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SOCIOECONOMIC DEVELOPMENT IN THE GRAND TRAVERSE BAY AREA

Working Paper No. 35

by

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FOR DISCUSSION PURPOSES ONLY

BACKGROUND OF THIS PAPER

A similar paper was originally published as Appendix C of "Sea Grant Delphi Exercises: Techniques for Utilizing Informed Judgments of a Multidisciplinary Team of Researchers," by John D. Ludlow, Number 22 of the Bureau of Business Research Working Papers, January, 1971. The research has been conducted with the support of the Regional Economics and Water Resource Management project of the Sea Grant Program at the University of Michigan.

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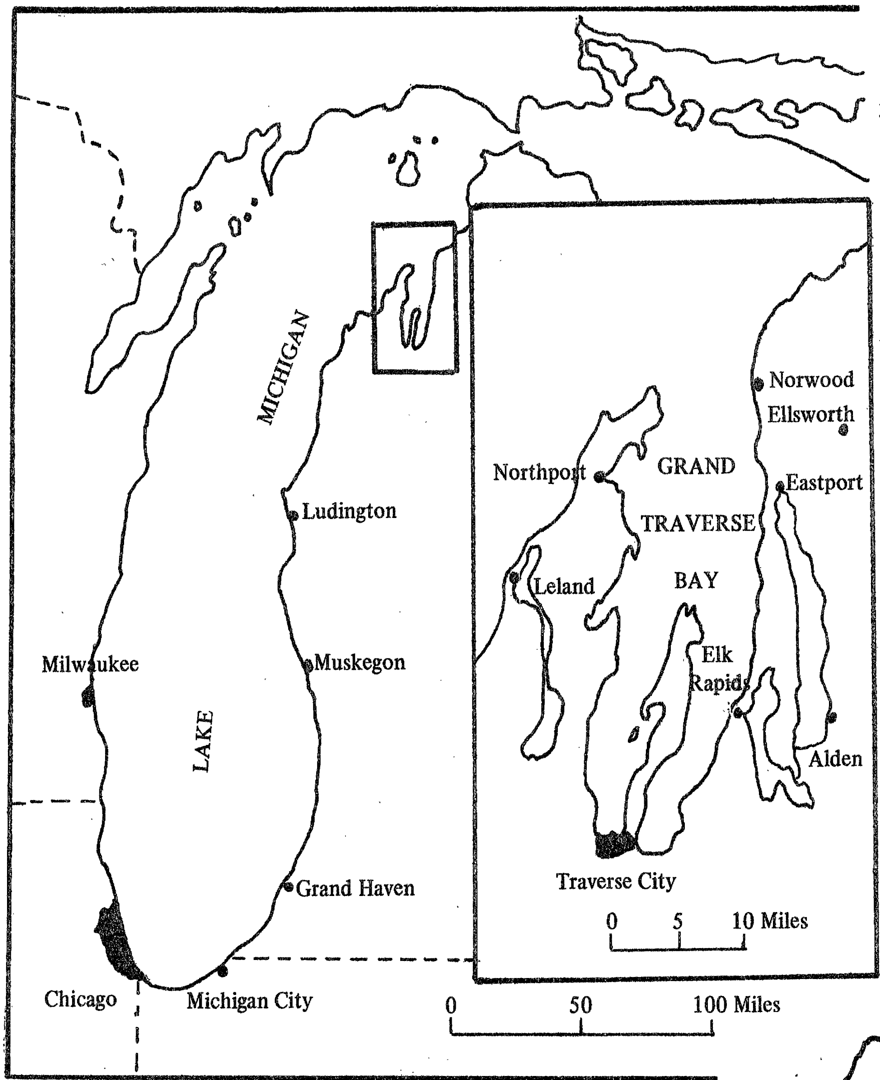
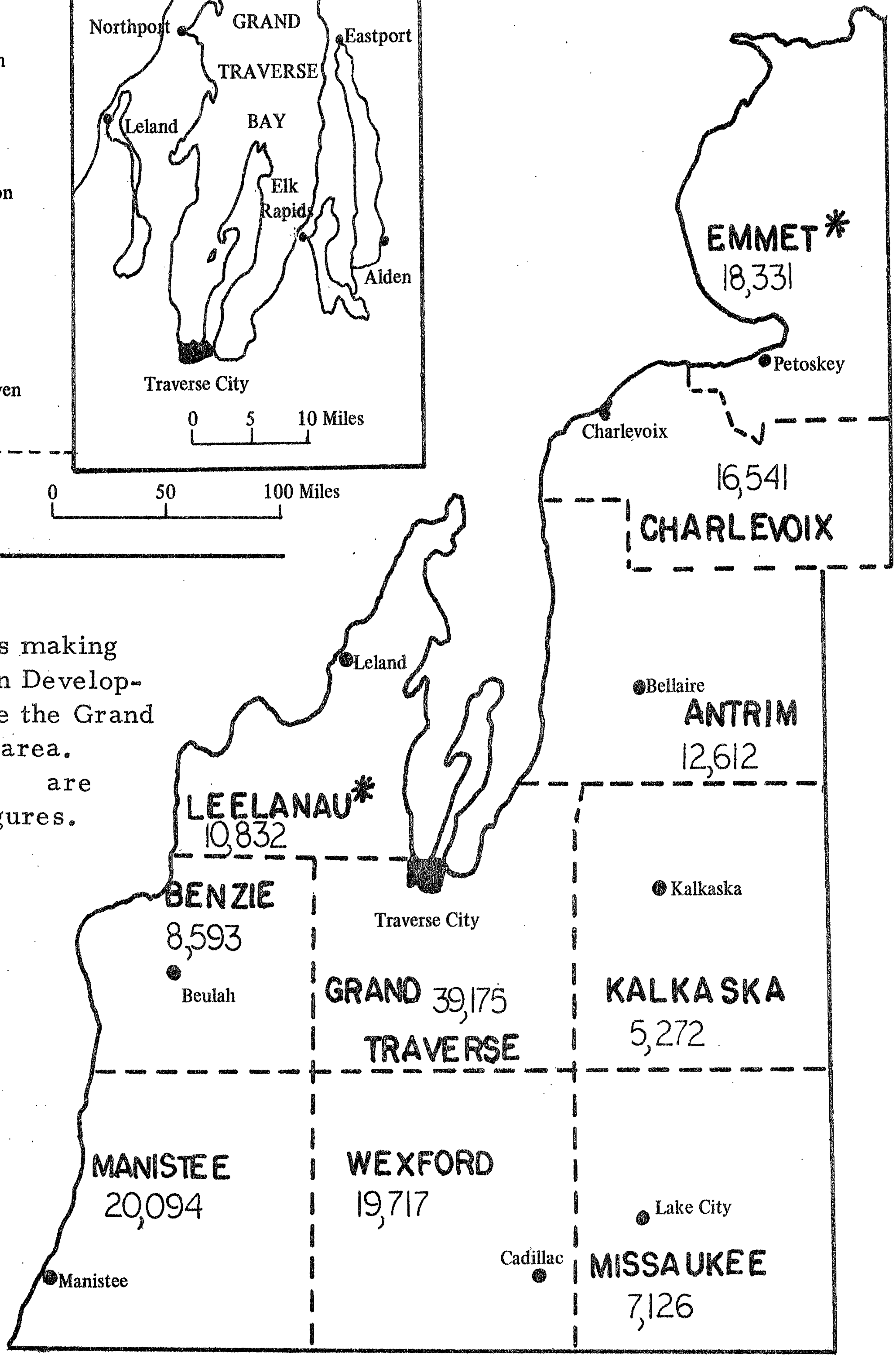
FIGURES

