

HE
309
JMS
M52
1978

Dial- A- Ride Transportation



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



BUREAU OF URBAN
AND PUBLIC TRANSPORTATION

MICHIGAN DEPARTMENT
OF
STATE HIGHWAYS AND TRANSPORTATION

MICHIGAN DART PROGRAM

STATUS REPORT

Revised July, 1978

By

Bureau of Urban and Public Transportation

Bus Transport Division

Bus Development Section

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

STATE HIGHWAY COMMISSION

Peter B. Fletcher
Chairman

Hannes Meyers, Jr.

Carl V. Pellonpaa
Vice Chairman

Weston E. Vivian

DIRECTOR

John P. Woodford

Acknowledgments

This report was prepared by the Bureau of Urban and Public Transportation, Bus Transport Division, Bus Development Section of the Michigan Department of State Highways and Transportation.

Questions concerning this status report should be addressed to:

Grovenor (Kip) Grimes
Bureau of Urban and Public Transportation
State Highways Building
P.O. Box 30050
Lansing, Michigan 48909

Phone: (517) 374-9183

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction	1
II. Background	7
A. Legislation and Financing	7
B. Population Characteristics	8
C. System and Service Characteristics	8
D. Flow Chart	21
III. Operational Data	24
IV. Cost/Revenue Data	31
V. Vehicle Operating Data	35
VI. Community Impact	38
VII. Summary	41

I. Introduction

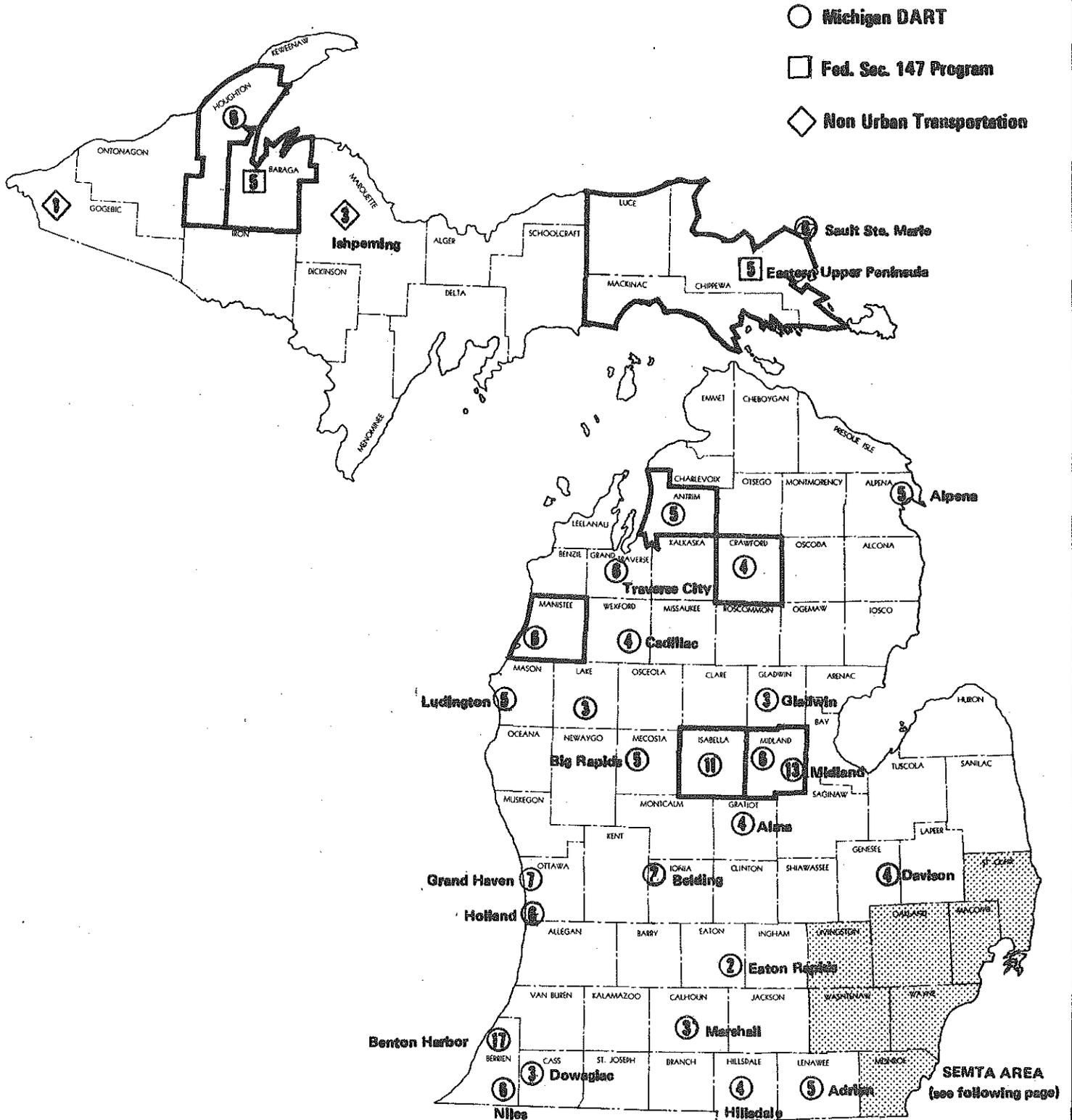
The Michigan Department of State Highways and Transportation has actively been involved in improving public transportation in Michigan's small/medium-sized communities and rural areas. Michigan DART or Dial-A-Ride Transportation is the program concept designed to provide basic transportation service throughout the state. The Michigan DART program is based on concepts developed in Ann Arbor which began Dial-A-Ride service in September, 1971.

