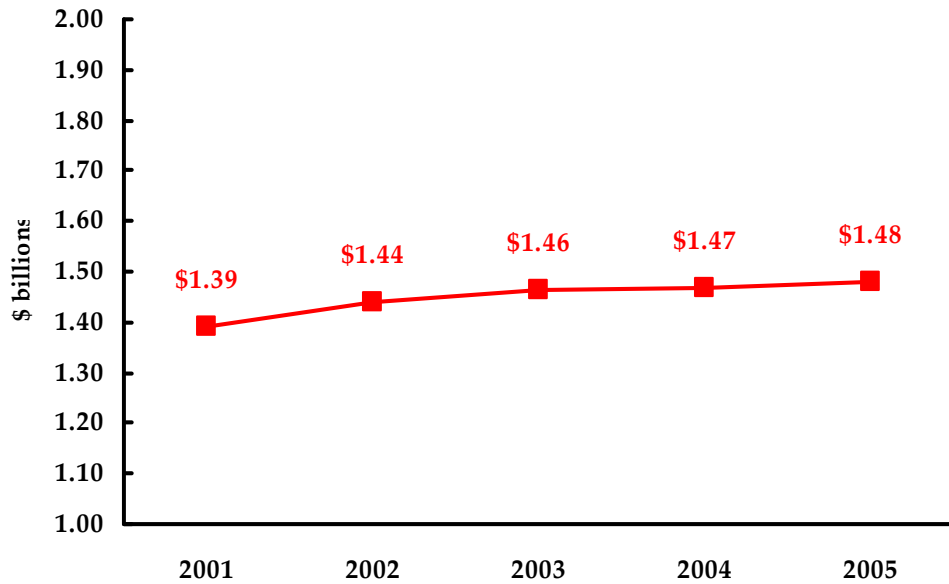


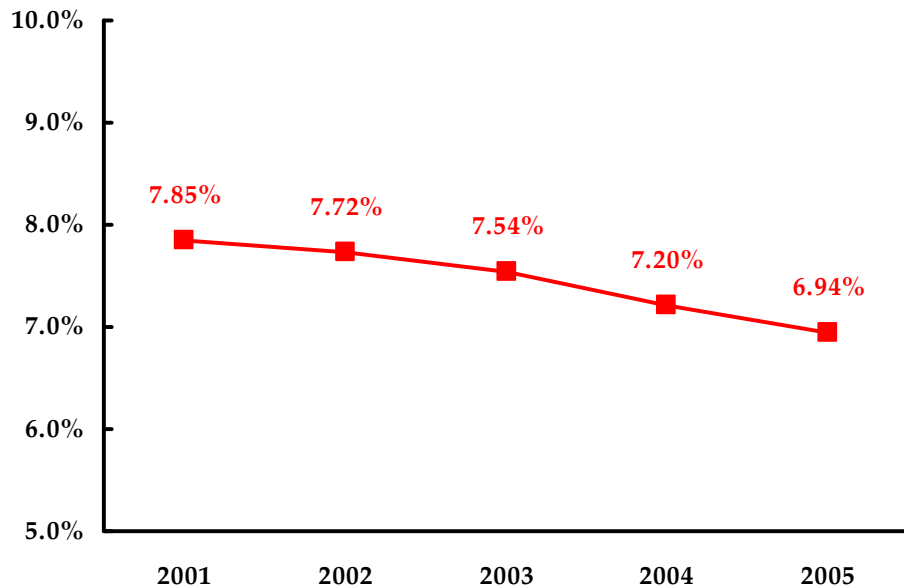
Figure 1.20 shows that labour income from Transportation and Warehousing has grown in the last five years from \$1.39 billion to \$1.48 billion.

Figure 1.20: Labour Income Level Transportation and Warehousing: Manitoba



In spite of this growth, as a share of total labour income in Manitoba, Transportation and Warehousing has declined from 7.85% to 6.94% since 2001, as shown in Figure 1.21.

Figure 1.21: Trend in Share of Manitoba Labour Income



2.0 Economic Impact of Transportation in Manitoba⁴ - \$3.22 Billion in 2005

The previous section of this report provides an overview of the importance of Manitoba's Transportation and Warehousing⁵ sector in terms of direct contribution to GDP, labour income, and employment. However, the activities of one sector are intertwined with those of other sectors in an economy such that the economic impact is *magnified* or *multiplied* throughout the overall economy. Measurement of such effects is undertaken through economic impact models which attempt to quantify the intersectoral relationships. There are numerous designs of such models, which vary primarily in the scope of the "net" which defines the direct impacts of the sector under investigation.

For this study of transportation in Manitoba, the definition applied is the commercial carriage of goods and people. This definition is advantageous to producing sound measures of the impact. It limits criticism of overstatement of the effects by limiting the sectors considered to those directly performing commercial transportation. It excludes allied sectors such as service industries (example hotels), repair shops, or equipment manufacturers. When included these allied sectors open the measured economic impact to criticism since the multiplicative effects of activities from the direct industry include the impacts on these allied sectors. Overall this restrictive definition of the sector mutes the criticism of double counting.

The total economic impact of transportation is defined as the sum of direct economic activity, indirect economic activity and induced economic activity. Direct economic activity is measured by the economic drivers of employment, employment income, and expenditures and contribution to provincial gross domestic product for the transportation sector. Indirect activities are those that occur in firms that supply inputs to the direct sector. Induced effects are the trickle down affects of the expenditures by both the direct and related indirect sector as they multiply through other sectors of the economy. These are largely driven by consumption spending. The indirect and induced effects are a measure of the leverage derived from the direct effect. The higher the amount of leverage the greater the additional economic activity spawned from the original source. The total economic impact of the sector can be measured when the direct and the leverage effects are combined.

The robustness of economic impact results is dependent on the quality of information acquired about the direct sector, and the quality of the input output matrix used to

⁴ Annual data updates along with changes in multipliers, may yield results that are not comparable between annual reports.

⁵ The Statistics Canada macroeconomic industry data for GDP and labour for Canada, and provincially, consolidates Transportation and Warehousing. In terms of the remainder of this economic analysis section the focus is on transportation specifically.

derive the indirect and direct effects. Manitoba is a relatively small economy with few firms in many sectors. The consequence is general weakness of direct and input output data.

Two approaches are available to acquire data for the direct sector. Data can be acquired from third party data providers or the sector can be directly surveyed. In both cases, estimates of the economic drivers are developed of the entire population from the survey.

This analysis uses data acquired from third party data providers, principally Statistics Canada. This approach reduces costs, allows the creation of historical results and assures greater consistency of that historical information. The modes included in the analysis are:

- For Hire Trucking
- Rail
- Aviation
- Couriers and Local Messengers,⁶ and
- Urban and Interurban Bus

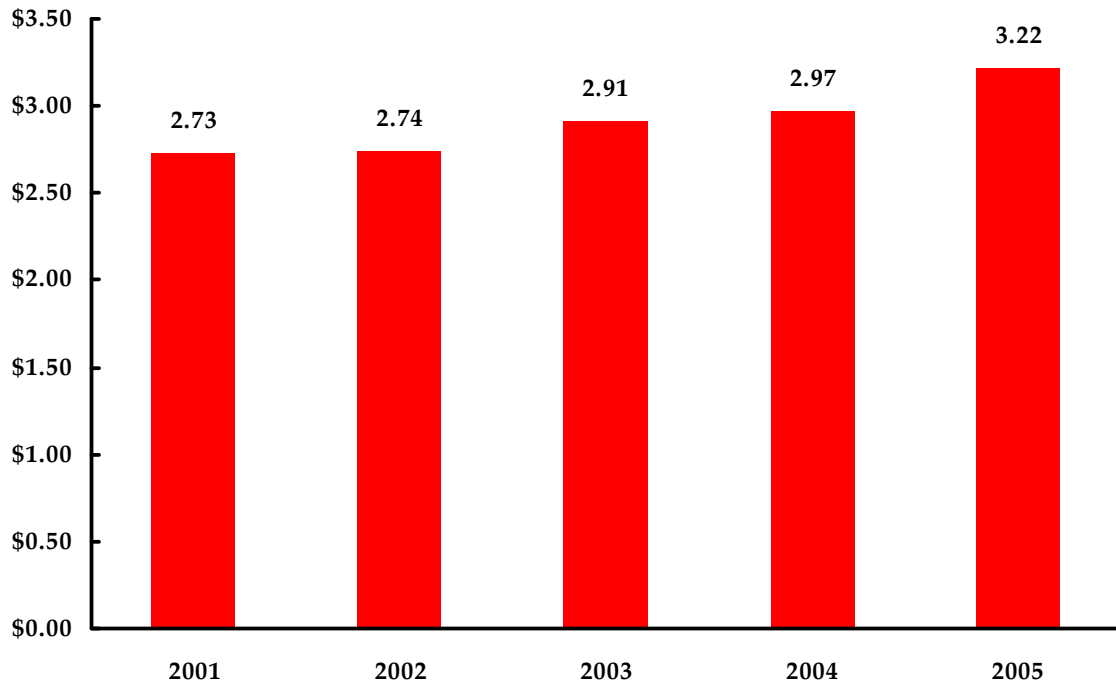
Data was not available for water carriers or for pipelines. Information for the taxi sector was available however has been excluded from this report, as policy setting for this mode is the purview of the Taxicab Board.

The multipliers used in this analysis were calculated by the Manitoba Bureau of Statistics.

⁶ Couriers and local messengers include the major international courier companies such as FedEx.

Figure 2.1 shows the growth in total GDP for Manitoba that is derived from transportation activities. Total GDP measured on this basis rose from \$2.73 billion in 2001 to \$3.22 billion in 2005. The compound growth rate was 4% per year.

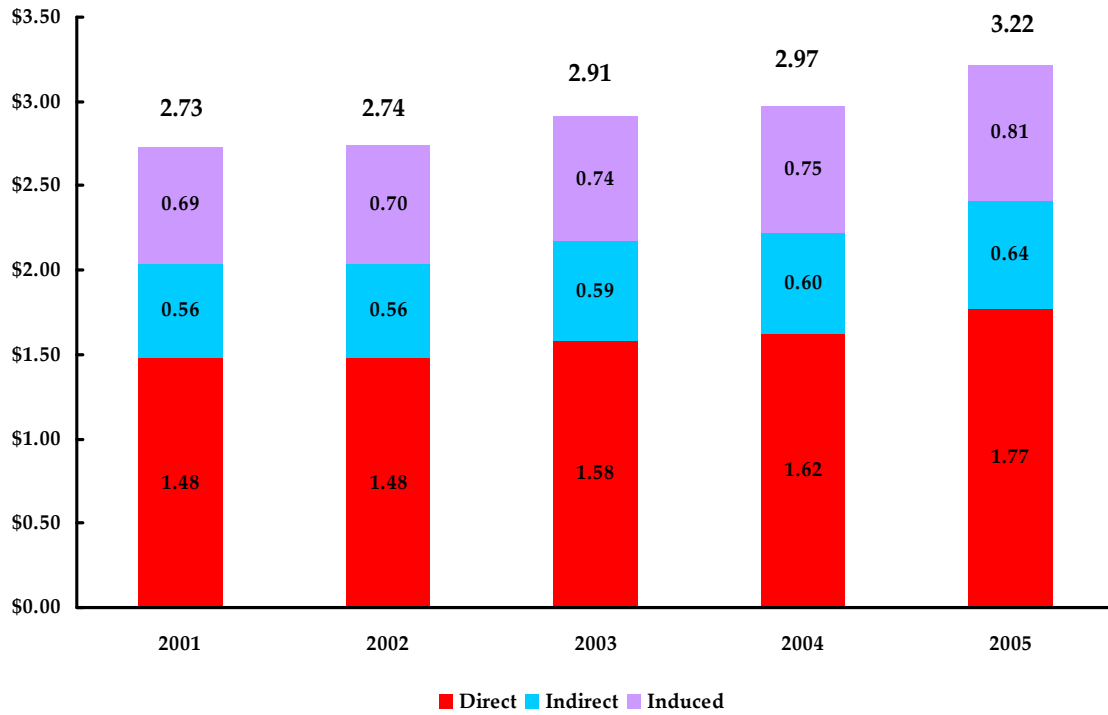
Figure 2.1: Trend in Total GDP from Transportation in Manitoba (\$ billion)



This total includes the leverage effect of direct activity in transportation on other sectors.

Figure 2.2 shows economic impact of the total Manitoba transportation GDP as a ratio of direct, indirect, and induced effects.

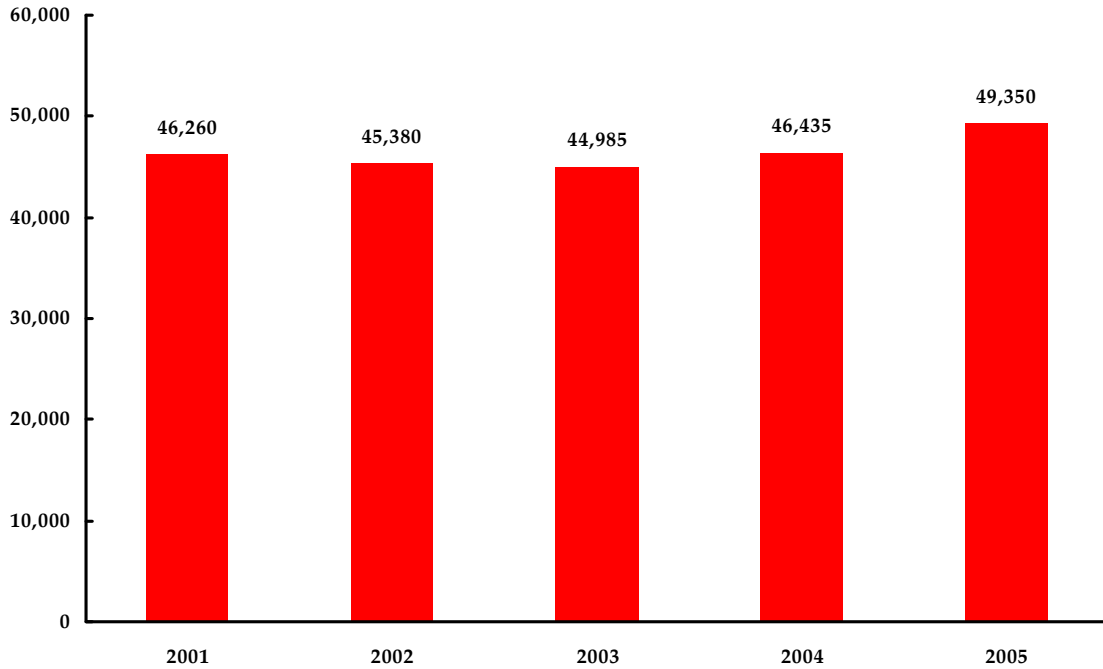
Figure 2.2: Trend in GDP by Leverage Component from Transportation in Manitoba (\$ billion)
\$1.00 Direct GDP = \$1.82 Total GDP
Leverage Factor = .82



Overall, one dollar of GDP from direct transportation activities results in an additional \$.82 generated through activities in other sectors.

Since 2001, total employment attributable to transportation in Manitoba⁷ has grown by 6.7% from 46,260 to 49,350 (Figure 2.3).

Figure 2.3: Trend in Total Transportation Employment in Manitoba



⁷ Statistics Canada made significant adjustments to employment 2000 to 2003 employment data for couriers in 2005.

The level of employment in trucking was a major influence on this trend as shown in Figure 2.4 and Figure 2.5.

Figure 2.4: Trend in Total Employment from Trucking in Manitoba

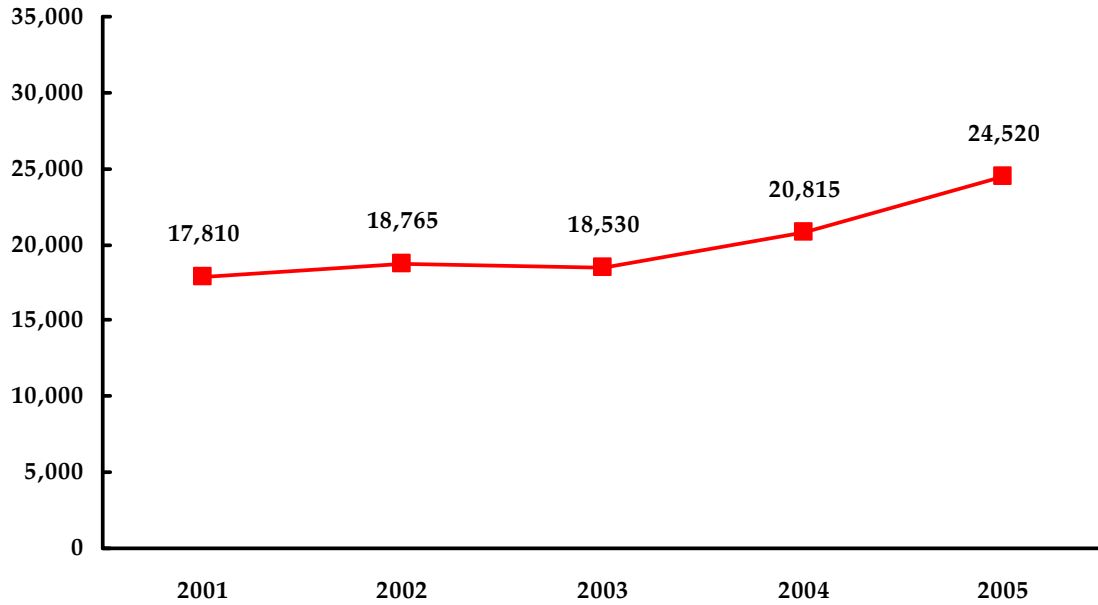
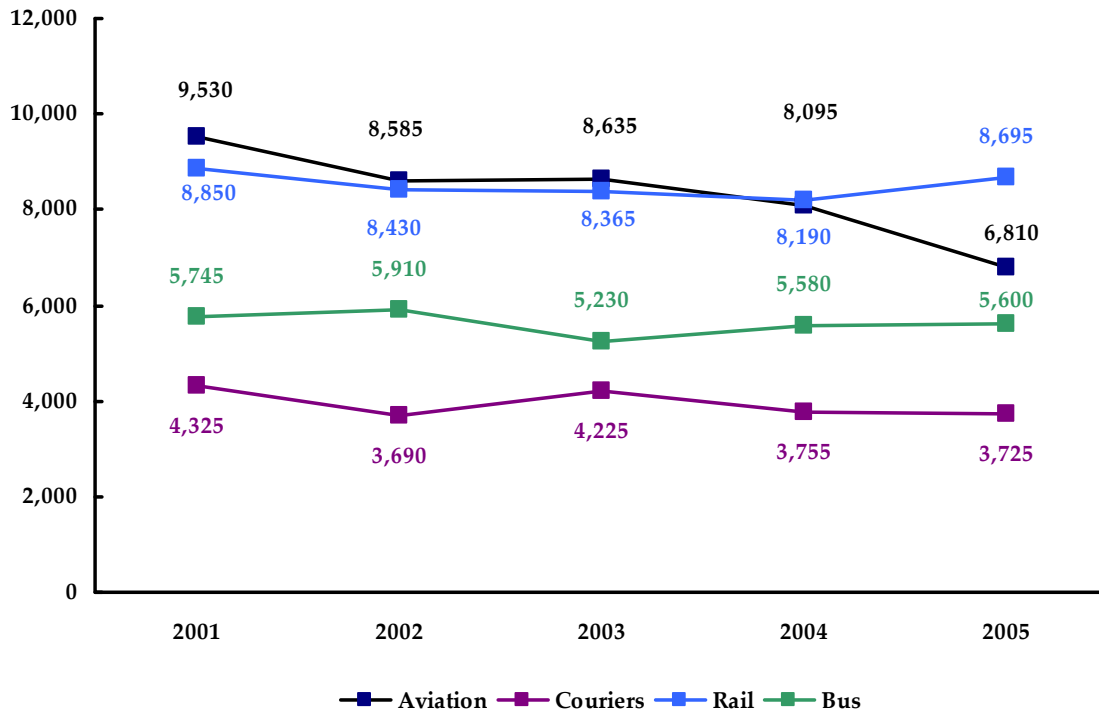


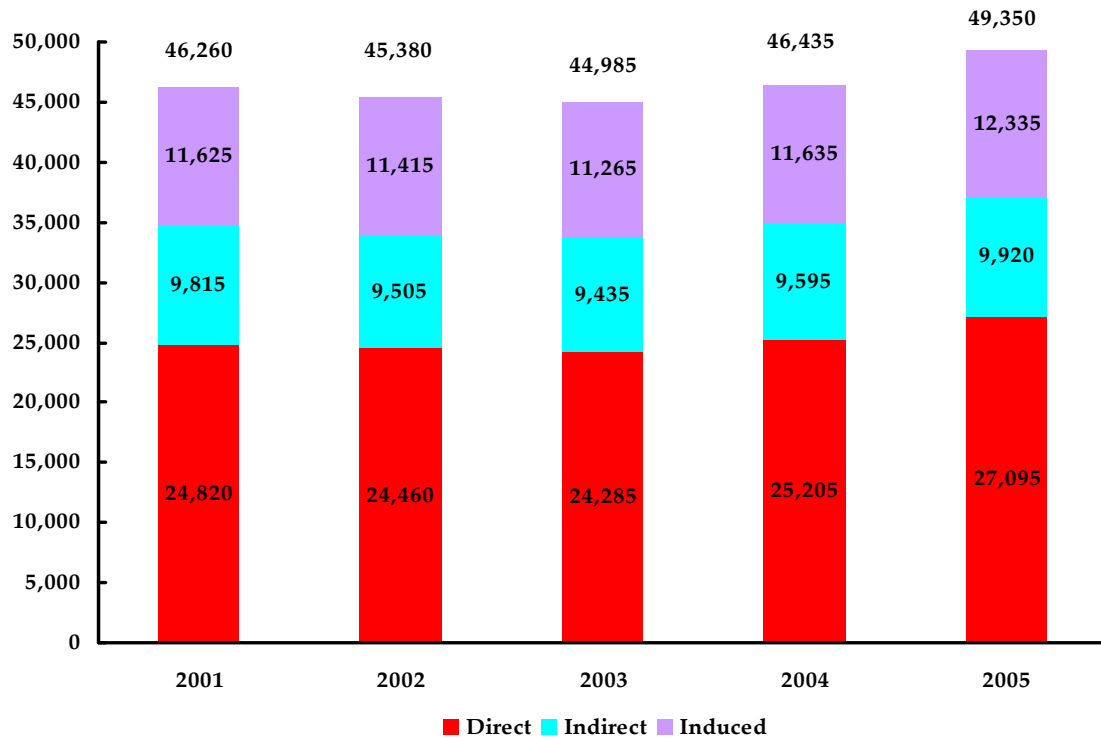
Figure 2.5: Trend in Total Employment from Aviation, Couriers, Rail and Bus in Manitoba



Since 2001, transportation related employment has increased by 3,090 jobs. Trucking produced 6,710 jobs, while the other modes declined. The loss in aviation was 2,720 jobs. Rail lost 155 jobs, couriers lost 600 jobs and bus lost 145 jobs.

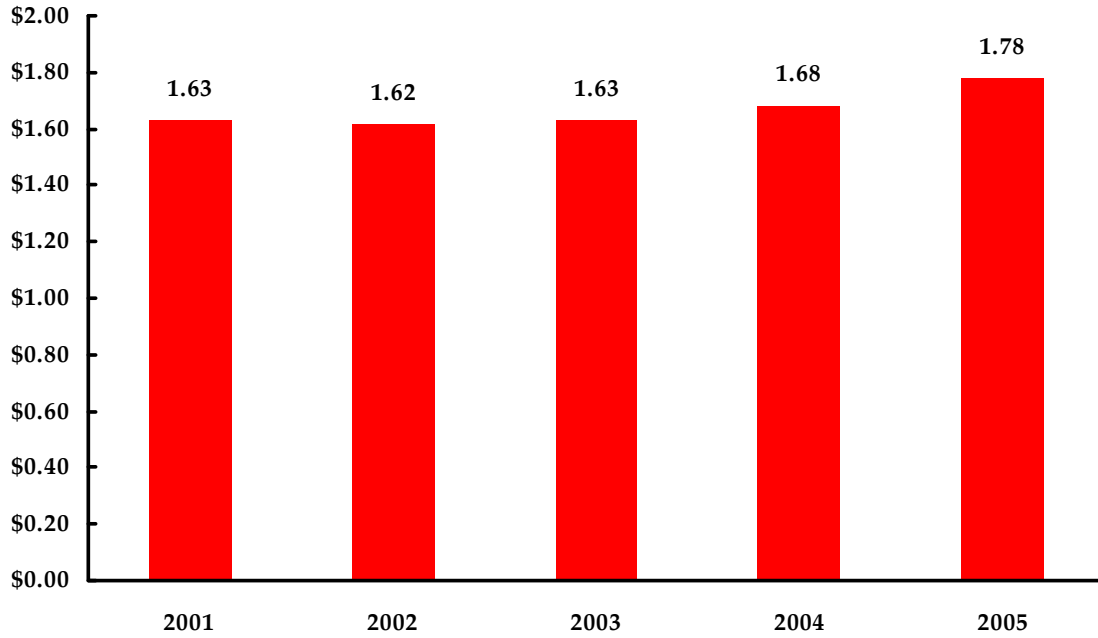
Figure 2.6 shows the total employment by year broken down between direct, indirect, and induced effects. For each direct job in transportation an additional .82 jobs are created.

Figure 2.6: Trend in Employment by Leverage Component from Transportation in Manitoba
Number of Employees
1 Direct Job = 1.82 Total Jobs
Leverage Factor = .82



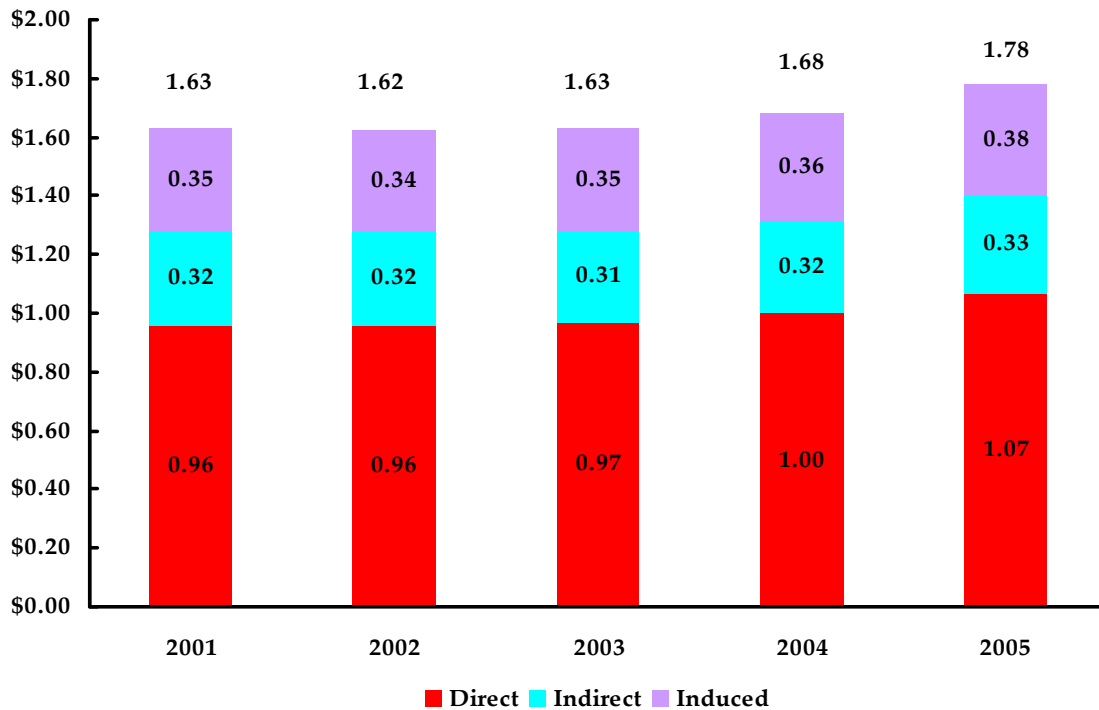
Total labour income in Manitoba due to the transportation sector rose from \$1.63 billion in 2001 to \$1.78 billion in 2005 (Figure 2.7). The average growth rate was 2.25% per year.

Figure 2.7: Trend in Total Labour Income from Transportation in Manitoba (\$ billion)



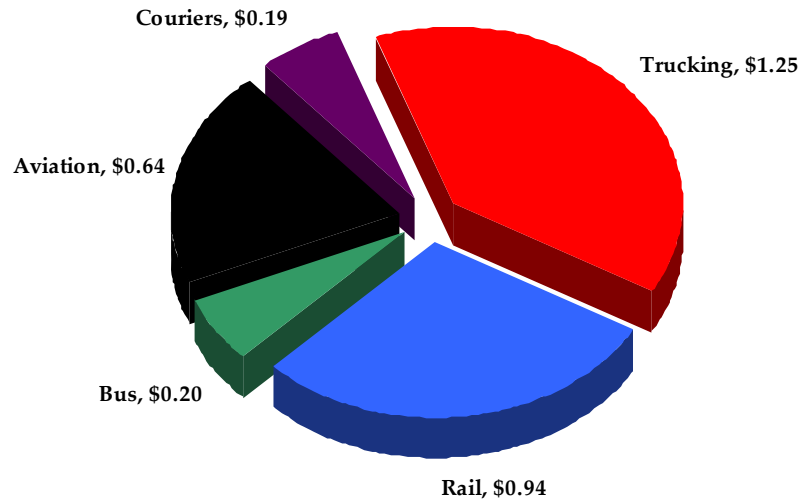
For each dollar of direct labour income in transportation an additional \$.66 in labour income is created in the Manitoba economy. Figure 2.8 shows the components of labour income since 2000.

Figure 2.8: Trend in Labour Income by Leverage Component from Transportation in Manitoba (\$ billion)
\$1 Direct Labour Income = \$1.66 Total Labour Income
Leverage Factor = .66



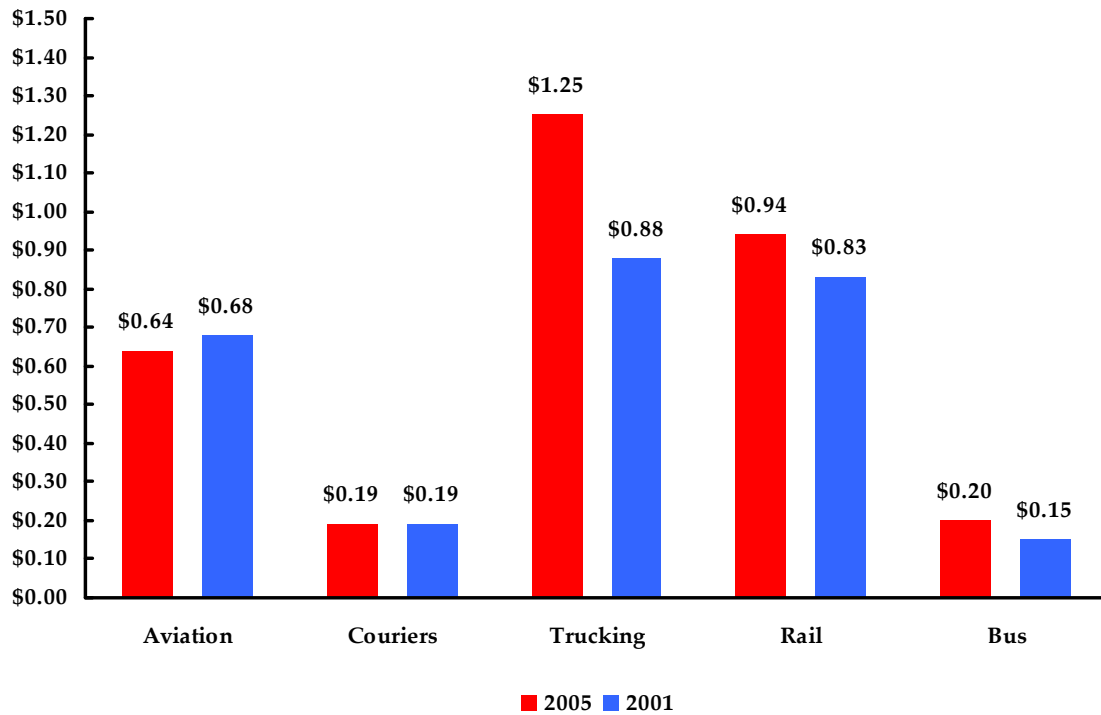
Amongst the modes, trucking is the most important transportation sector in Manitoba, contributing \$1.25 billion to GDP in 2005 as shown in Figure 2.9. This is followed by rail and aviation. Couriers and bus are similar in size.

**Figure 2.9: Contribution to Manitoba GDP by Transportation Mode: 2005
(\$ billion)**



As shown in Figure 2.10 each mode's contribution to GDP has increased since 2001.

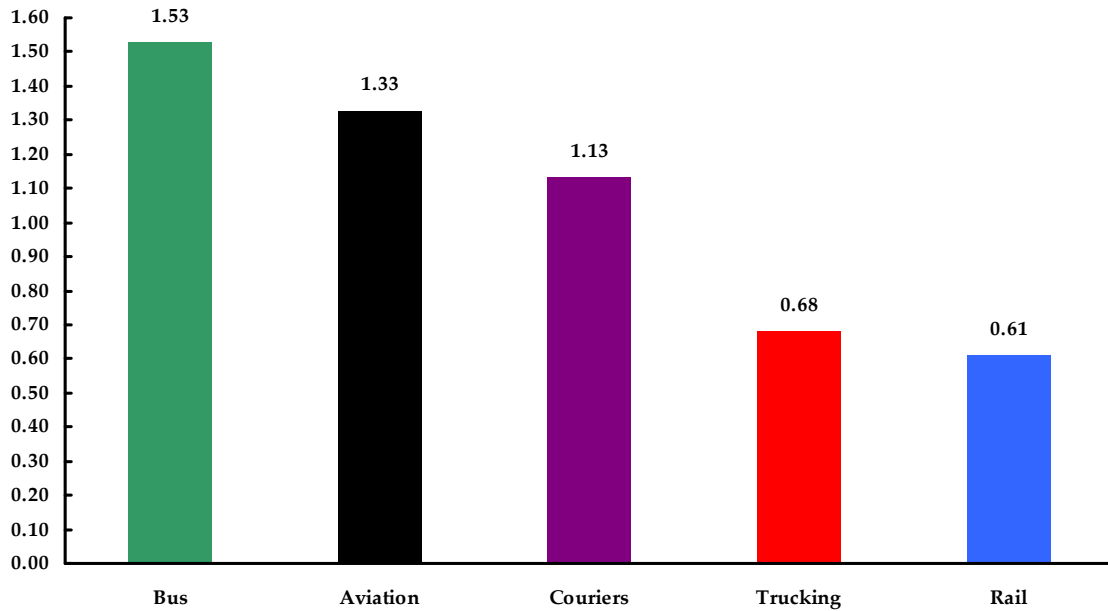
Figure 2.10: Change in Contribution to Manitoba GDP by Transportation Mode (\$ billion)



The largest growth was in trucking with the contribution to GDP rising by \$.37 billion over the time period. Aviation shrunk by \$.04 billion. Rail grew by \$.11 billion and bus by \$.05 billion. Couriers were unchanged.

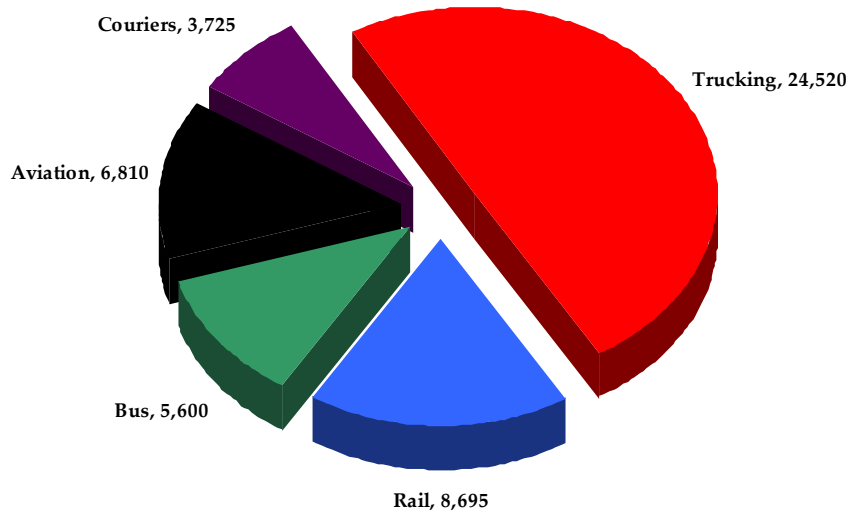
Figure 2.11 shows the comparative leverage of each of the modes in terms of contribution to GDP. Per dollar of GDP generated directly, bus generates the highest level of leverage throughout the economy at 1.53, followed by aviation and couriers. Rail has the smallest leverage effect at .61, while trucking was .68.

Figure 2.11: Leverage Ratios for Manitoba GDP by Transportation Mode



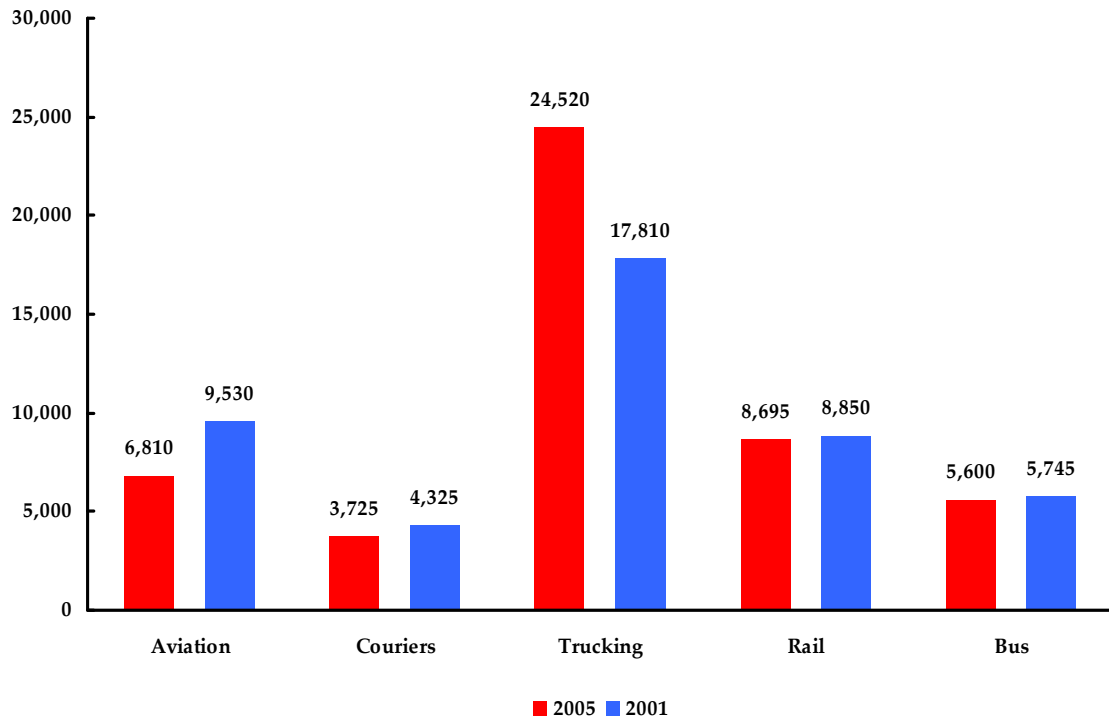
When employment is considered, trucking is the largest contributor to transportation and related jobs in Manitoba. Total employment created by trucking is about equal to all the other modes combined. Details are shown in Figure 2.12.