The Northwest Economic Development District is a state planning region made up of ten counties which approximate the Grand Traverse Bay watershed area (see Figure 1). It is part of the Upper Great Lakes region--an area of 119 counties in the northern parts of Michigan, Minnesota, and Wisconsin--which has been identified as socially and economically disadvantaged. The entire Upper Great Lakes region has been the subject of intense study and special funding by the federal government in an effort to reestablish social and economic development at a rate comparable to the rest of the country. Since the Grand Traverse Bay area is representative of many areas in the Great Lakes Basin where economic development and the quality of life are closely tied to water resources, this area was chosen to serve as a model for the University of Michigan's Sea Grant Program. Both the physical shape of the region and the location of population centers are analogous to the larger Lake Michigan area, so the ten counties provide an excellent opportunity to develop methodologies which may be expanded later to accommodate the entire Lake Michigan planning area.

The major assets of the Grand Traverse Bay area are its natural resources. It has hundreds of miles of Lake Michigan shoreline and numerous clear water inland lakes and streams. It has thousands of acres of pine and hardwood forests abundant in wildlife,



LEFT. The Grand Traverse Bay (see inset) serves as a model for the University of Michigan's Sea Grant Pilot Program. It is representative of many areas in the Great Lakes Basin where economic development and quality of life are closely related to water resources.



RIGHT. The ten counties making up the Northwest Michigan Development District approximate the Grand Traverse Bay Watershed area. The numbers are 1970 census population figures.

Fig. 1. The Grand Traverse Bay area. (*These counties include off-shore islands.)

areas of clean fine sand, and deposits of gravel, limestone, and salt. The whole district is characterized by glaciated land with high rolling hills, broad valleys, and plateaus. It centers on the 45th parallel and has a seasonal climate with warm, pleasant summers and cold, snowy winters.[1/] Historically, the natural resources of the region have been exploited and depleted in turn by fur traders, loggers, and various forms of agriculture. However, recent experimentation and management efforts have enabled forestry and agriculture to regain a significant role in the area's present economic structure, but the resource related industries have yet to return to their former stature.

The area has long been a favorite summering place for families from the populous metropolitan regions to the south. With the development of recreational facilities for skiing and snowmobiling--two of the fastest growing forms of recreation in the United States--and the introduction of coho and king salmon for sport fishing, the region has strengthened its claim to be the most popular tourist area in Michigan, which ranked as the fourth most popular vacation state in the nation in 1967. Currently, tourism and recreation, together with supporting services, constitute the leading economic activities of the region.

Though the Upper Great Lakes region is characterized as a

1/ "Prologue for Accelerated Growth of Economy," a report of the Northwest Michigan Development District, Traverse City, Michigan, Oct., 1968.

rural area, it has little potential for agricultural production. It has lagged behind the nation and the remaining parts of Michigan, Minnesota, and Wisconsin in economic development. Manifestations of this lag are the income gap, the steady outmigration, and the persistently high levels of unemployment. The environment of the region appears inaccessible and unproductive to business[2/] with weaknesses which include:[3/]

--Small population

--Slow population growth

--Slow structural change in industrial employment

--Large low-income class

--Small high-income class

However, in the past ten years there have been some significant changes in the trends of the social and economic development of this region. It may be helpful as a frame of reference to compare the development of the Grand Traverse Bay area with the whole Upper Great Lakes region, as well as with the state of Michigan and the nation.

2/ Battelle Memorial Institute, "Industries Suited for the Upper Great Lakes Region," a report by David C. Sweet, John M. Griffin, and Hal S. Maggied, Columbus, Ohio, 1970, and "Development Strategies--Upper Great Lakes Region," Annual Report of the Upper Great Lakes Regional Commission, Washington, D.C., Jan., 1969.

3/ Battelle Memorial Institute, "Industries Suited for the Upper Great Lakes Region," ibid.

Population Growth

The region's highest population level, 164,000, was reached in 1910. With the depletion of the forests and the reduction of related jobs in the lumbering and paper and pulp industries, the population dropped sharply. By 1920 it was only 132,000, and in 1930 it reached a low of 120,000. Preliminary 1970 census figures reveal that approximately 155,000 people now live in the region--a density of less than 35 people per square mile. The population growth during the decade from 1950 to 1960 was 2.6 per cent, far lower than that of the state (24 per cent) or the nation (18.5 per cent), but the absolute decline in population had stopped. From 1960 to 1970 the gap narrowed as the region's growth increased to 11.4 per cent for the decade, while the growth of the state and the nation eased to approximately 13 per cent. Since the region's growth rate increased steadily throughout the period, it is not unreasonable to assume that its annual growth rate at the present time exceeds that of the state and the nation.

However, growth and population density are not uniform throughout the region. Grand Traverse County currently has approximately 25 per cent of the region's population. Its population increased by 14.5 per cent between 1960 and 1970, somewhat above the growth rate for the state and the nation. The Traverse City metropolitan area has a base population of 32,000 and has been designated the primary growth center for the region in predictions based on the variety and quality of the business and industry already established there.[4/] Its geographical location with access to Grand Traverse Bay and the size of its tourist, commercial, and manufacturing activities make it an excellent focal point from which growth can be extended throughout much of the region and reinforced by the secondary growth centers of Manistee, Cadillac, and Petoskey. These secondary centers of growth have populations ranging from 6,000 to 11,000, are strategically located, and their social and economic development shows trends similar to that of Traverse City.

The population of the region shows highly seasonal fluctuations. During the summer months the population nearly doubles with the influx of vacationers. These summer people use the supporting services available to permanent residents which would seem to be a drain on local resources, yet vacationers' property comprises a substantial portion of the local tax base. Since temporary residents control a great deal of the land in the area, many of the development programs for natural resources must have the support of these people to be effective. Most of these vacationers have permanent homes in the metropolitan areas to the south, which are some of the fastest growing regions in the United States. There are some indications that the Grand Traverse Bay region will experience a permanent increase in population growth as expansion gradually spreads north.

4/ "Prologue for Accelerated Growth of the Economy."

