

Transportation Impacts of the U.S.-Canada Free Trade Agreement

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Trade between the United States and Canada is the largest in the world, totaling \$166 billion. The Free Trade Agreement signed between the United States and Canada in January 1989 will have varying impact on the transportation systems in both countries. Discussed and analyzed in this paper are the following five areas indicating the possible effects of the agreement: (a) the specifics of the Free Trade Agreement, (b) the Canadian transportation system, (c) the present and projected import and export volumes between the two countries, (d) present and projected automobile-truck traffic crossing the border and (e) the probable impacts of the Free Trade Agreement on transportation. Present border traffic consists of about 70 million vehicles annually and has been increasing at about 6 percent per year. The agreement is projected to accelerate automobile and truck traffic growth, particularly in the middle states of the United States, creating the need for additional road repairs and border crossings. These repairs may cause a "border tilt," the effects of which will be felt first in Canada and then in the United States. Special problems relating to truck traffic growth in Washington and Maine may politicize the effects of the Free Trade Agreement in those two states. The authors conclude by noting that the Free Trade Agreement will provide many opportunities and advantages for businesses, but it will also pose substantial transportation problems for both the United States and Canada.

The United States and Canada are the world's largest trading partners. The United States is Canada's principal supplier and major customer, providing 70 percent of Canada's imports and purchasing 78 percent of Canada's exports. In 1987 United States exports to Canada reached \$60 billion, just slightly less than the United States' exports to the 12 member-countries of the European Community. Also in 1987, the two countries exchanged goods and services totaling \$166 billion, and bilateral direct investment totaled \$79 billion (1). A lifting of trade barriers between the United States and Canada is likely to further increase trade between the two countries.

The Free Trade Agreement (FTA), signed by the United States and Canada in January 1989, covers trade and trade-related issues. It is also expected to cause an increase in trade between the two countries. The lowering of the trade and investment barriers to North American manufacturers, service providers, and investors means that more Americans and Canadians will be crossing the border to conduct business (2). This expected increase in trade will undoubtedly affect transportation between the two countries. For example, the transportation infrastructure between the two countries may have to be upgraded or expanded as a result of the trade increase. Additionally the customs service and traffic regulations will

require upgrading and review. To better understand these effects, the following five subjects will be reviewed:

1. FTA,
2. Canadian transportation system,
3. Present and projected import and export volumes between the two countries,
4. Present and projected automobile-truck traffic crossing the border, and
5. Probable impacts on transportation.

FREE TRADE AGREEMENT

On January 1, 1989, the United States and Canada signed an agreement establishing the world's largest free trade area, (stretching across North America from the Arctic Circle to the Rio Grande). The FTA between the United States and Canada removes existing barriers to trade and investment for many industrial, agricultural, and service sectors. The agreement translates the Elements of Agreement reached on October 4, 1987 into binding, legal language. It is divided into eight parts:

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| Part One | Objectives and Scope: contains the objectives and scope of the agreement and definitions used in the agreement; |
| Part Two | Trade in Goods: sets the rules for trade in goods, border measures, national treatment, technical barriers, agriculture, wine and distilled spirits, trade in energy, trade in automotive products, emergency action, and exceptions for trade in goods; |
| Part Three | Government Procurement |
| Part Four | Services, Investment, and Temporary Entry: contains the three ground-breaking chapters in the agreement: services, business travel, and investments; |
| Part Five | Financial Services |
| Part Six | Institutional Provisions: contains the general dispute settlement provisions and the special arrangements for dealing with anti-dumping and countervailing duty procedures; |
| Part Seven | Other Provisions: collects in one chapter a series of provisions that do not fit readily into any of the other chapters; |
| Part Eight | Final Provisions: deals with annexes, entry into force, and duration. |

Under the agreement, professional persons have the right to cross the border into Canada under streamlined documentation and procedural requirements. The FTA divides business travelers into four categories: (a) business visitors, (b) professionals, (c) traders and investors, and (d) intra-company transferees (3). These travelers will no longer have to face labor certification tests or other similar procedures, which often delay or deny entry.

Before the agreement, over 70 percent of American exports to Canada were duty free, but the remaining tariffs, averaging 9.9 percent of dutiable import costs from the United States,

were effective barriers to many U.S. exports. Products affected include apparel, alcoholic beverages, furniture, and chemicals (4, 5). Individual goods tariffs will be rolled back (eliminated) on one of three schedules (immediate, more than 5 years, and more than 10 years), and all tariffs will be removed by 1988 (Figure 1). Once all Canadian tariffs are eliminated, the costs of U.S. exports to Canadian business and consumers will have been reduced by more than \$1.3 billion/year, or about 2 percent in current dollars. Conversely, U.S. business and consumers will save more than \$650 million/year, or about 1 percent, on imports from Canada. The U.S.-Canada FTA

- October 3, 1987
President Reagan sends notice of intent to sign a trade agreement with Canada to the United States Congress triggering the fast track approval process.
- October 4, 1987
Elements of Agreement signed by Canadian and U.S. negotiators.
- December 10, 1987
Chief negotiators initial legal text of trade Agreement.
- December 11, 1987
Tabling of legal text of trade Agreement in the House of Commons.
- January 2, 1988
Signature of the Agreement.
- Spring 1988
Drafting of implementing legislation in Canada and the United States and introduction of legislation in House of Commons.
- January 1, 1989
The Trade Agreement and its rules covering such issues as procurement, services and investment and border measures come into effect after both countries exchange Instruments of Ratification. The first round of tariff reduction will begin. For the sectors ready to compete, tariffs will be eliminated: other goods will begin phasing out their tariffs over a five-year of 10-year period.
- October 1, 1989
Tariffs on exports to the United States of speciality steel products are lifted in stages.
- January 1, 1990
Tariffs drop another fifth or tenth depending on the schedule.
- January 1, 1991
Foreign investment review for direct takeovers rises to \$100 million; for indirect takeovers, \$500 million. Tariffs will continue to drop; the 35 percent United States duty on Canadian shakes and shingles is scheduled to come off.
- January 1, 1992
The trigger for investment review rises to \$150 million; indirect takeovers will no longer be scrutinized. Tariff reductions continue.
- January 1, 1993
Tariffs will be lifted on another 35 percent of dutiable goods.
- January 1, 1994
United States customs user fees and duty drawbacks will end. United States foreign trade zone provisions will change to Canada's benefit. New rules on countervail and anti-dumping should come into effect.
- January 1, 1995
Tariff reduction.
- January 1, 1996
Another tariff cut. This is the final deadline for Canada and the United States to agree on new trade remedy rules. Production-based duty waivers for production in the auto industry will end.
- January 1, 1997
Tariff reduction.
- January 1, 1998
Tariffs end on remaining goods.

The snapback provision on vegetables and fresh fruit will remain for another decade.

FIGURE 1 Timetable.

is likely to bring net economic benefits to Canada by promoting stronger economic growth, creating more jobs, and lowering inflation. But the agreement is also expected to increase the Canadian federal government deficit by more than \$4.2 billion by 1997.