Figure 2.12: Contribution to Manitoba Total Employment by Transportation Mode: 2005



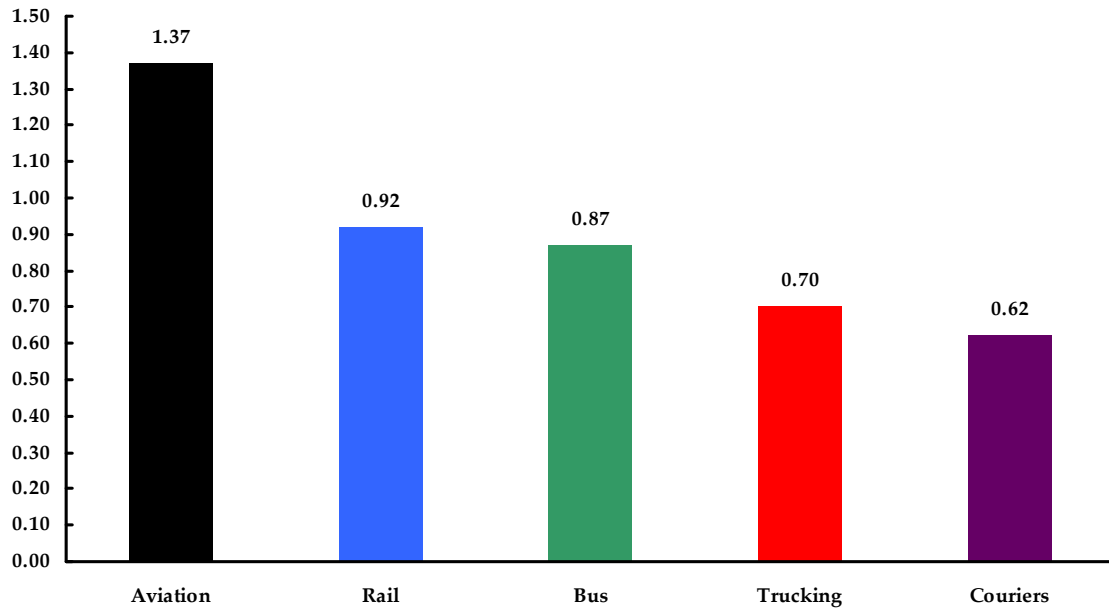
Employment changes between 2005 and 2001 are shown in Figure 2.13. As of the end of 2005, employment from trucking had increased from 17,810 to 24,520. Aviation declined from 9,530 to 6,810. Rail declined from 8,850 to 8,695. Bus decreased from 5,745 to 5,600. Couriers decreased by 600.

Figure 2.13: Change in Employment by Transportation Mode



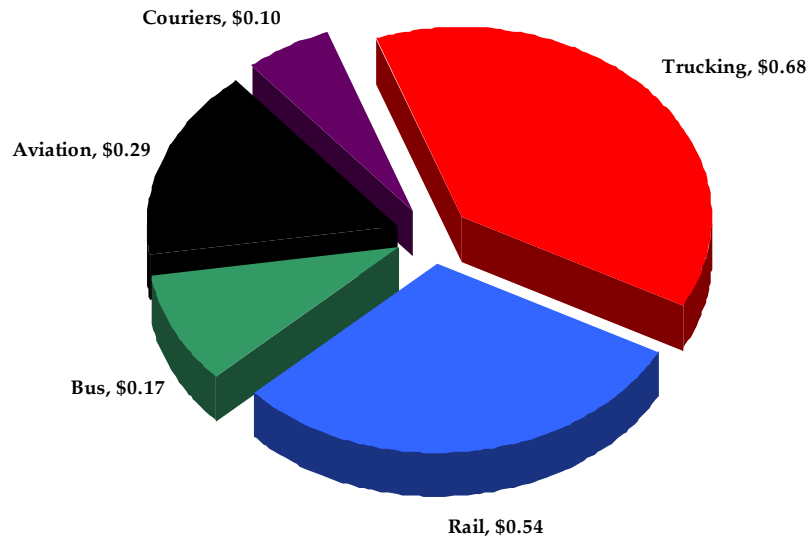
With respect to leverage in creating jobs throughout the economy, as shown in Figure 2.14, each aviation direct job generates an additional 1.37 jobs. This is followed by rail at 0.92, bus at 0.87 and trucking at 0.70. The ratio for couriers is the lowest at 0.62.

Figure 2.14: Leverage Ratios for Manitoba Employment by Transportation Mode



When labour income is considered, trucking is also the largest modal contributor to the economy. As shown in Figure 2.15, the trucking industry generated \$.68 billion in labour income in 2005. This was followed by rail at \$.54 billion, aviation at \$.29 billion, bus at \$.17 billion and couriers at \$.10 billion.

Figure 2.15: Contribution to Manitoba Labour Income by Transportation Mode: 2005 (\$ billion)



Growth in labour income from 2001 to 2005 is shown in Figure 2.16. Labour income from trucking increased from \$.46 billion to \$.68 billion. Aviation decreased from \$.42 billion to \$.29 billion. Rail grew by \$.06 billion from \$.48 billion. Couriers declined slightly while bus increased slightly.

Figure 2.16: Change in Labour Income by Transportation Mode (\$ billion)

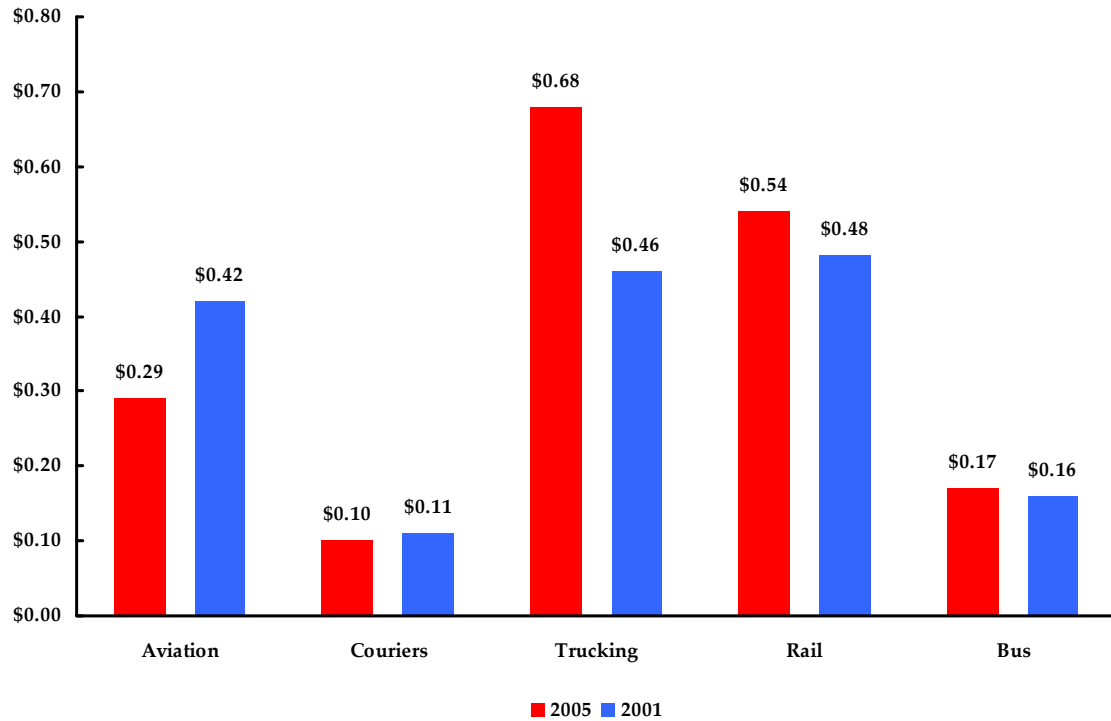
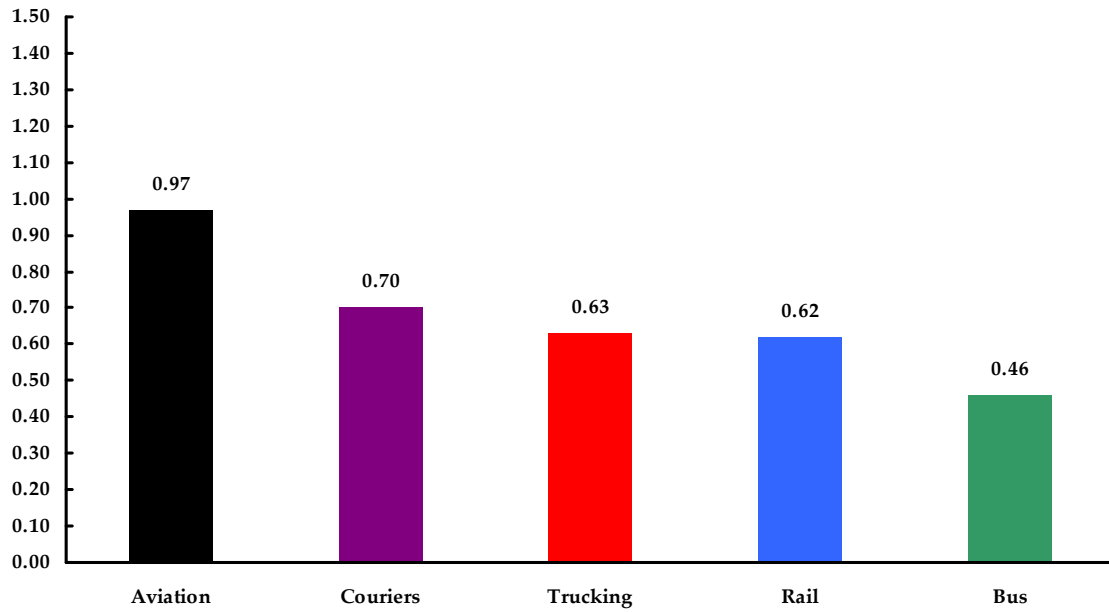


Figure 2.17 provides the leverage ratios for labour income by mode. Aviation provides the greatest leverage with \$.97 of additional labour income through the economy for every dollar of direct labour income in aviation. This is followed by couriers and trucking. Rail and bus provide lower levels of leverage.

Figure 2.17: Leverage Ratios for Manitoba Labour Income by Transportation Mode



3.0 Macro Trends Affecting Transportation

The transportation sector plays a strategic role as a driver of economic activity. As a dynamic facilitator of economic growth, transportation industries must be flexible in order to respond to broad level economic developments. The combination of facilitative and responsive activity of transportation is heavily influenced by the macro economy. The following will provide a background on the global, national, and provincial economies.

The global economic environment has experienced more broadly based growth recently despite the recent slowdown in U.S. growth, due mainly to a cooling housing market. Supported by strengthening activity in Europe, ongoing recovery in Japan, and continuing rapid expansion and high demand for commodities in emerging markets such as China, global economic expansion has remained vigorous in recent years. The climate of the global environment (particularly that of the U.S.), has a strong correlation to the economy in Canada. Developments to the global economy have direct and indirect effects on the transportation industry and the Canadian economy as a whole.

The International Monetary Fund's (IMF) World Economic Outlook and the Bank of Canada's 2006 Financial System Review identify the following as possible challenges facing the global macro economic environment:

- Inflationary pressures could intensify, requiring monetary policy to be tightened more than anticipated.
- Oil prices could increase further against the background of limited spare capacity and geopolitical uncertainty.
- The U.S. housing market could cool down more rapidly than expected, triggering a more abrupt slowdown of the U.S. economy, which would conversely effect its trading partners, most notably Canada, Mexico, and China.
- The risk of a pandemic, from an economic point of view would result in increased absenteeism related to illness, disruption of the supply chain, and a possible effect on confidence.

Despite the recent robust expansion of the global economy, it is expected to decelerate to a more sustainable pace over the next few years.⁸

The Canadian economy continues to grow at a solid pace. The macroeconomic situation has been favourable for the past few years with strong growth, high commodity prices, and strong profits. Households, businesses, and financial institutions are in good shape, which is partly the result of the very favourable macro economic environment.⁹ Western

⁸ Bank of Canada: [Monetary Policy Report Update January 2007](#) (2007).

⁹ Bank of Canada: [Financial System Review 2006](#) (2006)

Canada continues to lead the way in terms of growth, while Central Canada's export intensive manufacturing sector has slowed due mainly to the economic slowdown of the U.S. economy and the rising Canadian dollar.

The Department of Finance's November 2006 Economic and Fiscal Update identified the following as concerns facing the Canadian economic environment:

- The risks to the Canadian outlook remain largely external.
- The correction to the U.S. housing market could be more severe than expected, resulting in a more pronounced slowdown of the U.S. economy.
- The prices of commodities are well above historical norms, leading to the possibility of a significant correction. This poses a significant downside risk to Canadian nominal GDP growth.
- A sharper than expected U.S. slowdown or decelerating growth in China from its current rapid pace would also pose a downside risk to commodity prices.
- The U.S. dollar could depreciate further against floating currencies such as the Canadian dollar in response to global current account imbalances. This would pose additional challenges to Canada's export sector.

The economic outlook for Canada continues to be characterized by an increasing dichotomy between the strong performance of the primary resource based sector in the western provinces and the problems stemming from the stronger Canadian dollar for the manufacturing sector in the eastern provinces.¹⁰ Overall, factors that include low long term interest rates, a softer loonie, robust global growth, still high commodity prices, record stock prices, and less drag from the adjustments in the U.S. housing market and auto industry point to strong growth for the Canadian economy in the future.¹¹

Manitoba boasts a well diversified economy which includes such key industries as mining, electric power, grain, agri-food, manufacturing, construction, services and life sciences. Growth in 2005 was broadly based with notable gains coming in utilities, wholesale and retail trade, mining, and transportation. The diversification of the Manitoba economy allows it to consistently experience moderate gains and partially avoid the upswings or downswings experienced in the Canadian and global economies. A number of major investment projects are planned in Manitoba to be completed over the next few years which include the Winnipeg floodway expansion, Wuskwatim hydro-electric dam, the downtown Manitoba Hydro office building, and the new Winnipeg airport terminal.

¹⁰ United Nations: World Economic Situation and Prospects 2007 (2007)

¹¹ BMO Capital Markets: North American Outlook (2007)

The Manitoba economy is expected to maintain steady growth. In 2007, the Manitoba economy is forecast to grow by 2.6%, above the national rate of 2.4%. The outlook for Manitoba follows the trend in both the Canadian and U.S. economic projections.¹²

With these points in mind, this section explores a number of key macro economic indicators that have a direct effect on the cost of, and flow of, transportation services. Like other critical business sectors, developments in the various transportation industries are intimately tied to the demands and performance of the economy, provincially, nationally, and globally. Monetary, productivity, and spending related indicators reveal much about the state of the economy, and in turn, provide a vehicle for understanding developments and bottlenecks across the transportation sector.

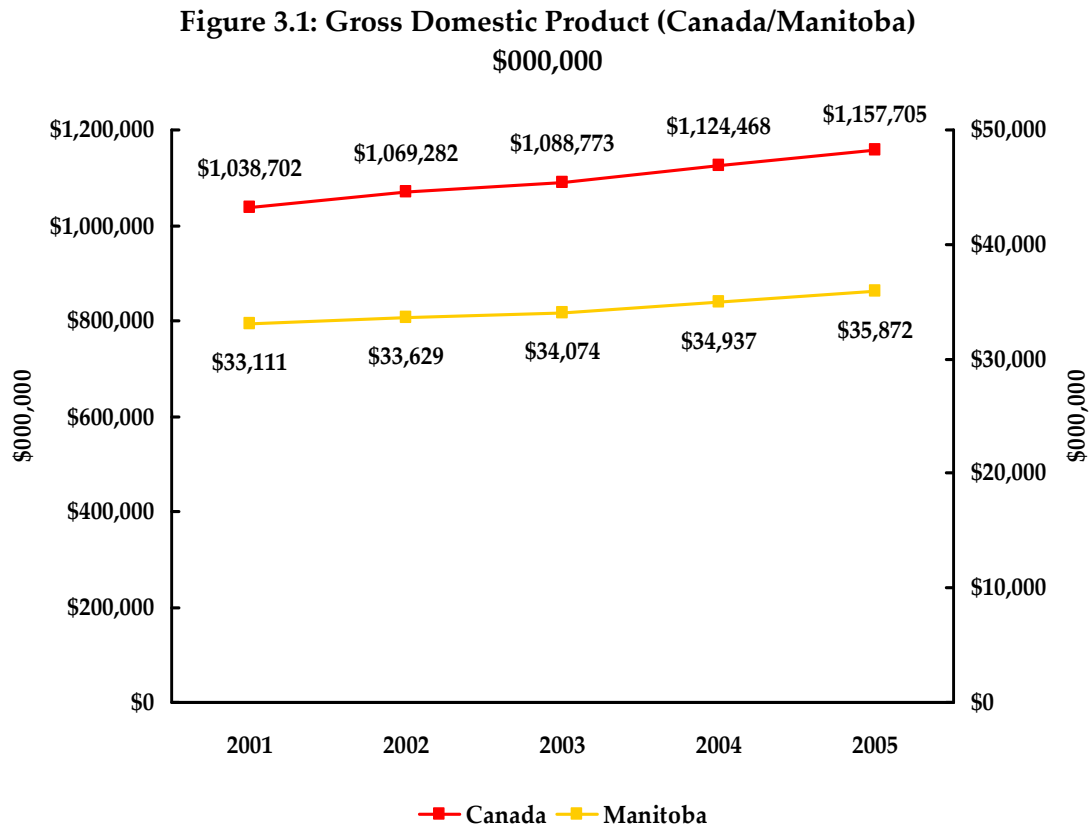
Recent developments such as the Canada – U.S. Open Skies agreement, the Asia-Pacific Gateway Corridor initiative, and the passport requirements to enter the U.S. which will be enforced at land border crossings in 2008, have an affect on all modes of transportation and share a connection to the macro economy. The climate of the macro economy must be taken into account when considering and efficiently responding to challenges in the transportation industry.

Economic Indicators

The economic performance indicators listed in this section capture a set of trends in the economies of Canada and Manitoba between 2001 and 2005. Together, the indicators provide a context for understanding why and when developments in the transportation sector have occurred.

¹² The information in this section reflects information reported by the Provincial Government of Manitoba, Manitoba Finance: Budget Paper A, The Economy (2006)

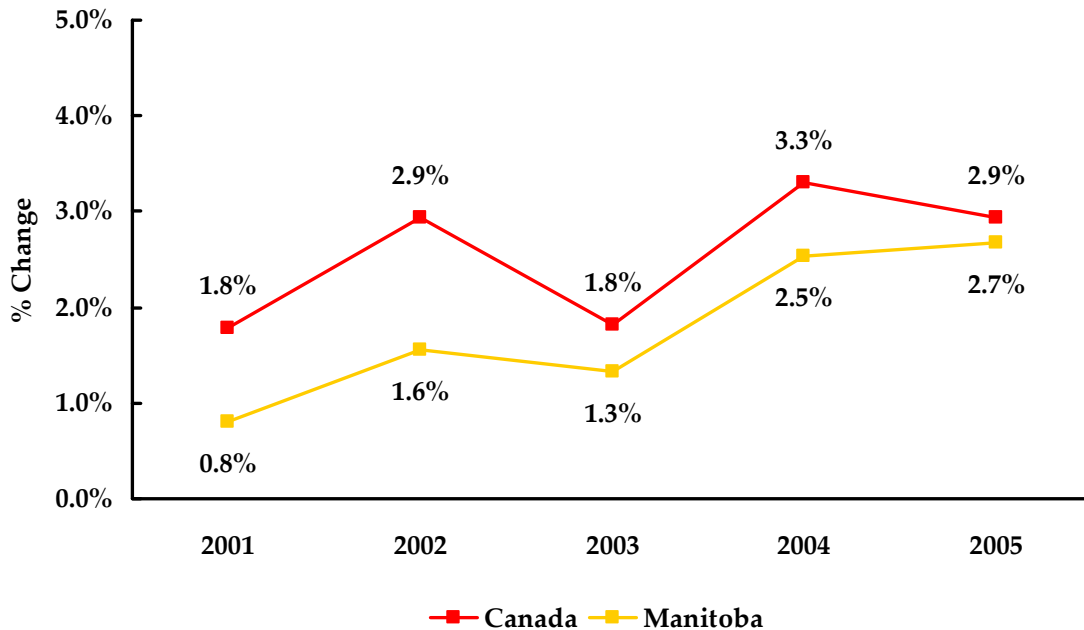
Figure 3.1 and Figure 3.2 show the real GDP totals (in millions of dollars) and rates of change in GDP for Canada and Manitoba.



From 2001 to 2005, Canada's GDP increased from just under \$1.04 trillion to more than \$1.15 trillion. Over the same time period, Manitoba's GDP increased from more than \$33.1 billion to over \$35.8 billion.

Figure 3.2 indicates that the provincial and national levels of growth have remained relatively consistent and positive while showing moderate overall increases from 2001 to 2005.

Figure 3.2: Rate of Change in GDP (Canada/Manitoba)

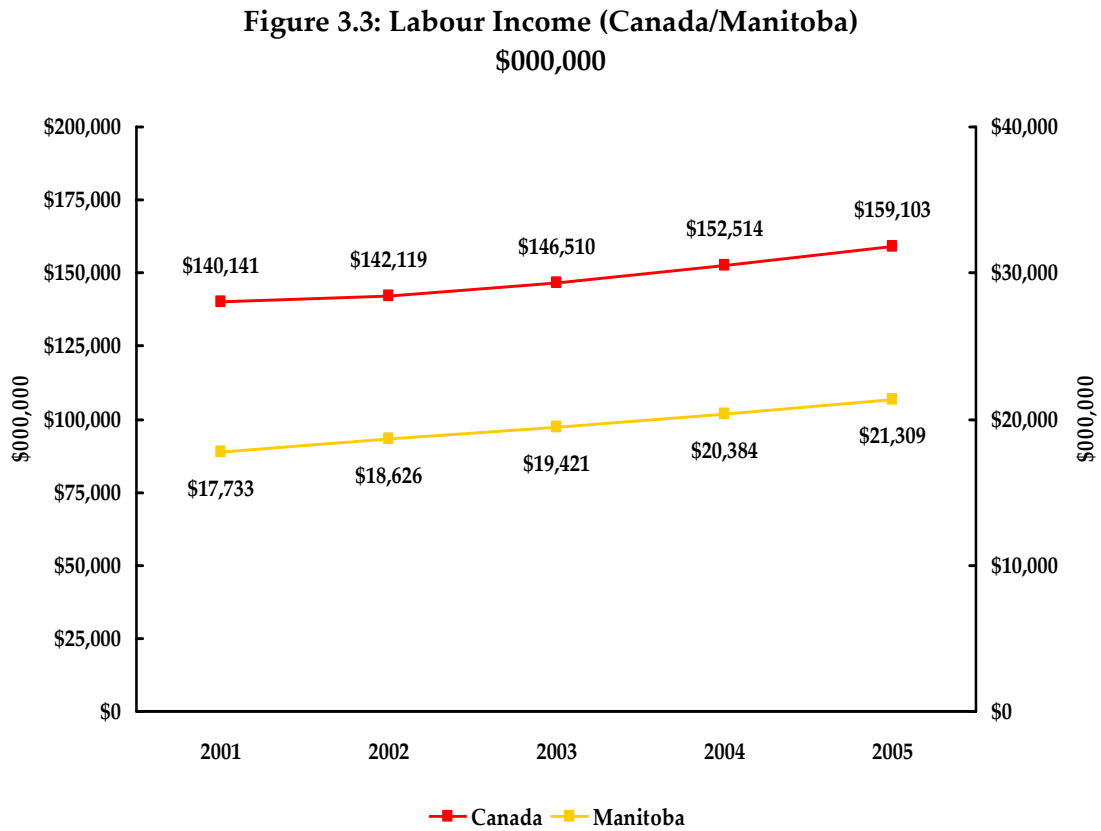


Economic growth in Canada has been driven by high commodity prices, private consumption growth, good corporate profits and business investment, and strong domestic demand. These factors have been able to offset the strong Canadian dollar and the rise in energy prices.

The source of weakness for Canada's economy continues to be the slowdown in the U.S. economy and the rising Canadian dollar, which primarily affects the manufacturing exports of eastern Canada. Canadian exports to the U.S. represent close to 30% of real Canadian GDP, so a moderate decline in GDP growth is a distinct possibility. However, this looks to be somewhat offset by continued strong domestic demand. In both Canada and Manitoba, GDP growth is expected to average between 2 – 3% over the next few years.¹³

¹³ Manitoba Finance: Budget Paper A, The Economy (2006)

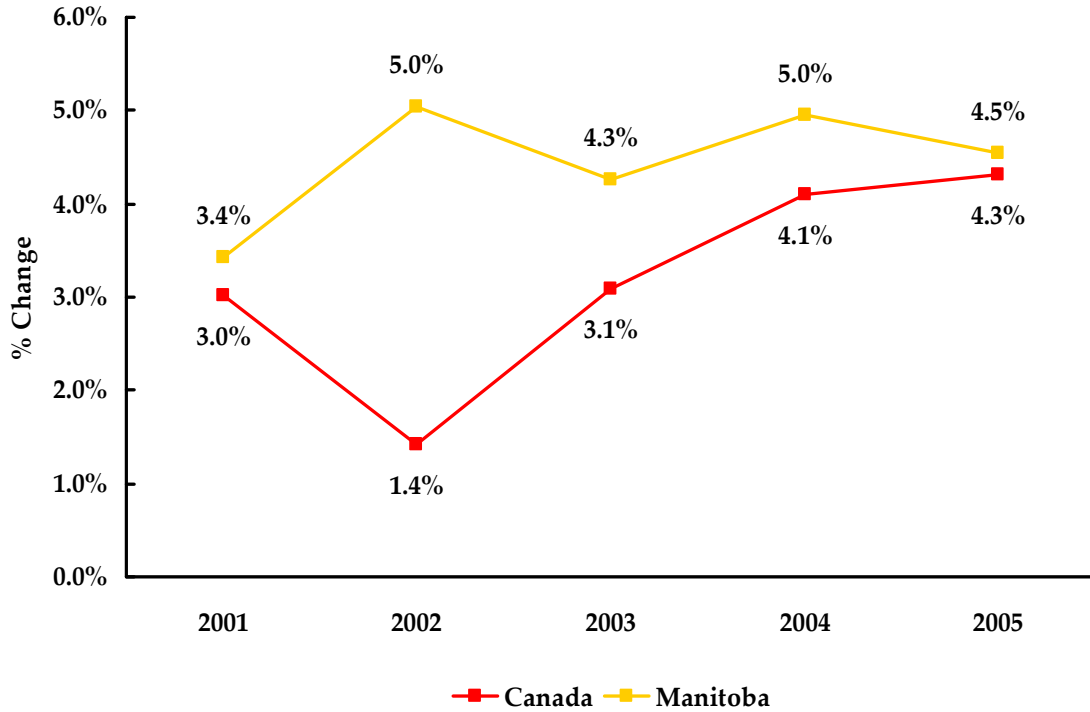
Figure 3.3 shows labour income (in millions of dollars) for Canada and Manitoba between 2001 and 2005.



Between 2001 and 2005, Canada's labour income increased from \$140.1 billion to over \$159.1 billion. In that same time period, Manitoba's labour income increased from \$17.7 billion to over \$21.3 billion.

Figure 3.4 shows the rate of change in labour income for Canada and Manitoba between 2001 and 2005.

Figure 3.4: Rate of Change in Labour Income (Canada/Manitoba)

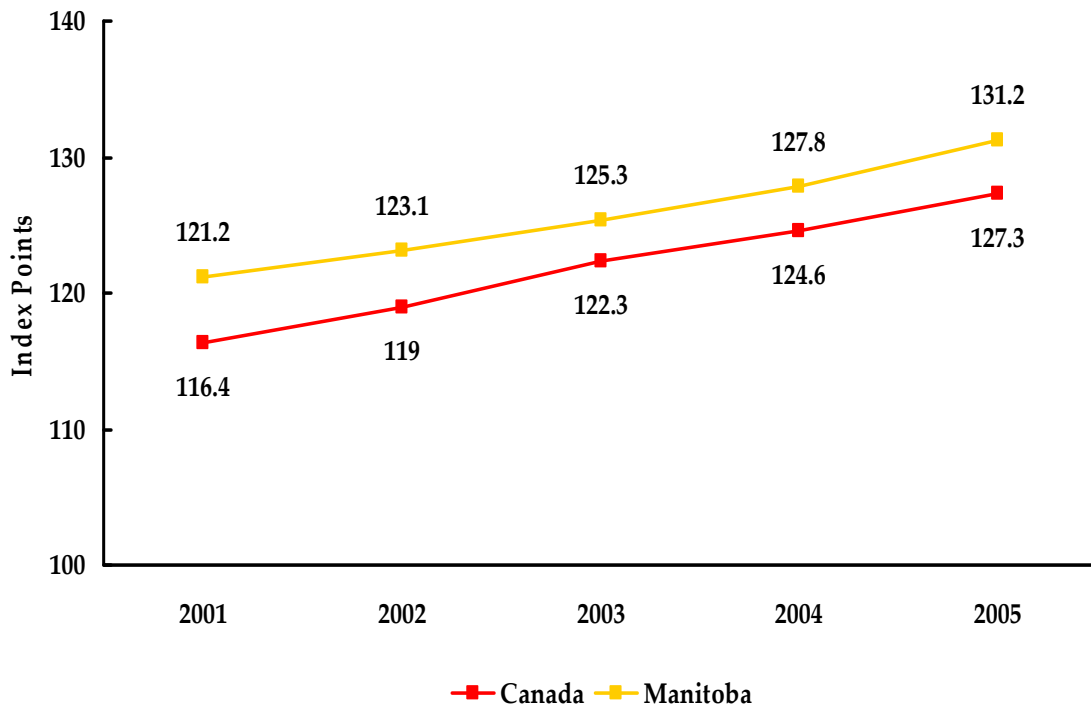


Both Manitoba and Canada experienced increases in labour income each year over the five year period. Manitoba's labour income growth has been in the 4-5% range from 2002 to 2005, while Canada's labour income grew by 4.3% in 2005, rebounding from a low of 1.4% in 2002.

Figures 3.5 to 3.8 reflect changes in market prices (consumer price index – CPI) and personal spending in the Canadian and Manitoban economies.

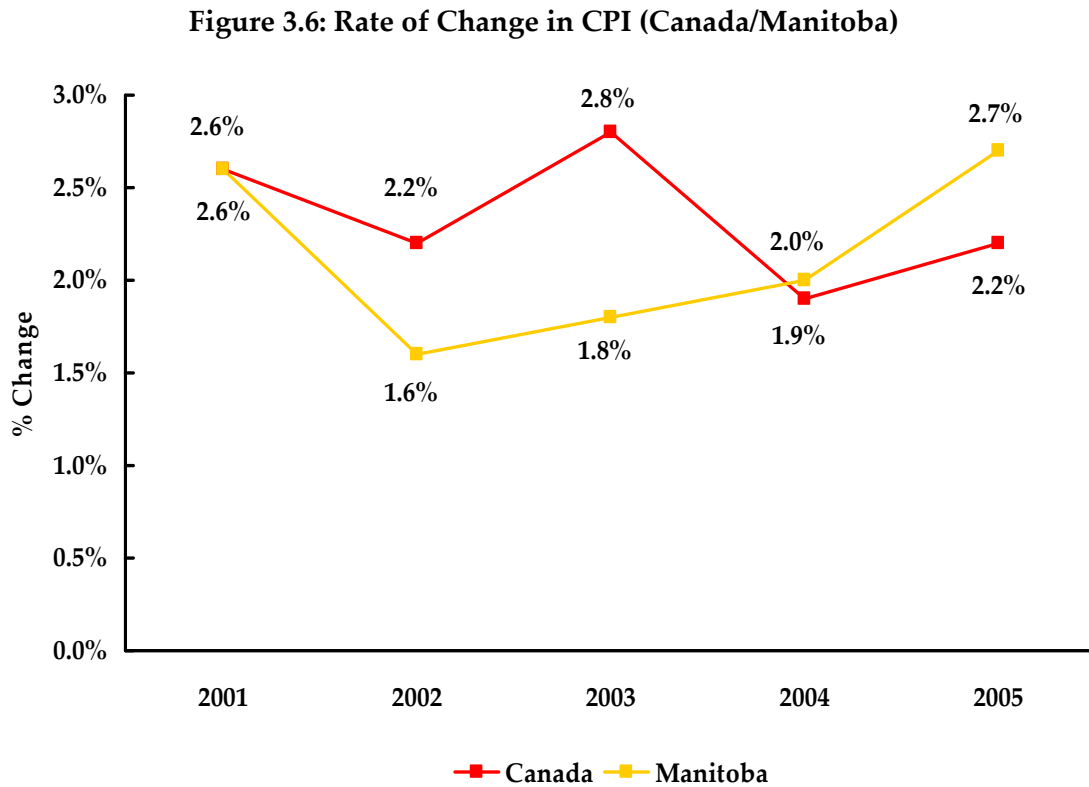
Figure 3.5 shows the consumer price indices for Canada and Manitoba. As a measure of prices of a basket of consumer goods, the CPI is often referred to as an indicator of price changes (inflation/deflation) in the economy.

Figure 3.5: Consumer Price Index (Canada/Manitoba)



Between 2001 and 2005, the CPI for the Canadian economy increased from 116.4 to 127.3. The CPI for Manitoba also increased in the same time period from 121.2 in 2001 to 131.2 in 2005. At both the national and provincial levels this represents a gradual, stable increase of prices.

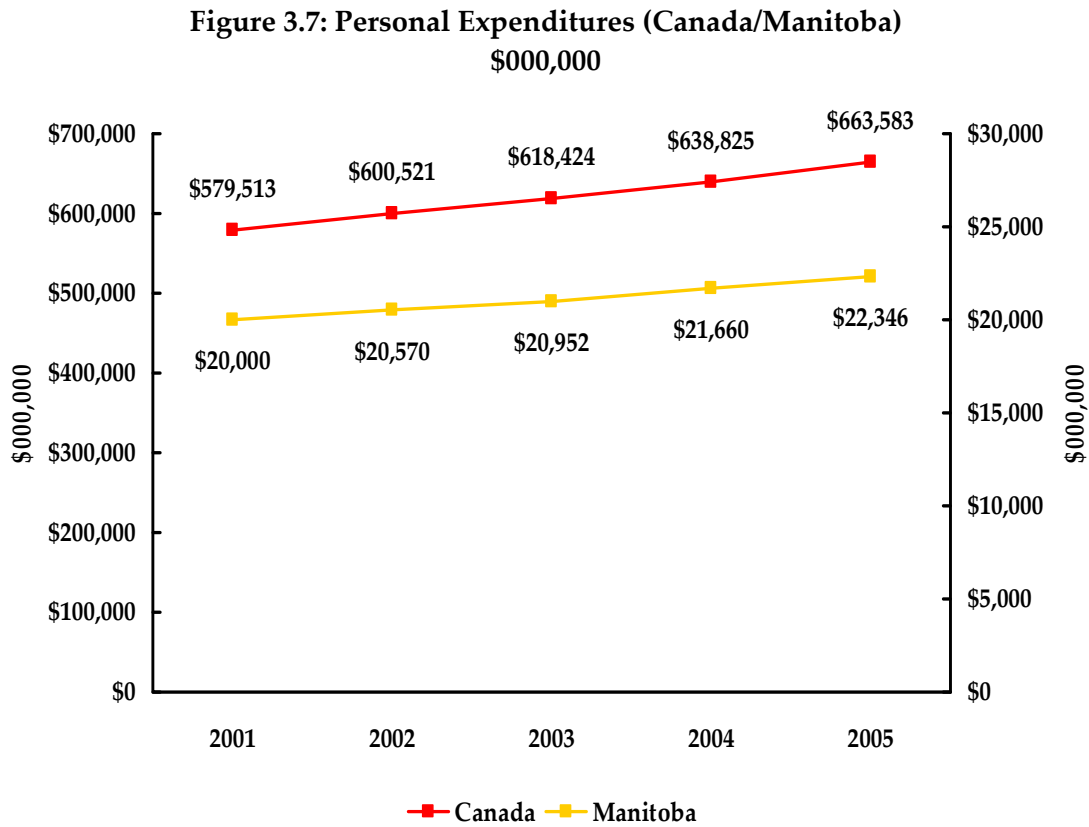
Figure 3.6 shows the rate of inflation in Canada and Manitoba between 2001 and 2005.



Between 2001 and 2005, Canada's CPI averaged growth of 2.3%. During the same period, Manitoba's CPI averaged growth of 2.1%, but outpaced Canada's CPI growth in 2004 and 2005. For Manitoba, inflation was 2.7% in 2005 – greater than the previous three years. This is mainly attributable to rising energy prices in the second half of 2005. Overall, a moderate slowdown in growth, recent tax cuts, and slightly declining energy prices may help keep inflation under control in the next year.¹⁴

¹⁴ United Nations: World Economic Situation and Prospects 2007 (2007)

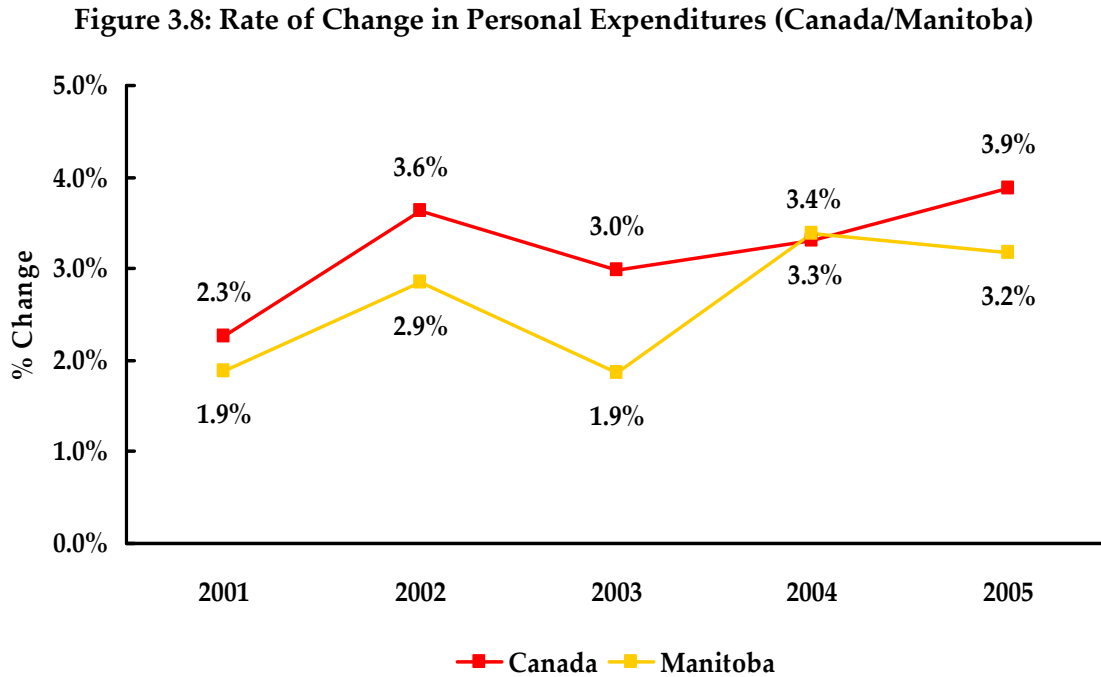
Figure 3.7 displays the changing value of personal expenditures¹⁵ in the Canadian and Manitoban economies.



