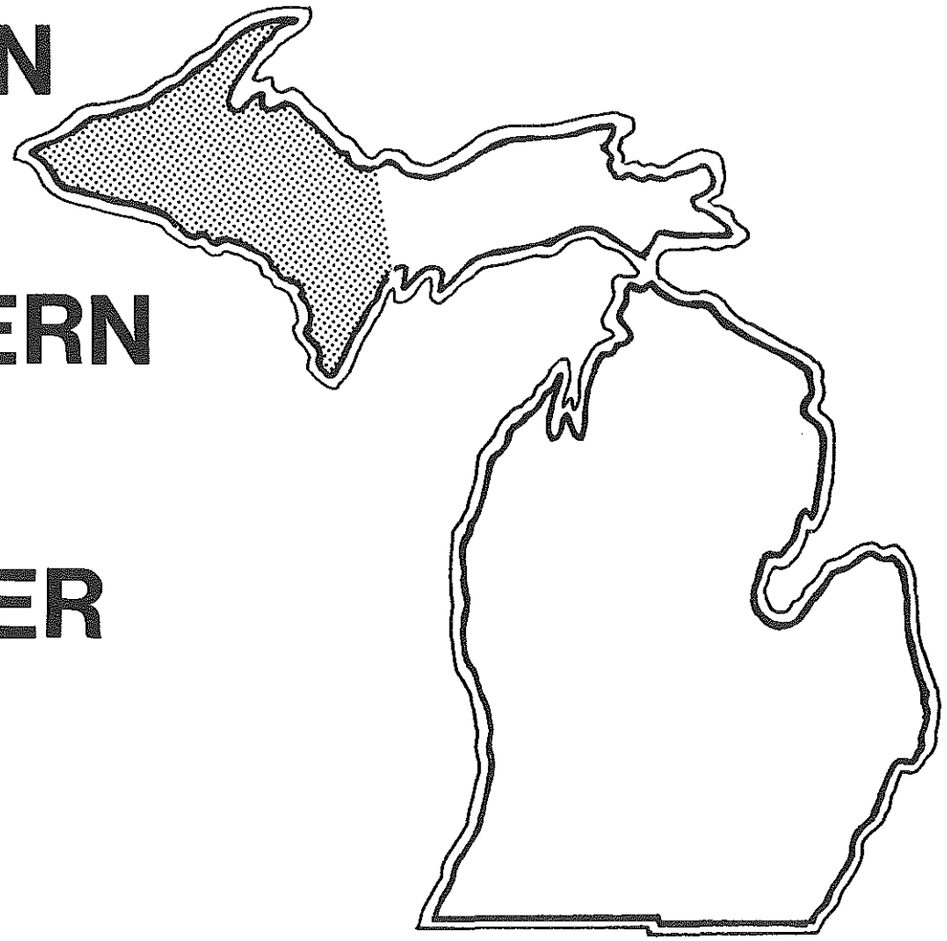
DEVELOPING A TRANSPORTATION SYSTEMS PLAN FOR THE WESTERN PORTION OF MICHIGAN'S UPPER PENINSULA



PRESENTED BY THE
MICHIGAN DEPARTMENT OF STATE
HIGHWAYS AND TRANSPORTATION

COMMISSION: PETER B. FLETCHER, CHAIRMAN / CHARLES H. HEWITT, VICE CHAIRMAN / CARL V. PELLONPAA / HANNES MEYERS, JR.
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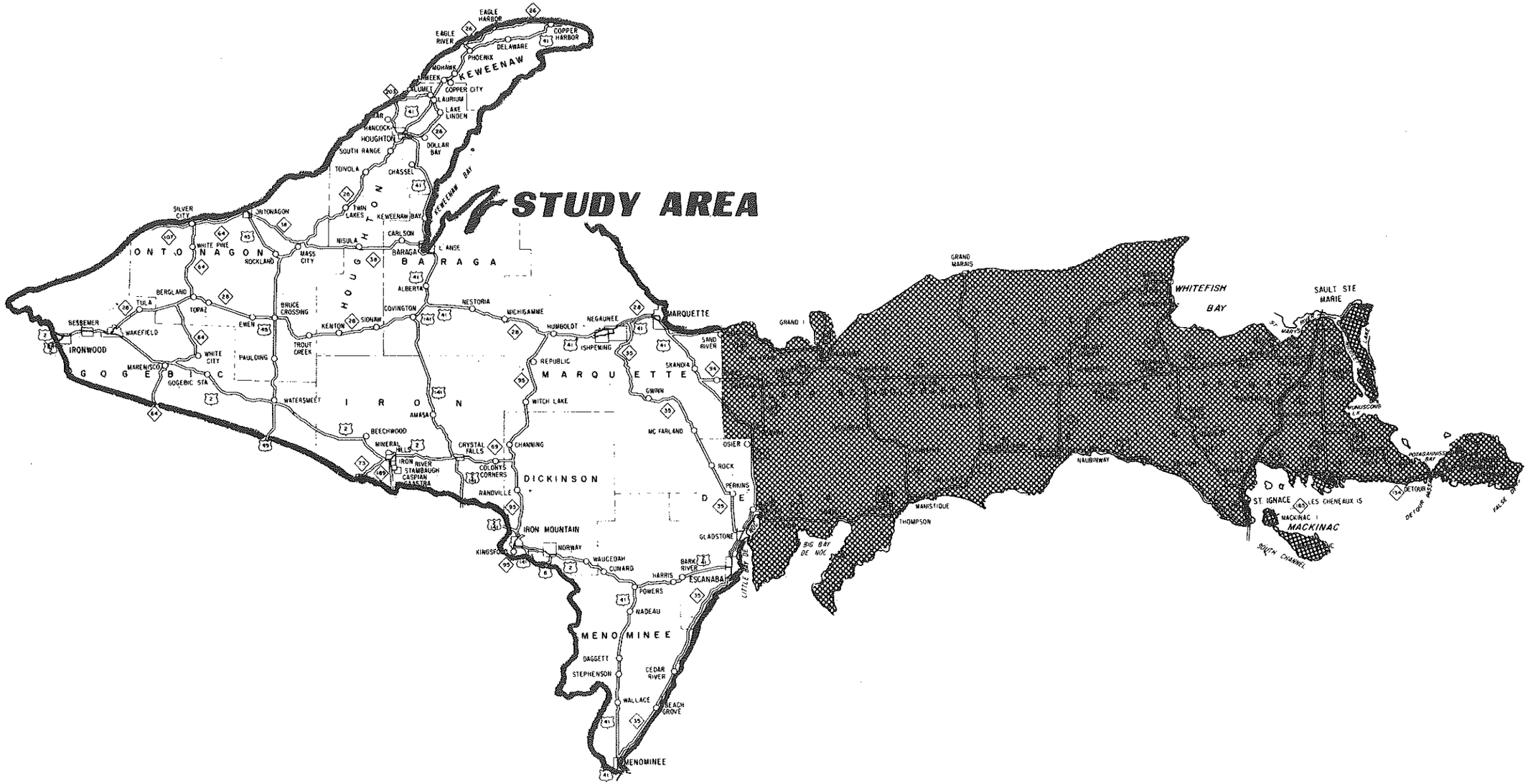


December 1975

INTRODUCTION

The Constitution and Statutes of the State of Michigan make the Michigan State Highway Commission responsible for planning, building and maintaining a transportation system for our state.

The Michigan Department of State Highways and Transportation has developed a planning process which provides a guide for fulfilling these responsibilities at the state and local levels. This process encompasses analyzing the adequacy of existing transportation systems and the preparation of systems and facilities plans that will meet anticipated needs. It also takes into consideration the social, economic, and environmental effects of proposed changes.

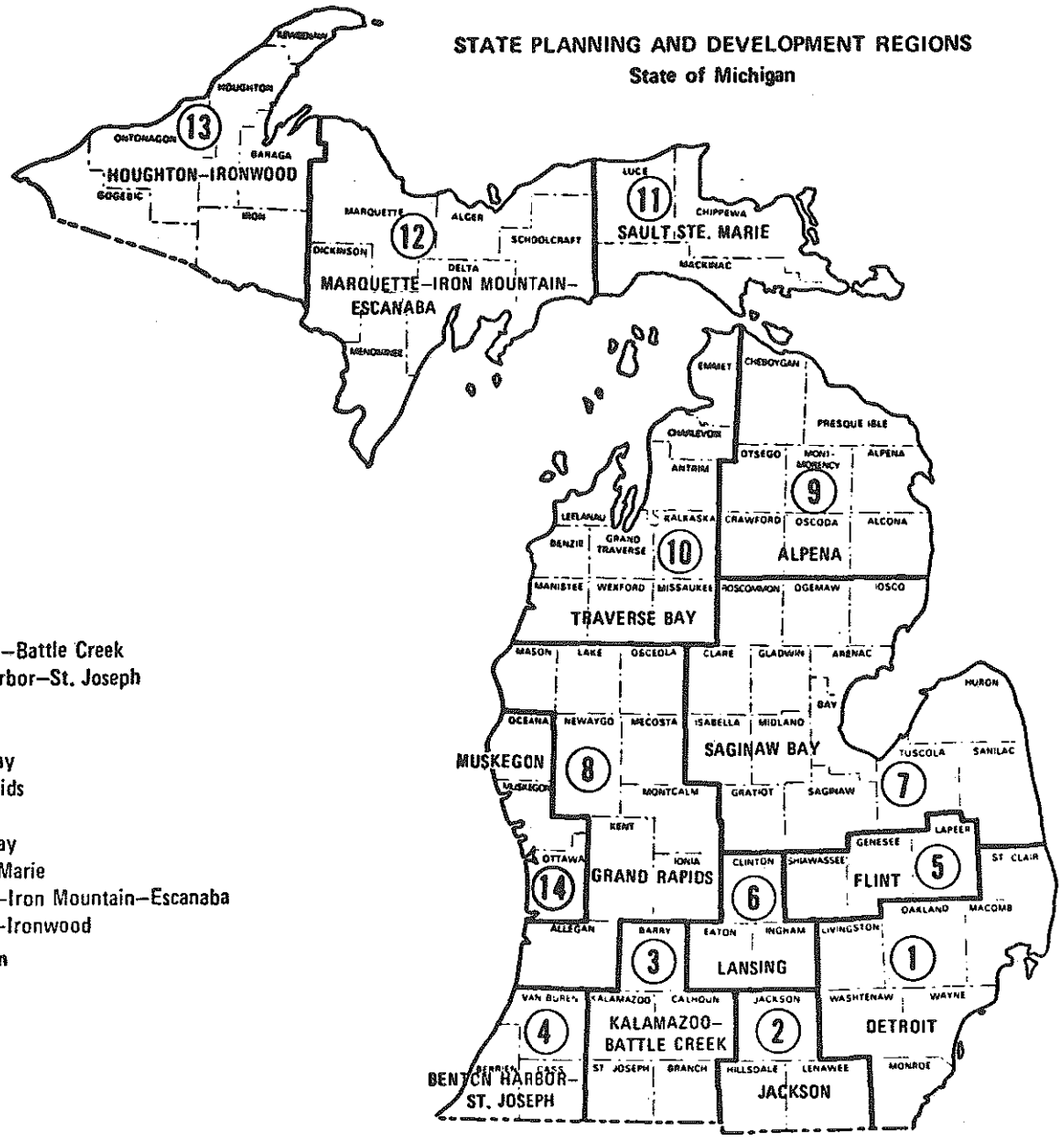
The systems planning process begins with an analysis of existing systems and facilities and their relationship to goals and objectives of the state and local governmental units, and extends through establishment of a set of priorities for system improvements by capital investment projects. All modes of transportation fall under the planning responsibility of the Department and local governments. The prime objective of this cooperative effort is to provide transportation services for the state that will maximize desired economic and social values while minimizing the cost and adverse impacts on people and the natural environment.

Recognizing the impact that new transportation developments may have on all residents of a region, a series of public meetings are being held to provide an opportunity for public agencies, private groups and individual citizens to assist in making necessary decisions early in the decision making process. To make meaningful contributions the public must know how decisions are made, what is studied and what the issues will be.

This brochure summarizes the major phases of the study, identifies accomplishments to date and generally outlines a proposed planning process for the western portion of the Upper Peninsula (see map on opposite page).

A brochure with similar types of information but pertaining to the eastern half of the Upper Peninsula was prepared in October and November of 1974 and then presented and discussed at a series of public meetings held in December, 1974.

STATE PLANNING AND DEVELOPMENT REGIONS
State of Michigan



LEGEND:

1. Detroit
2. Jackson
3. Kalamazoo–Battle Creek
4. Benton Harbor–St. Joseph
5. Flint
6. Lansing
7. Saginaw Bay
8. Grand Rapids
9. Alpena
10. Traverse Bay
11. Sault Ste. Marie
12. Marquette–Iron Mountain–Escanaba
13. Houghton–Ironwood
14. Muskegon

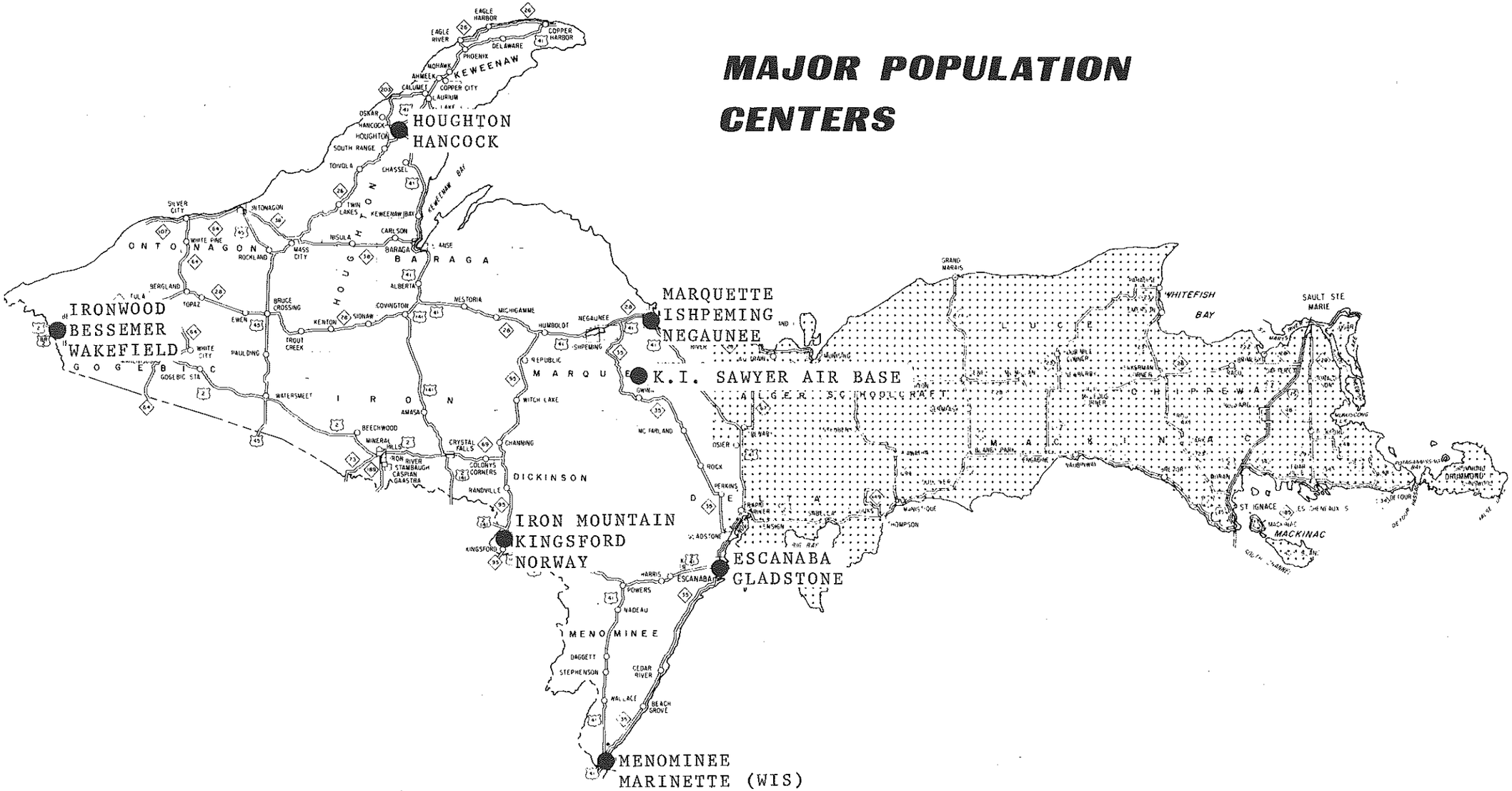
REGIONAL TRANSPORTATION PLANNING

An important ingredient of planning studies is the development of a regional transportation systems plan. The goal of the Department is to provide a transportation system that will facilitate the movement of people and goods into, within, and through a region as well as between a region and other areas of the state. In achieving this goal, it is recognized that decisions made about transportation systems in one part of the region will affect other parts of the region and the state as a whole. It is also essential that the plan be evolved in agreement with the development goals and objectives of the region.

Since the regional type of decision-making base is important to a number of other public programs, the Governor and the Federal Government have stressed the need to develop public programs on a regional basis. To further this, the Executive Office has designated planning regions for the entire state. In so doing, the Governor has requested that all state agencies cooperate with the regional agency when planning various programs and to develop those programs to be consistent with regional goals and objectives. The Department of State Highways and Transportation is pledged to meeting this objective.

This study is addressed to State Planning Region 13 and part of Region 12, making up the western half of the Upper Peninsula, or more specifically, from US-41 west. Establishment of this planning area allows the regional transportation systems planning process for this portion of the Upper Peninsula to be brought-up to the same level of completion as the eastern one-half.

MAJOR POPULATION CENTERS



SOCIAL, ECONOMIC AND ENVIRONMENTAL CONTEXT

POPULATION

The western Upper Peninsula is a sparsely populated region with a low density of 4.2 persons per square mile in Keweenaw County and a high of 35.4 persons in Marquette County. Michigan's 1970 population density was 186.2 persons per square mile of land surface. There are six centers of population concentration in the region. These are Marquette-Ishpeming-Negaunee (41,299), Menominee-Marinette (25,875), Escanaba-Gladstone (22,553), Ironwood-Bessemer-Wakefield (19,085), Iron Mountain-Kingsford-Norway (17,977), and Houghton-Hancock (13,070). Additionally, the K. I. Sawyer Air Force Base (5,134) located in Marquette County influences intra-county travel patterns.

With the exception of Marquette County, whose population characteristics are influenced by the presence of the K. I. Sawyer Air Force Base and Northern Michigan University, the region exhibits an older age distribution than that of the state. More than one-third of the people within the study area are 45 years old or older, while only about 28 percent of Michigan's population has reached this level. Also, with the exception of Marquette County, each county in the study area has a higher percentage in the 65 years old or older category than does the state. In Michigan, 7.5 percent of the males and 9.4 percent of the females are 65 years old or older. Ontonagon County is closest to this average with 9.7 percent and 9.8 percent of males and females, respectively, attaining senior citizenship. Iron County deviates farthest from the norm with 15.7 percent of its males and 17.4 percent of its females 65 years old or older.

Population projections indicate that unless a major change occurs in the region, such as more intense industrial and commercial development, past trends will probably continue. Alger and Gogebic Counties are generally expected to lose population while all other counties are expected to show moderate increases. Major centers of population concentration should continue to be Marquette-Ishpeming-Negaunee, Menominee-Marinette, Escanaba-Gladstone, Ironwood-Bessemer-Wakefield, Iron Mountain-Kingsford-Norway, and Houghton-Hancock.

Two sets of population projections are presented primarily to illustrate the variance and range of different forecasts. The first set is Professor Goldberg's (University of Michigan) projections and are basically the ones used in forecasting future traffic volumes. The second set is derived by taking the high and low from projections made by the University of Michigan, the Department of Management and Budget, and the Western and Central Upper Peninsula Planning Commissions.

These variations are the result of different forecasting methods and different assumptions about factors influencing population change. Totally, they range from a low of 224,860 predicted by the Department of Management and Budget to a high of 285,100 predicted by Goldberg, or a 60,240 difference. The Regional Planning Commissions project the 1990 population to be approximately 276,000.

Additionally, these projections do not consider the recent trends from 1970 to 1973 as reported by the New York Times, "Rural Areas' Population Gains Now Outpacing Urban Regions", May 18, 1975. This article states that northern Lower Michigan and the Upper Peninsula are two of the fastest growing regions in the United States.

Population characteristics and projections are important since different age groups exert different demands on a transportation system. Additionally, low density and scattered population concentration dictate an efficient system to facilitate community interaction.

POPULATION
1950 - 2000

	1950	1960	1970	1980	1990	2000
Alger	10,007	9,250	8,568	8,173	8,109	8,046
Baraga	8,037	7,151	7,789	7,946	8,352	8,757
Delta	32,913	34,298	35,924	37,056	38,885	40,715
Escanaba-Gladstone	21,066	22,143	22,553	24,606	26,013	27,422
Dickinson	24,844	23,917	23,753	23,922	24,665	25,409
Iron Mountain-Kingsford-Norway	19,077	18,576	17,977	18,708	19,335	19,960
Gogebic	27,053	24,370	20,676	19,478	18,485	17,495
Ironwood-Bessemer-Wakefield	24,168	22,033	19,085	17,999	17,120	16,237
Houghton	39,771	35,654	34,652	34,221	34,476	34,726
Houghton-Hancock	12,999	12,864	13,070	13,492	14,173	14,850
Iron	17,692	17,184	13,812	15,116	16,776	18,436
Keweenaw	2,918	2,417	2,264	2,287	2,391	2,496
Marquette	47,654	56,154	64,686	77,721	93,624	109,530
Marquette-Ishpeming-Negaunee	36,342	40,308	41,299	53,965	66,469	77,068
Menominee	25,299	24,685	24,587	25,584	27,155	28,728
Menominee-Marinette*	25,247	25,664	25,875	27,622	28,613	29,673
Ontonagon	10,282	10,584	10,548	11,263	12,183	13,102

* Menominee County figures do not include Marinette population.

SOURCE: Michigan County & Regional Facts Books - 1972.
Statewide Population Projections (Goldberg) - 1966.

POPULATION
1950 - 1990

	1950	1960	1970	1980		1990	
				High	Low	High	Low
Alger	10,007	9,250	8,568	8,250	7,529	8,200	6,349
Baraga	8,037	7,151	7,789	8,149	7,946	10,499	8,352
Delta	32,913	34,298	35,924	37,056	36,016	39,000	36,038
Escanaba-Gladstone	21,066	22,143	22,553	25,285	24,606	26,960	26,013
Dickinson	24,844	23,917	23,753	23,922	22,080	25,000	20,315
Iron Mountain-Kingsford-Norway	19,077	18,576	17,977	20,420	18,708	21,870	19,335
Gogebic	27,053	24,370	20,676	19,478	16,185	22,996	11,339
Ironwood-Bessemer-Wakefield	24,168	22,033	19,085	18,201	17,999	18,302	17,120
Houghton	39,771	35,654	34,652	34,221	33,317	38,502	31,513
Houghton-Hancock	12,999	12,864	13,070	14,044	8,584	14,959	9,234
Iron	17,692	17,184	13,812	15,116	11,590	16,776	9,408
Keweenaw	2,918	2,417	2,264	2,287	1,936	2,644	1,586
Marquette	47,654	56,154	64,686	77,721	67,971	93,624	69,507
Marquette-Ishpeming-Negaunee	36,342	40,308	41,299	53,965	49,100	66,469	51,270
Menominee	25,299	24,685	24,587	25,584	22,581	27,155	20,433
Menominee-Marinette*	25,247	25,664	25,875	27,656	27,622	28,916	28,613
Ontonagon	10,282	10,584	10,548	11,263	10,164	12,998	9,894

* Menominee County figures do not include Marinette population.

