

13555

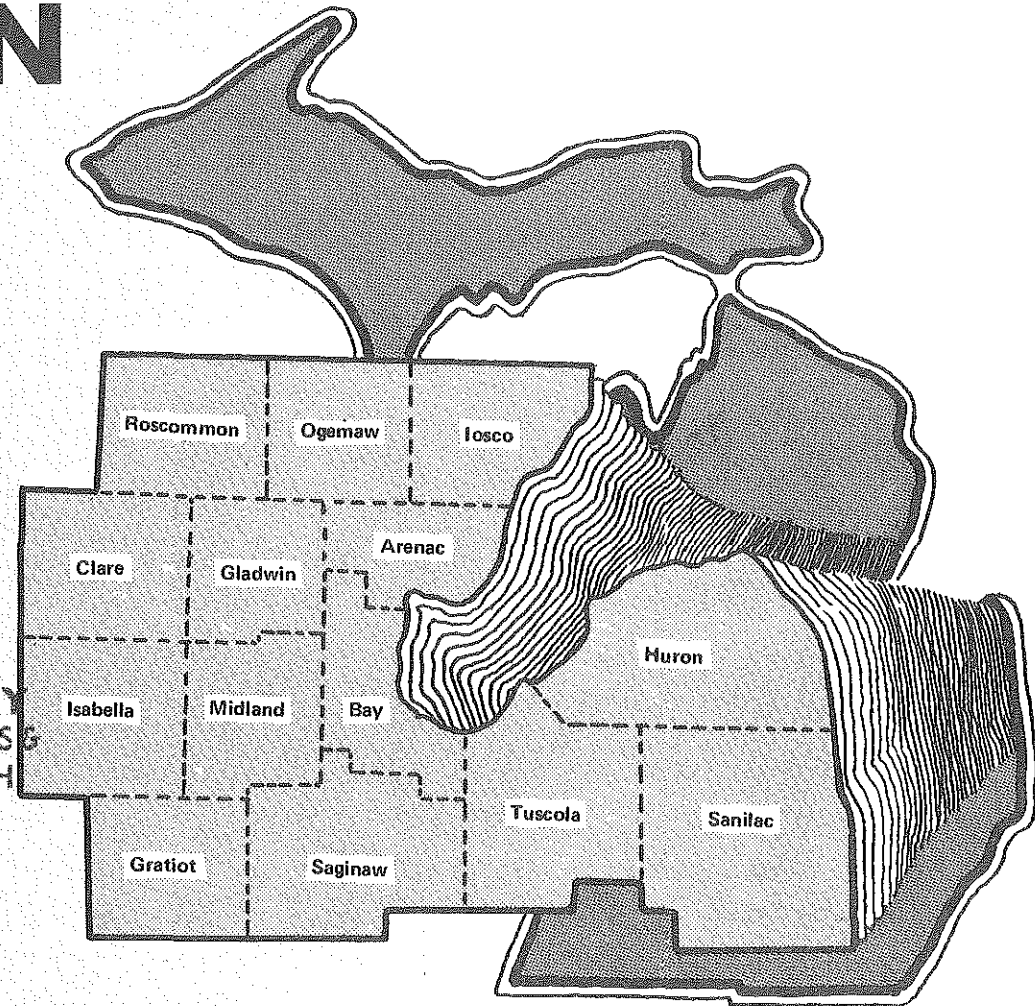
DEVELOPING A TRANSPORTATION SYSTEMS PLAN FOR EAST CENTRAL MICHIGAN

PRESENTED BY
THE MICHIGAN DEPARTMENT OF
STATE HIGHWAYS AND TRANSPORTATION

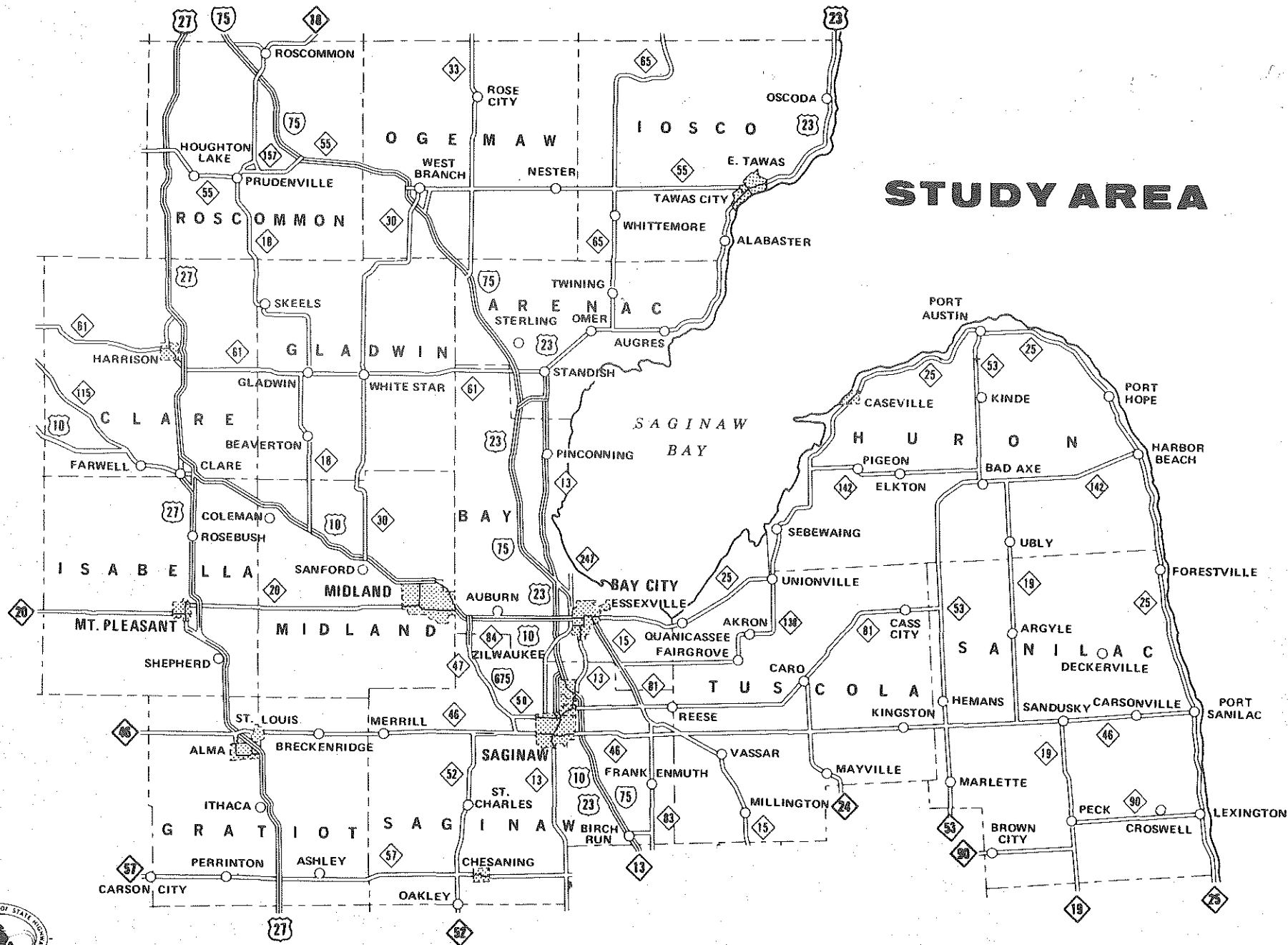
HIGHWAY COMMISSION

Chairman: PETER B. FLETCHER
Vice Chairman: CARL V. PELLONPAA
Commissioner: HANNES MEYERS, JR.
Commissioner: WESTON E. VIVIAN
Director: JOHN P. WOODFORD

TRANSPORTATION LIBRARY
MICHIGAN DEPT. STATE HIGHWAYS &
TRANSPORTATION LANSING, MICH



See Back Cover For Schedule of Public Meeting



INTRODUCTION

The constitution and Statutes of the State of Michigan make the Michigan Highway Commission responsible for planning, building, and maintaining a transportation system for our State. To fulfill these responsibilities the Michigan Department of State Highways and Transportation has developed a planning process to guide the State and its governmental units in analyzing the adequacy of existing transportation systems and in preparing plans for future systems and facilities.

The overall goal of the planning process is to provide a transportation system for the State that will meet the mobility needs of its citizens in attaining desired social and economic goals while minimizing costs and adverse impacts. To attain this goal, it is necessary to identify the social and economic goals of the people to be served and then make certain that these goals are reflected in the transportation system.

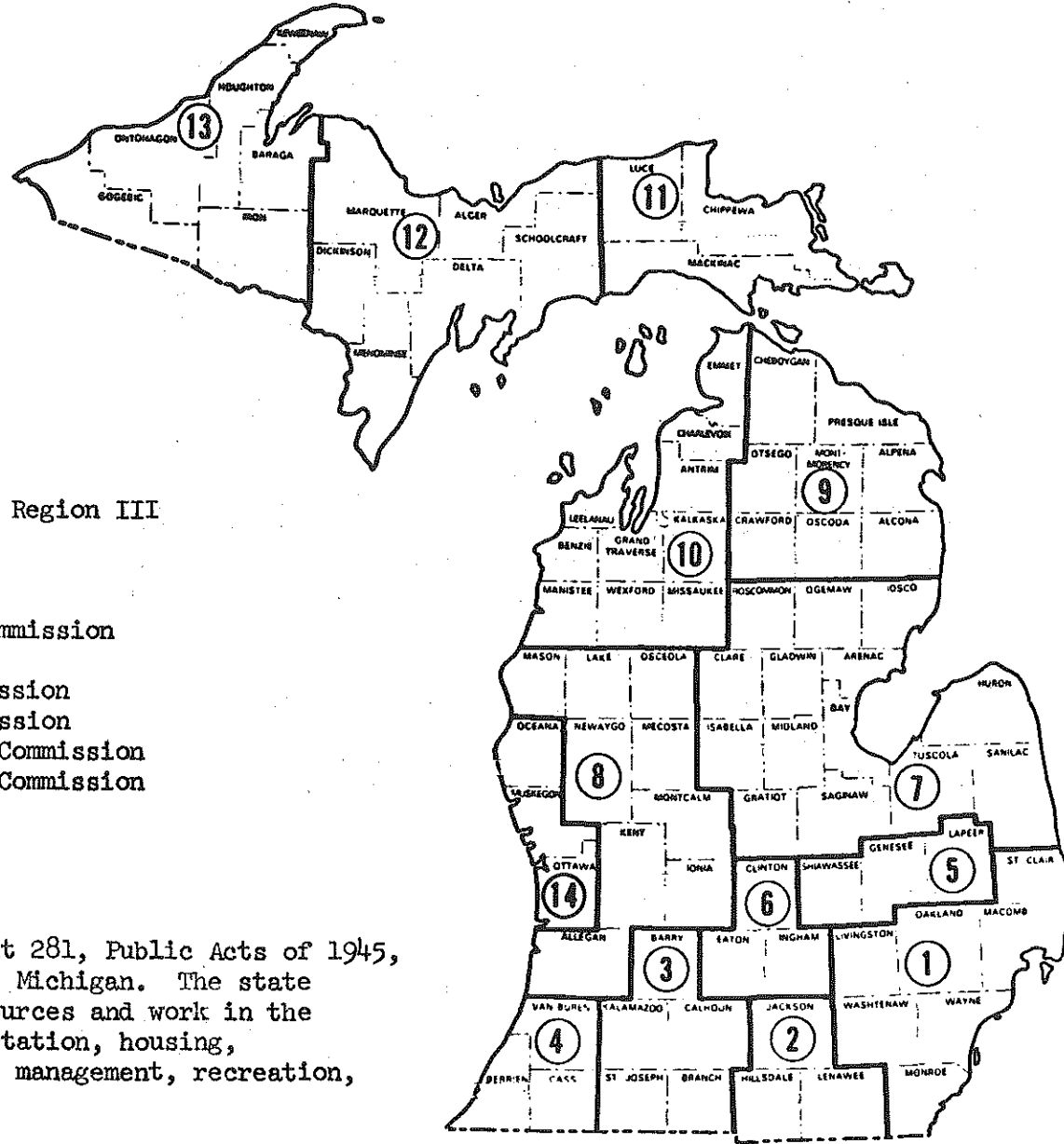
The planning process is designed to achieve this end. It requires an analysis of the existing transportation system and facilities and their relationship to goals and objectives of the State and