The first Michigan DART system started in Holland in February, 1974. Thirty-eight systems are now in service statewide (Exhibit A), providing total public transportation services to nearly one million Michigan residents. This includes Houghton County which recently started and appears only on Exhibit A. The trend is now towards more rural county and regional systems.

Small Town Operations

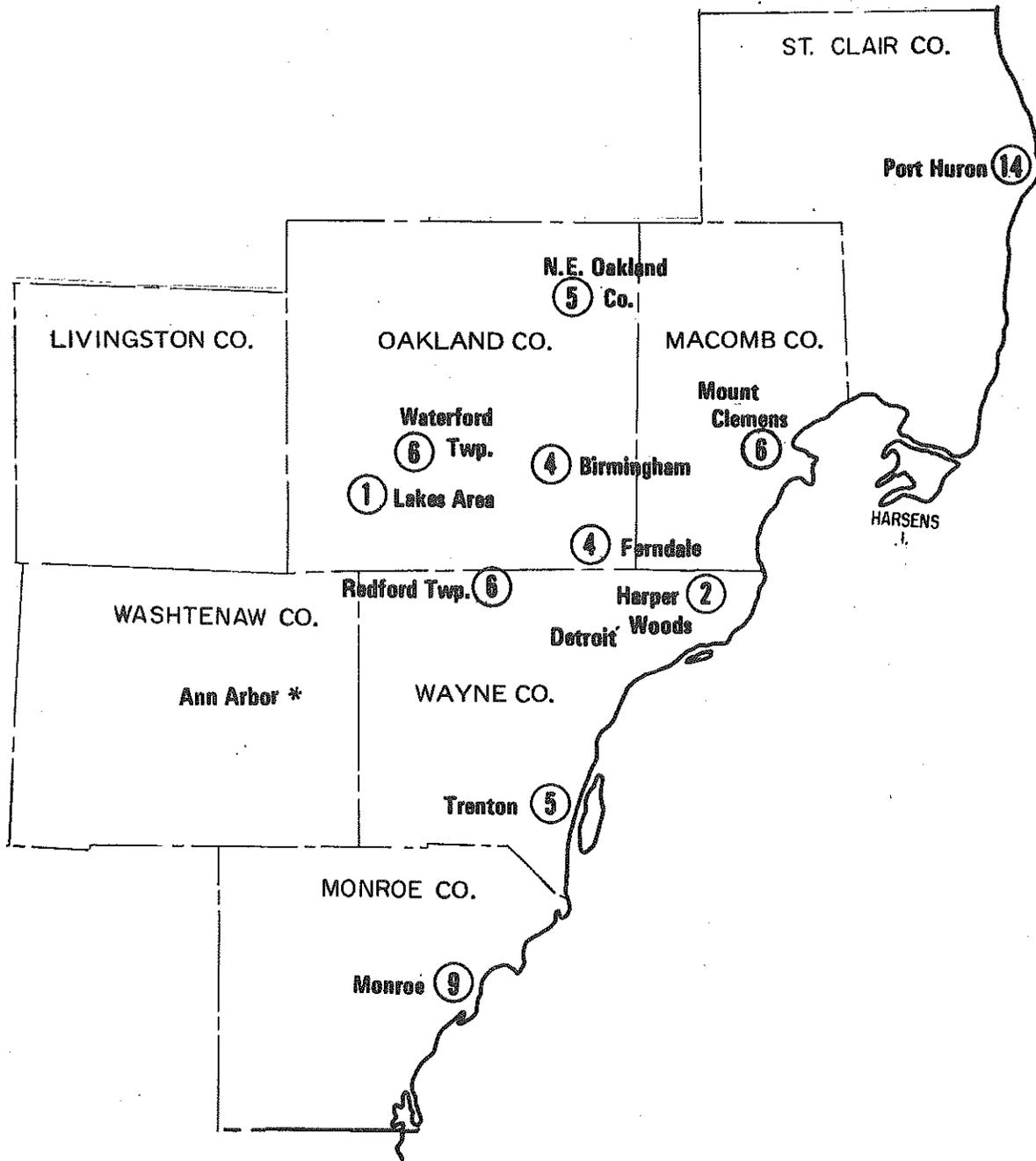
Generally, a Dial-A-Ride system in small towns involves the potential customer contacting the transit service by telephone to make arrangements for pickup and delivery to a destination. DART is a flexible system which operates on a demand-response basis (Exhibit B). DART does not operate like a taxi, picking up and delivering fares one at a time, but on tours. A tour consists of the bus picking up passengers at various locations and delivering them to different destinations throughout the service area. All of the DART vehicles are radio dispatched. When a tour is finished, the dispatcher uses the radio system to relay a new list of pickups. Pickups after call-in are generally within 20 minutes, and trip time averages 15 minutes. Most of the