An important indicator of the direction of future population growth is the net migration of people in and out of an area. Though the prime motivating force of migration is economic, quality of life is gaining importance as a secondary motive. Between 1950 and 1960 the Grand Traverse Bay region experienced a negative migration rate of 9.3 per cent compared to a net positive rate of 2.5 per cent for the state. However, the migration rate of the area in the past ten years has gradually reached the neutral position which it holds at present. A negative migration rate has an adverse effect on a region since the people most likely to move out are the young, relatively well-educated, and productive workers who have the widest range of job opportunities open to them. The negative migration rates of the past are reflected by an imbalance in the age distribution: the proportion of the region's people in the older age group is higher than that of the state or nation, and the proportion in the most productive age bracket is correspondingly lower. In addition, some of the current reduction in net outmigration is due to the movement into the area of people of retirement age, a phenomenon which is not totally beneficial. The youngest and oldest age groups make the greatest demands on a community for social and welfare services such as education, recreation, and medical care, and they are least able to contribute to meeting the cost of these programs. The financial burden falls on the age group most attracted by outmigration. So the depletion of human resources continues until reversed by policy decisions favoring economic development.

Unemployment

Among the various measures for determining the availability of an industrial labor pool within a region, the level and composition of unemployment is particularly meaningful. In 1968 all of the ten counties in the region were qualified for special grants, loans, and technical assistance under the Economic Development Act because they had consistently high rates of unemployment.[5/] All four major population centers in the Grand Traverse Bay area (Cadillac, Manistee, Petoskey, and Traverse City) have been listed as areas of persistent or substantial unemployment since before 1965.[6/] Although Indians make up the area's only significant minority, they comprise only 1 per cent of the population and are almost all located in segregated villages outside the principal cities. Thus, the unemployment recorded here is expected to be composed primarily of aged or unskilled workers who continue to seek gainful employment to subsidize their income from subsistence farming or welfare.

Table 1 indicates that in 1960 the Grand Traverse Bay area had a greater ratio of nonworkers to workers than the state of Michigan. In addition, the percentage of the labor force which was unemployed

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5/ *Ibid.*

6/ Battelle Memorial Institute, "Industries Suited for the Upper Great Lakes Region."

TABLE 1

Selected Economic Characteristics of the Grand Traverse Bay Area, 1960

Characteristics	Average for Traverse Bay Area	Average for State of Michigan	Grand Traverse Bay Area Relative to the State of Michigan
Ratio of nonworkers to workers*	1.84	1.66	110.8
Percentage of civilian labor force unemployed	9.2	6.9	133.3
Median income of families	$4,469	$6,256	71.4
Percentage of families with incomes of:			
Under $3,000	29.0	15.7	184.7
$10,000 and over	6.4	17.4	36.8

* Ratio of persons not in the labor force (including children under fourteen) to labor force.

As of April 1, 1960.

Based on income for the year 1959.

Source: Michigan Statistical Abstract, 1970. Bureau of Business Research computations.

was substantially higher than that of the state. Both these facts would suggest that the low-income group far exceeds the high-income group in size. In fact, in 1960 the low-income group was over four times the size of the high-income group in the Grand Traverse Bay area, while the high-income group exceeded the low-income group in the state as a whole. The low-income group in the ten-county region was over one and one-half the size of the state's underprivileged, while the high-income group was only slightly more than one-third the size of the state's high-income group. The immediate effect of this problem is to depress the median income of the families in the area, who earn only 71.4 per cent of the amount earned by the average family in the state.

However, the low median income did not give rise to a general increase in public aid to the people in the region. Table 2 shows that the region has an average of only a little more than half as many recipients of public welfare payments as other counties in the state which are not included in standard metropolitan statistical areas (SMSAs); the payments issued, on the other hand, were less than half as much. Thus the size of payment is less in this region than in other comparable areas. Table 3 illustrates the proportionately heavier burden of old age payments carried by the area. These are payments to a group of people who have little potential productivity, yet 54.7 per cent of all recipients of public aid in the Grand Traverse Bay area receive old age benefits, while only 40.4 per cent in similar areas receive such

TABLE 2

Michigan Public Assistance Payments and Average Number of Recipients
per Month under Major Programs
Year Ended June 30, 1969*
(Dollar Amounts in Thousands)

Programs	Average for Grand Traverse Bay Area	Average for Non-SMSA Counties in Michigan	Grand Traverse Bay Area Relative to Non-SMSA Counties (Percentage)
Old age assistance			
Number of recipients	156	210	74.3
Payments	$123.2	$177.4	48.1
Aid to dependent children			
Number of recipients †	49	151	32.5
Payments	$ 95.1	$320.8	29.6

* Non-SMSA counties only.

† Number of families.

(Continued)

TABLE 2--(Continued)

Michigan Public Assistance Payments and Average Number of Recipients
per Month under Major Programs
Year Ended June 30, 1969*
(Dollar Amounts in Thousands)

Programs	Average for Grand Traverse Bay Area	Average for Non-SMSA Counties in Michigan	Grand Traverse Bay Area Relative to Non-SMSA Counties (Percentage)
Other aid			
Number of recipients†	80	159	50.3
Payments	$ 73.8	$157.4	46.9
Total aid program			
Number of recipients	285	520	54.8
Payments	$ 292.1	$655.6	44.6

* Non-SMSA counties only.

† Number of cases.

Source: Michigan Statistical Abstract, 1970. Bureau of Business Research computations.

TABLE 3

Proportion of Michigan Public Assistance Program Allocated to Specific Funds*
June 30, 1969

	Number of Recipients as a Percentage of Total		Payments as a Percentage of Total	
	Grand Traverse Bay Area	Non-SMSA Counties	Grand Traverse Bay Area	Non-SMSA Counties
Old age assistance	54.7	40.4	42.2	27.1
Aid to dependent children	17.2	29.0	32.5	48.9
Other aid	28.1	30.6	25.3	24.0
Total aid program	100.0	100.0	100.0	100.0

* Non-SMSA counties only.

Source: Michigan Statistical Abstract, 1970. Bureau of Business Research computations.

payments. The payments to aged citizens in this area are over twice the average payments in other non-SMSA counties. So the current influx of older retirees into the region is not advantageous from the standpoint of either productivity of the labor force or the tax dollar. The general population imbalance is also evidenced by the lack of aid to mothers with dependent children. There are only slightly more than half as many claims for public support of young families in the area. Unfortunately, this does not result from a higher proportion of independently-supported family units, but rather from a low number of young families in the area. Thus the area has only a small locally productive labor force.

Employment by Economic Sector in the Region

Historically, the Grand Traverse Bay region has had a narrowly based economy which has resulted in economic instability when the natural resources supporting the economy were depleted. Substantial growth and diversification have taken place in recent years and the region's economy has become less reliant on seasonal and low-wage industries. In 1967 the five economic sectors employing over 10 per cent of the region's work force represented 84 per cent of the region's employment. The manufacturing group accounted for 27 per cent of the employment; wholesale and retail trade, 16 per cent; self- employed, 15 per cent; government, 14 per cent; and services, 12.5 per cent (see Table 4). When these percentages are compared to those of 1960, the most significant gains in employment were in services, government, and manufacturing.