local areas. It requires the participation of all levels of government and allows for continued participation of individuals and groups who feel that their interests are being or will be affected. Central to the process is the concept of negotiation. The process has been designed in the belief that the best plan can only be developed when there is a great deal of reasoned interaction between people with diverse perspectives. This brochure has been written to increase this interaction by providing a general overview of the planning process and to present information which will serve as a beginning point in establishing a basis for informed discussion with citizens and groups in the East Central Michigan Planning and Development Region (ECMPDR). Results of very preliminary efforts are summarized in this brochure, and are not intended to represent any conclusions nor recommendations by the Michigan Department of State Highways and Transportation (MDSH&T). Only at the conclusions of an extensive and open planning process will a final plan be recommended.

This report represents the findings and/or professional opinions of the Michigan Department of State Highways and Transportation and does not represent an official opinion of the Michigan State Highway Commission.

**TRANSPORTATION LIBRARY
MICHIGAN DEPT. STATE HIGHWAYS &
TRANSPORTATION LANSING, MICH.**

STATE PLANNING AND DEVELOPMENT REGIONS
State of Michigan



LEGEND:

1. Southeast Michigan Council of Governments
2. Region II Planning Commission
3. South Central Michigan Planning & Development Council of Region III
4. MACOG, Michigan Regional Planning Commission
5. G-L-S Regional Planning Commission
6. Tri-County Regional Planning Commission
7. East Central Michigan Planning & Development Regional Commission
8. West Michigan Regional Planning Commission
9. Northeast Michigan Regional Planning & Development Commission
10. Northwest Michigan Regional Planning & Development Commission
11. Eastern Upper Peninsula Regional Planning & Development Commission
12. Central Upper Peninsula Planning & Development Regional Commission
13. Western Upper Peninsula Regional Planning Commission
14. West Michigan Shoreline Regional Development Commission

Regional Planning Commissions, as established under Public Act 281, Public Acts of 1945, as amended, exist in 14 multi-jurisdictional areas throughout Michigan. The state regions are funded by money from local, state, and federal sources and work in the program areas of land use, environmental protection, transportation, housing, economic development, water resources, law enforcement, waste management, recreation, manpower, and other programs.

The following is a reprint of a brochure available from the Michigan Department of State Highways and Transportation.

TOWARD A REGIONAL TRANSPORTATION SYSTEM PLAN



JOHN. P. WOODFORD, DIRECTOR
DEPARTMENT OF STATE HIGHWAYS
AND TRANSPORTATION

NOVEMBER, 1975

This brochure will provide, in a question and answer format, an explanation of the Michigan Department of State Highway and Transportation's development of Regional Transportation System Plans for Michigan.

WHAT IS THE PURPOSE OF A REGIONAL TRANSPORTATION SYSTEMS PLAN?

Until recently, the planning of transportation systems has primarily been conducted on a statewide or urban region basis and has not included a full range of the existing transportation modes; rail, air, highway, public transportation and non-motorized. The central purpose of system's planning was to identify national, state and urban transportation needs. In recent years, it has been recognized that within the individual states there were sub-state regions - each with its own special requirements for transportation services. Michigan has 14 such regions.

The purpose of the regional transportation systems planning process is to interrelate national, state and urban needs with the special problems associated with each region and with alternative future situations which can be expected to occur. The interrelationships uncovered in the planning process will illustrate transportation needs in the context of the national and community values.

WHAT WILL BE THE CHARACTER OF THE PLAN?

The pace and magnitude of changes which occur in our society have increasingly illustrated the problems associated with development of a master plan.

Recent situations such as adverse economic conditions, the oil embargo, together with unanticipated changes in population trends and distributions have shown that a master plan can be obsolete before it can be implemented. Systems planning must be more flexible and recognize that changing realities change systems needs. The emphasis must therefore be on process rather than on product.

The Regional Transportation Systems Plan will show the level of transportation service required for a range of population, social, and economic levels. It will identify transportation corridors for the surface modes, such as highways and railroads, and facility service areas for airports and ports. It will identify inter-modal transfer points and examine how these points are and should be served by the various modes so that railroad, bus stations and airports have direct and timely access to the other transportation systems. It will identify priorities for the various modes to attain a level of transportation system development consistent with the level of social and economic activity within the region.

WHAT IS THE RELATIONSHIP OF REGIONAL TRANSPORTATION SYSTEMS PLANNING WITH PLANNING FOR SPECIFIC FACILITIES?

Utilizing the priorities established within the Regional Systems Plan to achieve the required level of transportation service associated with the existing and range of forecasted levels of population and social and economic activity within the region, the Department can develop programs to provide specific transportation facilities to meet the identified needs. The project planning process will then develop the specific details of the location and design of the required facility and the social, economic and environmental costs associated with providing that service.

WHAT ARE THE MAJOR ISSUES THAT ARE CONSIDERED IN THE DEVELOPING OF A REGIONAL TRANSPORTATION SYSTEMS PLAN?

A wide range of social, economic, environmental and transportation issues will be considered with special emphasis placed on the following items:

1. SOCIAL AND ECONOMIC NEEDS

For various existing or projected levels of social and economic activity, different types and levels of transportation service are required. The complexity of today's situation does not, at this time, permit the determination of all of the existing aspects of social and economic activity, let alone permit the totally accurate prediction of future activity. For this reason, alternative future levels should be established and the resulting transportation needs evaluated. This effort is essential even though the predictive abilities are limited since the quality of life is directly associated with social, economic and environmental conditions.

2. ENVIRONMENTAL VALUES

In each regional context there remain certain natural environmental areas which have particular value to all other activities. It is essential that these areas be identified and, where at all possible, protected. It is also an important function of the regional systems planning process to attempt to determine an overall environmental character to be preserved or, where possible, enhanced.

3. POPULATION

The level of social and economic activity which both results from and is required by various population levels and densities should be evaluated. Travel demand which is the determining factor in the demand for transportation services is also related to these population levels.

4. ENERGY

Energy availability considerations are an important issue to be analyzed during the development of a regional systems transportation study. The United States is presently experiencing the third energy availability problem in its history. The previous situations resulted in the conversion of the national energy dependency from wood to coal and from coal to petroleum. The existing and anticipated petroleum supplies indicate that within the next twenty to thirty years another shift in the basic energy dependency will be required. The previous shifts resulted in dramatic changes in the transportation services available to the American people. In each case individual mobility was greatly increased. We do not as yet know the direction the future energy dependency shifts will take or how they will influence mobility; however, our projections must take into consideration the potential changes which would result if different energy availability situations should occur.

5. TRAVEL DEMAND

To a great extent, the quality of life in the United States, and particularly Michigan, is associated with mobility. This is true both in terms of life style and in terms of economic activity which, in turn, provides the basis for the standard of living Michigan residents enjoy. Travel demand is directly associated with population, the level of economic activity and life style. A large percentage of the economic activity in the sub-state regions is directly dependent upon adequate transportation.

6. LAND USE

The issue of land use and whether controls should be developed to preserve certain land areas and uses has been a major concern throughout Michigan. Transportation service and accessibility has a significant impact upon land and the uses to which it can be put. Alternate transportation systems, modes, facility locations, and designs can have differing influences on land use. The consideration of these influences is part of the analysis conducted during the transportation planning process. The use, for example, of limited access instead of free access right-of-way can reduce the scatterization of development and preserve the viability of a highway facility. The regional transportation systems plan focuses on the major transportation corridors within a region and how they influence land use characteristics. Emphasis is placed on land use or land capability characteristics including those land forms which can be classified as special environments and how the alternative transportation systems impact those areas.

HOW DO THE EXISTING TRANSPORTATION SYSTEMS FIT INTO THE PROCESS?

Determination of the condition of existing transportation facilities within the region reveals both the adequacies and deficiencies of the existing systems. This provides the basis against which all future transportation decisions made to provide an adequate level of transportation services will be compared.

HOW DO YOU DETERMINE WHAT FUTURE TRANSPORTATION NEEDS WILL BE?

The consideration of the identified deficiencies in existing transportation systems provides a guide for determining the level and focus of public expenditures in the transportation field. It is difficult, if not impossible, to precisely predict the broad range of social, economic and environmental trends which will lead to future regional characteristics. It is therefore necessary that alternative transportation systems be developed to assess the relationships between social, economic and environmental values, the level of necessary public expenditure, and the impact which would result from each system.

While the range of possible alternative systems is infinite, the regional systems planning process requires that a reasonable number of illustrative systems be developed for the various modes from which a set of practical alternatives can be considered. Illustrative alternatives represent a broad range of possible transportation systems which could provide the needed service. The illustrative alternatives can include a wide range of possible system arrangements which might be difficult to seriously consider in detail because of the sheer number. The illustrative alternatives are then analyzed to determine if there is any practical basis for considering them as possible solutions to the transportation problem.

WHAT HAPPENS AFTER THE DEVELOPMENT OF ILLUSTRATIVE ALTERNATIVES?

The illustrative alternatives are considered in light of their ability to provide an adequate level of transportation service. The number of alternatives are reduced to a set of practical alternatives which are consistent with the goals and objectives of the region which have been established during the early stages of the planning process. The practical alternatives are then subjected to an intensive analysis as to their ability to provide adequate transportation services relative to the various ranges of population, social, and economic levels which were predicted.

IF THESE REGIONAL PLANS ARE FOR EACH MODE, HOW CAN A MULTI-MODAL PLAN BE DEVELOPED?

Each modal plan will be analyzed according to a range of social, economic and population projections. These projections will be organized into alternative future conditions and then a multi-modal plan or plans will be developed which best satisfy the conditions for each alternative future. An analysis of these alternative multi-modal system plans will identify those transportation facilities which are required to provide adequate service under the range of conditions determined for the various social, economic and population levels thus identifying priorities.