OPERATING SYSTEMS



Note: Numeral inside symbol
Indicates number of vehicles

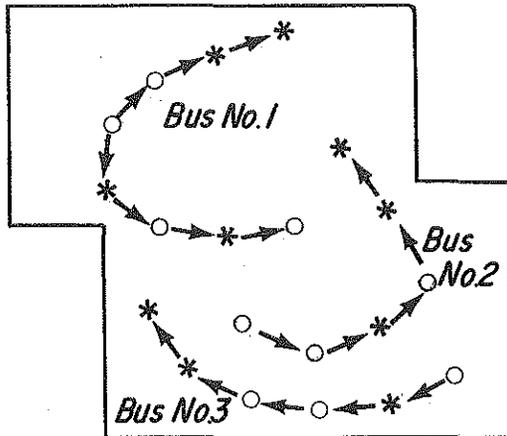
OPERATING SYSTEMS



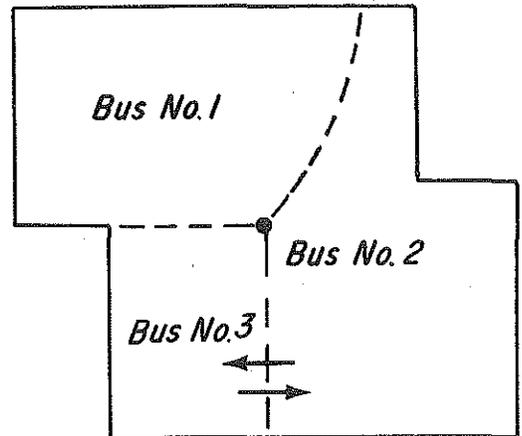
* Authority Separate from SEMTA

SMALL URBAN

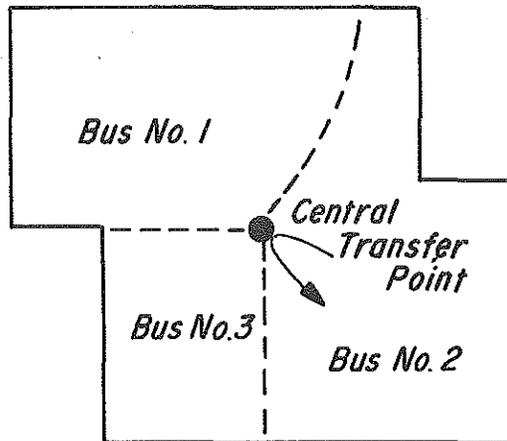
○ PICKUPS
* DROPOFFS



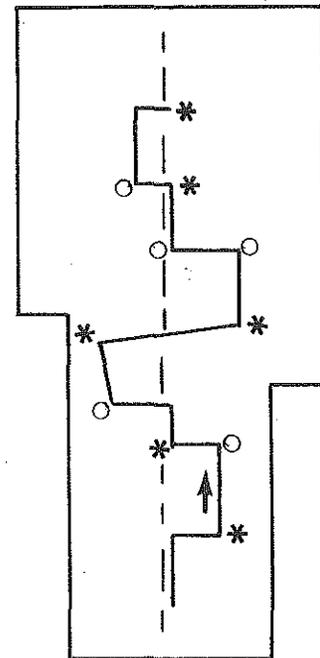
"Pure" Demand Response



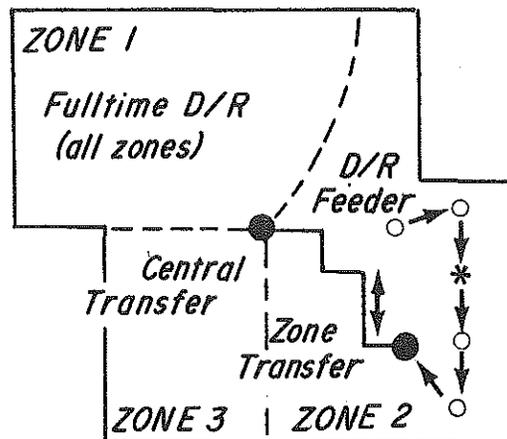
Zonal Demand Response



*Zonal Demand Response
w/Central Transfer*