The FTA was reached after lengthy resistance in Canada. The main focus of the 1988 Canadian election campaign was centered on the FTA. Opponents argued that it favored the United States, relatively and absolutely, and furthered the Americanization of Canadian business and culture. Cries of Canada becoming the "fifty-first state" were widely voiced. Proponents, on the other hand, saw the agreement as a natural continuation of trade with the United States. The majority of Canadians were persuaded that the second view was more accurate and the Conservative Party won a solid victory in the 1988 fall election campaign.

TRANSPORTATION SYSTEM

The Canadian transportation network is not as extensive as it is in the United States, most notably in the northern latitudes. But it is fairly intense near the border with the United States, especially in the northeastern United States. The primary focus of this paper is on the road transportation network between the United States and Canada, thus the Canadian water, air, and rail service will only be briefly reviewed.

Although restricted by seasonal freezing, internal water transport is widely used. Canada has 25 large deep-water ports and about 650 smaller ports and multipurpose government wharfs. These ports are located on the east and west coasts, along the St. Lawrence Seaway, Great Lakes, in the Arctic, and on inland lakes and rivers. With coasts on both the Atlantic and the Pacific oceans, and the St. Lawrence Seaway extending inland for more than 2,000 mi along its southern border, Canada has a considerable number of water transportation routes. U.S. shipping firms handle about 25 percent of all Canadian water-transported exports, and about half of Canada's water-transported imports. The leading Canadian ports, in approximate order of tons of cargo are Vancouver (British Columbia), Sept-les-Pointe-Noire (Quebec), Montreal (Quebec), Port Cartier (Quebec), Thunder Bay (Ontario), Halifax (Nova Scotia), Saint John (New Brunswick), Quebec City (Quebec), Prince Rupert (British Columbia), and Hamilton (Ontario) (6).

The United States and Canada have extensive air service connections, with well-developed facilities for freight and passenger traffic, which provide interior access between the two countries. The three largest Canadian carriers are Air Canada, Canadian Airlines International, and Wardair. Other smaller carriers provide regular, charter, contract, and specialty services to many regions not served by the larger carriers. In addition, many American carriers provide regular air service to Canada.

Railways are Canada's most important means of transportation for freight and bulk goods. Two transcontinental railway systems, the Canadian National Railways and the Canadian Pacific Railway Company, provide most of the Canadian railway transportation. Both companies have supplementary facilities for highway and waterway transport, telecommunications, and storage. Railways are a reliable form of trans-

portation over much of Canada, where the remoteness of many areas makes it uneconomical to develop major road networks.

The road networks of Canada are not as extensive as those in the United States, especially in the Northern Provinces, Alberta, Saskatchewan, and Manitoba. Canada is continuing to expand its network of paved highways. At present, however, Canada does not have a multilane highway that runs across the southern portion of the country. U.S. Interstates 90 and 94 provide this service for the United States. The border is punctured by approximately 130 crossing stations, which provide adequate access between the two countries. In the more populous east, additional crossings and the expansion of existing roads may become necessary as travel between the two countries continues to increase.

Recent deregulation of the Canadian trucking industry and road expansions have allowed truck transport to become competitive with rail transport. Deregulation makes it easier for firms to enter the Canadian market. Truckers who wish to cross provincial and international borders no longer have to prove that their service is consistent with public convenience and necessity (6). American firms are allowed to ship their manufactured goods to destinations in Canada in their own trucks. However, they may not carry goods back to the United States or act as a common carrier, although some states have made reciprocal arrangements with adjacent Canadian provinces.

TRADE VOLUMES: PRESENT AND FUTURE

Canada is the United States' largest trading partner and its largest customer. The volume of trade between the United States and Canada is the greatest in the world. In 1986 it totaled more than \$124.5 billion in goods alone. Canada buys twice as much in goods from the United States as Japan does and more than do Mexico, West Germany, and the United Kingdom combined. Canada is also the United States' fastest-growing export market, buying manufactured goods from all 50 states and the District of Columbia. Between 1982 and 1986, when all U.S. overseas sales grew by less than 2 percent, its Canadian sales grew by 45 percent.

Detroit, Michigan, was the most active customs district in the United States, with \$2,461 million of imports (Figure 2), (these figures include imports received by water, rail, and road). Other customs districts showing large amounts of imports were Seattle, Chicago, and Buffalo. The busiest customs districts were located in the Pacific Northwest, the Midwest, and the Northeast; the obvious explanation is that the major population centers for both Canada and the United States are located in these regions.

U.S. exports to Canada reached \$59,814 million in 1987, an increase of 7.7 percent from \$55,512 million in 1986 (Figure 3). Imports of manufactured items increased 7.3 percent from 1986 to 1987. Office and ADP machines showed the greatest growth from 1986 to 1987, with an increase of 39.6 percent. All sectors of trade between the U.S. and Canada increased, with the exception of coal and automobiles. The automotive sector, which includes vehicle parts, is the largest sector in United States-Canada trade, accounting for approximately 32 percent of total bilateral trade in 1987 (7), but according to