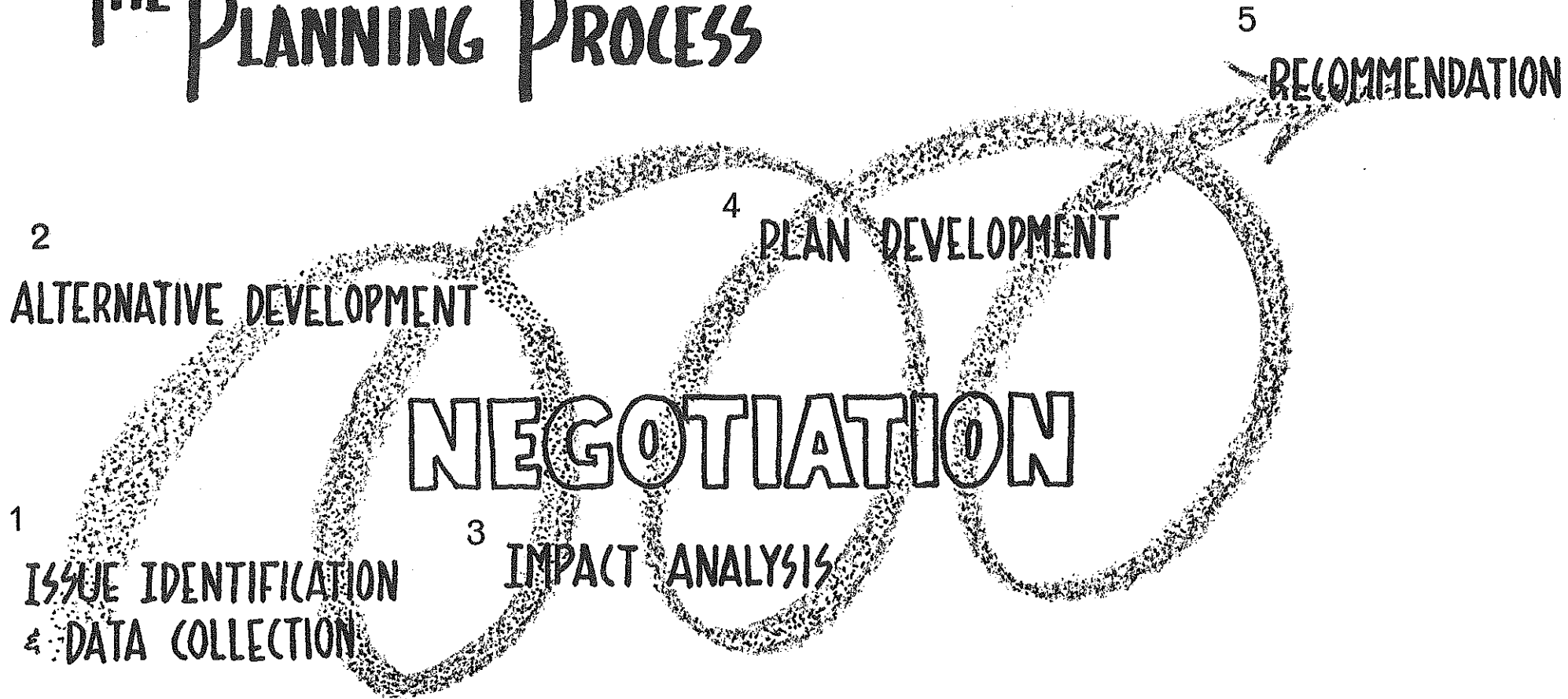
WHAT HAPPENS WHEN THE PLAN IS DEVELOPED?

The Department will publish a document setting forth its conclusions with regard to the level of transportation service required, the major corridors in which this service can be provided and the alternatives which will be considered over time as the future social, economic and population trends un-

fold. The Regional Transportation Systems Planning process will continue as the Bureau of Transportation Planning monitors changing conditions and transportation systems problem areas. Updating of the Plan will thus be a continuing activity responsive to changing conditions within the region, a process we consider essential in our complex society.

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



THE REGIONAL PLANNING PROCESS

This study is being conducted by a multi-disciplinary team. This team is comprised of individuals who have been educated and trained differently. The reason for using a multi-disciplinary team is to bring together people with varying perspectives who can provide a wide variety of ideas that can be applied to problem identification and solution.

In addition to the Team Leader, who is responsible for the overall supervision of the team, and its activities, the team has personnel from within and without the Department representing the following perspectives or areas of responsibility:

Airport Planning	Route Location
Non-Motorized Transportation Planning	Right of Way
Environmental Assessment	Social Economic Analysis
Federal Highway Administration	State Needs Study
Mass Transportation Planning	Statewide Planning
Port Authority	Statewide Traffic Model
Public Involvement	System Planning (Highways)
Railroad Planning	Traffic Analysis
Regional Planning and Development	Urban Planning

As indicated, the East Central Michigan Planning and Development Commission is represented on the team. A member of the Commission's staff has been actively involved in these preliminary stages of the study, and will continue to do so throughout the remaining phases. Moreover, recent contractual arrangements have permitted additional regional staff to be assigned to team activities on a full-time basis.

The study process consists of five basic phases:

1. Issue Identification and Data Collection - Determination of regional transportation needs and desires, formation of goals and objectives, and social, economic and environmental and transportation facility data inventories.
2. Alternative Development - Development of transportation alternatives based on issue identification and data collection activities.
3. Impact Analysis - Evaluation of social, economic and environmental consequences of implementing a given course of action.
4. Plan Development - Evaluation of transportation alternatives and associated impacts and identification of courses of action providing a resolution to the problem(s).
5. Recommendation - The adoption of a course of action by a specific level of organization for the purpose of initiating the approval process.

To insure that pertinent ideas or information are not being overlooked, cycles of each phase in the process are conducted. This means that if any important steps or ideas have been missed at an earlier stage of the study, the team will incorporate them in another cycle of the process. The cycling process is conceptually represented in the accompanying diagram.

Central to this process is the concept of negotiation. As the study cycles through the five phases, many opportunities for public and agency involvement will be included. This will ensure that interested parties can voice their feelings and interests so that the concerns of the Region will be considered in concert with statewide transportation needs.

URBAN AREA PLANNING PROCESS

The 1963 Federal-Aid Highway Act required 3-C planning for urban areas with a central core city of over 50,000 population. This requirement applies to the urban areas of Saginaw and Bay City.

The 3-C's refer to a coordinated, comprehensive, and continuing transportation planning process which must be maintained if Federal-Aid is to be used on transportation projects in those areas. Each 3-C area receives financial assistance in developing and maintaining the plan and the planning process.

Bay City initiated their 3-C program with a major origin and destination study in 1962, a plan in 1965, and a total update in 1975.

An origin and destination study was conducted in Saginaw in 1965, the plan was completed in 1972. Presently this plan is being monitored and refined.

Each of the 3-C areas is managed by a Policy Committee composed of MDSH&T, Federal Highway Administration, city, township and county elected officials. This Policy Committee directs a Technical Committee which includes various city, township, county and state employees who deal with the local communities on a daily basis. Technical Committee members and the staffs they manage, conduct the daily planning

requirements of the Federal-Aid Highway Act, and report directly to the Policy Committee.

In 1973 the Governor of the State of Michigan designated the East Central Michigan Planning and Development Regional Commission as the responsible agency for 3-C transportation planning in the Saginaw and Bay City urbanized areas.

The East Central Michigan Planning and Development Region, County Planning Commissions, Metropolitan Area Transportation Study Policy Committees and the County Boards of Commissioners adopted and approved a resolution in 1975 which became a new "cooperative agreement for transportation planning."

This agreement stipulated that the East Central Michigan Planning and Development Region shall become the contracting agency for the U.S. Department of Transportation Planning Program related to Section 112 of the Federal-Aid Highway Act of 1973.

Studies conducted and plans developed under the 3-C process will be considerations in conducting the Regional Systems Planning Process.

Questions, comments, or membership information on the 3-C process in Saginaw or Bay City may be addressed to the Directors of the Saginaw or Bay County Planning Commissions. Addresses and phone numbers are listed on the last page of this brochure.

ROLE OF THE MULTI-COUNTY REGIONAL PLANNING AGENCY

Prepared by: The East Central Michigan Planning
and Development Regional Commission

The East Central Michigan Planning and Development Region, a 14-county regional association, was organized under Act 281 of the Michigan Public Acts of 1945. ECMPDR, a voluntary association, formerly the East Central Michigan Economic Development District, was organized January 1, 1973 to promote intergovernmental cooperation and communications as well as provide regional planning function and state and federal grant coordination.

MEMBERSHIP

The total membership of the regional commission consists of 47 representatives of the various local governmental units. Each of the 14 counties has been allotted two seats and the remaining representatives are apportioned based upon the county's population. Basic membership (1/3 of the county's allotment) is granted to the county unit and additional seats are allotted the large cities, collective groups of townships. It should further be noted that at least 50% of the total membership must be elected governmental officials.

The Staff, which includes 14 professionals, provides assistance to local units of government, while conducting a regional planning program. Ongoing planning programs include comprehensive community planning, areawide wastewater management planning, coastal zone management planning, economic development plans, law enforcement plans, and regional transportation planning. Commission staff members provide a liaison point between local and

many state or federal agencies and programs.

To a large extent, transportation problems or issues in our area are a direct result of two primary factors: the first being growth or change and the second being obsolescence. It is imperative that we make definitive progress on solving our transportation problems because the economic, social, and environmental qualities of our region depend on the ability to move people and goods from place to place efficiently. Progress toward transportation systems development should always be considered in a positive vein as opposed to reacting to problems with transportation systems.

In order that we might address the aforementioned issues, the regional commission has adopted the following goals for the development of a regional transportation system.

CIRCULATION GOALS

GOAL: To provide a system of transportation which will balance the needs and abilities of various modes and provide for the appropriate linkages between modes.

Objective: Development of a regional multi-modal transportation plan, consistent with the adopted regional land use plan.

GOAL: To maintain and increase various service levels of public and freight transportation.

Objective: To analyze existing service levels of transportation to determine cost effectiveness and economic impacts.

GOAL: To cooperate with all transportation modes in the development of regional and local transport plans and systems.

Objective: Coordination of federal, state and local transportation activities to minimize overlap and increase service.

Since the Commission was organized, many planning studies have been completed and adopted. The ongoing comprehensive planning process will ultimately lead in the completion and adoption of a regional land use element. The water quality study will provide for management of pollution control developments throughout the region. Ongoing economic development activities have resulted in new growth and an understanding of our region's economy. Law enforcement plans have resulted in an improved system of criminal justice and crime prevention.

Transportation planning is a high priority concern of the East Central Michigan Regional Commission. Considerable staff time during the coming years will be devoted to the development of regional inter-modal transportation planning processes.

PUBLIC PARTICIPATION PROCESS

Public participation is the involvement of regional residents in every phase of the planning process including issue identification, alternative development, impact analysis, plan development and recommendation. Citizens groups and the general public, representing the full social, economic and political spectrum (including minorities) must be included in the process.