TABLE 4

Comparison of Employment as a Percentage of Total by Major Industry, 1967

Industry	United States	Upper Great Lakes	Michigan	Grand Traverse Bay Region*
Agriculture, forestry, fishing	4.7	13.2	2.8	7.5
Mining	.8	2.5	.4	...
Construction	4.0	2.8	4.9	3.8
Manufacturing	26.5	20.0	36.8	26.8
Transportation and utilities	5.8	5.0	4.4	3.5
Wholesale and retail trade	18.4	16.2	18.5	15.5
Finance, real estate, insurance	4.4	2.3	3.5	2.0
Services	13.5	9.8	11.5	12.5
Government	15.9	15.3	13.2	13.9
Unclassified	6.0	12.9	4.0	14.5
Total	100.0	100.0	100.0	100.0

* Michigan Employment Security Commission, Bureau of Business Research calculations.

Source: Battelle Memorial Institute, "Industries Suited for the Upper Great Lakes Region," a report by David C. Sweet, John M. Griffin, and Hal S. Maggied, Columbus, Ohio, 1970.

Agriculture employed a stable 7.5 per cent of the work force, but it represents a more important portion of the economy than employment figures indicate because it is resource based and has a high proportion of value added in the final product that is sold. In addition, approximately 45 per cent of the product produced exceeds the needs of the people in the region and is therefore exported. These exports bring money into the region which can then be used to import other products not manufactured locally.

The manufacturing sector offers the greatest opportunity for economic growth in the region but also the greatest threat to environmental quality and the dependent tourism and recreational activity. Manufacturing was the largest employer in 1960 and in 1967, with a relatively strong growth rate during that period. The ratio of employment in manufacturing for the region is below that of the state, but above that of the Upper Great Lakes region. Although available regional employment data reported in detail in Table 5 account for only 85 per cent of the total of manufacturing employment used to develop the ratios in Table 4, these data show important changes in the industrial structure of the region. In the period from 1959 to 1967, total manufacturing employment gained 43 per cent from 9,307 to 13,278. Grand Traverse County accounts for approximately 25 per cent of the area's employment in manufacturing and experienced a growth rate of 45 per cent over the same time period. Those industries within the region which deviated significantly from the average growth rate are shown in Table 5. The unexpected poor growth performance

TABLE 5

Employment in Largest Manufacturing Industries in the Grand Traverse Bay Area

SIC Code	Industry	Number of Employees 1959	1967	Change in Employment Amount	Percentage
	Employment in fast growing industries:				
36	Electrical equipment and supplies	314	1,576	1,262	402
27	Printing and publishing	276	528	302	137
35	Machinery, except electrical	699	1,614	915	131
30	Rubber and plastics	247	519	272	110
33	Primary metals industry	544	1,101	557	102
	Employment in slow growing industries:				
28	Chemical and allied products	462	421	- 41	- 9
32	Stone, clay, and glass products	497	467	- 30	- 6
37	Transportation equipment	1,391	1,498	37	3
23	Apparel and other textile products	840	877	37	4
26	Paper and allied products	621	643	22	4
24	Lumber and wood products	542	580	38	7

(Continued)

TABLE 5--(Continued)

Employment in Largest Manufacturing Industries in the Grand Traverse Bay Area

SIC Code	Industry	Number of Employees		Change in Employment	
		1959	1967	Amount	Percentage
	Employment in industries with average growth:				
20	Food and kindred products	1,452	1,716	264	19
34	Fabricated metal products	848	1,079	231	27
25	Furniture and fixtures	370	433	113	35
	Total manufacturing employment	9,307*	13,278*	3,971*	43*

* These figures are not the sum of individual columns because smaller industries in the region are included in the total but not in the categories.

Source: Data compiled at the Bureau of Business Research, University of Michigan.

in transportation equipment was the result of changing demand and technology. An impressive gain from 387 to 889 (130 per cent) in motor vehicles and equipment was overwhelmed by a sharp drop in ship and boat building and repairing.

Manufacturing in the Upper Great Lakes has traditionally relied on industries based on natural resources. If paper and allied products are included in the category of industries dependent on natural resources, the total employment in this area was 55 per cent of total manufacturing employment in 1960 and 51 per cent in 1967. Yet, these industries are not expanding as rapidly nationally as some of the fabricating and specialty industries,[7/] and they are also relatively less important in the smaller Grand Traverse Bay area than in the entire Upper Great Lakes region. In 1960 they constituted only 32.5 per cent of total manufacturing employment, while in 1967 they were reduced to 25.6 per cent (see Table 6). Other means of employment based on natural resources are also less important in the Grand Traverse Bay area than in the Upper Great Lakes region. For example, agriculture comprises only 7.5 per cent of employment in the smaller area and 13.2 per cent in the Upper Great Lakes region. Mining is almost negligible in the Grand Traverse Bay area, yet it accounts for 2.5 per cent of all employment in the Upper Great Lakes region. However, Table 7 indicates that the industries in which employment opportunities

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7/ Battelle Memorial Institute, "Industries Suited for the Upper Great Lakes Region."

TABLE 6

Employment in Industries Relying on Natural Resources
Grand Traverse Bay Area, 1959-60

Industry	Number of Employees		Percentage of Total	
	1959	1967	1959	1967
Food and kindred products	1,452	1,716	15.7	12.9
Lumber and wood products	542	580	15.8	4.4
Stone, clay, and glass	497	467	5.3	3.5
Paper and allied products	621	643	6.7	4.8
Total	3,112	3,406	32.5	25.6
All manufacturing industries	9,307	13,278	100.0	100.0

Source: Table 5.

TABLE 7

Average Earnings per Full-Time Employee
Michigan, Upper Great Lakes Region

Industry	1962			1967		
	Average Wage	Percentage of Industry Average	Percentage of U.S. Average	Average Wage	Percentage of Industry Average	Percentage of U.S. Average
Agriculture	$1,544	88	30	$2,902	117	46
Mining	7,012	116	137	8,346	110	133
Contract Construction	4,708	80	92	7,613	102	121
Manufacturing						
Food and kindred products	4,433	85	86	5,492	87	87
Textiles	0	0	0	0	0	0
Apparel	2,719	76	53	4,694	110	74
Lumber and wood products	4,672	114	91	4,169	80	66
Furniture	3,769	81	73	4,334	79	69
Paper	6,358	106	124	7,819	109	124
Printing*	7,310	123	142	6,364	90	101
Chemicals	6,888	100	134	7,130	87	113
Petroleum	4,500	60	87	7,541	84	120
Rubber*	4,735	82	92	5,603	84	89
Leather	3,949	104	77	4,678	101	74
Stone and clay	6,112	107	119	7,004	103	111

* Fast growing industries in the Grand Traverse Bay area.

(Continued)

TABLE 7--(Continued)

Average Earnings per Full-Time Employee
Michigan, Upper Great Lakes Region

Industry	1962 Average Wage	1962 Percentage of Industry Average	1962 Percentage of U.S. Average	1967 Average Wage	1967 Percentage of Industry Average	1967 Percentage of U.S. Average
Primary metals*	$5,517	80	107	$6,888	86	109
Fabricated metals	5,051	80	98	6,012	80	95
Machinery*	5,704	87	111	6,868	87	109
Electrical machinery*	3,824	62	74	4,182	59	66
Transportation equipment	4,864	68	95	0	0	0
Instruments and miscellaneous	4,150	75	81	5,005	75	79
Transportation						
Transportation services	6,890	101	134	8,300	102	132
Utilities	6,598	107	128	8,735	117	139
Finance, real estate, insurance	4,758	87	93	5,791	86	92
Services						
Hotels	2,898	85	56	3,583	88	57
Personal services	2,028	70	39	2,060	56	32
Business services	4,955	90	96	5,233	81	83
Amusement services	3,438	73	67	4,219	73	67
Professional services	2,387	64	46	2,690	57	42

* Fast growing industries in the Grand Traverse Bay area.

