SOUTHWESTERN MICHIGAN

REGIONAL PUBLIC TRANSPORTATION STUDY

prepared by
ATE Management and Service Co. Inc.

AUGUST, 1977

617 Vine St.
Suite 800
Cincinnati, Ohio
45202
Telephone 513/381-7424

ATE MANAGEMENT AND SERVICE CO., INC.

August 10, 1977

Mr. James L. Roach
Mass Transportation Planning Section
Michigan Department of State
Highways and Transportation
425 West Ottawa
Lansing, Michigan 48904

Dear Mr. Roach:

We are pleased to submit this final report on regional public transportation in Southwestern Michigan. The high degree of cooperation we received from the area's transit operators and the Mass Transportation Planning Section has significantly contributed to the preparation of this report.

It is our hope that continuing cooperation between the State of Michigan and local officials can result in the implementation of public transportation improvements in Southwestern Michigan.

Sincerely,

Timothy B. Collins

Timothy B. Collins
Associate

TBC/lms
Enclosure

ACKNOWLEDGEMENT

The preparation of this report has been financed in part through project MI-09-8001 a technical study grant from the U. S. Department of Transportation, Urban Mass Transportation Administration, under the Urban Mass Transportation Act of 1964, as amended.

DISCLAIMER

This final report has been prepared by the consultant in cooperation with the Michigan State Highway Commission and the Southwestern Michigan Regional Public Transportation Study Advisory Committee. The opinions, findings and conclusions expressed or implied in this document are not necessarily those of the Urban Mass Transportation Administration or the U. S. Department of Transportation.

SOUTHWESTERN MICHIGAN
REGIONAL TRANSPORTATION STUDY
PARTICIPANTS

1. Michigan State Highway Commission
Mass Transportation Planning Section
Murray K. Langham, Administrator
James Roach, Director
Rodney Hunt, Project Manager
Phil Lamb

Bureau of Urban and Public Transportation
Kip Grimes
George Harris
Jack Hayes

2. Southwestern Michigan Regional Public Transportation Study Advisory Committee

Berrien County
Nancy Clark - County Commissioner
Ken Malkin - Benton Township, TCATA Board
Bob Jones - Gateway, Inc.
William Waltman - Niles Dial-A-Ride
Charles Eckenstahler - County Planning
John Calsbeck - Area Agency on Aging
Eugene White - County Commissioner
George Shuur - Berrien County Council on Aging

Cass County
Kenneth Fox - County Commissioner
Genevieve Toothaker - County Commissioner
Larry Rohacs - Dowagiac Dial-A-Ride
Kathy McCleave - Cass County Council on Aging
John Steiding - County Planning

Van Buren County
Walter Stickles - Former County Commissioner
Jerome Shumate - Van Buren County Transportation Task Force

At Large
Tom Byers - Southwestern Michigan Regional Planning Commission
John Kowalski - Southwestern Michigan Regional Planning Commission

3. ATE Management and Service Company, Inc.

Robert Prangley - Project Director
Timothy B. Collins - Project Manager
Robert W. Chesney - Project Review
John F. Potts - Staff
Jeff Brown - Staff
Kenneth Graska - Staff
John Grew - Staff
Linda Stradtman - Typist
Barbara Blocker - Typist

TABLE OF CONTENTS

TABLE OF CONTENTS (Cont'd)

APPENDICES

NOTE

The financial projections in this report have been prepared on the basis of information and assumptions as explained in the various appendices. The consultant has relied on information from the sources indicated and believes that the information and assumptions used constitute reasonable bases for preparation of the projections. However, it must be recognized that the achievement of any financial projection is dependent on the occurrence of future events which cannot be assured and, thus, the actual results achieved may vary from the projections.

* * * *

The terms of the consulting engagement are such that the consultant has no obligation to update this report or to revise the financial projections because of events and transactions occurring subsequent to the date of this report.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Bordering along the eastern edge of Lake Michigan lies the rolling fertile topography of Berrien, Van Buren and Cass Counties. The region is primarily rural in nature with some urban development. Agriculture and manufacturing are the basic economic activities. The "Twin Cities" of Benton Harbor-St. Joseph constitute the largest urban concentration in the region.

Effective transportation has long served a critical role in the economic development and growth of Southwestern Michigan. The area's public transportation system has radically changed in recent years with the private automobile assuming an ever increasing portion of the total travel requirements. While the availability of automobiles and adequate highway facilities continues to increase, the use of bus or taxi transportation has declined almost to the point of extinction.

The purpose of this study is to examine Southwestern Michigan's public transportation resources and requirements and find a better means to provide public transportation service. To achieve that end a series of important questions must be answered.

1. What is the existing supply of service in Southwestern Michigan?
2. What is the demand for public transportation in Southwestern Michigan?

3. How can the system be organized to achieve coordination and change?

4. What are the costs and who will pay for these changes?

1. The Supply

The existing public transportation system in Cass, Van Buren and Berrien Counties is comprised of more than twenty agents and agencies, including intercity bus service, local bus service, taxi service and specialized service. While this array of carriers does not provide comprehensive coverage of Southwestern Michigan, a modest level of service is available.

The various operating carriers in the three county region serve about 1900 passengers each weekday. On an annual basis the existing system can be profiled as shown on Table Ex. 1:

TABLE EX. 1
SOUTHWESTERN MICHIGAN
EXISTING PUBLIC TRANSPORTATION PROFILE
1977

	Total Cost	Cost Without Taxi and Private Bus Service
Estimated Cost	$978,400	$685,600
Estimated Ridership	543,500	426,900
Estimated Cost/Passenger	$ 1.80	$ 1.61
Revenue Sources		
Farebox	$420,400	$138,700
Federal	127,400	127,400
State	238,800	238,800
Local	151,100	151,100
Other	29,000	29,000
Unfunded Deficit	11,700	-0-

2. The Demand

Estimating the demand for public transportation services is one of the most difficult but essential procedures necessary to the development of a plan for service improvements. Experience with public transportation operations in an area as vast and sparsely populated as Southwestern Michigan is not substantial. However, the primarily rural character of Cass, Van Buren and Berrien Counties suggests that the demand for public transportation services is apt to be limited.

In an effort to forecast the daily demand for public transportation services, the following data was examined.

1. Aggregate daily person trip behavior
2. Intraregional trip flows
3. Socioeconomic data
4. Major traffic generators

As a result of the examination process, it is estimated that the demand for public transportation in Southwestern Michigan is between 2600-3600 trips per day.

3. The General Deficiency

The existing public transportation system in Southwestern Michigan with its multiple operating agencies, is rather uncoordinated, resulting in duplication of effort and inefficient allocations of resources.

As an example, an agency affiliated senior citizen in St. Joseph (Berrien County) has a multitude of options regarding public transit. Indeed, this citizen may: call either of two cab companies, ride a private bus line, use the public dial-a-ride or summon one of several social service agency operations. Meanwhile, the middle aged housewife in South Haven (Van Buren County) has absolutely no public transportation service readily available.

With regard to public funding for transportation an equally fragmented program is operative in Cass, Van Buren and Berrien Counties. While more than $150,000 in local tax dollars is currently being invested in Southwestern Michigan's public transportation system, this expenditure is not permitting the development of a comprehensive public transportation system. Rather, portions of these funds are appropriated to program specific social service transportation projects. In light of the area's demand potential there is reason to examine whether the $150,000 in local public funds could be more effectively utilized.

In essence, Southwestern Michigan lacks a means to control the allocation of its public transportation capital and financial resources. As a result the area's 265,000 residents do not receive sufficient public transportation service to satisfy daily travel demands.

4. Developing Alternatives

There are a broad array of options that could be employed to improve public transportation in Southwestern Michigan. The key elements of any option for improvement concern: 1) the level of service and 2) the organizational structure. In this study investigation was limited to four service level options and five organizational options which can be arrayed as shown on Table Ex. 2.

From these twenty options, the combination of a high service intensity under a three-county coordinated organization appears to offer the most responsive short range option for Southwestern Michigan. This alternative can provide service throughout the three county area on a daily basis within a feasible organizational strategy. The recently organized Human Resources Commission has the potential to act as such a three-county public transportation coordinating agency in the short run.

5. Cost Estimates and Public Burden

Tables Ex. 3 and Ex. 4 present the estimated consolidated capital and operating budgets for the proposed public transportation system in Southwestern Michigan over the period FY 1978 - FY 1982. The figures shown represent a reasonable estimate of the costs that will be incurred by the implementation of a high level of service intensity in Cass, Van Buren and Berrien Counties.

EX. 2

SOUTHWESTERN MICHIGAN ALTERNATIVES MATRIX

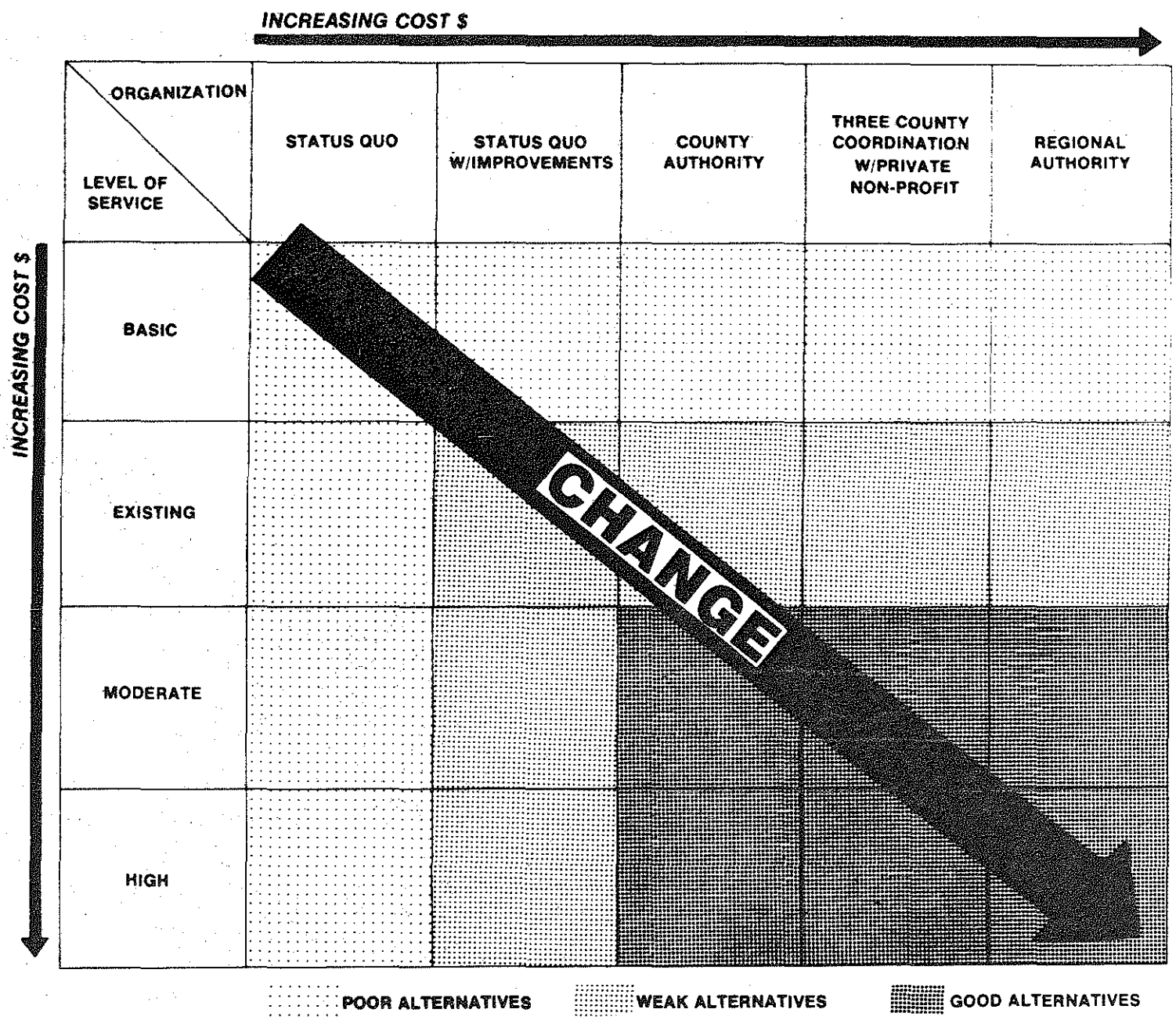


TABLE EX. 3
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
CONSOLIDATED CAPITAL BUDGET
FY 1978 - FY 1982

	FY 1978		FY 1979		FY 1980		FY 1981		FY 1982		Totals	
	Units	Cost	Units	Cost	Units	Cost	Units	Cost	Units	Cost	Units	Cost
Transit Vehicles												
9-12 Passenger Van Conversion	19	$313,500	11	$192,500	10	$185,000	16	$234,000	13	$ 266,500	65	$1,191,500
Spare Components including engines and transmissions	2	5,000					2	6,500			4	11,500
Locked, Registering Farebox Units	53	95,400	3	5,600	3	6,100	5	11,000	6	14,100	70	132,200
Radios and consolidated base station equipment	15	30,000	3	5,000	3	5,200	5	9,000	6	11,400	32	60,600
Service vehicles	1	4,500	1	12,500							2	17,000
Maintenance Tools & Equipment		7,500		3,000		3,000		3,000		3,000	Misc.	19,500
Office Furniture & Equipment		3,000				2,000					Misc.	5,000
Passenger Shelters			5	12,500			5	13,750			10	26,250
Vehicles Storage Facilities Renovation[1]		100,000		150,000							Misc.	250,000
Subtotal		$558,900		$381,100		$201,300		$277,250		$ 295,000		$1,713,550
Contingencies @ 10%		55,890		38,110		20,130		27,725		29,500		171,355
Estimated Gross Capital Budget		$614,790		$419,210		$221,430		$304,975		$ 324,500		$1,884,905
Less Revenue Financing		6,300		7,200		6,300		6,300		6,300		32,400
Estimated Net Capital Budget		$608,490		$412,010		$215,130		$298,675		$ 318,200		$1,852,505
Maximum Federal Share @ 80%		$486,792		$329,608		$172,104		$238,940		$ 254,560		$1,482,004
Maximum Uptran Share @ 20%		121,698		82,402		43,026		59,735		63,640		370,501
Minimum Local Share		-0-		-0-		-0-		-0-		-0-		-0-

TABLE EX.4
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
CONSOLIDATED OPERATING BUDGET
FY 1978 FY 1982

	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982
REVENUES					
Passenger Fares	$222,300	$239,100	$259,100	$285,700	$321,400
Interagency contract service	176,200	185,000	193,700	203,700	215,000
Charter Service	42,000	46,800	51,800	58,900	69,300
Advertising	3,000	4,000	5,500	7,500	10,000
Miscellaneous	500	1,000	1,500	2,000	2,500
Estimated Total Revenues	444,000	475,900	511,600	557,800	618,200
EXPENDITURES					
Transportation	$828,600	$931,500	$1,050,600	$1,211,400	$1,434,500
Maintenance	222,800	251,200	282,700	325,900	385,900
Marketing & Information	81,600	91,600	101,700	112,900	125,500
Insurance & Safety	85,100	96,600	110,500	128,700	152,300
General & Administration	138,700	150,900	165,000	181,300	197,700
Special Programs	25,000	30,000	37,500	47,500	60,000
Estimated Total Expenses	$1,381,800	$1,551,800	$1,748,000	$2,007,700	$2,355,900
Estimated Operating Deficit	$937,800	1,075,900	1,236,400	1,449,900	1,737,700
OPERATING STATISTICS					
Miles	2,175,000	2,328,800	2,507,100	2,745,700	3,006,900
Service Hours	120,830	129,200	138,900	151,700	168,880
Cost/Service Hours	$11.44	$12.01	$12.58	$13.23	$13.96
Passengers	688,800	732,600	784,800	854,100	947,000
Passengers/Service Hours	5.70	5.67	5.65	5.63	5.61
Employees	95	100	104	112	120
Vehicles	48	51	54	59	65
Employees/Vehicles	1.98	1.96	1.93	1.90	1.85

The total cost of this plan to improve public transportation service in Southwestern Michigan is obtained by adding the gross capital and operating cost requirements as shown in Table EX. 5. The total cost over the five year period FY 1978 - FY 1982 is estimated to be $10,930,105. Additionally, Table EX. 5 indicates that the total anticipated revenues from this regional transportation program are $2,639,900 between FY 1978 - FY 1982. Therefore, the net public burden of this program is estimated as $8,290,205.

6. Financing the Plan

A plan to finance the $8,290,205 in public costs is developed in Table EX. 6. This plan assumes that Southwestern Michigan can obtain the maximum financial assistance from the various Federal and state funding programs. If all these funds are realized and certain secondary transportation operations are utilized the total local share for the proposed program in Southwestern Michigan can be minimized to just $979,651, or 11.8% of the total $8,290,205 cost burden.

Table EX. 6 suggests that up to 50% of the expected operating deficit may be paid from Federal sources. This would probably be true if legislation currently being considered by Congress is adopted. There is, however, a risk that this legislation will not be approved. Without the Federal funds the total local share of the proposed public transportation improvement program will approach $3,700,000.

TABLE EX. 5
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
TOTAL COST AND PUBLIC BURDEN
FY 1978 - FY 1982

	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	Total
Estimated Gross Capital Cost	$614,790	$419,210	$221,430	$304,975	$324,500	$1,884,905
Estimated Gross Operating Cost	1,381,800	1,551,800	1,748,000	2,007,700	2,355,900	9,045,200
Total Costs	$1,996,590	$1,971,010	$1,969,430	$2,312,675	2,680,400	$10,930,105
Less: Revenue Financing Capital	6,300	7,200	6,300	6,300	6,300	32,400
Operating Revenues	444,000	475,900	511,600	557,800	618,200	2,607,500
Total Revenues	$450,300	483,100	517,900	564,100	624,500	$2,639,900
Net Public Burden	$1,546,290	1,487,910	1,451,530	1,748,575	$2,055,900	$8,290,205

TABLE EX.6
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
ESTIMATED FINANCIAL PROGRAM
FY1978-FY1982

	FY1978	FY1979	FY1980	FY 1981	FY1982	TOTAL
CAPITAL COSTS	$ 614,790	$ 419,210	$ 221,430	$ 304,975	$ 324,500	$1,884,905
Federal Aid @80%	486,792	329,608	172,104	238,940	254,560	1,482,004
State Aid @20%	121,689	82,402	43,026	59,735	63,640	370,501
Revenue Financing	6,300	7,200	6,300	6,300	6,300	32,400
Local Share	-0-	-0-	-0-	-0-	-0-	-0-
OPERATING DEFICIT	$ 937,800	$1,075,900	$1,236,400	$1,449,900	$1,737,700	$6,437,700
Federal Aid @50%	-0-	537,950	618,200	724,950	868,850	2,749,950
State Demon. Grant	426,800	-0-	-0-	-0-	-0-	426,800
State Operating Aid @.33%	170,000	356,633	412,133	483,300	579,233	2,001,299
Intercity Bus Ticket Commission	40,000	42,500	47,500	52,500	60,000	242,500
Secondary Transportation Service Revenues	3,500	5,000	7,000	9,500	12,500	37,500
Local Share Required	297,500	133,817	151,567	179,650	217,117	979,651
Estimated Total Local Share	$ 297,500	$ 133,817	$ 151,567	$ 179,650	$ 217,117	$ 979,651

7. Conclusion

The facts assembled during the course of this investigation support the following conclusions:

1. The total public transportation demand potential in Southwestern Michigan is between 2600-3600 trips per day. This level of demand exceeds the service capabilities and organizational framework of the existing pool of resources and, therefore, there is a need for change.
2. Four possible service alternatives and five possible organizational alternatives were arrayed in a matrix. The most responsive, feasible short run combination appears to be the implementation of a high intensity service using the recently organized three county Human Resources Commission to achieve increasing coordination and control of the public transportation network. As change is achieved and ridership growth is experienced, it is expected that a regional transportation authority will evolve over time.
3. The costs involved are substantial totalling more than $10.9 million over the five year period FY 1978 - FY 1982 and requiring almost $8.3 million in public financial support.
4. The cost to local taxpayers can be shown to vary substantially depending upon the actual volume of Federal and state aid received by the regional transportation organization. At a minimum the total local cost burden

over the period FY 1978 - FY 1982 is $980,000 while the maximum burden approaches $3,700,000.

Public transportation is an expensive service. While Southwestern Michigan has some unserviced demand potential, the marginal costs of satisfying this potential in a comprehensive manner are significant. But, concern over energy supplies and personnel mobility suggests that effective public transportation should be developed.

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

FINAL REPORT

I. INTRODUCTION

Bordering along the eastern edge of Lake Michigan lies the rolling fertile topography of Berrien, Van Buren and Cass Counties (see Figure 1.1). The region is primarily rural in nature with some urban development. Agriculture and manufacturing are the basic economic activities. The "Twin Cities" of Benton Harbor-St. Joseph constitute the largest urban concentration in the region.

Surrounding the Southwestern Michigan Region are a number of large urban areas including South Bend, Indiana; Kalamazoo and Grand Rapids, Michigan. These urban areas with ample access via I-94, I-196, and U. S. 31 generate significant trip demands from Southwestern Michigan.

The entire region had a 1970 population of 262,369 and current estimates indicate an increase to about 265,000 in 1976. These individuals are rather well dispersed over the region's 1,703 square miles for an average population density of just 154 persons per square mile.

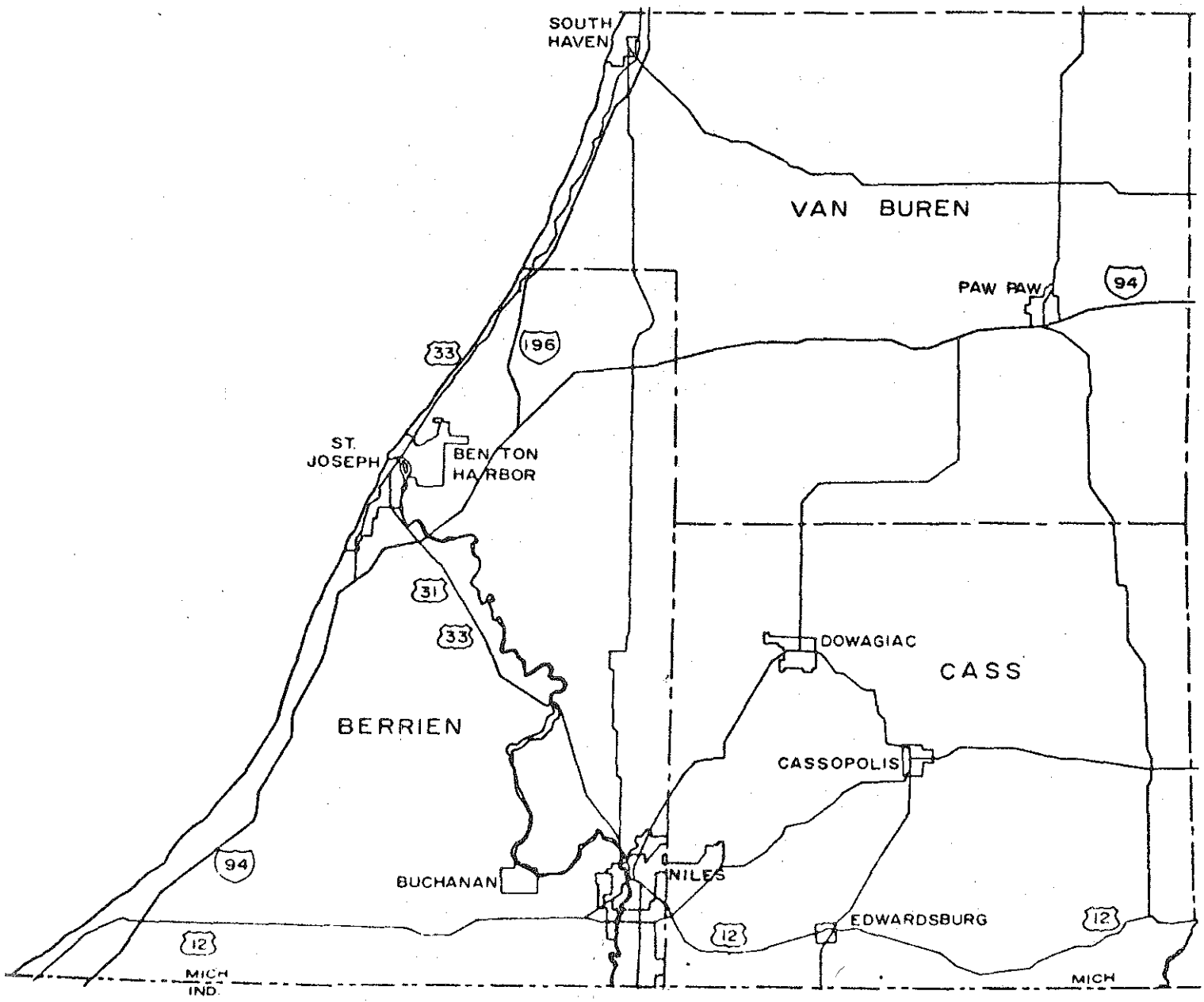
While the three counties share a general commonality of location, climate and topography, the region could not be described as economically or politically homogeneous. Indeed, on an individual basis the three counties may briefly be described as follows:

Berrien County - This is the most densely populated or "urban" county with a population in excess of 160,000. Benton Harbor-St. Joseph

FIGURE 1.1

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

SOUTHWESTERN MICHIGAN AREA



and Niles constitute the county's major urban centers. Manufacturing rather than agriculture is a more predominant activity in this county with such firms as Whirlpool, Clark Equipment, and Voice of Music providing substantial employment. A significant minority, low income population is clustered in the Benton Harbor-Benton Township area.

Cass County - This is the smallest of the three counties both in terms of land area and population. The county's 44,000 people tend to be settled near the urban centers of Cassopolis, Dowagiac and Edwardsburg. Agricultural activities, particularly livestock, are prevalent in the county. A significant number of residents in Southern Cass County commute to South Bend and Elkhart, Indiana for employment purposes.

Van Buren County - This is the most rural county with its 56,000 residents being well distributed across the county. South Haven, Watervliet and Paw Paw provide the major urban concentrations in this agricultural community. Fruit production, especially grapes tend to dominate the county's economy. Eastern Van Buren County has a strong relationship to Kalamazoo, Michigan.

When these three counties are combined and analyzed as a single region, one observes an adequate economic base to support a self-sustaining economy. However, the immediate proximity of more substantial economic activity in nearby South Bend, Indiana; Kalamazoo and Grand Rapids, Michigan influences the area's residential locations and economic activity. Substantial daily commuting for employment, retail and medical trips is evident. The lack of a major regional shopping facility tends to stimulate this commutation pattern. Consequently, the continued economic viability of the region is considerably influenced by these neighboring urban centers.

Effective transportation has long served a critical role in the economic development and growth of Southwestern Michigan. The area's public transportation system has radically changed in recent years with the private automobile assuming an ever increasing portion of the total travel requirements. While the availability of automobiles and adequate highway facilities continues to increase, the use of bus or taxi transportation has declined almost to the point of extinction.

If the automobile could service everyone perhaps this extinction would be proper. But with declining fossil fuel supplies, environmental deterioration, the rising cost of automobile ownership, the physical dexterity necessary to operate an automobile, etc.; it must be realized that

the automobile cannot provide transportation for everyone. Indeed, there is a considerable group of individuals who; because of age, income, physical or mental disability, experience serious mobility problems. The Congress and the State of Michigan have been increasingly responsive to these mobility restricted individuals during the 1970's. A variety of public assistance programs are now available to enhance public mobility through the use of taxpayer funds.

Unfortunately, these various programs have not attacked the public transportation problem in a comprehensive fashion. Rather, the program specific resources have spawned an array of uncoordinated and confusing transportation services. Thus, in Southwestern Michigan more than twenty public transportation entities can be identified including private bus companies, taxi operators, public transit agencies, school bus services, and a series of program specific social service agency operations. In the public transportation system's present form it is virtually impossible to implement comprehensive service improvements or assess operating performance.

The purpose of this study is to examine Southwestern Michigan's public transportation resources and requirements and find a better way to coordinate and manage this transportation system. To achieve that end a series of important questions must be answered.

1. What is the existing supply of service in Southwestern Michigan?
2. What is the demand for public transportation in Southwestern Michigan?
3. How can the system be organized to achieve coordination and change?
4. What are the costs and who will pay for these changes?

This report answers each of these questions in a logical and progressive manner. Chapter II reviews the existing transportation system. Chapter III examines the demand for public transportation in Southwestern Michigan. Chapter IV considers some deficiencies, and problems within the existing system. Chapter V analyzes both service and organizational alternatives. Chapter VI presents a implementation action program. Finally, Chapter VII analyzes the costs of the proposed program.

This report together with the detailed appendices provides the planning background necessary for Southwestern Michigan to achieve changes in its public transportation system. As this change is realized, the mobility of all residents of Cass, Van Buren and Berrien Counties will be enhanced.

II. THE EXISTING PUBLIC TRANSPORTATION SYSTEM

The existing public transportation system in Cass, Van Buren and Berrien Counties is comprised of more than twenty agents and agencies, including intercity bus service, local bus service, taxi service and specialized service. While this array of carriers does not provide comprehensive coverage of Southwestern Michigan, a modest level of service is available. This chapter provides a general overview of the current situation.

2.1 Some Definitions

For purposes of convenience and clarity of explanation, the existing public transportation system in Southwestern Michigan can be subdivided into two components as follows:

1. Commercial Transportation Component - consists of those carriers who provide a generally available transportation service and charge a fare for the use of such service (i.e. anyone can use the service provided they are willing to pay the price of that service).
2. Social Service Transportation Component - consists of those carriers (agencies) who provide specialized service either for agency affiliated clients or eligible users. The payment of a regular fare for

this service is generally not required. (i.e. the service clientelle is restricted and service is often rendered without charge). While this is an arbitrary distinction, it should assist the reader in differentiating among the several types of public transportation service currently available in Cass, Van Buren and Berrien Counties.

2.2 Commercial Transportation Component

Commercial transportation in Southwestern Michigan is provided by intercity bus companies, a private local bus company, public dial-a-ride operations and taxi operations. The general characteristics of each of these operations is developed below.

2.2.1 Intercity Bus Service

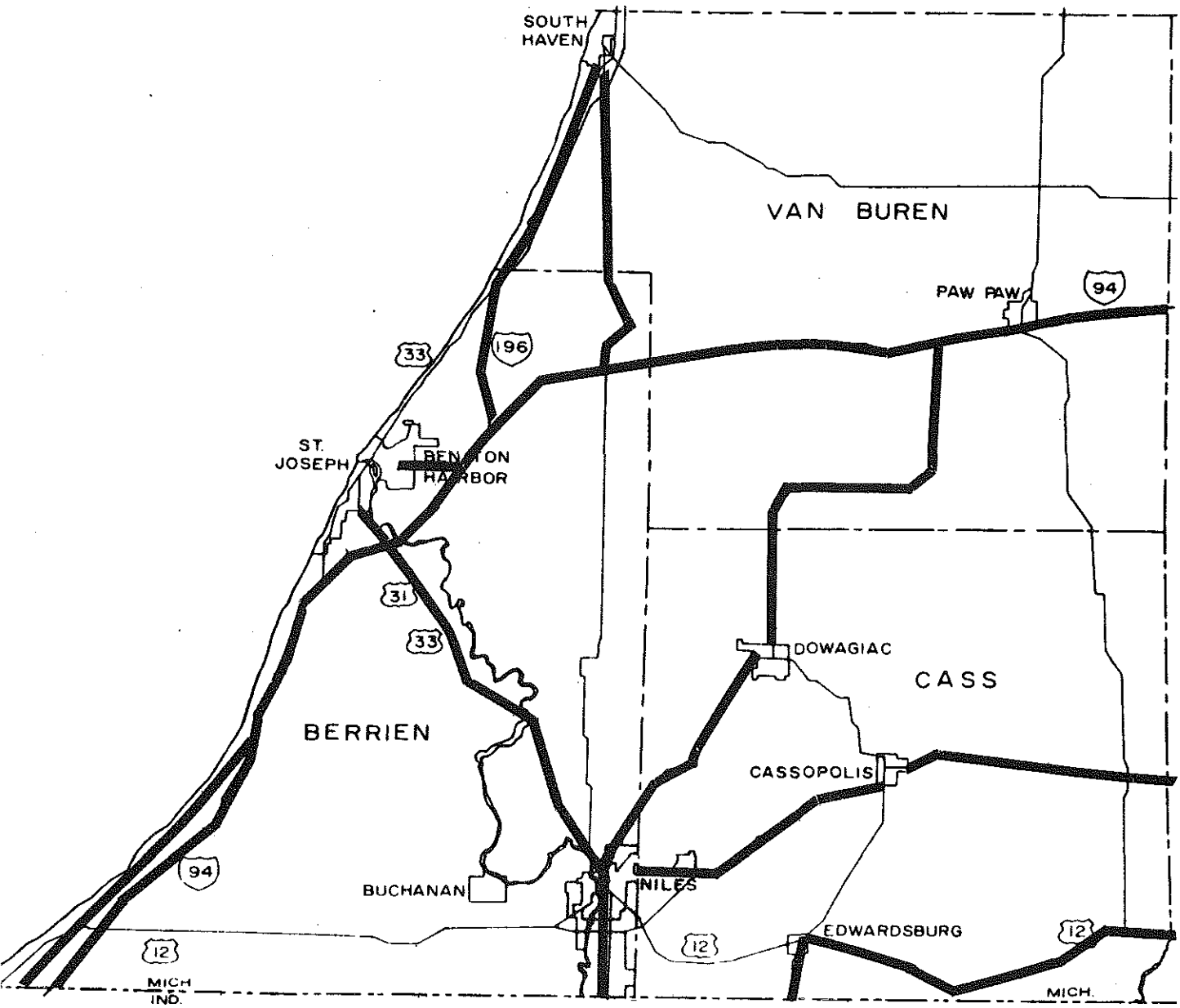
Through-routed intercity bus service in Southwestern Michigan is provided by four private companies. Greyhound Lines, Inc., Indian Trails, Inc., Indiana Motor Bus, Inc. and Cardinal Bus Lines, Inc. Figure 2.1 provides a map of the routes these various carriers service in Southwestern Michigan.