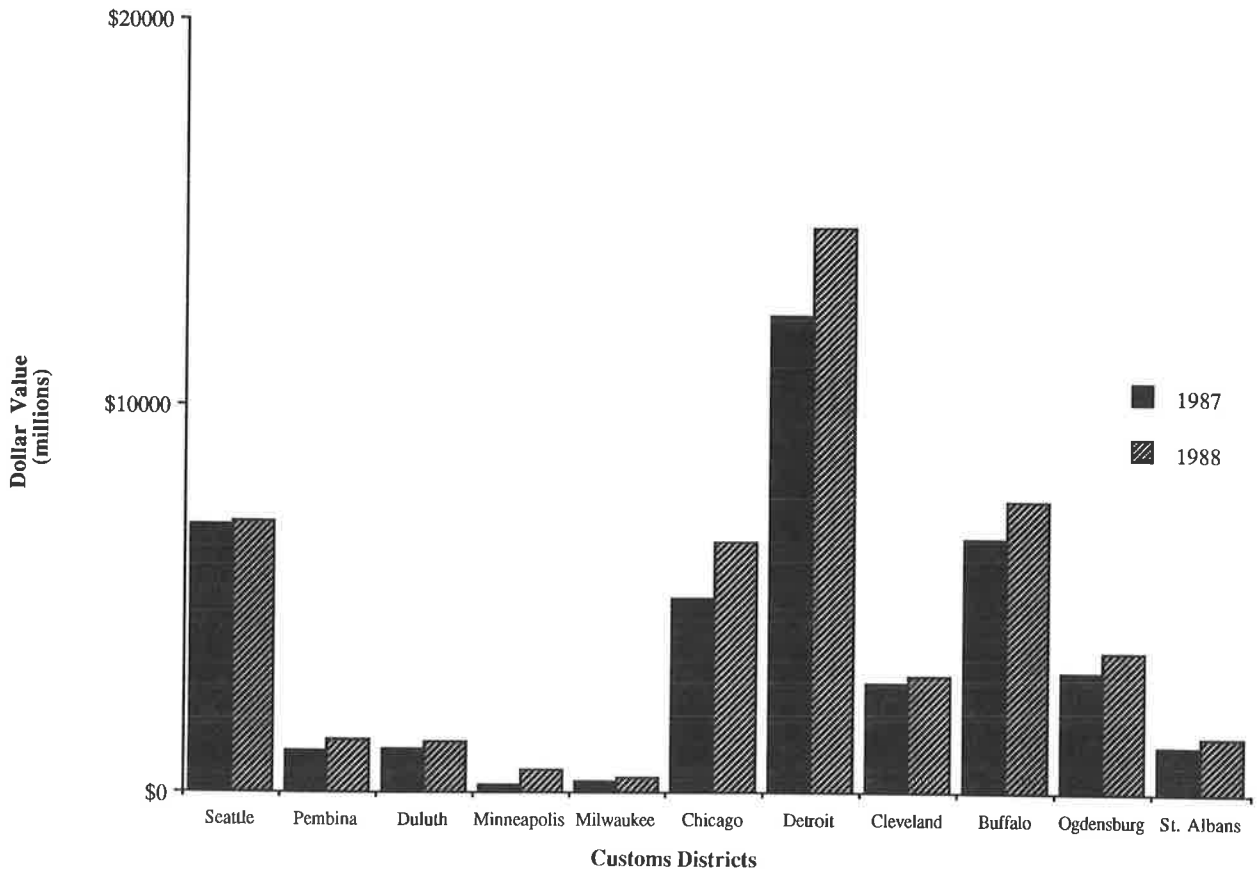


FIGURE 2 U.S. imports by customs district, 1987-1988.

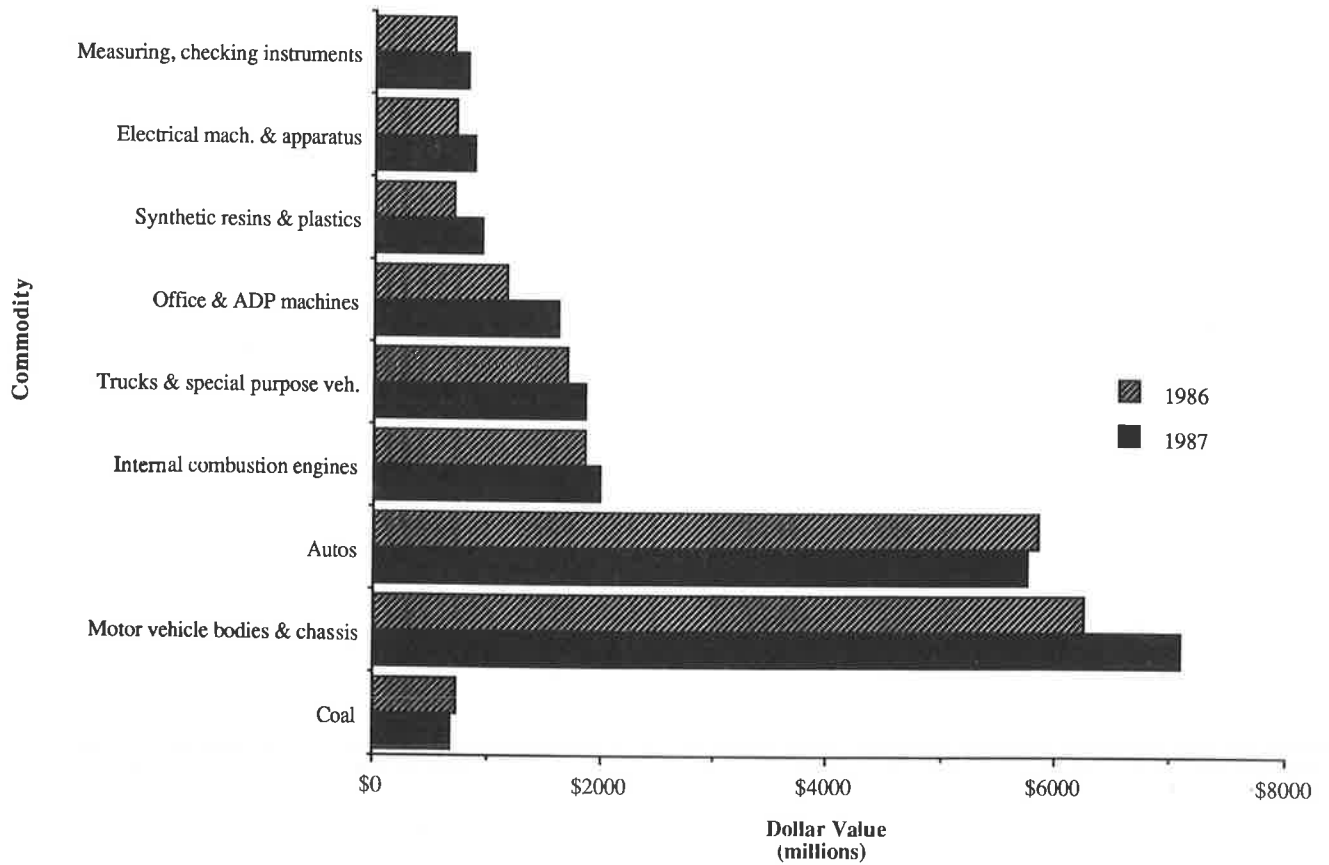


FIGURE 3 U.S. exports to Canada, 1986-1987.

Figure 3, automobile imports to Canada actually declined from 1986 to 1987. This may have been caused by the overall drop in U.S. automobile sales worldwide. At present, 95 percent of the automotive trade is duty free under the U.S.-Canada Automotive Products Trade Agreement (APTA). Thus, the FTA should have no effect on automotive trade in the future. Essentially, recent trends suggest that trade in high-tech and machinery products are increasing, whereas trade in automobiles and coal are decreasing.

Canada is a major importer of U.S. services, so trade figures that report only the exchange of goods give a distorted picture. U.S. nonmerchandise exports to Canada reached \$8 billion in 1986. The United States has a world surplus in nonmerchandise trade. Last year approximately half that surplus was earned in Canada.

U.S. imports from Canada also showed an increase of 4.1 percent from 1986 (\$68,662 million) to 1987 (\$71,510 million) (Figure 4). Pulp and waste paper showed the greatest growth in 1987 with a 29.7 percent increase over 1986. Other commodities that showed large increases were special purpose motor vehicles and paper and paper board. The majority of commodities showed an increase from 1986 to 1987, with the exception of natural gas, automobiles, and aircraft-spacecraft parts, all of which showed significant decreases. As Figure 4 shows, the majority of goods imported from Canada are raw materials or direct products of raw materials, so it is unlikely that the FTA will cause a significant change in the types of commodities traded.

The specific effects that the FTA will have on imports and exports between the two countries is uncertain, although trade is expected to increase. Keim (2) describes some of the profit sectors that offer the best export opportunities for American companies in 1989 to 1990. Products that offer the best export opportunities are medical equipment, household furniture, textiles and apparel, sporting goods, laboratory instruments, computers, automobile parts, telecommunications equipment, trucks, trailers, buses, aircraft, plastic materials, construction machinery, electronic components, analytical and scientific instruments, industrial organic chemicals, books and periodicals, and metal-working equipment. Trade in many of these items is expected to increase, perhaps dramatically, after all of the tariffs are lifted (Figure 1).