The role of the citizen in this process is to interact with the team in selecting courses of action which they feel will best serve regional and individual needs. Communication between citizens and the team should be a two-way process. Citizen participation should be designed to do more than simply educate the public about decisions which have already been made. Such a narrow view would only limit the chances of public acceptance of any plan that is developed and would result in unpopularity of some of the plans. If there is meaningful involvement of citizens in every phase of the systems study, then the team will be able to assess regional needs and objectives more accurately.

The role of the team is to explain the planning process and to identify specific problems. They must work with the public in identifying goals and policies for solving these problems. The team must also ask if the people can identify any further issues and problems they might have overlooked. The next course of action for the team is to identify and enumerate alternatives with the assistance of the public and consider solutions to the problems. The final step is to check

to see which possible solutions best suits the public's needs and which of these the people can agree to.

Michigan's Action Plan calls for a minimum of three formal public meetings to assure opportunity for public involvement. The required meetings include a pre-study meeting, a public hearing and a post-study meeting. The pre-study meeting represents the beginning of the regional systems planning process and sets the stage for an in-depth consideration of alternative courses of action. Public hearings insure that groups and individuals will have the opportunity to ask questions, voice opinions and disagreements, offer suggestions and make public statements concerning a proposed course of action. Post-decision meetings are designed for final review of a course of action, after considering all the factors presented.

The public involvement process must be flexible enough to react to any given problem, complex or simple. Some additional techniques which can be used to insure flexibility are: 1) organizing citizen advisory groups; 2) public opinion surveys; 3) workshops, seminars, etc.; and 4) public information meetings. The process must also be responsive to the needs and wants of the citizens.

Objectives for a public involvement process which is flexible, responsive and effective in promoting a two-way flow of information and ideas should be established as an agency/public effort. At the pre-study meetings, the team will encourage participants to make their views known. Based on these comments a program will be developed to guide subsequent public involvement activities.

PRE-STUDY MEETINGS

Pre-Study Meetings are required by the Michigan Action Plan. They represent the beginning of an ongoing process of issue identification, alternative development, and impact analysis. This ultimately leads to a regional transportation systems plan for East Central Michigan. Dates, times, and locations for these meetings can be found on the back cover of this booklet.

Since these meetings are intended to announce the beginning of the process, topics for discussion must necessarily be limited in scope.

To assist the citizens of this region in actively participating in these meetings a description of the format of these meetings and the topics which will be discussed are provided in the following paragraphs.

The meetings have been designed to achieve two primary objectives; First, to inform the citizens of the region about the systems study and the process which will be followed; second, to begin to identify regional transportation problems and issues.

The first objective will be accomplished by a formal presentation concluded with a question and answer period. This portion of the meeting will last 30 to 45 minutes. Topics which will be discussed are listed below:

Formal Portion of Pre-Study Meetings (30-45 minutes)

I. Introductions

II. The East Central Michigan Regional Transportation Systems Study

III. The Planning Process

IV. Agency Involvement in the Planning Process

V. Citizen Involvement in the Planning Process

VI. Overview of Future Study Phases

VII. Question and Answers

The formal portion of the meetings will consist of a presentation by the location team on the above topics. An important topic which will be discussed Item V, Citizen Involvement in the Planning Process requires participation on the part of regional residents. The intent is to develop a citizen participation program responsive to the preferences of those in attendance.

A list of public involvement objectives and possible techniques to meet these objectives are provided. As a citizen of East Central Michigan, you should review these and offer your comments at the meetings. Your suggestions regarding other objectives and techniques will also be welcomed. The location team will then develop a program designed specifically for East Central Michigan Residents.

The following are suggested objectives for the public participation program:

- o Establish an ongoing communication link between the MDSH&T, ECMPDR and the public (including county, city, community groups, and interested citizens).
- o Assure that an opportunity for open, constructive dialogue is provided.
- o Provide a means to identify concerns and address issues in a context which seeks meaningful public participation.

- o Establish a link which is a continuing commitment to effect public participation.
- o Make the planning process more responsive to the needs and opinions of the public. Unless the comments received are actually considered, public participation has only public relations value.
- o Avoid the need for a "yes" or "no" decision based on an inadequately communicated planning process.
- o Inform and educate the public concerning regional transportation planning and the major decisions to be made.
- o Increase public understanding of MDSH&T's role in the process.
- o Satisfy all Federal and State requirements for citizen participation in plan development.

The following techniques may be used including those listed in the public involvement section of this booklet to fulfill the objectives:

- o Information distribution using all primary communications media -- radio, newspaper, television -- and a broad spectrum of tools, including press releases, newsletters, brochures, reports, speeches, personal interviews, plan summaries, slides, films, and press conferences.
- o Information collection via surveys -- questionnaires distributed in public meetings.
- o Interactive approaches, including public forums and hearings, seminars, and workshops.

Your reactions to the above objectives and techniques, as well as additional suggestions, would be appreciated.

At the conclusion of the formal portion, participants will have the opportunity to meet with team members and to discuss informally with them their areas of speciality and issues and problems of regional transportation.

Team members will have on hand displays, maps and other information regarding their areas of interest, including previous transportation efforts. They will be prepared to answer questions you may have and will be especially interested in your thoughts and opinions regarding transportation in East Central Michigan. The informal format of this second portion of the pre-study meetings hopefully, will accomplish the second objective of beginning to identify transportation problems and issues.

We are looking forward to seeing you at these meetings and working with you in setting the framework for the regional systems study. Not all of you will be able to attend, however, because of other commitments, but your comments and suggestions will still be of value. Let us know what your thoughts are by dropping a line to the Regional Planning Commission or the Location Team. Addresses can be found on the last page of this brochure.

PREVIOUS MODAL TRANSPORTATION PLANNING EFFORTS

The Michigan Department of State Highways and Transportation is and has been for some time, responsible for statewide modal transportation planning. This has resulted in the implementation of various programs and projects. Efforts have also been expended in long-range planning for the various modes, however, this was done without formally involving regional interests.

The regional systems planning process will examine these plans in terms of the regional and community values of East Central Michigan and as the transportation modes interrelate with one another. Other alternatives will be developed and evaluated as transportation needs in the region become clearer. It may be necessary, as a result of the process, to modify established plans. In any event at this stage of the study no previous planning efforts will be taken for granted. To be included in the recommended final regional transportation system plan any previous plan must stand the test of thorough and rigorous evaluation within a regional context.

On the pages that follow, past studies are presented in graphic and summary form to provide you with basic knowledge concerning transportation in East Central Michigan. No attempt has been made to analyze the feasibility nor effectiveness of any of the modes. As the regional study progresses, analyses will be performed on these as well as other alternatives, leading to a recommended transportation systems plan. Although not discussed, in all cases, a "Do Nothing" alternative will be considered primarily as a basis for comparative analysis.

A detailed description and discussion of these plans and alternatives and other possibilities are purposely not included in this booklet. The sole purpose for their presentation is to stimulate discussion and induce comments on broad concepts. Although these plans were developed based on sound planning bases, it is not intended that they represent definite courses of action. Your reaction to these and your suggestions for others will help determine the character of the Systems Planning Process.

HIGHWAYS

Initial consideration of highway options will be based on the State Highway Trunkline Plan approved, subject to detailed planning and engineering studies, by the State Highway Commission in September, 1974. This plan was developed as a long-range statewide guide for highway improvements utilizing a process termed "functional classification."

Under this system, the state's streets and highways are grouped into classes according to the character of service they are intended to provide. Based on an identification of population centers, areas of major attraction or generation, travel desire, trip length, and traffic volumes, a hierarchy of facilities are established which reflects their importance in the handling of statewide, regional or local traffic.

The map on the facing page depicts that portion of the State Highway Trunkline Plan pertaining to the region. Routes which were determined to require improvement through the functional classification process are indicated by wide shaded areas. As specified by the highway commission, these improvements were approved subject to detailed planning and engineering studies. The shaded areas indicate only that improvements were deemed to be necessary. No judgement has been made as to the exact alignment nor has the type of facility yet been determined.

At this early stage of the systems study, the State Highway Trunkline Plan will be considered to be illustrative of possible solutions to highway transportation needs in the region. As the study progresses these will be thoroughly evaluated in relation to identified regional issues and desires. In other words, these alternatives will serve as a beginning point for the coopera-



tive development and evaluation of a wide variety of highway options to improve transportation in East Central Michigan. Although not shown, the "Do Nothing" alternative, which includes only maintenance or minor improvement to the existing system, will be considered to provide a basis of comparison for the many other alternatives which will be evaluated during the study.


Highway alternatives depicted on the map are described below:



1. Improvements to M-46 from the Alma-St. Louis area easterly to Saginaw to provide greater capacity and improved traffic flow.
2. Construction of a facility parallel to existing I-75 from I-96 in Oakland County northerly to I-75 in Arenac County, bypassing Flint on the east, and Saginaw and Bay City on the west.
3. Construction of a facility from Standish to Alpena to provide improved highway service in northeastern lower Michigan. (US-23 from south of Standish to M-65 is presently the subject of a corridor location study.)
4. Improvements to M-53 from north of Utica to Bad Axe. (M-53 from north of Utica to Imlay City in Lapeer County is presently the subject of a corridor location study.)
5. Extension of M-24 from Caro to Unionville, presently the subject of a corridor location study.
6. Reconstruction of US-27 to freeway standards from north of Lansing to the existing freeway south of Ithaca. (A corridor location study has recently been completed. A design or alignment study is in progress.)