(Continued)

TABLE 7--(Continued)

Average Earnings per Full-Time Employee
Michigan, Upper Great Lakes Region

Industry	1962 Average Wage	1962 Percentage of Industry Average	1962 Percentage of U.S. Average	1967 Average Wage	1967 Percentage of Industry Average	1967 Percentage of U.S. Average
Government						
Federal civilian	$7,318	121	143	$7,893	105	125
State and local	4,296	85	84	5,417	88	86
Average of Michigan counties in the Upper Great Lakes region	4,400	86	86	5,419	86	86

* Fast growing industries in the Grand Traverse Bay area.

Source: Charles F. Floyd, "The Changing Structure of Employment and Income in the Upper Great Lakes Region," a report to the Office of Economic Research, Economic Development Administration, Washington, D.C., Apr., 1970.

are increasing most rapidly in the Upper Great Lakes region are generally those in which wages are relatively higher than the average for that region. Though the economic performance of the Grand Traverse Bay area lags behind that of the remainder of the Upper Great Lakes region, the average wage in the most rapidly growing industries in that area exceeds the average wage for those industries in other Michigan counties situated in the Upper Great Lakes region. Even though the average wages in these industries have maintained a rather constant percentage of the average wage for those industries between 1962 and 1967, they have generally declined as a percentage of the average wage across the nation, which may provide some explanation for the singularly poor performance of the area when compared with other areas in the Upper Great Lakes region.

Income

The personal income generated by industries in an area can explain the power that industry has to attract qualified laborers to a region. The relatively slow industrialization of the Grand Traverse Bay area may also result from the slow growth of per capita income as compared to the remainder of the state of Michigan. Table 8 shows that both the Grand Traverse Bay area and the Upper Great Lakes region as a whole only provide three-quarters of the per capita income which the rest of the state receives. However, closer examination will reveal that the Grand Traverse Bay area in particular is experiencing a much faster rate of growth in per capita personal income than the rest of the region. For example, between 1959 and 1967 the total earnings in the Grand

TABLE 8

Per Capita Personal Income

Year	Grand Traverse Bay Area	Michigan	Upper Great Lakes Region	United States
1929				
Amount	$ 366	$ 806	$ 432	$ 705
Percentage of national average	52	144	62	.....
1940				
Amount	$ 313	$ 683	$ 382	$ 592
Percentage of national average	53	115	65	.....
1950				
Amount	$ 993	$1,714	$1,090	$1,496
Percentage of national average	66	113	73	.....
1959				
Amount	$1,466	$2,264	$1,608	$2,161
Percentage of national average	68	105	75	.....

(Continued)

TABLE 8-- (Continued)

Per Capita Personal Income

Year	Grand Traverse Bay Area	Michigan	Upper Great Lakes Region	United States
1962				
Amount	$1,627	$2,449	$1,779	$2,368
Percentage of national average	69	103	75	.....
1965				
Amount	$2,079	$3,054	$2,076	$2,760
Percentage of national average	75	110	75	.....
1967				
Amount	$2,378	$3,395	$2,419	$3,159
Percentage of national average	75	107	77	.....

Source: Battelle Memorial Institute, "Industries Suited for the Upper Great Lakes Region."

Traverse Bay area increased 71 per cent. Table 9 indicates that of that increase expenditures for state and local government services, business services, and contract construction absorbed the greatest amount of earnings increases, and these were followed closely by the increases in manufacturing, finance, insurance, and real estate. Grand Traverse County itself showed a similar pattern, but there manufacturing played a greater role in producing earnings for the county's residents (see Table 10). In both the county and the area, farming decreased in importance both absolutely and relatively as a source of earnings.

In the past, most of the economic activity in the region has been centered in Grand Traverse County, where Traverse City is located. Originally, the port at Traverse Harbor stimulated trade in this location and justified the establishment of financial, governmental, and mercantile institutions there. During most of the area's developmental years, Traverse City has remained the hub of civic and economic activity. However, Table 11 indicates that the concentration of economic activity in Grand Traverse County declined substantially in many areas of activity between 1959 and 1967. Though the decline in the concentration of farming can be explained by the absolute decrease in the earnings of agricultural enterprises, the decrease in concentration of transportation, communication and public utilities, wholesale and retail trade, finance, insurance, real estate, and federal, state, and local government services cannot be attributed to a general decline in services rendered. All fields mentioned experienced large absolute increases

TABLE 9

Earnings by Broad Industry Sector, Grand Traverse Bay Area
(Dollar Amounts in Thousands)

Industry Sector	1959 Amount	1959 Percentage of Total	1967 Amount	1967 Percentage of Total	Percentage Change in Earnings 1959-67
Farm	$15,915	9.1	$11,171	3.7	(30)
Mining*	.....	.....	14	.....	.....
Contract construction	10,649	6.1	21,502	7.2	102
Manufacturing†	45,460	25.9	84,017	28.1	85
Transportation, communication, public utilities*	11,276	6.4	16,288	5.4	44
Wholesale and retail trade	33,558	19.1	54,993	18.4	64

* Some data withheld to meet confidentiality requirements.

† Fastest growing sectors in terms of employment.

(Continued)

TABLE 9--(Continued)

Earnings by Broad Industry Sector, Grand Traverse Bay Area
(Dollar Amounts in Thousands)

Industry Sector	1959 Amount	1959 Percentage of Total	1967 Amount	1967 Percentage of Total	Percentage Change in Earnings 1959-67
Finance, insurance, real estate	$ 4,416	2.5	$ 7,710	2.6	75
Services†	23,019	13.1	46,298	15.5	101
Government†	29,473	16.8	55,670	18.6	89
Federal	7,746	4.4	11,327	3.8	46
State and local†	21,727	12.4	44,343	14.8	104
Other*	492	0.3	1,107	0.4	125
Total earnings‡	$175,247	100.0	$299,472	100.0	71

* Some data withheld to meet confidentiality requirements.

† Fastest growing sectors in terms of employment.

‡ Data do not add to total because of nondisclosures.

Source: Office of Economic Expansion, Michigan Department of Commerce. Bureau of Business Research computations.

