

AN ANALYSIS OF MICHIGAN AND
ONTARIO TRADE AND
TRANSPORT RECIPROCITY

Thesis for the Degree of Ph. D.
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Cecil V. Hynes

1965



This is to certify that the

thesis entitled

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TRADE AND TRANSPORT RECIPROCITY

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Cecil V. Hynes

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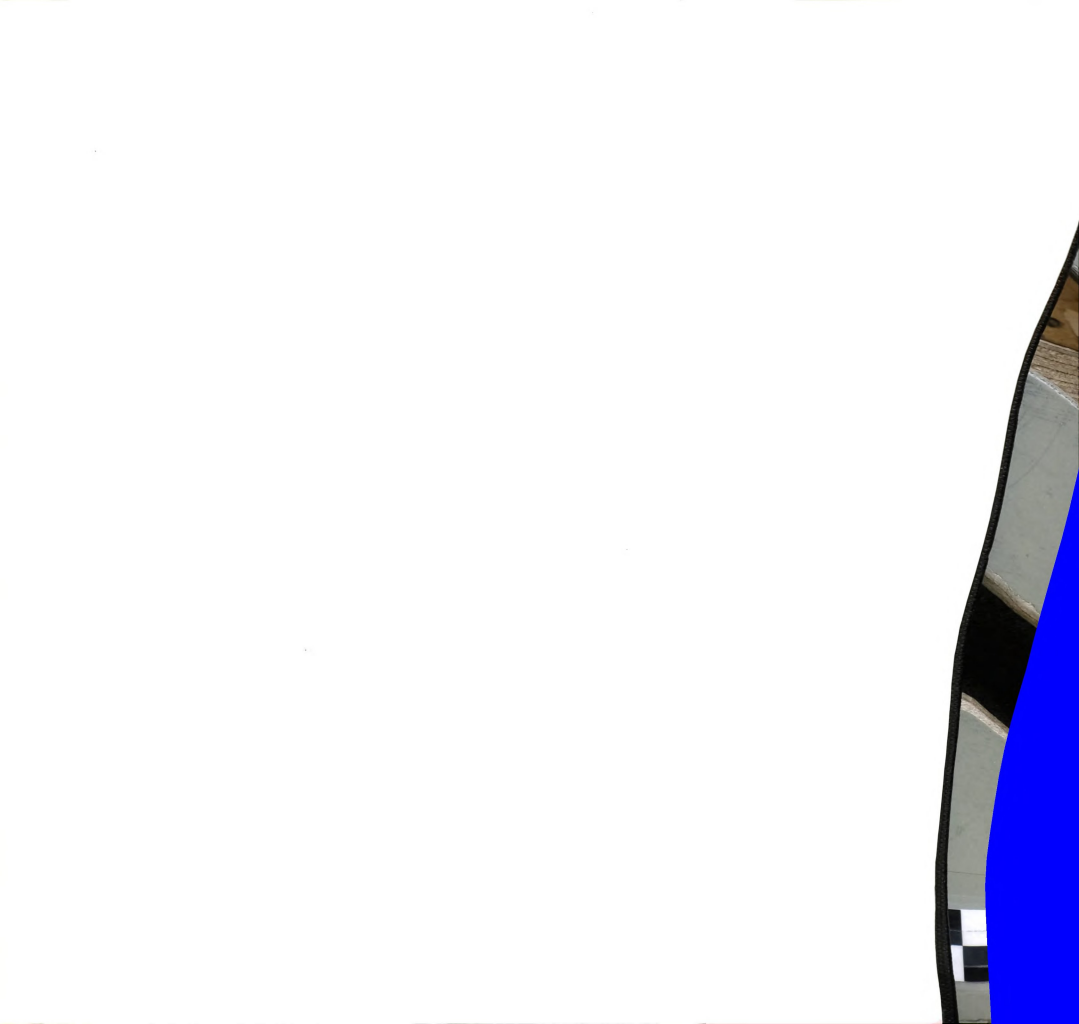
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ABSTRACT

AN ANALYSIS OF MICHIGAN AND ONTARIO TRADE AND TRANSPORT RECIPROCITY

by Cecil V. Hynes

Michigan and Ontario are large contiguous states unique in location, similar in economic development and interests, yet separated by an international boundary. The trade moving between them offers an opportunity to study trade and transport between contiguous foreign states. The primary purpose of this study was to determine how transport reciprocity affects trade between the two jurisdictions.

The core of this research is an empirical study of the flow of commodities between Michigan and Ontario. This study discloses both the tonnage and value of shipments in the Michigan and Ontario trade. Accurate knowledge of this contiguous trade has not been available heretofore. The results should be useful to anyone studying Canadian and American economic relations and hopefully the study will contribute to scholarly activities, methodology, and to future studies of Canadian-United States trade. In this study the trade data afford the empirical support for analysis of transport reciprocity.

The technique involved an exploration of secondary

sources, survey research of primary sources, followed by depth interviews and on-the-spot observation.

The sources of secondary data pertaining to customs, carriers, and trade were thoroughly searched and revealed little information on commodity flows. There is no specific data on trade between Michigan and Ontario.

The survey technique using questionnaires yielded considerable data from the carriers and industries in both Michigan and Ontario. These data were useful in determining the tonnage and value of commodity flows, and in providing information on the modes of transport utilized in the border traffic.

The depth interviews revealed valuable insights and opinions on the ease of commodity and carrier movements and restrictions to trade.

The empirical findings of this research study indicate that the direct trade between Michigan and Ontario was approximately \$1 billion (7 million tons) in 1963. About 2 per cent of the total Michigan shipments to all markets were exported to Ontario in 1963. These exports amounted to approximately \$500 million to form Michigan's largest single foreign market. Yet most of the manufacturing companies tended to view Ontario in the context of a domestic market.

Again, during 1963 approximately 4 per cent of the value of the total Ontario shipments were exported to Michigan for a total of \$525 million. Ontario ships almost

as much to Michigan alone, as she does either to all other U.S. states combined, or to all overseas countries.

But the problems of reciprocity are broader than the direct trade between Michigan and Ontario. The gateway traffic traversing Michigan-Ontario enroute to other points is larger than the direct trade and moves primarily by rail, highway, and water carriers. The Michigan and Ontario corridor serves as a very useful short-line route connecting important markets and production areas in both Canada and the United States.

With respect to transport reciprocity, Michigan and Ontario have a formal agreement extending very limited reciprocity to highway carriers. The lack of full reciprocity restricts the interchange of equipment necessitating additional handling of freight at the border. This increases time enroute from origin to destination and causes inefficient carrier border operations resulting in higher operating costs which are reflected in higher rates to the shipper.

The investigation did not reveal any interest on the part of the state and province in negotiating reciprocity agreements with respect to the other modes of transport.

Based on the findings of this research study, some specific courses of action are proposed for Michigan which could lead towards more complete reciprocity with Ontario for motor carriers.

More liberal transport reciprocity, more uniformity in regulations at the border, and better through transport

service would help to reduce the costs of distribution for exporters serving the Michigan and Ontario markets. More efficient and less costly distribution would improve exporters' competitive positions, serve as a stimulus for an expansion of trade between the two jurisdictions, and further economic development on both sides of the border.

There was some evidence that Michigan, while in the process of improving transport reciprocity, might wish to consider other means of facilitating and expanding trade with Ontario, such as the simplification of the customs import and export procedures with emphasis on reducing the documentation requirements; and providing more comprehensive information to Michigan manufacturers on potential export opportunities in the Ontario markets.

There were indications that in the future Michigan might wish to study and examine the implications of: (1) the possible development of a joint Canadian and United States Foreign Trade Zone located somewhere in the Detroit-Windsor area encompassing territory in both Michigan and Ontario, and (2) how the possible future development of a free trade arrangement between Canada and the United States might affect the direct trade and transit traffic between the two jurisdictions.

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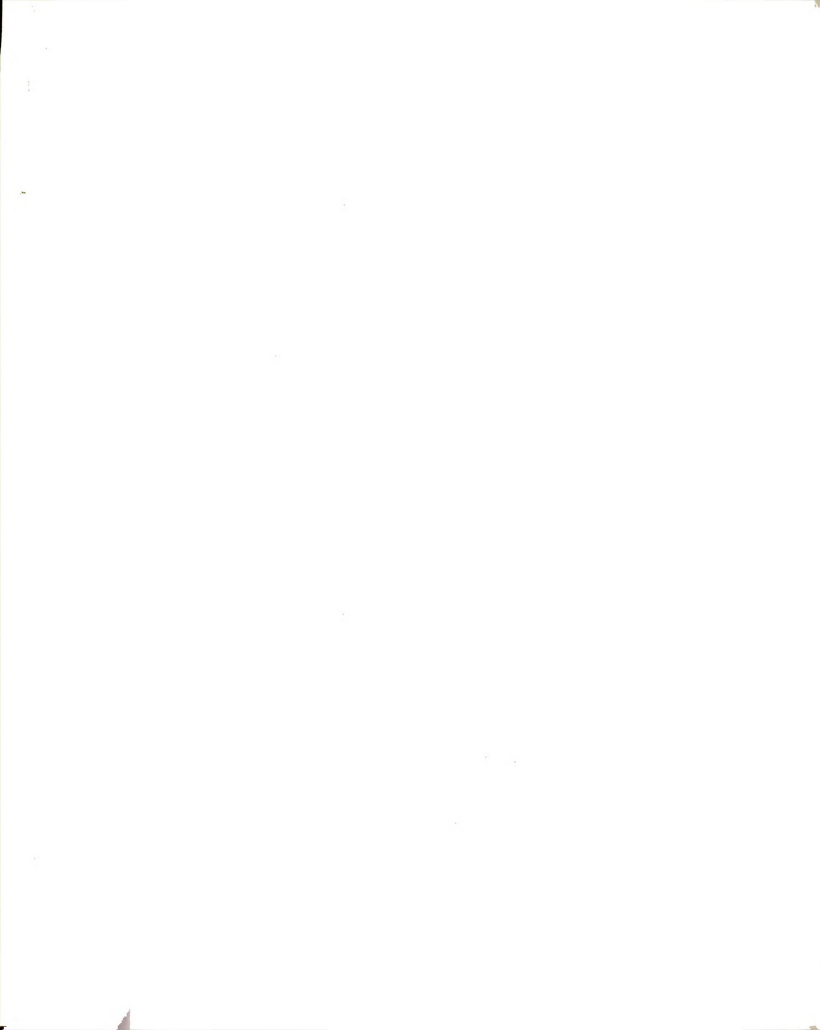
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Dr. Harry G. Brainard, Professor of Economics. His constructive suggestions and critical reading of the manuscript were very helpful.

This work is dedicated to my wife, Penelope, for without her patience, encouragement, and aid, this dissertation may never have been written.

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1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation

$$f(x) = \int_0^x \frac{1}{1+t^2} dt.$$

It is shown that the function $f(x)$ is continuous and differentiable on the interval $(-\infty, \infty)$. The derivative of the function is found to be $f'(x) = \frac{1}{1+x^2}$. It is also shown that the function $f(x)$ is bounded on the interval $(-\infty, \infty)$ and that its range is the interval $(0, \frac{\pi}{2})$.

2. The second part of the paper is devoted to the study of the properties of the function $g(x)$ defined by the equation

$$g(x) = \int_0^x \frac{t}{1+t^2} dt.$$

It is shown that the function $g(x)$ is continuous and differentiable on the interval $(-\infty, \infty)$. The derivative of the function is found to be $g'(x) = \frac{x}{1+x^2}$. It is also shown that the function $g(x)$ is bounded on the interval $(-\infty, \infty)$ and that its range is the interval $(-\frac{\pi}{4}, \frac{\pi}{4})$.

3. The third part of the paper is devoted to the study of the properties of the function $h(x)$ defined by the equation

$$h(x) = \int_0^x \frac{1}{1+t^2} dt + \int_0^x \frac{t}{1+t^2} dt.$$

It is shown that the function $h(x)$ is continuous and differentiable on the interval $(-\infty, \infty)$. The derivative of the function is found to be $h'(x) = \frac{1+x}{1+x^2}$. It is also shown that the function $h(x)$ is bounded on the interval $(-\infty, \infty)$ and that its range is the interval $(0, \frac{\pi}{2})$.

4. The fourth part of the paper is devoted to the study of the properties of the function $k(x)$ defined by the equation

$$k(x) = \int_0^x \frac{1}{1+t^2} dt - \int_0^x \frac{t}{1+t^2} dt.$$

It is shown that the function $k(x)$ is continuous and differentiable on the interval $(-\infty, \infty)$. The derivative of the function is found to be $k'(x) = \frac{1-x}{1+x^2}$. It is also shown that the function $k(x)$ is bounded on the interval $(-\infty, \infty)$ and that its range is the interval $(-\frac{\pi}{4}, \frac{\pi}{4})$.

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1. The first part of the paper discusses the importance of understanding the underlying mechanisms of the observed phenomena. It highlights the need for a comprehensive theoretical framework that can account for the complex interactions between various factors. This involves identifying the key variables and their relationships, as well as developing a robust model that can be tested empirically.

2. The second part of the paper presents a detailed analysis of the data collected from the experiments. It shows that the results are consistent with the predictions of the proposed model, providing strong evidence for its validity. The analysis also identifies some limitations of the current study and suggests areas for future research.

3. The third part of the paper discusses the implications of the findings for the field of study. It emphasizes the need for further research to explore the underlying mechanisms in more detail and to develop more effective interventions. The paper also highlights the potential applications of the findings in various contexts, such as education, health, and social policy.

4. The fourth part of the paper concludes the study and summarizes the main findings. It reiterates the importance of understanding the underlying mechanisms and the need for further research. The paper also provides a final statement on the significance of the findings and the potential for future research.

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CHAPTER I

INTRODUCTION

PURPOSE OF THE STUDY

The study was undertaken to seek an answer to the question, "How does transport reciprocity between Michigan and Ontario affect trade and transportation between the two sovereign areas?" In order to answer this question it was necessary to: (1) ascertain the flow of commodities between the two jurisdictions; (2) determine how the commodities are transported; (3) determine the problems of transport service encountered by the shippers and carriers; and (4) examine the state of transport reciprocity that exists between Michigan and Ontario. With this background information in hand the influence of transport reciprocity on trade and transport service between Michigan and Ontario could be evaluated.

While the study is primarily exploratory and informational, some recommendations are suggested for policy consideration and for further research.

METHOD OF INVESTIGATION AND SOURCE OF MATERIAL

All possible methods of securing material and information were used. Secondary sources were searched and primary data were gathered by questionnaires, specific letters, and field interviews. Regional trade and transport



data are hard to come by and the search called upon diverse sources.

SECONDARY DATA

Secondary data tell relatively little about Michigan-Ontario trade. In Canada the Dominion Bureau of Statistics publishes statistics on the total Canadian trade, and export and import trade with the United States. However, a finer breakdown is not available. Ontario's total foreign trade, including the trade with Michigan, is unknown.

The statistics available on United States foreign trade are provided by the Bureau of the Census of the Department of Commerce. Statistics are published for the various customs districts of the United States, and those supply the only data approximating state foreign trade. The state of Michigan is coterminous with the thirty-eighth customs district, except that one town, Menominee, is in the Wisconsin district. Customs reports show the value of the imports and exports passing through the customs district. While providing some insight on the value and the trends of foreign trade, they do not provide data on the amount that originates or terminates in Michigan. Nor do they provide any information on Michigan's trade with Ontario.

Past studies of the foreign trade of Michigan have been based on the customs district statistics provided by



the Bureau of Customs and the Department of Commerce.¹

Sliger, in his study of the foreign trade of Michigan, placed heavy reliance on customs district data. A later study of the foreign trade statistics of Michigan by O'Donnel and Verway utilized the same source of data and extended the Sliger findings through 1959. Though both were thorough and informative studies, their usefulness was circumscribed. Because they used Michigan customs district statistics, it was impossible to make meaningful statements about the exports and imports that originated and terminated in Michigan. In fact, the only Michigan trade included were imports and exports moving overland to and from Canada, and through Michigan's lake and air ports, to and from overseas ports.

In July, 1957, a study was published entitled "Foreign Trade Interests in the State of Michigan."² It identified the primary importing and exporting interests in Michigan but did not provide data on specific trade with Ontario.

At present there are no published reports on the

¹Bernard F. Sliger, "Michigan and a Study of its Foreign Trade, 1951-53" (unpublished Ph.D. dissertation, Dept. of Economics, Michigan State University, 1955). See, also, J. L. O'Donnell and D. I. Verway, "An Analysis of Foreign Trade Statistics of the Michigan Customs District (1951-53 and 1958-59)," Bureau of Business and Economic Research, Michigan State University, East Lansing, Michigan, 1961.

²The Legislative Reference Service of the Library of Congress, Foreign Trade Interests in the State of Michigan, House Document No. 209, 1957.



trade between Michigan and Ontario.

PRIMARY DATA

Primary data were obtained through the use of mail questionnaires and personal interviews.

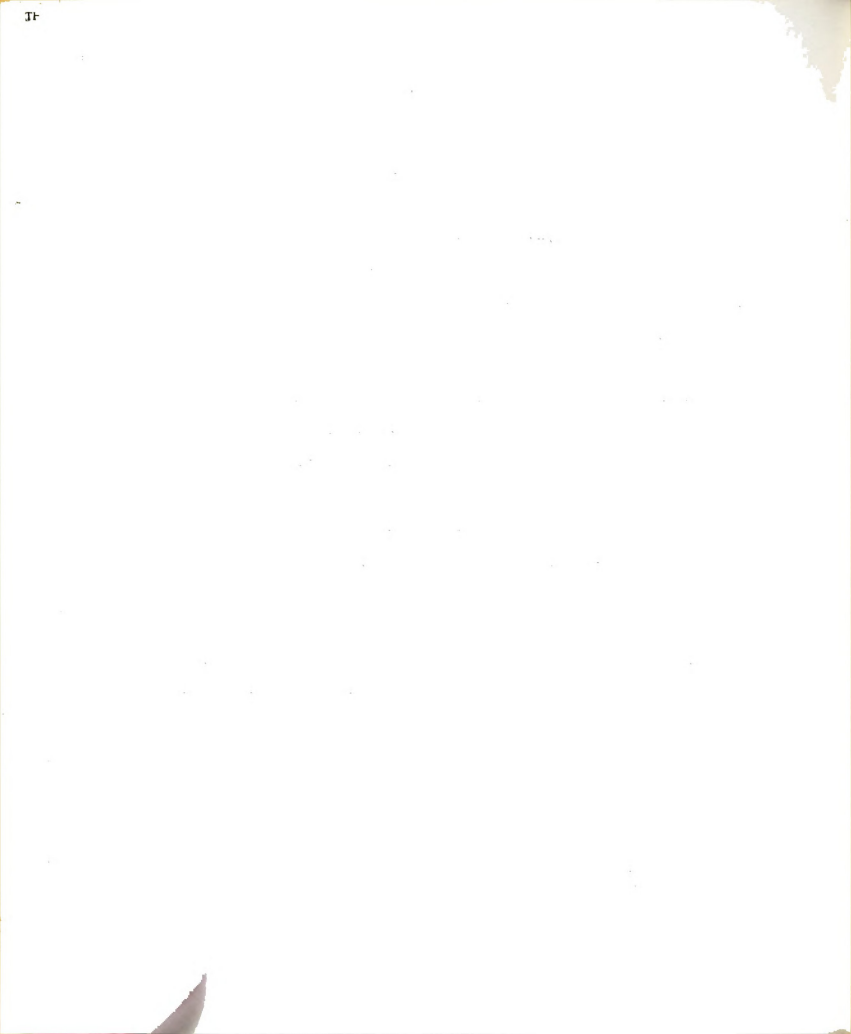
A total of 2,179 questionnaires were mailed to companies located in Michigan and Ontario. These included 1,001 questionnaires sent to Michigan manufacturing companies, 1,008 to Ontario manufacturing companies, 109 to Michigan motor carriers, 56 to Ontario motor carriers and 5 to the railroads that participate in the rail traffic crossing the Michigan-Ontario border. Copies and details of the questionnaires and information about the returns appear in Appendix A.

Interviews were conducted with Michigan and Ontario government officials, customs officials, officials of manufacturing companies in Michigan and Ontario, officials and employees of various Michigan and Ontario transport companies, and many other people who had some knowledge of, or an interest in, Michigan and Ontario trade and transportation.

TERMS AND DEFINITIONS

Some general terms used in the dissertation are defined below. Other terms will be defined in the text as necessary.

1. "Reciprocity" as used here means a mutual exchange of special privileges between two countries, to the



advantage of both. It is the principle whereby one country (A) grants specific concessions, i.e., outright waiver of taxes and fees, to country (B), providing country (B) does the same for country (A).

2. "Transport reciprocity" means reciprocity agreements or arrangements between sovereign states pertaining to the carriage of goods by a mode of transport.

3. "Mode of transport" refers to one of the five common types of transportation such as air, rail, waterborne, pipeline, and motor truck.

4. "Private motor carrier" means the load being hauled is the property of the owner of the vehicle.

5. "Common motor carrier of property" means any person who holds himself out to the public as being engaged in the business of a common carrier as at the common law, . . . in the transportation by motor vehicle from place to place upon or over the highways of the state of Michigan, the property, or any property, or any class thereof of others who may choose to employ him.¹ The short title of "common motor carrier" will be used throughout the study.

6. "Contract motor carrier of property" means any person engaged in the transportation by motor vehicle of property for hire upon the public highways of Michigan other

¹Michigan Motor Carrier Act, 254 of Public Acts 1933, Article 1, Section 1, paragraph (f).

than as a common carrier of property, either directly or through any device or arrangement.¹ Normally the carrier contracts with certain manufacturing companies to transport their products.

7. "For hire" means Public Commercial Vehicles (P.C.V.) owned and registered in Ontario, operated for compensation beyond urban areas. This is comparable to the Michigan common motor carrier. In this study the term "Ontario common motor carrier" shall be used in place of "for hire" carriers.

8. "Private intercity" means Ontario private non-farm commercial vehicles operated beyond urban areas. In this study the term "private motor carrier" will be used in place of "private intercity."

9. "Trade" is used here in a narrow sense of the term. It refers primarily to the tangible products of trade, i.e., manufactured goods, raw materials and semi-processed goods. The definition excludes all intangible items and non-trade transactions such as tourist travel, service, and financial transactions, primarily because these items are not significantly influenced by commercial transport reciprocity as defined above and examined in this study.

10. "Commercial motor vehicle" means any motor vehicle having permanently attached thereto a truck or delivery body, or a highway tractor with a fifth wheel

¹Ibid., paragraph (i).

used for hauling purposes on the highways.

11. "Trailer" means any vehicle that is at any time drawn upon a highway by a motor vehicle, designed to transport property and considered to be a separate vehicle and not part of the motor vehicle by which it is drawn. The term includes the vehicle called a "semi-trailer" which is a trailer mounted to the fifth wheel of a tractor.

SCOPE AND LIMITATIONS OF THE STUDY

The primary concern of the study is with the trade and transport reciprocity between Michigan and Ontario. Background data are presented for Michigan and Ontario with respect to their contiguous geographic location, population, work force, personal income, value added by manufacture, and size and location of the principal markets.

The study concentrates on manufacturing companies that are interested in the export markets of Michigan and Ontario. Manufacturing companies in both jurisdictions are surveyed regarding value of shipments to various markets, mode of transport utilized to reach each market, and problems of initiating or expanding trade between the two areas. Primary emphasis is placed on company shipments with little consideration being given to the inbound traffic.

Problems of transport service between Ontario and Michigan, caused by the existence of the border, are examined from the shipper's and carrier's point of view. Reciprocity between Michigan and Ontario is examined for

its effect on the modes of transport and the movement of goods between the two areas.

Data pertaining to the primary-extractive industries are derived as much as possible from secondary sources.

Secondary data on commodity origin and destination are gravely limited. What is available affords little aid to this study; as a consequence, findings must be based on primary data.

A policy of non-disclosure of the identity of companies was observed throughout the study. Some information was given in confidence with the understanding that it would serve as background material and not be included in the written report. Therefore, some of the more interesting statistics and data had to be eliminated, or where possible, aggregated in order to prevent disclosure of the source.

No attempt has been made to relate or derive elaborate location theory from this study. Although such an analysis could be interesting and rewarding, it is not the purpose of this study.

Very little consideration is given to the problem of documentation required for custom clearance. It is recognized as a problem that has some influence on Michigan and Ontario trade, but time and financial resources did not allow pursuing the matter in detail.

POSSIBLE CONTRIBUTIONS

The stated policy objectives of both Michigan and



Ontario are to increase their economic output and thereby provide high standards of living and more employment for their citizens. A greater flow of trade between the two jurisdictions could aid in this expansion and thus be beneficial to both economies.

The law of comparative costs is a basic principle of international trade. Stated differently, it is the difference in the costs of production between nations that provides the basis for trade. Trade free from artificial barriers allows economic specialization and results in optimum output from scarce resources. Free trade encourages economic growth in the industries where the state has a comparative advantage. Artificial barriers distort the economies and may hinder the economic growth. Thus, those barriers that no longer serve the best interests of their respective societies, should be removed.

This study examines the trade flowing between Michigan and Ontario. Many of the problems and artificial restrictions encountered by the shippers and carriers in each jurisdiction are presented and discussed. Recommendations as to possible ways of eliminating the various restrictions are set forth for consideration. The study indicates some areas and problems where further research and consideration would be beneficial for the state or province.

ORGANIZATION OF THE STUDY

The first chapter is an introduction to the study.

The second chapter contains material pertaining to the location and economic aspects of both Michigan and Ontario, and provides a setting for the discussion of trade and reciprocity in the ensuing chapters.

The third chapter is used to present data on the specific trade between Michigan and Ontario. Data obtained from the manufacturing companies are presented first, followed by the origin and destination statistics of transport carriers, closing with an analysis of some of the obstacles to Michigan and Ontario trade.

Chapter four contains a discussion of the history and origin of the power to regulate commerce and transport; information pertaining to the transport regulatory agencies in Michigan and Ontario; and closes with a consideration of the present transport reciprocity agreement. Transport problems and reciprocity as viewed by the exporters and carriers are discussed in chapter five.

The final chapter is used to present some conclusions, and make some policy suggestions for Michigan and Ontario.

CHAPTER II

MICHIGAN AND ONTARIO: CONTIGUOUS, INTERIOR ECONOMIES SEPARATED BY NATIONAL BOUNDARIES

INTRODUCTION

The major purpose of this chapter is to provide background information on Michigan and Ontario as the basis for the discussion of trade and transport reciprocity in the ensuing examination. A brief geographic description will be presented first, then economic data for both Michigan and Ontario will be examined, and finally a discussion of the influence of a political border completes the chapter.

GEOGRAPHIC LOCATION

As shown by Figure 1, Michigan and Ontario are located in the interior of the North American Continent. The major portion of their border lies nearly in the middle of the Lakes Superior, Huron, St. Clair and Erie. They do, however, share over one hundred miles of border, narrowly separated by rivers and channels. Part of this common border is in the vicinity of Sault Ste. Marie, as shown in Figure 2. Here Michigan's Upper Peninsula is separated from Ontario only by the St. Mary River which may be crossed by the International Bridge or Soo Line railroad bridge.

The remainder of the common border is in the thumb area of the lower peninsula, as shown in Figure 3. The two



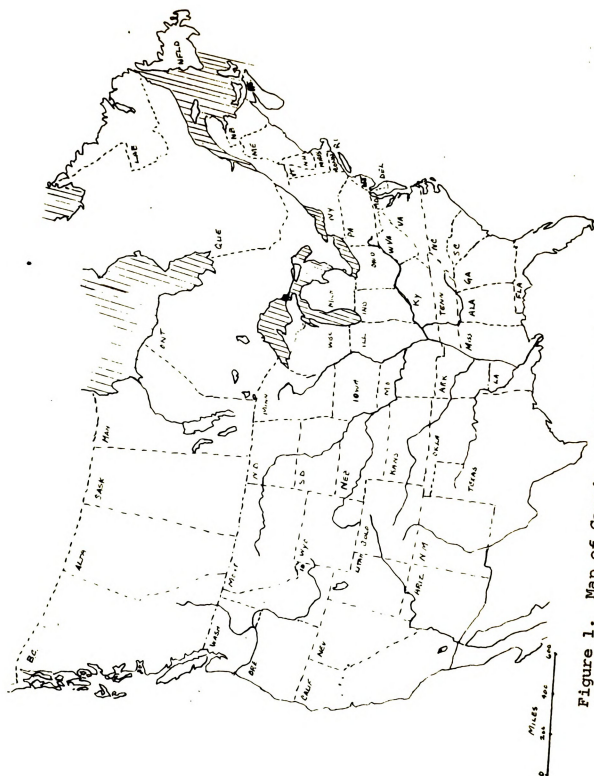


Figure 1. Map of Canada and the United States



Source: American Automobile Association, Washington, D.C.

Figure 3. Port Huron and Detroit ports-of-entry



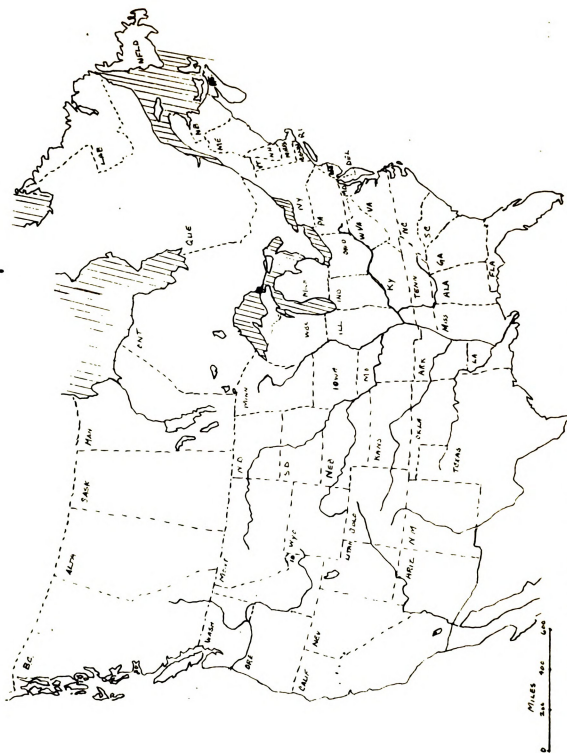
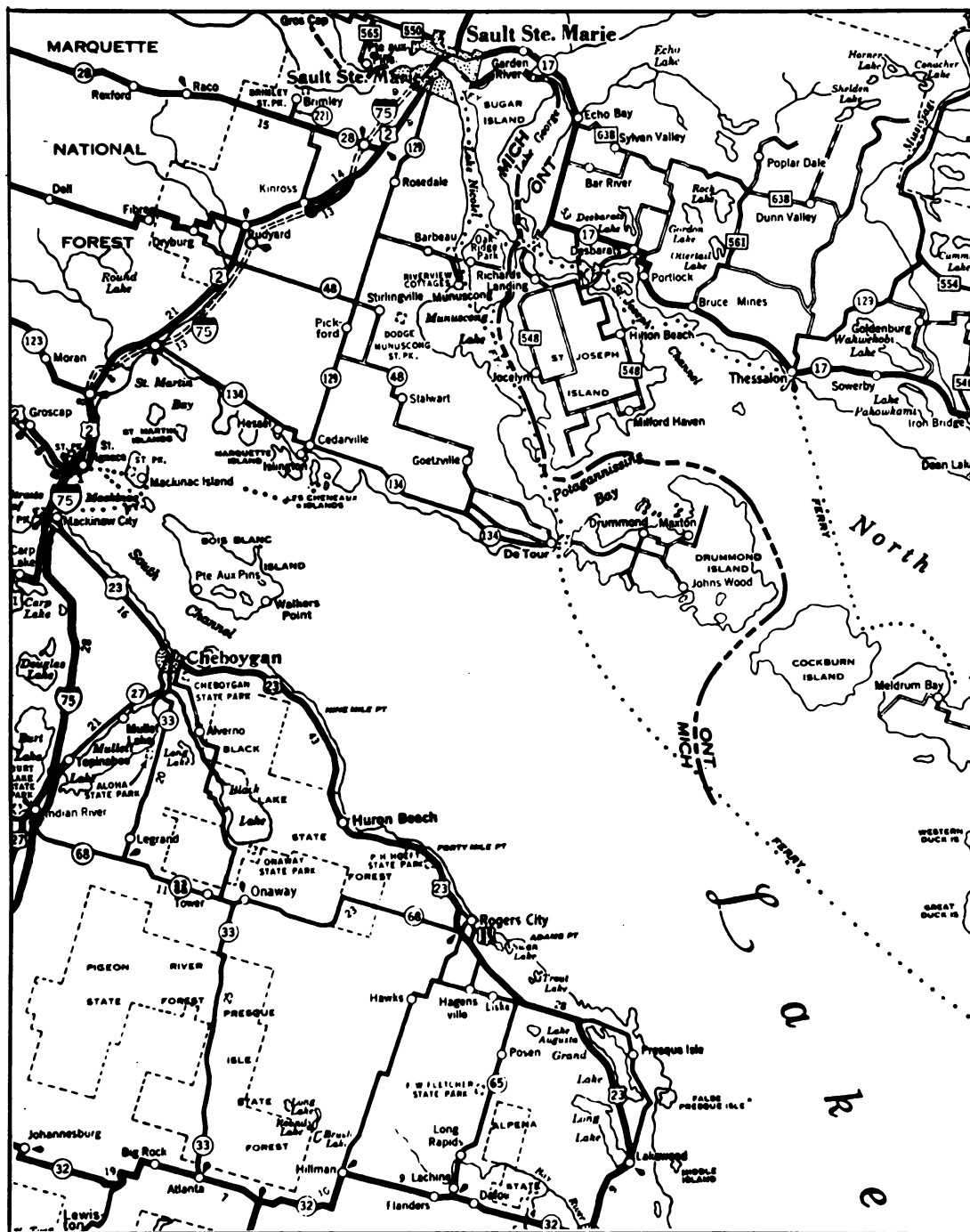


Figure 1. Map of Canada and the United States



Source: American Automobile Association, Washington, D.C.

Figure 2. Sault Ste. Marie port-of-entry



Source: American Automobile Association, Washington, D.C.

Figure 3. Port Huron and Detroit ports-of-entry

jurisdictions are separated at Port Huron by the St. Clair River which flows south from Lake Huron for about 35 miles, emptying into Lake St. Clair. At Port Huron, highway traffic crosses the river by the Blue Water Bridge, while the railroads use a tunnel.

At four small towns south of Port Huron (St. Clair, Marine City, Roberts Landing, and Algonac) the river may be crossed by ferry. These, however, are used primarily for passenger cars.

In the vicinity of Detroit and Windsor the land area is separated by the Detroit River. The river is about 30 miles long and flows from Lake St. Clair to Lake Erie. Highway traffic may cross the river by the Detroit-Windsor tunnel, or by the Ambassador Bridge. All railroad traffic crosses by ferry.

Table 1 shows a comparison of the size of United States, Michigan, Canada, and Ontario. The total land area of Ontario is six times that of Michigan, or equal to the states of New York, Pennsylvania, Ohio, Michigan, Indiana, Missouri, Illinois, and Wisconsin taken together. However, the southern industrial and agricultural section of Ontario is about the same size as all of Michigan.

Geographically, Michigan lies south of the northern region of Ontario and is contiguous with part of southern Ontario.

The western half of Michigan's upper peninsula is made up of old limestone and sandstone formations containing

Table 1. Comparison of the size of United States, Michigan, Canada, and Ontario

(Square miles)

	Land	Inland Water	Great Lakes area	Total square miles
United States	3,548,974	66,237	60,489	3,679,700
Michigan	57,022	1,194	38,575	96,791
Michigan as a per cent of United States	1.6%	1.8%	60.0%	2.6%
Canada	3,560,238	291,571	35,908	3,887,717
Ontario	344,092	68,490	35,908	448,490
Ontario as a per cent of Canada	9.7%	23.0%	100%	11.5%

Sources: Statistical abstract of the United States, 1964;
Michigan Manual, 1963-64; Canada Year Book, 1963-64.

iron and copper deposits. Through the years the depletion of these metallic ore deposits has effected a decline in the economy of this part of the state.

In the eastern half of the upper peninsula and the northern half of the lower peninsula, cattle and a few field crops are raised. Both are considered to be marginal agricultural areas because of poor soils, a small amount of rainfall, and a short, unpredictable growing season. One exception is the fruit area around Grand Traverse Bay in the northern part of the lower peninsula. However, most commercial agricultural production is found in the southern half of the lower peninsula.

Ontario is separated into two definite geological regions, with the dividing line about fifteen miles north of the 46th parallel, or nearly due east of Sault Ste. Marie. This line separates the heavily populated and industrialized region of the south, from the sparsely inhabited, mineral and mining area of the north.

The northern region of Ontario extends from the 46th parallel north to 57° latitude at Hudson Bay, and west from 80° to 90° west longitude. It covers approximately 294,000 square miles of land and is a vast area of mineral and forest wealth. While it is thinly inhabited (3 persons per square mile), with only 14% of the Ontario population, it still accounts for close to 40% of the total mineral output of Canada.¹ This includes 85% of the nickel, 50% of the copper, 60% of the gold, 25% of the iron ore, and 75% of the uranium that is produced in Canada. There has also been an increase in the production of sand, gravel, stone, and cement in recent years.

Ontario has about 262,000 square miles of forested land which supports a large pulp and paper industry. It produces close to 30% of the paper output of Canada.²

The southern region of Ontario contains about 50,000 square miles of land and is roughly triangular in shape, lying between Lake Huron on the west, Lakes Erie and Ontario

¹Canada Year Book, 1963-64, p. 11.

²Ibid., p. 12.



on the southeast, and the Ottawa River on the northeast. It is the most densely populated (109 persons per square mile) and highly industrialized area of Canada. The focal point of industrial development is Toronto, the second largest city in Canada. Hamilton, located at the west end of Lake Ontario, is the steel producing center of Ontario.

Southern Ontario, favorably endowed in climate and soil, is the most highly diversified and productive agricultural area in Canada. It specializes in fruit, tobacco, commercial vegetables, dairy products, and cattle.

Geographically, the way in which Michigan and Ontario are located in relation to the Great Lakes affects all aspects of their economies. Because of their location, a large volume of commerce crosses Michigan and Ontario flowing both to and from various parts of Canada, United States and the world. This commerce moves on the overland route or by the Great Lakes waterway.

The primary overland route is the corridor formed between Lake Huron on the north, and Lake Erie on the south, in which Michigan and Ontario are connected by two gateways,¹ one at Port Huron, and the other at Detroit. This route is used extensively by the railroads serving Michigan and Ontario, and by many United States and Canadian motor carriers.

¹Gateway is used here to indicate the point of crossing the border between Michigan and Ontario, where commercial traffic may be cleared through United States and Canadian customs.

A secondary overland route is the corridor formed by Lake Superior on the northwest and Lake Huron on the southeast, where Michigan and Ontario are connected at Sault Ste. Marie. The Sault Ste. Marie gateway serves primarily the Soo Lines railroad and some Canadian and United States motor carriers. There is considerably less traffic on this route than on the main route in southern Michigan and Ontario.

Michigan and Ontario enjoy the advantages accruing from the use of low cost waterborne transport in the Great Lakes for intrastate (intraprovincial), interstate, and international trade. The Lakes serve as a shipping route for the economical movement of bulk commodities. Such materials as grains, oil and oil products, metallic ores, non-metallic minerals (gypsum, sand, gravel, and limestone), and forestry products are moved extensively by waterborne carriers, to and from Michigan and Ontario ports.

Internationally, the Great Lakes-St. Lawrence Seaway furnishes a unique seagoing trade route. Few interior regions can boast of providing such advantages for reaching world markets as:¹ Low transport and distribution costs, low intermediary and service costs, less loss and damage in transit, and more direct control over shipments.

¹"Toward a Trade Expansion Policy for the Midwest," a statement prepared for the Midwestern Governors' Conference, at Minneapolis, Minnesota, Sept. 10, 1964, by J. L. Hazard, Michigan State University, p. 12.

However, there are three technical limitations that restrict the Seaway's usefulness:¹ seasonal--it is open for navigation approximately eight months of the year; dimensional--determined by the length, breadth, and depth of the locks; and directional--opens into the North Atlantic, limiting the advantage to trade moving to the south and west of the Seaway opening. The last limitation, however, is the only permanent obstacle, as the other two will eventually be overcome by technological progress.

ECONOMIC ASPECTS OF MICHIGAN AND ONTARIO

POPULATION AND WORK FORCE

Although Canada has a similar geographic location and is slightly larger than the United States, it still has only about one-tenth as many people. A comparison of the size of the population and work force of United States, Michigan, Canada, and Ontario is shown in Table 2.

Michigan, with 140 persons per square mile, accounts for 4.3% of the total United States population, but only 3.4% of the work force. Only 31% of Michigan's population is included in the state's work force, compared to the national average of 39%. It appears that Michigan has a larger proportion of unproductive people than does the nation as a whole.

Ontario is just the opposite, with 34% of the total

¹Ibid., p. 3.



Table 2. Population and work force of United States, Michigan, Canada, and Ontario, 1961

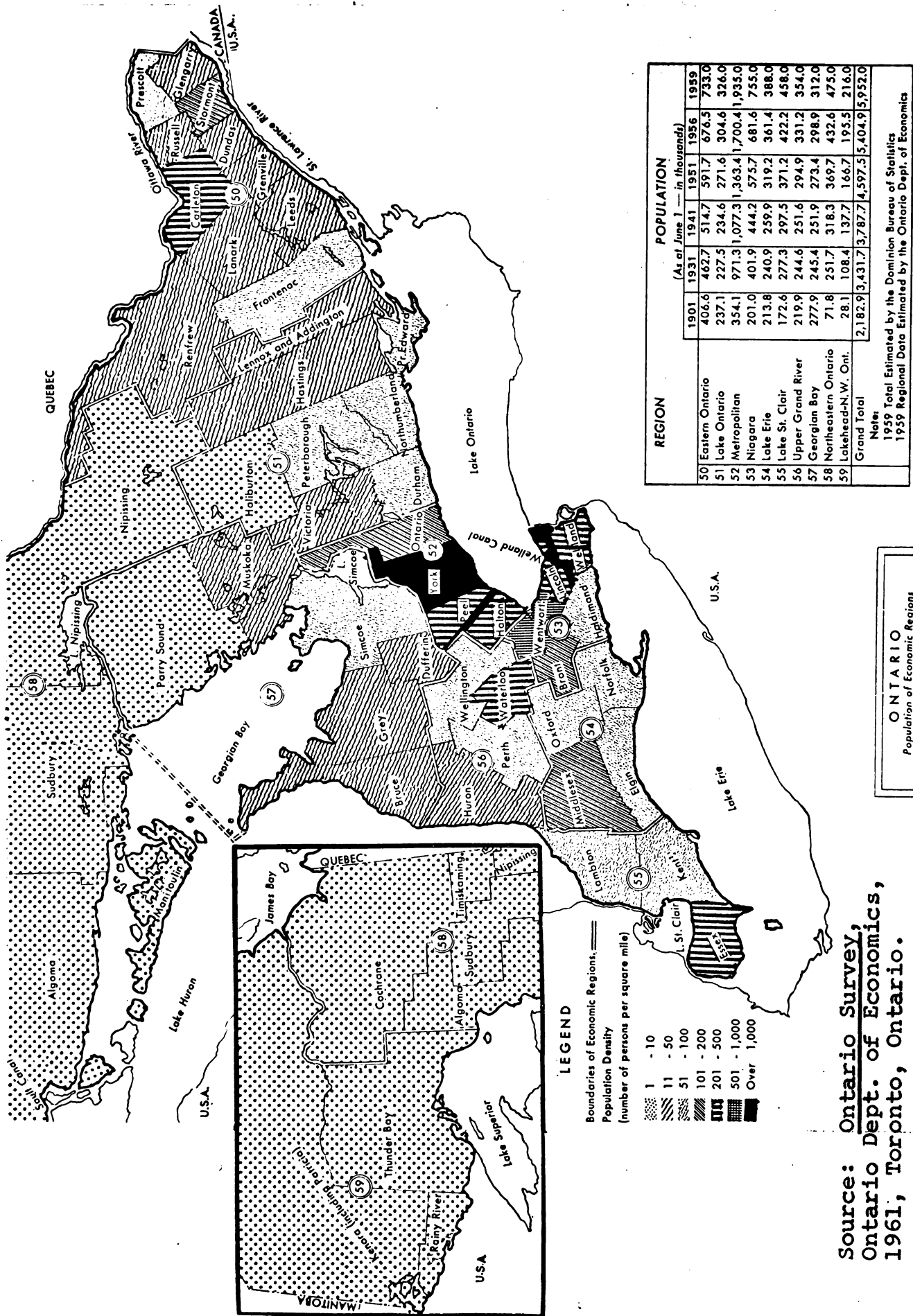
	Population (000)	Persons per square mile	Work force (000)	Work force as per cent of population
United States (1961)	183,043	51.6	71,063	39%
Michigan (1961)	7,993	140.0	2,437	31
Michigan as per cent of United States	4.3%		3.4%	
Canada (1961)	18,238	8.6	6,472	35%
Ontario (1961)	6,236	18.1	2,392	38
Ontario as per cent of Canada	34%		37%	

Sources: Statistical Abstract of United States, 1964; Agricultural Statistics, USDA, 1963; Ontario Statistical Review, Dept. of Economics and Development, Toronto, Ontario, 1963.

Canadian population and 37% of the Canadian national work force. The Ontario per cent of population in the work force is 3% higher than the Canadian national figure, or about equal to that of the United States. About 38% of the Ontario people were working as compared to 31% for Michigan. Thus, although Michigan has 1,757,000 more people than Ontario, her actual work force is only 45,000 greater.

One-third of the Canadian population lives in Ontario. Eighty-five per cent of these people are concentrated in the southern section of Ontario, as shown in Figure 4. The heaviest populated area surrounds the west end of Lake Ontario in the Kitchener, Hamilton, and Toronto section.





Source: Ontario Survey,
Ontario Dept. of Economics,
1961, Toronto, Ontario.

Figure 4. Location of Ontario population by regions

Table 3 shows the industry distribution of the labor force for the United States, Michigan, Canada, and Ontario for the year 1961. These are the latest figures available for comparison. Michigan's labor force is only slightly (45,000) larger than Ontario's, but is distributed somewhat differently. Michigan has 9% more of her labor force in the manufacturing industry than does Ontario, and 2.3% more in retail and wholesale trade, 6.2% more in public administration and government, and 1.6% more in agriculture. While forestry, fishing, and trapping employ .8% of Ontario's labor force, it is of little significance in Michigan. Ontario employs 1.2% more of her labor force in mines, quarry, and oil than does Michigan, and 2.6% more in construction, 2.9% more in transportation and communications, .7% more in finance, insurance and real estate, and 8.6% more in the service industry. Thus, the greatest differences in the labor force distribution are in the manufacturing and the service industries, and in public administration and government.

Since 1961 Ontario has pursued a very aggressive program for industrial expansion and it is very possible that a larger percentage of the labor force is now utilized in the manufacturing industry. This aggressive program was responsible for establishing 143 new manufacturing operations in the year of 1961, 149 in 1962, and 173 in 1963.¹

¹Ontario Industrial Review, 1963, Department of Economics and Development, Toronto, Ontario, p. 24.

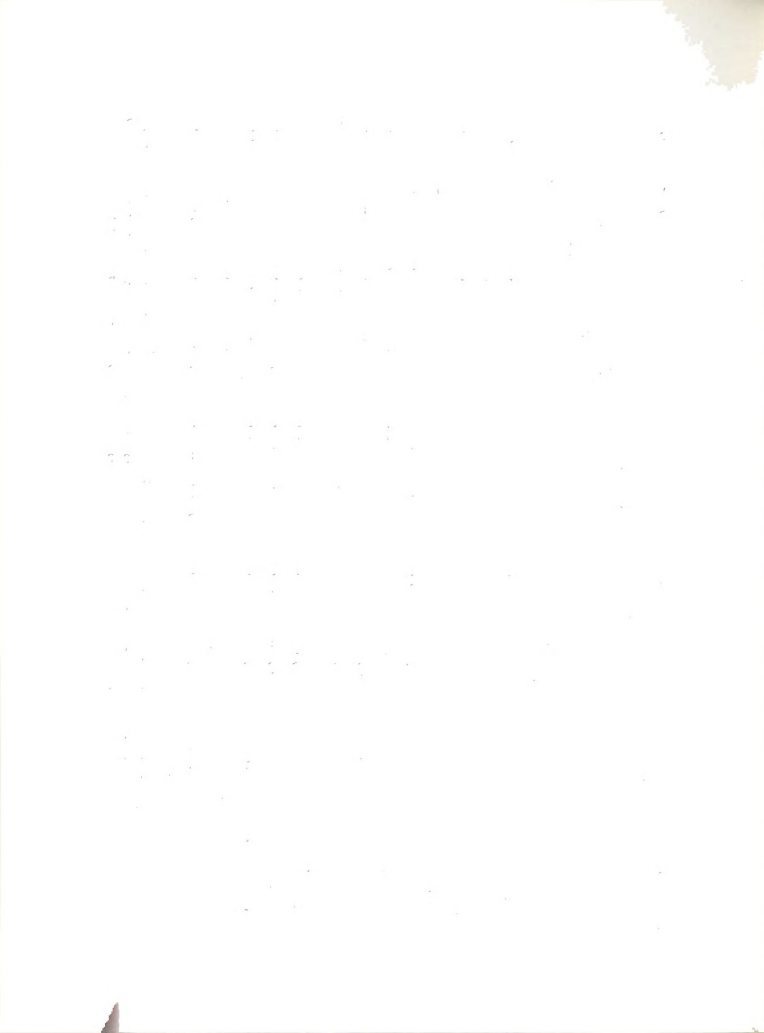


Table 3. Industry distribution of labor force for United States, Michigan, Canada, and Ontario, 1961

(000)

	United States			Michigan			Canada			Ontario		
	No.	%		No.	%		No.	%		No.	%	
Agriculture	6,219	10.3%		216	8.7%		641	9.9%		169	7.1%	
Forestry							109	1.7		18	.7	
Fishing & Trapping							36	.6		2	.1	
Mines, Quarry & Oil	666	1.1		14	.6		122	1.9		43	1.8	
Manufacturing	16,267	27.0		870	35.7		405	21.7		643	26.9	
Construction	2,760	4.6		92	3.8		431	6.7		154	6.4	
Trans. & Communication	3,923	6.5		128	5.3		603	9.3		195	8.2	
Trade	11,368	18.8		433	17.8		991	15.3		371	15.5	
Finance, Insurance & Real Estate	2,748	4.6		83	3.4		229	3.5		98	4.1	
Service	7,516	12.5		265	10.9		1,263	19.5		467	19.5	
Pub. Admin. & Govt.	8,828	14.6		336	13.8		483	7.5		181	7.6	
Industry Unspecified							159	2.4		51	2.2	
Total	60,296	100.0%		2,437	100.0%		6,472	100.0%		2,392	100.0%	

Sources: Statistical Abstract of the United States, 1963; Agricultural Statistics, United States Department of Agriculture, 1963; Ontario Statistical Review, Department of Economics and Development, Toronto, Ontario, 1963.



Comparing the labor distribution by industry between Michigan and Ontario, it is apparent that, although Ontario is Canada's principal mining province, her economy is highly diversified and in many respects is comparable to that of Michigan.

PERSONAL INCOME

Table 4 shows the personal income for United States, Michigan, Canada, and Ontario. Michigan's personal income has been about $4\frac{1}{2}\%$ of the total United States personal income for the past decade. During the same period, Ontario accounted for about 40% of the total Canadian personal income. Although the labor forces are about equal, personal income in Ontario is only about two-thirds that of Michigan. Much of the difference is in wage rates in the two areas. In 1962 the average hourly earnings in Ontario for all manufacturing concerns were \$1.98 per hour,¹ while at the same time, the figure for Michigan was \$2.91.² The greatest differences were in manufacturing industries; however, the general wage level in Michigan was also higher than that in Ontario.

Table 5 shows the per capita income for United States, Michigan, Canada, and Ontario. In 1950 the per capita income of Michigan was \$1,682, or \$191 greater than

¹Canada Year Book, 1963-64, p. 724.

²Statistical Abstract of the United States, 1964, p. 240.

Table 4. Personal income for United States, Michigan,
Canada, and Ontario for selected years
(millions of dollars)

	Total United States	Michigan	Mich. as per cent of U.S.	Total Canada	Ontario	Ontario as per cent of Canada
1950	\$255,473	\$10,803	4.2%	\$13,428	\$5,285	39.4%
1955	306,598	15,785	5.1	19,738	7,918	40.0
1960	398,561	18,151	4.5	27,411	11,002	40.2
1961	414,022	18,054	4.4	28,506	11,540	40.4
1962	439,661	19,307	4.4	30,794	12,292	40.0

Note: Ontario and Canada figures in Canadian dollars.

Sources: Statistical Abstract of the United States, 1963,
and 1964; Ontario Statistical Review for 1963,
Dept. of Economics and Development, Ontario, Canada.

Table 5. Per capita income for United States, Michigan,
Canada, and Ontario for selected years

	1950	1955	% inc. ('50- '55)	1960	% inc. ('55- '60)	1962	% inc. ('60- '62)	% inc. (1950- 1962)
United States	\$1,491	\$1,866	25%	\$2,215	19%	\$2,366	7%	58.5%
Michigan	1,682	2,178	29%	2,313	6%	2,416	4.5%	43.6%
Canada	979	1,257	28%	1,534	22%	1,658	8%	68.5%
Ontario	1,182	1,504	27%	1,800	20%	1,938	8%	64.0%

Note: Canada and Ontario income in Canadian dollars.

Sources: Statistical Abstract of the United States, 1963
and 1964; Ontario Statistical Review for 1963,
Dept. of Economics and Development, Toronto, Ontario.

the United States average, and \$500, or 42% greater than that of Ontario. The per cent increase from 1950 to 1955 ranged from a low of 25% for the U.S. average to a high of 29% for Michigan. Canada and Ontario were very close to the Michigan rate, with 28% and 27% respectively.

In the next five years, Canada had the highest per cent increase, 22%, with Ontario slightly less at 20% and United States close with 19%. Michigan, however, increased at a very low rate of only 6% for the period. This trend for Michigan continued into 1962 with a low of 4.5% as compared to 7% for United States as a whole, and 8% for both Ontario and Canada.

In 1962 Michigan still had the highest per capita income at \$2,416, but this was only \$50 above the United States average, and \$478, or 24.7% greater than that of Ontario. Thus, in the twelve-year period, Ontario had gradually increased her per capita income in relation to Michigan.

For the period between 1950 and 1962, Michigan had the lowest per cent increase of 43.6%, while Canada had the highest with 68.5%. Ontario at 64% was somewhat less than Canada, but still greater than the United States average of 58.5%.

Although Canada's per cent increase from 1950 to 1962 was greater than that of the United States, the gap in the dollar amount between the two national per capita figures increased by \$196, resulting in a difference of \$708 in 1962, compared to \$512 in 1950. Comparing Ontario

to the United States average, the difference in 1962 had increased to \$428 from \$309 in 1950, or in other words, Ontario's increase for the period had not kept pace with that of United States.

The change in per capita income, as shown in Table 5, has been steadily upward for the last several years. This increase has resulted in a relatively high level of per capita income in Canada, and especially Ontario. This indicates an expanding economy and should serve as a basis for continued growth in the Ontario markets that are of interest to Michigan exporters.

MANUFACTURING AND VALUE ADDED

Table 6 shows some manufacturing statistics for United States, Michigan, Canada, and Ontario. The data showing the number of establishments and number of employees for the United States and Michigan are for the year 1958. The corresponding Canada and Ontario data are for 1961. It is therefore difficult to make comparisons between Michigan and Ontario, yet some meaningful relationships can be observed.

Michigan accounted for 4.5% of the total United States establishments and 5.5% of the number of the total United States employees. The Michigan establishments were slightly larger than the U.S. average, employing 12 more employees per establishment. Michigan accounted for 6.5% of the total United States manufacturing payroll, but only

Table 6. Manufacturing statistics for United States, Michigan, Canada, and Ontario, 1961

	No. Estab- lishments	No. Employ- ees (000)	Ave. Employ- ees per estab.	Payroll (million dollars)	Value added by mfg. (million dollars)
United States	299,036 ^a	16,025 ^a	53 ^a	\$88,141	\$164,369
Michigan	13,429 ^a	880 ^a	65 ^a	5,681	10,203
Michigan as per cent of U.S.	4.5%	5.5%		6.5%	6.2%
Canada	32,415	1,265	39	5,231	10,682
Ontario	12,081	591	49	2,597	5,430
Ontario as per cent of Canada	37.2%	46.7%		49.7%	50.8%

^aFigures for 1958, latest available. All other statistics are for 1961.

Sources: Statistical Abstract of U.S., 1963; Canada Year Book, 1963-64.

6.2% of the value added by manufacture.

Ontario, with about 1,500 fewer establishments than Michigan, still accounted for 37.2% of the total establishments in Canada. These Ontario establishments provided employment for 46.7% of the total number of Canadian employees in manufacturing; accounted for 49.7% of the total Canadian manufacturing payroll; and 50.8% of the national value added by manufacture. The average Ontario establishment employed 25% more employees than did the average manufacturing establishment in the rest of Canada. The average



Ontario establishment was nearly the size of that found in the United States; however, it was about 30% smaller than its counterpart in Michigan.

Michigan, with only 43% as many establishments as all of Canada, had a manufacturing payroll \$450 million dollars greater than the Canadian total, but produced \$479 million less in value added by manufacture. Michigan's payroll and value added by manufacture was about twice that of Ontario.

It is clearly evident that, based on manufacturing data, Ontario is the most important Canadian province for industrial production.

Table 7 shows the number of manufacturing employees and the value added by manufacture for the most important metropolitan areas in Michigan and Ontario. Three cities and their surrounding suburbs account for 63.1% of Michigan's manufacturing employment and 62.8% of the value added by manufacture.

Industry is less concentrated in Ontario. Each of the six Ontario cities individually produced over 100 million dollars in value added by manufacture. They accounted for 39.1% of Ontario's manufacturing employment, and 36.9% of the value added by manufacture.

The remaining 63% of value added was manufactured in 62 cities, located for the main in the populated area between Windsor and Toronto. There were some exceptions such as Sault Ste. Marie, which had a value added of 82

Table 7. Manufacture employment and value added at selected Michigan and Ontario cities, 1961

City	Number of Employees in manuf. est. (000)	Per cent of state total	Value added by manuf. (mil. \$)	Per cent of state total
Michigan Total	890	100.0%	\$10,203	100.0%
Detroit	450	50.6	5,139	50.3
Flint	64	7.2	760	7.5
Grand Rapids	<u>47</u>	<u>5.3</u>	<u>514</u>	<u>5.0</u>
Total three cities	561	63.1%	\$6,413	62.8%
Ontario Total	594	100.0%	\$5,219	100.0%
Toronto	120	20.2	851	16.3
Hamilton	51	8.6	517	9.9
Windsor	22	3.7	215	4.1
London	16	2.7	124	2.4
Kitchener	16	2.7	110	2.1
Sarnia	<u>7</u>	<u>1.2</u>	<u>112</u>	<u>2.1</u>
Total above cities	232	39.1%	\$1,929	36.9%

Note: All Michigan statistics are for 1961; all Ontario statistics are for 1960.

Sources: Statistical Abstract for United States, 1963; Canada Year Book, 1963-64; Ontario Statistical Review, 1963.

million dollars. Other northern cities such as Port Arthur, Fort Williams and Pembroke have some manufacturing establishments, but together accounted for only 88 million dollars in value added.

Figure 5 shows the value added by manufacture by areas, for both Michigan and Ontario. These are the most important industrial areas; however, there is considerable industrial activity in the whole land area extending from



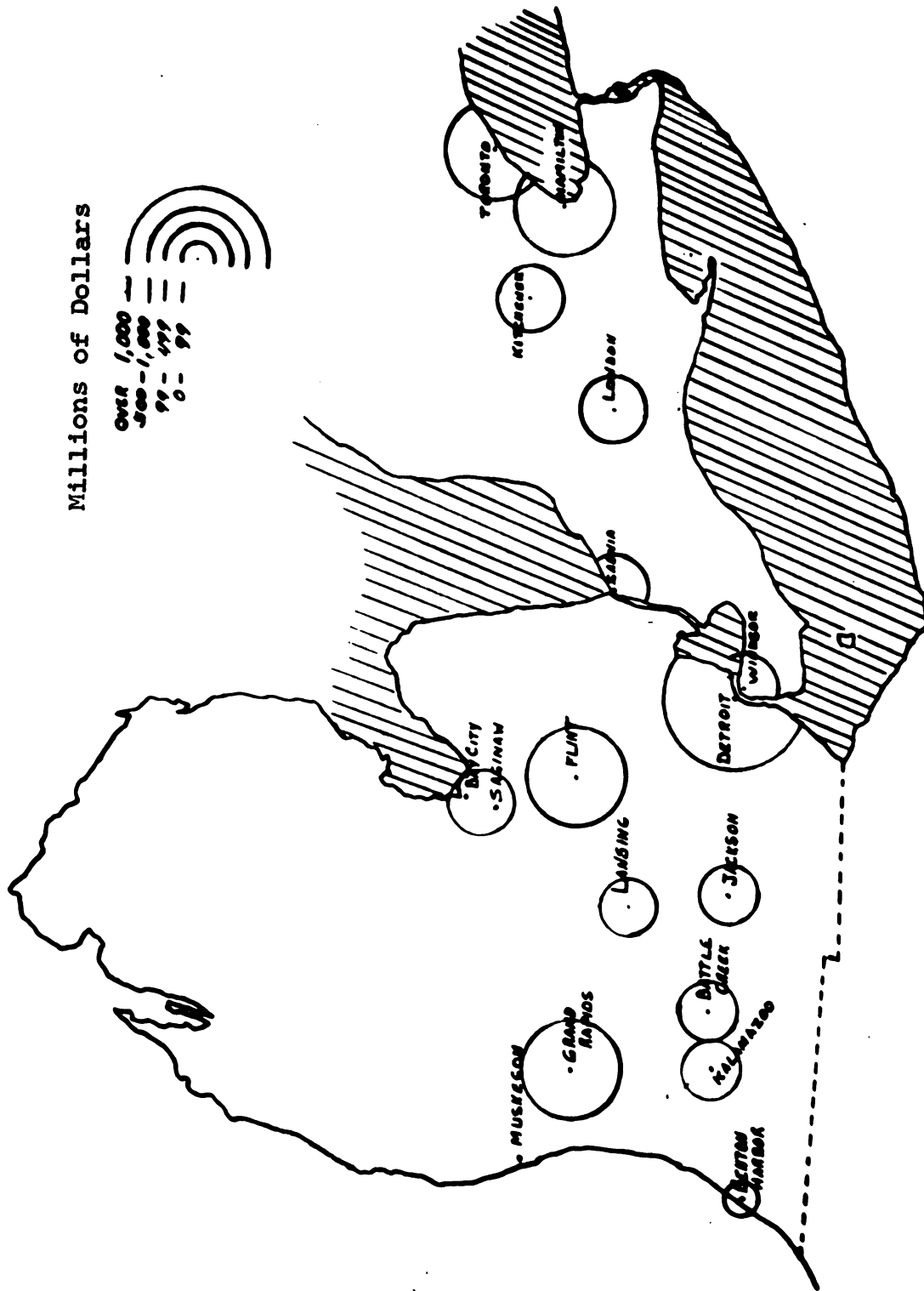


Figure 5. Value added by manufacture for selected cities in Michigan and Ontario, 1963



Benton Harbor and Muskegon on the west, to Hamilton and Toronto on the east.

LOCATION AND SIZE OF MARKETS

Table 8 shows the metropolitan areas of Michigan and Ontario, and their population and personal income. The personal income was computed by multiplying the city population by the per capita income for the respective state and province. Ten Michigan cities accounted for 75% of the state's population and personal income. In Ontario seven cities accounted for 55% of the province's population and personal income.

Figure 6 shows the geographic location of the above metropolitan areas. The mileage circles are drawn so that the distance between each circle represents one hundred miles.

Five of the Ontario markets listed in Table 8 are located within, or very near, the three-hundred-mile circle from Lansing. These five markets account for 44% of the total population and personal income of Ontario. They are the most important Ontario markets for Michigan export products.

Although it is technically possible to reach markets located three hundred fifty miles from Lansing (such as Toronto) with overnight truck service, it is actually being accomplished at the present time only within the

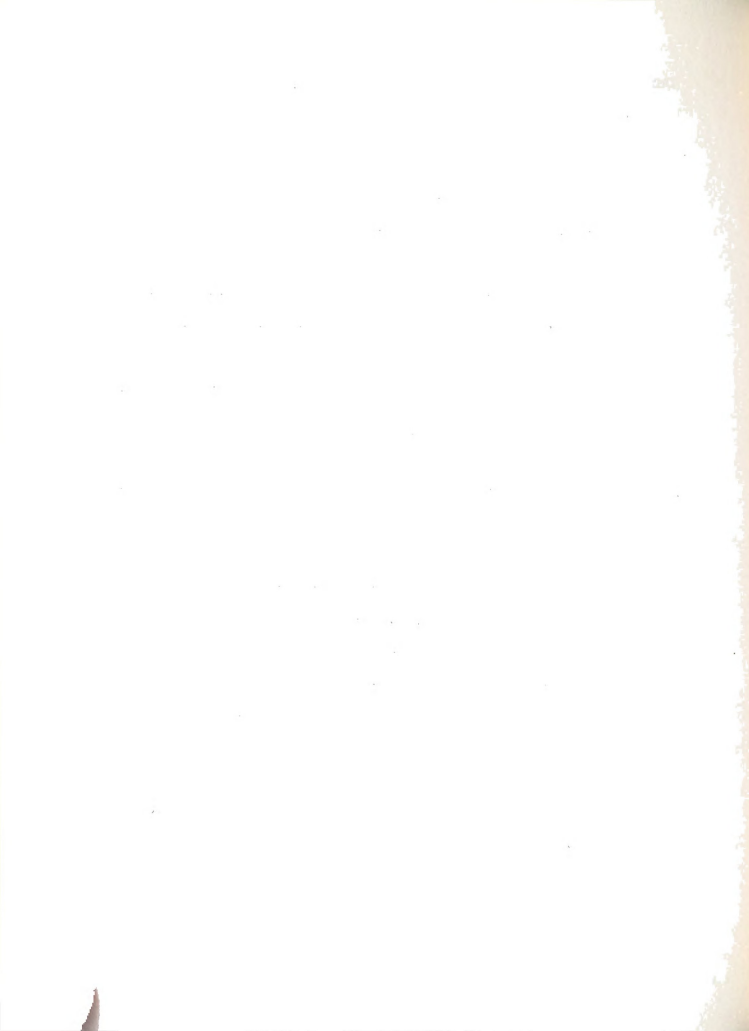


Table 8. Metropolitan areas of Michigan and Ontario
showing population and personal income, 1960

Cities	Population	Personal income \$(000)	Per cent of state total
Michigan total (1960)	7,823,000	\$18,151,000	100%
Ann Arbor	172,440	398,854	2.1%
Bay City	107,042	247,588	1.3
Detroit	3,762,360	8,702,339	48.2
Flint	416,239	962,761	5.3
Grand Rapids	461,906	1,068,389	5.9
Jackson	131,994	305,302	1.6
Kalamazoo	169,712	392,544	2.1
Lansing	298,949	691,469	3.8
Muskegon	149,943	346,818	1.9
Saginaw	<u>190,752</u>	<u>441,209</u>	<u>2.4</u>
Ten Cities	5,861,337	\$13,557,273	74.6%
Ontario total (1961)	6,111,000	\$11,002,000	100%
Hamilton	395,189	731,495	6.6%
Kitchener	154,864	286,653	2.6
London	181,283	335,555	3.0
Ottawa	429,750	795,467	7.2
Sudbury	110,694	204,895	1.9
Toronto	1,824,481	3,377,114	30.6
Windsor	<u>193,365</u>	<u>357,919</u>	<u>3.2</u>
Seven Cities	3,289,626	\$6,089,098	55.1%

Note: Michigan statistics for 1960; Ontario for 1961.

Sources: Statistical Abstract of the United States, 1964;
Ontario Statistical Review, 1963; Canada Year
Book, 1963-64.



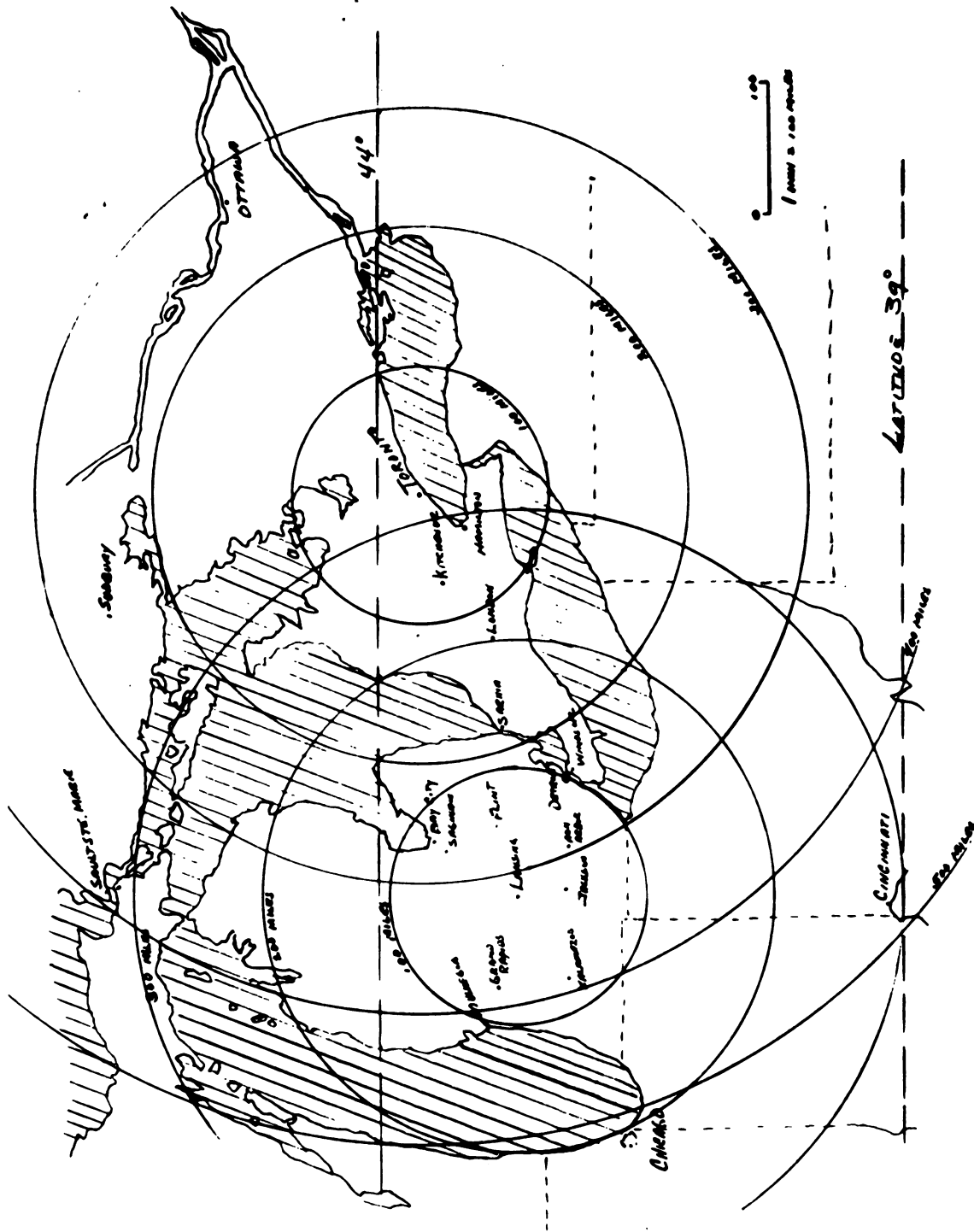


Figure 6. Location of selected metropolitan market areas in Michigan and Ontario



United States.¹ It is much easier, faster, and simpler to ship goods from Lansing, three hundred miles to Cincinnati, than it is to London, Ontario. The international political border causes a delay ranging from several hours to several days, depending on the shipment.

All of the major Michigan markets are within 350 to 400 miles from Toronto. Using modern four-lane highways, these markets are technically within the range of overnight truck service from Toronto. However, such service is not possible at the present time, because of the existence of border restrictions.

POLITICAL BOUNDARIES AND TRADE

In most cases political boundaries between countries provide grounds for establishing artificial restrictions to the flow of trade. These include tariffs, exchange controls, quota systems, import fees, and national policies requiring manufactured products to contain a certain percentage of domestic materials. Even if the above restrictions were removed from international trade, there would still be the problems of filling out extra documents, arranging for border transactions, customs clearance, meeting inspection and labeling requirements, and delays in transport.

¹This is based on information provided by Michigan motor carriers. With average two-lane highways, driving the allowed 10 hours, the vehicle can cover about 350 miles, for an average speed of 35 miles per hour. This may vary depending on circumstances peculiar to the movement.



Most borders have a "circuitry effect" caused by the necessity of directing all traffic to ports-of-entry for inspection and customs clearance.¹ Edgar M. Hoover, in The Location of Economic Activity, shows the effects of a trade barrier and port-of-entry restriction upon the distribution area of a production center. Figure 7 shows this effect.

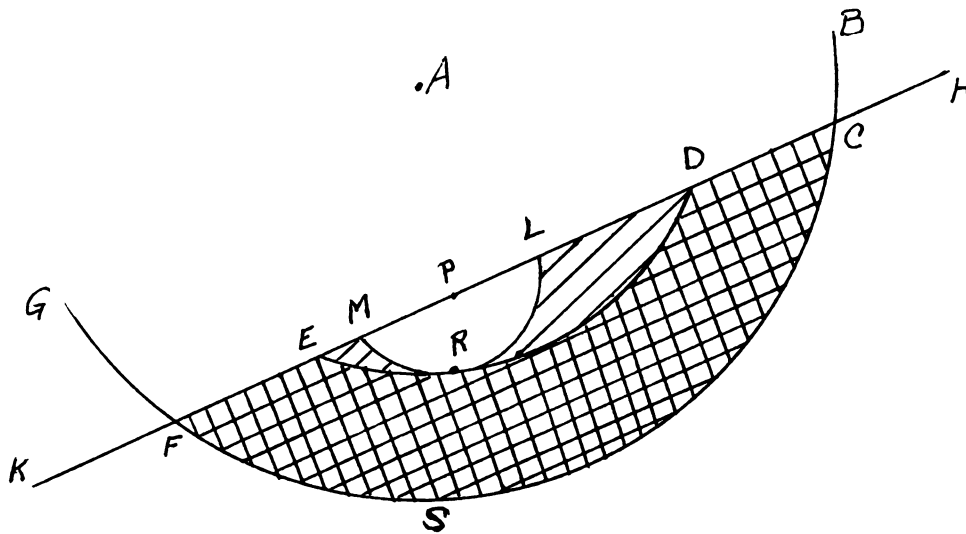


Figure 7. Effects of a trade barrier and port-of-entry restriction upon the distribution area of a production center

Producers are located at A, and a boundary runs along the straight line HK. Within the home country, producers at A can lay down their product at the same total cost--say \$2 per unit--anywhere on the circular arcs BC and FG. If transfer across the border entailed no extra

¹Edgar M. Hoover, The Location of Economic Activity (New York: McGraw-Hill Book Company, Inc., 1948), p. 218.



costs or circuitry at all, the product could also be delivered anywhere on the arc CSF at this cost. If crossing the border does entail some extra costs but can be effected at any desired point, producers at A can sell only as far as the arc DRE in the foreign country. The cross-hatched area in the figure represents the loss of distribution range due to the barrier effect of the boundary. If it be further stipulated that all transboundary traffic must pass through the port-of-entry P, the limit of \$2 delivery shrinks to GFMRLCB. The further loss of distribution range due to the funneling of traffic through P--circuitry effect--is indicated by the area EMR and RLD.¹

The effect of political boundaries is not uniform on all types of commodities. If the restrictions at the border are severe, the tendency will be for the producer to concentrate on the domestic market for revenue and source of supply. Thus the area and range of benefits from economic specialization are curtailed.

The above theory is well illustrated by the three major ports-of-entry that exist between Michigan and Ontario. All commercial traffic must be funneled through these gateways. Figure 8 shows the railroads of Michigan and how they converge on the three gateways where all shipments must be cleared through United States and Canadian customs prior to moving across the Michigan-Ontario border.

¹Hoover, p. 220.

RAILROADS OF MICHIGAN



Figure 8

Figure 2 shows the Sault Ste. Marie port-of-entry that is used for all railroad and highway traffic that moves across the upper peninsula of Michigan, entering or leaving, Ontario. Separate customs facilities are provided for the railroad and highway traffic, which crosses the border by the railroad bridge and the International Bridge.