SOURCE: Department of Management and Budget, Population Projections for the Counties of Michigan, 1972.
Department of Commerce, Preliminary Population Projections for Small Areas in Michigan, 1966.
Western and Central Upper Peninsula Planning Commissions.

EDUCATION

Education is an important facet in our society and, since 1960, average educational attainment in the study area has risen approximately two full grades. This is due to generally higher individual attainment levels and increasing college resident population. However, because of older age distribution characteristics, the attainment level is still below statewide averages.

Several universities and colleges are located in the study area. These include Northern Michigan University (Marquette), Gogebic Community College (Ironwood), Suomi College (Hancock), Bay De Noc Community College (Escanaba), and Michigan Technological University (Houghton). In addition, Michigan State University provides Extension Service offices throughout the Upper Peninsula.

Despite improvement toward higher levels of educational attainment, a substantial percentage of males have less than an eighth grade education. This situation could discourage relocation of businesses into the region and place stress on social policies since unemployment rates for young workers with less than a high school education is generally double the rate of those with a diploma.

EDUCATION

		Median Years Completed			% of Males with 8th Grade or Less	Percent High School Graduates	Percent College
		1960	1970	1970 State			
Alger	M	8.8	10.7	12.0	39.3	41.3	10.4
	F	10.1	12.0	12.1		51.2	10.7
Baraga	M	8.7	10.3	12.0	40.4	37.7	12.5
	F	10.3	11.7	12.1		48.1	12.2
Delta	M	9.6	11.4	12.0	35.6	46.6	15.0
	F	10.8	12.1	12.1		52.1	13.1
Dickinson	M	10.0	11.5	12.0	33.8	47.1	14.8
	F	11.2	12.1	12.1		52.8	15.1
Gogebic	M	9.9	11.4	12.0	31.3	45.7	12.4
	F	11.0	12.1	12.1		53.5	13.1
Houghton	M	8.9	10.5	12.0	41.1	40.9	19.2
	F	10.0	11.9	12.1		49.6	17.1
Iron	M	9.8	10.8	12.0	37.7	42.1	13.5
	F	11.0	12.1	12.1		54.1	11.5
Keweenaw	M	8.3	8.8	12.0	55.0	33.2	6.7
	F	8.7	9.6	12.1		32.8	7.2
Marquette	M	10.5	12.2	12.0	24.5	57.2	21.0
	F	11.4	12.3	12.1		60.8	19.0
Menominee	M	9.0	11.2	12.0	36.3	44.8	11.5
	F	10.3	12.0	12.1		51.1	12.4
Ontonagon	M	8.8	11.3	12.0	35.9	45.5	13.1
	F	10.1	12.1	12.1		54.3	15.6

SOURCE: Michigan County & Regional Facts Books - 1972.
Michigan Department of Commerce

EMPLOYMENT - UNEMPLOYMENT

When viewed as one unit, there has been very little employment growth in the study area since 1940. Taken individually, Delta, Dickinson, and Marquette Counties have had significant growth in employment; Baraga, Menominee, and Keweenaw Counties have experienced moderate employment growth; while Alger, Gogebic, Houghton, and Ontonagon Counties have seen employment stay the same or decline. There are three major reasons for this low employment growth rate.

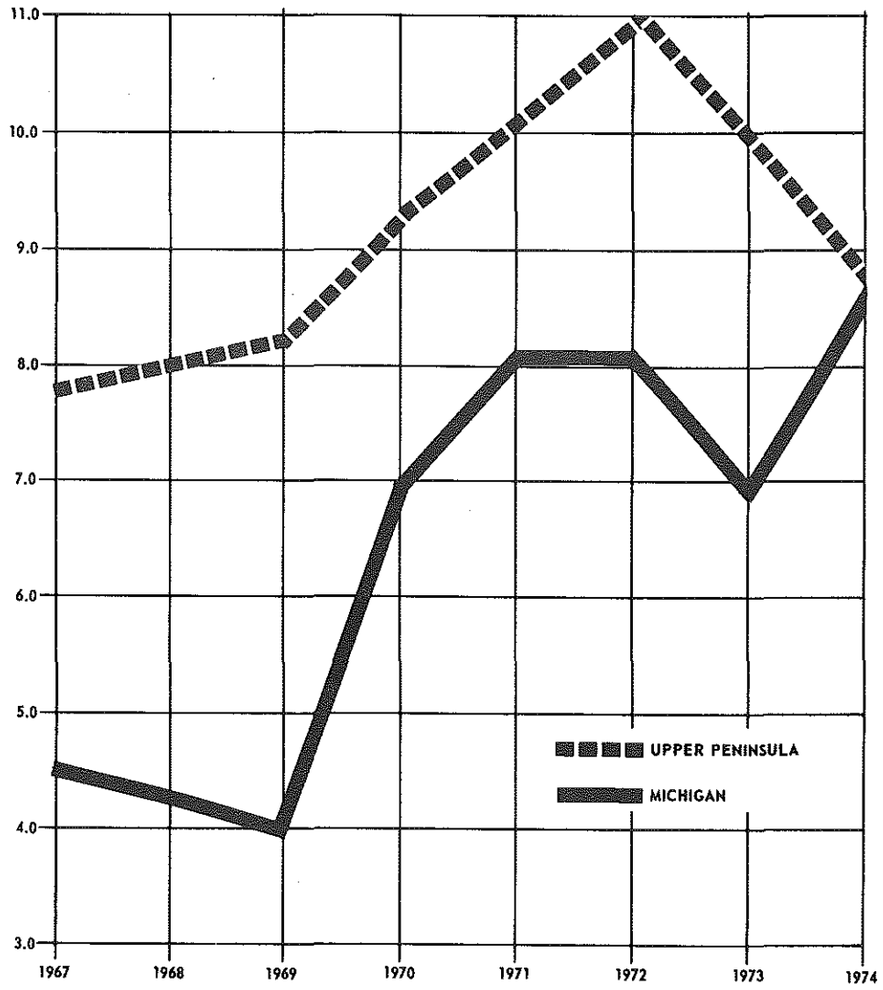
1. Increasing competition for markets from northern lower Michigan, northern Wisconsin, Minnesota, and Canada.

2. The continuing decline in natural resource based industries throughout the State and nation (such industries account for a majority of the area's manufacturing employment).

3. The high cost of transportation and long distances to market areas.

To compound matters, the three major industries of mining, lumbering and tourism all "peak" during the summer months. During this same period, the labor market is at its height since students are between school years and enter the job market. Therefore, even when employment is at its highest level, unemployment rates still tend to be high.

ANNUAL AVERAGE UNEMPLOYMENT
1967–1974



SOURCE: DEPARTMENT OF LABOR, ANNUAL MANPOWER PLANNING REPORT 1975, 1974

Because of the reasons stated before, unemployment rates for the study area have, until 1974, been higher than state averages. The 1974 average rate is a reflection of both the progress made in the western Upper Peninsula to provide employment opportunities and the increasing state average unemployment rate. The areas with highest unemployment rates tend to be the rural, isolated sections in the northern part of the region. Unemployment rates generally drop during the summer months and increase as winter progresses, reflecting the reliance of the study area on extractive and tourist activities.

The tourist and recreational industry is making some progress in combating this adverse situation by extending recreational activities throughout the year. The increased interest in fishing, hunting, skiing, and snowmobiling is helping to smooth the seasonal employment fluctuations. An efficient transportation system can help attract more business and tourists into the area by making it more accessible.

INCOME

The mean family income ranges from a low in Keweenaw County of $5,874 to a high in Delta County of $9,604. Michigan's mean family income is $12,296. The percentage of families in the study area existing on an income below the established poverty level as set by the Federal Interagency Committee, ranges from 8.2 percent to 21.8 percent. However, these poverty levels give no consideration to variances in cost of living for different sections of the country. Therefore, they do not reflect the relative purchasing power of any income level.

The percentage of families receiving public assistance ranges from a low in Dickinson County of 2.6 to a high in Keweenaw County of 12.6. The percentage of all Michigan families receiving public assistance is 4.3 percent. This pattern is reflected in other factors that indicate income levels. For example, the percentage of families receiving social security is 18.6 percent for Michigan as a whole, and ranges from 19.1 percent to 34.5 percent for the study area.

SELECTED FAMILY CHARACTERISTICS

	Alger	Baraga	Delta	Dickinson	Gogebic	Houghton	Iron	Keweenaw	Marquette	Menominee	Ontonagon
Total # of Families	2,134	1,960	8,842	6,246	5,495	8,357	3,760	634	15,370	6,320	2598
% Below Poverty Level	11.1	12.4	10.6	10.2	13.2	21.0	10.6	21.8	8.7	12.9	8.2
Mean Family Income	8,278	9,461	9,604	8,812	7,523	7,206	7,787	5874	9,223	8,278	8711
Mean Income of Families Below Poverty Level	2,178	3,023	2,070	1,906	2,110	2,115	2,512	2512	1,949	2,057	2172
Number of Families with Female Head	140	170	677	517	552	874	346	74	1,222	529	188
% Below Poverty Level	49.3	51.8	27.9	24.2	32.8	36.3	24.6	29.7	36.9	31.4	12.2
% of Families Receiving Public Assistance	4.8	8.2	4.8	2.6	4.3	9.3	7.1	12.6	3.6	2.9	4.7
% Below Poverty Level	28.4	25.5	15.9	9.5	12.8	26.7	20.7	29.7	14.8	12.4	34.0
% of Families Receiving Social Security Income	22.9	29.4	25.3	28.1	31.4	29.8	30.0	34.5	19.1	27.2	23.3

SOURCE: Michigan County & Regional Facts Books - 1972
Michigan Department of Commerce

ECONOMY

The western Upper Peninsula originally developed with the mining and lumbering industries. Economically, these counties tend to affiliate more with the Milwaukee-Chicago, and Duluth-Minneapolis-St. Paul market areas than those of lower Michigan.

With the passage of time, two things occurred which upset the area's natural resource-based economy:

1. As minerals became available at lower cost from other locations, the higher cost U.P. producers became marginal and non-competitive. Simultaneously, the Upper Peninsula's timber resources were depleted.

2. As these marginal producers discontinued operations, the remaining ones, in an effort to be more competitive, reorganized, mechanized, and adopted different technologies. Many of these changes reduced the area's employment.

The result has been a lack of industrial expansion, out-migration, unemployment, low income, poor housing, and lack of services. These are problems that have plagued the western Upper Peninsula since the decline in its natural resource industry.

Signs that the region is overcoming its lack of economic vitality include the massive expansion of the Mead Corporation in Escanaba, re-openings of the southwestern ore body at White Pine and the Centennial Mine in Calumet, and increased geophysical/geochemical explorations in the Keweenaw Peninsula. Some of the population centers, especially Houghton-Hancock, Marquette-Ishpeming-Negaunee and Escanaba-Gladstone have enjoyed increased commercial activity in recent years. Additionally, aggressive attempts to encourage industry and

business to relocate into the area are continually sponsored by local governmental units.

Clean air and water as well as a lack of other big city problems of crime, traffic, etc., make the area increasingly attractive for industrial location. Colleges and universities servicing the area offer excellent higher educational opportunities as well as expert technical consultants to industry. Increasing amounts of state monies deposited in Upper Peninsula banks provide more funds for business construction and expansion. The national trend of increasing leisure time and the many areas of natural beauty, excellent hunting, fishing, and extended recreational season points toward expansion of tourism within the region.

All of these factors are important in offsetting the insufficient employment opportunities which is the major economic problem facing the area. Another important factor is the transportation system. A good, efficient transportation system by improving accessibility, and reducing transportation time and cost and, therefore, total production cost can encourage new businesses to locate and old ones to remain in the area.

LAND VALUES AND USAGE

The key to land value and use is its accessibility. When accessibility is enhanced, the general pattern has been for land value to increase and land use to intensify. It is recognized that an initial tax loss may result as taxable land units are acquired to provide for a transportation network. However, as land values rise and usage intensifies, the assessed valuation will tend to rise, offsetting an initial tax base loss. These increases generally, over a period of time, provide greater tax revenues because of greater increases in assessed valuation.

It is also recognized that major intersections are often prime focal points for development. The minimum accessibility to a roadway makes them natural growth centers. However, unless the development is controlled by local authorities, an indiscriminate, uncoordinated land-use pattern can occur. Controlled development and sound planning, with environmental awareness, can provide the area with economic development and maintain the aesthetic quality of the environment.

HEALTH SERVICES

There are six hospitals within the study area with a bed capacity of 100 or more. This includes St. Francis Hospital in Delta County (125), Dickinson County Memorial Hospital in Dickinson County (118), St. Joseph Community Hospital in Houghton County (155), Francis Bell Memorial Hospital (138), and Marquette General Hospital (310) in Marquette County, and St. Joseph-Lloyd Hospital in Menominee County (103).

All the other counties except Keweenaw have hospitals, but their bed capacity is less than 100.

Other indicators of available health services are ratio of doctors to patients, ratio of hospital

beds to population, and facilities for elderly age groups. The statewide ratios are 1,000 patients per doctor and 213.6 persons per hospital bed. Only Dickinson and Marquette Counties are below the doctor to patient ratio at 848 and 965 petients per doctor, respectively. The other counties range from 1,195 to 2,637 patients per doctor. However, all counties except Alger and Menominee are below the statewide ratio of persons to hospital beds. The range is from 108.2 persons per hospital bed in Baraga County to 287.4 in Delta County. Homes for the aged are available in six of the eleven counties. Two of the six counties with facilities for the aged have bed capacities of less than 15.

SUMMARY

The western Upper Peninsula is a vast region. Communities, educational facilities, health services, and employment opportunities are scattered throughout the region. This pattern of development is expected to continue into the future. The economic outlook for the study area will be enhanced if the recreational industries are successful in extending their seasons to include year-round activities, and the counties are successful in attracting manufacturing and industrial development. An efficient transportation network can help in achieving these objectives.

Transportation systems have a profound impact on the social and economic life of a region. If they are not planned with care and concern for these impacts, these systems can hinder the vitality of a region. A total transportation system, carefully planned and constructed with an awareness of its social and economic impact, can serve as a vital element to a growing area. Such a system can help attract new industry, can provide increased interaction between communities, can ease the burden of traveling to needed health or social facilities, and can provide for a safer journey for those using the system.

ENVIRONMENT

The study area is noted for its scenic beauty and large tracts of wild lands. Land tenure and land use data show approximately one-third is in public ownership and more than 90% is covered by forests. Although the area is at the northern border of the United States, the climate is moderated in Great Lakes shoreline areas by the presence of the surrounding water.

The geologic history of the western Upper Peninsula is characterized by the formation of crystalline bedrock during the Pre-Cambrian Era. The two major sub-epochs of geologic development within the region were the Keweenawan and Huronian, which are estimated to be one billion and two billion years old respectively. The Keweenawan bedrock is characterized

by interlayered lavas and conglomerates overlaid by slates and sandstone. Rocks of the Keweenawan series contain copper deposits which characterize Michigan's famous "Copper Country". These deposits crop out in a belt that extends from the tip of the Keweenaw Peninsula southward through the Porcupine Mountains into Wisconsin. Huronian development is made up of slate/iron formations extending from the Gogebic, to the Marquette, and down to the Iron River-Crystal Falls and Menominee Iron Ranges. Natural resources associated with these bedrock formations, in addition to copper and iron, include other metallic minerals, and aggregate and building stone.

The surface geology of the western Upper Peninsula was altered by continual glaciation which began one million years ago. Four different invasions of ice eroded and shaped the surface bedrock or buried it beneath the accumulated debris. Following the retreat of the last glacier this debris was exposed to continued weathering and present surface formations were shaped. Environmental land use constraints associated with surface geology include: groundwater supplies, sand and gravel deposits, suitability of overburden for development, and suitability of soils for selected uses.

Soils of the study area include loamy to sandy soils in the southwest. In the northwest, soils are primarily clays, which have developed in clayey lake plain deposits. The eastern portion of the study area has loamy soils on steep moraines with associated rock outcrops to the north and organic soils to the south. Land uses generally associated with these soils include: general agriculture on clayey and loamy soils and forestry and recreation on all types.

The surrounding Great Lakes shorelines provide outstanding scenic vistas of Lake Michigan and Lake Superior. A variety of shoreline marshes, sand and cobble beaches, rock cliffs and low sand dunes are settings for highly unique natural areas along both coasts.

In the interior of the study area there are a few large lakes (for example Lake Gogebic and Lake Michigamme) with many clusters of smaller lakes. These lakes offer a wide variety of fishing and other recreational opportunities. Elsewhere large acreages are covered by wetlands. In these wetland areas the only uplands are frequently located along streams with swamps encompassing the areas between the branches of the drainage systems.

The major drainage basins are those of the Escanaba, Michigamme, Sturgeon and Ontonagan Rivers. Smaller drainage basins include: the Ford, Cedar, Little Cedar, Iron, Isle/Hemlock, and Paint/Net Rivers. In addition, much of the study area is drained by small streams which arise near the shorelines of Lake Michigan and Lake Superior and empty into these lakes. The majority of these streams are classified by the Michigan Department of Natural Resources as top quality trout streams.

The most prevalent and valuable forest type in this study area is the northern hardwood. This forest type is dominated by sugar maple and yellow birch, and is useful for saw timber, veneer, chips, pulpwood, chemicals and many other purposes.

Other major forest types in the study area include the aspen-birch and spruce-fir types. A fourth type, upland conifer, which consists chiefly

of pine is also present in the study area, but occurs to a much lesser extent than in the eastern Upper Peninsula. Most of the stands of aspen-birch, spruce-fir and upland conifer are characterized by pole sized timber which is for the most part, suitable only for pulp and chip production.

The study area has a rich wildlife resource which serves as an attraction to hunters, tourists and naturalists alike. The wildlife species of probably the greatest interest is the white-tailed deer. However, due to selective logging and forest fire control measures that have allowed closure of forest openings, the quality of available whitetail habitat has diminished in recent years.

This lessening of whitetail habitat has caused declines in ruffed grouse and snowshoe hare populations from their peak numbers in the late 1940's. In an effort to reverse these trends, the Michigan Department of Natural Resources has recently begun a program which involves cutting more timber on state lands and encouraging a greater timber harvest on private lands. This program should not only improve deer habitat, but the habitat of ruffed grouse and snowshoe hare as well.

The study area's wetlands, streams and lakes are a haven for two other important forms of wildlife. One is the large number of ducks and geese, particularly Canadian Geese, which provide for hunting and a waterfowl spectacle each fall. The second is the great variety of fur-bearing animals which are trapped for their fur.

Two additional wildlife species of lesser economic importance, but of historic importance, are the bald eagle and eastern timber wolf. The bald eagle and timber wolf are well known because of their respective status as the nation's symbol and role in folklore. Despite this interest, both species are considered as rare and endangered in Michigan. The wild portions of the study area, in combination with those in the eastern Upper Peninsula, may well represent the last hope for the survival of these species in Michigan.


LAKE SUPERIOR
LAKE SUPERIOR
LAKE MICHIGAN
GREEN BAY
KEWEENAW BAY
STATE OF WISCONSIN
MANITOU I.
EAGLE HARBOR
EAGLE RIVER
COPPER HARBOR
DELAWARE
PHOENIX
MOHAWK
KEWEENAW
ADMEEK
CALUMET
COOPER CITY
LAURIUM
LAKE LINDEN
OSKAR
HANCOCK
HOUGHTON
SOUTH RANGE
DOLLAR BAY
TOIVOLA
CHASSELL
HOUGHTON
SILVER CITY
ONTONAGON
TWIN LAKES
KEWEENAW BAY
CARLSON
L'ANSE
BARAGA
WHITE PINE
NISULA
ROCKLAND
MASS
ONTONAGON
BERGLAND
TULA
ALBERTA
BARAGA
BESSEMER
WAKEFIELD
IRONWOOD
DIAZ
EWEN
BRUCE CROSSING
SIDNAW
COVINGTON
NESTORIA
MICHIGAMME
NEGAUNEE
MARQUETTE
GRAND I.
MUNISING
AU TRAIN
SAND RIVER
ISHPEMING
HUMBOLDT
KENTON
OUT CREEK
WHITE CITY
PAULDING
MARENISCO
REPUBLIC
SKANDIA
DUKES
FOREST LAKE
CHATHAM
ALGER
GWINN
GOGEBIC
GOGEBIC STA.
WATERSMEET
WITCH LAKE
AMASA
IRON
MARQUETTE
MCFARLAND
TRENARY
OSIER
ROCK
PERKINS
BEECHWOOD
MINERAL HILL
CRYSTAL FALLS
CHANNING
IRON RIVER
STAMBAUGH
CASPIAN
CURONYS CORNERS
GAASTRA
RANDVILLE
DICKINSON
DELTA
RAPID RIVER
ISABELLA
ENCAMPMENT
IRON MOUNTAIN
KINGSFORD
NORWAY
WAUCEDAH
CUNARD
GLADSTONE
BARK RIVER
ESCANABA
HARRIS
POWERS
NADEAU
LITTLE BAY DE NOC
BIG BAY DE NOC
SUMMER I.
MENOMINEE
DAGGETT
STEPHENSON
CEDAR RIVER
WALLACE
BEACH GROVE
MENOMINEE
4 F IDENTIFICATION
PUBLIC OWNERSHIP
★ PUBLIC FISHING SITES
● HIGHWAY ROADSIDE PARKS
NATURAL RIVERS UNDER STUDY OR PROPOSED FOR STUDY
▪ PARKS

4F IDENTIFICATION
PUBLIC OWNERSHIP

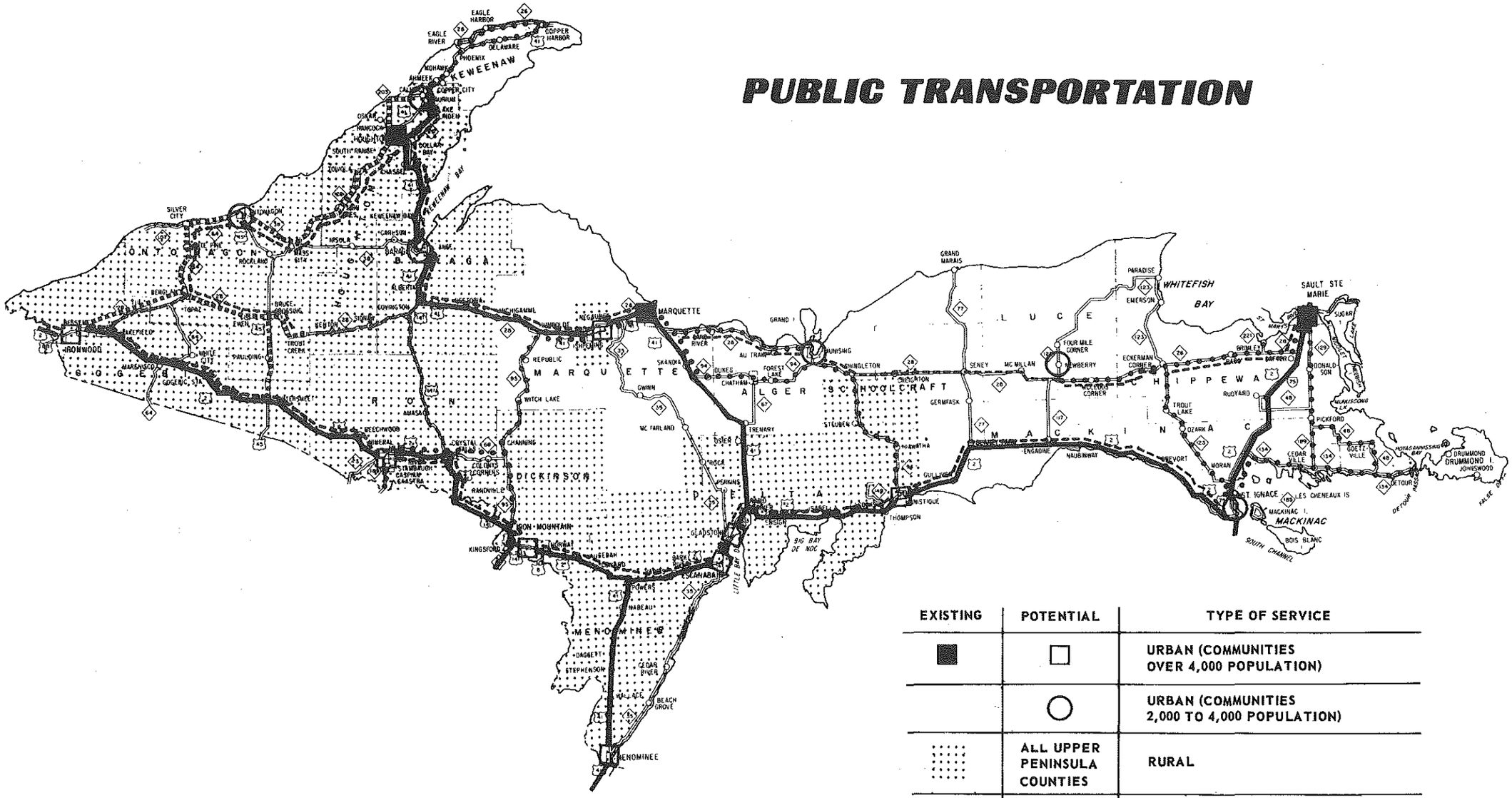
PROTECTED AREAS

The Congress of the United States recognized the value of public recreation, wildlife refuges and park areas as resources that must be protected by passing into law Section 4(f) of the Federal-aid Highway Act of 1966. Section 4(f) requires that the Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of the lands traversed. After the effective date of the Act, the Secretary could not approve any program or project which required the use of any land from a public park, recreation area, wildlife and waterfowl refuge, or historic site unless (1) there was no feasible and prudent alternative to the use of such land, and (2) such program included all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site resulting from such use.