TABLE 10

Earnings by Broad Industry Sector, Grand Traverse County
(Dollar Amounts in Thousands)

Industry Sector	1959 Amount	1959 Percentage of Total	1967 Amount	1967 Percentage of Total	Percentage Change in Earnings 1959-67
Farm	$ 6,996	12.9	$ 3,340	3.6	(52)
Mining*	.....	.....	2	.....	.....
Contract construction	4,083	7.5	8,327	9.0	104
Manufacturing†	10,368	19.1	20,870	22.6	101
Transportation, communication, public utilities	4,534	8.4	5,478	5.9	21
Wholesale and retail trade	9,926	18.3	18,817	20.4	90
Finance, insurance, real estate	1,935	3.6	3,148	3.4	63

* Some data withheld to meet confidentiality requirements.

† Fastest growing sectors in terms of employment.

(Continued)

TABLE 10--(Continued)

Earnings by Broad Industry Sector, Grand Traverse County
(Dollar Amounts in Thousands)

Industry Sector	1959 Amount	1959 Percentage of Total	1967 Amount	1967 Percentage of Total	Percentage Change in Earnings 1959-67
Services†	$6,764	12.5	$14,865	16.1	120
Government†	9,073	16.7	17,360	18.8	91
Federal	1,894	3.5	2,530	2.7	34
State and local†	7,179	13.2	14,830	16.1	107
Other*	.....	.....	.....	.....	.....
Total earnings‡	$54,179	100.0	$92,425	100.0	71

* Some data withheld to meet confidentiality requirements.

† Fastest growing sectors in terms of employment.

‡ Data do not add to total because of nondisclosures.

Source: Office of Economic Expansion, Michigan Department of Commerce. Bureau of Business Research computations.

TABLE 11

Earnings by Broad Industry Sector
Grand Traverse County Compared to the Grand Traverse Bay Area
(Dollar Amounts in Thousands)

Industry Sector	1959			1967			Change in Percentage 1959-67
	Grand Traverse County	Grand Traverse Bay Area	County as Percentage of Area	Grand Traverse County	Grand Traverse Bay Area	County as Percentage of Area	
Farm	$ 6,996	$15,915	44.0	$ 3,340	$11,171	30.0	(31.8)
Mining*	.....	.....	.....	2	14	.....	.....
Contract construction	4,083	10,649	38.3	8,327	21,502	38.7	1.0
Manufacturing†	10,368	45,460	22.8	20,870	84,017	24.8	8.8
Transportation, communication, public utilities*	4,534	11,276	40.2	5,478	16,288	33.6	(16.4)
Wholesale and retail trade	9,926	33,558	29.6	18,817	54,993	34.2	(15.5)
Finance, insurance, real estate	1,935	4,416	43.8	3,148	7,710	40.8	(8.7)

*Some data withheld to meet confidentiality requirements.

†Fastest growing sectors in terms of employment.

(Continued)

TABLE 11--(Continued)

Earnings by Broad Industry Sector
Grand Traverse County Compared to the Grand Traverse Bay Area
(Dollar Amounts in Thousands)

Industry Sector	1959			1967			Change in Percentage 1959-67
	Grand Traverse County	Grand Traverse Bay Area	County as Percentage of Area	Grand Traverse County	Grand Traverse Bay Area	County as Percentage of Area	
Services†	$6,764	$23,019	29.4	$14,865	$46,298	32.1	9.2
Government†	9,073	29,473	30.8	17,360	55,670	31.2	1.3
Federal	1,894	7,446	25.4	2,530	11,327	22.3	(12.2)
State and local†	7,179	21,727	33.0	14,830	44,343	33.4	(1.2)
Other*	.....	492	.....	.....	1,107	.....	.....
Total earnings‡	$54,179	$175,247	30.9	$92,425	$299,472	30.9	.....

* Some data withheld to meet confidentiality requirements.

† Fastest growing sectors in terms of employment.

‡ Data do not add to total because of nondisclosures.

Source: Office of Economic Expansion, Michigan Department of Commerce, Bureau of Business Research computations.

in earnings in both the county and the area, yet the percentage of services rendered within the confines of Grand Traverse County declined, indicating that these services, which are so essential to industrial development, are becoming more widespread throughout the area. Unfortunately, amusements, business services such as consulting, and manufacturing have been concentrated more heavily in Grand Traverse County during the same period. Perhaps this indicates that the move toward diffusion of services throughout the area is a recent phenomenon which is yet to be accommodated by less flexible business and industrial institutions. If so, the remainder of the Grand Traverse Bay area can look forward to substantial economic growth in the near future.

Supporting Services

Supporting services for industrial development generally include such categories as transportation and communication, amusement and recreation, accommodations, personal and business services as well as retail and wholesale trade activities. But in the context of the Sea Grant Program environmental quality, energy-generating utilities, water and sewer facilities, housing quality, investment capital, and institutional resources may also be considered supportive to industrial growth. Since these factors have not been considered explicitly with other major economic sectors in the analysis of income and employment, they will be discussed separately here. A brief word about the most apparent problems and opportunities in each of the areas will be offered below.

Transportation includes both the facilities and processes involved in the distribution of a product and the acquisition of the factors of production. Except for industries relying on natural resources, the regional manufacturers are at a disadvantage in competing with firms located closer to the major markets. Yet these disadvantages may be offset by advantages in other factors of production such as the cost and availability of labor. However, products with some combination of high value to unit weight, short transit time, and special service requirements are amenable to air transportation, in which case locational advantages are related to airport accessibility. In such cases, the integrated industrial park-airport concept at Traverse City gives an area which is otherwise poorly located definite advantages in product distribution. Another important advantage of the industrial park-airport concept is the convenience of flying to business engagements and social, cultural, and recreational centers. The ease of access to an area is a positive inducement in recruiting management personnel of high caliber.

Communication also plays an important part in maintaining contact with the larger sphere of business and financial activity. Though the location of the Grand Traverse Bay area would seem rather remote, the ten-county area is serviced by four daily newspapers with a total circulation of 37,959 and thirteen weekly and semiweekly newspapers with a circulation of 46,384. These newspapers completely cover all those individuals living in the area who are between the ages of

25 and 54. In addition the area is served by two television stations which carry the programming of the three major networks, and twelve radio stations broadcasting from Manistee, Petoskey, Cadillac, and Traverse City.

Since the area is well known for its recreational and tourist facilities, one might assume that these facilities are satisfactory from the standpoint of the prospective large employer. However, the relevant amusements for individuals living in the area might be the availability of restaurants, movie houses, and other forms of evening entertainment. In addition, services such as hotels and motels for out-of-town guests, personal services such as barber and beauty shops, and repair services for appliances and automobiles are all a part of the services which support community activity. Table 12 illustrates that between 1963 and 1967 these services increasingly concentrated in the population centers, while the area as a whole added supporting services at only a slightly faster rate than the rest of the non-SMSA counties. However, the concentration of receipts from the service establishments in the cities have fallen off, indicating that the value of sales per establishment in the rural county areas has increased substantially in the same period. Generally, average receipts from establishments in the Grand Traverse Bay area increased at a much faster rate than those in other non-SMSA counties in Michigan. Likewise, the number of paid employees of such establishments increased outside the population centers in the area,and the average number of employees

TABLE 12

Selected Services Supporting Business and Industry in the Grand Traverse Bay Area and Its Population Centers
(Dollar Amounts in Thousands)

Entry	Number of Establish-ments	Receipts	Yearly Payroll	Number of Paid Employees	Number of Active Proprietors
1963					
Selected services in cities of 2, 500 or more as a percentage of Grand Traverse Bay area*	33.2	47.8	48.9	58.9	38.7
Grand Traverse Bay area average	127	$2, 357	$ 546	158	131
Average of non-SMSA counties in Michigan	191	$3, 348	$ 693	236	198
Grand Traverse Bay area average as a percentage of non-SMSA counties	66.5	70.4	78.8	66.9	66.2

* Cities with 2, 500 or more inhabitants: Boyne City, Cadillac, Charlevoix, Manistee, Petoskey, and Traverse City.