At the Port Huron port-of-entry, as shown in Figure 3, the highway traffic crosses the border by the Blue Water Bridge, while the railroad traffic utilizes a tunnel. Three railroads, the Chesapeake and Ohio Railway Company, the New York Central Railroad Company, and the Grand Trunk Western Railroad Company, accomplish customs clearance at this point. This is the only port-of-entry used by the New York Central Railroad, and is the major crossing point for the Grand Trunk Western Railroad. About 80% of the Grand Trunk Western's Ontario and Eastern Canadian traffic that originates, terminates, or crosses Michigan passes through the Port Huron port-of-entry, where it clears United States and Canadian customs.¹

Figure 3 also shows the Detroit port-of-entry where the highway traffic crosses the border by the Detroit-Windsor tunnel, or the Ambassador Bridge. This is the major port-of-entry for most commercial highway traffic because there is a large selection of motor common carriers available on

¹Based on information gathered during an interview with railroad officials at Port Huron.



both sides of the border. With more equipment available, border delays due to trans-shipment may be reduced, and the possibility of obtaining direct motor carrier service from the port-of-entry to the destination is increased.

The Detroit port-of-entry is used by the Grand Trunk Railroad, the Chesapeake and Ohio, and is the only crossing point for the Wabash railroad. The railroad traffic is ferried across the river.

The necessity to funnel all Michigan-Ontario border traffic to the three ports-of-entry and the delays enroute to, and at the border, caused partially by the volume of traffic clearing customs,¹ tend to increase the cost and reduce the range of distribution for products moving across the border.

SUMMARY

Michigan and Ontario are located in the interior of the North American Continent. They share over 100 miles of border narrowly separated by rivers and channels, which are bridged, allowing traffic to flow between the two sovereign areas.

The corridor formed by Lake Huron on the north and Lake Erie on the south includes the southern sections of Ontario and Michigan. A large volume of commerce, flowing

¹Delays of several hours are not uncommon, especially when moving shipments from Windsor to Detroit. This information provided by Ontario carriers located in Windsor.

both to and from various parts of Canada, United States, and the world, uses this short-line, overland route.

Although located in the interior of the continent, Michigan and Ontario utilize direct ocean shipping, via the Great Lakes-St. Lawrence Seaway, to reach world markets.

Both Michigan and Ontario are highly industrialized and make significant contributions to their respective national economies. However, Ontario is the source of 40% of the total Canadian mineral output, and at the same time accounts for 40% of the total Canadian personal income; 46.7% of the total Canadian manufacturing employment; and 50.8% of the total value added by manufacture. Thus, Ontario is considered to be one of the most important Canadian provinces.

Ten major markets in Michigan account for 75% of the state's population and personal income. In Ontario five major markets account for 55% of the province's population and personal income. The most distant of the 15 markets are located no further than 400 miles apart. Technically, overnight carrier service is possible between most of the Ontario and Michigan markets. However, due to the border regulations and restrictions, such service is not being provided.

Because of their contiguous location, comparative economic development, and rising personal income, a large volume of trade flows between Michigan and Ontario.

An analysis of the trade is the subject of the next chapter.

CHAPTER III

TRADE BETWEEN MICHIGAN AND ONTARIO

INTRODUCTION

This chapter will be used to examine Michigan-Ontario trade and transport. The market orientation and mode of transport data derive primarily from research surveys of exporters in both Michigan and Ontario. Additional information on the origin, destination, and flow of commodities is based on carrier statistics. The chapter will conclude with a discussion of some obstacles to the initiation and expansion of trade between Michigan and Ontario.

MARKET ORIENTATION AND MODE OF TRANSPORT

The research findings for Michigan will be presented before those for Ontario companies. The primary empirical questions are: What is the geographic market distribution of shipments?; and What is the role of each mode of transport in conducting the trade? To provide perspective on the immediate future, each exporter was asked for an expression of his five-year outlook.

MICHIGAN MARKET ORIENTATION

Secondary statistics provide little information on where Michigan establishments sell their products. There are no data on the trade between Michigan and Ontario.

Federal government statistics in Canada and the United States show exports and imports by country of destination and origin. But it is impossible to determine the exports and imports of a particular state or province by utilizing federal or dominion data.

To gain some knowledge of Michigan exports it was necessary to go directly to those who export. A questionnaire was developed to secure certain information on products exported, modes of transport utilized, and problems encountered by the exporters.¹ The questionnaire was mailed to a selection of 490 Michigan manufacturing companies. It was not known whether all the companies were engaged in the export business. A total of 152 questionnaires were returned, but only 108 of these provided usable answers. Thirty-three of the 108 were not engaged in exporting, but shipped their products only to Michigan and other states.

Because of the small number of responses, the results are shown in Table A-1 in Appendix A. Companies are grouped according to two digit Standard Industrial Classification (SIC). There were nineteen industrial categories represented in the reporting companies.

The total shipments for the sample were \$446 million dollars in 1963. The shipments went to the following markets:

¹A discussion of the sample surveyed, copy of the questionnaire, and information on the returns appear in Appendix A, page 245. A more complete study of Michigan's market orientation and trade is being conducted by Professor John L. Hazard of Michigan State University.

Michigan, 31.1%; North Central District, 32.0%; Other United States, 32.3%; Other Canada, .5%; Overseas Countries, 2.4%; and 1.7%, or \$7,782,000 was exported to Ontario.

The largest volume of exports to Ontario was in the machinery and metal products classifications. Much of the machinery exported represents tools and machines not manufactured in Ontario. Some of the fabricated metal products are components of machines that are assembled in Ontario using a certain specified amount of Canadian materials. In the automotive field many body parts, that are made by the use of expensive dies, are manufactured in Michigan and exported to Ontario. These parts can be imported duty-free into Canada if the final automotive product contains 60% or more Canadian content.¹

Again, because of the small number of responses, the data on the modes of transport utilized in reaching all markets by the Michigan companies have been placed in Appendix A, Table A-2.

MODE OF TRANSPORT TO ONTARIO

The original sample of 108 companies did not provide sufficient data on the trade going to Ontario. A second questionnaire, similar to the original, was sent to the Director of Traffic of 511 additional Michigan manufacturing

¹The agreement between U.S. and Canada on January 8, 1965, to abolish tariffs on new automobiles and parts for new vehicles, has eliminated the 60% requirement.



companies that indicated an interest in the export markets.¹ A total of 204 questionnaires were returned. Of these, 163 gave answers that were useful to the study. Putting the returns of the two samples together yielded a total of 185 companies that were exporting to Ontario. Although some of the companies did not make shipments in 1963, they indicated the mode of transport ordinarily used. Other companies refused to divulge figures on total shipments but did indicate the percentage of time each mode of transport was used in reaching various markets.

Table 9 shows the modes of transport for reaching the Ontario market, with the per cent of companies using each mode. This is compared to the per cent using each mode, weighted by the dollar value of shipments moving by each mode to the Ontario markets.

When weighted by the value of shipments, truck transport accounts for 82.9% of the transport service utilized. Rail was used for 13.9% of the shipments, with air, water, and other modes being used for less than 4% of the shipments.

Although the truck percentage appears high, two factors tend to influence the use of trucks: (1) the study is presenting data on manufactured products which tend generally to move by truck, and (2) the distance to the Ontario markets favors the use of truck transportation.

Table 10 is a comparison of the mode of transport

¹A copy of the questionnaire is in Appendix A, page 255.

Table 9. Modes of transport used by Michigan manufacturing companies to reach the Ontario market, 1963

Mode of transport	Per cent of companies ¹	Per cent weighted by value of shipments ²
Truck	80.5%	82.9%
Privately owned	9.7%	11.8
Commercial carrier	70.8	71.1
Railroad	12.8	13.9
Air freight	.8	.2
Waterborne	.3	.2
Other ³	<u>5.6</u>	<u>2.8</u>
Total	100.0%	100.0%

¹Each respondent has a value of one, with 185 companies responding.

²176 companies gave data pertaining to their shipments.

³Other includes parcel post, railway express, bus, etc.

Source: Survey of Michigan manufacturing companies.



Table 10. Comparison of mode of transport used for shipments terminating in Ontario and transit shipments terminating in Other Canada or Other United States, 1963

Per cent of companies using each mode:		
Mode of transport	For shipments terminating in Ontario ¹	For shipments moving through Ontario terminating in Other Canada or Other United States ²
Truck	82.9%	71.8%
Privately owned	11.8%	7.0%
Commercial carrier	71.1	64.8
Railroad	13.9	23.2
Air freight	.2	.2
Waterborne	.2	.8
Other	<u>2.8</u>	<u>4.0</u>
Total	100.0%	100.0%

¹Data from 176 Michigan manufacturing companies.

²66 Michigan manufacturing companies reported shipments moving through Ontario to other Canada or eastern United States.

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used for Michigan shipments terminating in Ontario and those moving through Ontario terminating in either other Canadian provinces or eastern United States.

As the shipments move over greater distances, the use of truck transportation decreases and shipments moving by rail increase to 23.2%. The importance of the privately owned truck decreases also from 11.8% of the Ontario terminating traffic, to 7.0% of the transit truck traffic moving through Ontario. This seems to indicate that private trucks are used by the respondents to service the closer markets, and greater dependence is placed on commercial carriers for reaching distant markets.

THE FIVE YEAR OUTLOOK FOR MICHIGAN MANUFACTURING COMPANIES

All companies in the sample were asked to estimate their expected shipments for the next five years. If the company expected to "cease" business at the end of five years, it is here assumed that it would diminish shipments 20% per year. Consequently, we assumed that a "decrease" of shipments for the five-year period would be at the rate of 10% per year. For the sake of uniformity on the upper half of the scale, it was assumed that an "increase" in shipments would be at the rate of 10% per year. And, "accelerate" was then assumed to mean something greater than a 10% yearly increase, possibly approximating a gain of 20% per year for the next five years.

Table 11 is a summary of the five-year outlook presented by industry groups for 103 Michigan manufacturing

Table 11. The five-year outlook of Michigan manufacturing companies by industry, 1963

	Accel- erate	Increase	Stab- ilize	Decrease
Food & kindred products	2	4		
Textile mill products		2	1	
Apparel & related pdts.			1	
Lumber & wood products		1		1
Furniture & fixtures	1	3	1	
Paper & allied products		2	1	
Printing & publishing				
Chemicals & allied pdts.	2	6		
Petroleum & coal products	1			
Rubber & plastics pdts.	2	1		
Leather & leather pdts.		1		
Stone, clay & glass pdts.	1	1		
Primary metal industries		5		
Fabricated metal products	5	5	3	
Machinery, except elect.	11	14	5	
Electrical machinery	2	3		
Transportation equipment	2	5	3	
Instruments & related pdts.				
Miscellaneous mfg.	1	1		1
Wholesale trade	1	1		
Totals	31	55	15	2
Per cent of total	30%	53%	15%	2%

Source: Based on questionnaire returns from 103 Michigan manufacturing companies.

companies. The prevailing attitude is one of general optimism. Only 17% expected shipments to stabilize or decrease and none anticipated a cessation. Some 30% expected shipments to accelerate. The largest group, or 53%, expected shipments to increase.

The greatest optimism was evidenced by the non-electrical machinery group, followed next by the fabricated metal products group, chemicals, transportation equipment, and food and kindred products. There is some slight difference in the outlook of the 73 exporters versus the 30 non-exporters.

The general outlook of the non-exporters appears to be somewhat more conservative, with 77% expecting an increase or acceleration in shipments. Of the exporters, 86.4% expect shipments to increase or accelerate in the next five years.

ONTARIO MARKET ORIENTATION

There were no secondary data available on Ontario's markets so questionnaires were mailed to 504 manufacturing companies that were supposedly interested in export markets.¹ There were no known lists of exporting companies available so the names and addresses were taken from the 1963 Canadian Trade Index, Canadian Manufacturers' Association, Toronto 1, Canada.

¹A discussion of the sample and a copy of the questionnaire are presented in Appendix A, page 238.

A total of 115 questionnaires were returned but only 85 gave information pertaining to their markets and mode of transport utilized. Consequently, it was decided to send out 504 additional questionnaires to different manufacturing companies. This time 102 questionnaires were returned with 88 furnishing the desired information. Thus, from both mailings a total of 173 manufacturing companies (17%) provided useful information on their markets.

Table 12 shows the market orientation of the Ontario companies. Each company was requested to state its principal product. On the basis of the product, the company was classified and given a number based on the United States Standard Industrial Classification (SIC) system.

Eighteen industry groups were included in the sample returns, plus one company supplying product designs. This one was placed in the Miscellaneous Business Services category.

Table 12 shows the industry shipments to each of the markets in dollars and per cent. Some 51.28% of the total shipments remained within Ontario. The smallest per cent shipped to the Ontario market, 35%, was by the Miscellaneous manufacturing group, while the Textile Mill Products group shipped only slightly more, or 36%. The highest percentage (86%) shipped to the Ontario market was by the Apparel and Related Products.

The next largest market for Ontario manufactured products was the Other Canadian Provinces, which took 34.8%

Table 12. Market orientation of Ontario manufacturing companies, 1963
\$(000)

Census groups and code number	Number Of companies	Number Of employees	Total ship- ments	To Ontario	Other Canada	Michigan	New York	Other United States	Overseas countries
20. Food & kindred products	13	2,702	\$45,425	\$25,580	\$17,603	\$1,000	\$442	\$154	\$646
22. Textile mill products	5	980	10,080	3,621	6,159				300
23. Apparel & related products	4	525	5,540	4,767	750		9		14
24. Lumber & wood products	7	852	5,969	2,766	905	24	2,265		9
25. Furniture & fixtures	9	980	9,546	5,406	3,983		76	43	38
26. Paper & allied products	1	60	2,500	1,250	1,125				125
27. Printing & publishing	5	470	4,470	3,568	704	53	49	9	87
28. Chemicals & allied products	9	368	5,055	3,512	1,530	6			7
30. Rubber & plastics products	4	176	2,250	1,555	585			110	
31. Leather & leather products	3	190	1,710	1,020	665			6	19
32. Stone, clay & glass products	3	532	6,457	3,197	2,266	785		171	38

33. Primary metal industries	17	17,384	460,057	235,616	134,553	29,431	3,652	30,084	26,721
34. Fabricated metal products	30	2,759	49,485	28,278	16,809	196	149	384	3,669
35. Machinery, except electrical	27	2,924	57,925	21,947	26,614	4,090	606	1,617	3,051
36. Electrical machinery	23	3,831	55,180	27,980	24,781	108	162	593	1,556
37. Transportation equipment	5	2,865	97,156	51,313	44,593	16	19	468	747
38. Instruments & related products	2	90	1,225	713	406			56	50
39. Miscellaneous manufacturing	5	874	9,550	3,350	4,835	63	97	514	691
73. Miscellaneous business services	1	12	160	64	8			40	48
Total	173	38,574	\$829,740	425,503	288,874	35,772	5,261	36,514	37,816
Percentage			100%	51.3	34.8	4.3	.6	4.4	4.6

of the total shipments. A high 13.9% of all manufactured products were exported, with 4.3% going to Michigan, .6% to New York, 4.4% to Other U.S. states, and 4.6% shipped to Overseas Countries.

New York was included as a separate market because it was expected that considerable trade moved through the Niagara and Buffalo gateways to New York and eastern states. Although the large industrial horseshoe stretching from Niagara-Hamilton-Toronto around Lake Ontario is closer to New York markets, it is apparent that the companies in the sample were not trading there. Michigan was the largest single export market in the United States for the Ontario manufacturing companies.

The exporting and non-exporting companies were listed separately to allow comparisons of size of shipments to each market.

Table 13 shows the market orientation for ninety-four exporting companies, and Table 14 gives the same data for the seventy-nine non-exporting companies.

Comparisons of the exporting, non-exporting and average Ontario company are shown in Table 15.

Non-exporting companies ship primarily to local (Ontario) markets. Almost two-thirds of their shipments remain in Ontario with the other one-third going to other Canadian provinces.

The size of the non-exporting companies in the sample is considerably smaller than that of the exporting companies

Table 13. Market orientation of exporting Ontario manufacturing companies, 1963
\$(000)

Census Groups and code number	Number of companies	Number of employees	Total ship- ments	To Ontario	Other Canada	Michigan	New York	Other United States	Overseas countries
20. Food & kindred products	10	2,392	\$40,343	23,048	15,053	1,000	442	154	646
22. Textile mill products	1	600	6,000	1,800	3,900				300
23. Apparel & related products	2	135	1,425	889	513		9		14
24. Lumber & wood products	4	600	3,860	1,058	504	24	2,265		9
25. Furniture & fixtures	5	650	7,271	4,046	3,068		76	43	38
26. Paper & allied products	1	60	2,500	1,250	1,125				125
27. Printing & publishing	2	250	2,200	1,827	175	53	49	9	87
28. Chemicals & allied products	2	65	950	690	247	6			7
30. Rubber & plastics products	1	110	1,100	825	165			110	
31. Leather & leather products	1	120	1,140	703	412		6		19

32. Stone, clay & glass products	2	493	6,150	2,936	2,220	785	171	38
33. Primary metal industries	14	16,307	449,983	228,443	131,652	29,431	3,652	26,721
34. Fabricated metal products	13	1,442	26,390	13,392	8,600	196	149	3,669
35. Machinery, except electrical	12	1,822	34,341	13,760	11,217	4,090	606	3,051
36. Electrical machinery	14	2,358	31,653	16,337	12,897	108	162	1,556
37. Transportation equipment	3	2,030	76,656	30,988	44,418	16	19	747
38. Instruments & related products	2	90	1,225	713	406		56	50
39. Miscellaneous manufacturing	4	862	9,400	3,260	4,775	63	97	691
73. Misc. bus. ser.	1	12	160	64	8		40	48
Total	94	30,398	\$702,747	346,029	241,355	35,772	5,261	37,816
Percentage			100%	49.2%	34.4%	5.1%	.7%	5.4%

Table 14. Market orientation of non-exporting Ontario manufacturing companies, 1963
\$(000)

Census groups and code number	Number of companies	Number of employees	Total shipments	Ontario	Other Canada
20. Food & kindred products	3	310	\$5,082	\$2,532	\$2,550
22. Textile mill products	4	380	4,080	1,821	2,259
23. Apparel & related products	2	390	4,115	3,878	237
24. Lumber & wood products	3	252	2,109	1,708	401
25. Furniture & fixtures	4	330	2,275	1,360	915
27. Printing & publishing	3	220	2,270	1,741	529
28. Chemicals & allied products	7	303	4,105	2,822	1,283
30. Rubber & plastics products	3	66	1,150	730	420
31. Leather & leather products	2	70	570	317	253
32. Stone, clay & glass products	1	39	307	261	46
33. Primary metal industries	3	1,077	10,074	7,173	2,901
34. Fabricated metal products	17	1,317	23,095	14,886	8,209
35. Machinery, except electrical	15	1,102	23,584	8,187	15,397
36. Electrical machinery	9	1,473	23,527	11,643	11,884
37. Transportation equipment	2	835	20,500	20,325	175
39. Miscellaneous manufacturing	1	12	150	90	60
Total	79	8,176	\$126,993	79,474	47,519
Percentage			100.0%	62.6	37.4

Table 15. Comparison of exporting, non-exporting, and average Ontario manufacturing companies, 1963

	Exporting companies	Non-exporting companies	Average of all Ontario companies ¹
Average number of employees per company	323	103	49
Average shipments per company	\$7,476,031	\$1,607,506	\$996,441
Average shipments per employee	\$23,400	\$15,550	\$20,230
Per cent of shipments to:			
Ontario Market	49.2%	62.6%	N/A ²
Other Canada	34.4	37.4	N/A

Note: Data on exporting and non-exporting companies provided by the Ontario survey of manufacturing companies.

¹These data were for 1961, the latest statistics available, taken from Ontario Statistical Review for 1963, published by Department of Economics and Development, Toronto, Ontario; and Canada Yearbook, 1963-64.

²N/A means not available.

using any one of the three criteria set forth in Table 15. However, they are larger than the average company in Ontario except for average shipments per employee.

Some difference in size between the non-exporting company and the average for all Ontario companies would be expected due to the selection of the sample. The sample was picked so as to reach only those companies interested in export markets. The fact that many non-exporting companies responded indicates data for compiling the original mailing list were incomplete or inaccurate. However, having both exporting and non-exporting companies in the sample allows some meaningful comparisons to be made with respect to the differences in problems and attitudes of the two groups.

Generally speaking, the comparison in Table 15 indicates that the non-exporting company does not have as many employees as the exporting company; shipments per non-exporting company are only one-fifth as large as the average for the exporting company; shipments per employee for the non-exporting company are only about two-thirds as large as for the exporting company.

MODE OF TRANSPORT USED BY ONTARIO COMPANIES

The mode of transport used by Ontario companies to reach their various markets is shown in Table 16. This table shows the reliance on each mode by the respondents. Some companies were reluctant to give information on the

Table 16. Mode of transport used by Ontario manufacturing companies to reach various markets, 1963

From Ontario to the following markets:	Per cent of companies using each mode:				
	Rail	Truck	Water	Air	Other
Province of Ontario	17%	79.5%	6%	2%	2.7%
Other Canadian Provinces	39.8	55	2.4	1.4	1.4
Michigan	12.9	81.6	2.3	3.2	
New York	19.9	80.1			
Other U.S. States	17.4	73.8	1.7	4.8	2.3
Overseas exports			88.7	11.3	
All Markets	20.7	61.4	13.6	2.8	1.5

Note: Not weighted by the value of shipments.

Source: Data obtained from 173 Ontario manufacturing companies.

value of their shipments but did indicate which modes were used to reach their markets.

When the per cent of usage is weighted by the value of shipments, as shown in Table 17, it is evident that Ontario companies rely very heavily on both rail and water transportation. Several factors pertaining to Ontario may account for the greater use of these modes.

A greater distance between provincial markets favors the use of rail transport. Some rail rates are kept low by government policy, thus making rail more advantageous than motor carrier, from a transport cost point of view.

Ontario is also in a favorable location for the use of water transport. Some of the large industrial areas

Table 17. Mode of transport used by Ontario manufacturing companies to reach various markets weighted by the value of shipments, 1963

From Ontario to the following markets:	Weighted by the value of shipments				
	Rail	Truck	Water	Air	Other
Ontario	19.3%	79.7%	.1%	.3%	.6%
Other Canada	59.8	33.8	5.0	.8	.6
Michigan	27.3	72.4		.3	
New York	7.5	92.2		.2	.1
Other U.S. States	47.5	47.8		4.6	.1
Overseas			88.4	11.5	.1
All Markets	32.8	59.1	6.4	1.2	.5

Source: Data obtained from 173 Ontario manufacturing companies.

have excellent harbors. Goods can be shipped easily by water to the eastern provinces which increases the overall use of water transport. During World War II, Canada maintained the coastal package trades, while that of the United States was abandoned. If time is not a critical factor, waterborne transport provides the most economical service.

MODE OF TRANSPORT USED TO REACH MICHIGAN MARKETS

Table 18 shows a comparison of the modes of transport used by Ontario manufacturing companies when shipping products to Michigan.

A comparison of the indicated per cent of time used by the Ontario companies in Table 18 with the same figures indicated by Michigan companies in Table 9 shows a great

Table 18. Mode of transport used by Ontario manufacturing companies to reach the Michigan market, 1963

Mode of transport	Per cent of companies:	Weighted by the value of shipments:
Truck	81.6%	72.4%
Privately owned	7.9%	28.8
Commercial carrier	73.7	43.6
Rail	12.9	27.3
Air	3.2	.3
Waterborne	2.3	0
Other	<u>0</u>	<u>0</u>
Total	100.0%	100.0%

Source: Data supplied by 51 Ontario manufacturing companies that exported to Michigan.

similarity with respect to the use of rail and truck. However, when the per cent of time used is weighted by the value of shipments, rail and private truck are shown to be used more than twice as much by Ontario companies. Only 43.6% of the shipments across the border move by commercial carrier for Ontario companies, versus 71.1% for Michigan companies.

One explanation for the difference in the use of modes in Ontario is that Primary Metal, and Machinery, except Electrical, respondents weighed heavily in the sample. The Primary Metal industries use rail approximately 40% of the time. Machinery, except Electrical, uses private truck a large per cent of the time, and so did Food and

Kindred Products industry which weighed heavily in the number of respondents.

Fifty companies in the sample made shipments either to Michigan, or through Michigan, or both. Ontario shipments crossing the Ontario-Michigan border had the following destinations in 1963:

To Michigan	\$15,375,000	61%
To Other U.S.	4,012,000	16
To Mexico	15,000	
To Other Canada	<u>5,831,000</u>	<u>23</u>
Total	\$25,233,000	100%

Table 19 shows the mode of transport used to reach the above markets with the per cent of time used weighted by the value of shipments.

Table 19. Mode of transport used by Ontario manufacturing companies when shipping across the border to Michigan, other United States, and other Canadian markets, 1963

From Ontario to the following markets:	Mode of transport weighted by the value of shipments					
	AIR	RAIL	WATER	TRUCK Private Commercial	OTHER	
All Border Traffic	.2%	25.7%	0	24.2%	49.9%	0
Terminating in Michigan	.3	27.3	0	28.8	43.6	0
Terminating in Other United States		27.8	0	1.2	59.9	0
Terminating in Other Canada		19.9	0	27.7	52.4	0

Source: Data supplied by 50 Ontario manufacturing companies involved in this traffic.

Trucks carry approximately 75% of all shipments moving from Ontario across the Ontario-Michigan border. Privately owned trucks are used considerably more by Ontario companies than by Michigan companies on the opposite movement. Although the use of privately owned trucks appears to be high, it actually is quite consistent with secondary data reported by the Dominion Bureau of Statistics. In the sample, privately owned trucks moved 32.6% of all exports moving by truck crossing the Ontario-Michigan border. According to the Dominion Bureau of Statistics publications, private trucks moved 34.4% of all international truck traffic, in tonnage, for the year 1962.¹

Some 27.3% of Ontario exports terminating in Michigan were moved by rail. This is just twice as much as was moved by rail from Michigan to Ontario (13.9%). On the movement from Ontario to the more distant markets, Other U.S. and western Canadian Provinces, rail is used 27.3% and 19.9% of the time respectively. This compares very favorably with the 23.2% the Michigan companies report on shipments through Ontario to eastern Canada and U.S. by rail.

THE FIVE-YEAR OUTLOOK FOR ONTARIO MANUFACTURING COMPANIES

Each company was asked to estimate his outlook regarding total future shipments for the next five years. Most of the companies were optimistic. Table 20 shows the

¹Motor Transport Traffic, Province of Ontario, 1962,
Dominion Bureau of Statistics, Ottawa, Canada, p. 11.

Table 20. The five-year outlook of Ontario manufacturing companies by industry, 1963

	Accel- erate	Increase	Stab- ilize	Decrease	Cease
20 Food & kindred pdts.	3	9		1	
22 Textile mill pdts.	1	2	1		
23 Apparel & related pdts.		4			
24 Lumber & wood pdts.	1	5	1		
25 Furniture & fixtures	3	4			
26 Paper & allied pdts.		1			
27 Printing & publishing	2	1	1		
28 Chemicals & allied pdts.	2	6	1		
30 Rubber & plastics pdts.	1		2		
31 Leather & leather pdts.		3			
32 Stone, clay & glass pdts.	2		1		
33 Primary metal industries	2	13			
34 Fabricated metal pdts.	6	20	3	1	
35 Machinery, except elect.	4	18	2	1	
36 Electrical machinery	10	11	2		
37 Transportation eqpt.	2	3	1		
38 Instruments & related pdts.	1	1			
39 Miscellaneous mfg.	3	2			
73 Miscellaneous bus. serv.	1				
Totals	44	103	15	3	
Per cent of total	27.7%	62.4%	9.1%	1.8%	

Source: Based on questionnaire returns from 165 Ontario manufacturing companies.

outlook for 165 companies listed by industrial groupings. Only three companies expect decreased shipments, and fifteen expect shipments to stabilize. These companies were scattered throughout the industry groups and apparently reflected individual company attitude rather than a general anticipation of weakness in a particular segment of the economy. The remaining companies in the sample were optimistic with 67.4% expecting an increase and 27.7% expecting shipments to accelerate. It is assumed here that an increase means generally up to 10% per year, while acceleration indicates improvement of 20% or greater per year.

A comparison of the 69 non-exporters with the 96 exporters in the sample shows that the exporters again are slightly more optimistic than are the non-exporters.

	Exporters	Non-exporters
Accelerate	30%	22%
Increase	64	61
Stabilize	4	16
Decrease	2	1
Cease	<u>0</u>	<u>0</u>
	100%	100%

The Ontario companies, both the exporters and non-exporters, were more optimistic in their outlook for the next five years than were their counterparts in Michigan.

CONCLUSIONS

The survey results indicated that, by value, 1.7% of Michigan's manufactured products are shipped to Ontario. This was a small sample of Michigan manufacturing companies

and was not selected at random so there is no way of knowing whether the returns may be representative of all Michigan companies. It is known that the survey did not include shipments from the three large automotive companies which account for a large amount of the total shipments to Ontario. However, assuming that the 1.7% is fairly accurate, and that Michigan's total shipments for 1963 amounted to 27 billion dollars, then shipments of manufactured products would be 459 million dollars.¹ This would only represent the shipments of manufactured products. Adding to it the shipments of the bulk industries, i.e., sand and gravel, limestone, petroleum, and grains, would probably bring the total to about 500 million dollars of exports to Ontario for 1963.

Looking at Michigan's receipts from Ontario, Table 12 indicates that 4.3% of Ontario manufactured products are shipped to Michigan. Again, the Ontario sample was not a random sample so that projections to the total economy would be erroneous. However, to get some idea of the magnitude of Ontario shipments to Michigan, we will apply the 4.3% to the 14.5 billion dollars estimated by the Ontario Department of Economics and Development as being the selling

¹Total shipments here means the value of products shipped to all destinations from Michigan plants. There will be some duplication involved especially on semi-processed materials shipped to other Michigan plants for further processing.

value of factory shipments for 1963.¹ Shipments to Michigan then would be approximately 544.4 million dollars of manufactured products. If the value of the products of agriculture, forests and mines that were exported to Michigan were included, the total value, based on the above, would be close to 600 million dollars. This is probably an inflated figure for the 1963 total value of Canadian imports into the Michigan customs district was 1,040.4 million dollars.² The question is how much of the customs district figure originated in Ontario, and how much of that originating in Ontario terminated in Michigan?

Although the above figures are not as precise as would be desired, these estimates do provide some idea of just how important Michigan markets are to Ontario, and Ontario markets are to Michigan.

The survey provided some data on the dollar amount of trade between Michigan and Ontario. But to get some idea of the quantitative flow of commodities, it will be necessary to examine carrier statistics. This will be done in the next section.

ORIGIN, DESTINATION, AND FLOW OF COMMODITIES

This section will present data based on carrier

¹Ontario Statistical Review, 1963, published by the Department of Economics and Development, Toronto, Ontario, p. 19.

²"Summary Report FT970 I United States Foreign Trade," Bureau of the Census, Foreign Trade Division, Department of Commerce, Washington, D.C., 1963.

statistics providing some explanation of the origin, destination, and flow of commodities. The carrier data are not as complete and specific as desired, but are the best available at this writing.

MICHIGAN-ONTARIO COMMERCE

Table 21 is presented to show some idea of the total trade in tonnage, that moves between Michigan and Ontario. It is a compilation of statistics from many sources and does not provide the precise answers that are desired. However, it does have value as a first attempt at showing the aggregate trade between Michigan and Ontario.

In evaluating the figures, three qualifications must be considered. First, the statistics for the modes of transport are not all for the same year. The data on recent years waterborne traffic are not yet available, so the data used are older than we would like; however, they do provide some useful information.

Second, wherever possible, the data have been presented to show the trade having an origin and destination in either Michigan or Ontario. There is, however, a considerable flow of commodities across both jurisdictions. The railroad data do not provide detailed information of the Ontario origin and termination of trade. Thus, a breakdown of some totals into commodity groups is impossible, unless it is done on some prorated basis. It is not always possible to make specific statements regarding the commodities that make up the aggregate shipments.

Table 21. Total Michigan-Ontario commerce, 1963

Code No.	Commodity classification	Tons		Total commerce
		Michigan shipments	Michigan receipts	
012	Crops, veg. and fruits	96,454	11,219	107,673
013	Animals and products	6,013	10,419	16,432
8	Timber, pulp & wood pdts.	19,030	596,582	615,612
10	Metallic minerals & metals	1,214,066	1,432,199	2,646,265
12	Coal & coke pdts.	103,355	729	104,084
13	Petroleum pdts.	470,506	2,149	472,655
14	Non-metallic pdts.	611,373	253,304	864,677
20	Food and pdts.	29,749	215,969	245,718
22	Fibers & textile mill pdts.	215	888	1,103
26	Paper & allied pdts.	15,759	224,490	240,249
28	Chemicals & allied pdts.	61,821	90,319	152,140
30	Rubber & plastic pdts.	3,407	3,184	6,591
32	Stone, clay, & glass pdts.	198,333	3,481	201,814
34	Fabricated metal pdts.	117,987	59,526	177,513
35	Machinery except electrical	63,785	54,589	118,374
36	Electrical machinery	2,156	1,462	3,618
37	Transportation equipment	453,399	9,916	463,315
39	Miscellaneous manufacturing	335,238	252,273	587,511
Total		3,802,646	3,222,698	7,025,344
Percentage		54%	46%	100%

Note: For information on data see footnotes in Table 22.

Sources: Tables 22 and 23.

Third, the highway statistics were estimated from export survey studies and total shipments of manufacturing industries in both Michigan and Ontario.

Table 21 shows some interesting facts about the trade between Michigan and Ontario. Michigan ships nearly nine times as many Crops, Vegetables and Fruits to Ontario as she receives. The primary movement of Animals and Products is in the opposite direction with about twice as much received in Michigan as shipped.

About 97% of the traffic in Timber, Pulp and Pulpwood, and 93% of the Paper and Allied Products move into Michigan. But 99% of the traffic in Coal and Coke, 99.4% of the Petroleum Products, and 71% of the Non-metallic Minerals (sand, gravel, limestone, etc.) moves from Michigan as shipments to Ontario or eastern Canada. Some 54% of the total border traffic in Metallic Minerals and Metals is shipped from eastern Canada, or Ontario to Michigan. However, Michigan ships a total of 140,000 tons more in raw materials (Non-metallic Minerals, and Metallic Minerals and Metals) than she receives.

Of the total border traffic in Food and Products, Michigan receives 88% of the tonnage, in Textile Mill Products she receives 80% of the tonnage, and in Chemicals and Allied Products the figure is 59%.

For the remaining categories of products that cross the border Michigan is a net shipper as follows: Rubber and Plastic Products, 52%; Stone, Clay and Glass Products,

98%; Fabricated Metal Products, 66%; Machinery Except Electrical, 54%; Electrical Machinery, 60%; Transport Equipment, 98%; and Miscellaneous Manufacturing, 57%.

Considering only all categories of manufactured products, Michigan ships 58% of the total tonnage crossing the border, or stated in tons, she ships 1,281,859 tons and receives 916,097 tons.

Table 22 shows Michigan shipments to Ontario by mode of transport. A comparison of the modes shows that the greatest tonnage, about 54% of the total, is moved by waterborne carriers, with Metallic Minerals and Metals, Petroleum Products, and Non-metallic Minerals accounting for most of the tonnage. Since the waterborne figures were published in 1960, the movement of Petroleum Products has diminished. This is due mainly to the increased use of the Lakehead Pipeline System connecting Western Canada with Ontario.

Truck carriers account for about the same tonnage as hauled by rail, while air carriers account for a very small amount of tonnage. Most of the truck traffic is made up of manufactured products which tend to have a high value per cubic foot, as compared to bulk commodities. The Transport Equipment Products accounted for 47% of the truck traffic, which represented the highest tonnage of any category that was moved by truck. The next largest truck tonnage was in the Stone, Clay and Glass Products group, or 18% of the total truck traffic, followed by Fabricated Metal

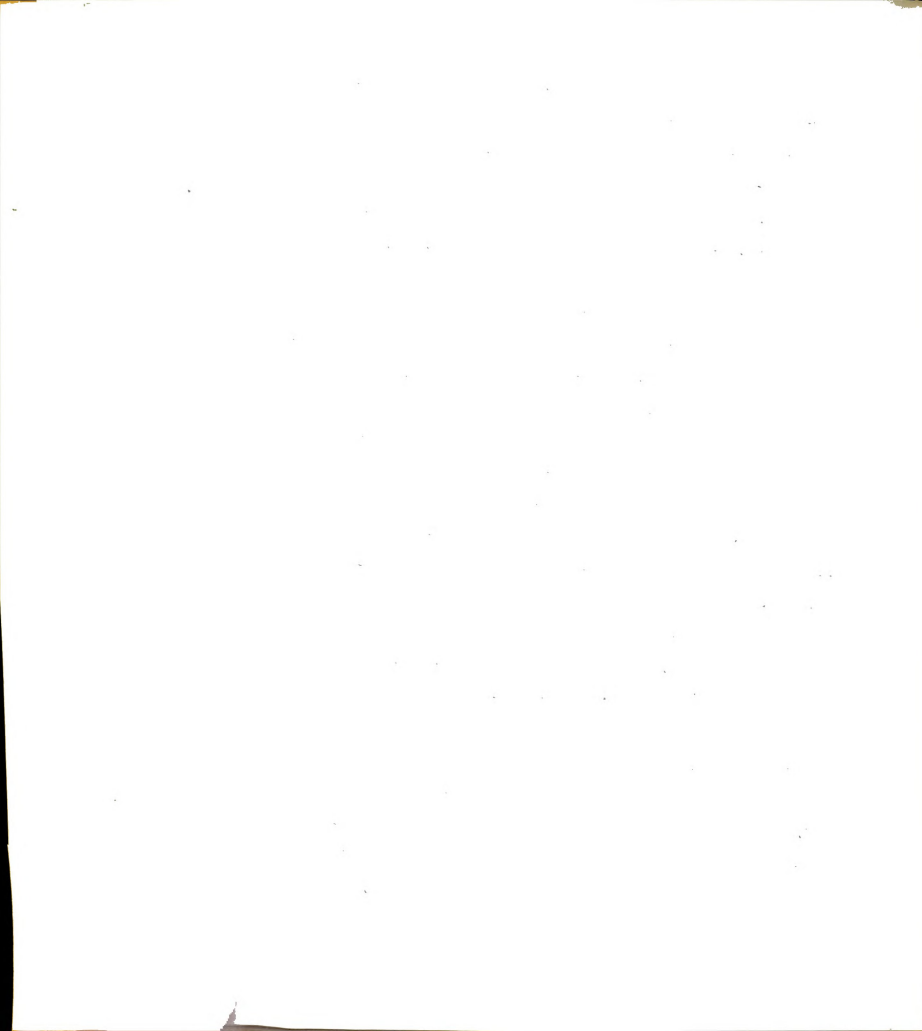


Table 22. Michigan shipments to Ontario by mode of transport, 1963

Code No. ^a	Commodity Classification	Tons				Total
		Rail ^b	Highway ^c	Waterborne ^d	Air ^e	
012	Crops	55,391	426	40,637		96,454
013	Animals	4,242	1,666	105		6,013
8	Timber	14,585	4,428	17		19,030
10	Metallic min.	14,934	19,767	1,179,365		1,214,066
12	Coal	103,355				103,355
13	Pet. pdts.	2,691	50,233	417,582		470,506
14	Non-metallic	233,349		378,024		611,373
20	Food	18,124	11,563		62	29,749
22	Textile		205		10	215
26	Paper	10,506	5,221	6	26	15,759
28	Chemicals	26,139	21,111	14,489	82	61,821
30	Rubber	558	2,823		26	3,407
32	Stone	50,218	148,115			198,333
34	Fab. metals	39,981	78,000	6		117,987
35	Mach. exc. elec.	9,088	54,600	9	88	63,785
36	Electrical mach.	647	1,412	5	92	2,156
37	Trans. equip.	64,842	388,300	159	98	453,399
39	Misc. manuf.	277,713	30,170	27,324	31	335,238
Totals		926,363	818,040	2,057,728	515	3,802,646
Percentage		24%	22%	54%		100%

^aA cross reference sheet, relating the code numbers above to those used in other tables, is in Appendix A, Table A-3.

^bAll railroad statistics are for 1963, origin, Michigan, with 72% terminating in Ontario, and 28% terminating in other Canada.

^cAll highway statistics for 1963, with Michigan origin, and Ontario termination. For procedure in determining tonnage, see Appendix A, page 274.

^dAll waterborne statistics for 1960, Michigan origin and Ontario termination.

^eAll air statistics for 1962, Michigan origin and Ontario termination.

Sources: Railroad statistics obtained individually from Chesapeake and Ohio Railway Co., New York Central System, Grand Trunk Western Railroad Company, Soo Lines Railroad, and Wabash Railroad; Highway data based on combined results of Professor J. L. Hazard's Michigan Export Survey and the Michigan manufacturing company survey included in Chapter III, plus statistics from U.S. Dept. of Agriculture, Lansing, Michigan; Waterborne statistics from Waterborne Commerce of the United States Calendar Year 1960, Part 3, Waterways and

Products at 9.5%, Machinery Except Electrical at 7%, and Petroleum Products at 6%.

Of the Michigan shipments crossing the border by railroad 54% was accounted for by manufactured products. The remainder was raw materials, coal and coke, etc.

Raw materials such as Metallic and Non-metallic Minerals, Crops and Grains, and Petroleum Products made up 97.5% of the waterborne shipments from Michigan. The remaining 2.5% was made up of Miscellaneous Manufacturing Products, and Chemical and Allied Products.

Table 23 shows the Michigan receipts from Ontario and eastern Canada by mode of transport. The total tonnage is about 15% less than the traffic originating in Michigan going to Ontario. Of the rail tonnage shown here only 56% originates in Ontario with 44% originating in other Canadian provinces, primarily eastern Canada. However, the termination is in Michigan.

About 52% of the rail tonnage is in Timber, Pulp and Wood Products, and Paper and Allied Products, which is mostly newsprint. Metallic and Non-metallic Minerals account for only 11%, while all manufactured products make up about 36% of the total shipments by rail. In the manufactured categories, the largest tonnage is in Miscellaneous

Harbors, Great Lakes, Dept. of Army, Corps of Engineers, and Grain Transportation Statistics for North Central Region, USDA, Statistical Bulletin No. 268; Air data from Detroit Air Cargo Statistics, 1962, Greater Detroit Board of Commerce.

Table 23. Michigan receipts from Ontario by mode of transport, 1963

Code No.	Commodity Classification	Tons				Total
		Rail	Highway	Waterborne	Air	
012	Crops	8,729	2,490			11,219
013	Animals	3,282	7,137			10,419
8	Timber	351,626	86,916	158,040		596,582
10	Metallic min.	96,378	230,508	1,105,313		1,432,199
12	Coal	729				729
13	Pet. pdts.	2,149				2,149
14	Non-metallic	18,629		234,675		253,304
20	Food	19,266	196,672		31	215,969
22	Textile	883			5	888
26	Paper	174,104		50,373	13	224,490
28	Chemicals	72,396	5,694	12,188	41	90,319
30	Rubber	3,171			13	3,184
32	Stone	3,481				3,481
34	Fab. metals	39,320	13,814	6,392		59,526
35	Mach. exc. elec.	9,120	45,425		44	54,589
36	Elect. mach.	514	902		46	1,462
37	Trans. equip.	9,630	237		49	9,916
39	Misc. manuf.	207,828	44,430		15	252,273
Totals		1,021,235	634,225	1,566,981	257	3,222,698
Percentage		32%	20%	48%		100%

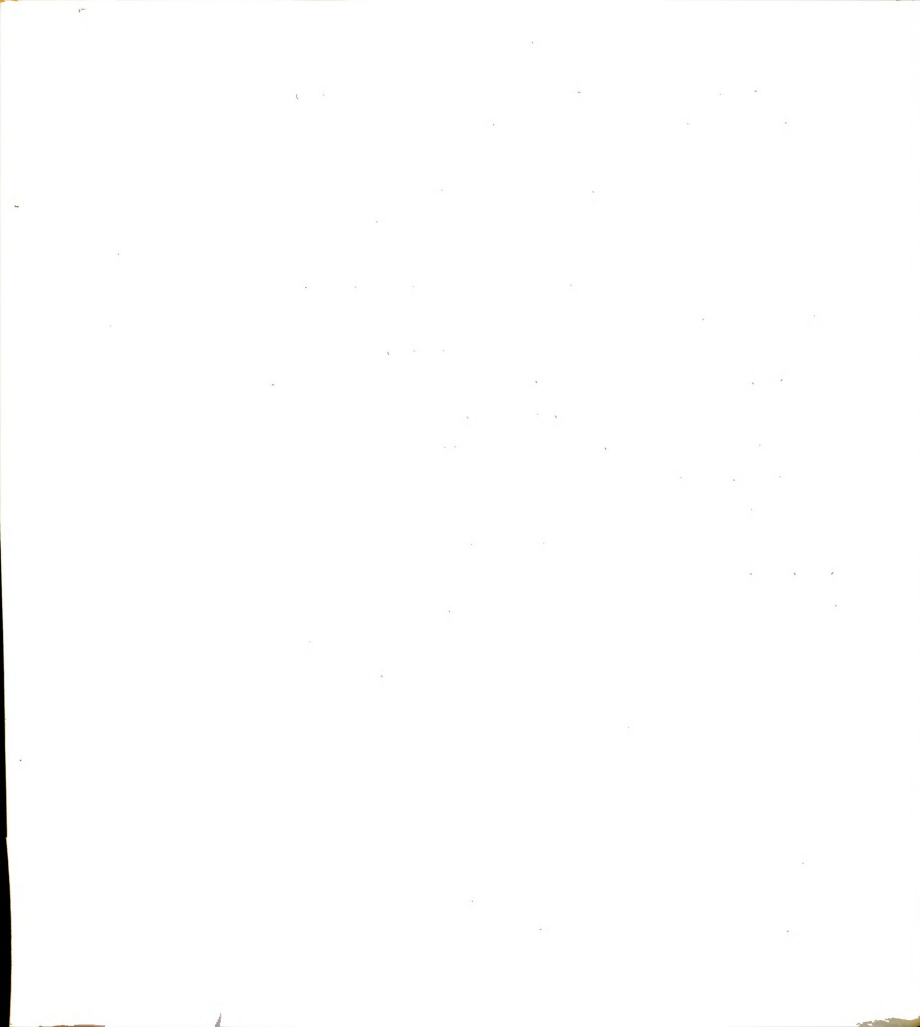
Note: For sources, note on code numbers, and footnotes see Table 22. Rail data has 56% Ontario origin, 44% other Canada.

Manufacture, followed by Chemicals and Allied Products, and then Fabricated Metal Products.

Of the total traffic crossing the border from Ontario by highway carrier, 36% is accounted for by Metallic Minerals which is primarily composed of nickel. Food and Kindred Products account for 31% of the receipts moved by highway, while all manufactured product categories accounted for about 17%, or 110,000 tons. In the manufactured products categories, Machinery, Except Electrical, shipped the most (45,425 tons from Ontario) closely followed by Miscellaneous Manufactures with 44,430 tons, while Fabricated Metals accounted for 13,814 tons, and Chemicals and Allied Products 5,694 tons. The remaining categories were of little importance as far as tonnage is concerned.

The waterborne is mostly Metallic Minerals and Metals (70%) with ores representing the largest component. Over 14% is made up of Non-metallic Minerals, such as sand, gravel and other building materials. Timber and Paper Products make up 13% of the total tonnage by waterborne, with the remaining 3% being accounted for by Chemicals and Allied Products, and Fabricated Metals.

A very small amount of the total trade between Michigan and Ontario moves by air freight. The products that do move by air are primarily high-priority manufactured parts and machines, or fragile products that have a very high value. Some perishable products, such as flowers and drugs, are sent by air freight.



In summary of Table 23, of the total Canadian and Ontario outbound which terminates in Michigan, Timber, Pulp and Wood Products account for 18% of the tonnage; Metallic Minerals and Metals, 45%; and Non-metallic Minerals, 8%. Thus, 71% of the total tonnage is from three industrial groups. The composition is mostly raw materials with some semi-finished metal and paper products. The remainder of the outbound, amounting to 29%, is made up of manufactured products.

MICHIGAN-ONTARIO BORDER RAILROAD TRAFFIC

Statistics on the railroad traffic crossing the Michigan-Ontario border were obtained individually from the Chesapeake and Ohio Railway Company, New York Central System, Grand Trunk Western Railroad Company, Soo Lines Railroad and the Wabash Railroad.¹

Three of the railroads submitted figures based on 1962 operations and the other two gave figures on 1963 operations. The 1963 figures were converted to 1962 values for part of the analysis. The conversion was accomplished by determining the change in total commodity tons moved from 1962 to 1963, then using the relationship to convert the 1963 tons to "1962" basis for the two railroads. For another part of the analysis the 1962 figures were converted to 1963 tons. In 1963 there was an increase of 161,934

¹A complete discussion of the questions used to secure the information is presented in Appendix A, page 267.



tons moving into Ontario and other Canada from the United States, and an increase of 161,674 tons moving out of Ontario and other Canada to the United States. Such a small change in total tonnage does not materially affect the analysis.

Table 24 shows the total railroad tonnage crossing the Michigan-Ontario border enroute to Canadian destinations in 1962. Only 29.47% of the total tonnage crossing into Canada originated in Michigan, while 70.53% originated in other U.S. states. In Canada, 71.75% of the tons terminate in Ontario, with 28.25% going on to other Canadian provinces.

Table 25 presents the total railroad tons crossing the Ontario-Michigan border enroute to the United States from Canada. More than half, or 56.39%, of the total tons originates in Ontario, while 43.61% originates in other Canadian provinces. Some 25.55% of the tonnage terminates in Michigan with the remaining 74.45% going on to other U.S. states.

It is evident from the two tables that there is considerable transit railroad traffic across Michigan going to, and coming from, Ontario and eastern Canada. Michigan ships and receives only about 1/4 of the railroad tonnage crossing the Michigan-Ontario border.

Ontario ships slightly over half (56.39%) of the tonnage coming to the United States across Michigan, but receives nearly 3/4 (71.75%) of the tons crossing into Ontario and eastern Canada.

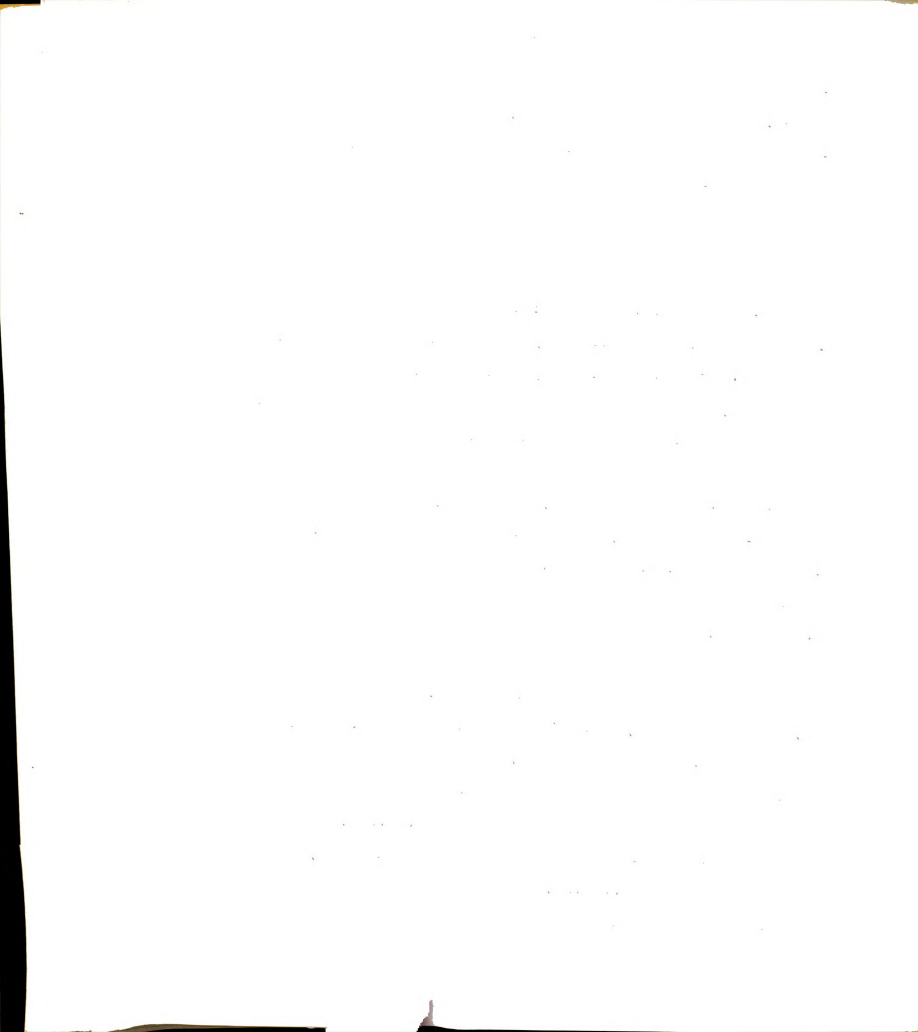


Table 24. Railroad traffic crossing the Michigan-Ontario border, originating in United States, terminating in Canada: 1962 (tons of 2,000 pounds)

	Crossing Ontario-Michigan border	Originated in Michigan	Originated in other United States	Terminated in Ontario	Terminated in other Canada
Tons	2,994,569	882,550	2,112,019	2,148,508	846,061
Per cent	100%	29.47	70.53	71.75	28.25

Table 25. Railroad traffic crossing the Ontario-Michigan border, originating in Canada, terminating in United States: 1962

	Crossing Ontario-Michigan border	Originated in Ontario	Originated in other Canada	Terminated in Michigan	Terminated in other United States
Tons	3,819,620	2,153,755	1,665,865	975,707	2,843,913
Per cent	100%	56.39	43.61	25.55	74.45

In the following tables the tons are accurate but the values should be viewed as approximations, inasmuch as they are computed by the use of U.S. national weighted average values per ton taken from Freight Revenue and Wholesale Value at Destination of Commodities Transported by Class I Line-haul Railroads, 1959. This is the only comprehensive report of rail traffic values and was published by the Interstate Commerce Commission.

Table 26 is presented to show the value of the shipments crossing the Michigan-Ontario border by railroad and originating in Michigan and other U.S. states. About \$755 million worth of products moved across the border enroute to Ontario and eastern Canada.

Table 27 presents the value of the tons received in Michigan and other U.S. states, with an origin in Ontario and eastern Canada. The value of this traffic is about 745 million dollars, or about 10 million dollars less than the movement in the opposite direction. However, looking at the tonnage, the inbound to the United States is about 825,000 tons more than the outbound. Comparing the composition of the tonnage in the two tables, it is evident that the movement into the United States is composed of more unfinished materials such as pulpwood, metals and paper products; while the traffic out includes finished products which tend to have a higher value per ton.

Table 28 shows the tons originating in Michigan of the outbound U.S. traffic. More than half of the Michigan

Table 26. Total value of commodities that crossed the Michigan-Ontario border by railroad, originating in United States, terminating in Canada: 1962

Commodity Classification	Total tons ^a	Total value ^b
1. Animals and products	55,553	\$34,167,873
2. Crops, vegetables & fruits	550,442	57,256,977
3. Food & kindred products	131,671	35,377,364
4. Rubber and products	8,728	9,715,399
5. Textile mill products and apparel	16,206	31,573,015
6. Timber	2,567	58,502
7. Pulp and pulpwood	5,133	129,968
8. Lumber & wood products	98,846	75,103,191
9. Paper & allied products	37,017	7,350,466
10. Coal and coke	387,480	3,502,819
11. Petroleum and products	53,841	2,618,288
12. Non-metallic minerals	343,047	5,409,851
13. Stone, clay & glass products	234,705	3,105,147
14. Metals	67,432	1,795,040
15. Primary metal industries	33,543	10,253,760
16. Fabricated metal products	109,342	29,151,671
17. Machinery except electrical	37,133	34,136,738
18. Electrical machinery	6,927	14,831,123
19. Transportation equipment	166,290	155,138,593
20. Chemicals & allied products	135,746	27,465,488
21. Miscellaneous manufacturing	512,920	216,811,284
Total	2,994,569	\$754,952,557

^aData supplied by railroads operating across the Michigan-Ontario border.

^bThe values per ton used to determine the total value for each commodity classification are listed in Table A-6 of Appendix A.

Table 27. Total value of commodities that crossed the Ontario-Michigan border by railroad, originating in Canada, terminating in United States: 1962

Commodity Classification	Total tons ^a	Total value ^b
1. Animals and products	11,423	\$7,025,716
2. Crops, vegetables & fruits	24,993	2,599,772
3. Food & kindred products	54,154	14,550,097
4. Rubber and products	9,897	11,016,648
5. Textile mill products and apparel	3,583	6,980,508
6. Timber	27,913	636,137
7. Pulp and pulpwood	679,028	17,192,989
8. Lumber & wood products	211,291	160,538,902
9. Paper & allied products	616,567	122,449,580
10. Coal and coke	6,304	56,988
11. Petroleum and products	9,094	442,241
12. Non-metallic minerals	275,683	4,347,521
13. Stone, clay & glass products	38,820	513,589
14. Metals	922,709	24,562,514
15. Primary metal industries	43,063	13,163,928
16. Fabricated metal products	99,045	26,406,387
17. Machinery except electrical	81,449	74,876,880
18. Electrical machinery	3,017	7,283,219
19. Transportation equipment	21,547	20,102,058
20. Chemicals and allied products	261,486	52,906,462
21. Miscellaneous manufacturing	418,554	176,922,776
Total	3,819,620	\$744,574,912

^aData supplied by railroads operating across the Michigan-Ontario border.

^bThe values per ton used to determine the total value for each commodity classification are listed in Table A-6 of Appendix A.

Table 28. Railroad traffic that crossed the Michigan-Ontario border, originating in United States, terminating in Canada: 1962

Commodity Classification	Total tons	Tons originated in Michigan	Per cent originated in Michigan
1. Animals and products	55,553	6,359	11.45%
2. Crops, vegetables & fruits	550,442	53,488	9.72
3. Food and kindred products	131,671	17,867	13.49
4. Rubber and products	8,728	517	5.92
5. Textile mill products and apparel	16,206		
6. Timber	2,567	445	17.33
7. Pulp and pulpwood	5,133	187	3.64
8. Lumber and wood products	98,846	12,426	12.57
9. Paper and allied products	37,017	13,009	35.14
10. Coal and coke	387,480	94,314	24.34
11. Petroleum and products	53,841	6,888	12.79
12. Non-metallic minerals	343,047	220,381	64.24
13. Stone, clay & glass products	234,705	44,912	19.14
14. Metals	67,432	10,321	15.31
15. Primary metal industries	33,543	6,995	20.85
16. Fabricated metal products	109,342	37,131	33.96
17. Machinery except electrical	37,133	8,461	22.79
18. Electrical machinery	6,927	598	8.63
19. Transportation equipment	166,290	60,117	36.15
20. Chemicals & allied products	135,746	24,330	17.92
21. Miscellaneous manufacturing	512,920	263,904	51.45
Totals	2,994,569	882,550	29.47%

Source: Data supplied by railroads operating across the Michigan-Ontario border.

tons were made up of Non-metallic Minerals and Miscellaneous Manufactured Products. Of the remaining tonnage, Michigan supplied one-third or more of the tonnage of only three sectors, i.e., Paper and Allied Products, Fabricated Metal Products, and Transportation Equipment.

Table 29 is presented to show the approximate value of the rail tonnage originating in Michigan and terminating in Ontario and other Canadian provinces. Nearly 50% of the value is accounted for by the Miscellaneous Manufactures, while Transportation Equipment accounted for 25%. Fabricated Metal Products, providing 4.5% of the value, was the next most important category.

Table 30 shows both the tons and per cent of terminations in Michigan of the traffic originating in Ontario and other Canada. Pulp and Pulpwood, plus Paper and Allied Products, make up over 43% of the total tonnage terminating in Michigan. Miscellaneous Manufactures accounts for 20%, while metals and chemicals account for about 8% and 7% respectively. Thus, five commodity groups account for 78% of the tons originating in Ontario and eastern Canada, and terminating in Michigan.

Table 31 presents the approximate value of the Michigan tonnage shown in the previous table. Miscellaneous Manufactures accounts for 34% of the total value; Lumber and Wood Products, 24%; Paper and Allied Products, 14%; with the three commodity groups accounting for 72% of the total value of Michigan receipts.

Table 29. Value of commodities that crossed the Michigan-Ontario border by railroad, originating in Michigan, terminating in Canada: 1962

Commodity Classification	Total tons ^a	Total value ^b
1. Animals and products	6,359	\$3,911,103
2. Crops, vegetables & fruits	53,488	5,563,822
3. Food & kindred products	17,767	4,773,638
4. Rubber and products	517	575,488
5. Textile mill products and apparel		
6. Timber	445	10,142
7. Pulp and pulpwood	187	4,735
8. Lumber & wood products	12,426	9,441,275
9. Paper & allied products	13,009	2,583,197
10. Coal and coke	94,314	852,599
11. Petroleum and products	6,888	334,963
12. Non-metallic minerals	220,381	3,475,408
13. Stone, clay & glass products	44,912	594,186
14. Metals	10,321	274,745
15. Primary metal industries	6,995	2,138,302
16. Fabricated metal products	37,131	9,899,496
17. Machinery except electrical	8,461	7,778,282
18. Electrical machinery	598	1,280,354
19. Transportation equipment	60,117	56,085,554
20. Chemicals and allied products	24,330	4,922,689
21. Miscellaneous manufacturing	263,904	111,552,221
Total	882,550	\$226,052,199

^aData supplied by railroads operating across Michigan-Ontario border.

^bThe values per ton used to determine the total value for each commodity classification are listed in Table A-6 of Appendix A.

Table 30. Railroad traffic crossing Michigan-Ontario border originating in Canada, terminating in United States and Michigan, 1962

Commodity Classification	Total tons	Tons terminated in Michigan	Per cent terminated in Michigan
1. Animals and products	11,423	3,253	28.48%
2. Crops, vegetables & fruits	24,993	8,703	34.82
3. Food & kindred products	54,154	18,602	34.35
4. Rubber and products	9,897	3,005	30.36
5. Textile mill products and apparel	3,583	821	22.91
6. Timber	27,913	3,964	14.20
7. Pulp and pulpwood	679,028	255,778	37.67
8. Lumber & wood products	211,291	77,615	36.73
9. Paper & allied products	616,567	167,762	27.21
10. Coal and coke	6,304	805	12.77
11. Petroleum and products	9,094	2,028	22.30
12. Non-metallic minerals	275,683	17,558	6.37
13. Stone, clay & glass products	38,820	3,349	8.63
14. Metals	922,709	80,899	8.77
15. Primary metal industries	43,063	12,969	30.12
16. Fabricated metal products	99,045	37,305	37.66
17. Machinery except electrical	81,449	8,546	10.49
18. Electrical machinery	3,017	476	15.78
19. Transportation equipment	21,547	8,919	41.39
20. Chemicals & allied products	261,486	65,451	25.03
21. Miscellaneous manufacturing	418,554	197,899	47.28
Totals	3,819,620	975,707	25.55%

Source: Data supplied by railroads operating across Michigan-Ontario border.

Table 31. Value of commodities that crossed the Ontario-Michigan border by railroad, originating in Canada, terminating in Michigan: 1962

Commodity Classification	Total tons ^a	Total value ^b
1. Animals and products	3,253	\$2,000,758
2. Crops, vegetables & fruits	8,703	905,286
3. Food and kindred products	18,602	4,997,985
4. Rubber and products	3,005	3,344,956
5. Textile mill products and apparel	821	1,599,497
6. Timber	3,964	90,340
7. Pulp and pulpwood	255,778	6,476,299
8. Lumber and wood products	77,615	58,971,877
9. Paper and allied products	167,762	33,312,500
10. Coal and coke	805	7,277
11. Petroleum and products	2,028	98,622
12. Non-metallic minerals	17,558	276,890
13. Stone, clay & glass products	3,349	44,307
14. Metals	80,899	2,153,531
15. Primary metal industries	12,969	3,964,494
16. Fabricated metal products	37,305	9,945,886
17. Machinery except electrical	8,546	7,856,423
18. Electrical machinery	476	1,019,145
19. Transportation equipment	8,919	8,320,892
20. Chemicals & allied products	65,451	13,242,701
21. Miscellaneous manufacturing	197,899	83,651,907
Total	975,707	\$242,281,573

^aData supplied by railroads operating across Ontario-Michigan border.

^bThe values per ton used to determine the total value for each commodity classification are listed in Table A-6 of Appendix A.

In evaluating the tonnage and value of Michigan's receipts, it should be pointed out again that only 56.39% of the total tonnage originates in Ontario. It is entirely possible that more of the Michigan receipts could originate in Ontario; however, it is impossible to determine the exact source of commodities from the data provided for this study.

MICHIGAN-ONTARIO BORDER HIGHWAY TRUCK TRAFFIC

Michigan and Ontario do not have statistics pertaining to the origin and destination of commodities moved by highway carriers. However, the Michigan Highway Department conducts each summer a Truck Weight Study for the United States Bureau of Public Roads.¹ Some data regarding commodities carried were gathered in the 1963 Study. This included origin, destination, vehicle combination and gross weight of the vehicle and load. Using various assumptions and estimates, some information regarding the net weight of the commodity, its origin and destination, was developed. The Truck Weight Study did not have stations at the Port Huron or Detroit ports-of-entry, so consequently, there is little useful information on the traffic crossing the Michigan-Ontario border. Some transit traffic across Michigan, to and from Ontario, was detected and will be discussed later in the chapter.

To get some idea of the movement of products by

¹The 1963 Truck Weight Study was analyzed for this research and the results are presented in Appendix C.

truck across the border, an estimate of the tonnage was developed based on the research findings of this study, plus the findings of a Michigan Trade Expansion Study being conducted by Professor J. L. Hazard at Michigan State University.

Table 32 shows the Michigan shipments, in tons, to Ontario by truck. Most of the traffic is concentrated in the manufactured products area, with the Transportation Equipment industry accounting for nearly half of the tonnage.

Table 33 shows the Ontario shipments, in tons, to Michigan by truck. The Metallic Minerals and Metals group in this table also includes the Primary Metals group (SIC 33) of the Standard Industrial Classifications shown in the tables listing exports by SIC groups. Though the numbering system and classifications in Tables 32 and 33 are slightly different from those used previously, the data are comparable to those shown in previous transport tables.¹ In the Ontario shipments, Metallic Minerals and Metals account for 36.5% of the tonnage, with Food and Kindred products accounting for 31%.

Although the truck data included in the previous two tables are based on estimates, they show that there is a considerable amount of tonnage moved across the border by highway carriers.

¹For cross reference on numbering system and classifications, see Appendix A, Table A-3.

Table 32. Michigan shipments to Ontario by highway carriers, 1963

Code #	Commodity Classification	Tons
012	Crops, vegetables & products ^a	426
013	Animals & products ^b	1,666
8	Timber, pulp & wood products	4,428
10	Metallic minerals & metals	19,767
12	Coal & coke products	
13	Petroleum products & natural gas	50,233
14	Non-metallic minerals	
20	Food & kindred products	11,563
22	Fibers & textile mill products	205
26	Paper & allied products	5,221
28	Chemicals & allied products	21,111
30	Rubber & plastic products	2,823
32	Stone, clay & glass products	148,115
34	Fabricated metal products	78,000
35	Machinery except electrical	54,600
36	Electrical machinery	1,412
37	Transportation equipment	388,300
39	Miscellaneous manufacturing	<u>30,170</u>
	Total tons	818,040

^aStatistics from Fresh Fruit and Vegetable Unloads, in Eastern Cities, Agriculture Marketing Service, AMS-427, USDA, February, 1964.

^bStatistics provided by the Lansing Office of the United States Department of Agriculture.

Source: Based on findings of this survey plus research findings of Michigan Trade Expansion Study, conducted by Professor John L. Hazard, Michigan State University. For a discussion of the procedure, see Appendix A, page 274.

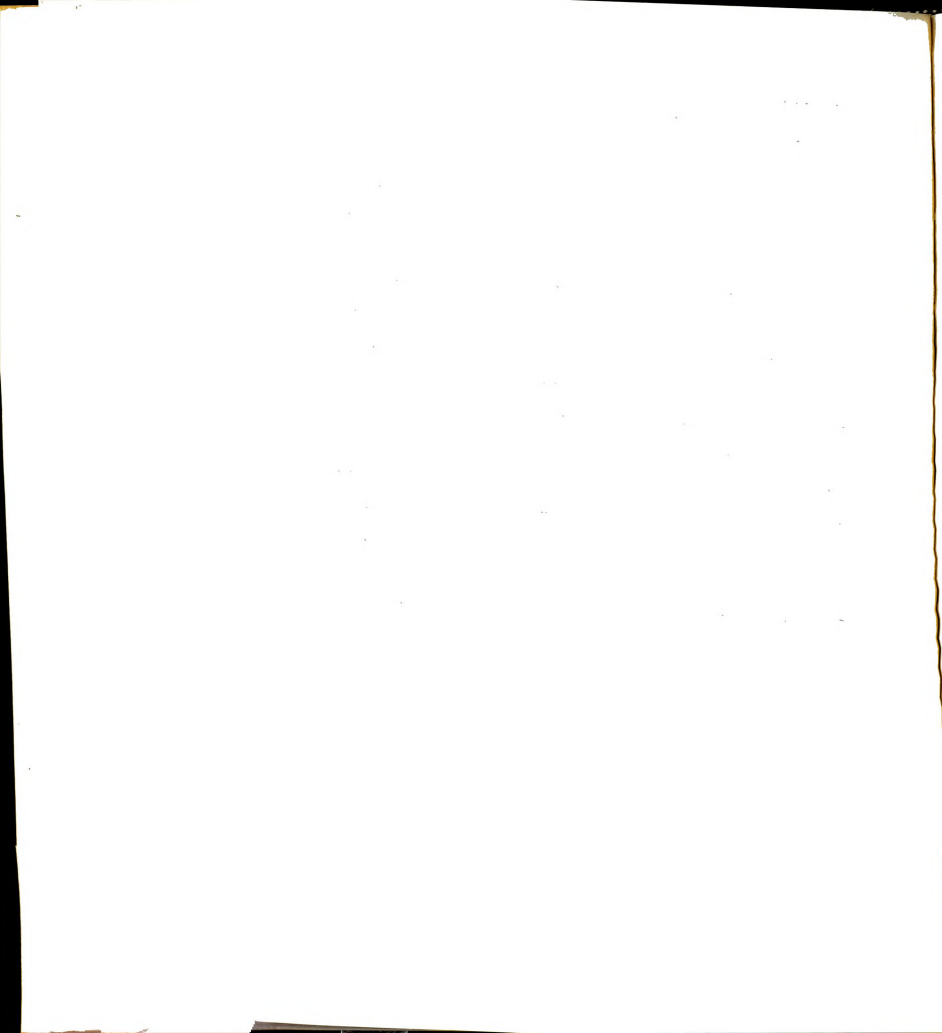
Table 33. Ontario shipments to Michigan by highway carriers, 1963

Code #	Commodity Classification	Tons
012	Crops, vegetables & products ^a	2,490
013	Animals & products ^b	7,137
8	Timber, pulp & wood products	86,916
10	Metallic minerals & metals	230,508
20	Food & kindred products	196,672
28	Chemicals & allied products	5,694
34	Fabricated metal products	13,814
35	Machinery, except electrical	45,425
36	Electrical machinery	902
37	Transportation equipment	237
39	Miscellaneous manufacturing	<u>44,430</u>
Total tons		634,225

^aFresh Fruit and Vegetable Unloads, in Eastern Cities, Agriculture Marketing Service, AMS-427, USDA, February, 1964.

^bStatistics provided by the Lansing Office of the United States Department of Agriculture.

Source: Based on the findings of this survey study except as noted above. For a discussion of the procedure, see Appendix A, page 275.



MOTOR COMMON CARRIERS

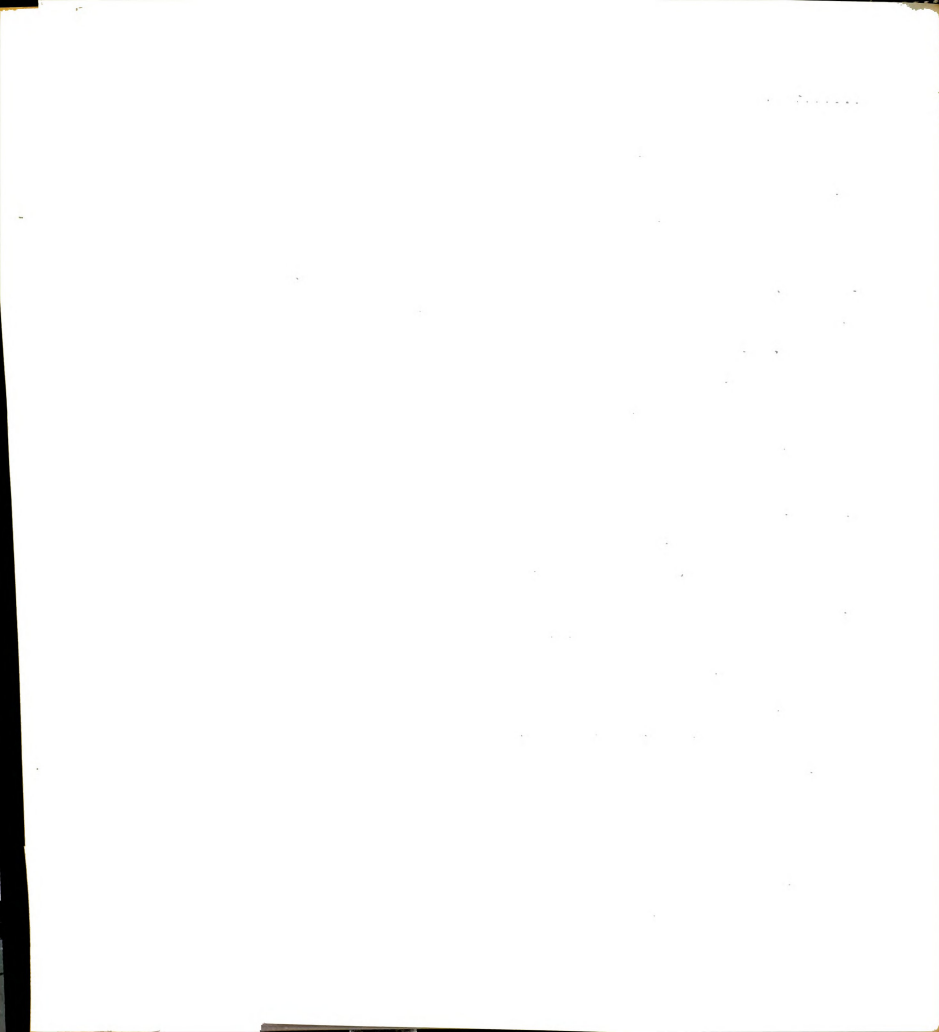
The motor common carriers in both Michigan and Ontario were sent questionnaires requesting certain information on border operations. They were asked for the amount and kind of traffic carried between Michigan and Ontario.¹

In Michigan 109 questionnaires were mailed to motor carriers, with 41 or 36% of them being returned. However, only seven answered all of the questions pertaining to commodities. Commodity information was not sufficient for this research. Most of the carriers indicated that they were unable to supply the commodity information from their records.

In Ontario 56 similar questionnaires were mailed to motor carriers.² The carriers selected were those holding operating authority allowing trailer-interchange with Michigan carriers. A total of 17 questionnaires were returned but only 9 supplied commodity information. Two of the nine were authorized to carry only fruits and vegetables; six were permitted to haul general commodities and dry freight; and the ninth was engaged solely in traffic between Ontario and western Canada. Thus, the information supplied by the Ontario motor carriers was also insufficient to be useful to this part of the research project.

¹A discussion of the sample and a copy of the questionnaire are presented in Appendix A, page 262.

²Appendix A, page 257.



WATERBORNE AND OTHER CARRIERS

WATERBORNE

All the waterborne statistics were compiled from United States sources.¹ The data presented were for 1960. An attempt was made to verify these statistics from data published by the Dominion Bureau of Statistics, but because of differences in classifications and reporting techniques, verification was impossible. Therefore, United States data were used alone.

Most of the waterborne tonnage, as shown in Tables 22 and 23, was in raw material form.

The waterborne carriers account for about 51% of the total tonnage that moved between Michigan and Ontario. They furnish the necessary economic transport service for raw materials that enables the manufacturing industries of the region to compete in regional and world markets.

AIR FREIGHT

A very small amount of the trade between Michigan and Ontario moves by air freight. Table 9 indicated that only .2% of the Michigan shipments to Ontario moved by air freight, and Table 18 indicated that only .3% of the Ontario shipments to Michigan were shipped by air.

¹Great Lakes Foreign Commerce, Great Lakes Commission, Ann Arbor, Michigan; Waterborne Commerce of the United States, Calendar Year 1960, Part 3, Waterways and Harbors, Great Lakes, Dept. of the Army, Corps of Engineers; Grain Transportation Statistics for North Central Region, USDA, Statistical Bulletin No. 268.

The statistics presented in Tables 22 and 23 for air freight are based on tonnage figures for 1962 supplied by the Transportation Bureau of the Greater Detroit Board of Commerce.¹ The Detroit air port-of-entry accounts for about 80% of the movements of freight by air, both in and out of Michigan. Statistics for the state as a whole are not compiled. Thus, the tons for Michigan shipments and receipts have been estimated based on the propensity of industrial groups to use air freight.²

For the present study the volume of air freight between Michigan and Ontario could be ignored without materially affecting the outcome of the research project.

PIPELINE

Nearly 100% of the flow of commodities by pipeline represents transit commerce across Michigan into Ontario. There is no petroleum moving from Ontario to Michigan. Consequently, the pipeline data will be discussed in the section on "Michigan Transit Commerce."