Canada's personal expenditures increased to over \$663 billion in 2005, up from \$579 billion in 2001. Manitoba's personal expenditures increased \$2.3 billion from 2001 to 2005, ending 2005 at \$22.3 billion.

¹⁵ The portion of GDP that is contributed by the consumption of consumer goods and services. These goods and services are meant to reflect household expenditures.

Figure 3.8 shows the trends in personal expenditures for Canada and Manitoba between 2001 and 2005. Despite year to year fluctuations, both Canada and Manitoba show ongoing growth in personal expenditures.

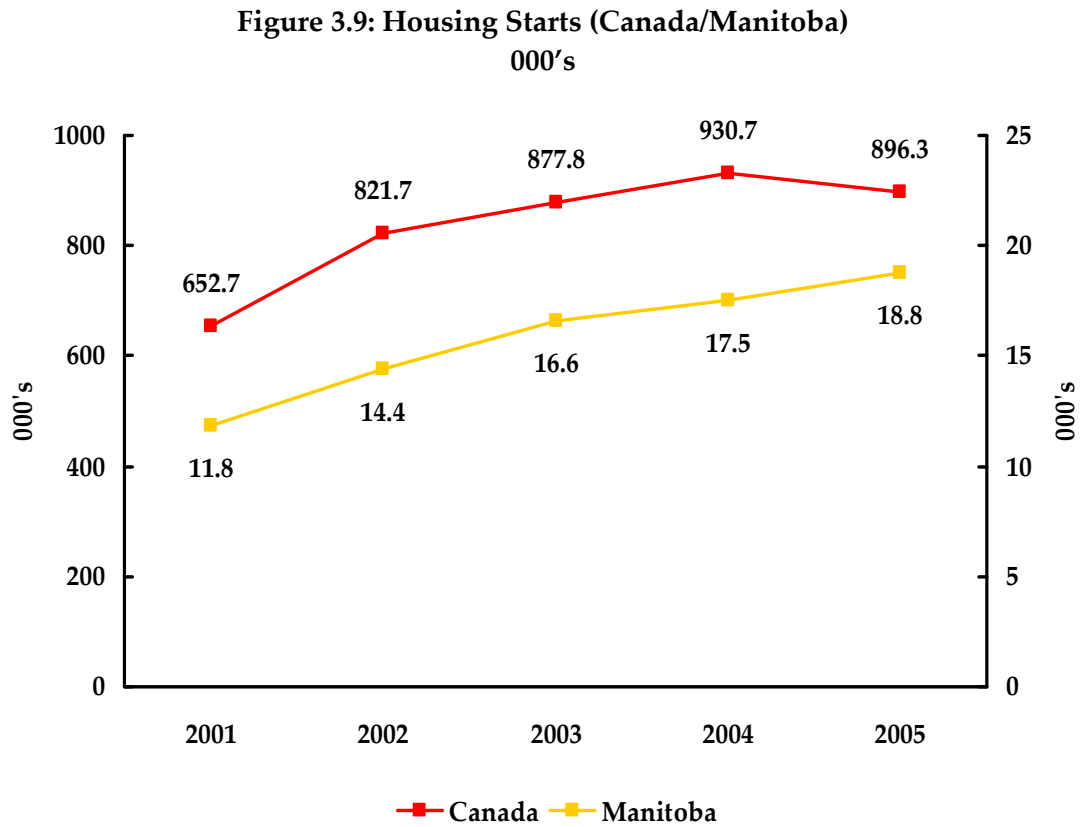


Strength in labour markets and real personal disposable income together with increases in household net worth and household credit has continued to support solid growth in consumer spending.¹⁶ Canada showed an average annual percentage change in personal expenditure growth of 1.6% from 2001 to 2005, ending 2005 at 3.9%. Manitoba also showed an increase in growth of 1.3%, ending 2005 at 3.2%. Low unemployment and continuing moderate wage gains point to a reasonably healthy pace of consumer spending over the next year.¹⁷

¹⁶ Bank of Canada: Monetary Policy Report Update January 2007 (2007)

¹⁷ Scotiabank Group: Global Economic Research, Canada (2006)

Figure 3.9 displays the number of housing starts in Canada and Manitoba between 2001 and 2005. The housing sector leads the Canadian and Manitoban economies.

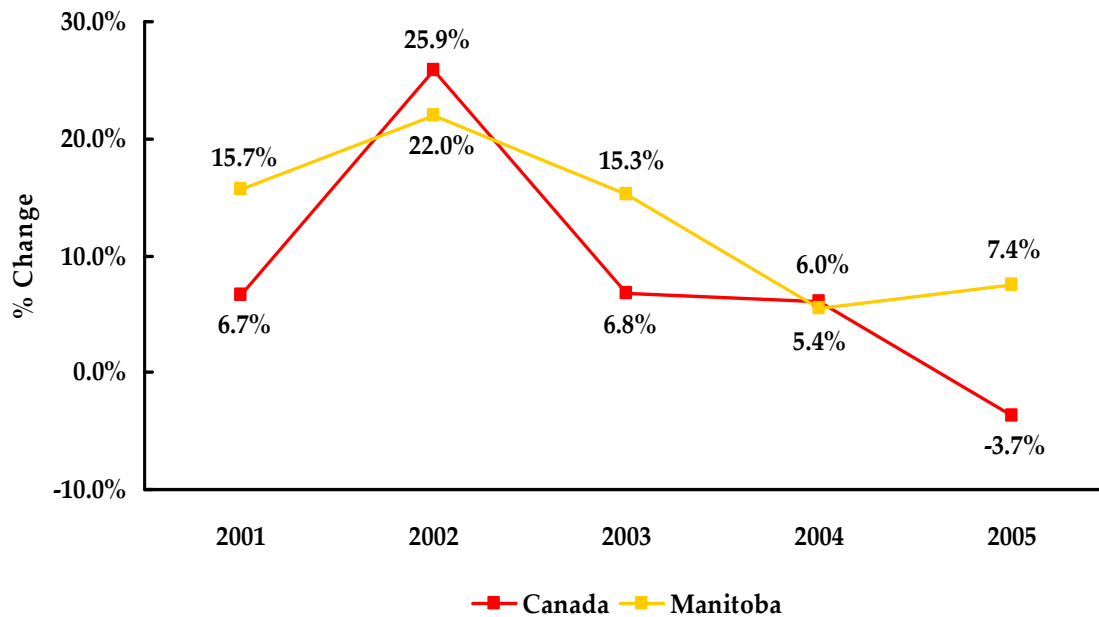


In Canada, the number of housing starts increased from more than 652,000 in 2001 to more than 896,000 in 2005. However, 2005 saw Canada experience a decline in housing starts for the first time in the five year period. In Manitoba, the number of housing starts saw a steady increase. Between 2001 and 2005, housing starts increased from 11,800 to 18,800.

The percent change in housing starts reveals information about consumption patterns and is directly related to other key indicators such as labour income and interest rates. It is also closely affiliated with the performance of critical economic industries such as forestry, manufacturing, and transportation.

Figure 3.10 shows the rate of change in housing starts in Canada and Manitoba between 2001 and 2005.

Figure 3.10: Rate of Change in Housing Starts (Canada/Manitoba)



Canada’s housing starts have seen a significant decline in growth following a high of 25.9% in 2002. While the western provinces, particularly Alberta and B.C. continue to see a high growth in housing starts, the negative growth rate experienced in 2005 is reflective of cooling housing activity in most eastern provinces. In Manitoba, the number of housing starts continues to grow at a solid pace, however slightly down from the elevated pace of 22% in 2002. In 2005, the rate of growth in housing starts in Manitoba was 7.4%.

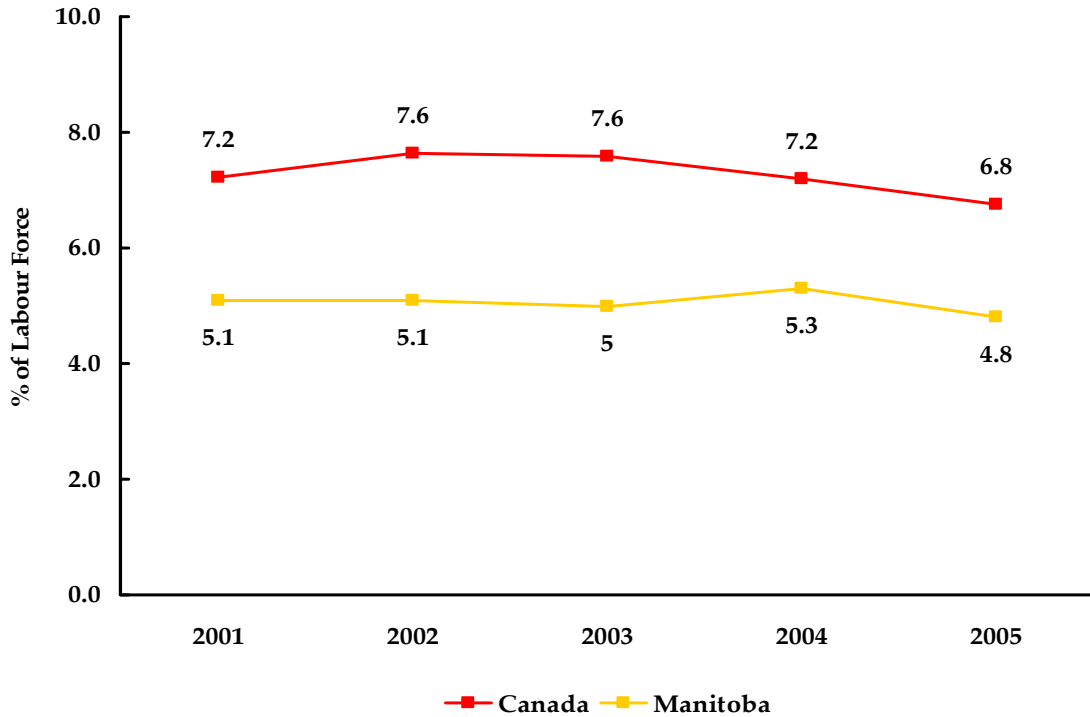
In Canada, reduced affordability, rising inventories, and depleted pent up demand after a multi-year upswing point to a softening in new construction and existing home sales in 2007.¹⁸ In Manitoba, it appears as though construction will slow down after a number of years of high growth, but will still remain firm.¹⁹

¹⁸ Scotiabank Group: Global Economic Research, Canada (2006)

¹⁹ Scotiabank Group: Provincial Pulse: Manitoba Profile – Economic View (2006)

Figure 3.11 shows the unemployment rate in Canada and Manitoba between 2001 and 2005.

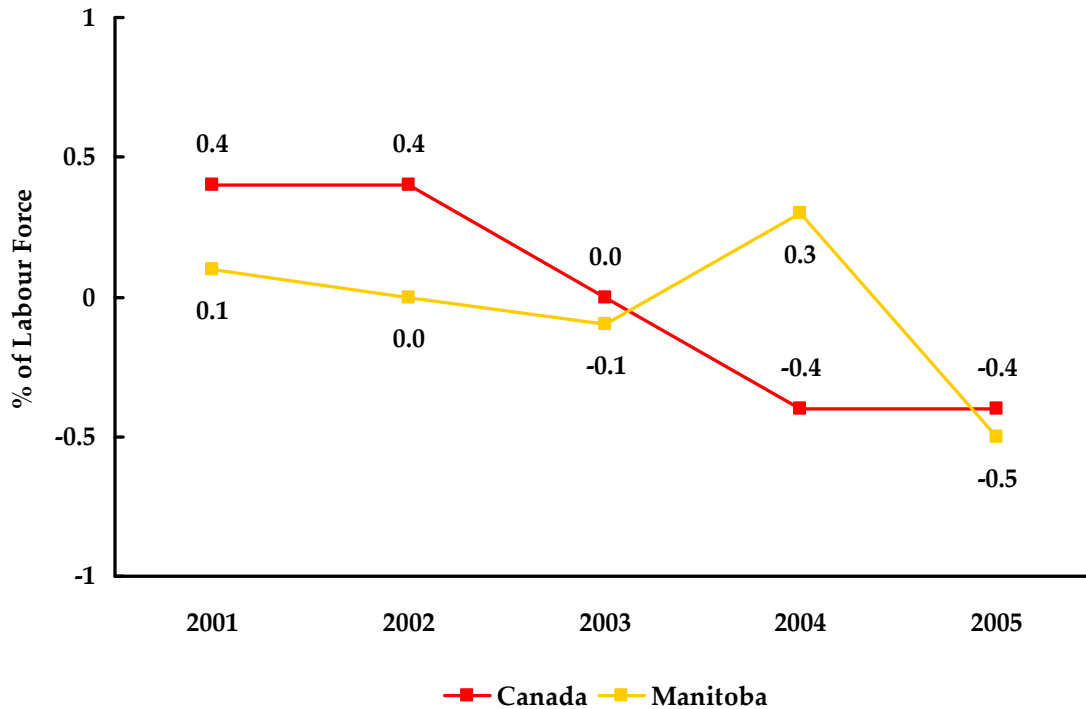
Figure 3.11: Unemployment Rate (Canada/Manitoba)



In Canada, the unemployment rate dropped 0.4% between 2001 and 2005 to 6.8% in 2005. In Manitoba, the unemployment rate also experienced a decline. Between 2001 and 2005 the unemployment rate in Manitoba fell from 5.1% to 4.8%.

Figure 3.12 displays the change in the unemployment rate in Canada and Manitoba between 2001 and 2005. A negative number indicates a decrease in the unemployment rate, resulting from an increase in employment.

Figure 3.12: Change in Unemployment Rate (Canada/Manitoba)



Canada has experienced a declining unemployment rate since 2003, decreasing by -0.4 in both 2004 and 2005. Manitoba experienced a substantial decrease in the unemployment rate in 2005 of -0.5. This is a sharp contrast to the previous year where the unemployment rate in Manitoba grew by 0.3. Private sector forecasters expect the Canadian labour market to remain healthy and the unemployment rate to average 6.5% over the next couple of years.²⁰ Manitoba’s unemployment rate continues to remain among the lowest in the country.

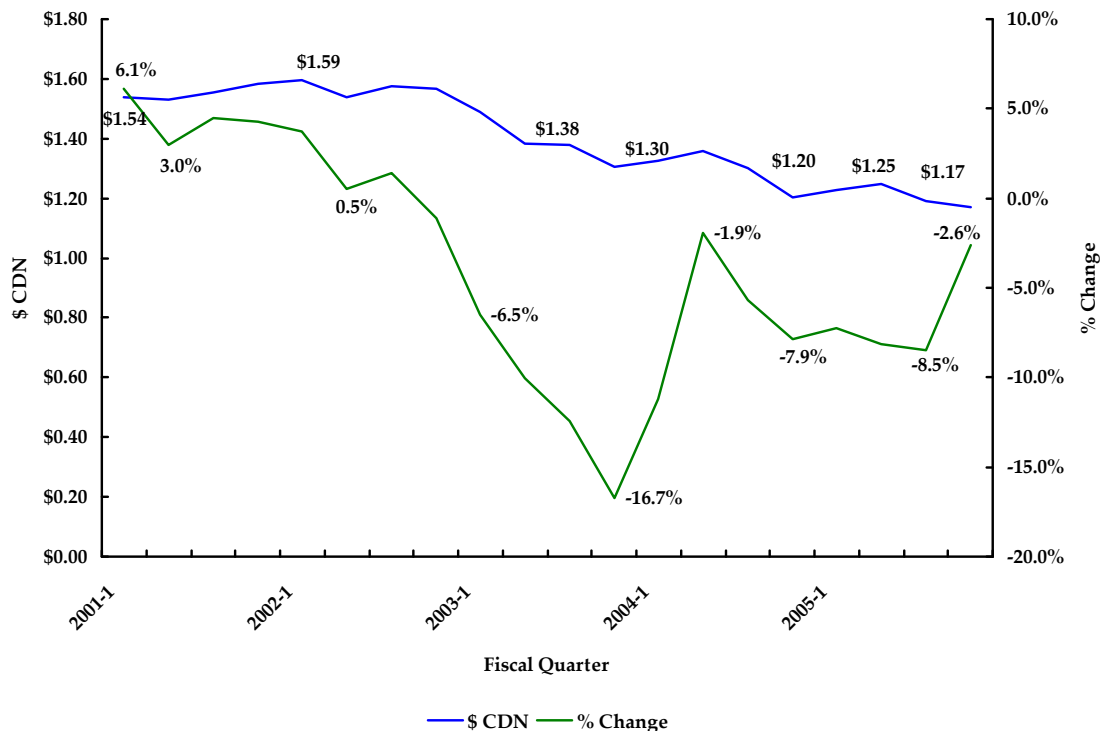
²⁰ Government of Canada, Department of Finance: *Economic and Fiscal Update*, November 2006 (2006)

Monetary and Energy Indicators

The rising value of the Canadian dollar relative to the American dollar has had an impact on the Canadian economy. While the growth of imported goods and services due to the strong dollar has helped the economy by stimulating consumer spending, the loss of exports to the U.S. from eastern Canada due to the rising dollar and a slowing U.S. economy has been a drag on overall economic growth.

Figure 3.13 shows the trend in the ratio of the Canadian dollar to the U.S. dollar. The U.S. dollar has depreciated significantly from the beginning of 2001, at CDN \$1.54, to the end of 2005, at CDN \$1.17. As of February 2007, the U.S. dollar remained at CDN \$1.17.

Figure 3.13: Quarterly Average Exchange Rates – U.S. Dollar



A number of factors have contributed to the appreciation of the Canadian dollar compared to the U.S. dollar. A key factor has been rising prices of Canadian produced commodities and ongoing adjustments to global current account imbalances. The U.S. dollar has depreciated over the last few years in response to a slowdown of the domestic American economy, a change in the direction of foreign investment as some countries with large foreign exchange reserves in U.S. dollars look to reduce their U.S. dollar reserves²¹, rising trade deficits, and geopolitical actions such as the continued occupation of Iraq.

²¹ People's Daily Online: [Dollar will continue to Depreciate](#) (2006)

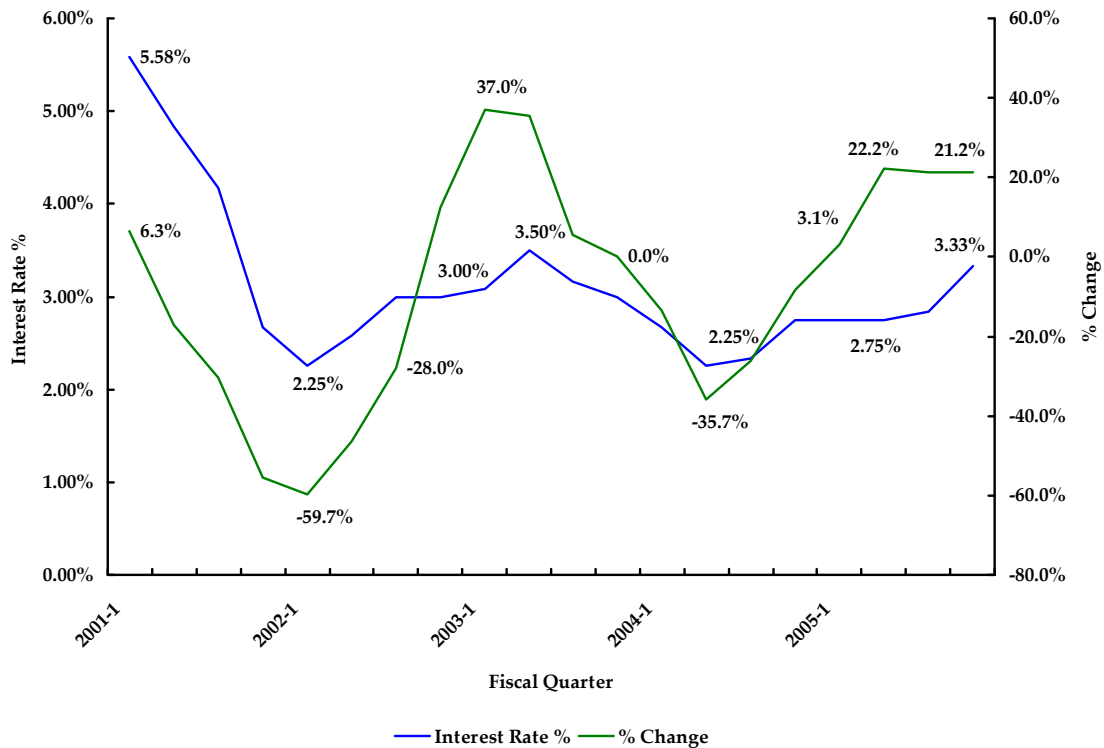
If the Canadian dollar appreciates further compared to the U.S. dollar, exports will continue to be affected. As a result the Canadian economy faces enhanced competition from Asian countries, particularly China who are able to import goods into the U.S. at far lower prices. While this may not be a strain on the high demand for commodity exports from western Canada, the manufacturing sector in eastern Canada is likely to be the most affected.

At the end of February 2007, the U.S. dollar remained at CDN \$1.17, identical to the fourth quarter of 2005.

Figure 3.14 displays the year to year trend in quarterly average Bank of Canada interest rates. Between the first quarter of 2002 and the fourth quarter of 2005, interest rates stayed between the 2% - 3.5% range. These lower rates enhanced domestic demand and provided a boon to the Canadian economy.

At the end of February 2007, interest rates were 4.50%. This is reflective of the Bank of Canada adopting a recent tightening bias to avoid a buildup of inflationary pressures. Faced with the prospect of slowing North American growth, the Bank of Canada is expected to lower interest levels to stimulate consumer spending and position the economy for an upswing in growth.²²

Figure 3.14: Quarterly Average Interest Rates (Bank of Canada Rate)



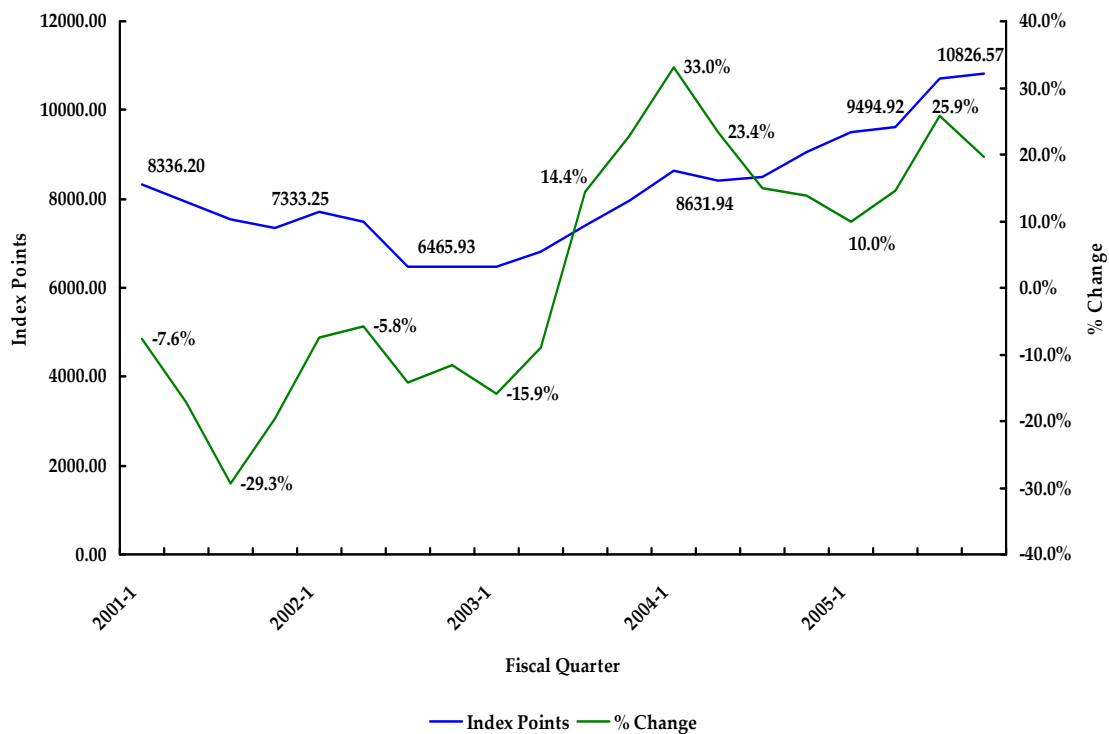
²² Business and Industry Advisory Committee (BIAC): *Economic Review, Autumn 2006* (2006)

The S&P/TSX Composite Index is an index of stock prices for the largest companies on the Toronto Stock Exchange as measured by market capitalization. The S&P/TSX Composite Index accounts for about 70% of market capitalization for all Canadian based companies listed on the TSX. The size and extensive economic sector coverage of the S&P/TSX Index has made it the foremost indicator of market activity for Canadian equity markets.

Transportation companies in all modes can be affected by the status of the S&P/TSX Composite Index. Upswings or downswings in the market can be reflective of profits and growth. Several large transportation firms are represented on the S&P/TSX Index, which include CN, CP, Air Canada Enterprises and WestJet.

Figure 3.15 shows the quarterly average S&P/TSX Composite Index between 2001 and 2005. The Index has experienced positive growth rates since the third quarter of 2003, after declining from 2001 until mid 2003. In the fourth quarter of 2005, the S&P/TSX was 10,826.57. At the end of February 2007, the S&P/TSX Composite Index was 13,045.02.

Figure 3.15: Quarterly Average S&P/TSX Composite Index

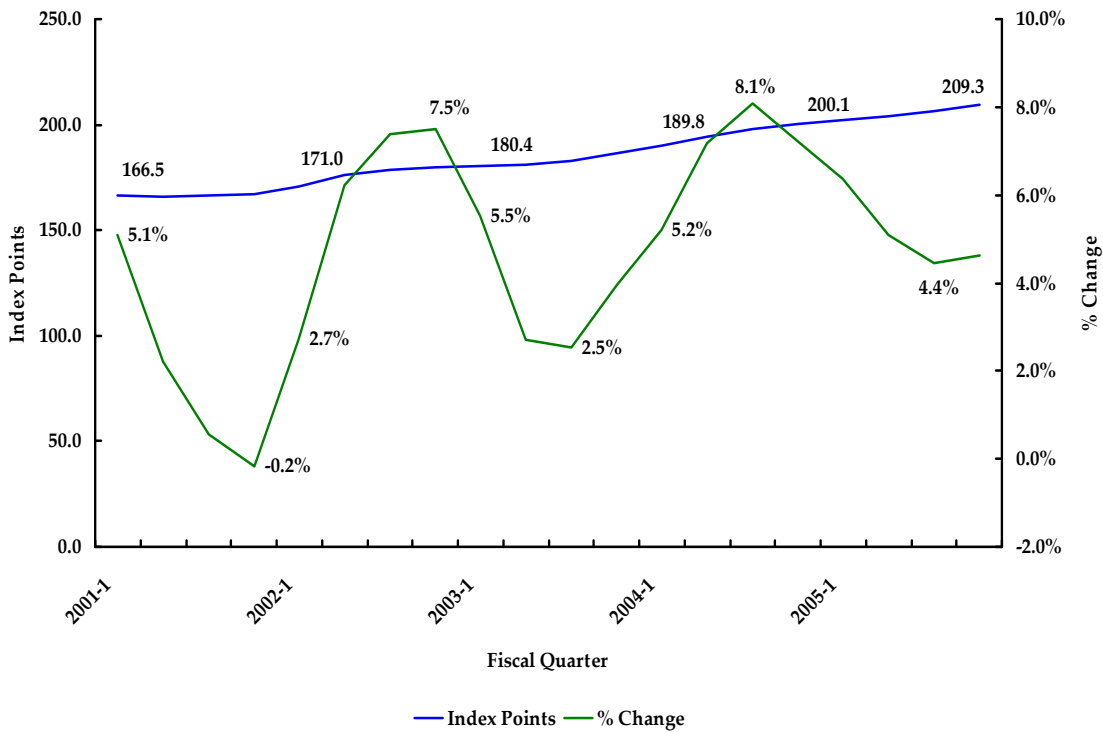


Leading indicators anticipate the short-term course of the economy because they are sensitive indicators of what consumers and businesses actually have begun to buy and produce. Changes in the growth of the index reflect future changes in the economy. A composite index of leading indicators is published each month by Statistics Canada, providing an indication of emerging trends in the economy.

The composite index produced by Statistics Canada has ten components to ensure adequate coverage. They are the stock market, the money supply, furniture and appliance sales, sales of other durable goods, new orders for durable goods, the ratio of shipments to inventories of finished goods, the average workweek in manufacturing, the real money supply, the US leading index, and business and personal services employment.²³

Figure 3.16 shows the quarterly average Composite Index of Leading Indicators for Canada between 2001 and 2005.

Figure 3.16: Quarterly Average Composite Index of Leading Indicators (Canada)



Between 2001 and 2005, the Composite Index of Leading Indicators increased 42.8 basis points from 166.5 to 209.3. The Index displayed overall positive yet slightly fluctuating growth over the five year period. The rate of growth in the Index follows a cyclical

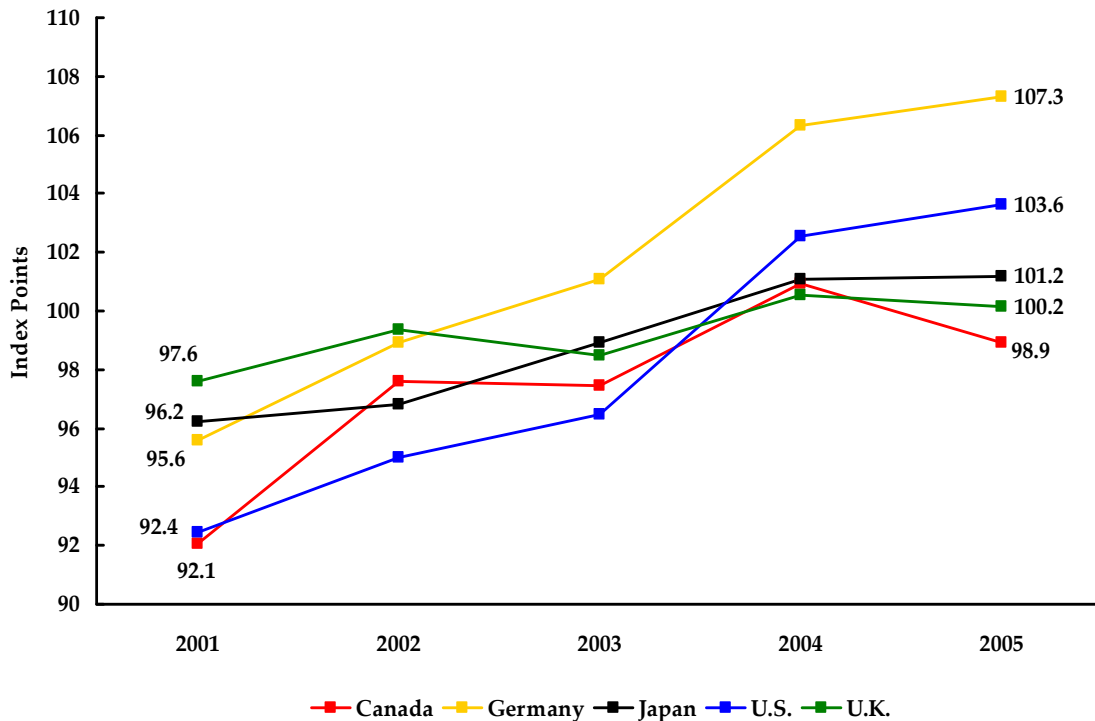
²³ Statistics Canada: Canadian Composite Leading Indicator (CI) (2007)

pattern experiencing cycling high and low peaks. As of January 2007, the Composite Index of Leading Indicators was 221.9 basis points, an increase of 6.0%.

The Organization for Economic Co-Operation and Development (OECD) also publishes a list of leading indicators for OECD member countries and major non member countries. The components used to establish the leading indicators are slightly different from that used by Statistics Canada. The components used by the OECD also differ slightly from country to country. Much like the leading indicator produced by Statistics Canada, the leading indicators produced by the OECD provide early signals of turning points (peaks and troughs) between expansions and slow downs in economic activity.

Figure 3.17 displays the average annual composite leading indicator between 2001 and 2005 for Canada, Germany, Japan, the U.S., and the U.K. All five of these OECD member countries experienced gradual gains in their composite leading indicator. Germany showed the largest gain, ending 2005 at 107.3, while Canada remained the lowest of the five countries at the end of 2005 at 98.9.

Figure 3.17: Average Annual Composite Leading Indicator – Canada to Traditional International Economies

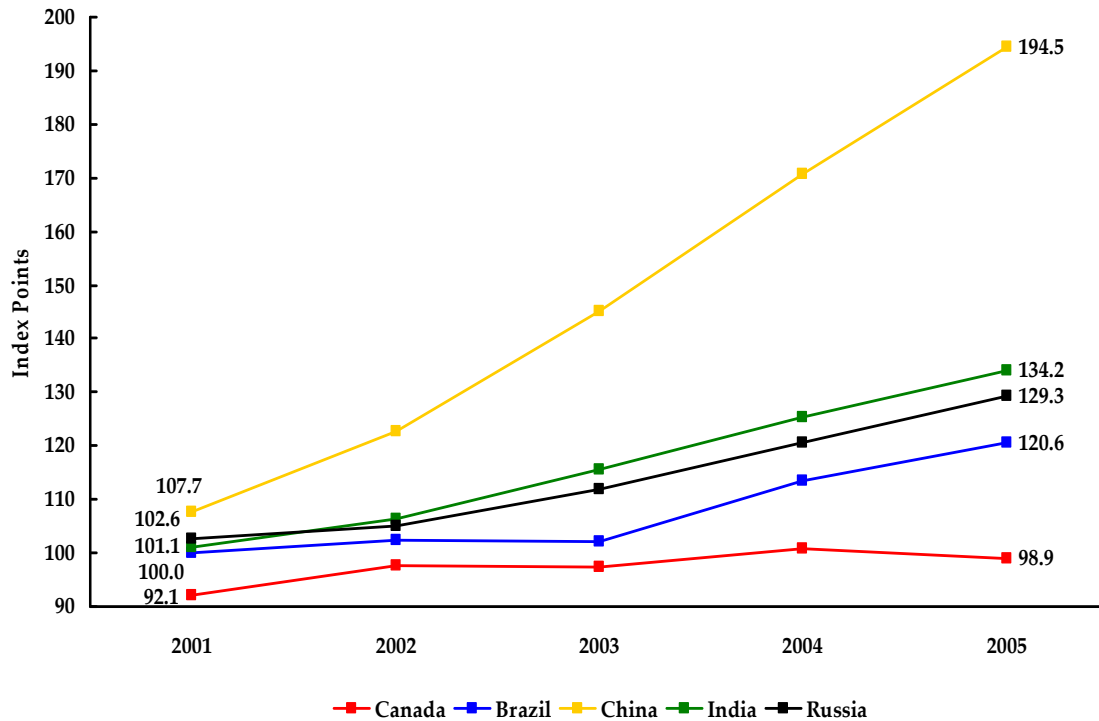


Both Canada and the U.S. have seen a steady, gradual increase in their average annual composite leading indicator. Between 2001 and 2005, Canada’s average annual composite leading indicator increased from 92.1 to 98.9, while the U.S.’s increased from 92.4 to 103.6. As of December 2006, Canada’s CLI stood at 103.4 while the U.S.’s CLI was

at 107.3. The latest OECD composite leading indicators suggest that continued expansion lies ahead in the OECD area.²⁴ December 2006 OECD data shows improved performance in the CLI's six month rate of change in Canada and the U.S.

Figure 3.18 displays the average annual composite leading indicator for Canada, Brazil, China, India, and Russia.

Figure 3.18: Average Annual Composite Leading Indicator – Canada to Emerging International Economies



The contrast between Canada's CLI and the CLI's of emerging economies is well evident from this chart. China has shown the largest growth rate in the past five years. As of 2006, China's average annual composite leading indicator increased to 224.3. The latest OECD data continues to point to strong growth in China and India.²⁵

²⁴ OECD: [OECD Composite Leading Indicators](#) (2007)

²⁵ OECD: [OECD Composite Leading Indicators](#) (2007)

Oil prices increased in recent years due to several factors which include tight worldwide oil production and refinery capacity, a growing global oil demand particularly from emerging economies such as China, geopolitical tensions, and natural disasters.²⁶ Between 2001 and the end of 2005, the price of oil per barrel in U.S. dollars increased 120%, from US \$25.87 per barrel to US \$56.88 per barrel, which was down from US \$61.47 per barrel in the previous quarter. At the end of February 2007, the price of oil was US \$61.08 per barrel.

Recent declines in oil prices reflect the restoration of production facilities in developed countries, calmer hurricane seasons, somewhat easing geopolitical tensions, and higher inventory levels.²⁷ Despite the recent stabilization in oil prices, cheaper prices are not expected to remain.