(Continued)

TABLE 12--(Continued)

Selected Services Supporting Business and Industry in the Grand Traverse Bay Area and Its Population Centers
(Dollar Amounts in Thousands)

Entry	Number of Establish-ments	Receipts	Yearly Payroll	Number of Paid Employees	Number of Active Proprietors
1967					
Selected services in cities of 2,500 or more as a percentage of Grand Traverse Bay area*	40.6	45.7	47.8	50.1	36.9
Grand Traverse Bay area average	126	$3,546	$ 877	223	108
Average of non-SMSA counties in Michigan	181	$4,351	$1,028	274	154
Grand Traverse Bay area average as a percentage of non-SMSA counties	69.6	81.5	85.3	81.4	70.1

* Cities with 2,500 or more inhabitants: Boyne City, Cadillac, Charlevoix, Manistee, Petoskey, and Traverse City.

Source: Michigan Statistical Abstract, 1970. Bureau of Business Research computations.

per establishment in the Grand Traverse Bay area increased much more rapidly than in other rural counties in the state. However, there appeared to be both a general decrease in the number of proprietors in both the Grand Traverse Bay area and in all other non-SMSA counties in Michigan. Such a phenomenon may result from either increasing multiple ownerships of retail outlets or an absolute decrease in the number of establishments. By examining the basic data, it becomes clear that the number of establishments has not increased over time at a rate which exceeds the number of business mergers and failures. Thus the decline in number of proprietors must be the result of both an increase in multiple ownerships and business failures in the area. Yet, receipts over the same period have increased rapidly, indicating that a willing market is available.

Retail trade and business and personal services are not alone in feeling a pinch in monetary resources in the area. In general there is a lack of independent sources of venture capital or risk capital to support entrepreneurial enterprises. Such capital generally comes from professionals who have funds to invest in hopes of future capital gains or from speculators looking for high-risk, high-return ventures. Unfortunately, there is not an abundance of either capital or venture opportunities in this area. Those opportunities that are readily available require large investments simply for market entry and have significant secondary working capital requirements to maintain sufficient cash flows. These ventures, such as ski resorts, camping and fishing resorts, trailer parks, and recreation areas require large investments in land, facilities, and major improvements to such existing public services as roads, sewers, and water lines. Thus, the frequency of small business start-ups in the Grand Traverse Bay area is quite low.

On the brighter side, the educational institutions in the area provide much of the training needed to create a productive labor force and are a factor in attracting desirable industries and services. In general, schools in the Grand Traverse Bay area are well cared for and adequately staffed. Beyond the high school level there is Northwestern Michigan College at Traverse City and North Central Michigan College at Petoskey, both of which are basically two-year vocational-technical schools. Northwestern Michigan College has recently established a Great Lakes Maritime Academy with a three-year program designed to train seamen specifically for Great Lakes shipping. Hospital facilities are generally adequate also--Petoskey and Traverse City have medical centers of some reknown in the area.[8/] However, an analysis of the available medical personnel does not justify such a high opinion of the medical services throughout the entire ten-county area. For example, Table 13 shows that the counties in the Grand Traverse Bay area average only one hospital per county, while the average for the state of Michigan is three hospitals per county. The number of beds available per county is only 19 per cent of the average in other counties in the state, and the number of both doctors and dentists is only 18 per cent of the

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8/ "Prologue for Accelerated Growth of Economy."

TABLE 13

Medical Facilities in Grand Traverse Bay Area and Michigan

County	Number of Hospitals*	Number of Hospital Beds*	Registered Medical Doctors †	Licensed Dentists ǂ
Emmet	2	240	48	13
Charlevoix	2	75	9	9
Antrim	0	0	2	7
Leelanau	1	33	3	5
Benzie	1	40	3	7
Grand Traverse	2	328	86	28
Kalkaska	1	18	3	2
Manistee	2	88	16	12
Wexford	1	141	20	9
Missaukee	0	0	3	1
Grand Traverse Bay area average	1	96	19	9
State of Michigan average	3	499	105	51
Grand Traverse Bay relative to state of Michigan	33%	19%	18%	18%

* As of June 10, 1970.

† As of March 20, 1970.

ǂ As of January, 1970.

Source: Michigan Statistical Abstract, 1970. Bureau of Business Research computations.

average in other Michigan counties. Yet, if the facilities in the surrounding counties are poor, those in Grand Traverse County, and especially Traverse City, most nearly approach the average for other counties in the state. However, in no classification do the available medical facilities in Grand Traverse County exceed those available in the average county in the state.

One of the more insidious problems of the region is a deficiency of adequate housing. In some communities the shortage is severe enough to prevent workmen from moving into the area and to restrict business expansion. The 1960 census report indicated that only 25 per cent of the housing units were connected to public sewers and only 76 per cent had hot and cold running water. In addition, Table 14 shows that only half as many housing units in the Grand Traverse Bay area had basements as in other non-SMSA counties in Michigan at the time of the 1960 housing census. Although on the average fewer homes were considered to be deteriorating or dilapidated in the Grand Traverse Bay area, the proportion of total housing units represented by these categories in the smaller area was almost identical to that of the state, with 5.8 per cent dilapidated, 15.2 per cent deteriorating, and 79.0 sound units. The age of the housing in the Grand Traverse Bay area does not differ greatly from the age of housing throughout the state. Table 15 indicates that 2.0 per cent of the housing units in existence at the time of the 1960 Census of Housing were built between January 1, 1959 and March, 1960, while 3.0 per cent of the housing units were built at this time in other non-SMSA counties in Michigan. Of the remaining homes in

TABLE 14

Selected Housing Statistics
April 1, 1960

	Grand Traverse Bay Area Average	Non-SMSA Counties in Michigan Average	Grand Traverse Bay as a Percentage of Non-SMSA Counties
All housing units:			
Total number	6,792	10,920	61.9
Condition*			
Sound	5,367	8,639	62.1
Deteriorating	1,029	1,752	58.7
Dilapidated	396	579	68.4
Median number of rooms per housing unit	4.9	5.2	94.2
Number of housing units with basement	3,499	6,632	52.8
Number of occupied housing units	4,062	8,157	49.8

* Determined by census enumerator for Census of Housing: 1960.

Source: Michigan Statistical Abstract, 1970. Bureau of Business Research computations.