The Right of Way Division of the Department has conducted a study for the western Upper Peninsula areas identifying potential 4(f) lands as described by the 1966 Act and implemented by the United States Department of Transportation.

This study, as shown at the left, identified Federal Forest Campgrounds, recreational sites, Department of Natural Resources State Parks, campgrounds, public fishing sites, Department of State Highways and Transportation roadside parks, and other publicly owned parks, as well as specially designated rivers.

PUBLIC TRANSPORTATION



EXISTING	POTENTIAL	TYPE OF SERVICE
■	□	URBAN (COMMUNITIES OVER 4,000 POPULATION)
	○	URBAN (COMMUNITIES 2,000 TO 4,000 POPULATION)
⋰⋰⋰	ALL UPPER PENINSULA COUNTIES	RURAL
▬▬▬	• • • • •	REGIONAL
———	- - - - -	INTERCITY

MODAL TRANSPORTATION TRENDS, DEFICIENCIES AND POTENTIALS

PUBLIC TRANSPORTATION

The Governor has presented the challenge of providing public transportation service to all citizens of the State of Michigan. This will require a comprehensive public transportation system which includes urban, rural, regional, and intercity services. Many services have recently been established and more are being planned for implementation in the near future.

Public transportation comprises one element of a total transportation system designed to serve all transportation needs existing in the Upper Peninsula. Public transportation policies regarding the Upper Peninsula do not advocate a regional public transportation system which will preclude the need for improving another mode. For instance, it is not envisioned that a high level of transit service in the Upper Peninsula would eliminate the need to widen a roadway. Rather, existing and forecasted travel desires suggest that each mode should complement the other modes.

Public transportation in the Upper Peninsula is generally synonomous with bus transportation. There is no railroad passenger service and only limited air service between Upper Peninsula communities. Bus transportation operates over the network of streets and highways and improvements to this network will affect bus service. The degree of impact varies depending upon the highway improvement which is contemplated. City and county improvement projects usually have a minimal effect upon the areawide public transportation system. However, major new freeway construction could have considerable impact on intercity bus services. A new freeway corridor is most beneficial to intercity buses if it is located close to the communities which require service. A new route passing through an undeveloped area many miles from any population concentrations severely limits the ability of buses to provide good service.

Existing public transportation in the Upper Peninsula consists of a large number of bus systems including urban dial-a-ride and fixed-route, rural elderly and handicapped fixed-route and demand-responsive, commuter bus, and intercity bus. These services have been grouped into four levels of service (urban, rural, regional and intercity) with existing service and possible illustrative alternatives being discussed in this section and presented on the public transportation map to the left.

Urban Public Transportation

Urban public transportation, in communities with more than 4,000 residents, is a full scale transit service designed to accommodate the bulk of trips being made between places within a single community. Existing urban service consists of two dial-a-ride (DART) services, Sault Ste. Marie and Houghton/Hancock, and one fixed-route

service, Marquette, as indicated on the public transportation map.

The Sault Ste. Marie service, initiated in April, 1974, currently utilizes five 12 passenger vans to transport over 7,700 passengers each month, or an average of 306 passengers per day. This level of ridership reflects 2,000 monthly riders resulting from local bus transportation service across the International Bridge to Sault Ste. Marie, Canada initiated in March, 1975. The Sault Ste. Marie system has a vehicle productivity of 5.6 passengers per vehicle hour.

The Houghton/Hancock DART service, initiated in July, 1974, currently utilizes four 12 passenger vans and one 18 passenger van to transport over 10,800 passengers each month, or an average of 445 passengers per day. The service has a vehicle productivity of 7.9 passengers per vehicle hour. Both Sault Ste. Marie and Houghton/Hancock have levels of ridership and vehicle productivity above average when compared with other DART systems in operation throughout Michigan.

The Marquette fixed-route service, with three buses, carries some 8,200 passengers a month, or 350 passengers per day. One bus serves the city of Marquette, one operates between Marquette, Negaunee, and Ishpeming, and one is a reserve vehicle for use in emergencies. The service has several deficiencies including infrequent service, circuitous routing, 20-year old buses, and inadequate storage and maintenance facilities. These deficiencies may or may not be corrected in the near future as no local funding to operate the system beyond the end of June 1976 is committed. Should local funding be available, federal funds will be sought to acquire new buses, bus passenger shelters, and a new maintenance facility.

Several communities in the Upper Peninsula over 4,000 population, have no urban public transportation services. These consist of Escanaba, Gladstone, Iron Mountain, Iron River/Stambaugh, Ironwood, Ishpeming, Manistique, and Menominee. Illustrative alternatives for urban public transportation should include provision of a demand-responsive, fixed-route, or combined transit service in these communities.

Urban public transportation in communities with 2,000 to 4,000 inhabitants consists of a limited public transportation service. For instance, this service could be a demand-responsive service coupled with a rural public transportation service where the rural service would be provided during peak periods and urban service during the off-peak periods using the same vehicles. No community in the 2,000 to 4,000 population range has any form of public transportation at the present time.

Several Upper Peninsula communities, or clusters of communities, have a population between 2,000 and 4,000. These consist of Baraga/L'Anse, Calumet, Munising, Newberry, Ontonagon, and St. Ignace. Illustrative alternatives for urban public transportation should include consideration of transit service for these communities.

Rural Public Transportation

Rural public transportation generally serves a single county and is characterized by trips designed to transport people from rural areas

into urban areas. Existing rural service in the Upper Peninsula consists of the following components as portrayed on the public transportation map.

- Houghton countywide service using three 40 passenger buses to serve all residents (fixed-route service), one 12 passenger van to serve the elderly and handicapped (demand-responsive), and one 11 passenger bus equipped with an hydraulic lift to serve the elderly and handicapped (demand-responsive service).

- Gogebic and Ontonagon counties areawide service using two 12 passenger vans and one 10 passenger van to provide the elderly and handicapped a fixed-route service with established pick-up/discharge points.

- Iron County elderly and handicapped service using two 11 passenger vans, one serving the eastern portion of the county, and the other the western portion.

- Dickinson County elderly and handicapped service using four 11 passenger vans to provide a combined fixed-route/demand-responsive service to the entire county.

- Baraga County elderly and handicapped service using one 16 passenger bus to serve the entire county.

- Ishpeming area elderly and handicapped service using one 18 passenger bus and one 12 passenger van to serve the cities of Ishpeming, Negaunee, Republic and Humboldt and the townships of Ely and Ishpeming on a fixed route/demand-responsive combination basis.

- Menominee County elderly and handicapped service using two 12 passenger vans to serve the entire county on a demand-responsive basis.

- Delta County elderly and handicapped service using two 12 passenger vans to serve the entire county on a demand-responsive basis.

- Schoolcraft County elderly and handicapped service using two 12 passenger vans to serve the entire county on a demand-responsive basis.

The existing rural service provides access to intercity public transportation and urban public transportation where available. The service is offered about eight hours a day usually on selected days of the week only. Often a county is segmented with only one part of the county receiving service on a particular day. The elderly and handicapped are the basic recipients of the service.

Illustrative alternatives for rural public transportation service should address providing adequate service for all residents not just the elderly and handicapped in all counties in the Upper Peninsula. Rural public transportation is of critical importance in achieving a statewide portal to portal public transportation system.

Regional Public Transportation

Regional public transportation serves more than one county and is characterized by trips designed to transport people between urban communities and from key intermodal transfer points, such as ferry docking areas, into urban communities. Present regional service in the Upper Peninsula consists of the following commuter services, all of which are designed to accommodate those working in mines in the White Pine area.

- Three round trips per day between Calumet and White Pine via M-26/38/64.
- Three round trips per day between Lake Linden and Hancock via M-26 connecting with the Calumet to White Pine service.
- Three round trips per day between Trout Creek and White Pine via M-28.
- One round trip per day between Watersmeet and Bruce Crossing via US-45 connecting with one of the Trout Creek to White Pine runs.
- Twelve round trips per day between Ironwood and White Pine via M-28 and M-64.

There appears to be a need for additional regional public transportation service in several parts of the Upper Peninsula to achieve a linkage between urban communities not presently being served with, or suggested to be served with, intercity public transportation. Consideration should be given to providing regional services portrayed on the public transportation map several days each week.

- Bus service from Detour to St. Ignace and Sault Ste. Marie.
- Bus service from Gaastra, Caspian, and Stambaugh to Iron River.
- Bus service from Sault Ste.Marie and St.Ignace to Newberry. This service would be oriented toward providing access to Sault Ste.Marie and St.Ignace from Newberry and points in between.
- Bus service from Marquette to Munising and Manistique and from Marquette to Iron River and Iron Mt. and selected communities in between.
- Bus service from Calument to Copper Harbor and points in between. This service would connect with existing Calument to White Pine service.

Intercity Public Transportation

Intercity public transportation service is characterized by long distance trips between medium-sized and large communities. Intercity service in the Upper Peninsula consists of the following elements:

- Three round trips per day between St. Ignace and Sault Ste. Marie via I-75 with two trips connecting Detroit and Canada and one connecting Grand Rapids and Sault Ste. Marie, Michigan.
- One round trip per day between St. Ignace and Ironwood via US-2 with trip terminals being Detroit and Duluth.

- o Two round trips per day between Menominee and Ishpeming via US-41 with both trips originating in Chicago and terminating one each in Ishpeming and Calumet.

- o One round trip per day between Iron River and Green Bay via Iron Mountain using US-2 and M-95.

Connections between the intercity bus services are provided at St. Ignace and Rapid River. With the exception of the St. Ignace to Sault Ste. Marie and Menominee to Ishpeming services, buses travel through the Upper Peninsula during the evening and early morning hours only.

Use of this service is heaviest in the Sault Ste. Marie to St. Ignace and Escanaba/Rapid River to Ishpeming corridors where some 40-50 and 50-60 persons ride the system each day in the two corridors, respectively. The St. Ignace to Ironwood via Rapid River bus service is used by approximately 20-30 persons on a daily basis. The Menominee to Escanaba and Ishpeming to Calumet service accommodates 20-30 persons each day. On the average, bus occupancy ranges from 15% to 30%.

Generally speaking, trends in intercity public transportation have been characterized by a decrease in the number of passengers and a reduction in the number of bus miles operated. This often-times results in increased trip lengths for passengers, increased number of transfers, less convenient arrival and departure times, and elimination of service to selected major points of interest. Intercity bus routing and ridership in the Upper Peninsula have remained relatively unchanged during the past five year period.

Some apparent deficiencies in intercity public transportation service exist. A lack of east-west daytime intercity bus service anywhere in the Upper Peninsula is one deficiency. A second is that no east-west intercity bus service, whatsoever, is provided in the northern portion of the Upper Peninsula. Travel time by bus between Sault Ste. Marie and Marquette is approximately 7 1/2 hours and Ironwood to Houghton 9 1/2 hours. These times could be reduced by at least 50% with provision of bus service in the M-28 corridor. A third is a lack of service to selected major destinations in the M-28 corridor such as the community of Newberry.

Illustrative alternatives for intercity public transportation service should include consideration of the routings portrayed on the public transportation map.

- o A daytime bus service between St.Ignace and Ironwood via Rapid River/Escanaba using US-2 supplementing the existing nighttime service.

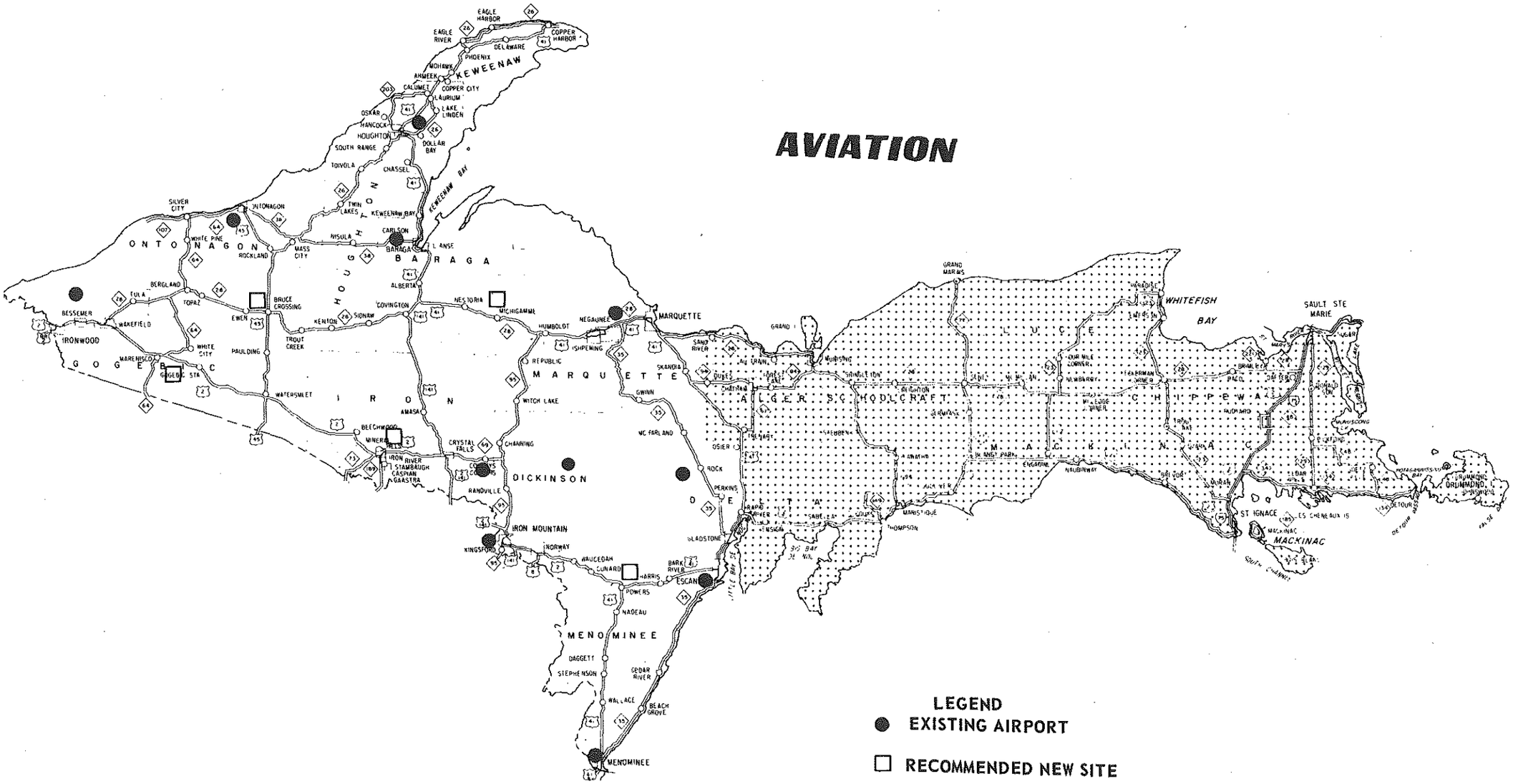
- o A daytime bus service between Sault Ste. Marie and Ironwood via Marquette using M-28.

- o A daytime bus service between Ironwood and Houghton/Hancock via Ontonagon using M-28, M-64, US-45, and M-26.

- o A daytime bus service between Iron Mountain and Houghton/Hancock via US-141 and US-41.

When evaluating illustrative alternatives for intercity bus transportation, consideration should be given to improvements planned and programmed for other public transportation modes, rail and air passenger services, designed to meet the intercity travel needs of Upper Peninsula residents.

AVIATION



LEGEND

● **EXISTING AIRPORT**

□ **RECOMMENDED NEW SITE**

(See page 24 for airport classifications)

AVIATION

The Michigan State Highway Commission and the Michigan Aeronautics Commission in 1974 adopted the "Michigan State Airport System Plan", a 20-year aviation plan for the State of Michigan.

The recommendations in this plan were based on a two-year study of existing and projected aviation activity through the year 1990.

AVIATION TRENDS

	State Planning Region 12			State Planning Region 13		
	1970	1990	Percent Increase	1970	1990	Percent Increase
General Aviation Based Aircraft	102	270	164	51	120	135
Annual General Aviation Operations	111,000	263,000	137	45,000	120,000	167
Annual Scheduled Airline Operations	1,400	6,100	336	5,100	9,500	86
Annual Scheduled Airline Passenger Boardings	61,000	348,000	529	26,000	109,000	319

AVIATION DEFICIENCIES

The State Plan recommends additional development at six existing Airline Airports, five existing General Aviation Airports, and the construction of five new General Aviation Airports in the western half of Michigan's Upper Peninsula (west of US-41).

The map on page 22 identifies the existing and proposed airports that are included in the State Airport System Plan for the western Upper Peninsula. Chart No. 2, on the following page, lists the airports that are included in the State plan and the recommended airport classification for the short, intermediate and long range planning periods. Also shown (see Chart No. 3) are the activity levels that were used to determine the general aviation operational roles as well as diagrams of typical airport layouts (Chart No. 4).

The State Plan also recommends that the majority of the General Aviation Airports remain minimum Basic Utility (BI) Airports throughout the planning periods.

Each airport will require a detailed master plan to further refine the recommendations of the State Plan.