TRANSIT COMMERCE

Because of geographic location and the great lakes, there is considerable transit commerce across Michigan and

¹Detroit Air Cargo Statistics, 1962, Transportation Bureau, Greater Detroit Board of Commerce.

²A discussion of the method and procedure is presented in Appendix A, page 273.

Ontario.¹ The primary concern of this study is with the following types of transit commerce:

1. Michigan transit commerce using Michigan as a gateway for entering or leaving Ontario.²
2. Ontario transit commerce using Ontario as a gateway for entering or leaving Michigan.

Secondary sources do not provide any statistics on such transit commerce. Although Michigan is a customs district, the customs' publications do not show the origin of exports by states, or the destination of imports by states.³ It has sometimes been assumed that a high per cent of the exports from this customs district are of Michigan origin, and that most of the customs districts' imports stay within Michigan.⁴ After examining our data, this becomes suspect.

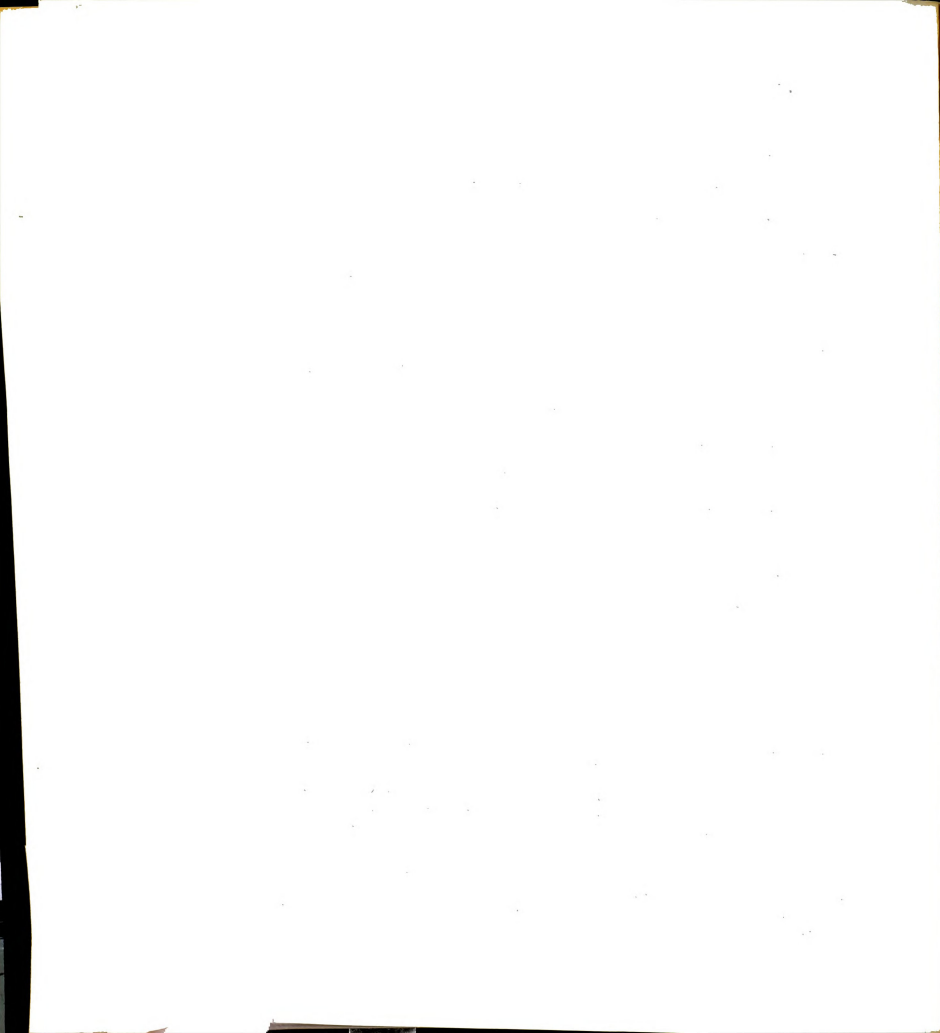
In connection with the transit commerce, it should be pointed out that the data here presented are not complete. Rail statistics provide some detail on the transit commerce

¹Transit is used here to mean passage of commerce through or across a state, or province, to reach another destination.

²Gateway means the area, here considered to be within the state or province, that provides the physical route for entrance or exit for another territory.

³See "FT970-I & E, United States Import (Export) Trade by Customs District," Bureau of the Census, Foreign Trade Division, U.S. Dept. of Commerce, Washington, D.C.

⁴John L. O'Donnell and David I. Verway, An Analysis of Foreign Trade Statistics of the Michigan Customs District (1951-53 and 1958-59), Bureau of Business and Economic Research, Michigan State University, East Lansing, Michigan, 1961, p. 3.



across Michigan, but only give percentages of the aggregate that originates and terminates in Ontario, and other Canada. Motor carriers provided no data; however, United States Customs Office at Detroit gave some estimates of the numbers of transit trucks crossing the border.

MICHIGAN TRANSIT COMMERCE

RAILROAD

Table 28 shows the total railroad tonnage crossing the Michigan-Ontario border into Ontario. About 70.5% of the tonnage originates in states other than Michigan, and 37% of other state origin is accounted for by 497,000 tons of Crops, Fruits and Vegetables, plus 293,000 tons of Coal and Coke. The approximate value of this transit railroad traffic is 529 million dollars.

Table 30 shows the total railroad tonnage crossing the Ontario-Michigan border into Michigan. About 74.5% of the tonnage moves through Michigan to other U.S. states. Some 35% of the tonnage going to other states is composed of Pulp, Lumber, and Paper products; 29% is Metallic Ores and Semi-processed Metal products; 9% is Non-metallic Minerals; and 7% is Chemicals and Allied Products. These four groups of products comprise 80% of the Michigan transit railroad traffic originating in Canada. The approximate value of this transit railroad traffic is 502 million dollars.

The total railroad transit traffic, to and from



Ontario and other Canada, had a value of about 1 billion dollars in 1962. Again, these are only approximate figures as they are based on national weighted average values per ton.

HIGHWAY

Quantifying the Michigan highway truck transit commerce to and from Ontario is impossible from the existing secondary statistics. The Michigan Highway Department's Truck Weight Study for 1963 yields very limited data on transit truck traffic.¹ A total of 35 trucks in-transit through Michigan to Canada were counted, eight of which were empty. In the sample results, 254.8 tons of commodities moved to Ontario from western Canada, 9 tons from Illinois, and 3.6 tons from Ohio. The total traffic cannot be determined from this study. Only 9/10 of a ton moved out of Ontario across Michigan in the Truck Weight Study.

The United States Customs offices in Sault Ste. Marie, Port Huron, and Detroit were asked for information on all truck traffic crossing the border. Detailed statistics were not available; however, some estimates of the number of loaded trucks were provided by the Detroit and Port Huron offices. No statistics were obtained from the office at Sault Ste. Marie. There is some traffic crossing Upper Michigan from the Soo port-of-entry, but presumably

¹See Appendix C for the results of the Truck Weight Study.



it represents only a small per cent of the total transit truck traffic across Michigan.

Table 34 shows the total number of loaded trucks entering Michigan from Ontario only, based on the estimate of the Detroit office of the Bureau of Customs. The total number increased 12% in fiscal year 1963, but only 5% in fiscal year 1964. About 2/3 of the total loaded trucks enter Michigan at Detroit, with most of the other 1/3 entering at Port Huron. Assuming an average load of 11.22 tons, 1,366,001 tons crossed the border into Michigan in fiscal year 1964.¹ Deducting the transit tonnage shown in Table 35 of 128,862 tons going to other Canada and other United States, and the transit tonnage in Table 36 of 68,352 tons going to other Canada, then a total of 1,168,787 tons terminated in Michigan. This figure is about twice the tonnage shown in Table 23 (634,225 tons) so obviously one of the estimates is wrong.

Table 35 shows the destinations of the loaded trucks entering from Ontario, at Detroit. The data indicate that most of the transit truck traffic through Detroit for the past three fiscal years has gone to other Canadian provinces. The data also indicate that the transit traffic from western Canadian provinces to Ontario is about 1/2 of the traffic outbound from Ontario to western Canada.

¹The 1964 fiscal year corresponds more closely with the 1963 calendar year used for the highway data in previous tables.

Table 34. Loaded trucks crossing the Ontario-Michigan border, entering Michigan from Ontario, 1962-1964

Fiscal year	Total traffic crossing border		Entering Michigan at:			
			Detroit		Port Huron and Sault Ste. Marie	
	Trucks	Tons ^a	Trucks	Tons	Trucks	Tons
1962	103,224	1,158,173	72,958	818,589	30,266	339,584
1963	116,461	1,306,692	77,087	864,916	39,374	441,776
1964	121,747	1,366,001	85,396	958,143	36,351	407,858

^aTons are figured at 11.22 tons per load, based on the average tons per load as shown for the United States Central Region, i.e., Michigan, Illinois, Indiana, and Ohio, in Cost of Transporting Freight by Class I and Class II Motor Common Carrier of General Commodities, Central Region, 1962, Statement No. 3-64, I.C.C., Bureau of Accounts, Washington, D.C.

Note: The term "truck" includes all commercial vehicles except small pick-up and panel trucks. The traffic is composed mostly of tractor-semitrailer combinations.

Source: Data are from the Bureau of Customs, Detroit, Michigan. Truck count represents loaded trucks only, based on an estimate by the Bureau that 45% of all trucks entering United States carry merchandise.

Table 35. Destinations of loaded trucks from Ontario entering Michigan at Detroit port-of-entry, 1962-1964

Fiscal year	Total trucks crossing border	Destinations						
		Other Canada ^a		Other United States		Detroit area and Michigan		
		Trucks	Tons	Trucks	Tons	Trucks	Tons	
1962	72,958	818,589	11,600	130,152	2,484	27,870	58,874	660,566
1963	77,087	864,916	5,805	65,132	2,521	28,286	68,761	771,498
1964	85,396	958,143	9,216	103,404	2,269	25,458	73,911	829,281

^aThe movement through Detroit into Ontario from other Canadian provinces was as follows:

Fiscal Year	Trucks	Tons
1962	5,296	59,421
1963	3,770	42,299
1964	3,940	44,207

Note: Tons are figured at 11.22 tons per load, based on the average tons per load as shown for the United States Central Region, i.e., Michigan, Illinois, Indiana, and Ohio, in Cost of Transporting Freight by Class I and Class II Motor Common Carrier of General Commodities, Central Region, 1962, Statement No. 3-64, I.C.C., Bureau of Accounts, Washington, D.C.

Source: Data supplied by the Detroit Office of Bureau of Customs, Detroit, Michigan.

Table 36 shows the border traffic from Ontario entering Michigan at Port Huron. The truck totals here listed are not comparable to those of Table 34 and Table 35 because the trucks crossing at Port Huron may originate in Ontario, other Canada, or eastern United States. However, the trucks enroute to western Canada are of Ontario origin. They account for about 11% of the total trucks entering Michigan at Port Huron.

Table 36. Border traffic from Ontario entering Michigan at Port Huron port-of-entry, 1961-1964

Fiscal year	Total Vehicles	Total Trucks ^a	Trucks enroute to Western Canada	
			Trucks ^b	Tons ^c
1961	796,606	55,431	6,000	67,320
1962	955,661	49,100	5,422	60,835
1963	1,040,255	52,012	5,793	64,997
1964			6,092	68,352

^aIncludes all trucks empty and loaded, with origins in Ontario, other Canadian provinces, and eastern United States.

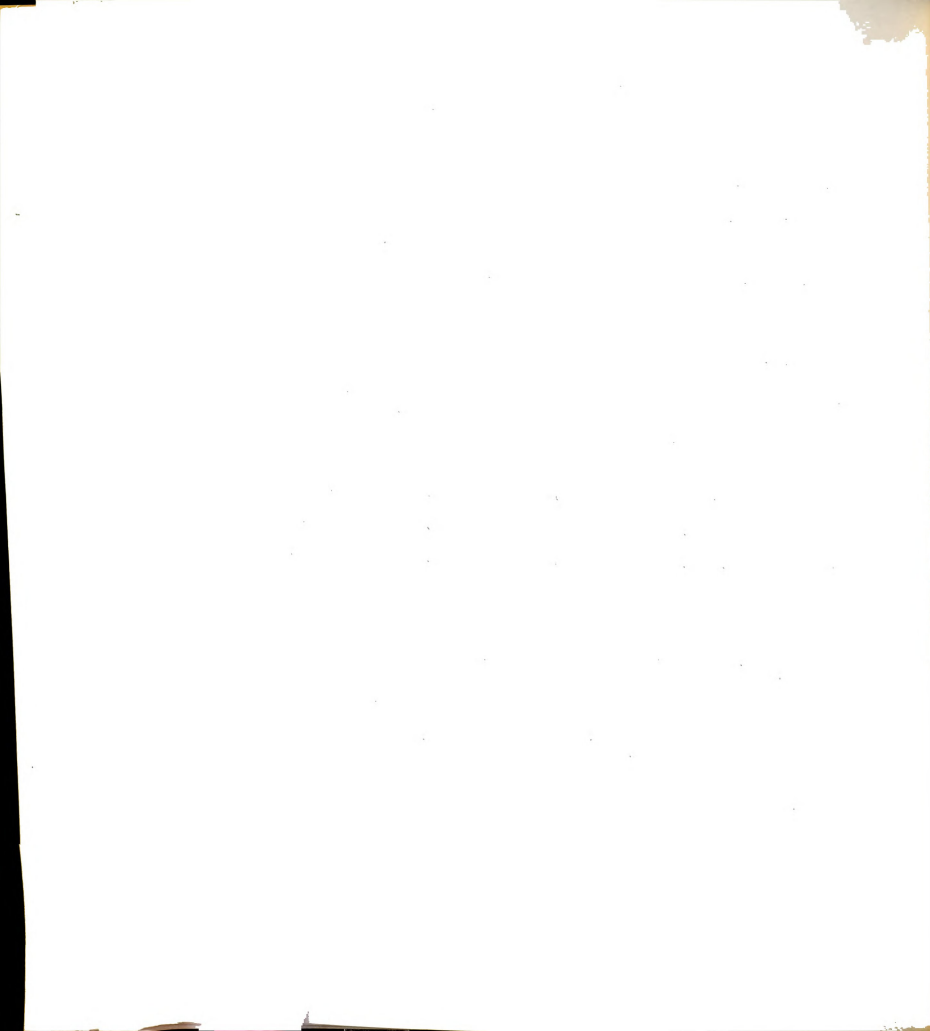
^bThese trucks all originated in Ontario.

^cTons based on 11.22 tons per load, assuming that all trucks are loaded. See Table 35 for data on the 11.22 average tonnage figure.

Source: Based on data supplied by the Port Huron office of the Bureau of Customs, Port Huron, Michigan.

PIPELINE

There are no oil or gas shipments of Michigan origin moving to Ontario by pipeline. At the same time there



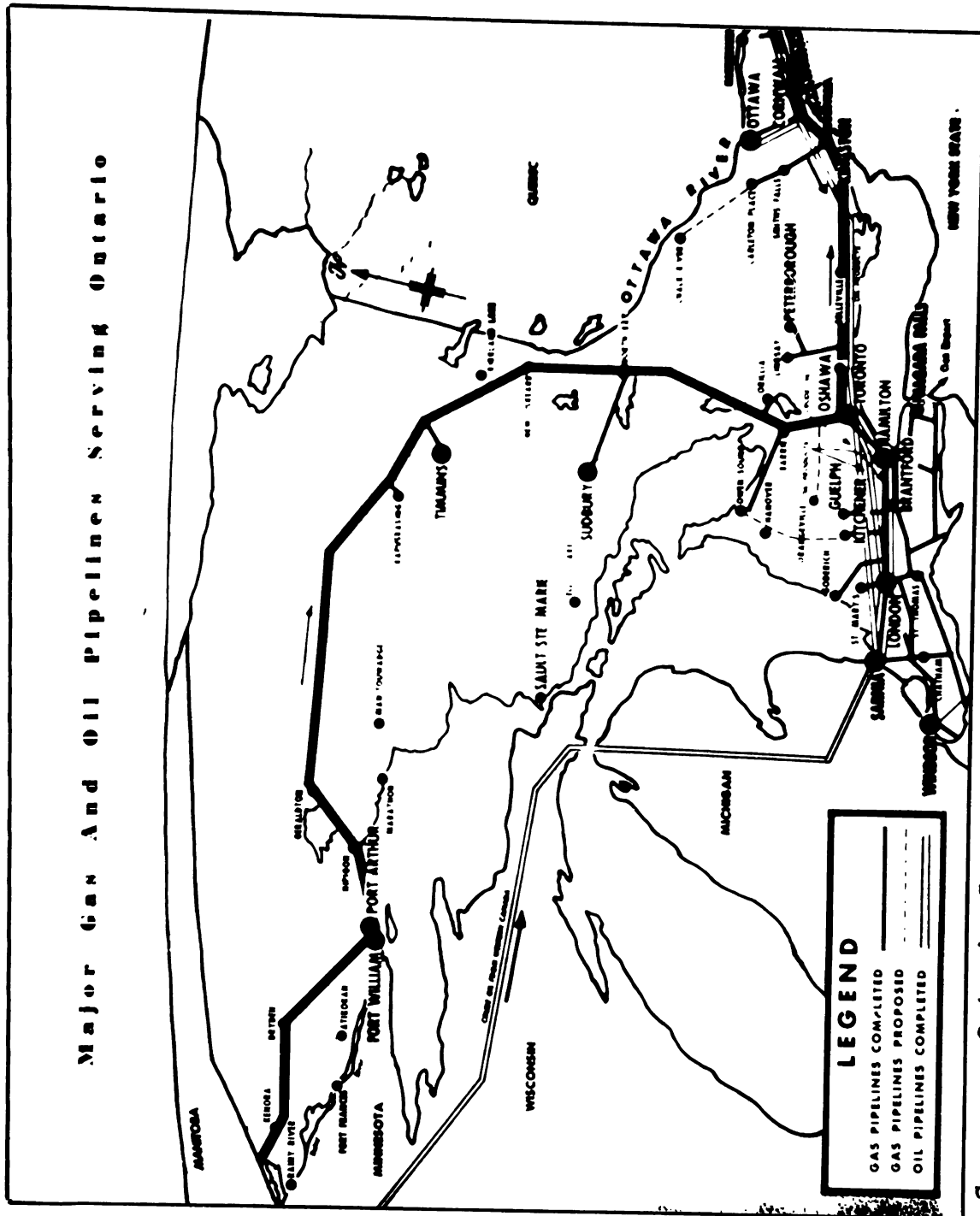
are no Michigan receipts of gas or oil originating in Ontario. However, there is a large volume of crude oil, and some natural gas, moving as transit traffic across Michigan into the eastern part of Ontario, primarily to Windsor and Toronto.

The Panhandle Gas Company has two 16-inch gas pipelines across the Detroit river, terminating in Windsor. A very small amount of gas originating in other U.S. states is exported to the Windsor market area. The movement is of an interstate and international character, and as such, the state of Michigan has limited jurisdiction over the operations. Michigan establishes engineering and safety codes for the equipment and operations, and requires the filing of tariffs with the Utilities Division of the Michigan Public Service Commission.

By far the most important, and interesting, transit traffic is the movement of crude oil from western Canada across Michigan, to Sarnia and thence to Toronto. The pipeline originates in Edmonton, Alberta, crosses Minnesota, Wisconsin, Michigan, and terminates in eastern Ontario (see Figure 9). It is the longest crude oil pipeline in the world totaling approximately 1,930 miles in 1959, and by 1964 the complete system totalled 3,428 miles.¹

The complete pipeline is owned and operated by

¹Data and statistics for the pipeline operation were provided by the annual reports of the Lakehead Pipeline Company and the Interprovincial Pipe Line Company.



Source: Ontario Survey, Ontario Dept. of Economics, 1961.

Figure 9. Ontario gas and oil pipelines

Interprovincial Pipe Line Company with headquarters at 10049 Jasper, Edmonton, Alberta. The executive offices are in Toronto, Ontario.

The pipeline across Michigan is owned and operated as a wholly owned United States subsidiary by Inter-provincial Pipe Line Company, under the name of Lakehead Pipe Line Company with headquarters at Superior, Wisconsin.

The Lakehead Pipe Line Company operates a 30 inch pipeline from Superior, Wisconsin, to Sarnia, Ontario. The pipeline crossing the Straits of Mackinaw is two twin 20-inch pipelines approximately four miles long, and 243 feet deep.

The original pipeline of Interprovincial was completed from Edmonton to Superior in the late forties. From Superior the oil was shipped by tanker to Sarnia for movement into the Toronto area. However, the tanker operation was gradually decreased after the completion of the Michigan portion of the pipeline in 1953. By 1959 the tanker operations ceased completely.

The 30 inch Lakehead pipeline started with a capacity of 200,000 barrels per day. Since the beginning in 1953 addition pumping stations have been activated which have increased the daily capacity. In 1957 an additional line from Edmonton to Superior was completed, and in the same year the pipeline from Sarnia to Toronto was put into operation. By 1959 pumping stations at Iron River and Bay City, Michigan, were in operation, which boosted the capacity



to 300,000 barrels per day.

As the market demand grew in eastern Ontario, more capacity was required. The original line was engineered to accommodate the future demands of the Ontario market. The limiting factor was the pumping capacity. In 1962 the Michigan Public Service Commission approved the addition of five pumping stations in Michigan to be located at Gogebic, Rapid River, Mackinaw, Lewiston, and North Branch. When these were completed, the daily capacity was increased to 416,000 barrels.

The original agreement allowing the transit movement of the Canadian crude oil was worked out at the national level between the governments of Canada and the United States. Special permits for this type of operation were secured from the United States government. The operations within the United States are interstate in character and, therefore, come under the jurisdiction of the Interstate Commerce Commission.

The Lakehead Pipe Line Company which operates in Michigan is an interstate common carrier of crude oil as defined in Act 16 of the Public Acts of 1929. Michigan's jurisdiction is limited to establishing safety standards and requiring the filing of interstate and intrastate tariffs.

The tariffs are first accepted, and filed, with the Interstate Commerce Commission. Copies are then forwarded to the Utilities Division of the Michigan Public Service Commission. The tariffs are filed jointly by the



Interprovincial Pipe Line Company and the Lakehead Pipe Line Company.

The Lakehead Pipe Line Company transports crude oil to several Michigan cities; Rapid River, West Branch, Sterling, Bay City, Port Huron, and Alma via the facilities of the Michigan-Ohio Pipe Line Corp. Oil is also transported to Detroit and Toledo by using both the Lakehead lines and the Buckeye Pipe Line Company system.

The Interprovincial Pipe Line Company also transports crude oil to Clearbrook and Wrenshall, Minnesota, and in the past year to Buffalo, New York. The total volume of crude oil transported in 1954 was 67.6 million barrels; in 1959, 122.9 million barrels; and by 1963, a total of 171.8 million barrels was carried at an average rate of over 470,000 barrels per day.

The Michigan imports of crude oil to the above cities are not of Ontario origin, but rather from western Canadian provinces. However, the operations of the combined carrier system is a good example of how common problems of the region can be solved for the mutual advantage of all concerned. Western Canada, Minnesota, Wisconsin, Michigan, and Ontario all benefit from these operations. In this instance the existence of the border did not hinder a joint solution to the problems of operating the pipeline system.

WATERBORNE

Although it is often not thought of as transit commerce, much of the waterborne traffic in the great lakes

moves through Michigan or Ontario territorial waters. All intra-Canadian, and most interlake United States waterborne commerce, moves enroute through the waters of Canada, United States, Michigan and Ontario.

There are many statistical reports published in United States and Canada covering the waterborne commerce in the great lakes and connecting canals.¹ But it is extremely difficult to isolate the transit traffic, or determine the origin, destination, and quantity of commodities that make up this traffic.

SUMMARY

An effort has been made to assimilate statistics by mode of transport to show the volume and value, where possible, of the commerce crossing Michigan, entering, or leaving Ontario. Table 37 presents a summary of the Michigan transit commerce by mode. The rail data are based on individual reports obtained from the participating railroads. It is considered to be accurate with respect to tonnage.

The highway traffic is based on estimates by the Detroit office of the Bureau of Customs. The highway outbound tonnage in Table 37 is only 7% of the rail tonnage.

¹For United States publications see "Description of Shipping Statistics Program of Bureau of the Census, U.S. Dept. of Commerce, Washington, D.C., 1960; for Canadian publications see "Current Publications Dominion Bureau of Statistics," 1964, The Queen's Printer, Ottawa, Canada.

Table 37. Total transit commerce crossing Michigan both in and out of Ontario, 1963

INBOUND TO ONTARIO			
FROM OTHER U.S. STATES			
(tons)			
RAIL	HIGHWAY	PIPELINE	TOTAL
2,112,019 ^a	44,207 ^b	25,265,000 ^c	27,421,226
OUTBOUND FROM ONTARIO			
2,843,913 ^d	227,214 ^e	none	<u>3,071,127</u>
Total			30,492,453
			tons

^aFrom Table 24.

^bFrom Table 35.

^cRepresents 171,800,000 barrels (6.8 barrels equal 1 ton).

^dFrom Table 25.

^eFrom Tables 35 and 36 for fiscal year 1964.

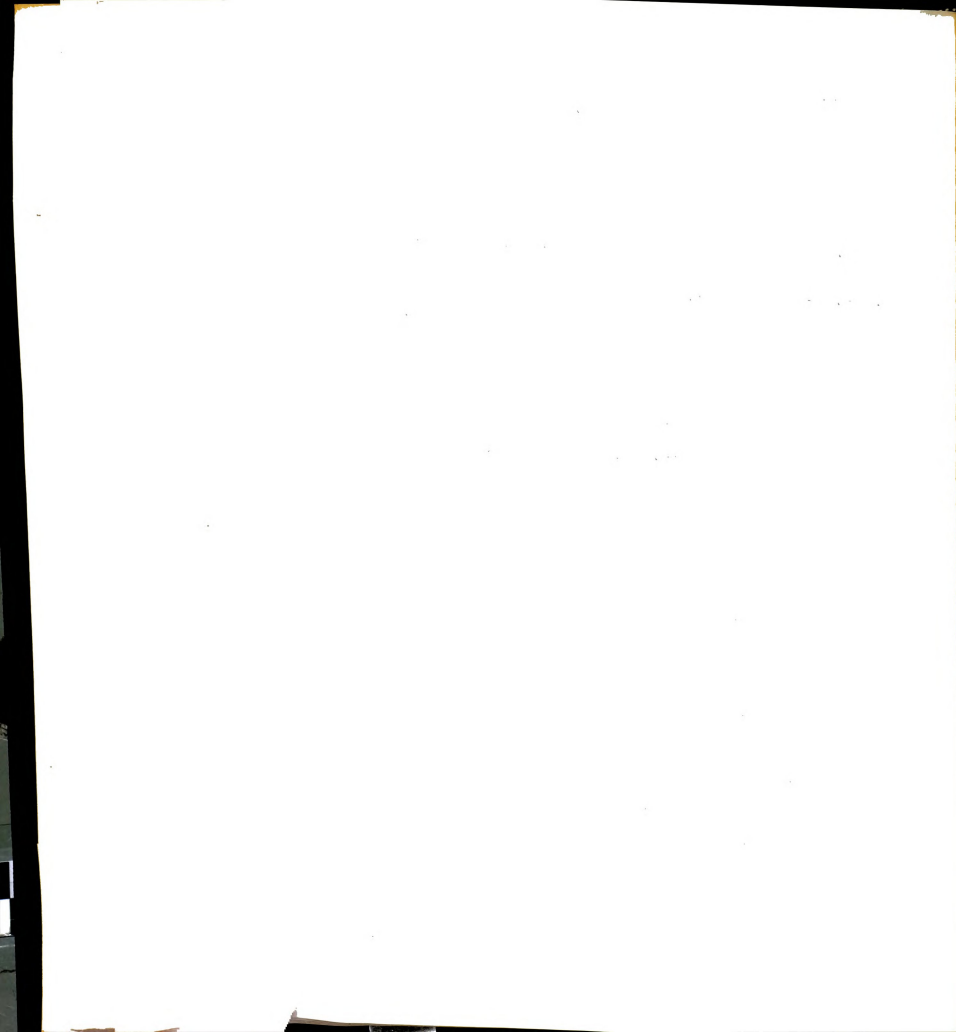
For inbound, highway is only 2% of rail tonnage. Obviously the highway data are incomplete, yet at this writing they are the only data available.

The pipeline movement is nearly 100% into Ontario from western Canadian provinces. It has grown considerably over the last few years and will be expanded in the future as market demand and economic conditions warrant. The present daily capacity is 470,000 barrels and the total deliveries for 1963 were 171.8 million barrels.

ONTARIO TRANSIT COMMERCE

RAILROAD

Secondary statistics are not available on the transit



commerce through Ontario. However, the following data will give some idea of the volume and content of such trade.

Detailed railroad statistics, comparable to those presented for Michigan transit commerce are not available for Ontario. Some aggregate tonnage figures have been developed for 1962 and 1963. These are presented in Table 38.

Table 38. Comparison of rail statistics showing Ontario commerce for 1962 and 1963

INBOUND TO ONTARIO FROM UNITED STATES			
Year	Total Tons	Terminating in Ontario	Transit, Termin- ating in Other Canada
1962	2,994,569	2,148,508	846,061
1963	3,156,503	2,264,838	891,665
OUTBOUND FROM ONTARIO TO UNITED STATES			
		Originating in Ontario	Originating in Other Canada
1962	3,819,620	2,153,755	1,665,865
1963	3,981,294	2,233,822	1,747,472

Source: Data provided by the individual railroads participating in the border traffic.

The 1963 inbound and outbound Ontario transit commerce increased 5%. The commodity composition of the rail inbound traffic from the United States is the same as that shown in Table 26, with 846,061 tons crossing Ontario to other Canadian provinces. Table 27 shows the commodity composition of the outbound traffic to the United States, with 1,665,865 tons originating in other Canadian provinces. The data on the actual tons for specific commodity groups

is not available. This is, however, transit commerce to and from the United States. There is also a substantial through movement to and from other Canadian provinces for which the data are not available.

HIGHWAY

The Ontario Department of Transport issues a special "L" license which permits foreign motor carriers to transport merchandise in bond across Ontario. There is no license fee, but a special \$9.00 permit is required for each bonded trip.

In the fiscal year ending March, 1964, 52,181 permits were issued for a total revenue of \$469,629. This means that 52,181 trucks, or tractor-trailer combinations, made trips across Ontario. Assuming each load averaged 11.2 tons, the total tonnage was 584,427. There is no way to determine the origin, destination or commodity composition of this highway traffic.

Table 39 is presented to show that 15 manufacturing industries in Michigan shipped products across Ontario in 1963. These data are taken from the sample of Michigan manufacturers who responded to the questionnaire used for this study. It is only indicative of the commodity composition of the Ontario highway transit traffic that originates in Michigan.

The total transit commerce in Ontario by rail and highway appears to be as follows:



Table 39. Ontario highway transit traffic, originating in Michigan going to eastern United States and other Canada, 1963

SIC Classification	Number of companies reporting	Destinations		
		Other United States	Other Canada	Total amount
14 Non-metallic	1	\$45,000	\$9,000	\$54,000
20 Food & pdts.	4	50,058,000	70,000	50,128,000
24 Lumber & wood	3	193,000		193,000
25 Furniture	1	3,000		3,000
26 Paper & pdts.	2	990,000	45,000	1,035,000
27 Printing	1		1,000	1,000
28 Chemicals	5	680,000	3,000	683,000
32 Stone, clay	1	500,000	75,000	575,000
33 Primary metals	2	500,000	29,000	529,000
34 Fabricated metal	7	19,000	91,000	110,000
35 Mach. exc. elect.	23	3,937,000	1,218,000	5,155,000
36 Electrical mach.	8	1,000	64,000	65,000
37 Transportation eq.	5	25,000	1,065,000	1,090,000
38 Instruments	2	30,000	81,000	111,000
39 Misc. mfg.	1		1,000	1,000
Totals	66	56,981,000	2,752,000	59,733,000
Percentage		95%	5%	100%

Source: Data from survey of Michigan manufacturing companies.



	1962	1963	
Michigan gateways across Ontario	Rail tons	Highway tons	Total tons
Inbound from U.S.	846,061		846,061
Outbound to U.S.	1,665,865		1,665,865
Both directions	<u> </u>	<u>584,427</u>	<u>584,427</u>
Total	2,639,137	584,427	3,096,353

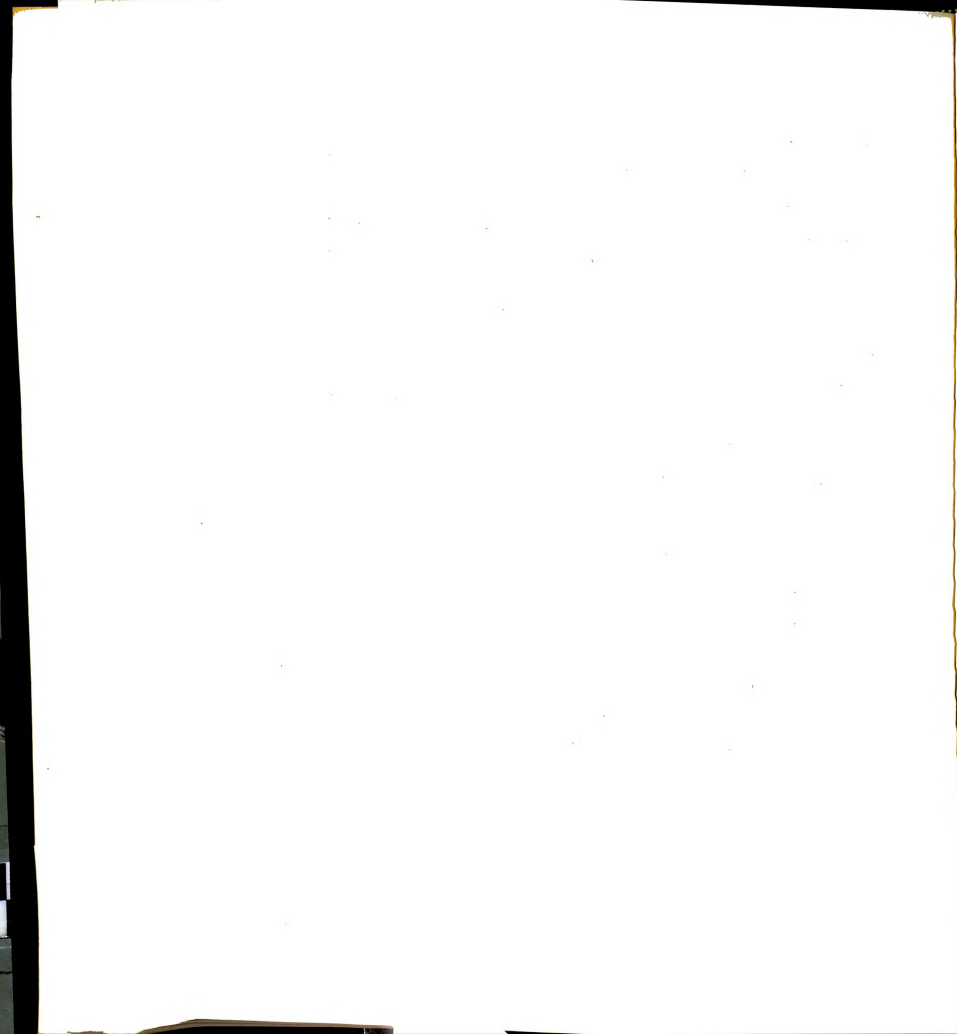
It seems quite probable that 3,096,353 tons is a conservative figure for Ontario's transit commerce. The truck tonnage is based on assumed average loads, and no consideration has been given to private carrier traffic. Such carriers could possibly move across Ontario using the 5-day, \$20.00 permits, that were first issued in 1963.

SUMMARY

About 2% of the Michigan shipments were exported to Ontario in 1963. This was valued at about 500 million dollars. At the same time, based on the survey results, about 4% of the value of the Ontario shipments were exported to Michigan. This had a value of about 525 million dollars. Both figures are estimates, but they indicate the importance of the trade (over \$1 billion) between Michigan and Ontario.

Waterborne carriers hauled 51% of the total Michigan-Ontario tonnage with highway carriers accounting for 21% and rail carriers 28%. Considering all manufactured products, highway carriers hauled 48% of the tonnage, rail carriers 47% and waterborne only 5%.

Michigan shipments amounted to 3,802,646 tons, with



54% hauled by waterborne carriers, 22% by highway carriers, and 24% by rail. Michigan receipts amounted to 3,222,698 tons, with 48% being hauled by waterborne carriers, 32% by rail, and 20% by highway carriers. However, only 56% of the Ontario shipments (Michigan receipts) by rail originated in Ontario.

Because of the location of both Michigan and Ontario there is considerable transit traffic across each jurisdiction. The only valid statistics on this traffic were furnished by the railroads participating in the traffic. The highway statistics were estimated, based on figures provided by the Detroit customs office. The total transit commerce across Michigan, into Ontario was 2,112,019 tons by rail, 44,207 tons by highway (a very conservative estimate) and 25,265,000 tons of oil by pipeline. The transit traffic across Michigan, out of Ontario was 2,843,913 tons by rail, and 227,214 tons by highway (estimate).

The Ontario transit commerce passing through Michigan gateways, inbound from the United States was 826,061 by rail, and outbound to the United States was 1,665,865 tons by rail, with 584,427 tons (estimate) moving by highway in both directions.

Thus Michigan transit commerce to and from Ontario was 5,227,453 tons by rail and highway, and 25,265,000 tons by pipeline. While at the same time the Ontario transit commerce passing through Michigan gateways was 3,096,353 tons for a combination of 1962 and 1963 data. The Michigan



and Ontario transit commerce together (excluding the pipeline) was 8,323,806 tons, or greater than the direct Michigan-Ontario trade of 7 million tons.

Having discussed the direct trade and transit commerce for Michigan and Ontario, we shall now turn our attention to some of the major obstacles to this trade. An examination of the types of restrictions applicable to the trade will start in the next section. It will be followed by a discussion of the manufacturing companies' views of obstacles to trade.

OBSTACLES TO TRADE

TARIFFS AND IMPORT RESTRICTIONS

The primary and perhaps most publicized obstacle to trade is the tariff. Tariffs are defined as a systematic arrangement of the customs duties levied on goods when they pass the border of a political unit.¹

Import tariffs are levied either to raise revenue or to protect home industries. Usually revenue tariffs are kept low so as not to discourage the importation of goods. This, however, depends upon the elasticity of demand for the good. If the demand is relatively inelastic, a higher rate of tariff may be applied without curtailing imports. If the demand for the good is relatively elastic, the rate must be low or it will curtail all imports.

¹Paul V. Horn, International Trade Principles and Practices (New York: Prentice-Hall, Inc., 1945), p. 123.

A protective tariff, if it is fully effective, is high enough to restrict all imports of a particular commodity. It may be such as to prohibit most of the importation of the foreign merchandise, while allowing the domestic price to rise enough for profitable manufacture of the product by the local industry.

Export tariffs are used by some countries to raise revenue. Generally such tariffs are on raw materials as in the case of Chile levying an export duty on nitrates.

In the past tariffs have been used to collect duties on merchandise passing through one country into another. These are referred to as "transit duties" and, for all practical purposes, they are non-existent in present day trade.

The tariff rate may be set as a specific duty, i.e., so many cents per unit of weight or measurement; an ad valorem rate, i.e., a per cent of the value of the product imported; or a combination of the above two systems.

The quota system is another direct restriction to trade. It may be applied to imports or to exports. In the case of imports, a quota is set by the government limiting the total amount of a particular commodity that may be imported. By the use of an importer's license, or some other arrangement, the quota is divided among the various importers, except in the case where the government is the sole importer.

Government control of foreign exchange can effectively restrict the flow of trade. In this situation foreign



currencies are provided by the government for only those imports that it deems important. This procedure may be used alone or in conjunction with a quota system.

The point to be made with respect to tariffs, quotas, and exchange controls is that, although a tariff restricts imports by its effect on prices, trade generally continues, but quotas and exchange controls generally prohibit trade.

With a tariff complete cessation of trade is unlikely but it slows up the marketing processes. The commodity on which the tariff is imposed may be purchased by the consumer provided he is willing to pay the price. However, if the consumer substitutes a domestically produced good for the higher priced imported product (the higher price due to the effect of the tariff), then imports are indirectly restricted by the tariff.

Under a system of quotas, or control of foreign exchange, the government can prohibit trade completely. A government agency determines the quantity of the product that is to be imported. When this quantity has been reached no more units of the product may be imported, regardless of how much the consumer might be willing to pay for the product. In this case consumer preference is ignored by the government and the marketing processes become inoperative.

OTHER OBSTACLES TO TRADE

There are many indirect restrictions or barriers



to trade often referred to as "invisible tariffs" or "invisible trade barriers."¹ As reported in a study by Francis Masson:

. . . the term "invisible tariff" was applied to the unwarranted--and sometimes unintended--protective effects of valuation and classification legislation and procedures, regulations providing for marking to indicate the country of origin, import controls imposed by administrative fiat and without proper procedural safeguards, arbitrary enforcement of laws against "unfair competitive practices" such as dumping or violation of patent and trademark regulations, vague or unduly stringent standards for health and quarantine, and special protective devices relating to the traffic in materials for supplying military establishments.

Generally tariffs are changed only after hearings, discussions and governmental negotiations. But this is not true of the administrative procedures used to enforce the tariff laws. As one authority has stated: "I care not who writes the tariff act if I may be permitted to draft its administrative provisions."²

If there is no certainty beforehand of the manner in which the customs administrator will classify and value the merchandise, the importer is faced with considerable

¹Francis Masson and J. B. Whitely, Barriers to Trade Between Canada and the United States, Montreal: Canadian-American Committee of the National Planning Association (U.S.A.) and the Private Planning Association of Canada, 1960. Constant Southworth and W. W. Buchanan, Changes in Trade Restrictions Between Canada and the United States, Washington, D.C.: Canadian-American Committee of the National Planning Association (U.S.A.) and the Private Planning Association of Canada, 1960. Francis Masson and H. E. English, Invisible Trade Barriers Between Canada and the United States, Washington, D.C., National Planning Association of Canada, 1963.

²Horn, p. 149.

risk. It may be sufficient to restrict the importation of the goods. Carried to the extreme, it is possible that a new classification of imported merchandise can be applied to some previous importations and the additional duty collected. If the importer decides to take the matter to the court, he is faced with other problems such as a time limit with respect to administrative appeals, absence of appeal against certain kinds of administrative actions, and finally considerable delay in the court due to the volume of work before the court. In some cases the delay has been several years, and this record, coupled with the uncertainty of winning a favorable decision, causes many importers to settle the case out of court. However, if the importer has cause to feel that he has been unjustly treated by the customs administrators, his importations of such merchandise will probably be reduced in the future.

MANUFACTURING COMPANIES' VIEWS OF OBSTACLES TO TRADE

Michigan.--Each Michigan manufacturing company surveyed in the study was asked to state his most serious problems confronting initiation or expansion of trade with Ontario. He was given six conditions representing problems common to most exporters and was asked to rank them in order of importance as they affected his business. He was also requested to write in any other problem and to weight them appropriately.

Non-exporters were encouraged to answer this question



so as to give some indication as to why they were not interested in exporting to Ontario.

The answers to this question were weighted and ranked as first most serious problem, second most serious problem, etc.

Table 40 shows the ranking by the Michigan manufacturing companies. A comparison is shown for all companies, non-exporting companies, and exporting companies.

There is little difference in the ranking by all three groups. "High Canadian Tariffs and Customs Regulations" was the most important obstacle. It is interesting to note that the thirty non-exporting companies considered "Lack of Ontario market information and services" as the second most important problem. It was ranked third by the other companies. This is one area that is not related to governmental regulations. The state government, Chamber of Commerce, or other organizations could set up the necessary machinery to provide Michigan companies with this information. During the interviews it was apparent that the non-exporting companies were less informed on all export procedures and some evidenced no interest whatever in expanding their operations. Some voiced no desire to enter the export markets regardless of how profitable they might be.¹

Transport service and distribution problems did

¹Based on correspondence from various manufacturing companies.

Table 40. Ranking by the Michigan manufacturing companies of problems confronting their initiation or expansion of trade with Ontario, 1963

	All Companies		Non-exporting companies ^a		Exporting companies ^b	
	Rank	Wt.	Rank	Wt.	Rank	Wt.
High Canadian tariffs and customs regulations	1	1,127	1	94	1	1,033
Complexity of Canadian import procedures and regulations	2	642	4	65	2	577
Lack of Ontario market information and services	3	420	2	49	3	371
Complexity of United States export procedure and regulations	4	340	3	37	4	303
High cost of transport and distribution	5	267	5	18	5	249
Inefficient transport service due to border regulations and administrative practices	6	211	6	5	6	206

^aData from 30 non-exporting companies.

^bData from 217 exporting companies.

Note: Respondent was asked to write in specific problems pertaining to his operations. These appear in the next table.

Source: Data were provided by 247 Michigan manufacturing companies. Method of weighting appears in Appendix A.

not seem to be of great concern to the respondents. Some complained of the high freight rates but didn't indicate that they were high enough to keep them out of the Ontario market. The extra time in-transit caused by the existence of the border was frustrating to many companies, but most had accepted it and planned their operations accordingly.

Many of the companies indicated special problems that influenced their decision not to enter the Ontario market. These are listed in Table 41. Ten companies had subsidiaries or license arrangements to cover the Ontario market. Fifteen companies were not interested because of the small size of the market, or for other reasons. Five had no representation in the market and were not sure whether it warranted representation. Many of the other (listed) problems concerned situations that were beyond the control of the Michigan company.

Ontario.--The Ontario manufacturing companies were asked the same questions about the problems confronting the initiation and expansion of trade in the Michigan market. Table 42 shows how they ranked the first six problems.

The "High United States tariffs and customs regulations" was considered the most important single problem. Many companies gave this as the only problem confronting their initiation or expansion of trade with Michigan.

The only difference in the ranking of the answers by the non-exporters, as opposed to the exporters, was in the second and third choices. "Lack of Michigan market

Table 41. Specific problems confronting expansion or initiation of Ontario trade listed by Michigan manufacturing companies, 1963

Number of companies answered	
12	Market potential too small
7	Subsidiary of U.S. firm located in Ontario
3	Have Canadian license that covers the market
5	Value of the Canadian dollar
5	No representation in that market
1	Plant capacity utilized fully now
1	Lower Canadian production costs
5	Canadian competition is too great
2	Canadian taxes
1	Too much paper work
1	Too much other U.S. competition
1	High cost of distribution
1	Rail rates too high
3	"Buy Canadian" attitude limits demand for American product
3	Not interested in the market
<u>1</u>	Customs clearance delays
52	Total write-in answers to the question

Source: Survey of Michigan manufacturing companies.



Table 42. Ranking by the Ontario manufacturing companies of problems confronting the initiation or expansion of trade with Michigan, 1963

	All companies		Non-exporting companies		Exporting companies	
	Rank	Wt.	Rank	Wt.	Rank	Wt.
High United States tariffs and customs regulations	1	506	1	216	1	290
Lack of Michigan market information and services	2	284	3	123	2	161
Complexity of United States import procedure and regulations	3	242	2	132	3	110
High cost of transport and distribution	4	164	4	62	4	102
Complexity of Canadian export procedure and regulations	5	75	5	33	5	42
Inefficient transport service due to border regulations and administrative practices	6	26	6	6	6	20

Note: Respondent was asked to write in specific problems pertaining to his operations. These are summarized in the next table.

Source: Data from 168 Ontario manufacturing companies with 80 non-exporting companies and 88 exporting companies.



information and services" was ranked third by the non-exporters, while the exporters ranked it second. This is just the opposite of the ranking of these problems by the Michigan manufacturing companies.

The non-exporters considered the "Complexity of United States import procedure and regulations" a greater problem than a "Lack of Michigan market information and services." Many of the non-exporters were not too well informed as to the exact United States import procedure. Some stated they did not have sufficient or trained personnel to accomplish the necessary paper work required to satisfy the United States customs regulations.

The Ontario manufacturing companies were more concerned with the "High cost of transport and distribution" than were their counterparts in Michigan.

The last two answers, "Complexity of Canadian export procedure and regulations" and "Inefficient transport service due to border regulations and administrative practices" were seldom mentioned as problems. Each received about 1/10 the weight for ranking purposes as did the problem of "High United States Tariffs and customs regulations."

Table 43 lists the various specific problems that were given by the Ontario manufacturing companies.

Thirty companies were subsidiaries of United States firms and were not interested, or in some cases prohibited by the parent organization from selling in the Michigan market. Many of the other problems reflected the situation



Table 43. Specific problems confronting expansion or initiation of Michigan trade listed by Ontario manufacturing companies, 1963

Number of
companies
answered

1	Prohibited by the U.S. food and drug administration
1	Higher Canadian cost due to greater number of styles carried compared to the size of Canadian market
3	Plant capacity fully utilized serving Canadian market
19	U.S. price competition too great
6	No sales representation
1	Can't satisfy Canadian market
5	Have not solicited U.S. markets
1	Canadian market fills production needs
4	Purely a product and sales nature, i.e., didn't have the right product
2	Not our market
1	Complicated duty rebate (Canadian) on material of foreign origin
1	Product prices all too high to enter the Michigan market
1	Uneconomical to move flour against the flow of wheat
1	Customs inspections at border hold up transport
1	Section 16 of the U.S. copyright act
1	Exchange rate--affects long-term contracts
1	Inefficient administrative practices
1	Threat of patent suit
1	Disinclination of U.S. firms to buy Canadian product
<u>30</u>	<u>Subsidiary of a U.S. company</u>
82	Total write-in answers to the question

Source: Survey of Ontario manufacturing companies.



of the individual company. This restricted its ability to participate in the Michigan market.

Many companies stated that if the tariffs could be reduced they would be interested in initiating, or expanding activities in the Michigan market and those of the surrounding states. Nineteen of the companies stated that the United States price competition was too great for them to try and enter the Michigan market.

SUMMARY

The survey findings indicated that the greatest obstacle to initiation or expansion of Michigan-Ontario trade was "High United States (Canadian) tariffs and customs regulations." Michigan companies considered the "Complexity of Canadian import procedure and regulations" as the next most serious obstacle, while "Lack of Ontario market information and services" was third.

The Ontario companies ranked "Lack of Michigan market information and services" as the second most serious obstacle, with "Complexity of United States import procedure and regulations" third. "High cost of transport and distribution" was fourth for the Ontario companies and fifth for the Michigan companies.

The Michigan companies ranked "Complexity of United States export procedure and regulations" as fourth, while the counterpart of this question was ranked by the Ontario companies as fifth, tending in most cases to feel it was



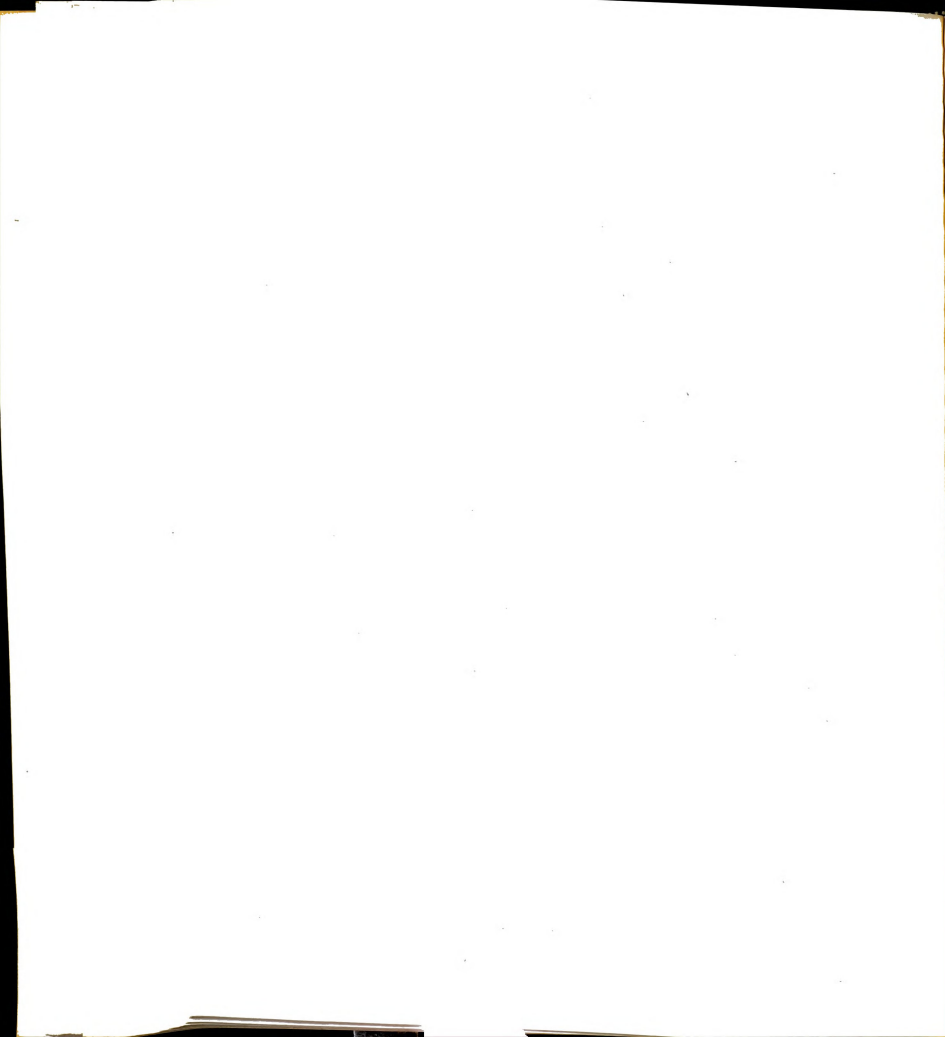
an unimportant obstacle. All companies in both Michigan and Ontario ranked "Inefficient transport service due to border regulations and administrative practices" as the least important obstacle.

Two of the above obstacles, "Lack of Michigan (Ontario) market information and services" and "High cost of transport and distribution," can be dealt with at the state, or local level. However, the other four are caused directly or indirectly by federal regulation and may possibly be changed or improved, by the state or province taking positive action to influence the federal government.

The majority of exporters in the survey were optimistic and expected shipments to increase annually 10% to 20% over the next five years. Non-exporters tended to be somewhat less optimistic regarding shipments for the same period.

Considering the optimistic attitude of the exporters in the survey, given a favorable governmental and economic climate, expansion of Michigan-Ontario trade can be an important contributing factor to the future progress and growth of each economy.

In the following chapters we will examine the transport reciprocity between Michigan and Ontario and see how it affects the commerce between the two jurisdictions. However, first it is necessary to determine what agencies in both Michigan and Ontario are involved in transport regulation and see what responsibility they have for reciprocity. This is the subject of the next chapter.



CHAPTER IV

TRANSPORT REGULATORY AGENCIES AND RECIPROCITY

INTRODUCTION

This chapter is concerned with transport regulatory agencies and reciprocity between Michigan and Ontario. The relationship of the federal and state governments with respect to the exercise of power in the regulation of transport carriers is examined first. An explanation of the origin and evolution of the functions and responsibilities of the state and provincial agencies that exercise regulatory power over the several modes of transport follows. A statement of the formal motor carrier reciprocity agreement between Michigan and Ontario will complete the chapter.

COMMERCE CLAUSE AND FREEDOM OF TRANSPORT

The United States constitution sets up the relationship of the state and federal government with respect to the exercise of power over commerce.

Article I, section 8, paragraph 3, states that Congress shall have power to regulate commerce with foreign nations, and among the several states, and with the Indian tribes.¹

¹The Constitution of the United States of America, published by the Office of Education, U.S. Department of Health, Education, and Welfare, Washington, D.C., 1957, p. 10.

The tenth amendment states that the powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states, respectively, or to the people.

Supreme Court decisions interpreting the constitution have divided the exercise of governmental power into three areas:

1. The area in which federal power has exclusive jurisdiction.
2. The area where the state power has exclusive jurisdiction.
3. The area where both federal and state power are applicable.

With respect to interstate and international carriers, neither the federal nor the state has exclusive jurisdiction. The exercise of governmental power falls into the third area where such powers are concurrent.¹ Because of the intertwining of local and national interests in the operations of interstate carriers, it is impossible to draw lines between the proper areas of state and federal control. The areas of control have been the subject of judicial interpretation with the Supreme Court of the United States as the ultimate arbiter in such cases.

¹"Concurrent" is used to denote the co-existence of paramount federal and subordinate state power, the sense in which it is customarily used in discussing the power to regulate commerce.



The judicial interpretation of federal power with respect to carriers and the commerce clause was first provided in the case of *Gibbons v. Ogden* in 1842.¹

The state of New York had granted Ogden the exclusive navigation of all the waters within the jurisdiction of that state.

Gibbons had two boats, licensed by the federal government, carrying on coasting trade in the same waters.

Ogden had secured an injunction from the state of New York prohibiting Gibbons from navigating the waters within the territory of New York. The injunction was upheld by the highest court in New York, and consequently Gibbons had taken the case to the United States Supreme Court.

The case was of national interest as it raised the issue of whether Congress, under the commerce power, could authorize interstate navigation wholly within the territorial waters of adjacent states contrary to the provisions of the state laws.

The decision in the case was delivered by Chief Justice Marshall. Congressional authority was upheld and Gibbons was allowed to navigate the state waters. The state was unable to grant a monopoly to Ogden.

¹Cases Argued and Decided in the Supreme Court of the United States, 9, 10, 11, 12, Wheaton, Book 6, Lawyers' Edition, New York, The Lawyers' Co-operative Publishing Company, 1901, p. 23.

In the opinion Chief Justice Marshall clearly defined the meaning of the words "commerce," "regulate" and "among the several states."

"Commerce" was defined first by the following:

The subject to be regulated is commerce; and our constitution being, as was aptly said at the bar, one of enumeration, and not of definition, to ascertain the extent of the power, it becomes necessary to settle the meaning of the word. The counsel for the appellee (Ogden) would limit it to traffic, to buying and selling, or the interchange of commodities, and do not admit that it comprehends navigation. This would restrict a general term, applicable to many objects, to one of its significations. Commerce, undoubtedly, is traffic, but it is something more: it is intercourse. It describes the commercial intercourse between nations, and parts of nations, in all its branches, and is regulated by prescribing rules for carrying on that intercourse. The mind can scarcely conceive a system for regulating commerce between nations, which shall exclude all laws concerning navigation, which shall be silent on the admission of the vessels of the one nation into the ports of the other, and be confined to prescribing rules for the conduct of individuals, in the actual employment of buying and selling, or of barter.¹

Commerce "among the several States" is defined:

The word "among" means intermingled with. A thing which is among others, is intermingled with them. Commerce among the States, cannot stop at the external boundary line of each State, but may be introduced into the interior.

It is not intended to say that these words comprehend that commerce which is completely internal, which is carried on between man and man in a State, or between different parts of the same State, and which does not extend to or affect other States. Such a power would be inconvenient, and is certainly unnecessary.

Comprehensive as the word "among" is, it may be properly restricted to that commerce which concerns more States than one. . . . The completely

¹ Wheaton at 189, 190, p. 68.



internal commerce of a State, then, may be considered as reserved for the State itself.

But, in regulating commerce with foreign nations, the power of Congress does not stop at the jurisdictional lines of the several states. It would be a very useless power if it could not pass those lines. . . . If Congress has the power to regulate it, that power must be exercised whenever the subject exists. If it exists within the States, if a foreign voyage may commence or terminate at a port within a State, then the power of Congress may be exercised within a State.¹

The term "regulate" is defined:

To regulate is, "to prescribe the rule by which commerce is to be governed."² This power, like all others vested in congress, is complete in itself, may be exercised to its utmost extent, and acknowledges no limitations other than are prescribed in the constitution.³

The reasons for the decision in this case laid the foundation for a broad interpretation of federal commercial power. The view that federal power could regulate commerce was extended and applied in other cases in the years that followed.

In the case of *Cooley v. Board of Wardens* (1851), 12 Howard 299, the doctrine was developed that over subjects of commerce which are "in their nature national or admit only of one uniform system, or plan of regulation" Congress alone may legislate, while over subjects of commerce concerning which there is a "superior fitness and propriety,

¹9 Wheaton at 194-196, pp. 69-70.

²9 Wheaton at 196, p. 70.

³Ibid. at 197, p. 70.

not to say absolute necessity, of different systems of regulation" state legislation is valid until supplanted by Congress.¹

The judgment of the court in the Cooley case was based upon the concrete applications of state power. The court pointed out that even in local matters state regulation is invalid if it is unduly burdensome to interstate commerce, at the same time national commerce may be subjected to state regulation if the effect of the regulation is "remote," "indirect" or "incidental."² These are matters of reasonableness to be determined by the judgment of the court.

In the last of the nineteenth century and the first of the twentieth century regulation of surface transportation was concerned primarily with railroad and water navigation. The principles of regulation evolved only after conflicts between States and Federal Supreme Courts, and the independent regulatory commissions. Such principles were set forth, primarily in court interpretations.³

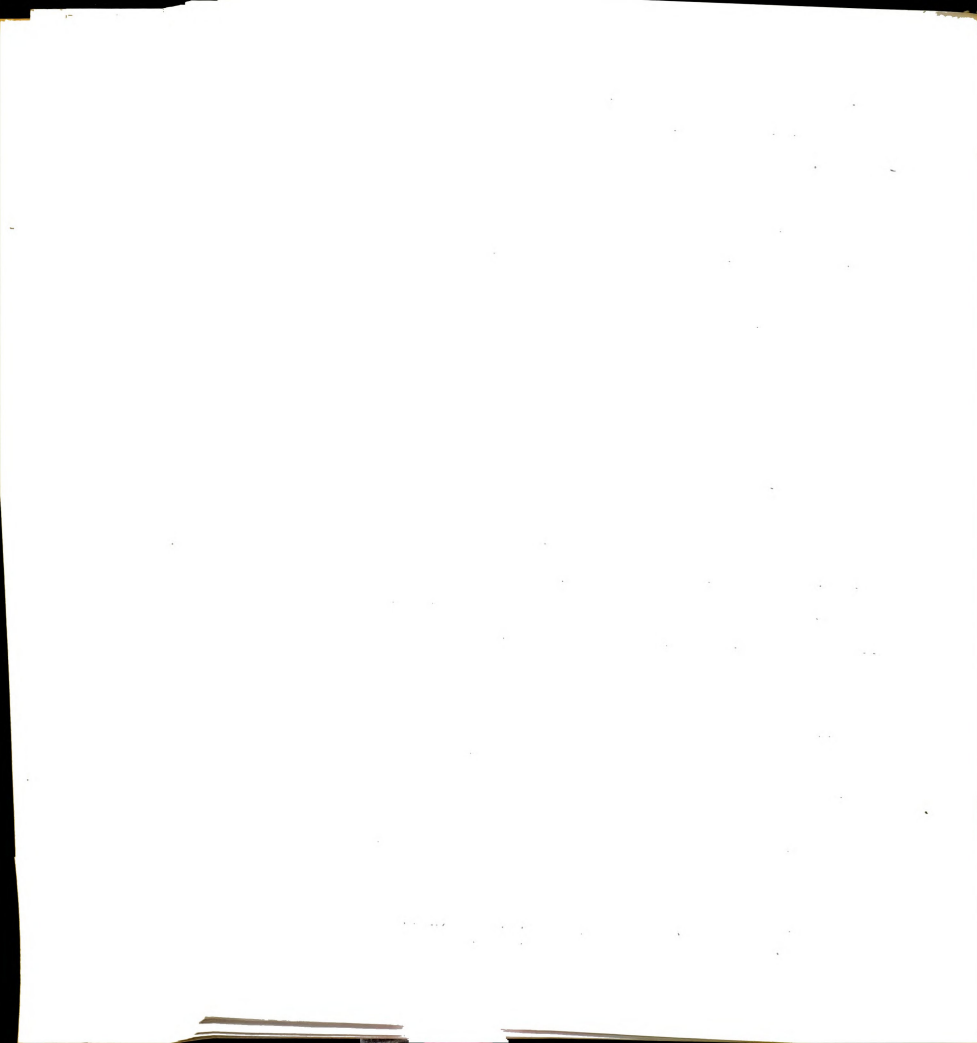
MOTOR CARRIERS

With the advent of motor carriers, new problems of regulation arose due to the nature of their operations.

¹Encyclopaedia of the Social Sciences, Vol. 7, p. 229.

²Ibid., p. 230.

³See *Munn v. Illinois*, 94 U.S. 113 (1877); and the *Shreveport rate case*, 234 U.S. 342 (1914).



Insofar as possible, the principles, developed in the course of prior regulations, were extended to the regulation of motor carriers.

Problems dealing with the exercise of power by the state or federal government, separately or jointly, are ultimately settled by the Supreme Court of the United States. The interrelationship of the commerce clause and the state regulation of motor carriers is slowly developing by such Court decisions.

In 1935 Congress passed the Federal Motor Carrier Act based on the exercise of federal power granted to Congress by the commerce clause. Under the authority conferred by the Act, the Interstate Commerce Commission could prescribe regulations dealing with interstate motor carriers.

As the motor carrier industry has developed some general principles have evolved from decisions applying the commerce clause. Although Congress has the power to curtail state power in some measure, it does not preclude all state action affecting interstate commerce. In the absence of congressional action, power to regulate matters of local concern may generally be exercised by the states subject to other applicable constitutional restrictions even though such regulation may unavoidably involve some regulation of motor carriers moving in interstate commerce. Where the object of state legislation has been to promote highway conservation and traffic safety, the Supreme Court has often ruled that there is no clash with the commerce

clause.¹ Some burden on interstate commerce is permissible when it is an exercise of state authority left to it under the constitution, such as police power and economic regulation. However, direct interference with interstate commerce by application of a state statute, will not be allowed regardless of the purpose of the statute.² No state may establish standards which would derogate from the equal power of other states to make regulations of their own.³ Even where Congress has not acted, state legislation is invalid which unreasonably burdens, or discriminates against, or materially affects interstate motor carriers. However, a carrier engaged in both interstate and intrastate business must show that the enforcement of the state legislation is detrimental to the interstate business.⁴

In application of these general principles, it has been determined that a state may not deny a carrier engaged in interstate commerce the right to use its highways, providing the carrier meets police and safety regulations.

¹Cases Argued and Decided in the Supreme Court of the United States, Book 97, Lawyers' Edition, New York, The Lawyers' Co-operative Publishing Co., 1953, p. 157, hereafter referred to as Lloyd A. Fry Roofing Co. v. Wood (1952), (vol.) 344, U.S., (case) 157, (book) 97 L ed., (page) 168.

²South Carolina State Highway Dept. v. Barnwell Bros. (1938), 303 US 177, 82 L ed 734.

³Sproles v. Binford (1932), 286 US 374, 76 L ed 1177, 52 S Ct 581.

⁴Interstate Busses Corp. v. Holyoke Street R. Co. (1927), 273 US 45, 71 L ed 530, 47 S Ct 298.



However, it may do so to a carrier engaged wholly in intra-state business. A state may require an interstate carrier to secure a certificate, or permit, or register with a state agency, thus providing identification information on its vehicles, if this will aid the state in applying its police, welfare, and safety regulations. In most instances, the court has found no undue burden on interstate commerce.

A state may enact legislation relating to size, dimensions, and other physical characteristics of motor vehicles operating on its highways. These have been held valid by the Supreme Court on the ground that they are for public safety and highway conservation, their effect on interstate commerce being merely incidental.

A state has the power, which may be delegated to a municipality, to require users of motor vehicles to provide adequate liability insurance to cover judgments against the carrier as a result of its operations. This is not an unreasonable burden on interstate commerce if the liability is limited to damages suffered within the state by persons other than the passenger.¹

A state may properly regulate the motor carrier as to the routes to be used within the jurisdiction of the state. Other areas of state regulatory power pertain to the prohibition of advertising on common carrier equipment

¹Hicklin v. Coney (1933), 290 US 169, 78 L ed 247, 54 S Ct 142.



and drivers' qualifications.

A state may tax a carrier for the privilege of operating within the state or over its highways. A state may issue license plates to carriers at fees determined solely by the state. Reciprocity permits or plates may be issued at the discretion of the state.

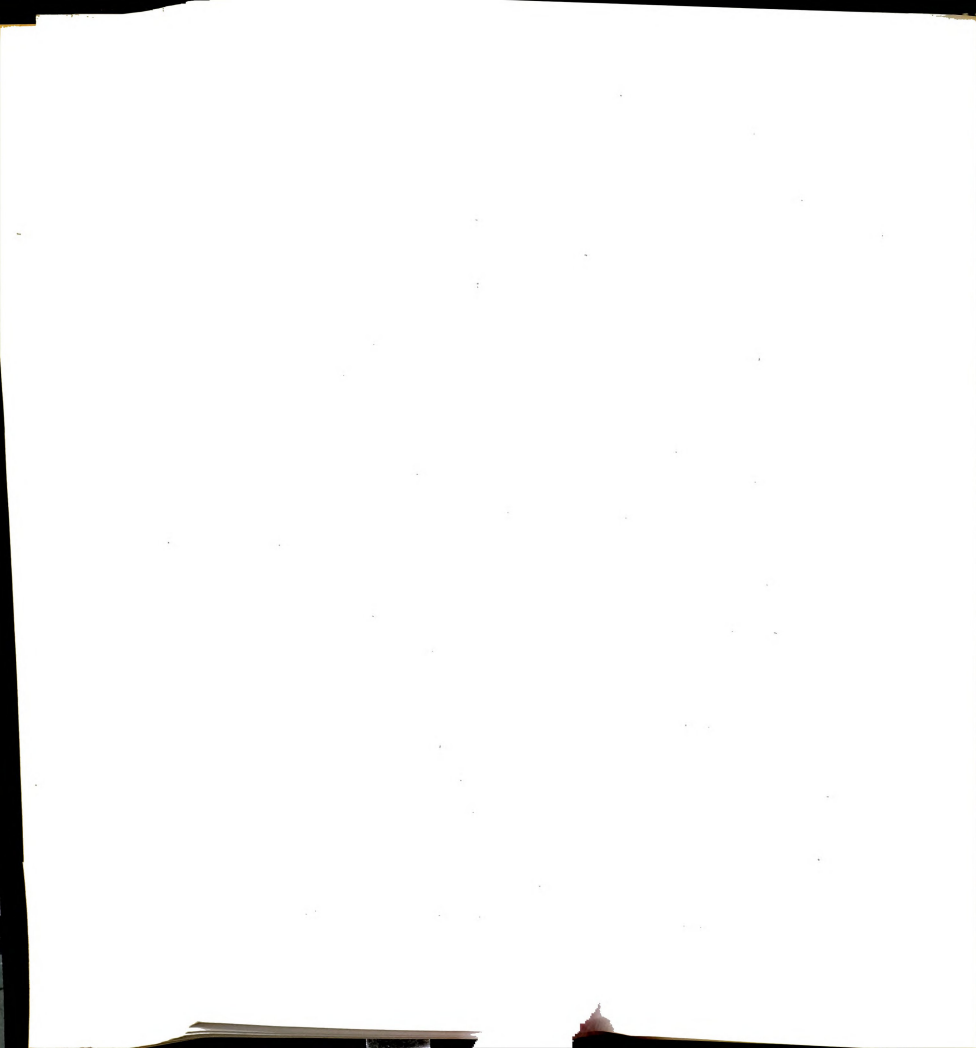
The effect of Congressional power, stemming from the commerce clause, has been considerable on all modes of transport. Freedom of transport as such does not exist. All modes of transport are controlled by at least one level of government, if not by several. But regulation on all levels is not static. It is constantly being challenged in the courts, and being altered as necessary to provide for changes in technology, operations, concepts in transportation, and the extension of reciprocity among, and between, states.

MICHIGAN LAWS AND TRANSPORT REGULATORY AGENCIES

In Michigan, there are many regulatory agencies that have some responsibility for controlling the various modes of transport. The functions and authority of each agency are set forth in certain Public Acts. In the next section these Acts are examined to determine the extent of authority each agency has with respect to the modes of transport.

MICHIGAN DEPARTMENT OF AERONAUTICS

The Department of Aeronautics created by Act 327,



Public Acts of 1945, replaces the Michigan Board of Aeronautics which was first created by Act 177, Public Acts of 1929.

The Act of 1945 provided for the establishment of a Department to be composed of the Commission, a Director of Aeronautics and the employees.

The commission is required to govern and regulate commercial operations in intrastate commerce within the borders of the state . . . issue rules and regulations . . . provided; That prior to issuance of such rules and regulations, notice and an opportunity to be heard shall be given all interested parties; and provided further, that in instances where there are intrastate commercial operations that are a part of the interstate route of an air carrier duly certificated by proper federal authority, there shall be required only the registration of such federal certificates with the commission; the commission shall thereupon issue a state certificate of approval covering the intrastate portions of such interstate air commerce.¹

Aircraft and airmen are exempt from registration and certification if they are operating commercial aircraft constituting an act of interstate or foreign commerce, or in that part of such commerce which is intrastate in character.²

¹Act 327, Public Acts of 1945, Chapter IV, Section 51.

²Act 327, Public Acts of 1945, Chapter IV, Section 84, (d).



The Department of Aeronautics is not involved in problems of regulating air carrier operations except when the public health, welfare and safety is concerned. With the federal government controlling interstate and international air commerce, the Department has no interest in reciprocity.

MICHIGAN STATE WATERWAYS COMMISSION

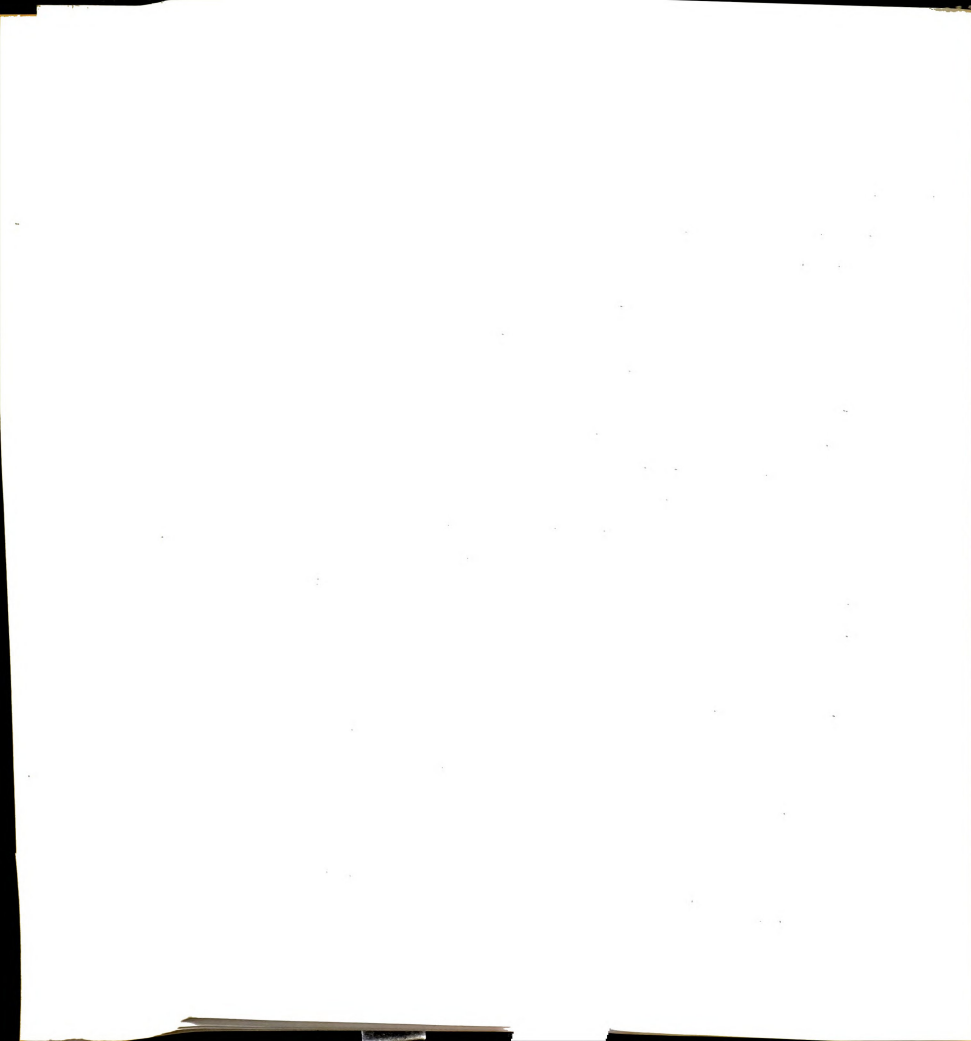
The Michigan State Waterways Commission was established by Act 320, Public Acts of 1947. The powers and duties of the Commission are primarily for acquiring property, constructing and maintaining harbor and navigation facilities, and contracting with the federal government for various programs.

This is the only state Commission concerned with waterways; however, the wording of the Act is such that it prohibits the Commission from having any power over the activities of commercial vessels and commercial shipping of any kind.

MICHIGAN PUBLIC SERVICE COMMISSION

The Michigan Public Service Commission was created and its powers and duties defined by Act 3, Public Acts of 1939, as amended.¹ The commission consists of three

¹Public and Local Acts of the Legislature of the State of Michigan passed at Regular Session of 1939, Compiled by Harry F. Kelly, Secretary of State, Lansing, Michigan, p. 7.



members, appointed by the Governor, with the consent of the Senate.

The Commission has complete authority to regulate motor carriers, railroads, and pipelines engaged in intra-state activities. Its power and authority over the interstate and international operations of these carriers is restricted by the federal government.