PUBLIC TRANSPORTATION

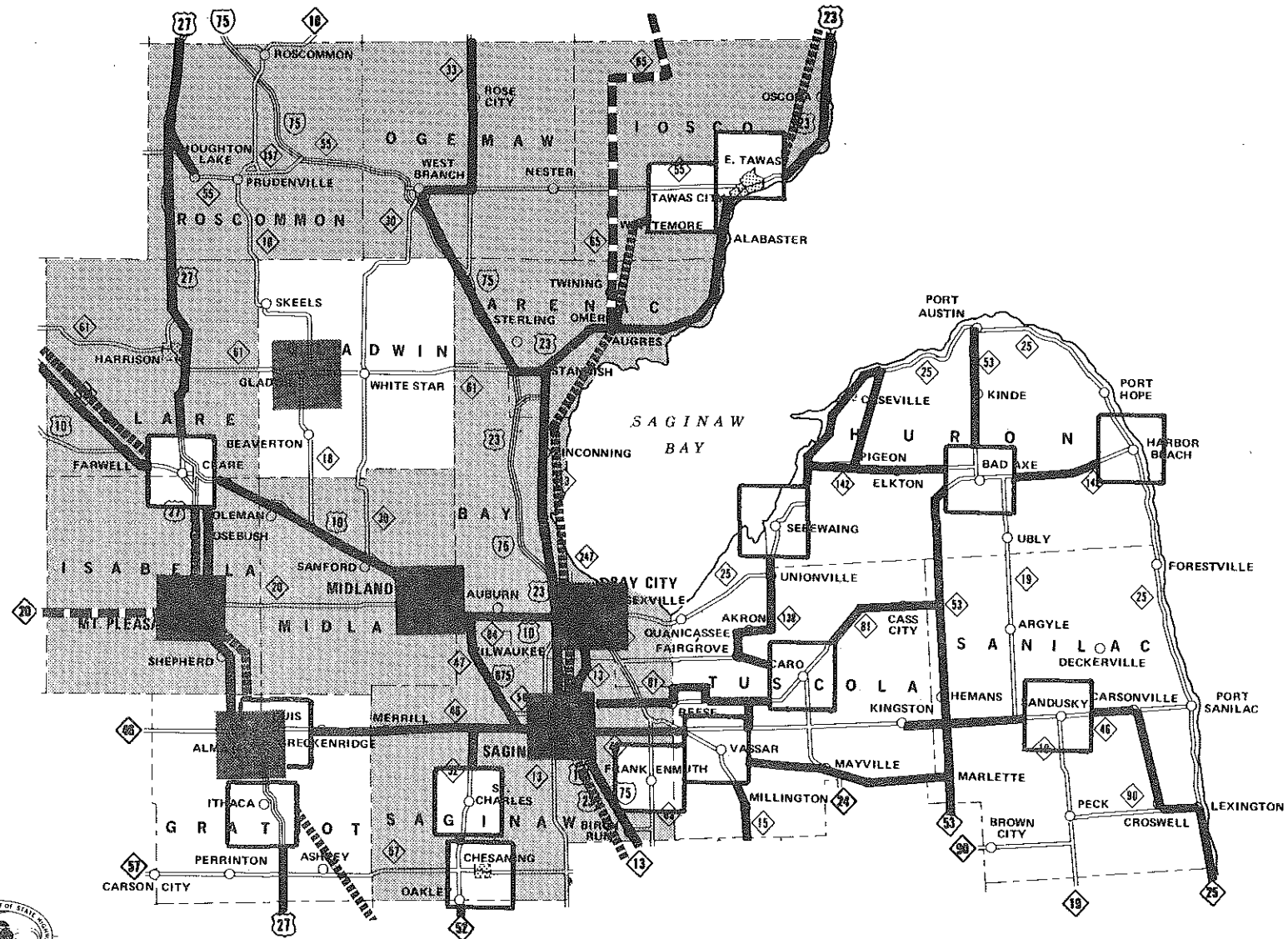
SERVICE EXISTING POTENTIAL

URBAN  

RURAL  ALL COUNTIES

INTERCITY  

PASSENGER RAIL  NONE 



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 and intercity services. Many services have recently been established and more are being planned for implementation in the near future.

Public Transportation in East Central Michigan is generally synonymous with bus transportation. There is no railroad passenger service and air service between East Central Michigan communities is limited. 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 East Central Michigan consists of a large number of bus systems including urban dial-a-ride and fixed-route, rural demand-responsive and intercity bus.

These services have been grouped into three levels of service (urban, rural and intercity) with existing and programmed services and possible future proposals being discussed in this section and presented on the public transportation map on the facing page.

The following tables illustrate the current schedules, ridership and dates of initiation of the Dial-A-Ride, fixed-route and intercity bus lines serving the region.

URBAN PUBLIC TRANSPORTATION

	Initiation Date	Vehicles	* Monthly Ridership	Average Weekday Ridership
<u>DIAL-A-RIDE</u>				
Mt. Pleasant	3/74	5	8,204	343
Alma	6/75	3	5,169	219
Midland	12/75	9	11,975	498
Gladwin	5/75	2	2,052	103
<u>FIXED-ROUTE</u>				
Saginaw	4/74	8 ¹	16,046	752
Bay City	7/74	9 ²	30,527	1,308

* For December, 1975.
 1 Operates 6 routes.
 2 Operates 7 routes.

RURAL PUBLIC TRANSPORTATION

<u>COUNTY-WIDE DIAL-A-RIDE</u>				
Isabella Co.	6/74	2	1,200	56
Roscommon Co.	5/75	2	1,250	58

Midland County to initiate county-wide dial-a-ride service during the winter of 1976.

¹ FEDERAL ELDERLY AND HANDICAPED PROGRAM		Vehicles	² STATE ELDERLY AND HANDICAPED PROGRAM		Vehicles
Saginaw Co.		5	Arenac Co.		2
Bay Co.		1	Clare Co.		1
			Iosco Co.		2
			Ogemaw Co.		1
			Saginaw Co.		2

1 Program to be funded by State and Federal sources. Only non-profit corporations eligible.
 2 Program funded by State of Michigan. These systems are in service or programmed for service.

INTERCITY PUBLIC TRANSPORTATION

<u>LINES</u>	<u>ROUND TRIPS PER DAY</u>	<u>DAYS OF OPERATION</u>	<u>ROUTE</u>	<u>CITIES SERVED</u>
North Star	2	7	Traverse City to Lansing	Clare, Mt. Pleasant, Alma, Ithaca
Indian Trails	4	7	Saginaw to Flint Flint to Bay City	Saginaw, Flint and Bay City
Indian Trails	3	7	Saginaw to Owosso	St. Charles, Chesaning and Oakley.
Valley Coach	1	Tues.	Port Huron to Saginaw	Lexington, Croswell, Applegate, Carsonville, Sandusky, Elmer, Marlette, Mayville, Juniata, Vassar and Richville.
Delta Bus Co.	1	Wed.	Mackinaw City to Bay City	Rose City, West Branch, Alger, Sterling, Standish, Pinconning, Linwood, Kawkawlin and Euclid Corners.
Indian Trails	1	Weekdays	Bad Axe to Detroit	Cass City, Deford, Wilmont, Kingston, Nemans, Lamotte Corners and Marlette.
Indian Trails	1	Sunday	Bad Axe to Detroit	Port Austin, Bad Axe, Cass City, Caro, Wahjamega, Watrous-ville and Vassar.
Mercury Bus Lines	2	Weekdays	Alma to Saginaw	Mt. Pleasant, Oil City, Midland, Freeland, Bay City. One return trip provides service to Hemlock, Merrill, Wheeler, Breckenridge and St. Louis.
Greyhound (Greyhound provides an additional 3 round trips between Bay City and Detroit)	3	7	Sault Ste. Marie to Detroit	Houghton Lake, Harrison, Clare, Coleman, Sanford, Midland, Pinconning, Bay City, Saginaw, Bridgeport and Frankenmuth. One route also serves Oscoda, East Tawas, AuGres and Omer.

FUTURE PROPOSALS FOR PUBLIC TRANSPORTATION

Alternatives considered:

- o Transit services for ECMPDR Communities between 2,000 and 10,000 population currently without such services.
- o Rural public transportation for persons in all counties of the region in addition to the elderly and handicapped.
- o Expanded intercity bus, rail, and air service designed to meet the needs of East Central Michigan residents.

AVIATION

In 1974 the Michigan Department of State Highways and Transportation and the Michigan Aeronautics Commission adopted the "Michigan State Airport System Plan" (MSASP), a 20 year aviation plan for the State of Michigan.

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

The purpose of the State Airport System Plan is to provide for the orderly and timely development of a system of airports to meet Michigan's air transportation needs.

Aviation Forecasts

East Central Michigan Region

	1970	1990	Percent Increase
Based Aircraft	498	1,450	191%
Passenger Boardings:			
Air Carrier	139,000	560,000	302%
General Aviation	<u>190,800</u>	<u>607,500</u>	218%
Total	329,800	1,167,500	254%
Aircraft Operations:			
Air Carrier	14,600	32,100	119%
General Aviation	<u>370,000</u>	<u>1,075,000</u>	190%
Total	384,600	1,107,100	187%

AVIATION DEFICIENCIES

For the East Central Michigan Region, the State Plan recommends additional development at 19 existing airports (Tri-City Airport and 18 non-airline General Aviation airports) plus the construction of 10 new General Aviation Airports.


The map on the next page identifies the existing and proposed airports that are included in the MSASP for East Central Michigan. Chart 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 3) are the activity levels that were used to determine the general aviation operational roles, as well as diagrams of typical General Aviation airport layouts (chart 4).

The airports included in the MSASP are not owned and operated by the State. As a result, implementation on the recommended development included in the plan will be dependent upon the initiative and desire of local units of government to develop adequate airports to serve their area. Before construction, each airport in the plan will require a detailed master plan (including an environmental impact assessment report) to further refine the recommendations of the state plan.

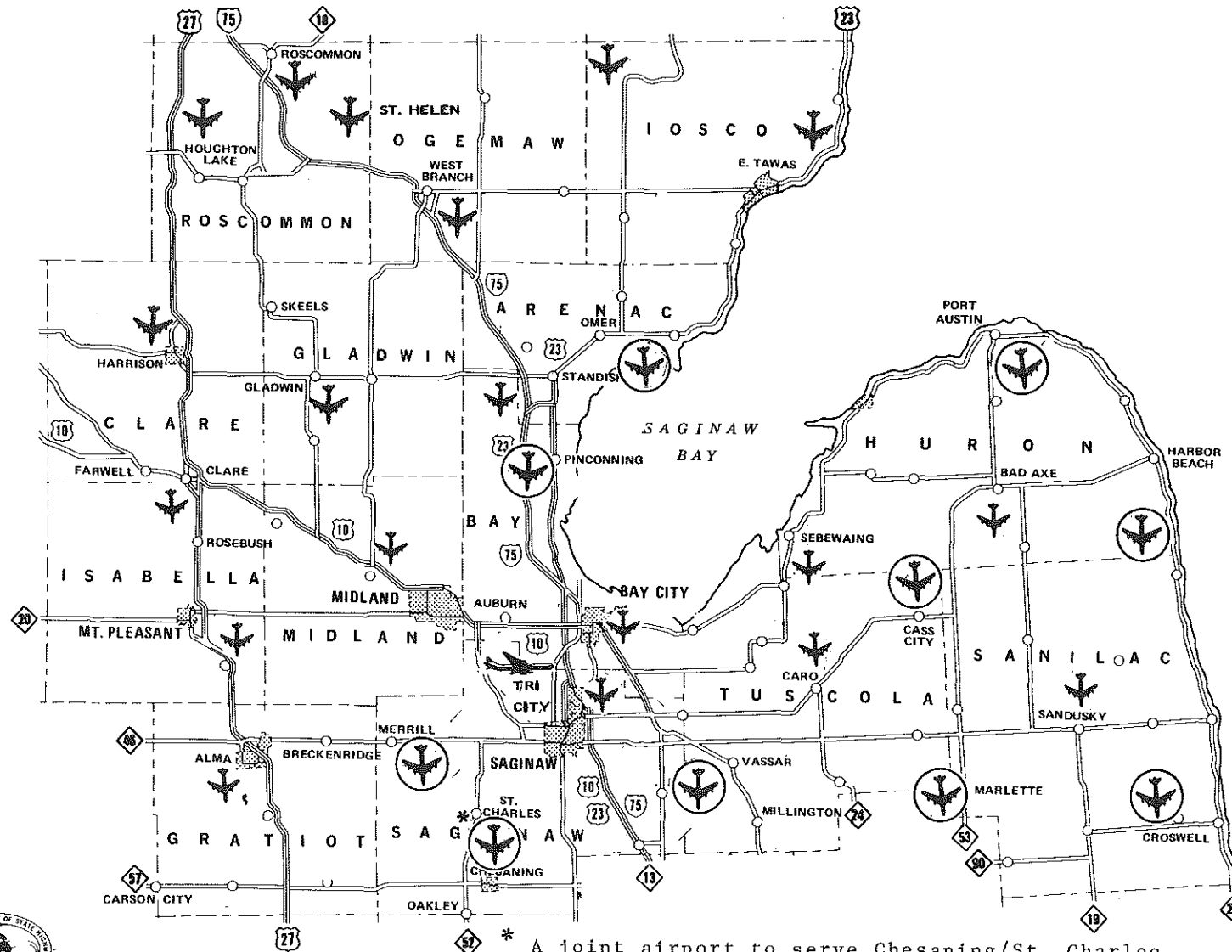
AVIATION

 Existing AIR CARRIER Airport

 Existing GENERAL AVIATION Airport

 Proposed New Site

(See Chart #2 for recommended Airport Classifications)



* A joint airport to serve Chesaning/St. Charles is currently being reevaluated.