While it is possible to make intraregional trips on this service, current utilization is considered to be quite minimal. Two reasons can be cited which serve to negate demand for this available service: inconvenient schedules

FIGURE 2.1

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

ROUTES OF INTER-CITY BUS SERVICE



and relatively high passenger fares. Most of the service provided by these carriers is directed at providing high speed access to major urban centers such as Chicago, Detroit and South Bend. As a result, trips which operate over local routes are provided at infrequent intervals. Fares have been established by general Interstate Commerce practices. While the rates may provide equitable returns to the private operating carrier, the fare schedule has not been designed to promote or stimulate intraregional travel (for more specific details on the intercity bus carriers see appendix 2.A).

2.2.2 Local Private Bus Service

Twin Cities Motor Transit currently provides fixed route bus service to the Twin Cities of Benton Harbor and St. Joseph. Van-type vehicles are operated during daylight hours along one fixed route. While no precise ridership figures are available for this operation, the operator claims to transport about 40 passengers each day. Twin Cities Area Motor Transit has been providing public bus service in Benton Harbor-St. Joseph since 1963. However, in recent years patronage has declined dramatically

and the current operation must be classified as extremely marginal (for additional data on this carrier see appendix 2.B).

2.2.3 Public Dial-A-Ride Transportation (DART)

Since the passage of Public Act 327 in 1973, the State of Michigan has made a tremendous effort to provide demand responsive public transportation in most urban communities throughout the state's 83 counties. The Michigan Department of Highways and Transportation through the Mass Transportation Planning Section and the Bureau of Urban and Public Transportation has largely been responsible for the design and implementation of many of these systems.

In Southwestern Michigan three DART projects are operative at the present time. The Twin Cities Area Transportation Authority composed of the City of St. Joseph, City of Benton Harbor and Benton Township operates one of the state's largest dial-a-ride projects. The City of Niles supports a demand responsive service for its community. Finally, the City of Dowagiac assists in the financing of a local dial-a-ride operation. General characteristics of these three operations are shown in Table 2.2 (more specific detailed information is available in appendix 2.C).

TABLE 2.2
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
DIAL-A-RIDE TRANSPORTATION
MAJOR CHARACTERISTICS
APRIL, 1977

Operating Data	Twin Cities Area Transportation Authority	Niles	Dowagiac
Population Serviced	47,000	13,000	8,000
Transit Vehicles	13	5	3
Vehicle: Population Ratio	1:3615	1:2600	1:2666
Estimated Average Daily Ridership	675	270	130
Daily Ridership per capita	.014	.021	.016
Estimated Annual Ridership	190,000	75,000	33,100
Estimated Annual Operating Cost	$340,000	$136,000	$37,800
Estimated Cost Per Passenger	$1.79	$1.81	$1.14
Funding Sources			
Farebox Revenues	$100,000	$26,000	$6,300
Federal Funds			
UMTA	-0-	55,000	-0-
Other Programs	25,000	-0-	-0-
UPTRAN - State of Michigan Funds	119,500	45,000	13,500
Local Funds	95,500	10,000	18,000
TOTAL	$340,000	$136,000	$ 37,800

2.2.4 Taxi Service

Three taxi cab services have been encountered during the course of this investigation: Twin Cities Taxi (Benton Harbor-St. Joseph), Advance Cab Lines (Benton Harbor-St. Joseph) and Niles Taxi (Niles).[1] These companies endeavor to provide twenty-four hour demand responsive taxi service within their respective service areas. Fares charged can be substantial but the average charge is about $2.00/ride. (Additional data on taxi operations may be found in appendix 2.D).

2.3 Social Service Transportation Component

During the study, fourteen social service transportation operations were identified. The characteristics of each of these services are varied but a general array of major characteristics is presented in Table 2.3. Figure 2.4 attempts to map the general availability of social service transportation in the tri-county area in an effort to display where possible duplications of effort may occur. (Additional detailed data on social service transportation including actual demand patterns is found in appendix 2.E).

---

1 During the course of the project, the possibility of a private taxi operation in South Haven was mentioned. We encountered no evidence supporting the existence of such an operation, but were told that a former operator abandoned service several years ago.

TABLE 2.3
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
SOCIAL SERVICE TRANSPORTATION OPERATORS
GENERAL CHARACTERISTICS

1. BERRIEN COUNTY

DATA \ AGENCY	GATEWAY INC.	BERRIEN CO. COUNCIL ON AGING	BERRIEN CO.[2] DEPT. OF SOCIAL SERVICES	ST. JOSEPH-LINCOLN SR. CENTER	NILES-BUCHANAN SR. CENTER	BENTON HARBOR SR. CENTER	BENTON[2] HARBOR YMCA	RIVER VALLEY SR. CENTER	AMERICAN[2] CANCER SOCIETY	TOTALS
Vehicles	4 Vans 1 Sta.-Wagon	2 Vans	5 autos	1 auto	1 Sta.-Wagon	1 Van	2 Vans	1 Sta. Wagon	Volunteers	9 Vans, 6 autos, 3 Sta.Wagons
Service Area	Berrien County	Berrien County	Berrien County	St. Joseph Lincoln Township	Niles Buchanan	Benton Harbor Benton Township	Berrien County	S.W. Berrien County	Berrien County	N/A
Estimated Patronage										
Daily	175/da.	50/da.	2/day	50/da.	5/da.	40/da.	Limited;	7/da.	Limited	329/da.
Annual	44,000/yr.	12,500/yr.	600/yr.	12,000/yr.	1,200/yr.	10,000/yr.	not reported	1,700/yr.	not reported	82,000/yr.
Estimated Annual Cost	$43,000	$28,800	$1,000[3]	$28,000	$4,500	$13,500	Not Reported	$1,900	Not Reported	$120,700
Estimated Cost/ Passenger	$.98	$2.30	$1.67	$2.33	$3.75	$1.35	Not Reported	$1.12	Not Reported	$1.47[7]
Funding Sources										
Farebox	-0-	$1,800	-0-	-0-	-0-	-0-	Not	-0-	Not	1,800
Federal	-0-	$17,000	-0-	$12,000	-0-	$ 9,000	Reported	-0-	Reported	$38,000
State	$28,000	$10,000	-0-	-0-	-0-	-0-		-0-		$38,000
Local	-0-	-0-	$1,000[3]	$ 6,000	$4,500[5]	$ 4,500		$1,900[6]		17,900
Other	$15,000[1]	-0-	-0-	$10,000[4]	-0-	-0-		-0-		25,000

TABLE 2.3 (Cont'd)

2. CASS COUNTY

DATA \ AGENCY	CASS COUNTY COUNTY ON AGING	WESTGATE CENTER, INC.	TOTALS
Vehicles	2 Vans	4 Vans	6 Vans
Service Area	Cass County	Cass County; will cross county line	N/A
Estimated Patronage			
Daily	10/da.	70/da.	80/da.
Annually	2,500/yr.	18,000/yr.	20,500/yr.
Estimated Annual Cost	$12,000	$20,800	$32,800
Estimated Cost/ Passenger	$4.80	$1.16	$1.60[7]
Funding Sources			
Farebox	-0-	-0-	-0-
Federal	$9,400	-0-	$9,400
State	-0-	$16,800	$16,800
Local	$2,600	-0-	$2,600
Other	-0-	$4,000[8]	$4,000

TABLE 2.3 (Cont'd)

3. VAN BUREN COUNTY

DATA \ AGENCY	VAN BUREN CO. TRANSPORTATION TASK FORCE	VAN BUREN CO. COMMISSION ON AGING	AMERICAN[2] CANCER SOCIETY	TOTALS
Vehicles	2 Vans	Volunteer Vehicles	Volunteer Vehicles	2 Vans
Service Area	Van Buren County	Van Buren County	Van Buren County	N/A
Estimated Patronage				
Daily	40/da.	negligible	Limited	40+/da.
Annually	10,500/yr.	120/yr.	Not Reported	10,620/yr.
Estimated Annual Cost	$16,800	$1,500	Not Reported	$18,300
Estimated Cost/ Passenger	$1.60	$12.50	Not Reported	$1.72[7]
Revenue Sources				
Farebox	$5,200	-0-	Not	$5,200
Federal	-0-	-0-	Reported	-0-
State	$6,000	-0-		$6,000
Local	$5,600	$1,500[9]		$7,100
Other	-0-	-0-		-0-

NOTES TO TABLE 2.3

1/ Contractual revenue from other social service agencies

2/ Marginal Operation

3/ Probably local funds but difficult to identify

4/ Private donations

5/ Presumed to be local city contributions

6/ Agency funds not well explained; probably local in origin

7/ Weighted Average

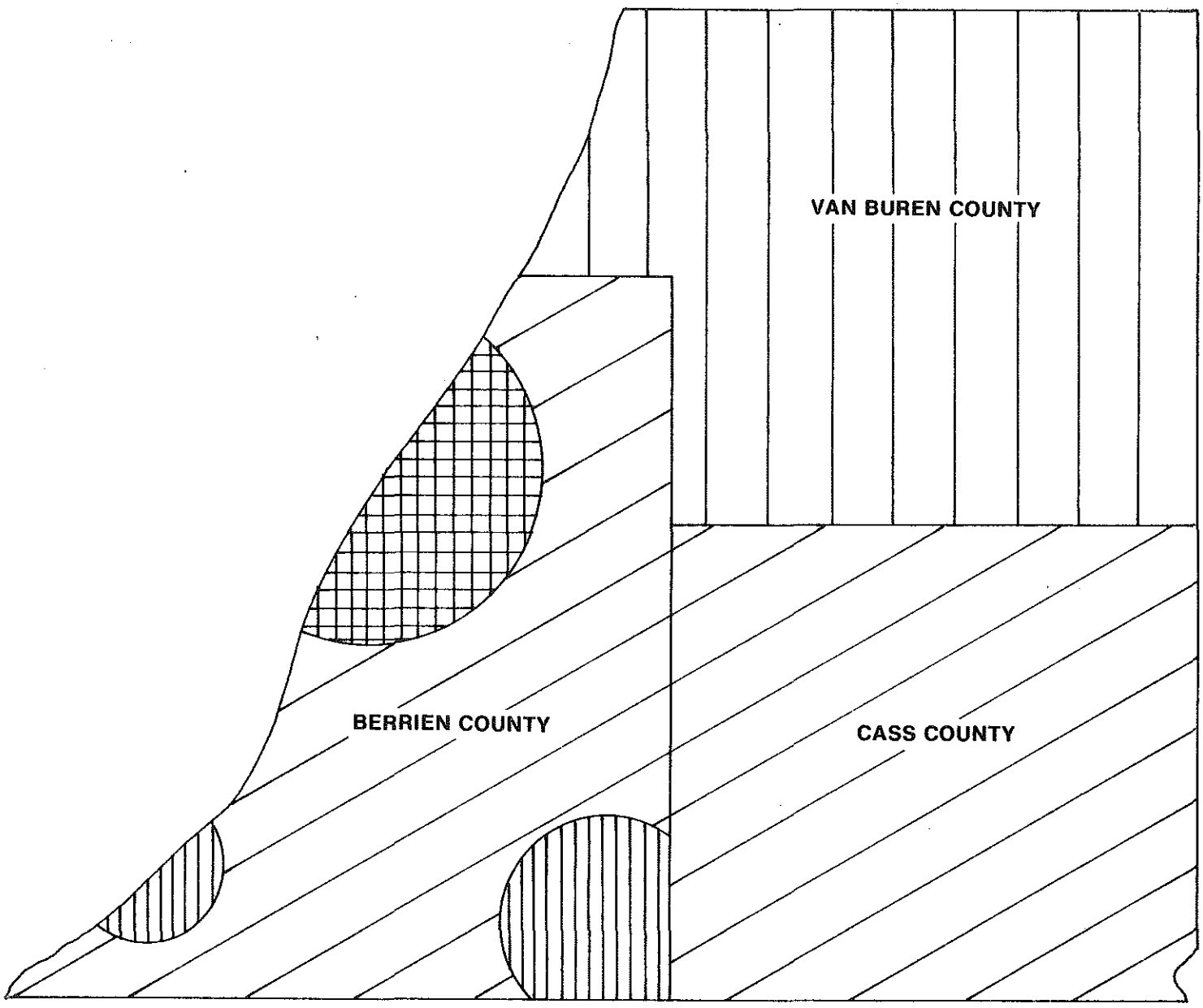
8/ Subcontract revenue from mental health group

9/ Probably county funds; not well defined

FIGURE 2.4

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

AVAILABILITY OF SOCIAL SERVICE AGENCY TRANSPORTATION



AREA SERVED BY 1 SOCIAL SERVICE AGENCY
AREA SERVED BY 2 SOCIAL SERVICE AGENCIES
AREA SERVED BY 3 SOCIAL SERVICE AGENCIES
AREA SERVED BY 4 SOCIAL SERVICE AGENCIES

2.4 Other Possible Public Transportation Components

Three additional possible public transportation resources can be identified for Southwestern Michigan including; school buses, industry operations and informal transportation services.

2.4.1 School Buses

Public school buses provide an impressive potential public transportation resource for Southwestern Michigan. Data provided by the Michigan Department of Transportation indicated that some 625 units were available in the area as follows:

TABLE 2.5
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
SCHOOL BUS INVENTORY
APRIL, 1977

	School Bus Units	Special Equipment for Handicapped
Berrien	325	5 (3 with wheelchair lifts)
Cass	100	4 (1 with wheelchair lift)
Van Buren	200	9 (not lift equipped)
Totals	625	18 (4 with wheelchair lifts)

The applicability of school buses in a public transportation system was investigated during this study and the general conclusion indicates that school buses are not an appropriate resource for the development of an effective regional public transportation system. (Further information about school buses is found in appendix 2.F).

2.4.2 Industry Operations

While none of the area's employers currently provide an organized transportation program for employees some private sector operations may soon be developed. Organizations such as Whirlpool are investigating the potential of van pooling operations to serve their employees. Ventures of this nature may provide effective work trip service at no public cost. Additional monitoring and encouragement of the development of such operations by major employers is warranted.

2.4.3 Informal Operations

In a rural community such as Southwestern Michigan, a great number of trip demands are serviced by informal methods of ridesharing with neighbors, friends, relatives, etc. While this resource is difficult to document, it is no doubt an important factor in the three county area.

2.4.4 Other Operations

Southwestern Michigan is serviced by through routed AMTRAK service on the Chicago-Detroit route. A local stop is available in Niles with an additional stop soon to be opened in Dowagiac. While it therefore is possible to use AMTRAK for intraregional travel, it is extremely doubtful

that anyone will ever use this service for local travel.

Airline service is available at several local airports and commercially by North Central Airlines at Ross Field in Benton Harbor-St. Joseph. It is unlikely that air travel is used for many intraregional trip movements.

2.5 Summary Statistics

Taking into consideration the data provided by all these operating agencies, some summary observations about the existing public transportation system in Southwestern Michigan can be developed. Table 2.6 arrays the supply of public transportation resources by county and estimates current daily demands. In the aggregate, daily patronage on public transportation in the three county area slightly exceeds 1900.

Table 2.7 provides an overview of the costs and revenues associated with the current operations. From this table it is important to note that more than $150,000 in local tax dollars is expended on public transportation at the present time. (See Appendix 2.G).

This chapter has provided a general overview of the existing public transportation system in Southwestern Michigan. Using this material as a background, the report now develops an estimate of demand for service in the three county area. When the existing supply is

compared to the demand estimate, deficiencies in the current network should be more readily indentifiable.

TABLE 2.6
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
PUBLIC TRANSPORTATION RESOURCES
BY COUNTY
APRIL, 1977

Berrien County

A. Commercial Operations:	Daily Patronage
Intercity Bus Services	
1. Greyhound Lines 2. Indian Trails, Inc. 3. Indiana Motor Bus	5
Local Bus Services	
1. Twin Cities Motor Transit	40
Taxicabs	
1. Twin Cities Cab Company	160
2. Advance Cab Lines	70
3. Niles Taxi	130
Dial-A-Ride Transportation	
1. Twin Cities Area Transportation Authority	675
2. Niles Dial-A-Ride	270
B. Social Service Transportation:	
1. Berrien County Council on Aging	50
2. Berrien County Department of Social Services	2
3. Gateway	175
4. Benton Harbor YMCA	Not Reported
5. Benton Harbor Senior Citizen Center	40
6. Niles-Buchanan Senior Citizen Center	5
7. River Valley Senior Citizen Center	8
8. St. Joseph-Lincoln Senior Citizen Center	50
9. American Cancer Society	Negligible
TOTAL	1,679

TABLE 2.6 (Cont'd)

C. Other Transportation Facilities:	General Comment
1. School Buses	325 vehicles
2. Industry Operations	None at this time
3. AMTRAK	Serves Niles on Detroit-Chicago Route.
4. North Central Airlines	Serves Ross Field, Benton Harbor-St. Joseph.

D. Total County Transportation Profile:

1. Resources	Total	Considered Available for Consolidation
Taxicabs	14 cabs	0
Local Bus Operator Vehicles	8 units	0[1]
Dial-A-Ride Vehicles	18 vans	18
Social Service Agency Vehicles	9 vans	7[2]
	6 autos	0
	3 station wagons	0
Subtotal: Transportation Vehicles	58 vehicles	25 vehicles
School Buses	325	0
Total Transportation Vehicles	383	25 vehicles

2. Current Demand	
Total Daily Demand for Public Transportation	1680 (rounded)
County Population	164,000
Per capita daily demand for public transportation	.01 trip/person/day
Vehicle ratio	1 vehicle: 2827 resident

1/ While Twin Cities Motor Transit has eight vehicles; five of these are school buses which are leased to school districts and are probably unavailable, the other three units would only be available if directly purchased.

2/ Two vans owned by the Benton Harbor YMCA are not considered available for consolidation.

TABLE 2.6 (Cont'd)

Cass County

A. Commercial Operations:	Daily Patronage
Intercity Bus Services:	
1. Greyhound Lines 2. Indian Trails, Inc. 3. Cardinal Bus Lines	5
Taxicabs:	
None	-0-
Dial-A-Ride Transportation:	
1. Dowagiac Dial-A-Ride	130
B. Social Service Transportation:	
1. Westgate, Inc.	70
2. Cass County Council on Aging	10
TOTAL	215/day

C. Other Transportation Facilities:	General Comment
1. School Buses	100 vehicles
2. Industry Operators	None
3. AMTRAK	Dowagiac is soon to have service

D. Total County Transportation Profile:

1. Resources	Total	Available for Consolidation
Dial-A-Ride Vehicles	3 vans	3
Social Service Agency Vehicles	6 vans	6
Subtotal	9	9
School Buses	100	-0-
Total Transportation Vehicles	109	9

2. Current Demand	
Total Daily Demand for Public Transportation	215
County Population	44,000
Per Capita daily demand for public transportation	.005 trips/person/day
Vehicle Ratio	1 vehicle: 4890 residents

TABLE 2.6 (Cont'd)

Van Buren County

A. Commercial Operations	Daily Patronage
Intercity Bus Services	
1. Greyhound Lines 2. Indian Trails, Inc.	5
Taxicabs	
None	-0-
Dial-A-Ride Transportation	
None	-0-
B. **Social Service Transportation**	
1. Van Buren County Transportation Task Force	40
2. Van Buren County Commission on Aging	negligible
Total	45/day

C. Other Transportation Facilities	General Comment
1. School Buses	200 vehicles

D. Total County Transportation Profile

1. Resources	Total	Available for Consolidation
Social Service Agency Vehicles	2	2
Subtotal	2	2
School Buses	200	-0-
Total Transportation Vehicles	202	2

2. Current Demand

Total Daily Demand for Public Transportation	45
County Population	57,000

TABLE 2.6 (Cont'd)

Per capita daily demand for public transportation	.0007 trips/person/ day
Vehicle Ratio	1 vehicle: 28,500 residents

TABLE 2.7
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
FINANCIAL OVERVIEW

BERRIEN COUNTY

Financial Data \ Operating Component	Intercity Bus Service	Local Bus Service	Taxicabs	Dial-A-Ride	Social Service Transp.	Total
Estimated Annual Cost	N	$11,000	$281,800	$476,000	$120,700	$889,500
Revenue Sources[1]	O					
Farebox	A	$ 6,100*	$275,000*	$126,000	1,800	408,900
Federal	V	-0-	-0-	80,000	38,000	118,000
State	A	-0-	-0-	164,500	38,000	202,500
Local	I	-0-	-0-	105,500	17,900	123,400
Other	L	-0-	-0-	-0-	25,000	25,000
Unfunded Deficit	A	4,900*	6,800*	-0-	-0-	11,700
	B					
	L					
	E					

* ATE estimates based on partial operating data

1/ See Appendix 2.G for details of funding programs.

TABLE 2.7 (Cont'd)

CASS COUNTY

Financial Data \ Operating Component	Intercity Bus Service	Dial-A-Ride	Social Service Transp.	TOTAL
Estimated Annual Cost	N O T	$37,800	$32,800	$70,600
Revenue Sources[1]				
Farebox	A V	6,300	-0-	6,300
Federal	A I	-0-	9,400	9,400
State	L A	13,500	16,800	30,300
Local	B L	18,000	2,600	20,600
Other	E	-0-	4,000	4,000
Unfunded Deficit		-0-	-0-	-0-

1/ See Appendix 2.G for details of funding programs

TABLE 2.7 (Cont'd)

VAN BUREN COUNTY

Operating Component / Financial Data	Intercity Bus Service	Social Service Transp.	Total
Estimated Annual Cost	NOT AVAILABLE	$18,300	$18,300
Revenue Sources[1]			
Farebox		$ 5,200	$ 5,200
Federal		-0-	-0-
State		6,000	6,000
Local		7,100	7,100
Other		-0-	-0-
Unfunded Deficit		-0-	-0-

1/ See Appendix 2.G for details of funding programs

TABLE 2.7 (Cont'd)

SOUTHWESTERN MICHIGAN TOTALS	Total Cost	Cost Without Taxi and Private Bus Service
Estimated Annual Cost	$978,400	$685,600
Estimated Annual Ridership	543,500	426,900
Estimated Cost/Passenger	$1.80	$1.61
Revenue Sources		
Farebox	$420,400	$137,800
Federal	127,400	127,400
State	238,800	238,800
Local	151,100	151,100
Other	29,000	29,000
Unfunded Deficit	11,700	-0-

III. THE DEMAND FOR PUBLIC TRANSPORTATION IN SOUTHWESTERN MICHIGAN

Estimating the demand for public transportation services is one of the most difficult but essential procedures necessary to the development of a plan for service improvements. Experience with public transportation operations in an area as vast and sparsely populated as Southwestern Michigan is not substantial. However, the primarily rural character of Cass, Van Buren and Berrien Counties suggests that the demand for public transportation services is apt to be limited.

In an effort to forecast the daily demand for public transportation services, the following data was examined:

1. Aggregate daily person trip behavior
2. Intraregional trip flows
3. Socioeconomic data
4. Major traffic generators

As a result of the examination process, a public transportation demand estimate is developed for each city and township in the three county area.

3.1 Aggregate Daily Travel Demand and Intraregional Flows

The 1975 Michigan Department of State Highways and Transportation Statewide Person Trip Data permit a rather accurate projection of the daily demand for transportation in Southwestern Michigan as follows:

TABLE 3.1
Southwestern Michigan
Regional Public Transportation Study
Estimated Daily Personal Travel Behavior
April, 1977

	Estimated Current Population	Average Daily Person Trips	Estimated Total Daily Travel
Berrien	164,000	2.16	354,240
Cass	44,000	2.69	118,360
Van Buren	57,000	2.61	148,770
Totals	265,000	2.34	621,370

From this projection of daily transportation demands the current modal split can also be developed.[1]

TABLE 3.2
Southwestern Michigan
Regional Public Transportation Study
Estimated Modal Split
April, 1977

1.	Total Daily Travel Volume	621,370
2.	Existing Daily Public Transit Patronage	1,935
3.	Estimated Modal Split (1 ÷ 2)	0.31%

1/ Modal split analysis will indicate what percentage of the total travel demand moves by public transportation.

In other words, the existing public transportation system in Southwestern Michigan satisfies about 0.3% (three-tenths of one percent) of the area's total daily transportation demands.

The county trip tables available from the MDSHT study permit some analysis of the demand for intra-regional movements. From Table 3.3 it is evident that significant travel flows exist between the three counties particularly between Berrien and Cass counties and Berrien and Van Buren counties. While some questions have been raised regarding the Michigan Department of State Highways and Transportation's travel distribution, no evidence of more substantive data was uncovered during the course of the study.[1] Regardless, the essential fact is that daily movement does occur between the three counties and to be effective a public transportation system should cater to this need.

3.2 Analyzing Southwestern Michigan's Population That Needs Public Transportation

It is generally accepted that some segments of the population are both in greater need of public transportation service, and utilize the service more

1/ A check of local highway counts in Cass County revealed that errors in this data would not be greater than 5%.

TABLE 3.3
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
INTERCOUNTY TRAVEL PATTERNS
1975 DATA

TO \ FROM	Berrien	Cass	Van Buren
Berrien	182,687	22,607	14,901
Cass	22,611	23,789	5,129
Van Buren	14,899	5,130	51,928
Kalamazoo	2,959	1,623	11,529
Allegan	1,005	270	6,666
St. Joseph	777	3,892	893
Indiana	36,623	10,493	1,543
Misc.	6,651	2,358	6,539

frequently, than does the total population as a whole. In general, persons who: 1) are over 65 years of age, 2) earn a marginal income, 3) experience physical impairments or 4) have limited access to private automobiles are more likely to need and utilize public transportation services than is the average citizen.

While it is difficult to precisely define the number of individuals in Southwestern Michigan who experience serious mobility restrictions without a rigorous survey, some estimates are possible. Using recently completed studies by the Michigan State Department of Highways and Transportation and the Urban Mass Transportation Administration, Table 3.4 calculates that Southwestern Michigan's resident population of mobility restricted elderly and handicapped is approximately 20,600. Add to this total an allowance for the number of households without automobiles and the aggregate market of mobility restricted individuals in Berrien, Cass and Van Buren Counties approaches 30,000 or 11.3% of the area's population.

Most assuredly many of the transportation requirements of this group are satisfied through existing public transportation services, informal ride sharing, bicycles, hitchiking or walking. However, for that

TABLE 3.4
Southwestern Michigan
Regional Public Transportation Study
Estimating Elderly and Handicapped Population
That Need Public Transportation
April, 1977

Total Reported Elderly and Handicapped by County[1]		
Berrien	27,000	
Cass	6,900	
Van Buren	11,000	
Total	44,900	
Control for "Double Counting"	x .79[2]	
Estimated Number of Individuals	35,500	(rounded)
Subtract Estimated Number who can drive (30%)[3]	-10,650	
Estimated Elderly and Handicapped Population that cannot drive	24,850	
Subtract Estimated Number who cannot go outdoors (17%)[4]	- 4,250	(rounded)
Estimated Elderly and Handicapped Population which may need public transportation service	20,600	

1/ Michigan Department of State Highways and Transportation, "Michigan Elderly and Handicapped Transportation Study: A Statistical Overview", October, 1975.

2/ Transportation Systems Center, "Urban Mass Transportation Needs of the Handicapped and Elderly: Executive Summary", July, 1974, pp. 10-12.

3/ Ibid, p. 12.

4/ Ibid, p. 12.

proportion of the 30,000 who cannot use these options, personal mobility must be extremely limited.

Thus, a significant population of some 30,000 individuals can be identified as experiencing greater needs for public transportation service. Having identified this group, it is appropriate to investigate how this population is distributed throughout the area.

In recent years, ATE Management and Service Company, Inc. has developed a screening program which analyzes socioeconomic data and identifies area's with high concentrations of potential public transportation users. This technique which develops a unique transit potential score for each sub-area investigated employs U. S. Census Bureau data. The 1970 series data available for Southwestern Michigan subdivides the region by cities and townships into 68 segments.

The computerized scoring program analyzed eleven socioeconomic characteristics in an effort to identify cities and/or townships that have significant concentrations of individuals who are likely to need public transportation service. This analysis, then, assists in pinpointing areas toward which public transportation services should be directed. Similarly, areas with

very poor public transportation potential can be identified.

The eleven characteristics utilized in the analysis for Southwestern Michigan included:

Total population
Median family income
Number of workers
Workers using bus now
Autos per household (used for two variables)
Autos per worker
Percent of families with no auto
Number of workers not driving
Number of senior citizens
Percent of population over 65

This scoring technique gives some indication of each city and township's ability to produce public transportation trips but as a summary statistic the score does not directly predict the number of riders that will actually use public transportation services. Experience indicates that only areas with scores of 60 or greater are attractive locations for regularly scheduled transit services. Furthermore, areas with scores below 40 tend to generate very limited patronage.

Using these parameters as a guideline, a summary of the Southwestern Michigan scores is shown on Table 3.5.

TABLE 3.5
Southwestern Michigan
Regional Public Transportation Study
Transit Potential Summary
April, 1977

Score Value	Number of Areas
0 - 9.9	0
10 - 19.9	3
20 - 29.9	7
30 - 39.9	27
40 - 49.9	22
50 - 59.9	3
60 - 69.9	2
70 - 79.9	1
80 - 89.9	2
90 - 99.9	0
greater than 100	1

Mean Score	40.8
Median Score	38.6

Indeed, only the following six areas revealed a score of sixty (60) or greater:

City of Benton Harbor	101.7
Benton Township	87.6
City of Niles	80.0
City of St. Joseph	71.5
Oronoko Township	61.8
South Haven	60.7

Interestingly, five of the six are in Berrien County and all four of the areas with scores of 70 or greater have existing public transportation service. (For more details on the transit potential score see appendix 3.A)

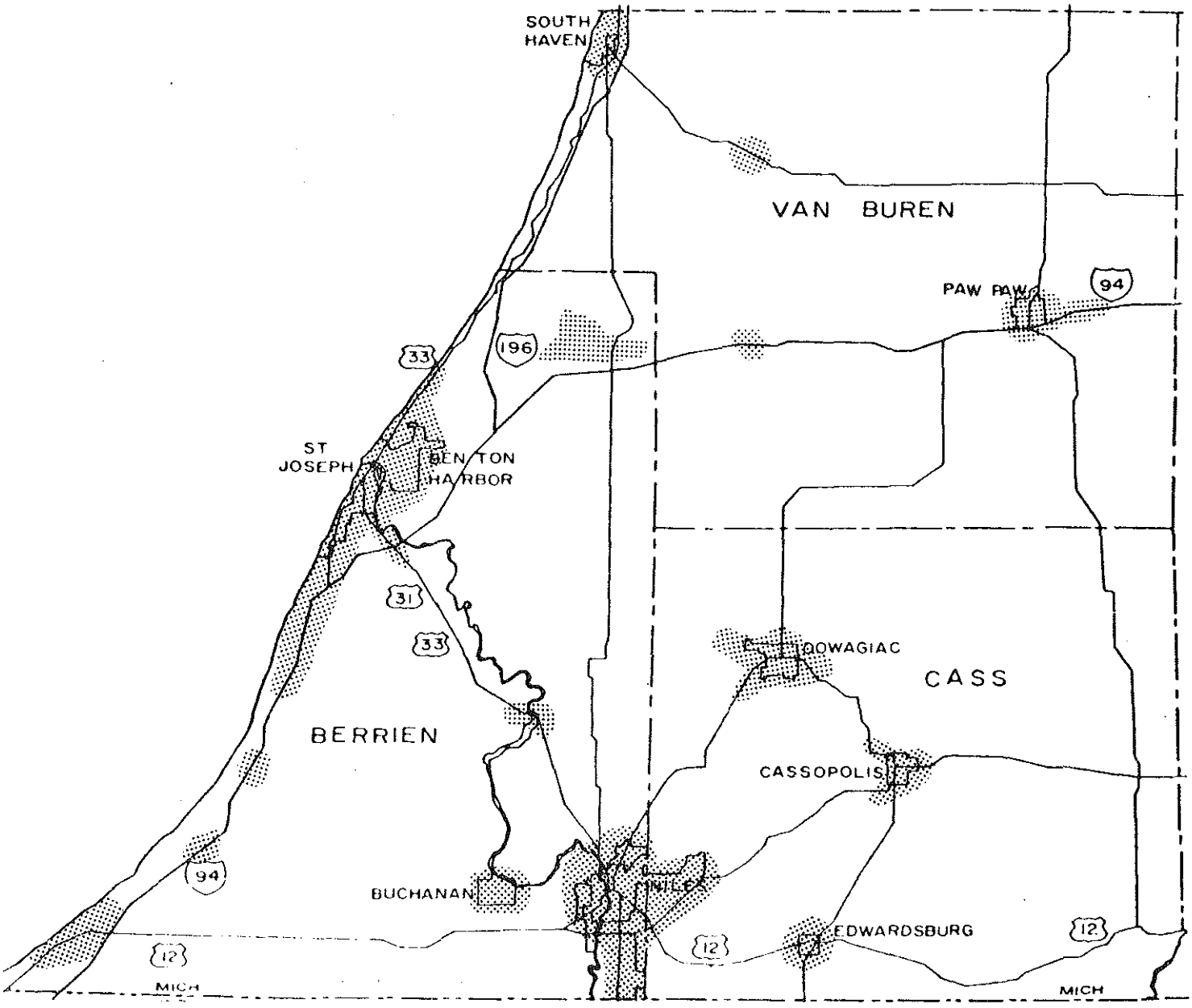
3.3 Major Traffic Generators and Regional Development Trends

Figure 3.6 plots areas with high concentrations of traffic generators in the Cass, Van Buren and Berrien County. The map considers concentration of major employers, medical

FIGURE 3.6

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

TRAFFIC GENERATOR AREAS



AREAS WITH SUBSTANTIAL TRAFFIC ACTIVITY

facilities, retail centers and educational institutions. From this map it is evident that a substantial volume of trips is generated by the cluster of activities in the Twin Cities area.