AIRPORT CLASSIFICATION

Chart No. 2

CITY	1973-1977	1978-1982	1983-1992
Baraga	BI	BI	BII
Bruce Crossing	BI	BI	BI
Crystal Falls	BII	GU	GU
Escanaba	AC	AC	AC
Hancock	AC	AC	AC
Hermansville	--	BI	BI
Iron Mountain	AC	AC	AC
Iron River	BI	BII	BII
Ironwood	AC	AC	AC
Marenisco	--	BI	BI
Marquette	AC	AC	AC
Menominee	AC	AC	AC
Michigamme	--	BI	BI
Ontonagon	BII	GU	BT
Ralph	BI	BI	BI
Rock	BI	BI	BI

AC = Airline Airport

Chart No. 3

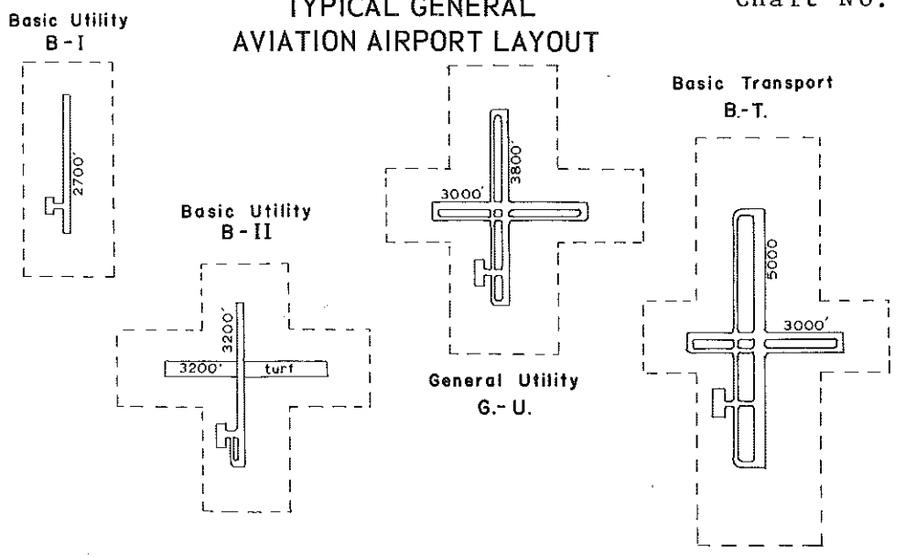
Airport Operational Roles

CLASSIFICATION OF AIRPORTS SERVING *GENERAL AVIATION*

Code for Operational Role	*Examples of Largest Aircraft Accommodated*	*Level of Activity*	*Percentage of GA Fleet Accommodated*	*Typical Length of Longest Runway*
BI-(Basic Utility) Stage I	Cessna–172 Piper Tri-pacer, etc.	Less than 10 aircraft based at airport	75%	2700'
BII-(Basic Utility) Stage II	Cessna–310 Beech Baron, etc.	More than 10 based aircraft. Less than 20,000 operations per year	95%	3200'
GU-(General Utility)	Beech King & Queen Airs, Piper Navajo, etc.	More than 20,000 operations per year or 500 operations per year by general utility type aircraft	98%	3800'
BT-(Basic Transport)	Lear Jet, Saberliner Cessna Citation, etc.	500 or more operations per year by business jet aircraft	99+%	5000'
GT-(General Transport)	Convair 580, Boeing 727, DC-9, etc.	Substantial operations by very large general aviation aircraft (over 60,000 pounds gross weight)	100%	5000'+

Chart No. 4

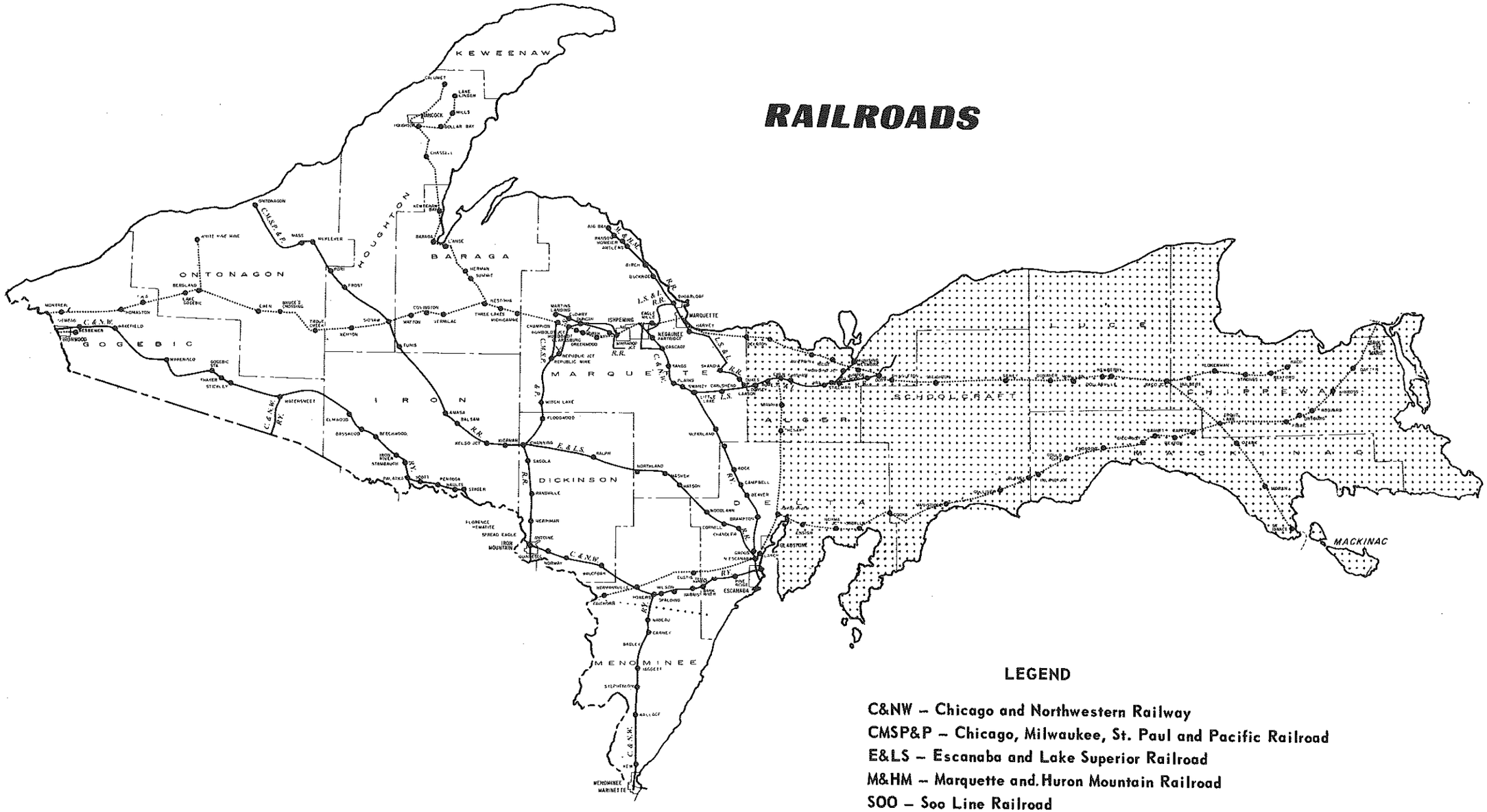
TYPICAL GENERAL AVIATION AIRPORT LAYOUT



RAILROADS

NON-MOTORIZED TRANSPORTATION

RAILROADS



LEGEND

C&NW – Chicago and Northwestern Railway
CMSP&P – Chicago, Milwaukee, St. Paul and Pacific Railroad
E&LS – Escanaba and Lake Superior Railroad
M&HM – Marquette and Huron Mountain Railroad
SOO – Soo Line Railroad
LS&I – Lake Superior and Ishpeming

RAILROADS

The railroad companies operating in the study area are listed below and are shown on the map on page 26.

Soo Line Railroad

Chicago and North Western Railway

Chicago, Milwaukee, St. Paul and Pacific Railroad

Escanaba and Lake Superior Railroad

Marquette and Huron Mountain Railroad

Lake Superior and Ishpeming

Long term railroad planning studies are currently in progress for the entire State of Michigan. The results of this effort will be incorporated into the Biennial State Transportation Plan and into the various regional transportation system plans.

NON-MOTORIZED TRANSPORTATION

By virtue of present state law, non-motorized transportation facilities--chiefly bicycle paths--are established in conjunction with highway alignments rather than as independent systems. This dependency suggests that warrants for such facilities should be developed after corridor alignments have been determined - during the project planning stage which follows the completed system plan. However, any significant changes in the environmental or social impact of any of the illustrative alternatives, which could result from the addition of a non-motorized facility, will be documented during the system planning phase.

Non-motorized transportation facilities already planned in conjunction with existing state trunklines include:

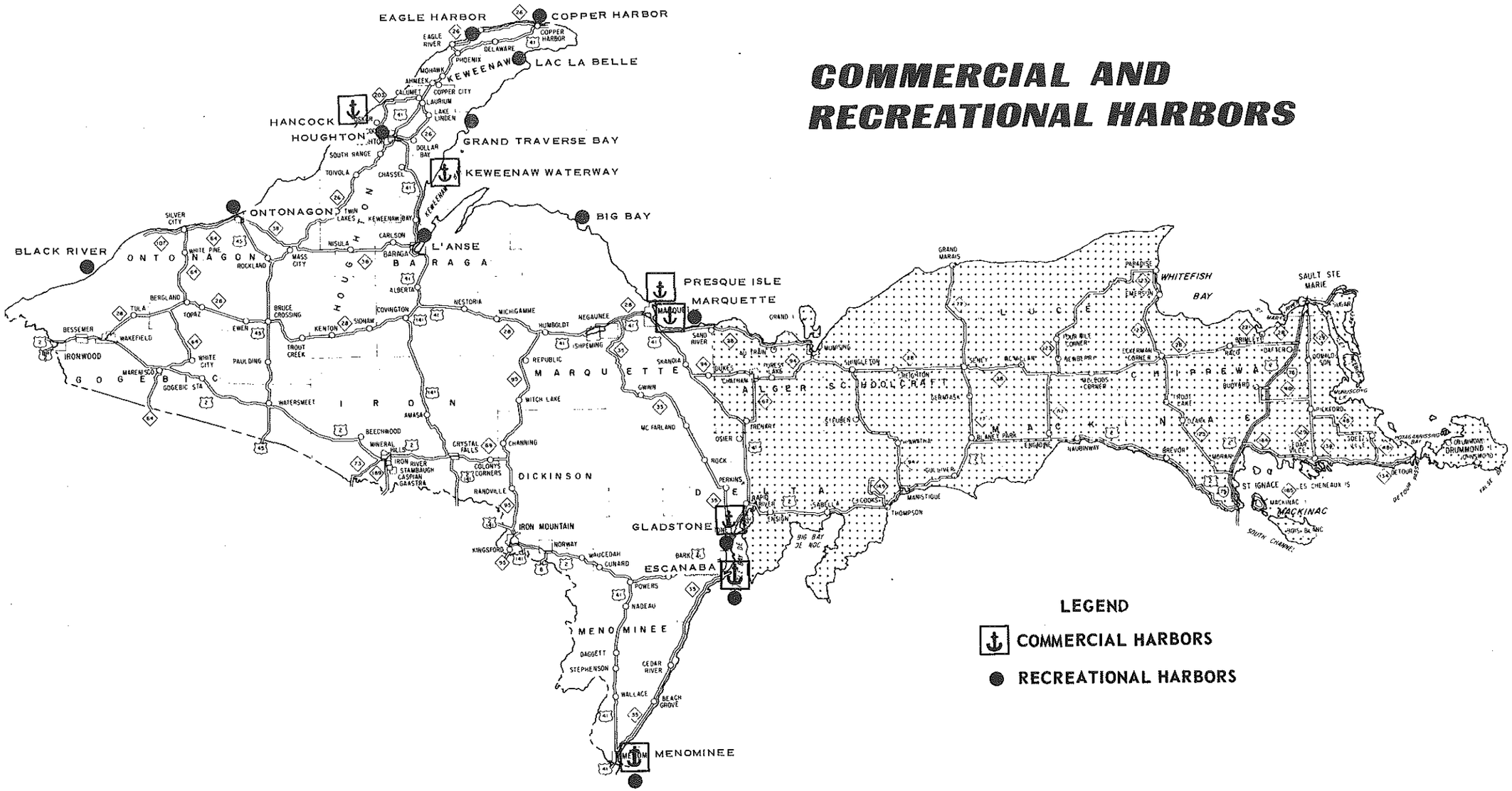
Marquette - A separate eight foot bicycle path--2.8 miles in length--from the south city limits of Marquette southerly along US-41 to the US-41/M-28 junction.

Escanaba - Paved shoulders (left and right) for bicycle use--as well as a separate two-way path--for a distance of five miles, from Escanaba southerly along M-35.

Menominee - Concrete bike paths within the City of Menominee, about two miles in length along US-41, to connect with the city's existing sidewalk system.

All of the above facilities are expected to be operational during the summer of 1976.

COMMERCIAL AND RECREATIONAL HARBORS



COMMERCIAL AND RECREATIONAL HARBORS

Port development in the State of Michigan is associated with two specific types of activity: (1) Recreational harbors and harbors of refuge, and (2) Commercial harbors. The responsibility for recreational harbors and harbors of refuge within state government is vested primarily in the Michigan Waterways Commission of the Department of Natural Resources. The overall planning responsibility for commercial harbors lies within the Michigan Department of State Highways and Transportation.

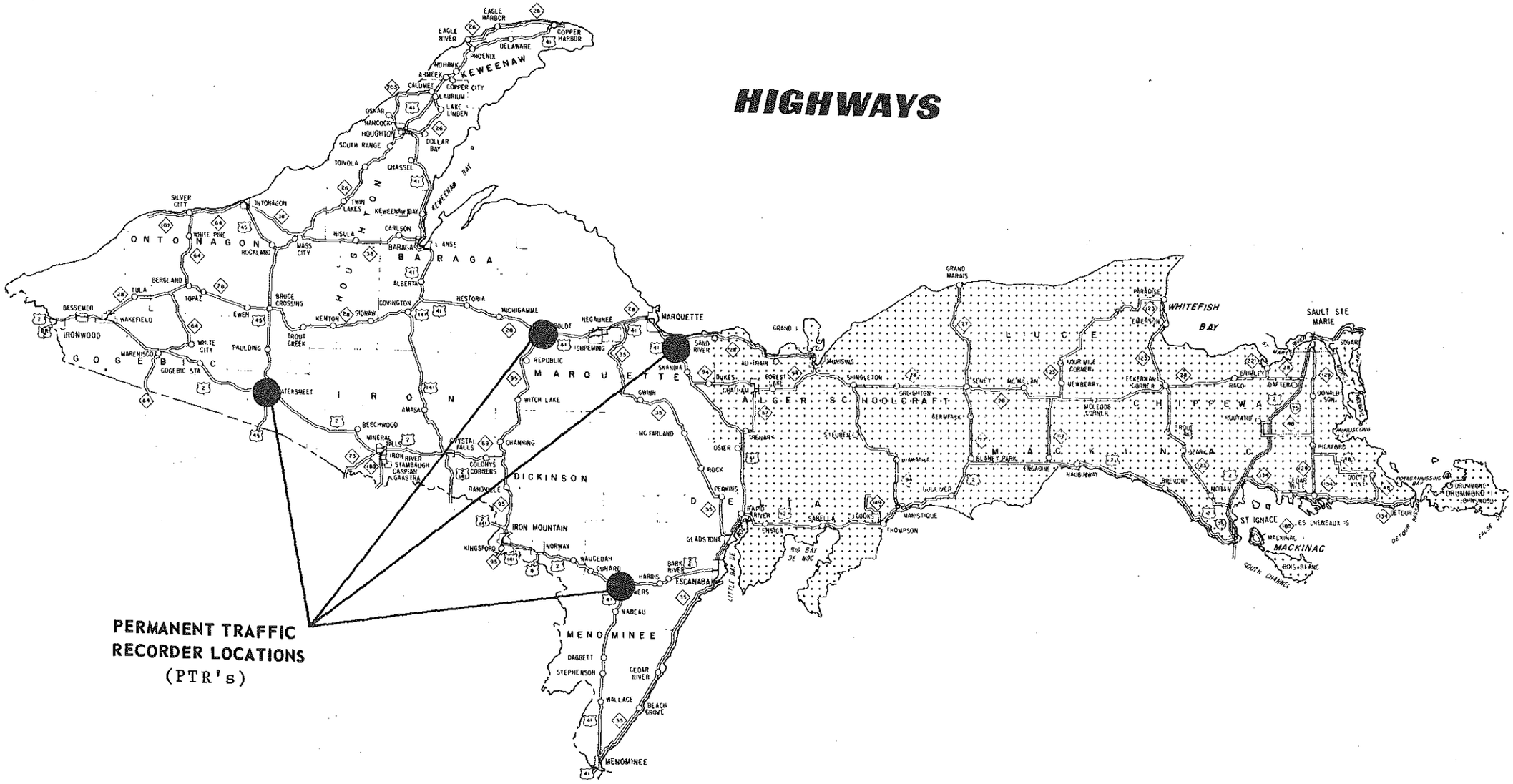
Recreational harbors in the western portion of the Upper Peninsula on Lake Michigan have been established at Menominee, Escanaba and Gladstone and on Lake Superior at Marquette, Big Bay, L'Anse, Houghton-Hancock, Grand Traverse Bay, Lac La Belle, Copper Harbor, Eagle Harbor, Ontonagon and Black River.

Deep draft commercial harbors on Lake Superior include Marquette, Presque Isle Harbor and the Keweenaw Waterway. Waterborne commerce through Marquette and Presque Isle consists primarily of iron ore, coal and major petroleum products while the Keweenaw Waterway is maintained as a short-cut canal for vessels transiting Lake Superior.

The major harbor on Lake Michigan is Escanaba, privately maintained, moving iron ore, coal and petroleum products. Gladstone and Menominee are maintained at less than deep draft by the federal government with waterborne commerce consisting of coal, limestone, petroleum products and wood and forest products.

Substantial increase in waterborne movement of iron ore and coal is predicted for Marquette as a result of increased mining activity and processing of iron ore. A recent study entitled "Origin-Destination Study of Bulk Commodity Movement - Upper Great Lakes Region" predicts increased movements of coal, limestone, petroleum products and forest products through the western Upper Peninsula commercial harbors which will increase demands for harbor and channel improvements.

HIGHWAYS



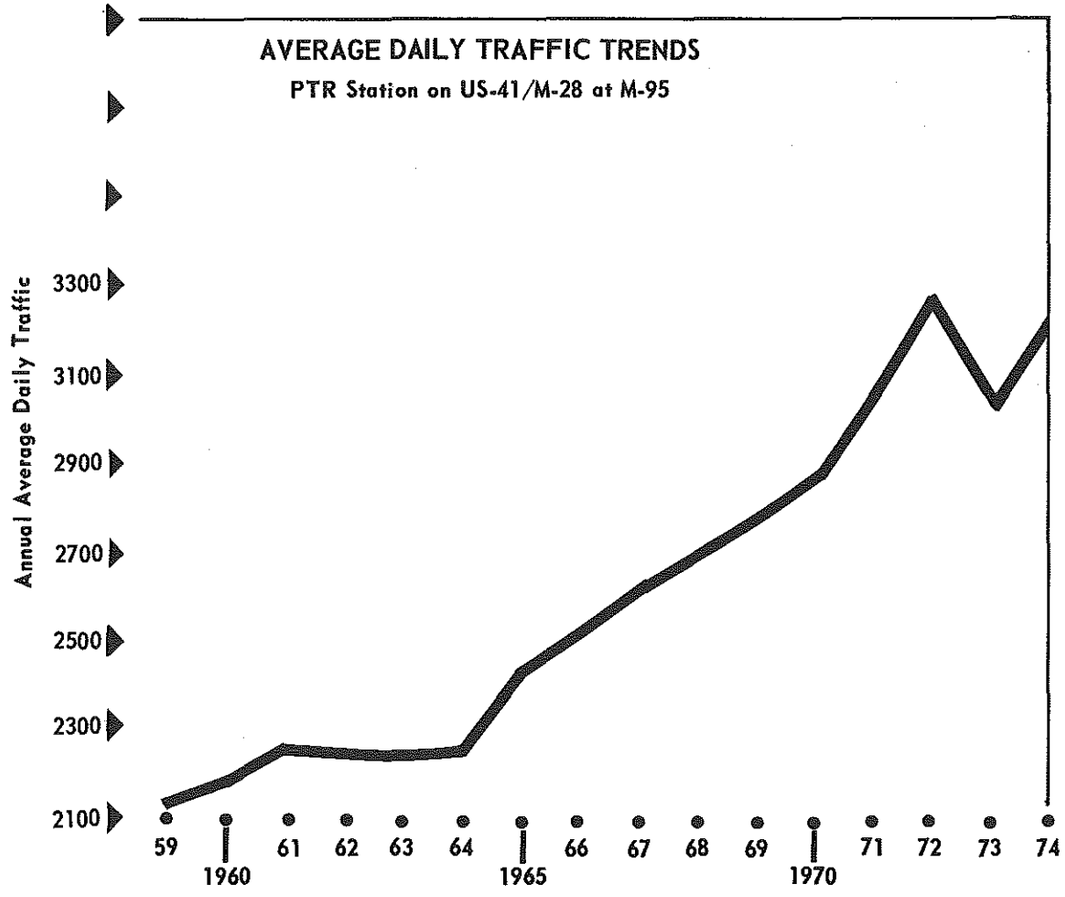
PERMANENT TRAFFIC RECORDER LOCATIONS (PTR's)

HIGHWAYS

TRAFFIC TRENDS

Traffic monitoring is an essential process that provides information relating to the capability of the highway system to safely and efficiently accommodate traffic volumes, thereby providing a method of identifying potential problems. To insure reliability of information, the Michigan Department of State Highways and Transportation maintains permanent traffic recorders (PTR's) on state trunklines at key locations throughout the state. PTR's are stationary electronic devices located below the highway surface which count vehicles 24 hours a day, 365 days a year.

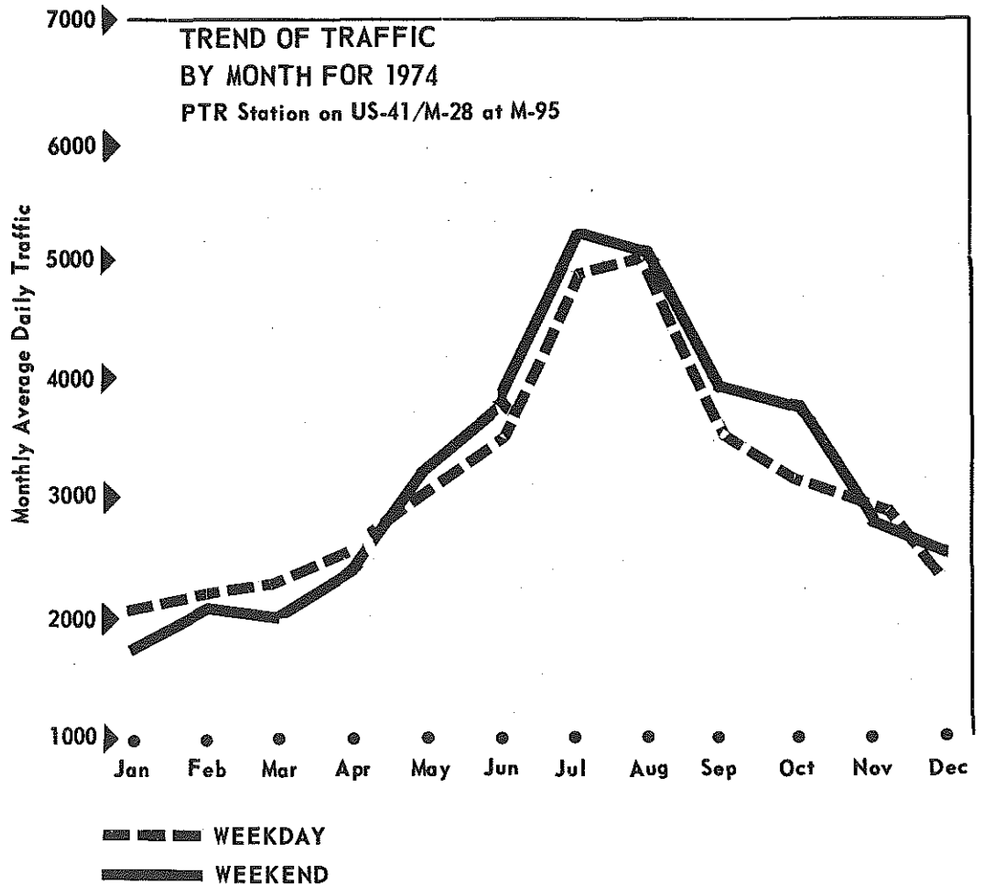
Four such stations are located in the western half of the Upper Peninsula as shown on the map to the left. The PTR station located on US-41/M-28 at M-95 near Champion has been selected for demonstration purposes. Shown at the right are traffic volumes recorded at this station. This chart represents average daily traffic by year for each year the PTR has been operational.



As indicated, there has been an increase in the amount of traffic using this route over the past several years. With the attraction that the region has for fisherman, skiers, hunters, vacationers, snowmobilers, and just-plain-sightseers, similar expansion has occurred on most other highways in this area.