In the December 25, 2006 – January 14, 2007 issue of Canadian Business Magazine, David Abramson puts forward five reasons why cheaper oil prices will not persist:

- There's no reason to expect a monetary squeeze or recession. Today's backdrop is one of low inflation and steady growth. The higher oil prices of recent years simply reflected the emerging world's tremendous demand for resources. Fast growing nations (particularly China) consume lots of oil as they flood the world with traded goods. In other words, strong energy prices are the flipside of weak traded goods prices and downward pressure on global labour costs.
- The emerging world's thirst for oil will only increase. China and India will import substantially more oil in 2007 than last year. These 2 Asian countries are attaining critical mass, accounting for nearly 12% of world oil consumption in 2006 versus just 6% in 1993.
- OPEC is poised to limit oil price declines below the US \$55-60 per barrel zone. OPEC is not exceeding its quotas and has fallen in line with the cut announced in October 2006
- The oil correction took the froth out of the market. Speculators in crude oil and refined product futures have dramatically pared the sizeable long positions evident earlier this year. Less speculation means that energy prices are better positioned to benefit from positive underlying fundamentals.
- Geopolitical strains will keep oil price risks to the upside. Underlying belief seems to be that George Bush will be too preoccupied with extricating his country from Iraq to confront Iran. The risk is that an emboldened Iran will push the nuclear envelope and force a US response. Meanwhile, Iraq is a powder keg and Saudi Arabia and Nigeria remain politically vulnerable.

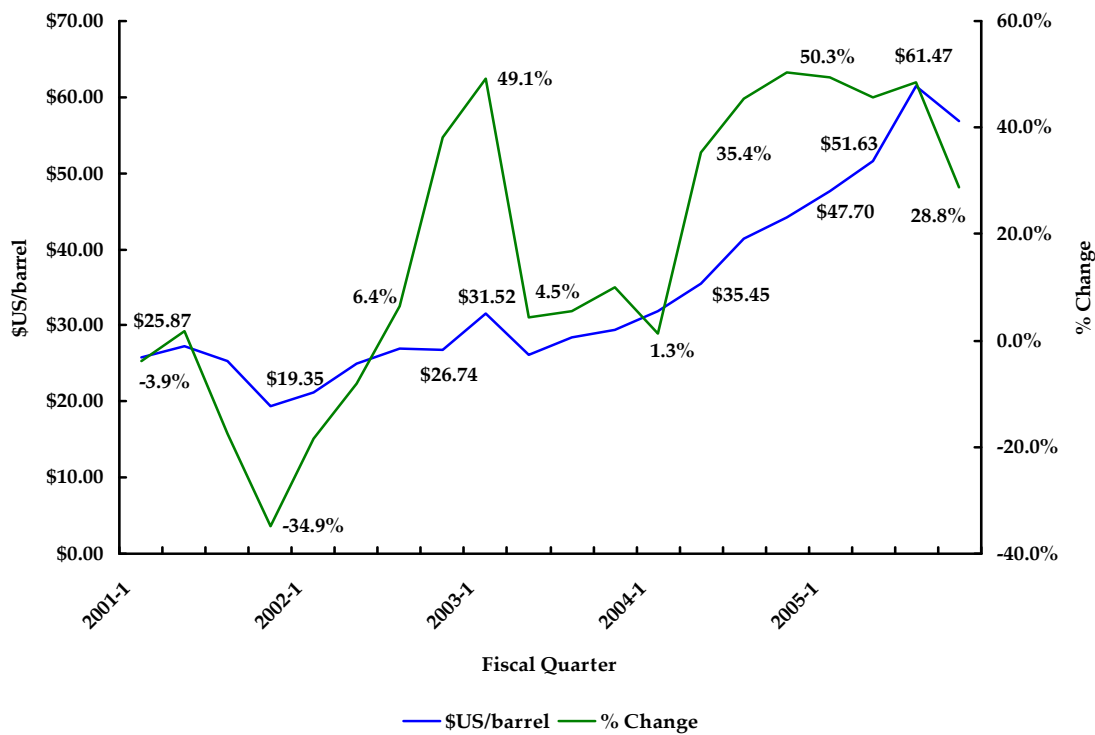
²⁶ United Nations: World Economic Situation and Prospects 2007 (2007)

²⁷ United Nations: World Economic Situation and Prospects 2007 (2007)

The International Energy Agency's February 2007 Oil Market Report shows the first significant drop in oil demand among OECD countries since 1985. The structural global decline in domestic heating oil, and fuel oil in power generation and transportation has decreased the demand for oil. However, while oil demand in OECD countries has fallen, in non OECD countries it has increased, led by China. The 2007 oil product import quota issued in January 2007 by China's Ministry of Commerce indicates the quota will be 15% higher than last year. The oil product import quota includes gasoline, jet fuel, diesel, naphtha, fuel oil and low sulphur waxy residue. The current let-up in demand growth is expected to be only temporary as in three years the rate of oil demand growth is forecast to outstrip the growth of new oil supplies.²⁸

Figure 3.19 displays the trend in quarterly average oil prices between 2001 and 2005. Following a low of US \$19.35 in the fourth quarter of 2001, oil prices have jumped to reach US \$61.47 per barrel in the third quarter of 2005.

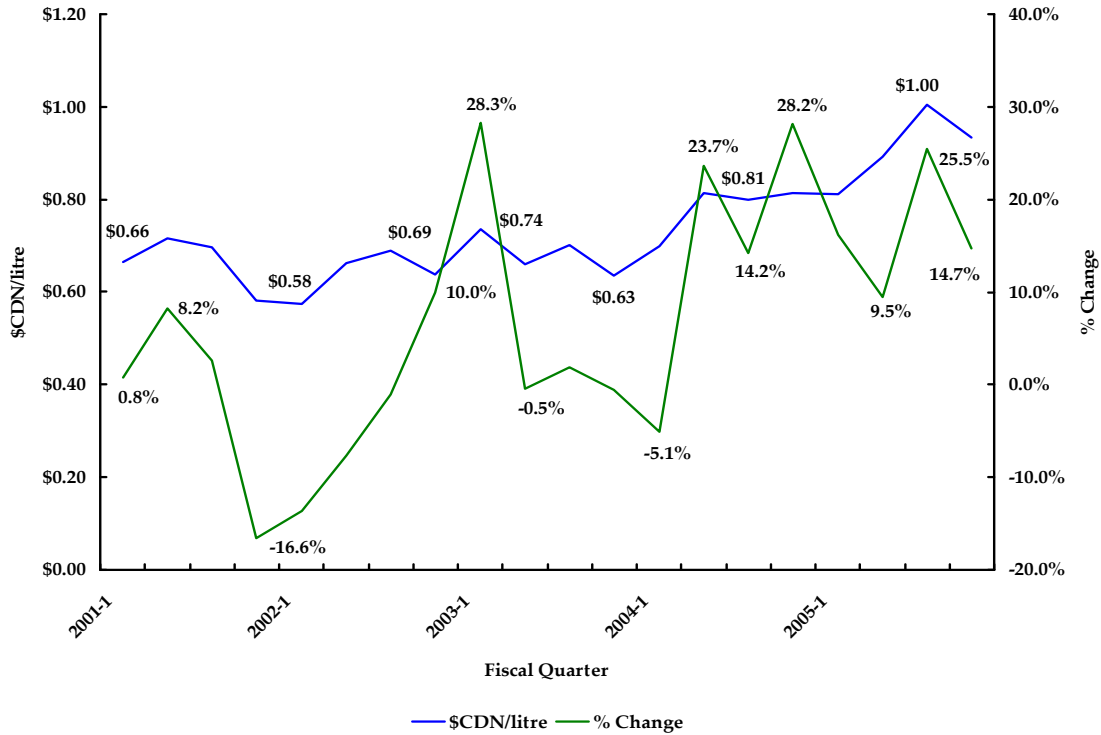
Figure 3.19: Quarterly Average Price Oil/Barrel (\$US)



²⁸ The information in this section was taken from:
International Energy Agency: Oil Market Report, February 2007 (2007)

Consumers have felt the effects of rising oil prices at the pump. Increases in the price of oil have resulted in higher fuel costs. Figures 3.19 and 3.20 show the average quarterly trends for unleaded and diesel fuel prices in the Winnipeg region.

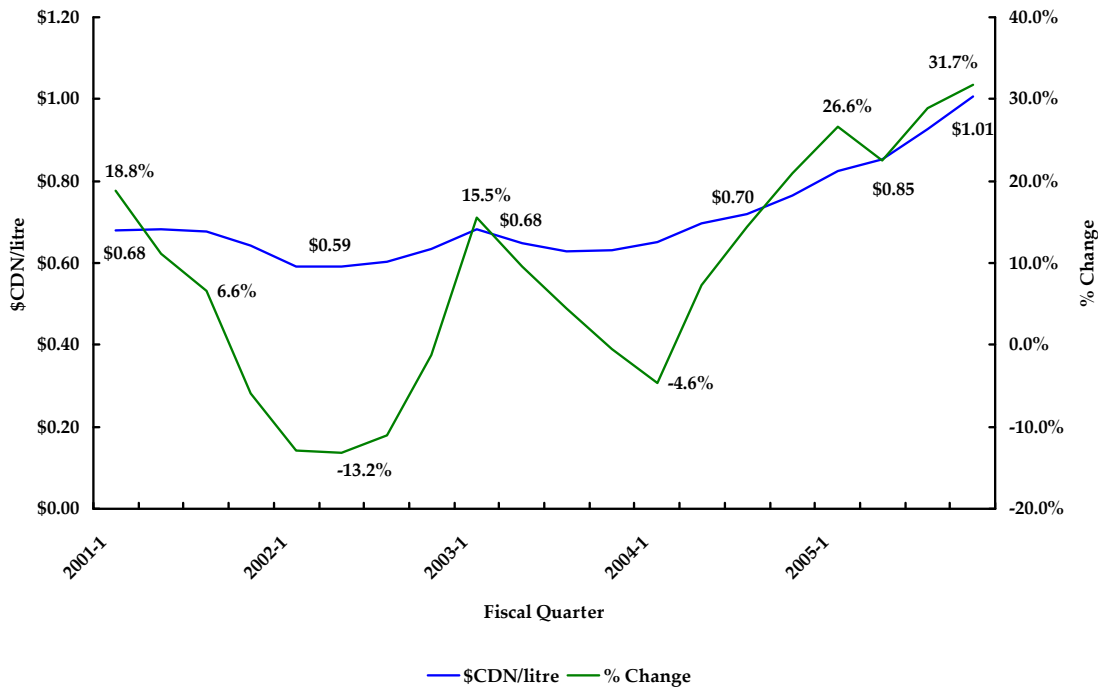
Figure 3.20: Quarterly Average Unleaded Fuel Prices (Winnipeg Region)



Unleaded fuel prices in the Winnipeg region have increased since the second quarter of 2004. In the second and fourth quarters of 2004 and the third quarter of 2005, unleaded fuel prices experienced increases of 23.7%, 28.2%, and 25.5% respectively. Unleaded fuel prices were CDN \$0.93/litre as of February 2007.

Diesel fuel prices in the Winnipeg region followed the same trends as unleaded fuel prices. In the first and fourth quarters of 2005, average quarterly diesel fuel prices increased by 26.6% and 31.7% over last year's prices. In February 2007, diesel fuel was CDN \$0.93/litre. As with unleaded fuel prices, this stabilization in diesel prices reflects the recent stability in oil prices.

Figure 3.21: Quarterly Average Diesel Fuel Prices (Winnipeg Region)



Growing demand for passenger and freight transportation continues to drive demand for unleaded and diesel fuel in Canada. The resulting increases in fuel prices have contributed to higher service costs in all modes of transportation. The service costs may see further increases if oil and conversely fuel prices continue on an upward trend.

4.0 Market, Trade, and Transportation Trends

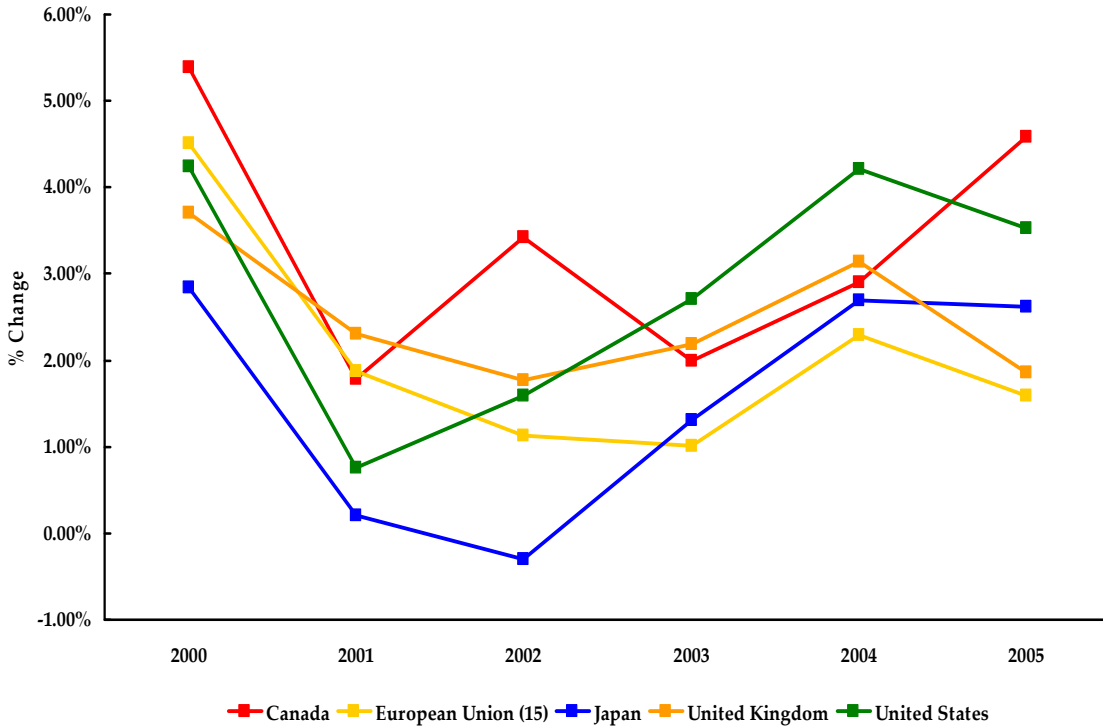
This section provides an overview of international markets and Canadian trade with an emphasis on trade corridors. Trade corridors are influenced by national economies. As the world economy changes, markets change, influencing the movement of goods to and from Canada and Manitoba.

Markets

As the world marketplace continues to expand, markets have become increasingly intertwined. Consequently, conditions in a single market can have far reaching effects on other economies on the other side of the world. Following World War 2, the United States was firmly established as the centre of the world's economy and the United States dollar became the standard reserve currency of markets. Since then many other economies have established international influences. In addition, new countries are beginning to emerge as potential world markets. In some cases, their level of influence has already been experienced on the world stage. As these new markets emerge and others strengthen, the Canadian economy will feel an increased effect due to its strong trade related basis.

Figure 4.1 compares economic growth trends (based on Gross Domestic Product) among 5 of the world's major economies (including Canada). The economies of the United States, Japan, the United Kingdom, and the European Union have a major influence on the world's economies. Although Canada is a major player within the international marketplace, its economy is generally influenced by these other nations (in particular, the United States). In recent years, these economies have all experienced fluctuating periods off growth. Most had consistently positive growth over the time period. However, in the case of the Japan, the economy shrunk in 2002.

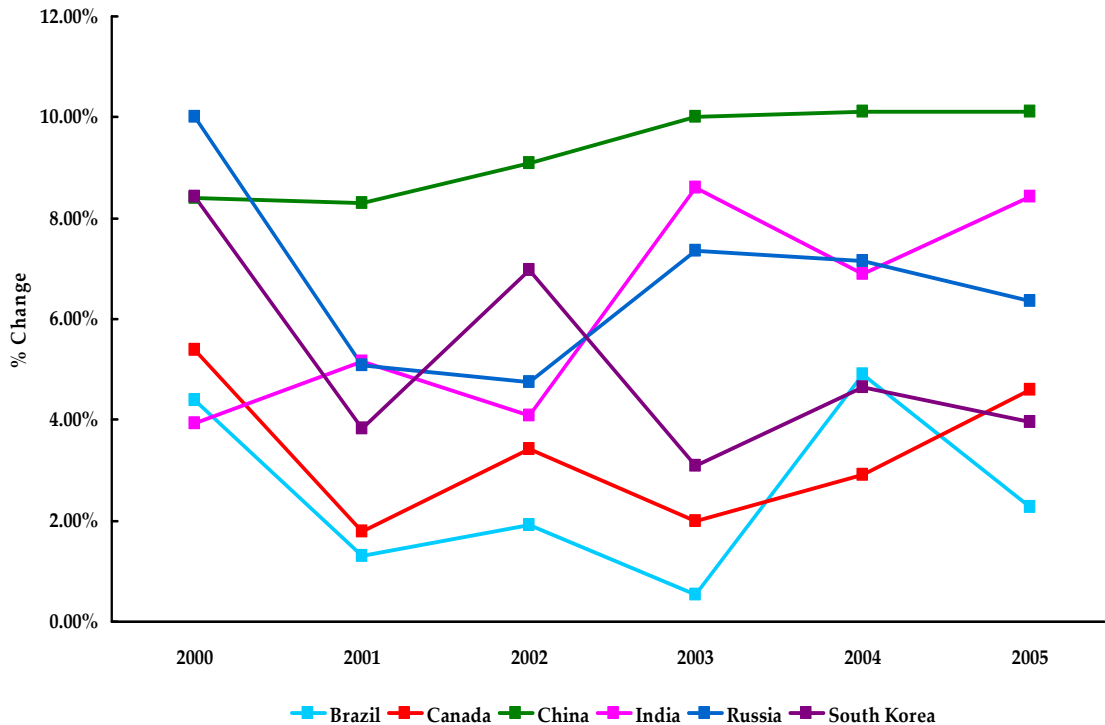
**Figure 4.1: Rate of Change, Canada to Traditional International Economies
-GDP in Constant 2000 U.S. Dollars**



*European Union (15) statistics used in place of Western Europe

In addition to these established economies, several other nations are beginning to become more important in the world economy. Many analysts view these countries not only as potential market leaders, but in fact as potential geopolitical “superpowers”. These emerging markets are China, Russia, India, Brazil, and South Korea. Figure 4.2 compares the GDP growth of these countries (Canada’s growth rate is included as a reference).

**Figure 4.2: Rate of Change, Canada to Emerging International Economies
-GDP in Constant 2000 U.S. Dollars**



Overall, each of these markets have maintained growing economies. While each market (with the exception of China) is smaller than Canada, their level of market growth has been greater (although in 2005 Brazil and South Korea posted smaller growth rates). The result is an emerging set of markets that demand Canadian products and are able to supply a wide variety of Canada’s import needs.

Brazil

Despite a high level of poverty, Brazil has emerged as an important economy. In particular, it has become a major exporter of agricultural products, minerals, fossil fuels, and manufactured goods. Canada imports a variety of products from Brazil. Major Canadian import items include “exotic” agricultural items (e.g. coffee, cashews, citrus, chocolate, etc.), automobiles and automobile parts, petroleum products, and metal ores (e.g. aluminum, iron, etc.). In terms of major Canadian exports, Brazilian demand includes coal, minerals (e.g. sulphur, sodium chlorate, nickel, etc.), industrial machinery and parts, and a variety of agricultural products (e.g. lentils, canary seed, malt, peas, etc.). In 2005, Canada exported \$1.1 billion (Cdn) worth of goods, while importing \$3.1 billion.

China

With the world’s second largest economy, the Chinese market has transitioned from a central planned economy to a market driven economy. China is a world leader in

manufactured goods. This provides Canada with a market for its raw material exports and a source of finished products. In 2005 major Canadian exports to China included agricultural products (e.g. wheat, barley, canola, etc.), livestock (e.g. beef, pork, etc.), aquaculture and marine products (e.g. crabs, shrimp, salmon, halibut, etc.), timber and forestry products, and minerals (e.g. sulphur, iron, copper, nickel, etc.). Canada imports a variety of finished goods from China including audiovisual electronics, computers, automobiles and automobile parts, industrial machinery, clothing, housewares, and personal items. In 2005, Canadian exports to China were worth \$7.0 billion (Canada's 4th largest export market). Chinese imports were worth \$29.5 billion (Canada's 2nd largest import partner after the United States).

India

India is emerging as a world leading "knowledge" economy. Despite high levels of poverty and illiteracy, portions of India's population are highly educated and are focusing their attention towards technology and information markets. In addition to technology based sectors, India is also expanding its agriculture, mining, and manufacturing industries. In 2005 Canadian exports to India were valued at \$1.1 billion. Of these, major export items included timber and forestry products, industrial equipment (e.g. helicopters, graders, tractors, trucks, etc.), minerals (e.g. potassium, copper, gold, nickel, etc.), and agricultural products (e.g. peas, lentils, chickpeas, etc.). Imports from India were worth \$1.8 billion and included petroleum products, clothing, houseware items, and agricultural products (e.g. rice, cashews, black tea, etc.).

Russia

From the end of World War 2 until 1991, the Soviet Union was one of two global superpowers. Following the breakup of the Soviet Union, Russia emerged only to initially struggle with market based economies. Recently, progress has been made and the country is emerging as a potential economic leader. Occupying more land than any other country (Canada is second); Russia has a wide variety of natural resource deposits including fossil fuels. Canadian exports to Russia include automobiles and other motor vehicles (e.g. tractors, boats, industrial equipment, etc.), livestock (e.g. pork, poultry, etc.), and agricultural supplies (e.g. animal feed, tractors and other farm implements, etc.). Imports from Russia include petroleum products (which represent over 70% of total export value), alcohol (vodka), and minerals (e.g. palladium, magnesium, platinum, etc.). In 2005, Canadian exports were worth \$562 million, while Russian imports were valued at \$1.7 billion.

South Korea

Since the end of the Korean War in 1953, South Korea has evolved into a major economy. With a focus on technology and manufacturing, South Korea has a high level of demand for raw materials. In 2005, Canadian exports to South Korea were worth \$2.8 billion. Export items in demand included coal, timber and forestry products, livestock (e.g. cattle, pork, etc.), minerals (e.g. copper, nickel, aluminum, gold, zinc, iron, etc.), and

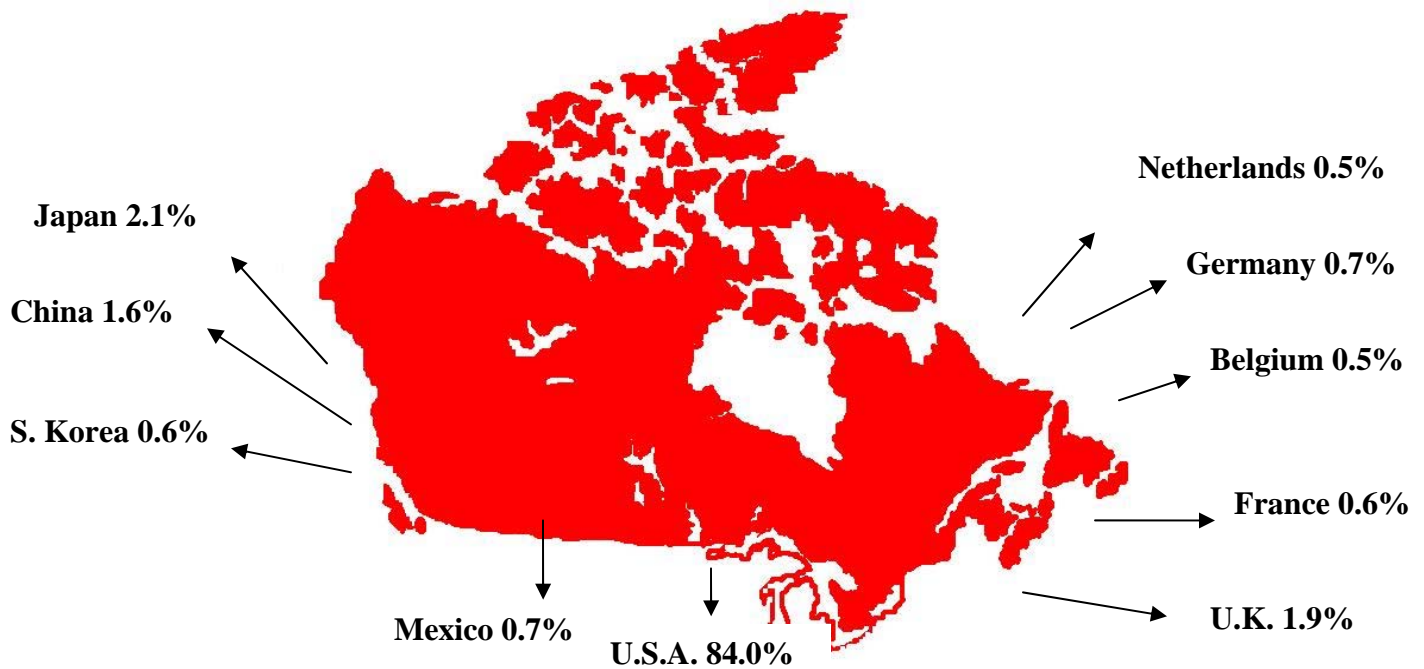
agriculture products (e.g. wheat, malt, peat, etc.). Canadian imports from South Korea were valued at \$5.4 billion. These included automobiles and automobile parts, industrial vehicles and machinery, audiovisual electronics, circuitry and electronics, and home appliances.

International Trade²⁹

In 2005, Canadian exports were valued at \$435.7 Billion Dollars.

In 2005 approximately 93% of total export value was from trade with ten nations. These nations and their contribution of Canadian exports can be seen in Figure 4.3.

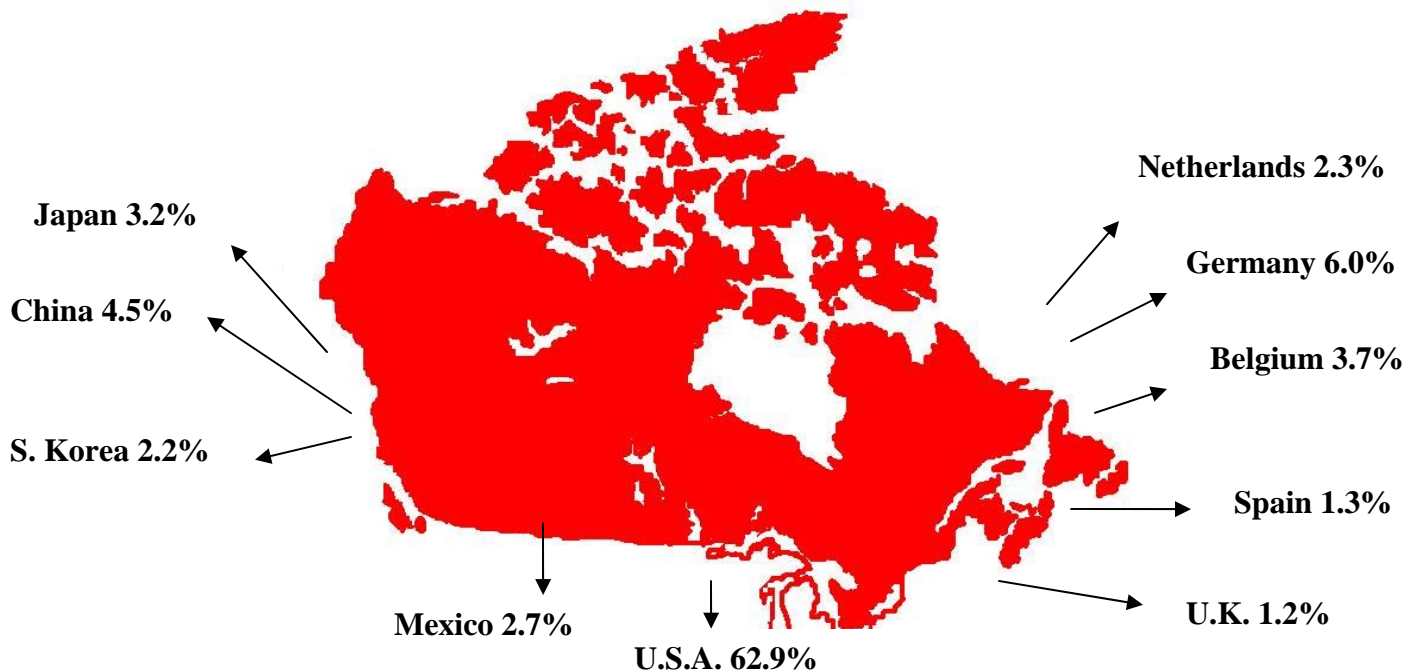
Figure 4.3: 2005 Canadian Exports- Top 10 Countries by Value



²⁹ Import and export data for Canada is collected by the International Trade Division of Statistics Canada. As the data is submitted by the importers, exporters, and customs personnel, some of the data is subject to interpretation. Some submissions base the subject of mode on the method of transport of which the shipment arrived or departed the province. As well, an additional mode of "Other" was available. This appears to have been used as a "general category" for shipments that either did not match a listed mode or when the mode of transport was unknown. For this report, several categories of items relating to petroleum, natural gas, and electricity have been sorted into a new mode category "pipeline and energy".

The top exports in terms of overall value were natural resources and raw materials. These included fossil fuels (coal, oil, etc.), mined substances (diamonds, nickel, copper, zinc, etc.), timber and lumber (and paper products), agricultural products, livestock, and harvested fisheries. In 2005 each of the countries classified as a “Top 10 export destination (in terms of value) increased their level of demand for Canadian goods. South Korea and Germany had large levels of growth (24.3% and 21.2% respectively), while the remaining nations increased between 3.9% (Belgium) and 8.9% (the Netherlands). Overall, in 2005 the value of Canadian exports increased by 2.7% (based on 2005 real \$ amounts).

Figure 4.4: 2005 Canadian Exports- Top 10 Countries by Weight



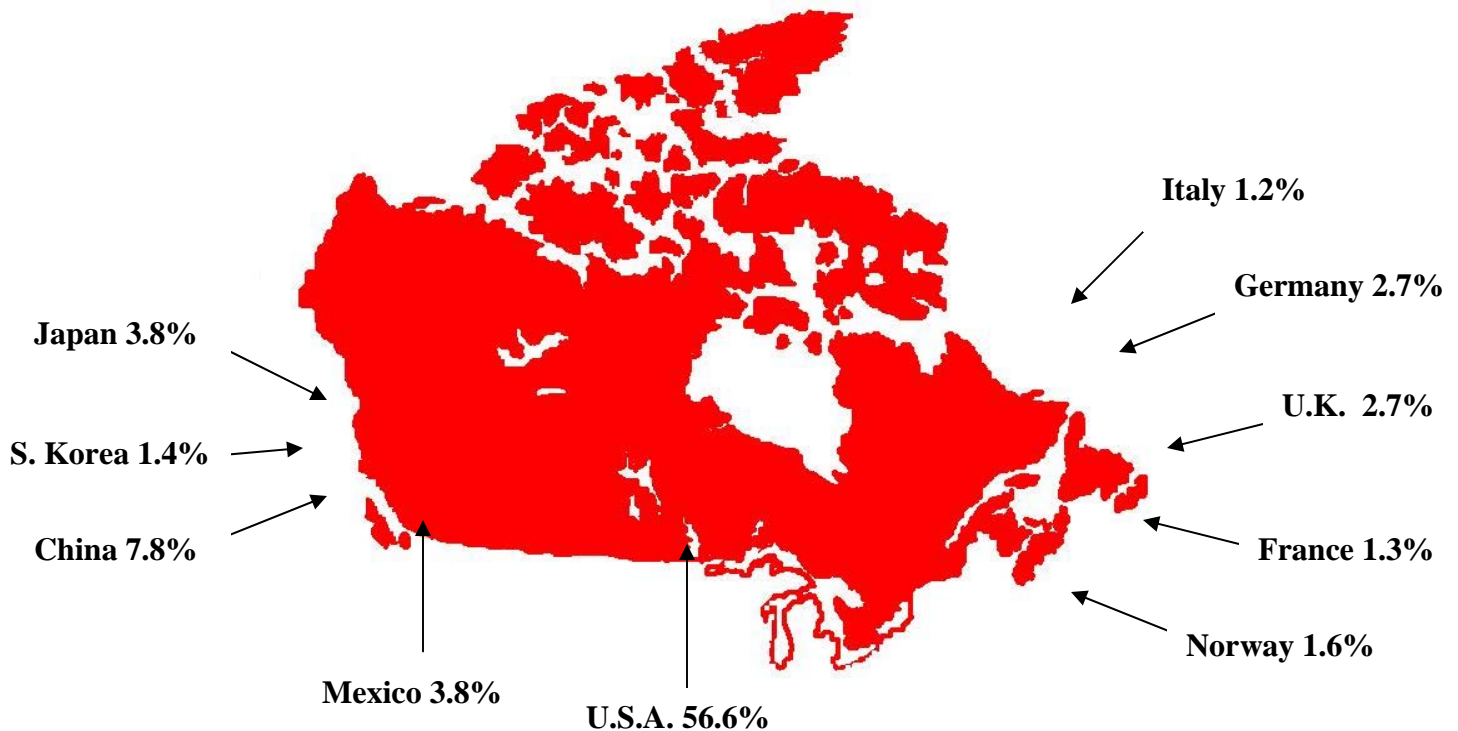
In terms of gross weight, Canadian exports increased by 3.7% in 2005. Within Canada’s top 10 trading partners by weight, there were some sizable fluctuations. Mexico appears to have increased its total export weight by 270%. Based on Statistics Canada’s figures, in 2004, Mexico did not qualify for the top 10 listing. It appears that in 2005, a large shipment (in terms of kg’s) of industrial molding injection machinery was exported to Mexico. In total, this accounts for approximately 75% of Mexico’s total export weight. In 2005 an additional 140 categories of exports were shipped to Mexico. In addition to Mexico’s surge in growth between 2004 and 2005, several other countries experienced increases in terms of export weight. Exports to South Korea, China, and Japan grew by 47.5%, 27.8%, and 6.02% respectively. Exports to Germany (27.8%), the United Kingdom

(7.6%), and the Netherlands (3.2%) also increased. However, Belgium and Spain both experienced a decline (-23.8% and -6.0% respectively). Brazil failed to make the top 10 listing in 2005, although exports decreased by less than 1%. In terms of gross weight, the most important export categories were mined resources (e.g. coal, iron, sulphur, etc.), timber/forestry/paper products, agricultural products (e.g. wheat, peas, soya beans, etc.), industrial machinery, and livestock.

In 2005, Canadian imports were worth \$379.6 billion dollars.

Figure 4.5 lists the top 10 countries for Canadian imports. These 10 nations account for 82.9% of Canadian imports.

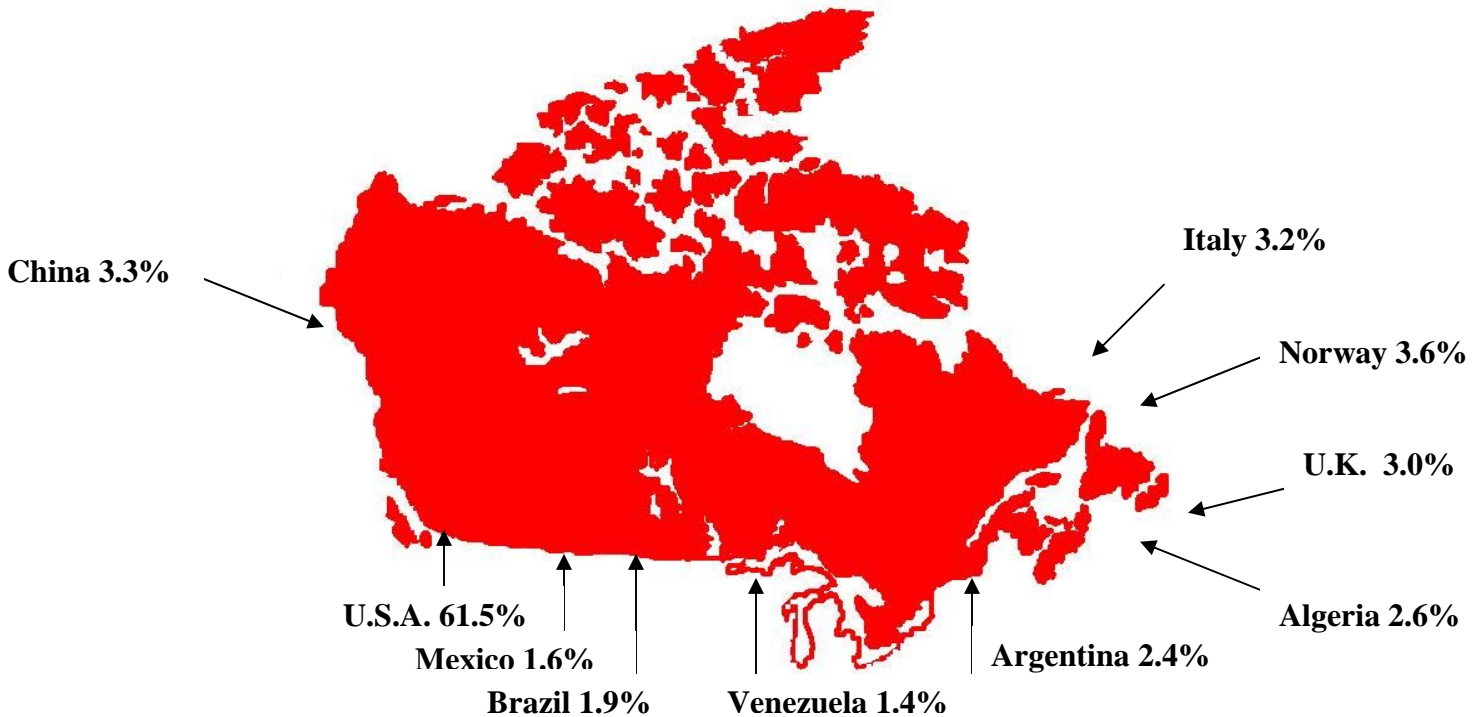
Figure 4.5: 2005 Canadian Imports- Top 10 Countries by Value



In 2005 the value of Canadian imports grew by 4.2%. Nearly every nation amongst Canada's top importers experienced an increase. The exceptions were France (-6.3%) and South Korea (-8.0%). Import growth varied between Italy (0.1%) and China (22.4%). Norway followed closely behind China in terms of growth at 22.3%. High valued imports included natural resources (e.g. fossil fuels, gold), and a variety of manufactured goods (e.g. automobiles, automated production machinery, circuitry, audio/video equipment, etc.).