AIRPORT CLASSIFICATION

Chart No. 2

	1973-77	1978-82	1983-92		1973-77	1978-82	1983-92
Alma	BT	BT	BT	*Marlette <u>3/</u>	GU	BT	BT
Bad Axe	GU	GU	BT	Merrill/Hemlock	BI	BII	BII
Bay City	GU	GU	GU	Midland	GU	GU	GU
Caro	BII	GU	GU	Mt. Pleasant	BT	BT	BT
Cass City	---	BI	BII	Omer <u>4/</u>	---	BII	GU
Chesaning/St. Charles <u>1/</u>	GU	GU	BT	Pinconning <u>4/</u>	---	BII	BII
Clare <u>2/</u>	GU	GU	CU	Port Austin	BI	BI	BI
Crosswell	BII	BII	CU	Roscommon	BI	GU	GU
East Tawas	GU	BT	BT	Saginaw (Tri-City)	AC	AC	AC
Vassar/Millington	BII	BII	BII	Saginaw (H.W. Browne) <u>5/</u>	GU	GU	GU
Gladwin	BT	BT	BT	Sandusky	BII	BII	GU
Harbor Beach/White Rock	---	BI	BII	Sebewaing	BII	BII	BII
Harrison <u>2/</u>	BI	BI	BI	South Branch	BI	BI	BI
Houghton	GU	GU	BT	Standish <u>4/</u>	BI	---	---
				West Branch	GU	GU	BT

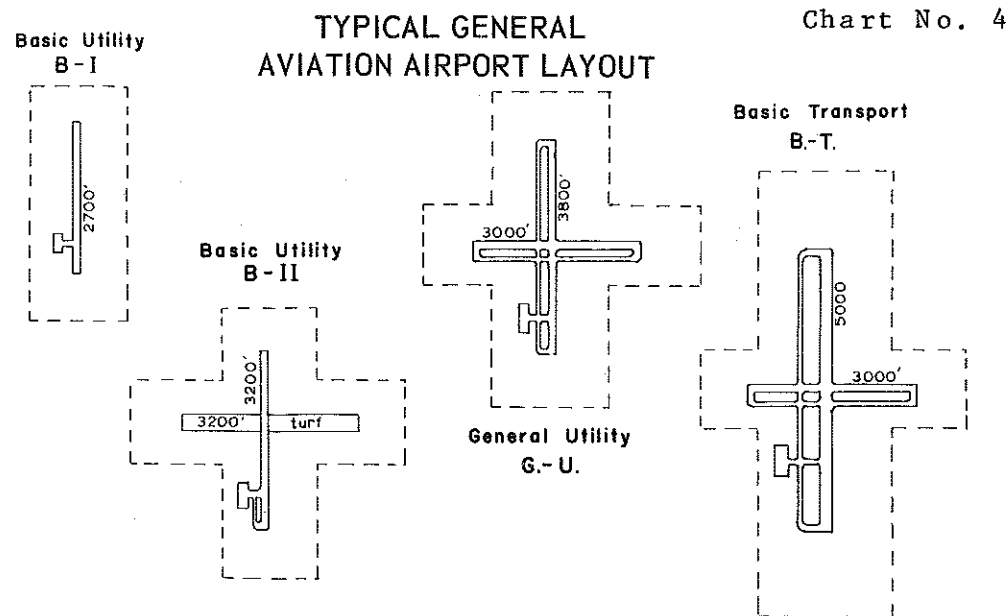
- 1/ Results of a current Master Plan study indicate that a joint airport for this area cannot be located near St. Charles.
- 2/ A proposed Master Plan Study will analyze a joint airport for the Clare-Harrison-Farwell area.
- 3/ Airport Master Plan study in process.
- 4/ A new airport was recently constructed in Marlette
- 5/ Develop at Pinconning and Standish are dependent on the construction of a new airport at Omer.
- 6/ Airport Master Plan study in process.

Airport Operational Roles

Chart No. 3

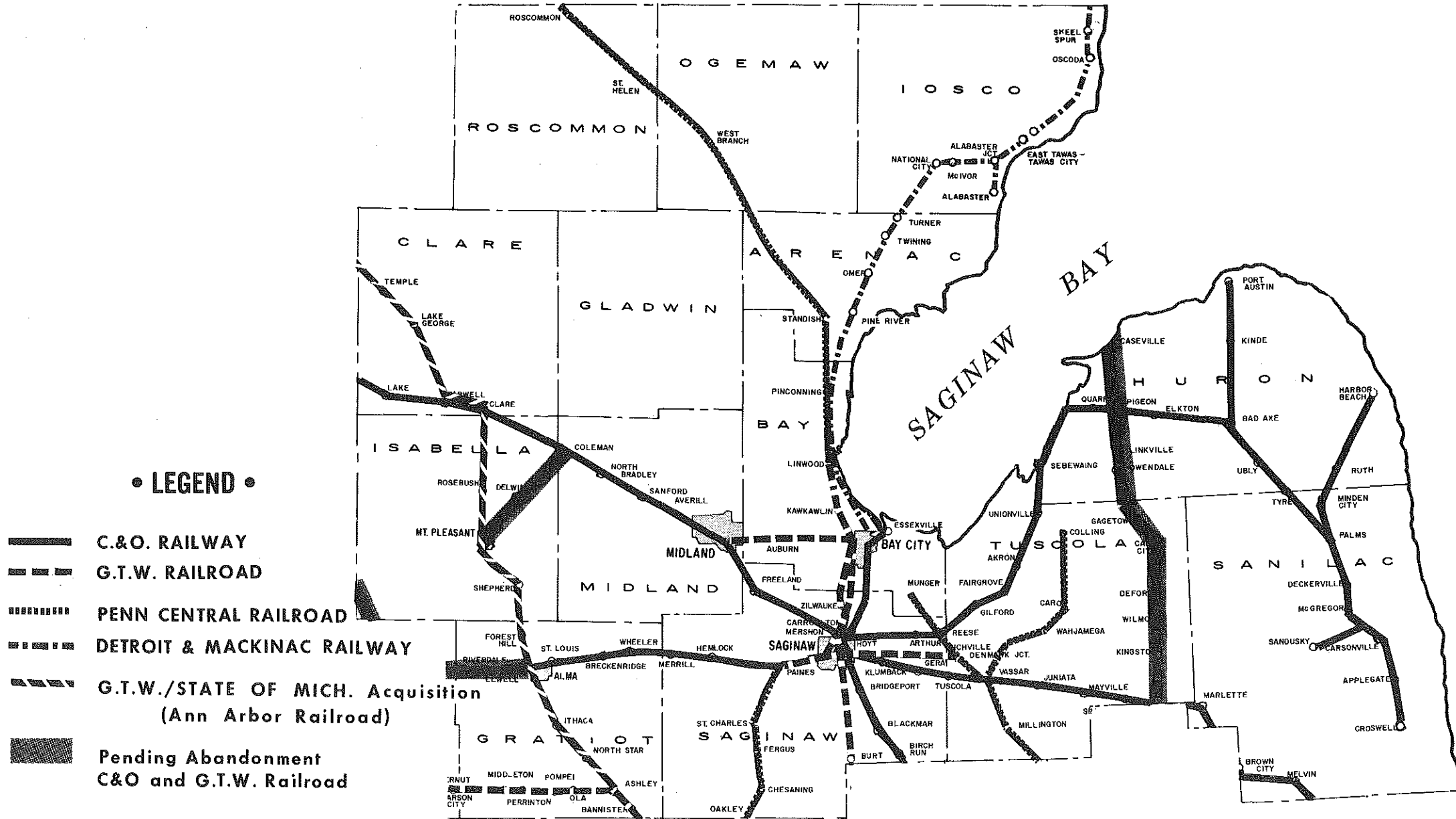
CLASSIFICATION OF AIRPORTS SERVING GENERAL AVIATION

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, Sabliner 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'+



EXISTING RAILROAD SYSTEM

APRIL 1, 1976



RAILROADS

The financial condition of the railroad industry in the Northeastern and Midwestern region of the United States has been cause for serious national concern. In Michigan and the East Central Region deteriorating service, rising costs and the prospect of abandonment of extensive miles of trackage has put the future of rail service in doubt.

A review of the map on the facing page will show the existing railroad service in the Region. Service is provided by three solvent carriers, namely the Chessie System, Detroit and Mackinac Railway and Grand Trunk Western Railroad. The Penn Central and Ann Arbor railroads also operate trackage within the region, however, these lines have been deemed bankrupt and un-reorganizable under traditional bankruptcy processes. Furthermore, the United States Railway Association, in their July 27, 1975 Final System Plan, did not include any Penn Central or Ann Arbor trackage within the Region in the ConRail System. Sections of this Penn Central trackage have been acquired by the Grand Trunk Western Railroad and the Detroit and Mackinac Railway. The Grand Trunk Western Railroad and the State of Michigan have purchased portions of the Ann Arbor Railroad. Remaining PC and AA trackage is being leased from the trustees and operated by ConRail with the assistance of rail service continuation subsidies available through provisions of the Rail Revitalization and Regulatory Reform Act of 1976.