The only interest the Michigan Public Service Commission has pursued in transport reciprocity is in the area of motor carrier operations.

MICHIGAN DEPARTMENT OF REVENUE

The Motor Fuel Tax Division of the Department of Revenue establishes the Michigan motor fuel tax requirements. Operators of commercial vehicles are required to purchase a sufficient quantity of gasoline or other fuels in Michigan to propel the vehicle for the number of miles traveled on the highways of the state.¹ Owners of diesel type motor vehicles, operated on the public roads and highways of Michigan, must be licensed with the Motor Fuel Tax Division, as users of diesel fuel. Carriers operating the equipment must secure the license in its name, listing each diesel fuel type vehicle. The fee for the license is \$1.00 regardless of the number of vehicles listed.

¹Public and Local Acts of the Legislature of the State of Michigan passed at Regular Session of 1951, Compiled by Fred M. Alger, Jr., Secretary of State, Lansing, Michigan, p. 68.

Each vehicle must display an identification permit when it is operated within the state. Monthly reports must be filed with the Division, stating the name and address of the diesel fuel supplier, the dates of purchases, and the amount of diesel fuel purchased and used in Michigan.

The license is granted for an indefinite time, but the individual vehicle permits expire December 31 of each year and must be reissued at that time.

The motor fuel tax has not been subject to reciprocal negotiations.

MICHIGAN DEPARTMENT OF STATE

The Department of State is primarily responsible for the administration of Chapter II of the Vehicle Code which requires the registration and titling of certain types of vehicles which use the public highways. Section 216 of the Vehicle Code covers the Registration and Certificate of Title provisions. Sections 224 and 225 provide that the Department of State shall issue to the owner one or two registration plates for each vehicle properly registered.

The Division of Driver and Vehicle Services of the Department of State issues ten-day \$20.00 permits (sticker) for vehicles licensed in jurisdictions with which Michigan does not have reciprocity. This is in lieu of the required regular registration plates. The permit authorizes ten consecutive days of interstate travel into and through Michigan. The permits are issued through designated branch offices and the Finance Division, Department of State,

Lansing. They may be purchased in advance if the dates for travel are specified. However, the permits are issued for a particular vehicle, specified by license number, indicating state or province of issue.

The Reciprocity Division of the Department of State also issues Michigan Reciprocity Permits for use on certain types of commercial vehicles registered in Ohio.

MICHIGAN HIGHWAY RECIPROCITY BOARD

The Michigan highway reciprocity board was created by Act 124, Public Acts of 1960. This Act repealed all previous acts establishing a reciprocity board.

The board consists of the Secretary of State, who serves as the chairman, State Highway Commissioner and the Chairman of the Michigan Public Service Commission.

Section 3 states that, notwithstanding any other provision of law to the contrary, the board may enter into and make such reciprocal compacts, agreements or arrangements as the board deems proper or expedient and in the interests of the people of this state, with the proper authorities of other jurisdictions, either individually or with a group of jurisdictions, concerning the fees, charges, taxation, operation and regulation of trucks, tractors, trailers, automobiles, buses, and all other automotive equipment engaged in international, interstate or intrastate commerce upon and over the public highways.

"Jurisdiction" means other states of the United

States, the District of Columbia, territories and possessions of the United States, foreign countries or political subdivisions of foreign countries.

Section 8 states that in the absence of a compact, agreement or arrangement with any jurisdiction, the board may examine the laws and requirements of the jurisdiction and declare the extent and nature of the exemptions and privileges to be extended to the owners or operators of vehicles properly registered or licensed in the other jurisdiction, which in the judgment of the board, shall be equivalent to the exemptions and privileges which are extended by the laws of the jurisdiction, to vehicles properly registered or licensed in this state, or to the owners or operators of vehicles properly licensed in this state.

Section 11 states that to the extent another jurisdiction is not fully reciprocal as to taxes or fees on vehicles in international or interstate commerce, the board may make a limited agreement with the jurisdictions covering only part of the fees, taxes and charges otherwise applicable, or the board may require the owners or operators of the foreign registered vehicles to pay a tax in the amount equal to the tax of whatever character assessed by the other jurisdiction against vehicles registered in this state and operated in international or interstate commerce in that jurisdiction. Owners or operators of foreign registered vehicles which are subject to registration under the provisions of this section shall make application for a permit

in which shall be set forth the conditions for operation of the vehicles in this state. The board may examine the laws of other jurisdictions and determine what taxes or fees shall be payable to this state by the owners or operators of foreign registered vehicles.

Section 14 . . . The board may require owners and operators of foreign registered vehicles claiming exemptions or privileges under compacts, agreements, arrangements, or declarations authorized by this act, to supply lists of vehicles for which exemptions and privileges are requested and to require the vehicles to display a reciprocity plate or other identification prescribed by the board, as a prerequisite to the enjoyment of the exemptions and privileges claimed thereof.

Section 15 states that the members of the board and such officers and investigators of their respective departments as they shall designate shall have the powers conferred upon peace officers by the general laws of the state when enforcing the provisions of this act. Nothing in the act shall be construed as authorizing the board or the members of the board to create a highway patrol.

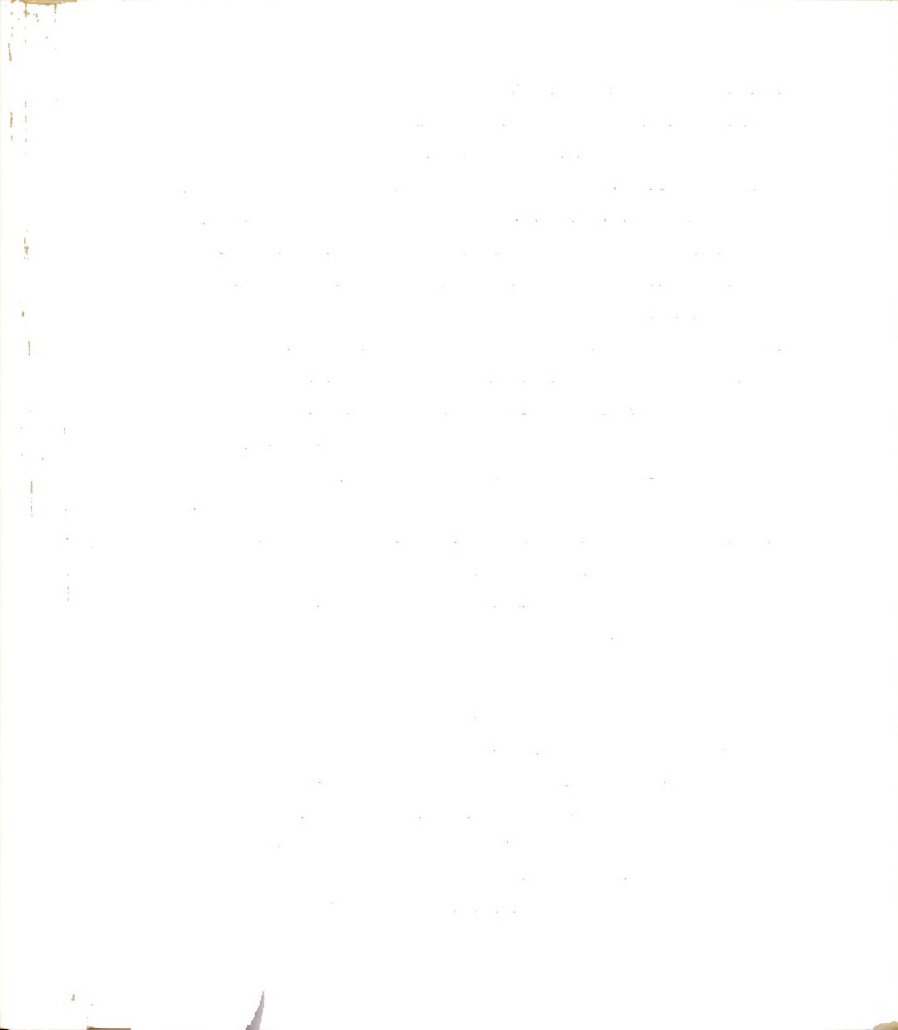
Section 16 states the compacts, agreements and arrangements shall not operate to supersede or suspend the power and authority and discretion of the Michigan Public Service Commission to make and enforce rules and regulations governing motor carriers for hire or to grant or deny certificates or permits to motor carriers for hire. The public

service commission may adopt rules and regulations making applicable to vehicles operated in foreign commerce over the highways of this state similar provisions to those prescribed by Act No. 254 of the Public Acts of 1933, as amended, being sections 475.1 to 479.20 of the Compiled Laws of 1948, for vehicles operated in interstate and intrastate commerce over the highways of this state and by rule may make applicable to vehicles operating in foreign commerce fees and charges similar to those imposed upon vehicles of this state operating in other countries in foreign commerce.

The inspectors of the Michigan Public Service Commission are charged with the policing of the reciprocity agreements with other jurisdictions. However, this does not supplant enforcement by the duly authorized state police. The weighmasters at the various state scales are not concerned with the enforcement of the reciprocity agreements. They are concerned only with the size and weight restrictions as applied to all commercial vehicles.

SUMMARY

The above Michigan agencies are concerned in a lesser, or greater extent, with regulation of the modes of transport. However, due to the operational characteristics of the international rail, air, waterborne, and pipeline carriers, the State's jurisdiction and control are very limited. The State makes no agreements, nor evidences any concern with reciprocity as far as the above



four modes are concerned. Any reciprocity for these modes on an international level would be developed by the national governments of the countries involved.

Michigan's only concern at present with transport reciprocity has to do with motor carriers. The motor carrier reciprocity agreement between Michigan and Ontario will be discussed after the next section which deals with the Canadian and Ontario regulatory agencies.

CANADIAN AND ONTARIO TRANSPORT REGULATORY AGENCIES

The distribution of legislative powers in Canada between the federal government and the provincial governments is set forth in The British North American Act of 1867. Article 91 enumerates the powers of the Parliament of Canada, giving it exclusive power over the regulation of trade and commerce, and over navigation and shipping.¹

Article 92 enumerates subjects of exclusive Provincial legislation. Provincial transport regulation is restricted by section 10 which states: Local works and undertaking other than such as are of the following classes: (a) Lines of Steam or other Ships, Railways, Canals, Telegraphs, and other Works and Undertakings connecting the Province with any other or others of the Provinces, or extending beyond the Limits of the Province; (b) Lines

¹Rules, Orders and Forms of Proceeding of the Senate of Canada, Ottawa, R. LeMoine, MacLean, Roger and Company, 1876, p. 75.

of Steam Ships between the Province and any British or Foreign Country; (c) Such Works as, although wholly situated within the Province, are before or after their Execution declared by the Parliament of Canada to be for the general Advantage of Canada or for the Advantage of Two or more of the Provinces.¹

The Canadian courts have been called upon to determine the limits of Dominion legislative power. The general philosophy of the courts has been to abstain from defining exact limits, but rather to leave its determination to the particular case.

In *Citizens Insurance Company v. Parsons* (7 app. cas 96 (1881)), the Judicial Committee of the Privy Council found it necessary to restrict the literal meaning of the words "regulation of trade and commerce" in order to afford scope for the powers granted exclusively to the provincial legislatures in Article 92.²

Over the years the policy of the Privy Council has been in general to interpret narrowly and strictly the powers granted to the dominion, and has upheld the right of various provinces to pass measures of local policy which affect particular trades. Thus in the area of trade and commerce the dominion government has gradually yielded some of its

¹Ibid., p. 78.

²Encyclopaedia of the Social Sciences (New York: The Macmillan Company, Vol. 8), p. 227.

authority to the provincial governments.

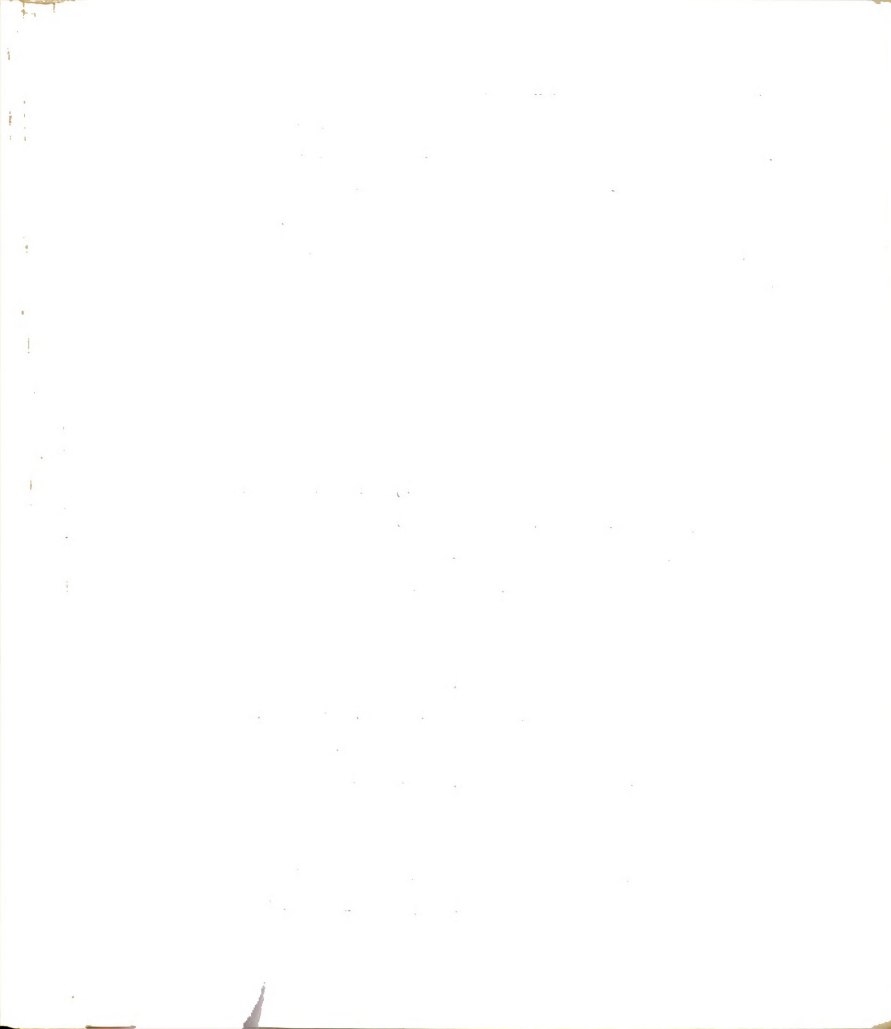
In the area of most transport regulation, though, such a transition of authority has not taken place. The dominion government still exercises jurisdiction over inter-provincial and international operations of pipelines, airlines, water carriers and railways, but motor carriers are completely under provincial jurisdiction.

In order to gain a better understanding of Ontario's transport regulation, it will be worthwhile to look first at the Federal regulatory agencies.

CANADIAN DEPARTMENT OF TRANSPORT

The Department of Transport was established in 1936 by The Department of Transport Act (S.C., 1936, Chapter 34, now R.S.C., 1952, Chapter 79, as amended) when the functions of the Department of Railways and Canals, the Department of Marine, and the Civil Aviation Branch of the Department of National Defence were amalgamated.

The Department has the management, charge and direction of: all government railways (this function is carried out by the Canadian National Railway Company); canals (excepting those under the jurisdiction of the St. Lawrence Seaway Authority); marine services, which include lighthouse services and other aids to marine navigation, steamship inspection, nautical services and floating equipment; and air service, which includes maintenance and operation of airports, control of flying operations, meteorological services and radio services.



The Department of Transport has jurisdiction over all international and interprovincial transport service by rail, water, air, and pipeline.

BOARD OF TRANSPORT COMMISSIONERS FOR CANADA

The Board of Transport Commissioners for Canada was first established (as the Board of Railway Commissioners for Canada) on February 1, 1904, by The Railway Act, 1903.

The Board of Railway Commissioners had been established as a court of record with extensive regulatory, administrative and judicial functions in respect of railway tariffs and tolls and the location, construction, maintenance and operation of railways within the jurisdiction of the Parliament of Canada.

In 1938, Part I of The Transport Act (R.S.C., 1952, Chapter 271, as amended) changed the name of the Board of Railway Commissioners for Canada to the present name.

Over the years the Board has acquired jurisdiction to cover Canadian Government Railways, express and telephone companies (1906), telegraph companies (1908), and in 1929, international bridges and tunnels. In 1933 it was further extended to cover the abandonment of operation of railway lines; in 1938, to the administration and approval of agreed charges negotiated between the railways and shippers, and to the regulation of rates on ships on certain inland waters of Canada and licensing such ships; in 1949, to the oil and gas pipelines of companies authorized under private

Act of Parliament to construct and operate such pipelines; and in 1953, to all companies authorized to construct or operate oil or gas pipelines connecting two or more provinces or extending beyond the limits of a province.¹

The Board of Transport Commissioners has functions that include regulation, supervision and administration. Some of its duties include the settlement of rates and of disputes on rates and on alleged discrimination, the regulation and inspection of certain railway operations, and matters concerning other modes of transport, except highway.

A part of the work of the Board is judicial or quasi-judicial. The Board hears disputes between a railway and its customers and decides on the facts in accordance with rules laid down by Parliament. Others of its decisions do not rest upon clearly defined statutes, but are stated in such vague terms that they may rest on general principles that have been worked out over the years by the experience of the Commission.

Some of the work of the Board borders on the legislative power, such as decisions on railway rates that have become rules that guide future policy and decisions.

Decisions of the Board of Transport Commissioners may be appealed to the Supreme Court of Canada.

¹Organization of the Government of Canada, Secretary of State of Canada, October, 1959, p. 287.

CANADIAN AIR TRANSPORT BOARD

The Air Transport Board was established in September, 1944, by amendment to the Aeronautics Act.¹ Subsequent amendments to the Act were made in 1945, 1950, and 1952.

The Board is responsible for the economic regulation of commercial air services in Canada and is also required to advise the Minister of Transport in the exercise of his duties and powers in all matters relating to civil aviation. The regulator function relates to Canadian air services within Canada and abroad and to foreign air services operating into and out of Canada. Thus its functions extend to the licensing of persons to operate commercial air services; the regulation of air carriers; investigations and surveys as required by the Minister of Transport relating to the operation and development of commercial air services in Canada, and such other matters connected with civil aviation as the Minister may direct.² The provinces have no jurisdiction over commercial air service.

In the field of international aviation, the Board continues to take an active part in the work of the International Civil Aviation Organization, and to undertake bilateral negotiations for the exchange of traffic rights

¹Canada Year Book, 1962, Ottawa, Dominion Bureau of Statistics, p. 761.

²Organization of the Government of Canada, Published by the authority of the Secretary of State of Canada, Ottawa, Canada, October, 1959, p. 68.

when appropriate. At present, Trans-Canada Air Lines, Canadian Pacific Air Lines Limited and TransAir Limited are Canada's designated international scheduled carriers.¹

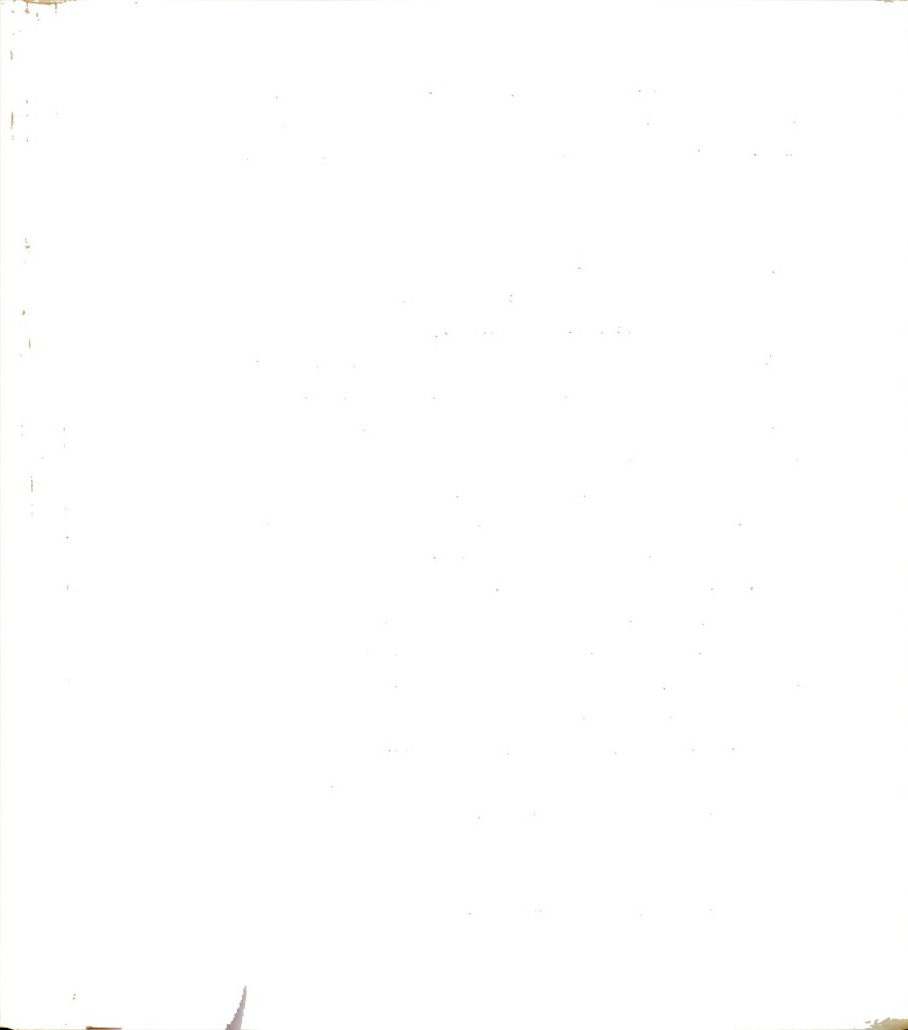
The Board also regulates tariffs to be charged for the carriage of passengers and freight.

THE CANADIAN MARITIME COMMISSION

The Commission was established in 1947 by the Maritime Commission Act (RSC 1952, c. 38), as a separate department of the Government reporting to Parliament through the Minister of Transport. It is the function of the Commission to "consider and recommend to the Minister from time to time such policies and measures as it considers necessary for the operation, maintenance, manning and development of a merchant marine and a ship-building and ship-repairing industry commensurate with Canadian maritime needs." (Section 6 of the Act.) It is authorized to examine into, ascertain and keep records of all phases of ship operation. The Commission is specifically directed to "administer, in accordance with regulations of the Governor in Council, any steamship subventions voted by Parliament." (Para. b, Section 8, of the Act.)

Except in the case of the coasting trade, all Canadian waterways including canals, lakes and rivers are open on equal terms to ships from all countries of the

¹Canada Year Book, 1963-64, Ottawa, Dominion Bureau of Statistics, p. 753.



world. In 1960-61 the Canada Shipping Act was amended to give Canadian-registered ships the exclusive right to carry goods and passengers between Canadian ports in the Great Lakes and the St. Lawrence River system from Havre St. Pierre westward. This change was made primarily to exclude the Commonwealth ships, including the British, from participating in such coastal traffic.¹

THE CANADIAN NATIONAL ENERGY BOARD

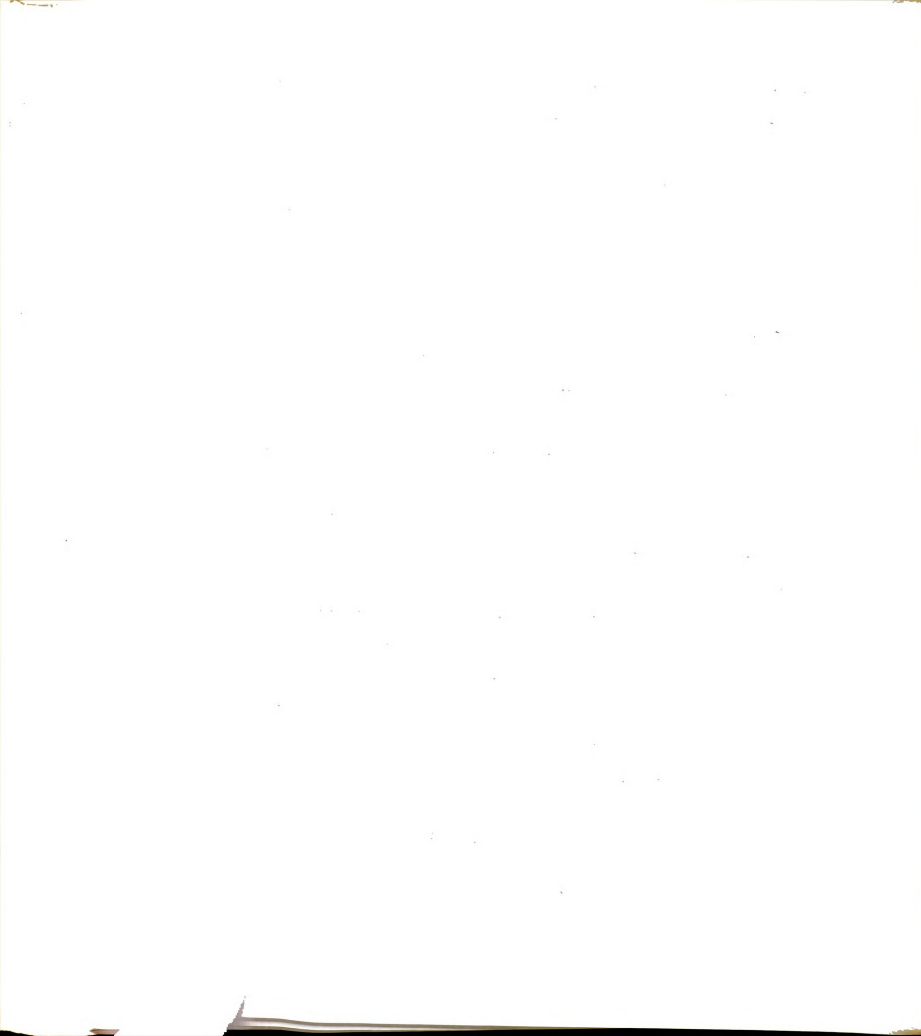
The National Energy Board was established in 1959 by the National Energy Act.² This Act provided for a five-member Board charged with the duty of assuring the best use of energy resources in Canada. It is responsible for the regulation of the construction and operation of the oil and gas pipelines that are under the jurisdiction of the Parliament of Canada, the tolls charged for transmission by oil and gas pipeline, the export and import of gas and the export of electric power, and the construction of the lines over which such power is transmitted.

All authority for regulation and control of inter-provincial and international pipelines rests with the Canadian federal government. The provinces have no jurisdiction.

These, then, are the Canadian federal regulatory

¹Canada Year Book, 1963-64, Ottawa, Dominion Bureau of Statistics, p. 783.

²Canada Year Book, 1963-64, Ottawa, Dominion Bureau of Statistics, p. 887.



agencies that have the authority to regulate the modes of transport. The provincial authority of Ontario will be discussed in the next section.

ONTARIO DEPARTMENT OF TRANSPORT

The present Ontario Department of Transport was established in 1957. It took over the functions of the prior organization, the Department of Highways, and, following the recommendations of the Legislature's Select Committee on Toll Roads, set up an organization to separate the problems connected with roads from those related to the users of the roads.

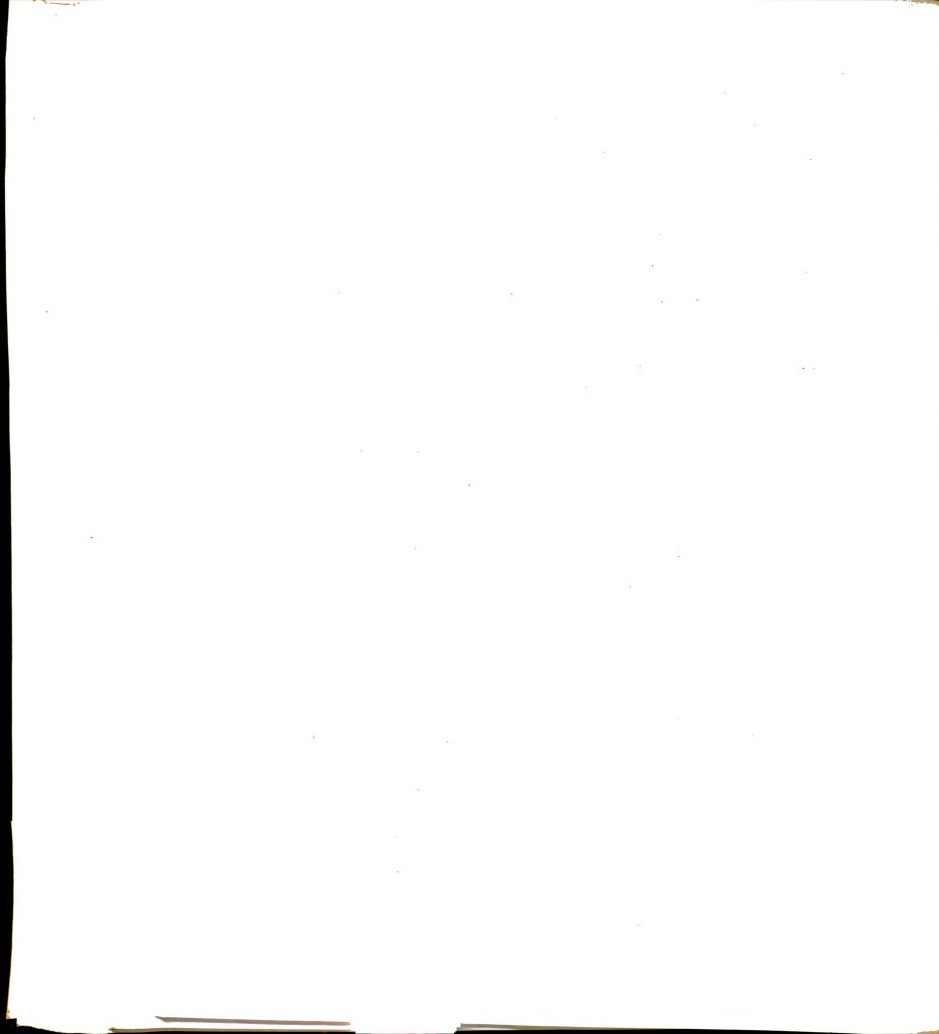
In 1954 the Motor Vehicle Transport Act (Canada) was passed by the Dominion Government. This Act delegated the legislative powers over interprovincial and international motor carriers to the provinces, provided the Governor in Council issued a proclamation declaring it to be in force in that province. Section 1, of paragraph 3, of the Act states:

Where in any province a license is by the law of the province required for the operation of a local undertaking, no person shall operate an extra-provincial undertaking in that province unless he holds a licence issued under the authority of this Act.

"Extra-provincial undertaking" is defined to mean a work or undertaking for the transport of passengers or goods by motor vehicle, connecting a province with any other or others of the provinces, or extending beyond the limits of a province.

Again the Act states in paragraph 3, section 2:

The provincial transport board in each province may in its discretion issue a licence to a person



to operate an extra-provincial undertaking into or through the province upon the like terms and conditions and in the like manner as if the extra-provincial undertaking operated in the province were a local undertaking.

Prior to the passage of the Federal Motor Vehicle Transport Act in 1954, it was generally understood that such traffic was to be regulated by the Dominion Government. However, there were no acts passed by Parliament that gave official credence to the general belief. Bills were introduced in 1937 and in 1940 to provide federal control, but were withdrawn in the face of opposition from the carriers and some shippers.¹ The fact that the Federal Government satisfactorily regulated other modes of transport seemed to have little bearing on the decision to give the provinces complete jurisdiction over all motor carriers.

The Ontario Highway Transport Board must review all applications for new operating licenses. After the Board issues a certificate of public necessity and convenience, the Minister may issue an operating license to the applicant.

The restrictions on weight, height, length and vehicle combinations are set out in the Highway Traffic Act of the Ontario Revised Statutes of 1960, as amended in 1963. As in Michigan, this area does not technically lend itself to reciprocal negotiation, because it is controlled by the

¹A. W. Currie, Economics of Canadian Transportation (Toronto: University of Toronto Press, 1959), p. 499.

legislature. However, in other matters pertaining to the regulation of motor carriers, the Department of Transport maintains authority and control.

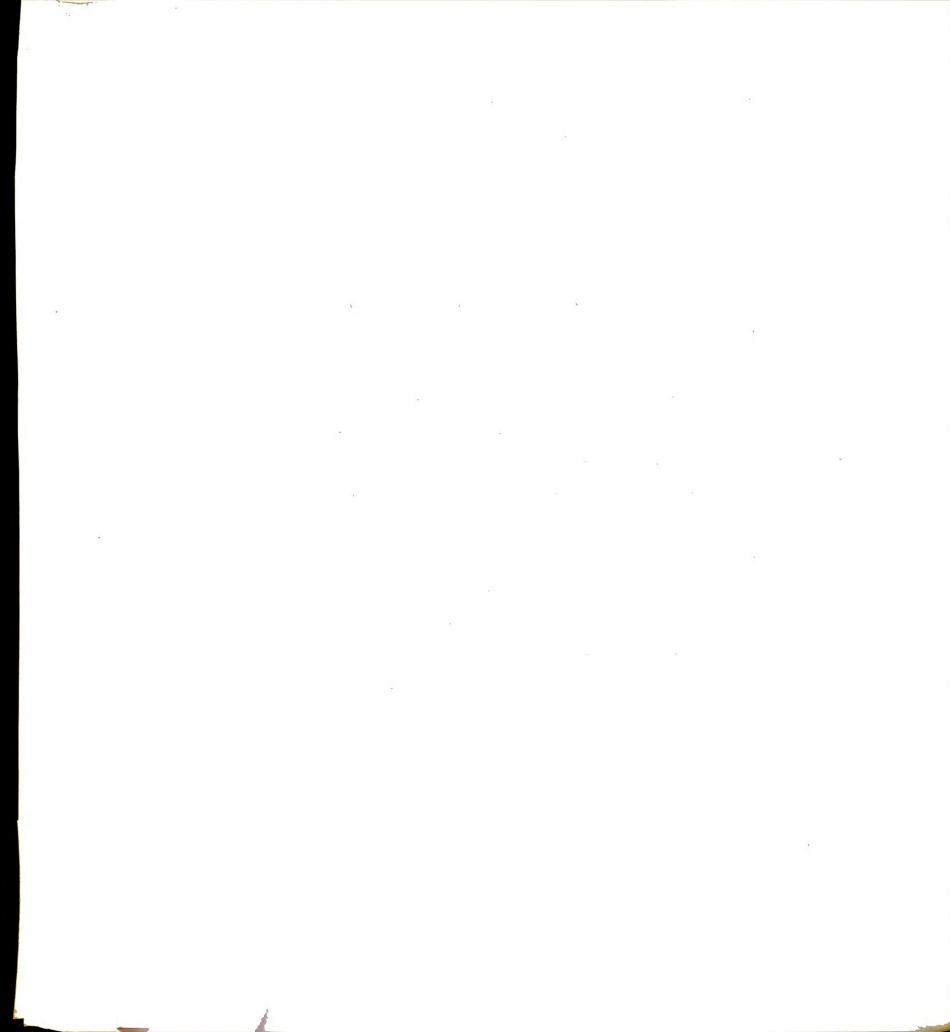
RECIPROCITY AGREEMENT
BETWEEN MICHIGAN AND ONTARIO

The Dominion government of Canada has exclusive jurisdiction over air lines, ship lines, railroads, and pipelines. All rules and regulations pertaining to these are formulated and administered by the federal government. This is somewhat comparable to the situation in the United States where the federal government, through the Interstate Commerce Commission, and other agencies, regulates the interstate and international operations of all modes. However, there is considerable difference in the regulation of motor carriers in the two countries.

Ontario has complete jurisdiction over motor carriers, whereas Michigan shares concurrent power with the federal government for control of interstate and international operations of motor carriers. Thus, Ontario has a greater opportunity to develop and control motor carrier reciprocity than does Michigan.

The present motor carrier reciprocity agreement between Michigan and Ontario became effective in April, 1963. The text of the agreement is given below.¹

¹From information provided by Mr. P. J. Foley, Special Assistant to the Michigan Secretary of State.



Michigan has only limited reciprocity with Ontario on commercial vehicles. Michigan extends complete reciprocity to the following types of vehicles which are properly registered in Ontario. Ontario extends substantially the same reciprocity to such vehicles properly registered in Michigan:

- (1) All passenger cars registered as such, and hearses and ambulances.
- (2) All vehicles having a gross weight of not more than 6,000 lbs., transporting goods owned by the owner of the vehicle, and all public passenger vehicles having a gross weight of not more than 6,000 lbs. (This will include most pick-up and panel trucks and certain other light delivery vehicles, and commercially registered passenger cars and station wagons.)
- (3) Vehicles of any size used for transporting natural products of the farm and/or livestock, owned by the owner of the vehicle.
- (4) Motor buses operated in a scheduled service in Michigan or Ontario within a distance of ten miles of the border.
- (5) Motor buses registered in Ontario while operating on chartered trips into or through Michigan, which originate outside of Michigan, and motor buses registered in Michigan while operating on chartered trips into or through Ontario, which originate outside of Ontario.
- (6) Vehicles transporting objects and materials used in the production of cultural presentations and exhibitions, including musical and ballet concerts and art exhibitions, provided such presentations and exhibitions are not carried on solely for the purpose of financial gain.
- (7) Fire apparatus operating in Michigan during emergencies.
- (8) Trailers and semi-trailers operated within, and no more than eight miles beyond, the city limits of Detroit, Port Huron, and Sault Ste. Marie, if the trailer or semi-trailer is drawn by a commercial vehicle registered in Michigan, Ontario trailers

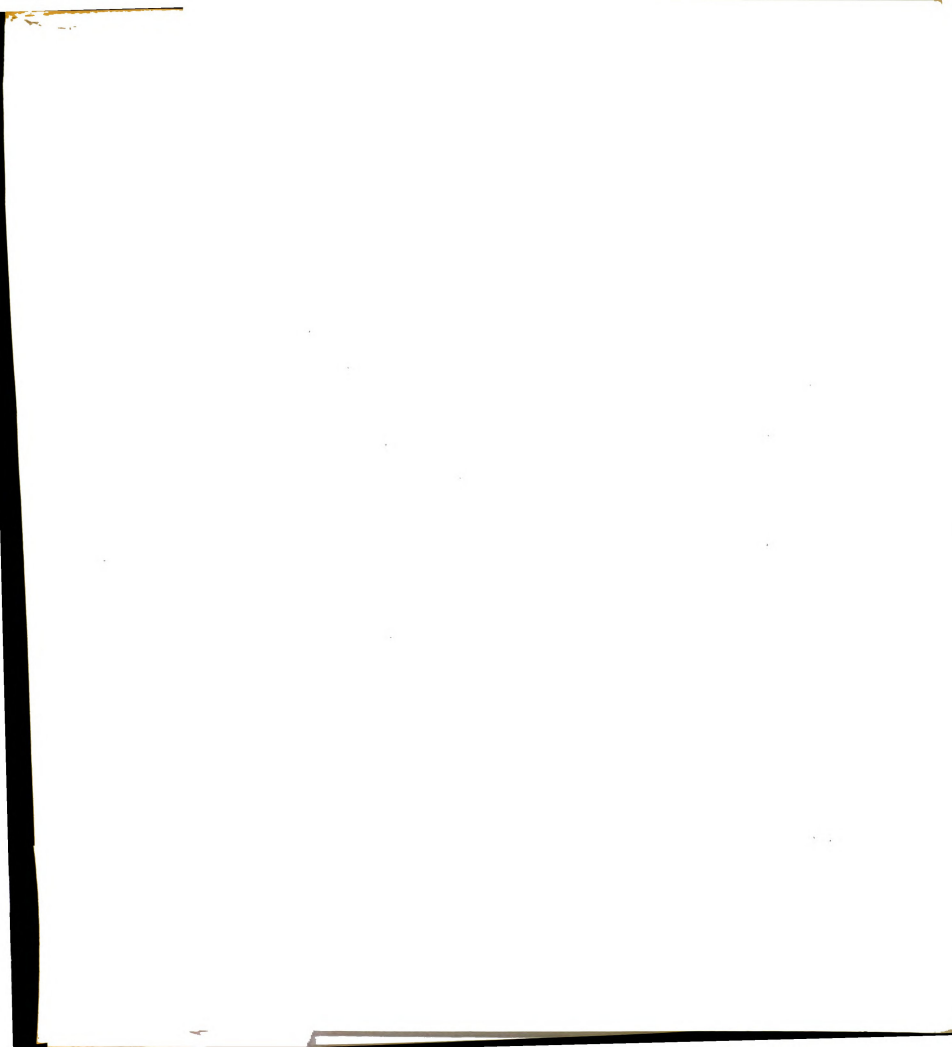
and semi-trailers which operate beyond the eight mile limit, must be fully registered in Michigan.

Vehicle operators from Ontario who do not qualify for reciprocal privileges under any of the above provisions, can purchase a ten day permit for \$20, authorizing ten consecutive days of travel into or through Michigan. All vehicles operated either under full reciprocity or under a "trip permit" may only be operated in Interstate or International movement of goods or passengers. Ontario registered vehicles engaged in Intrastate activities in Michigan, must be fully registered in Michigan. Michigan registered vehicles engaged in Intraprovincial activities in Ontario, must be fully registered in Ontario.

"Private" carriers, transporting their own goods, which are not otherwise qualified for reciprocal privileges under any of the above provisions, can purchase a five day trip permit for \$20, from Ontario, which will authorize them to operate into or through Ontario for five consecutive days.

The alternatives for Michigan motor carriers who operate into or through Ontario are summarized as follows:

1. They may secure from The Ontario Transport Board an "L" license which authorizes in-bond transit privileges across Ontario. In order to obtain the "L" license, the applicant must first secure authority from the Customs Department of the Canadian Federal Government to carry goods in-bond through Ontario. Secondly, they must have I.C.C. operating authority from the United States government for operations between areas that can be served by the route through Ontario, i.e., Buffalo to Detroit, Boston to Chicago, etc. Finally, they must provide evidence that their insurance meets the limits as required in Ontario. After securing the license, the operator must pay a \$9.00 permit fee for each single trip.



2. All carriers operating into or through Ontario have the option of purchasing Ontario registration plates for their equipment.

3. At Detroit, Port Huron, and Sault Ste. Marie, trailers and semi-trailers, registered in Michigan, may be operated into Ontario for a distance of 20 miles, provided they are hauled by an Ontario registered tractor.¹

4. "Private" carriers, who own their own goods, may purchase a five-day permit for \$20.00 which authorizes them to operate into or through Ontario for five consecutive days.

In 1963 there were 57 United States carriers licensed for in-bond Ontario transit operations, under the authority of the "L" license. Fifteen of these carriers were residents of Michigan.² In the fiscal year ending March, 1963, 66,319 nine-dollar permits were purchased by "L" license holders, for a total revenue of \$596,871. In the fiscal year ending March, 1964, 52,181 permits were purchased for a total revenue of \$469,629.

The alternatives for Ontario motor carriers who operate into or through Michigan are summarized as follows:

1. All Ontario motor carriers may purchase a 10-day permit for \$20.00, authorizing 10 consecutive days of

¹For states other than Michigan the distance is eight miles from the border.

²From information provided by Mr. W. M. Earl, Registrar of Motor Vehicles, Province of Ontario.

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interstate travel into or through Michigan. This permit is only in lieu of Michigan registration plates.

2. All Ontario carriers operating into or through Michigan have the option of purchasing Michigan registration plates for their equipment, at the same cost as a Michigan resident.

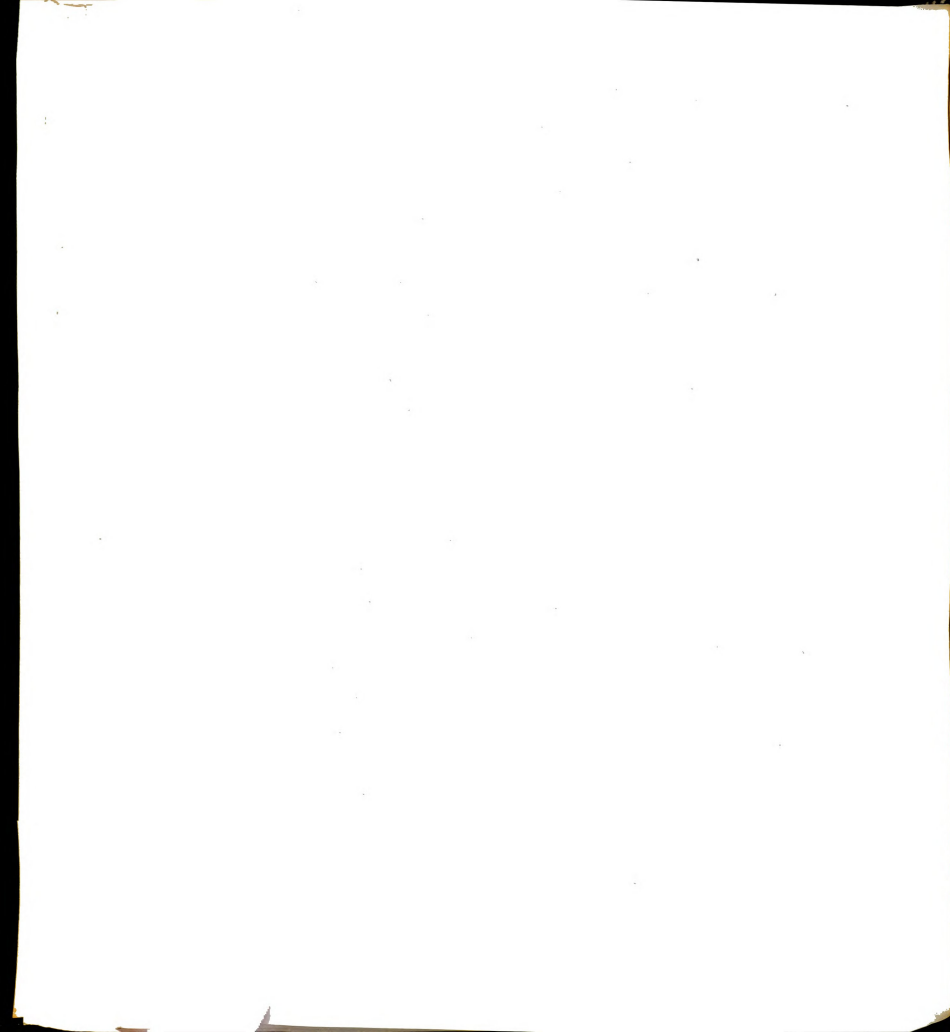
3. At Detroit, Port Huron, and Sault Ste. Marie, trailers and semi-trailers, registered in Ontario may be operated into Michigan a distance no greater than eight miles beyond the city limits of the above cities, if drawn by a commercial vehicle registered in Michigan. If operated beyond this limit a \$20.00 permit or Michigan registration plate must be secured.

4. Ontario registered vehicles engaged in Michigan intrastate activities must be fully registered in Michigan.

All Ontario "for-hire" carriers that operate more than eight miles beyond the city limits of Detroit, Port Huron, and Sault Ste. Marie must register their operating authority with the Michigan Public Service Commission, and pay the registration and mileage fees required by the commission. If diesel type motor vehicles are operated, a license as a diesel fuel user must be secured from the Motor Fuel Tax Division of the Michigan Department of Revenue.

MICHIGAN'S VIEW OF RECIPROCITY

Michigan's motor carrier reciprocity policies are



formulated by the Michigan Highway Reciprocity Board. The following are not at present subject to reciprocal negotiation:

1. Registration of equipment with Michigan Public Service Commission.
2. Mileage fees collected by the M.P.S.C.
3. Motor fuel tax.
4. Length, height, and weight limits as set by the legislature.

The primary area open for reciprocal negotiations and agreement is that of vehicle registration. The issuance of registration plates comes under the jurisdiction of the Michigan Secretary of State. Because of this, the Secretary of State's office has been the most active in reciprocal negotiations.

Table 44 shows a breakdown of the Michigan revenue received from Ontario motor carriers for transit permits and registration plates. The total amount for 1964 is \$194,200. This is the amount of money that Michigan would forfeit if she granted Ontario full and free reciprocity. Under full reciprocity with Ontario, Michigan would still collect the fuel tax plus the M.P.S.C. mileage fees.

Michigan officials have stated they would like a more complete reciprocity agreement with Ontario. However, they are reluctant to grant further concessions to Ontario carriers until such time as Ontario will extend the same concessions to Michigan carriers.

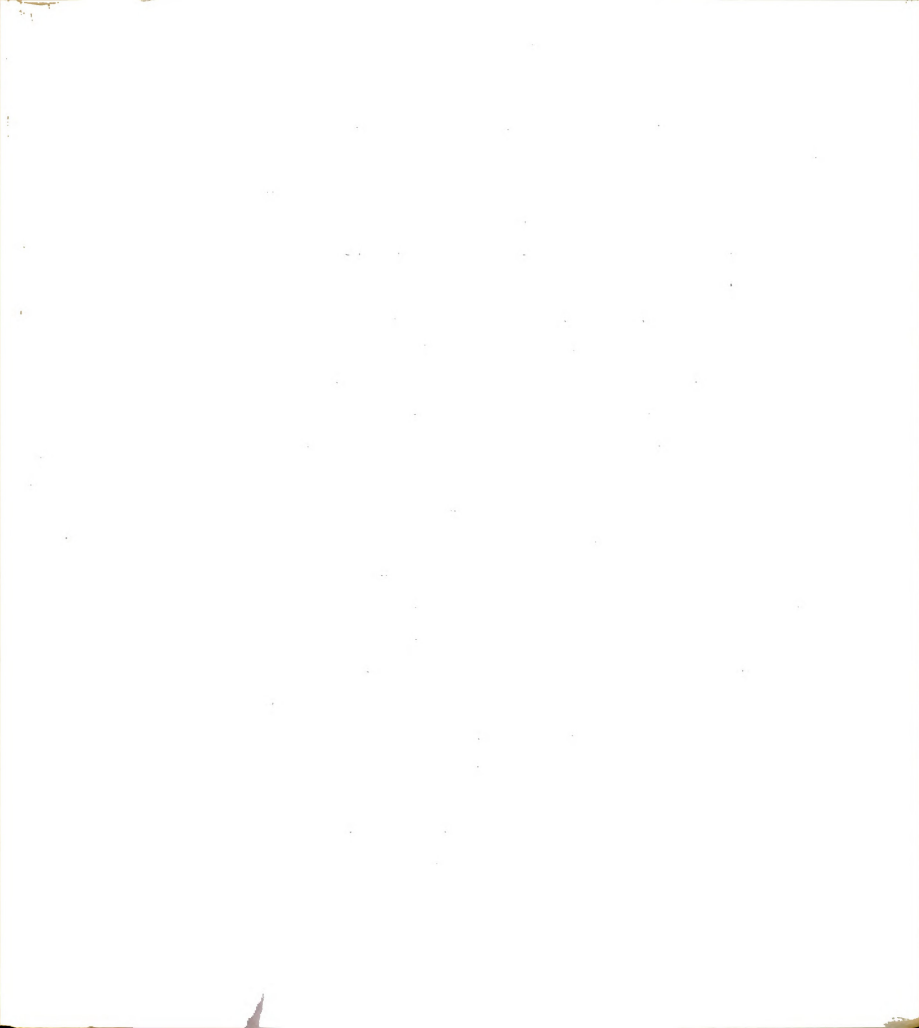


Table 44. Michigan revenue from transit permits and registration plates issued to Ontario commercial vehicles, 1963

TRANSIT PERMITS ^a				
Total permits Issued			Issued to Ontario carriers ^b	
	No.	Dollars	No.	Dollars
1961	1,000	\$20,000	900	\$18,000
1962	1,425	28,500	1,283	25,660
1963	1,522	30,440	1,370	27,400
1964			1,500	30,000 (est)

ONTARIO VEHICLES REGISTERED IN MICHIGAN				
Commercial trucks		Trailers and Semi-trailers		
	Total Foreign ^c	Total Ontario	Total Foreign	Total Ontario
1964 ^d	2,498	707	466	114

MICHIGAN REVENUE FROM ONTARIO VEHICLES				
Ontario commercial trucks 707 x \$200 ^e = \$141,400				
Ontario trailers & semi. 114 x \$200 = 22,800				
Total from registration plates				<u>\$164,200</u>
Plus revenue from permits				<u>30,000</u>
1964 Total Michigan revenue from Ontario vehicles				<u>\$194,200</u>

^aPermit cost \$20, allows 10-day operation in Michigan without purchasing a registration plate for the vehicle or combination, Act 98 of Public Acts 1960, effective 26 April 1960.

^bAssume 90% of the permits issued to Ontario carriers.

^cForeign includes all out of state registered vehicles.

^dNo breakdown by place of origin prior to 1964.

^eAssume each commercial vehicle weighs 10,000 lbs., at a registration rate of \$2.00 per hundred weight, i.e., cost per unit is \$200 per registration plate.

Source: Michigan Secretary of State's office.

ONTARIO'S VIEW OF RECIPROCITY

Ontario's motor carrier reciprocity policies are formulated and administered by the Ontario Department of Transport. Ontario has not been willing to grant full reciprocity to Michigan or to other states.¹ This is because the full cost of building provincial highways is borne by the Ontario government. Little, if any, aid comes from the Canadian Dominion government. Thus, the highway users must provide the revenue for construction and maintenance. As stated previously, the revenue for Ontario transit commercial highway traffic moving in bond across the corridor, was \$596,871 for fiscal year 1963, and \$469,629 for 1964.

In 1963 there were 57 motor carriers authorized to move goods in bond across Ontario; 15 were Michigan carriers. Assuming that 50% of the trips across the Ontario corridor were made by Michigan carriers, Ontario received the following revenue from Michigan carriers in 1963:²

33,160	\$ 9.00 transit permits	\$298,440
206	\$20.00 five-day permits	4,120
8	Trucks registered at \$309.00 ea. ³	2,472
20	Trailers at \$249.00 ea.	4,980
	Total revenue	<u>\$310,012</u>

¹This information is from a talk given before the Greater Detroit Board of Commerce, June 7, 1963, by Mr. W. M. Earl, Registrar of Motor Vehicles for Ontario.

²Data supplied by the Motor Vehicle Licence Branch of the Ontario Department of Transport.

³The trucks and trailers were probably registered for border use at Detroit or Port Huron. The cost of each registration plate has been estimated, assuming the most expensive plate was purchased for two-axle units.

The \$20.00 five-day permits were issued to private carriers as a result of the change in the reciprocity agreement that became effective in May, 1963. This figure will probably be larger in 1964 as more carriers become familiar with the use of the permit.

On the basis of the above figures, Ontario received slightly more than three hundred thousand dollars from Michigan carriers in 1963. This was the result of the limited reciprocity agreement. Ontario received about one hundred thousand dollars more revenue in 1963 from Michigan carriers, than Michigan received from Ontario carriers in 1964.

Limited reciprocity, with its attendant charges, not only helps to raise revenue, but also reduces the number of foreign commercial vehicles that travel Ontario highways. Full reciprocity would cause a loss of revenue and at the same time raise the maintenance costs due to increased commercial travel on the highways. At present Ontario does not have the highways, nor can she afford the highways, required to handle the United States commercial traffic that would result from full reciprocity. For the immediate future Ontario seems to be committed to a policy of limited reciprocity.

Ontario does not view limited reciprocity as a restriction to trade with Michigan. Since 1959 Ontario motor carriers have been allowed to purchase transferrable trailer plates. The use of the transferrable plate allows the Ontario carrier to move Michigan registered trailers



from the Michigan border to the Ontario destination, or across Ontario, and back again to the Michigan border. No other permits are required and the movement can be accomplished with little loss of time.

Before being allowed to purchase the transferrable trailer plate, the carrier must first secure an Extra-Provincial Licence (X) from the Ontario Department of Transport. After securing the Licence, or authority, the carrier may purchase as many (X) transferrable plates as required for his operation.

In 1963 there were 781 carriers holding Extra-Provincial Licences.¹ Of these, 441 were holders of other operating Licences, while 340 were granted only the Extra-Provincial Licence. Altogether, about 9% of the Ontario carriers (total number 9,031) were granted Extra-Provincial Licences. During the same year these carriers used 3,314 transferrable trailer plates in the operation of their international and interprovincial business.

This system works fairly well for the Ontario carriers who, by the nature of their authority and routes, are in effect granted monopolistic powers for this service. As the predominant flow of goods moved by motor carrier is from Michigan to Ontario, a large part of this traffic can be moved on Michigan trailers. These Michigan trailers may

¹Annual Report of the Ontario Department of Transport, 1962-1963, Printed by Order of the Legislative Assembly of Ontario (Sessional No. 54), Toronto, Ontario.

be loaded with Ontario exports back to Michigan, or in some instances they may be loaded for other United States destinations. This system furnishes the Ontario carriers with a source of trailers for the international business, thus releasing their trailers for inter- or intra-provincial traffic. This advantage furnished the Ontario motor carriers has not gone unnoticed, for they have at times also opposed full reciprocity. This was evidenced by their opposition to the change in reciprocity in April, 1963, which granted Michigan private carriers the privilege of purchasing the five-day \$20.00 permit in lieu of paying the full registration fee. Heretofore, rather than pay the full registration fee, many of them had engaged the Ontario carrier to move the trailer to destination and return it to the Michigan port-of-entry.

There are two factors that may influence Ontario to accept full reciprocity with Michigan in the future. Both factors will tend to decrease the highway commercial motor traffic across the Ontario corridor. The first factor is the movement of highway trailers on railroad flat cars, called "piggyback." This traffic is moving primarily between Michigan and the eastern states of the United States.

The second factor will be the completion of the Interstate highways around Lake Erie from Toledo east to the New England states. This will be a toll-free road which will increase the volume of commercial traffic moving both east and west on the United States side of Lake Erie.

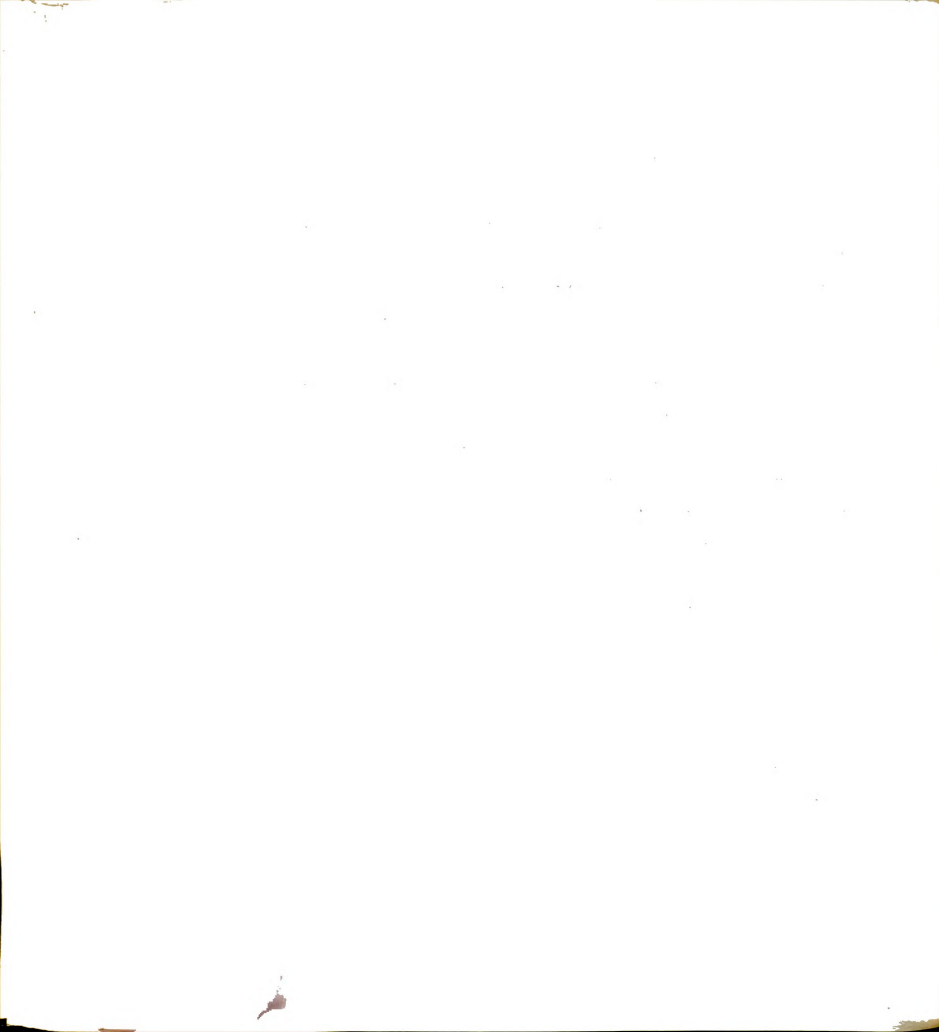


SUMMARY

The Federal and State governments in the United States exercise concurrent powers with respect to regulation of interstate and international transport carriers. In Canada all modes of transport, except motor carriers, come under the jurisdiction of the Federal government. The Motor Vehicle Transport Act (Canada) in 1954 gave the provinces complete jurisdiction over motor carriers.

Michigan has numerous agencies that participate in some regulation of the five modes of transport. But only the Michigan Public Service Commission and the Secretary of State are concerned with reciprocity. The only formal transport reciprocity agreement between Michigan and Ontario covers motor carriers.

The Ontario Department of Transport has sole jurisdiction over motor carriers and is responsible for reciprocal agreements. Limited reciprocity is employed by Ontario as a means of collecting additional revenue for building highways and restricting the flow of United States commercial vehicles across the Ontario corridor between Michigan and New York. Michigan is interested in full reciprocity with Ontario, but Ontario is satisfied with limited reciprocity for the present.



CHAPTER V

TRANSPORT PROBLEMS AND RECIPROCITY

INTRODUCTION

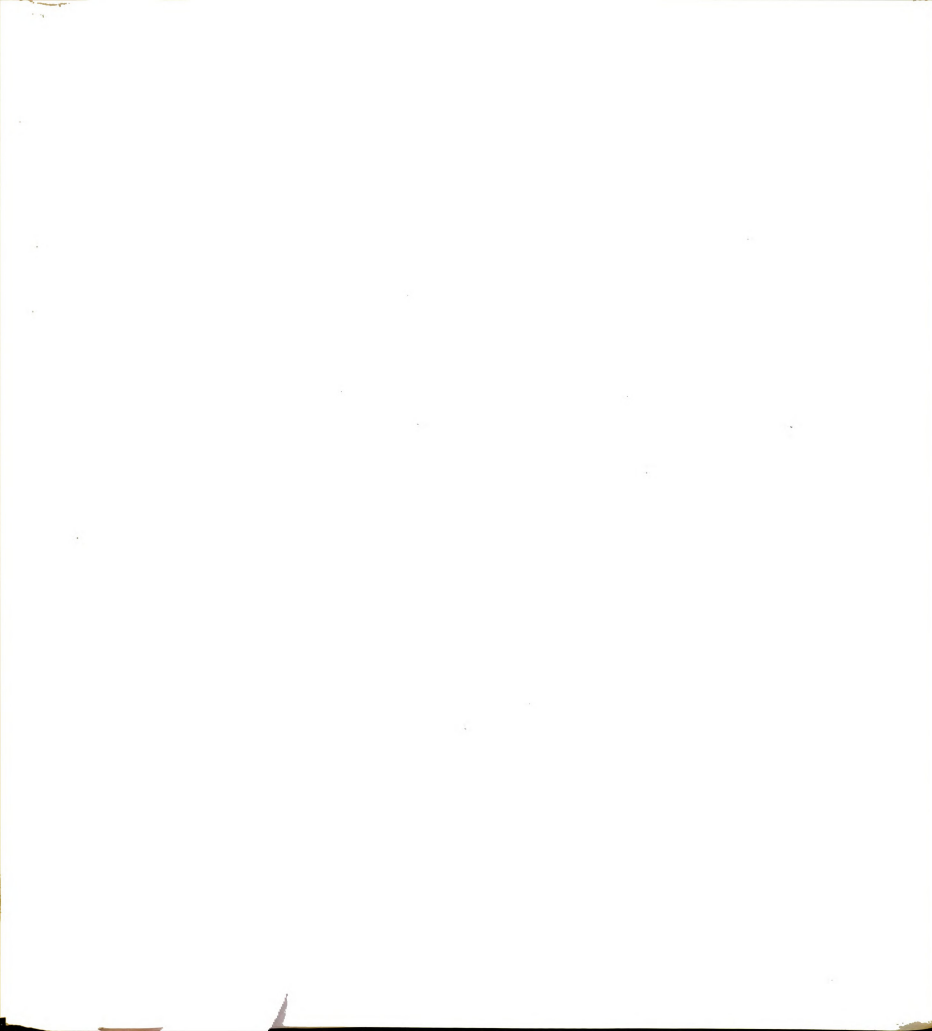
This chapter will present a discussion of the problems of transport and reciprocity from the standpoint of both Michigan and Ontario exporters and carriers. Some aspects of motor carrier service between Michigan and Ontario will be examined, and a discussion of the operation and achievements of reciprocity will complete the chapter.

EXPORTER EVALUATION OF BORDER TRANSPORT

All Michigan and Ontario manufacturing companies in the samples were asked to evaluate the transport service between Michigan and Ontario.¹ The response to this part of the survey seemed to indicate that the manufacturing companies did not have sufficient technical knowledge to appraise properly the transport service between Michigan and Ontario.

The poll of the exporters indicated that they considered the freight rates too high and that the total time enroute from point of shipment to destination was too great. However, on other aspects and the mechanics of the transport

¹For information on this part of the survey, see Appendix A, Michigan-Ontario Trade and Transport questionnaires.



service, they seemed to be less well informed.

The survey did help to identify tariffs and customs regulations as primary problems affecting trade, and place the transport obstacles in perspective.

EXPORTER'S PROBLEMS OF TRANSPORT SERVICE

MICHIGAN AND ONTARIO MANUFACTURING COMPANIES

The Michigan manufacturing companies were asked to rank several problems of transport service to Ontario that were caused by the existence of the border. They were also asked to state any other specific problem they encountered with transport service. None was stated individually which means that the listing of problems was complete, or none were encountered that the respondent cared to write about.

Table 45 shows the ranking of specific problems by the Michigan and Ontario respondents. A total of 150 Michigan companies indicated that "Duplications and costs due to regulations at the border" were the most serious problem with "Too much time enroute from pick-up of goods to delivery to consignee" as second.

"Lack of efficient through service under joint rates" and "Restrictive carrier equipment regulations in Michigan and Ontario" were ranked in that order as third and fourth.

The Ontario companies were asked the same questions with respect to problems of transport service to Michigan that were caused by the existence of the border. Eight of the companies stated they experienced no difficulties,

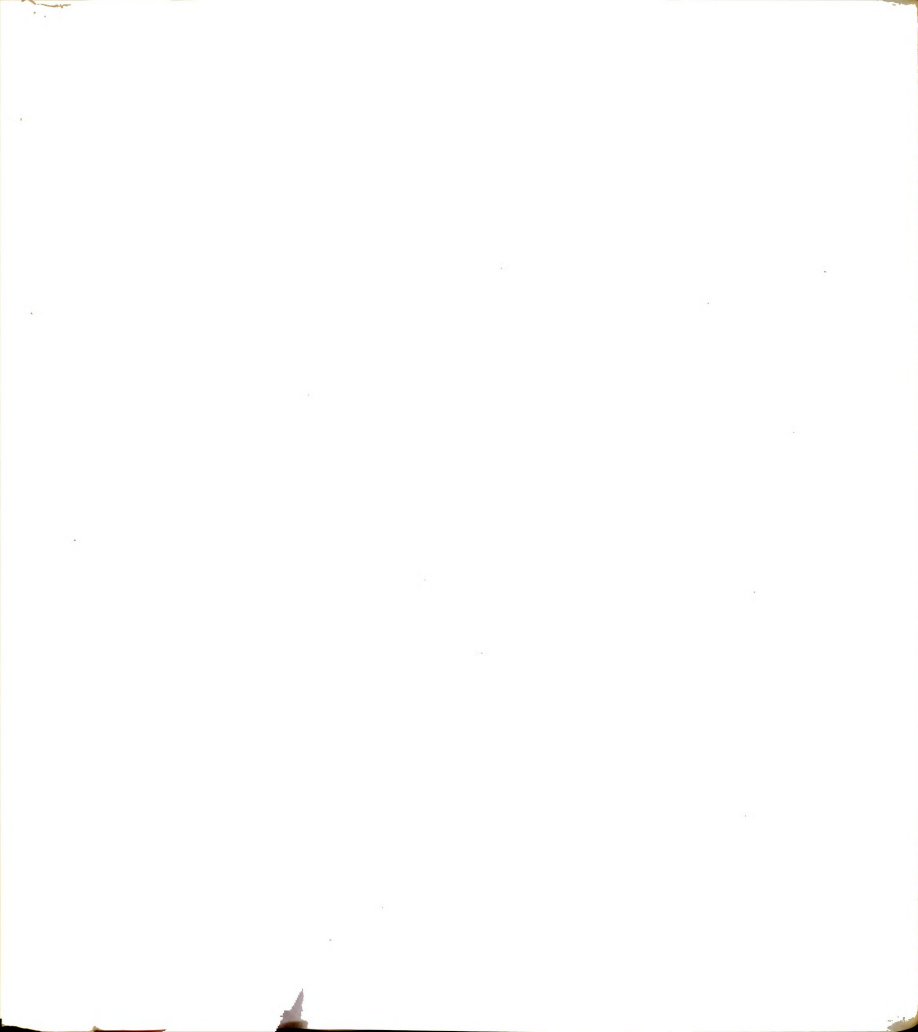


Table 45. Ranking of border transport problems by Michigan and Ontario manufacturing companies, 1963

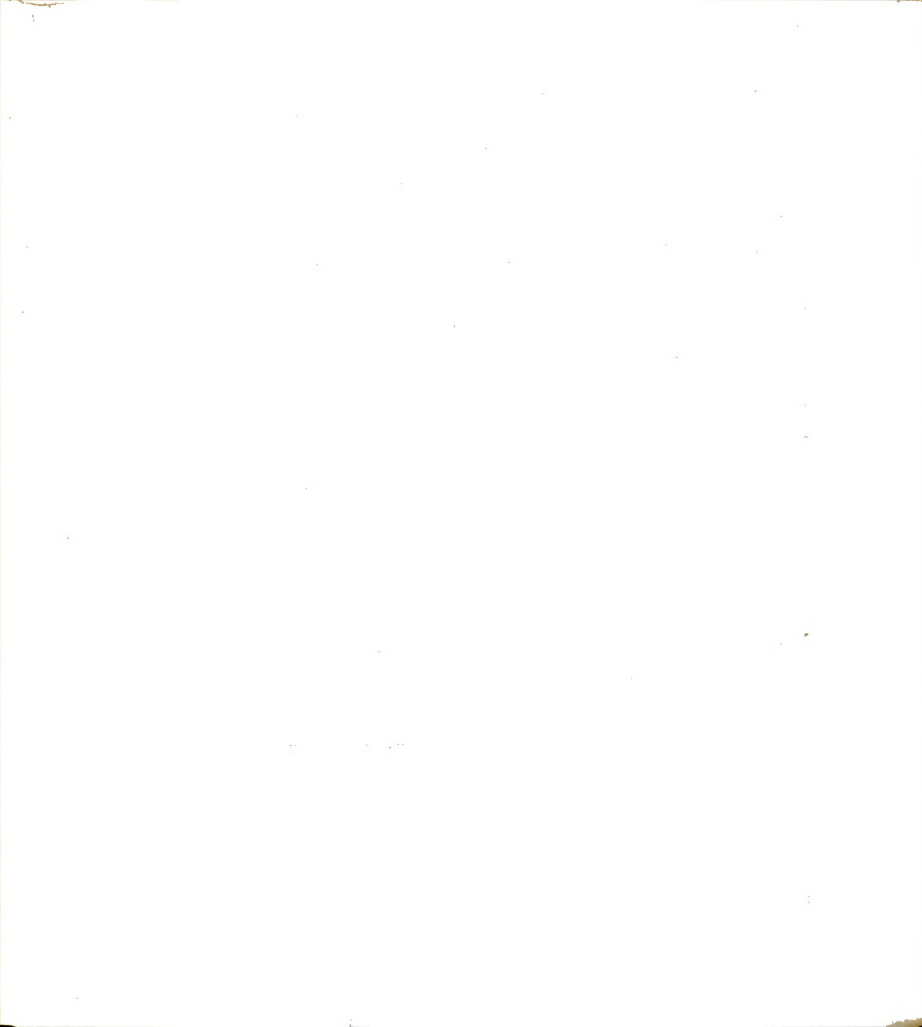
	Michigan companies		Ontario companies	
	Rank	Weight	Rank	Weight
Duplications and cost due to regulations at the border	1st	401	2nd	72
Too much time enroute from pick-up of goods to delivery to consignee	2nd	278	3rd	64
Lack of efficient through service under joint rates	3rd	216	1st	83
Restrictive carrier equipment regulations in Michigan and Ontario	4th	180	4th	62

Source: Survey of Michigan and Ontario manufacturing companies.

but three indicated problems of customs clearance.

"Lack of efficient through service under joint rates" was the most serious problem for the Ontario companies. Based on the weighting of each problem, it is clear that they made little distinction between the four problems. There were only a total of 21 points between the first and fourth ranked problems. However, there were 221 points difference between the first and fourth ranked problems by the Michigan companies.

The Ontario companies ranked as the second most serious problem "Duplications and cost due to regulations at the border." Many respondents complained of the amount of paperwork required by both United States and Canadian



customs.

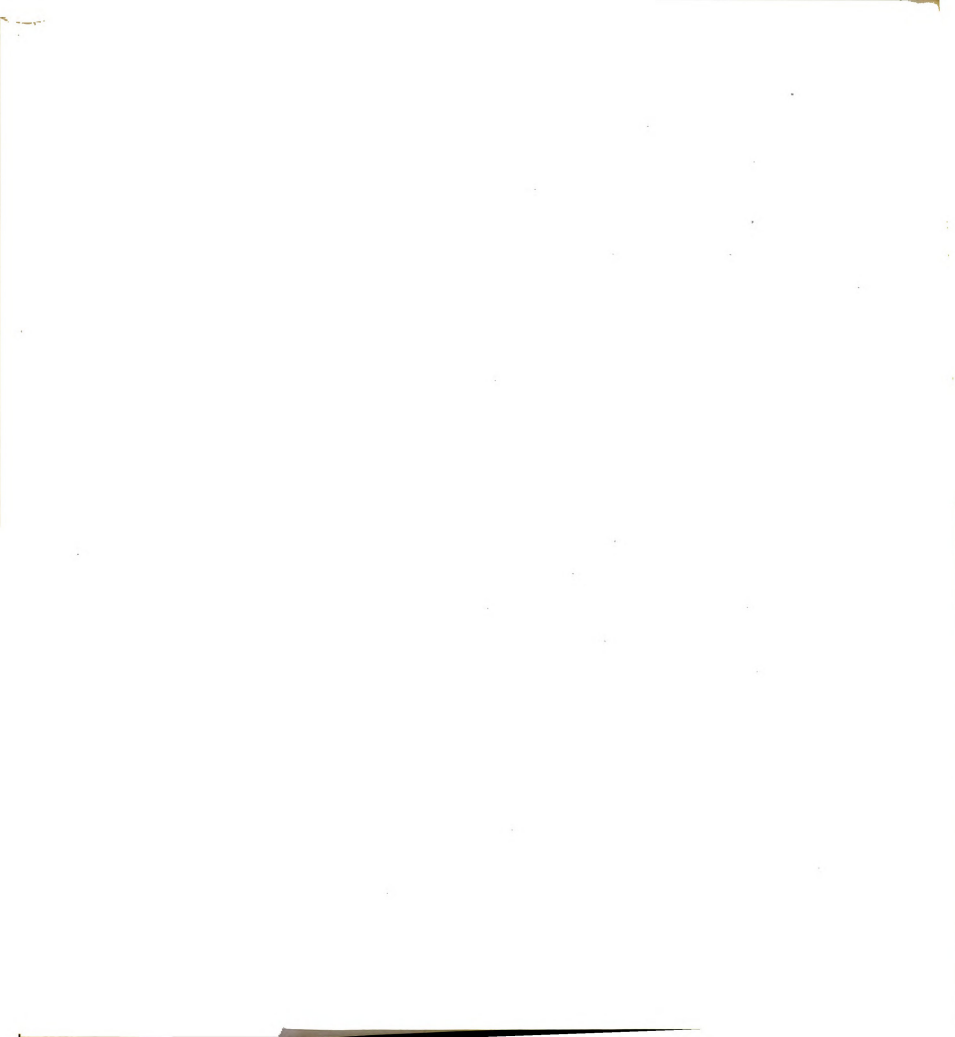
The third problem was "Too much time enroute from pick-up of goods to delivery to consignee" and the fourth was "Restrictive carrier equipment regulations in Michigan and Ontario. Those companies using private motor carriage were more concerned with the equipment regulations, and complained of the necessity of securing a special permit from the Michigan Department of State when entering Michigan.

Comparing the Michigan and Ontario results in Table 45, it is apparent that the Ontario companies were most concerned with the problem of efficient service and rates. Some Ontario exporters considered the motor carrier rates as excessive when considering the distance involved in reaching Michigan destinations.

The problem of "Duplications and cost . . . ," ranked first by the Michigan companies, was considered serious by all respondents, being weighted more heavily than any other problem. This ties in very closely with the problem of "Too much time enroute . . . " for in some respects the time factor depends on the regulations and administrative actions at the border.