TRAFFIC: PAST, PRESENT, AND FUTURE

Automobile

The 10 highest border crossing stations (1988 to 1989) are shown in Figure 5. The Windsor, Ontario, to Detroit, Michigan, crossing leads the list with 6.5 million annual northbound crossings, or almost 27,500 annual average daily traffic (one way). Fort Erie, Ontario, to Buffalo, New York, is next, then Douglas, British Columbia, to Seattle, Washington, and others. These 10 crossings account for almost 50 percent of the total northbound traffic in 1988 to 1989.

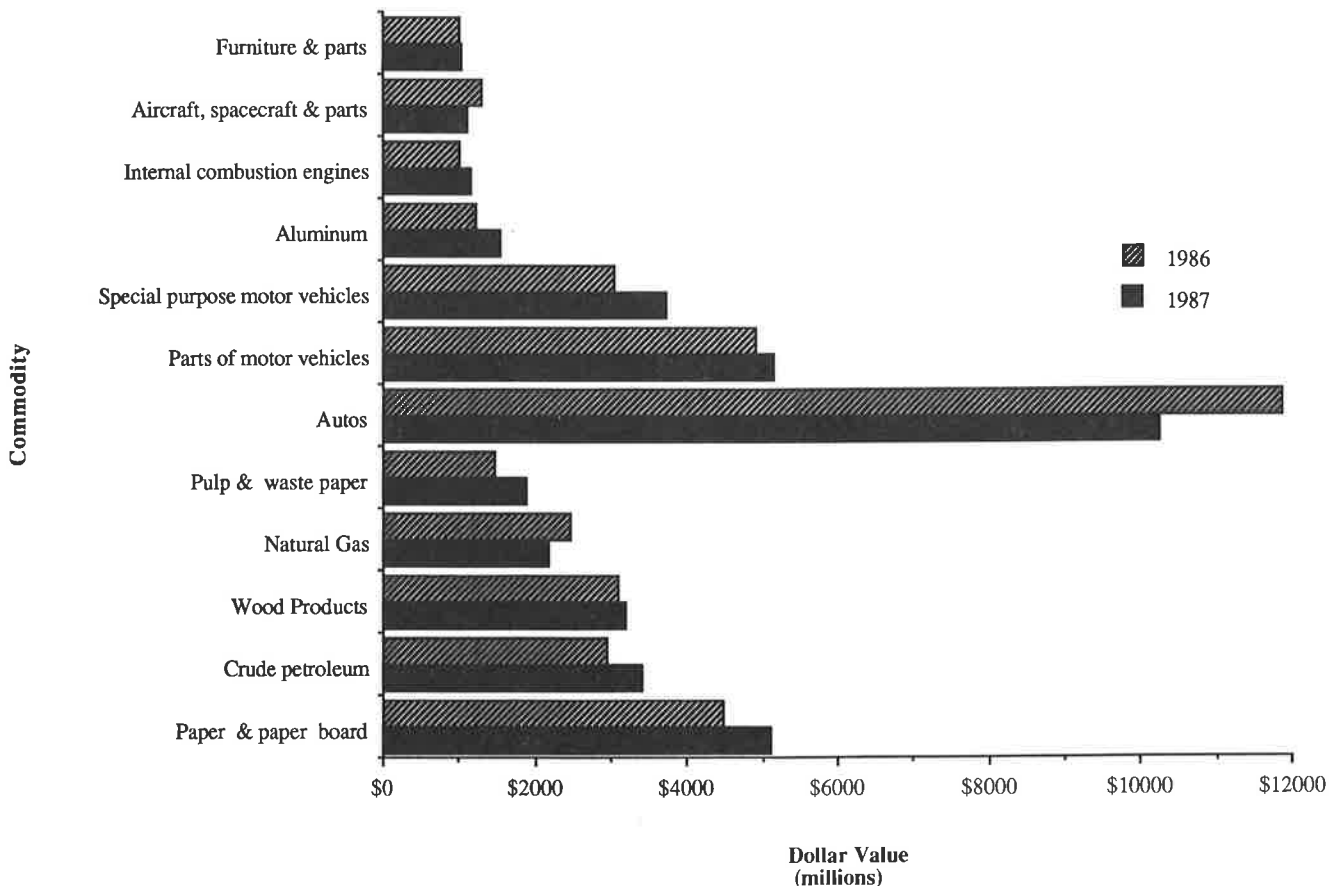


FIGURE 4 U.S. imports from Canada, 1986-1987.