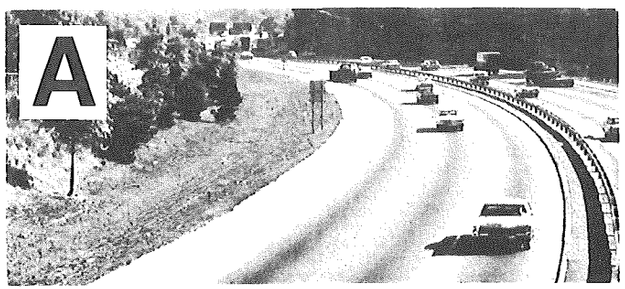
The permanent traffic recorder also points out the peak traffic periods throughout the year. As exhibited, traffic peaks occur during the summer months, between June and September, particularly on weekends during these same months.

Based upon anticipated statewide traffic increases, we are assuming that these trends will continue, thereby compounding traffic problems already in existence; however, traffic will continue to be monitored to determine if these assumptions are correct.

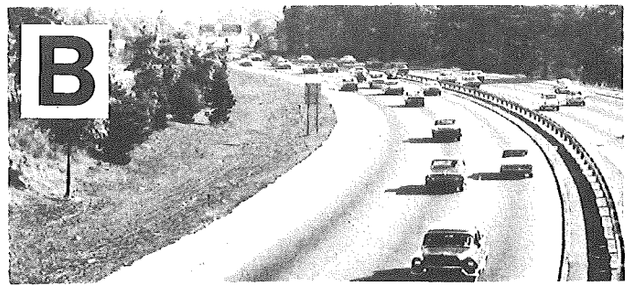


LEVELS OF SERVICE

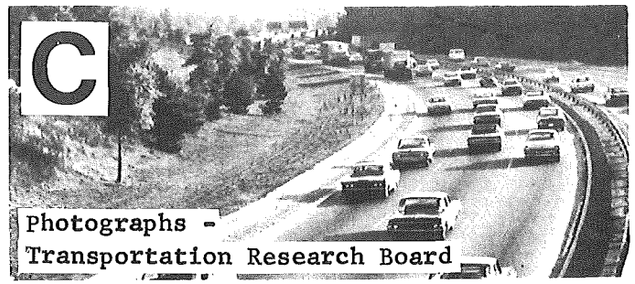
"Levels of Service" is another means of measuring how well a road provides safe, efficient, and comfortable travel and can be described as the condition under which a highway functions given a certain capacity and traffic volume. The illustrations depict the range of service levels with "A" being ideal conditions with no restrictions on operating speed and "F", at the other extreme, representing an almost intolerable situation with traffic operating at low speeds with frequent stops.



NO RESTRICTION ON OPERATING SPEED

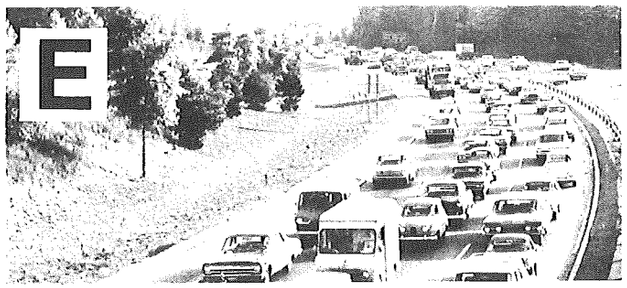


STABLE FLOW – FEW SPEED RESTRICTIONS

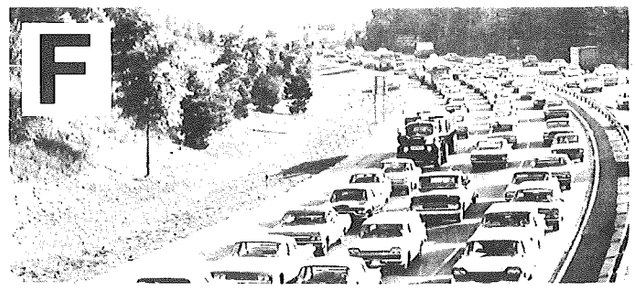


STABLE FLOW – HIGHER VOLUMES – RESTRICTED SPEED and LANE CHANGING

APPROACHING UNSTABLE FLOW – LITTLE FREEDOM TO MANEUVER



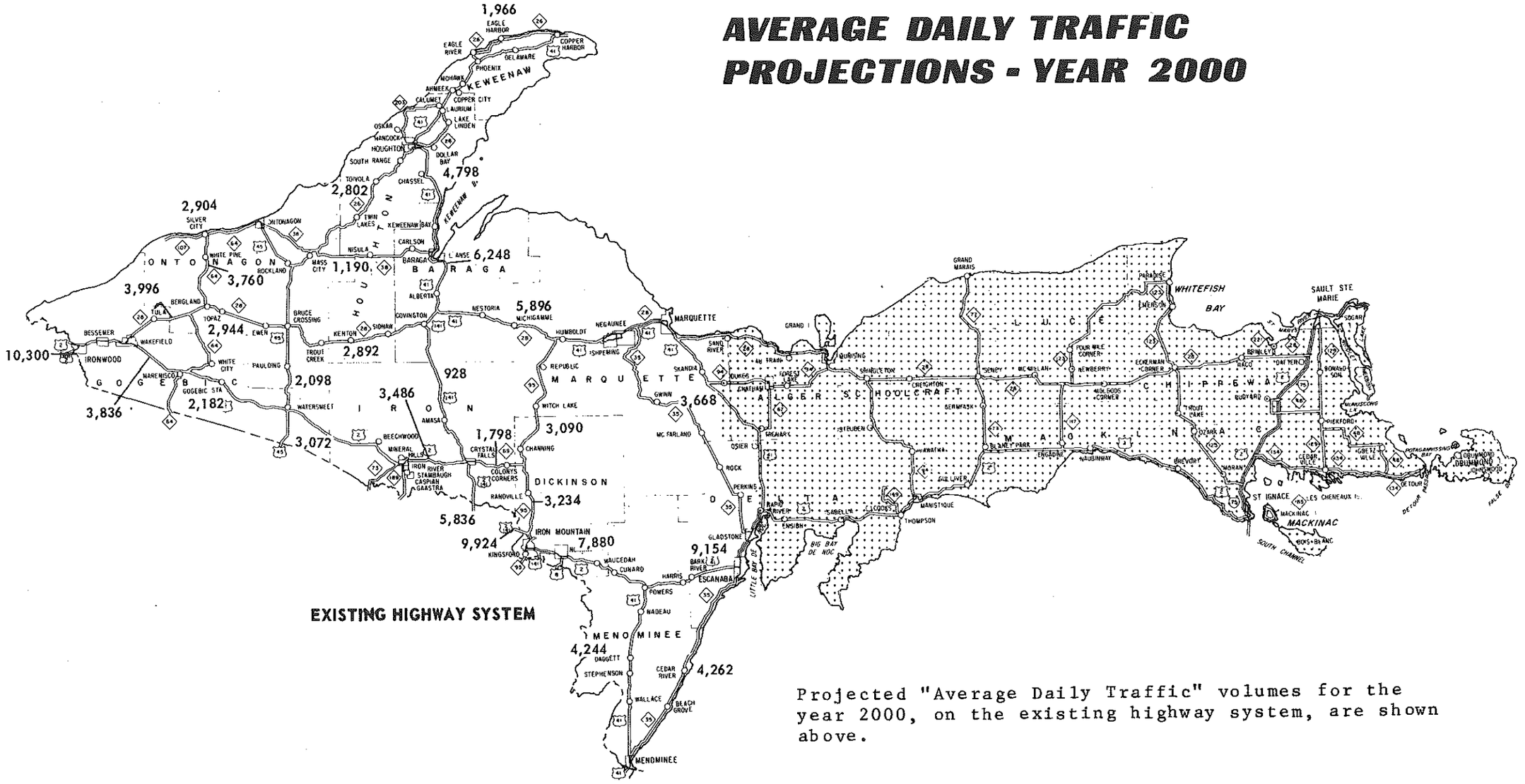
UNSTABLE FLOW – LOWER SPEED – SOME STOPS



FORCED FLOW OPERATION AT LOW SPEEDS – MANY STOPS

Note: The photographs above are the only ones available at this time to depict levels of service. Unfortunately, they show only a multiple-lane facility (three lanes in each direction). Comparable levels of service on a two-lane roadway would not appear as congested as these. However, because of slower moving vehicles and limited passing opportunities, traffic would be grouped into large "platoons" with gaps between. Therefore, the effect on traffic maneuverability, would be comparable to that shown above.

AVERAGE DAILY TRAFFIC PROJECTIONS - YEAR 2000



Projected "Average Daily Traffic" volumes for the year 2000, on the existing highway system, are shown above.

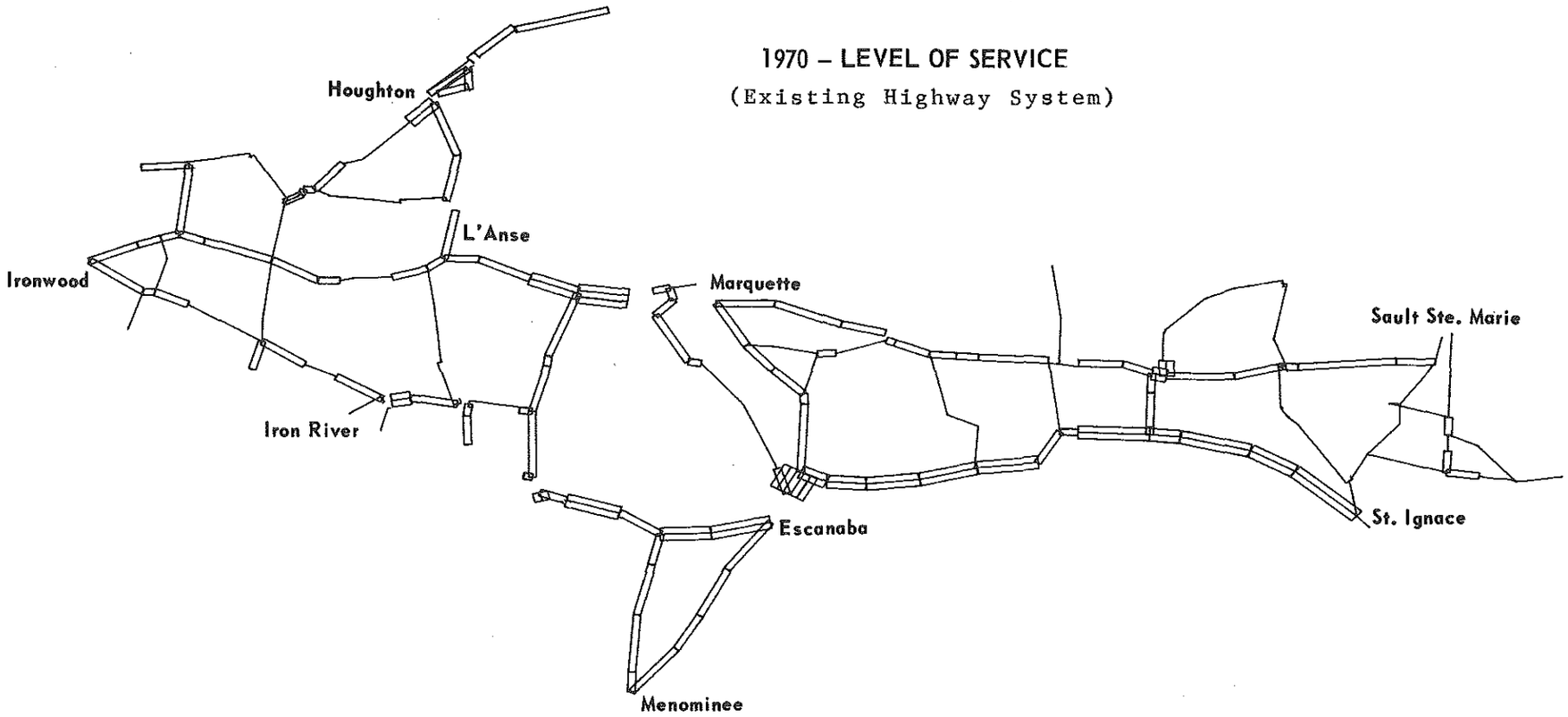
Through the use of a computer, average daily traffic volumes and design hour volumes are predicted for a given year. Average daily traffic volumes are 24-hour volumes averaged over a given year, whereas design hour volumes are the traffic volumes experienced during the 30th highest hour of operation during a given year and to which a highway is originally designed to accommodate. These design hour volumes are then converted to levels of service through a comparison of volume to capacity.

The following exhibits show levels of service by using a "bandwidth" diagram of the highway system in the area. Levels of service for each segment is indicated by the number of lines used to show that segment. Level of service A is indicated by one line, level of service B by two lines, and so on. This means that any segment over three lines can be considered deficient.

The diagram on page 36 shows the 1970 levels of service for the Upper Peninsula. The diagrams on the following pages show the expected levels of service for 1980, 1990, and the year 2000, if no major changes are made in the highway system.

1970 – LEVEL OF SERVICE

(Existing Highway System)

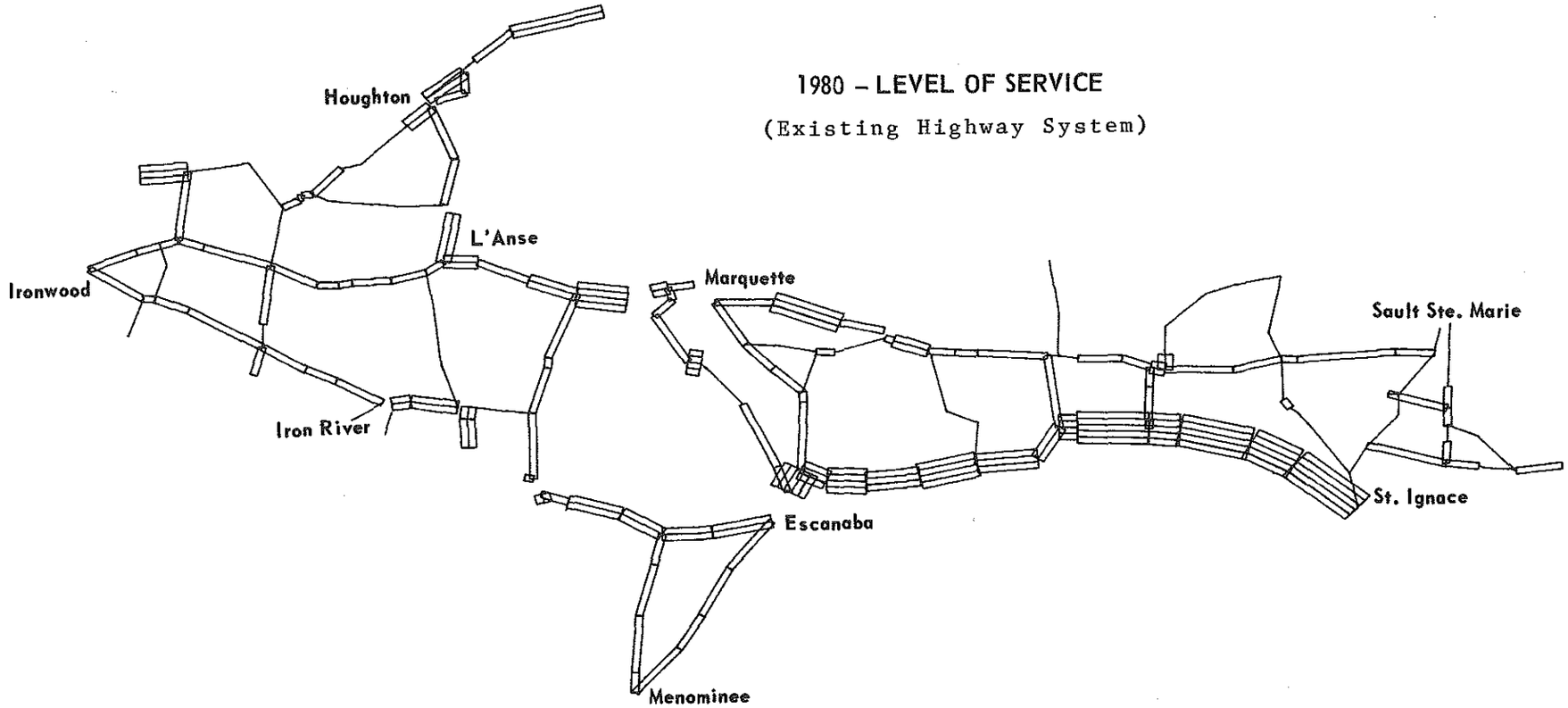


NOTE:

One line - best level of service
Six lines - worst level of service
Over three lines considered deficient

1980 – LEVEL OF SERVICE

(Existing Highway System)

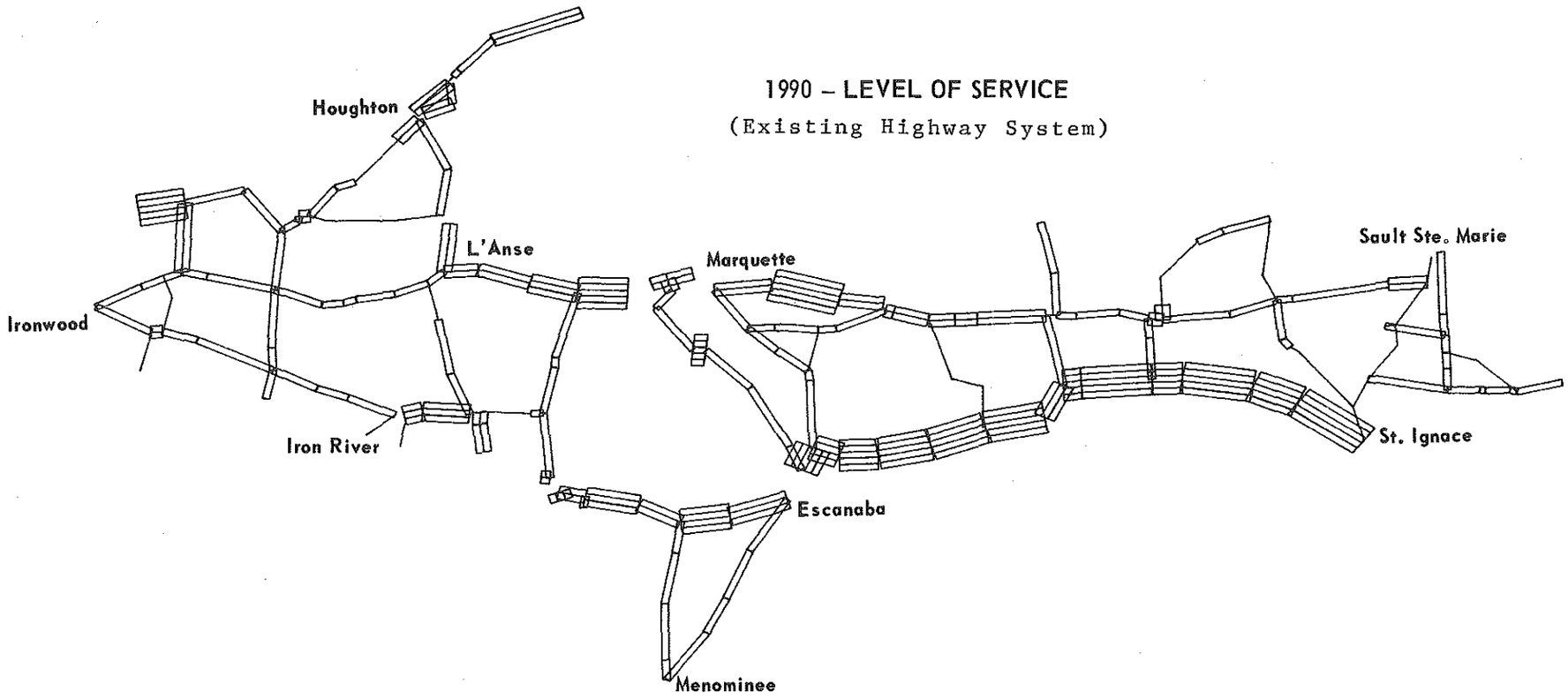


NOTE:

One line - best level of service
Six lines - worst level of service
Over three lines considered deficient

1990 – LEVEL OF SERVICE

(Existing Highway System)

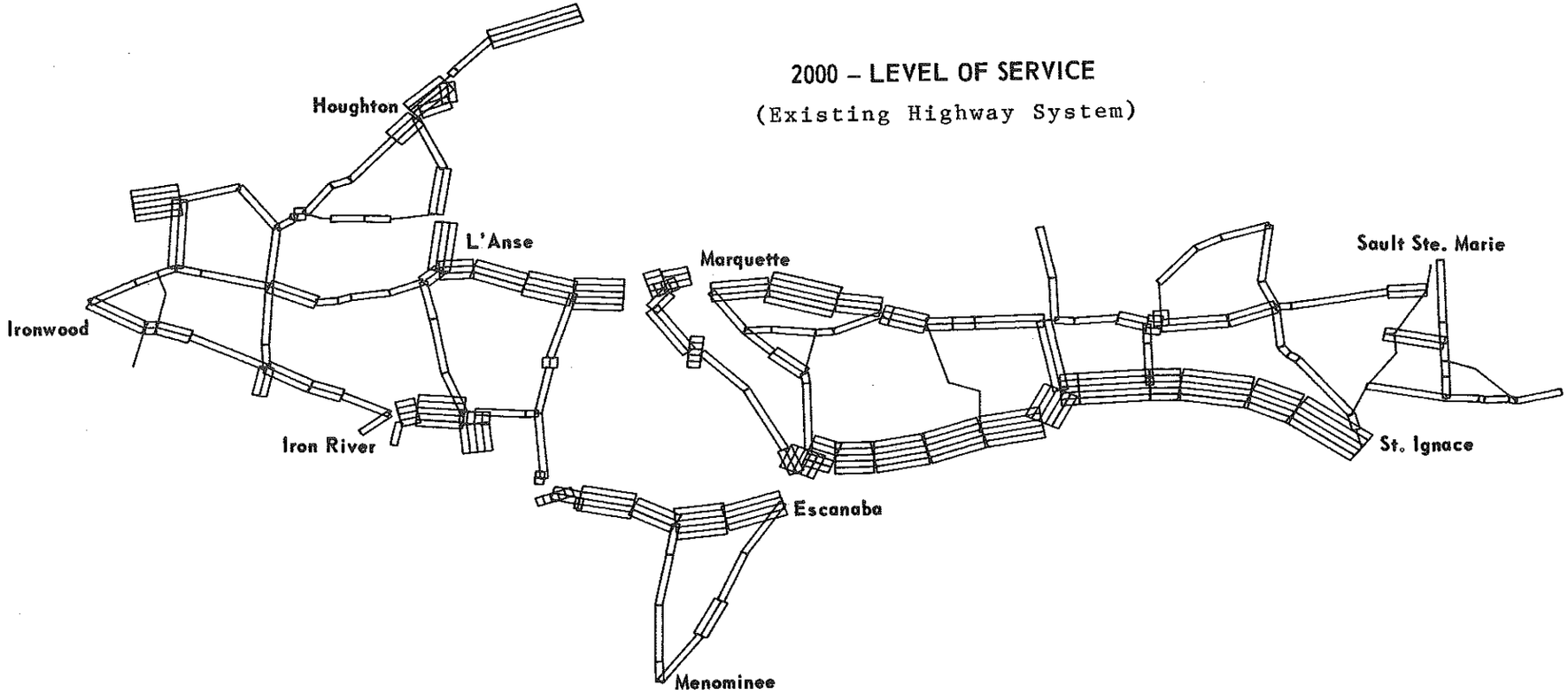


NOTE:

One line - best level of service
Six lines - worst level of service
Over three lines considered deficient

2000 – LEVEL OF SERVICE

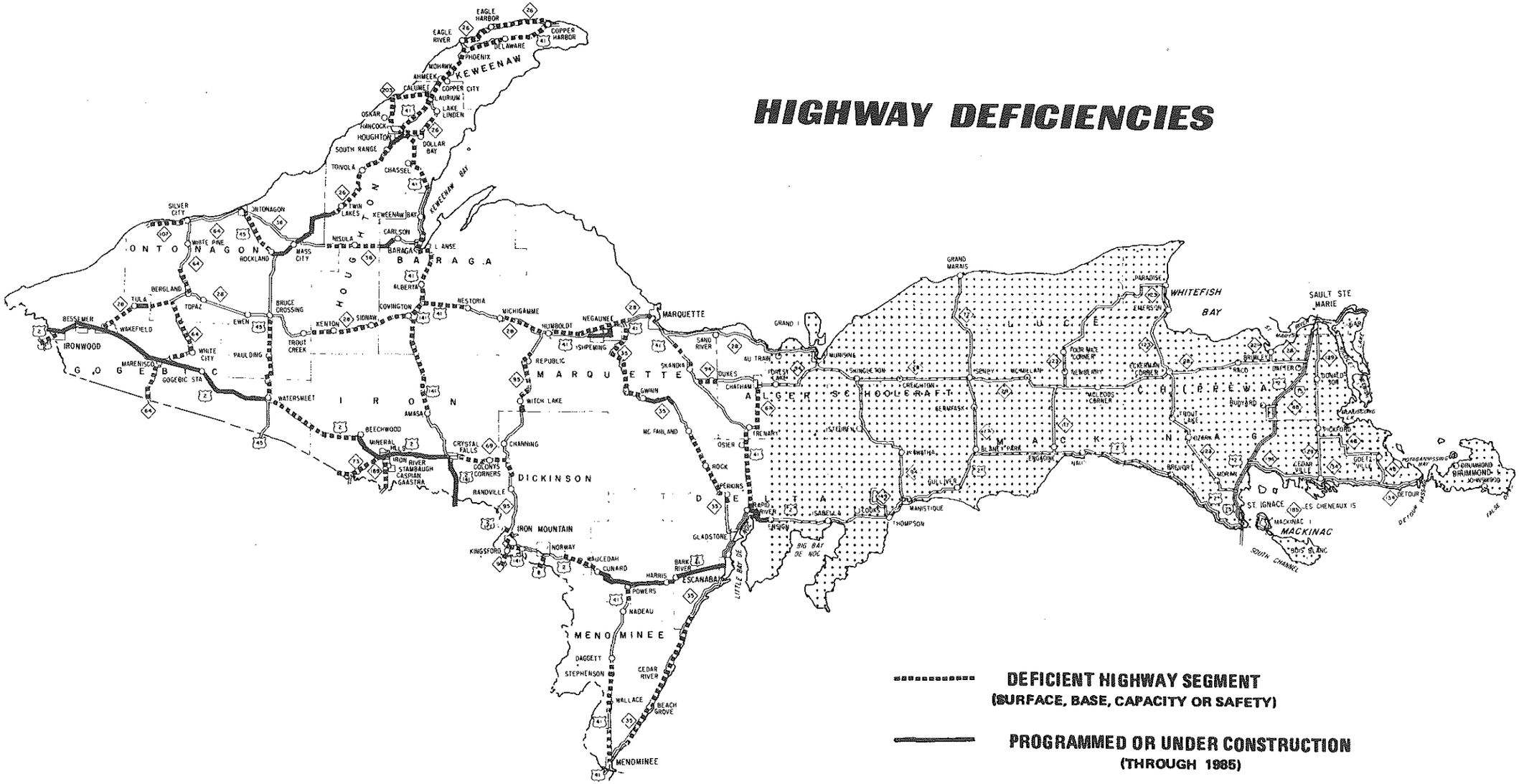
(Existing Highway System)



NOTE:

One line - best level of service
Six lines - worst level of service
Over three lines considered deficient

HIGHWAY DEFICIENCIES



DEFICIENT HIGHWAY SEGMENT
(SURFACE, BASE, CAPACITY OR SAFETY)

PROGRAMMED OR UNDER CONSTRUCTION
(THROUGH 1985)

HIGHWAY DEFICIENCIES

One of the methods available to measure the adequacy of road sections is called a Sufficiency Rating System. Individual segments of each trunkline are given a numerical rating using four separate factors--traffic carrying capacity, surface condition, base condition and degree of safety. The numerical aggregate of each of these four is the sufficiency rating for that segment of route. Any segment receiving a rating below an accepted minimum condition on any of these four factors is considered to have a critical deficiency with respect to that factor.

As shown, many miles of state highways in the study area are rated "deficient" in one or more of the categories. This situation is not unique to the study area. In fact, 73 percent of the state's 9,215 miles of highways have deficiencies which require some type of improvement. In the western Upper Peninsula, the predominant deficient mileage is in the surface category. The surface condition is the most noticeable by motorists because of vehicle handling, riding and safety. It is also the most easily corrected.

Of all deficient trunkline mileage in the western Upper Peninsula, the capacity factor--the ability of a highway to handle traffic volumes--has the lowest number of miles rated "critical". Capacity is of concern, however, because of the seasonally oriented recreational traffic which is several times greater during the summer months than comparable demand during the off-season. Recreational traffic, comprised of significant numbers of boat, camper and travel trailers, and motor homes, frequently results in a backup of traffic and usually more accidents.

Programmed improvements on some 285 miles of study area routes will correct many of the critical deficient highway segments. Particularly important are those improvements scheduled for US-2.

The sufficiency rating is not an absolute system but rather an indicator of problem or potential problem areas. This data proves extremely useful in understanding the condition of our existing system of highways so that we can more accurately assess future conditions and propose remedial action.

ILLUSTRATIVE HIGHWAY ALTERNATIVES*

One of the more important objectives of these meetings is to establish contact and dialog with interested citizens and groups in an attempt to identify and determine community goals and objectives relative to transportation. It is an attempt to identify types of issues and the alternatives to be considered. To accomplish this, we are showing "Illustrative Alternatives" for the various transportation modes. For most of the modes there appears to be few options for development, or at this time, a minimum of effort has been applied toward determining them.

Highway development and planning, however, has been in process, in various degrees of detail, for many years. A number of studies have been initiated and various concepts evaluated. We would like to get your opinion on these (or any others you feel should be considered) so that we can proceed with the development of a regional transportation system plan as soon as possible.

With this in mind, various "Illustrative Alternatives" for the western half of the Upper Peninsula have been developed and are shown on the following pages. These alternatives (shown by circles) assume minimum travel time and maximum service. Although not shown, the "Do Nothing" alternative must be considered. This option assumes that no improvements will be made other than routine maintenance.

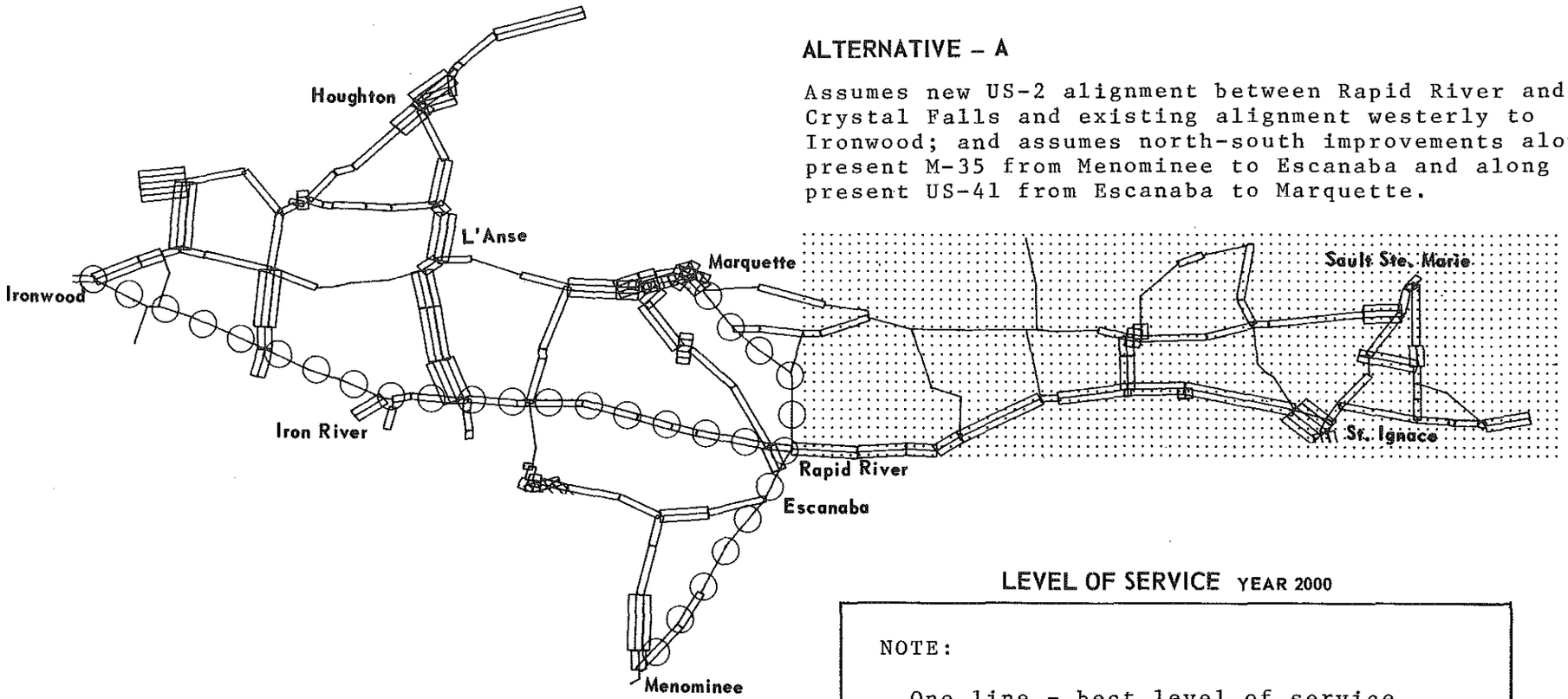
Most of the "Illustrative Alternatives" presented for discussion purposes are in the eastern portion of the study area and basically represent choices for east/west and north/south highway improvements.

** "Illustrative Alternatives" are hypothetical alternatives developed early in a transportation study, based mainly on experience and intuitive thinking, to pictorially and verbally depict possible solutions to a transportation problem.*

As discussed before, level of service is the ratio of traffic volumes to road capacity, giving an indication of how well a road is functioning relative to its ability to handle traffic. The following bandwidth diagrams show the expected levels of service for the year 2000 for six illustrative alternatives. Similar to the bandwidth diagrams discussed earlier, the wider the line, the worse the level of service. Road segments over three lines wide can be considered deficient.

ALTERNATIVE – A

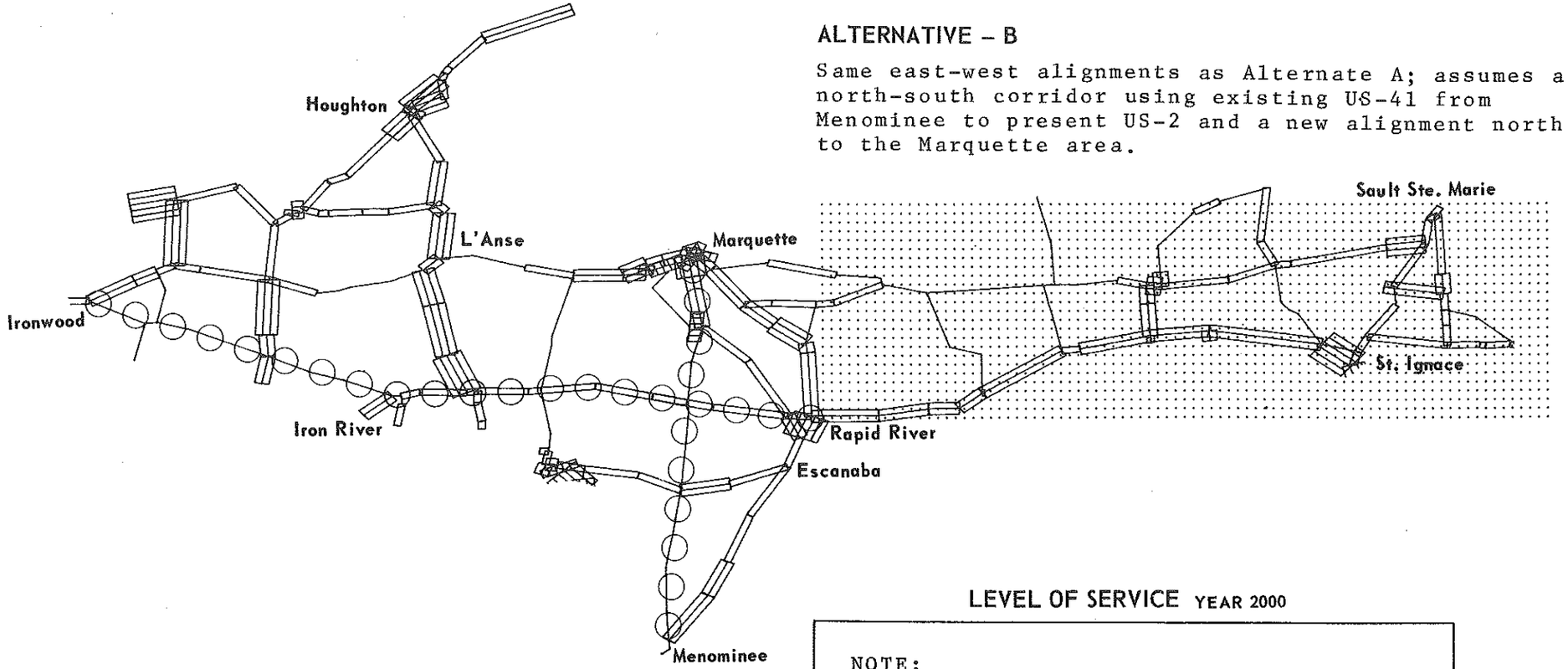
Assumes new US-2 alignment between Rapid River and Crystal Falls and existing alignment westerly to Ironwood; and assumes north-south improvements along present M-35 from Menominee to Escanaba and along present US-41 from Escanaba to Marquette.



LEVEL OF SERVICE YEAR 2000

NOTE:

One line - best level of service
Six lines - worst level of service
Over three lines considered deficient



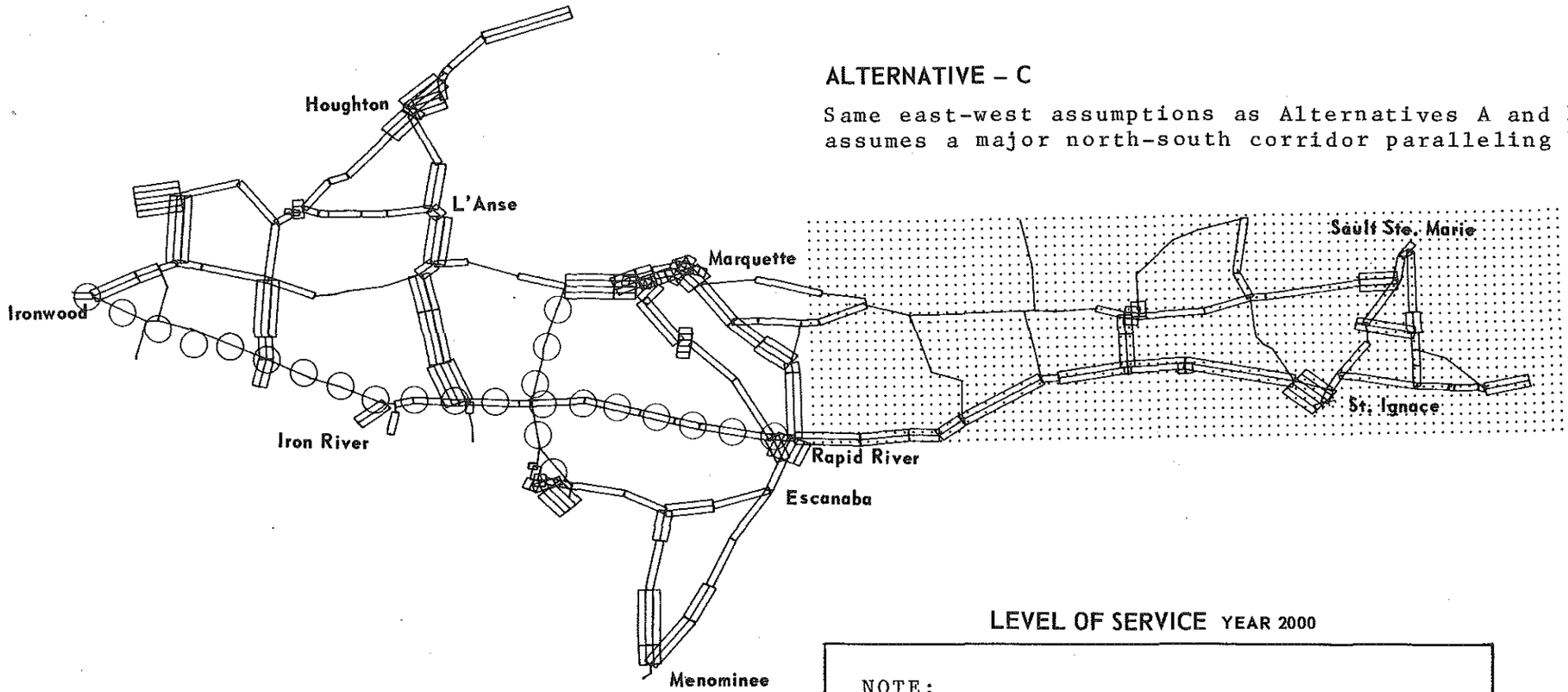
ALTERNATIVE – B

Same east-west alignments as Alternate A; assumes a north-south corridor using existing US-41 from Menominee to present US-2 and a new alignment north to the Marquette area.

LEVEL OF SERVICE YEAR 2000

NOTE:

One line - best level of service
Six lines - worst level of service
Over three lines considered deficient



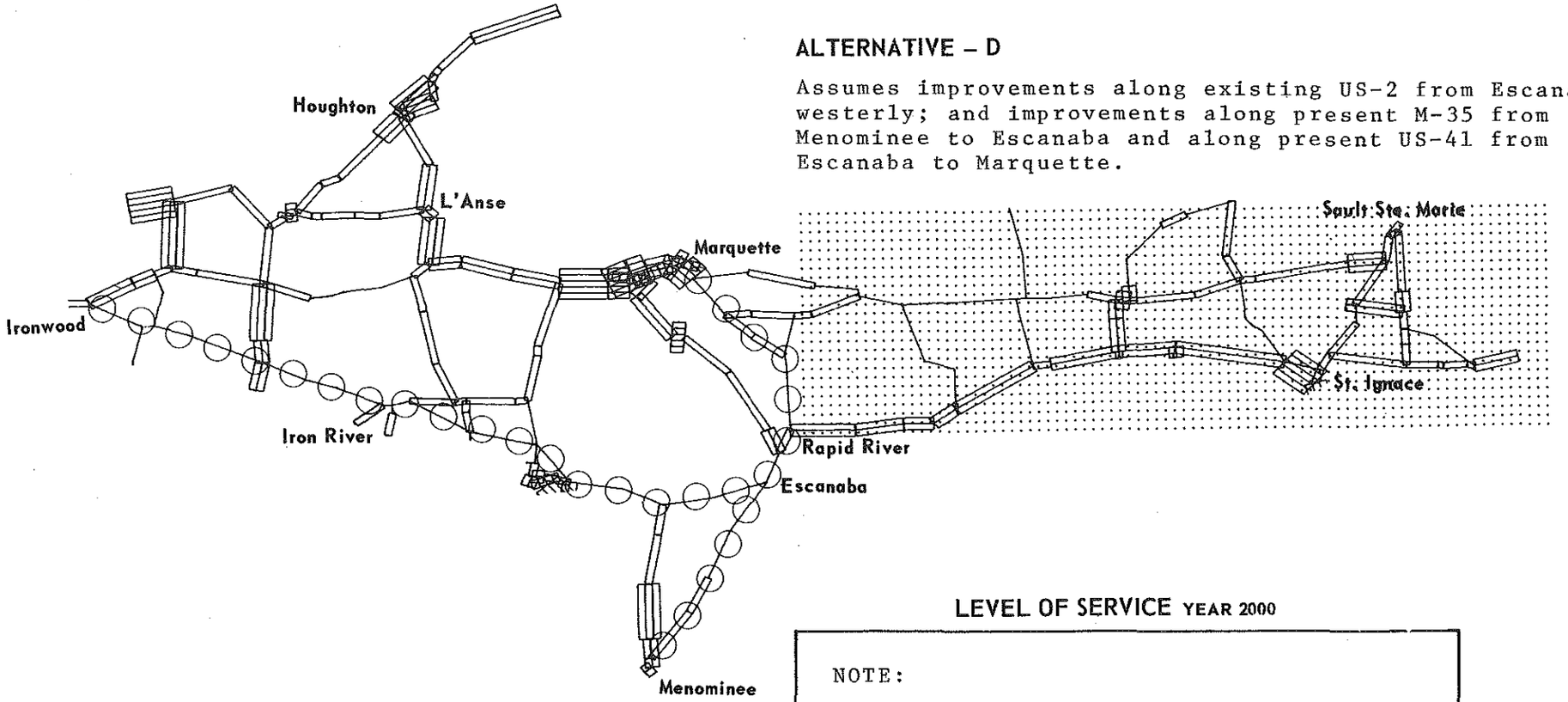
ALTERNATIVE – C

Same east-west assumptions as Alternatives A and B; assumes a major north-south corridor paralleling M-95.