TABLE 15

Age of Housing in Michigan as of April 1, 1960

Year Built	Grand Traverse Bay Area		State of Michigan	
	Number of Houses	Percentage of Total	Number of Houses	Percentage of Total
1959 to March, 1960	1,336	2.0	75,445	3.0
1955 to 1958	6,320	9.3	289,659	11.3
1950 to 1954	7,705	11.3	337,783	13.3
1940 to 1949	11,624	17.1	404,389	15.9
1939 or earlier	40,935	60.3	1,441,200	56.5
Total	67,920	100.0	2,548,476	100.0

Source: Michigan Statistical Abstract, 1970. Bureau of Business Research computations.

the Grand Traverse Bay area, 9.3 per cent were built between 1955 and 1958, 11.3 per cent between 1950 and 1954, 17.1 per cent between 1940 and 1949, and 60.3 per cent were built in 1939 or earlier. In other areas in the state, 11.3 per cent of the houses were newly built between 1955 and 1958, 13.3 per cent between 1950 and 1954, 15.9 per cent between 1940 and 1949,and 56.5 per cent were standing in 1939 or earlier. Thus, though the size and occupancy rate of homes in the Grand Traverse Bay area are considerably smaller than in other areas in the state, the age and condition of housing in the area is very comparable to other areas.

Perhaps the most critical issue facing the communities in the region is the treatment and disposal of waste water. Only half of the communities in the Grand Traverse Bay area provide a sewer system at all. Though other areas use septic tanks and other sewage disposal methods, the use of inadequate septic tanks and outdoor privies in close proximity to lakes and streams presents an added hazard to the environment when the population is more than doubled during the warm summer months. The present sewage system at Traverse City has a primary treatment plant able to pass peak flows of 13 MGD (million gallons per day),which is adequate for all but the most intensive summer use, but the plant can efficiently remove only 20 per cent of the suspended solids. Though recreation and tourism create a tremendous seasonal burden on the water and sewage treatment facilities, industries also contribute to the total burden on the area's water resources. During 1969 the state of Michigan's Water Resource Commission rated 64 industrial establishments in the area, of which 31 had less than adequate waste water controls. For example, one fruit canning plant was reportedly dumping 547,000 gallons of waste every day in Traverse Bay during the canning season in July and August.[9/] Such practices only compound the problem of the already over-taxed water resources in the region.

New Opportunities

Important technological and social changes are providing new opportunities for rural areas with limited agricultural potential in the Upper Great Lakes region. Industries and workers are recognizing increasing diseconomies associated with urban locations, and many highly skilled people are placing added importance on the quality of the environment when making vocational and locational decisions. In an increasingly mobile and affluent society people are willing to travel greater distances for both work and recreational purposes. The interstate highway systems, better employment information systems, and a more mobile labor force make it easier for industries to locate away from urban areas.

With imaginative planning and preparation, the Grand Traverse

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9/ "Traverse City's 'Shaggy' Waters Endanger Tourism," Chicago Tribune, Oct. 26, 1970.

Bay area can benefit socially and economically from these trends. Many of the region's characteristics that were once considered disadvantages, such as low population density and remoteness from metropolitan areas, could become assets. If the younger segments of the population can be properly educated and trained and can be induced to remain in the area as the nucleus of a productive labor force, and if ways can be found to utilize the experience and talents of the older members of the labor force, the problems associated with present imbalances in the age structure of the area may become opportunities.

Since 1967 the Economic Development Assistance Program has provided funds for, among other projects, the expansion of Antrim County and Traverse City airports, water and sewer facilities in the village of Kalkaska, marinas in the cities of Petoskey, Manistee, and Northport, and dock facilities for the Great Lakes Maritime Academy at Northwestern Michigan College. Because of the considerable evidence of pollution and deterioration of water resources in the region, the people of Traverse City in cooperation with five surrounding townships have assumed the leadership in seeking solutions to the area's water pollution problems by initiating the development of a regional sewage treatment plant. The present sewage treatment plant will be expanded to meet the flow capacities predicted for the year 1990 and modified to provide secondary treatment capable of removing 90 per cent of the impurities from sewage and industrial wastes, including 85 per cent phosphate removal. Once the plant is built, industries will be required to divert their wastes into the muncipal treatment system or to treat it themselves to meet pollution control standards.

There are many indications that the people in the Grand Traverse Bay area are beginning to promote the positive aspects of the region. Hunting, skiing, and snowmobiling facilities are being added to tourist and recreational areas to complement their summertime attractions and provide a year-round business. There also appears to be widespread public support of the excellent health care facilities at Petoskey and Traverse City. The money brought into the region by outsiders who use these facilities could provide an important source of strength for social and economic development throughout the region. However, these activities alone will not support continued growth in the region.

New ideas must be initiated to ensure a sound foundation of technology for future growth. For example, short-field landing and takeoff capability and commercial aircraft could ease the problems associated with inadequate roads to recreational and industrial areas, while mobile and manufactured homes could be used as a temporary solution to the shortage of adequate housing in the region. But these are only two of the many problems which require the application of new ideas. To handle such a complex series of developmental problems, the area must attract the interest of technically qualified policy makers and induce them to lend themselves to the task of developing the economic potential of the region.

Summary

Early in this century the Grand Traverse Bay area was characterized by vigorous economic activity and growth. However, it suffered a sharp decline in economic activity after 1910 and has since been considered as part of a socially and economically depressed area by the federal government. Though the region is Michigan's most popular area for recreation and tourism, only recently has it recovered a population and industrial growth rate comparable to the rest of the state and the nation. The major causes of the economic decline of the region have been:

--The displacement of labor in resource-based industries because of technological change

--The deterioration of resources--fur, lumber, and agriculture--and increased competition from other areas that supply the same resources

--The small size of the region's enterprises

--Remoteness from metropolitan markets

As a direct result of the economic decline, the people in the most productive age group with the most marketable skills have migrated away from the region. This has created an imbalance in the age and skill levels of the population. Chronically high unemployment rates have been experienced because of the scarcity of job opportunities, the inability to match available job opportunities with qualified applicants, and reliance on seasonal economic activities. In addition, the low per capita earnings in even professional categories indicate a general underemployment of human resources in the area.

The long period of lagging economic opportunity and growth and the low density of population has tended to separate the region from the mainstream of national, social, and economic development. This has had a cumulative effect on the supporting activities needed to sustain economic growth and has been reflected in such things as inadequate housing, lack of investment funds, and outdated waste water treatment and disposal systems.

In recent years there have been encouraging signs of favorable trends in some of the key factors used in measuring the region's economic and social health and its potential for development. On the basis of the region's strong growth in employment between 1959 and 1967 and a shift to faster growing industries, it is likely that employment growth rates will exceed those of the Upper Great Lakes region and the United States in the next decade.

The new emphasis on environmental quality will tend to make the Grand Traverse Bay area increasingly attractive for new businesses, industries, homes, and recreational activity. At the same time there is encouraging evidence that the people of the area are actively concerned not only with the economic and social development of their region but also with the management of the water resources and environmental qualities which are the region's main source of economic potential. These people are fortunate to live in a region where flexibility is still possible in making the critical decisions concerning the trade-offs between economic development and environmental quality.

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