Looking toward the future, the question of regional development trends is important. Observations of activity and discussions with the Southwestern Michigan Regional Planning Commission support the following county by county analysis.

Berrien - Will continue to be the most populated and most urbanized county in Southwestern Michigan within the foreseeable future. Residential growth will continue to concentrate near the Twin Cities, along the lakefront adjacent to I-94, and close to the Niles urban center. Retail shopping will continue to be well dispersed until the proposed Pipestone Mall in Benton Township is completed. When finished this Mall could sharply alter retail shopping activities. Manufacturing activity appears to be quite stable over the next several years.

Cass - The internal economics of this county are not apt to change substantially over the next several years. Agricultural activities will continue to dominate and no major new industry is evident. Substantial residential growth will continue in the Diamond Lakes area and in Milton Township which is adjacent to the City of Niles. Many of these new residents will make daily commuting trips to South Bend and Elkhart, Indiana for employment opportunities.

Van Buren - This county is also expected to remain fairly stable over the next several years. Agriculture will remain the major economic activity. Some residential growth in the Mattawan area west along I-94 to Paw Paw may be expected. This growth will be influenced by development in the Kalamazoo Urbanized area.

3.4 Developing Estimates of the Demand for Public Transportation in Southwestern Michigan

This chapter has examined considerable data concerning the travel patterns of Southwestern Michigan's 265,000 residents. The private automobile dominates the area's current transportation system with public transportation serving only 1900 trips on a daily basis.

Disaggregating the area's total population, some 30,000 individuals could generally be identified as

mobility restricted. Socioeconomic characteristics were further examined to determine the distribution of this mobility restricted population.

Examination of major traffic generator concentrations and intercounty travel behavior revealed that the Benton Harbor/St. Joseph area is the most influential trip generator in the three-county area. Furthermore, reasonable travel flows do occur between all three counties.

Of particular interest is whether the area's 265,000 residents would utilize more than 1900 daily public transportation trips if services were improved. Tables 3.7, 3.8, and 3.9 attempt to quantify a response to this question. Recognizing that the transportation restricted population has the most critical need for public services, the following data were examined for each city and township in the three-county area.

1. Actual population
2. Population density
3. Transit potential score
4. Elderly population
5. Handicapped population

In general, the greater each of these specific values the greater the public transportation demand potential. Correlating the raw statistics with current public transportation travel behavior, it is possible

to project transportation demands for each city and township in the three-county area. From this effort the potential demand in Southwestern Michigan is judged to be between 2,600 - 3,600 daily trips. (For additional data, see appendix 3.B).

TABLE 3.7
SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY
ESTIMATING THE DEMAND FOR PUBLIC TRANSPORTATION
BERRIEN COUNTY
APRIL, 1977

CITIES	POPULATION	POPULATION DENSITY	TRANSIT POTENTIAL SCORE	ELDERLY	HANDICAPPED (NON-ELDERLY)	DAILY ESTIMATED DEMAND POTENTIAL
Benton Harbor	16,481	3,832	101.7	1,714	698	525 - 700
Bridgeman	1,621	579	35.5	197	80	25 - 35
Buchanan	4,645	2,445	47.1	441	179	70 - 95
Coloma	1,814	2,268	38.8	187	76	35 - 45
New Buffalo	2,784	1,638	42.0	282	115	50 - 65
Niles	12,988	2,547	80.0	1,512	614	310 - 415
St. Joseph	11,042	2,510	71.5	1,565	636	100 - 135
Watervliet	2,059	2,941	41.0	238	96	40 - 50
TOWNSHIPS						
Bainbridge	2,784	78	37.6	273	111	15 - 20
Baroda	2,102	122	23.8	137	56	10 - 15
Benton	19,034	570	87.6	1,719	698	130 - 175
Berrien	3,905	108	40.0	477	194	25 - 35
Bertrand	2,259	64	28.2	206	84	10 - 15
Buchanan	3,182	94	34.6	192	79	20 - 25
Chickaming	4,051	181	42.5	718	292	25 - 35
Coloma	4,376	239	33.2	296	120	30 - 45
Galien	1,671	76	29.1	128	52	10 - 15
Hagar	4,088	215	38.8	333	136	25 - 35
Lake	2,146	115	32.2	229	93	10 - 15
Lincoln	11,007	663	44.0	573	233	70 - 100
New Buffalo	2,583	129	38.5	304	123	15 - 20
Niles	13,414	327	58.6	807	328	90 - 120
Oronoko	8,482	263	61.8	606	247	55 - 80
Pipestone	2,422	68	33.0	191	78	15 - 20
Royalton	2,513	137	34.4	203	83	15 - 20
St. Joseph	10,271	1,834	40.5	588	239	80 - 105
Sodus	2,504	127	43.9	260	106	15 - 20
Three Oaks	2,894	125	42.6	354	144	20 - 25
Watervliet	2,415	170	28.5	198	81	15 - 20
Weesaw	2,338	65	38.6	238	96	15 - 20

TABLE 3.8
SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY
ESTIMATING THE DEMAND FOR PUBLIC TRANSPORTATION
CASS COUNTY
APRIL, 1977

CITIES	POPULATION	POPULATION DENSITY	TRANSIT POTENTIAL SCORE	ELDERLY	HANDICAPPED (NON-ELDERLY)	ESTIMATED DAILY POTENTIAL
Dowagiac	6,583	2,743	58.0	687	195	140 - 180
TOWNSHIPS						
Calvin	1,347	37	38.5	166	47	5 - 10
Howard	5,497	153	38.5	432	123	30 - 40
Jefferson	1,718	48	32.7	202	57	10 - 15
La Grange	3,583	101	39.6	368	105	20 - 30
Marcellus	2,006	56	42.7	269	77	10 - 15
Mason	1,519	72	34.3	94	27	5 - 10
Milton	1,727	82	25.2	85	24	10 - 15
Newberg	1,174	33	36.7	144	41	5 - 10
Ontwa	5,224	249	35.9	347	102	30 - 40
Penn	1,775	49	45.0	322	92	10 - 15
Pokagon	2,189	62	34.5	167	48	10 - 15
Porter	2,765	52	34.1	276	79	15 - 20
Silver Creek	2,886	82	35.0	345	98	15 - 20
Volinia	986	27	38.2	161	45	5 - 10
Wayne	2,333	66	30.3	169	47	10 - 15

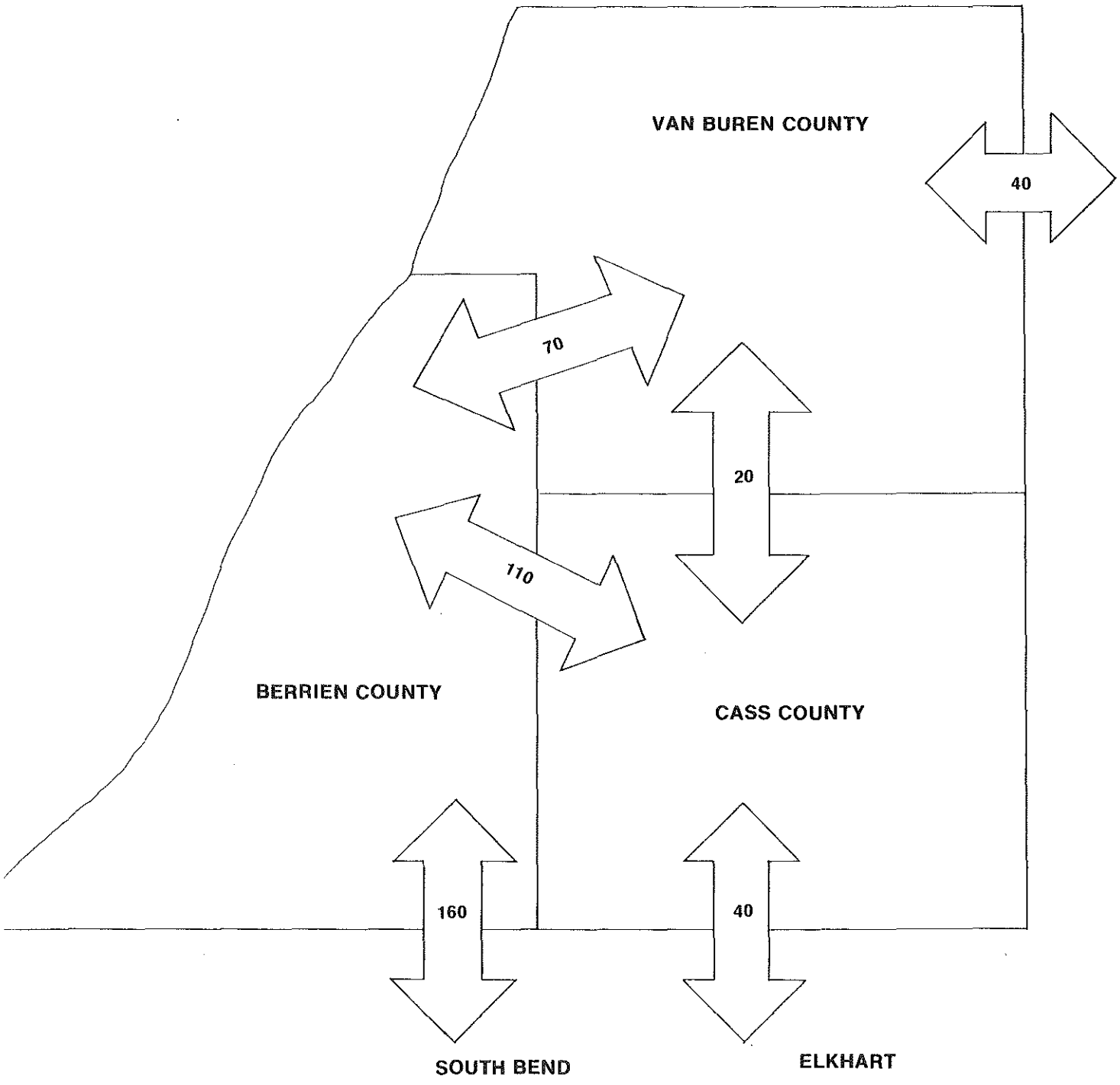
TABLE 3.9
SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY
ESTIMATING THE DEMAND FOR PUBLIC TRANSPORTATION
VAN BUREN COUNTY
APRIL, 1977

CITIES	POPULATION	POPULATION DENSITY	TRANSIT POTENTIAL SCORE	ELDERLY	HANDICAPPED (NON-ELDERLY)	ESTIMATED DAILY POTENTIAL
Bangor	2,050	1,357	49.4	326	104	30 - 35
Gobles	801	792	23.3	49	16	10 - 15
Hartford	2,508	2,264	46.5	294	94	40 - 50
South Haven	6,471	2,568	60.7	834	266	100 - 120
TOWNSHIPS						
Almena	1,845	52	31.2	162	52	10 - 15
Antwerp	5,346	74	42.3	520	166	30 - 35
Arlington	1,645	45	31.0	195	62	10 - 15
Bangor	1,708	48	41.2	183	58	10 - 15
Bloomingdale	1,989	42	34.2	234	75	10 - 15
Columbia	1,866	46	41.7	255	81	10 - 15
Covert	2,659	73	45.2	435	139	10 - 15
Decatur	1,313	39	18.6	134	43	10 - 15
Geneva	3,367	66	55.8	483	154	20 - 25
Hamilton	2,392	33	44.3	297	95	10 - 15
Hartford	1,167	64	14.4	92	29	10 - 15
Keeler	2,211	60	40.5	174	56	5 - 10
Lawrence	2,234	44	41.8	208	66	10 - 15
Paw Paw	2,345	73	21.5	353	113	20 - 25
Pine Grove	5,645	52	48.2	678	216	25 - 30
Porter	1,835	39	36.1	197	66	10 - 15
South Haven	1,360	179	13.9	101	35	10 - 15
Waverly	3,416	37	46.0	363	116	20 - 25

FIGURE 3.10

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

PROJECTED DAILY INTER-COUNTY TRIP DEMANDS



IV. DEFICIENCIES AND PROBLEMS OF PUBLIC TRANSPORTATION IN SOUTHWESTERN MICHIGAN

The purpose of this entire study is to develop an effective public transportation system for the 265,000 residents of Berrien, Cass and Van Buren counties. Most of the area's residents probably find that the private automobile provides an effective and efficient means of transportation. An adequate, congestion-free system of roadways facilitates and perhaps stimulates the movement of private automobiles. However, the possibility of a major petroleum crisis resulting in increased fuel taxes or gas rationing, means that Southwestern Michigan's residents are likely to need improved public transportation during the next five years.

What, is required to meet the needs of the area's residents?

It is evident that with the exception of the Twin Cities area, Southwestern Michigan's transportation restricted population is rather well dispersed. Many of the service requirements of this group are probably satisfied by the existing public transportation system and more informal transportation services which tend to develop in rural communities.

Nevertheless, the previous chapter has forecast a daily public transportation market potential of between 2,600 - 3,600 trips. With a public system which currently services some 1900 daily trips, it must be concluded that

the existing system is deficient. Southwestern Michigan should therefore, endeavor to design a more effective public transportation system to meet the needs of its residents.

4.1 The General Deficiency

The existing public transportation system in Southwestern Michigan is comprised by more than twenty (20) agents and agencies. These agencies include a mixture of private, public, and social service ventures. As a result, the services are totally uncoordinated, resulting in duplication of effort and inefficient allocations of resources.

As an example, an agency affiliated senior citizen in St. Joseph (Berrien County) has a multitude of options regarding public transit. Indeed, this citizen may: call either of two cab companies, ride a private bus line, use the public dial-a-ride or summon one of several social service agency operations. Meanwhile, the middle aged housewife in South Haven (Van Buren County) has absolutely no public transportation service readily available.

With regard to public funding for transportation an equally fragmented program is operative in Cass, Van Buren and Berrien Counties. While more than $150,000 in local tax dollars is currently being invested in Southwestern Michigan's public trans-

portation system, this expenditure is not permitting the development of a comprehensive public transportation system. Rather, portions of these funds are appropriated to program specific social service transportation projects. In light of the area's demand potential there is reason to examine whether the $150,000 in local public funds could be more effectively utilized.

In essence, Southwestern Michigan lacks a means to control the allocation of its public transportation capital and financial resources. As a result the area's 265,000 residents do not receive sufficient public transportation service to satisfy daily travel demands.

4.2 Specific Deficiencies

The existing public transportation system in Southwestern Michigan as previously discussed has a variety of components. In order to critique the current system, the distinction between commercial transportation and social service transportation is recalled as follows:

1. Commercial Transportation Component - consists of those carriers who provide a generally available transportation service; i.e. anyone can use the service.

2. Social Service Transportation Component

consists of those carriers (agencies) who provide specialized service for their clients or eligible users i.e. some restrictions are placed on who can use the service.

The specific deficiencies of these two components are now discussed.

4.2.1 Commercial Transportation Component

In the aggregate, the transportation services available from commercial bus operations, taxi companies and the dial-a-ride projects serve the three-county area quite adequately in terms of general coverage and route configuration. This situation is particularly true in Berrien County which enjoys the highest concentration of public transportation facilities.

While an adequate network of commercial service is in place, some concern must be expressed about the following elements:

1. Availability of Information

How many residents within each county are familiar with the existing services? Those who desire information

must collect data on an individual carrier basis.

2. Cost and Service Schedules

Local intraregional routes operated by Greyhound, Indian Trails and Indiana Motor Bus, tend to be operated at inconvenient times and the personal cost of travel is often prohibitive (e.g. $2.80 one way Benton Harbor to Paw Paw).

3. Financial Stability of Dial-a-Ride Services in Benton Harbor-St. Joseph

While both the Niles and Dowagiac Dial-A-Ride Projects have adequate local funding support, the financial base of the Twin Cities Area Transportation Authority is quite weak. Indeed, during the TCATA's short history, Lincoln and St. Joseph Townships and the City of St. Joseph terminated service. The TCATA is the largest public transportation operation in the three-county area and a further curtailment of operations is not considered desirable.

4. Extension of Current Service Network

Review of the transit potential scores and demand estimates suggest that several

areas in Southwestern Michigan might warrant some service expansion. In Berrien County, target areas include Benton Township, Lincoln Township, St. Joseph Township, Niles Township, Oronoko Township, and the cities of Buchanan and New Buffalo. In Van Buren County, South Haven warrants attention. Any program to improve public transit in the Southwestern Michigan Region should address these deficiencies.

4.2.2 Social Service Transportation Component

The fourteen social service agency transportation operations encountered during the course of this study provide a very good level of service for their clients. The reason these services are so good is that they have been carefully designed by dedicated individuals to respond to specifically identified needs. Accordingly, passengers who use this service are receiving a high quality personalized product.

Without any further involvement of government agencies, social service transportation operations would probably expand on a project by project basis. While this is a legitimate approach to the public transportation problem,

the lack of overall coordination provides the potential for certain inefficiencies:

1. Who receives the service?

   For some area residents duplicate services are available, others receive nothing. Agency affiliation often determines the availability of service and this may be overly restrictive.

2. Is this the best public value for taxpayer funds?

   Some but not all of the social service agencies receive local taxpayer support for their operation. Should county governments fund service projects which do not provide service for all the county's residents? Furthermore, could utilization increase if the transportation services were more generally available?

3. Is the network of social service agency operations cost effective?

   There is intuitive appeal to the economic efficiencies of centralized maintenance, dispatching and administration. Would a more comprehensive organizational structure enable the social service transportation network to operate more effectively?

While each of these problems warrants attention, a more important consideration is the ability of a coordinated system to deliver high quality service. In the implementation of any service improvements, the current social service agency clientelle must be given high priority.

4.3 Problems Affecting Regional Transportation in Southwestern Michigan

In this section, some major problems which could inhibit the desire to coordinate and improve public transportation services in Berrien, Cass and Van Buren Counties are discussed.

4.3.1 The Demand for Public Transportation Services

Chapter III developed an assessment of the current demand for public transit services in Southwestern Michigan. Clearly, the private automobile is sufficient for most trip purposes. However, it is estimated that some 2600 - 3600 trips per day could be satisfied by a more comprehensive public transportation system. In an area as vast as Berrien, Cass and Van Buren Counties this represents a very low density of demand potential.

The cost of serving this demand potential must be carefully scrutinized. Wherever possible

efforts should be made to more effectively utilize existing resources.

4.3.2 The Sponsoring Agency

The literature on regional transit integration indicates that a strong project sponsor is essential to achieve permanent improvements to the public transportation system. The most likely candidate to provide the necessary local leadership is the recently chartered Human Resources Commission. The Human Resources Commission was jointly organized by the Cass, Berrien and Van Buren County Boards of Commissioners to more effectively coordinate, plan and fund basic human services. The commission is organized under Act 7, Public Acts of 1967 and therefore, is a quasi-governmental institution capable of receiving and dispensing government funds. Public transportation is a basic human service which could be regulated by this commission. If the Human Resources Commission endorses the program developed in this report and actively supports the program's implementation, public transportation improvements can be realized in Southwestern Michigan within the next fiscal year.

4.3.3 Project Costs and Financing

A major concern in the development of any service improvement program is the probable costs and method of financing. It can be expected that the costs of satisfying the area's unserved transit potential is substantial. While chapter VII explains these expected costs in detail, to control costs it is imperative that the area's transportation resources be efficiently coordinated.

At the present time the $978,400 annual cost of public transportation in Southwestern Michigan is significantly subsidized. Indeed, it is estimated that about $546,300 in private, local, state and federal funds are made available to the existing public transportation operation. If services are to be expanded this level of public funding will increase. Recognizing that local tax proceeds for public transportation are apt to be limited, Southwestern Michigan must endeavor to reap maximum financial assistance through the available state and federal funding programs.

4.3.4 Local Government Interests

Berrien, Cass and Van Buren Counties, as previously discussed, do not comprise a politically or economically homogenous region. Accordingly, considerable local government pride and pressure is expressed by the various townships and municipalities. Additionally, the demand for public transportation varies throughout the region. Therefore local governments and residents should be granted on-going participation in the planning and design of Southwestern Michigan's public transportation system.

4.3.5 Cooperating with Private Enterprise

Private enterprise continues to play a significant role in Southwestern Michigan's transportation network. Private services should not be disregarded in the area's total public transportation system. Rather through the subsidization of commercial bus tickets and taxi fares, coordination and cooperation can be achieved. Such coordinated programs using private resources can assist Southwestern Michigan in the minimization of the cost of transportation improvements.

4.4 Summary

This chapter began by reviewing the basic deficiencies in the existing public transportation system in Southwestern Michigan. Following this discussion a series of problems which inhibit the desire to change the current situation were considered. Thus, while there is a need to modify the current public transportation system, change must be accomplished in a cautious, systematic fashion.

V. ANALYZING ALTERNATIVES FOR SOUTHWESTERN MICHIGAN

This chapter endeavors to analyze a variety of alternatives for achieving change in Southwestern Michigan's public transportation system. The chapter begins by establishing some critical goals and objectives. Second, a series of service and organizational alternatives are defined. Third, a matrix of alternatives is examined. Finally, a recommended solution for Southwestern Michigan is developed.

5.1 Establishing Goals and Objectives

It has been explained that the current public transportation system in Southwestern Michigan is deficient because it fails to service the area's full market potential, it fails to measure whether public funds are being expanded in an effective manner, and it lacks any comprehensive mechanism to control the supply and financing of public transportation service. An acceptable strategy for public transportation improvements must respond to these critical deficiencies. Not only must the improved system respond to these deficiencies but also it must be sensitive to total costs, public financing, local government interests and private enterprise.

Accordingly, a basic set of goals and objectives, as shown on Table 5.1, can be established to assist in the evaluation of alternative action strategies.

5.2 Developing Alternatives

There are a broad array of options that could be employed to improve public transportation in Southwestern Michigan. The key elements of any option for improvement concern: 1) the level of service and 2) the organizational structure. In this study investigation was limited to four service level options and five organizational options which are defined below:

5.2.1 Service Options

A. Basic Intensity - Provides general demand responsive service areawide by defined sectors one day each week. Social service agency transportation is continued intact but all dial-a-ride projects are disbanded. Limited scope of operations would service about 40% of the area's demand potential.

B. Existing Service Intensity - The volume of service currently operated approaches 72,500 hours per year. If the service network were reorganized this level of service is capable of

TABLE 5.1
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
PROPOSED GOALS AND OBJECTIVES
APRIL, 1977

GOALS

- Provide regional public transportation service in Southwestern Michigan to enhance the mobility of all residents particularly those who by age, income, or physical limitation experience serious transportation handicaps.

- Develop public transportation resources over time to establish a generally available, viable supplement to the private automobile.

OBJECTIVES

- Establish method and forum to adequately coordinate and distribute service to the area's public transportation market potential.

- Design an organization which is acceptable to local elected officials, the Southwestern Michigan Regional Planning Commission, the State of Michigan and appropriate Federal agencies.

- Endeavor to achieve ridership increments with existing resources wherever possible.

- Manage the area's public transportation resources in a cost effective manner.

- Channel local taxpayer funds only to approved, coordinated regional service projects.

satisfying about 60% of the area's total demand potential. General demand responsive service would be available to all area residents at least one day each week with some communities maintaining existing dial-a-ride operations. Social service agency transportation operations would be coordinated to some extent to tap more of the area's demand potential.

C. Moderate Service Intensity - General demand responsive service would be available areawide by sectors about three days each week. Urban centers such as Niles, Benton Harbor/St. Joseph and Dowagiac would have even greater demand responsive service patterns. Substantial coordination of social service agency systems would permit this option to achieve about 70% of the total demand potential.

D. High Service Intensity - General demand responsive service is provided areawide, during defined time periods, six days per week with prebooked trips given priority. Social service agency transportation is totally coordinated and becomes an areawide

demand responsive service element. Existing dial-a-ride projects continue and expand. This option can service about 80% of the area's total demand potential.

5.2.2 Organizational Options

A. Status Quo - This is a viable organizational option for Southwestern Michigan. The existing public transportation network would simply continue under the present ownership. Any changes to the network would only be made on an individual community or operator basis. This alternative provides no mechanism to make comprehensive decisions about resource allocations.

B. Status Quo; ownership and operation with three-county transit coordinating agency

This is a minimum change organizational alternative which would require a three-county quasi-governmental coordinating agency to receive and dispense Federal and state funding. Under this option additional funding could be made available to present operators to achieve some service level improvements. Examples of such activity might include subsidized intercity bus

tickets, subsidized taxi rides, purchase of service agreements, subsidized ride-sharing, etc. Participation by present operating agencies would be voluntary.

C. County Transportation Authority with Three-County Coordinating Committee

This alternative is a significant organizational change option. Each county would individually organize a transportation authority. These authorities could own and control all transit assets or as an alternative simply plan, coordinate and administer funding. If the authority becomes an ownership agency more significant change and operating control can be accomplished. A significant concern with this option is its ability to satisfy intercounty travel requirements. A three-county coordinating committee would appear to be a measure to assure that some inter-county services are provided.

D. Three-County Transit Coordinating Agency with Three-County Private Non-Profit Corporation to Consolidate Social Service Projects

This organizational alternative would provide a moderate level of organizational change in Southwestern Michigan. The three-county

quasi-governmental coordinating agency would receive and dispense federal and state funding as well as supervise the improvement of public transportation services. To achieve more effective performance from the social service transportation component, a private non-profit corporation would be organized for the three-county area to coordinate current activities.

E. Regional Public Transportation Authority

This organizational alternative represents maximum change over existing conditions through the creation of a three-county public transportation authority. While it is not necessary for such an agency to own and control all transit assets in the area, maximum service improvement and policy control will occur under the ownership agency. If significant public transportation improvements are to be realized in Southwestern Michigan, the regional authority concept represents the most reasonable organizational goal.

5.2.3 An Alternative Matrix

Table 5.2 combines both the service level and organizational alternatives in matrix form to display that even with just four service level options and five organizational options some twenty alternative solutions are possible for Southwestern Michigan. Note that as both service levels and additional organizational structure increase total anticipated operating costs are expected to increase.

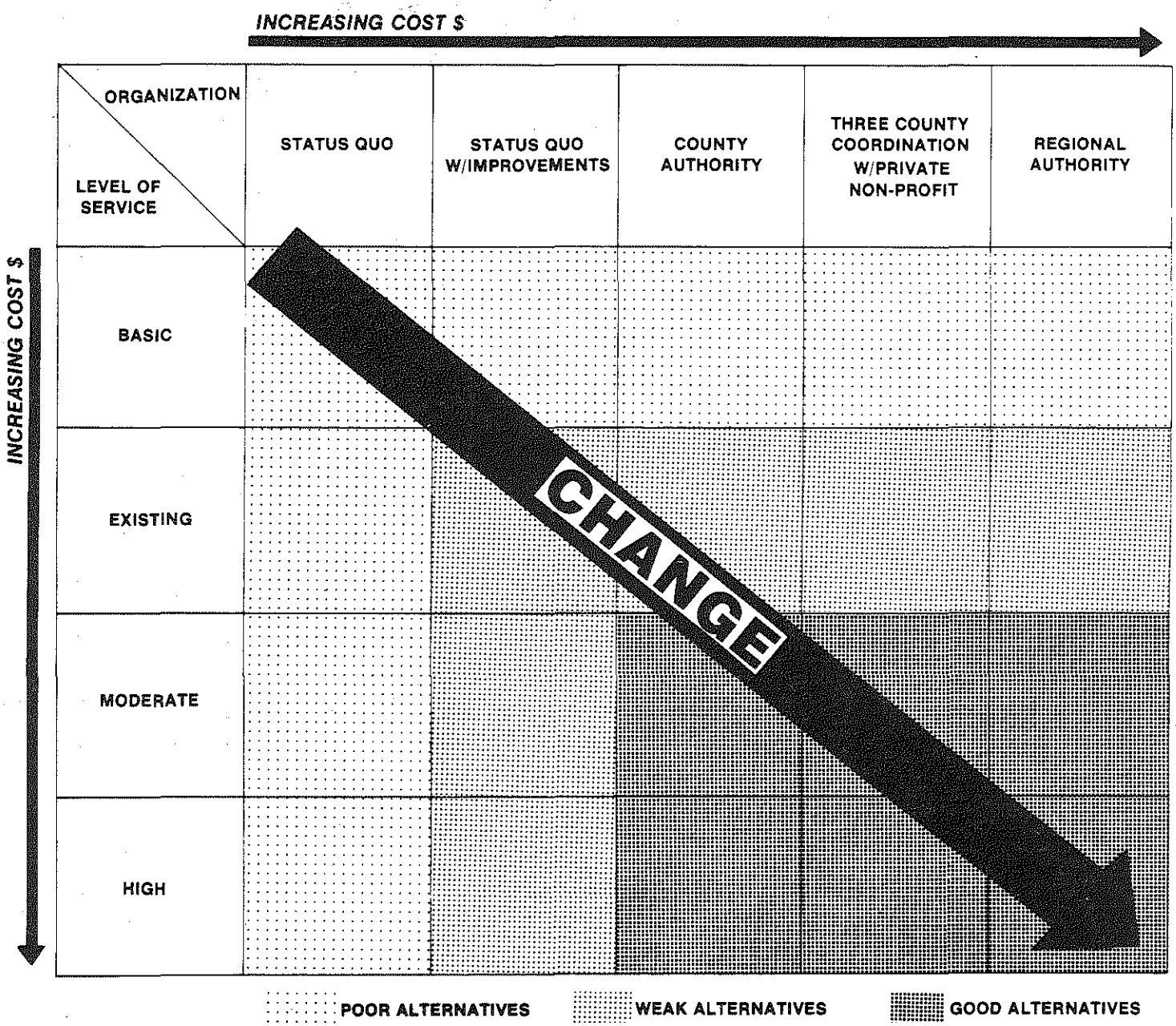
5.3 Selecting the Proper Alternative

Table 5.3 attempts to evaluate the alternatives matrix in a systematic fashion and provides a general estimate of the expected first year operating costs associated with executing the feasible alternatives. In preparing this evaluation, the following points were essential assumptions:

1. The basic level of service offers no improvement of the current situation and is actually a curtailment of operations. Since Chapter IV stated that a general deficiency of the existing system is that it fails to service the area's true demand potential, a net

FIGURE 5.2

SOUTHWESTERN MICHIGAN ALTERNATIVES MATRIX



reduction of service was felt to be undesirable.

2. The status quo organization is fragmented and offers no potential for more effective resource allocations. This organization structure should be discarded from further consideration.
3. If reorganized the existing service level (72,500 hours) has some capacity for tapping the area's latent demand potential. But this capacity is not great and the retention of existing service volumes is viewed as a weak response.
4. The status quo organization with improvements because of its voluntary nature is viewed as a weak organizational response.
5. The greater the level of service rendered the greater the cost per service hour. In an area as sparsely populated as Southwestern Michigan, the incremental cost of carrying additional passengers is likely to increase at a increasing rate.
6. The more comprehensive the organization the greater the cost. This is felt to be true due to both organizational overhead and the probability of increased

operating labor costs.

7. The County Transportation Authority approach would tend to experience jurisdictional disputes with intercounty travel flows. Accordingly, the volume of intercounty movement is expected to be somewhat restricted.

8. Costs per service hour were permitted to vary from $10.00/hour to $12.50/hr. which is in accord with current industry standards.

Using these assumptions together with the goals and objectives developed in section 5.1 the alternatives matrix could be subdivided into good and weak alternatives.

5.3.1 Good Alternatives

These six (6) organizational and service combinations can effectively respond to Southwestern Michigan's public transportation requirements with varying degrees of success. Specifically the six (6) good alternatives are ranked more critically as follows:

1. Three-County Coordinating Agency with High Service Intensity

   Appears to be the most feasible short term means of providing a high level of service. This alternative can satisfy all

proposed goals and objectives provided the coordinating agency can control and monitor the flow of local funding mechanisms. A major problem is the enthusiasm local governments and transit operators will attach to this approach. Total first year costs should approach $1,400,000.

Overall Assessment: Best opportunity to achieve meaningful short run change.

2. Three-County Regional Transportation Authority with High Service Intensity

To develop public transportation to its fullest possible extent in Southwestern Michigan the regional authority approach is the best organization structure. The major short run inhibiting factor is the willingness of Cass, Van Buren and Berrien Counties to commit to this approach prior to some examination of the public response to service improvements. $1,500,000 is a reasonable estimate of the first year cost of operating such a system.

Overall Assessment: Operational goal for Southwestern Michigan if public transportation system is to be fully developed through the 1980's.