As indicated there are also three pending abandonment applications before the Interstate Commerce Commission. These are as follows:

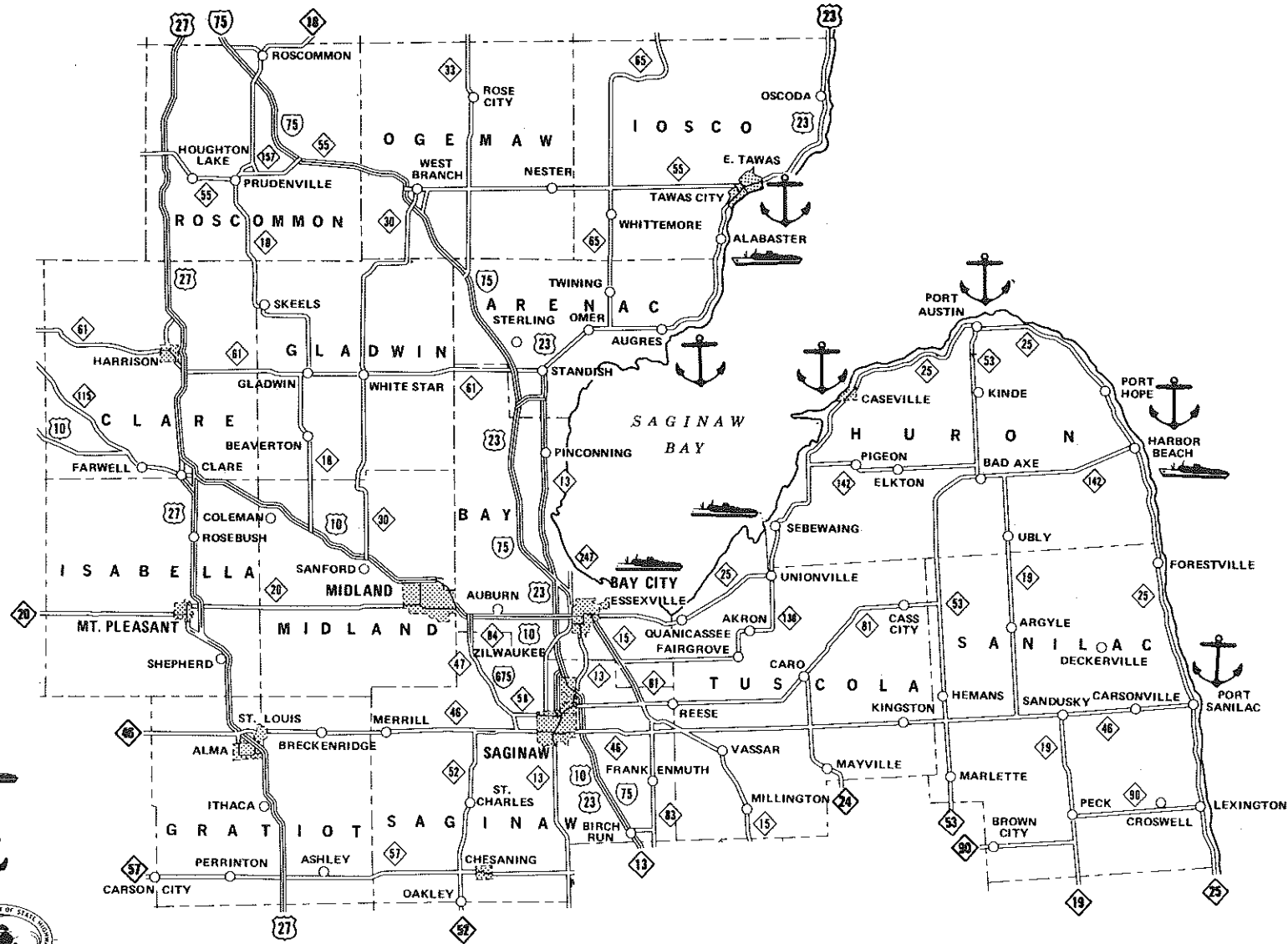
- Imlay City to Caseville - Grand Trunk Western
- Alma - Edmore - Remus - Chessie System
- Coleman to Mt. Pleasant - Chessie System

From the map it is evident that if adequate rail service to the region is to continue, subsidy programs, changes in ownership, and other innovative solutions will be required. Despite these efforts limited abandonment may occur. In any case, additional, in-depth analyses will have to be made to determine how to provide adequate rail service in the region.

The Rail Planning Section of the Michigan Department of State Highways and Transportation recently published (December 9, 1975) Phase II of the Michigan Railroad Plan. This document was in response to Federal requirements and sets forth a state plan for continuation of rail service in the state and region. The acceptance of this Plan by the Federal Railroad Administration has qualified Michigan to receive rail service continuation subsidies that will allow continued operations over the bankrupt properties.

The objectives of this Regional Systems Study in agreement with the Michigan State Railroad Planning goals and in cooperation with the Rail Planning Section are to determine 1) which facilities should be retained, 2) which facilities should be upgraded, 3) what type of service should be provided, 4) what would be the costs. A wide range of alternatives will be considered in our attempt to meet these goals.

COMMERCIAL AND RECREATIONAL HARBORS



COMMERCIAL HARBORS



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 have been established along the Lake Huron and Saginaw Bay shorelines. These locations are depicted on the map on the facing page.

According to a U.S. Army Corps of Engineers Report, "Waterborne Commerce in the United States," five ports in the region reported shipping activity for 1974. Collectively, more than 5 million tons of waterborne commerce passed through these ports.

The Saginaw River from Bay City to Saginaw is designated as an International seaport and is the most important port in the region. Freight traffic totaled 4,180,075 short tons in 1974. This represents 82% of all reported shipping activity for the region. In 1976 the Corps of Engineers instituted a policy of year-round shipping. As a result of this, increased activity should be reported for 1976.

Future expenditures by the Corps of Engineers to deepen the Saginaw River and the replacement and/or removal of deteriorating bridges in Bay City will enable larger ships and barges to serve establishments located along the banks.

Locations of these Commercial Harbors are shown

on the facing page.

These ports presently interchange with other transportation modes serving East Central Michigan. With forecasted fuel shortages and increasing costs, water transportation may become increasingly important in transporting commodities

NON-MOTORIZED TRANSPORTATION

State law encourages the development of special facilities for non-motorized transportation by requiring planners to consider these types of needs when planning improvements to the transportation system. Such facilities can be added in conjunction with improvements to existing roads and streets.

Non-motorized facilities consist chiefly of modifications to highway systems so that both cyclist and motorist travel is made easier and safer. The facilities can take the form of bicycle lanes - involving paving and striping of highway shoulders in rural areas or marking lanes adjacent to curbs in urban areas - or bicycle paths constructed separately from the roadway.

Abandoned rail lines may provide the opportunity to construct multi-use trails for non-motorized transportation, such as bicycle and horseback riding trails. A demonstration project in southwestern Michigan is being planned to test this concept.

As implied in state law, bicycle facilities are largely dependent on highway alignments; they are not established as independent systems. This suggests that warrants for such facilities should be developed after transportation system plans are complete, rather than at the present stage of study. Even though this be the case, any significant changes in the environmental or social impact resulting from an addition of a non-motorized transportation facility will be documented during the system planning process.

BICYCLE FACILITIES

Bicycle lanes consisting of an 8' wide paved shoulder on both sides of the roadway have been constructed near Tawas City on M-55. This pathway connects the City with the Tawas Area High School.

A similar type of bicycle lane was recently completed on the M-18/M-55 junction near Houghton Lake.

Short sections of paved shoulders have been added to M-25 near Sebewaing, specifically to facilitate bicycle traffic.

A separate bicycle path near Midland (in conjunction with the widening of M-20) is also being planned. The exact type of treatment and length of the facility have not yet been finalized.

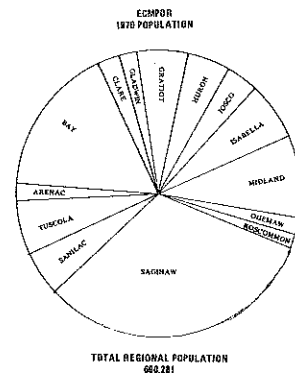
SOCIAL, ECONOMIC AND ENVIRONMENTAL CONTEXT

POPULATION

The total population of the East Central Michigan Region in 1970 was 690,281, which represents a 15.6% increase over the 1960 figure of 596,890. This rate is greater than that of the state and nation.

Population of the individual 14 counties ranged from a low of 9,892 in Roscommon County to a high of 219,743 in Saginaw County. The pie graph shown below depicts each county's population relative to the population of the region.

Between 1960 and 1970 all counties experienced growth in population. Seven counties reflected increases exceeding 20 percent. Among these, five are located in the northern portion of the region where forests and recreational opportunities are in abundance. Iosco county's growth, however, has also been influenced by expansion of Wurtsmith Air Force Base. Midland and Isabella counties also exceeded the regional growth



rate. The expansion of the Dow Chemical Complex in Midland and Central Michigan University in Mt. Pleasant were the primary factors influencing growth in their respective counties.

The population density of the region was 79.3 persons per square mile in 1970, higher than the national average, but only one-half of the statewide average. Counties having the greatest density were: Saginaw, Bay and Midland with 211, 263 and 123 persons per square mile. Roscommon County, with 19 persons per square mile, was the most sparsely settled although peak recreational activities may increase this density tremendously.

The region is considerably more rural-oriented than the state or nation. Only 47% of the region's population reside in urban areas, compared to approximately 75% for the state and nation. Urban counties, according to the U.S. Bureau of the Census, are Saginaw, Bay and Midland. The remaining counties are all classified as rural. Population by county and selected cities since 1950 can be found on the accompanying table.

POPULATION PROJECTIONS

Population projections indicate that unless major unforeseen changes occur in the region, past trends will probably continue. The degree of growth in specific counties will vary, but the forecasts generally conclude:

- o The recreational nature of the rural northern counties, such as Clare, Ogemaw and Roscommon counties, will influence continued present growth patterns.
- o The population of agriculturally-oriented counties will remain stable or increase slightly.

- o The cities of Bay City, Saginaw, and Midland are expected to grow very little, however, the surrounding townships and suburbs will likely continue their rapid growth experienced in recent years.

The accompanying table presents two sets of population projections. They illustrate the range and variance of different forecasts. The first, developed by Professor Goldberg of the University of Michigan and adjusted to reflect the 1970 U.S. Census, reflects a high forecast of 884,112 persons in the region by 1990. The second, developed by the Michigan Department of Management and Budget, represents a low 1990 forecast of 840,822. Although each of the forecasts are reliable, they were derived utilizing different methods and assumptions about factors influencing population change. Transportation systems will be developed and evaluated reflecting both sets of projections and others if deemed necessary. This will insure that a wide variety of possible future conditions will be considered in determining future levels of required transportation service.

Population of an area, both present and future, is one of the primary factors to be considered in developing and evaluating transportation systems. The size, density and distribution of a population influences the quantity and types of facilities, which are required to satisfy travel demand within a geographic area. In the Regional Transportation Systems Study for East Central Michigan this relationship between population and transportation will be evaluated and impacts of alternative courses of action assessed.