All respondents ranked "Restrictive carrier equipment regulations in Michigan and Ontario" as fourth; however, the Ontario companies made little distinction between this problem and that of "Too much time enroute . . . "

Many respondents in both jurisdictions indicated



they knew very little about the equipment regulations between Michigan and Ontario. The equipment needs of those using commercial carriers were readily supplied by the carrier, so the exporters were not aware of any problem involving equipment regulations.

MEASURES FOR IMPROVEMENT

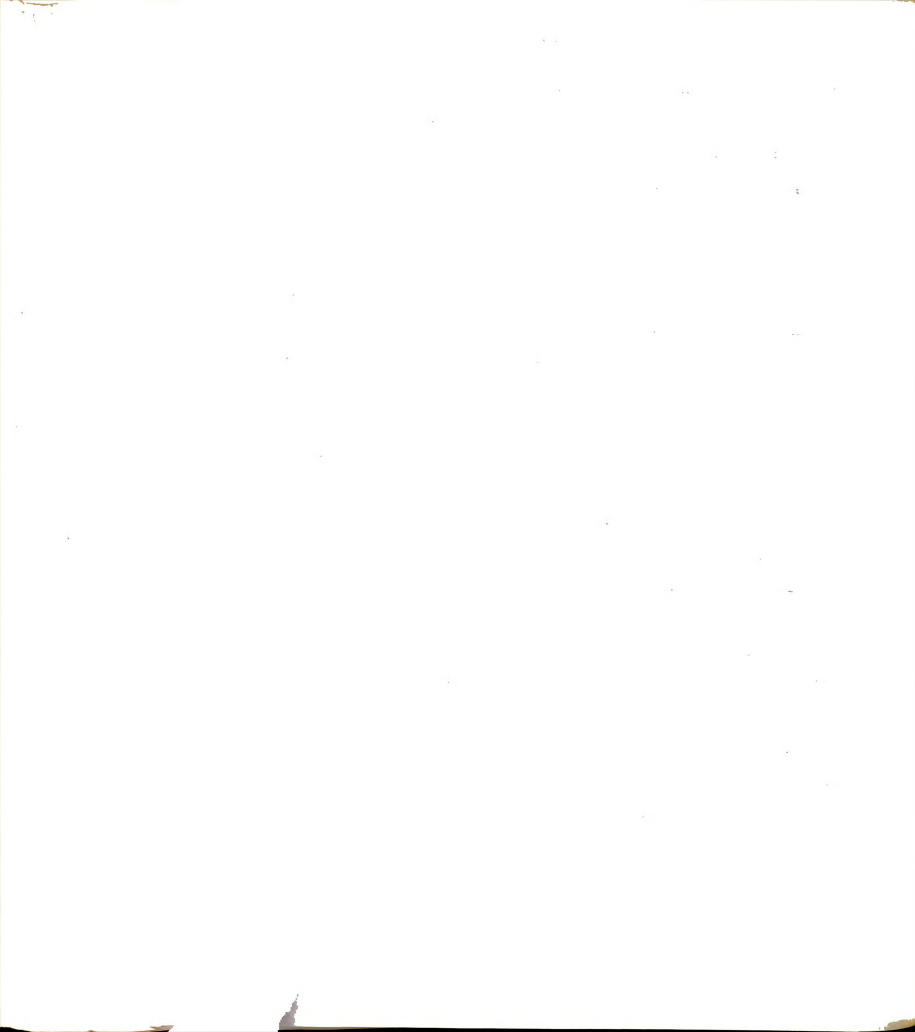
The five hundred Michigan companies in the first sample were asked to rank four proposed measures that would provide better transport service on shipments to Ontario.¹

The five hundred Michigan companies in the second sample were asked a slightly different question.² These companies were asked to rank five proposed measures that would provide easier marketing and better transport service on shipments to Ontario. The fifth proposed measure to be ranked was "Tariff reciprocity between United States and Canada resulting in lower rates." This was included because it had been specified by several respondents in the first sample as being more important than the proposed measures dealing with transport service. Therefore, it was included in the questionnaire mailed to the second sample to see how they would rank "tariff reciprocity" when compared to the problems of transport.

As expected, the proposed measure of "Tariff

¹See Appendix A, question 10, page 249.

²See Appendix A, question 6, page 256.



reciprocity between United States and Canada resulting in lower rates" was ranked first by the respondents. This is a measure oriented towards freer trade and only indirectly influences transport service. The primary interest here is with transport, so the measure on "Tariff reciprocity . . . " will be omitted from the following table and discussion.

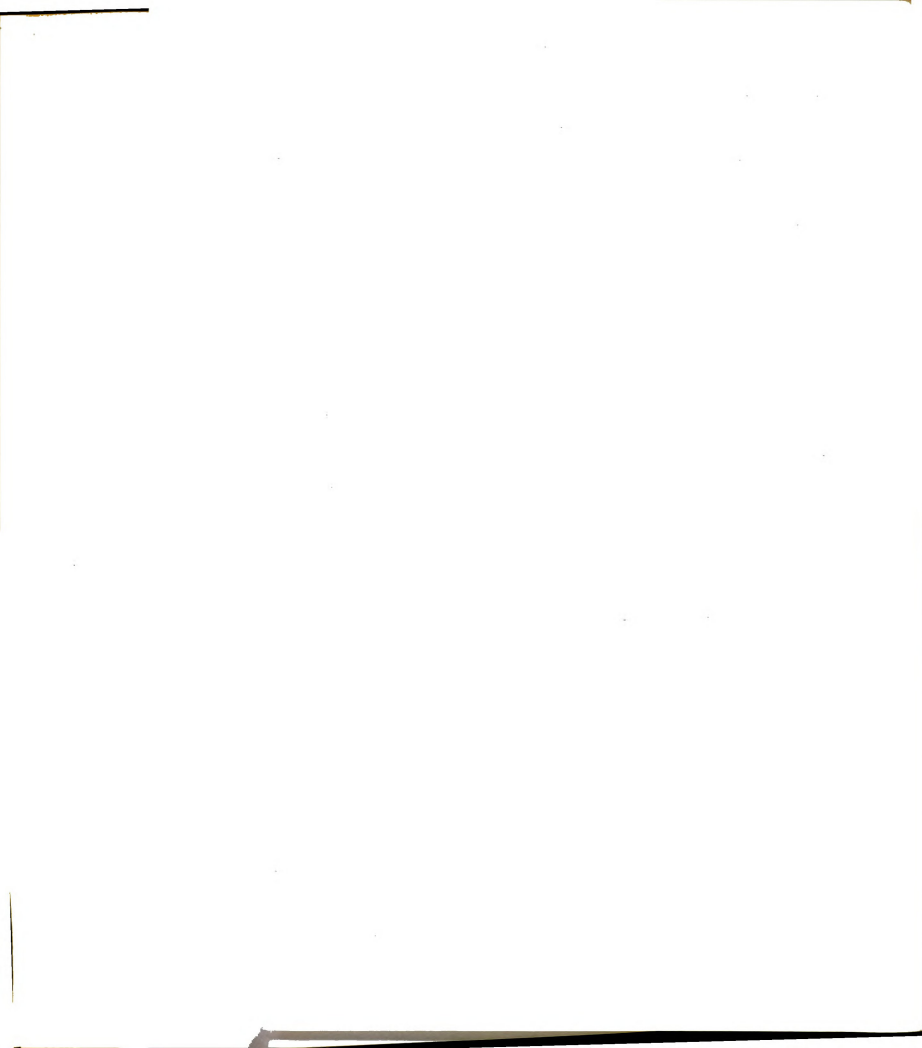
Table 46 shows the ranking by Michigan and Ontario manufacturing companies of measures that would provide better transport service on shipments between Michigan and Ontario.

Table 46. Ranking of measures that would provide better transport service on shipments between Michigan and Ontario, 1963

	Michigan companies		Ontario companies	
	Rank	Weight	Rank	Weight
Greater customs reciprocity with more uniformity in regulations at the border	1st	430	2nd	92
Through service under joint rates	2nd	318	1st	100
More liberal reciprocity with respect to equipment use in Michigan and Ontario	3rd	254	3rd	71
Better cooperation between Michigan and Ontario carriers	4th	170	4th	67

Source: Survey of Michigan and Ontario manufacturing companies.

The Michigan companies ranked "Greater customs reciprocity with more uniformity in regulations at the border" as first. It is evident that the problem of border customs



clearance is of great concern to Michigan companies shipping to Ontario. It has a direct effect on transport service because of the delays, and transferring of merchandise attendant to customs.

"Through service under joint rates" was ranked as second. Some Michigan companies stated that they thought better through service would decrease the time in-transit and hopefully reduce the rates.

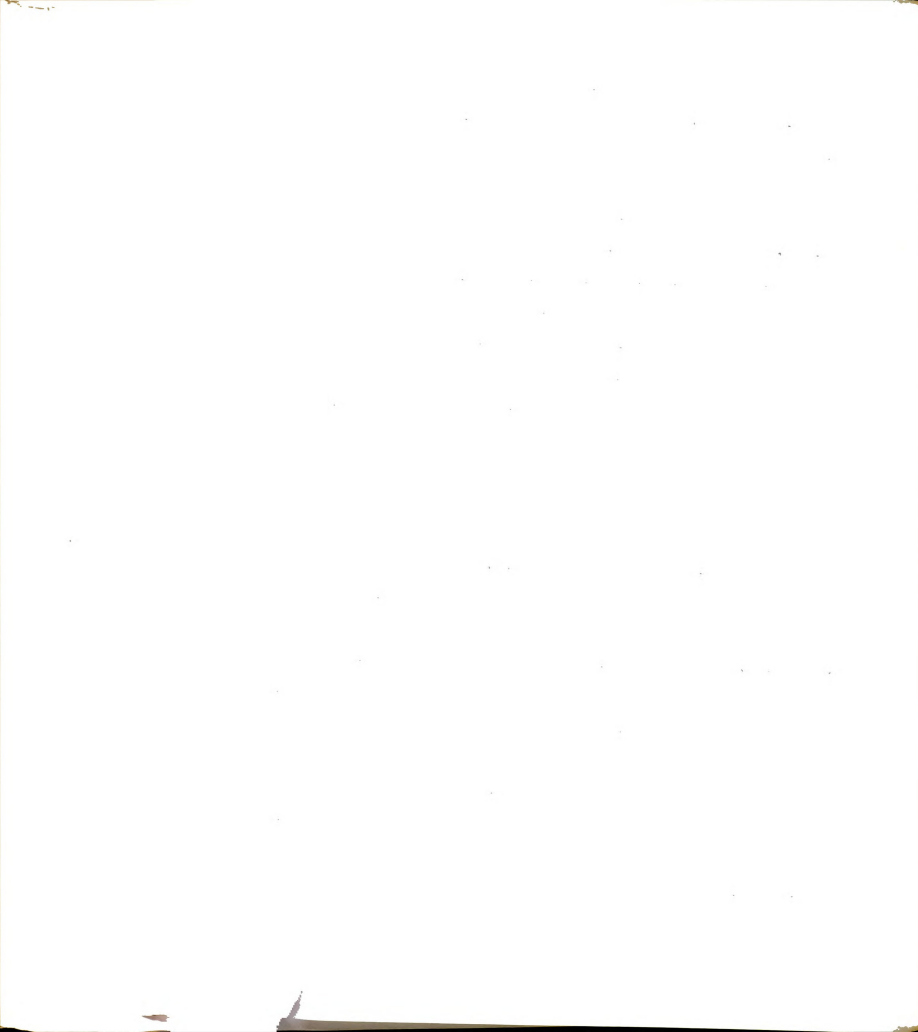
"More liberal reciprocity with respect to equipment use in Michigan and Ontario" was ranked third. This measure was of more apparent concern to those Michigan companies using private motor carriage.

Ranked last was "Better cooperation between Michigan and Ontario carriers." This was not considered very important for it received only about one-third the weighted points given to "Greater customs . . . "

The Michigan companies that responded to these questions were primarily companies that shipped 75% or more (by value) of their merchandise by motor carrier. Those respondents that shipped primarily by rail indicated that only the first and second measures in Table 46 had any bearing on their transport service.

The Ontario manufacturing companies ranked the first two measures just the opposite from the Michigan ranking.

"Through service under joint rates" was ranked first by the Ontario companies with "Greater customs reciprocity with more uniformity in regulations at the border" second.



The third was "More liberal reciprocity with respect to equipment use in Michigan and Ontario" and "Better cooperation between Michigan and Ontario carriers" was last.

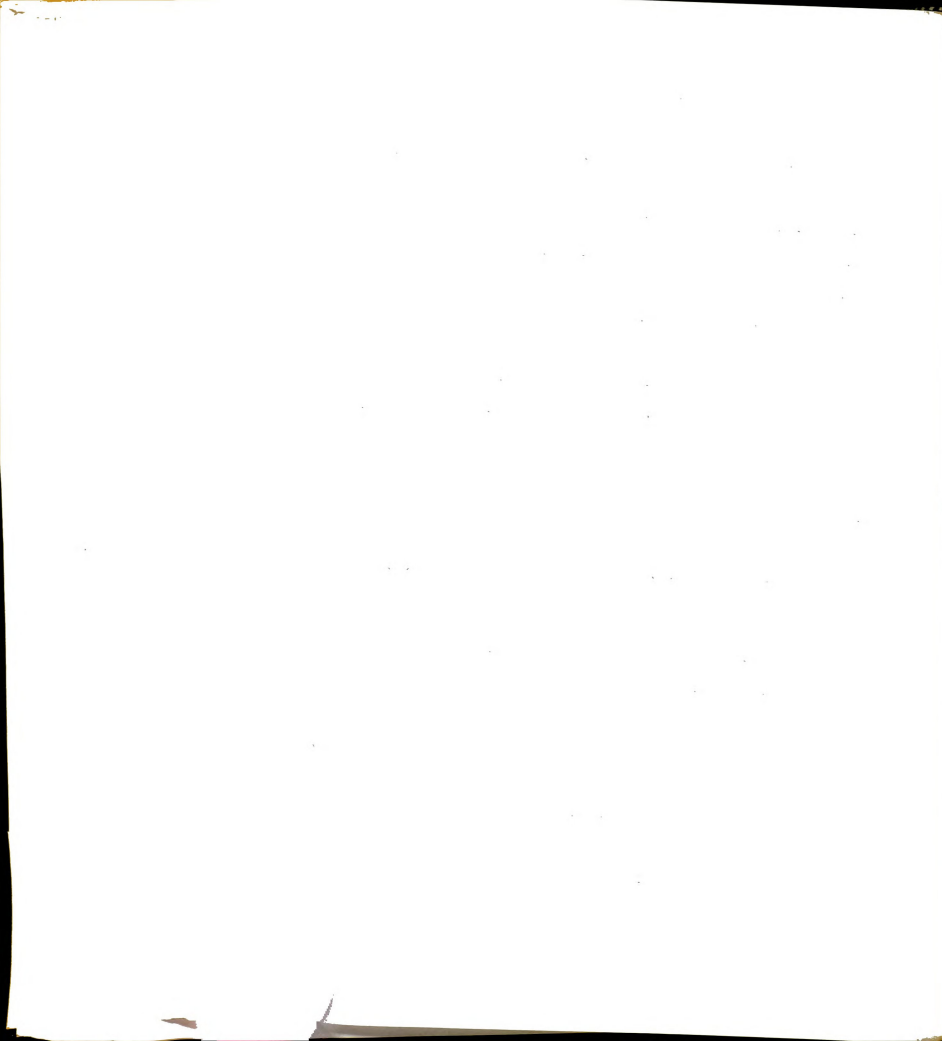
One company in Ontario stated that lower bridge tolls at the Mackinaw Straits would help it compete in the Michigan market. Such a complaint was also voiced by several of the Michigan manufacturing companies as well as Michigan motor carriers.

The research findings indicate that the Ontario exporter is primarily concerned with the quality and cost of service to Michigan. He is also interested in having regulations at the border improved so as to reduce the amount of paperwork required by both United States and Canadian customs.

This differs somewhat from the Michigan counterpart who considers (1) Border Regulations and (2) Time Loss, more important than through service or equipment regulations.

MOTOR CARRIER SERVICE BETWEEN MICHIGAN AND ONTARIO SOME ASPECTS OF COSTS

When the manufacturing companies were asked to evaluate the transport service between Michigan and Ontario, there was evidence of a lack of knowledge by many exporters. They could state clearly that they considered the rates too high, and that the time in-transit from point of origin to destination was much greater than for shipping comparable distances wholly within United States or Canada. But



they apparently were unfamiliar with the mechanics of transport and, therefore, could not give, or evaluate, specific reasons accounting for the additional time enroute and higher rates.

There are some differences in transport service between Michigan and Ontario as compared to a similar service from Michigan to another U.S. state, or from Ontario to another Canadian province. These differences, however, are experienced primarily by motor carriers.

Because single line¹ motor carrier service is not available, at least two carriers must move the shipments, unless private carriage is used.

Table 47 shows a comparison of the class rates charged by motor carriers on shipments from Grand Rapids to Toronto and Cincinnati. Toronto is approximately forty miles further from Grand Rapids than is Cincinnati. However, this would have very little effect on the data here presented.

On a first class shipment of 2,000-5,000 pounds, it costs 23% more to ship to Toronto than to Cincinnati. The differential increases to 25% on all shipments over 5,000 pounds. On truckloads from Grand Rapids to Toronto for all classes below first class, the rate is 21% more than to Cincinnati.

The higher rate charged shippers is due primarily

¹Single line here means direct service, whereby the same carrier picks up the merchandise, makes the road haul, and completes delivery at destination.

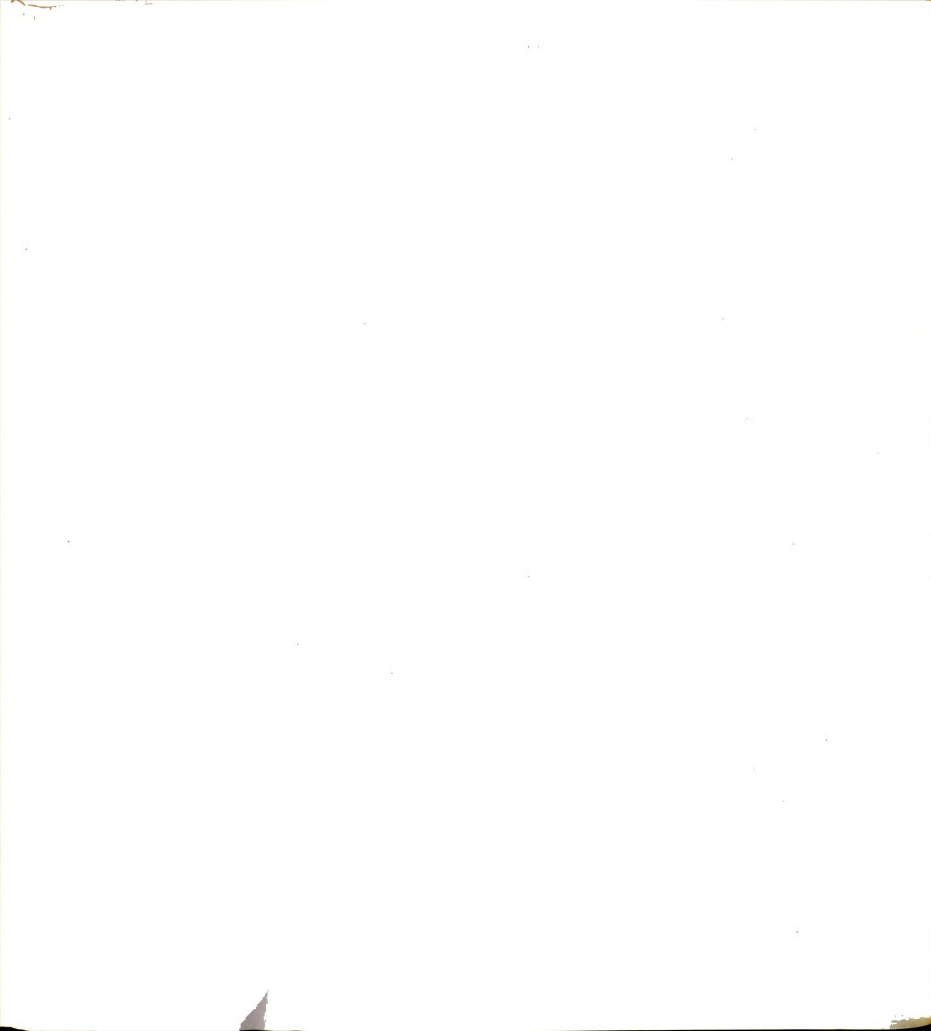


Table 47. Motor common carrier class rates from Grand Rapids to Toronto and Cincinnati, 1963

	First class 100		Second class 85		Third class 70		Fourth class 50	
Shipment weights	Tor	Cin	Tor	Cin	Tor	Cin	Tor	Cin
100 pounds or less	500	468 ^a	(Minimum Charge)					
Less than 1,000	na	354	na	308	na	259	na	211
1,000 - 2,000	na	319	na	279	na	234	na	192
Less than 2,000	380	na	328	na	279	na	218	na
2,000 - 5,000	341	277	295	243	243	203	194	167
(per cent) ^b	23%		21%		20%		16%	
5,000 and over	295	231	251	200	207	164	163	130
(per cent)	28%		25%		26%		25%	
Truckload								
					45	Class 40	37½	35
Toronto minimum weight 23,000					129	115		
(per cent difference)					21%		21%	
Cincinnati minimum wt. 20,000					106	95	88	85

^aRates are given in cents per hundred pounds.

^bShows the difference in per cent, i.e., first class to Toronto for shipment of 2,000-5,000 pounds is 23% higher than the rate to Cincinnati. The distances are approximately 300 miles to Cincinnati and 340 to Toronto from Grand Rapids.

Sources: Class Rates, Tariff 66, Niagara Frontier Tariff Bureau, Inc., Agent, Buffalo New York. Class Rates, Central States Motor Freight Bureau, Chicago, Illinois.

to the necessity of using at least two carriers to reach Toronto versus a single line movement to Cincinnati. However, there are also some other costs involved due to the border that are reflected in the higher rate structure.

It is impossible to get the exact costs applicable to the movement of goods between Michigan and Ontario, but Table 48 presents some interesting data on the cost of motor carrier operations with a single line versus a two line operation. These data are taken from the 1962 annual reports, plus certain supplemental information, furnished by 167 Class I and Class II motor common carriers of general commodities domiciled in the Central Region (Illinois, Indiana, Ohio and Michigan) having gross revenues over \$500,000 with 75% or more of such revenues being derived from general commodities.

For shipments of 300 pounds, a distance of 318 miles (Lansing to Toronto), the cost is about 41% greater when using two line service. The differential gradually decreases as the weight per shipment increases. The smallest differential is from 20,000 pounds and up, which usually represents truck load shipments, in which case the trailer is interchanged, thus decreasing the handling and interline costs.

The point to be made here is that, for less than truck load shipments moving between Michigan and Ontario, the cost of the service for the carrier is at least 25% to 41% greater than it is to markets that can be reached

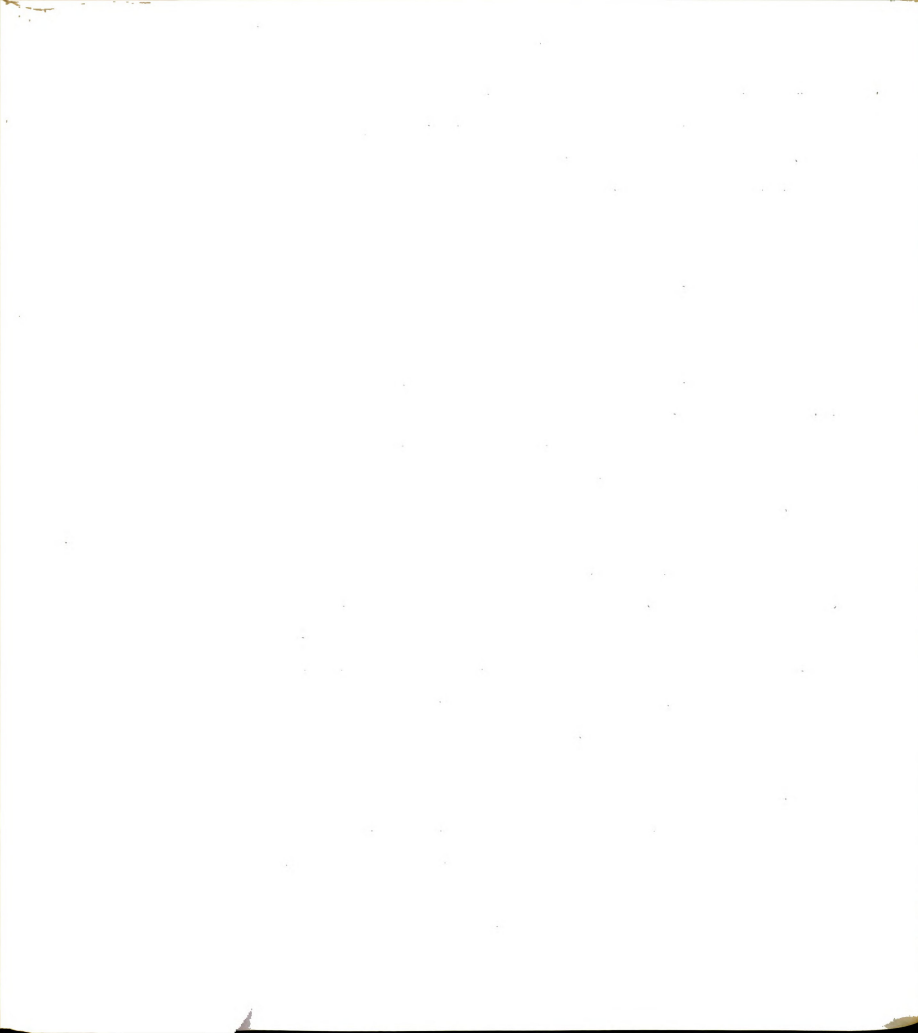


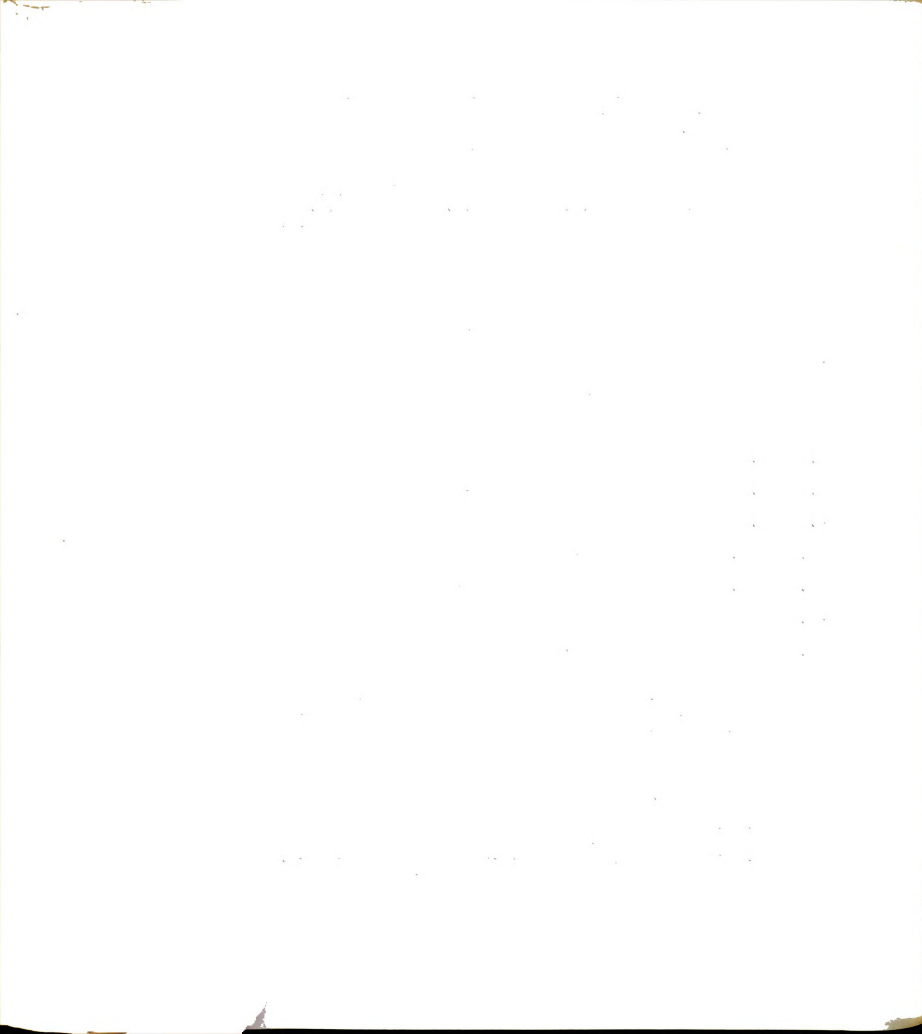
Table 48. Motor carrier out-of-pocket costs for actual distance of 318 miles for various weight shipments, 1962^a

Costs in cents per 100 pounds			
Weight bracket Pounds per shipment	(a) Single line	(b) Two line	(c) % (b) exceeds (a)
50	295	421	43%
100	368	524	42
200	504	719	43
300	634	904	41
300-499	188	268	42
500-999	159	226	42
1,000-1,999	136	193	42
2,000-4,999	117	164	40
5,000-9,999	98	133	36
10,000-19,999	76	95	25
20,000-29,999	61	71	16
30,000-39,999	50	58	16
40,000 and over	47	52	11

Note: Out-of-pocket costs are those expenses which can be assigned to particular shipments or kinds of traffic and the constant costs are those expenses incurred on behalf of the operation as a whole.

^a318 is the approximate highway mileage between Lansing and Toronto, and Lansing and Cincinnati.

Source: Cost of Transporting Freight by Class I and Class II Motor Common Carriers of General Commodities, Central Region, 1962; I.C.C., Bureau of Accounts, Statement No. 3-64, Washington, D.C., March, 1964.



by a single line motor carrier service. The differential in costs would actually be greater than shown in Table 48 on shipments between Michigan and Ontario because of the additional documentation and delays at the border necessitated by clearing customs.

Table 49 is presented to show the cost differentials between single line and two line service, as influenced by weight brackets, and by mileage increments. An examination of the table shows that the cost differential varies by the weight of the shipment but not by mileage brackets. On a shipment of 300-499 pounds, the cost differential is 80¢ per hundredweight for 100 miles and remains the same for each mileage block through 600 miles.

Another difference in service between Michigan and Ontario markets that is not reflected in carrier rates, but rather in exporter costs, is the time in-transit. By highway, Toronto and Cincinnati are about the same distance from Grand Rapids. Overnight service is available on shipments to Cincinnati, whereas fourth morning delivery is provided on shipments moving to Toronto.¹ There are several reasons for the greater in-transit time to Toronto. First, the shipments to Toronto must clear customs, either at the border, or at a bonded warehouse at destination. This may take a few hours or possibly days, depending upon the shipment and whether problems of valuation and

¹Information provided by Michigan motor carriers.

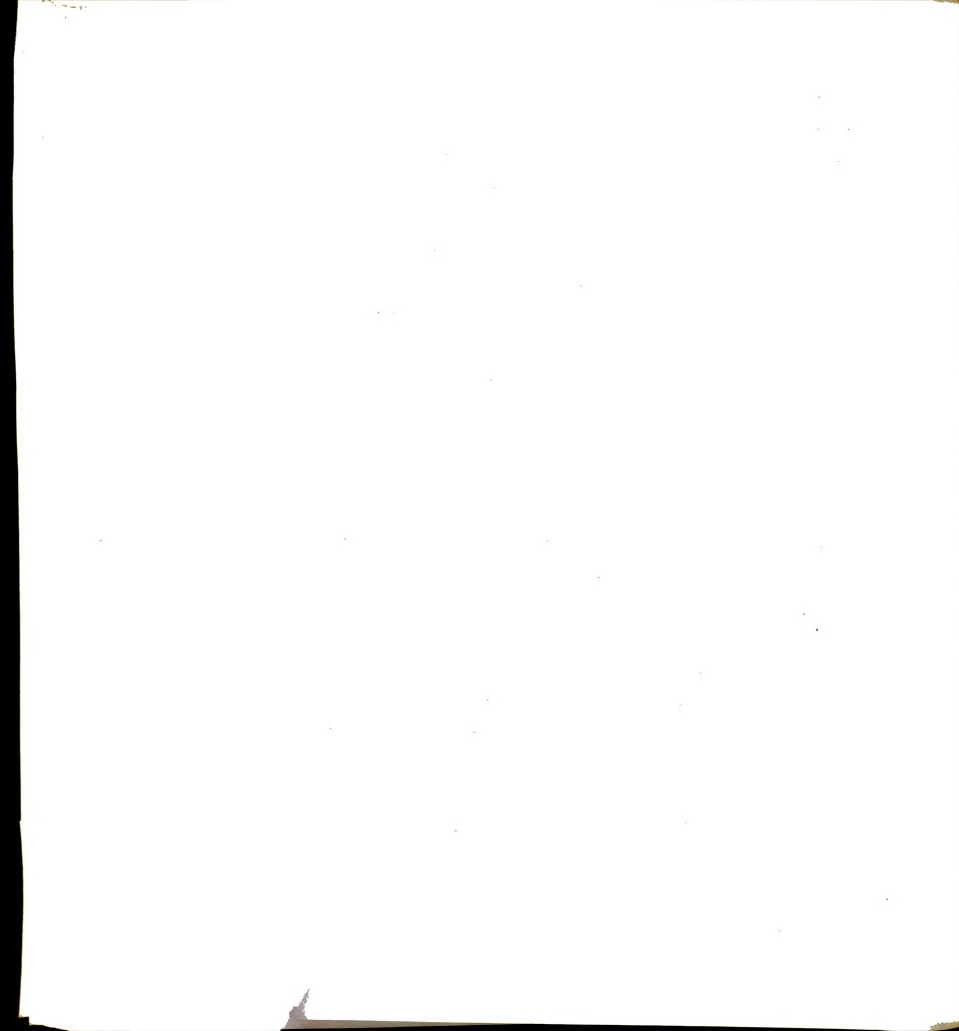


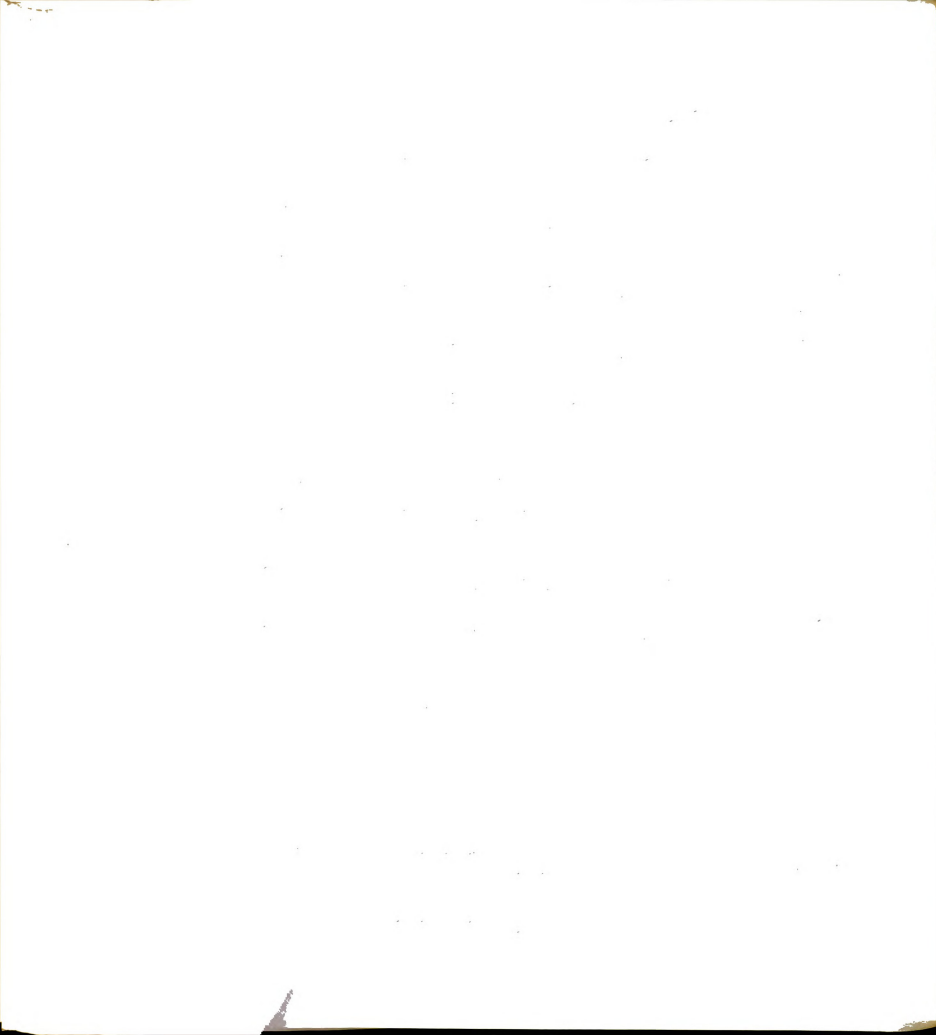
Table 49. Motor carrier out-of-pocket cost scales for shipments by type of movement and by weight brackets, 1962

Weight bracket in pounds per shipment	Miles ^a											
	100			200			300			400		
	Single line	Two line	Single line	Two line	Single line	Two line	Single line	Two line	Single line	Two line	Single line	Two line
50	278	405	286	413	295	421	303	430	312	439	320	447
100	334	491	350	507	368	524	385	542	402	559	419	576
200	438	653	470	685	504	719	540	754	574	788	607	821
300	535	804	583	852	634	904	687	956	738	1007	788	1057
300-499	155	235	171	251	188	268	206	286	222	303	239	319
500-999	126	193	142	209	159	226	176	243	193	260	210	277
1,000-1,999	103	160	119	176	136	193	154	210	171	227	187	244
2,000-4,999	85	132	101	147	117	164	135	182	151	198	168	215
5,000-9,999	65	101	81	116	98	133	115	150	131	166	147	183
10,000-19,999	45	63	61	79	76	95	93	111	109	128	124	143
20,000-29,999	33	43	47	56	61	71	77	87	92	102	107	117
30,000-39,999	25	33	37	46	50	58	63	71	77	85	90	98
40,000 +	23	27	35	39	47	52	61	65	74	79	87	92

Note: Costs are stated in cents per hundred weight.

^aRate making miles which are 6% less than actual miles.

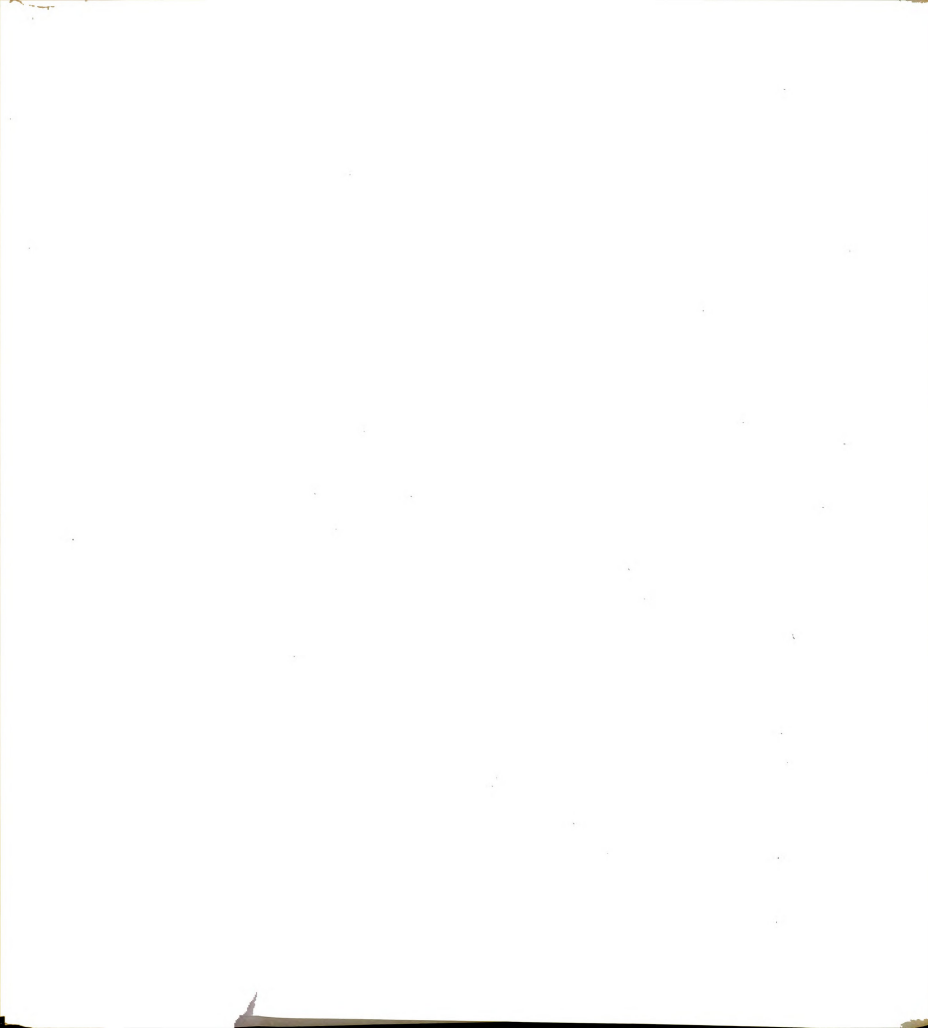
Source: Cost of Transporting Freight by Class I and Class II Motor Common Carriers of General Commodities, Central Region, 1962, Statement No. 3-64, I.C.C., Bureau of Accounts, Washington, D.C., March, 1964.



classification develop.

The next delay is caused by the physical handling of the shipments. If the shipment is a trailer load, the trailer may be interchanged at the border and moved to a bonded warehouse at destination for customs clearance. This procedure usually involves less time, but there is an additional cost of \$.20 per hundredweight for using the bonded warehouse. The alternative would be to clear customs at the border which might cause a greater delay in-transit.

If the shipment is less than a trailer load, it is usually cleared through United States and Canadian customs at the border by the originating carrier. If the trailer has to be unloaded at customs, the merchandise is reloaded on the equipment of the delivering, or connecting line carrier, assuming they have equipment available. If not, then the originating carrier, after clearing customs, takes the merchandise to the dock of the connecting line carrier at Sarnia, or Windsor. If this connecting line carrier can provide direct service to the destination of the shipment, this may be the last time the merchandise is transferred. However, it is possible that it could be transferred once or twice more before reaching destination and the consignee. Small shipments may also be transported in bond to a bonded warehouse at the destination, where they are cleared through customs. It is evident that the size of the shipment has some bearing on how the shipment is moved and the time in-transit.



Another factor influencing time in-transit is the condition of highways. The highway between Windsor and Toronto is a modern, separated four-lane highway that allows reasonable truck speed. However, the highways to other Ontario market areas are single-lane and highly congested near cities at particular times of the day. We have no specific data from Ontario as to how this affects transit time and costs of operation, but it is assumed that adverse highway conditions slow the motor vehicle and increase costs. In this connection, Table 50 presents some interesting data on line-haul costs adjusted for the effect of speed. Again, the Central region may not be exactly comparable to Ontario, but the data give some indication of the relationship of road conditions and cost per vehicle mile. As can be seen in the table, modern highways that allow an average speed of 45 mph as opposed to 25 mph can reduce the cost per vehicle mile 11.559¢. The additional speed also reduces the overall time in-transit.

OPERATING ALTERNATIVES AND PRACTICES UNDER EXISTING RECIPROCITY

MICHIGAN CARRIERS

Under the existing reciprocity agreement between Michigan and Ontario, private carriers can purchase from the branch offices of the Ontario Department of Transport in the port-of-entry city a \$20.00 permit authorizing five consecutive days' operation of the vehicle, or combination, into or through Ontario. The permit is in lieu of purchasing



Table 50. Motor carrier line-haul costs adjusted for effect of speed, 1962

Line-haul running speed (miles per hour)	Total line-haul cost per vehicle mile
35.4 mph (actual cost study average speed)	38.199¢
15 mph	63.179¢
20 mph	52.342¢
25 mph	45.840¢
30 mph	41.505¢
35 mph	38.409¢
40 mph	36.087¢
45 mph	34.281¢

Source: Cost of Transporting Freight by Class I and Class II Motor Common Carriers of General Commodities, Central Region, 1962; I.C.C., Bureau of Accounts, Statement No. 3-64, Washington, D.C., March, 1964.

Ontario registration plates for the vehicle. For the carrier that operates intermittently in Ontario, the permit offers substantial savings without causing excessive delay at the border. The permits are available on a 24-hour basis. The carrier still has the option of purchasing Ontario registration plates if it is to his advantage to do so.

Michigan common carriers may secure from the Ontario Transport Board an "L" license which authorizes in-bond transit privileges across Ontario.¹ The carrier must pay

¹Full details for securing the license and the extent of its use were covered in Chapter IV.



a \$9.00 permit fee for each single trip. Michigan carriers with the "L" license have the option of purchasing Ontario registration plates for their vehicles, in lieu of the \$9.00 trip permit, if it is to their advantage to do so. However, with a large fleet of tractors and trailers, providing freight service to several states, it is usually impossible to keep the same vehicles on the Ontario corridor movement. Thus, the use of the permit does afford some savings to the carriers.

At Detroit, Port Huron and Sault Ste. Marie, trailers registered in Michigan may be operated into Ontario for a distance of 20 miles from point of entry, provided they are hauled by an Ontario registered tractor. Trailers operated beyond this point must be fully registered in Ontario.

In practice, if the Michigan registered trailer is moved beyond the 20-mile limit, it is interchanged to an Ontario carrier and moved on a transferrable (X) trailer plate. Such a plate is purchased by the Ontario carrier from the Ontario Department of Transport for use only on foreign registered trailers while being operated within Ontario.

For the operation within the 20-mile zone of the port-of-entry city, some Michigan carriers have secured operating licenses from the Ontario Department of Transport for a limited international operation confined to the moving of trailers across the international border. The Michigan carrier's tractors are fully registered within Ontario and



Michigan, thus allowing them to haul both Ontario and Michigan registered trailers within the zone, providing it is an international movement.

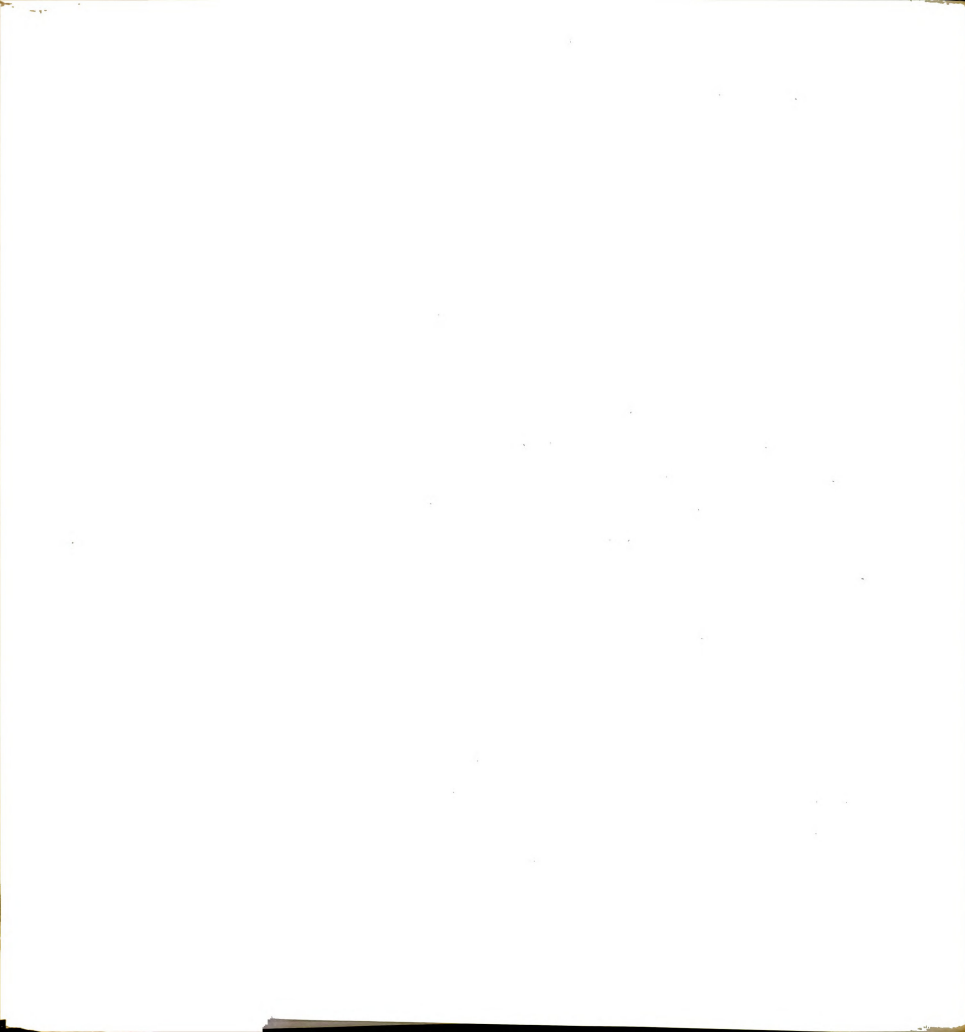
Michigan Shipments.--of LTL freight usually clear customs at the border and are transferred to the Ontario carrier for delivery to final destination. Occasionally such shipments cross the border in-bond and are moved to a bonded sufferance warehouse at destination, where they are cleared through Canadian Customs, and then delivered to the consignee.

On trailer load (truckload) shipments, if the freight is on a Michigan registered trailer, the trailer is taken by the Ontario carrier at the port-of-entry and moved to final destination. The movement is facilitated by the use of the transfer trailer (X) plate provided by the Ontario carrier.

The shipment may be cleared through customs at the border or moved to destination in-bond and cleared through customs at the sufferance warehouse.

In actual practice, because Ontario does not grant reciprocity to Michigan registered trailers, the Ontario carrier must purchase transfer trailer (X) plates to operate the Michigan registered trailer in Ontario.¹ Often the trailer is delayed from several hours up to two days at the Ontario carrier's terminal, waiting for a transferrable

¹The cost of each plate is \$369.00.



trailer (X) plate.¹ With an unbalanced movement of freight, it is difficult to have sufficient (X) plates at the right terminal at the proper time to accommodate the volume of traffic.

ONTARIO CARRIERS

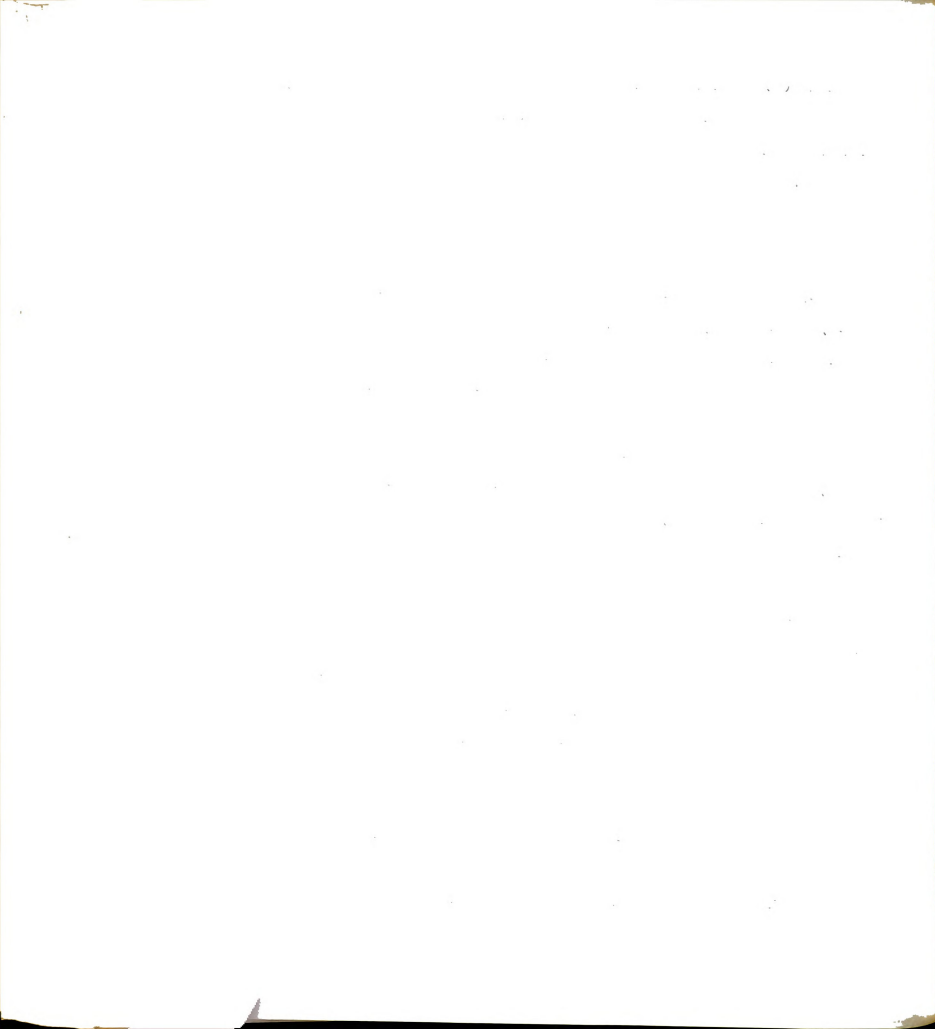
All Ontario motor carriers may purchase a \$20.00 permit, authorizing 10 consecutive days of interstate travel into, or through, Michigan. This permit is only in lieu of the Michigan registration plates. Such carriers have the option of purchasing Michigan registration plates for their vehicles if it is to their advantage to do so.

All international and interstate carriers traveling into, or through, Michigan must register their ICC common carrier certificates, or contract carrier permits with the Michigan Public Service Commission.

At Detroit, Port Huron and Sault Ste. Marie, trailers registered in Ontario may be operated into Michigan a distance no greater than eight miles beyond the city limits, if drawn by a commercial vehicle registered in Michigan. If operated beyond this limit, a \$20.00 permit, or Michigan registration plate, must be secured for the trailer.

To facilitate the border operation, some Ontario carriers have received operating certificates from the Michigan Public Service Commission authorizing a limited

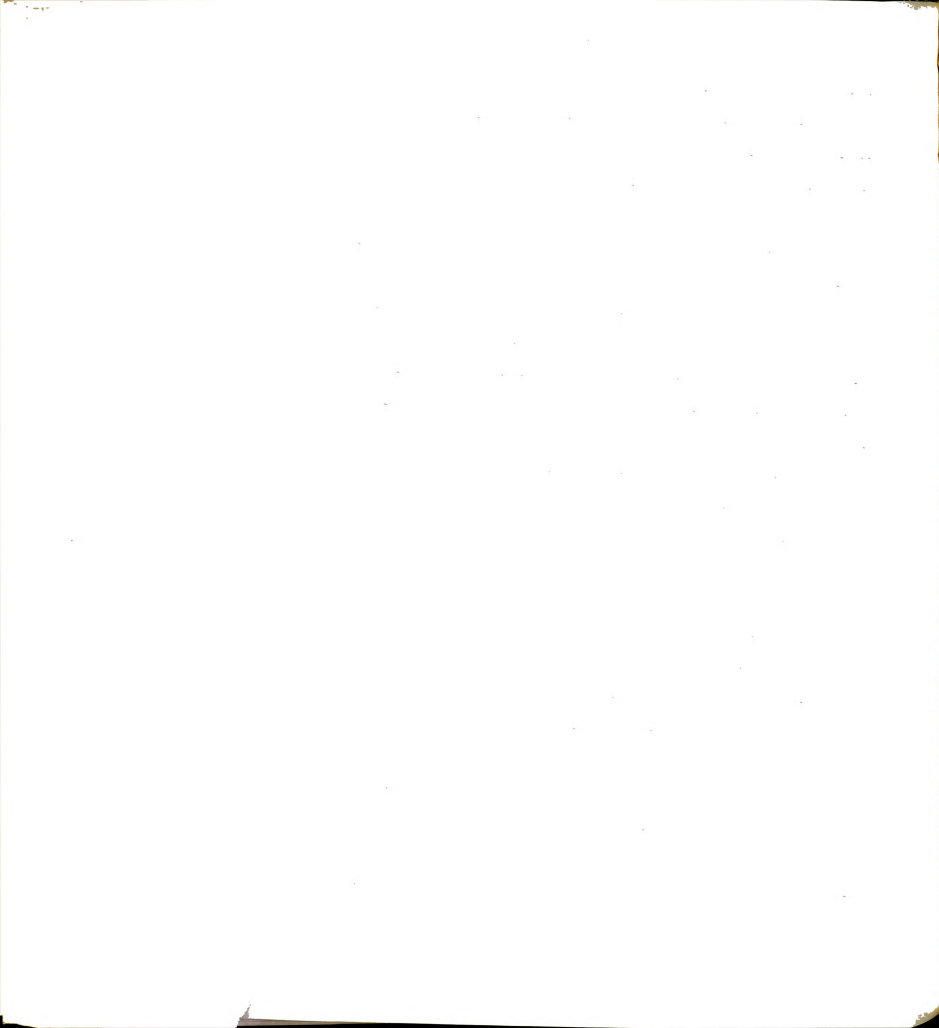
¹Information supplied by Ontario carriers at Windsor.



international operation confined to the movement of trailers across the international border. The Ontario carrier's tractors must be fully registered in Michigan in order to allow the movement of Ontario registered trailers within the Michigan zone.

Ontario Shipments.--of LTL freight usually clear customs at the border and are transferred to the Michigan carrier for delivery to final destination. In some instances the freight is moved in-bond to the final destination where it is then cleared through United States customs. Many Michigan motor carriers are "bonded" carriers which allows them the privilege of moving freight in-bond to any of their inland Michigan terminals. The customs official checks the freight either at the carrier's dock or at the consignee's place of business at time of delivery. This same procedure is used for truckload shipments, also.

Ontario trailer load (truckload) shipments that are moved across the border on Ontario registered trailers are usually transferred to Michigan registered trailers for delivery to final destination. The Michigan carrier has the alternative of either purchasing a 10-day, \$20.00 permit, or a Michigan registration plate for the Ontario registered trailer. Usually due to the inconvenience and limitations of the permit, the freight is transferred. When the final destination is beyond Michigan, in some other state, the freight is automatically transferred at the port-of-entry because other states do not have reciprocity with



Ontario, nor do they recognize the Michigan 10-day permit. Approximately three-fourths of the freight originating in Ontario, going to Michigan inland destinations, or beyond Michigan, is transferred at the port-of-entry to a Michigan carrier's trailer.¹

In actual practice, because Michigan does not grant reciprocity to Ontario registered trailers, a considerable volume of freight originating in Ontario is transferred at the Michigan port-of-entry. This increases the transport cost for the carrier, which is in turn reflected in higher rates for the shipper. The additional delays enroute due to transferring the freight is not reflected in the rate, but is a cost borne by the shipper.

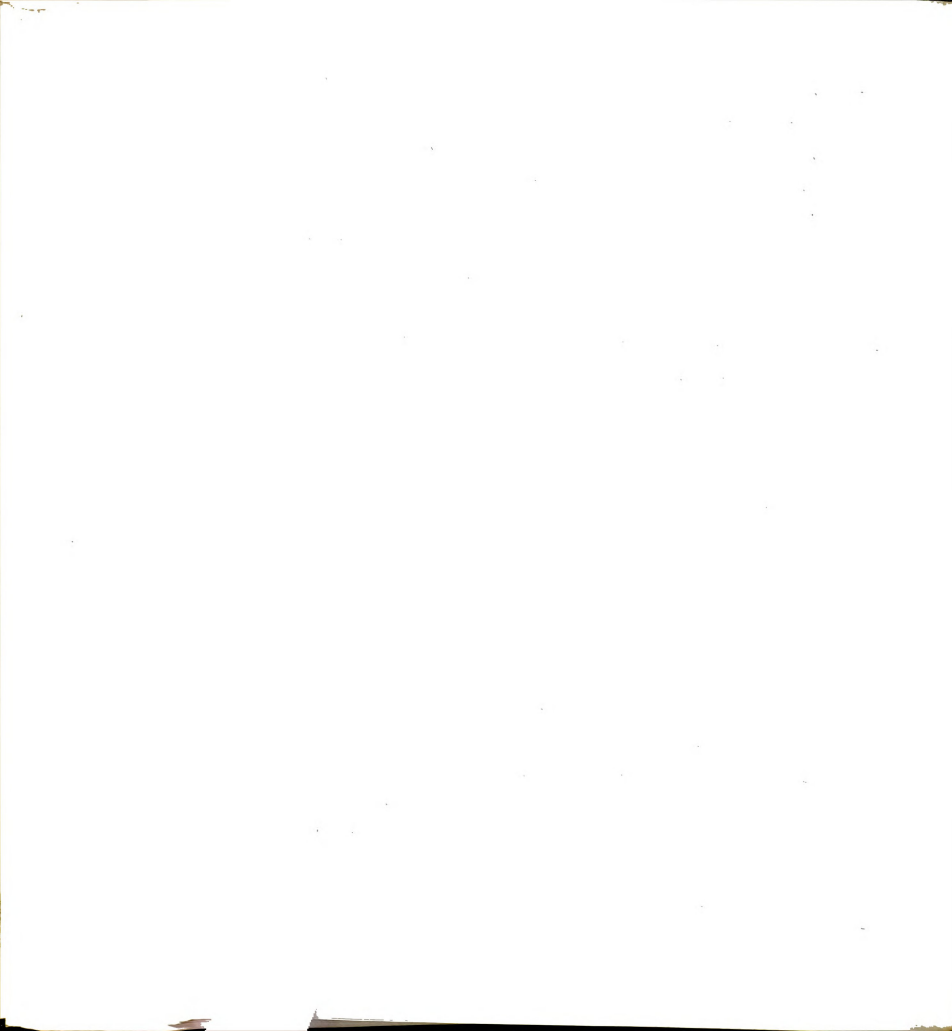
The carrier's view of transport problems and reciprocity will be examined in the next section.

CARRIER'S VIEW OF TRANSPORT PROBLEMS AND RECIPROCITY

RAILROADS

The railroads involved in the traffic between Michigan and Ontario do not report any particular problems as a result of border regulations. Customs regulations and procedures cause the only apparent difficulties in moving freight across the border. However, when the required forms are in order and properly attached to the waybill, a minimum of delay is usually experienced in clearing customs.

¹Information from interviews with Michigan motor carriers at Detroit.



The railroads reported no problems with "Administrative procedures" or "Reciprocity problems." Occasionally problems develop with the "Interchange of equipment" but they are not caused, nor influenced, by the existence of the border. Some railroads have greater problems interchanging equipment with carriers within the United States than with those located in Canada.¹

There are no reciprocity agreements between Michigan and Ontario affecting the railroad operations. In fact, the Michigan regulatory agency could envision no situation where reciprocity on the state level could have an influence on the railroad operations between the two jurisdictions.

If the political boundary with its customs regulations was removed, the movement of freight between Michigan and Ontario would flow with the same ease as traffic between states within the United States.

MICHIGAN MOTOR CARRIERS

The following discussion is based on the returns from the Michigan-Ontario Transport Questionnaire mailed to motor carriers and interviews with various motor carrier officials.

The officials of the motor carriers were asked to rank various obstacles encountered in moving freight between

¹From correspondence with railroad officials.

Michigan and Ontario.¹ The Michigan carriers were unanimous in their choice of serious obstacles. The first obstacle was "Requirement of Michigan permits when using Ontario licensed trailers 8 miles beyond city limits of the point of entry." Second choice was "Michigan and Ontario regulations hamper free interchange of equipment between carriers"; and third choice was "Delays enroute due to customs regulations and procedures."

The other three structured answers--"Canadian border administrative practices"; "United States border administrative practices"; and "Cost of operations due to border problems makes it difficult to compete with other types of transport"--were not considered to be serious problems. The effect of these on transport service was minor when compared to the problems listed as first, second and third.

The officials of the motor carriers were asked what effect unrestricted interchange of equipment between Michigan and Ontario carriers would have on their operations. The consensus of opinion was that unrestricted interchange would shorten the elapsed time in transit from pick-up to delivery to consignee, and reduce the costs of operations for the carriers. Some expected that the volume of freight moving between Michigan and Ontario would be increased, but others said this would have little bearing on the demand

¹See page 2, Transport Problems, of the Michigan-Ontario Transport Questionnaire in Appendix A, page 265.

for their service.

For the most part, it was recognized that the demand for transport service is a derived demand, and, as the exports and imports increase, the demand for transport service will increase, also. By decreasing the time in-transit, the exporters' cost would decrease, which might allow a decrease in the price of the export product, and thus expand the market. Thus, by improved operations, the carriers hoped to gain: (1) better distribution service for the exporters who might then be able to increase their business with Ontario, (2) a better competitive position, enabling them to secure more business from the exporters, and (3) based on a greater volume of traffic, the possibility of lowering rates.

The motor carrier officials were asked to rank certain recommendations for improvement of transport service between Michigan and Ontario. Here again the choice was similar. Ranked first was "Non-restricted interchange of equipment between Michigan and Ontario, thus eliminating the necessity of securing special permits." Next was "Uniform regulations in Michigan and Ontario regarding weight, length and vehicle combinations."¹ "Through routing and billing between points in Michigan and Ontario" was considered an impossibility at the present time, although it

¹A comparison of the Michigan and Ontario regulations is shown in Appendix A, Table A-7.



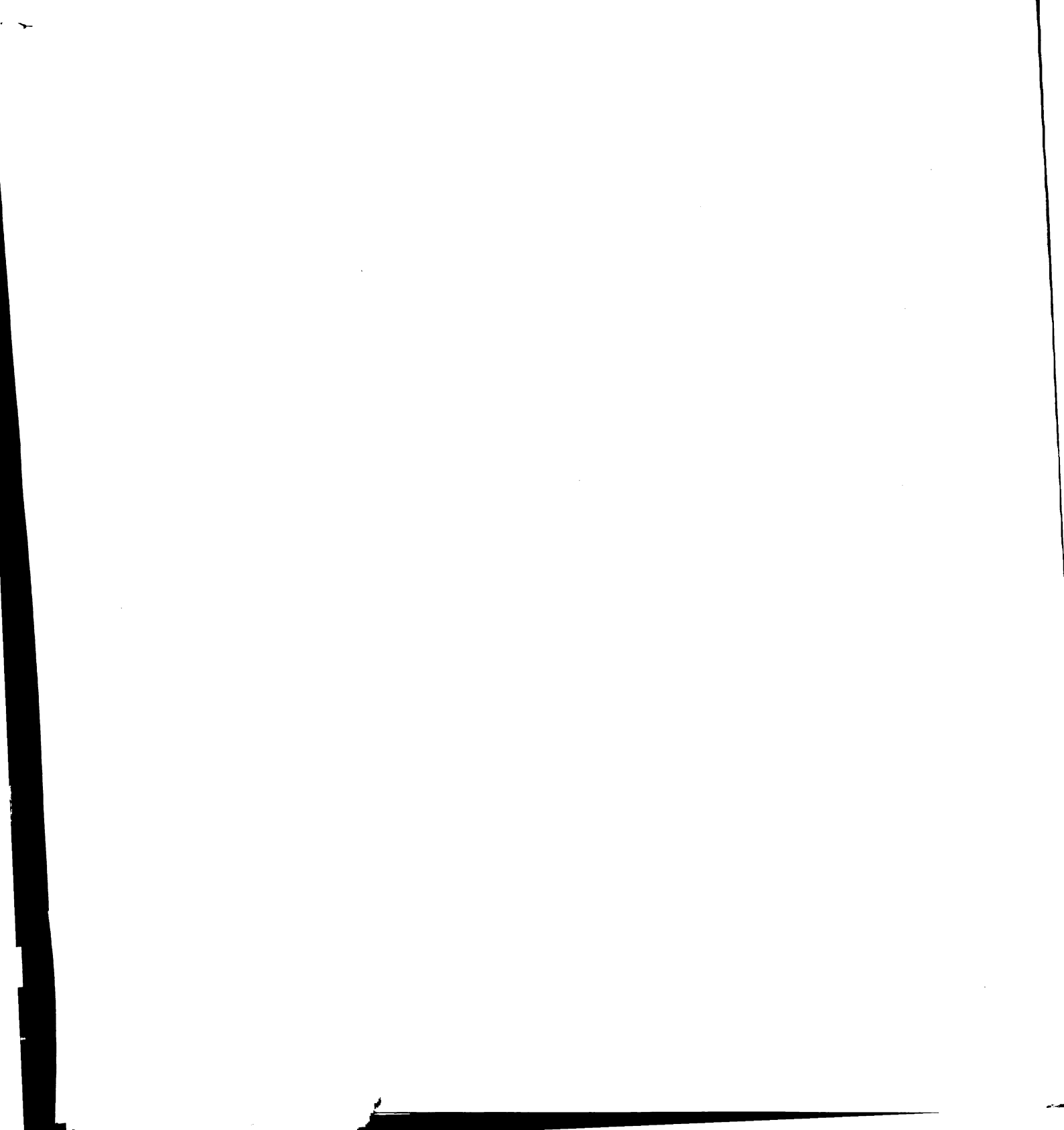
would provide an ideal service from the standpoint of the exporter. Some carriers have attempted to purchase rights in both Ontario and Michigan, so that single line service could be provided. However, the opposition has been too great to allow such a motor carrier operation, even though such service is available with the other modes of transport. Apparently some of the greatest opposition has come from the other motor carriers who could not offer such a service and thus would be at a competitive disadvantage. Yet if the governments of Michigan and Ontario were fully convinced that such a motor carrier service would be beneficial to trade, it seems highly probable that single-line service could become a reality.

In general, the Michigan motor carriers would welcome any changes in reciprocity that would reduce the restrictions placed on operations involving traffic between Michigan and Ontario. However, they do operate more or less successfully under the existing conditions, and are not quick to voice opposition or demand that changes be made.

ONTARIO MOTOR CARRIERS

The following discussion is based on questionnaire returns and interviews with officials of the Ontario motor carriers.

Most of the information was supplied by "for hire" carriers and some by private carriers with little difference between the answers of each.



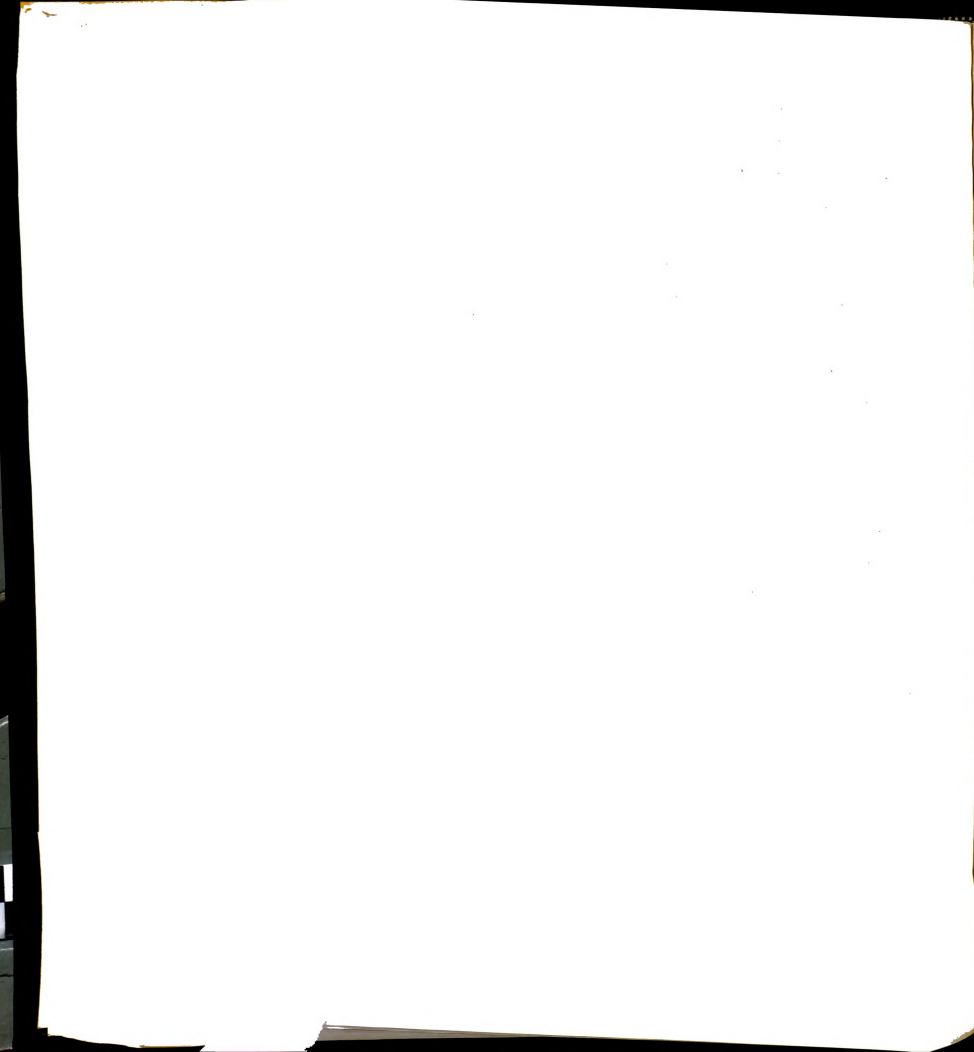
The officials of the motor carriers were asked to rank various obstacles encountered in moving freight between Ontario and Michigan.¹ The Ontario carriers selected first "Requirement of Ontario permits or special license when using Michigan licensed trailers beyond a 20-mile limit of the point of entry." Even though these carriers enjoy the privilege of using a transferrable trailer plate for moving Michigan trailers from the border to destination and return, they still considered this to be the greatest obstacle to moving freight between Ontario and Michigan.

The next selection was "Michigan and Ontario regulations hamper free interchange of equipment between carriers," while the third ranked obstacle was "Delays enroute due to customs regulations and procedures."² The remaining obstacles were not considered too important by the Ontario carriers; however, some indicated that "Cost of operations due to border problems makes it difficult to compete with other types of transport" was as serious an obstacle as the one listed above as third.

The motor carrier officials were asked what effect

¹See page 2, Transport Problems, of the Ontario-Michigan Transport Questionnaire in Appendix A, page 260

²According to some officials of Ontario motor carriers, the physical facilities of the U.S. Customs at the Ambassador Bridge in Detroit are inadequate to handle the volume of commercial traffic by motor carrier, during normal hours of 8-5 on week days. It is not uncommon for loaded commercial vehicles to be delayed from two to several hours waiting for customs clearance.



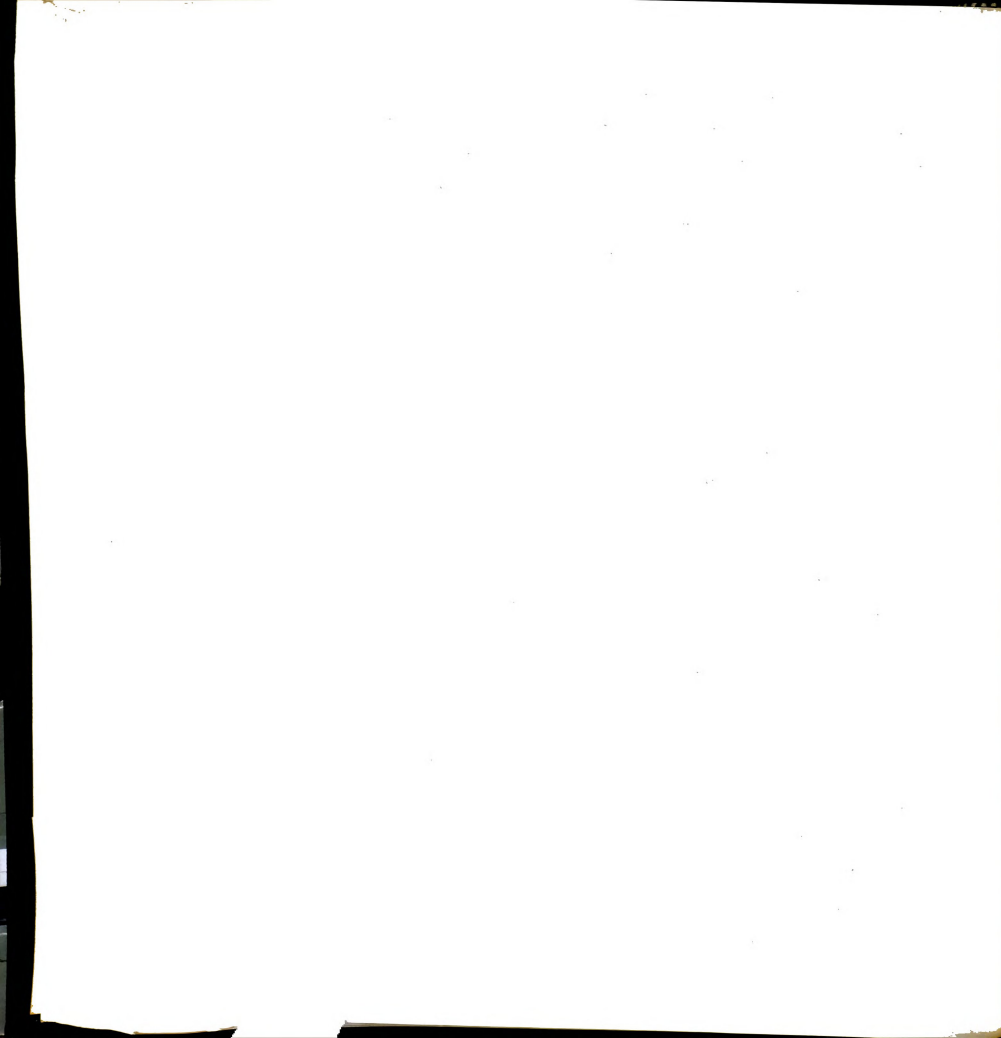
unrestricted interchange of equipment between Ontario and Michigan carriers would have on their operations. Most considered such interchange would reduce the elapsed time of movement from pick-up to delivery to consignee, as well as lower the cost of operations on such traffic. This they considered to be favorable for their operations and might also enable them to increase their volume of freight moving between Ontario and Michigan.