3. County Transportation Authorities with High Service Intensity

Good county response to individual public transportation requirements. Excellent internal control of operations and improvements are possible. Two problems include possible conflicts about intercounty travel movements and the potential that not all three counties would chose to implement authorities. Estimated total operating cost of all three authorities in FY 1978 is $1,300,000.[1]

Overall Assessment - A very good response to the area's current service requirements but potential for intercounty conflicts cannot be overlooked.

4. Three-County Coordinating Agency with Moderate Service Level

Good strategy although not as comprehensive as the high service intensity alternative. Significant cost savings possible with first year budget estimated as $1,000,000.

Overall Assessment: Good regional strategy which can restrict costs.

1/ While separate authorities were not developed for each county, a general estimate of the county by county operating costs is as follows: Berrien $950,000, Cass $160,000, Van Buren $190,000.

5. Regional Transportation Authority with Moderate Service Level

This is another comprehensive approach to moderate service intensity; costs are estimated as $1,050,000.

Overall Assessment: Fair regional strategy but if the moderate service intensity is desired the additional $50,000 cost of this option is difficult to justify.

6. County Transportation Authority with Moderate Service Level

Reasonable approach to improving current situation at a modest first year cost of $950,000.[1]

Overall Assessment: Fair strategy which can bring about change; pressure for additional improvements apt to occur over time.

5.3.2 Weak Alternatives

Fourteen (14) additional alternatives are described by the matrix in Figure 5.2. While most of these alternatives could be physically realized, it is doubtful that any of these choices would meaningfully improve the current public transportation situation in Southwestern Michigan.

1/ Individual authorities not developed but basic cost estimates would be: Berrien - $695,000, Cass - $116,000, Van Buren - $139,000.

However, the weak alternatives can more critically be ranked as follows:

1. County Transportation Authority with Existing Service Level

   A fair means of achieving a well organized and coordinated public transportation service within each county. Some service improvement possible but dramatic increases in ridership unlikely. Costs can be rather well controlled to about $740,000.[1]

   Overall Assessment: Weak response to overall problem, but represents a cost conscious approach to change.

2. Three-County Coordinating Agency with Existing Service Level

   While a weak option, some service improvements could be achieved if the existing pool of services was more effectively coordinated. $750,000 is an estimate of operating costs for the service volume.

   Overall Assessment: Weak response to the problem but initial costs are reasonable.

1/ Individual authorities not developed but basic cost estimates would be: Berrien - $540,900, Cass - $90,300, Van Buren - $180,800.

3. Regional Transportation Authority with Existing Service Level

A reasonable option in terms of organization but an unnecessarily sophisticated means of delivering the service level. Costs estimated at $775,000.

Overall Assessment: Additional cost of this option for the volume of service makes its selection illogical.

4. Status Quo Ownership and Operations with Three-County Coordination and Existing Service Level

Very weak organizational response to the area's requirements which could result in only minimal service improvements. Costs in first year estimated at about $725,000.

Overall Assessment: Cost control a factor but organizational structure is much too weak to yield permanent change.

5. Status Quo Ownership and Operations with Existing Service Level

Really the decision to continue public transportation in its current form in Southwestern Michigan. $710,000 is the estimated cost.

Overall Assessment: A status quo option; if selected no real change in services are likely to occur.

Note: All of the following options would result in a net reduction of public transportation in the Southwestern Michigan Area.

6. County Authority with Basic Service Level

Substantial reduction in services would be evident but intra county coordination would be possible. Costs projected at $440,000 first year.

Overall Assessment: Service reduction extremely undesirable but costs can be held to minimal levels.

7. Three-County Coordinating Agency with Basic Service Level

Costs can be restricted to just $450,000 by this approach but the level of service operated is sharply reduced.

Overall Assessment: Poor response to the problem but feasible as cost minimization approach.

8. Regional Transportation Authority with Basic Service Level

Unnecessary organizational approach to reducing service. $465,000 is the cost estimate .

Overall Assessment: Very poor strategy.

9. Status Quo Ownership and Operation with Three-County Coordination and Basic Service Level

   Weak organization with reduced service level. $430,000 is a cost estimate for this option.

   Overall Assessment: Choice of this alternative would indicate no desire to improve public transportation in Southwestern Michigan.

10. Status Quo Ownership and Operation with Basic Service Level

    Approach would only require existing carriers to reduce current service levels. $420,000 is an operating cost estimate.

    Overall Assessment: Simply the decision to reduce the availability of public transportation in Southwestern Michigan.

The following four options must be classified as not feasible and no meaningful cost estimate can be applied or extrapolated to these options. The primary reason that these options cannot be exercised relates to the poor organizational structure. Without sufficient organizational capacity to achieve coordination and control service improvements of the magnitude suggested cannot be realized.

11. Status Quo with Moderate Service Level

Not Feasible

12. Status Quo with High Service Level

Not Feasible

13. Status Quo with Three-County Coordination and Moderate Service Level

Not Feasible

14. Status Quo with Three-County Coordination and High Service Level

Not Feasible

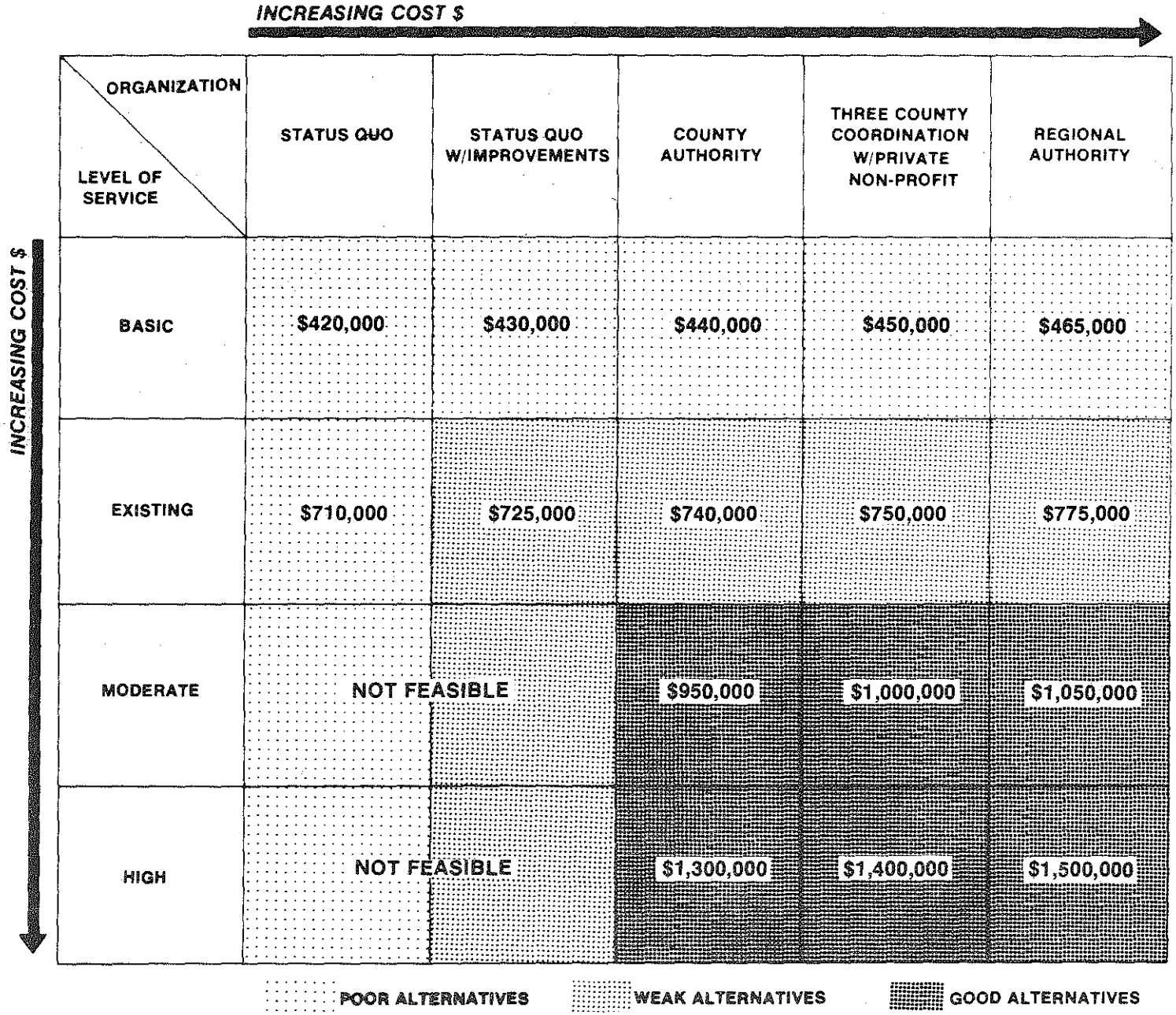
5.4 Summary

This chapter began by establishing some goals and objectives for the improvement of public transportation in Southwestern Michigan. An array of twenty alternatives considering both service level and organizational options was then developed. This alternatives matrix was reviewed and the most practical solutions were discussed further.

From this analysis it is suggested that Southwestern Michigan consider the possibility of implementing a three-county coordinating agency with a high level of service intensity as the most responsive short term solution to the area's public transportation problems. Toward that end, Chapter VI considers how such a program can be implemented.

FIGURE 5.3

SOUTHWESTERN MICHIGAN ALTERNATIVES MATRIX EVALUATED



VI. A MANAGEMENT ACTION PROGRAM FOR SOUTHWESTERN MICHIGAN

The recommended strategy must be carefully managed to achieve the desired results. This chapter deals with the management problems by outlining an implementation strategy and schedule, reviewing legal issues, developing a management organization, and suggesting future organizational modifications. Conscientious management of daily operations and performance will determine the ultimate success of this plan.

6.1 Implementation in FY 1978

The recommended organization and service level alternatives can be implemented during FY 1978. To execute the proposed improvement program local elected officials and public transit operators would need to conscientiously execute the six point implementation strategy shown in Table 6.1 and outlined below.

6.1.1 Three-County Coordinating Agency

To implement this strategy a three-county quasi-governmental coordinating agency is required. Rather than create a new layer of governmental activity, it is suggested that the recently organized Human Resources Commission (HRC) act as the coordinating agency. This commission which has been organized under

TABLE 6.1
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
IMPLEMENTING THE APPROVED STRATEGY
SIX POINT PROGRAM
FY 1978

Strategy: Develop a three county coordinating agency with a private non-profit transportation corporation to consolidate the social service component and implement a high intensity service level throughout the area.

Implementation Steps:

1. Adopt Human Resources Commission as the three-county coordinating agency.
2. Strengthen the existing commercial transportation component by augmenting the level of services with additional subsidy dollars.
3. Establish a three-county private non-profit transportation corporation and begin coordination procedures.
4. Develop ride pooling system for rural areas.
5. Establish local area transportation advisory committees.
6. Provide secondary transportation service to generate additional revenues.

Act 7, Public Acts of 1967, by the three county commissions of Cass, Van Buren and Berrien Counties appears to provide an appropriate short range forum for public transportation. Section 1 of the Interlocal Agreement - Establishing the HRC states that:

> (the several counties) do hereby establish...a Human Resources Commission for the purpose of inventory, review and planning for the coordination of programs and facilities which provide services for the security, enrichment and well being of individuals, families and communities...(and)... the commission may accept, administer and disburse funds for various human resources programs and facilities.[1]

This liberal language appears to qualify public transportation as a useful endeavor for the Human Resources Commission.

6.1.2 Strengthening the Existing Commercial Public Transportation

The existing network of intercity bus operators, taxicabs, private bus companies and dial-a-ride projects should be retained as the backbone of the Southwestern Michigan Regional Public Transportation System. Ownership and operation of vehicles should be permitted to continue under existing conditions.

1/ An interlocal agreement creating a Human Resources Commission, Section 1, January, 1977

Subsidy funds for these operating agencies should be monitored and controlled by the Human Resources Commission as follows:

Dial-A-Ride Projects - All three systems currently depend on allocations of City or township funds to generate the appropriate local subsidy. The flow of these subsidy payments would not be altered. On an annual basis however, dial-a-ride operators would present a status report on operations with a plan and budget for the succeeding fiscal year. At this time, if the dial-a-ride operation would like to extend or provide additional service that the local city or township subsidy cannot support, the operation may request additional assistance from the HRC. HRC will consider the planned service extension and render an appropriate decision.

Intercity Bus Ticket and Taxi Fare Subsidies HRC will contact the individual intercity bus and taxi carriers in the tri-county area. When an acceptable reimbursement procedure is established with the private

carriers, HRC will sell reduced fare ticket material to qualifying individuals. The qualifying criteria should include age, income, or physical handicap. When the service is used by eligible riders, the reduced fare ticket would be collected by the private carrier and returned to HRC for full reimbursement.

Intercity Bus Service - HRC will contact intercity bus operators in the tri-county area and endeavor to establish more adequate service schedules along key routes (i.e. Benton Harbor/St. Joseph-Niles; Benton Harbor/St. Joseph-New Buffalo; Benton Harbor/St. Joseph-Paw Paw.) If appropriate schedules can be developed, HRC will enter into six month purchase of service agreements with the individual carriers.

In addition to direct involvement in subsidization, HRC will make an effort to improve public knowledge about the transportation system. An extensive information brochure and central telephone information service needs to be established. Emphasis must be placed on informing the public on what types of

service are available, when the service operates and how to use the service. Development of improved information should represent the first step in achieving better public transportation in Southwestern Michigan (see appendix 6.A).

6.1.3 Establish Three-County Private Non-Profit Transportation Corporation

The delivery of more coordinated social service transportation can be enhanced by the creation of a new three-county private non-profit transportation corporation. The function of this organization would simply be the operation of social service transportation. A single three-county agency is preferred due to the significant volume of intercounty trip movements.

It is intended that such a corporation could consolidate the existing social service carriers as follows:

1. Thoroughly investigate all existing social service daily trip patterns. (see appendix 2.E).
2. Examine existing operations for redundancies and duplication.
3. Organize revised schedules which satisfy all regularly scheduled social service agency movements.

4. Explain revised operating plan on an agency by agency basis indicating proposed service schedule and vehicle utilization.

5. Negotiate lease contracts for vehicles and purchase of service contracts for particular trip movements.

6. As a general rule, stipulate that prebooked social service agency trips will be granted priority over ubiquitous demand responsive service.

7. Cooperate with the existing social service agency operating personnel to develop an improved operation.

Pressure to achieve this coordination must be exerted by the Human Resources Commission. Direct control of matching county funds would greatly enhance the ability of the HRC to develop effective coordination. Financial support should only be granted to those agencies who agree to consolidate vehicle and service requirments with the private non-profit service corporation.

Exceptions should be considered. If an individual social service agency can justify to HRC that its clients or services would be unduly harmed by consolidation, public support for this operation may be continued. However, to avoid a continuation of current trends, HRC should grant such assistance only to extreme hardship cases.

6.1.4 Develop Ride Pooling in Rural Areas

The cost of providing demand responsive transit service to rural areas even with van type vehicles becomes quickly prohibitive. Maximum efficient use of public transportation vehicles can only be achieved by concentrating on trips which promise reasonable loads. Thus, for lower density trip movements, an alternative service program needs to be developed.

While it is difficult to document, it is generally acknowledged that an informal public transportation system exists in rural areas. This system is simply a ride pooling effort where neighbors consolidate trips for shopping, medical purposes, etc. Such an informal program, however, is not available to everyone. It is suggested that a formal coordinated effort be directed at establishing a ride pooling program in the three-county area. Automobile owners could volunteer to provide service at their discretion. Potential users could request service and the dispatching center would match drivers with passengers.

As an incentive to recruit drivers, operating costs at the rate of $.15 per mile should be refunded to the driver by the HRC. To control costs, the HRC will precompute the mileage reim-

bursement based on its knowledge of trip origins and destinations.

6.1.5 Establish Local Advisory Committees

Berrien, Cass and Van Buren Counties cover a vast area with divergent public interests and influences. In an effort to pay heed to local area needs, it is suggested that each county be subdivided into operating sectors as shown in figure 6.2. Within each sector a public transportation advisory committee would be established to review and develop operating plans and programs tailored to local requirements. On a semi-annual basis the findings of these advisory committees would be reviewed by the HRC.

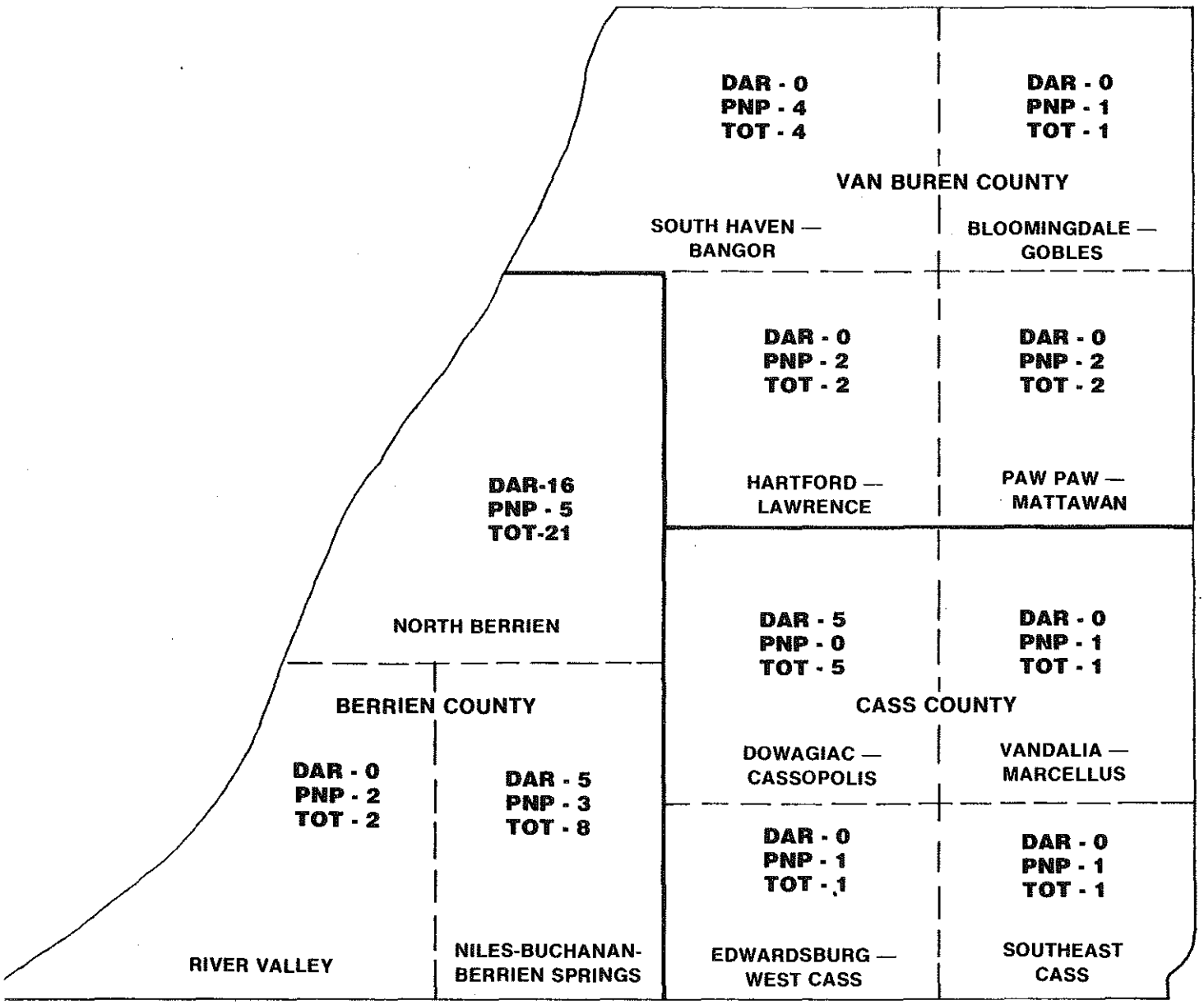
6.1.6 Provision of Secondary Transportation Services

Since the operation of passenger transportation services is apt to require substantial public financial support, it is worthwhile to explore any additional types of transportation service which may generate additional revenue. The concept of package and medical supply delivery services by public transportation vehicles has some merit. It is suggested that the priority

FIGURE 6.2

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

SECTOR MAP OF PROPOSED VEHICLE DISTRIBUTION



DAR — DIAL-A-RIDE VEHICLES
PNP — PRIVATE NON-PROFIT VEHICLES
TOT — TOTAL VEHICLES

in Southwestern Michigan should be the movement of people with any package services fulfilling a subsidiary role. (For further details, see appendix 6.B of this report).

Three other types of services which could generate profitable revenues are charter service, the commissionable sale of intercity bus tickets and mechanical services. Charter services for special functions can yield profits provided service costs are correctly allocated. Caution on charter operation must be expressed regarding compliance with Federal and state regulations. The sale of intercity bus tickets is commissionable to the selling agency generally at a rate of 5-10%. Should the HRC or one of its operating agencies achieve the ability to sell such tickets throughout the three-county area the commission proceeds could generate substantial revenues.

Finally, as the public transportation program is developed significant mechanical equipment, facilities and manpower will be available. These resources could be utilized to maintain and repair other public equipment.

6.2 Legal Issues

No major legal impediments have been identified that would inhibit the implementation of the suggested organizational approach, The Human Resources Commission as organized under Act 7, Public Acts of 1967 is eligible to receive and dispense Federal and state funding for public transportation purposes. The three dial-a-ride projects and other commerical transportation agencies are already legally constituted entities. The suggested private non-profit transportation corporation would need to be legally incorporated but this does not appear to present a major problem. Legal matters pertaining to subsidizing bus tickets and taxi rides, paying private individuals for transporting passengers, selling intercity bus tickets and engaging in secondary transportation services should be carefully monitored and documented, but significant legal barriers are not anticipated. In all cases, as long as the rights of private enterprise are adequately protected, the Human Resources Commission should have the capacity to legally provide all of these services.

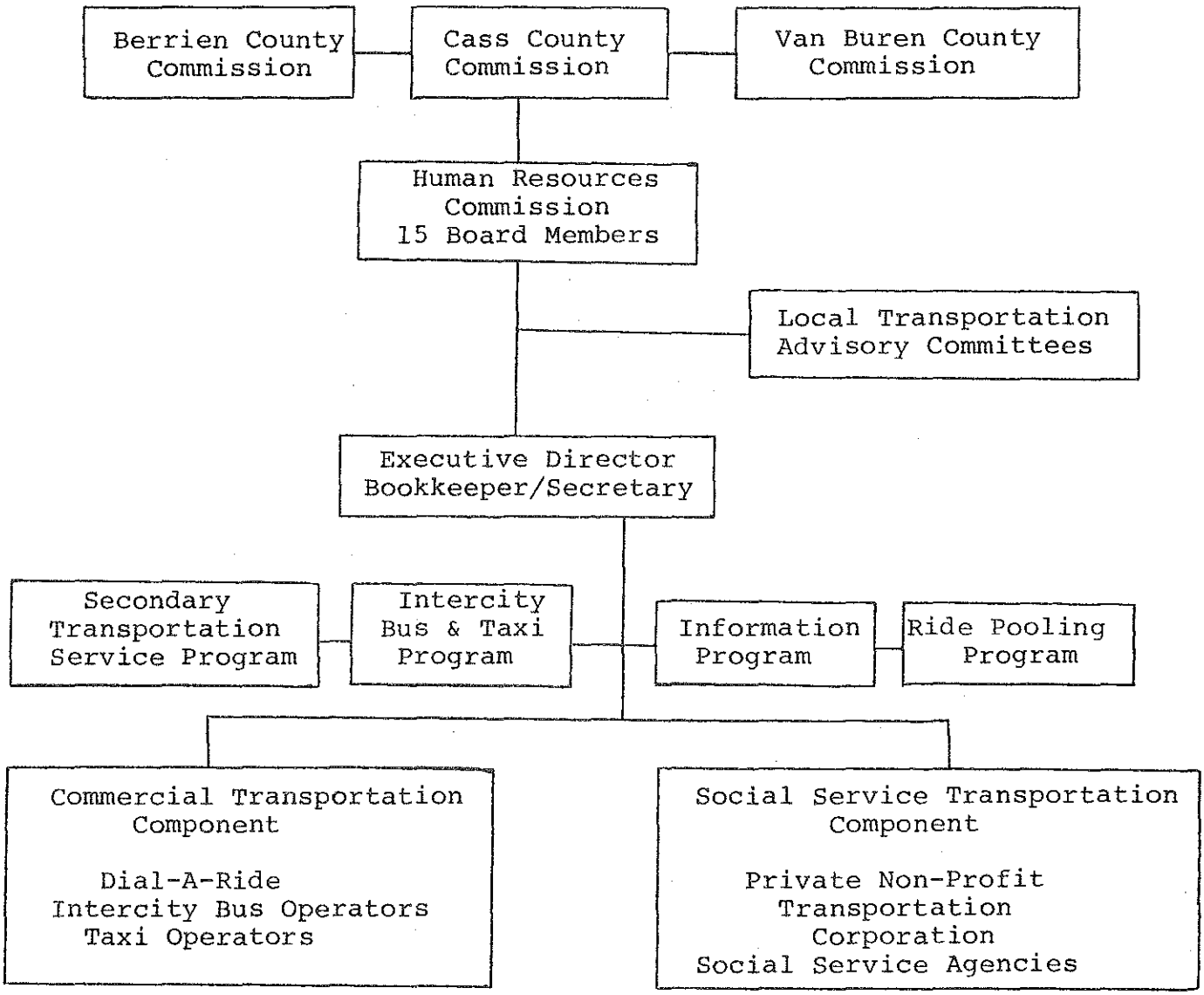
One matter of concern should be the precise legal definition of liability in the event of a serious accident or personal injury. The Human Resources Commission should accurately define its legal liability responsibilities.

In an effort to monitor all legal matters and protect the legal interest of the Human Resources Commission, an attorney should be retained at the earliest opportunity.

6.3 Organization and Management

Figure 6.3 presents a proposed organizational chart for the Human Resources Commission's public transportation system in Southwestern Michigan. It is proposed that the Human Resources Commission have a staff of two administrative personnel: an executive director and a bookkeeper/secretary. These two individuals would be responsible for executing the administrative duties of the HRC including the preparation, submission and administration of grant applications, the satisfaction of state and Federal planning requirements and monthly reporting on operations to the commission. In addition to these administrative functions, HRC staff members would be responsible for public transportation information improvements (which includes the hiring of nine telephone information personnel), execution of the intercity bus ticket and taxi subsidy program, improvement of intercity bus service, establishment of a rural ride pooling program and investigation of

TABLE 6.3
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
PROPOSED ORGANIZATION CHART
APRIL, 1977



Estimated Total
First Year Employment - 95

secondary transportation service possibilities. These are substantial responsibilities and as the entire public transportation network expands the staffing requirements of HRC can be expected to grow.

The personnel retained by the HRC should be well qualified and motivated individuals. Indeed, the more well qualified and supportive the management the more likely that change can be quickly realized. Continuous high quality management planning is essential. As an example, Table 6.4 proposes an array of management objectives for FY 1978.

To satisfactorily execute its managerial responsibilities it may be necessary for the HRC to obtain staff assistance from the Michigan Department of State Highways and Transportation, Bureau of Urban and Public Transportation. This aid should be employed as required during FY 1978 to correctly implement the desired service improvements.

6.3.1 Dial-A-Ride Management

Daily management of dial-a-ride operations should be essentially unchanged as a result of the HRC concept. Ownership and operation of vehicles would continue with the individual authorities and cities as at present. However,

TABLE 6.4
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
MANAGEMENT OBJECTIVES
FY 1978

OBJECTIVE

- Adopt consultant plan for Southwestern Michigan and organize accordingly by October, 1977
- Improve regional transportation information program by establishing telephone information center and publishing explanatory brochure by January, 1978.
- Improve transit ridership by 30% by July, 1978.
- Establish subsidy program for intercity bus and taxi service by January, 1978.
- Adjust intercity bus schedules to offer more attractive services by July, 1978.
- Develop rural volunteer ride program by April, 1978.
- Incorporate private non-profit transportation corporation by January, 1978.
- Begin coordinated social service transportation by February, 1978.
- Organize local transportation coordinating committees by April, 1978.
- Develop and adopt operating program for FY 1979 by September, 1978.

the availability of HRC staff personnel should permit some marginal economies particularly in the execution of planning and grant administration procedures.

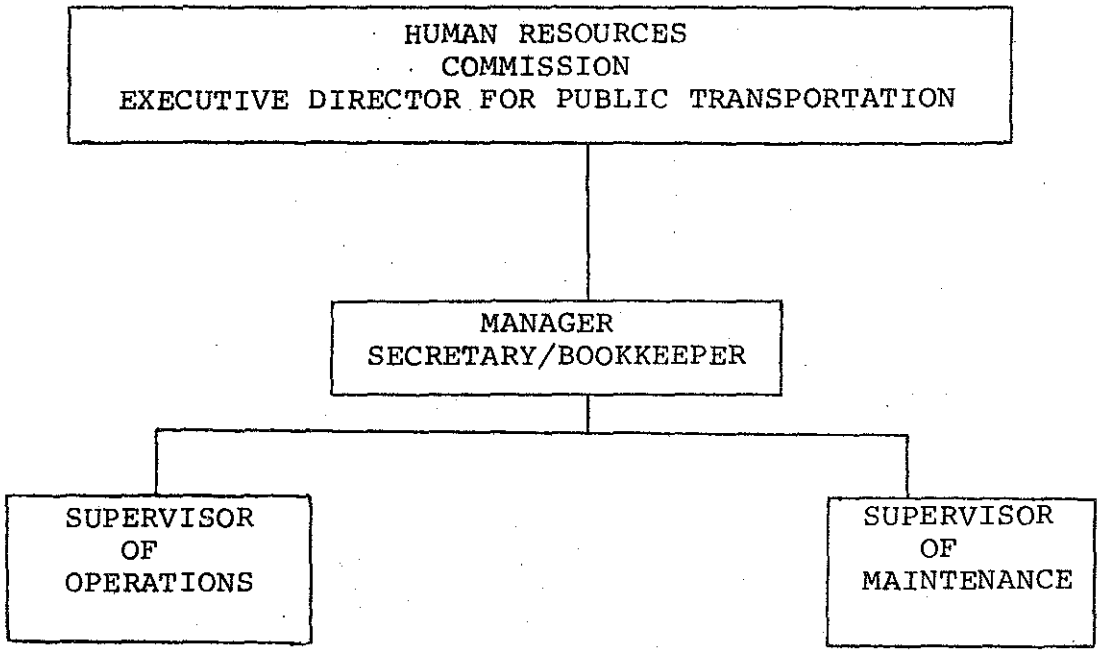
The only additional requirements for dial-a-ride projects would be the preparation of an annual report on operations together with plans and budgets for the succeeding fiscal year. If direct HRC funding is made available for service improvements, some routine accounting reports would also be required.

6.3.2 Private Non-Profit Transportation Corporation

Social service transportation operations would be directly managed by the private non-profit transportation corporation. Agencies who lease their vehicles to this corporation would be relieved of the burdens of daily transportation management. The only continuing management responsibility of the social service agency would be periodic review of any on-going service contracts with the private non-profit transportation corporation.

The private non-profit transportation corportation would need to organize its activities to administer daily operations. Figure 6.5 presents

TABLE 6.5
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
THREE-COUNTY PRIVATE NON-PROFIT TRANSPORTATION CORPORATION
PROPOSED ORGANIZATION CHART
APRIL, 1977



a general organization chart for this agency. Additionally, the service sectors outlined in Figure 6.2 would govern the operation of the private non-profit service corporation. The administration of this agency would be responsible for daily transportation operations.

6.3.3 Toward Greater Cooperation

While the private non-profit transportation corporation will spend considerable effort catering to contractual service for social service agencies', increasing cooperation should be practiced by the dial-a-ride projects and the private non-profit transportation corporation.

Rather than consider the two operating systems as commercial and social service components, it may be more beneficial to refer to the operations as the city and out-county dial-a-ride services. Efforts to convert the social service operations to more generally available "out-county" dial-a-ride or public transportation operation should begin at the inception of the program.

Local elected officials, planners, members of the Human Resources Commission, social service agencies, and area residents need to realize that the important concern is the enhancement of mobility

for all residents in Cass, Van Buren and Berrien Counties. While the non-ambulatory handicapped and elderly warrant particular consideration their needs should be accommodated by the total public transportation system. By improving public transportation resources, the residents of Berrien, Cass and Van Buren Counties should strive to allocate their limited tax funds to create a single coordinated and comprehensive public transportation capability.

While the organization shown in Figure 6.3 is adequate for short range improvements, it is expected that by 1980 the distinction between the two operating agencies will dissipate. As that transpires and the system's capital resources and daily travel demands increase, the time will arrive to relieve the Human Resources Commission of this administrative responsibility and create a regional public transportation authority (a general organization chart is shown in Figure 6.6). The Regional Transportation Authority properly implemented can provide the most comprehensive control of public transportation operations. This increasing level of control will be necessary as the region's demand for public transportation expands during the 1980's.

In adopting this action plan for improving public transportation in Southwestern Michigan, the proposed Human Resources Commission approach must be recognized as an interim step. The five year organizational goal needs to be the establishment of an effective regional transportation authority.

6.4 Implementation Checklist

To effectively implement these organizational changes a carefully programmed and scheduled implementation plan needs to be followed. Table 6.7 gives an overview of the major implementation tasks. (additional detailed information on implementation is provided in appendix 6.C).

6.5 Summary

This chapter has endeavored to briefly explain how the proposed organization structure for Southwestern Michigan's improved public transportation system should function. Staff organizations are depicted and duties are assigned. At the conclusion of the chapter a specific implementation checklist is developed.