2005 also saw an increase in the total weight of Canadian imports, by 20.2%. Figure 4.6 displays Canada's top 10 import partners in terms of weight

Figure 4.6: 2005 Canadian Imports- Top 10 Countries by Weight

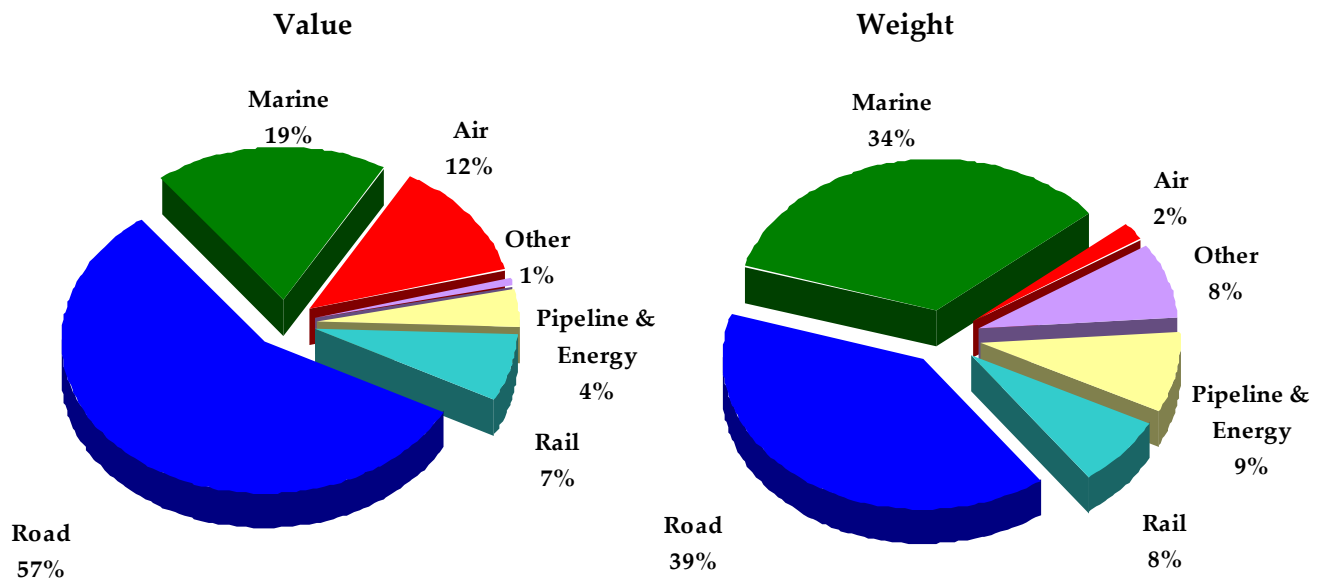


Despite a large increase in import weights, there was a wide fluctuation of growth levels between countries. In particular, Argentina recorded a growth of 2841.6% in terms of weight. Of this, 94.6% of it is categorized as “low value transactions or confidential commodities”. Several other countries achieved large levels of growth, including Italy (113.5%), China (52.2%), the United States (30.7%), and Mexico (21.07%). Germany and Norway both posted negative growth levels (-11.2% and -7.8% respectively). Austria (-94.3%) and Japan (-28.1%) which had previously qualified as top ten nations for imports did not qualify in 2005. Argentina and Mexico replaced these countries. Important categories of imports included fossil fuels (e.g. petroleum, coal, etc.), alcoholic beverages, automobiles, and industrial machinery.

Import/Export Traffic by Mode

Figures 4.7 and 4.8 compare Canadian modal imports and exports by both value and weight. The clear majority of these imports and exports (both in terms of value and weight) relied upon road, rail, and pipeline. In addition to Canada's partnership with the United States, this reflects heavily upon other countries reliance on Canadian transport firms to deliver shipments to their final destinations within Canada.

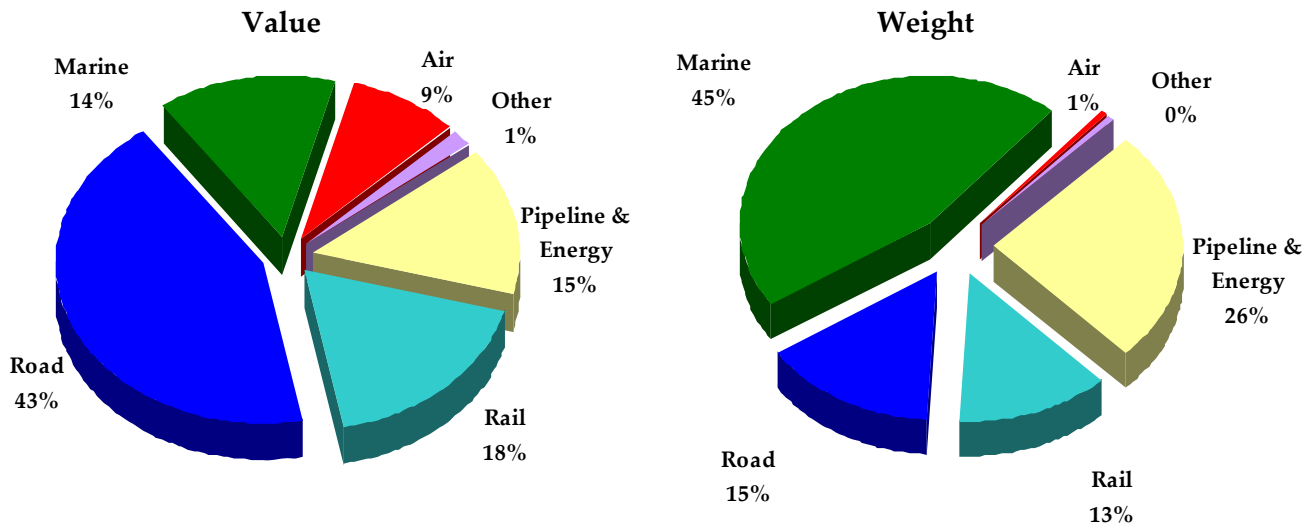
Figure 4.7: 2005 Canadian Imports by Mode



In terms of value, 68% of Canadian imports arrive via road, rail, or pipeline. Important imports delivered by marine included automobiles and auto parts, petroleum products, televisions and other electronics, alcohol, industrial machinery, and minerals (e.g. aluminum, copper, etc.). Air imports account for 2% of gross weight, yet represent 12% of total import value. Items shipped by air varied greatly and included petroleum products, electronic and computer equipment, mechanical parts (aircraft, automobile, and industrial), minerals (e.g. gold), and pharmaceuticals.

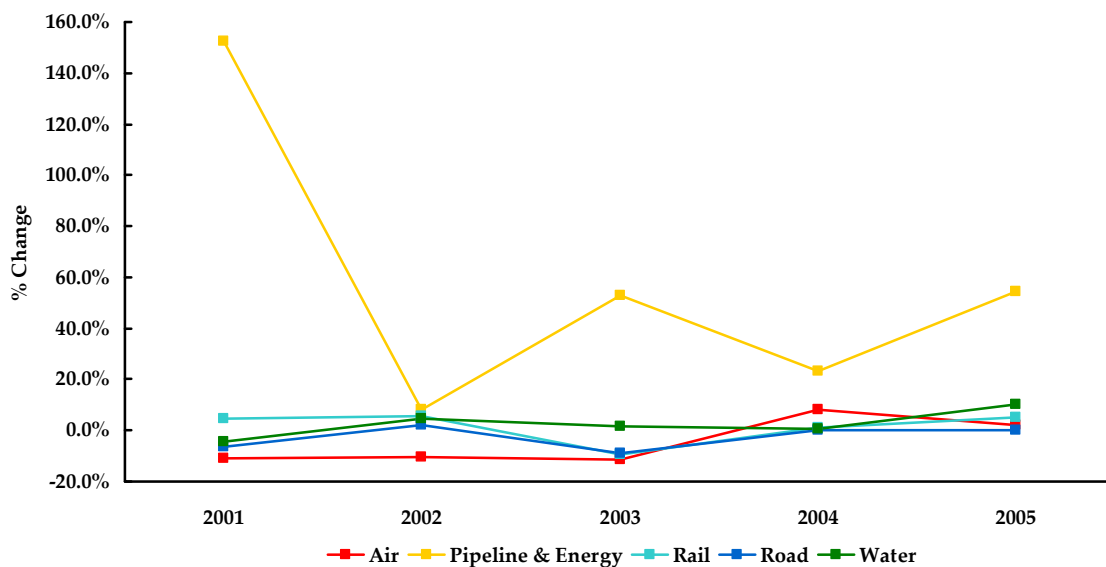
Figure 4.8 compares the total values and weights of Canadian exports by mode of transport. In terms of value, the top three modes were road (43%), rail (18%), and pipeline and energy (15%). These modes are all strictly North American based, and emphasize Canada's strong ties with North American markets.

Figure 4.8: 2005 Canadian Exports by Mode



Figures 4.9 and 4.10 display the rates of change in value and weight by transportation modes. Graphs that measure value have been adjusted to reflect 2005 "Real" Canadian dollar amounts. The mode category of "Other" is not included.

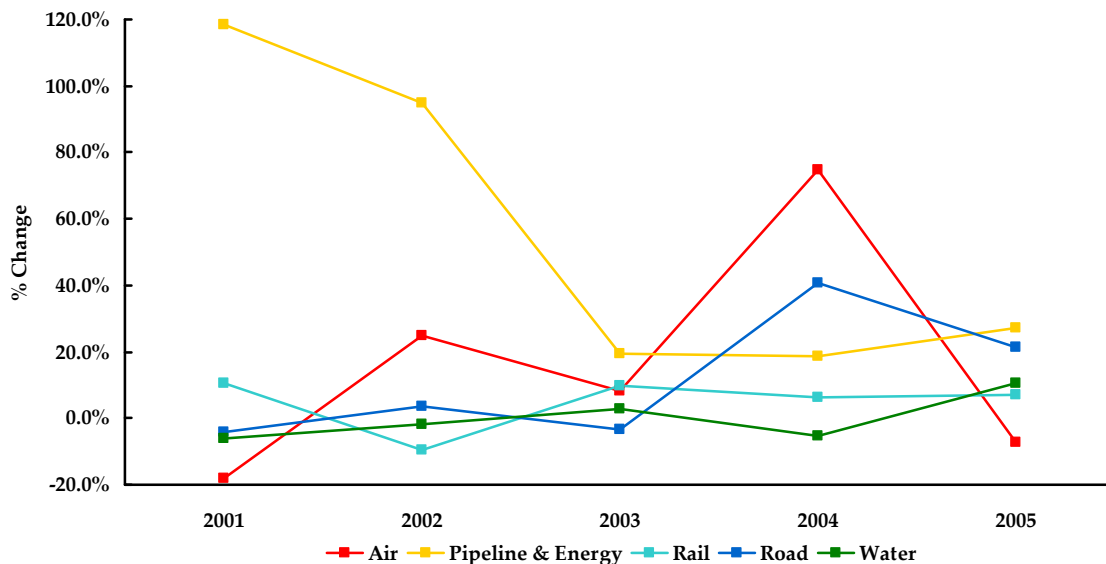
Figure 4.9: Rate of Change in Canadian Import Traffic by Value



In 2005 every mode with the exception of road had an increase in value of goods moved relative to 2004. The pipeline & energy industry experienced the most growth (77.4%). A major factor in this increase was the increase in petroleum prices. The marine (9.9%), rail (5.1%), and air (2.0%) industries all experienced growth between 2004 and 2005. The road industry posted a very small decline in growth (-0.1%).

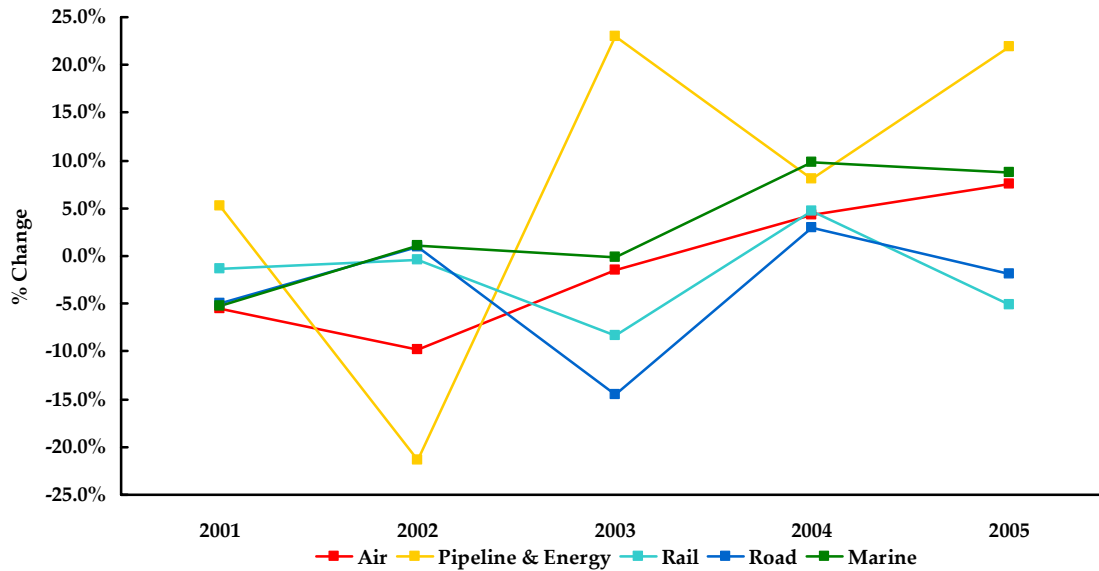
Figure 4.10 shows the rate of change in modal import traffic by weight. Between 2004 and 2005, total imports by air transportation decreased by 7.2%. The last time that the air industry showed a decline was following the 9/11 terrorist attacks. At the other end of this spectrum, the total weight of imports moved by road increased by 21.3. Between 2004 and 2005, based on weight, imports increased in the pipeline (27.2%), marine (10.5%), and rail (7.0%) industries.

Figure 4.10: Rate of Change in Canadian Import Traffic by Weight



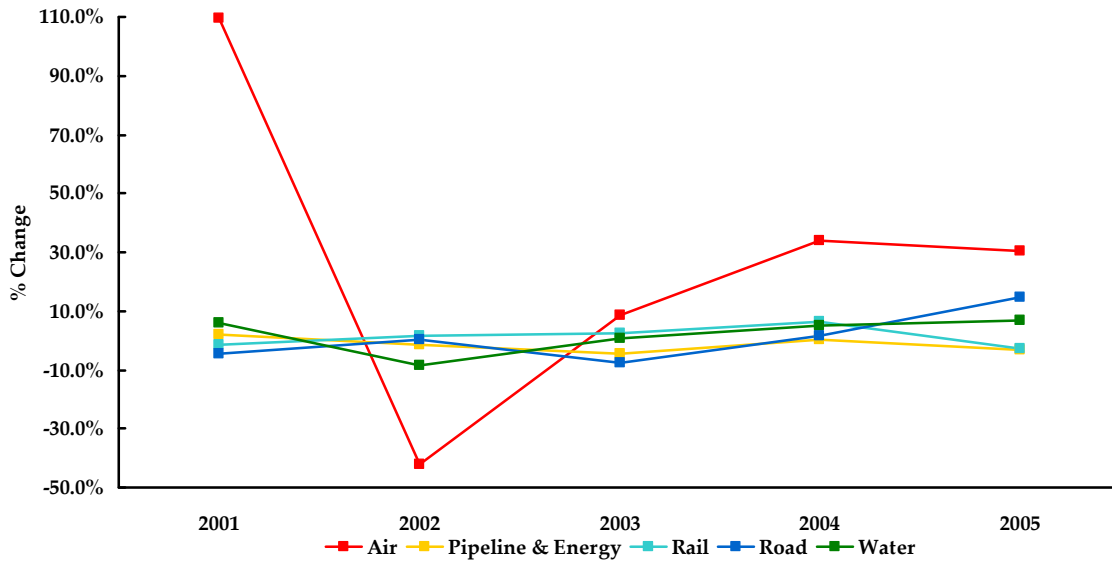
Figures 4.11 and 4.12 both examine the rate of change (growth) in Canadian modal export traffic. The figures have been adjusted for inflation and are based on 2005 Real dollars. The mode “Other” has not been included in these charts.

Figure 4.11: Rate of Change in Canadian Export Traffic by Value



Overall, pipeline & energy had the largest level of growth (21.9%), showing an increase in American demand for Canadian fossil fuels. As well, air exports increased by 7.5%. Marine exports continued to grow, though at a lower rate from the previous year (8.8%). Rail and Road actually recorded negative growth rates (-5.1% and -1.9%) for 2005. Despite an overall increase in the value of exports destined for the United States (5.06%), this appears to be based primarily on pipeline & energy exports (fossil fuels) and high value air exports (e.g. aircraft parts).

Figure 4.12: Rate of Change in Canadian Export Traffic by Weight



With the exceptions of pipeline & energy and rail, the remaining modes of transport grew in terms of weight based export. The decrease in both the export value and weight by rail suggests an overall decrease in rail export traffic. While the gross weights of pipeline & energy and road exports have decreased, the total value of these modes has increased. For pipeline, this indicates an increase in fuel rates. For road exports, this could indicate a decrease in bulk shipments, or may indicate a rise in the price of goods.

Emerging Transportation Issues:

In 2005 and 2006 there were a variety of developments throughout the Canadian transportation sector. These events have affected transportation capacities, demands, and operational efficiencies.

Rail

- CN Rail began to downsize regional lines through Saskatchewan and was in the process of finding an interested buyer.
- Several derailments and accidents, including a major chemical spill that sterilized the Cheakamus River in British Columbia as well as smaller fuel spills in Alberta and Quebec raised concerns regarding the safety and operational policies of both CN and CPR.
- In 2006, both CN Rail and CPR set up an agreement to jointly divide and handle each others rail traffic out of Boston Bar, BC. CN will handle all traffic going towards the Vancouver North Shore at Burrard Inlet. CPR will direct all traffic going towards the Vancouver South Shore. The ultimate goal is to reduce the bottleneck at the Port of Vancouver (due to an increase of Asian imports), without having to invest and develop infrastructure.
- Projected spending by CN in 2006 was set at \$1.5 billion and was budgeted for infrastructure upgrades and initiatives to improve efficiency.
- The introduction of fuel surcharges by both CN and CPR led to complaints by shippers and suggestions that both companies were taking advantage of increased fuel costs.

Road

- Fuel prices are continuing to increase freight rates.
- A shortage of drivers continues to be a major concern for the industry. As drivers and support staff grow older, fewer young people are entering the industry.
- Wait times and border delays continue to impede transport operations.
- Frequent changes to administration policies at customs and the use of AMPS (Administrative Monetary Penalty System) continue to increase the amount of paperwork, time, and costs for cross-border shippers.

Marine

- In 2006, the Port of Vancouver handled 79.4 million tonnes of cargo (total tonnage). This was an increase of 4% from the previous year.
- From 2005-2006, the Port of Montreal had a 3.1% increase of total tonnage, totaling over 25.1 million tonnes.
- In 2006, the Port of Halifax handled 2.2 million tonnes of cargo. Port management forecasts a significant increase of Indian and other Asian traffic traveling to the East coast via the Suez Canal.
- Delays at the Port of Vancouver are a continuing problem. The bottlenecks are associated with limits and delays of rail and truck traffic leaving the port and

limited operating hours. Infrastructure developments at the Port of Prince Rupert are projected to increase west coast capacity. In addition, talks began regarding a “super-merger” between the ports of Vancouver, Fraser River, and North Fraser. The purpose of this merger is to limit competition between Canadian ports (instead focusing on American competition), and to improve coordination amongst Canadian west coast ports.

- A worldwide shortage of skilled marine labour (industry and support services) has been projected over the next 10 years.

Air

- On March 11, 2005, discount airline Jetsgo discontinued its operations suddenly without warning. No arrangements were made by Jetsgo to provide alternate flights for its passengers. This caused many passengers to be stranded throughout Canada, the United States, and Cuba during the spring holiday season.
- In 2005, Canada and the United States negotiated an air liberalization agreement that allowed the pick-up of passengers/cargo in each other’s territories, stand-alone cargo service, and increased price competition between carriers. In 2006, Canada was examining the implementation of “Open Sky” arrangements with a variety of other countries. Potential countries include Mexico, France, Germany, Japan, and South Korea. Most interest groups (including Canadian airlines) view Open Sky agreements as being positive, citing increased selection and lower prices for consumers, and new market availability for airlines.
- In 2006, Air Canada’s number of available seat miles increased by 4% from the previous year.
- In 2006, West Jet’s number of available seat miles increased by 17% from the previous year.
- In October 2006, Air Canada reduced the number of freighter flights between Shanghai and Toronto from five to three. This was due to an overcapacity of air transporters out of China.

Pipeline

- A growing American demand for Canadian petroleum and natural gases has resulted in the proposals of pipelines to numerous locations in the United States. These proposals include lines originating in Alberta and flowing to Texas, Wisconsin, and Illinois as well as a natural gas line between New Brunswick and Maine. Many of these locations act as hubs, which further distribute fuels throughout the United States.
- In 2006, the McKenzie pipeline project moved into the review stage. Originally conceived in the 1970’s, the McKenzie project is a proposed pipeline that would transport natural gas over 1200 kilometers from the Northwest Territories to Alberta, where it would then be distributed using existing infrastructure. Initially, the project was received by mixed reactions from a variety of stake

holders. Following a review, the Federal government advised the project to be put on hold for ten years while issues were discussed. A renewed interest in the project began in 2003. Currently, the resulting environmental impact is a key issue and will likely become a determining factor in the project's status.

5.0 Trade

Methodology

A large purpose of the Manitoba Transportation Report is to convey Manitoba's relative position in Canada's total international trade. Achieving this purpose requires a reliable source of information relating to Canadian international trade. All trade information presented in this section has been provided by Statistics Canada's International Trade Division, which collects annual international trade data on all Canadian provinces. The information provided by this division is extensive and includes data such as, commodities traded, origins, destinations, value and weight. Modal information is available as well. As extensive as this database is, there are inherent limitations to this trade information requiring necessary caveats to be noted. These will be discussed below.

Customs-based vs. Balance of Payments Trade Statistics

All trade data presented in this section is Customs-based. This differs from the second method of trade presentation; the Balance of Payment (BOP) method. The main difference between the two models is the data based on Customs involves the physical movement of goods and recorded on Customs documents while the BOP method tracks the flow of money between Canada's business and government agencies and the rest of the world.

Imports vs. Exports Data

Import statistics as collected by Customs are based on the Province of Clearance, meaning that goods are recorded at the province in which they were cleared by Customs. This may not coincide with the province in which these commodities are ultimately consumed. For example, imported goods from Asia but cleared through Manitoba can possibly be consumed in another Canadian province. Customs documentation does not track the final provincial destinations.

Export statistics are recorded by Customs by Province of Origin, meaning that the goods were grown, extracted or manufactured within that province. This may not always reflect the province from which the goods exited Canada. For example, commodities that originated in Alberta could have exited through Manitoba and vice versa. Information by Province of exit is readily available.

Trade by Sector

With the purpose of attempting to quantify sector based trade, the International Trade Division has created an internal commodity-sector concordance list which allows a basic approximation of sector trade. Caution must be taken as this is a

rather simple measurement in an attempt to quantify the relative importance of sector-based trade in Manitoba and Canada.

Modal Information

Using Customs-based trade statistics, there are caveats to be noted on the mode of transport for both imports and exports. For imports, information on the transportation mode refers to the last mode by which commodities were transported to the port of clearance and documented by Customs. This may not always be the mode in which goods arrived at the Canadian port of entry in the case of inland clearance.

For exports, the mode of transportation recorded represents the last mode used to carry goods across international borders. This transportation mode may not necessarily be the same mode used to deliver cargo within Canada, that is, trans-shipment effects are not recorded and are not readily available. For example, grain movements to China may not be recorded as marine.

Manitoba's Exports

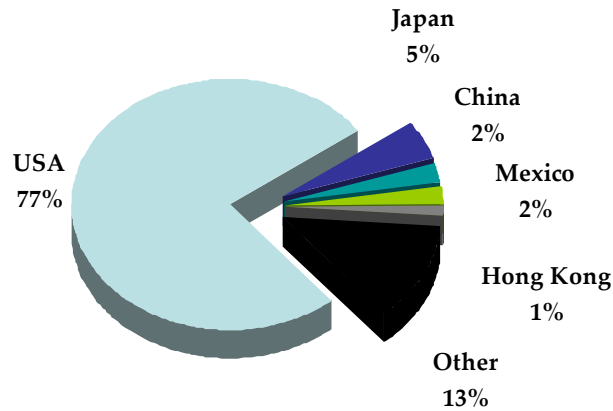
As with other provinces, Manitoba also gains significantly from markets outside its borders. In 2005, Manitoba exported over \$10 Billion to other countries, a small increase of almost 1% over the export level of 2004. The mix of commodities exported continued to be very diverse, as the "Top 10" export commodities collectively only accounted for about 37% of that value (Table 5.1). As expected, major export commodities comprised primary or extractive industry goods such as crop products, metals and energy resources. Electrical energy, the 5th ranked export in 2004, rose to first place in ranking in 2005.

2005 Manitoba Top 10 Exports (HS06) (by Value) (regardless of prov. Of export)		
Commodity	Value (\$Cdn)	Pct of MB Exports
Electrical energy	\$595,609,634	5.9%
Crude Petroleum Oils and Oils Obtained from Bituminous Minerals	\$550,487,993	5.5%
Meslin and Wheat NES	\$480,485,453	4.8%
Nickel – Unwrought, Not Alloyed	\$448,733,208	4.5%
Rape or Colza Seeds – Low Erucic Acid (Whether or Not Broken)	\$372,996,803	3.7%
Unrefined Copper; Copper Anodes for Electrolytic Refining	\$300,282,016	3.0%
Potatoes prepared or preserved other than by vinegar or acetic acid, frozen	\$258,990,648	2.6%
Diesel powered buses with a seating capacity of > nine persons	\$241,168,492	2.4%
Bodies for tractors, buses, trucks and special purpose vehicles	\$234,982,099	2.3%
Swine, live except pure-bred breeding weighing 50 kg or more	\$223,973,691	2.2%
Total of Top 10	\$3,707,710,037	36.9%
Total	\$10,061,409,555	

As in the past, the list of more value-added exports of consequence is consistent with the list of major industries with production clusters in Manitoba. Potato production is a well-established cluster, greatly disproportionate to land use in the prairies, and exceeding acreage in almost all other provinces. Similarly, Manitoba's comparative advantage in swine production is reflected in the mix of major provincial exports. The bus and bus body sectors are also well-represented.

If trade is the lifeblood of an economy, transportation is the circulatory system. As such, the efficiency or “health” of the transportation sector is integral to the optimization of trade. It therefore falls upon the transportation sector to deliver the \$10 Billion in exports to the waiting markets. The USA is clearly the main recipient of the majority of Manitoba’s exports, receiving three quarters (77%) of the value of Manitoba’s exports in 2004 (Figure 5.1). This represents an increase from the 73% recorded in 2004.

**Figure 5.1: 2005 Manitoba’s Top Countries of Export (by Value)
(\$10,061,409,555)**



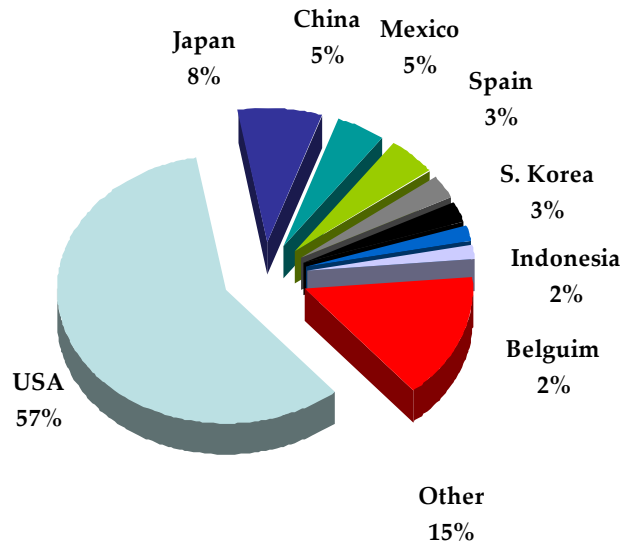
As in 2004, Japan ranks a distant second. The Asian powerhouse, China, recorded a decline in share of Manitoba’s exports, from 4.5% in 2004 to 2% in 2005. Similarly, Mexico and Hong Kong registered declines in share of Manitoba’s exports.

A listing of the “Top 10” countries of destination for Manitoba’s exports is presented in Table 5.2. Relative to 2004, South Korea entered the “Top 10”, to take 6th rank away from Belgium, and Spain dropped out of the Top 10.

TABLE 5.2		
2005 Manitoba Top 10 Countries of Export (by Value)		
Country of Destination	Value (\$Cdn)	Pct of MB Exports
United States	7,641,781,328	76.0%
Japan	526,186,332	5.2%
China	244,754,782	2.4%
Mexico	226,606,448	2.3%
Hong Kong	130,529,212	1.3%
Korea, South	100,749,000	1.0%
Belgium	93,672,121	0.9%
United Kingdom	90,163,103	0.9%
Australia	69,847,134	0.7%
Taiwan	60,615,787	0.6%
Total of Top 10	\$9,184,905,247	91.3%
Total	\$10,061,409,555	

While the value of exports is critical in the analysis of trade, the weight and form of those exports bears on the transportation infrastructure needed to deliver those exports. As expected, the USA continues to dominate the distribution of weight of Manitoba’s exports, although not to the extent that it dominates the value. This would suggest that the USA is the recipient of higher value per weight commodities than are other recipients of Manitoba’s exports. In all likelihood, this is a reflection of bulk commodities such as grains being more likely destined for offshore markets.

**Figure 5.2: 2005 Manitoba's Top Countries of Export (by Weight)
(12,403,453 tonnes)**



Turning to the mechanism of delivery of these commodities, over half of Manitoba's exports are carried by truck (Figure 5.3). Given the high percentage of Manitoba's exports destined for the USA, it is not surprising to see trucking dominate as the mode used for Manitoba's exports.

Water transport (the main mode for exports destined for the Pacific Rim or Europe) ranks second, as it had in 2004, although the percentage moving by this mode has dropped slightly relative to the distribution of 2004. Rail's share is relatively unchanged from 2004.

Shifting to the perspective of weight rather than value, Water becomes the dominant mode, representing about 43% of Manitoba's exports (Figure 5.4). It should be noted that the mode assigned is the mode which takes the product beyond Canada's borders. As such, while almost half of the weight of Manitoba's exports left Canada by water in 2004, most of the commodities likely moved to the seaport by rail or truck.

Figure 5.3: 2005 Manitoba's Mode of Exports (by Value)
 (\$10,061,409,555)

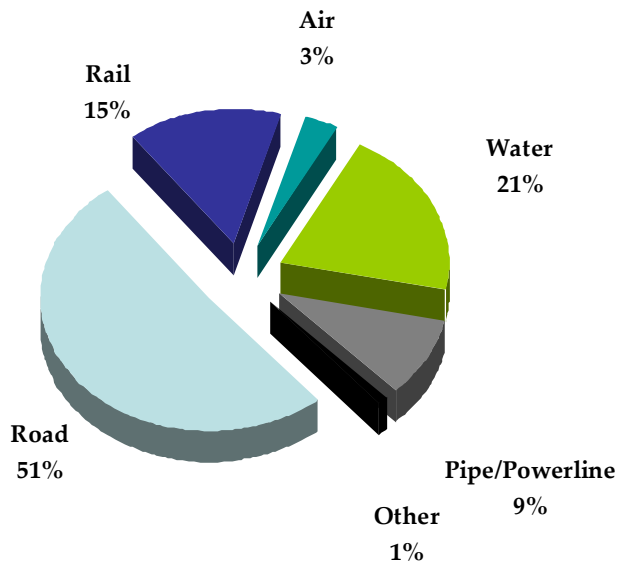
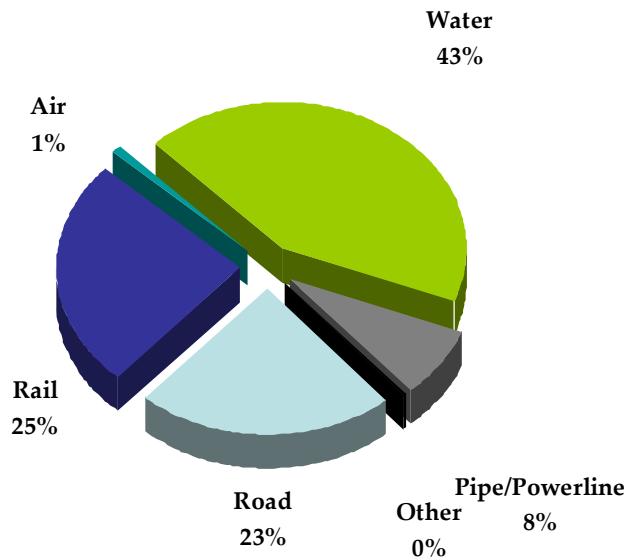


Figure 5.4: 2005 Manitoba's Mode of Exports (by Weight)
 (12,403,453 tonnes)



As in 2004, rail moves marginally ahead of truck when viewed on a weight basis, reinforcing the role of water and rail as the main carriers of bulk, low unit value commodities. At the other extreme, air accounted for about 3% of the exports by value, but only 1% of exports by weight. This is consistent with air freight's focus on high speed delivery of relatively high value products.

Manitoba's Imports

The destination of imported commodities once they cross Canada's borders is tracked differently than the destination of exports. The destination country of exports is well documented, but once a commodity has cleared the Canadian border on importation, the final province of destination can sometimes be elusive. As such, imported commodities are defined on the basis of Port of Clearance. The "Top 10" commodities entering Canada through Manitoba's ports are presented in Table 5.3. In the past, a similar level of aggregation of commodities was used as found in the analysis of exports. Specifically, the very disaggregated HS06 level was used. This showed that Manitoba imports a much more complex array of commodities than it exports. While the "Top 10" export commodities accounted for slightly over 1/3 of the total value of exports, the "Top 10" import commodities only represent about 13 to 14 percent of imports, with the largest single commodity representing less than 2% of Manitoba's imports (by value). Consequently, it was deemed more appropriate to analyze imports using the more aggregate HS02 system. Using the more aggregate HS02 system, 70% of Manitoba's imports are represented by the Top 10 group (Table 5.3).

2005 Manitoba Top 10 Imports (HS02) (by Value)		
Commodity	Value (\$Cdn)	Pct of MB Imports
Nuclear Reactors, Boilers, Machinery and Mechanical Appliances	\$3,110,319,429	26.5%
Motor Vehicles, Trailers, Bicycles, Motorcycles and Other Similar Vehicles	\$1,564,535,643	13.4%
Electrical or Electronic Machinery and Equipment	\$954,805,905	8.1%
Plastics and Articles Thereof	\$566,313,444	4.8%
Articles of Iron or Steel	\$505,219,259	4.3%
Furniture, and Stuffed Furnishings; Lamps and Illuminated Signs; Prefabricated Buildings	\$348,699,692	3.0%
Miscellaneous Chemical Products	\$333,242,561	2.8%
Printed Books, Newspapers, Pictures, Manuscripts and The Like	\$300,329,598	2.6%
Paper, Paperboard and Articles Made From These Materials	\$266,610,553	2.3%
Optical, Medical , Photographic, Scientific and Technical Instrumentation	\$258,809,481	2.2%
Total of Top 10	\$8,208,885,565	70.1%
Total	\$11,715,580,744	

In 2004, imports exceeded exports by about 6%. In 2005, this gap between Manitoba imports and exports rose to about 16%. The single largest group of imports into Manitoba, “nuclear reactors, boilers, machinery and mechanical appliances,” account for about ¼ of Manitoba’s imports by value. Motor vehicles and similar transportation-related items accounted for about 13% of Manitoba’s imports.

Just as the USA dominated the geographic distribution of Manitoba’s exports, the vast majority (81%) of imports passing through Manitoba’s ports entered from the USA (Table 5.4). This share was essentially unchanged from the findings for 2004. As in 2004, China, Mexico and Germany ranked 2nd, 3rd, and 4th, albeit distantly behind the USA. Italy slipped somewhat, allowing Japan to move into the top 5 group of countries clearing imports through Manitoba.

TABLE 5.4		
2005 Manitoba’s Top 10 Imports by Countries Clearing Imports Through Manitoba (by Value)		
Source Country	Value (\$Cdn)	Pct of MB Imports
United States	\$9,560,740,874	81.2%
China	\$375,417,101	3.2%
Mexico	\$235,271,454	2.0%
Germany	\$232,872,343	2.0%
Japan	\$183,803,834	1.6%
Italy	\$108,318,630	0.9%
United Kingdom	\$107,336,789	0.9%
Taiwan	\$105,176,652	0.9%
Canada	\$100,183,661	0.9%
Denmark	\$68,759,535	0.6%
Total of Top 10	\$11,077,880,873	94.1%
Total	\$11,774,751,326	

In 2004, 95% of imports clearing through Manitoba were sourced from one of the top 10 countries. In 2005, this share was essentially unchanged, at 95%.

Shifting to mode, trucking clearly dominated, with 84% of the value of Manitoba’s imports entering via road (Figure 5.5). This represented a fractional increase from 82% in 2004. Rail also rose, moving from 4% in 2004 to 6% in 2005. Air’s share dropped from 9% in 2004 to 6% in 2005. On a weight measure, while road continues to dominate, rail becomes a major factor, accounting for 27% of commodities clearing through Manitoba’s ports (Figure 5.6), up from 22% in 2004.

Figure 5.5: 2005 Manitoba's Mode of Imports (by Value)
 (\$11,774,751,326)

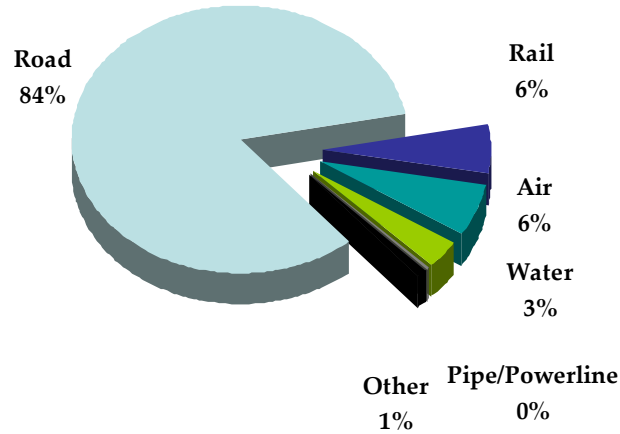
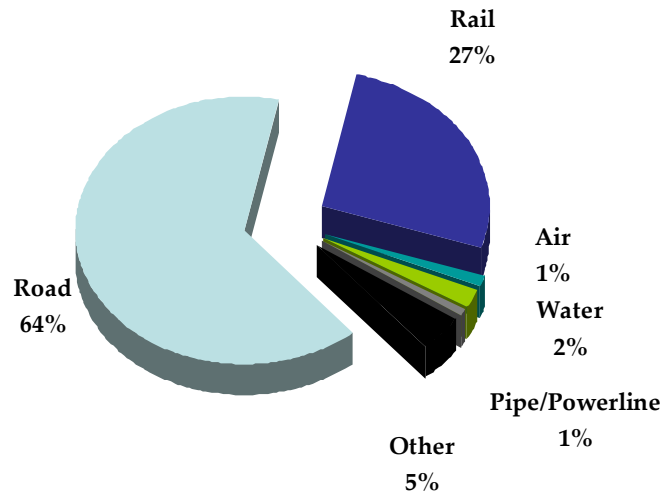


Figure 5.6: 2005 Manitoba's Mode of Imports (by Weight)
 (7,449,734 tonnes)



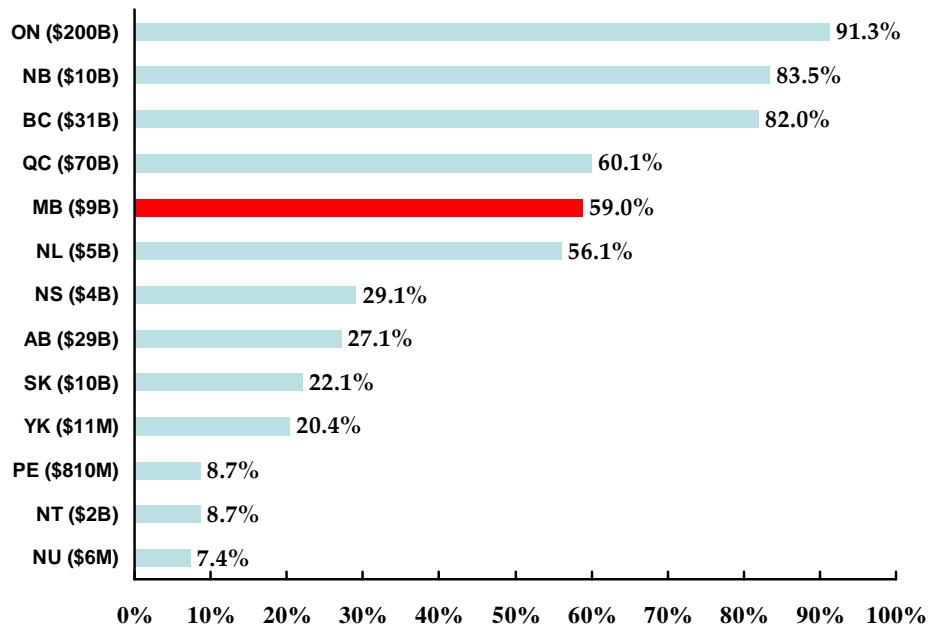
As in 2004, the distribution of weight vs. value of imports and exports reinforces the assessment that Manitoba tends to export bulk commodities in exchange for more processed manufactured goods. It also highlights a challenge to the logistics of maintaining front haul and backhaul parity when the weight of exports significantly outstrip those of imports.