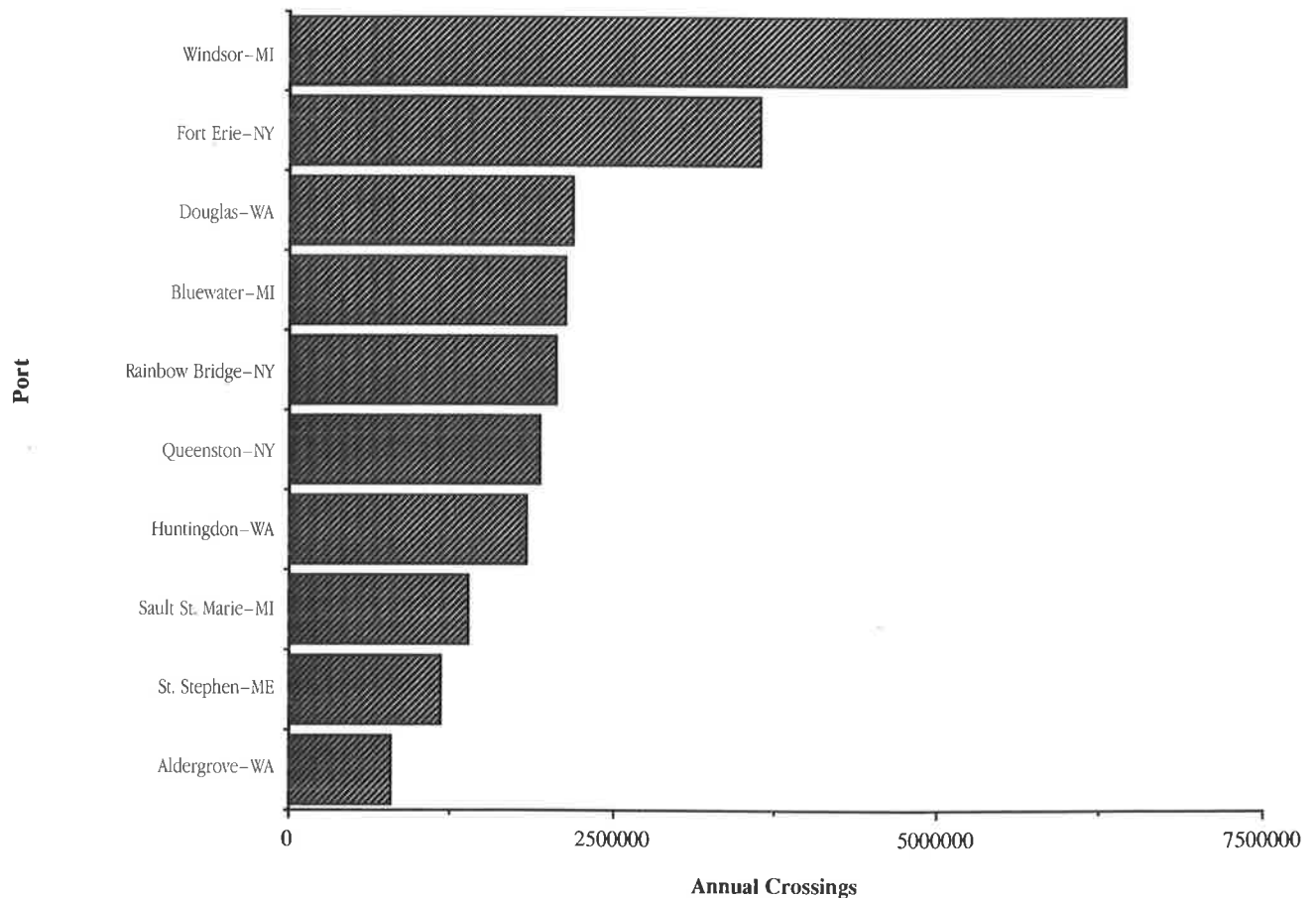


FIGURE 5 Top 10 border crossings, United States to Canada, 1988–1989.

Ninety percent of vehicles crossing the United States-Canadian border are automobiles. About 35 million automobiles crossed the border into Canada in 1988 to 1989, an increase of 25 percent from 1985 to 1989, which translates to about a 6.9 percent increase per year in automobile traffic (Figure 6). Different regions of the United States show markedly different levels of traffic crossing the border (Figure 7). Washington, Michigan, and New York have significantly higher volumes of automobile traffic crossing into Canada than the rest of the border states, although Maine and Vermont show relatively high volumes of traffic, which is probably related to recreational traffic. The high volumes of traffic in Washington, Michigan, and New York can be attributed to their close proximity to major population centers in Canada: Washington is close to Vancouver; Michigan is close to Windsor; and New York is close to Montreal, Ottawa, and Toronto.

Washington, Idaho, and North Dakota have shown the highest growth rates in automobile traffic crossing into Canada (Figure 8), but only Washington carries a significant volume of traffic. Idaho and North Dakota carry the lowest volumes of automobile traffic; only New Hampshire and Alaska carry lower volumes (see Figure 7).

Truck

Trucks crossing the border (Figure 9) increased about 17 percent from 1985 to 1989, which translates to approximately 4.9

percent growth per year in truck traffic. From 1985 to 1989, truck traffic crossing the border into Canada increased by 204,000. Truck traffic increased during this time period but not as rapidly as did automobile traffic. A possible explanation of this is that the deregulation of the Canadian trucking industry caused truck traffic to show a sharp increase during the earlier part of the period, which has recently leveled off.

Michigan, New York, Washington, and Maine showed large volumes of trucks crossing into Canada (see Figure 10). This pattern is similar to that of automobile traffic, but whereas New York has the highest volume of auto traffic, Michigan has the highest volume of truck traffic. Washington carries substantially lower volumes of truck traffic than automobile traffic. The high volumes of truck traffic in Michigan and New York indicate that most of the commodities leaving the United States to go to Canada leave by these two states. The relatively high volumes in Maine may be caused by Canadian trucks crossing from New Brunswick to Quebec through Maine.

The most dramatic increase in truck traffic entering Canada is through Alaska (Figure 11). North Dakota and Idaho also show large increases in truck traffic, but these states carry relatively small amounts of the truck traffic volume. In the case of Alaska, the amount of truck traffic is extremely small.

PROBABLE TRANSPORTATION IMPACTS

The FTA will bring some transportation problems. As already discussed, both automobile and truck traffic are expected to

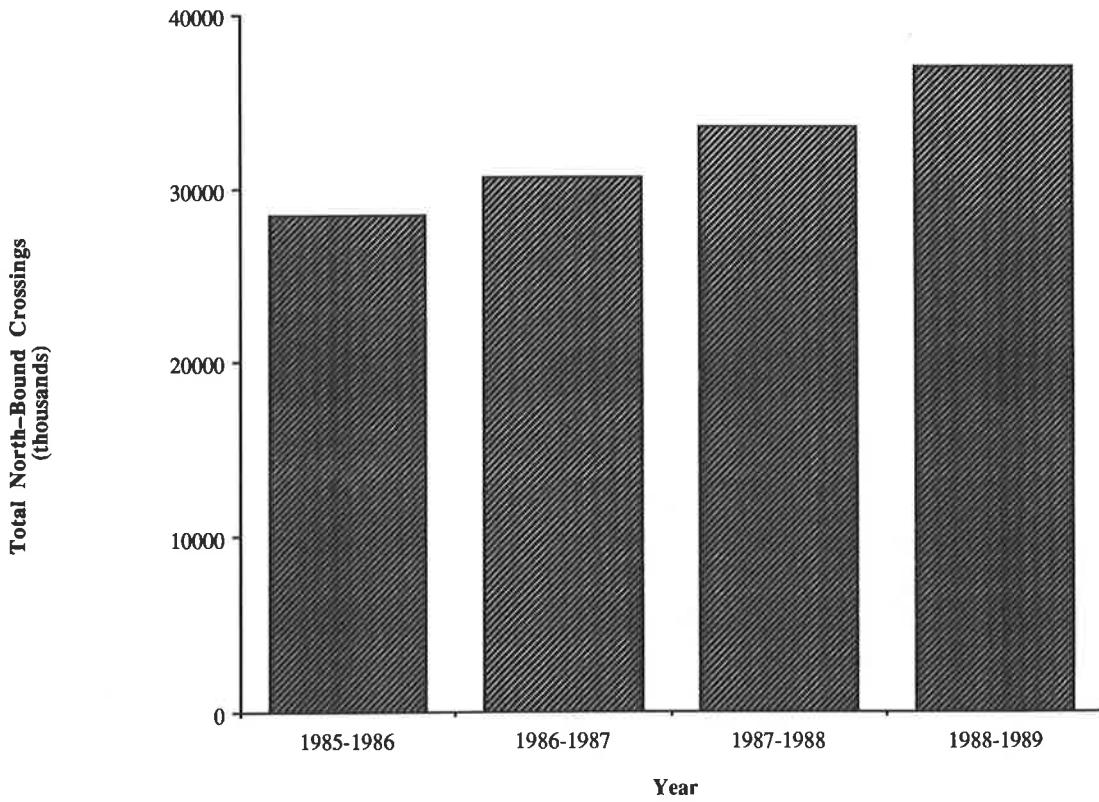


FIGURE 6 Total number of automobiles crossing from the United States into Canada, 1985-1989.