TABLE 6.6
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
REGIONAL TRANSPORTATION AUTHORITY FOR 1980's
PROPOSED ORGANIZATION CHART
APRIL, 1977

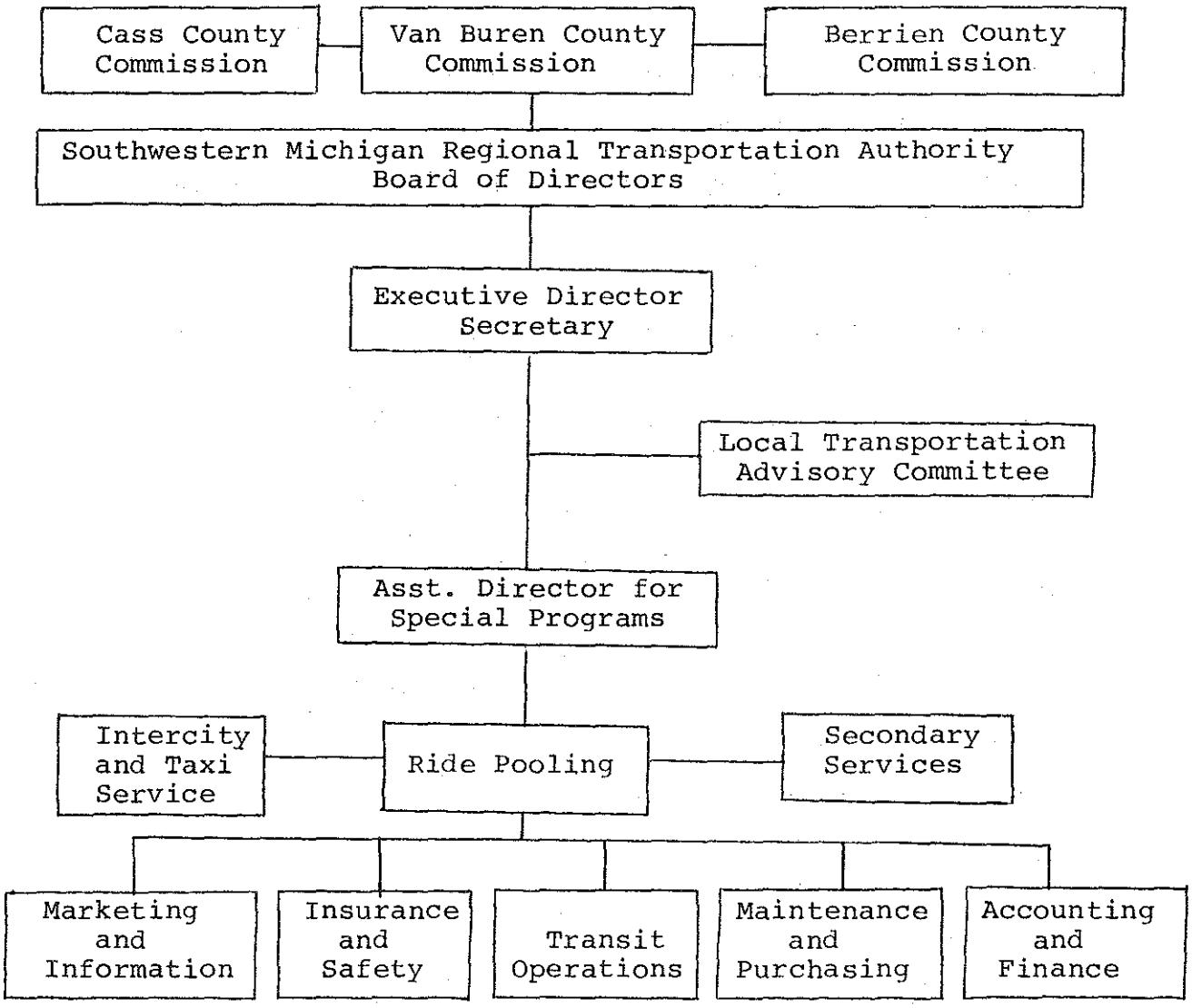


TABLE 6.7
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
IMPLEMENTATION CHECKLIST
MAJOR ACTIVITIES
April, 1977

1. Adopt regional public transportation study.
2. Retain legal services.
3. Approve general budget for public transportation for FY 1978.
4. Select staff for Human Resources Commission.
5. Formally organize private non-profit public service corporation.
6. Submit FY 1978 grant applications.
7. Review existing social service transportation network and develop coordinated schedules.
8. Establish availability of funding from state and Federal levels; provide mechanism for monitoring flow of local funds.
9. Examine and develop standard accounting system.
10. Retain insurance coverages.
11. Develop improved information services and brochures.
12. Assure security for all revenue processing matters.
13. Negotiate leases and contracts with social service agencies.
14. Implement initial service improvements and monitor.
15. Contact private taxi operators and bus companies about subsidy programs and extended service.
16. Design final standards to implement taxi and ticket subsidies.
17. Organize ridesharing program and develop monitoring technique.
18. Investigate all secondary service delivery possibilities and implement where appropriate (includes Greyhound ticketing franchise).

VII. COSTS AND FINANCING

This chapter develops a general overview of the aggregate costs for the proposed public transportation improvement program in Southwestern Michigan. Additionally, the chapter develops a financial plan for the proposed program. A more detailed explanation of the capital and operating budget is developed in Appendix 7.A and 7.B.

7.1 Cost Estimate

Tables 7.1 and 7.2 present the estimated consolidated capital and operating budgets for the proposed public transportation system in Southwestern Michigan over the period FY 1978 - FY 1982. The figures shown represent a reasonable estimate of the costs that will be incurred by the implementation of a high level of service intensity in Cass, Van Buren and Berrien Counties.

7.1.1 Capital Improvements FY 1978-FY 1982

Capital items to be acquired in Southwestern Michigan over the five year period FY 1978 - FY 1982 as shown in Table 7.1 are estimated to cost approximately $1,884,905. Cost escalation on capital goods is assumed to approach 10% per annum. Items to be acquired under this program are briefly described below:

TABLE 7.1
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
CONSOLIDATED CAPITAL BUDGET
FY 1978 - FY 1982

	FY 1978		FY 1979		FY 1980		FY 1981		FY 1982		Totals	
	Units	Cost	Units	Cost	Units	Cost	Units	Cost	Units	Cost	Units	Cost
Transit Vehicles												
9-12 Passenger Van Conversion	19	$313,500	11	$192,500	10	$185,000	16	$234,000	13	$ 266,500	65	$1,191,500
Spare Components including engines and transmissions	2	5,000					2	6,500			4	11,500
Locked, Registering Farebox Units	53	95,400	3	5,600	3	6,100	5	11,000	6	14,100	70	132,200
Radios and consolidated base station equipment	15	30,000	3	5,000	3	5,200	5	9,000	6	11,400	32	60,600
Service vehicles	1	4,500	1	12,500							2	17,000
Maintenance Tools & Equipment		7,500		3,000		3,000		3,000		3,000	Misc.	19,500
Office Furniture & Equipment		3,000				2,000					Misc.	5,000
Passenger Shelters			5	12,500			5	13,750			10	26,250
Vehicles Storage Facilities Renovation[1]		100,000		150,000							Misc.	250,000
Subtotal		$558,900		$381,100		$201,300		$277,250		$ 295,000		$1,713,550
Contingencies @ 10%		55,890		38,110		20,130		27,725		29,500		171,355
Estimated Gross Capital Budget		$614,790		$419,210		$221,430		$304,975		$ 324,500		$1,884,905
Less Revenue Financing		6,300		7,200		6,300		6,300		6,300		32,400
Estimated Net Capital Budget		$608,490		$412,010		$215,130		$298,675		$ 318,200		$1,852,505
Maximum Federal Share @ 80%		$486,792		$329,608		$172,104		$238,940		$ 254,560		$1,482,004
Maximum Uptran Share @ 20%		121,698		82,402		43,026		59,735		63,640		370,501
Minimum Local Share		-0-		-0-		-0-		-0-		-0-		-0-

1. Transit Vehicles

Sixty-five (65) van conversion transit vehicles are scheduled for phased acquisition over the next five years. These units will replace all current vehicles and expand the total fleet to 65 units by 1982. All units will be equipped with graduated step devices to assist elderly and handicapped patrons. Some units will be equipped with wheelchair lifts and tiedowns.

2. Spare Components

Four (4) complete sets of spare maintenance components including engines and transmissions will be purchased to assure sufficient maintenance capabilities.

3. Fareboxes

A complete system of locked registering fareboxes should be installed in all operating vehicles. These units are necessary to assure maximum security and fare collection efficiency.

4. Radios

Radio units must be acquired for all operating vehicles. It is expected that thirty-two (32) additional radio units can meet the areas needs. Some channel and base station conversion material may be required to convert all existing radios to a common frequency which could result in an expensive conversion.

5. Service Vehicles

Two units are necessary for daily operation over the next five years. A supervisory automobile is needed to monitor operations and provide areawide management capabilities. A tow truck with pick-up capacity is necessary for maintenance operations.

6. Miscellaneous Maintenance Tools and Equipment

$19,500 in maintenance equipment is programmed over the five year period to assure the development of an efficient maintenance program.

7. Office Furniture and Equipment

$5,000 is budgeted to acquire

desks, typewriters, calculators, and major office fixtures.

8. Passenger Shelters

While shelters are generally not necessary for dial-a-ride operation, installation of covered waiting areas at key stops such as downtown Niles, Fairplain Plaza, etc. would be desirable. Ten (10) shelters are programmed over the next five years.

9. Vehicle Storage Facility Renovations

$250,000 is budgeted to be used if necessary in the improvement of transit vehicle storage locations. This figure may warrant substantial adjustment pending actual availability of vehicle storage facilities.

This capital program appears reasonable but the actual capital requirements may need to be adjusted as the improved public transportation system becomes operational. (See Appendix 7.A for details.)

7.1.2 Operating Costs

Table 7.2 presents the projected consolidated operating budget for Southwestern Michigan over the five year period FY 1978 - FY 1982. In reviewing these figures it is important to note two significant assumptions:

1) All labor is paid, no volunteer workers.

2) All passengers on regular demand responsive service pay fares.

Revenues are projected to increase from $444,000 in FY 1978 to $618,200 in FY 1982. This is a relative increase of some 39.2%. These revenue projections include income from passenger fares, interagency contractual services, charter service, advertising and nominal miscellaneous items.

Total expenditures incurred in the operation of public transportation service in Southwestern Michigan can also be shown to increase from a $1,381,800 in FY 1978 to $2,355,900 in FY 1981. This is an increase of 70.5% which is caused both by inflationary pressures and increasing volumes of service.

TABLE 7.2
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
CONSOLIDATED OPERATING BUDGET
FY 1978 FY 1982

	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982
REVENUES					
Passenger Fares	$222,300	$239,100	$259,100	$285,700	$321,400
Interagency contract service	176,200	185,000	193,700	203,700	215,000
Charter Service	42,000	46,800	51,800	58,900	69,300
Advertising	3,000	4,000	5,500	7,500	10,000
Miscellaneous	500	1,000	1,500	2,000	2,500
Estimated Total Revenues	444,000	475,900	511,600	557,800	618,200
EXPENDITURES					
Transportation	$828,600	$931,500	$1,050,600	$1,211,400	$1,434,500
Maintenance	222,800	251,200	282,700	325,900	385,900
Marketing & Information	81,600	91,600	101,700	112,900	125,500
Insurance & Safety	85,100	96,600	110,500	128,700	152,300
General & Administration	138,700	150,900	165,000	181,300	197,700
Special Programs	25,000	30,000	37,500	47,500	60,000
Estimated Total Expenses	$1,381,800	$1,551,800	$1,748,000	$2,007,700	$2,355,900
Estimated Operating Deficit	$937,800	1,075,900	1,236,400	1,449,900	1,737,700
OPERATING STATISTICS					
Miles	2,175,000	2,328,800	2,507,100	2,745,700	3,006,900
Service Hours	120,830	129,200	138,900	151,700	168,880
Cost/Service Hours	$11.44	$12.01	$12.58	$13.23	$13.96
Passengers	688,800	732,600	784,800	854,100	947,000
Passengers/Service Hours	5.70	5.67	5.65	5.63	5.61
Employees	95	100	104	112	120
Vehicles	48	51	54	59	65
Employees/Vehicles	1.98	1.96	1.93	1.90	1.85

Based on these projections the estimated net deficit for public transportation in Southwestern Michigan over each of the next five years is as follows:

Year	Deficit
FY 1978	$ 937,800
FY 1979	1,075,900
FY 1980	1,236,400
FY 1981	1,449,900
FY 1982	1,737,700
	$6,437,700

The financing of this $6,437,700 in projected deficits represents a major problem for accomplishing this program in Southwestern Michigan (see Appendix 7.B for details).

7.2 Total Costs and Public Burden

The total cost of this plan to improve public transportation service in Southwestern Michigan is obtained by adding the gross capital and operating cost requirements as shown in Table 7.3. The total cost over the five year period FY 1978 - FY 1982 is estimated to be $10,930,105. Additionally, Table 7.3 indicates that the total anticipated revenues from this regional transportation program are $2,639,900 between FY 1978 - FY 1982. Therefore, the net public burden of this program is estimated as $8,290,205.

TABLE 7.3
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
TOTAL COST AND PUBLIC BURDEN
FY 1978 - FY 1982

	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	Total
Estimated Gross Capital Cost	$614,790	$419,210	$221,430	$304,975	$324,500	$1,884,905
Estimated Gross Operating Cost	1,381,800	1,551,800	1,748,000	2,007,700	2,355,900	9,045,200
Total Costs	$1,996,590	$1,971,010	$1,969,430	$2,312,675	2,680,400	$10,930,105
Less: Revenue Financing Capital	6,300	7,200	6,300	6,300	6,300	32,400
Operating Revenues	444,000	475,900	511,600	557,800	618,200	2,607,500
Total Revenues	$450,300	483,100	517,900	564,100	624,500	$2,639,900
Net Public Burden	$1,546,290	1,487,910	1,451,530	1,748,575	$2,055,900	$8,290,205

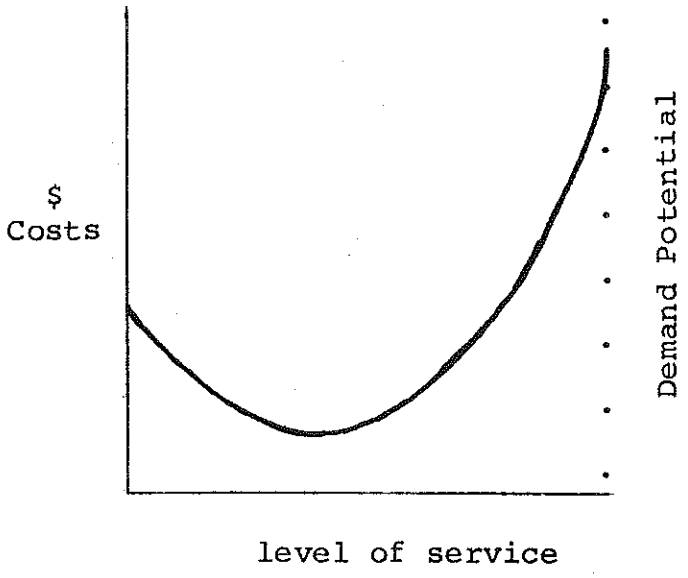
7.3 Justifying the Total Cost and Public Burden

Having developed the cost projections a relevant question becomes: Is it worth it? This is an extremely difficult question to definitively answer but three items are worthy of consideration.

7.3.1 Understanding Public Transportation Costs

Figure 7.4 portrays the general relationship between public transportation costs, level of service and demand potential. Note that the greater the proportion of aggregate demand potential served the greater the costs involved.

Figure 7.4
Southwestern Michigan
Regional Public Transportation Study
General Relationship of Costs
Service and Demand Potential



The proposed service program for Southwestern Michigan envisions the satisfaction of about 80% of the projected demand potential. The cost of satisfying these trips including all capital and operating costs is $2.731/trip which after revenues are deducted requires a $2.07/trip subsidy.

The figures developed appear to be reasonable estimates assuming that prevailing inflationary pressures continue. Whether this level of cost will be financed depends upon the availability of financial resources and the willingness of local taxpayers to meet these requirements. Accordingly, the level of service which is actually provided, if any, depends upon the volume of financial resources available to meet the cost burden.

7.3.2 Who Will Use the Service?

While the aim of the proposed implementation strategy is to develop a generally available public transportation system, the majority of actual riders will be the elderly, handicapped, the

young and the poor. Enhancing mobility for these individuals will increase their personal access to employment, education, retail, medical and social opportunities. From current ridership statistics it is evident that some trip demands are not met by the existing public transportation system. The implementation of improved service will substantially benefit the area's mobility restricted population.

However, the general population is also apt to benefit from this public service improvement. President Carter's energy goals seem to demand increased use of public transit. Over time, as the capacity of the transit system develops and energy costs escalate, it is expected that the general public will increasingly use transit services. FY 1978 appears to be a good time for Southwestern Michigan to begin development of a viable transportation alternative to the private automobile.

7.3.3 Employment and Income

The proposed program specifies a total employment of 95 during FY 1978 which expands to 112 employees by FY 1982. These employees are expected to earn about $6,250,000 in wages over the five years. The job opportunities and income stream present a very positive economic benefit from this public expenditure program. As local residents, the wage earners will spend their income on goods and services within Southwestern Michigan. Thus, the employment and income benefits of the proposed plan will stimulate the local economy.

7.4 An Optimistic Financial Plan

A plan to finance the $8,290,205 in public costs is developed in Table 7.5. This plan assumes that Southwestern Michigan can obtain the maximum financial assistance from the various Federal and state funding programs. If all these funds are realized and certain secondary transportation operations are utilized the total local share for the proposed program in Southwestern Michigan can be minimized to just $979,651, or 11.8% of the total $8,290,205 cost burden.

TABLE 7.5
SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
ESTIMATED FINANCIAL PROGRAM
FY1978-FY1982

	FY1978	FY1979	FY1980	FY 1981	FY1982	TOTAL
CAPITAL COSTS	$ 614,790	$ 419,210	$ 221,430	$ 304,975	$ 324,500	$1,884,905
Federal Aid @80%	486,792	329,608	172,104	238,940	254,560	1,482,004
State Aid @20%	121,689	82,402	43,026	59,735	63,640	370,501
Revenue Financing	6,300	7,200	6,300	6,300	6,300	32,400
Local Share	-0-	-0-	-0-	-0-	-0-	-0-
OPERATING DEFICIT	$ 937,800	$1,075,900	$1,236,400	$1,449,900	$1,737,700	$6,437,700
Federal Aid @50%	-0-	537,950	618,200	724,950	868,850	2,749,950
State Demon. Grant	426,800	-0-	-0-	-0-	-0-	426,800
State Operating Aid @.33%	170,000	356,633	412,133	483,300	579,233	2,001,299
Intercity Bus Ticket Commission	40,000	42,500	47,500	52,500	60,000	242,500
Secondary Transportation Service Revenues	3,500	5,000	7,000	9,500	12,500	37,500
Local Share Required	297,500	133,817	151,567	179,650	217,117	979,651
Estimated Total Local Share	$ 297,500	$ 133,817	$ 151,567	$ 179,650	$ 217,117	$ 979,651

7.4.1 Proposed Funding Sources

The proposed consolidated public transportation operation in Southwestern Michigan is eligible for a variety of funding programs at the federal and state level which are briefly explained as follows:

A. Federal

Financial assistance for public transportation is available from the Federal government for both capital and operating expenditures. Major programs currently available are outlined below:

1. Urban Mass Transportation Act of 1964, as amended

Under current statutory authority up to $500,000,000 is available for capital assistance in the amount of 80% of the project cost to non-urbanized areas. Additionally, Section 16 of the act provides capital aid to public bodies and private non-profit corporations for meeting the needs of the elderly and handicapped. Section 6 permits the funding of the operating costs of certain demonstration projects. Competition for these demonstration grants is quite keen.

In 1974 the law was amended to provide operating assistance to urbanized areas. The entire Southwestern Michigan area does not

currently qualify for these funds. The City of Niles and a narrow southern corridor of Niles Township are included in the South Bend urbanized areas. This provides some operating funding for the area which is currently being used to finance the Niles dial-a-ride project.

Amendatory legislation was recently introduced in the Congress to remove the capital funding restriction on the $500,000,000 non-urbanized area expenditure authority. If this legislation is successful, it can be expected that non-urbanized areas such as Southwestern Michigan would be eligible to receive substantial operating aid probably approaching 50% of the net project deficit. The probability of this legislation's approval can only be rated fair at the present time.

2. Federal Aid Highway Act of 1973

Section 147 of this act provided statutory authority for rural mass transportation demonstration funding projects. The State of Michigan has an operative Section 147 demonstration project at the present time. While some program funding authority remains, the probability of an additional demonstration grant must be considered quite slim.

3. Other Programs

Financial aid for public transportation capital and operating expenses is available from a multitude of other federal programs. Major funding sources, (several of which are currently used in Southwestern Michigan) include: Older American Act of 1965, as amended; Public Health Service Act of 1944, as amended; Economic Opportunity Act of 1964, as amended; Comprehensive Employment and Training Act of 1973 and State and Local Fiscal Assistance Act of 1972.

In the calculation of the revenue estimates it was assumed that some of these programs would continue to be used by social service agencies to pay for contractual services. Additionally, CETA funds or revenue sharing may be utilized to defray some costs but estimates for those programs have not been included on Table 7.5.

State of Michigan

In recent years the State of Michigan has made a major commitment to the funding of public transportation expenditures.

1. Public Act 327 of 1973 and Public Act 197 of 1975.

These two laws provide the governing public transportation legislation in Michigan at the present time. Under these laws the

local share of capital costs can be fully funded by the State. Operating assistance in the maximum amount of 1/3 of the operating costs is available subject to certain restrictions. Additionally, startup demonstration grants funded virtually 100% by the State are available. If the proposed plan is adopted in Southwestern Michigan, it is suggested that a first year demonstration grant be actively pursued. It must be recognized that the dial-a-ride operation in Benton Harbor, Niles and Dowagiac began operation with these demonstration funds. Therefore, any demonstration funds made available in Southwestern Michigan could only be applied to service improvements and coordination.

Amendatory legislation has recently been introduced to the State legislature. These amendments are directed at assuring the continued financial capacity of the prevailing legislation.

2. Other State Programs

Program specific transportation assistance can probably be derived from other departments of state government. As with similar Federal funding, it has been assumed that social service agencies would use these funds to pay for the costs of contractual service. Therefore, no other state funding sources are shown on Table 7.5.

7.4.2 Generating the Local Share

Even assuming the most optimistic possibilities

for federal and state funding, Cass, Van Buren and Berrien Counties must raise almost $980,000 over the next five years to support this public transportation improvement program. At this point it is wise to investigate the availability of this local cash requirement.

In Chapter II's overview of the existing public transportation system in Southwestern Michigan, a summary of the current costs and funding sources was developed. Note from Table 7.6 that more than $150,000 in local public funds is being appropriated to public transportation in the tri-county area as follows:

Table 7.6
Southwestern Michigan
Regional Public Transportation Study
Current Local Funding Appropriations

Berrien County	
Twin Cities Area Transportation Authority	$95,500
Niles Dial-A-Ride	10,000
Social Service Transportation	17,900
	$123,400
Cass County	
Dowagiac Dial-A-Ride	18,000
Social Service Transportation	2,600
	$ 20,600
Van Buren County	
Social Service Transportation	$ 7,100
Three County Total	$151,100

If only these resources could be continued over the next five years, there would not be sufficient local funds to support the program previously outlined.

An equitable distribution of the funding requirements from the three counties should reflect the level of service received under the proposed program. Accordingly, the $980,000 local cost burden might be divided among the three counties as follows:

Table 7.7
Southwestern Michigan
Regional Public Transportation Study
Allocation of Local
Funding Requirements by Counties FY1978-FY1982[1/]
April, 1977

	Funding Proportion[2/]	Estimated Local Cost
Berrien	73.1%	$716,380
Cass	12.2%	119,560
Van Buren	14.7%	144,060
Total	100.0%	$980,000

1/ At the county level funds would need to be broken down by agencies, cities, townships, etc. depending on actual program budgets.

2/ Based on daily ridership projections.

One possible means of generating the necessary funds may be through the levy of an additional millage tax in Berrien, Cass and Van Buren Counties. Table 7.8 evaluates the expected proceeds from various millage rates:

Table 7.8
Southwestern Michigan
Regional Public Transportation Study
Estimated Annual Millage Levy Proceeds

	Assessed Value	Proceeds from 1 mill	Proceeds from 1/2 mill
Berrien County	$1,146,441,831	$1,146,442	$ 573,221
Cass County	257,133,821	257,134	128,567
Van Buren County	301,008,069	301,008	150,504
Total	$1,704,583,721	$1,704,584	$ 852,292

Obviously even a rather small millage levy could readily provide the necessary local funding resource. It should be further noted that the record of public transportation millage election has been quite good in Michigan during recent years. Indeed, since 1974 some 19 of 21 levy elections (90.5%) have been successful.

7.4.3 Stability of the Financial Plan

The capital and operating cost figures generated in tables 7.1 and 7.2 represent reasonable projections of the costs that will be incurred if a truly regional approach to public transportation is adopted in Southwestern Michigan. Careful review of the detailed budgeting data in appendix 7.A and 7.B should indicate the logical development of these numbers. Of course, the projection of future events is always subject to certain error. Thus the actual costs could vary from the estimates by as much as 10%. It is also more likely to assume that this variance would be observed as cost over-runs rather than reductions.

Of greater concern than the precision of the cost estimates is the rationality of the financial plan. With regard to this matter one must express serious caution. The proposed capital financial plan resulting in 100% assistance without local participation may be realized under the existing Federal and state statutes. The financing of the projected operating expenses is a far more delicate matter.

It is quite probable that if the proposed coordination scheme is adopted and endorsed by local

elected officials in Cass, Van Buren and Berrien Counties, that a one year demonstration grant may be obtained from the State of Michigan to finance a substantial portion of the projected operating costs. Assuming that the program could be operational by October, 1977, this would cover the operation through September, 1978. At that date, State of Michigan operating assistance would decline substantially resulting in a high financial burden for the program. As shown previously up to 50% of the operating deficit may be paid from Federal sources if proposed amendatory legislation is approved by Congress. If this or similar legislation is not approved by October, 1978; the HRC would need to pursue other funding programs to supplement the loss of this income source. To indicate the importance of substantial Federal assistance for operating expenses, Table 7.9 indicates the projected five year cost by county if no Federal aid is provided. This scenario with a total local cost approaching $3,700,000 could only be generated by a general property tax assessment in the tri-county area.

Table 7.9
Southwestern Michigan
Regional Public Transportation Study
Estimated Local Cost by County FY1978-FY1982
With No Federal Operating Assistance

	Funding Proportion[1]	Estimated Local Cost
Berrien	73.1%	$2,704,700
Cass	12.2	451,400
Van Buren	14.7	543,900
Total	100.0%	$3,700,000

It is of note then to realize that the local burden of this proposed plan could fluctuate substantially depending upon the actual volume of Federal funds which can be achieved for operating assistance. While the key to minimization of the local cost is approval of Federal operating assistance to non-urbanized areas, the availability of a reasonable demonstration program period appears to make the risk of future Federal assistance acceptable.

7.5 On Economies of Scale

It is often presumed that the consolidation of multiple public transportation agencies into a single organization will achieve significant scale

1/ Based on daily ridership projections
2/ Assume $980,000 local burden + $2,750,000 (rounded) Federal burden from Table 7.5 and rounds total figure to $3,700,000.

economies such that the actual cost of service rendered may be shown to decline. To be sure these are benefits to be derived from central maintenance facilities, administrative practices, purchasing procedures, insurance coverages, etc. Unfortunately, these cost components constitute less than the majority of the total operating cost. Far more important in the economics of public transportation is the labor intensity of the industry. This labor intensity which of necessity means one man to each operating bus completely negates the possibility of scale economies.

To be more specific in the case of Southwestern Michigan, it must be recognized that the actual cost per mile, cost per service hour, and cost per passenger will increase as a result of any move toward consolidation for the following four reasons:

1. Current administrative costs and burdens are understated by the social service agency operations

Administration of existing transportation services is not a full time job for each social service agency. As a result the actual salaries paid administrative help may be spread over several activities or the necessary service is rendered by volunteers. Thus, there is reason to doubt that the administrative cost is being stated at its actual full value.

2. Current insurance policies require revision

Public liability insurance policies should be substantially increased in value under a consolidated approach to the public transportation problem. A policy rating of up to $3,000,000 per occurrence will significantly increase total insurance costs from current ratings.

3. Routine maintenance procedures and more rigorous maintenance scheduling

Under current practices many vehicles are only maintained on a breakdown basis due to inadequate ability to finance or perform routine maintenance activities. The proposed organizational strategy envisions a continuing, rigorous effort to protect the investment in capital equipment and insure safe vehicle operation.

4. Cost of Operating Labor

At the present time the cost of labor is significantly understated. Some operators are volunteer and actual wages paid vary substantially. It is axiomatic that consolidation will mean that the highest wage and benefit package will govern the supply of labor. Thus, to insure integrity to the operation all drivers must be paid. Not only must every driver be paid but current market conditions suggest that the cost will, at a minimum, be $4.00/labor hour plus 25%

fringe benefits. This factor alone negates any possibility for scale economies.

This section has briefly considered four reasons why no scale economies can be achieved in the consolidation of public transportation operations in Southwestern Michigan. The primary factor is the labor intensity of public transportation services.

7.6 Summary

This chapter has reviewed the projected costs to be incurred by implementing a high intensity transit service level using the Human Resources Commission organizational strategy over the period FY 1978 - FY 1982. In the aggregate these costs were shown to be $10,930,105 which require $8,290,205 in public financial support. A financial plan is developed in this chapter which assumes that maximum proceeds can be derived from Federal and state financial assistance programs. If all these resources are realized the actual local cost of the proposed public transportation improvement strategy is $979,651 However, this plan depends on an amendment to current Federal legislation and without this amendment the local financial burden approaches $3,700,000.

VIII. CONCLUSION

At the outset of this report four critical questions were asked:

1. What is the existing supply of public transportation service in Southwestern Michigan?
2. What is the demand for public transportation in Southwestern Michigan?
3. How can the system be organized to achieve coordination and change?
4. What are the costs and who will pay for these changes?

In a stepwise progression this report has responded to each of these concerns. As a result of the facts encountered during this investigation the following conclusions can be supported:

1. The total public transportation demand potential in Southwestern Michigan is between 2600-3600 trips per day. This level of demand exceeds the capabilities and organizational framework of the existing pool of resources and, therefore, there is a need for change.
2. Four possible service alternatives and five possible organizational alternatives were arrayed in a matrix. The most responsive, feasible short run combination appears to

be the implementation of a high intensity service level using the recently organized three county Human Resources Commission to achieve increasing coordination and control of the public transportation network. As change is achieved and ridership growth is experienced, it is expected that a regional transportation authority will evolve over time.

3. The costs involved are substantial totalling more than $10.9 million over the five year period FY 1978 - FY 1982 and requiring about $8.3 million in public financial support.
4. The cost to local taxpayers can be shown to vary substantially depending upon the actual volume of Federal and state aid received by the regional transportation organization. At a minimum the total local cost burden over the period FY1978-FY1982 is estimated as $980,000 while the maximum burden approaches $3,700,000.

Public transportation is an expensive service. While Southwestern Michigan has some unserviced demand potential, the marginal costs of satisfying this potential in a comprehensive manner are significant. Nevertheless, concern over energy supplies suggests the need to develop public

transportation as a viable travel alternative. This report provides the background data and a blueprint for achieving important changes in the public transportation system of Southwestern Michigan.

APPENDICES

APPENDIX 2.A INTERCITY BUS SERVICE IN SOUTHWESTERN MICHIGAN

This appendix details the schedules of the current intercity bus services in Southwestern Michigan.

2.A.1 South Haven-Benton Harbor/St. Joseph New Buffalo

Southbound					Northbound				
GHD DLY	GHD DLY	IMB THU	GHD DLY		GHD SAT	GHD DLY	IMB THU	GHD DLY	GHD DLY
8:50P	4:30P	-	12:35P	South Haven	5:45A	11:50A	-	4:05P	11:25P
		-	12:49P	Covert		11:36A	-		
		-	b	Watervliet		b	-		
b	5:05P	4:00P	1:20P	Benton Harbor /St. Joseph	5:10A	11:05A	1:25P	3:35P	10:55P
		4:16P		Stevensville	b		1:08P		
		4:24P		Bridgeman	b		1:00P		
		4:44P		New Buffalo	4:10A		12:40P		

NOTE:
GHD - Denotes Greyhound
IMB - Denotes Indiana Motor Bus
SAT - Denotes Saturday Only
THU - Denotes Thursday Only
DLY - Denotes Daily
A - Denotes A.M.
P - Denotes P.M.
b - Denotes will stop on signal

2.A.2 Kalamazoo-Paw Paw-Benton Harbor/St. Joseph-Dowagiac-South Bend

WESTBOUND							EASTBOUND						
ITL DLY	ITL DLY	GHD DLY	ITL DLY	ITL DLY	ITL DLY		ITL DLY	ITL DLY	GHD DLY	ITL DLY	ITL DLY	ITL DLY	ITL DLY
5:00P	2:10P	-	11:40A	8:45A	12:30A	Kalamazoo	6:40A	10:35A	-	2:35P	7:15P	9:35P	3:50A
5:30P	2:40P		12:10P	9:10A	12:55A	Paw Paw	6:10A	10:05A		2:05P	6:45P	b	b
b				b	b	Lawrence		b		b		b	b
5:52P				9:30A	b	Hartford		9:49A		1:40P		b	b
b				b	b	Watervliet		b		b		b	b
6:05P				9:44A		Coloma		9:35A		b		b	b
6:25P			1:00P	10:10A	1:35A	Benton Harbor/ St. Joseph		9:15A		1:10P		8:30P	2:50A
	2:55P					Decatur	5:53A				6:30P		
	-	1:10P				Vandalia	-		12:48P		-		
	3:15P	-				Dowagiac	5:35A		-		6:10P		
	-	1:31P				Cassopolis	-		12:27P		-		
	3:40P	1:53P				Niles	5:15A		12:05P		5:45P		
	4:05P	2:25P				South Bend	4:50A		11:35A		5:15P		

NOTES: ITL - Indian Trails
GHD - Greyhound
DLY - Daily
A - A.M.
P - P.M.
b - will stop on signal

2.A.3 Benton Harbor/St. Joseph - Niles - South Bend

Southbound		Northbound
IMB FSO		IMB FSO
	Benton Harbor/ St. Joseph	2:55P
5:15P	Berrien Springs	2:30P
5:40P	Niles	2:10P
6:00P	South Bend	1:45P
6:20P		

NOTE: IMB - Indiana Motor Bus
FSO - Friday and Saturday Only
P - P.M.