Export Routing and Usage of Transportation Infrastructure

Canada’s transportation infrastructure is configured to facilitate interprovincial movement as part of the import and export process. The extreme simplification of this is found in the system which facilitates movement of bulk goods by rail to seaports where the use of highly cost-efficient water movement can be maximized. The St. Lawrence Seaway/Great Lakes system allows water movement to reach to the heart of the continent. On another scale, provinces can shift commodities through adjacent provinces in order to minimize transport through the more challenging elements of Canada’s geography. The net effect is that there is a great divergence in the degree to which provinces can use their own transportation infrastructure to facilitate trade with other countries (even when the largest trading partner shares our southern border).

Figures 5.7 and 5.8 illustrate the degree to which provinces are successful in shipping out their exports essentially using their own infrastructure exclusively. For example, over 90% of Ontario’s exports (by value) manage to leave Canada without using any other province’s transportation infrastructure. New Brunswick and BC are also successful in not using other provinces’ roads, rail, air terminals, or seaports.

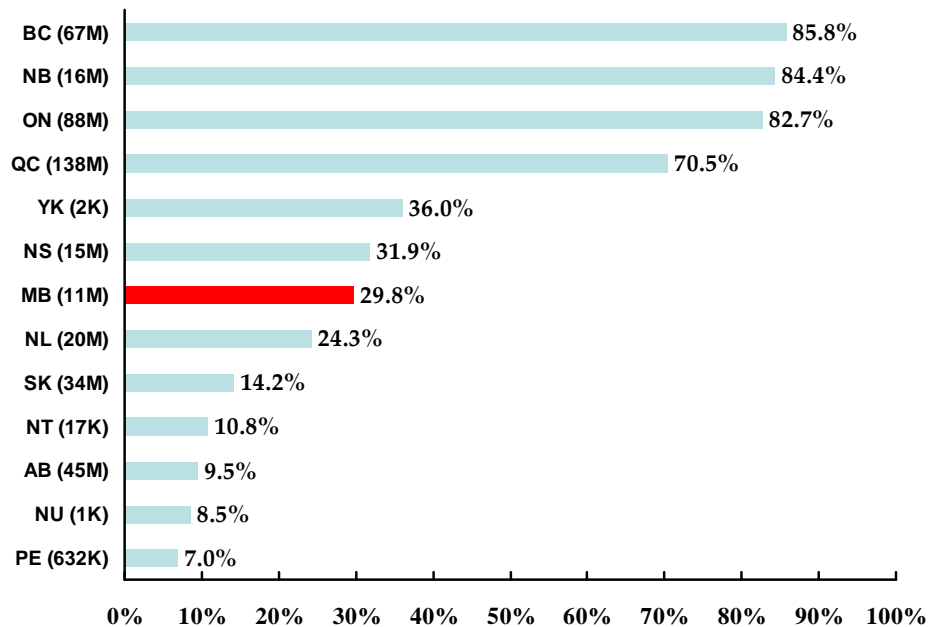
Figure 5.7: Pct of Provinces’ Exports Leaving CDA From Originating Prov. (Total Non-Powerline & Pipeline Exports - \$371 Billion)



At the other end of the spectrum, less than 10% of exports from Prince Edward Island, Northwest Territories, or Nunavut leave Canada directly from those jurisdictions.

Interestingly, provinces such as Alberta and Saskatchewan appear quite dependent on other provinces' transportation infrastructure to, at least in part, move their export, particularly in contrast to their third prairie neighbour, Manitoba.

**Figure 5.8: Pct of Provinces' Exports Leaving CDA From Originating Prov.
(Total Non-Powerline & Pipeline Exports – 433 Million Tonnes)**

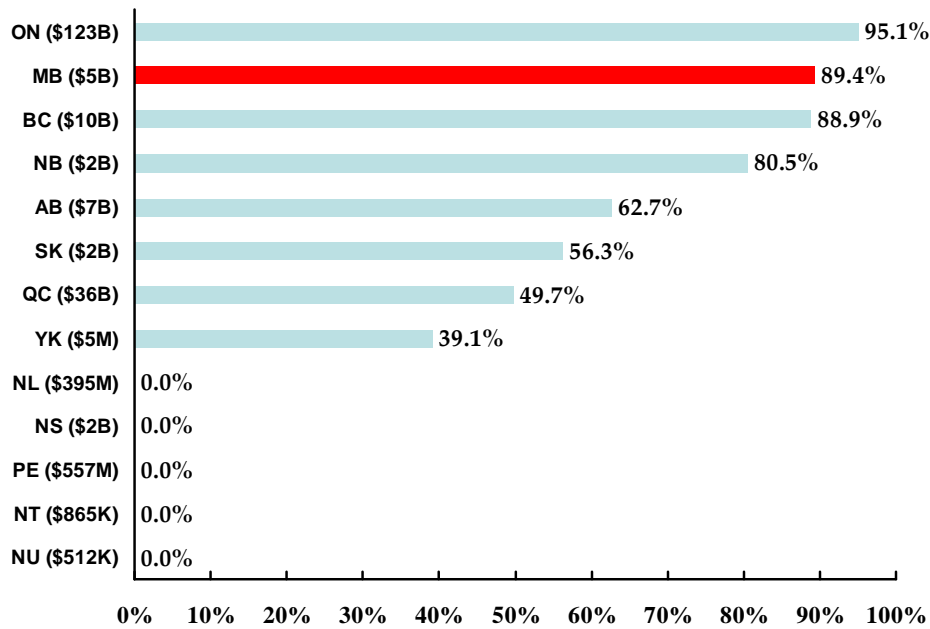


On a weight basis (perhaps a better indicator of load on transportation infrastructure), BC, New Brunswick and Ontario are all fairly export transport self-sufficient. To a slightly lower level, Quebec is also self-sufficient.

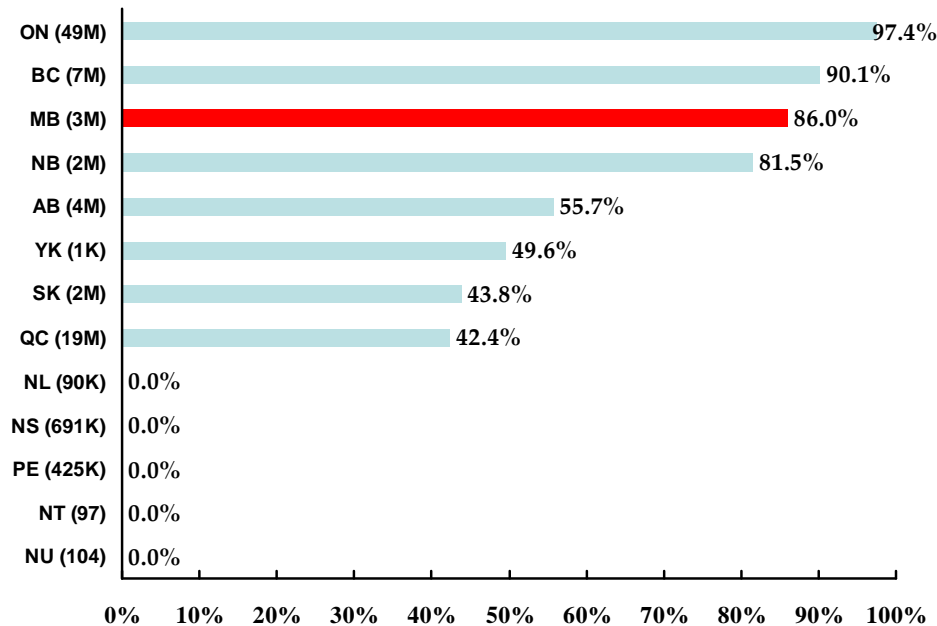
All other provinces/territories depend on other jurisdictions to move over half of their exports. Only about 30% of Manitoba's exports (by weight) leave directly from Manitoba. However, in contrast to the other prairie provinces (Saskatchewan: 14%, Alberta: 10%), Manitoba's transportation infrastructure is quite successful in moving Manitoba's exports.

On the following pages, Figures 5.9 through 5.14 repeat this representation specifically for road, rail, and marine exports. In road-based exports, Manitoba moves into second place behind Ontario, and into third place on a weight basis. In terms of rail, Ontario stands alone, handling almost all of its rail exports without using other provinces' infrastructure. In terms of marine, provinces such as BC, New Brunswick, Quebec, and Nova Scotia (on value) are, as one would expect, those jurisdictions with modal self-sufficiency.

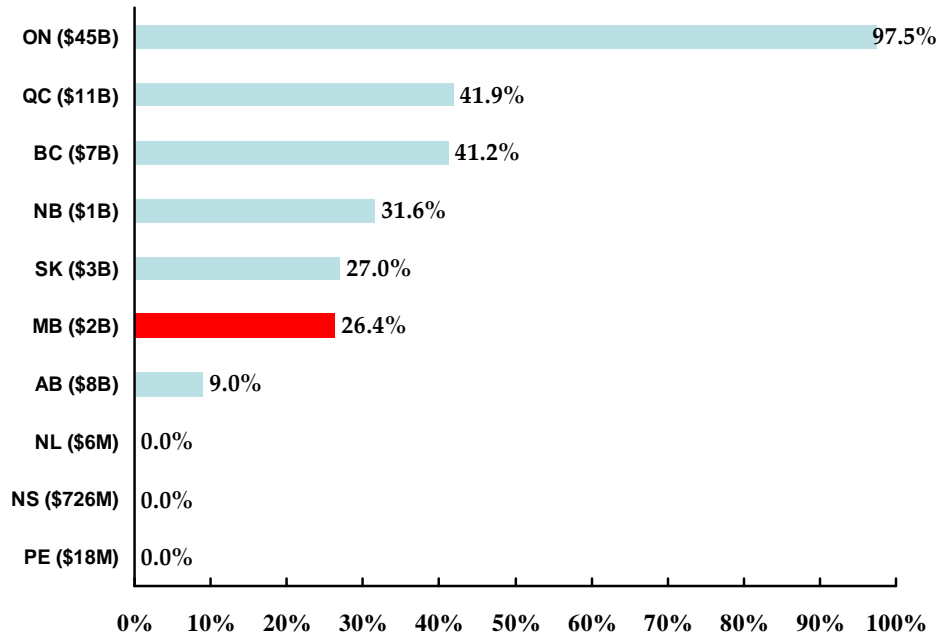
**Figure 5.9: Pct of Provinces' Exports Leaving CDA From Originating Prov.
(Road Exports - \$189 Billion)**



**Figure 5.10: Pct of Provinces' Exports Leaving CDA From Originating Prov.
(Road Exports – 87 Million Tonnes)**



**Figure 5.11: Pct of Provinces' Exports Leaving CDA From Originating Prov.
(Rail Exports - \$77 Billion)**



**Figure 5.12: Pct of Provinces' Exports Leaving CDA From Originating Prov.
(Rail Exports – 76 Million Tonnes)**

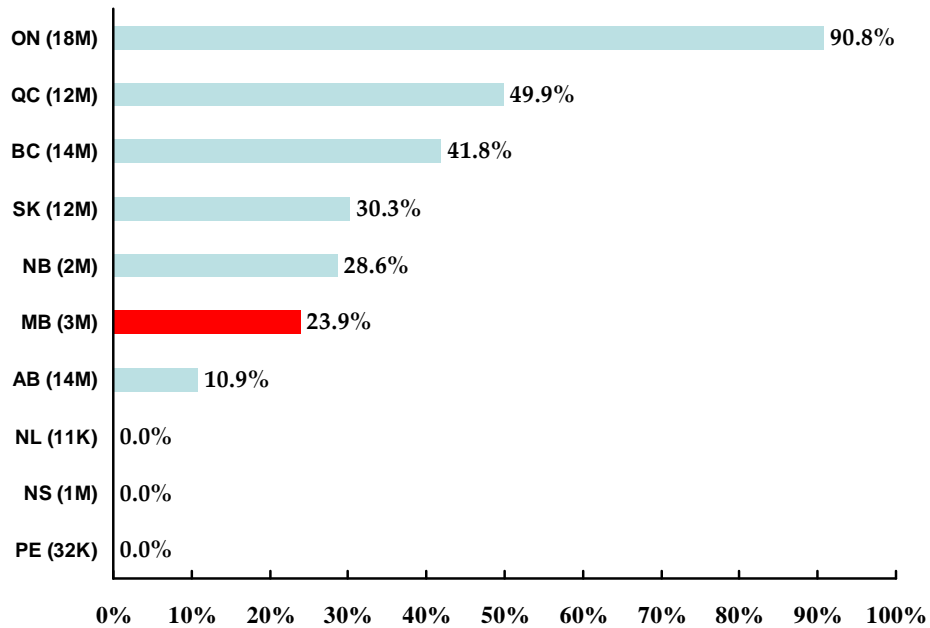


Figure 5.13: Pct of Provinces' Exports Leaving CDA From Originating Prov. (Water Exports - \$60 Billion)

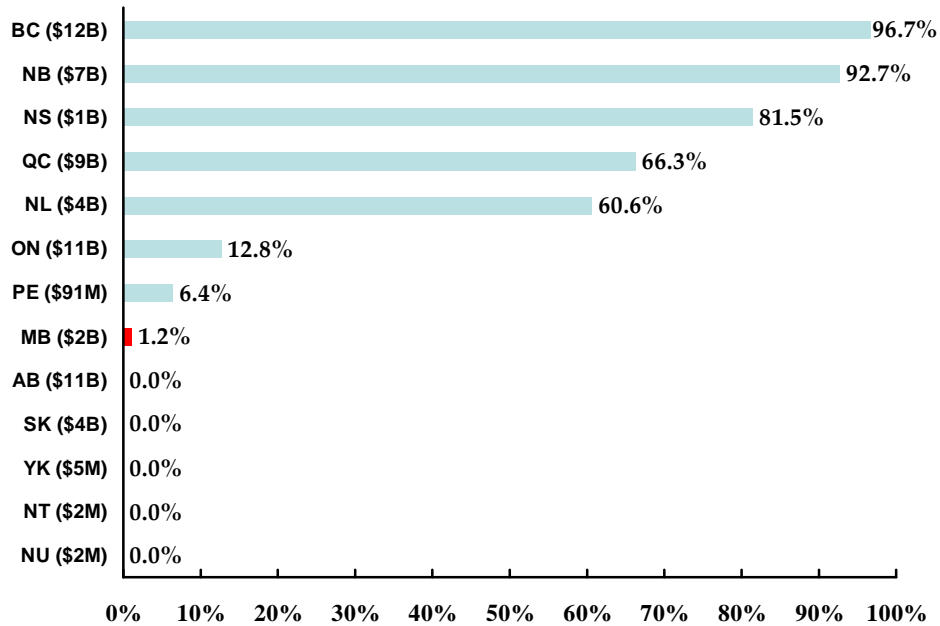
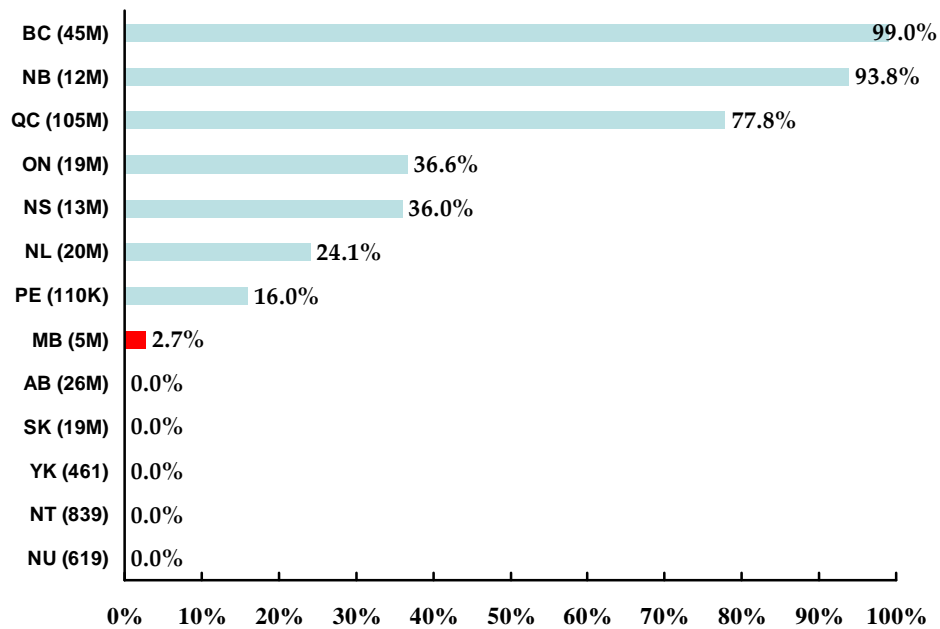


Figure 5.14: Pct of Provinces' Exports Leaving CDA From Originating Prov. (Water Exports – 264 Million Tonnes)

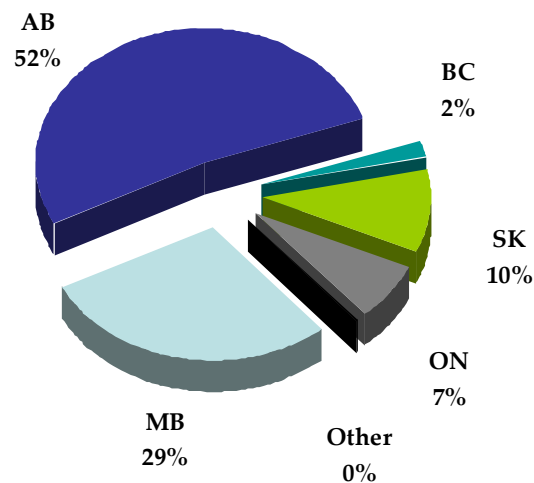


While modal self-sufficiency for exports is not necessarily a determinant in definition of a “portal” or corridor “hub”, it may be a desirable trait. If so, Canada’s seaport provinces are portals or hubs, but then Ontario is also a rail portal or hub, and Manitoba is Central Canada’s road portal.

Usage of Manitoba's Transportation Infrastructure

Manitoba's infrastructure appears to be well utilized in facilitating the province's export obligations. However, the previous section appears to indicate some of our neighbours are less successful in meeting their own export requirements under the confines of their own infrastructure. In 2005, about \$20 Billion in exports passed out of Canada with Manitoba as the point of exit (Figure 5.15). Of this amount, over half originated in Alberta, with Manitoba only responsible for 29%.

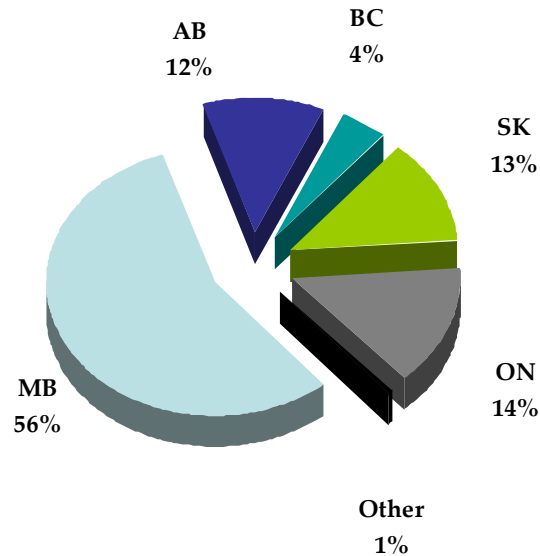
Figure 5.15: 2005 Provincial Exports Leaving Via Manitoba (by Value (\$000))
(\$20,894,168)



However, in the context of transportation infrastructure, discussions should exclude the powerline and pipeline sectors. These modes function separately from the more traditional road, rail, air and water modes, and their inclusion would only serve to “muddy the waters” – particularly in the context of Alberta's substantial oil and gas exports.

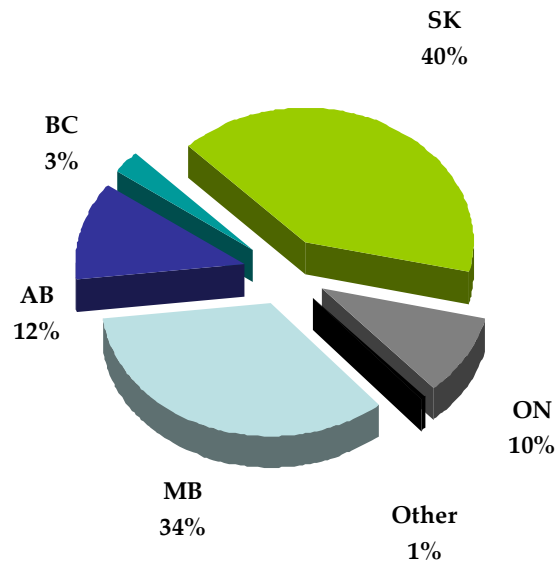
After removing these sectors, the situation in the context of transportation infrastructure becomes clearer (Figure 5.16). Over half (56%) of exports (by value) leaving via Manitoba originated in Manitoba in 2005. Ontario-sourced commodities represented the next largest segment (14%), followed by Saskatchewan (13%), and Alberta (12%).

Figure 5.16: 2005 Provincial Exports Leaving Via Manitoba (by Value (\$000))
 (Excl. Powerline and Pipeline Sectors: \$9,594,084)



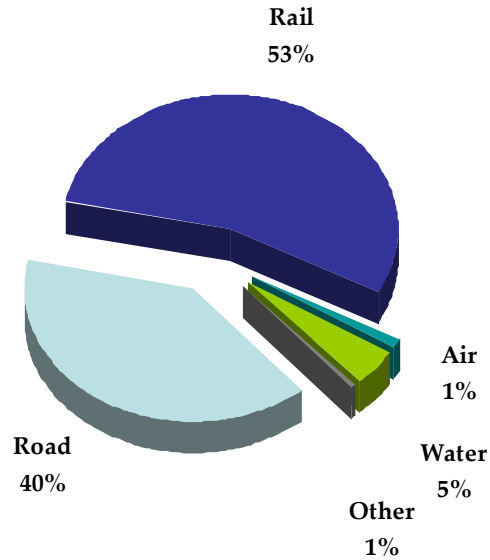
On a tonnage basis (Figure 5.17), Saskatchewan becomes the largest single contributor of exports leaving via Manitoba (40%), followed by Manitoba (34%), Alberta (12%), and Ontario (10%).

Figure 5.17: 2005 Provincial Exports Leaving Via MB (by Weight)
 (Excl. Powerline and Pipeline Sectors: 9,947,452 tonnes)



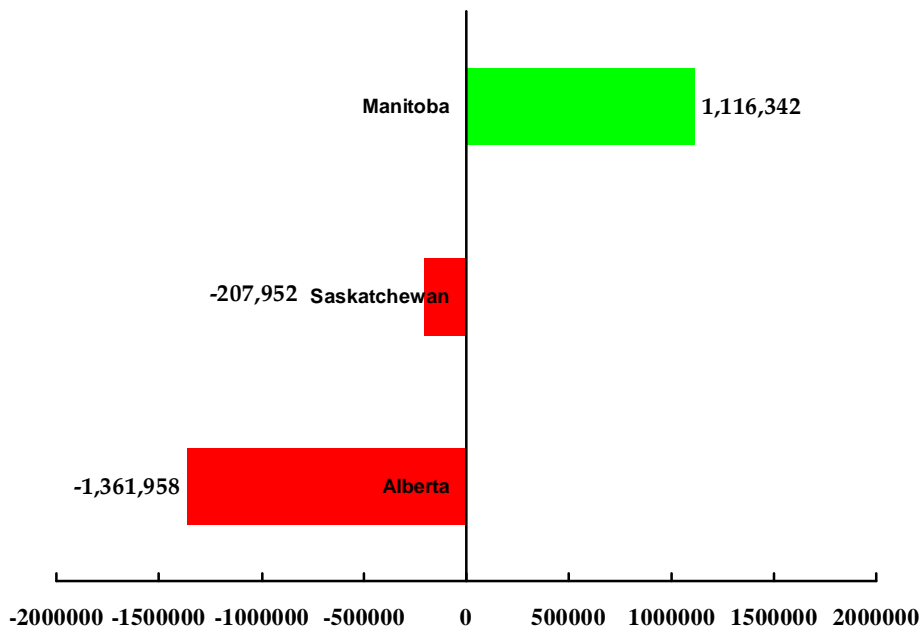
Still looking at a tonnage basis, rail carries over half (53%) of the exports leaving via Manitoba, ahead of the 40% from road. This is primarily due to a disproportionate focus on rail for moving Saskatchewan's exports through Manitoba to US markets.

**Figure 5.18: 2005 Mode of Exports Leaving Via MB (by Weight)
(Excl. Powerline and Pipeline Sectors: 9,947,452 tonnes)**



With Manitoba's self-sufficiency in road export movement (Section 5.3), an apparent lack of such self-sufficiency for Saskatchewan and Alberta, and a significant usage of Manitoba as the portal for prairie exports (Figures 5.16 and 5.17), a "Trucking Weight Surplus/Deficit" construct was developed (Figure 5.19).

**Figure 5.19: Prairie Provinces' Export Trucking Weight Surplus/Deficit
(Exported by Truck From Prairies – 8.8 Million Tonnes)**



This value is created by netting out a province's road-based exports with the road-based exports exiting Canada via that province. For example, 1.1 million more tonnes left via Manitoba's ports than could be accounted by Manitoba's road-based exports. In contrast, an amount of 1.4 million tonnes of Alberta's road-based exports were not able to leave directly through Alberta's road infrastructure, rather requiring the use of other provinces' roads. A lesser deficit of 208,000 tonnes was calculated for Saskatchewan. It is likely this value would have been much higher had it not been for the propensity to use rail rather than road for Saskatchewan exports.

Figure 5.19 presents a "net" view of the use of road infrastructure of the Prairie provinces. The following table presents the provincial/territorial relationships in more detail.

TABLE 5.5

**Provincial /Territorial Usage of Jurisdictions' Road Infrastructure
Weight of Road Export (,000 tonnes)
Province of Departure from Canada**

	Alberta	BC	Manitoba	Ontario	Saskatch- ewan	Other Prov/Terr	Total Weight of Prov's/Terr's Road Exports
Alberta	2,330.03 82.6%	350.08 5.0%	369.59 9.4%	317.24 0.5%	744.62 36.2%	70.98 0.6%	4,182.55
British Columbia	46.14 1.6%	6,290.65 90.4%	169.63 4.3%	183.87 0.3%	123.19 6.0%	165.08 1.4%	6,978.55
Manitoba	36.73 1.3%	35.26 0.5%	2,421.44 61.6%	153.12 0.3%	132.89 6.5%	37.62 0.3%	2,817.06
Ontario	79.33 2.8%	204.66 2.9%	219.60 5.6%	47,410.53 79.7%	58.43 2.8%	728.14 6.0%	48,700.69
Saskatchewan	275.08 9.8%	24.60 0.4%	709.51 18.0%	161.31 0.3%	993.32 48.2%	103.69 0.9%	2,267.49
Other Prov/Terr	53.29 1.9%	57.16 0.8%	43.65 1.1%	11,259.04 18.9%	7.09 0.3%	10,975.18 90.8%	22,395.41
Total Weight of Exports leaving via Province	2,820.59	6,962.42	3,933.40	59,485.11	2,059.53	12,080.69	87,341.73
Percent of Weight of Province's Road Exports leaving via own provincial infrastructure	67.4%	99.8%	139.6%	122.1%	90.8%		
Province's Surplus or Deficit	-1,361.96	-16.13	1,116.34	10,784.42	-207.95		
Main Beneficiaries of Port Province's infrastructure	AB, SK	BC	MB, SK, AB	ON, QC (in "Other")	SK, AB		

Since Saskatchewan's road deficit is quite small, Figure 5.19 may give the impression that the large Manitoba surplus is as a result of a large amount of exports being trucked from Alberta to Manitoba and then being exported via Manitoba. However, Table 5.5 reveals a more complex relationship, and more of an "ice cube tray" effect. Alberta only ships 370,000 tonnes of road exports through Manitoba, but ships 745,000 tonnes via Saskatchewan. Saskatchewan, in turn, ships 710,000 tonnes via Manitoba. As the "ice cube tray" tilts to the east, "water" (commodities) pours out of Alberta into Saskatchewan, which is itself in the process of pouring into Manitoba in order to facilitate truck trade southward.

Table 5.5 also illustrates that Manitoba is the only western province that, in 2005, had a road freight surplus (by weight). One could argue that, on balance, other western provinces benefit from the presence of Manitoba's road infrastructure to a greater extent than Manitoba benefits from the other western provinces' road infrastructure (at least in terms of facilitating international road-based exports).

As stated at the outset, Manitoba gains significantly from markets outside its borders. It would appear that other provinces also gain significantly from access to markets through Manitoba's transportation infrastructure.

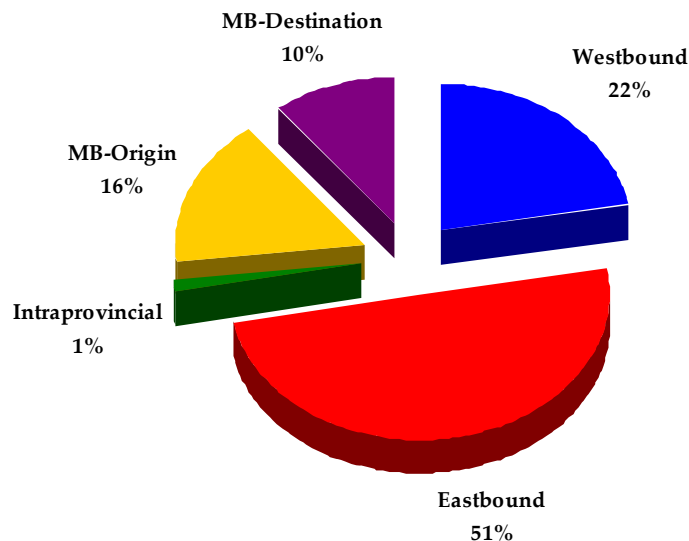
Interprovincial Flow-Through Trade

The following section deals with rail and truck commodity traffic flowing through Manitoba and other provinces. The statistics presented are an average from the most current years available for both rail and truck flows, being 2001-2003. All figures presented are in reference to weight (tonnes) as dollar amounts were not available from 2001-2003 for both modes. The figures in this section represent only commodity traffic flows between and within provinces and do not take into consideration commodity traffic flows to and from the U.S. and Mexico. This section assumes that all rail and truck flows between provinces follow a linear East-West and West-East movement.

Rail Commodity Traffic Flows

Figure 5.20 displays the breakdown of rail traffic flows in and through Manitoba as an average from 2001-2003. Intraprovincial flows originate in Manitoba and are destined for Manitoba locations, MB-Origin flows originate in Manitoba and are destined for other provinces, MB-Destination flows originate in other provinces and are destined for Manitoba, and Eastbound and Westbound flows originate in other provinces and are destined for other provinces.

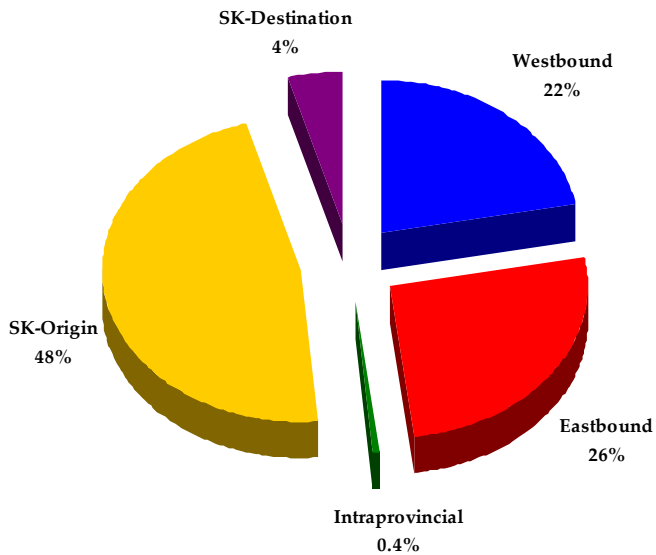
**Figure 5.20: Rail Traffic Flows in/through Manitoba, 2001-2003 Avg.
By Weight (39.11 million tonnes)**



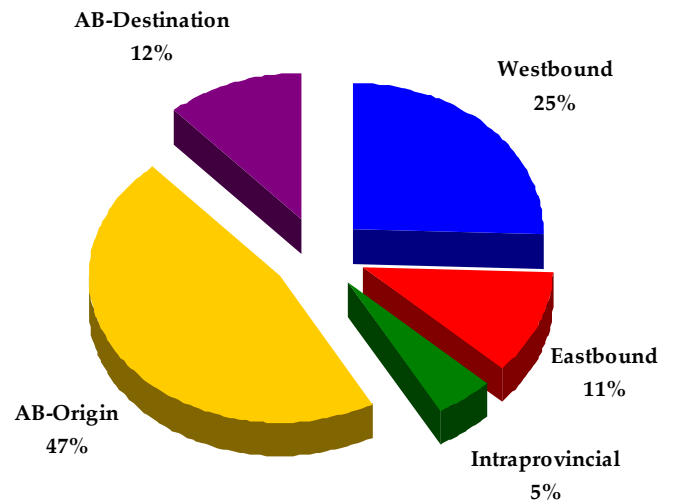
The majority of rail traffic flows in Manitoba (around 83%) originate in other provinces. About 17% of the rail traffic flows originate in Manitoba. Most of the rail traffic originating in other provinces is not destined for Manitoba, as most of it is flow through traffic. Eastbound traffic makes up the largest percentage of rail traffic flows in Manitoba at 51% or approximately 19.52 million tonnes, while westbound traffic comprises 22% of rail traffic flows in Manitoba or about 8.67 million tonnes.

Figure 5.21 shows the breakdown of rail traffic flows in and through Saskatchewan, Alberta, Ontario, and Quebec as an average from 2001-2003. The Atlantic Provinces and British Columbia were not included due to their geographic position preventing them from experiencing interprovincial flow through traffic.

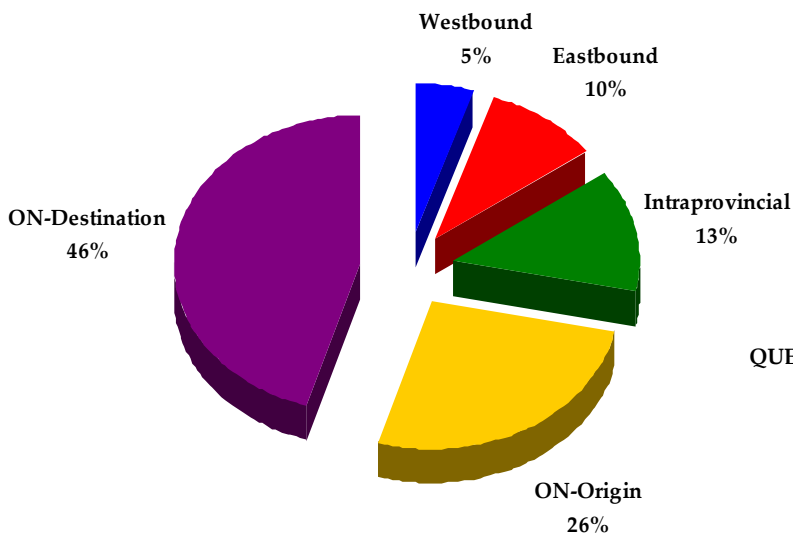
**Figure 5.21: Rail Traffic Flows SK,
2001-2003 Avg.
by Weight (45.49 million tonnes)**



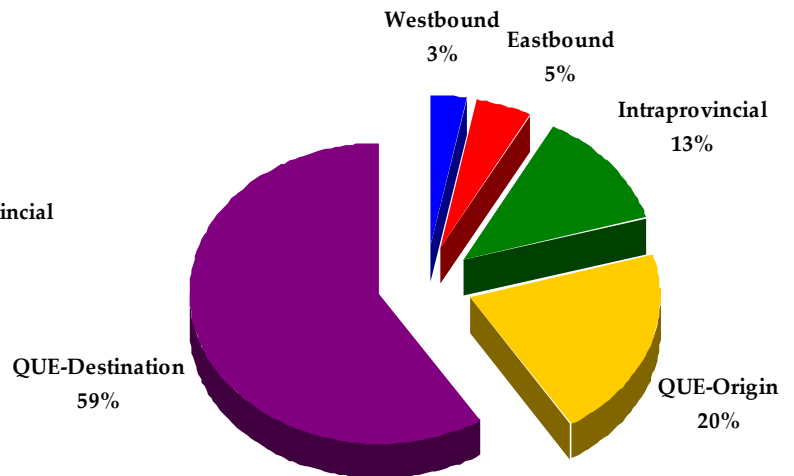
**Rail Traffic Flows AB,
2001-2003 Avg.
by Weight (59.52 million tonnes)**



**Rail Traffic Flows ON,
2001-2003 Avg.
by Weight (54.90 million tonnes)**



**Rail Traffic Flows QUE,
2001-2003 Avg.
by Weight (49.95 million tonnes)**



The majority of rail commodity traffic originates in Saskatchewan and Alberta, while Ontario and Quebec are the destination for the majority of commodities. This reflects the fact that the majority of rail traffic flows in Manitoba (51%) are Eastbound flows as the western provinces use Manitoba as a conduit to supply the eastern provinces. While Saskatchewan and Alberta experience flow through traffic of 48% and 36% respectively, flow through traffic in Ontario accounts for only 15% of its total rail traffic flows and Quebec is even lower at 8% of total rail traffic flows. Manitoba by far experiences the largest amount of flow through traffic at 73% of its total rail traffic flows.