Motor carrier officials were also asked to rank certain recommendations for improvement of transport service between Ontario and Michigan. Their ranking was as follows: First, "Uniform regulations in Ontario and Michigan regarding weight, length and vehicle combinations"; second, "Non-restricted interchange of equipment between Ontario and Michigan, thus eliminating necessity of securing a special license or permits"; and, third, "Through routing and billing between points in Ontario and Michigan." Some carriers indicated that "More realistic bridge tolls, in line with other International Bridges," would help to improve the service by lowering the cost of operations.

Generally the Ontario and Michigan carriers' views on transport problems and reciprocity were in accord. Any changes that would allow greater freedom of transport and improvement in service would be welcomed by the motor carriers.

OTHER CARRIERS

The air, pipeline, and waterborne carriers are not



affected by reciprocity agreements between Michigan and Ontario. Their international operations are regulated by the United States and Canadian federal governments. All border traffic must be cleared by the United States and Canadian customs.

These carriers did not indicate that they were experiencing any particular problems in moving traffic between Michigan and Ontario. There did not seem to be any area in their operations that could be directly influenced by reciprocal negotiations at the state and provincial level.

RECIPROCITY AT THE BORDER

The traffic crossing the Michigan-Ontario border is controlled by legislative acts, regulations and procedures, and administrative interpretation and performance. Most of the people working at the border are federal employees of the Bureau of Customs. There is very little opportunity, or inclination, for the local border employees to use their judgment or discretion when enforcing the laws or regulations. Forms must be filed, records kept, and permits obtained, such that the whole border crossing procedure is a highly impersonal and routine matter ninety per cent of the time. The other crossings usually involve commodities that have to be appraised and classified by the customs officials. This means that shipments must be scheduled during working hours on week days to avoid serious delays.

There have been occasions when the laws and



regulations have been relaxed. One such occasion occurred in the spring of 1962 at Sarnia. Michigan farmers wanted to bring seed potatoes into Sarnia for shipment by rail through Ontario and Quebec to Maine. Each farmer made only one or two trips by truck, so the Ontario laws pertaining to registration plates were not enforced.¹

ACHIEVEMENTS OF RECIPROCITY

The recent modification in the reciprocity agreement between Michigan and Ontario is an improvement over the past agreements. The most recent achievement has been beneficial to private carriers. In 1963 the use of the \$20.00 special permits was agreed upon, authorizing Michigan private carriers five consecutive days' operation in Ontario, and Ontario private carriers ten consecutive days' operation in Michigan. The permits are issued in lieu of the registration plates that were previously required. However, if a Michigan carrier makes over thirty trips each year into Ontario with the same vehicles, it may be cheaper for the carrier to purchase Ontario registration plates, rather than pay the \$20.00 permit fee each time.² For Ontario carriers making over twenty trips each year into Michigan with the same vehicles, it may be cheaper

¹Information from Mr. W. M. Earl, Registrar of Motor Vehicles, Toronto, Ontario.

²This will depend on the size of the vehicles which determines the cost of the registration plates.



to purchase Michigan registration plates, instead of buying the permits. If, in either case, the same vehicles are not used each trip, it might still be cheaper to use the permits as registration plates are not transferrable to other vehicles. This has been the only major gain in reciprocity in the last few years.

The transit traffic across Ontario by common carrier is not presently subject to reciprocal negotiation. As stated before in this chapter, the "L" license must be secured which authorizes the equipment to cross Ontario on a one-way \$9.00 permit. Ontario carriers crossing Michigan must either purchase the \$20.00 permit, good for ten days, or purchase Michigan registration plates for the vehicles. However, if the Ontario carrier's equipment should be registered in a state or province, with which Michigan has full reciprocity, then that equipment could cross Michigan exempt from all fees except the MPSC mileage fee and the fuel tax.

Full reciprocity for common carriers has not been achieved as yet, even though they haul the bulk of the manufactured products that move in volume across the border. The problems of the carriers, due to lack of full reciprocity, have not been great enough to bar, or seriously restrict, the flow of trade. The carriers operate successfully under the existing conditions and the additional costs are reflected in higher rates charged the shipping public.

If the situation is viewed from the standpoint of



two foreign countries sharing a contiguous border, engaging in commerce, then it must be admitted that trade flows smoothly relative to other Foreign Trades and reciprocity has been rather successful.

SUMMARY

Problems in transport service to Ontario caused by the existence of the border were ranked by the Michigan companies as follows: (1) "Duplications and cost due to regulations at the border," (2) "Too much time enroute from pick-up of goods to delivery to consignee," and (3) "Lack of efficient through service under joint rates." The Ontario companies ranked the same problems on service to Michigan in the following order: (1) "Lack of efficient through service under joint rates," (2) "Duplications and cost due to regulations at the border," and (3) "Too much time enroute from pick-up of goods to delivery to consignee." The problem of "Restrictive carrier equipment regulations in Michigan and Ontario" was ranked fourth by all companies.

When ranking suggested solutions to the problems, the Michigan and Ontario companies were in agreement. All agreed that lower tariffs would be beneficial, and that more uniformity in regulations at the border, through service under joint rates, and more liberal reciprocity with respect to equipment regulations in Michigan and Ontario would help provide better transport service between the two jurisdictions.



Toronto and Cincinnati are located about the same distance from Grand Rapids, but the Toronto rates by motor carrier are from 21% to 28% higher than those to Cincinnati. A primary reason for the higher rates to Toronto is the necessity of using two or more lines, plus the extra costs due to crossing the border. Overnight service is available to Cincinnati, while fourth morning delivery is quoted for Toronto.

The most recent major achievement in reciprocity between Michigan and Ontario has been the authorization of the use of the five-day, \$20.00 trip permits for Michigan private carriers operating in Ontario, and the ten-day, \$20.00 trip permits for Ontario carriers operating in Michigan.

The present reciprocity agreement causes additional costs for the common carrier, higher rates and indeterminate delays in-transit for the customer's merchandise.



CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

Michigan and Ontario are located in the interior of the North American Continent. Though contiguous and sharing similar economic interests and cultural development, they are separated by an international boundary. The major portion of this boundary divides Lakes Superior, Huron, St. Clair, and Erie, but over one hundred miles is along rivers and channels separating land forms. This common border is bridged at three gateways, Sault Ste. Marie, Port Huron, and Detroit, which allows trade to flow overland between the two sovereign areas.

Geographically, the way in which Michigan and Ontario are located in relation to the Great Lakes affects all aspects of their economies. Because of their location, a large volume of commerce crosses Michigan and Ontario flowing both to and from various parts of Canada, the United States, and the world. This commerce moves on the overland route or by the Great Lakes waterway.

The primary overland route is the corridor formed between Lake Huron on the north, and Lake Erie on the south, in which Michigan and Ontario are connected by two gateways, one at Port Huron, and the other at Detroit. This route

is used extensively by the railroads serving Michigan and Ontario, and by many United States and Canadian motor carriers.

TRANSIT TRAFFIC

As shown in Chapter III, a large volume of transit traffic moves across Michigan, to and from Ontario and eastern Canada. In 1963, the transit traffic crossing Michigan, eastbound for Ontario, was 27,421,226 tons. Of this, 25,265,000 tons were moved by pipeline, 2,112,019 tons by railroad, and 44,207 tons (estimate) by highway carriers. The tonnage moving westbound from Ontario, crossing Michigan, with a destination in the western states, or western Canada, was 3,071,127 tons. Of this, 2,843,913 tons were moved by railroad, and 227,214 tons by highway carriers (estimate). Thus, the total volume of transit traffic moving in both directions across Michigan by railroad and highway in 1963 was 5,227,353 tons.

The transit traffic crossing Ontario, as shown in Chapter III, was slightly less than that crossing Michigan. In 1962, the railroads moved a total of 2,511,926 tons of freight through the Michigan gateways, across Ontario, to and from eastern United States and Canada. Of this, 846,061 tons moved eastbound out of Michigan across Ontario, and 1,665,865 tons moved westbound across Ontario into Michigan. In 1963, the total transit traffic moving in both directions across Ontario by highway carriers was 584,427 tons (estimate).



Assuming that the 1963 rail traffic was equal to that of 1962, the total tonnage moving in both directions in-transit across Ontario, by rail and highway, was 3,096,353 tons. This was slightly less than two-thirds of the volume that moved across Michigan for the year 1963.

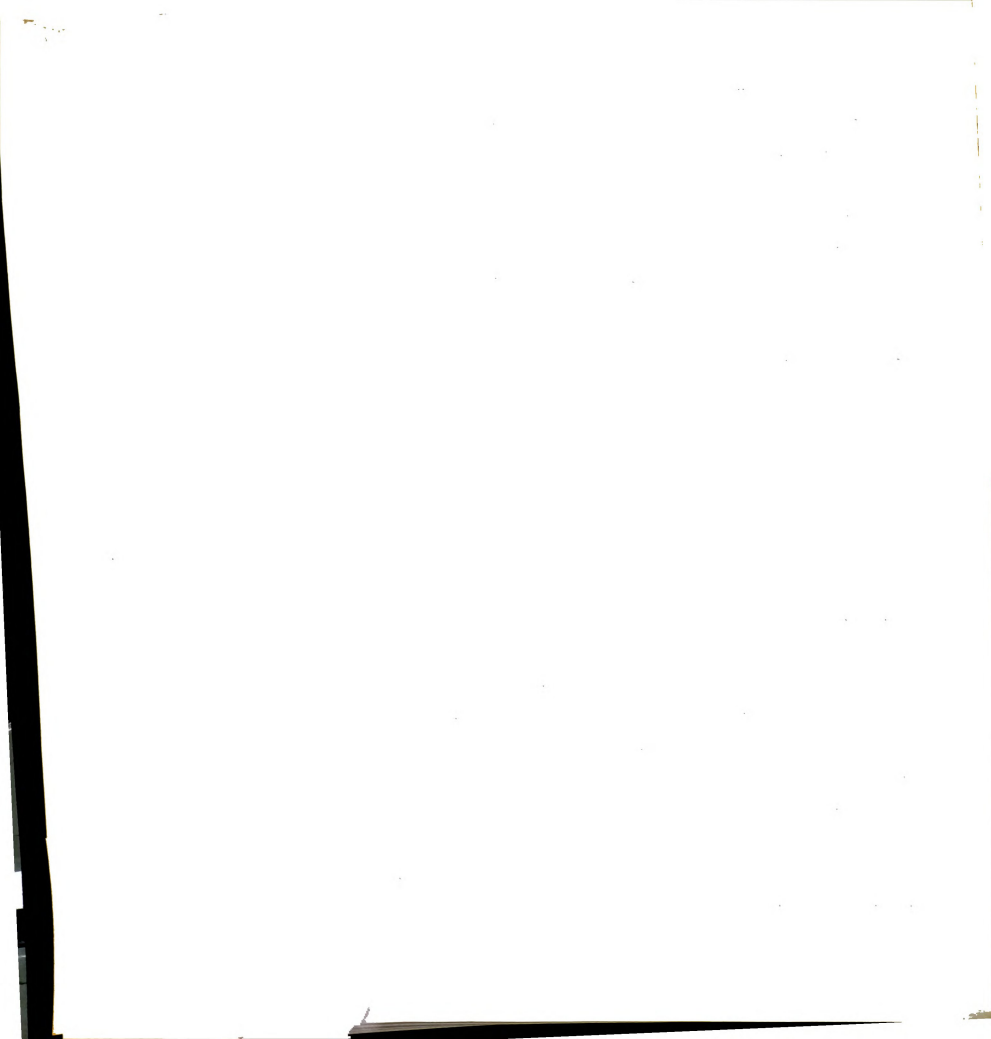
Clearly the Michigan and Ontario corridor is a very useful short-line route connecting important markets and production areas in both Canada and the United States.

MICHIGAN-ONTARIO TRADE

The direct trade between Michigan and Ontario was estimated in Chapter III to be just over \$1 billion in 1963. About 2% of the Michigan shipments were exported to Ontario with an approximate value of \$500 million. At the same time approximately 4% of the value of the Ontario shipments were exported to Michigan for a total of \$525 million.

In tonnage the Michigan shipments to Ontario amounted to 3,802,646 tons with 54% being hauled by waterborne carriers, 22% by highway carriers, and 24% by rail. Michigan receipts from Ontario amounted to 3,222,698 tons, with 48% being hauled by waterborne carriers, 32% by rail, and 20% by highway carriers. However, only 56% of the Michigan receipts by rail originated in Ontario. The remainder of the rail receipts originated in eastern Canada.

Considering manufactured products alone, highway carriers hauled 48% of the tonnage of Michigan's trade, rail carriers 47%, and water carriers only 5%.



For the year 1963, 15.3 million tons of freight moved through the Michigan-Ontario gateways by railroad, highway, and water carriers. Of this amount, 7,025,344 tons represented direct trade between Michigan and Ontario, while 8.3 million tons were moved as transit traffic.

The five-year outlook for manufacturing companies in both Michigan and Ontario is generally optimistic on the border trades. About 53% of the Michigan companies expect shipments to increase at least 10% per year, while 30% expect an increase greater than 10%.

In Ontario, 67% of the companies surveyed expect at least a 10% yearly increase in shipments with 28% expecting a yearly increase of greater than 10%.

The exporters in both Michigan and Ontario were more optimistic about increases in future shipments than were the non-exporters.

There was some evidence that the exporters in both Michigan and Ontario were disinclined to regard trade between the two jurisdictions as being international trade. They tended to view such trade in the context of domestic markets rather than foreign markets.

MAJOR PROBLEMS

Although the direct trade between Michigan and Ontario was over \$1 billion (7 million tons) in 1963, the exporters in each jurisdiction experience some serious problems when initiating or expanding exports.

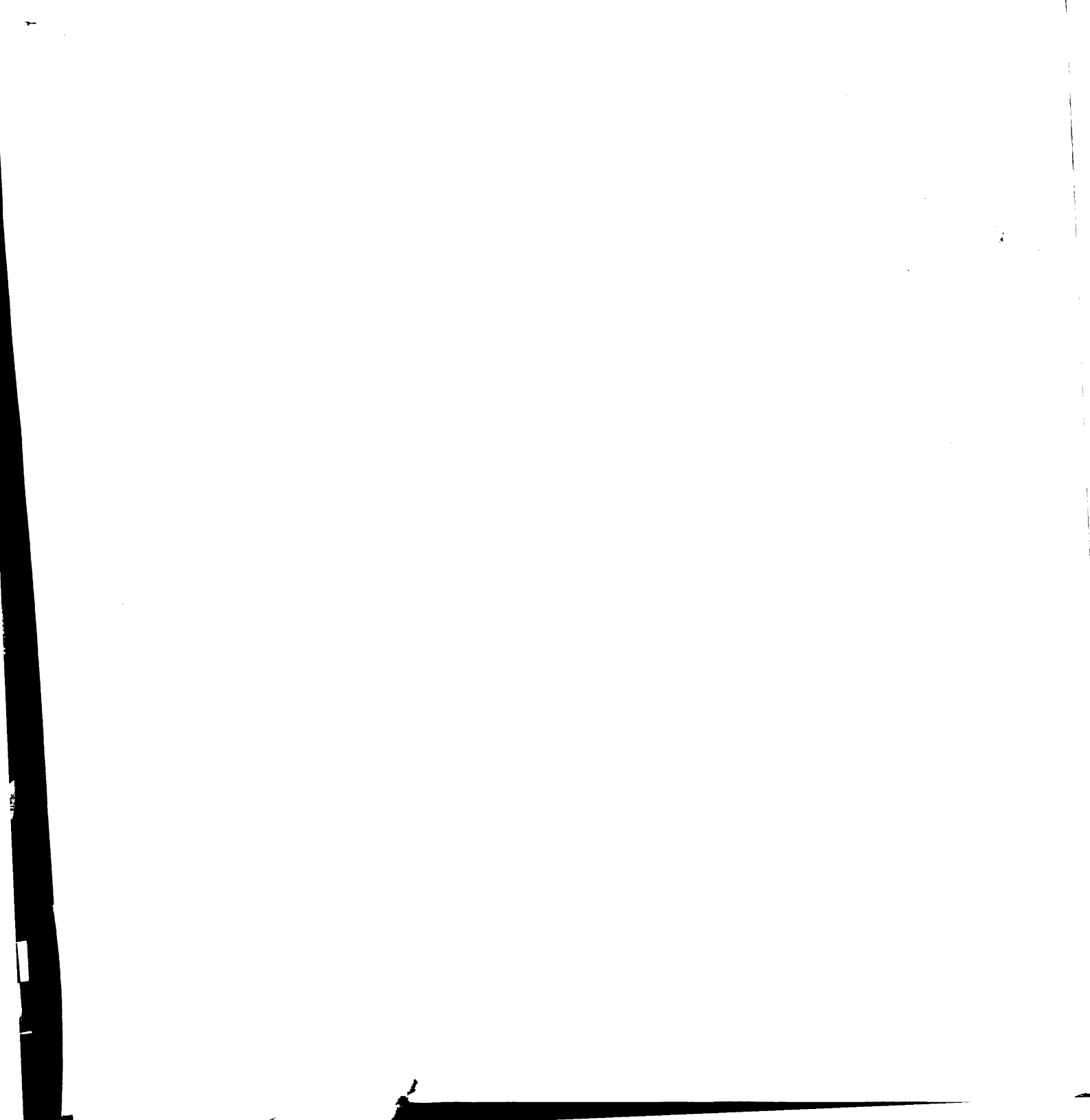
1. TARIFFS

The high Canadian and United States tariffs were considered by exporters in both Michigan and Ontario to be the most serious problem encountered when initiating or expanding trade between the two jurisdictions. In some instances, the tariff prohibits entry into the Michigan or Ontario market; in other instances, they are protective tariffs, seriously limiting the trade.

All manufacturing companies contacted indicated that tariff relief through reciprocity, or other negotiations, would give them the opportunity to initiate or expand trade in the Ontario and Michigan markets. This was one measure upon which all respondents in Michigan and Ontario agreed.

2. CUSTOMS AND ADMINISTRATIVE PROBLEMS

The Michigan companies considered the "Complexity of Canadian Import procedures and regulations" as the second most serious problem affecting their trade with Ontario (high tariffs was first). "Complexity of the United States export procedure and regulations" was ranked 4th out of the six problems suggested as possible impediments to the expansion of trade with Ontario. The extensive paper work required by both United States and Canadian customs, on all shipments to Ontario was of concern to many companies. The problem of understanding and complying with the various customs regulations and administrative requirements was



a serious factor in deterring many companies from entering the Ontario markets.

The large exporters apparently had experienced and specialized personnel to cope with and alleviate the problem. But for the small manufacturing company, such help was not readily available and the problem took on greater proportions.

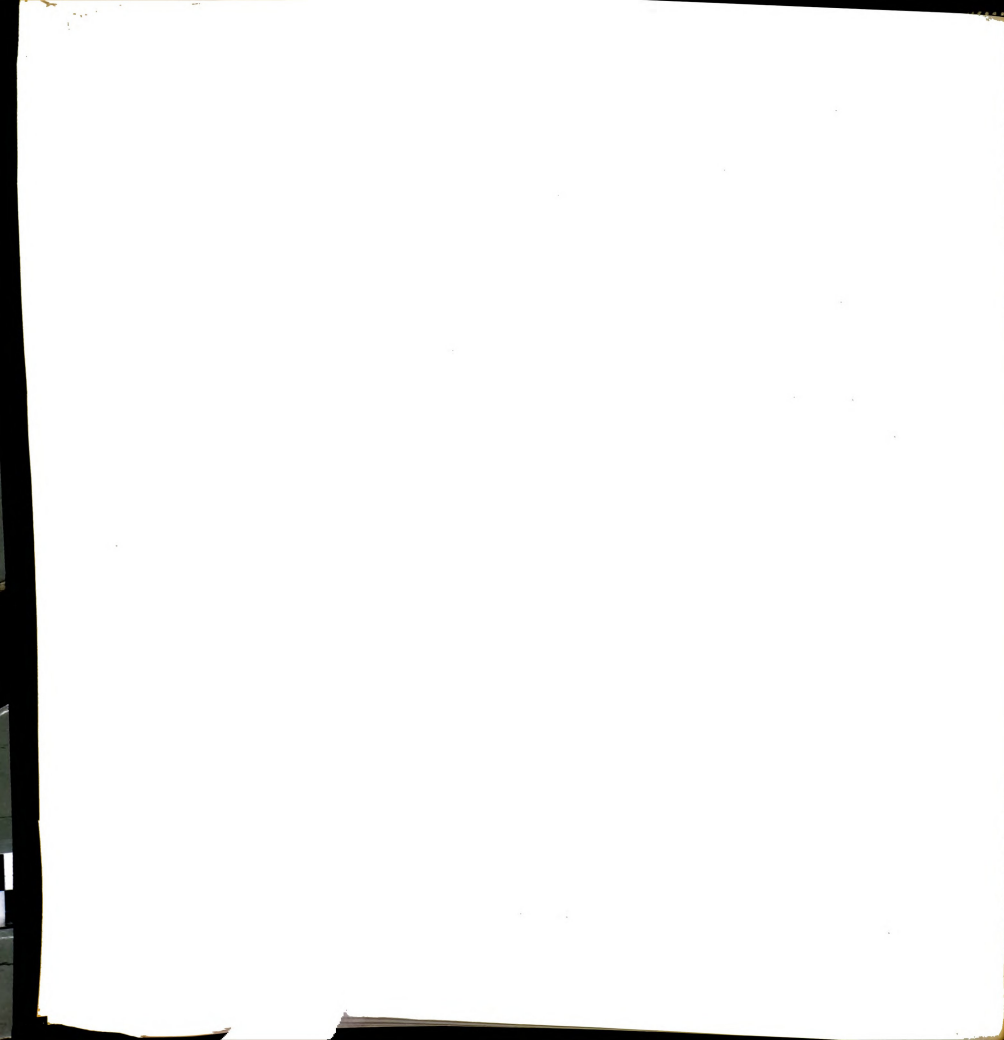
The Ontario companies ranked "Complexity of United States import procedure and regulations" third, with the "Complexity of Canadian export procedure and regulations" fifth, out of the six suggested problems. They apparently were not as encumbered with the customs and administrative problems as were the Michigan companies.

3. MARKET INFORMATION

The Michigan companies ranked the problem of "Lack of Ontario market information and services" as third out of the six suggested obstacles to expanding trade with Ontario. The non-exporters considered it the second most serious problem confronting their initiation of trade with Ontario.

All Ontario companies considered it the second most serious problem confronting their initiation or expansion of trade with Michigan.

This problem is of vital concern to the manufacturing companies in both Michigan and Ontario and can be solved on the state (provincial) and local level. The problem is



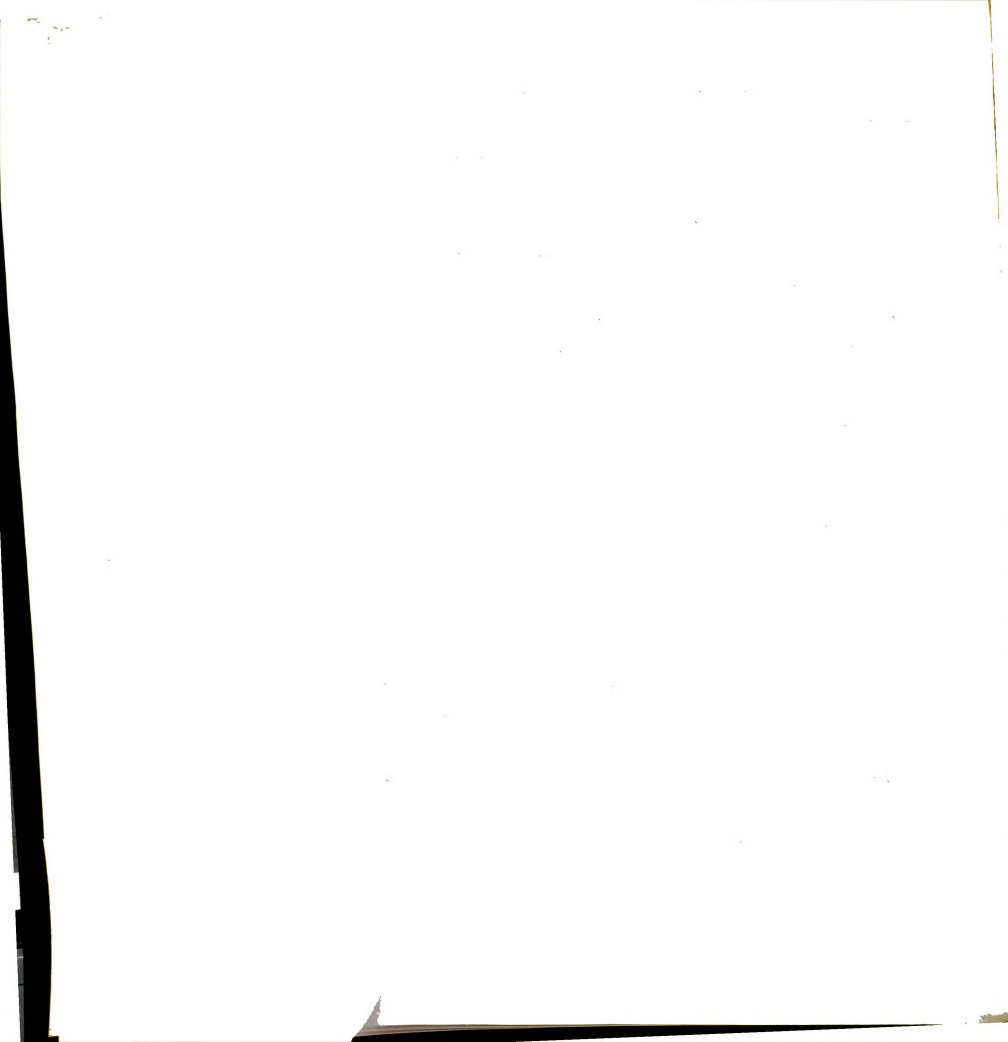
primarily one of collecting and disseminating market information. Concentrated and organized effort on the part of both Michigan and Ontario in this informational area should be of special benefit to their exporters and aid in expanding trade. Specifically, the exporters want to know more about the products needed in the markets, potential size of the markets, sources of marketing data in each jurisdiction, available marketing channels, and the marketing and financial services that are, or can be, made available to exporters.

4. TRANSPORT

In the overall evaluation of problems encountered in the initiation or expansion of trade between Michigan and Ontario, the respondents ranked the problems of transport service after the problems of high tariffs, customs regulations and procedures, and lack of market information.

Specific problems of transport service to Ontario caused by the existence of the border were ranked by Michigan companies as follows: first, "Duplications and cost due to regulations at the border"; second, "Too much time enroute from pick-up of goods to delivery to consignee"; third, "Lack of efficient through service under joint rates"; and last, "Restrictive carrier equipment regulations in Michigan and Ontario."

The Ontario companies ranked the same problems on service to Michigan in the following order: first, "Lack



of efficient through service under joint rates"; second, "Duplications and cost due to regulations at the border"; third, "Too much time enroute from pick-up of goods to delivery to consignee"; and last, "Restrictive carrier equipment regulations in Ontario and Michigan."

All Michigan and Ontario respondents agreed that more uniformity in regulations at the border, better through service, and more liberal reciprocity with respect to equipment regulations in Michigan and Ontario would provide better transport service between the two jurisdictions.

In general, most respondents were concerned with the high rates on freight moving between Michigan and Ontario, and the problem of delays enroute to destination. But they had generally accepted the rate structure and developed shipping schedules to allow for the delays occurring, for the most part, at the border. Such conditions were considered as normal costs and problems of doing business in these markets.

TRANSPORT RECIPROCITY

As has been stated in Chapter IV, the only formal transport reciprocity agreement between Michigan and Ontario covers motor carriers.

Michigan makes no agreements, nor evidences any concern with reciprocity as far as air, pipeline, rail, and waterborne carriers are concerned. Reciprocity agreements or mutual understandings for these modes covering

international operations would have to be negotiated by the national governments of the countries involved in the traffic.¹

The formal reciprocity agreement between Michigan and Ontario provides very limited reciprocity for commercial vehicles. The recent modifications in the agreement authorized the use of \$20.00 trip permits allowing five consecutive days' operations in Ontario by Michigan private carriers, and \$20.00 trip permits for 10 consecutive days' operations in Michigan by Ontario carriers.

In Michigan, the trip permits may be used by any Ontario carrier that is certified to traverse the state, or Michigan carriers may use the permits to move Ontario registered trailers by Michigan registered tractors, beyond the port zone.

In Ontario only Michigan private carriers may use the \$20.00 permits. There is no provision granting reciprocal privileges of this nature to Michigan common carriers.

Full reciprocity is granted by Michigan for the operation of Ontario registered trailers a distance not greater than eight miles beyond the city limits of the ports-of-entry, i.e., Sault Ste. Marie, Port Huron, and Detroit, if drawn by a commercial vehicle registered in Michigan. Full reciprocity is not extended for the operation of Ontario

¹No federal reciprocity agreements covering these modes were found during the course of the study.



registered trucks or tractors anywhere within the state.

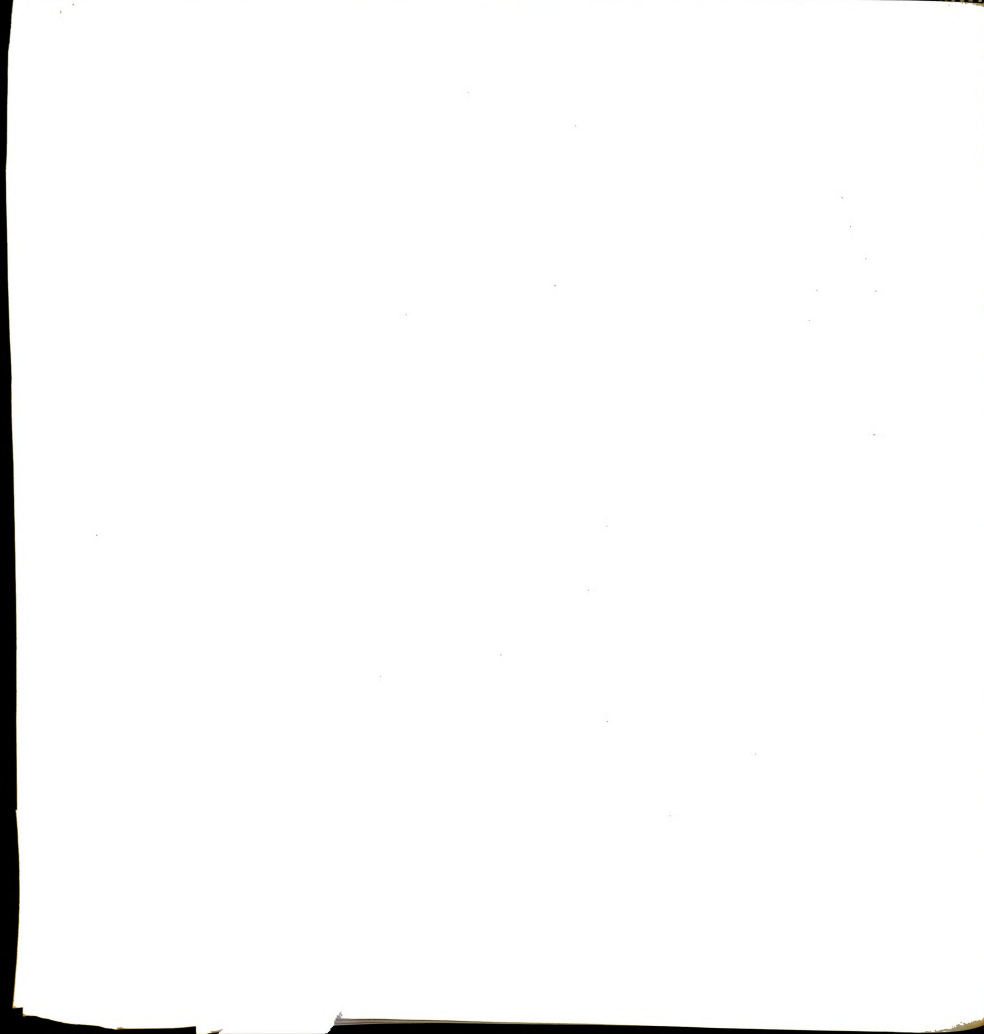
Ontario grants full reciprocity to Michigan registered trailers for a distance of 20 miles from the point of entry, provided they are hauled by an Ontario registered tractor. Trailers operated beyond this point must be fully registered in Ontario, or moved by an Ontario registered tractor with a transferrable trailer (X) plate attached to the trailer. Trucks or tractors, owned by Michigan common carriers, must be fully registered in Ontario in order to operate within the zone.

OFFICIAL VIEWS OF RECIPROCITY

Michigan officials have stated that they would welcome an extension of transport reciprocity with Ontario leading towards full and complete reciprocity for motor carrier operations. However, they are reluctant to grant further concessions to Ontario carriers until such time as Ontario will extend similar concessions to Michigan carriers.

Ontario officials have stated that, because of limited highways and limited sources of revenue required to build and maintain the highways, they are not willing to grant more than limited reciprocity to Michigan for motor carrier operations in Ontario.

As shown in Chapter IV, Ontario collected in 1963 approximately \$300,000 from Michigan carriers as a result of limited reciprocity (including the revenue from the one-way trip permits used for the "in-bond" transit movement).



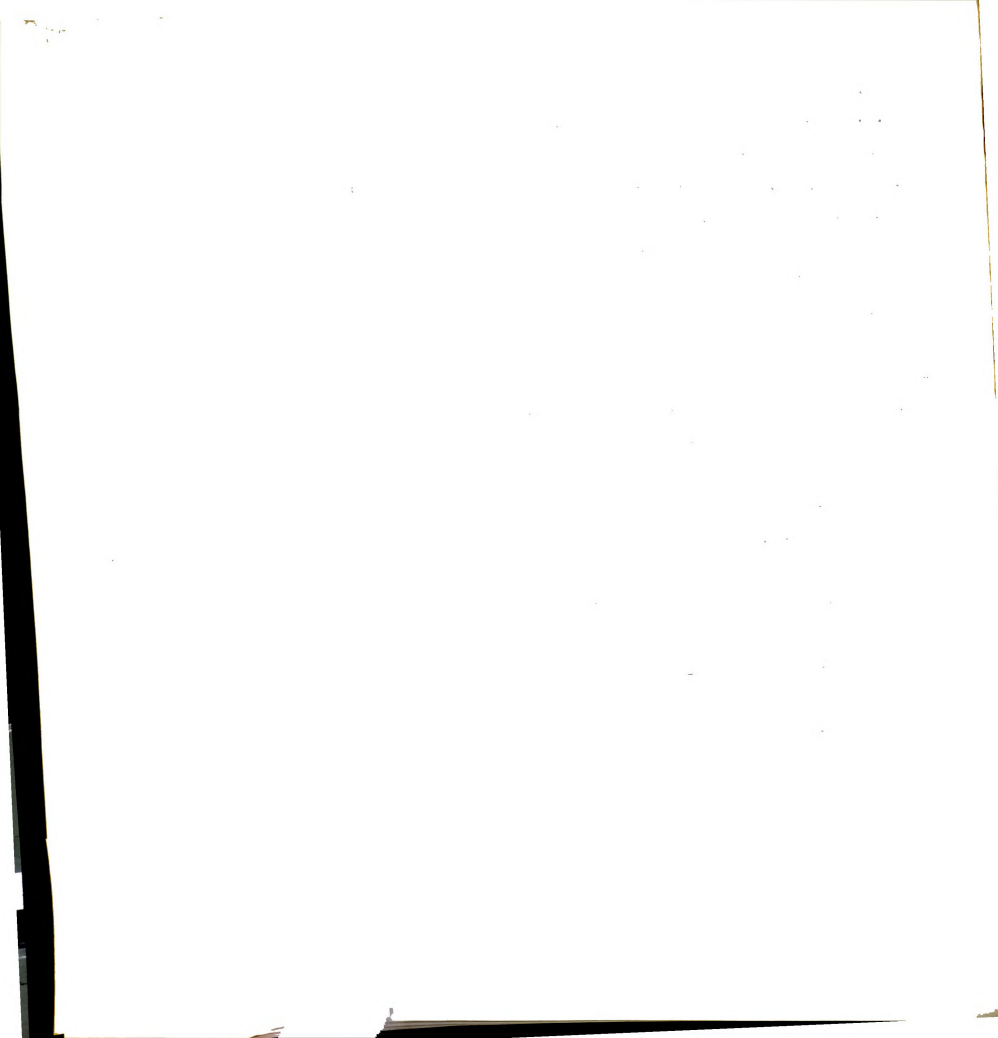
However, as a result of Ontario's limited reciprocity with all U.S. states and Canadian provinces, the sale of transferrable trailer (X) plates to Ontario motor carriers resulted in \$1,222,866 additional revenue for Ontario.¹ Thus, directly and indirectly, limited reciprocity provided Ontario with \$1.5 million for highway uses in 1963.

Private carrier officials in both Michigan and Ontario view the limited reciprocity agreement as an improvement over past agreements if they operate infrequently in the foreign state. Under these conditions, the use of the \$20.00 permits allows substantial savings, without usually causing undue delays at the border necessitated by the procedure for acquiring the permits.

If they operate the same vehicles in the foreign state continually, it is more economical to register the vehicles in the foreign state, i.e., Michigan or Ontario. With this type of operation the reciprocity agreement has no meaning for them. Full reciprocity would provide greater benefits for all private carrier operations.

Michigan motor common carrier officials considered "Requirement of Michigan permits when using Ontario licensed trailers 8 miles beyond the city limits of the point-of-entry" as the most serious obstacle encountered when moving

¹The (X) plates are used by Ontario motor carriers on all foreign registered trailers when pulled by Ontario registered tractors in the province.



freight between Michigan and Ontario. The second most serious obstacle was "Michigan and Ontario regulations hamper free interchange of equipment between carriers." Both of these obstacles are the direct results of the limited reciprocity agreement between Michigan and Ontario.

The officials of the carriers stated that unrestricted interchange of equipment (especially trailers) between Michigan and Ontario carriers would shorten the elapsed time in-transit from pick-up to delivery to consignee, and reduce the costs of carrier operations at the ports-of-entry. The anticipated outcome of unrestricted interchange would be improved service for the shipper with fewer delays enroute, less transferring of freight, and the possibility of reductions in some rates.

Another area of concern to the Michigan carriers was that of uniformity in Michigan and Ontario regulations regarding weight, length, and vehicle combinations.¹ This has not been included in reciprocal negotiations, but is of considerable operational importance for the carriers.

Ontario motor common carrier officials ranked "Requirements of Ontario permits or special license when using Michigan licensed trailers beyond a 20-mile limit of the point of entry" as the most serious obstacle encountered

¹A comparison of the Michigan and Ontario regulations is shown in Appendix A, Table A-7. Border operations are restricted to the lowest weight limits, shortest lengths, and smallest vehicle combinations.



in moving freight between Ontario and Michigan. The next most serious problem was "Michigan and Ontario regulations hamper free interchange of equipment between carriers."

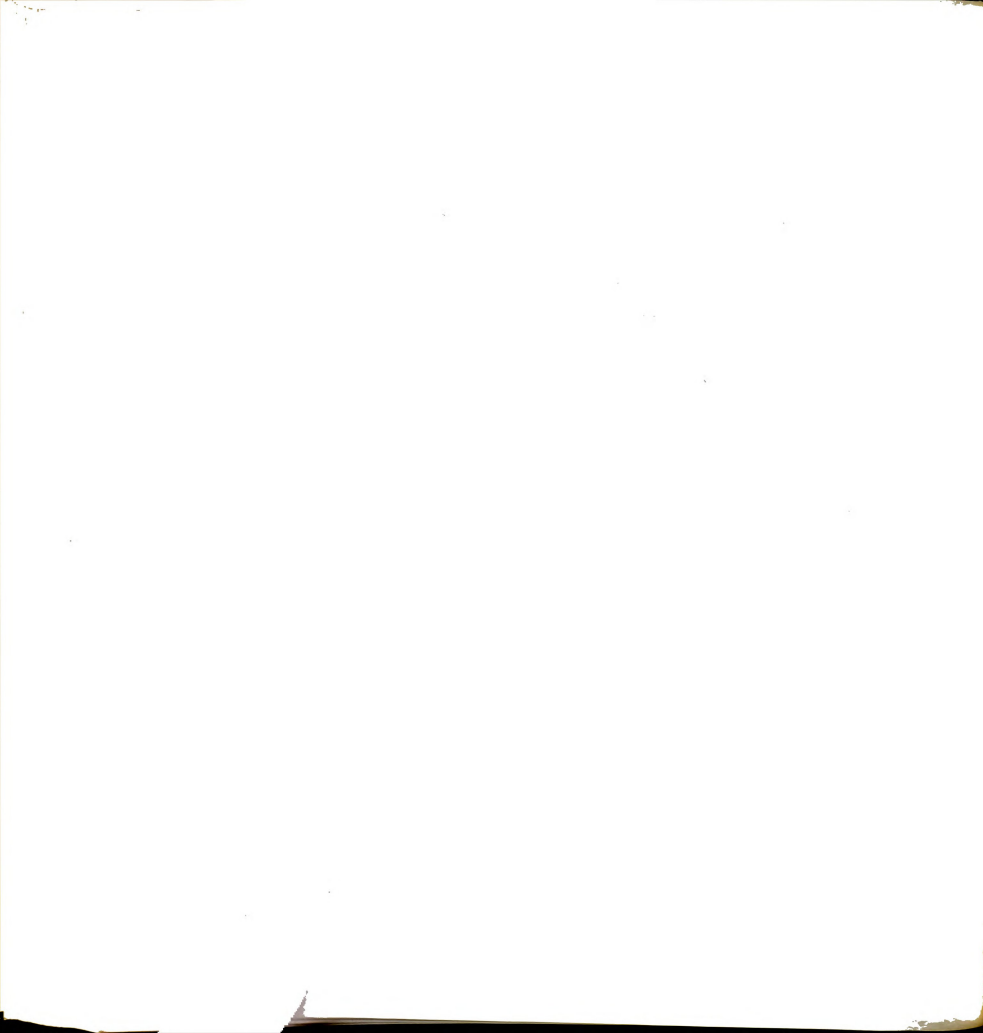
As can be seen above, the selection of these two obstacles was identical to that made by Michigan carriers. Here again it should be pointed out that these obstacles could be overcome by extending reciprocity.

The consensus of the officials of Ontario motor carriers was that unrestricted interchange of equipment (especially trailers) between Ontario and Michigan carriers would provide improved transport service to the shipper by reducing elapsed time enroute, decrease the handling of freight, and aid in lowering the carrier's cost of operations.

Generally, the Michigan and Ontario motor carrier officials' views on transport problems and reciprocity as it exists between Michigan and Ontario were in accord. They would be receptive to changes in reciprocity that would reduce the present restrictions on carriage.

For other modes of transport, such as railroads, airlines, pipelines, and waterborne carriers, there are no reciprocity agreements between Michigan and Ontario covering their operations.

The railroads' officials reported no problems with administrative procedures at the border, or in other areas, that could be alleviated by reciprocal negotiation on the state and provincial level.

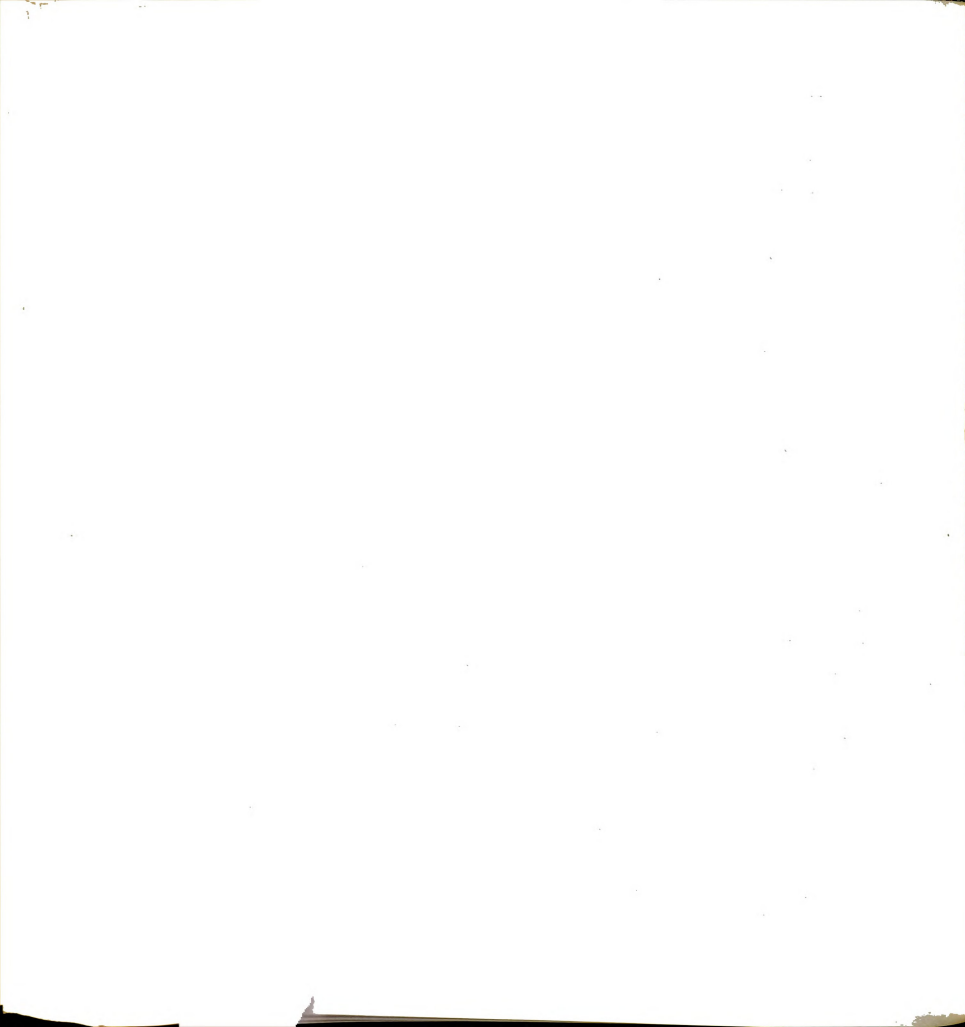


The Michigan regulatory agency could envision no situation where reciprocity on the state level could have an influence on the railroad operations between the two jurisdictions.¹

In the operations of the airlines, pipelines, and water carriers, there were no areas that could be directly influenced by reciprocal negotiations between Michigan and Ontario. Any operational problems caused by the existence of the international border must be resolved by reciprocal negotiations at the federal level of government. Because these modes are primarily controlled by federal regulations and agencies, Michigan and Ontario are limited to an indirect role in such negotiations.

To sum up, if border restrictions on transport carriers, particularly motor carriers, are reduced as a result of reciprocal negotiations between Michigan and Ontario, the carrier should be able to provide improved service at lower costs. If the carrier's reduced operating costs are reflected in lower rates or improved service, the exporter may be able to reduce his distribution costs on shipments to Ontario. Reduced costs could mean lower prices to the Ontario consumer and greater market penetration. With increased sales, the exporter might realize economies of scale in production and distribution, thereby providing a basis

¹Interview with Mr. O. F. Sonefeld, Director, Railroad Division, Michigan Public Service Commission, February, 1964.



for further price decreases. Thus, the net outcome of improving carrier operations at the border through reciprocal negotiations could result in expanding Michigan's trade with Ontario.

RECOMMENDATIONS

RECIPROCITY RECOMMENDATIONS

MOTOR CARRIERS

The following recommendations are suggested as possible courses of action for the State of Michigan, leading ultimately to full reciprocity with Ontario for motor carrier operations. Any improvement in the reciprocal arrangements between Michigan and Ontario will be beneficial to the shipping public and the carriers in both jurisdictions.

The alternatives for reciprocal negotiations, as set forth below, start with an immediate proposal, then continue through intermediate measures, and lead up to the long-run goal of full reciprocity with direct line service.

IMMEDIATE PROPOSAL

1. The Michigan Reciprocity Board should begin immediate negotiations with Ontario to secure full reciprocity for the operation of Michigan and Ontario registered trailers in both jurisdictions. This measure would allow free interchange of trailers between Michigan and Ontario motor carriers, alleviating (1) the necessity of securing Michigan permits for the operation of Ontario registered trailers outside the port zones, and (2) the necessity for

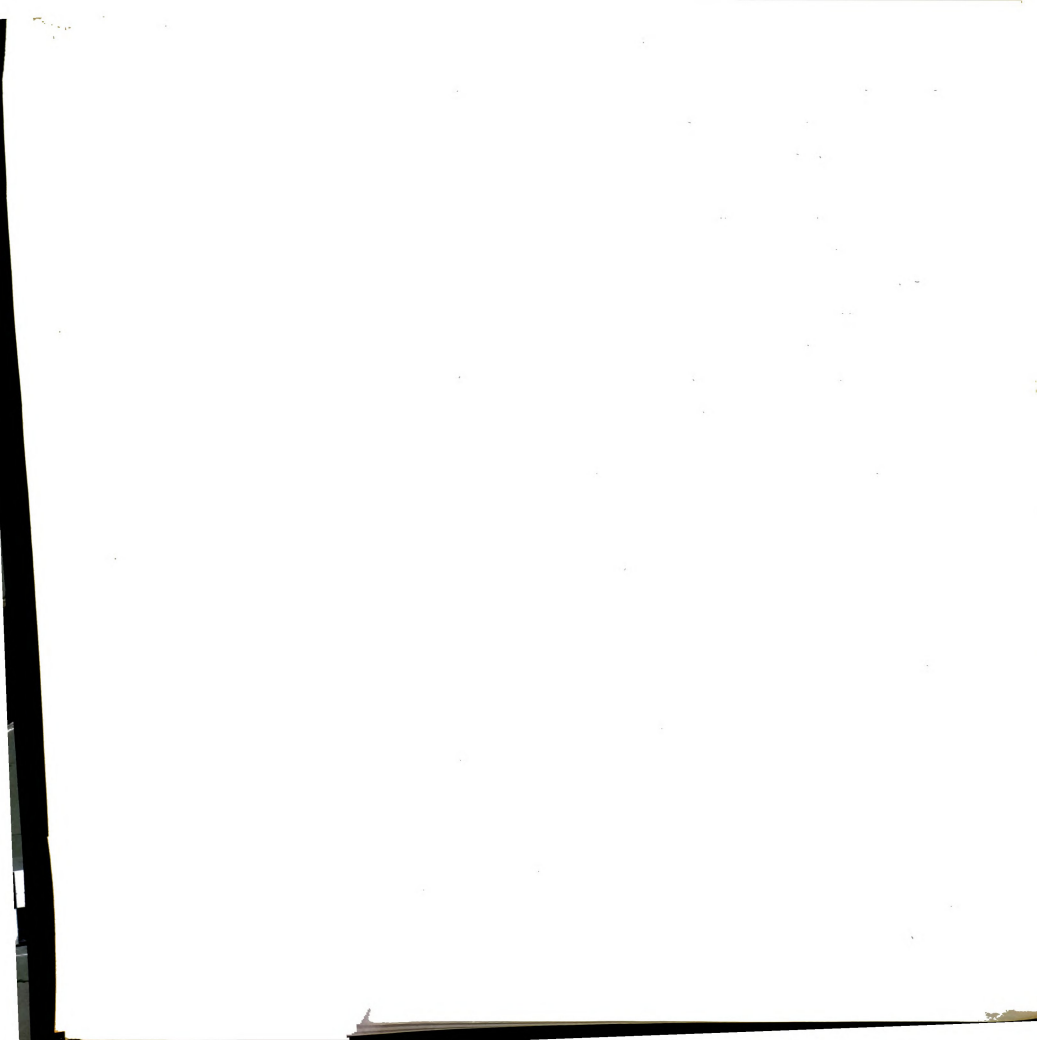
Ontario carriers to use the transferrable trailer (X) plate when moving Michigan registered trailers in Ontario beyond the port zone, thus eliminating some of the delays enroute caused by the present methods of operations.

This change in reciprocity should provide an opportunity for the carrier to give better service, at reduced costs, which might serve as a basis for lowering rates on freight moving between Michigan and Ontario.

The Michigan Department of State would lose approximately \$25,800 in revenue, as shown in Chapter IV.¹ Ontario would lose about \$5,000, the amount of revenue collected from the sale of Ontario trailer registration plates to Michigan carriers, (\$4,980 in 1964). Unless Ontario extended full trailer reciprocity to all U.S. states and Canadian provinces, the Ontario carriers would still need to use the transferrable trailer (X) plate on other foreign registered trailers when operated within Ontario. However, this would depend on the reciprocity agreements between Ontario and the other U.S. states and Canadian provinces.

If Ontario extended full reciprocity to trailers registered in all foreign states and Canadian provinces, the necessity for using the transferrable trailer (X) plate would be eliminated. In this case Ontario would lose an

¹This assumes the loss of all trailer registration revenue from Ontario for Ontario trailers (\$22,800 in 1964) plus 10% of the revenue from the \$20.00 permits, or \$3,000 (assuming that these permits were used by Michigan carriers for the operation of Ontario registered trailers in Michigan).



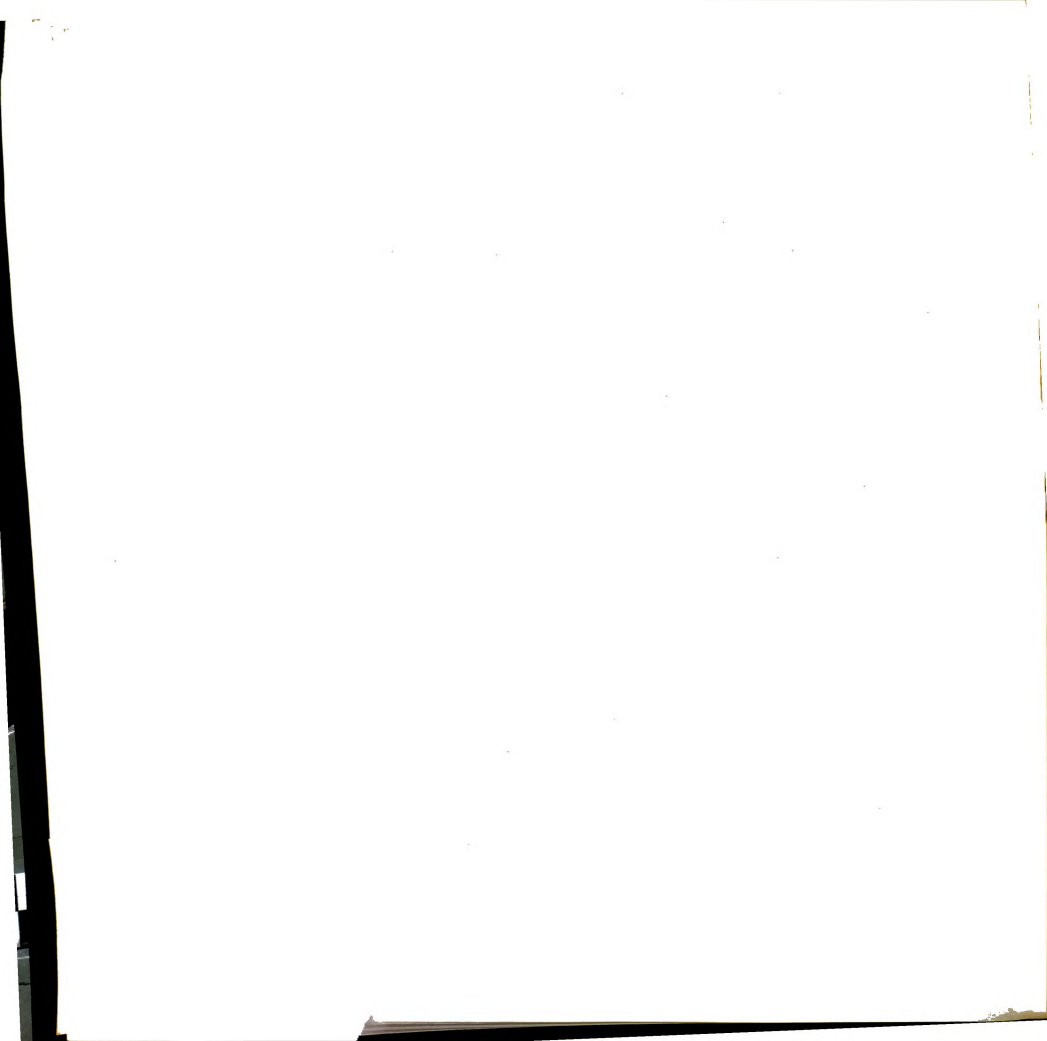
additional \$1,222,866 in revenue (based on 1963 figures as shown in Chapter IV). This loss might be made up by increasing the registration fee on highway tractors. From an operational standpoint, this would be more desirable than the present system, as it would eliminate the need for shuttling (X) plates between terminals in the carrier's system. This would expedite the movement of foreign registered trailers from the border terminals to destination.

INTERMEDIATE MEASURES

The following may be considered as intermediate measures for the State of Michigan to undertake in future reciprocal negotiations with Ontario.

1. Michigan and Ontario should take up the problem of establishing a uniform system of regulations for the length, weight, and combinations of commercial vehicles. Although at present these laws are in the domain of the respective legislative bodies, uniformity gained through negotiation could be beneficial to both Michigan and Ontario.

The present laws restrict the operations between the two areas to the minimum length, weight, or combination allowable in either Michigan or Ontario. Thus, in effect, the minimum requirement regulates all border transport operations. For example, on all border operations the Michigan 40-foot limit on the length of semi-trailers curtails the operation of the 45-foot semi-trailers that are legal in Ontario.

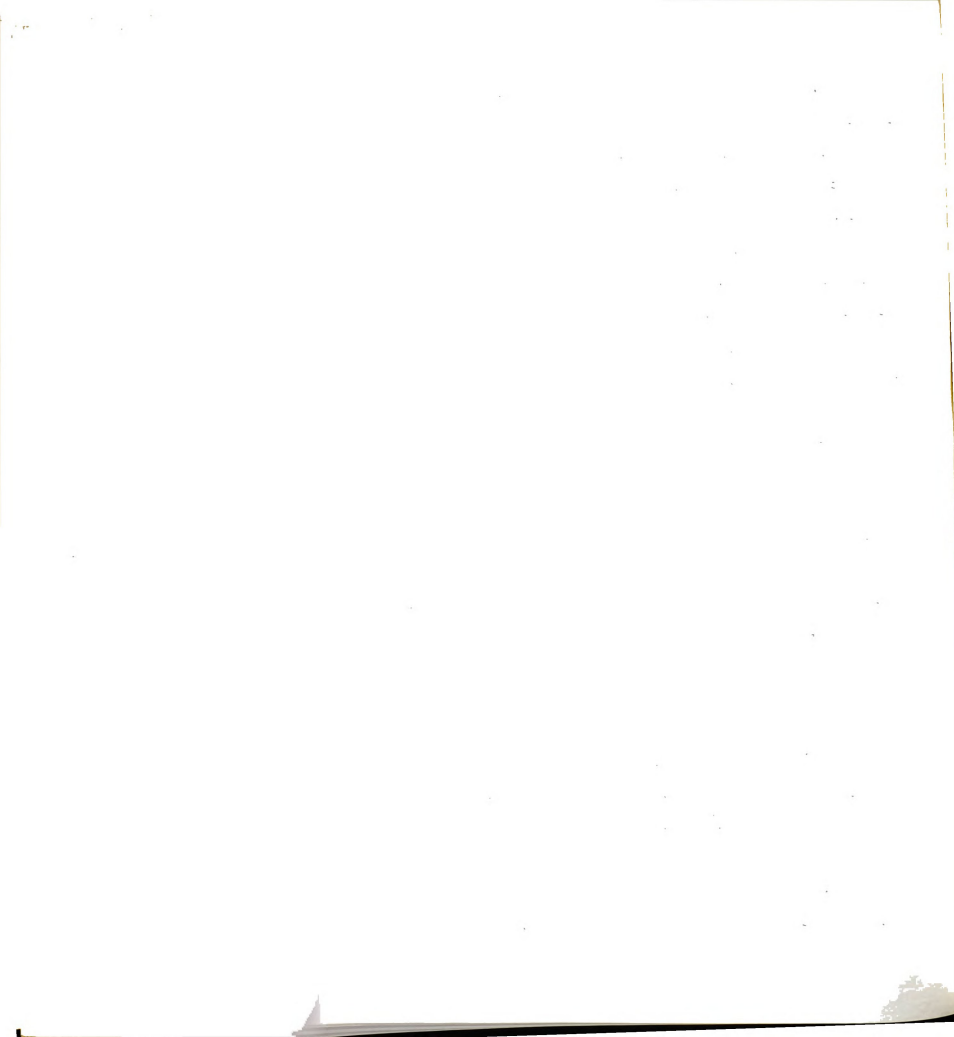


2. Another measure for future reciprocal negotiation is the operation of the Michigan and Ontario registered equipment of private carriers. The ultimate objective for negotiations should be the elimination of fees and special permits. Such a change in regulations would help to lower the carrier's cost of operations and improve the service offered the shipper. It is possible that the improved efficiency in transport service could be reflected in lower distribution costs, allowing a decrease in the price of the export product, with the possibility of an expansion in trade between the two jurisdictions.

3. The next step in improving transport service between Michigan and Ontario through reciprocal negotiations might be the granting of full reciprocity for all tractor operations in both areas. This would facilitate the border operations at the ports-of-entry by allowing any power equipment as well as trailers to operate unrestricted across the border.

Under the present reciprocity agreement, border operations of Michigan carriers are restricted to those units properly registered in Ontario. This limits the choice of operational alternatives for the carrier with respect to power equipment and may be a contributing factor in causing delays in the movement of freight at the border.

4. Another matter worthy of reciprocal negotiation is to effect a reduction, or elimination, of the fees and

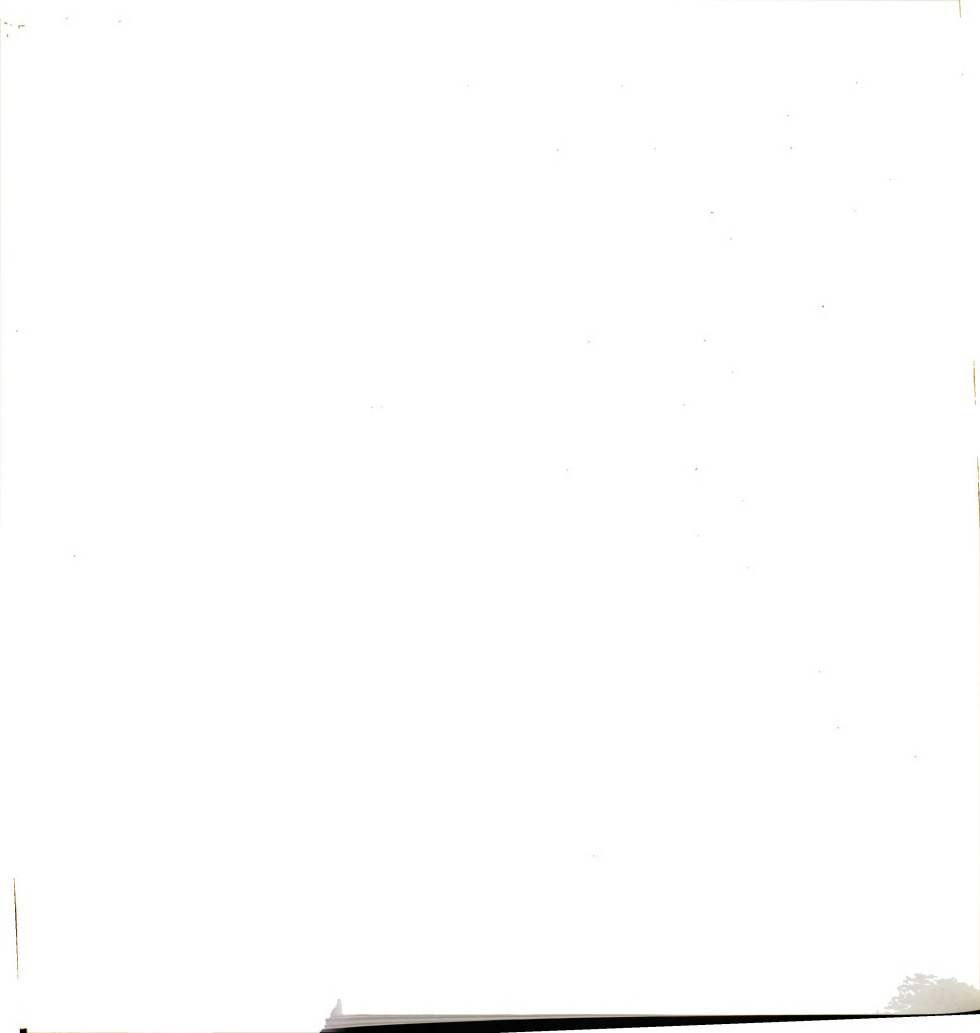


permits required on the "L" license operation. This is the in-bond transit movement across the Ontario corridor by Michigan (and other U.S. carriers) motor carriers between Michigan and New York gateways. The 1963 cost of this operation to Michigan carriers was approximately \$300,000. Substantial benefits from reciprocal negotiation might be achieved here.

5. The long-run objective for Michigan should be the establishment of (one or more) single-line motor carrier service connecting the major market areas in both Ontario and Michigan. Such a carrier would provide direct service between cities eliminating the need for the present joint carrier service (two or more carriers).

As indicated by the data on motor carrier costs presented in Chapter V, a single-line carrier could operate more economically, give much faster service with the possibility of reduced rates to the shipper. A more dependable service, with fewer delays enroute, would allow the importer to decrease his inventory and still serve his customers. The overall cost of distribution should decrease in the long run, which, if reflected in lower prices for the merchandise, could result in an increased volume of trade between Michigan and Ontario.

Single-line motor carrier service could be developed under single ownership, i.e., one carrier owning and operating the "rights" in both Michigan and Ontario, or through joint ownership shared by Michigan and Ontario



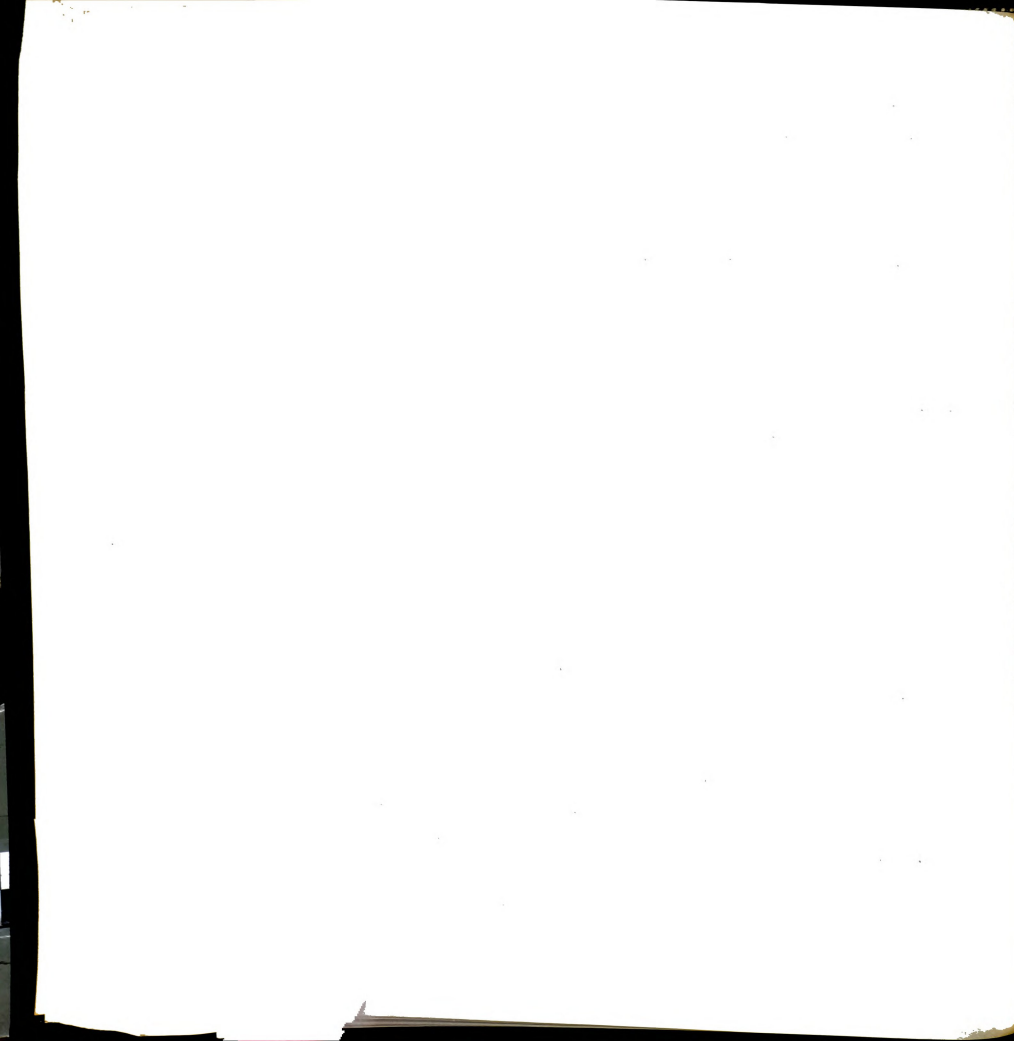
transport companies. An example of foreign ownership exists with the railroads, where the Grand Trunk Western Railroad Company, operating in Michigan and other U.S. states, is owned by the Canadian National Railways.

The question of ownership may be incidental; however, the need for an economical, efficient, direct motor carrier service between major markets in Michigan and Ontario is paramount if greater gains in trade between the two areas are to be realized.

CONCLUSIONS

From a practical standpoint, in the event that Ontario fails to respond to reciprocal negotiations, and does not grant full reciprocity to Michigan registered trailers (the proposal for immediate action above), then Michigan should take unilateral action and allow Michigan motor carriers the privilege of unrestricted operation of Ontario registered trailers within Michigan. This action would greatly improve the present system of carrier operations especially when inbound freight is loaded on Ontario registered trailers. It would eliminate the necessity for the securing of a special permit or transferring the freight to the Michigan carriers' equipment.

The direct revenue loss to Michigan would be about \$25,000, based on the figures for 1964 presented in Chapter IV. The benefits to be gained by the motor carriers and their customers should be much greater than this.



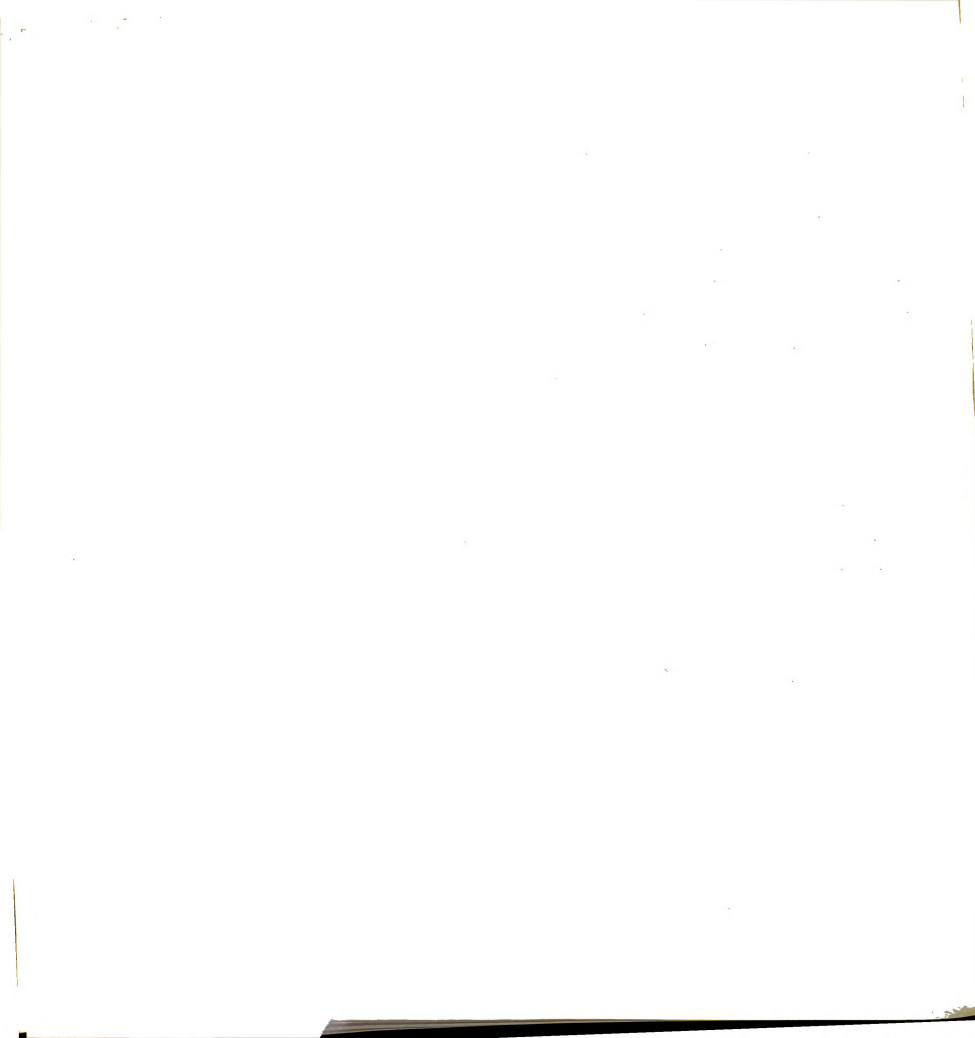
For the Michigan motor carriers to gain the full benefits from such a state decision, it would be necessary for Michigan to encourage other U.S. states in the area served by Michigan motor carriers, i.e., mostly the great lakes states, to take similar unilateral action and thus allow the unrestricted movement of Ontario registered trailers within their borders. This would allow a greater use of trailers, owned by Ontario carriers, for all traffic going to, and from, Ontario. In short, it would increase the supply of intercity trailers available to the Michigan carriers.

The above proposed steps are suggested as alternative measures for reciprocal negotiations between Michigan and Ontario, leading ultimately toward the goal of full reciprocity, and the establishment of motor carrier single-line, direct service connecting the various major markets in the two areas.

OTHER MODES

Michigan and Ontario do not have complete jurisdiction and control over the railroads, airlines, pipelines, and water carriers; therefore, direct action between the state and province alone cannot alleviate carrier operating problems caused by the existence of the international border. Reciprocal negotiations on the federal level of government must be obtained by Michigan working through her representatives and agencies.

For example, Michigan could press at the federal



level for relief from the Jones Act to allow Canadian registered vessels to participate in the interstate and intrastate traffic between Michigan ports and ports in other U.S. states. At the same time, the United States could seek Canadian authority to allow U.S. registered vessels to participate in Canadian intraprovincial and interprovincial Great Lakes traffic.

A precedent for joint Canadian and United States participation in the Great Lakes Coastal Trade was established during the second world war, but the restrictions were reinstated again after the war.

If the Canadian and United States vessels were granted freedom of movement within the Great Lakes, operational alternatives would be available for the carriers which could result in better utilization of transport resources and improved service for the shippers. How this would affect Great Lake carriers would have to be studied. Perhaps a subsidy might be necessary as relief from competition.

A continuing program should be pursued to reduce the restrictions that now exist on transport service between Michigan and Ontario. To what extent the political boundary is used to justify the restrictions placed on transport service is difficult to determine. Certainly there is some element of "nationalism" and political independence involved in the situation. However, if these can be set aside and the matter considered solely on economic grounds, unrestricted movement for transport carriers may yet be achieved. The



return would seem clearly to justify the effort.