2.A.4 Cassopolis - Edwardsburg - South Bend

Southbound				Northbound		
CRD THU	CRD THU	CRD THU		CRD THU	CRD THU	CRD THU
3:15P	12:00P	9:00A	Cassopolis	11:20A	2:50P	5:50P
3:30P	12:15P	9:15A	Edwardsburg	11:05A	2:35P	5:35P
4:05P	12:50P	9:50A	South Bend	10:30A	2:00P	5:00P

NOTES: CRD - Cardinal Bus Lines
THU - Thursday Only
A - A.M.
P - P.M.

APPENDIX 2.B PRIVATE LOCAL BUS COMPANY

NAME: Twin Cities Motor Transit

ADDRESS: 391 Territorial
Benton Harbor, Michigan 49022

TELEPHONE NUMBER: 925-2115

OPERATING DATA:

- Type of Service - fixed route, fixed schedule service
- Scheduled Operation - Mon.-Fri. 6:00A - 6:00P
- Ridership - 10,000 annually, 40 each weekday
- Annual Vehicle Mileage - not available
- Fleet Size and Type - 2 vans are necessary to operate service with one reserve vehicle; carrier owns 5 other buses which are chartered to local school districts.
- Service Area - Benton Harbor, St. Joseph
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - precise figures not available general estimate would be $10-12,000/year*
- Revenue Sources -

  Farebox - $.60 cash fare or estimated $6,120* in annual revenues
  Local - none
  State - none
  Federal - none

- Funding Constraints - no restrictive programs

Comment:

Carrier has only been observed to provide sporadic service. Operation is in a direct loss position and probably cannot long continue without relief.

Source:

Mr. Joseph Mammina, owner and operator
Twin Cities Motor Transit

* ATE estimate

APPENDIX 2.C DIAL-A-RIDE TRANSPORTATION SERVICE

NAME: Twin Cities Area Transportation Authority

ADDRESS: 271 Market Street
Benton Harbor, Michigan 49022

TELEPHONE NUMBER: 927-4461

OPERATING DATA:

- Type of Service - demand responsive
- Scheduled Operation - Mon.-Fri. 6:30A-6:30P,Sat.9:00A-6:00P
- Ridership - 190,000 annually; 675/weekday
- Annual Vehicle Mileage - 530,000 estimate
- Fleet Size and Type - 13 vans, 1 wheelchair equipped
- Service Area - City of Benton Harbor and Benton Township
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - $340,000 (FY 1977)
- Revenue Sources - (current estimates FY 1977)

  Farebox - $100,000
  Local - $ 95,500
  State - UPTRAN, $110,000 - Gasoline Tax, refund $9,500
  Federal - CETA, $25,000

- Funding Constraints - no restrictive programs

Source:

Mr. Wilbert Brown, Executive Director
Twin Cities Area Transportation Authority

NAME: Niles Dial-A-Ride

ADDRESS: 209 N. Second Street
Niles, Michigan 49085

TELEPHONE NUMBER: 684-5150

OPERATING DATA:

- Type of Service - demand responsive
- Scheduled Operation - Mon.-Fri. 8:00A - 6:00P-Sat. 9:00A-6:00P
- Ridership - 75,000 annually; 270/weekday
- Annual Vehicle Mileage - 140,000
- Fleet Size and Type - 5 vans; 1 wheelchair lift equipped
- Service Area - restricted to the City of Niles
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - $136,000 estimate for FY 1977
- Revenue Sources -

  Farebox - $26,000 estimate for FY 1977
  Local - City of Niles $10,000 estimate for FY 1977
  State - $45,000 estimate for FY 1977
  Federal - $55,000 estimate for FY 1977

- Funding Constraints - no restrictive programs

Source:

Mr. William Waltman, operator
Niles Dial-A-Ride

NAME: Dowagiac Dial-A-Ride

ADDRESS: City Hall
Dowagiac, Michigan 49047

TELEPHONE NUMBER: 782-8200

OPERATING DATA:

- Type of Service - demand responsive
- Scheduled Operation - 8:00A-6:00P Mon.-Fri.
- Ridership - 33,100 estimate; 130/weekday
- Annual Vehicle Mileage - 48,000 est.
- Fleet Size and Type - 3 vans; 1 wheelchair lift equipped
- Service Area - up to one mile beyond Dowagiac corporate limits
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - $37,800 estimate
- Revenue Sources -

  Farebox - $6,300
  Local - $18,000
  State - UPTRAN, $13,500
  Federal - none

- Funding Constraints - no restrictive program

Source:

Mr. Larry Rohacs, Manager, Dowagiac
Dial-A-Ride

APPENDIX 2.D TAXI COMPANIES

NAME: Twin Cities Cab Company

ADDRESS: 160 Water Street
Benton Harbor, Michigan 49022

TELEPHONE NUMBER: 926-2121

OPERATING DATA:

- Type of Service - demand responsive, taxi service with courier capability
- Scheduled Operation - 24 hour; seven days per week
- Ridership - 45,000 annually; 160 each weekday
- Annual Vehicle Mileage - not available
- Fleet Size and Type - 5 operating cabs; licensed to operate seven.
- Service Area - primarily Benton Harbor, St. Joseph
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - precise figures not available; estimated at $96,800/year
- Revenue Sources -

  Farebox - average fare est. as $2.00/pass.; total income
  Local - none $90,000
  State - none
  Federal - none

- Funding Constraints - no restrictive programs. Note that private operator is in a loss position making capital replacement and service expansion difficult.

Source:

Mr. Patrick Mason, Owner and Operator
Twin Cities Cab Company

NAME: Advance Cab Lines

ADDRESS: 391 Territorial
Benton Harbor, Michigan 49022

TELEPHONE NUMBER: 925-2115

OPERATING DATA:

- Type of Service - demand responsive taxi service with courier capability
- Scheduled Operation - 24 hours; seven days per week
- Ridership - 20,000 annually; 70 each weekday
- Annual Vehicle Mileage - not available
- Fleet Size and Type - 5 cabs
- Service Area - primarily Benton Harbor, St. Joseph
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - precise figures not available; estimated to approach $45,000
- Revenue Sources -

  Farebox - average fare $2.25; $45,000/yr.
  Local - none
  State - none
  Federal - none

- Funding Constraints - no restrictive programs

Comments: Advance Cab Lines is a new private venture which began in January, 1977: Insufficient time has transpired to assess its financial status but it is estimated that the operation will be marginal.

Source:

Mr. Joseph Mammina, Owner and operator
Advance Cab Lines

NAME: Niles Taxi Corp. Inc.

ADDRESS: 209 N. Second Street
Niles, Michigan 49085

TELEPHONE NUMBER: 684-5150

OPERATING DATA:

- Type of Service - demand responsive taxi service with courier capability
- Scheduled Operation - Mon.-Sun. 6:00A-12:00Midnight
- Ridership - 36,000 annually; 130 each weekday
- Annual Vehicle Mileage - 192,000 estimate
- Fleet Size and Type - 4 cabs
- Service Area - Niles and vicinity
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - $140,000 estimate
- Revenue Sources -

  Farebox - $140,000 estimate
  Local - none
  State - none
  Federal - none

- Funding Constraints - no restrictive programs; note that financial situation is marginal

Source:

Mr. William Waltman, Owner and Operator
Niles Taxi

2.E. Social Service Transportation

This important appendix reviews the operation of the fourteen social service agencies in Berrien, Cass and Van Buren County. To adequately present the large volume of information collected during the study this appendix is divided into four parts.

2.E.1 General Description

2.E.2 Map of Current Clients

2.E.3 Examples of Spare Capacity

2.E.4 Social Service Agencies Contacted Reporting No Service

APPENDIX 2.E.1 SOCIAL SERVICE AGENCY DESCRIPTIONS

NAME: Gateway, Incorporated

ADDRESS: P. O. Box 222
Berrien, Springs, Michigan 49103

TELEPHONE NUMBER: 471-2897

OPERATING DATA:

- Type of Service - transports clients from residence to Gateway, also provides contract service to other social service agencies.
- Scheduled Operation - Mon.-Fri. 6:30A - 5:30P
- Ridership - 44,000 annually; 175/weekday
- Annual Vehicle Mileage - 168,000
- Fleet Size and Type - 4 vans, 1 station wagon, also subsidizes private auto owners
- Service Area - Berrien County
- Labor - paid

FINANCIAL DATA:

- Annual Operating Cost - $43,000 estimate
- Revenue Sources -

  Farebox - no fares are charged
  Local - contract service, $15,000 from other agencies
  State - Department of Social Services, $28,000
  Federal - none

- Funding Constraints - riders must be 16 years of age or older and agency affiliated

Source:

Mr. Robert Jones
Gateway, Incorporated

ADDITIONAL GATEWAY DATA DEVELOPED BY MICHIGAN STATE HIGHWAY COMMISSION

Each van stored at driver's home.

Vehicle #1 (15 passenger van)

Monday-Friday. Driver lives in Benton Harbor. Begins run at 6:30 A.M. picking up passengers in Benton Harbor and Berrien Springs. Arrives Gateway by 8:00 A.M. 12-14 passengers daily.

10:30-11:30 A.M. Monday-Friday. Begins run in Eau Claire picking up additional seniors in Benton Harbor and Benton Township. Trip ends at Berrien County Council on Aging Title VII site for hot meal and averages 7-9 passengers. 1:00-2:00 P.M. return trip to home ending in Eau Claire. 3:00-4:20 P.M. pick up clients at Gateway and return to their homes.

Tuesday, Wednesday and Thursday. 12:00 to 1:00 P.M. picks up clients in Benton Harbor, takes them to Riverwood Mental Health Center in St. Joseph; approximately 14 passengers. Then the vehicle takes seniors home from BCCOA meal site. Vehicle ends up in Eau Claire by about 2:30PM; proceeds to Gateway and delivers clients home by 4:20 P.M. Proceeds to Riverwood Mental Health clinic and delivers passengers home; ends run by 5:30 P.M.

Vehicle #2 (15 passenger van)

Monday-Friday. Driver lives in Niles. Begins run at 6:30 A.M. picking up passengers in Niles area plus one passenger in Buchanan. Arrives Gateway by 8:00 A.M. 12-14

passengers daily.

8:30-2:00 P.M. Monday-Friday. Shuttles children back and forth to Riverwood Mental Health Clinic pre-school program. Most of these children live in Benton Harbor/ St. Joseph area. Exact passenger loading not known.

Returns to Gateway by 3:00 P.M. and drops off Gateway clients at their home. Also takes Berrien Springs Gateway clients home that ride in the morning with vehicle #1. Run ends by 4:30 P.M.

Vehicle #3 (15 passenger van)

Monday-Friday. Driver lives in Berrien Springs. Begins run at 6:30 A.M. picking up passengers in Buchanan, Galien, New Troy, Bridgeman. Arrives Gateway by 8:00 A.M. 12-14 passengers daily.

Tuesday and Thursday. 12:00 - 1:30 P.M. Makes run from Gateway to Riverwood Mental Health Clinic picking up approximately 10 passengers between Berrien Springs and Benton Harbor/St. Joseph on U. S. 31 corridor.

Wednesday. Same route and passengers as Tuesday/Thursday run but time slightly different: 1:00 - 2:30 P.M.

Monday-Friday leaves Gateway at 3:00 P.M. to begin delivering clients to their homes. Run ends by 4:30 P.M.

Vehicle #4 (12 passenger van w/lift)

Monday-Friday. Driver lives in Berrien Springs. Begins run at 6:30 A.M. picking up passengers in St. Joseph and Stevensville. Arrives Gateway by 8:00 A.M. 10-12 passengers daily.

Monday-Friday. 3:00 - 4:30 P.M. takes Gateway Clients home, ends up near Riverwood Mental Health Clinic.

Tuesday, Wednesday, Thursday. 4:30-5:30 P.M., takes Riverwood Mental Health Clinic passengers home. (These are the people that Vehicle #3 delivers.)

NAME: Berrien County Council on Aging

ADDRESS: 305 Lake Boulevard
St. Joseph, Michigan 49085

TELEPHONE NUMBER: 983-5800

OPERATING DATA:

- Type of Service - Primarily senior citizens with some handicapped
- Scheduled Operation - Mon.-Fri. 7:00A.-5:00P.
- Ridership - 12,500 annually; 50/weekday
- Annual Vehicle Mileage - 91,200
- Fleet Size and Type - 2 vans; vehicles maintained and stored by Twin Cities Area Transportation Authority
- Service Area - Berrien County
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - $28,800
- Revenue Sources -

  Farebox - $1,800
  Local - stated as none
  State - UPTRAN, $10,000
  Federal - CETA, $17,000

- Funding Constraints - emphasis is on transportation service solely for elderly and handicapped

SOURCE:

Mr. George Schuur, Berrien County Council on Aging

ADDITIONAL BERRIEN COUNTY COUNCIL ON AGING DATA DEVELOPED BY MICHIGAN STATE HIGHWAY COMMISSION

General Notes - door to door transportation available at least one day advanced scheduling required.

- Fleet consists of 2 vehicles (7 passenger lift-equipped van and 12 passenger van) which are stored and maintained at TCATA.

Regularly scheduled trips for program purposes

1. Monday-Friday. The 12 passenger van leaves TCATA garage at 6:45 A.M., picks up approximately 4 passengers in Coloma between 7:00-7:10 A.M. 4 passengers in Benton Heights at 7:30 A.M., and 4 passengers in Benton Harbor by 7:45 A.M. Vehicle then goes to Gateway in Berrien Springs, arriving by 8:15 A.M. Return trip starts about 3:00 P.M.; ends approximately 4:30 P.M. All passengers on this run are mentally impaired, some also physically impaired.
2. Mondays and Tuesdays only. This same 12 passenger van takes 2 groups of senior citizens shopping. There are usually 12 passengers. Pickup is made at approximately 11:00 A.M. at Lakeview Terrace Senior Citizens Housing Project and passengers are taken to Hilltop Shopping Center on Mondays and to Jewell Food Store in Fairplain on Tuesdays; Van returns to Housing Center between 1:00 and 1:30PM.
3. Tusday and Thursday. The seven passenger van makes

a run to Berrien General Hospital in Berrien Springs. Patients are taken to the hospital for doctors appointments. Pickups are made starting at 9:00 A.M. and the van arrives at the hospital by 10:30 A.M. Return trip starts about 2:30 P.M. and is usually completed by 4:30 P.M. Passengers come from various parts of the northern end of the county. Exact locations of passengers is not obtainable because clients keep changing. Service is on a 24 hour advance notice basis. The van on this run is usually filled.

4. Tuesday only. The seven passenger van goes directly from Berrien General Hospital to pick up senior citizens going to the Coloma nutrition center. The passengers come mainly from Milburg, Watervliet, and Coloma. Passengers are picked up from 11:00 to 11:45 A.M. and the return trip starts by no later than 1:30 P.M. since the van has to be back at Berrien General Hospital by 2:30 P.M. This run is also on a 24 hour reservation basis.

5. Monday (7 passenger van) and Wednesday (12 passenger van). A run is made to a senior citizen nutrition site in Harbert (Harbert Community Church). Pickup starts at 11:30 A.M. and van arrives at meal site by 12:15 P.M. Return trip starts at 1:15 P.M. and is usually completed by 2:00 P.M. This run

averages 6-7 passengers, the majority of whom reside in the Three Oaks and Sawyer areas. Service is on 24 hour reservation basis.

6. Thursday only. The 12 passenger van makes a run from the Lake Michigan Beach (Hagar Township) area into the Coloma nutrition center. Run averages 10 or 11 passengers. Pickup begins at 11:30 A.M. and is completed by 12:15 P.M. After lunch, the van then takes these senior citizens shopping at the Hilltop shopping center in Coloma. The return trip to Lake Michigan Beach starts at 1:45 P.M. and is completed by 2:00 or 2:30 P.M. The van then proceeds to Berrien General Hospital to pick up riders at 3:00 P.M.
7. Wednesday (7 passenger van) and Friday (12 passenger van). Service of a general nature is provided in the southeastern portion of Berrien County. This service is provided during periods when vans are not needed for program specific transportation. Most of the travel demand is for service from Niles to Buchanan, Niles to the Twin Cities, or from the Niles Township area into downtown Niles.

There are three agencies which accept calls from individuals for reservations.

These are:

1. Niles - Buchanan Senior Center - Niles
2. River Valley Senior Center - Harbert
3. BCCOA Senior Citizen Nutrition Office - Benton Harbor

Persons may contact the main office in St. Joseph directly.

NAME: Berrien County Department of Social Services

ADDRESS: 1134 South Crystal
Benton Harbor, Michigan 49022

TELEPHONE NUMBER: 926-7331

OPERATING DATA:

- Type of Service - transportation to health services, etc. limited scope of operations
- Scheduled Operation - Mon.-Fri. 8:00A-5:00P
- Ridership - 600 annually; 2/weekday
- Annual Vehicle Mileage - not available
- Fleet Size and Type - 5 automobiles available
- Service Area - not restricted
- Labor - combination of volunteers and paid drivers

FINANCIAL DATA:

- Annual Operating Cost - not made available; general estimate $1,000/year[1/]
- Revenue Sources -

  Farebox - no fare is charged
  Local - source of funds probably county, but
  State - information not made available
  Federal - "

- Funding Constraints - passengers must be potential, current or ex-clients of the agency.

SOURCE:

Mr. Wes Bowerman, Berrien County Department of Social Services

1/ Estimated provided by ATE Management

NAME: St. Joseph-Lincoln Senior Citizens Center

ADDRESS: 500 Main
St. Joseph, Michigan 49085

TELEPHONE NUMBER: 983-1817

OPERATING DATA:

- Type of Service - senior citizen transportation needs
- Scheduled Operation - 9:30A-3:30P Mon.-Fri.
- Ridership - 12,000 annually; 50/weekday
- Annual Vehicle Mileage - 25,000
- Fleet Size and Type - 1 passenger car
- Service Area - City of St. Joseph, villages of Stevensville, and Shoreham, Townships of St. Joseph and Lincoln.
- Labor - volunteer drivers

FINANCIAL DATA:

- Annual Operating Cost - $28,000 (direct costs only)
- Revenue Sources -

  Farebox - no fare is charged
  Local - local governmental units, $6,000, private donations $10,000
  State - none
  Federal - title XX $12,000

- Funding Constraints - through Title XX restricted to serving senior citizens

SOURCE:

Ms. Paula French, St. Joseph-Lincoln Senior Citizens Center

NAME: Niles Buchanan Senior Citizen's Center

ADDRESS: 310 N. Second
Niles, Michigan 49120

TELEPHONE NUMBER: 683-9380

OPERATING DATA:

- Type of Service - elderly transportation
- Scheduled Operation - Mon.-Fri. 8:30A-5:00P; limited operations
- Ridership - 1,200 annually; 5/weekday
- Annual Vehicle Mileage - not available
- Fleet Size and Type - 1 station wagon
- Service Area - cities of Niles and Buchanan
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - $4,500
- Revenue Sources -

  Farebox - no fare is charged
  Local - probably local but not specifically identified
  State - None
  Federal - None

- Funding Constraints - can only serve persons 60 years of age and older

SOURCE:

Ms. Ruth Lagone, Niles-Buchanan Senior Citizen's Center

NAME: Benton Harbor Senior Citizen's Center

ADDRESS: 53 Wall Street
Benton Harbor, Michigan 49022

TELEPHONE NUMBER: 927-2497

OPERATING DATA:

- Type of Service - senior citizen transportation
- Scheduled Operation - Mon.-Fri. 8:30A-5:00P
- Ridership - 10,000 annually; 40/weekday
- Annual Vehicle Mileage - 55,000
- Fleet Size and Type - 1 van
- Service Area - Benton Harbor, Benton Township
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - $13,500
- Revenue Sources -

  Farebox - no fare is charged
  Local - local governmental units, $4,500
  State - none
  Federal - title XX, $9,000

- Funding Constraints - senior citizens transportation is basic service

SOURCE:

Ms. Betty Smith, Benton Harbor Senior Citizen's Center

NAME: River Valley Senior Center

ADDRESS: P. O. Box 275
Harbert, Michigan 49115

TELEPHONE NUMBER: 469-4556

OPERATING DATA:

- Type of Service - senior citizen transportation
- Scheduled Operation - Mon.-Fri. 8:30A - 5:00P
- Ridership - 1,700 annually; 7/weekday
- Annual Vehicle Mileage - 18,000
- Fleet Size and Type - 1 station wagon
- Service Area - Galien, Bridgeman, Three Oaks, New Buffalo, Harbert
- Labor - volunteers

FINANCIAL DATA:

- Annual Operating Cost - $1,900
- Revenue Sources -

  Farebox - no fare is charged
  Local - agency funds not well explained
  State - none
  Federal - none

- Funding Constraints - basically senior citizen transportation

SOURCE:

Ms. Judy Poncgalck, River Valley Senior Citizen Center

NAME: Benton Harbor YMCA

ADDRESS: 233 Michigan
Benton Harbor, Michigan 49022

TELEPHONE NUMBER: 927-1371

OPERATING DATA:

- Type of Service - special programs transportation
- Scheduled Operation - no regular hours
- Ridership - extremely limited
- Annual Vehicle Mileage - not available
- Fleet Size and Type - 2 vans used for multiple purpose
- Service Area - basically Berrien County
- Labor - paid

FINANCIAL DATA:

- Annual Operating Cost - not available, negligible
- Revenue Sources -

  Farebox - not available
  Local - "
  State - "
  Federal - "

- Funding Constraints - None; service has only marginal relation to area's public transportation needs.

SOURCE:

Mr. David Bergman, Benton Harbor YMCA

NAME: American Cancer Society

ADDRESS:
St. Joseph, Michigan

TELEPHONE NUMBER: not reported

OPERATING DATA:

- Type of Service - specialized for cancer treatment patients
- Scheduled Operation - irregular, as needed
- Ridership - limited, not estimated
- Annual Vehicle Mileage - not available
- Fleet Size and Type - none, volunteer vehicles
- Service Area - Berrien County
- Labor - volunteers

FINANCIAL DATA:

- Annual Operating Cost - not available, limited
- Revenue Sources -

  Farebox - not available
  Local - "
  State - "
  Federal - "

- Funding Constraints - basically a service for cancer treatment patients; very limited

SOURCE:

American Cancer Society

NAME: Cass County Council on Aging

ADDRESS: 112 East York
Cassopolis, Michigan 49031

TELEPHONE NUMBER: 445-8110

OPERATING DATA:

- Type of Service - senior citizen transportation on pre-scheduled basis
- Scheduled Operation - no regular scheduled hours but generally available on weekdays
- Ridership - 2,500 annually; 10/weekday
- Annual Vehicle Mileage - 34,000
- Fleet Size and Type - 2 vans
- Service Area - Cass County
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - $12,000
- Revenue Sources -

  Farebox - no fare is charged
  Local - senior citizen community aide - $2,600
  State - none
  Federal - $9,400 revenue sharing

- Funding Constraints - county residents 60 years of age and older

SOURCE:

Ms. Kathleen McCleave, Cass County Council on Aging

ADDITIONAL CASS COUNTY COUNCIL ON AGING DATA DEVELOPED BY MICHIGAN STATE HIGHWAY COMMISSION

The only regularly scheduled trip is on Wednesday. Senior citizens are picked up at the Chestnut Towers high rise in Dowagiac at 9:30A.M. for shopping excursion. The group decides in advance where it would like to go and may go to South Bend, Mishawaka, Elkhart, Berrien Springs, Benton Harbor or Kalamazoo. Trip returns to Dowagiac by 3:30 or 4:00 P.M. and usually carries 10-11 passengers.

Other service is provided on a call ahead reservation basis. First priority is medical trips, then shopping, recreation, etc. Many runs made to serve a single individual and lengthy trips are often involved. Average of 5-10 passengers transported daily. Most of demand comes from Cassopolis, Dowagiac, Sister Lakes, Marcellus and Jones.

Service usually provided Monday-Friday 8:30A.M.-9:00P.M.

NAME: Westgate Center Incorporated

ADDRESS: P. O. Box 367
Cassopolis, Michigan 49031

TELEPHONE NUMBER: 445-3170

OPERATING DATA:

- Type of Service - provides transportation service for the elderly on prescheduled basis
- Scheduled Operation - Mon.-Fri. 8:00A-4:00P
- Ridership - 18,000 annually; 70/weekday
- Annual Vehicle Mileage - not available
- Fleet Size and Type - 4 vans
- Service Area - Cass County, will cross county lines
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - $20,800
- Revenue Sources -

  Farebox - no fare is charged
  Local - mental health, subcontract work, $4,000
  State - Department of Social Services, $16,800
  Federal - none

- Funding Constraints - not specific but service is directed at elderly and handicapped

SOURCE:

Mrs. Betty Fletcher; Westgate, Inc.

ADDITIONAL WESTGATE DATA DEVELOPED BY MICHIGAN STATE HIGHWAY COMMISSION

Each van starts pickup at 8:00 A.M., arrives Westgate by 9:00 A.M. Monday-Friday. Return trip home starts at 3:00 P.M., ends by 4:00 P.M.

Van 1

1 passenger in Union (Baldwin Prarie Road, South of Johnson)

4 passengers in Jones (2 corner of Teasdale and Robbins Lake Rd.)
(2 on Birch South of Shovehead)

1 in Cassopolis (Mt. Zion and Robbins)

Van 2

4 in Vandalia (all in village limits)

1 in Cassopolis (in city limits)

1 in "Niles" (Northeast of Barron Lake, intersection of Anderson and Dunning Roads)

Van 3

2 in Marcellus (in city)

4 in group home at intersection of Dacatur Road and Marcellus Highway

5 in Cassopolis (in city)

Van 4

4 in Dowagiac proper

4 in group home M-51 south of Peavine Road

3 along M-51 approximately 3 miles north of Dowagiac

1 in Sister Lakes area

Between 9:00 - 3:00 P.M., vans may go to Niles, South Bend, Cassopolis, Kalamazoo and Dowagiac for medical or other purposes. Transportation for Westgate clients only, not available to general public.

Drivers store vehicles at their homes.

1. Cassopolis (2 drivers)
2. Marcellus
3. Jones

NAME: Van Buren County Transportation Task Force

ADDRESS: Route # 2 Box 210
Covert, Michigan 49043

TELEPHONE NUMBER: 764-1701

OPERATING DATA:

- Type of Service - transportation for elderly & handicapped
- Scheduled Operation -Mon.-Fri. 9:00A-4:00P
- Ridership - 10,500 annually; 40/weekday
- Annual Vehicle Mileage - not available
- Fleet Size and Type - 2 vans
- Service Area - Van Buren County
- Labor - paid drivers

FINANCIAL DATA:

- Annual Operating Cost - $16,800 estimate
- Revenue Sources -

  Farebox - $5,200
  Local - local governmental units (not specified), $5,600
  State - UPTRAN, $6,000
  Federal - NA
  Capital - Federal 16(b)(2) program
- Funding Constraints - basically caters to elderly and handicapped requests

SOURCE:

Mr. Jerome Shumate, project manager

NAME: Van Buren County Commission on Aging

ADDRESS: Red Arrow Highway
Hartford, Michigan 49017

TELEPHONE NUMBER: 621-3289

OPERATING DATA:

- Type of Service - senior citizen transportation
- Scheduled Operation - no regular hours; extremely limited operation.
- Ridership - 120/yr.
- Annual Vehicle Mileage - 3,600
- Fleet Size and Type - vehicles are privately owned automobiles
- Service Area - Van Buren County residents
- Labor - volunteer drivers

FINANCIAL DATA:

- Annual Operating Cost - $1,500
- Revenue Sources -

  Farebox - no fares are charged
  Local - $1,500 probably covered by county funds but difficult to determine
  State - none
  Federal - none

- Funding Constraints - None

SOURCE:

Mr. Joel Nook, Van Buren County Commission on Aging

NAME: American Cancer Society

ADDRESS: 102 N. Paw Paw
Lawrence, Michigan 49064

TELEPHONE NUMBER: 674-3295

OPERATING DATA:

- Type of Service - medical service for cancer treatment only
- Scheduled Operation - no regular schedule
- Ridership - quite limited
- Annual Vehicle Mileage - not available
- Fleet Size and Type - use of private automobiles
- Service Area - Van Buren County
- Labor - volunteer drivers

FINANCIAL DATA:

- Annual Operating Cost - minimal
- Revenue Sources -

  Farebox - no fare is charged
  Local - negligible
  State - None
  Federal - None

- Funding Constraints - service for medical purposes only

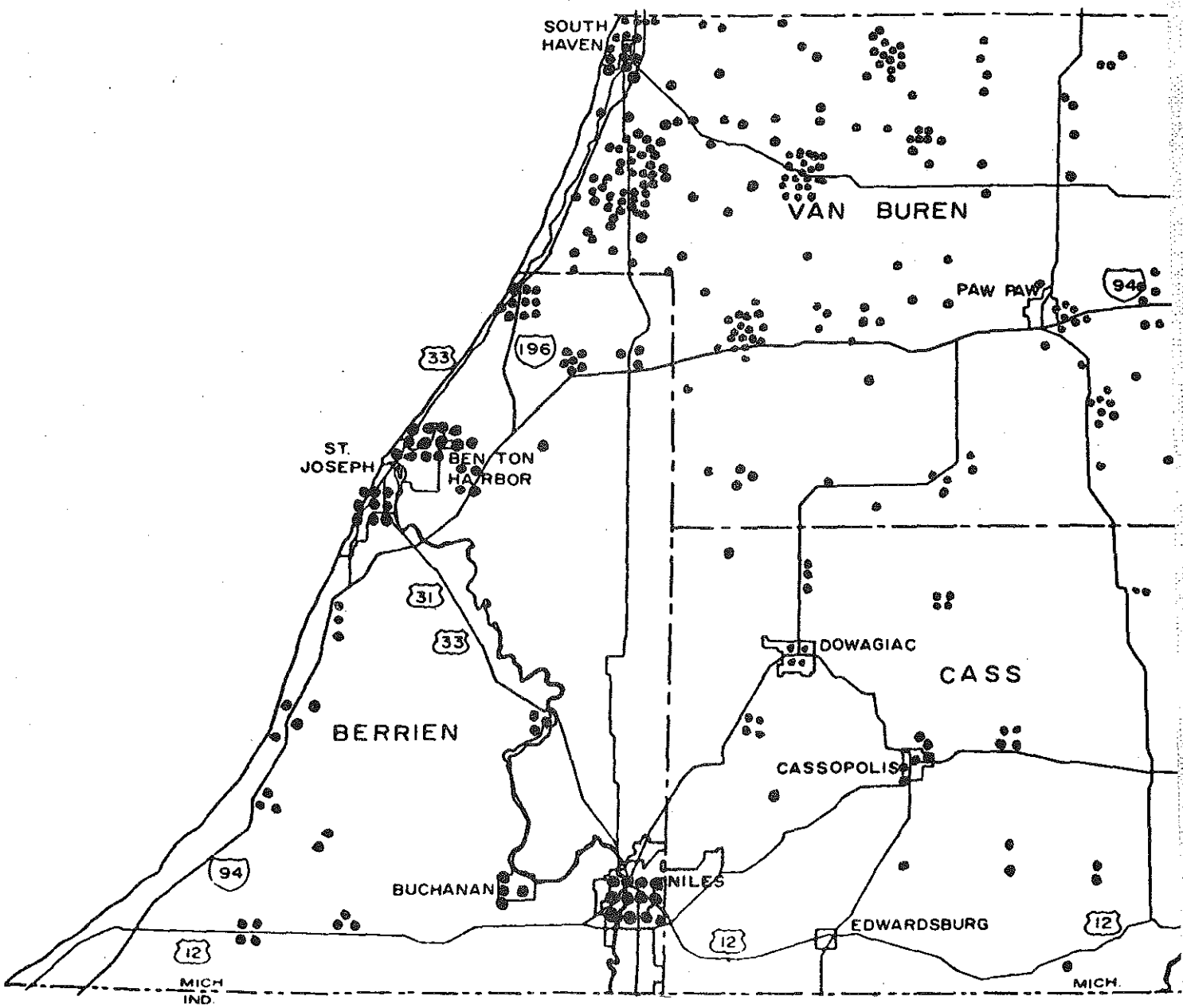
SOURCE:

Ms. Martha Kashin, American Cancer Society

FIGURE 2.E.2.1

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

PLOT OF SELECTED SOCIAL SERVICE AGENCY CLIENTS



• PINPOINTED LOCATIONS OF REGULAR SOCIAL SERVICE AGENCY CLIENTS

MAP DEVELOPED BY
MICHIGAN STATE HIGHWAY COMMISSION

2.E.3 Examples of Additional Service Capacity

Berrien County

1. Gateway

Vehicles	Scheduled Work Hours/Week	Available Service Hours/Week	
#1	33.5	50	
#2	47.5	50	
#3	25.5	50	
#4	18	50	
	124.5	200	= 62.25%

Basically Midday Capacity

2. Berrien County Council on Aging

Vehicles	Scheduled Work Hours/Week	Available Service Hours/Week	
#1	30	50	
#2	23	50	
	53	100	= 53%

Some peak and midday capacity

TOTALS	177.5	300	59.1%

Additional detailed data from other carriers not available.