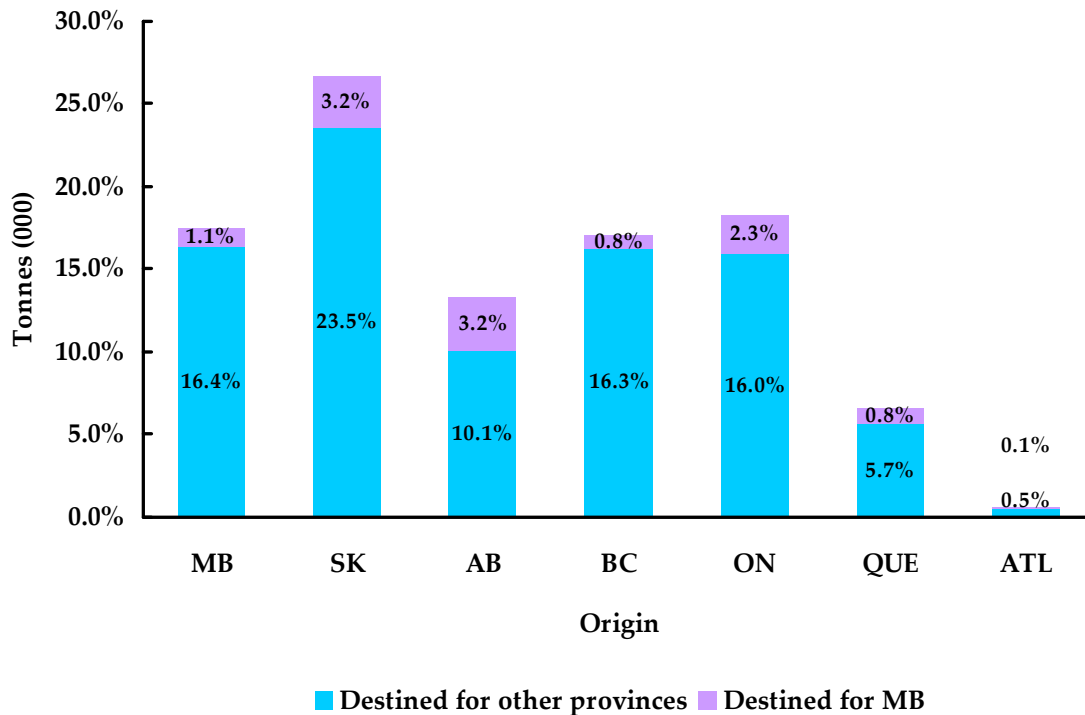
Table 5.6 displays the average westbound and eastbound rail traffic flows through Canadian provinces from 2001-2003. Westbound and eastbound traffic represents only flow through traffic, which is traffic originating in other provinces and destined for other provinces. Manitoba is the most affected by flow through rail traffic, with an average of 28.19 million tonnes flowing through the province annually, almost 70% of which was eastbound traffic. Saskatchewan and Alberta experienced flow through traffic of 21.90 million tonnes and 21.95 million tonnes respectively, while Ontario and Quebec experienced lower totals of 8.28 million tonnes and 3.84 million tonnes respectively.

Table 5.6: Rail Traffic Flows Through Canadian Provinces, 2001-2003 Avg. Tonnes (000)

Province	MB	SK	AB	ON	QUE
Westbound	8,671	10,020	15,164	2,804	1,510
Eastbound	19,514	11,884	6,790	5,473	2,331
Total	28,185	21,904	21,954	8,277	3,842
% Westbound	31%	46%	69%	34%	39%
% Eastbound	69%	54%	31%	66%	61%

Figure 5.22 shows the rail traffic flows in and through Manitoba, by originating province averaged between 2001-2003.

Figure 5.22: Rail Traffic Flows in/through Manitoba, by Originating Province, 2001-2003 Avg. By Weight (39.11 million tonnes)

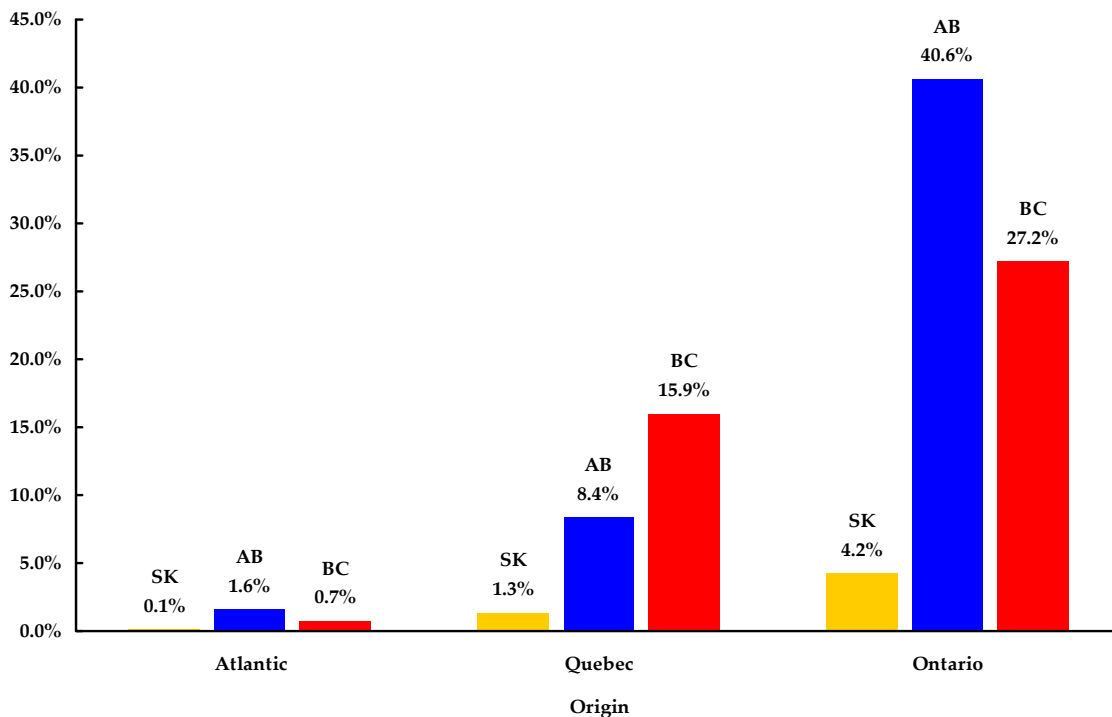


Only 17.5% of rail traffic flows originated in Manitoba during the 2001-2003 period with 1.1% of that being intraprovincial traffic flow. The province with the largest contribution to rail traffic flows in Manitoba was Saskatchewan at 26.7% with 23.5% of that being flow through traffic destined for Ontario, Quebec, and Atlantic Canada. Ontario and B.C. contributed 18.3% and 17.1% to rail traffic flows in Manitoba, while Alberta accounted for 13.3%.

Westbound rail commodity traffic flowing through Manitoba represents approximately 8.67 million tonnes or 22% of rail traffic flows in Manitoba. Westbound movement comprises commodity shipments from Atlantic Canada, Quebec, and Ontario destined for Saskatchewan, Alberta, and British Columbia.

Figure 5.23 displays the westbound rail commodity traffic flowing through Manitoba averaged from 2001-2003.

Figure 5.23: Westbound Rail Traffic Flowing Through Manitoba, Destined for SK, AB, BC, 2001-2003 Avg. By Weight (8.67 million tonnes)

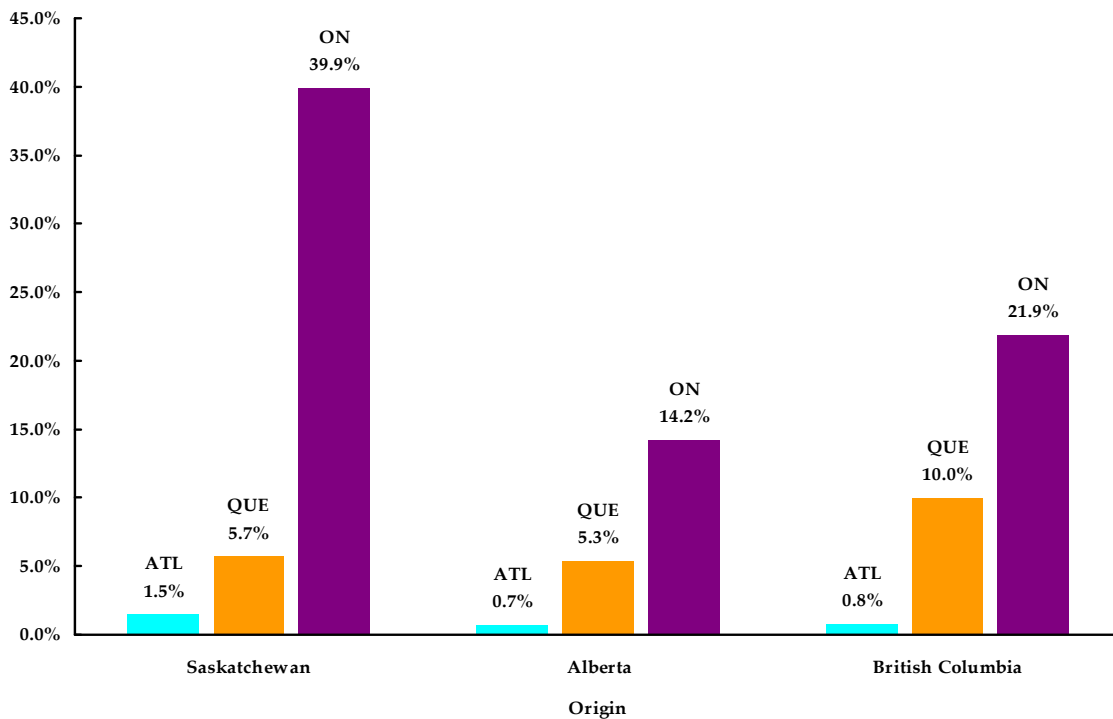


The majority of the westbound rail traffic flowing through Manitoba originated in Ontario weighing approximately 6.24 million tonnes. Ontario to Alberta accounted for the highest traffic amount at 40.6%, while Ontario to B.C. accounted for the second highest at 27.2%. The bulk of commodities shipped to Alberta and B.C. were comprised of mixed loads or unidentified freight as well as phosphate rock to Alberta. Quebec to B.C. traffic comprised the third largest segment at 15.9% or 1.39 million tonnes.

Eastbound rail commodity traffic flowing through Manitoba represents approximately 19.51 million tonnes or 51% of rail traffic flows in Manitoba. Eastbound movement comprises commodity shipments from Saskatchewan, Alberta, and British Columbia destined for Atlantic Canada, Quebec, and Ontario.

Figure 5.24 displays the eastbound rail commodity traffic flowing through Manitoba averaged from 2001-2003.

Figure 5.24: Eastbound Rail Traffic Flowing Through Manitoba, Destined for ATL, QUE, ON, 2001-2003 Avg. By Weight (19.51 million tonnes)

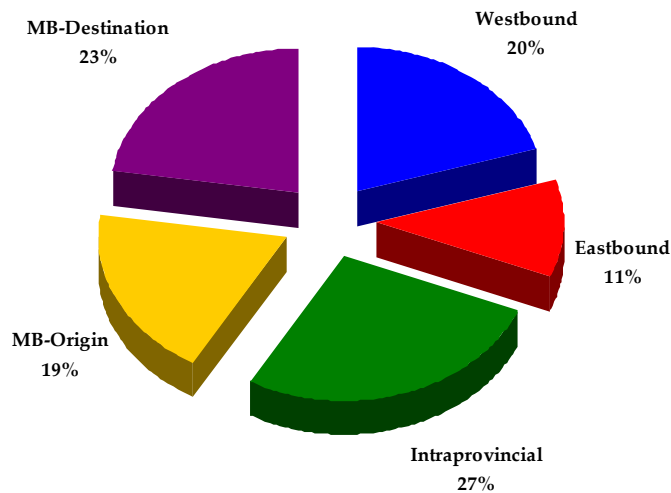


Saskatchewan to Ontario traffic comprises approximately 39.9% or 7.79 million tonnes of eastbound rail traffic flowing through Manitoba. The bulk of commodities shipped from Saskatchewan to Ontario were made up of wheat at around 3.79 million tonnes, followed by coal at around 1.63 million tonnes. B.C. to Ontario and Alberta to Ontario comprise 21.9% and 14.2% of eastbound rail traffic flowing through Manitoba. In total, 75.9% or 14.82 million tonnes of eastbound rail traffic is destined for Ontario, while 47.1% or 9.19 million tonnes of eastbound rail traffic originates in Saskatchewan.

Truck Commodity Traffic Flows

Figure 5.25 displays the breakdown of truck traffic flows in and through Manitoba as an average from 2001-2003. Intraprovincial flows originate in Manitoba and are destined for Manitoba locations, MB-Origin flows originate in Manitoba and are destined for other provinces, MB-Destination flows originate in other provinces and are destined for Manitoba, and Eastbound and Westbound flows originate in other provinces and are destined for other provinces.

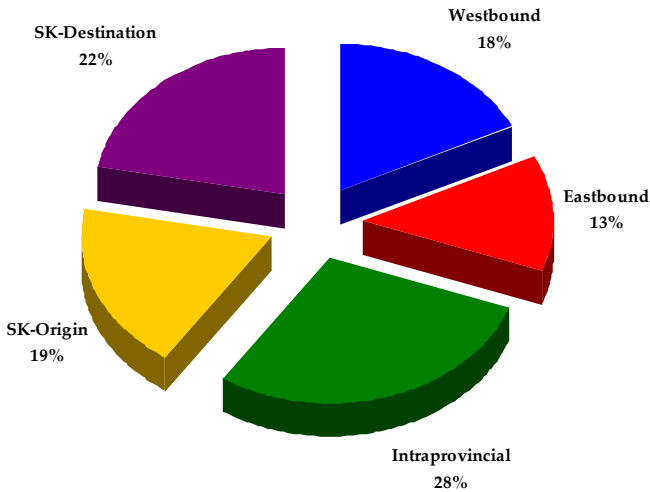
**Figure 5.25: Truck Traffic Flows in/through Manitoba 2001-2003 Avg.
By Weight (12.60 million tonnes)**



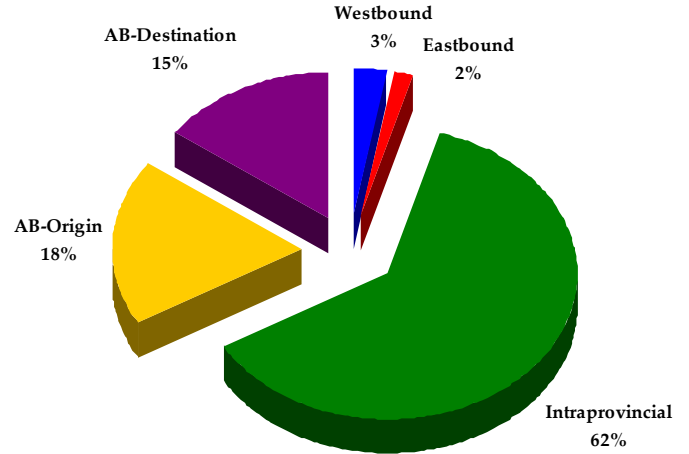
Approximately 54% of truck traffic in Manitoba originated in other provinces during the 2001-2003 period. About 23% of truck traffic flows were destined for Manitoba, while flow through traffic was comprised of 31%, westbound at 20% and eastbound at 11%. Intraprovincial traffic flows accounted for the largest portion of truck commodity traffic flows in Manitoba at 27% or 3.44 million tonnes.

Figure 5.26 displays the breakdown of truck traffic flows in and through Saskatchewan, Alberta, Ontario, and Quebec as an average from 2001-2003. The Atlantic Provinces and British Columbia were not included due to their geographic position preventing them from experiencing interprovincial flow through traffic.

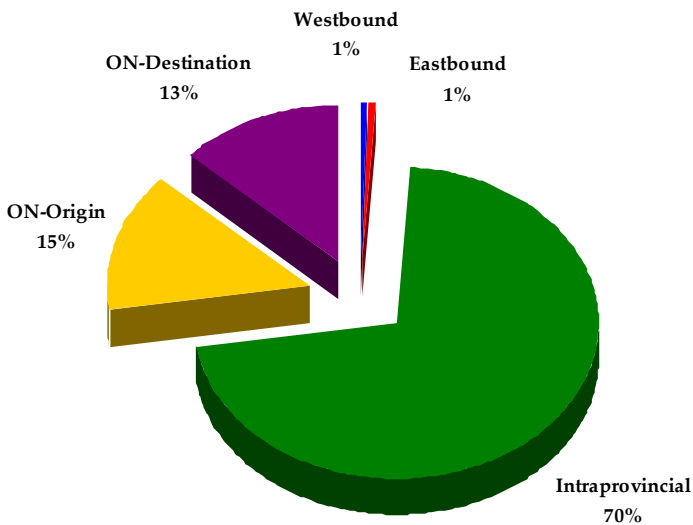
**Figure 5.26: Truck Traffic Flows SK
2001-2003 Avg.
by Weight (17.62 million tonnes)**



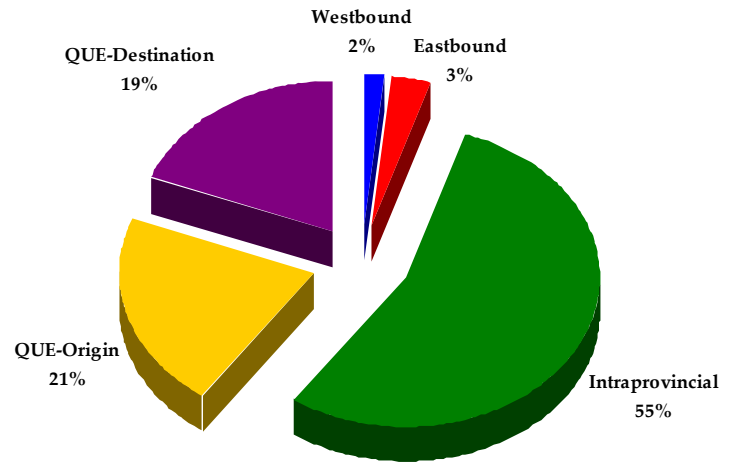
**Truck Traffic Flows AB
2001-2003 Avg.
by Weight (48.23 million tonnes)**



**Truck Traffic Flows ON
2001-2003 Avg.
by Weight (93.67 million tonnes)**



**Truck Traffic Flows QUE
2001-2003 Avg.
by Weight (57.76 million tonnes)**



Truck commodity traffic flows in Saskatchewan mirror the traffic flows in Manitoba, with both provinces experiencing flow through traffic of 31%. Truck traffic flows in Alberta, Ontario, and Quebec are comprised largely of intraprovincial traffic flows. Flow through truck traffic accounts for 5% of Alberta's and Quebec's total truck traffic flows, while in Ontario flow through traffic comprises only 2% of its total truck commodity traffic flow.

Table 5.7 displays the average westbound and eastbound truck traffic flows through Canadian provinces from 2001-2003. Westbound and eastbound traffic represents only flow through traffic, which is traffic originating in other provinces and destined for other provinces. Saskatchewan and Manitoba are the most affected by flow through truck traffic. Saskatchewan experiences 5.37 million tonnes flowing through the province annually, while Manitoba is second among provinces at 3.92 million tonnes. Quebec experiences flow through traffic of 2.84 million tonnes, while Alberta and Ontario experience 2.17 million tonnes and 1.07 million tonnes respectively.

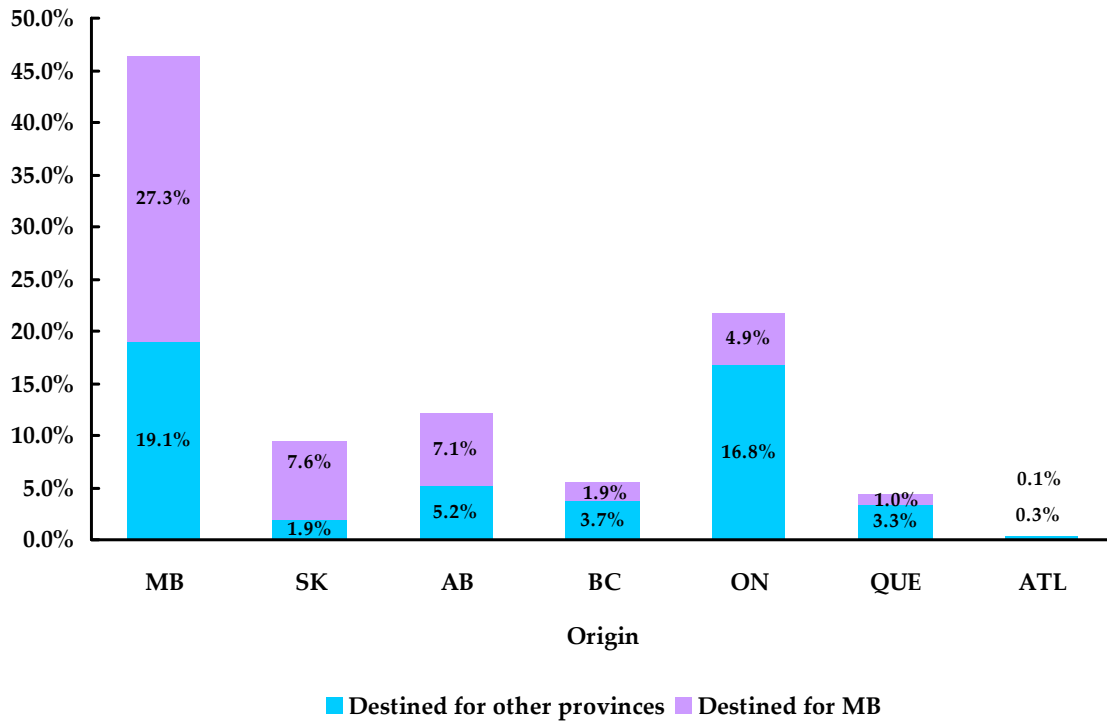
Table 5.7: Truck Traffic Flows Through Canadian Provinces, 2001-2003 Avg. Tonnes (000)

Province	SK	MB	QUE	AB	ON
Westbound	3,126	2,564	1,005	1,307	584
Eastbound	2,243	1,353	1,837	867	489
Total	5,369	3,917	2,842	2,174	1,073
% Westbound	58%	65%	35%	60%	54%
% Eastbound	42%	35%	65%	40%	46%

The discrepancy between Saskatchewan and Manitoba's numbers is due to the fact that Manitoba to Alberta and B.C. shipments and conversely Alberta and B.C. to Manitoba shipments comprise a larger amount than eastern Canada to Saskatchewan shipments and Saskatchewan to eastern Canada shipments. Shipments from Alberta and B.C. destined for Manitoba, flowing through Saskatchewan averaged 1.12 million tonnes. Shipments from Atlantic Canada, Quebec, and Ontario destined for Saskatchewan, flowing through Manitoba averaged 0.23 million tonnes.

Figure 5.27 shows the truck traffic flows in Manitoba, by originating province averaged between 2001-2003.

Figure 5.27: Truck Traffic Flows in/through Manitoba, by Originating Province, 2001-2003 Avg. By Weight (12.60 million tonnes)

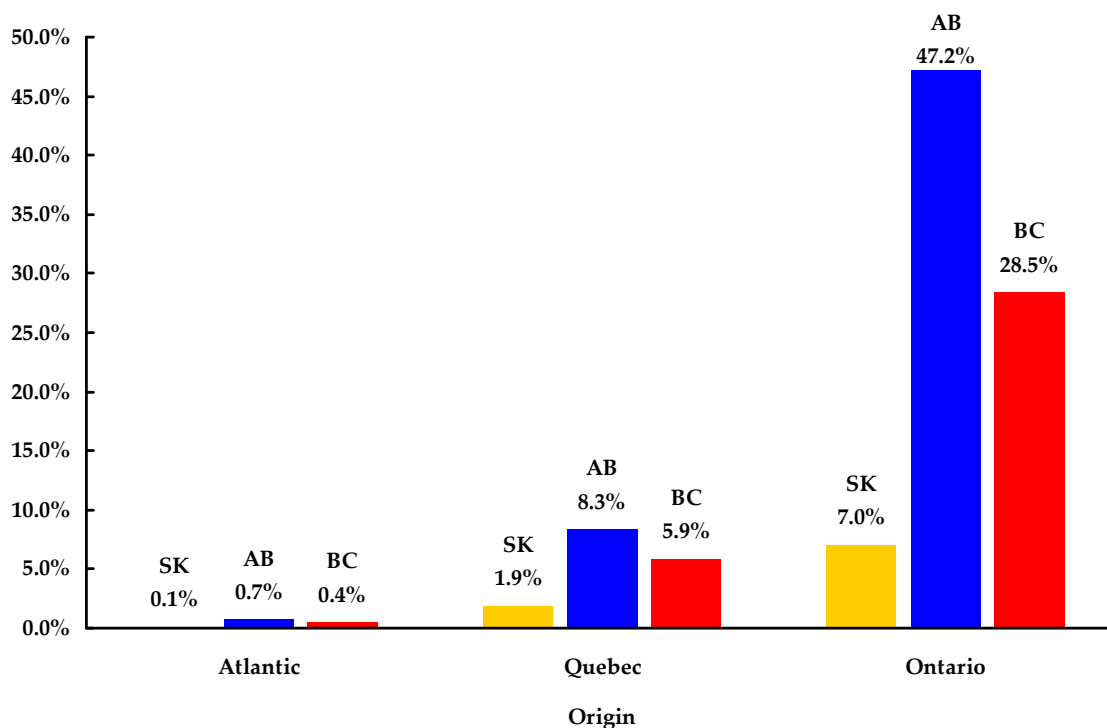


Approximately 46% of truck commodity traffic flows in Manitoba originated within the province with 27.3% being intraprovincial traffic. Ontario was the second largest contributor to traffic flows in Manitoba at 21.7% with 16.8% of that being flow through traffic destined for Saskatchewan, Alberta, and B.C. Alberta contributed 12.3%, while Saskatchewan comprised 9.5% of the total truck traffic flows in Manitoba. About 50% of truck commodity traffic flowing in and through Manitoba is destined for other provinces, while 31% of the traffic is flow through traffic between the western and eastern provinces.

Westbound truck commodity traffic flowing through Manitoba represents approximately 2.56 million tonnes or 20% of truck traffic flows in Manitoba. Westbound movement comprises commodity shipments from Atlantic Canada, Quebec, and Ontario destined for Saskatchewan, Alberta, and British Columbia.

Figure 5.28 displays the westbound truck commodity traffic flowing through Manitoba averaged from 2001-2003.

Figure 5.28: Westbound Truck Traffic Flowing Through Manitoba, Destined for SK, AB, BC, 2001-2003 Avg. By Weight (2.56 million tonnes)

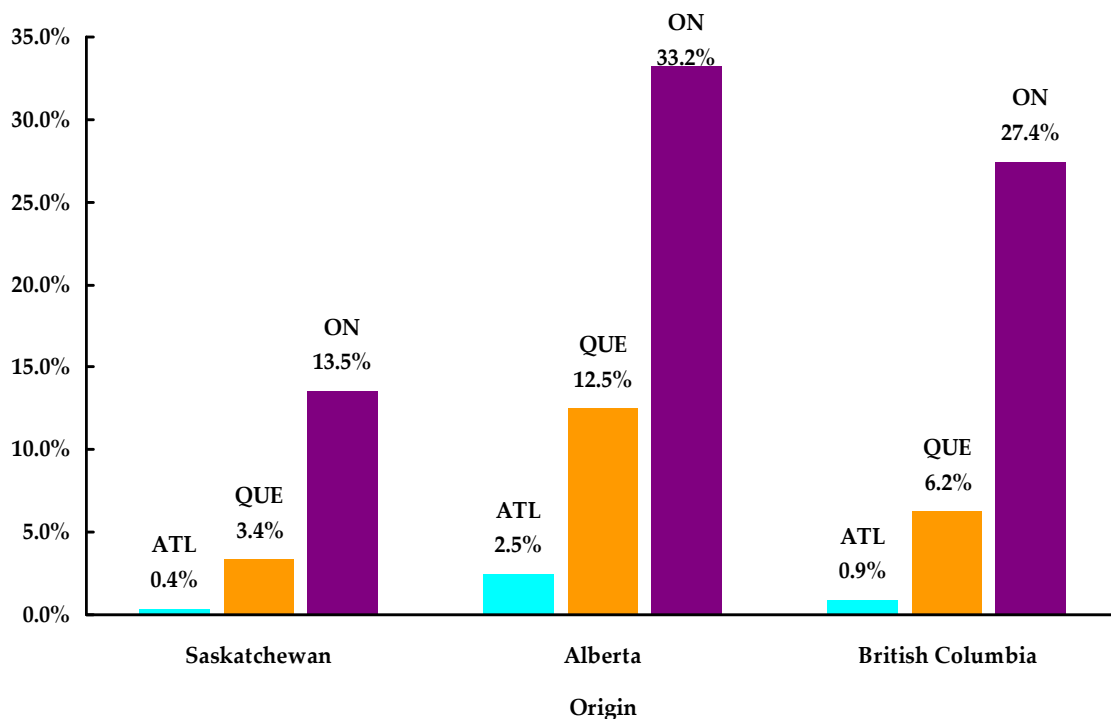


Commodity shipments from Ontario to Saskatchewan, Alberta, and B.C. comprised 82.7% of westbound truck traffic flowing through Manitoba. Ontario to Alberta traffic was the highest at 47.2% or 1.21 million tonnes, while Ontario to B.C. traffic comprised 28.5% or 0.73 million tonnes. The largest commodity shipments in terms of weight from Ontario to Alberta were unidentified freight or cargo, other foods unidentified, and mail and parcels. Ontario to B.C. commodity shipments main contributors were unidentified freight or cargo, flat rolled products of iron or steel, other foods unidentified, and mail and parcels.

Eastbound truck commodity traffic flowing through Manitoba represents approximately 1.35 million tonnes or 10% of truck traffic flows in Manitoba. Eastbound movement comprises commodity shipments from Saskatchewan, Alberta, and British Columbia destined for Atlantic Canada, Quebec, and Ontario.

Figure 5.29 displays the eastbound truck commodity traffic flowing through Manitoba averaged from 2001-2003.

Figure 5.29: Eastbound Truck Traffic Flowing Through Manitoba, Destined for ATL, QUE, ON, 2001-2003 Avg. By Weight (1.35 million tonnes)



Ontario is the principle destination for eastbound truck traffic flowing through Manitoba. 74.1% of the eastbound truck commodity traffic is destined for Ontario, while 22.1% of the eastbound commodity traffic is destined for Quebec. Alberta to Ontario and B.C. to Ontario traffic make up the largest portion of eastbound traffic at 33.2% (0.45 million tonnes) and 27.4% (0.37 million tonnes) respectively. The largest commodity shipments from Alberta to Ontario in terms of weight were unidentified freight or cargo, meat including poultry, and lumber, wood, shingles, and shakes. B.C. to Ontario commodity shipments were led by unidentified freight or cargo, other foods unidentified, lumber, wood, shingles, and shakes, and miscellaneous manufactured products.

6.0 Federal Revenues and Expenditures

This section is a summary of the larger report “Federal Transportation Spending and Revenues (2007)”. Both this section and the report on which it is based on, focus on the level of gross spending and revenue collection experienced by the various levels of government. The report focuses on the time period between 1987/88 and 2004/05. In addition, the report also provides a 5 year forecast of federal spending and revenues until the year 2009/10. All figures have been adjusted for inflation and are reported in 2004/05 dollars. In addition, the 2006 edition of this report based relative spending charts and graphs on an index year of 1991/92. The 2007 version of the report has adjusted this index to 2004/05 to provide a more modern perspective.

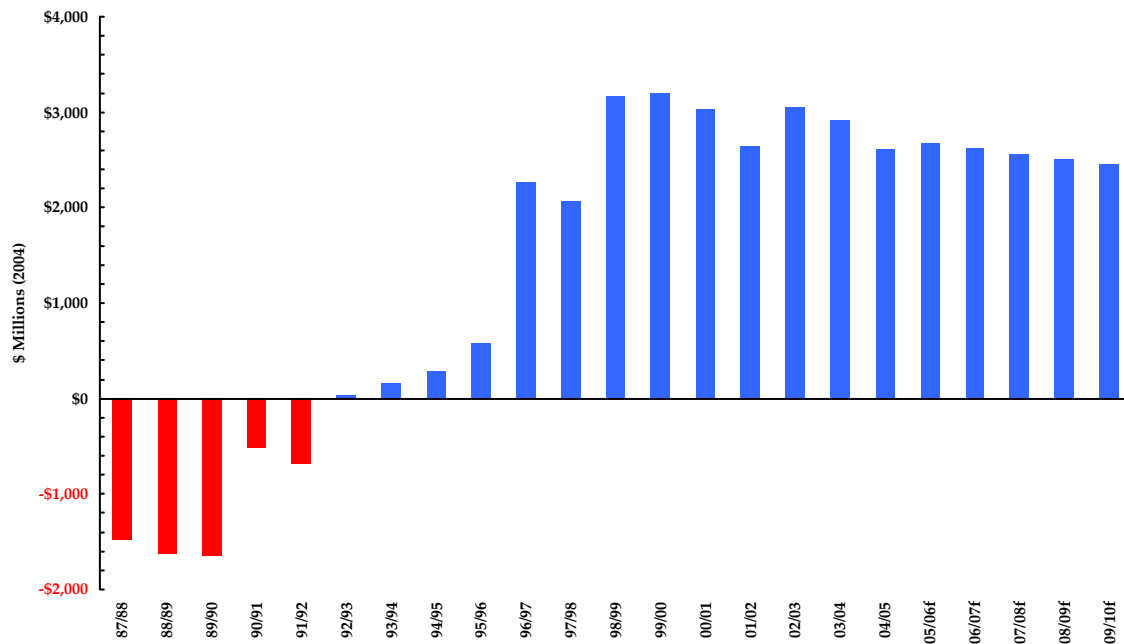
The period from 1987/88 to 1999/00 is a period where drastic changes took place in Transport Canada’s roles, responsibilities, and spending patterns. We are now in a more normalized period that requires us to change the base line data to more accurately forecast the future.

A different methodology was used in the forecasting calculations for the 2007 edition of the Federal Transportation Spending and Revenues report than that used by previous versions. Like its predecessors, forecasting was based on historical linear forecasting. However, while previous reports based forecasts on all available historical data, the 2007 version only used data beginning in 2000/01. This was due to the fact that the nature of government spending changed significantly in the last decade and that the inclusion of these figures would significantly skew the projections generated by forecasting. In addition, previous editions of this report have included government supplied forecasts in the presentation and calculation of forecasts. Forecasts in the 2007 edition will be based strictly on historical linear forecasting. The resulting forecasts are drastically different than those produced by previous versions of this report.

In fiscal 2004/05 the federal transportation surplus was \$2.6 billion.

This was a decrease from the previous year and reflects an overall trend. Figure 6.1 presents a summary of federal transportation surplus/deficit beginning in 1987/88.

Figure 6.1: Federal Transportation Surplus/Deficit, 1987/88 to 2008/09



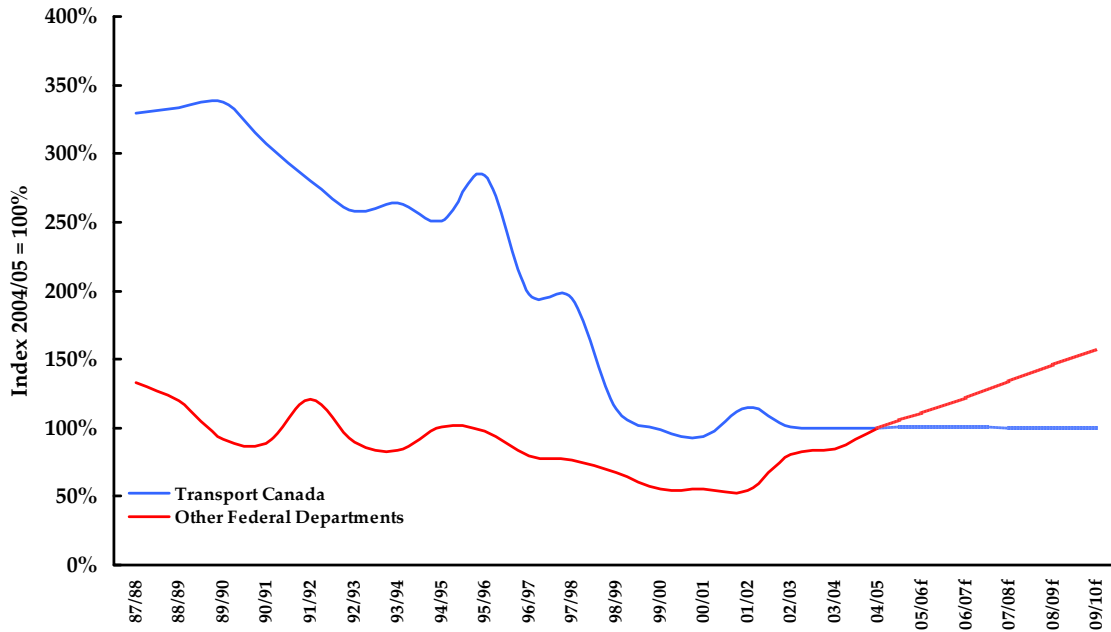
Transportation surpluses began in 1992/93 and continued due to a pattern of increasing revenues combined with a decreasing level of spending. This ended in 2000/01, which saw a decline in the level of surpluses. If forecasts are correct, transportation surpluses will continue to decrease at a gradual level.

Federal Spending

The transportation surpluses of the 1990's were largely due to a period of lowered spending by the federal government. However, recent years have seen an increase in spending by the federal government. While spending by Transport Canada has experienced limited growth, the creation of several new agencies has drastically increased the level of spending by other federal departments. These departments include Fisheries and Oceans (Canadian Coast Guard, marine navigation, harbours/wharfs, etc.) and the Canadian Air Transport Security Authority (CATSA).

In 2004/05 the spending by other departments represented the majority of spending on transportation. Figure 6.2 shows the relative spending on transportation by both Transport Canada and other Federal departments.