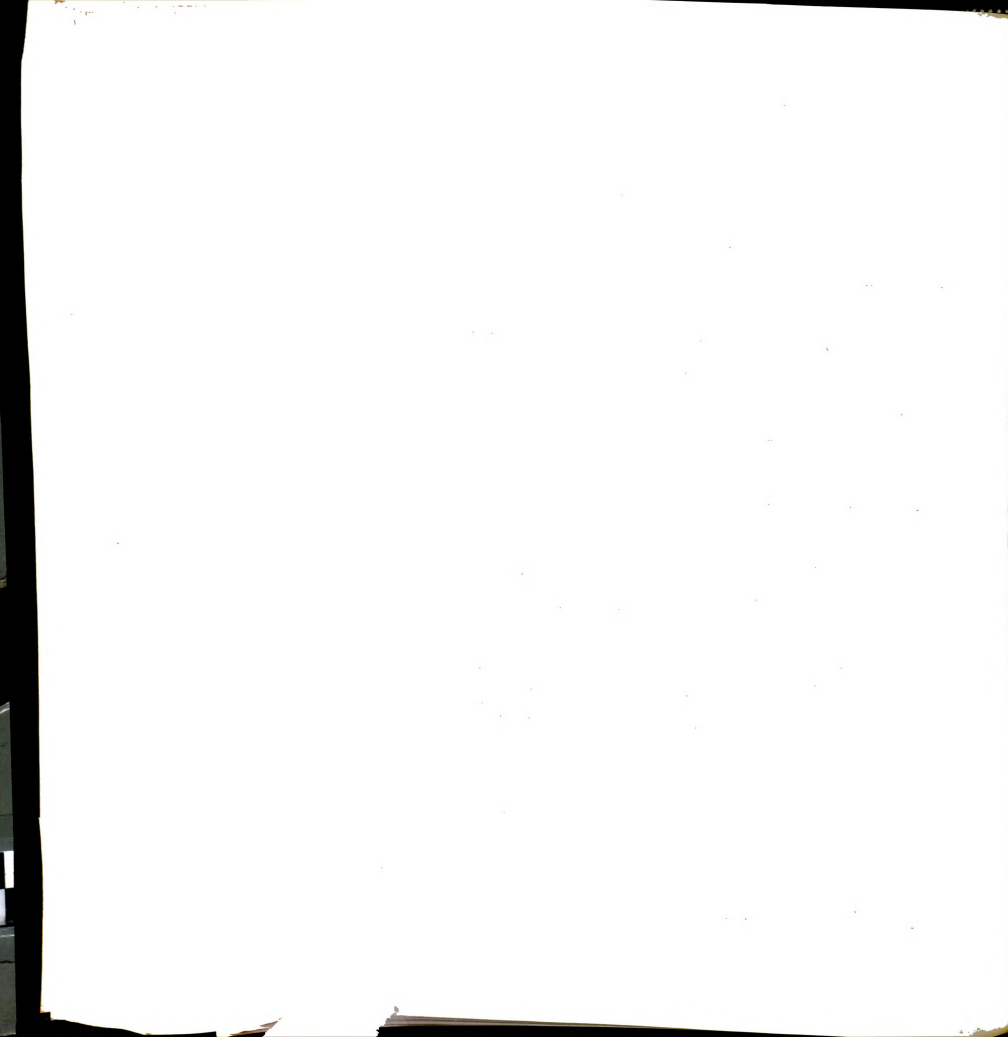
RECIPROCITY AND A FOREIGN TRADE ZONE

One of the instruments and institutions that could be used to achieve and facilitate reciprocity might be a Foreign Trade Zone located between Michigan and Ontario. It is envisioned that such a zone would be similar to the Foreign Trade Zones located at New York City, New Orleans, San Francisco, and Seattle. It would be a joint Canadian and United States undertaking and presumably operate in the same manner as existing foreign-trade zones. The operations of foreign-trade zones are explained in "Exporting to the United States," published by the United States Bureau of Customs.¹ It states:

Foreign exporters planning to expand or open up new American outlets may forward their goods to a foreign-trade zone in the United States to be held for an unlimited period while awaiting a favorable market in the United States or nearby countries without being subject to the customs laws and without entry or bond.

Merchandise lawfully brought into these zones may be stored, sold, exhibited, broken up, repacked, assembled, distributed, sorted, graded, cleaned, mixed with foreign and domestic merchandise, or otherwise manipulated, or be manufactured. In most instances, foreign goods may also be manufactured in a zone with other foreign goods or with domestic goods brought into the zone. The resulting merchandise may thereafter be either exported or transferred into customs territory. When foreign goods are transferred into customs

¹Exporting to the United States, U.S. Treasury Department, Bureau of Customs, U.S. Government Printing Office, Washington, D.C., p. 45.



territory of the United States from a foreign-trade zone, the goods must be entered at the customhouse. If entered for consumption, duties are ordinarily assessable on the goods at the rates in effect on the date of entry and with respect to their condition at that time.

With a Foreign Trade Zone, it is assumed that a particular segment of Detroit and Windsor would be enclosed by a fence, separating it from the surrounding city areas. This enclosure would then come under the joint control of the Canadian and United States governments. Foreign commerce within the zone would be exempt from the customs regulations of both countries.

For such a zone to function properly, transport service within the enclosure should be able to operate without governmental restrictions. A bridge joining the two areas would be necessary for rail and motor traffic. Unrestricted movement between the Ontario and Michigan zone areas would aid in the processing and manufacturing of products.

Under the existing conditions between Ontario and Michigan, there should be no problems with rail and waterborne operations either within, or to and from, the proposed zone. Both enjoy freedom of movement with respect to Michigan and Ontario governmental regulations.

Michigan and Ontario should change their motor carrier reciprocity agreement to allow freedom of movement for all commercial vehicles within the zone. Tractors and trailers, regardless of where registered, should be allowed



to haul goods within the zone, without having to purchase special permits, or additional registration plates. This could be done by the Michigan Reciprocity Board and the Ontario Department of Transport both extending full reciprocal privileges to all commercial vehicles upon entry to the zone. Michigan could exempt such vehicles from the fuel tax regulations, and the Michigan Public Service Commission requirement for registration and mileage fees.

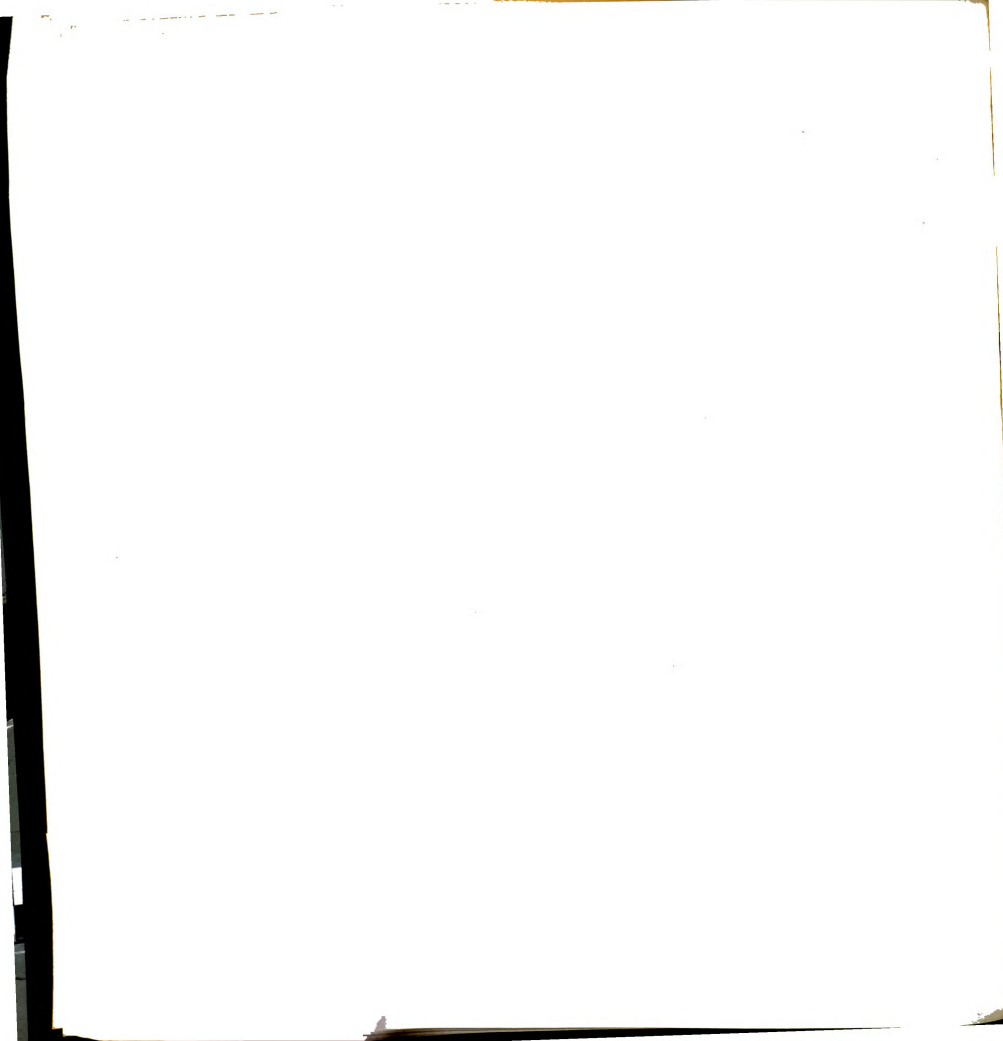
If Michigan and Ontario were concerned with safety and insurance regulations within the zone, they might require the carriers to post a bond with their respective governments for operation within the zone. In turn, the Michigan and Ontario agencies could issue special tractor permits to indicate that such equipment was operating under proper safety and insurance regulations. These could be issued yearly.

With the acceptance of the reciprocity recommendations herein proposed, carrier operations in the Detroit and Windsor area outside the Foreign Trade Zone would be equally easy.

A Foreign Trade Zone could be viewed as an interim device used to promote reciprocity at the border. It could be dissolved in the event of the development of a free trade arrangement between Canada and the United States.

INFORMATIONAL RECOMMENDATIONS

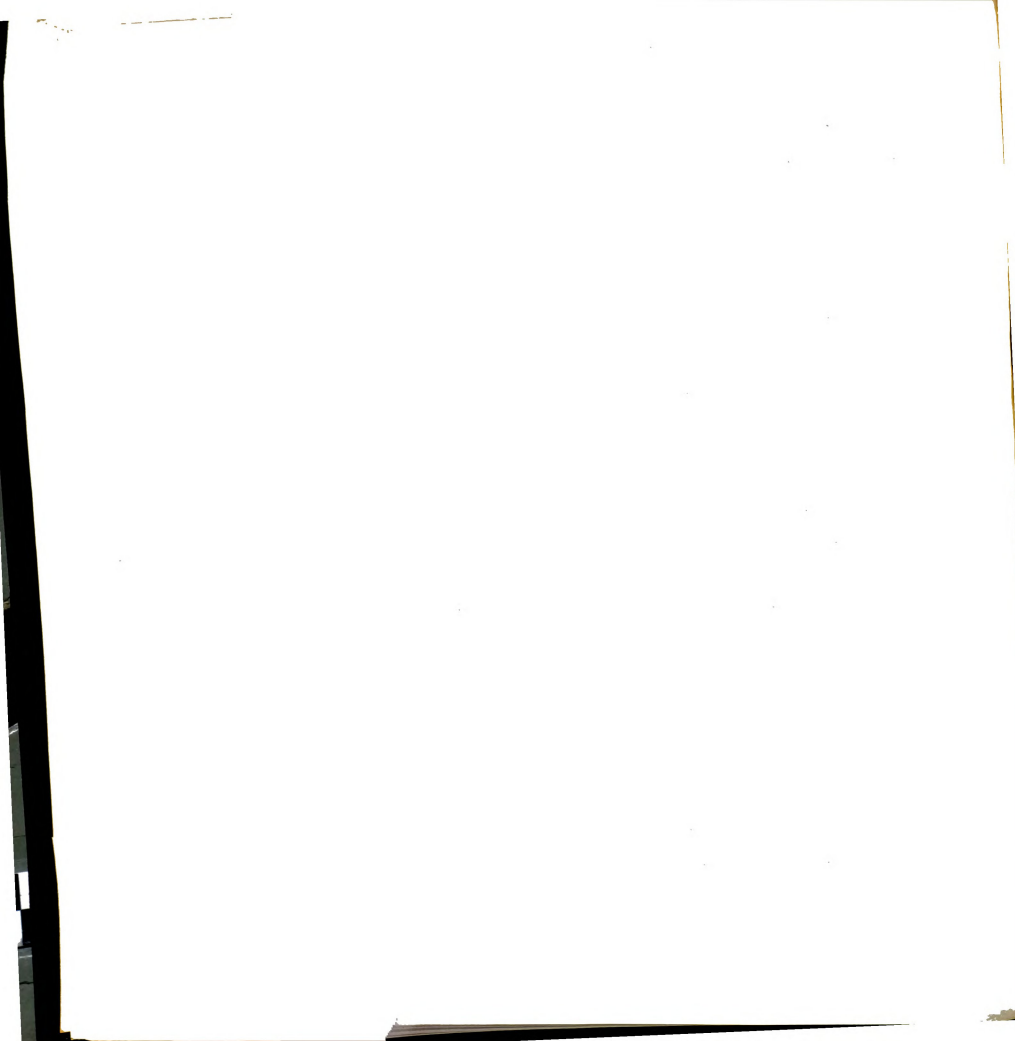
1. The state should undertake an origin and



destination study of the movement of commodities by highway motor carrier. At present there are no statistics showing how much, of what, is moved where. Such a study could be accomplished by a state agency, or in conjunction with one of the state universities. The study should be done at least every third year, or if possible oftener, and might use one of the following methods:

a. The present Truck Weight Study conducted yearly by the Traffic Division of the Highway Department could be expanded to furnish the necessary origin and destination information on commodities moved by motor carrier. Proper advance planning should be utilized to determine what data should be collected, where best to locate the interview stations, how to utilize the combined field force of the Michigan Public Service Commission and the Traffic Department, how to select the sample of vehicles to be interviewed, and the proper time of day to conduct the study.

At the same time, the Michigan and Ontario governments might work together on a joint project to collect data on the origin and destination of commodities crossing the border at the ports-of-entry. Michigan might interview all trucks entering Michigan, while Ontario could interview all trucks entering Ontario. This would give complete coverage, disclosing bridge or gateway traffic, not originating or terminating in Michigan or Ontario. By spreading out the interviewing stations,



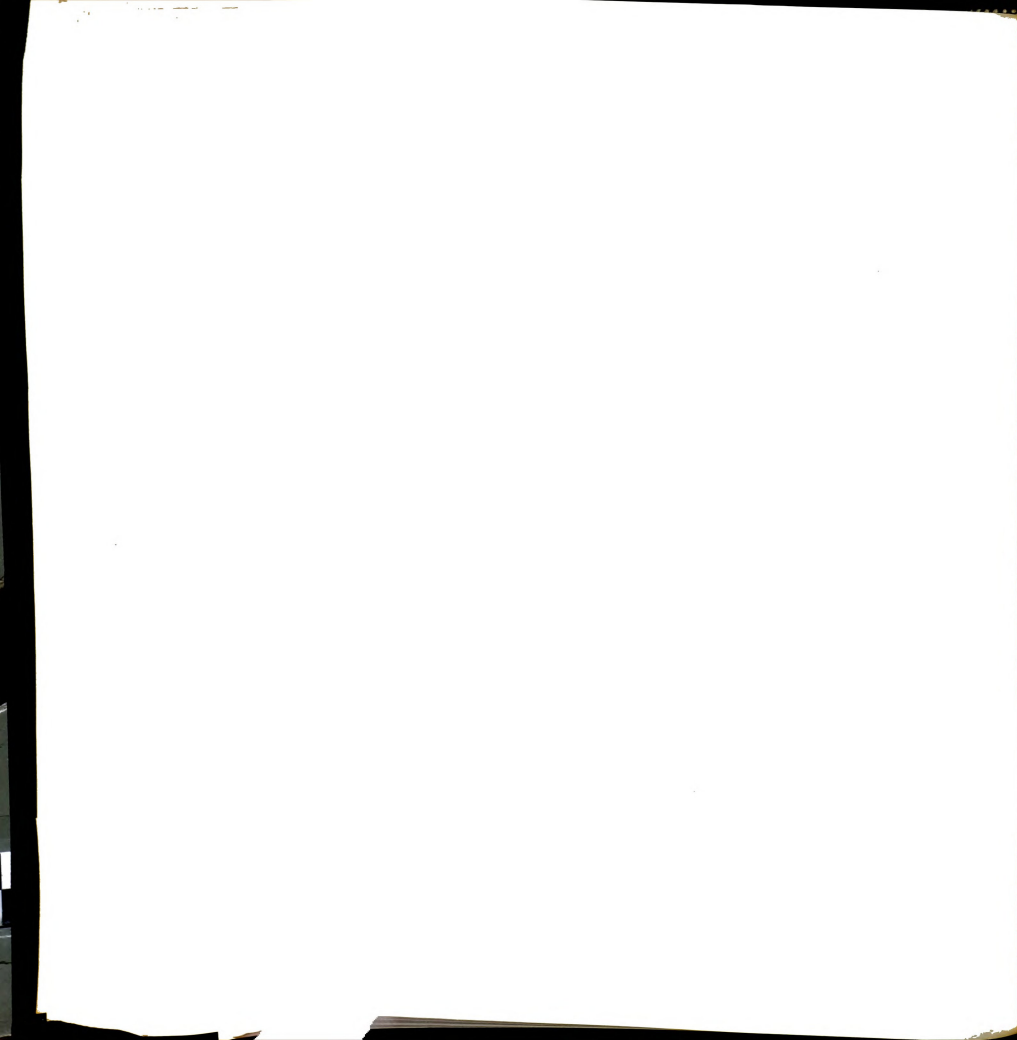
a minimum of disruption to the normal flow of traffic would take place.

b. A second method for securing origin and destination data might be a waybill analysis study using a 1% sample of the waybills of all, or selected trucking companies. This method would require previous study to determine how to gather data on the gateway traffic that doesn't originate or terminate in Michigan. Such a study would require considerable cooperation on the part of the trucking companies. It could be patterned after the railroad waybill analysis made by the federal government.

2. The state should maintain a clearing house, or catalogue, in some department at the highest level of government, showing brief information on present and past research studies and statistical data available at the various governmental departments. This would help to eliminate duplication of effort within and between departments and would be a valuable service for future state research projects.

ORGANIZATIONAL RECOMMENDATIONS

Reciprocity is becoming increasingly more important to the state each year, as various interests and agencies establish laws and regulations that impinge on the freedom of carrier operations and trade across the border. The state must, therefore, maintain a comprehensive and



imaginative approach to reciprocal negotiations encompassing all public interests.

Transport reciprocity for motor carriers should not be left wholly in the control of diverse governmental agencies where it is an appendage receiving part-time recognition from officials who have other full-time duties and interests.

It is, therefore, suggested that the membership of the Reciprocity Board be altered, or enlarged, to allow some representation of the shipper and carrier interests. The present composition of the Board (Secretary of State, who serves as the chairman, State Highway Commissioner, and the Chairman of the Michigan Public Service Commission) may reflect in its statements and negotiations the conservative attitudes of agencies that are preoccupied with collection of revenue, highway safety and maintenance, and carrier regulation.

At present, if shipper and carrier representation on the Board is impossible, then a member of the Michigan Economic Expansion Department should become a Board member, or act in the official capacity of advisor, to insure that the reciprocity agreements are in harmony with the efforts of the Economic Department toward trade expansion.¹ Economic

¹If the anticipated Department of Commerce is organized in the state government, its Manager should be included as a Board member, or as an official advisor.

growth cannot be achieved by promoting trade expansion while at the same time maintaining barriers to the movement of goods.

TRADE RELATED MEASURES

1. While the focal point of this study has been transport reciprocity, it must be recognized that other measures have an important bearing on the trade and transport between Ontario and Michigan.

In Chapter III, it was shown that the manufacturing companies in both Ontario and Michigan considered the Canadian and United States tariffs as the most serious obstacles to initiating or expanding trade between Michigan and Ontario. The magnitude of this trade in 1963 was over \$1 billion and certainly is worthy of consideration by the state and province. As they are the major sources of the border trade, they might well press their respective federal governments for reductions of the tariffs on products entering into such commerce.

Tariff reductions through reciprocal negotiations can provide the stimulus and opportunity for expanding trade between the two areas. A first step towards freer trade has recently been taken by Canada and the United States with the elimination of tariffs on new automobiles and parts.¹

¹"U.S., Canada to Abolish Auto Tariffs," Detroit Free Press, January 8, 1965, p. 1.



This will provide immediate gains for the economies of both Michigan and Ontario and will serve as a source of information and a stimulant for evaluating further tariff reductions in the future.

2. Many of the manufacturing companies in both Michigan and Ontario indicated a desire for more information on the market opportunities and services available in the respective export markets. It is suggested that the Michigan Economic Expansion Department work out a cooperative program with the Ontario Department of Economics and Development whereby a mutual exchange of market information could be accomplished for the benefit of interested potential and present exporters. At the same time a program could be developed to publicize the steps leading towards full reciprocity. The information could be disseminated through the local offices of the Chamber of Commerce, or other appropriate organizations.

Michigan should provide its manufacturing companies with: (1) information on Ontario buyers, agents, industrialists, and distributors, (2) a list of potential sales outlets for broad classes of products, (3) where possible, the names of specific Ontario companies interested in a particular product, (4) information necessary to engage in the export trade, including the mechanics of exporting, and (5) where to get specific help in solving problems connected with exporting to Ontario.

3. Michigan, either alone, or in conjunction with

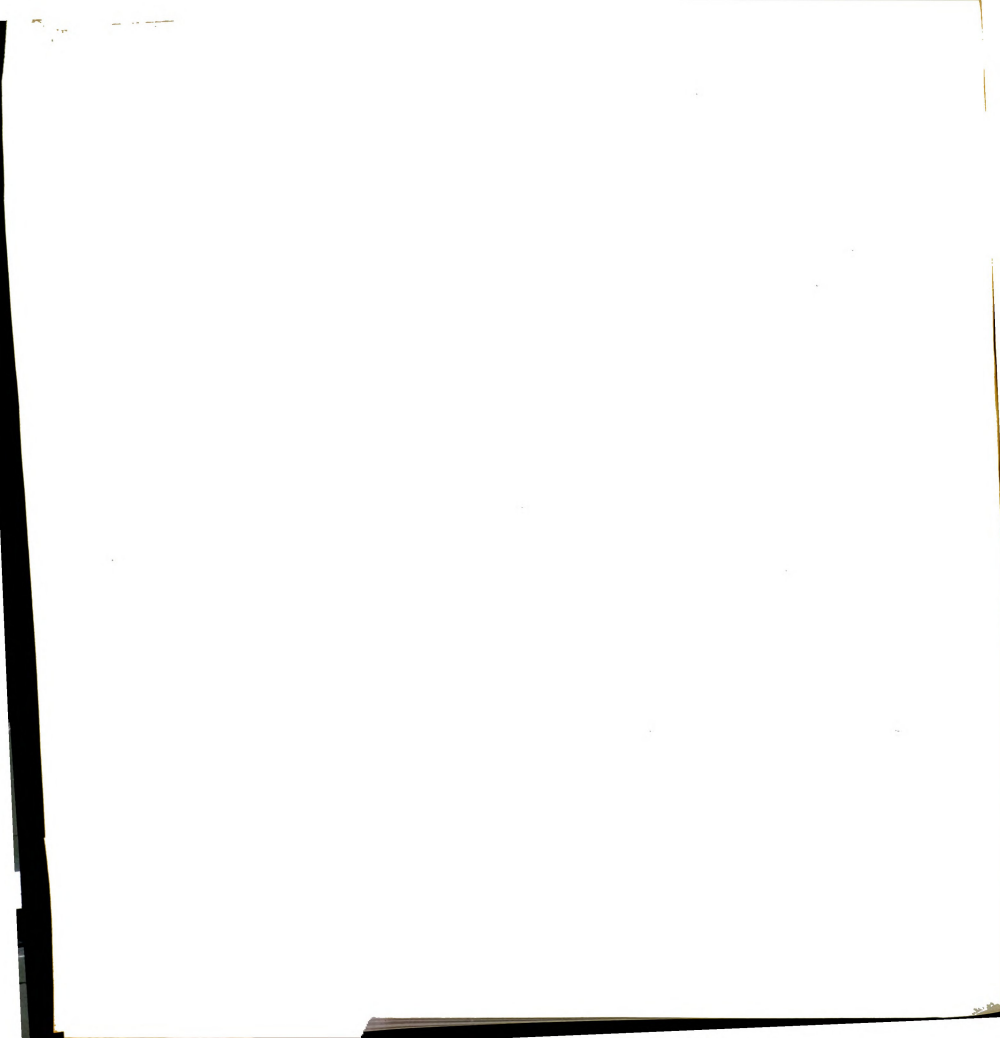


the other regional states, should take immediate action to encourage the Bureau of Customs to increase the size and modernize the facilities at the Detroit port-of-entry. The present physical facilities at the bridge and tunnel are too small to handle the volume of commercial traffic crossing the border. As the volume of traffic increases in the future, especially that moving into Michigan across the bridge, lack of adequate facilities may cause a serious bottleneck in the border operations for motor carriers.

4. Michigan, either alone, or in conjunction with the other regional states, should take action to have the Bureau of Customs simplify the import and export procedures, and, if possible, reduce the number of required documents on shipments to and from Ontario and other Canadian areas. These states, along with Ontario, might use their influence with their respective national governments, to promote a cooperative undertaking on the part of Canada and United States to review the whole problem of customs clearance between the two countries.

Such action would be welcomed by the exporters in both Canada and the United States. A study of procedures and documentation should cover at least the following items, which have proven to be problems encountered by exporters:

- a. Re-evaluate all current forms and develop standard forms acceptable to both Canada and the United States. This would simplify the procedure and help eliminate much of the duplication caused by the present



requirements.

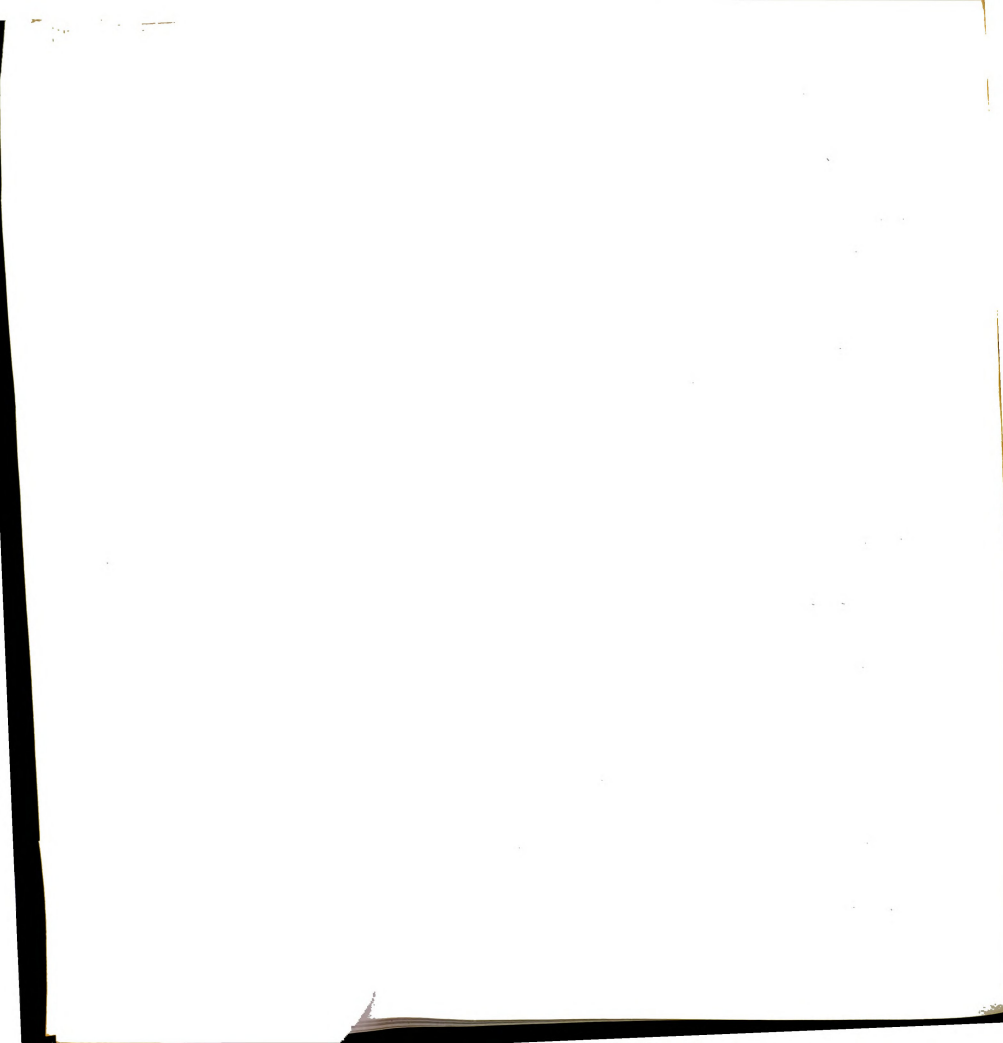
b. Find an easier way for handling shortages, overages, and the return of defective merchandise.

c. Develop a simple method for clearing advertising matter through customs, especially such items as cutaway models which can be used only for display purposes. The present procedure is so difficult that it has discouraged some Michigan exporters from trying to enter the Ontario market. The procedure is somewhat easier when entering the United States.

Some of the solutions to the problems of customs procedures and documentation may not require joint action by the two national governments; however, a discussion by their representatives of the problems encountered by all exporters, might yield some new ideas and stimulate a new approach to the problem of moving goods across a political boundary. Customs uniformity and simplification is being studied by various international agencies including the United Nations. With Canada and the United States involved in the world's largest border trade, they should provide active leadership in this area.

FURTHER RESEARCH

Research is a prerequisite to sound reciprocal negotiations and realistic policy revisions. And, further research is an implicit part of the preceding suggestions. However, a logical extension of this work would be to carry



on additional investigation and research into other ways of expanding Michigan's trade. In this connection, Michigan should give priorities to studies in the following areas:

First, Michigan should make a study of the proposed development of a Foreign Trade Zone to be located in the Detroit-Windsor area. The transshipment-gateway transit trade of 8.3 million tons is sufficiently large to warrant further study and investigation. At the same time Michigan received approximately 2.3 million tons of raw materials from Ontario. These are processed into manufactured goods and in some cases returned in the new form, for Michigan shipped Ontario about 1.3 million tons of manufactured products in 1963.

A Foreign Trade Zone would provide greater flexibility in the application of customs duties and regulations, and would help develop the re-export trade and could provide a stimulus for the expansion of industry in the area.

Among other things this research should consider: (1) whether a joint Canadian-United States Foreign Trade Zone is desirable and feasible, (2) what area between Michigan and Ontario is best suited for the location of the proposed zone, and (3) an estimate of how such a zone would affect the economies of Michigan and Ontario.

In the event that a joint Canadian-United States Zone would not be feasible, then Michigan should concentrate its investigation on the feasibility of establishing a United States Zone somewhere in the Detroit area.

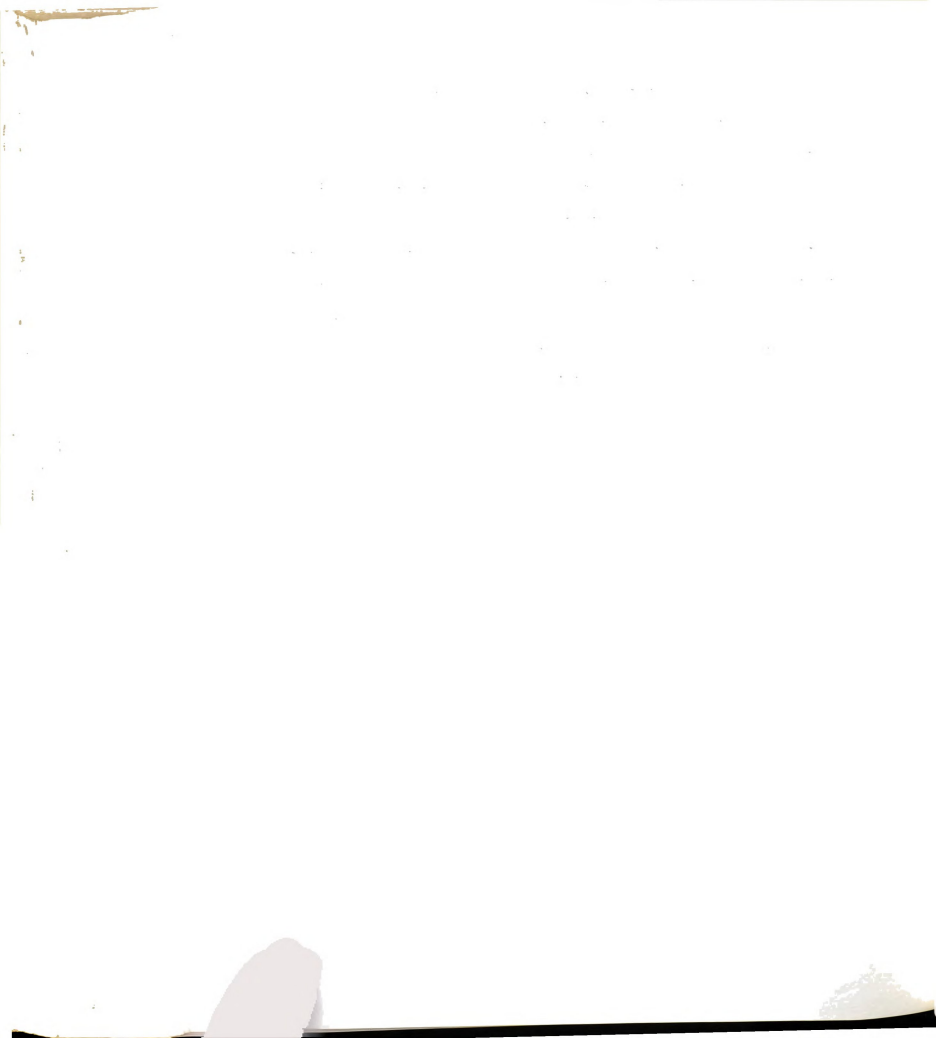
Second, Michigan should initiate a study to evaluate the benefits to be gained by the state from the establishment of branch offices of the Economic Expansion Department in Ontario. One or more offices might be located in the heavily industrialized area around Toronto and Hamilton. Specialists in foreign trade could serve as Michigan's trade representatives. The primary function of each office would be to promote the sale of Michigan-manufactured products in Ontario.

Third, Michigan should undertake a comprehensive study to evaluate the consequences of the future development of a free trade arrangement between Canada and the United States. The automotive restrictions are to be abandoned, and a full-scale removal of trade barriers may be forthcoming, either at the federal or regional initiative. Such an arrangement could stimulate a reallocation of output and lead toward specialization in production. It could alter competition and existing trade patterns, and Michigan should take steps now to determine in which direction to move.

Among other things the Michigan study should consider: (1) the possible forms of a free trade arrangement and how each form would affect the trade policies of the member countries, (2) the effect of a free trade arrangement on Michigan's employment, production, and investments, (3) the effect on Michigan's competitive position, trade, and markets, and (4) the effect on public policy, social

and economic institutions, and human attitudes.

A study of the theoretical consequences of a free trade arrangement would provide Michigan with the information and understanding necessary for formulating specific policies designed to further her economic expansion and social development. This research constitutes a first concrete step in this direction by examining the basic trade and transport patterns between Michigan and Ontario, the existing status of reciprocity, and making suggestions toward improving reciprocity.



APPENDIX A

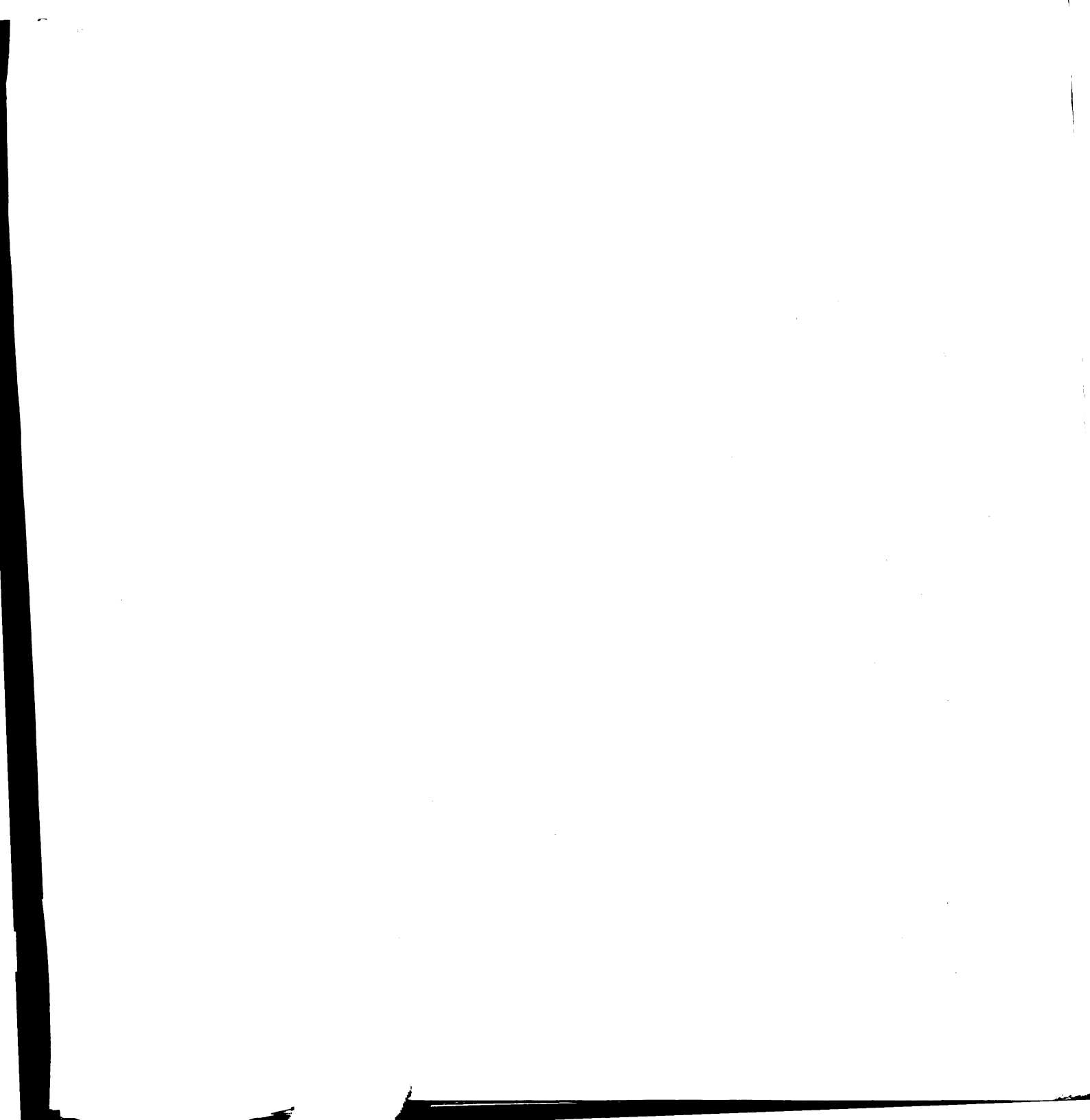
METHODOLOGY AND DATA COLLECTION

The material for this research was gathered from all possible sources. Secondary data were used whenever they were available. However, due to the nature of the study, there were few secondary statistics applicable.

Questionnaires were designed to obtain information on the markets of the manufacturing companies, mode of transport used to reach the markets, and additional data pertaining to problems encountered by the exporters. Questionnaires were also used to secure information from the various carriers to determine, if possible, the origin and destination of the commodities hauled, plus some insight into the problems encountered by the carriers.

To supplement the information obtained by questionnaire, interviews were conducted with officials of the exporting companies, carriers, and various governmental agencies and departments. In some interviews the questionnaire was used as a guide, while others proceeded as an informal discussion of operations and problems. A total of over one hundred interviews were conducted in Michigan and Ontario.

There were questions on each questionnaire requesting the respondent to rank the seriousness of several



problems, or proposed solutions to problems. The final ranking was determined by the sum of the weighted answers for each particular question. That is, if there were five answers to be ranked, the answer ranked first was given a weight of five; second rank received a weight of four, etc. Then by summing the weighted answers of all respondents, it was possible to rank the answers for each question.

The following pages present a copy of each questionnaire with a discussion of how the sample was selected, some information regarding the questionnaire, and a summary of the returns. The results of each questionnaire are presented in the text of the dissertation. These data are referred to in the text, and various tables, as "Survey of Michigan (Ontario) manufacturing companies."

ONTARIO TRADE AND TRANSPORT QUESTIONNAIRE

A sample of 1,008 Ontario manufacturing companies was selected from the Canadian Trade Index for 1963.¹ Each company had indicated in the Index that they were interested in exporting their products. It was extremely difficult to extract the names of the Ontario manufacturing companies, due to the manner in which they were listed in the Index. There was no way of determining the total number of Ontario

¹Canadian Trade Index, 1963, Canadian Manufacturers' Association, Toronto, Canada.

companies that were in the export business. There is no publication that lists the exporting companies by name and address.

The questionnaire was designed in two parts. The first was to secure information regarding the markets that the company served, the mode of transportation utilized in serving each market, the future outlook of the company, and some of the obstacles to initiation or expansion of trade with Michigan. The second part concentrated on the trade with Michigan, the mode of transport utilized, some of the problems of transport caused primarily by the existence of the national border, and a consideration of measures that would improve the transport service to Michigan.

The questionnaire was pre-tested by visiting several companies and asking them to complete the questionnaire. Based on this information, the final design was completed.

For questions 5, 8, 9, and 10, the respondent was asked to rank several structured alternative answers. At the same time he was asked to specify any other answer to the question that was peculiar to his particular business or operation.

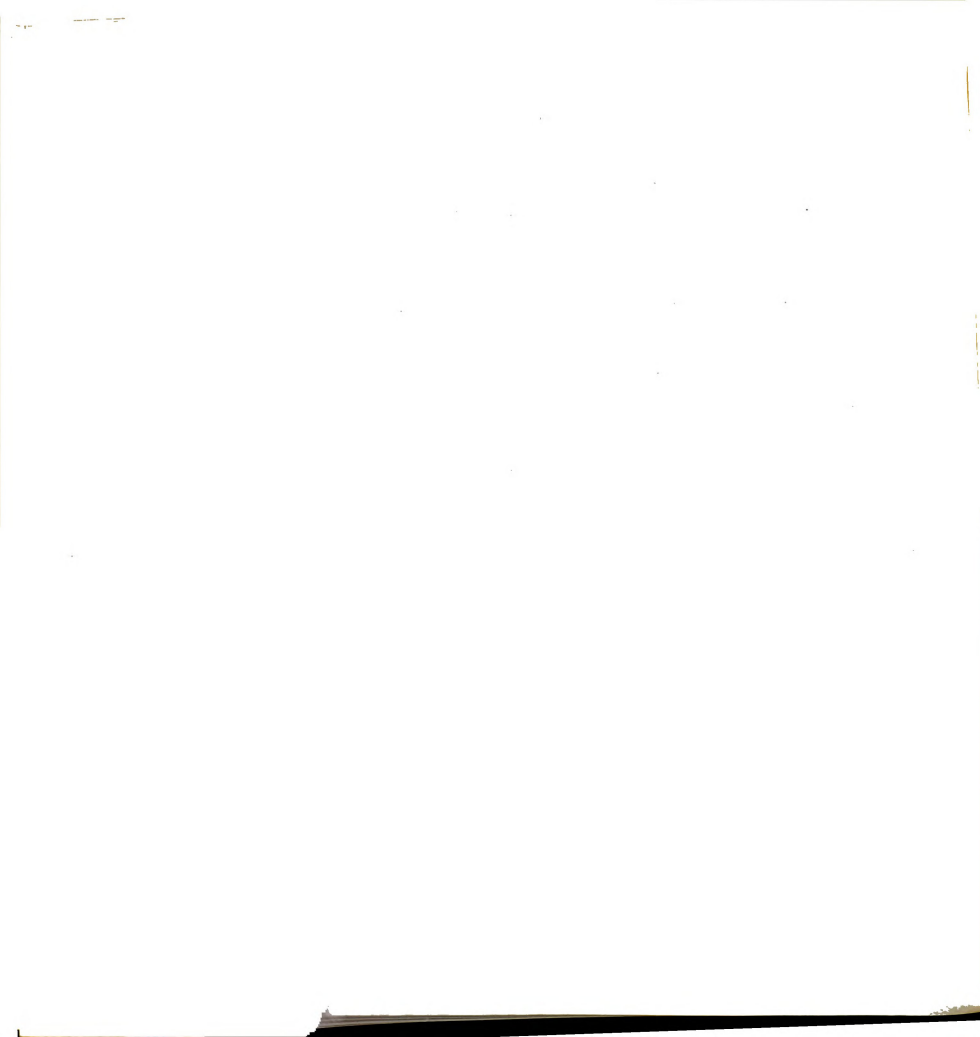
Structuring the answers in this manner allowed the researcher to weight the answers and make some comparisons on an industry and geographical basis. The opened end part of the question helped to furnish some additional insight into special problems of particular respondents.

A total of 217 companies returned the questionnaires.

Of these, 173 completed the questions pertaining to markets served and mode of transport utilized. There were 79 companies that served the Canadian markets alone, and 94 that were actively engaged in the exporting business, of which 36 were exporting to the Michigan market.

The questionnaires were identified only by code number so as to protect the identity of the respondent. Using the principal product of the company, the United States Standard Industrial Classification Manual¹ was consulted to determine the S.I.C. number applicable to that product and company. For industry classification, only the first two digits of the SIC number were used. This uniform procedure provided a standard basis for the comparison of the exporters in Ontario with the exporters in Michigan.

¹Bureau of the Budget, Standard Industrial Classification Manual, 1957; Supplement to 1957 Edition, published in 1963.



17 February 1964

Dear Sir:

The enclosed questionnaire is part of a research study being conducted under the auspices of Michigan State University's doctoral programs in Business Administration. It is a study of trade and transport reciprocity between Ontario and Michigan. As such, it is designed to provide a better understanding of the economies of each area. Specifically, it is intended to determine the present movement of commodities and investigate some impediments to inter-regional trade. It is hoped that the final results of the research will be of value to both Ontario and Michigan.

Part of the data and information for analysis is being provided by Ontario and Michigan manufacturing and transport companies. Therefore, your cooperation in completing the enclosed questionnaire is respectfully requested. Each questionnaire will be coded and your identity will be known only by the undersigned. Final reports and statistics will be in the form of aggregates. Census rules of non-disclosure of individual firm's operations will be observed.

Informed estimates by your Marketing, Traffic or other executives will be sufficient.

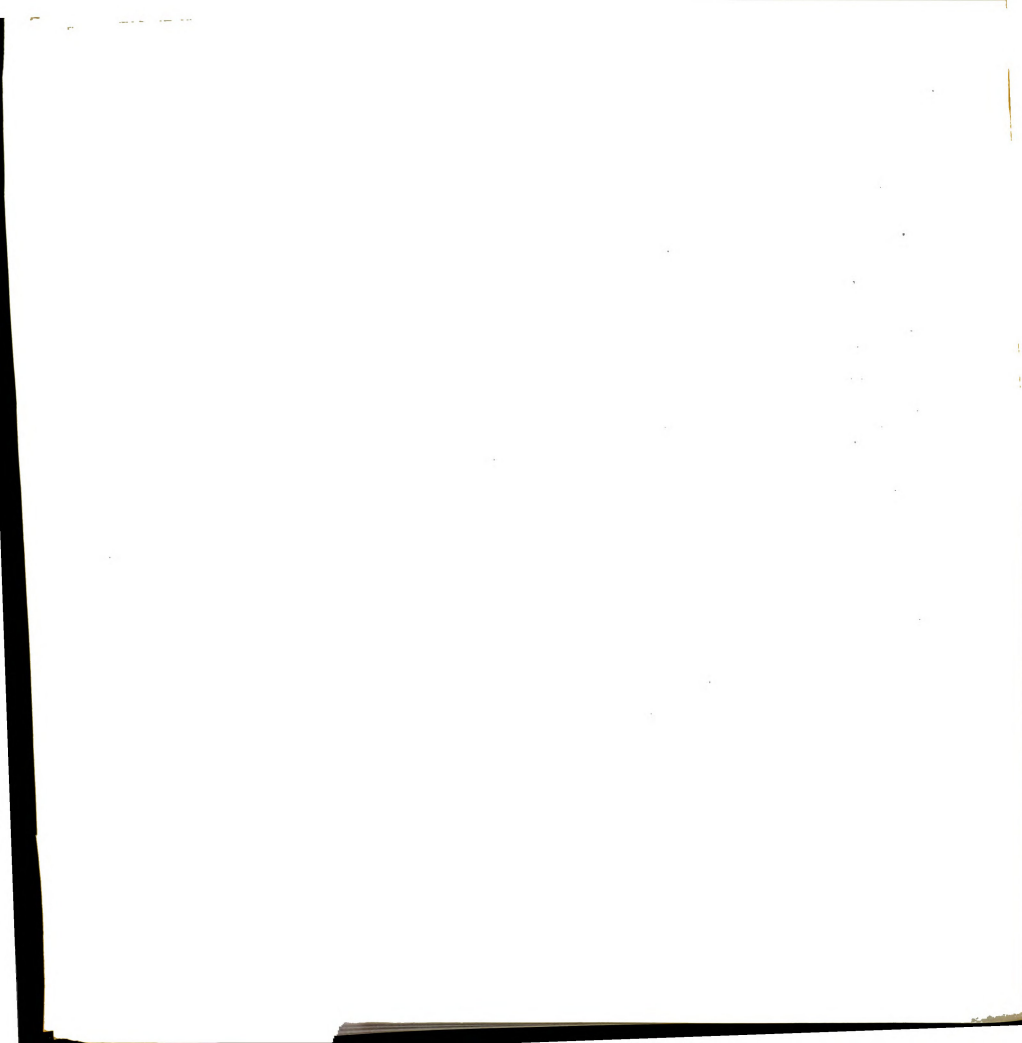
If you do not at present trade with Michigan will you please answer as much of the questionnaire as possible. Your answer to question No. 5 will be extremely valuable to the research results.

Participants will be supplied with a summary of aggregate findings on request.

Thank you for your cooperation.

Yours very truly,

Cecil V. Hynes
Research Director



Return in enclosed envelope
to Mr. Cecil V. Hynes
560 Owen Graduate Center, MSU
East Lansing, Michigan

SIC Classification _____
Confidential Code _____

ONTARIO-MICHIGAN TRADE AND TRANSPORT
QUESTIONNAIRE
For Year 1963

I. DOMESTIC AND TRADE STATUS

1. Company initiated Ontario operations in (year) _____
and shipments reached \$ _____ in 1963 from estab-
lishments employing (No.) _____ in Ontario.
2. Shipments from Ontario were mainly the following prod-
ucts: _____

3. Shipments from Ontario operations moved:

to the following markets: by the following carriers:
(estimate percentage) (show per cent of time
used for each market)

Province of		Rail/	Truck/	Air/	Water/	Other/
Ontario	____%..by..____%	____%	____%	____%	____%	____%
Other Canadian						
Provinces	____..by..____	____	____	____	____	____
Michigan	____..by..____	____	____	____	____	____
New York	____..by..____	____	____	____	____	____
Other U.S.						
States	____..by..____	____	____	____	____	____
Overseas						
Exports	____..by..____	____	____	____	____	____
TOTAL	100%					

4. The five-year outlook is for shipments from Ontario
operations to (check) Accelerate__ Increase__
Stabilize__ Decrease__ Cease__
5. What are the most serious problems confronting your
expansion (or initiation) of trade with Michigan?
(rank in order 1,2,3)

____ Lack of Michigan market information and services.
____ Inefficient transport service due to border reg-
ulations and administrative practices.
____ High cost of transport and distribution.
____ High U.S. tariffs and customs regulations.
____ Complexity of U.S. IMPORT procedure and regula-
tions.

- _____ Complexity of Canadian EXPORT procedure and regulations.
 _____ Other (please specify) _____

II. TRANSPORT SERVICE

6. What were your total shipments crossing the Michigan-Ontario border in 1963:

- a. Terminating in Michigan \$ _____.
 b. Moving through Michigan as a gateway to other U.S. states or Canadian provinces \$ _____.

7. What mode of transport (for shipments in question 6 above) did you use? (show per cent of time used)

AIR	/	RAIL	/	WATER	/	TRUCK	/	OTHER
						privately owned	commercial carrier	
_____ %		_____ %		_____ %		_____ %	_____ %	_____ %

8. How does transport service to Michigan compare with service to other Canadian Provinces? (enter (+) for favorable, (-) for unfavorable, and (0) if no difference in service)

- _____ Speed of pick-up and delivery, and time in transit.
 _____ Freight rates and overall costs.
 _____ Claim settlements.
 _____ Availability of adequate service.
 _____ Availability of proper equipment.
 _____ Other differential factors of service (please specify) _____

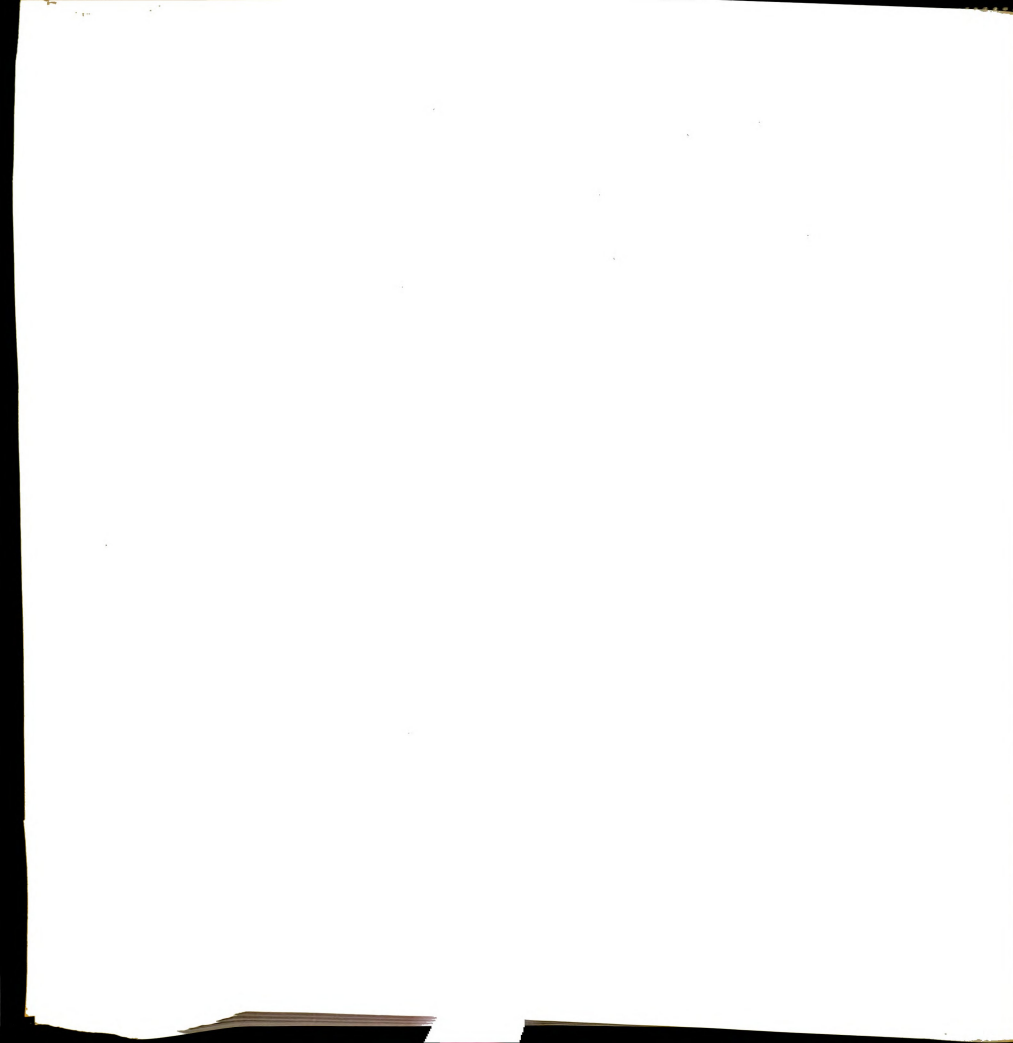
9. What are the most serious problems in transport service to Michigan caused by existence of the border? (rank in order of seriousness 1st, 2nd, 3rd, etc.)

- _____ Too much time enroute from pick-up of goods to delivery to consignee
 _____ Duplications and cost due to regulations at the border
 _____ Restrictive carrier equipment regulations in Michigan and Ontario
 _____ Lack of efficient through service under joint rates
 _____ Other problems (please specify) _____



10. Which of the following measures would provide better transport service on shipments to Michigan? (rank 1st, 2nd, 3rd, etc.)

_____ Through service under joint rates
_____ More liberal reciprocity with respect to equip-
_____ ment use in Michigan and Ontario
_____ Better cooperation between Michigan and Ontario
_____ carriers
_____ More uniformity in regulations at the border
_____ Other (please specify) _____



MICHIGAN-ONTARIO TRADE
AND TRANSPORT QUESTIONNAIRE

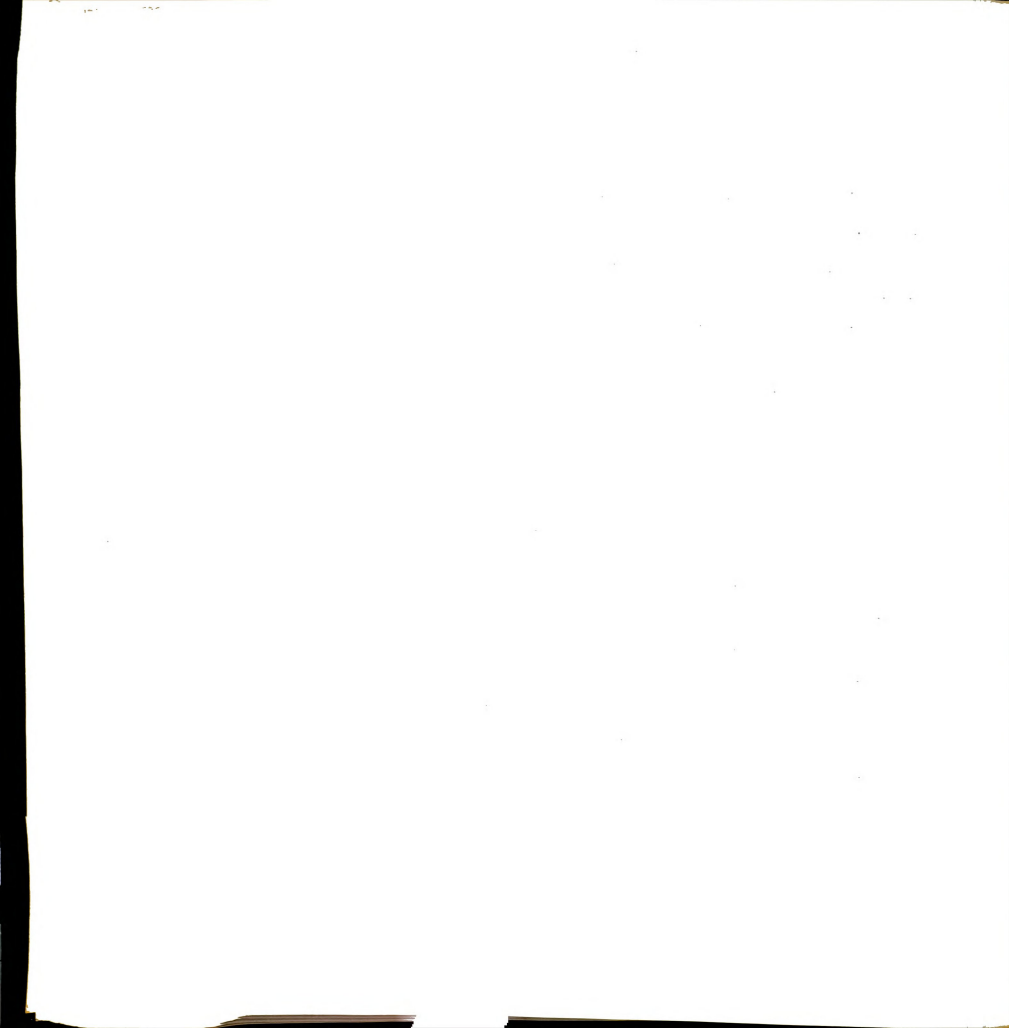
For this sample, 490 Michigan manufacturing companies were selected from the 1963 Directory of Michigan Manufacturers.¹ They were selected by taking the first company name that appeared in the first, third, and fifth columns on the double pages of the alphabetical listing of companies, by cities, in Michigan.

The questionnaire, shown below, was based on the one used in Ontario. The wording was changed only to reflect the Michigan point of view. The questionnaires were coded and those returned were classified by the Standard Industrial Classification number given the company by the Bureau of the Census of the Department of Commerce.

A total of 152 questionnaires were returned but only 108 of these gave sufficient answers to be of value to the research. Thirty-four of the companies responding were non-exporters, and sixty-eight of the remaining number exported to Ontario.

Table A-1 shows the market orientation of the Michigan manufacturing companies that responded to the questionnaire. Table A-2 shows the mode of transport used to reach the various markets.

¹Directory of Michigan Manufacturers, 1963, Manufacturer Publishing Co., Detroit 38, Michigan.



24 February 1964

Dear Sir:

The enclosed questionnaire is part of a research study being conducted under the auspices of Michigan State University's doctoral programs in Business Administration. It is a study of trade and transport reciprocity between Ontario and Michigan. As such, it is designed to provide a better understanding of the economies of each area. Specifically, it is intended to determine the present movement of commodities and investigate some impediments to inter-regional trade. It is hoped that the final results of the research will be of value to both Ontario and Michigan.

Part of the data and information for analysis is being provided by Michigan and Ontario manufacturing and transport companies. Therefore, your cooperation in completing the enclosed questionnaire is respectfully requested. Each questionnaire will be coded and your identity will be known only by the undersigned. Final reports and statistics will be in the form of aggregates. Census rules of non-disclosure of individual firm's operations will be observed.

Informed estimates by your Marketing, Traffic or other executives will be sufficient.

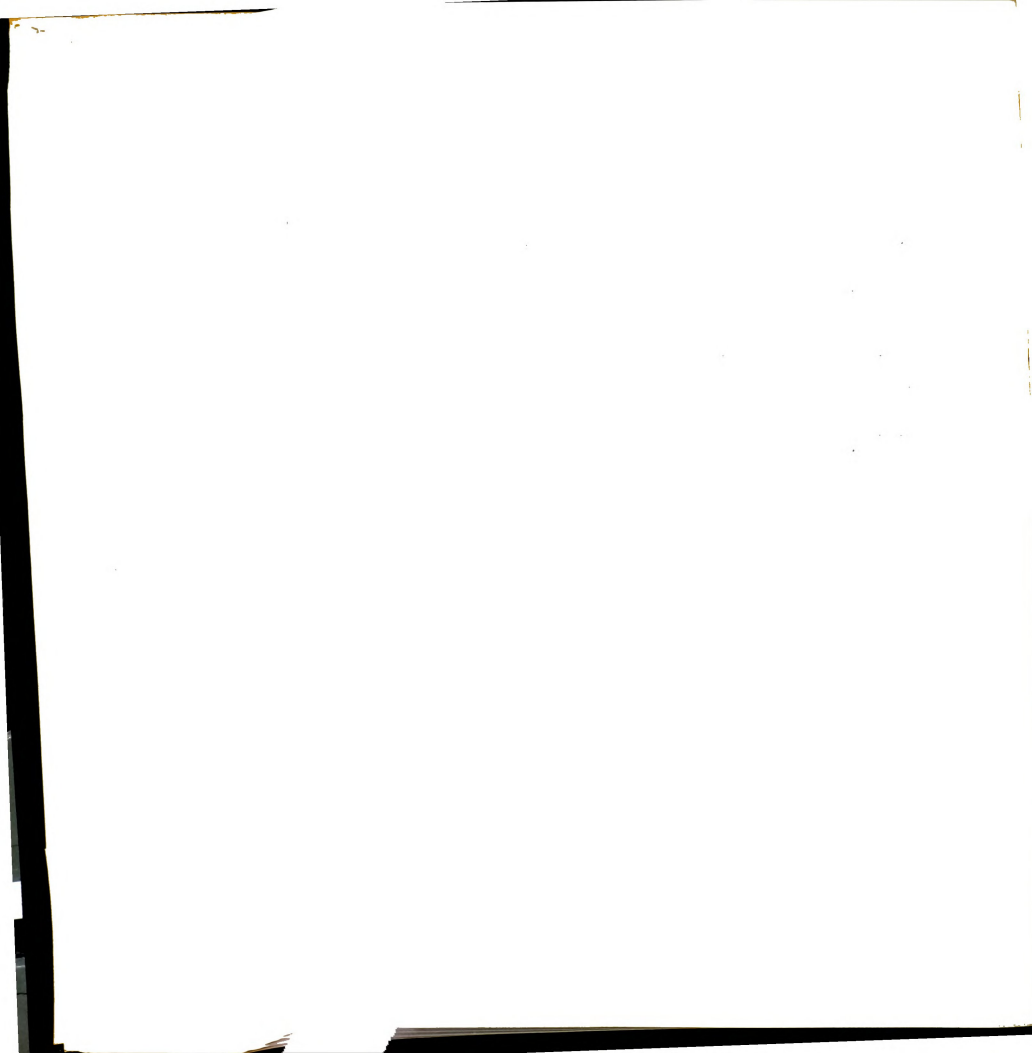
If you do not at present trade with Ontario will you please answer as much of the questionnaire as possible. Your answer to question No. 5 will be extremely valuable to the research results.

Participants will be supplied with a summary of aggregate findings on request.

Thank you for your cooperation.

Yours very truly,

Cecil V. Hynes
Research Director



Return in enclosed envelope to SIC Classification _____
 Mr. Cecil V. Hynes
 560 Owen Graduate Center
 Michigan State University Confidential Code _____

MICHIGAN-ONTARIO TRADE AND TRANSPORT
 QUESTIONNAIRE
 For year 1963

DOMESTIC AND TRADE STATUS

1. Company initiated Michigan operations in (year) _____
 and shipments reached \$ _____ in 1963 from establish-
 ments employing (No.) _____ in Michigan.

2. Shipments from Michigan were mainly the following prod-
 ucts: _____

3. Shipments from Michigan operations moved:

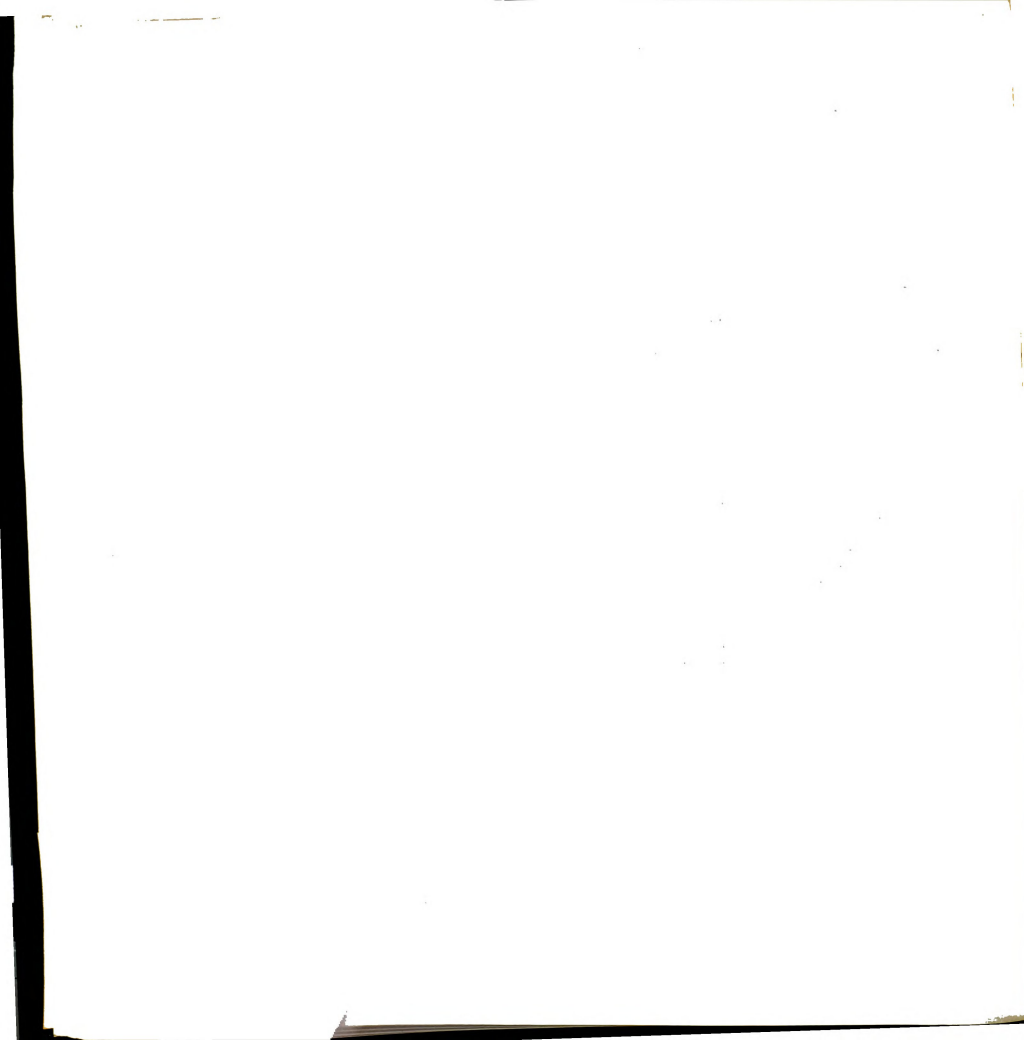
to the following markets: by the following carriers:
 (estimate percentage) (show per cent of time
 used for each market)

		Rail/	Truck/	Air/	Water/	Other/
_____ % Michigan	..by..	_____	_____	_____	_____	_____
_____ E. North Central						
_____ District (Ohio,	..by..	_____	_____	_____	_____	_____
_____ Ind., Ill.,						
_____ Wisc., Minn.)						
_____ Other U.S. States..	by..	_____	_____	_____	_____	_____
_____ Province of						
_____ Ontario	..by..	_____	_____	_____	_____	_____
_____ Other Canadian						
_____ Provinces	..by..	_____	_____	_____	_____	_____
_____ Overseas Exports	..by..	_____	_____	_____	_____	_____
<u>100%</u> TOTAL						

4. The five-year outlook is for shipments from Michigan
 operations to: (check) Accelerate__ Increase__
 Stabilize__ Decrease__ Cease__

5. What are the most serious problems confronting your
 expansion (or initiation) of trade with Ontario? (rank
 in order 1,2,3)

_____ Lack of Ontario market information and services.
 _____ Inefficient transport service due to border regu-
 lations and administrative practices.
 _____ High cost of transport and distribution.
 _____ High Canadian tariffs and customs regulations.



- _____ Complexity of U.S. EXPORT procedure and regulations.
 _____ Complexity of Canadian IMPORT procedure and regulations.
 _____ Other (please specify) _____

TRANSPORT SERVICE

6. What were your total shipments crossing the Michigan-Ontario border in 1963?

- a. Terminating in Ontario \$ _____.
 b. Moving through Ontario as a gateway to other U.S. States or Canadian Provinces \$ _____.

7. What mode of transport (for shipments in question 6 above) did you use? (show per cent of time used)

AIR	/	RAIL	/	WATER	/	TRUCK	/	OTHER
						privately owned	commercial carrier	
____%		____%		____%		____%	____%	____%

8. How does transport service to Ontario compare with service to other United States areas? (enter (+) for favorable, (-) for unfavorable, and (0) if no difference in service)

- _____ Speed of pick-up and delivery, and time in transit.
 _____ Freight rates and overall costs.
 _____ Claim settlements.
 _____ Availability of adequate service.
 _____ Availability of proper equipment.
 _____ Other differential factors of service (please specify) _____

9. What are the most serious problems in transport service to Ontario caused by existence of the border? (rank in order of seriousness 1st, 2nd, 3rd, etc.)

- _____ Too much time enroute from pick-up of goods to delivery to consignee.
 _____ Duplications and cost due to regulations at the border.
 _____ Restrictive carrier equipment regulations in Michigan and Ontario.
 _____ Lack of efficient through service under joint rates.
 _____ Other problems (please specify) _____

10. Which of the following measures would provide better transport service on shipments to Ontario? (rank 1st, 2nd, 3rd, etc.)

_____ Through service under joint rates.
_____ More liberal reciprocity with respect to equipment use in Michigan and Ontario.
_____ Better cooperation between Michigan and Ontario carriers.
_____ More uniformity in regulations at the border.
_____ Other (please specify) _____

Table A-1. Market orientation of Michigan manufacturing companies, 1963
\$(000)

Census Groups and Code Number	Number of Companies	Number of Employees	Total Ship- ments	Mich- igan	North Central District	Other United States	Ontario	Canada	Overseas Countries
14. Mining non- metallic miner- als except fuels	1	16	\$252	\$20	\$13	\$65	\$10		\$144
20. Food & kindred products	6	540	6,965	2,806	2,343	1,507	300		9
22. Textile mill products	3	1,050	15,500	6,375	4,875	4,232	9		\$9
23. Apparel & re- lated products	1	325	3,250	325	1,300	1,625			
24. Lumber & wood products	2	92	3,700	2,107	1,150	410	33		
25. Furniture & fixtures	5	507	6,330	1,676	2,510	2,080	28	3	33
26. Paper & allied products	3	1,260	25,300	3,993	7,637	13,358	288		24
28. Chemicals & allied products	8	964	30,590	9,939	9,516	10,440	545	65	85
29. Petroleum & coal products	1	9	500	210	179	100	10	1	

Table A-2. Mode of transport used by sample of Michigan manufacturing companies to reach various markets, 1963

From Michigan to the following markets:	Per cent of companies using each mode:				
	Rail	Truck	Water	Air	Other ^a
Michigan	3.7%	84.2%	.3%	.5%	11.3%
East North Central District	7.4	80.8		1.5	10.3
Other U.S. States	11.5	78.5	.2	1.5	8.3
Ontario	12.2	78.6	.7	1.6	6.9
Other Canada	21.1	66.2	.4	2.9	9.4
Overseas			89.7	7.7	2.6
All Markets	8.2	73.3	7.8	1.9	8.8

Note: Not weighted by the value of shipments.

^aOther includes parcel post, railway express, bus, etc.

Source: Data obtained from 108 Michigan manufacturing companies.



MICHIGAN-ONTARIO
TRANSPORT QUESTIONNAIRE

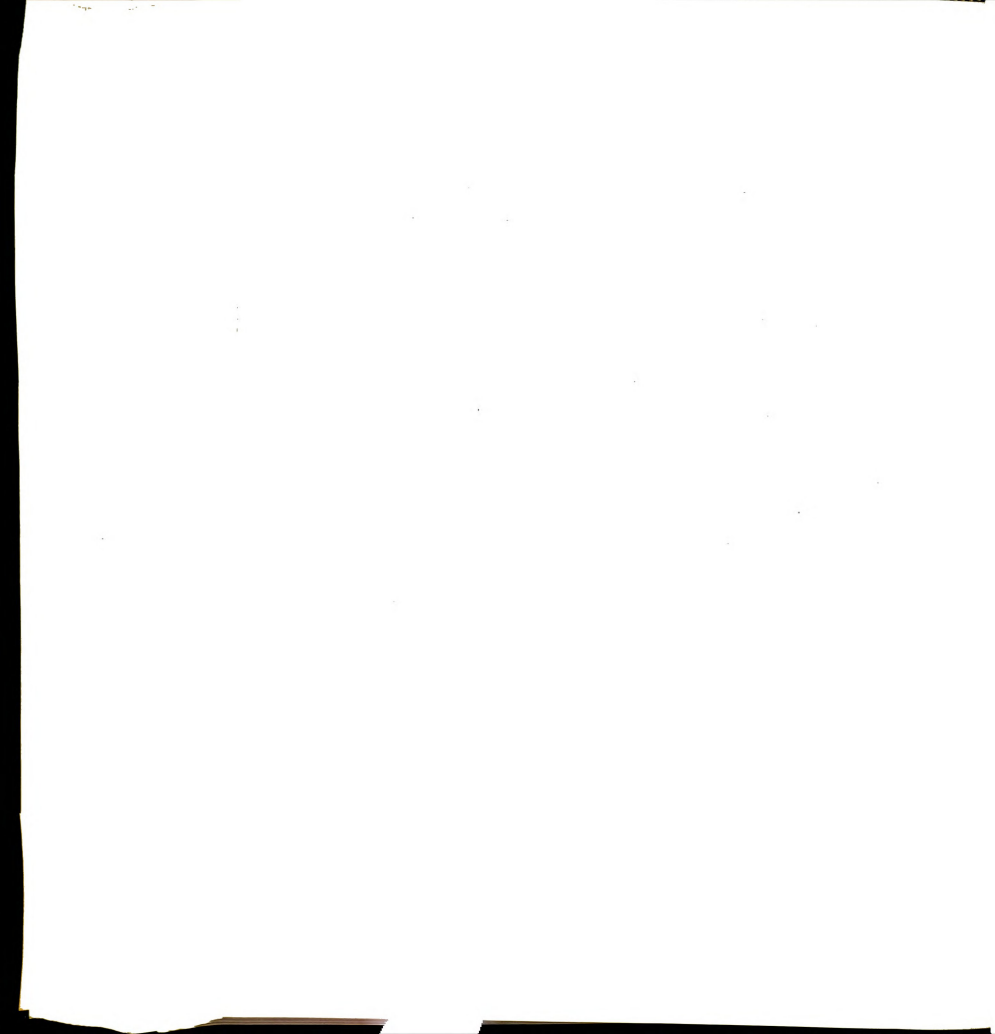
This questionnaire was used when it became evident that more answers were required to the questions dealing with reciprocity and transport service to Ontario.

For this sample, 511 Michigan manufacturing companies were selected again from the 1963 Directory of Michigan Manufacturers. The companies selected all indicated an interest in exporting their products, and some were known to be exporting to Ontario. The questionnaire was mailed to the Director of Traffic of each company.