Cass County

1. Westgate

Vehicles	Scheduled Work[1] Hours/Week	Available Service Hours/Week
#1	20	50
#2	20	50
#3	20	50
#4	20	50
	80	200 = 40%

Midday service availability good

2. Cass County Council on Aging

Vehicles	Scheduled Work[2] Hours/Week	Available Service Hours/Week
#1	30	50
#2	30	50
	60	100 = 60%
TOTALS	140	300 = 46.7%

Many long distance, low productivity trips handled, coordination should increase productivity.

1/ All vehicles make two daily scheduled runs to Westgate Center; midday trip demands variable.
2/ Estimated based on daily travel volume.

Van Buren County

Van Buren County Transportation Task Force

Vehicle	Scheduled Service Hours/Week[3]	Available Service Hours Per Week
#1	45	50
#2	45	50
	90	100 = 90%

Very limited additional availability coordination may however increase productivity.

Available hours calculated as ten hours per day, five days per week. i.e. 50 hours.

3/ Estimated based on available data on scheduled vehicle trips.

2.E.4 Social Service Agencies Contacted Reporting No Service

1. Salvation Army
   91 Hinkly Street
   Benton Harbor, Michigan 49022

2. American Red Cross
   Red Arrow Highway, West
   Paw Paw, Michigan 49079

3. Southwest Michigan Indian Center
   204 Crescent
   Watervliet, Michigan 49098

4. Van Buren County Senior Citizen's Center
   243 E. Michigan Avenue
   Paw Paw, Michigan 49079

5. Cass County Department of Social Services
   130 North Broadway
   Cassopolis, Michigan 49031

6. St. Joseph YWCA
   508 Pleasant Street
   Niles, Michigan 49085

7. Berrien County Action, Inc.
   602 Highland Avenue
   Benton Harbor, Michigan 49022

APPENDIX 2.F On the Use of School Buses

During the course of this study, the subject of school buses as a public transportation resource has raised a number of interesting questions:

1. Can school buses be used to provide service in Berrien, Cass and Van Buren Counties?
2. What problems are likely to be encountered?

This appendix attempts to answer these questions and determine the applicability of school buses in Southwestern Michigan's public transportation network.

F.1 The Appeal of the School Bus

Intuitively, the operating fleet of school buses in any community is perceived as a poorly utilized capital investment. For approximately four hours each day, the school buses provide transportation for students. The rest of the time, including non-school months, the vehicles appear to lay idle.

Reviewing the size of local school bus fleets also offers some staggering statistics as shown in Table F.1.

TABLE F.1
Southwestern Michigan
Regional Transportation Study
School Bus Fleet
March, 1977

Berrien County	325 vehicles
Cass County	100 vehicles
Van Buren County	200 vehicles
Total	625 vehicles

Some of the vehicles are specially equipped with lift devices and wheelchair tie downs for handicapped students.

With this pool of vehicles it is logical to ask if just a few units could be utilized to provide service to the non-student population.

The advantages of the use of school buses are threefold:

1. Availability of buses; no new capital investment required.
2. Possibility of adopting existing administrative structure.
3. Availability of specially equipped vehicles.

Can these advantages be achieved in Southwestern Michigan?

F.1 Experience with School Buses

Unfortunately, the use of school bus vehicles to provide more general transportation service has

only limited operational experience. State statutes and regulations which govern school bus operation tend to limit operating opportunities. Indeed, some fourteen states prohibit the use of school buses for non-school transportation purposes and many other states including Michigan quite narrowly define the use of school bus vehicles. Two examples of some merit are:

1. The Klamath Area Transit Demonstration Project, Klamath Falls, Oregon
2. Arlington County, Virginia

In August, 1972, the Urban Mass Transportation Administration initiated a demonstration program in Klamath Falls, Oregon, a rural community with limited public transportation resources. School buses were employed to provide "part-time" service during the school year and "full-time" service during the summer months. In September, 1973, the project was abandoned primarily due to a lack of ridership and local financial support. The two major problems encountered with the school buses were securing insurance coverage and holding adequate control over school vehicles during the school year. While the project was terminated the

general conclusion suggested that school buses are a feasible means of providing transportation.

In March 1973 Arlington and Fairfax Counties were authorized by the State of Virginia to employ school buses for non-school purposes. The program, operated through the County Recreation Program and Department of Human Resources, has been reasonably successful. Vehicles are leased from the Arlington County School District. Major problems encountered include: increasing demands for school related uses of vehicles, maintenance, and supplying adequate drivers.

F.2 Problems with School Buses

To effectively use school buses certain problems must be overcome. These problems include:

1. Legislation - The state statutes governing the acquisition and operation of school buses are generally quite rigid. This is done to protect the safety of students in their daily movements to educational facilities. In Michigan, legislation permits school buses to be

used for non-school transportation of the elderly when no other transportation resources are available. Even assuming that school buses could be used, all other regulations governing school bus operations would need to be carefully observed.

2. Insurance - Obtaining adequate insurance coverage can present a substantial hurdle. General transportation service is a high risk, high exposure operation. Premium ratings are apt to be substantial.
3. Local Support and Cooperation - Local school board response to the use of school buses poses potential difficulties. Additional use of vehicles could decrease vehicle life, increase maintenance costs, etc. Cooperation from local school officials is essential if the program is to be successful.
4. Availability and Scheduling - Today's multi-purpose schools with extracurricular activities increasingly demand more transportation service. Routine maintenance activities are conducted during non-peak periods further shrinking the supply of vehicles. As a result, vehicles may not be available when needed for non-school services. Careful scheduling of non-school needs is

essential.

5. Operating Costs - The Pennsylvania Department of Transportation investigated the question of school bus operating costs in 1974. Its findings indicated that the per mile cost of school bus service was substantially greater than the per mile cost of van type vehicles. The cost of operation therefore, cannot be overlooked despite the availability of "free" capital.

6. Comfort and Safety - School buses are not generally designed to accommodate adults. These design characteristics tend to present a substantial problem. Safety conditions for adults may also be adversely affected by the interior vehicle configuration.

None of these problems are insurmountable. However, if school buses are to be effectively utilized in Southwestern Michigan each problem area must be resolved.

F.4. Summary

A summary of the advantages and disadvantages of school bus use is shown in Table F.3.

TABLE F.3
Southwestern Michigan
Regional Transportation Study
The Use of School Buses
Advantages and Disadvantages

Advantages	Disadvantages
1. Available resource, no capital investment required.	1. Legislature problems
2. Possible administrative structure in place.	2. Insurance Coverage
3. Specially equipped vehicles currently owned.	3. Obtaining cooperation from local school officials
	4. Vehicle availability
	5. Operating Costs
	6. Comfort and Safety

Given this array of advantages and disadvantages, it can be concluded that the use of school buses for general transportation is a feasible strategy. Individual counties or agencies in Southwestern Michigan may choose to tackle the use of school buses in general transportation service. However, should this strategy be employed, it can be expected that state agencies and local school officials will pose many substantial problems before an acceptable operating program is developed. Accordingly, while the feasibility of school buses as a general transportation resource must be acknowledged, implementation could cause a number of serious problems.

APPENDIX 2.G Financial Resources

Table 2.7 presents some aggregate financial figures for Southwestern Michigan. This appendix attempts to delineate the source of some of these funds as reported during the study.

Federal Funds	$127,400
Urban Mass Transportation Administration	55,000
Comprehensive Employee Training Act (CETA)	42,000
Title XX	21,000
Revenue Sharing	9,400
State Funds	$238,800
UPTRAN	184,500
Department of Social Services	44,800
Gas Tax Refund	9,500
Local Funds	$151,100
TCATA - City of St. Joseph, City of Benton Harbor and Benton Township	$ 95,500
City of Niles (D.A.R.)	10,000
City of Dowagiac (D.A.R.)	18,000
Other Local Governmental Units	27,600
Other	$ 29,000
Interagency Contractual Services	19,000
Private Donations	10,000

APPENDIX 3.A TRANSIT POTENTIAL SCORE

As explained in Chapter 3, a computerized evaluation of transit potential in Cass, Van Buren and Berrien Counties was executed during this study. Additional detailed information is shown in this appendix including the actual point values by tract, a frequency distribution of the scores and a map depicting the score values.

TABLE 3.A.1
Southwestern Michigan
Regional Transportation Study
Transit Potential Score
April, 1977

Berrien County	
Cities:	
Benton Harbor	101.7
Bridgeman	35.5
Buchanan	47.1
Coloma	38.8
New Buffalo	42.0
Niles	80.0
St. Joseph	71.5
Watervliet	41.0
Townships:	
Bainbridge	37.6
Baroda	23.8
Benton	87.6
Berrien	40.0
Bertrand	28.2
Buchanan	34.6
Chickaming	42.5
Coloma	33.2
Galien	29.1
Hagar	38.8
Lake	32.2
Lincoln	44.0
New Buffalo	38.5
Niles	58.6
Oronoko	61.8
Pipestone	33.0
Royalton	34.4
St. Joseph	40.5
Sodus	43.9
Three Oaks	42.6
Watervliet	28.5
Weesaw	38.6
Cass County	
Cities:	
Dowagiac	58.0

TABLE 3.A.1 (Cont'd)

Townships:

Calvin	38.5
Howard	38.5
Jefferson	32.7
La Grange	39.6
Marcellus	42.7
Mason	34.3
Milton	25.2
Newburg	36.7
Ontwa	35.9
Penn	45.0
Pokagon	34.5
Porter	34.1
Silver Creek	35.0
Volinia	38.2
Wayne	30.3

Van Buren County

Cities:

Bangor	49.4
Gobles	23.3
Hartford	46.5
South Haven	60.7

Townships:

Almena	31.2
Antwerp	42.3
Arlington	31.0
Bangor	41.2
Bloomingdale	34.2
Columbia	41.7
Covert	45.2
Decatur	18.6
Geneva	55.8
Hamilton	44.3
Hartford	14.4
Keeler	40.5
Lawrence	41.8
Paw Paw	21.5
Pine Grove	48.2
Porter	36.1
South Haven	13.9
Waverly	46.0

FIGURE 3.A.2

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

TRANSIT POTENTIAL SCORES — FREQUENCY DISTRIBUTION

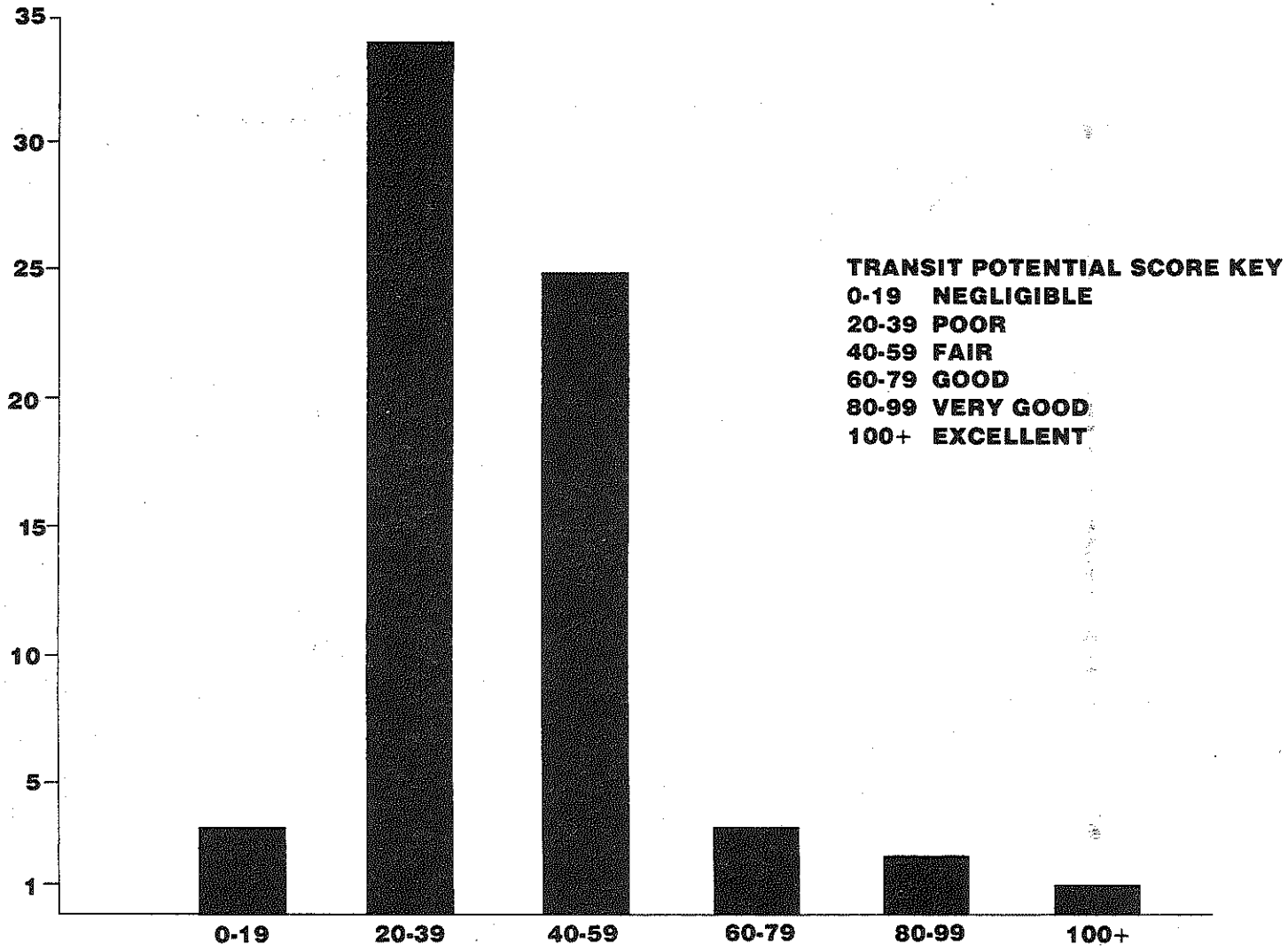


FIGURE 3.A.3

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

TRANSIT POTENTIAL SCORE MAP — BERRIEN COUNTY

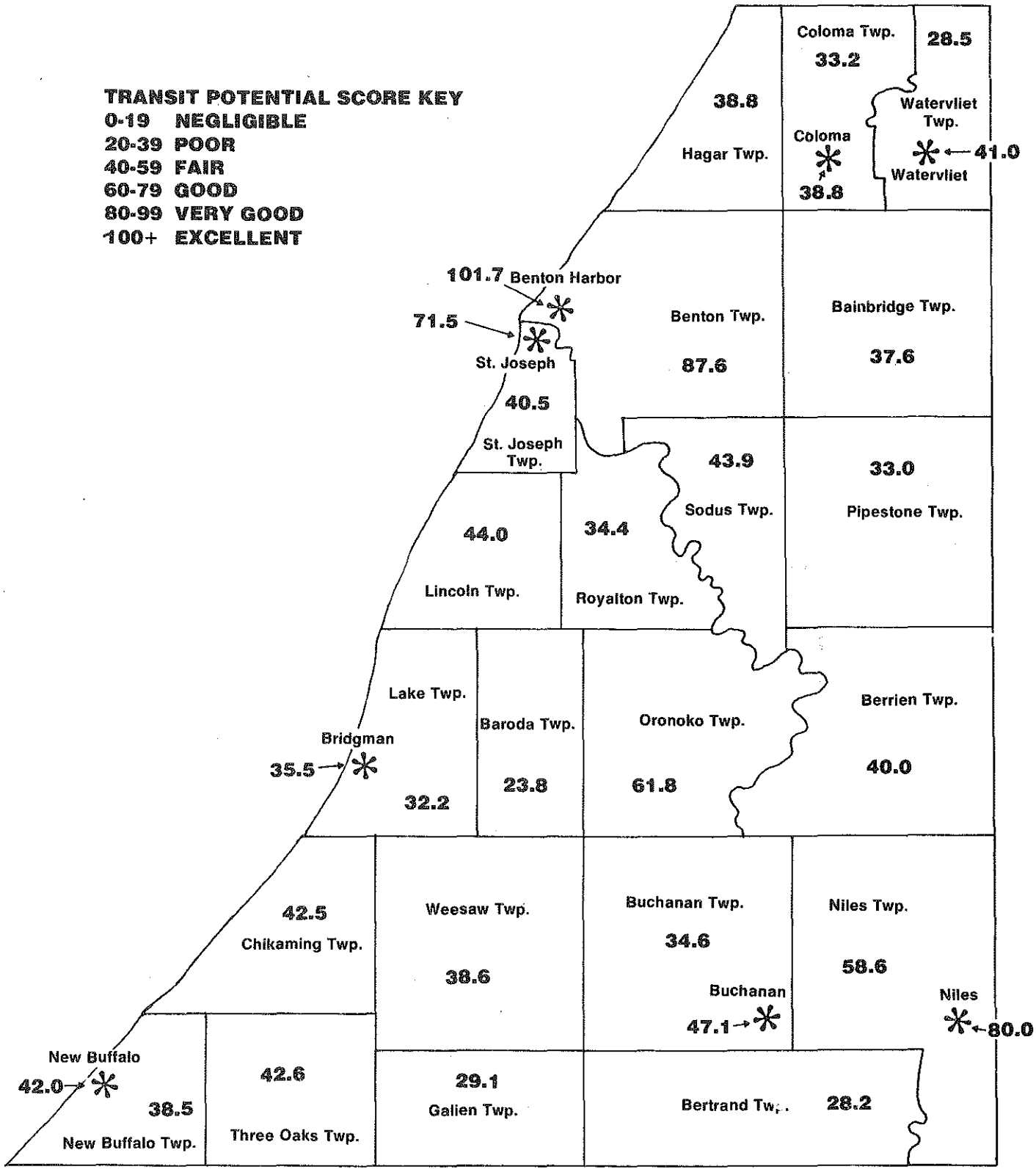
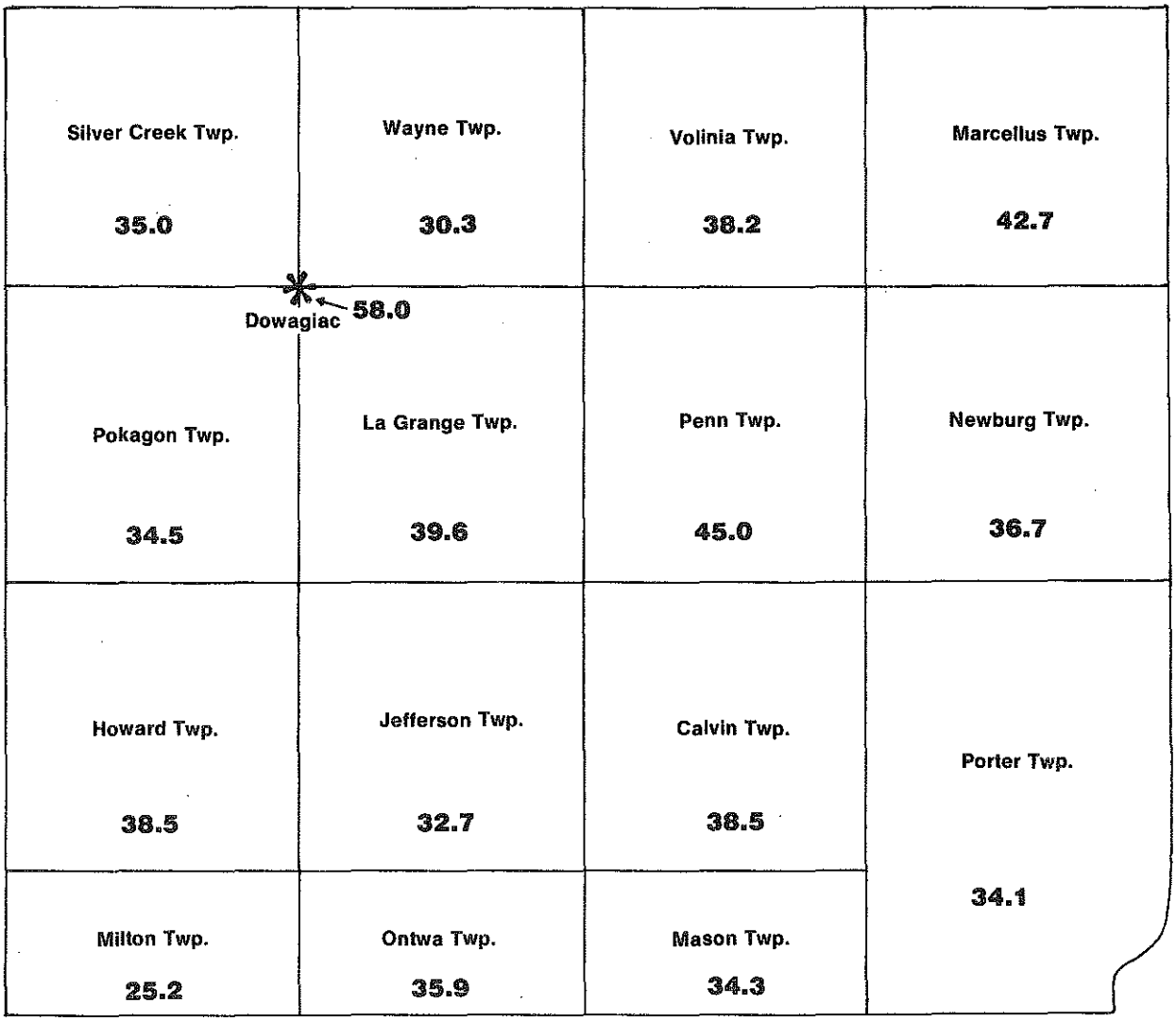


FIGURE 3.A.4

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

TRANSIT POTENTIAL SCORE MAP — CASS COUNTY



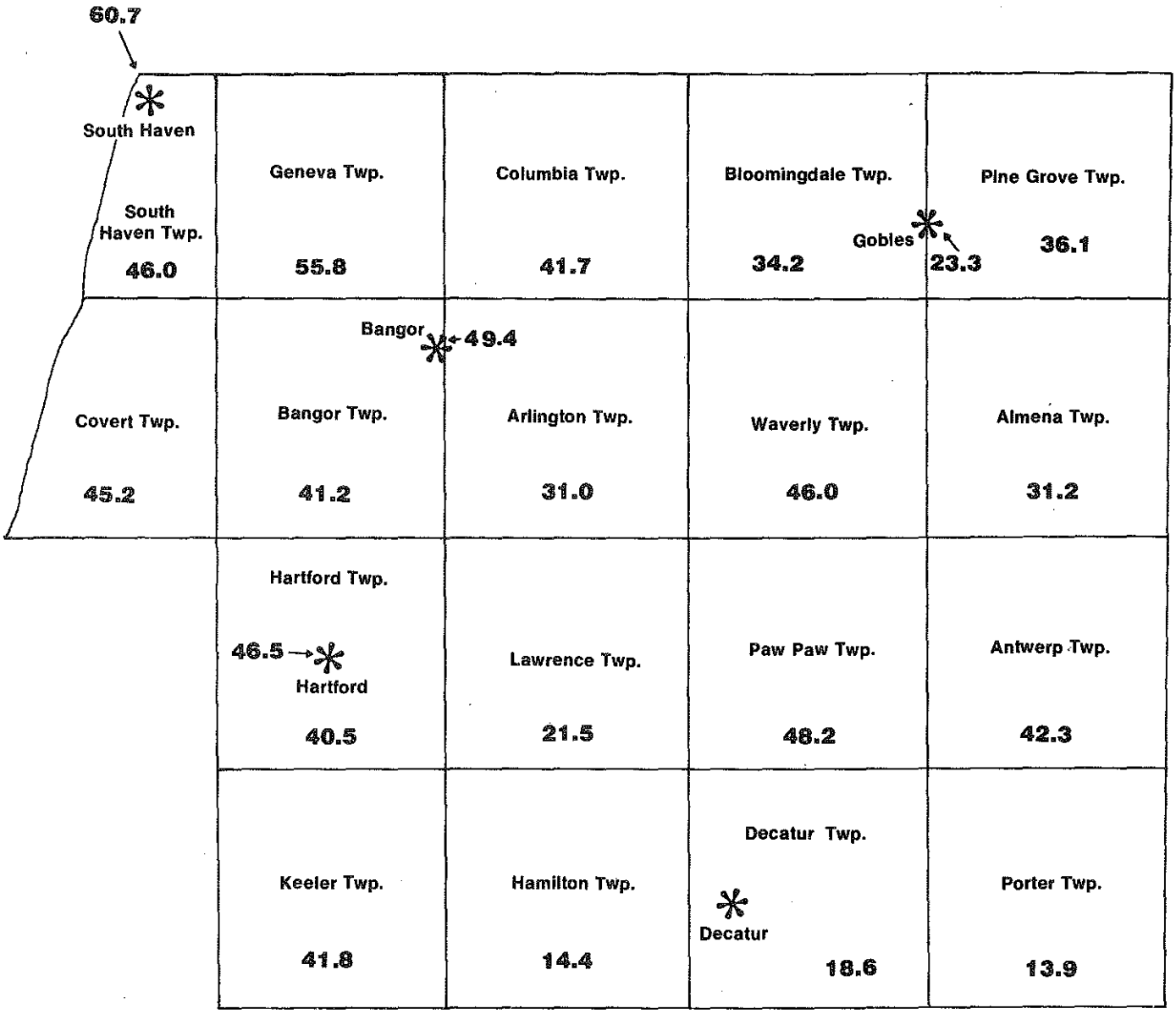
TRANSIT POTENTIAL SCORE KEY

0-19 NEGLIGIBLE
20-39 POOR
40-59 FAIR
60-79 GOOD
80-99 VERY GOOD
100+ EXCELLENT

FIGURE 3.A.5

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

TRANSIT POTENTIAL SCORE MAP — VAN BUREN COUNTY



TRANSIT POTENTIAL SCORE KEY

0-19	NEGLIGIBLE
20-39	POOR
40-59	FAIR
60-79	GOOD
80-99	VERY GOOD
100+	EXCELLENT

APPENDIX 3.B DETAILS ON DEMAND ESTIMATION

The development of demand projections is one of the more difficult but necessary functions of a regional public transportation study. This appendix gives a detailed explanation of the methodology employed to construct Tables 3.7 through 3.9.

Basic Methodology

1. Every area, city or township is assumed to have some residents who could or would use public transportation services.
2. The level of demand within any specific area is assumed to be related to population, population density, socio-economic characteristics, elderly population and handicapped population.
3. Some actual demand data was available for various parts of the three-county region.
4. Distinct differences are assumed to be evident in the demand for service within cities versus county or rural areas (this distinction is related to work trip behavior, shopping activity, etc.).

5. The transit potential score is assumed to be a good method of providing a summary of socioeconomic variables.
6. No area in Cass or Van Buren County was to be assigned a daily trip value of less than 5, while no area in Berrien County a value less than 10.
7. All estimates are shown in high, low ranges and intervals are only developed in units of 5 or 10.
8. Actual values for population, population density, transit potential score, elderly population and handicapped population were summed. The greater the number the higher the potential of the individual area.
9. Comparing total point values to know trip demands, a method of assignment was attempted. Rural area townships were assigned .006 trips/day/point value.

   Cities received almost four times this amount if the transit potential score exceeded 60; and two times this amount if the score fell below 60.

10. While this approach is reasonable and compares favorably to current trends some variations may be observed in actual practice. It is unlikely that this deviation will be greater the 15% per area.

The attached maps display the three counties demand potential on a county by county basis using contour maps.