Figure 6.2: Transport Canada and Other Federal Spending on Transportation, 1987/88 to 2009/10
2004/05 = 100%³⁰



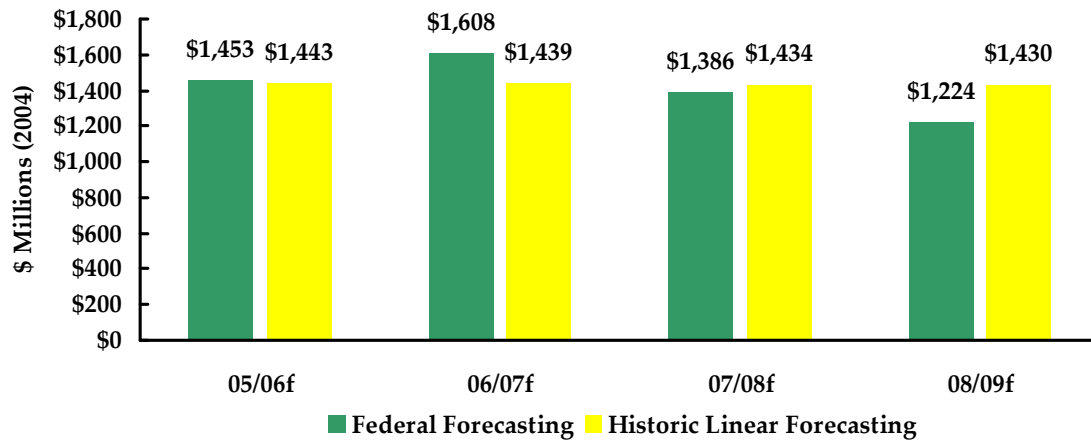
Based on recent history, it appears that expenditures by other Federal Departments will continue to represent the majority of spending on transportation in Canada.

Federal forecasts reveal planned spending initiatives

Federal forecasted spending is higher in 2006/07 due to an increased number of transportation security initiatives, infrastructure upgrades and developments, and increasing subsidies to crown corporations. In addition, the funding of several projects is concentrated in 2006/07. Funding is then decreased in the following years, contributing to the declining spending levels in 2007/08 and 2008/09.

³⁰ The index period has been updated from the 2006 report which used 1991/92 as the index period.

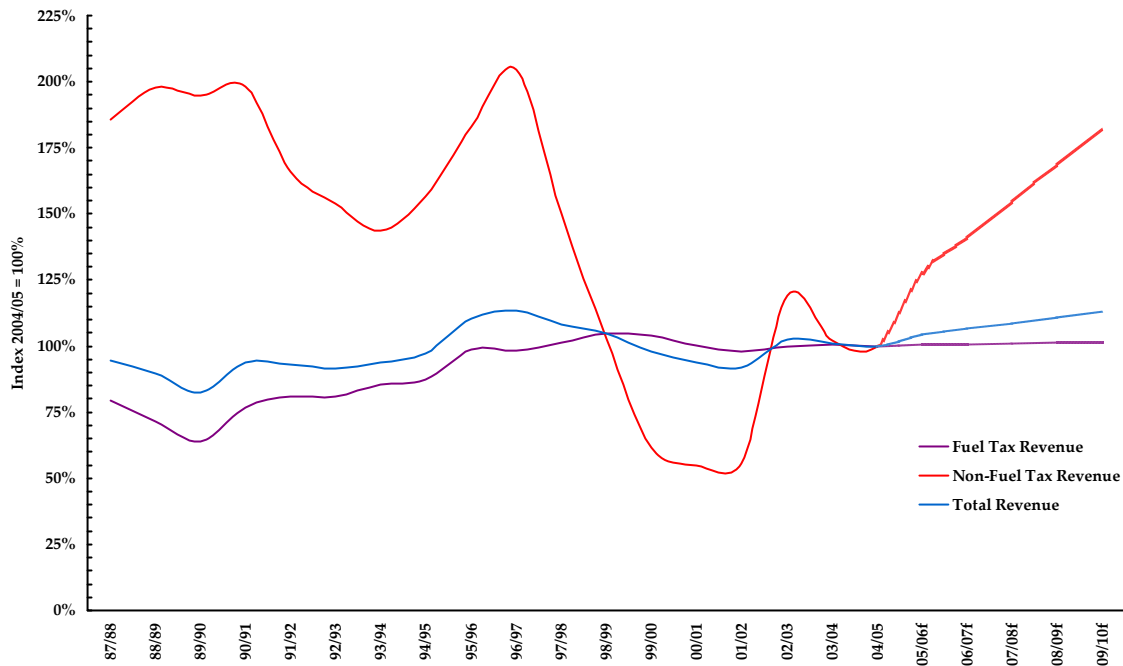
Figure 6.3: Transport Canada Spending Comparison, Federal Forecasting vs. Historic Linear Forecasting, 2005/06 to 2008/09



Federal Revenues

In 2004/05 the majority (85%) of the \$5.5 billion collected revenues were based on fuel taxes. While the level of growth fluctuated throughout the 1990's, it has recently slowed down. Figure 6.3 shows a slow but constant increase of both fuel tax revenues and total revenues. Non-fuel tax revenues have been decreasing steadily. However, the creation of the Air Travelers Security Charge has created a spike in non-fuel tax revenues, and has skewed the non-fuel tax forecast. While fuel taxes and total federal revenues are forecasted to increase at a continued gradual rate, non-fuel tax revenues are projected to grow exponentially.

**Figure 6.4: Total Federal Revenues, Fuel Tax Revenues, and Non-Fuel Tax Revenues, 1987/88 to 2009/10
2004/05 = 100%**



A complete analysis of federal transportation revenues and expenditures can be found in the University of Manitoba Transport Institute report titled *Federal Transportation Spending and Revenues (2007)*.³¹

³¹ The UMTI report, *Federal Transportation, Spending, and Revenues*, is a periodic report documenting fiscal changes to Canada's Federal transportation system. The report examines the time period 1987-2004, and provides a five year forecast.

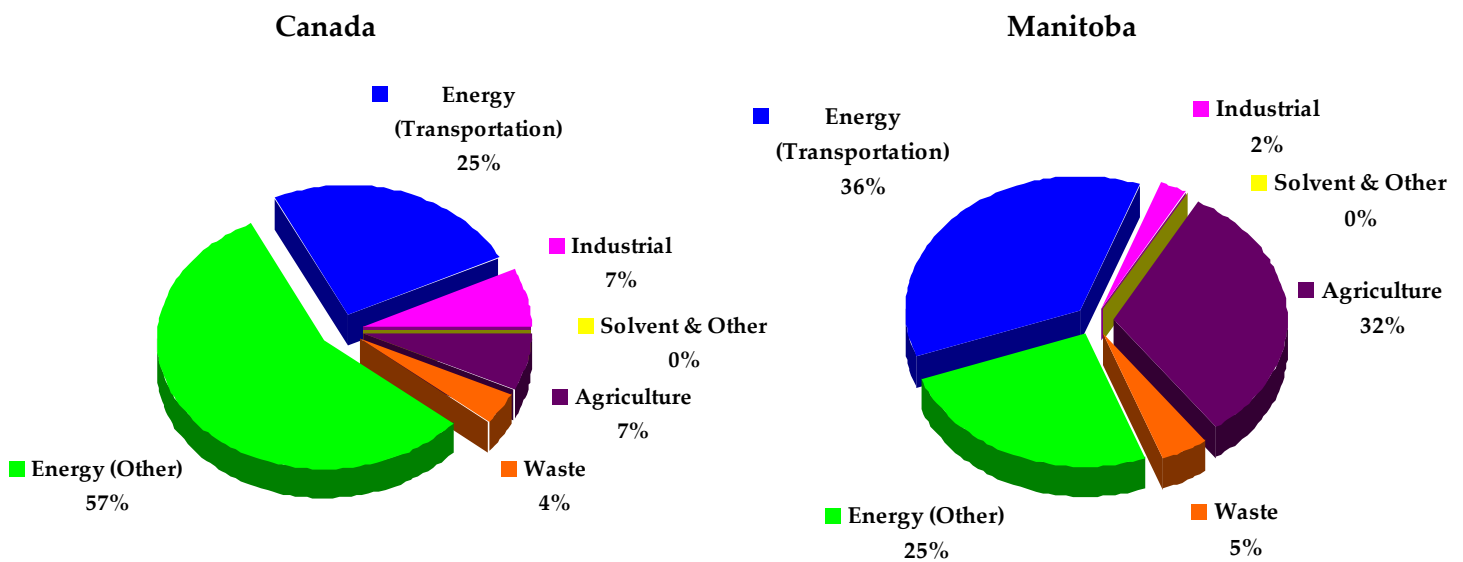
7.0 Climate and the Environment

Proof is mounting that an overall warming of the earth's atmosphere is caused by human-generated emissions of greenhouse gases, such as carbon dioxide, nitrous oxide, and methane. The Intergovernmental Panel on Climate Change (IPCC) 2007 report projects that over this century, climate change will increase the global mean temperature between 2.4 and 6.4°C (a change of 1.0 and 0.6°C increase from the IPCC's 2001 report).

The data source for this year has changed from Office of Energy Efficiency (OEE) data to the Environment Canada Greenhouse Gas National Inventory data.

Figure 7.1 shows the total GHG emissions within Canada and Manitoba for 2004.

Figure 7.1: Total GHG Emissions in Canada and Manitoba, 2004



Source: National Inventory Report, 1990-2004 Greenhouse Gas Sources and Sinks in Canada. Environment Canada Website

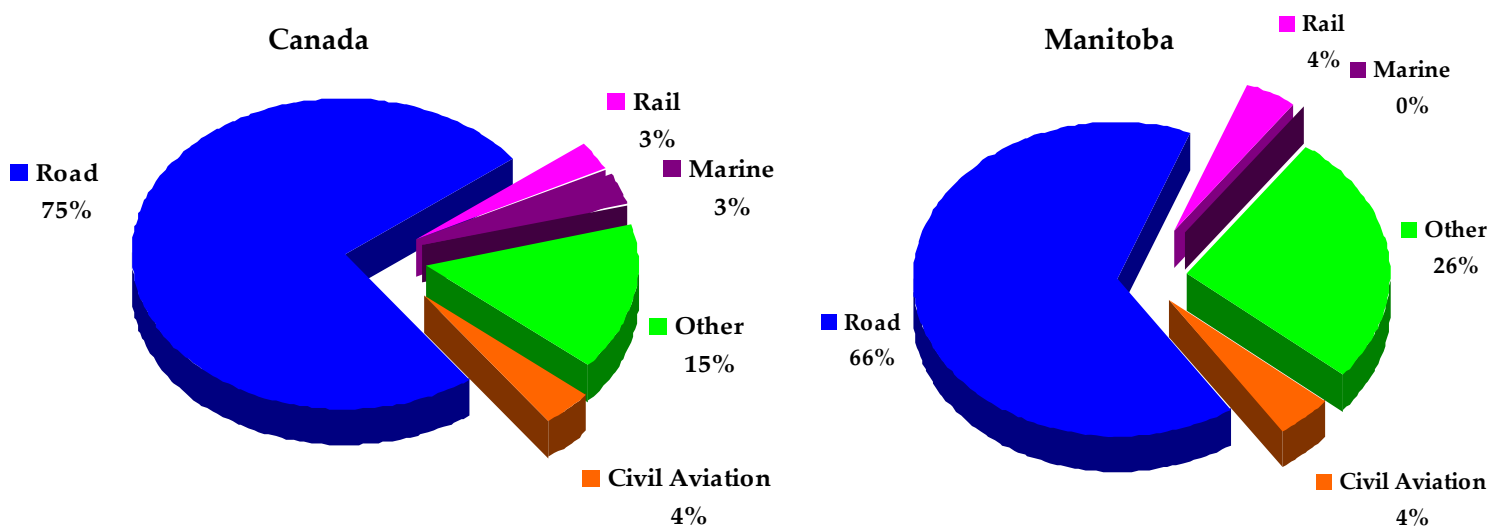
Total GHG emissions were 758,000 kt CO₂ eq (Kilotonnes Carbon Dioxide Equivalent) in Canada, with transportation comprising 25% of that amount (190,000 kt CO₂ eq). In comparison to Canada, Manitoba's total share of GHG emissions is 20,000 kt CO₂ eq, with 36% of those emissions coming from transportation.

Environment Canada places all Energy sector industries into one category. Transportation was separated into its own category. Energy (other) encompasses all GHG (CO₂, CH₄, and N₂O) emissions from stationary and transport fuel combustion

activities as well as fugitive emissions from fossil fuels (solid, liquid, and gaseous fuels). Fugitive emissions from fossil fuels are the intentional or unintentional (i.e., accidental) releases of GHGs that may result from the production, processing, transmission, storage, and use of fuels.³²

Figure 7.2 shows the difference between GHG emissions in Canada and Manitoba by mode.

Figure 7.2: Total GHG Emissions in Canada and Manitoba by Mode, 2004



Source: National Inventory Report, 1990-2004 Greenhouse Gas Sources and Sinks in Canada. Environment Canada Website

Of the total 190,000 kt CO₂ eq emitted by transportation in Canada, Manitoba’s share is 7,600 kt CO₂ eq. Road transportation is the major source of transportation emissions. Road transportation is comprised of light duty and heavy duty gasoline and diesel vehicles, as well as motorcycles. In 2004, Manitoba’s road sector contributed 66% of emissions, with “other”³³ as the next most important source at 26%, and civil aviation at 4% rounding out the top three emissions contributors.

³² Source: Environment Canada website

³³ The category of “other” comprises vehicles that are not licensed to operate on roads or highways and the emissions from the combustion of fuel used to propel products in long-distance pipelines (off road vehicles and pipelines). Examples of off road vehicles in this category include farm tractors, logging skidders, tracked construction vehicles, and mobile mining vehicles.

The percent of emissions for the other and air industries in Manitoba were greater than at the national level. In Canada as a whole, road transportation accounted for 75% of GHG emissions, while “other” contributed 15%, and civil aviation contributed 4%.

Currently, the mean Manitoba winter temperature ranges from -12.5 to -8 degrees Celsius, while mean summer temperature ranges from 14 to 16 degrees Celsius. Mean annual precipitation has a greater degree of variability, ranging from 300mm in the west of the province to almost 700mm in the east.

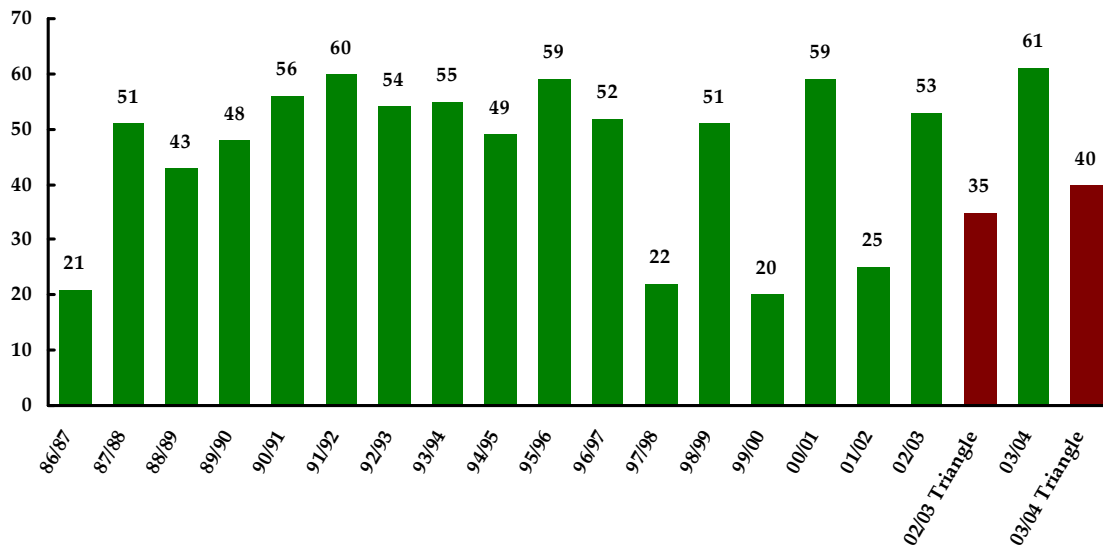
Due to the effects of climate change, Manitoba will likely experience warmer and wetter winters and springs, and longer, warmer, drier summers. Increased, average summer temperatures will affect the structural integrity of pavement and railway tracks, accelerating pavement deterioration and railway track buckling. Also, roads could encounter more problems related to pavement softening with heavy truck traffic related rutting. Asphalt rutting becomes a greater problem on roads with heavy truck traffic during extended periods of summer heat.

Slight increases in temperatures can lead to negative impacts on transportation as witnessed in recent years with the delays in access to winter roads. The 2,000 kilometer winter road network serves 28 remote communities through Manitoba. These locations are otherwise only accessible by water or air. On average, winter roads are open about two months of the year. Climate change, however, has had an impact on the opening of these roads, on the build schedule, and the length of time they remain open.

Updated information and data was not available for the 2004-2005 winter road season in order to update section accordingly.

Figure 7.3 illustrates the fluctuation in winter road operations over a fifteen year period

Figure 7.3: Winter Roads East Side of Lake Winnipeg



Source: Adapted from the Northern Transportation Conference (Yellowknife), Don Kuryk Presentation "Climate Change and Effect: Seasonal Transportation to Remote Communities in Manitoba." October 2005

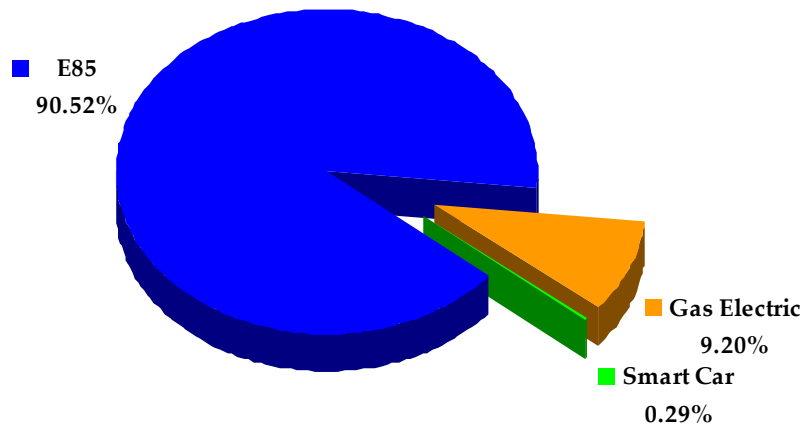
In the 2003-2004 season winter road access was 61 days. This was an increase 8 days compared to the 2002-2003 season. One of the most significant remote areas serviced by winter roads is the region that encompasses the Island Lake community, and that connects the communities of Garden Hill, St Theresa and Wasagamack. In this area, the number of days winter roads were open was below normal. In 2003-2004, the roads were open for only 40 days. However, this was an increase of five days over 2002-2003. An example of the importance of winter roads is the effect of warm temperatures in the winter of 1997-1998. That year, the Province had to spend approximately \$14 million flying in supplies to communities that are normally served by winter roads. The increase in the average winter temperature will mean a shortened winter road season and potentially increased transportation costs to move goods to these communities.

Hybrid Vehicles

Automakers are becoming more aware of the public's desire to reduce GHG emissions. This can be seen in moves by many of the large automakers to create hybrid vehicles that use electric and alternative fuels to power the vehicle. The number of these vehicles

has grown in recent years. Within the Province of Manitoba's light duty fleet of vehicles, there are 348 alternative and flexible fuel vehicles. Of these 348 vehicles, 32 are gas electric hybrids and 315 are E85 flexible fuel vehicles. The E85 vehicles are capable of running on a blend of 85 % ethanol and 15 % gasoline. The Manitoba fleet also has one Smart Car, with one more on order for the 2007 fiscal year.

Figure 7.4: Province of Manitoba's Alternative Vehicles in Light Duty Fleet, 2006



The province of Manitoba and the Government of Canada have both recently introduced incentives and rebates to drivers who purchase hybrid and fuel efficient vehicles. Manitoba has introduced a rebate of \$2000 towards the purchase or long term lease of a hybrid electric vehicle, beginning March 1, 2007 and running until November 2008. The program applies to specified vehicles on the eligible Hybrid vehicle list, which includes the Honda Civic Hybrid, Honda Accord Hybrid, Lexus GS 450h, and the Toyota Prius.

In addition, the Government of Canada has introduced a similar program called ecoAuto Rebate Program. This program offers between a \$1000 and \$2000 rebate to people who purchase or long-term lease a fuel efficient vehicle. The list of established vehicles was made by Transport Canada and includes the Honda Civic Hybrid (\$2000), the Toyota Camry Hybrid (\$1500), and the Toyota Yaris (\$1000). This program will come into effect on March 20, 2007.

Glossary

Gross Domestic Product

Gross Domestic Product (GDP) by industry at basic prices is a measure of the economic production which takes place within the geographical boundaries of Canada. The term "gross" in GDP means that capital consumption costs, that is the costs associated with the depreciation of capital assets (buildings, machinery and equipment), are included. The production estimates are prepared for 215 separate industries using the North American Industrial Classification System (NAICS). (Definition Source: <http://www.statcan.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=1301&lang=en&db=IMDB&dbg=f&adm=8&dis=2>)

Employment:

Employed persons are those who, during the reference week:

(a) did any work at all at a job or business, that is, paid work in the context of an employer-employee relationship, or self-employment. It also includes unpaid family work, which is defined as unpaid work contributing directly to the operation of a farm, business or professional practice owned and operated by a related member of the same household; or

(b) had a job but were not at work due to factors such as own illness or disability, personal or family responsibilities, vacation, labour dispute or other reasons (excluding persons on layoff, between casual jobs, and those with a job to start at a future date).

(Definition source: http://dsp-psd.pwgsc.gc.ca/collection_2007/statcan/71-543-G/71-543-GIE2007001.pdf)

Paid employment

Is work activity excluding housework and volunteer activity. (Definition source: http://dsp-psd.pwgsc.gc.ca/collection_2007/statcan/71-543-G/71-543-GIE2007001.pdf)

Unemployment

Given the concept of unemployment as the unutilized supply of labour, the operational definition of unemployment is based primarily on the activity of job search and the availability to take a job. In addition to being conceptually appropriate, job search activities can, in a household survey, be objectively and consistently measured over time. The definition of unemployment is therefore the following.

Unemployed persons are those who, during reference week:

(a) were on temporary layoff during the reference week with an expectation of recall and were available for work, or

(b) were without work, had actively looked for work in the past four weeks, and were available for work, or

(c) had a new job to start within four weeks from reference week, and were available for work.

Persons are regarded as available if they reported that they could have worked in the reference week if a suitable job had been offered (or recalled if on temporary layoff); or if the reason they could not take a job was of a temporary nature such as: because of own illness or disability, personal or family responsibilities, because they already have a job to start in the near future, or because of vacation (prior to 1997, those on vacation were not considered available). Full-time students currently attending school and looking for full-time work are not considered to be available for work during the reference week. They are assumed to be looking for a summer or co-op job or permanent job to start sometime in the future, and are therefore not part of the current labour supply.

(Definition source: http://dsp-psd.pwgsc.gc.ca/collection_2007/statcan/71-543-G/71-543-GIE2007001.pdf)

Unemployment Rate

Number of unemployed persons expressed as a percentage of the labour force. The unemployment rate for a particular group (for example, age, sex, marital status) is the number unemployed in that group expressed as a percentage of the labour force for that group.

(Definition source: http://dsp-psd.pwgsc.gc.ca/collection_2007/statcan/71-543-G/71-543-GIE2007001.pdf)

Labour income

Labour income comprises wages and salaries and supplementary labour income. It is defined as all compensation paid to employees. Earnings received by self-employed persons or working owners of unincorporated businesses are not included in labour income. In addition to regular remuneration, it includes directors' fees, bonuses, commissions, gratuities, income in kind, taxable allowances, retroactive wage payments and stock options. Wages and salaries are estimated on a "gross" basis, that is, prior to deductions for employees' contributions to income tax, employment insurance, pension funds etc. Supplementary labour income, which is defined as payments made by employers for the future benefit of their employees, comprises employer contributions to employee welfare, pensions, workers compensation and employment insurance.

(Definition Source: <http://www.statcan.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=2602&lang=en&db=IMDB&dbg=f&adm=8&dis=2>)

Direct economic activity

Is the direct employment, employment income, and expenditures and contribution to provincial gross domestic product for a sector.

Indirect economic activity

Is the additional economic activity that occur in firms that supply inputs to the direct sector.

Induced economic activity

Is the trickle down affects of the expenditures by both the direct and related indirect sector as they multiply through other sectors of the economy. These are largely driven by consumption spending.

Leverage

Is the sum of the indirect and induced activities.

For Hire Trucking:

Any carrier that transport of goods for compensation (Definition Source: <http://dsp-psd.pwgsc.gc.ca/Collection-R/Statcan/53-222-XIB/0000453-222-XIE.pdf>)

Rail

Traditionally rail data was classified under Class I and Class 2 railways. Since 1997 data has been classified using the NAICS system. Rail Transportation falls under NAICS sub-sector 482, which is classified as follows:

Short-Haul Freight Rail Transportation (482112)

Mainline Freight Rail Transportation (482113)

Passenger Rail Transportation (482114)

(Definition Source: <http://dsp-psd.pwgsc.gc.ca/Collection-R/Statcan/52-216-XIB/52-216-XIE2005000.pdf>)

Aviation

Is based on Level I to III air carriers. The classification of carriers used by Statistics Canada is as follows:

Level I. This includes every Canadian air carrier not classified in report level VI that, in each of the two calendar years immediately preceding the report year, transported at least 1,000,000 revenue passengers or at least 200,000 tonnes of revenue goods.

Level II. This includes every Canadian air carrier not classified in report level VI that, in each of the two calendar years immediately preceding the report year, transported 100,000 revenue passengers or more, but fewer than 1,000,000 revenue passengers, or 30 000 tonnes of revenue goods or more but less than 200 000 tonnes of revenue goods.

Level III. This includes every Canadian air carrier not classified in report level VI that, in each of the two calendar years immediately preceding the report year, realized annual gross revenues of \$1,000,000 or more for the air services for which the air carrier held a licence.

Level IV. Not applicable.

Level V. This includes every Canadian air carrier not classified in report level I, II, III or VI that, in each of the two calendar years immediately preceding the report year, realized annual gross revenues of less than \$1,000,000 for the air services for which the air carrier held a licence.

Level VI. Every Canadian air carrier that, in the report year, operated the air service for which the air carrier holds a licence for the sole purpose of serving the needs of a lodge operation.

(Definition Source: <http://dsp-psd.pwgsc.gc.ca/Collection-R/Statcan/51-203-XIB/51-203-XIE2005000.pdf>)

Couriers and Local Messengers

The courier industry group comprises establishments primarily engaged in providing air, surface or combined courier delivery services. Courier establishments of the Post Office are included. The local messenger industry group comprises establishments primarily engaged in providing messenger and delivery services of small parcels within a single urban area. Establishments engaged in the delivery of letters and documents, such as legal documents, often by bicycle or on foot; and the delivery of small parcels, such as take-out restaurant meals, alcoholic beverages and groceries, on a fee basis, usually by small truck or van, are included.

(Definition Source: <http://dsp-psd.pwgsc.gc.ca/Collection-R/Statcan/50-002-XIB/50-002-XIE2006003.pdf>)

Urban and Interurban Bus

Includes public transit from the Canadian Urban Transit Association and an estimate of interurban buses based on historical Statistics Canada data. Interurban includes intercity, school, charter, sightseeing and other buses.

Leading indicators

The Canadian Composite Leading Indicator is comprised of ten components which lead cyclical activity in the economy and together represent all major categories of Gross Domestic Product (GDP). It thus reflects the variety of mechanisms that can cause business cycles. (Definition source <http://www.statcan.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=1601&lang=en&db=IMDB&dbg=f&adm=8&dis=2>.)

List of Figures

Figure 1.1 : Per Capita GDP from Transportation and Warehousing by Region.....	2
Figure 1.2 : Ratio of Per Capita Contribution to GDP: Western Canada Compared to Eastern..	3
Figure 1.3 : Per Capita GDP from Transportation and Warehousing by Province Western Canada	4
Figure 1.4 : Transportation and Warehousing Contribution to GDP by Region: 2005	5
Figure 1.5 : Employment in Transportation and Warehousing per 1,000 Population by Region	6
Figure 1.6 : Ratio of Per Capita Transportation and Warehousing Employment: Western Canada Compared to Eastern	7
Figure 1.7 : Employment in Transportation and Warehousing per 1,000 Population by Province: Western Canada	8
Figure 1.8 : Transportation and Warehousing Contribution to Employment by Region: 2005....	9
Figure 1.9 : Labour Income from Transportation and Warehousing per Capita by Region	10
Figure 1.10 : Ratio of Per Capita Contribution to GDP: Western Canada Compared to Eastern	11
Figure 1.11 : Labour Income from Transportation and Warehousing per Capita Province: Western Canada	12
Figure 1.12 : Transportation and Warehousing Contribution to Labour Income by Region: 2005	13
Figure 1.13 : GDP of Sectors of the Manitoba Economy: 2005.....	14
Figure 1.14 : GDP Level Transportation and Warehousing: Manitoba.....	15
Figure 1.15 : Trend in Share of Manitoba GDP.....	15
Figure 1.16 : Paid Employment by Sector of the Manitoba Economy: 2005	16
Figure 1.17 : Trend in Transportation and Warehousing’s Total Employment.....	17
Figure 1.18 : Trend in Share of Manitoba Paid Employment	17
Figure 1.19 : Total Labour Income by Sector of the Manitoba Economy: 2005.....	18
Figure 1.20 : Labour Income Level Transportation and Warehousing: Manitoba	19
Figure 1.21 : Trend in Share of Manitoba Labour Income	19
Figure 2.1 : Trend in Total GDP from Transportation in Manitoba.....	22
Figure 2.2 : Trend in GDP by Leverage Component from Transportation in Manitoba.....	23
Figure 2.3 : Trend in Total Transportation Employment in Manitoba	24
Figure 2.4 : Trend in Total Employment from Trucking in Manitoba.....	25
Figure 2.5 : Trend in Total Employment from Aviation, Couriers, Rail and Bus in Manitoba.	25
Figure 2.6 : Trend in Employment by Leverage Component from Transportation in Manitoba	26
Figure 2.7 : Trend in Total Labour Income from Transportation in Manitoba	27
Figure 2.8 : Trend in Labour Income by Leverage Component from Transportation in Manitoba	28
Figure 2.9 : Contribution to Manitoba GDP by Transportation Mode: 2005	29
Figure 2.10 : Change in Contribution to Manitoba GDP by Transportation Mode	30
Figure 2.11 : Leverage Ratios for Manitoba GDP by Transportation Mode	31
Figure 2.12 : Contribution to Manitoba Total Employment by Transportation Mode: 2005	32
Figure 2.13 : Change in Employment by Transportation Mode.....	33
Figure 2.14 : Leverage Ratios for Manitoba Employment by Transportation Mode.....	34
Figure 2.15 : Contribution to Manitoba Labour Income by Transportation Mode: 2005.....	35
Figure 2.16 : Change in Labour Income by Transportation Mode.....	36

Figure 2.17 : Leverage Ratios for Manitoba Labour Income by Transportation Mode	37
Figure 3.1 : Gross Domestic Product (Canada/Manitoba)	41
Figure 3.2 : Rate of Change in GDP (Canada/Manitoba).....	42
Figure 3.3 : Labour Income (Canada/Manitoba).....	43
Figure 3.4 : Rate of Change in Labour Income (Canada/Manitoba)	44
Figure 3.5 : Consumer Price Index (Canada/Manitoba)	45
Figure 3.6 : Rate of Change in CPI (Canada/Manitoba).....	46
Figure 3.7 : Personal Expenditures (Canada/Manitoba)	47
Figure 3.8 : Rate of Change in Personal Expenditures (Canada/Manitoba)	48
Figure 3.9 : Housing Starts (Canada/Manitoba)	49
Figure 3.10 : Rate of Change in Housing Starts (Canada/Manitoba).....	50
Figure 3.11 : Unemployment Rate (Canada/Manitoba).....	51
Figure 3.12 : Change in Unemployment Rate (Canada/Manitoba).....	52
Figure 3.13 : Quarterly Average Exchange Rates – U.S. Dollar	53
Figure 3.14 : Quarterly Average Interest Rates (Bank of Canada Rate)	55
Figure 3.15 : Quarterly Average S&P/TSX Composite Index.....	56
Figure 3.16 : Quarterly Average Composite Index of Leading Indicators (Canada).....	57
Figure 3.17 : Average Annual Composite Leading Indicator – Canada to Traditional International Economies	58
Figure 3.18 : Average Annual Composite Leading Indicator – Canada to Emerging International Economies	59
Figure 3.19 : Quarterly Average Price Oil/Barrel (\$US)	61
Figure 3.20 : Quarterly Average Unleaded Fuel Prices (Winnipeg Region).....	62
Figure 3.21 : Quarterly Average Diesel Fuel Prices (Winnipeg Region).....	63
Figure 4.1 : Rate of Change, Canada to Traditional International Economies	65
Figure 4.2 : Rate of Change, Canada to Emerging International Economies	66
Figure 4.3 : 2005 Canadian Exports- Top 10 Countries by Value	68
Figure 4.4 : 2005 Canadian Exports- Top 10 Countries by Weight.....	69
Figure 4.5 : 2005 Canadian Imports- Top 10 Countries by Value.....	70
Figure 4.6 : 2005 Canadian Imports- Top 10 Countries by Weight	71
Figure 4.7 : 2005 Canadian Imports by Mode	72
Figure 4.8 : 2005 Canadian Exports by Mode	73
Figure 4.9 : Rate of Change in Canadian Import Traffic by Value.....	73
Figure 4.10 : Rate of Change in Canadian Import Traffic by Weight.....	74
Figure 4.11 : Rate of Change in Canadian Export Traffic by Value.....	75
Figure 4.12 : Rate of Change in Canadian Export Traffic by Weight	76
Figure 5.1 : 2005 Manitoba’s Top Countries of Export (by Value)	83
Figure 5.2 : 2005 Manitoba’s Top Countries of Export (by Weight).....	85
Figure 5.3 : 2005 Manitoba’s Mode of Exports (by Value).....	86
Figure 5.4 : 2005 Manitoba’s Mode of Exports (by Weight)	86
Figure 5.5 : 2005 Manitoba’s Mode of Imports (by Value)	89
Figure 5.6 : 2005 Manitoba’s Mode of Imports (by Weight).....	89
Figure 5.7 : Pct of Provinces’ Exports Leaving CDA From Originating Prov. (Total Non-Powerline & Pipeline Exports - \$371 Billion)	90
Figure 5.8 : Pct of Provinces’ Exports Leaving CDA From Originating Prov. (Total Non-Powerline & Pipeline Exports – 433 Million Tonnes).....	91

Figure 5.9 : Pct of Provinces' Exports Leaving CDA From Originating Prov. (Road Exports - \$189 Billion)	92
Figure 5.10 : Pct of Provinces' Exports Leaving CDA From Originating Prov. (Road Exports – 87 Million Tonnes)	92
Figure 5.11 : Pct of Provinces' Exports Leaving CDA From Originating Prov. (Rail Exports - \$77 Billion)	93
Figure 5.12 : Pct of Provinces' Exports Leaving CDA From Originating Prov. (Rail Exports – 76 Million Tonnes)	93
Figure 5.13 : Pct of Provinces' Exports Leaving CDA From Originating Prov. (Water Exports - \$60 Billion)	94
Figure 5.14 : Pct of Provinces' Exports Leaving CDA From Originating Prov. (Water Exports – 264 Million Tonnes)	94
Figure 5.15 : 2005 Provincial Exports Leaving Via Manitoba (by Value (\$000)) (\$20,894,168)	95
Figure 5.16 : 2005 Provincial Exports Leaving Via Manitoba (by Value (\$000)) (Excl. Powerline and Pipeline Sectors: \$9,594,084)	96
Figure 5.17 : 2005 Provincial Exports Leaving Via MB (by Weight) (Excl. Powerline and Pipeline Sectors: 9,947,452 tonnes)	96
Figure 5.18 : 2005 Mode of Exports Leaving Via MB (by Weight) (Excl. Powerline and Pipeline Sectors: 9,947,452 tonnes)	97
Figure 5.19 : Prairie Provinces' Export Trucking Weight Surplus/Deficit (Exported by Truck From Prairies – 8.8 Million Tonnes)	97
Figure 5.20 : Rail Traffic Flows in/through Manitoba, 2001-2003 Avg.	100
Figure 5.21 : Rail Traffic Flows SK, AB, ON, QUE	101
Figure 5.22 : Rail Traffic Flows in/through Manitoba, by Originating Province,	103
Figure 5.23 : Westbound Rail Traffic Flowing Through Manitoba,	104
Figure 5.24 : Eastbound Rail Traffic Flowing Through Manitoba,	105
Figure 5.25 : Truck Traffic Flows in/through Manitoba 2001-2003 Avg.	106
Figure 5.26 : Truck Traffic Flows SK, AB, ON, QUE	107
Figure 5.27 : Truck Traffic Flows in/through Manitoba, by Originating Province,	109
Figure 5.28 : Westbound Truck Traffic Flowing Through Manitoba,	110
Figure 5.29 : Eastbound Truck Traffic Flowing Through Manitoba,	111
Figure 6.1 : Federal Transportation Surplus/Deficit, 1987/88 to 2008/09	113
Figure 6.2 : Transport Canada and Other Federal Spending on Transportation, 1987/88 to 2009/10	114
Figure 6.3 : Transport Canada Spending Comparison, Federal Forecasting vs. Historic Linear Forecasting, 2005/06 to 2008/09	115
Figure 6.4 : Total Federal Revenues, Fuel Tax Revenues, and Non-Fuel Tax Revenues, 1987/88 to 2009/10	116
Figure 7.1 : Total GHG Emissions in Canada and Manitoba, 2004	117
Figure 7.2 : Total GHG Emissions in Canada and Manitoba by Mode, 2004	118
Figure 7.3 : Winter Roads East Side of Lake Winnipeg	120
Figure 7.4 : Province of Manitoba's Alternative Vehicles in Light Duty Fleet, 2006	121

List of Tables

Table 5.1: 2005 Manitoba Top 10 Exports (HS06) (by Value) (regardless of prov. Of export)	82
Table 5.2: 2005 Manitoba Top 10 Countries of Export (by Value)	84
Table 5.3: 2005 Manitoba Top 10 Imports (HS02) (by Value)	87
Table 5.4: 2005 Manitoba's Top 10 Imports by Countries Clearing Imports Through Manitoba (by Value).....	88
Table 5.5: Provincial /Territorial Usage of Jurisdictions' Road Infrastructure.....	98
Table 5.6: Rail Traffic Flows Through Canadian Provinces, 2001-2003 Avg.	102
Table 5.7: Truck Traffic Flows Through Canadian Provinces, 2001-2003 Avg.	108