LEVEL OF SERVICE YEAR 2000

NOTE:

One line - best level of service
Six lines - worst level of service
Over three lines considered deficient



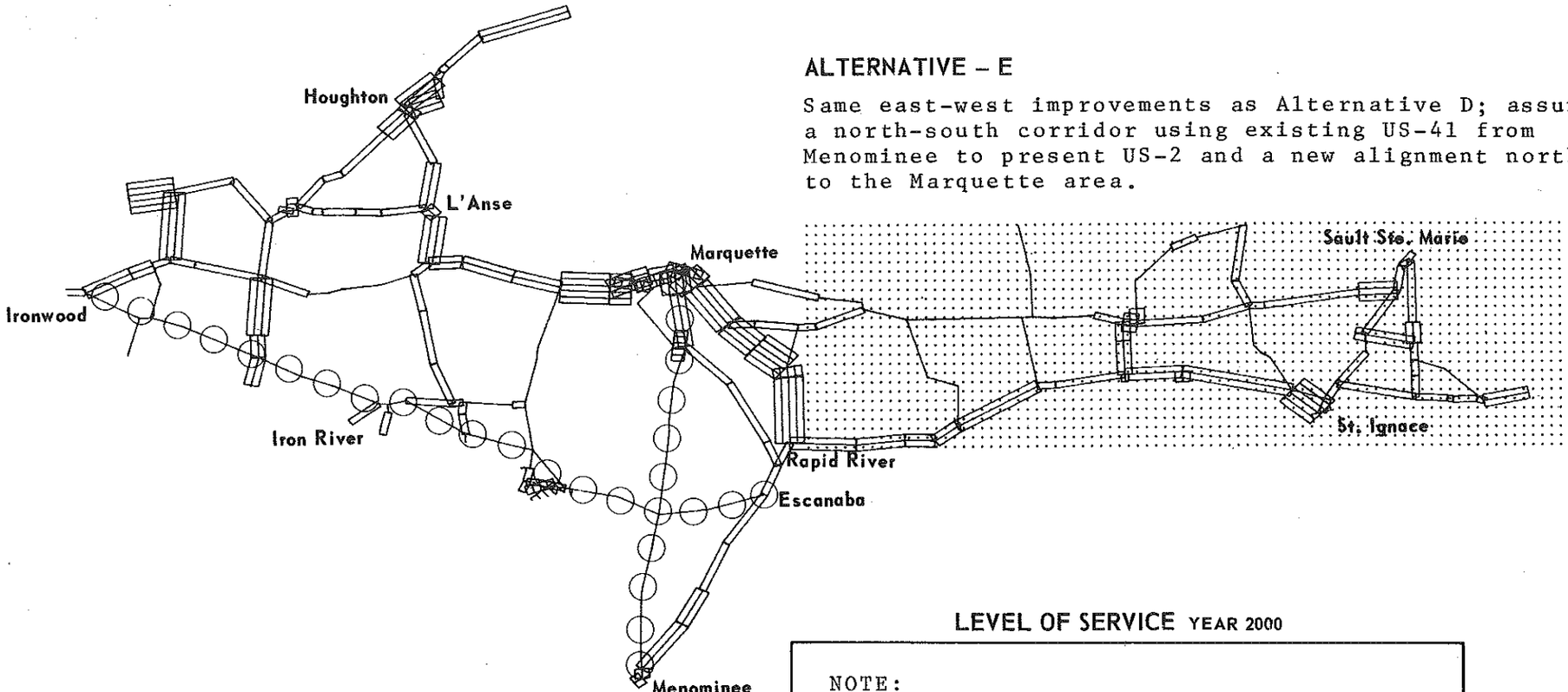
ALTERNATIVE – D

Assumes improvements along existing US-2 from Escanaba westerly; and improvements along present M-35 from Menominee to Escanaba and along present US-41 from Escanaba to Marquette.

LEVEL OF SERVICE YEAR 2000

NOTE:

One line - best level of service
Six lines - worst level of service
Over three lines considered deficient



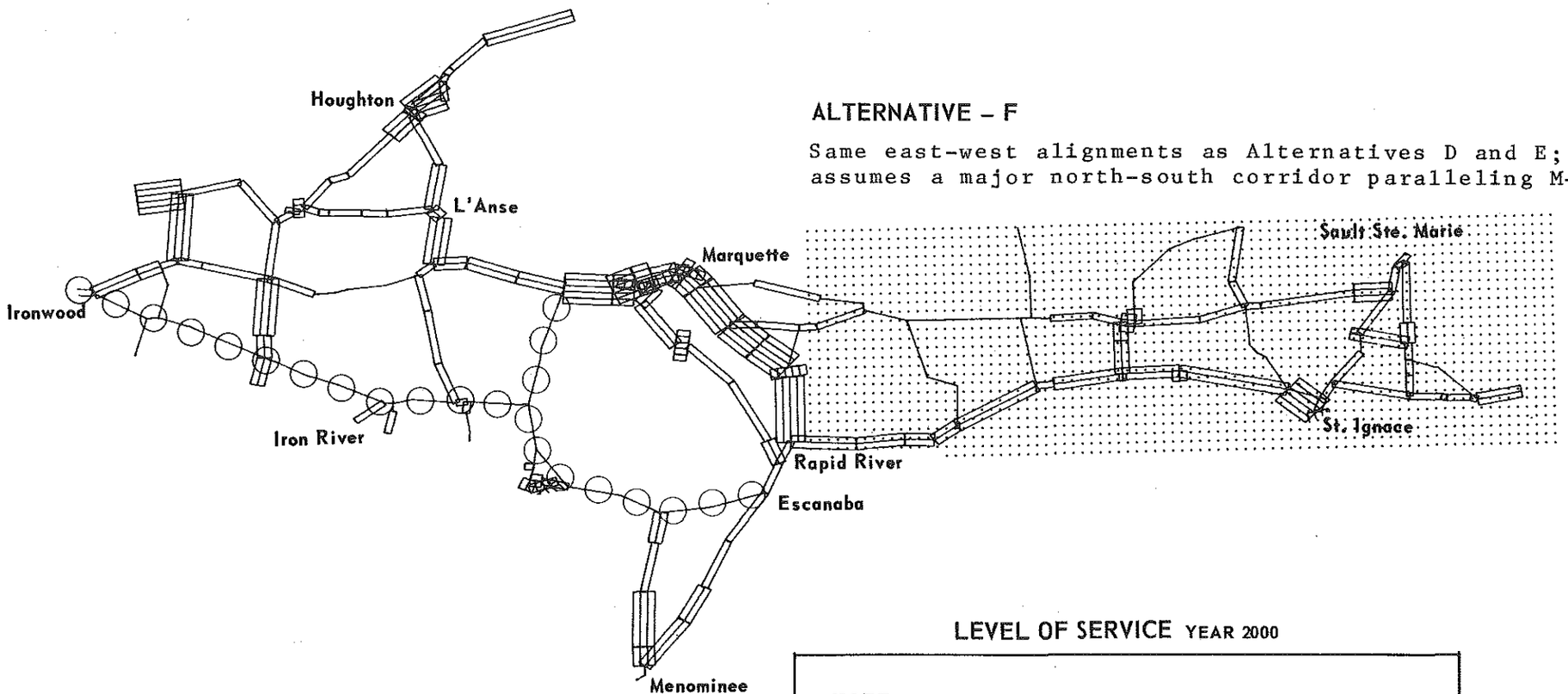
ALTERNATIVE – E

Same east-west improvements as Alternative D; assumes a north-south corridor using existing US-41 from Menominee to present US-2 and a new alignment north to the Marquette area.

LEVEL OF SERVICE YEAR 2000

NOTE:

One line - best level of service
Six lines - worst level of service
Over three lines considered deficient



ALTERNATIVE – F

Same east-west alignments as Alternatives D and E; assumes a major north-south corridor paralleling M-95.

LEVEL OF SERVICE YEAR 2000

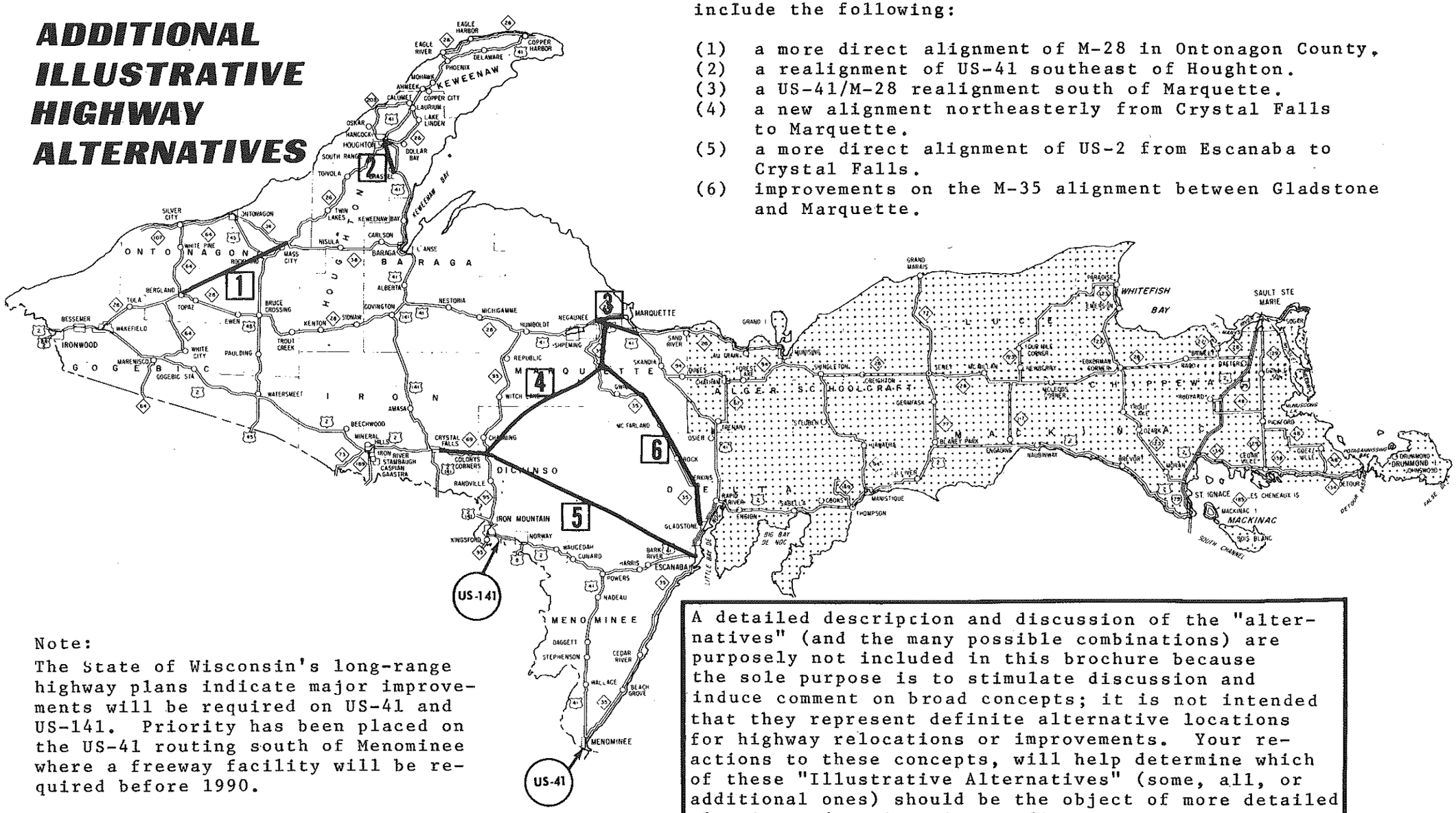
NOTE:

One line - best level of service
Six lines - worst level of service
Over three lines considered deficient

ADDITIONAL ILLUSTRATIVE HIGHWAY ALTERNATIVES

Other illustrative alternatives presented for discussion include the following:

(1) a more direct alignment of M-28 in Ontonagon County.
(2) a realignment of US-41 southeast of Houghton.
(3) a US-41/M-28 realignment south of Marquette.
(4) a new alignment northeasterly from Crystal Falls to Marquette.
(5) a more direct alignment of US-2 from Escanaba to Crystal Falls.
(6) improvements on the M-35 alignment between Gladstone and Marquette.

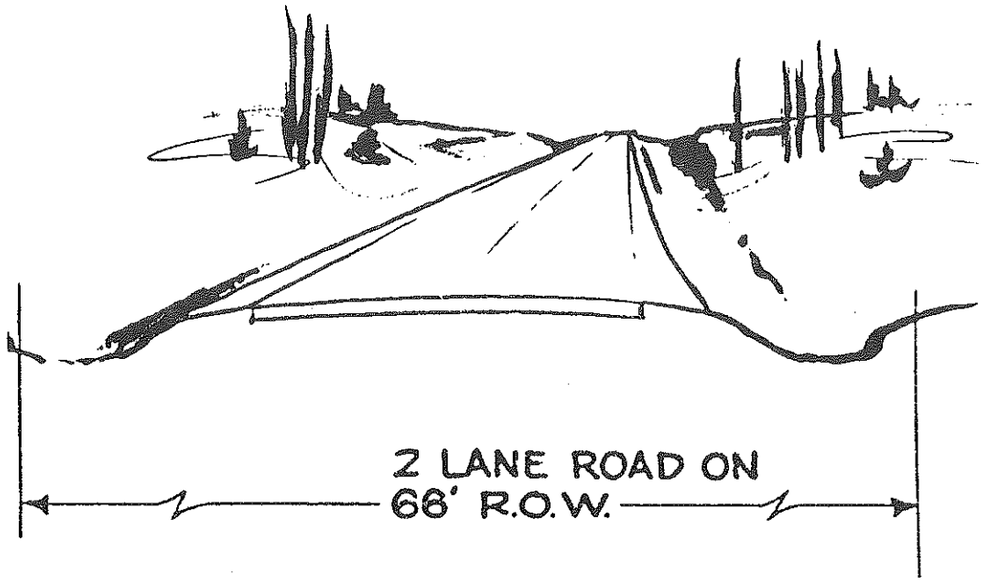


Note:
The State of Wisconsin's long-range highway plans indicate major improvements will be required on US-41 and US-141. Priority has been placed on the US-41 routing south of Menominee where a freeway facility will be required before 1990.

A detailed description and discussion of the "alternatives" (and the many possible combinations) are purposely not included in this brochure because the sole purpose is to stimulate discussion and induce comment on broad concepts; it is not intended that they represent definite alternative locations for highway relocations or improvements. Your reactions to these concepts, will help determine which of these "Illustrative Alternatives" (some, all, or additional ones) should be the object of more detailed planning and engineering studies.

TYPES OF FACILITIES

Existing highway facilities in the study area are, for the most part, improvements to the original basic highway system developed after the turn of the century. This system has as its most prevalent highway type, a two-lane roadway on a free access right-of-way, varying in width. In areas through and around communities, there are sections that have been widened, in some cases with boulevard sections and other cases with up to five lanes with a center lane for left turns.



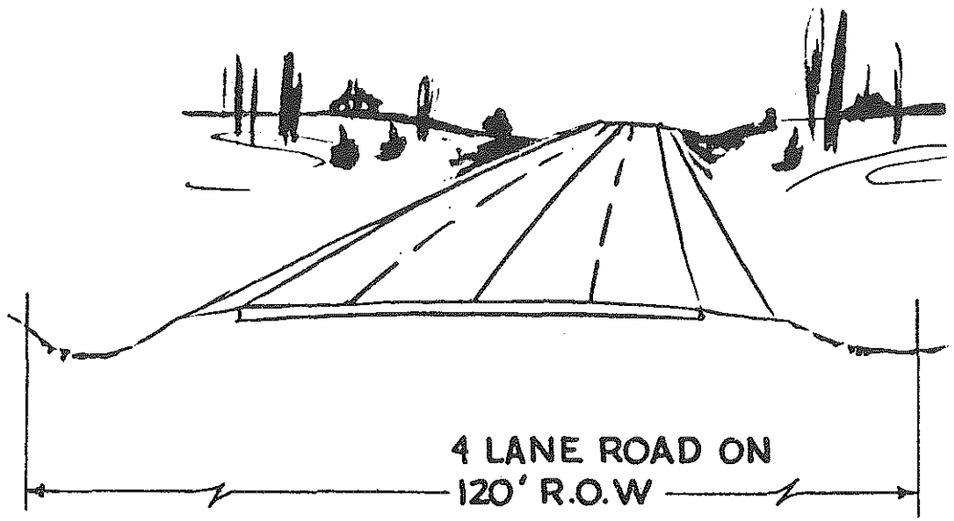
The basic highway, developed when we first began paving highways, was a surface with two side by side lanes to handle traffic traveling in opposite directions. The roadways were located on easements across the land that were wide enough to permit construction of the two lanes with a narrow refuge area on either side (shoulders) and a ditch to drain water that ran off the surfaced part of the highway. In areas with low traffic volumes, this two-lane highway is still the basic highway form throughout the state. However, in many instances two-lane roadways have proven inadequate.

As the volume of traffic increases, it becomes difficult and unsafe to try to carry it on just two lanes. The reason for this is obvious. If you approach a slower vehicle, it is necessary to occupy the opposing lane of traffic in order to pass. Thus, the capacity of a two-lane highway would be very high if all vehicles were traveling at the same speed; but since many motorists wish to travel at a slower speed than the upper limit, those who wish to travel at the limit must make a passing maneuver. Since the vehicle making the maneuver occupies the lane reserved for oncoming traffic, there is a potential conflict. As the traffic volume increases, an ever-larger number of passing maneuvers are required and the conflicts become more critical.

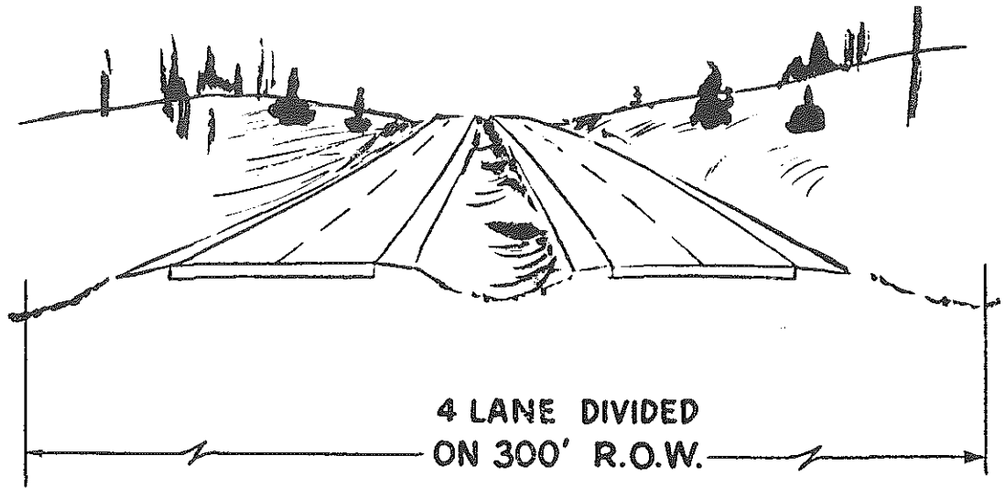
This problem would be simplified if the ground were perfectly flat. However, this is not the case and in many areas the highway passes over hills and through valleys thereby creating situations where one cannot see far enough ahead to safely make the passing maneuver.

One of the methods to avoid this problem is to construct the highway so it is basically straight and flat, but this is often very expensive and results in a high degree of environmental damage.

Another method is to build more than one lane in each direction. This approach permits the faster vehicle to pass in a lane that is reserved for cars going in the same direction. Thus, one solution to the problem is to build a four-lane highway, and this could be done by widening the existing roads into four lanes. Unfortunately, this does not provide all of the solution. Other basic problems exist. Cars on the inside lanes still must travel close to traffic going in the opposite direction at high speeds, literally within inches of each other. There arises occasions, a number of which are no fault of the driver, when he swerves and inadvertently occupies the oncoming lane. This causes an extremely unsafe condition and often results in accidents and death.

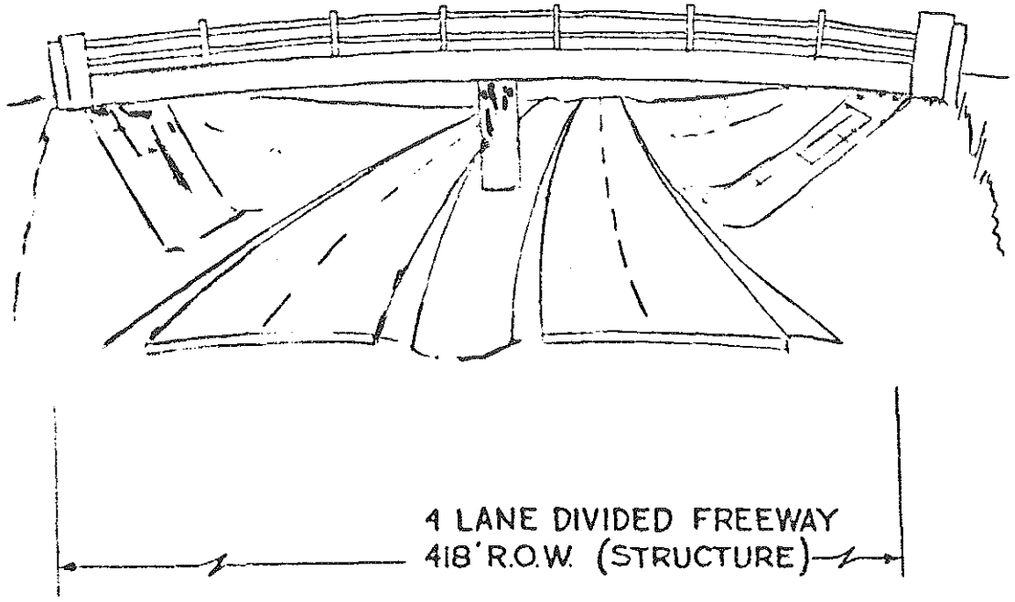


Another problem results from cars crossing or entering the highway from the land areas adjacent to it. These crossing or entering maneuvers create safety problems. As development adjacent to the highway increases, the problem increases. This is termed "side friction". Experience has shown that on older highways, when development builds up, the resulting increased side friction will reduce safety, decrease capacity, and cause a general decline in the overall efficiency of the highway.



The problem of opposing traffic can be improved by separating the lanes and providing an area between them which we call a median. Increased traffic and side friction can also cause this method to "break down" in terms of safety.

The most practical technique for reducing both the problem of opposing traffic and side friction is to separate the lanes with a median and limit the areas of access. When the highway has four lanes, with two lanes in one direction divided from the two lanes in the other direction by a median, with side friction eliminated by controlled access, and the conflict of traffic crossing the road eliminated by putting them on a separate level from the highway being built - the result is a freeway.



There are many people, certainly those who are critics of highways, who believe that the only purpose of a freeway is to provide the fastest possible highway that will handle the greatest number of cars. However, there are important advantages beyond convenience and capacity that are inherent in a freeway. Safety is a main factor but integrity is also vital. The intent of this review is simply to illustrate how the concept of a freeway was developed.

In many parts of the country and in parts of the State of Michigan there exists places where 1) there was once a two-lane highway which, having become congested, was rebuilt as a four-lane highway, or 2) a new four-lane highway was built and access to the land adjacent to the highway was not limited or controlled. In both instances, over time, adjacent commercial developments generated such high volumes of traffic that the new highways also became obsolete and it was again necessary to build still another highway to safely accommodate the traffic.