FIGURE 3.B.1

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

DEMAND POTENTIAL CONTOUR MAP — BERRIEN COUNTY

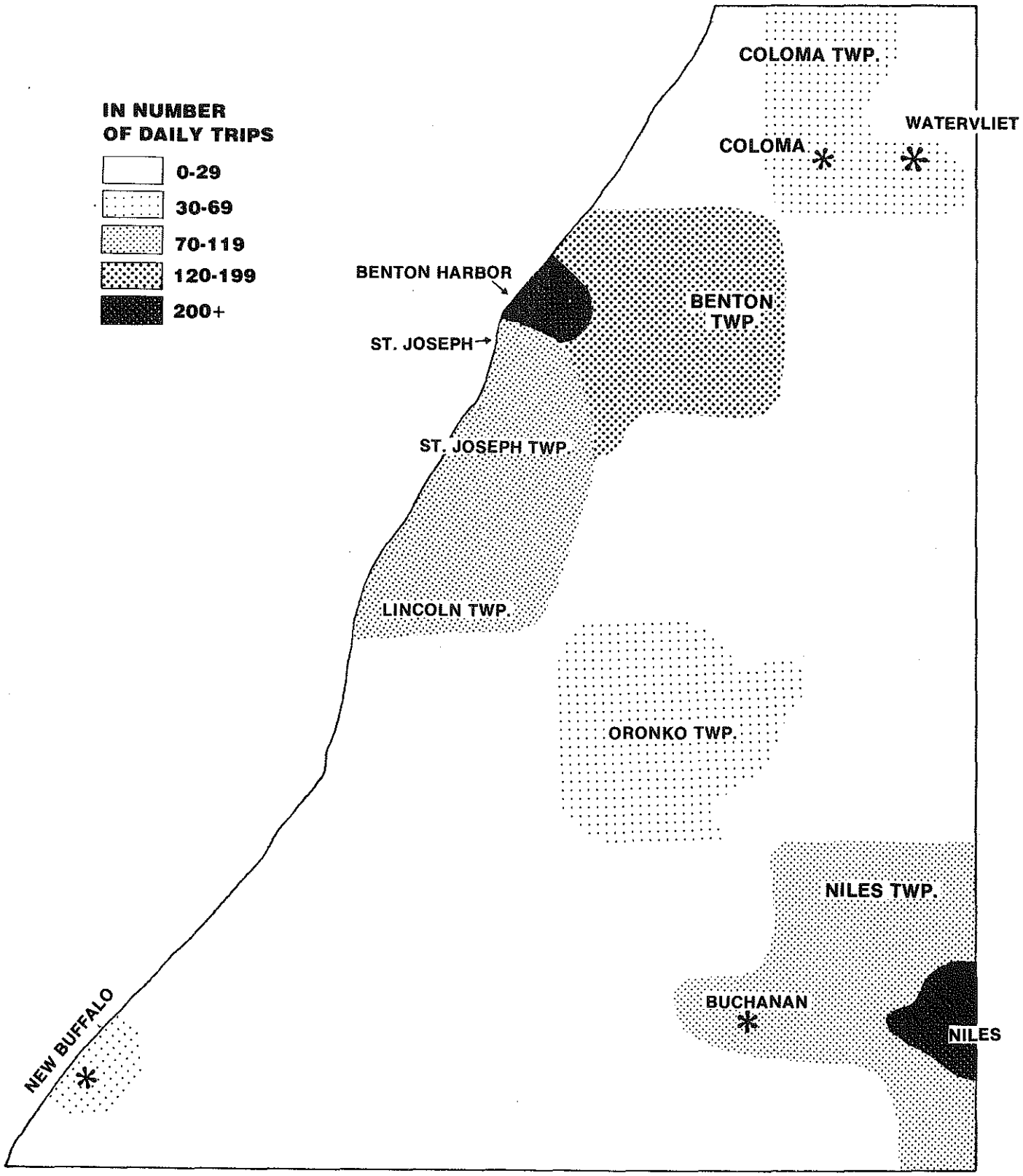


FIGURE 3.B.2

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

DEMAND POTENTIAL CONTOUR MAP — CASS COUNTY

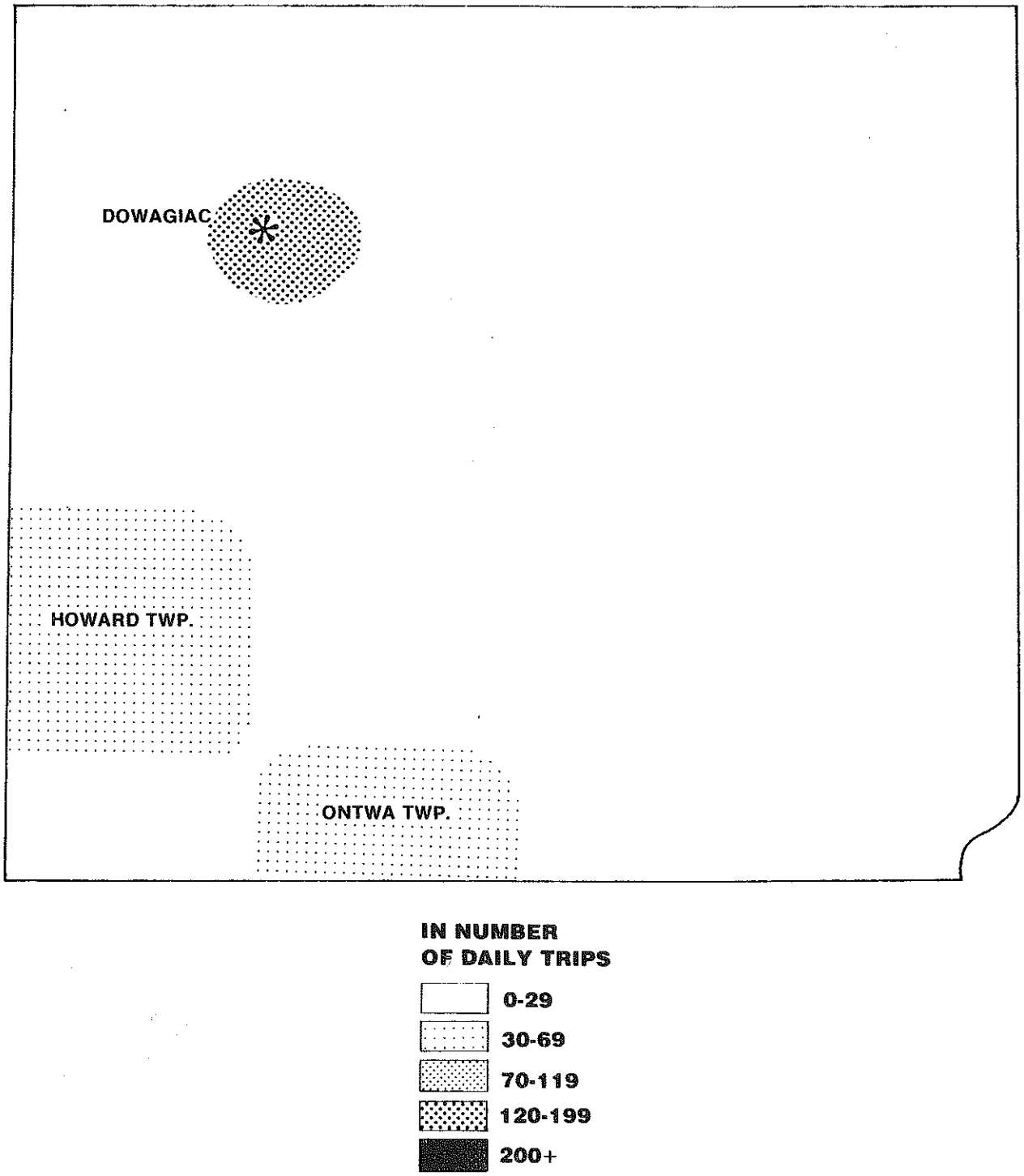
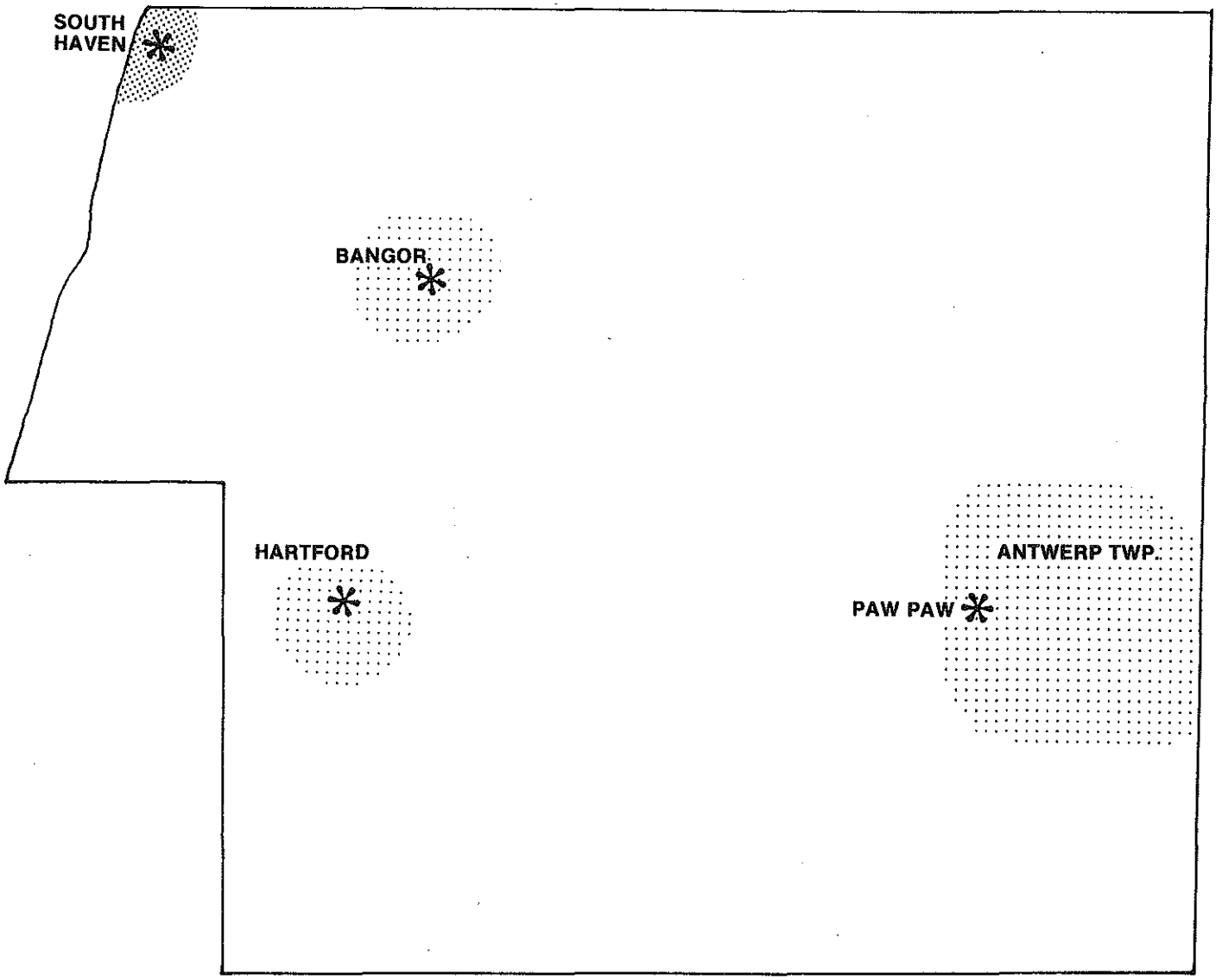


FIGURE 3.B.3

SOUTHWESTERN MICHIGAN REGIONAL PUBLIC TRANSPORTATION STUDY

DEMAND POTENTIAL CONTOUR MAP — VAN BUREN COUNTY



IN NUMBER OF DAILY TRIPS

- 0-29
- 30-69
- 70-119
- 120-199
- 200+

APPENDIX 6.A ON THE IMPORTANCE OF GOOD MARKETING AND INFORMATION

An aggressive transit marketing promotions program should be an integral part of any transit system that wants to develop passenger ridership and project a positive public image. Indeed, such a program is as necessary to the success of the transit system as it is to the success of any other type of consumer service. The marketing concept, transit service designed to be responsive to passenger service demands, is relatively new to the transit industry. But unless the public knows how to use the service, the transportation product no matter how well designed will be a failure.

Transit marketing, of course, covers a wide range of activities; public information, promotion, sales, advertising, public relations, employee attitudes, etc. It requires more than the mere fact of public operation of the transit system to change what is generally an ingrained, unfavorable public attitude, and to convince the public that transit is indeed a viable alternative to the automobile for them personally. Changes and improvements in service and equipment must become known to the public. There must be visible signs that the transit system is "Open Under New Ownership". In a word, the marketing function must "inform", and do it successfully, if the public transportation system is to thrive and grow.

In Southwestern Michigan, the following marketing and information programs should be explored. (1) Advertise new service, (2) Promote the arrival of the new coaches, (3) Initiate human relations training for operators, (4) Train telephone information personnel in depth and (5) Provide general public exposure.

6.A.1 Advertise New Service

An information brochure describing the public transportation system in Southwestern Michigan should be developed and widely distributed. This document should explain the service configuration and boldly display the telephone information number to aid the potential customer in gaining assistance.

6.A.2 Promote the Arrival of the New Vehicles

The arrival of new coaches will make the transit product much more attractive. A promotional campaign might be launched to announce the arrival of these new vehicles.

6.A.3 Initiate Human Relations Training for Operators

An operator's human relations course should be inaugurated, hopefully in conjunction with a local college or university. This course should be designed to help the transit operator gain a greater appreciation

of his job and of the passengers with whom he comes in contact on a daily basis.

6.A.4 Training of Information Specialists

As a demand responsive system an intensive training effort of telephone information specialists is necessary to assure that accurate, timely information is transacted on the telephone.

6.A.5 Develop General Public Exposure

The Human Resources Commission should spearhead a broad program of exposure for the public transportation system. This will include working closely with the local civic groups, local and county governments, local merchants, and all other agents or agencies in the area that are interested in increasing public transportation patronage. A public speaking program should be developed in which staff personnel will speak to anyone at any time about the transit system.

Through the period FY 1978 to FY 1982, the marketing and information program should attempt to explain that public transportation can be a viable alternative to the private automobile.

APPENDIX 6.B SECONDARY TRANSPORTATION SERVICES

While the primary purpose of the Southwestern Michigan Regional Public Transportation study is to determine a more efficient and effective means of providing, managing and financing public transportation in the three-county region, it is also the purpose of the study to examine the feasibility of providing secondary transportation services in the area. These secondary services include package delivery, home services delivery and medical services delivery.

In an effort to minimize costs, better utilize limited resources, and to better serve those individuals who are not capable of using public transportation, it is the intention of this study to investigate the feasibility of coordinating and combining public transportation and secondary transportation services into one unified program. It should be noted, however, that it is a premise of this study that secondary transportation services should only be provided in conjunction with people movement rather than as an autonomous type of service.

Specifically, this appendix to the regional public transportation study defines and identifies secondary transportation services, analyzes existing secondary services, outlines the criteria to be considered in coordinating secondary services with people movement, and examines the feasibility of providing secondary transportation services

in Southwestern Michigan.

6.B.1 Definition and Identification of Secondary Transportation Services

6.B.1.1 Definitions

Three secondary transportation services are analyzed by this study. They are defined below:

a) Package Delivery: This type of service involves the transportation of various goods such as groceries, prescriptions or business related deliveries such as courier type service.

b) Home Services Delivery: This type of transportation service involves the transportation of such items as meals for those who are unable to prepare their own, library books, or can involve the transportation of an individual who performs a home service task.

c) Medical Services Delivery: This service involves the transportation of individuals and/or equipment needed to perform various medical functions.

6.B.1.2 Identification of Secondary Transportation Service Providers

Secondary transportation services are presently being provided through several sources. A summary of these providers is listed below for each type of service:

Package Delivery Providers

a. Greyhound Bus Lines

b. Indian Trails Bus Lines

c. United Parcel Service

d. Twin Cities Taxi

e. Advance Taxi

f. Niles Taxi

Home Services Delivery

Several social service agencies provide delivery of various types of home services. A primary example is the Meals on Wheels program in each of the three counties which provides the delivery of meals to homes of immobile senior citizens.

Medical Services Delivery

Little medical services delivery is provided to the study area other than emergency medical (ambulance) service.

6.B.2 Analysis of Existing Secondary Transportation Services

6.B.2.1 Characteristics

The services and/or articles that are provided or carried through the present secondary transportation services network have particular characteristics which need to be considered in analyzing existing services. These characteristics are discussed below for each type of delivery service.

Package Delivery

As was previously mentioned, six private operators currently provide package delivery services in the region. Two of these operators are bus lines, Greyhound and Indian Trails. Both lines provide package delivery on all scheduled trips to a number of towns within the region including Coloma, Hartford, Paw Paw, Dowagiac and Niles. In addition, Greyhound also provides service to Cassopolis and South Haven. The two lines both accept packages up to 24" x 24" x 45" in size and 100 pounds in weight. As an example of the rate structure for bus package delivery, a parcel up to ten pounds from Benton Harbor to any of the previously mentioned towns within the region costs $2.80 to transport by Greyhound and $3.05 by Indian Trails.

United Parcel Service (UPS) is the only company in the three county area specializing in package delivery. They provide package delivery service to all points within the region. UPS package restrictions include a size limit of 108" (length plus girth) and a weight limit of 50 pounds per package and/or 100 pounds total weight to one address. Rates for UPS delivery in the region vary by type and size of package.

Three taxi operators, Advance Taxi and Twin Cities Taxi in Benton Harbor and Niles Taxi in Niles, also provide package delivery along with courier type service in the region. All three companies offer 24 hour service and deliver a wide assortment of parcels and goods including mail and inter-office correspondence, prescriptions, groceries, baggage and any other types of packages that will fit into a cab and can easily be handled by the driver (about 50 pounds or less). Advance and Twin Cities provide this service in the Benton Harbor-St. Joseph area and charge identical rates. For example, both companies charge $15 to deliver a parcel from Benton Harbor to South Haven, Dowagiac or Niles. Niles taxi charges a flat rate of $1.50 for all deliveries within Niles, and $10 for deliveries to Dowagiac and $20 to Benton

Harbor. Niles taxi is also the area's authorized agent for Sky-Cab.

Home Services Delivery

At the present time, there is only one type of home service delivery program which can be readily identified in the region. This is the Meals on Wheels program which provides for the home delivery of meals to immobilized citizens. These services are provided in each of the three counties through the utilization of volunteers to distribute the meals. A very small price is charged for each meal to cover the cost of the food.

Medical Services Delivery

Currently, there are no programs which can be identified as providing medical services delivery. Several private firms and governmental bodies do provide adequate emergency medical service throughout the region, but do not offer the home delivery of routine medical services such as check-ups, physicals, vaccinations, treatments, etc. However, a number of health and welfare agencies throughout the region do transport individuals in need of medical treatment to various types of medical facilities.

6.B.2.2 Demand

The demand for secondary transportation services is not as readily identifiable as is the demand for regular public transportation service because it cannot be easily or accurately quantified. Therefore, since data on package, home services and medical services delivery demand cannot be calculated and is not available, it is necessary to rely on observations, interviews and miscellaneous information in estimating current and future demand levels. In this light, a brief assessment of the demand for each type of secondary transportation service is provided below.

Package Delivery

A survey of the six package delivery operators indicates that most of their business is of a commercial nature (deliveries for businesses and industries). The bus lines and UPS provide most of the commercial and intercity delivery service, while the taxi companies service most of the personal and local delivery needs. Each of the three taxi companies indicated that, while package deliveries generate "several hundred dollars" worth of business each month, this accounts for less than 5% of all business revenue. The overall indication is, then, that the present

service volume is relatively low, but the private carriers do have the capacity to handle a substantial increase in future package delivery if the eventual demand warrants.

Home Services Delivery

The Meals on Wheels programs in Berrien, Cass and Van Buren Counties appears to be the most significant type of established home services delivery program in the region. Currently, this program seems to be operating well with volunteer drivers. However, there is a need to expand these programs as indicated by the many requests which cannot now be served. The lack of a sufficient number of regular volunteers has hindered the expansion of these programs. Agencies associated with other types of home services, particularly the public library, believe that a certain degree of demand does exist for the home delivery of these services. However, this unknown demand cannot easily justify the costs involved in developing and operating a new home services delivery system.

Medical Services Delivery

At the present time, no medical services delivery system exists in Southwestern Michigan other than the basic emergency medical services.

Various social and health agencies throughout the region do sponsor programs which provide transportation to medical facilities for disabled or impoverished individuals. While the demand for medical service is difficult to quantify, it is believed that the existing transportation programs are quite adequately satisfying any demand that might otherwise exist for the home delivery of medical services. Although some degree of demand could exist within the region for medical services, it is difficult to justify the additional costs for the placement of medical equipment and personnel on transit vehicles to serve an unknown level of demand.

6.B.3 Criteria for Coordination of Secondary Transportation Services

6.B.3.1 Cost

While the cost of providing secondary transportation services could be substantial, the coordination of such services with regular passenger movement could result in negligible costs. Assuming that efficiency in the coordination of these services can be obtained, it is possible that the provision of secondary transportation services

could help defray some of the operating cost resulting from passenger movement.

6.B.3.2 Management and Operational Factors

Management and operational factors would remain essentially unchanged as long as the provision of secondary transportation services can be accomplished without substantial additional manpower and operational efforts.

6.B.3.3 Local Issues

In considering the provision of secondary transportation services, it is necessary to consider the resulting impact on existing secondary transportation providers. It is not the objective of any program considered here to interfere in any way with the profit-making activities of the present secondary transportation service providers.

6.B.3.4 Legal Issues

There are no major legal restrictions that apply to the provision of package delivery and home service delivery. However, before medical service delivery could be provided it would be necessary to conform to several legal requirements in the areas of licensing and insurance.

6.B.4. Feasibility of Providing Secondary Transportation Services

6.B.4.1 Adequacy of Current Secondary Transportation Services

It is evident that for the most part those services presently being provided by secondary transportation providers fulfill the needs of the study area. The provision of package delivery is the service that is most clearly and adequately being met. Home service delivery services are also presently being provided by several social service agencies, although additional demand may require some expansion of services. The only type of medical service delivery available is emergency medical service which at the present time appears to be the only feasible means of delivering medical services.

6.B.4.2 Demand for Secondary Transportation Services

The demand for secondary transportation services within the study area is limited. The present demand for package delivery is easily being met by existing providers. There appears to be a limited amount of demand for home service delivery that is not being met (such as the desire for expansion of the Meals on Wheels program) but it is not believed that any unmet demand

requires increased effort. It is evident that the demand for medical services delivery is extremely limited.

6.B.4.3 Alternative Programs

Assuming that the demand for secondary transportation services may increase significantly in the future, the feasibility of providing secondary services would be enhanced. However, any significant increase in the provision of such services would necessitate a further outlay of funds for equipment, management and operations. Before a decision to increase the provision of secondary transportation services could be made it would be necessary to consider whether the benefits of such a program could be justified by the cost.

6.B.4.4 Conclusion

As previously stated, this study assumes that the provision of any secondary transportation services would only be performed in conjunction with passenger movement. Any other situation for providing secondary services appears to be undesirable. There are two primary reasons: 1) the demand for secondary services in the

study area is limited and is presently being adequately served by existing providers, 2) the cost of providing secondary services would be extremely prohibitive, especially in view of the limited demand. Therefore, the provision of secondary transportation services is not recommended at this time unless the provision of such services can be easily coordinated with passenger movement.

APPENDIX 6.C MANAGEMENT IMPLEMENTATION CHECKLIST

This appendix briefly lists some major tasks which must be accomplished and effective administrative procedures established prior to implementation of improved coordinated public transportation service.

Personnel

Hiring procedures and practices

Personnel Records

Obtain administrative personnel

Assignment of employees, job selection and promotion

Equal opportunity employment policy and affirmative action procedures

Transportation Operations

Daily record keeping procedures

Dispatching procedures and responsibilities

Radio communication procedures

Hours of operation

Manpower assignments and extra board operations

Accounting

Secure working capital

Establish line of credit

Secure bank accounts and establish general, capital and payroll funds

Develop payroll procedures

Develop fare collection procedures including money counting

Establish security precautions

Marketing/Public Information

Design, publish and distribute public information brochure

Establish telephone information center and procedures

Establish operator trip dispatching procedures

Develop service implementation public ceremony

Design system logo or identifying symbol

Establish complaint and suggestion procedure

Interagency Service Contracts

Inventory existing daily trip demands

Design revised schedules

Negotiate service contracts

Lease transit vehicles from current operators

Develop arrangement for additional service contracts

Supplier Relationships

Develop fuel and lubricant suppliers

Obtain tire supplier

Inventory supplies of other carriers and develop transfer mechanism

Secure adequate utilities

Obtain office space and garage space as needed

Obtain office furniture and supplies

Secure mechanical tools and equipment as required

Develop insurance coverage

Secure sales and other tax exemptions

Establish supply control procedures

Develop purchasing practices

Develop storeroom requisition procedures

Obtain all necessary supplies prior to initiation of services

Maintenance

Design maintenance work flow and control procedures

Develop preventive maintenance schedule

Design daily servicing procedure and flow for fuel washing and light inspection

Secure vehicle storage locations

Establish road call procedure for breakdowns

Prepare operator defect reporting system

APPENDIX 7.A MAKING THE CAPITAL BUDGET

Table 7.1 presents a five year capital budget for a coordinated, comprehensive public transportation system in Southwestern Michigan. In this appendix the basic assumptions and derivation of the numbers on Table 7.1 are more thoroughly developed.

Basic Assumptions

1. All vehicles acquired are van conversion models, some with wheelchair lifts.

2. All units in current regional fleet would be replaced over the next five years.

3. Locked, registering fareboxes should be acquired for all units -- current farebox unit is generally a Diamond cylinder box, non-registering. This is considered insufficient for internal financial control.

4. Existing radio equipment can be readily converted to uniform frequency.

5. Some garage facilities construction or renovation may be required by the revised public transportation organization. A budget of $250,000 is established for this purpose.

6. Capital costs are judged to escalate at about 10% per annum in accord with current industry trends.

7.A.1

SOUTHWESTERN MICHIGAN
REGIONAL PUBLIC TRANSPORTATION STUDY
VEHICLE ACQUISITION SCHEDULE
FY 1978 - FY 1982

	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982
1. Vehicles Currently Available	36	48	51	54	59
2. Replacement Vehicles	7	8	7	7	7
3. New Vehicles	12	3	3	5	6
TOTAL FLEET SIZE	48	51	54	59	65
Actual Vehicles Ordered Each Year (2 & 3)	19	11	10	12	13

APPENDIX 7.B MAKING THE OPERATING BUDGET

Table 7.2 presented a general five year operating budget for a coordinated, comprehensive public transportation system in Southwestern Michigan. In this appendix the basic assumptions and derivation of the numbers on Table 7.2 are more thoroughly developed.

Basic Assumptions

1. All labor is assumed to be paid an hourly wage plus 25% benefit package. Reliability and dependability of a public service can only be assured when labor is paid for services rendered. Modest hourly wage rates are assumed. It is not assumed that labor will be organized and represented in collective bargaining although this possibility cannot be discounted over a three to five year time frame.

2. More rigorous maintenance procedures are assumed to be operative. A continuous program of vehicle inspection, minor and major repair is an essential ingredient in the production of safe and reliable public transportation service.

3. A comprehensive transportation communications center is assumed. Receiving calls for service and dispatching vehicles over a three county area is a difficult problem. Unless

effective communication and information channels are established, system dependability cannot be assured.

4. Liability insurance coverage of up to $3,000,000 per occurrence is assumed to be purchased. Current industry practice suggests this is a minimal standard.

5. Availability of Human Resources Commission staff, Dial-a-Ride management and private non-profit corporation management provides potential for cross pollenization of administrative skills and, therefore, organizational economies.

6. Inflation is presumed to occur at a basic rate of 7.5% per annum. Current experience suggests that insurance ratings will advance at a faster pace than 7.5% while administrative costs will not escalate quite as rapidly as 7.5%.

7. Service expansion is programmed to occur at an increasing rate over the five year period:

12.3%	FY 1979
14.2%	FY 1980
18.8%	FY 1981
25.2%	FY 1982

8. All passengers, except those carried on contractual or charter service, are assumed to pay a fare for services rendered. With the high cost of public transportation service, it is reasonable to charge a nominal fare.

9. Actual cost projections are performed only for FY 1978. Succeeding year cost projections are obtained through service expansion and inflationary escalation.

These assumptions are fundamental to the series of numbers developed below and the figures shown in Table 7.2. Changes in basic assumptions would alter the numbers actually developed. However, tests of the series of numbers developed below against actual experience and with other budgeting techniques indicated that the figures are reasonable expectations of actual future costs.

Actual Cost Projections

1. Transportation

   a. Drivers' Wages

Wage Rate	$4.00/hr.[1/]
+ 25% Fringe Package (health, life insurance and pension)	1.00/hr.
Total Driver Wage Cost	$5.00/hr.

1/ ATE Estimate

x Annual vehicle hours	$ 120,830[2/]
Estimated Wage Costs	$ 604,150
+ Allowance for Overtime @ 2.5%[3/]	15,150
Estimated Total Drivers' Wages	$ 619,300
Total # of Drivers	62

b. Fuel, Lubricants and Miscellaneous

Fuel & Lubricants Costs	$ .0852[4/]
x Vehicle Mileage (18 mph x 120,830)	2,174,940
Estimated Cost	$ 185,300 (rounded)
+ Miscellaneous (registrations, inspections, license fees, etc.)	3,100[5/]
Estimated Total Fuel, Lubricants & Miscellaneous	$ 188,400

c. Supervision

Wage Rate	$4.50/hr.[6/]
+ 25% Fringe	1.125/hr.
Total Supervision Wage Cost	$5.625/hr.
x Annual Pay Hour	4,160
Estimated Wage Cost	$ 23,400
+ Allowance for Overtime @ 2.5% (rounded)	600
Estimated Total Supervision Cost	$ 24,000
Total # of Supervisors	2

[2/]From Table 7.2

[3/]ATE estimate

[4/]Current average for gasoline powered vehicles

[5/]ATE estimate

[6/]ATE estimate

d. Total Transportation Cost

Driver Wages	$ 619,300
Fuel and Lubricants	185,300
Supervision	24,000
	$ 828,600

2. Maintenance

a. Maintenance Wages

Wage Rate	$4.25/hr.[7/]
+ 25% Fringes	1.05/hr.
Total Maintenance Wage Cost	$5.30/hr.
x Annual Service Hours[7/]	$ 27,000
Estimated Maintenance Cost	$ 143,100
+ Allowance for Overtime @ 2.5%	3,600
Estimated Total Maintenance Labor	$ 146,700
# of Employees	13

b. Supervision

Wage Rate	$4.75[8/]
+ 25% Fringes	1.1875
Total Wage Cost	$5.9375
x Annual Pay Hours	2,080
Estimated Supervision Cost	$ 12,350 (rounded)
+ Allowance for Overtime @ 1.2%	150
Estimated Total Supervision Cost	$ 12,500
# of Employees	1

7/Assumes 1 service hour per every 4.5 vehicle road hours and includes inspection, minor and major repair, paint, body work, daily servicing and washing.

8/ATE estimate

c. Materials and Supplies

Materials and Supplies Cost	$ .5264[9/]
x Annual Vehicle Hour	120,830
Estimated Cost of Materials and Supplies	$ 63,600

d. Total Maintenance Cost

Wages	$ 146,700
Supervision	12,500
Materials and Supplies	63,600
	$ 222,800

3. Information and Marketing

a. Telephone Operators

Wage Rate	$2.90/hr.[10/]
+ 25% Fringes	.725/hr.
Total Wage Cost	$3.625/hr.
x Service Hours (36 x 281)[11/]	10,116
Estimated Operator Cost (assume no overtime paid)	$ 36,700 (rounded)
# of Employees	6

b. Supervision/Key Operators

Wage Rate	$3.10/hr.[12/]
+ 25% Fringes	.775/hr.
Total Wage Cost	$3.875/hr.

[9/] ATE estimate using maintenance figures for several current operations.

[10/] ATE estimate

[11/] Service hours based on assumed call volume of 1500/day and 2.2/minute response time.

[12/] ATE estimate

x Service Hours[13/] (3 x 2080)	$ 6,240
Estimated Wage Cost	$ 24,180
+ Allowance for Overtime @ 1.5%	360
Estimated Total Cost	$ 24,540
# of Employees	3

c. Communication Service

Six Full Service Telephone Lines (all radio installation and service included as capital or maintenance item)	$ 7,200

d. Advertising and Promotion $ 13,160

e. Total Marketing and Information Cost

Operator labor	$ 36,700
Supervision	24,540
Communication	7,200
Promotion	13,160
	$ 81,600

4. Insurance and Safety

a. Public Liability and Property Damage to $3,000,000/occurrence $ 80,000[14/]

b. Fire and Theft Insurance, Non-Owned Auto Coverage, Miscellaneous Policies 5,100

Estimated Total Insurance and Safety Cost $ 85,100

[13/] Assumes three call centers and supervision at each center to handle calls plus dispatch.

[14/] Based on estimates of $1,667/unit/year source current insurance ratings; discussions with Chiviges Insurance of Benton Harbor.

5. Administration[15/]

a. Human Resources Commission Staff

Executive Director ($14,000/ year + fringes)	$ 17,500
Bookkeeper/Secretary ($7,000/year + fringes)	8,750
Labor Cost	$ 26,250
Stationery and Supplies	2,000
Communications	400
Legal, Auditing & Consulting	10,000
Dues and Subscriptions	200
Miscellaneous	500
Total Materials and Supplies	$ 13,100
Total H.R.C. Staff Cost	$ 39,350
# of Employees	2

b. Dial-A-Ride Management

Project Managers (3 x $13,000/hr. + fringes)	$ 48,750
Bookkeeper/Secretary (1.5 x $7,000/yr. + fringes)[16/]	13,100
Labor Cost	$ 61,850
Stationery and Supplies	6,600
Communication	1,800
Legal, Auditing & Consulting	3,000
Miscellaneous	1,250
Total Materials and Supplies	$ 12,650
Total Dial-A-Ride Staff Cost	$ 74,500
# of Employees	4.5

[15/]All wage rates assumed by ATE.

[16/]One bookkeeper/secretary to be shared with private non-profit corporation.

c. Private Non-Profit Management

Program Manager ($13,000/yr. + fringes)	$ 16,250
Bookkeeper/Secretary (.5 x $7,000/yr. + fringes)[17/]	4,400
Labor Cost	$ 20,650
Stationery and Supplies	2,300
Communications	400
Legal, Auditing & Consulting	1,000
Miscellaneous	500
Total Materials and Supplies	$ 4,200
Total Non-Profit Corporation Staff Cost	$ 24,850
# of Employees	1.5

d. Total Administration

H.R.C. Staff	$ 39,350
Dial-A-Ride Staff	74,500
Private Non-Profit Staff	24,850
	$ 138,700

6. Special Programs

a. Ride Pooling

(.15/mile x 83,333 miles)	$ 12,500

b. Subsidized Intercity Bus and Taxi Fares 12,500

Total Special Program $ 25,000

[17/] Shared with Dial-A-Ride Projects.

7. Total FY 1978 Operating Budget

Transportation	$ 828,600
Maintenance	222,800
Marketing and Information	81,600
Insurance and Safety	85,100
General Administration	138,700
Special Programs	25,000
Total Estimated Expenditure	$1,381,800
# of Employees	95

Actual Revenue Projections

1. Passenger Fares

Total Passengers	578,900
x Average Fare	.384[18/]
Estimated Gross Revenue	$ 222,300

2. Interagency Contract Service

Cost per Service Hour	$ 11.44
x Volume of Service Hours	15,400[19/]
Estimated Contract Revenue	$ 176,200

3. Charter Revenue

Cost per Service Hour ($1,381,800 ÷ 120,830)	$ 11.44
Service Premium @ 22%[19/]	2.56
Estimated Rate per Charter Hour	$ 14.00
x Charter Service Hours	$ 3,000
Estimated Charter Revenues	$ 42,000

[18/]Average fare on Michigan Dial-A-Ride projects, July, 1976.

[19/]ATE estimate

4. Advertising

Revenues from ads on or in vehicles	$ 3,000

5. Miscellaneous

Interest, sale of old equipment, donations, etc.	500

6. Total Estimated Revenues

Passenger Fares	$ 222,300
Interagency Contract Service	176,200
Charter Revenues	42,000
Advertising	3,000
Miscellaneous	500
	$ 444,000

REFERENCES

The following is a list of reference materials which provided assistance in the development of this report.

American Institute of Planners. Urban Transportation Handbook, Parts 1 and 2. Washington, D. C.: American Institute of Planners, 1974.

Berrien County Planning Commission. Overall Economic Development Plan. Berrien County, Michigan, 1975.

Bhatt, Kiran V.; Kemp, Michael R.; Kirby, Ronald F.; McGillivray, Robert G.; and Wohl, Martin. Para-Transit. Washington, D. C.: The Urban Institute, 1974.

Burkhardt, Joseph E., and Millar, William W. "Estimating the Cost of Providing Rural Transportation Service". Paper prepared for 54th Annual Meeting of the Transportation Research Board, January, 1975.

Cass County Planning Commission. Overall Economic Development Plan, 1976 Update. Cass County, Michigan: August, 1976.

Dickey, John W., and Mix, Charles V. S. "Rural Public Transportation in Virginia," Transportation Research Board, No. 519. Washington, D. C.: National Academy of Science, 1974.

Institute of Public Administration. Planning Handbook: Transportation Services for the Elderly. Washington, D. C.: Department of Health, Education and Welfare, 1975.

Michigan Department of State Highways and Transportation. Dial-A-Ride Transportation. Lansing, Michigan, February, 1976.

Michigan Department of State Highways and Transportation. Transit Development Program for the Twin Cities Area Transportation Authority. Lansing, Michigan; February, 1975.

Niles, City of. Public Transportation Plan. Niles, Michigan: November, 1975.

Transportation Research Board. Para-transit. Washington, D. C.: National Academy of Sciences, 1976.

Urban Mass Transportation Administration. Small City Transit Characteristics: An Overview. Washington, D. C.: U. S. Department of Transportation, 1976.

Michigan Department of State Highways and Transportation, "Michigan Elderly and Handicapped Transportation Study: A Statistical Overview", Lansing, Michigan, October, 1975.

Transportation Systems Center, "Urban Mass Transportation Needs of the Handicapped and Elderly: Executive Summary". Boston, Massachusetts: U. S. Department of Transportation, 1974.