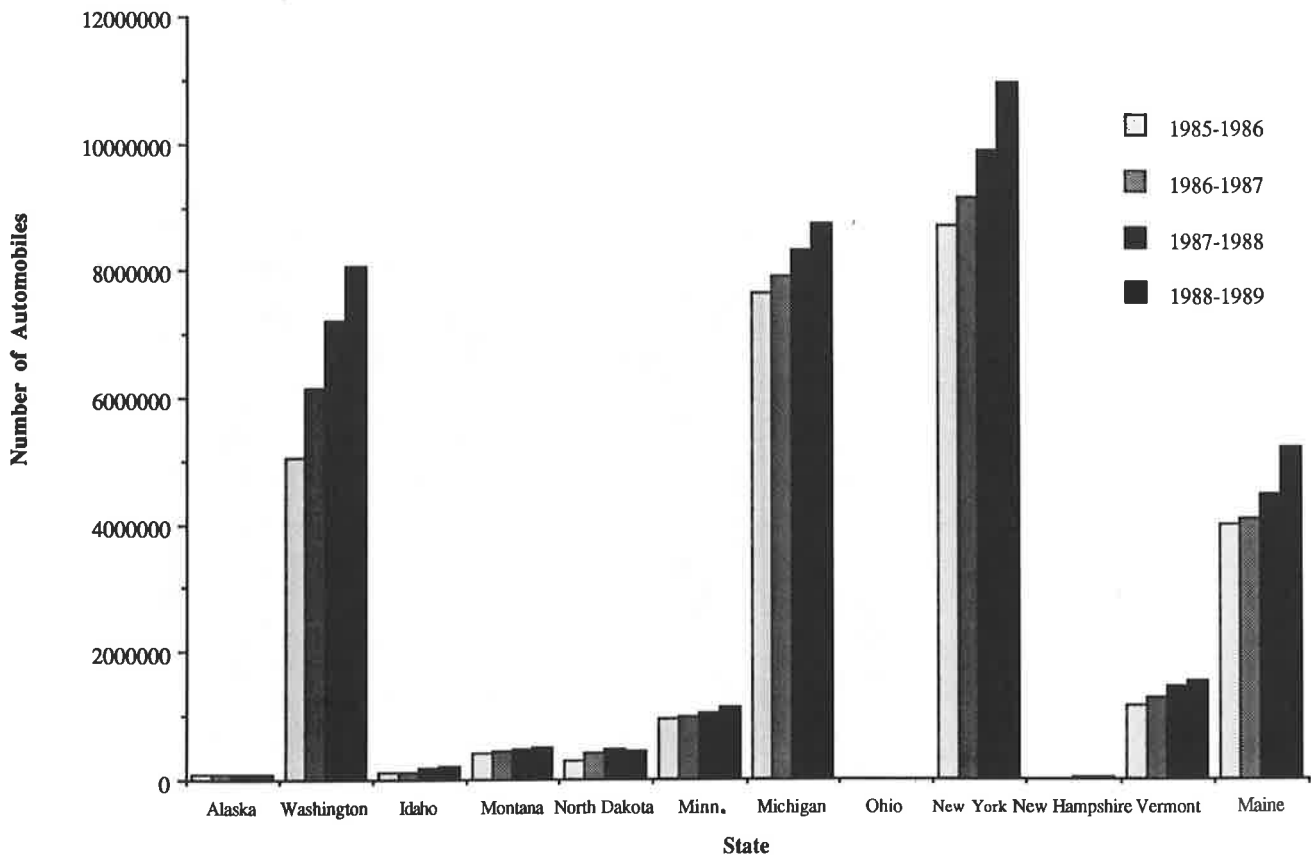


FIGURE 7 State breakdown of automobiles crossing the United States-Canadian border into Canada, 1985-1989.

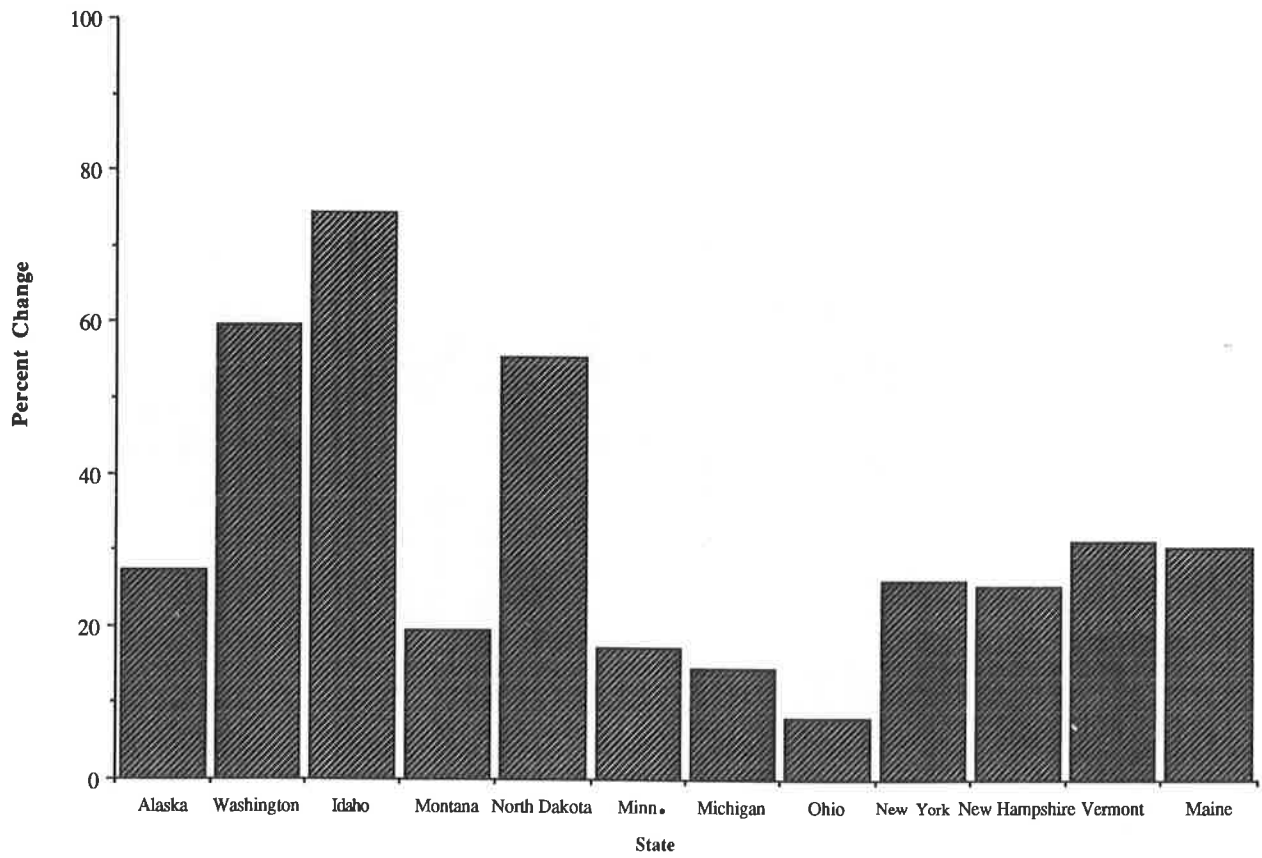


FIGURE 8 Percent change in automobiles crossing the United States-Canadian border into Canada, 1985-1989.