The questionnaire was based on the second section of the original Michigan-Ontario Trade and Transport Questionnaire. It was a modified version of the original but included the question pertaining to problems confronting initiation or expansion of trade with Ontario. This was primarily to see how known exporters would answer the question.

This questionnaire, as shown below, included a change in the structure of the last question. Two possible choices were added; one dealt with customs reciprocity at the border; and the other with tariff reciprocity resulting in lower rates.

A total of 204 questionnaires were returned but only 163 were completed and usable.



20 April 1964

Dear Sir:

The enclosed questionnaire is part of a research study being conducted under the auspices of Michigan State University's doctoral programs in Business Administration. It is a study of trade and transport reciprocity between Michigan and Ontario. As such, it is designed to provide a better understanding of the economies of each area. Specifically, it is intended to determine the present movement of commodities and investigate some impediments to inter-regional trade. It is hoped that the final results of the research will be of value to both Michigan and Ontario.

Part of the data and information for analysis is being provided by Michigan and Ontario manufacturing and transport companies. Therefore, your cooperation in completing the enclosed questionnaire is respectfully requested. Each questionnaire will be coded and your identity will be known only by the undersigned. Final reports and statistics will be in the form of aggregates. Census rules of non-disclosure of individual firm's operations will be observed.

Exact and precise answers are not necessary. Informed estimates by your Traffic, Marketing or other executives will be sufficient.

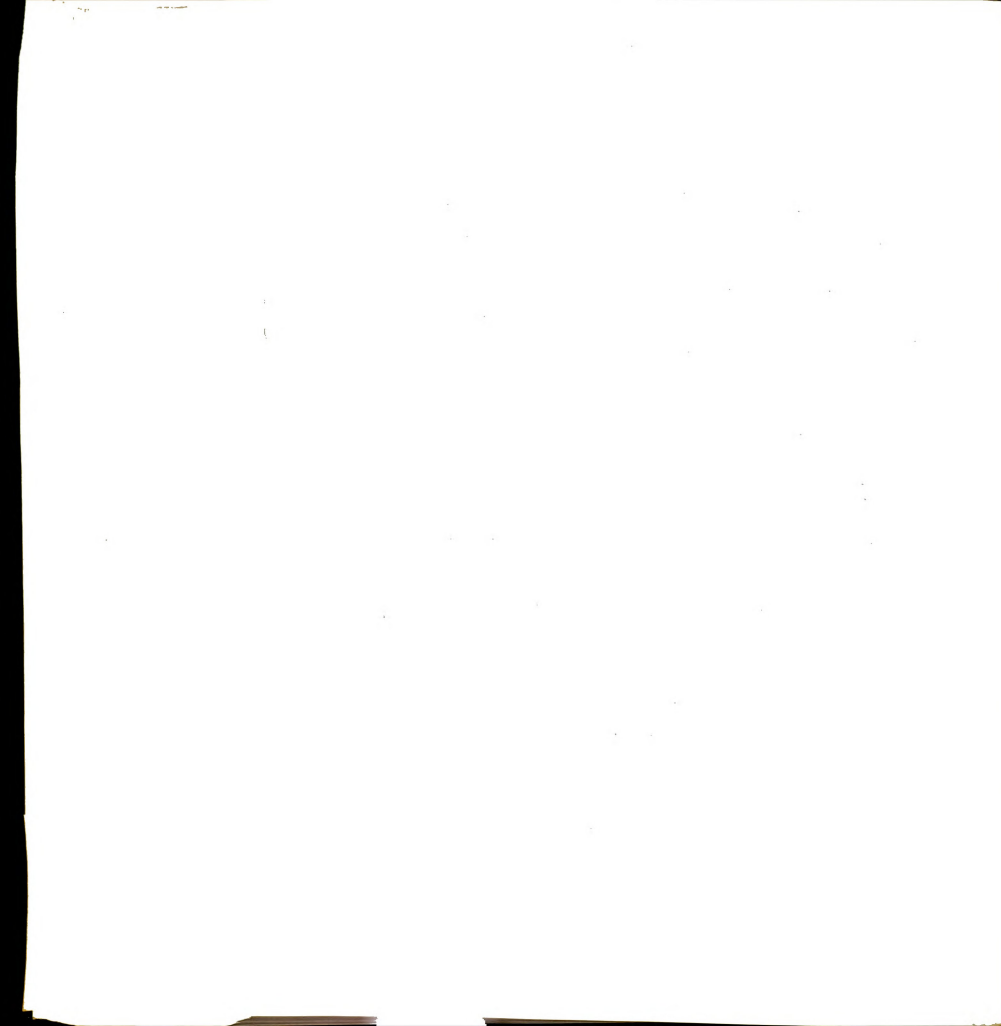
If you do not at present trade with Ontario will you please answer as much of the questionnaire as possible. Your answer to question number 3 will be extremely valuable to the research results.

Participants will be supplied with a summary of aggregate findings on request.

Thank you for your cooperation.

Yours very truly,

Cecil V. Hynes
Project Research Director



Return to Mr. Cecil V. Hynes SIC Classification _____
 560 Owen Graduate Center, MSU
 East Lansing, Michigan, 48823 Confidential Code _____

MICHIGAN-ONTARIO TRANSPORT QUESTIONNAIRE
 For Year 1963

1. What were your total shipments crossing the Michigan-Ontario border in 1963?

a. Terminating in Ontario \$ _____.
 b. Moving through Ontario as a gateway to other U.S. states \$ _____ or Canadian Provinces \$ _____.

2. What mode of transport (for shipments in question 1 above) did you use? (show per cent of time used)

AIR	/	RAIL	/	WATER	/	TRUCK	/	OTHER
				privately owned	commercial carrier			
____%		____%		____%		____%		____%

3. What are the most serious problems confronting your initiation or expansion of trade with Ontario? (rank in order 1,2,3)

____ Lack of Ontario market information and services.
 ____ Inefficient transport service due to border regulations and administrative practices.
 ____ High cost of transport and distribution.
 ____ High Canadian tariffs and customs regulations.
 ____ Complexity of U.S. EXPORT procedure and regulations.
 ____ Complexity of Canadian IMPORT procedure and regulations.
 ____ Other (please specify) _____

4. What are the most serious problems in transport service to Ontario caused by existence of the border? (rank in order of seriousness 1st, 2nd, 3rd, etc.)

____ Too much time enroute from pick-up of goods to delivery to consignee.
 ____ Duplications and cost due to regulations at the border.
 ____ Restrictive carrier equipment regulations in Michigan and Ontario.
 ____ Lack of efficient through service under joint rates.
 ____ Other problems (please specify) _____

5. How does transport service to Ontario compare with service to other United States areas? (enter (+) for favorable, (-) for unfavorable, and (0) if no difference in service)

_____ Speed of pick-up and delivery, and time in transit.
 _____ Freight rates and overall costs.
 _____ Claim settlements.
 _____ Availability of adequate service.
 _____ Availability of proper equipment.
 _____ Other differential factors of service (please specify) _____

6. Which of the following measures would provide easier marketing and better transport service on shipments to Ontario? (rank in order 1st, 2nd, 3rd)

_____ Through service under joint rates.
 _____ More liberal reciprocity with respect to equipment use in Michigan and Ontario.
 _____ Better cooperation between Michigan and Ontario carriers.
 _____ Greater customs reciprocity with more uniformity in regulations at the border.
 _____ Tariff reciprocity between United States and Canada resulting in lower rates.
 _____ Other (please specify) _____

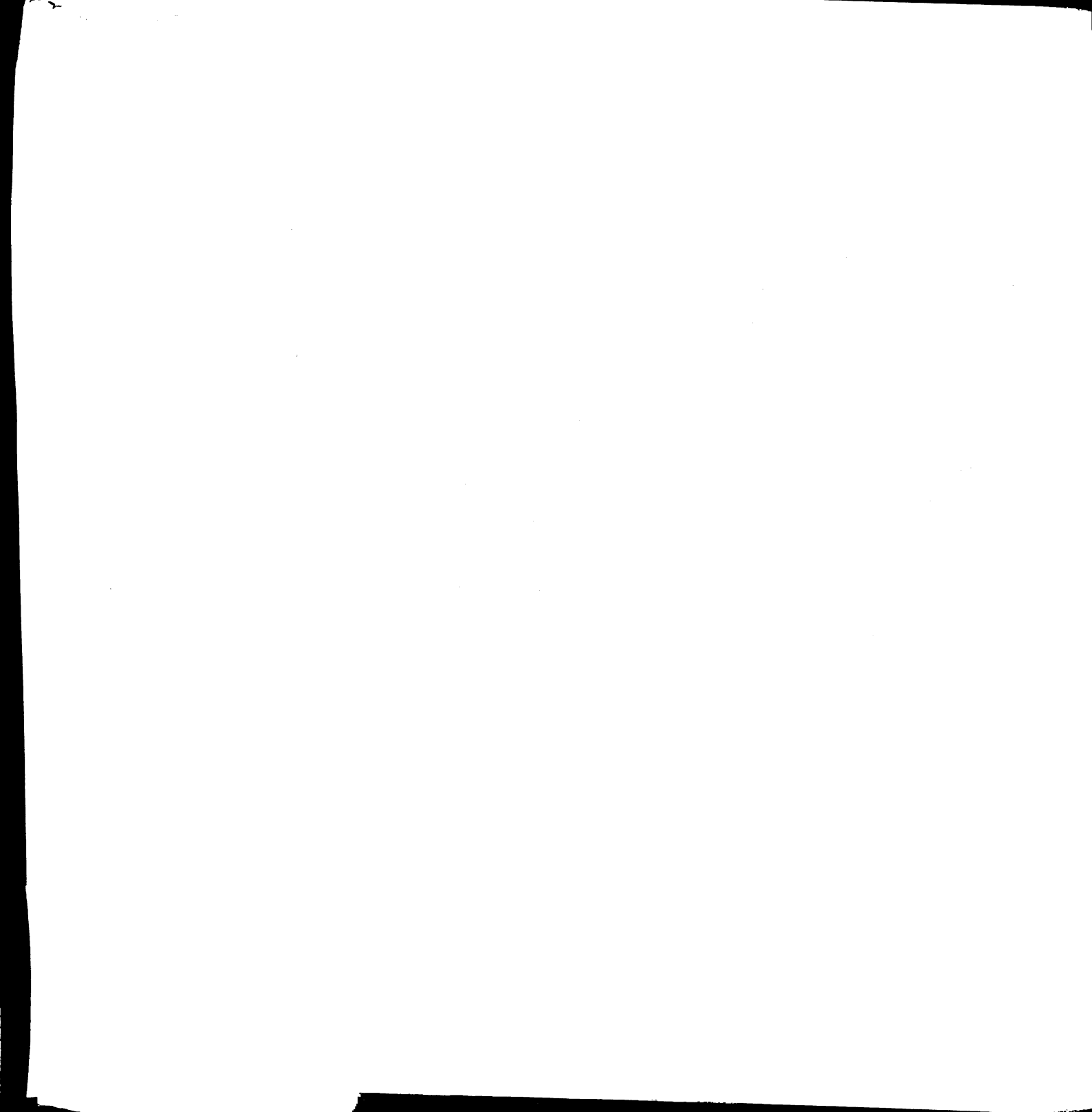
ONTARIO MOTOR CARRIER DATA

The names and addresses of 56 Ontario motor carriers were selected from the list of carriers in the 1963 "Ship-by-Truck" directory published in Ontario by the Ontario Trucking Association.¹ Only carriers that were authorized inter-provincial and international operations were selected. This means that each carrier could move Michigan registered trailers to and from the interior of Ontario.

The questionnaire was the Ontario counterpart of the one used for the Michigan motor carrier survey. However, the wording in several questions was changed to reflect the Ontario situation. A copy is shown below.

A total of 16 questionnaires were returned, but only 9 of these provided useful information. The others either did not participate in such traffic or else could not supply the data requested from their records. Some did answer one or two questions, while others provided some valuable information by written correspondence.

¹"Ship-by-Truck" Directory, 1963, The Automotive Transport Association of Ontario (Inc.), Toronto 2B, Ontario.



2 March 1964

Dear Sir:

The enclosed questionnaire is part of a research study being conducted under the auspices of Michigan State University's doctoral programs in Business Administration. It is a study of trade and transport reciprocity between Michigan and Ontario. As such, it is designed to provide a better understanding of the economies of each area. Specifically, it is intended to determine the present movement of commodities and investigate some impediments to inter-regional trade. It is hoped that the final results of the research will be of value to both Michigan and Ontario.

Part of the data and information for analysis is being provided by Michigan and Ontario manufacturing and transport companies. Therefore, your cooperation in completing the enclosed questionnaire is respectfully requested. Each questionnaire will be coded and your identity will be known only by the undersigned. Final reports and statistics will be in the form of aggregates. Census rules of non-disclosure of individual firm's operations will be observed.

Informed estimates by your Marketing, Traffic or other executives will be sufficient. If your records are kept using a special classification of commodities, please substitute it for the classification used in question 10. If you can only give approximate tonnage and percentage figures for broad commodity classes, such as Products of Forest, etc., kindly do so. Your answer to this question will be very valuable for the results of the study.

Participants will be supplied with a summary of aggregate findings on request.

Thank you for your cooperation.

Yours very truly,

Cecil V. Hynes
Research Director



Return in enclosed envelope Classification Code _____
to Mr. Cecil V. Hynes
560 Owen Graduate Center, MSU Confidential Code _____
East Lansing, Michigan

ONTARIO-MICHIGAN TRANSPORT
QUESTIONNAIRE
For Year 1963

1. What was your 1963 total tonnage moved _____ and total revenue \$ _____?

OUTBOUND FROM ONTARIO TO UNITED STATES (direct or trans-shipment)

2. What was your total tonnage that crossed the Ontario-Michigan border enroute to United States _____?
3. What proportion (of #2 above) originated in Ontario _____% and elsewhere in Canada _____%?
4. What proportion terminated in Michigan _____% and elsewhere in the United States _____%?
5. What proportion was shipped across Michigan to other Canadian Provinces _____%?

INBOUND TO ONTARIO FROM THE UNITED STATES (direct or trans-shipment)

6. What was your total tonnage that crossed the Ontario-Michigan border enroute to Canada _____?
7. What proportion (of #6 above) originated in Michigan _____% and elsewhere in United States _____%?
8. What proportion terminated in Ontario _____% and elsewhere in Canada _____%?
9. What proportion originated in other Canadian Provinces and was shipped across Michigan _____%?

COMMODITIES CARRIED

10. What was the composition of the commodities carried inbound and outbound across the Ontario-Michigan border:

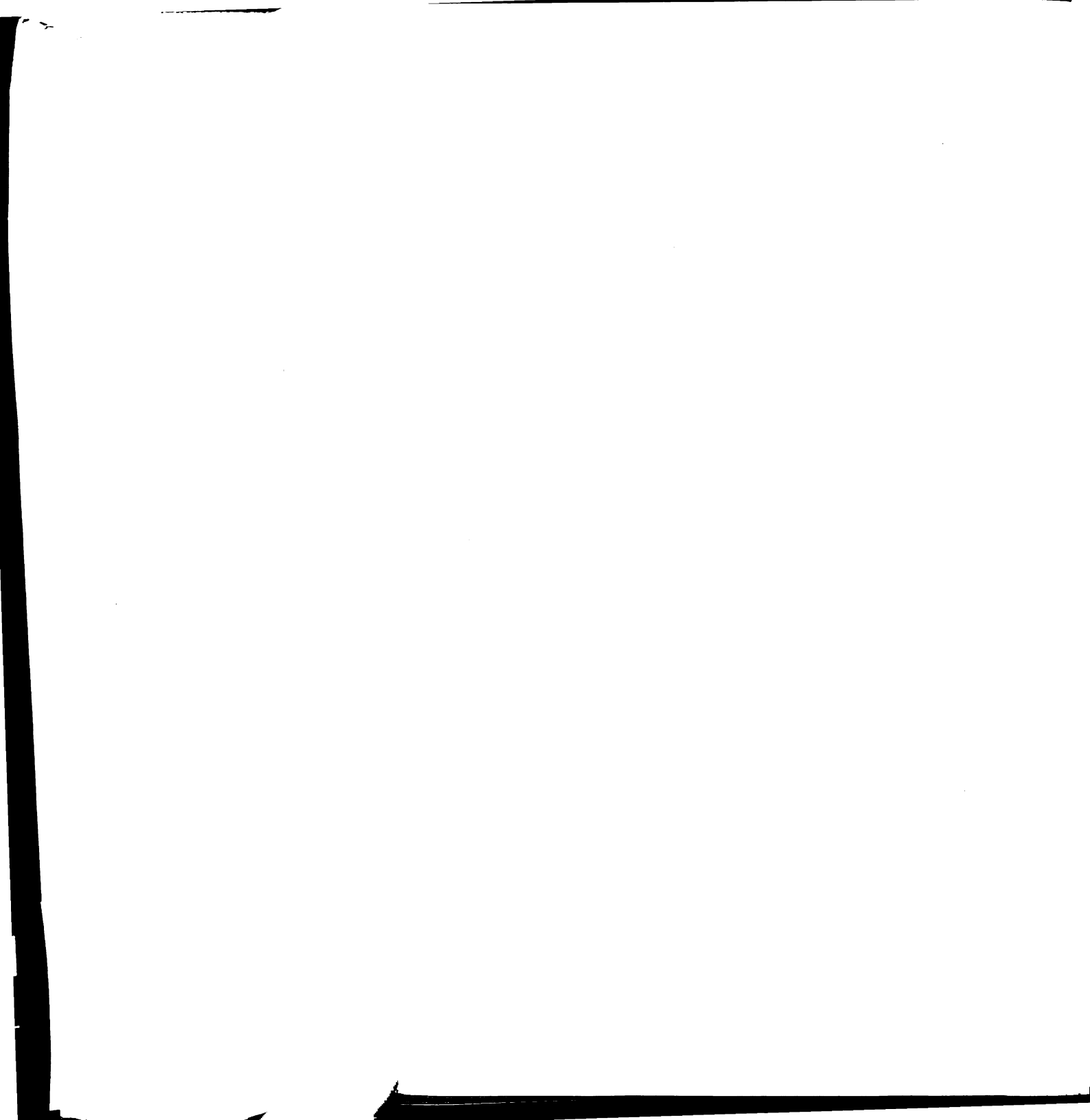


<u>OUTBOUND</u>			<u>INBOUND</u>		
Tonnage	Per cent		Tonnage	Per cent	
to U.S.	originating		to Canada	terminating	
	in Ontario			in Ontario	
_____	_____ %	Animals and Animal	_____	_____ %	
		Products			
_____	_____	Crops, Vegetables &	_____	_____	
		Fruits			
_____	_____	Food and Kindred	_____	_____	
		Products			
_____	_____	Rubber and Products	_____	_____	
_____	_____	Textile Misc.	_____	_____	
		Prod. & Apparel			
_____	_____	Timber	_____	_____	
_____	_____	Pulp	_____	_____	
_____	_____	Lumber and Wood	_____	_____	
		Products			
_____	_____	Paper and Allied	_____	_____	
		Products			
_____	_____	Coal and Coke	_____	_____	
_____	_____	Petroleum & Products	_____	_____	
_____	_____	Non-Metal Minerals	_____	_____	
_____	_____	Stone, Clay &	_____	_____	
		Glass Products			
_____	_____	Metals	_____	_____	
_____	_____	Primary Metal	_____	_____	
		Industries			
_____	_____	Fabricated Metal	_____	_____	
		Products			
_____	_____	Machinery Except	_____	_____	
		Electrical			
_____	_____	Electrical Machinery	_____	_____	
_____	_____	Transportation	_____	_____	
		Equipment			
_____	_____	Chemicals and	_____	_____	
		Allied Products			
_____	_____	Miscellaneous	_____	_____	

TRANSPORT PROBLEMS

11. What are the most serious obstacles encountered in moving freight between Ontario and Michigan? (show most serious as 1, next serious as 2, etc., if no obstacle to operations use (0)).

_____ Delays enroute due to customs regulations and procedures.
 _____ Canadian border administrative practices.
 _____ United States border administrative practices.
 _____ Michigan and Ontario regulations hamper free interchange of equipment between carriers.



- _____ Requirement of Ontario permits or special license when using Michigan licensed trailers beyond a 20 mile limit of the point of entry.
- _____ Cost of operations due to border problems makes it difficult to compete with other types of transport.
- _____ Other operating problems (please specify) _____

12. If unrestricted interchange of equipment between Michigan and Ontario was allowed how would it affect your operations with respect to the following? (use (+) for favorably, (-) for unfavorably, and (0) for no effect)

- _____ Volume of freight moving between Ontario and Michigan.
- _____ Elapsed time of movement from pick-up to delivery to consignee.
- _____ Cost of operations on shipments between the two areas.
- _____ Other effects on operations (please specify) _____

13. What improvement in transport service would you recommend for shipments between Ontario and Michigan? (rank in order 1,2,3)

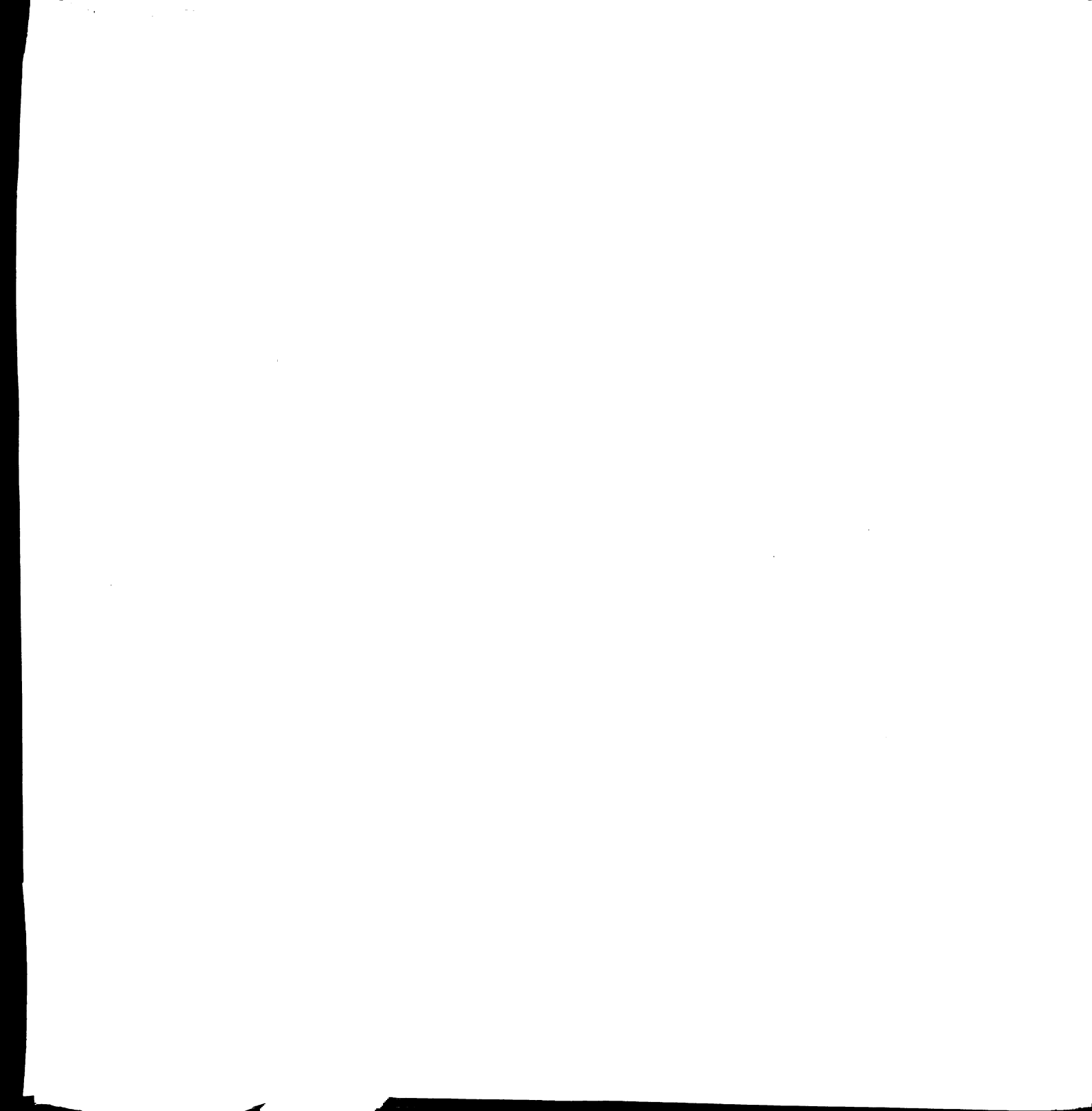
- _____ Through routing and billing between points in Ontario and Michigan.
- _____ Uniform regulations in Ontario and Michigan regarding weight, length and vehicle combinations.
- _____ Non-restricted interchange of equipment between Ontario and Michigan thus eliminating necessity of securing a special license or permits.
- _____ Other areas of improvement (please specify) _____

MICHIGAN MOTOR CARRIER DATA

The names and addresses of 110 Michigan motor carriers were secured from the Michigan Public Service Commission. Included in the sample were 87 regular route common carriers of general commodities, 7 contract carriers, and 16 common restricted carriers. Those selected held operating authority in the Detroit area. It was assumed that these carriers would participate in the Ontario traffic.

The questionnaire was designed to secure comparable data to that requested from the railroads. Specific information was requested pertaining to commodities hauled, and problems encountered when moving freight between Michigan and Ontario. A copy of the questionnaire is shown below.

A total of 41 questionnaires were returned, but only 10 of these were of value in the research. Some of the other questionnaires had one or two questions answered but for the most part they were incomplete. Many of the carriers did not keep records that would supply the data requested.



2 March 1964

Dear Sir:

The enclosed questionnaire is part of a research study being conducted under the auspices of Michigan State University's doctoral programs in Business Administration. It is a study of trade and transport reciprocity between Michigan and Ontario. As such, it is designed to provide a better understanding of the economies of each area. Specifically, it is intended to determine the present movement of commodities and investigate some impediments to inter-regional trade. It is hoped that the final results of the research will be of value to both Michigan and Ontario.

Part of the data and information for analysis is being provided by Michigan and Ontario manufacturing and transport companies. Therefore, your cooperation in completing the enclosed questionnaire is respectfully requested. Each questionnaire will be coded and your identity will be known only by the undersigned. Final reports and statistics will be in the form of aggregates. Census rules of non-disclosure of individual firm's operations will be observed.

Informed estimates by your Marketing, Traffic or other executives will be sufficient. If your records are kept using a special classification of commodities, please substitute it for the classification used in question 10. If you can only give approximate tonnage and percentage figures for broad commodity classes, such as Products of Forest, etc., kindly do so. Your answer to this question will be very valuable for the results of the study.

Participants will be supplied with a summary of aggregate findings on request.

Thank you for your cooperation.

Yours very truly,

Cecil V. Hynes
Research Director

Return in enclosed envelope
to Mr. Cecil V. Hynes
Michigan State University

Classification Code _____
Confidential Code _____

MICHIGAN-ONTARIO TRANSPORT
QUESTIONNAIRE
For Year 1963

1. What was your 1963 total tonnage moved _____ and
total revenue \$ _____?

OUTBOUND FROM MICHIGAN TO CANADA (direct or trans-shipment)

2. What was your total tonnage that crossed the Michigan-
Ontario border enroute to Canada _____?
3. What proportion (of #2 above) originated in Michigan
_____ % and elsewhere in the United States _____ %?
4. What proportion terminated in Ontario _____ % and else-
where in the Canadian Provinces _____ %?
5. What proportion was shipped across Ontario to Eastern
United States _____ %?

INBOUND TO MICHIGAN FROM CANADA

6. What was your total tonnage that crossed the Ontario-
Michigan border enroute to the United States _____?
7. What proportion (of #6 above) originated in Ontario
_____ % and elsewhere in Canada _____ %?
8. What proportion terminated in Michigan _____ % and else-
where in the United States _____ %?
9. What proportion originated in Eastern United States
and was shipped across Ontario _____ %?

COMMODITIES CARRIED

10. What was the composition of the commodities carried
inbound and outbound across the Michigan-Ontario bor-
der:

<u>INBOUND</u>		<u>OUTBOUND</u>	
Tonnage	Per cent	Tonnage	Per cent
to U.S.	terminating	to Canada	originating
	in Michigan		in Michigan
_____	_____ %	_____	_____ %
_____	Animals & Animal Products	_____	_____
_____	Crops, Vegetables & Fruits	_____	_____
_____	Food and Kindred Products	_____	_____
_____	Rubber and Products	_____	_____
_____	Textile Misc. Prod. &	_____	_____
_____	Apparel	_____	_____
_____	Timber	_____	_____
_____	Pulp	_____	_____
_____	Lumber & Wood Products	_____	_____
_____	Paper & Allied Products	_____	_____
_____	Coal and Coke	_____	_____
_____	Petroleum and Products	_____	_____
_____	Non-Metal Minerals	_____	_____
_____	Stone, Clay & Glass	_____	_____
_____	Products	_____	_____
_____	Metals	_____	_____
_____	Primary Metal Industries	_____	_____
_____	Fabricated Metal Products	_____	_____
_____	Machinery Except Electrical	_____	_____
_____	Electrical Machinery	_____	_____
_____	Transportation Equipment	_____	_____
_____	Chemicals and Allied	_____	_____
_____	Products	_____	_____
_____	Miscellaneous	_____	_____

TRANSPORT PROBLEMS

11. What are the most serious obstacles encountered in moving freight between Michigan and Ontario? (show most serious as 1, next serious as 2, etc., if no obstacle to operations use (0)).

- _____ Delays enroute due to customs regulations and procedures.
- _____ Canadian border administrative practices.
- _____ United States border administrative practices.
- _____ Michigan and Ontario regulations hamper free interchange of equipment between carriers.
- _____ Requirement of Michigan permits when using Ontario licensed trailers 8 miles beyond city limits of the point of entry.
- _____ Cost of operations due to border problems makes it difficult to compete with other types of transport.
- _____ Other operating problems (Please specify) _____
- _____
- _____

12. If unrestricted interchange of equipment between Michigan and Ontario was allowed how would it affect your operations with respect to the following? (Use (+) for favorably, (-) for unfavorably, and (0) for no effect)

____ Volume of freight moving between Michigan and Ontario.
 ____ Elapsed time of movement from pick-up to delivery to consignee.
 ____ Cost of operations on shipments between the two areas.
 ____ Other effects on operations (Please specify) ____

13. What improvement in transport service would you recommend for shipments between Michigan and Ontario? (Rank in order 1,2,3)

____ Through routing and billing between points in Michigan and Ontario.
 ____ Uniform regulations in Michigan and Ontario regarding weight, length and vehicle combinations.
 ____ Non-restricted interchange of equipment between Michigan and Ontario thus eliminating necessity of securing special permits.
 ____ Other areas of improvement (Please specify) ____

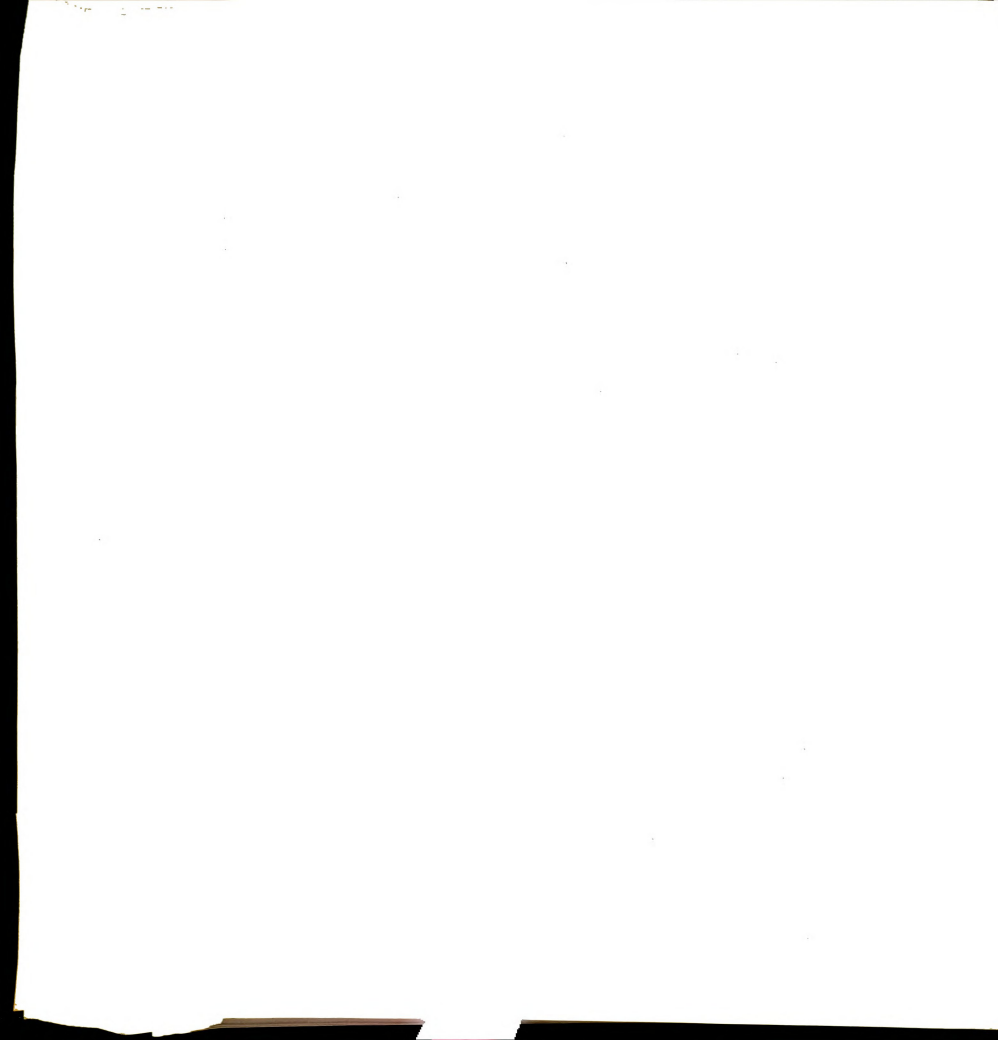
RAILROAD DATA COLLECTION

There are five railroads that move commodities across the border between Michigan and Ontario. The railroads are: The Chesapeake and Ohio Railway Company, New York Central System, Grand Trunk Western Railroad Company, Soo Lines Railroad, and the Wabash Railroad.

All five railroads were contacted by letter and were asked to answer the questions that are shown on the following pages.

Three railroads submitted data on 1962 operations and two submitted data on 1963 operations. The final statistics were converted to both 1962 and 1963 by considering the difference in tonnage moved for each commodity classification by the particular railroad in 1962 versus 1963.

Two of the railroads did not give the exact per cent of each commodity classification that originated or terminated in Michigan. They did, however, give a per cent of their total tonnage that originated and terminated in Michigan. This percentage was used to pro-rate the tonnage by commodity classification. Some distortion may have been incurred, but as the proportion of the total tonnage involved was small (10% of the total shipments originating in Michigan and 15% of the total receipts terminating in Michigan) the procedure was accepted. Thus, it was possible to secure a fairly composite picture of the Ontario and Canadian trade that originated and terminated in Michigan, both in the aggregate and in twenty-one commodity classifications.



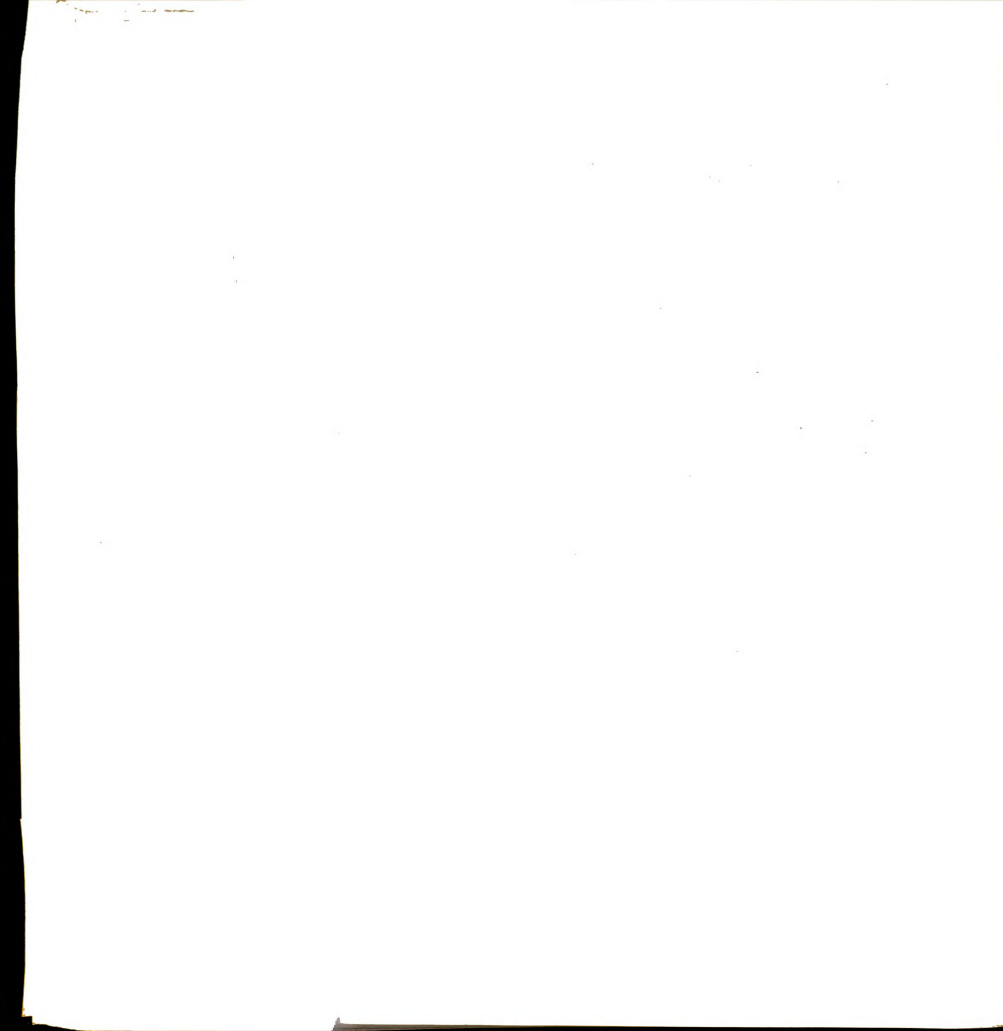
INFORMATION REQUESTED OF THE RAILROADS

What was your total 1962 tonnage crossing the Michigan-Ontario border enroute to Canada _____? What proportion originated in Michigan _____%? and elsewhere in the United States _____%? What proportion terminated in Ontario _____% and elsewhere in the Canadian Provinces _____%?

What was your total 1962 tonnage crossing the Michigan-Ontario border enroute to the United States _____? What proportion originated in Ontario _____% and elsewhere in Canada _____%? What proportion terminated in Michigan _____% and elsewhere in the United States _____%?

What was the composition of the commodities carried inbound and outbound across the Michigan-Ontario border:

<u>INBOUND</u>			<u>OUTBOUND</u>	
Tonnage to United States	Per cent terminating Michigan		Tonnage to Canada	Per cent originating Michigan
_____	_____	% Animals and animal prod.	_____	_____%
_____	_____	Crops, vegetables & fruits	_____	_____
_____	_____	Food and kindred prod.	_____	_____
_____	_____	Rubber and products	_____	_____
_____	_____	Textile mill prod. & apparel	_____	_____
_____	_____	Timber	_____	_____
_____	_____	Pulp	_____	_____
_____	_____	Lumber & wood products	_____	_____
_____	_____	Paper & allied products	_____	_____
_____	_____	Coal and coke	_____	_____
_____	_____	Petroleum and products	_____	_____
_____	_____	Non-metallic minerals	_____	_____
_____	_____	Stone, clay & glass prod.	_____	_____
_____	_____	Metals	_____	_____
_____	_____	Primary metal industries	_____	_____
_____	_____	Fabricated metal prod.	_____	_____
_____	_____	Machinery except elect.	_____	_____
_____	_____	Electrical machinery	_____	_____
_____	_____	Transportation equipment	_____	_____
_____	_____	Chemicals and allied products	_____	_____
_____	_____	Miscellaneous	_____	_____
_____	_____	Totals	_____	_____



What difficulties are encountered in moving freight by rail between Michigan and Ontario? (list in order of importance 1,2, etc.)

Customs regulations	_____
Administrative procedures	_____
Reciprocity problems	_____
Equipment interchange	_____
Other (specify)	_____

If, in filling out the above, questions and comments come to mind, we would appreciate it if you would send them to us with the completed data.

Census rules of non-disclosure will be observed. All carrier figures will be aggregated so that no carrier returns will be identifiable. Thank you in advance for your cooperation in this study. Summary figures for all commodity traffic and forms of transport will be sent to respondents upon request.

Table A-3. Cross reference for code numbers used in summary table, transport tables and industry tables

Summary Tables ^a Code Numbers	Commodity Name	Transport Tables ^b Code Numbers	Other Indus- try Tables ^c SIC Numbers
012	Crops, veg. and fruits	2	
013	Animals and products	1	
8	Timber, pulp & wood pdts.	6,7,8	24,25
10	Metallic minerals & metals	14,15	33
12	Coal & coke pdts.	10	
13	Petroleum pdts. & nat. gas	11	29
14	Non-metallic minerals	12	14
20	Food & pdts.	3	20
22	Fibers & textile mill pdts.	5	22,23
26	Paper & allied pdts.	9	26,27
28	Chemicals & allied pdts.	20	28
30	Rubber & plastic pdts.	4	30
32	Stone, clay & glass pdts.	13	32
34	Fabricated metal pdts.	16	34
35	Machinery except electrical	17	35
36	Electrical machinery	18	36
37	Transportation equipment	19	37
39	Miscellaneous manufacturers	21	39

^aUsed in Tables 21, 22, 23, 32, and 33.

^bUsed in all railroad and waterborne tables.

^cStandard Industrial Classification numbers used in all tables showing the results of the surveys of the manufacturing companies for Michigan and Ontario.

Note: The commodity groups in Summary Tables (see footnote a) aggregate the carrier data shown by the corresponding Transport tables code numbers.

Table A-4. Railroad commodity groupings

Number	Classification	ICC Code numbers
1	Animals and pdts.	203-225, 235-299
2	Crops, veg. and fruits	001-011, 025-199, 013, 513-519, 521, 773
3	Food and kindred pdts.	015-023, 229, 231, 745-767
4	Rubber and pdts.	523-525, 627
5	Textile mill pdts. & apparel	723-733, 735, 741
6	Timber	401-405
7	Pulp & pulpwood	409, 653
8	Lumber & wood pdts.	407, 411-499, 677-679, 681, 703, 715, 717, 781
9	Paper & allied pdts.	655-675, 783
10	Coal and coke	301-307
11	Petroleum and pdts.	337, 501-507, 519
12	Non-metallic minerals	339-346, 645
13	Stone, clay & glass pdts.	321-335, 633-639, 647- 649, 651, 693-697, 721
14	Metals	309-319, 399
15	Primary metal industries	555-579
16	Fabricated metal pdts.	581-589, 629, 689, 691, 705, 707-711, 719, 779
17	Machinery except electrical	591-597, 601
18	Electrical machinery	685-687
19	Transportation equipment	603-623, 625
20	Chemicals and allied pdts.	527-553, 769
21	Miscellaneous	509, 631, 641-643, 683, 713, 735, 737, 739, 743, 777, 785-799

Note: This classification was also used in the analysis of the Michigan Truck Weight Study.

Source: Freight Commodity Statistics Classification, 1954 Edition, Association of American Railroads, Accounting Div., Transportation Bldg., Washington, D.C.

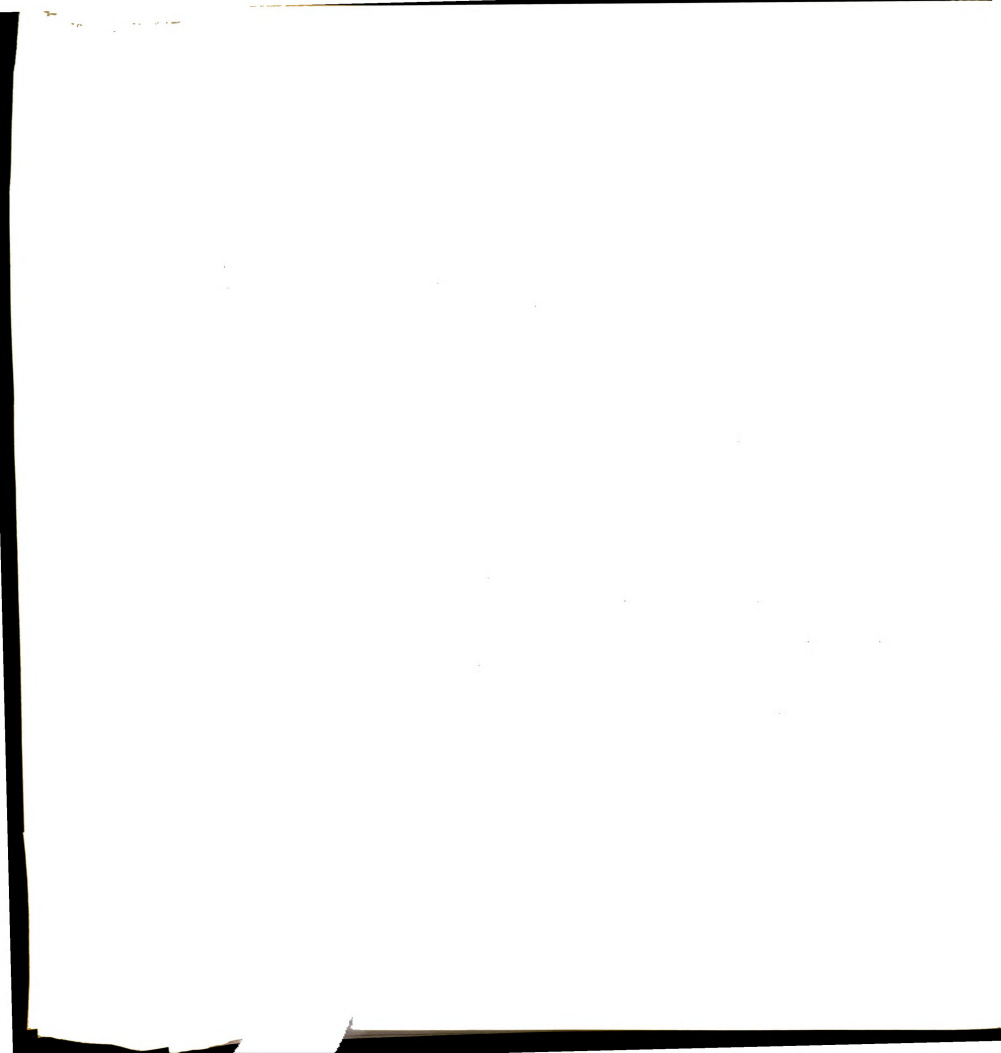


Table A-5. Waterborne commodity groupings

Number	Classification	Waterborne code numbers
1	Animals and products	005-020,040-095,340
2	Crops, veg. and fruits	100-104,108,110-185, 210-297,300,324,326, 328
3	Food and kindred pdts.	107,109,033-039, 190,195,199
4	Rubber and pdts.	200-207
5	Textile mill pdts. & apparel	310,320,331,335, 350,381,390
6	Timber	400-408
7	Pulp	440-441
8	Lumber & wood pdts.	413-430
9	Paper and allied pdts.	445-457
10	Coal and coke	501-504
11	Petroleum and pdts.	507-520
12	Non-metallic minerals	522,548-556,851-859
13	Stone, clay & glass pdts.	523-547
14	Metals	600,613-617,620,640, 652,660,662,670,682
15	Primary metal industries	601-603,618,622-632, 642,665,675
16	Fabricated metal pdts.	605-612,690
17	Machinery except electrical	710-770
18	Electrical machinery	700-701
19	Transportation equipment	780-796
20	Chemicals & allied pdts.	801-849,860-865
21	Miscellaneous	900-999

Source: Waterborne Commerce of the United States, Part 3,
Waterways and Harbors Great Lakes, Dept. of the
Army, Corps of Engineers.

PROCEDURE FOR DETERMINING
AIR FREIGHT STATISTICS

The 1962 air freight tonnage figures used for this research were supplied by the Greater Detroit Board of Commerce. Statistics for all of Michigan were not available, but it was estimated by most concerned that 80% of the tonnage is handled through the Detroit port-of-entry.

The volume of air freight moving between Michigan and Ontario was determined by the following procedure.

1. The Michigan shipments and receipts were divided among the geographic marketing areas¹ with a distribution based on data derived from the Michigan Trade Expansion study, conducted by Professor J. L. Hazard, plus information developed by the survey of Michigan manufacturing companies discussed in Chapter III of this study.
2. Based on information derived from the two studies above, the tonnage was prorated among the Michigan industries according to their propensity to use air freight. This provided an industry distribution for both Michigan shipments and receipts.
3. Again using information derived from the above two studies, it was estimated that 15% of the Michigan receipts from Other North America originated in Ontario, and 25% of the Michigan shipments to Other North America,

¹The marketing areas used were: Michigan, Other Great Lakes States, Other Mid-continent, Other United States, Other North America, and Overseas.

terminated in Ontario. The figures for the Michigan shipments are shown in Table 22, and the figures for the receipts are shown in Table 23.

PROCEDURE FOR DETERMINING TONNAGE MOVED BY
MOTOR CARRIER BETWEEN MICHIGAN AND ONTARIO

MICHIGAN SHIPMENTS (ONTARIO RECEIPTS)

The Michigan tonnage shipped to Ontario by motor carrier was determined as follows:

1. The dollar value of the total Michigan shipments to all markets was derived for 1963. These data were obtained from the Michigan Trade Expansion study conducted by Professor J. L. Hazard of Michigan State University.

2. The value of Michigan shipments exported to Ontario was determined for each SIC (Standard Industrial Classification) industry group. These values were derived by first determining the per cent of shipments, by industry groups, that was exported to Ontario. The percentages were obtained from the combined results of a Survey of Michigan Exporters, conducted by Professor J. L. Hazard (315 firms with half the State's shipments), plus the survey results of the Michigan manufacturing companies included in Chapter III of this study (231 firms).

3. From the above surveys, the per cent of exports to Ontario transported by motor carrier was determined for each SIC industry group. These percentages were then used to determine the value of Michigan shipments to Ontario transported by motor carriers.

4. The value of shipments for each SIC industry group was divided by the railroad U.S. national weighted average value per ton for the corresponding industry group, to determine the tons of each commodity shipped by truck. The weighted average values per ton were derived from Freight Revenue and Wholesale Value at Destination of Commodities Transported by Class I Line-Haul Railroads, 1959, Bureau of Transport Economics and Statistics, Interstate Commerce Commission, Statement No. 6112, Washington, D.C., October, 1961.¹

The above method of determining the tonnage of Michigan shipments to Ontario transported by motor carrier was used because there were no statistics of any kind available on such traffic. This may only be an approximation of the actual traffic; however, it is believed that the figures thus derived (see Table 32) give a reasonable presentation of the composition and volume of such motor carrier traffic. It should be viewed as a first attempt to learn something about the traffic, with further research necessary before accurate statistics can be obtained.

MICHIGAN RECEIPTS (ONTARIO SHIPMENTS)

The same procedure was used to determine the tonnage of Ontario shipments to Michigan transported by motor carriers.

¹The weighted average values per ton are shown in Table A-6.

Table A-6. Weighted average values per ton of commodities transported by Class I Line-Haul Railroads, 1959

Commodity classification	Value in dollars per ton
1. Animals and products	\$615.05
2. Crops, vegetables and fruits	104.02
3. Food and kindred products	268.68
4. Rubber and products	1,113.13
5. Textile mill products and apparel	1,948.23
6. Timber	22.79
7. Pulp and pulpwood	25.32
8. Lumber and wood products	759.80
9. Paper and allied products	198.57
10. Coal and coke	9.04
11. Petroleum and products	48.63
12. Non-metallic minerals	15.77
13. Stone, clay and glass products	13.23
14. Metals	26.62
15. Primary metal industries	305.69
16. Fabricated metal products	266.61
17. Machinery except electrical	919.31
18. Electrical machinery	2,141.06
19. Transportation equipment	932.94
20. Chemicals and allied products	202.33
21. Miscellaneous manufacturing	422.70

Source: Weighted average values computed from Freight Revenue and Wholesale Value at Destination of Commodities Transported by Class I Line-haul Railroads, 1959, Statement No. 6112, I.C.C., Washington, D.C.

1. The dollar value of the total Ontario shipments to all markets was estimated by industry groups for 1963, by the Ontario Department of Economics and Development. These figures were taken from Ontario Statistical Review for 1963, published by the Department of Economics and Development, Toronto, Ontario.

2. The per cent of Ontario shipments by SIC industry groups exported to Michigan was derived from the survey of Ontario manufacturing companies discussed in Chapter III (using 173 firms) of this study. Using these percentages, the value of the shipments to Michigan was determined.

3. From the same survey the per cent of shipments to Michigan transported by motor carrier was determined. Using these percentages, the value of shipments transported by truck for each industry group was determined.

4. The value of shipments transported by truck for each industry group was then divided by the railroad U.S. national weighted average value per ton for each industry group, to determine the tonnage shipped by each industry. The U.S. railroad values were used because Canadian values per ton were not available.

Again, lack of any kind of statistical data on the motor carrier border traffic necessitated the use of the above procedure. However, the figures presented (see Table 33) should provide some understanding of the composition and volume of such traffic. It is a first attempt

and the figures should not be viewed as definitive. For the purposes of this research study, they must suffice, but secondary data on the total traffic would be much preferred.

Table A-7. Comparison of the Michigan and Ontario limits on height, width, length, weight, and combinations allowable

	MICHIGAN	ONTARIO
Width	8 feet	8 feet
Height	13 $\frac{1}{2}$ "	13 $\frac{1}{2}$ "
Length		
Single unit	35 feet	35 feet
Semi-trailer	40 "	45 "
Tractor-semi-trailer	55 "	60 "a
Gross Weights	POUNDS	
Gross axle loads		
Single axle (9 feet or over apart)	18,000	18,000
With tandem axles	26,000	
Tandem semi-trailer		32,000
Single unit		
2-axle	36,000	28,000
3-axle	44,000	42,000
Tractor and semi-trailer		
3-axle (all 9 ft. apart)	54,000	46,000
4-axle	52,000	60,000
5-axle	70,000	74,000
Combinations allowed		
Truck and trailer	Yes	Yes
Tractor and semi-trailer	Yes	Yes
Tractor and semi-trailer and trailer	Yes	Not after 31 December 1965

^aCities can restrict to 50 feet.

Sources: Michigan Vehicle Code, Lansing, Michigan; Highway Traffic Act of the Ontario Revised Statutes of 1960 and 1963.

APPENDIX B

MISSISSIPPI VALLEY MULTIPLE SCREENLINE STUDY

Data were requested from the Planning Office of the Michigan State Highway Department to ascertain the geographical movements of the interstate truck traffic moving into, and out of, Michigan.

Data supplied were in tabular form as summarized by the IBM section of the Highway Department. It represented one 24-hour period during the summer of 1960. The observations were collected for three different eight-hour periods on different summer days.

Only the following vehicles were included:

a) Commercial vehicles only, classified as either single unit trucks, trailer combinations, or truck trailer combinations.

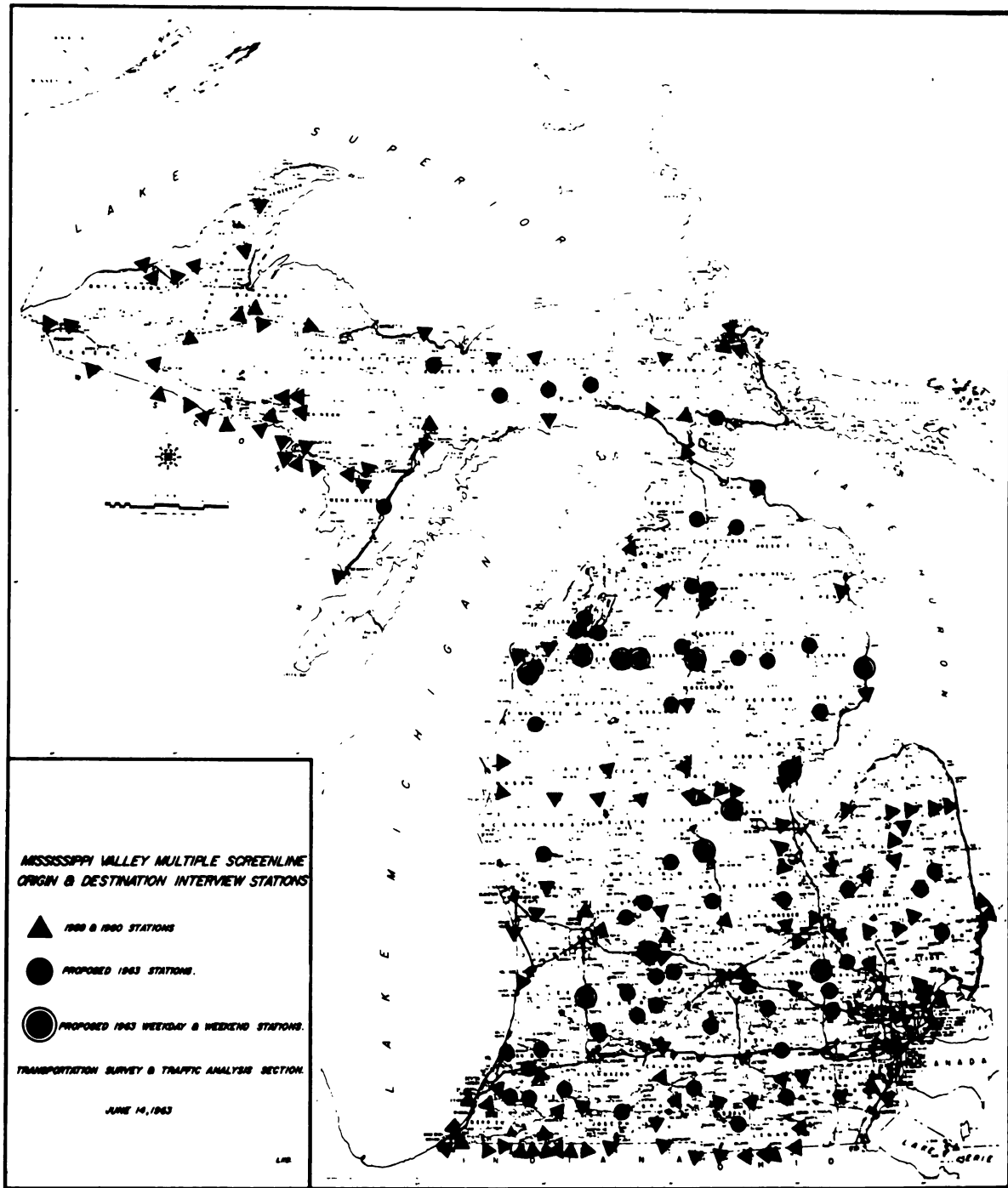
b) Only those commercial vehicles that passed through the border stations with either a destination or origin in Michigan were counted. No transit traffic was included.¹

To be of value to the research study it was necessary to summarize the data by:

a) The vehicles by type, by state of origin, with Michigan as destination.

b) The vehicles by type, by state of destination, with Michigan as the origin.

¹See the map following for location of the interview stations.



Source: Michigan State Highway Department.

Figure 10. Mississippi Valley Screenline Interview Stations

The total number of vehicles transporting Michigan interstate traffic could then be estimated, and the Truck Weight Study which carried commodity data could be validated in part.

There were certain limitations of the data:

a) The data were limited to numbers of commercial vehicles within broad classifications giving origin and destination only.

b) The traffic between Michigan and Ontario in Detroit was not included in the Screenline Study. However, stations were operating at both Port Huron and Sault Ste. Marie.

c) Due to technical difficulties with the Screenline Study, it was impossible to get a total count of the vehicles moving in Michigan intrastate commerce.

The results of the screenline study are shown in Table C-1.

APPENDIX C

MICHIGAN TRUCK WEIGHT STUDY OF 1963

The Traffic Division of the Michigan State Highway Department conducts a Truck Weight Study yearly for the United States Bureau of Public Roads. The data were analyzed for this research study to determine what information it might provide on commodities moving by highway between Michigan and Ontario.

The Traffic Division supplied this research study with a duplicate deck of the IBM cards that contained the original information from the 1963 truck weight study.

The Truck Weight Study is conducted on the same 12 days of June each year. Twelve stations were operated (see Figure 11) from 10 a.m. to 6 p.m. during each of the twelve days. An interviewer completed a questionnaire based on information obtained from the driver of each vehicle stopped. Vehicles were selected in such a manner as to allow an orderly flow of traffic at each station. This resulted in an approximation to a random sample.

The information desired for this study was the type of carrier, description of commodity, net weight of the commodity, and its origin and destination.

The type of carrier was classified as follows:

- a) PVT - Privately operated vehicle in general



service. The load carried is the property of the owner of the vehicle.

b) ICC - For hire operation under certification of the Interstate Commerce Commission. Such vehicles bear a plate displaying the "MC" number of permit or certificate.

c) OFH - Other for hire operation. All vehicles not bearing ICC identification carrying cargo not the property of the owner of the vehicle.

The commodities were coded using a three-digit code taken from "Freight Commodity Statistics Classification," 1954 edition, with supplement number 6 effective January 1, 1960, published by the Association of American Railroads, Accounting Division, Transportation Bldg., Washington, D.C.

The trip origin and destination was coded using the codes found in "Reference Manual, Numerical Code for States, Counties, and Cities of the United States," published by International Business Machines Corp., 1961.

The gross weight of the vehicle combination was determined by the sum of all axle weights. This was the only weight provided by the data, but by subtracting a standard weight of the vehicle combination, the net weight of the commodity could be found. Although the net weight would not be exact, it would be a good approximation.

The net weight of each commodity was arrived at by the following procedure:

a) An IBM computer program was used which listed the commodity carried in numerical order by state of origin,

by state of destination, printing out the gross weight, vehicle combination code, and type of carrier code.

b) An average empty weight for each vehicle combination was determined based on the particular type of equipment required to haul each kind of commodity. This average empty weight was then subtracted from the gross weight, yielding a net commodity weight. The net commodity weight was summarized for each commodity by state of origin and state of destination.

Although this was the best available data the State could provide on the movement of commodities by highway carriers, it has real limitations, some of which are as follows:

a) There was no way of determining the universe from which the sample was taken, except by a time prorata. Without knowing what proportion of the universe was included in the sample, a projection showing the total flow of commodities was difficult.

b) The origin and destination provided by the data was for the equipment only; however, it was assumed that it also represented the origin and destination of the commodities carried.

c) There were no stations located near the Ontario-Michigan border so it was impossible to determine the traffic moving to and from Ontario.

d) There was very incomplete information of the transit truck traffic across Michigan to and from Ontario.

e) The study was conducted during the daylight hours but the general tendency is for most interstate and inter-city motor carrier traffic to move during the night time.

f) The average empty truck weights were approximations; therefore, the commodity net weights are not exact. The average empty weights were based on actual empty weights of vehicle combinations that were used to haul specific commodities. For example, a three-axle tractor and a two-axle semi-trailer used to haul steel weighs empty considerably less than a three-axle tractor and a two-axle refrigerated semi-trailer used to haul perishables. However, for the truck weight study, the above combinations had the same code number, so that without some understanding of truck equipment and its use, even an approximate net commodity weight could not be determined.

The following tables present the results of the analysis of the 1963 Michigan Truck Weight Study. After completing the analysis, it was determined that the data did not provide sufficient information on the motor carrier traffic between Michigan and Ontario to be especially useful to this research study. But having made the analysis, it was decided to place it in the Appendix as reference is made to it at one point in the text of the dissertation. However, only three tables are included to show the type of information that can be derived from the Truck Weight Study.

Table C-1. Comparison of the geographical movements of trucks as shown by the 1963 Michigan Truck Weight Study and the 1960 Mississippi Valley Multiple Screenline Study

	Michigan Truck Weight Study		Mississippi Valley Multiple Screenline Study	
	Total Units	Per Cent	Total Units	Per Cent
Great Lakes States ¹ (Less Michigan)	636	87.2%	18,821	87.3%
Mid-continent States ²	19	2.6	572	2.7
Canada ³	8	1.1	221	1.0
Other United States	67	9.1	1,937	9.0
Total	731	100%	21,551	100%

Note: Movement of truck traffic includes all inbound and outbound vehicles having an origin or destination in Michigan. Transit movements are excluded from both studies.

¹Illinois, Indiana, Minnesota, Ohio, Wisconsin.

²Iowa, Kansas, Missouri, Nebraska, N. Dakota, S. Dakota, Kentucky.

³There were no stations at the Michigan-Ontario border for the Michigan Truck Weight Study. There were stations at Sault Ste. Marie and Port Huron for the Mississippi Valley Screenline Study.

Table C-2. Results of the 1963 Michigan Truck Weight Study showing the number of interstate and intrastate truck movements by carrier

TRUCK MOVEMENTS				
	Number		Per cent	
Interstate Empty ^a	258		12%	
Interstate Loaded ^a	508		23	
Intrastate Empty	612		28	
Intrastate Loaded	<u>824</u>		<u>37</u>	
Totals	2,202		100%	
	<u>INTERSTATE</u>		<u>INTRASTATE</u>	
	Number Loaded	Per Cent	Number Loaded	Per Cent
Private	227	45%	685	83%
I.C.C.	281	55	131	16
O.F.H.	<u>0</u>		<u>8</u>	<u>1</u>
Totals	508	100%	824	100%
	Number Empty	Per Cent	Number Empty	Per Cent
Private	120	47%	497	82%
I.C.C.	138	53	106	17
O.F.H.	<u>0</u>		<u>9</u>	<u>1</u>
Totals	258	100%	612	100%

Private--Privately operated vehicle in general service. The load carried is the property of the owner of the vehicle.

I.C.C. --For hire operation under certification of the Interstate Commerce Commission.

O.F.H. --Other for hire operation. All vehicles not bearing ICC identification carrying cargo not the property of the owner of the vehicle.

^aIncludes transit movements through Michigan.

Table C-3. Results of the 1963 Michigan Truck Weight Study showing the number of inbound, outbound, and transit commercial vehicle movements by carrier

Interstate Movement	Loaded		Empty		Total	
	Units	Per cent	Units	Per cent	Units	Per cent
Inbound						
Private	129	46%	54	59%	183	50%
I.C.C.	<u>149</u>	<u>54</u>	<u>37</u>	<u>41</u>	<u>186</u>	<u>50</u>
Total	278	100%	91	100%	369	100%
Outbound						
Private	90	44%	60	38%	150	41%
I.C.C.	<u>113</u>	<u>56</u>	<u>99</u>	<u>62</u>	<u>212</u>	<u>59</u>
Total	203	100%	159	100%	362	100%
Transit						
Private	20	74%	6	75%	26	74%
I.C.C.	<u>7</u>	<u>26</u>	<u>2</u>	<u>25</u>	<u>9</u>	<u>26</u>
Total	27	100%	8	100%	35	100%



BIBLIOGRAPHY

Books

- Brainard, Harry G. International Economics and Public Policy. New York: Henry Holt and Company, 1954.
- Chinitz, Benjamin. Freight and the Metropolis. Cambridge, Mass.: Harvard University Press, 1960.
- Currie, A. W. Economics of Canadian Transportation. University of Toronto Press, 1959.
- Dawson, R. MacGregor. The Government of Canada. 4th Edition. Toronto, Ontario: University of Toronto Press, 1963.
- Enke, Stephen, and Salera, Virgil. International Economics. New York: Prentice-Hall, Inc., 1947.
- Frankfurter, Felix. The Commerce Clause under Marshall, Taney and Waite. Chapel Hill: University of North Carolina Press, 1937.
- Garland, John H. (Editor.) The North American Midwest--A Regional Geography. New York: John Wiley & Sons, Inc., 1955.
- Hodgetts, J. E. Canadian Public Administration. Toronto: The Macmillan Company, 1960.
- Hoover, Edgar M. The Location of Economic Activity. New York: McGraw-Hill Book Company, Inc., 1948.
- Horn, Paul V. International Trade Principles and Practices. New York: Prentice-Hall, Inc., 1947.
- Lessard, J. C. Transportation in Canada. Royal Commission on Canada's Economic Prospects, 1956.
- O'Donnell, John L., and Verway, David I. An Analysis of Foreign Trade Statistics of The Michigan Customs District (1951-53 and 1958-59). Occasional Paper No. 6, Bureau of Business and Economic Research, Graduate School of Business Administration, Michigan State University, East Lansing, Michigan.
- Thoman, Richard S. Free Ports and Foreign Trade Zones. Cambridge, Mass.: Cornell Maritime Press, 1956.

Wolfe, Roy I. Transportation and Politics. Princeton, New Jersey: D. Van Nostrand Company, Inc., 1964.

Young, John H. Canadian Commercial Policy. Royal Commission on Canada's Economic Prospects, 1957.

Air Freight, Trends and Developments in the World Air Freight Industry. International Civil Aviation Organization, Document 8235-C/937, Montreal 3, Quebec, Canada.

Canadian Trade Index, 1963. The Canadian Manufacturers' Association, Toronto, Canada.

Class Rates. Central States Motor Freight Bureau, Chicago, Illinois.

Freight Commodity Statistics Classification, 1954 Edition. Published by the Association of American Railroads.

Public and Local Acts of the Legislature of the State of Michigan. Compiled by the Secretary of State and the Legislative Service Bureau.

Ship-by-Truck Directory. The Automotive Transport Association of Ontario, Inc., Toronto, Ontario, 1963.

State Motor Carrier Guide. Commerce Clearing House, Inc., Chicago 46, Ill.

Tariff 66-G, Class Rates. Niagara Frontier Tariff Bureau, Inc., Buffalo, New York.

The Detroit Area Economic Fact Book, 1964. Published by the Detroit Area Economic Forum, Detroit, Michigan.

The Directory of Michigan Manufacturers, 1963. Manufacturer Publishing Co., Detroit 38, Michigan.

Transport Policy Problems at National and International Levels. Published by International Transport Workers' Federation, Distributed by Frank Cass and Co., Ltd., London, 1959.

Public Documents

Canada. Board of Transport Commissioners, Waybill Analysis, 1962, The Queen's Printer, Ottawa, Ontario.

Canada. Dominion Bureau of Statistics, Canada Year Book, 1963-64, Ottawa, Canada.

- Canada. Dominion Bureau of Statistics, Motor Transport Traffic, National Estimates, 1962, Ottawa, Canada.
- Canada. Dominion Bureau of Statistics, Motor Transport Traffic, Province of Ontario, 1962, Ottawa, Canada.
- Canada. Secretary of State, Organization of the Government of Canada, The Queen's Printer, Ottawa, Canada, 1959.
- Michigan Department of Aeronautics, Annual Report, 1961-1962, Lansing, Michigan.
- Michigan Department of Aeronautics, Survey Report Number 1, Lansing, Michigan, June, 1963.
- Michigan Department of Agriculture, Michigan Agricultural Statistics, 1964, Lansing, Michigan.
- Michigan Public Service Commission, Motor Carrier Rules, Regulations and Laws (Act 254, P.A. 1933, as amended, and Act 314, P.A. 1937, as amended), Michigan, September, 1962.
- Michigan Secretary of State, Michigan Manual, 1963-1964, Lansing, Michigan.
- Michigan Secretary of State, Michigan Vehicle Code, Revision of 1961, Lansing, Michigan.
- Ontario Department of Agriculture, Agricultural Statistics for Ontario, 1963, Toronto, Ontario.
- Ontario Department of Economics and Development, Ontario Industrial Review, 1963, Toronto, Ontario.
- Ontario Department of Economics and Development, Ontario Statistical Review, 1963, Toronto, Ontario.
- Ontario Department of Economics and Development, Ontario Survey, Economic and Social Aspects, Toronto, Ontario, 1961.
- Ontario Department of Tourism and Information, Directory and Guide to Services of the Ontario Government, Toronto, Ontario.
- Ontario Department of Transport, Amendments to The Highway Traffic Act, 1963, Toronto, Ontario.
- Ontario Department of Transport, Annual Report, 1962-1963, Toronto, Ontario.

- Ontario Department of Transport, Regulations under the Highway Traffic Act, as amended to May 31st, 1963, Toronto, Ontario.
- Ontario Department of Transport, The Highway Traffic Act, 1962, Toronto, Ontario.
- Ontario, The Public Commercial Vehicles Act, Revised Statutes of Ontario, 1960, Amended to November, 1962, Toronto, Ontario.
- U.S. Bureau of the Budget, Standard Industrial Classification Manual, 1957 (Supplement to 1957 edition), Washington, D.C., 1963.
- U.S. Bureau of the Census, United States Waterborne Foreign Commerce, Great Lakes Area, 1962, Washington, D.C., 1964.
- United States Customs, Exporting to the United States, Washington, D.C.
- U.S. Department of Agriculture, Agricultural Statistics, 1963, Washington, D.C.
- U.S. Department of Commerce, Current Industrial Reports, Series: M161(60)-1, Washington, D.C., 1962.
- U.S. Department of Commerce, Statistical Abstract of the United States, 1963 and 1964, Washington, D.C.
- U.S. Department of Health, Education, and Welfare, Office of Education, The Constitution of the United States of America, Washington, D.C., 1957.
- U.S. Legislative Reference Service of the Library of Congress, Foreign Trade Interests in the State of Michigan, House Document No. 209, 85th Congress, 1st Session, July, 1957.
- U.S. Interstate Commerce Commission, Bureau of Transport Economics and Statistics, Freight Revenue and Wholesale Value at Destination of Commodities Transported by Class I Line-Haul Railroads, 1959, Statement No. 6112, Washington, D.C.
- U.S. Interstate Commerce Commission, Cost of Transporting Freight by Class I and Class II Motor Common Carriers of General Commodities, Central Region, 1962, Statement No. 3-64, Washington, D.C., March, 1964.

Reports

Canadian-American Committee. A Canada-U.S. Free Trade Arrangement, Survey of Possible Characteristics. A report prepared by Sperry Lea. Washington, D.C.: Canadian-American Committee, 1963.

Canadian-American Committee. Invisible Trade Barriers, Between Canada and the United States. A report prepared by Francis Masson and H. Edward English. Washington, D.C.: Canadian-American Committee, 1963.

Canadian-American Committee. Non-Merchandise Transactions Between Canada and the United States. Washington, D.C.: Canadian-American Committee, 1963.

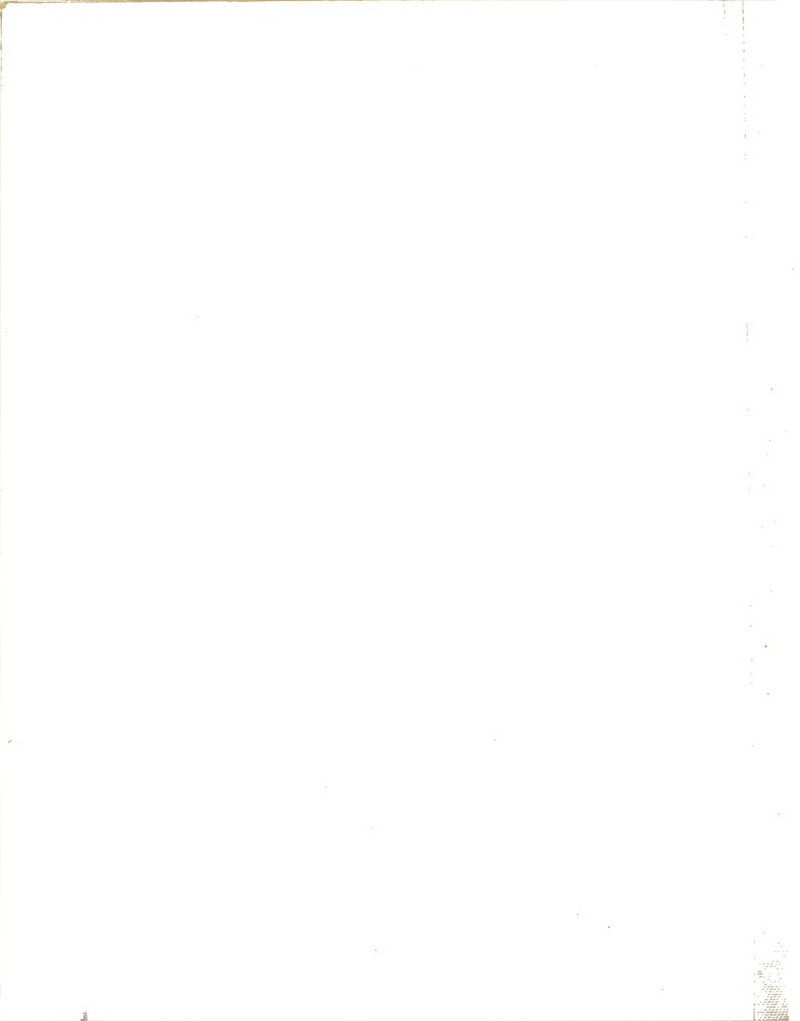
Report on the Detroit Metropolitan Area Traffic Study. Part I and II. Michigan State Highway Department, Lansing, Michigan, 1955.

Other Sources

Sliger, Bernard F. "Michigan and a Study of Its Foreign Trade, 1951-53," Unpublished Ph.D. dissertation, Department of Economics, Michigan State University, 1955.









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