The provision of limited access right-of-way, the purchasing of the land upon which the highway is built rather than acquiring it in easement, and

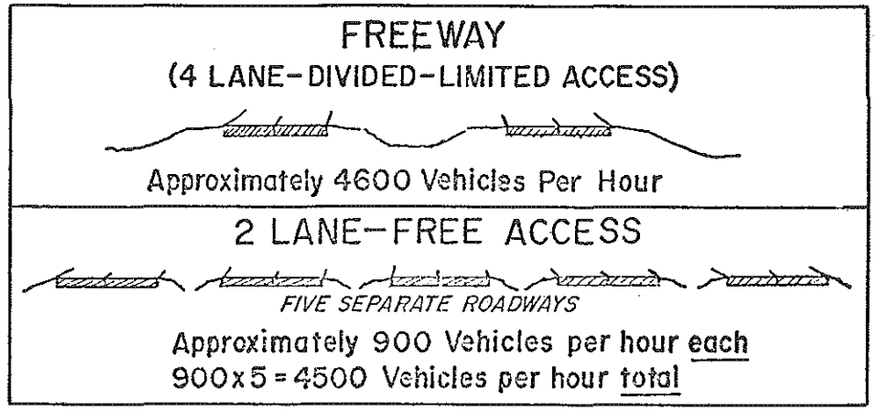
the restricting of people's right to get onto the highway by buying that right, guarantees that the highway will not become obsolete because of development along its length. Beyond the economic and environmental benefit of not needing to build another highway, is the benefit of providing for those people who wish to drive to or through an area on a highway that will maintain its service potential.

Safety must also be a primary consideration. Records indicate that freeways average approximately 70 percent fewer accidents than free access highways.

Also important is the consideration of the potential capacity of a highway. This is a major consideration from the standpoint of providing for more vehicles and also when considering that without the freeway many more lanes of free access highways would necessarily have to be built to accommodate the existing, as well as future, traffic volumes.

The accompanying exhibit illustrates this comparison of traffic carrying capacity. As shown, a 4-lane, rural freeway can adequately accommodate approximately 4,600 vehicles per hour. To accommodate nearly the same number of vehicles on 2-lane, free access highways - at the same level of service - would require five individual roadways.

CAPACITY COMPARISON



ACCESS CONTROL

With respect to access control, there are basically three types of roadways in Michigan. These are:

Free Access	- totally free access is allowed.
Controlled Access	- access to the roadway is limited to certain areas.
Limited Access	- no access is allowed to the roadway except at entrance ramps -- crossings are on a separate level.

Existing highway facilities in the study area are generally of the first variety, that is they allow unlimited access to adjacent land uses. This type of roadway results in vehicular traffic entering and exiting the facility at will. The surrounding land uses: commercial, residential, industrial, and recreational all generate, as well as attract traffic for which service must be provided. It is important to examine the effects of free access on the facility itself. Cars exiting to or entering from adjacent land uses, as well as cars crossing the facility at grade intersections, create a problem. These vehicles cause what is referred to as "side friction," which is a severe safety problem. Increased side friction levels will reduce safety, decrease capacity, and cause a general decline in the overall efficiency of the highway.

Economic and social conditions may also be affected by access. Certain types of businesses may be stimulated by free access to new highway facilities. Some research has been conducted in this area and results tend to indicate which business types are encouraged to flourish. A Michigan study indicates that uncontrolled access tends to promote development of highway oriented businesses (service stations and restaurants)[1]. Studies further show that highway oriented services catering to highway traffic are the first to develop and are the major sources of land use at interchange areas.[2] Armed with these considerations, it is necessary to coordinate possible future roadside development with the growth policies of the impacted area.

Properly used, access control is a valuable tool for land use regulation. Comprehensive regional plans may encourage growth and development in a clustered fashion with primary orientation in the major growth centers. Free access highways, conversely, further the growth of linear and scattered development. This wasteful use of both land and investment dollars can effectively be checked by controlling highway access. Allowing greater access in areas previously planned for development ensures that these areas will develop as desired. Places that would not receive as great a benefit from, or would actually be harmed by new development, should be considered for highly limited access to the new facility. These reasons make it imperative that highway planning be closely coordinated with existing land use plans.

These concepts can best be summarized in three general rules:

1. By permitting more access to urbanized areas, scarce investment dollars will more likely be invested in stronger local economics as opposed to scattered, seasonal, highway oriented business.

2. Restricting access to certain service roads would tend to concentrate new commercial development in areas where services and markets exist.

3. Stricter access controls tend to produce less side friction and hence less accidents. Reduced side friction also tends to maximize investment benefits in the facility by preventing it from becoming inadequate prematurely.

[1] *R. H. Ashley and W. F. Beard, "Interchange Development Along 180 Miles of I-94" Highway Research Record No. 96, Highway Research Board, 1965.*

[2] *Skorpa, Dodge, Walton, Huddleston, "Transportation Impact Studies: A Review with Emphasis on Rural Areas" Center for Advanced Transportation Studies, 1974.*

PRELIMINARY SOCIAL, ECONOMIC AND ENVIRONMENTAL ASSESSMENTS

SOCIAL AND ECONOMIC

Existing development is concentrated along two major highways servicing the Western Upper Peninsula.

Situated along the east-west route of US-2 are the Gladstone-Escanaba, Iron Mountain, Mineral Hills-Iron River-Stambaugh-Caspian-Gaastra, and the Ironwood-Bessemer-Wakefield areas. Located along the generally north-south route of US-41 are the Menominee, Gladstone-Escanaba, Marquette, Negaunee-Ishpeming, and the Houghton-Hancock areas. Additionally, Ironwood, Houghton, Hancock, and Iron Mountain are areas of major attraction to Western Upper Peninsula tourists. These are the major origin and destination points in the region and should be served by the transportation system plan developed for the Western Upper Peninsula.

Improvement of the existing system should make it easier to travel from rural areas to these centers. When there is wide diffusion of population, such as exists throughout the study area, accessibility to hospitals, schools, churches, shopping centers, employment centers and other public places is vital.

Improvement will also increase the accessibility of the area. This could benefit the local economy by improving its attractiveness as a location for recreation and business development. Reducing the time required to transport goods from the Western Upper Peninsula to market areas should give a competitive advantage to local firms. An increase in the competitive position of the area's resource industries would encourage the introduction of new firms and/or the expansion of present ones.

Tourism is a significant aspect of the Upper Peninsula's economy. The Upper Peninsula Travel and Recreation Association estimates that three million persons visit the area each year, leaving $120-$200 million dollars and providing approximately 5,000 full-time jobs. The two primary highway routes used by these visitors are US-2 and US-41. Predictably, a large number of businesses catering to tourist needs have located along them. Any highway improvement that requires a new alignment, and a corresponding shift in traffic volumes, could force the relocation of these traffic-oriented businesses or their closure. If it is assumed that equilibrium exists between traffic volumes and the number of tourist-servicing establishments on an existing facility, then any percentage decrease in traffic volume from the existing route to a new location will result in approximately the same percentage decrease in business activity for these concerns.

Reconstruction of a highway along a new alignment may also change focal points for development in the study area. Experience indicates that new growth centers will develop around the intersection of major cross roads and the new alignment. Experience also indicates that a similar reduction will not occur in those towns by-passed by the new alignment. The end result of this type of improvement could be an expansion of businesses and population for the study area.

If an existing roadway is expanded to increase capacity and enhance safety, the resulting impact may be as dramatic as if the road were relocated. Expansion of an existing road could require the acquisition and

relocation of businesses and residences currently located along the right-of-way. Many of these businesses may not have sufficient property to move back or relocate along the road, these establishments, however, would be compensated for their loss. If reconstruction were to be along a new alignment, state law does not allow for compensation for the reduction in business activity.

In conclusion, trade-offs such as these, between possible benefits and potentially harmful effects on the social and economic life of an area, are common in planning for efficient transportation systems for any area. It is, therefore, essential that such trade-offs are carefully analyzed and considered before any corridor is selected. This is necessary if the regions and the state are to benefit from any transportation network.

ENVIRONMENTAL

The many outstanding natural features of Michigan's western Upper Peninsula, including its Great Lakes shoreline, inland lakes, watersheds, rugged terrain and vast forested wilderness areas, must be considered when planning construction of any transportation facility. Environmental concerns most often relate to the possible destruction of, or physical encroachment upon, natural features or to the disturbance of existing ecosystems.

Certain environmentally valued entities, because of their legislatively designated importance or rare and endangered status, must receive special consideration. Wildlife refuges, parks, designated natural rivers, rare or endangered plants or animals, highly unusual geologic formations, or protected shorelands are examples of objects deserving of special environmental protection. Although the impact of each illustrative alternative on these and other special environmental features can only be addressed very generally at the systems level planning phase, these impacts, nevertheless, must be addressed because of their importance in the decision making process.

IMPROVEMENT ON EXISTING ALIGNMENT

Reconstruction of one, or more of the western Upper Peninsula's major highways on basically the existing alignments would cause less disturbance to outstanding natural features than would new construction. Confining construction to an existing alignment should minimize the amount of resulting natural environmental damage, since the natural features of the area have already been affected or altered by the original highway construction or adjacent secondary developments.

IMPROVEMENT ON NEW LOCATIONS

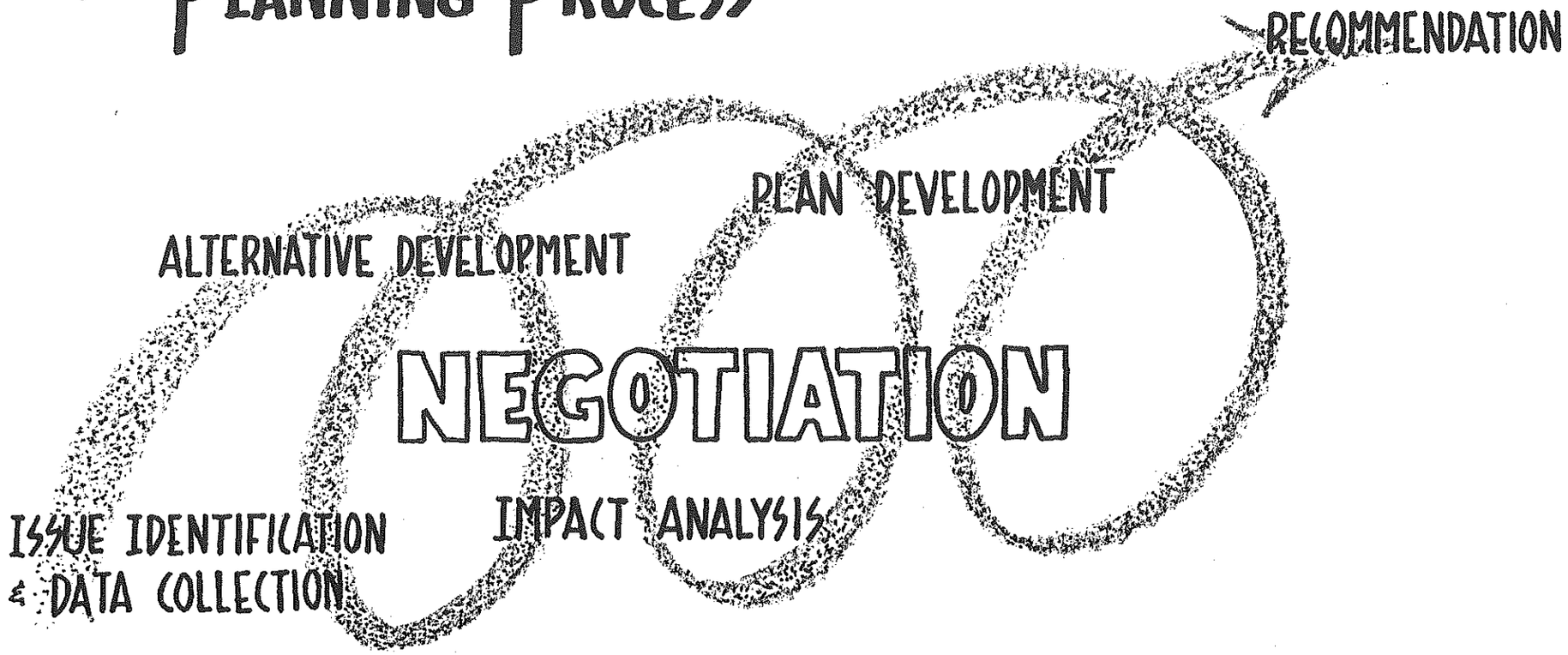
Examples of outstanding natural areas in the western Upper Peninsula include the Huron and Porcupine Mountains, the Sylvania Tract in Gogebic County and the McCormick Estate in Marquette County. Areas such as these, because of their remoteness from population centers and protection by existing environmental legislation, are not likely to be affected by new highway alignments; nor by any of the illustrative alternatives being presented.

Other less well known natural areas may be affected. One area which would be affected by the illustrative alternatives is bounded by these highways: US-41, US-2, M-95, and US-41/M-28. This area encompasses most of the Escanaba River Drainage Basin which consists primarily of state forest lands and is traversed by only a few paved or improved gravel roads. Because of the area's relationship to the Escanaba River Drainage Basin, it consists largely of wetlands whose swamp forests provide cover and food for white-tailed deer and other game animals. Similarly, the large tracts of state forest lands with few roads gives the area a semi-wilderness character that assists rare and endangered species in their fight for survival. Highway intrusion into this type of area is of concern, because it is difficult to preserve natural drainage patterns when constructing highways through wetlands. Typically, swamp forests have a very low tolerance to hydrological change, therefore, areas outside the right-of-way may suffer ill effects or be destroyed.

In addition to a highway's primary impact on wild areas and natural drainage patterns, the secondary impact of residential, commercial and industrial development is also of concern. Developments which may occur in response to a new highway, require acreage from areas outside the highway right-of-way and may, like highways, adversely affect natural drainage patterns. However, unlike highway construction, in which adverse effects occur immediately, and are ameliorated through time, the secondary effects of roadside development are manifested gradually over a long period of time.

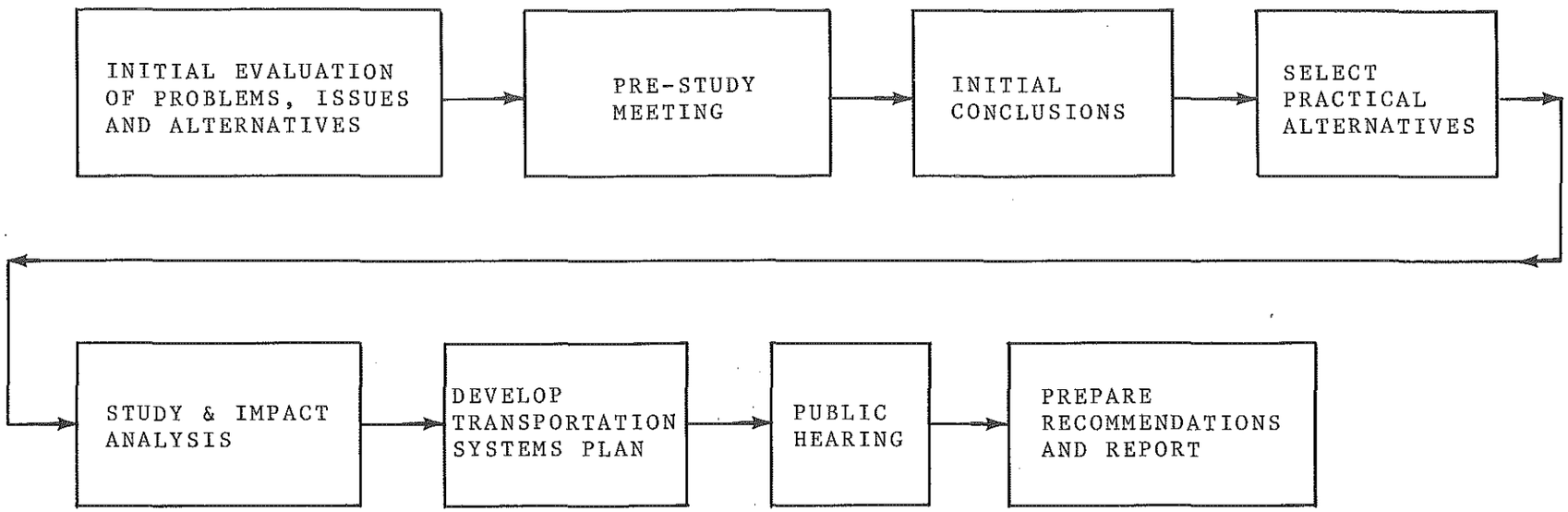
This graphic illustration shows how the transportation systems planning process will be conducted. It is a 5 step approach with each step being repeated two or more times as shown by the speckled arrow. The study process starts in the lower left hand corner and follows the arrow. Each time the arrow crosses one of the step titles it means that the step is repeated.

THE PLANNING PROCESS



PLANNING PROCESS

This flow chart illustrates how the Department plans to conduct a transportation systems planning study for all modes in the Upper Peninsula.



* The alternative of no capital improvement (the Do-Nothing) is considered at all phases of the process.

ROLE OF THE MULTI-COUNTY REGIONAL PLANNING AGENCIES

Prepared by: The Central Upper Peninsula Planning and Development Regional Commission

The Central Upper Peninsula Planning and Development Regional Commission (CUPPAD) is a comprehensive planning organization serving the counties of Alger, Delta, Dickinson, Marquette, Menominee and Schoolcraft. The Commission was organized in September, 1968, by local elected officials and interested citizens.

The Commission was organized under two State Statutes: Act 281 of 1945, which provides for the creation of regional planning commissions; and Act 46 of 1966, which provides for the creation of economic development districts. The 32-member Commission is composed of representatives from local units of government, as well as groups of major influence in the community. Approximately 60% of the Commissioners are local public elected officials, with the remainder representing major employers, banks, schools, chambers of commerce, Community Action Agencies, county and city planning commissions, etc.

The CUPPAD staff, which includes eighteen professionals, provides assistance to local units of government in such areas as grant applications, project funding, comprehensive community planning, zoning and land use ordinances, water and waste water projects, capital improvements programming, law enforcement, industrial development, solid waste management, natural resources, transportation, overall management, budget and accounting procedures, feasibility, housing, tourism, economic studies, and serves as the regional clearinghouse. Staff members also serve as a liaison point between local officials and many State and Federal agencies.

CUPPAD GOALS AND OBJECTIVES

The CUPPAD Commission has adopted three Goals for the Central Upper Peninsula Region. These Goals serve as the guidelines with which all subsequent planning must comply. These three Goals and their corresponding Objectives are listed below.

Goal - "Stabilize and Improve the Overall Economy of the Central Upper Peninsula"

Objectives -

1. Increase employment through the expansion of existing industry and attraction of new industry.
2. Increase the income of the unemployed, underemployed and minority groups.

3. Increase the number of year-round jobs.

4. Increase the income of the total population.

Goal - "Ensure the Rational Use of the Region's Natural Resources and the Compatible Arrangement of Land Use"

Objectives -

1. Develop plans for the physical development of the Region which are regional in scope and are in accord with social and economic needs.

2. Develop an organizational framework for planning and development at the local level which can effectively deal with local problems and potentials.

Goal - "Strengthen Local Government"

Objectives -

1. Improve the efficiency and effectiveness of local government by encouraging capital improvement programming at the local level.

2. Institute a regional programming and budgeting system, which is integrated with the state and federal budgetary process, and utilizes local inputs.

3. Provide technical assistance to local units in the preparation of plans, capital improvement programs, and in securing funds.

Since the Commission was organized, a number of regional plans have been completed and adopted. Regional plans for Water and Wastewater systems, Recreation, Solid Waste, Housing, Industrial Development, and Criminal Justice have been completed. In addition, the Commission annually prepares a Short Range Comprehensive Plan. The Commission's Regional Growth Concept, as expressed through a series of specific goals, objectives and policy statements, is included in the Annual Short Range Plan.

Transportation planning is a high priority concern of the CUPPAD Commission. Considerable staff time during the coming years will be devoted to the development of regional inter-modal transportation planning process.

Prepared by: The Western Upper Peninsula Planning and Development Region.

The Western Upper Peninsula Planning and Development Region is a comprehensive planning organization serving the counties of Baraga, Gogebic, Iron, Keweenaw, and Ontonagon. The regional agency was organized in 1968 by local elected officials and interested citizens under two State Statutes: Act 281 of 1945, which provides for the creation of regional planning commissions; and Act 46 of 1966, which provides for the creation of economic development districts.

The 42-member regional agency is composed of representatives from local units of government, as well as groups of major influence in the community. Approximately 60% are local public elected officials, with the remainder representing major employers, banks, schools, chambers of commerce, an Indian community, county and city planning commissions, etc.

The staff, which includes nine professionals, provides assistance to local units of government in such areas as grant applications, project funding, comprehensive community planning, zoning and land use ordinances, water and waste water projects, capital improvements programming, criminal justice planning and programs, industrial development consulting, solid waste management, natural resources, transportation, overall management, budget and accounting procedures and feasibility, housing, coastal zone management, tourism, economic studies and serves as the regional clearinghouse. Staff members also serve as a liaison point between local officials and many State and Federal agencies.

The Western Upper Peninsula Planning and Development Region has adopted a number of Short Range Goals, together with Objectives and Policies that serve as the basic structure for future regional planning. Listed below are the "Land Use - Transportation" and "Transportation" Goals, Objectives and Policies.

LAND USE - TRANSPORTATION

Goals

1. Encourage transportation route and facility locations that are consistent with regional land use and transportation plans.

Objectives

1. Determine transportation and utility route locations compatible with adjacent land uses.

Policies

1. Discourage commercial strip development unless proper site and highway design are used within this land use configuration.

2. Encourage transportation authorities to avoid construction in areas unsuitable for development and conversely to stimulate route selections in areas suitable for development.

TRANSPORTATION

Goals

1. Improve the transportation system and services to facilitate the movement of people and goods within the Region and with points outside the Region.

Objectives

1. Seek State and/or Federal funding for a WUPPDR continuing transportation planning program.

2. Encourage and support efforts to maintain and improve rail service to and within the Region, in coordination with other modes of transportation.

3. Coordinate planning activities of consequence with the Michigan Department of State Highways and Transportation.

Policies

1. Control access to primary roads in recognition of the traffic carrying function of these roadways.

2. Prepare and/or provide regional (areawide) and county inputs into transportation plans.

3. Maintain a liaison with State, Federal and local transportation authorities.

WHERE TO SEND COMMENTS...

You are urged to use your regional committees and commissions as a line of communications in making your thoughts and reasoning known. A brief note or letter will be most appreciated by your representatives on these commissions and advisory committees as they consider their decisions and recommendations. It would also be appreciated if a copy of your comments were sent to the regional commission's office in Houghton or Escanaba. In that way your comments will be assured of receiving proper consideration in the decision-making process and, if necessary, direct reverse-communications can be made.

Comments should be addressed to either:

The Western Upper Peninsula Planning and Development Region
P.O. Box 365
Houghton, Michigan 49931

The Central Upper Peninsula Regional Planning and Development Commission
2415 14th Avenue, South
Escanaba, Michigan 49829

or forwarded directly to:

Mearl Talsma, Manager, Upper Peninsula Section
Michigan Department of State Highways and Transportation
Bureau of Transportation Planning
Post Office Drawer K
Lansing, Michigan 48904

In addition, the Michigan Department of State Highways and Transportation has a toll free telephone number to obtain further details (1-800-292-9576).