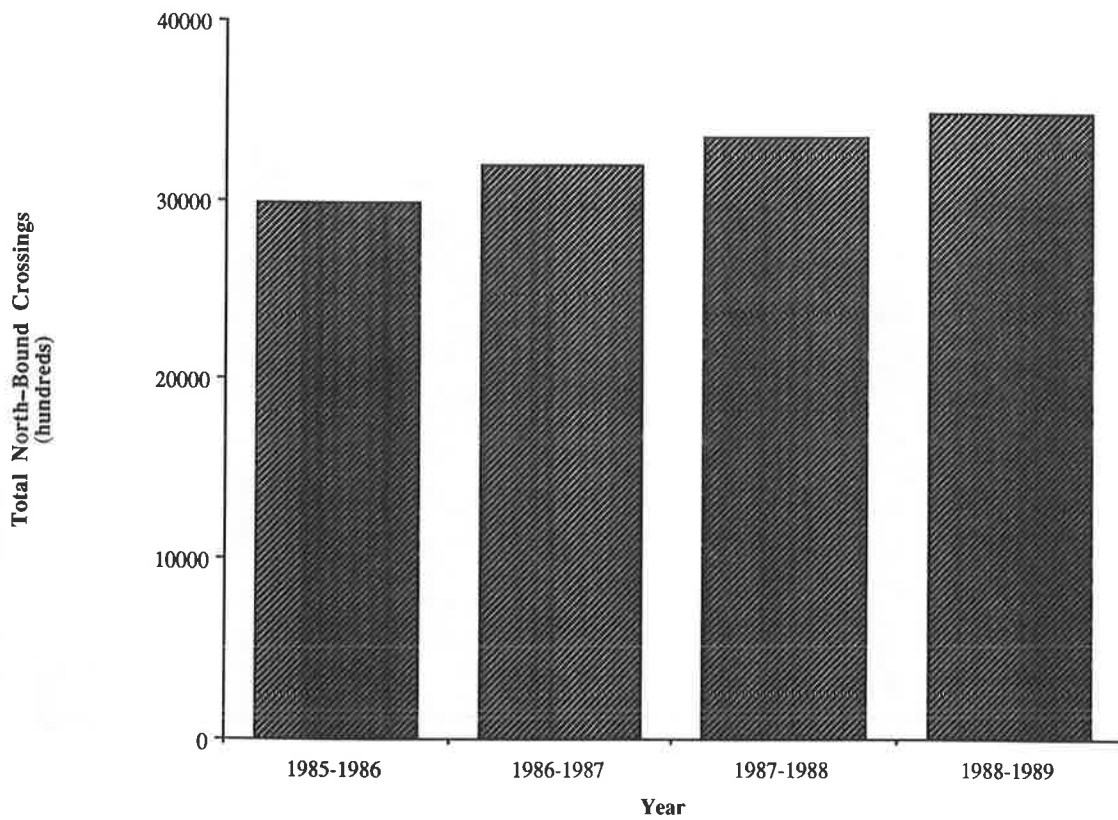


FIGURE 9 Total number of trucks crossing from the United States into Canada, 1985-1989.

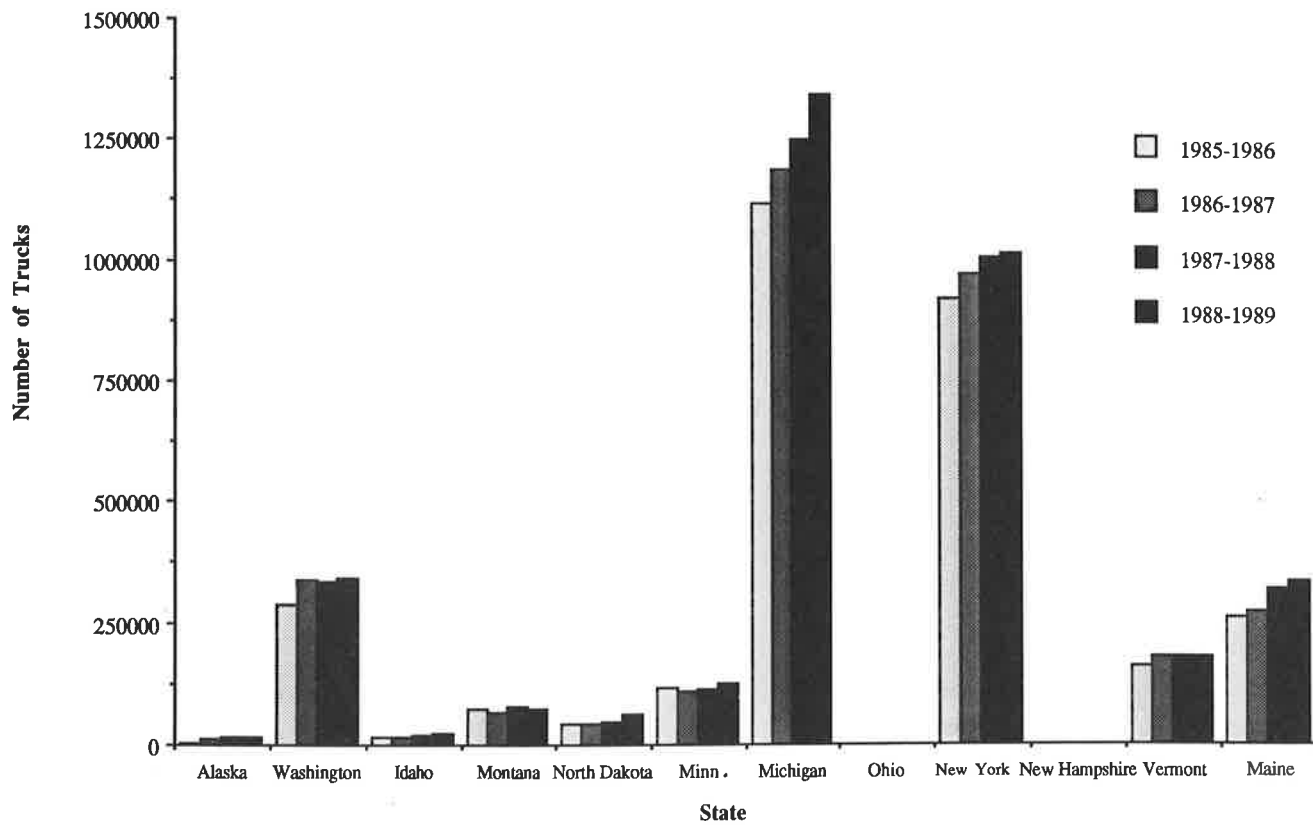


FIGURE 10 State breakdown of trucks crossing the United States-Canadian border into Canada, 1985-1989.