POPULATION
1950-2000

	1950	1960	1970	1980		1990		2000	
	1/	1/	1/	2/	3/	2/	3/	2/	3/
Arenac	9644	9860	11149	11762	12397	12672	14322	13583	15599
Bay	88461	107042	117339	126866	123928	141113	126649	154358	130245
*Bay City	52523	53604	49499	56245	N.A.	59316	N.A.	62385	N.A.
Clare	10253	11647	16695	18166	25797	20079	36484	21989	46127
Gladwin	9451	10769	13471	14277	19301	15123	24887	15967	30698
Gratiot	33429	37012	39246	42651	39902	46480	40771	50410	41184
*Alma-St.Louis	11688	12786	13891	15326	N.A.	16977	N.A.	18628	N.A.
Huron	33149	34006	34083	35962	37202	38839	41270	41717	44227
Iosco	10906	16505	24905	35080	35506	49342	47131	63606	57987
Isabella	28964	35348	44594	48127	55082	54399	61535	60670	70898
*Mt. Pleasant	11393	14875	20504	23029	N.A.	26895	N.A.	30761	N.A.
Midland	35662	51450	63769	75946	67865	90173	69744	104402	71784
*Midland City	14285	27779	34921	43865	N.A.	54728	N.A.	65591	N.A.
Ogemaw	9345	9680	11903	12025	15790	12534	21128	13044	25261
Roscommon	5916	7200	9892	10913	17755	12391	27060	13870	35200
Saginaw	153515	190752	219743	252826	224185	292772	223625	332714	224889
*Saginaw City	92918	98265	91849	99915	N.A.	110155	N.A.	120394	N.A.
Sanilac	30837	32314	34889	37188	40898	40257	47482	43324	51359
Tuscola	<u>38258</u>	<u>43305</u>	<u>48703</u>	<u>52739</u>	<u>53447</u>	<u>57938</u>	<u>58734</u>	<u>63137</u>	<u>63200</u>
Region	497790	596890	685341	774528	769055	884112	840822	992791	910458

* City Projections from Statewide Population Projections (Goldberg) - 1966
 1 U.S. Bureau of the Census
 2 Statewide Population Projections (Goldberg) - 1966
 3 Department of Management and Budget, Population Projections for the Counties of Michigan - 1974

ECONOMY

The economic activity within a region is also a major determinant of travel and the facilities required to accomodate it. Transportation Systems should be developed which promotes the efficient movement of materials and goods necessary for a strong and viable regional economy.

Bay, Saginaw and Midland counties, located in the Saginaw Valley, and containing the cities of Bay City, Saginaw, and Midland comprise the economic heart of the East Central Michigan Region. Activities consist chiefly of chemical and automobile-related manufacturing. In the

thumb and southern counties agriculture dominates. The northern counties depend upon trade, tourism and construction for their economic well-being.

Significant changes in major employment categories occurred in the region between 1960 and 1970. Workers involved in the agriculture, forestry, and fisheries sector dropped from 9.3% to 4.3% of the total employed. Those employed in mining also decreased. Persons working in construction, transportation, and utilities remained constant while those working in retail trade, services, and manufacturing, all increased.

Manufacturing now accounts for the largest employment category in the region. Some 35% of the total number of employed persons were involved in manufacturing in 1970, and nearly one-third of those were employed in producing automobile parts and other transportation equipment. The services category was the next largest, employing approximately 30%. Trade accounted for 20% of the total employment, while construction activities employed 6%.

The region contains some of the state's richest agricultural land, and contributes heavily in making Michigan one of the leading agricultural states in the nation. Although only a small portion of the labor force is engaged in this activity, agriculture contributes heavily to the region's economic health. While the industry is an important segment of the region's economy, if the trend toward larger farms and increased mechanization continues, fewer employment opportunities will be available.

Mineral reserves in the region range from seemingly unlimited supplies of gypsum, sand, gravel, salt, and brine to a projected depletion of oil and gas supplies. Despite significant declines in some

mineral production in recent years, economic and political events resulting from the recent recession and energy crunch may offer new hope for increases in exploration and production.

The overriding problem in the region, despite the strong industrial base and an abundance of jobs for skilled workers is the relatively high unemployment rate. Seasonal fluctuations in agricultural and tourism related employment make it difficult to find year-round work for those living in outlying areas. These workers migrate to the industrialized areas and increase the pool of undereducated and unskilled labor already present.

Increased vocational training, more opportunities for education, an expansion of the industrial base and a healthy economy are all required to ease the continual high unemployment in the region.

An efficient transportation system can have a positive impact on the health of an area's economy. Raw materials can be transported more quickly to the manufacturer and the finished products to the market place. Improved accessibility to recreational areas would enable more people to take advantage of facilities and natural features located there. The farmer would be able to get his harvest to market more easily. In the Regional Transportation Systems Study these and other effects of transportation on East Central Michigan's economy will be considered when developing and evaluating various modal transportation alternatives.

ENVIRONMENTAL SUMMARY

The East Central Michigan Planning and Development Region (ECMPDR) is noted for its environmental diversity ranging from large forested tracts to expanses of highly productive agricultural land. Five of the 14 counties in this region, Clare, Gladwin, Iosco, Ogemaw and Roscommon are over 50 percent forested. Much of this forest land is either State or Federally owned and is available for a wide range of recreational activities including hunting, fishing and camping.

Agricultural use dominates in Bay, Gratiot, Huron, Isabella, Saginaw, Sanilac and Tuscola Counties where over 70 percent of the land is available for agricultural production. Overall, 60 percent of the 8700 square miles ECMPDR is in or has the potential for agricultural use.

Geologically, the ECMPDR can be characterized as an area of hilly, glacial moraines in the western areas, which greatly contrast with the flat glacial lake plains in the east. Geological features of special environmental importance in the region include "high risk erosion areas," areas where the Michigan Department of Natural Resources (DNR) has found that erosion is causing, or is likely to cause damage or destruction to permanent buildings or structures. Sanilac County has more miles of shoreline designated by DNR as "high risk" than any other county on Lake Huron.

Proposed "environmental areas" are also located along shorelines in the ECMPDR. Such areas were determined by DNR on the basis of studies and surveys to be necessary for the preservation and maintenance of fish and wildlife. These areas are inhabited or frequented by coastal-dependent fish or wildlife species during some important portion of their life-cycle. Such areas can extend

no more than 1000 feet landward of the ordinary high water mark. The 211 miles of proposed environmental areas of Lake Huron's 634 miles of shoreline occur principally on the shores of Saginaw Bay.

All counties within the ECMPDR are part of the Lake Huron watershed with the exception of western portions of Roscommon and Clare counties, which drain into Lake Michigan and southern and central portions of Sanilac County which drain into Lake Erie. Most streams draining the area are relatively short and have small drainage basins. The Saginaw River basin is the largest consisting of over 6200 square miles, which drain into Saginaw Bay -- a depression once occupied by a glacial ice lobe.

The ECMPDR has few large lakes, many rivers and streams, extensive wetland areas surrounding Saginaw Bay, and swamps which extend between branches of the drainage system. Three particularly large lakes are found in Roscommon County; Houghton Lake, Higgins Lake and Lake St. Helen. Houghton Lake is 31.3 square miles in size and is the largest inland lake in Michigan.

The water quality of rivers and streams in the region is variable, ranging from excellent to substandard. Among the environmentally important rivers in the ECMPDR are those being studied for inclusion in State or National river programs.

The Michigan Natural Rivers Act (Act 231, P.A. 1970) provides a system for preserving or enhancing the broad range of values of Michigan Streams. Included are water conservation and floodplain preservation; ecologic, historic and scenic values and those values pertaining to fisheries and general recreation. The Natural Resources Commission has been given the authority to designate recreational, scenic or wild rivers. The Muskegon River, which flows through Roscommon

and Clare Counties, and the Shiawassee River, which flows into Saginaw County, are currently under study for inclusion in the State Program. The Cass River portions of which are in Saginaw, Tuscola and Sanilac Counties, and the Rifle River in Arenac and Ogemaw Counties have been proposed for study. The AuSable River, which flows through Iosco County, is currently being studied for inclusion in the National Wild-Scenic River Program.

The most important water resource in the ECMPDR is Saginaw Bay, one of the most significant fish and wildlife habitat areas on the Great Lakes. The relatively shallow waters of the bay, which seldom exceed 60 feet have the highest fishery productivity of the entire Lake Huron ecosystem. Saginaw Bay marsh areas where marsh grasses, reeds, sedges, rushes, and cattails dominate, support large numbers of wildlife such as muskrats. These marsh areas are also part of an extensive waterfowl habitat complex, which reaches far out into the bay and consists of emergent vegetation and prime submerged feeding beds found in the shallow waters. During spring and fall, all portions of the Lake Huron shoreline are used by most of the shorebirds common to Eastern North America.

A number of critical nesting and migration areas have been identified in the East Central Region. Some of the areas provide stopover points for migrating waterfowl, shorebirds, perching birds and hawks. Others provide nesting sites for a variety of waterfowl, gulls, herons and terns. The following areas are numbered on the accompanying map.

- | | |
|----------------------|--------------------------|
| 1) AuSable Point | 8) Katechay Island Bay |
| 2) Tawas Point | 8) Wildfowl Bay |
| 3) Point Lookout | 8) Sand Point |
| 4) Point AuGres | 8) Duck Island |
| 5) Tobico Marsh | 8) Little Charity Island |
| 6) Spoils Island | 8) Charity Island |
| 7) Fish Point | 9) Rush Lake |
| 8) Lone Tree Island, | 10) Port Austin Reef |

The vegetative cover of the region once consisted of dense forests with vast acreages of white pine. Pines and northern hardwoods grew on the uplands and swamp hardwoods and conifers grew in the low and bottom lands. Non-forested areas were scattered and included lake beaches, sand dunes near Lake Huron, Saginaw marsh areas, small acreages of open bogs, some open land on the drier sandy plains and those cleared by Indians for their villages and gardens. Extensive logging of the pines began in the mid-1800's, continued until about 1900, and was followed by cutting of the hardwoods. Forest fires were also responsible for destruction of much of the forest cover. The large areas of forest now found in the region are chiefly second-growth stands.

In northern parts of the region, certain Jack Pine areas are inhabited by Michigan's bicentennial bird, the Kirtland's Warbler. Listed on the National and State lists of endangered species, the birds have been known to nest in very limited areas in Michigan, including parts of Roscommon, Ogemaw and Iosco Counties. The U.S. Forest Service, U.S. Fish and Wildlife Service and the Michigan DNR are planning intensified management programs of benefit to the Kirtland's Warbler.

Another important species, the Bald Eagle, though not endangered is considered threatened in Michigan. Known nesting sites of the Bald Eagle are located in Roscommon, Clare, Ogemaw and Saginaw Counties.

Besides its natural environmental values, the East Central Michigan region has substantial resources of an historic and archaeological nature. Twenty-two sites listed on the National Register of Historic Places are found in the region, as are many other sites of State and Local significance. The general locations of these sites are shown on the exhibit.

WHERE TO SEND YOUR 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 Essexville. 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:

The East Central Michigan Planning and
Development Region
1003 Woodside
Essexville, Michigan 48732
Phone 517-893-5561

or forwarded directly to:

Robert M. Kirkbride, Team Leader
East Central Michigan Regional
Transportation Study
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).

Questions, comments or requests for information regarding the 3-C Planning Process in Saginaw or Bay City may be addressed to:

Mr. Howard Kunding, Director
Saginaw County Metropolitan Planning
Commission
Saginaw County Courthouse
Saginaw, Michigan
(793-9100)

or:

Mr. William Lynch, Director
Bay County Planning Commission
811 N. Madison
Bay City, Michigan
(829-6011)