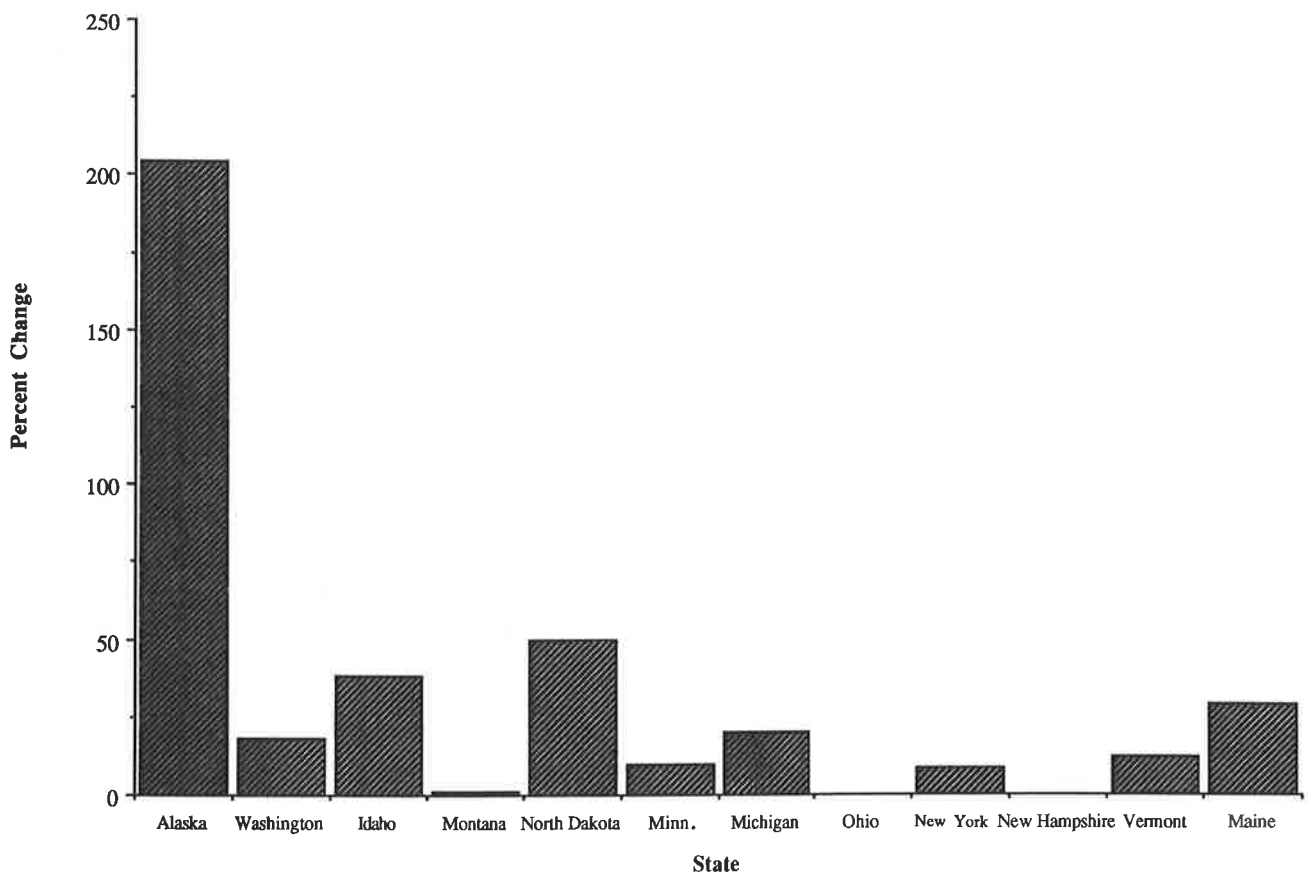


FIGURE 11 Percent change in truck traffic crossing the United States-Canadian border into Canada, 1985-1989.

continue to increase. Thus congestion at border crossings, which is already substantial, is expected to become worse, especially in the summer months. This will necessitate the need for road widening, particularly on Canadian routes close to the border. Road deterioration is also likely to increase because axle load damage increases as the ninth power of axle load itself. Thus a 2 or 3 percent increase in truck traffic will accelerate road deterioration by 20 to 30 percent.

As a result of the expected increase in traffic and road deterioration, a kind of "border tilt" may become apparent as the states and provinces focus on their borders. The result is likely to be a "southern tilt" in the focus of Canadian Ministries of Transportation, as road repair needs at the border increase. The U.S. side crossings are more adequate, but look for a similar "northern tilt" in border state attention toward the late 1990s, particularly in Washington, Michigan, and Maine, where traffic is expected to increase most rapidly. In Maine the possible trans-U.S. linkage of two Canadian provinces may generate pressure for a "Trans-Maine Highway," a possible new Interstate between New Brunswick and Quebec. Canadians will be expected to share the costs of the highway with the United States.

Increased attention to province-state reciprocity in truck axle and gross load limits and system improvements is also anticipated. Another impact is likely to be reciprocal use of empty trucks for return travel business (company interlining). As free trade barriers fall, companies will be on the lookout for ways to increase truck use efficiency through multiple-direction circles. Over the longer term, multistop truck companies are likely to be operating across the border and across states and provinces. A jointly owned United States-Canada company truck might deliver a load of furniture from North Carolina to Montreal, carry a load of cardboard boxes from Montreal to Ottawa, transport automobile parts to Detroit, and then convey office supplies to Charlotte—all in one long multistop journey.

The FTA is likely to accelerate the traffic growth rates in border crossings and the states that will feel the greatest effect will be

Washington: Expect an acceleration of truck growth from about 4–6 percent annually. Automobile travel will continue to grow by 15 percent annually.

Idaho, Montana, North Dakota: Present high growth rates should accelerate to the 10–15 percent range, particularly for truck traffic.

Minnesota, Michigan: Present automobile growth of 5 percent/year should increase to 6–7 percent/year. Truck traffic growth should slow if a recession slows automobile purchases.

New York: Present automobile and truck trends should continue.

Vermont, New Hampshire, Maine: Automobile traffic growth should hold in the 7 percent/year range and truck travel growth should accelerate to 10 percent/year.

In addition, other effects are likely. Professional business air travel should increase substantially, particularly between Toronto, Montreal, and the northeastern United States. Communication and telephone traffic should also accelerate. Summer recreational traffic to Canada should be only marginally

affected. Some states have already shown tremendous growth patterns so the FTA may not trigger a significant increase in traffic. Traffic is expected to continue to increase but not as dramatically as in previous years.

CONCLUSION

Canada is presently upgrading and expanding its road network, but additional work may be necessary. Many U.S. multilane highways become two lanes when they cross into Canada. Roads in the United States may also need to be expanded. The bridges that span the border are also in need of expansion and repair because they were built at a time when traffic between the two countries was moderate and not expected to increase to the present levels that the FTA has facilitated.

The FTA will accelerate commerce and communications between the United States and Canada, which will be reflected in travel growth. Present growth patterns, in the 5+ range annually, are expected to accelerate to 6–7 percent, with some states and border crossings showing much more rapid growth. The agreement presents an opportunity for neighboring states and Canadian provinces to work together to solve problems of joint concern.

Further study will be necessary to examine these systems impacts more closely. The Canada to the United States data will need to be analyzed to see if there are any notable differences between the north and south traffic flows. Further study will also be necessary to determine whether the road networks that cross the border will be sufficient to handle the increasing traffic. These are challenges that both countries should approach cooperatively because each has so much to gain by their solution.

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