*Route Deviation
(Point Deviation)*



*Zonal Demand Response
w/Fixed Route Connectors*

smaller systems are "pure" demand-response. The larger small town systems are generally a combination of demand-response with zonal transfer or in combination with fixed-route connectors. There are no route deviation systems operating in Michigan.

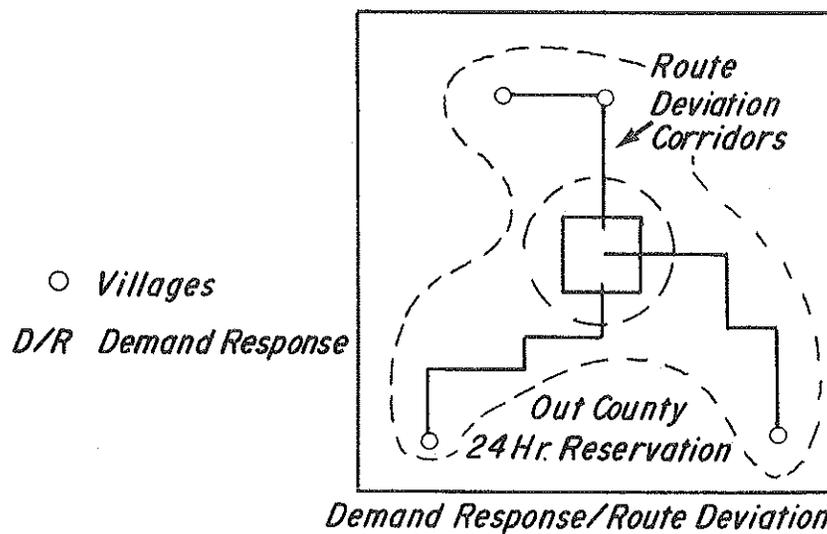
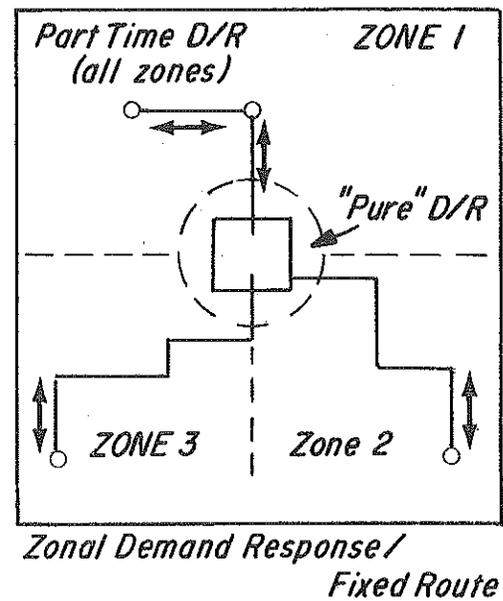
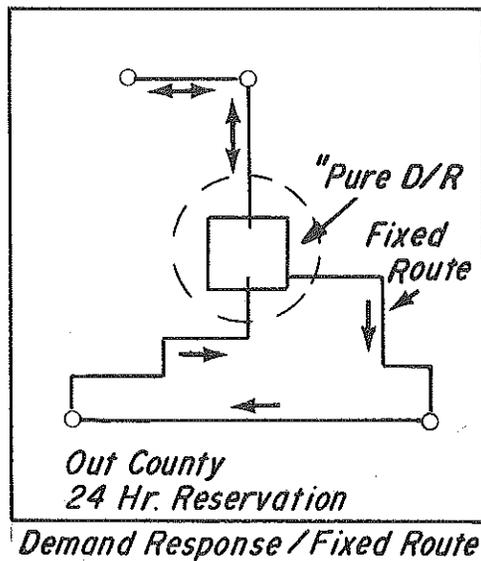
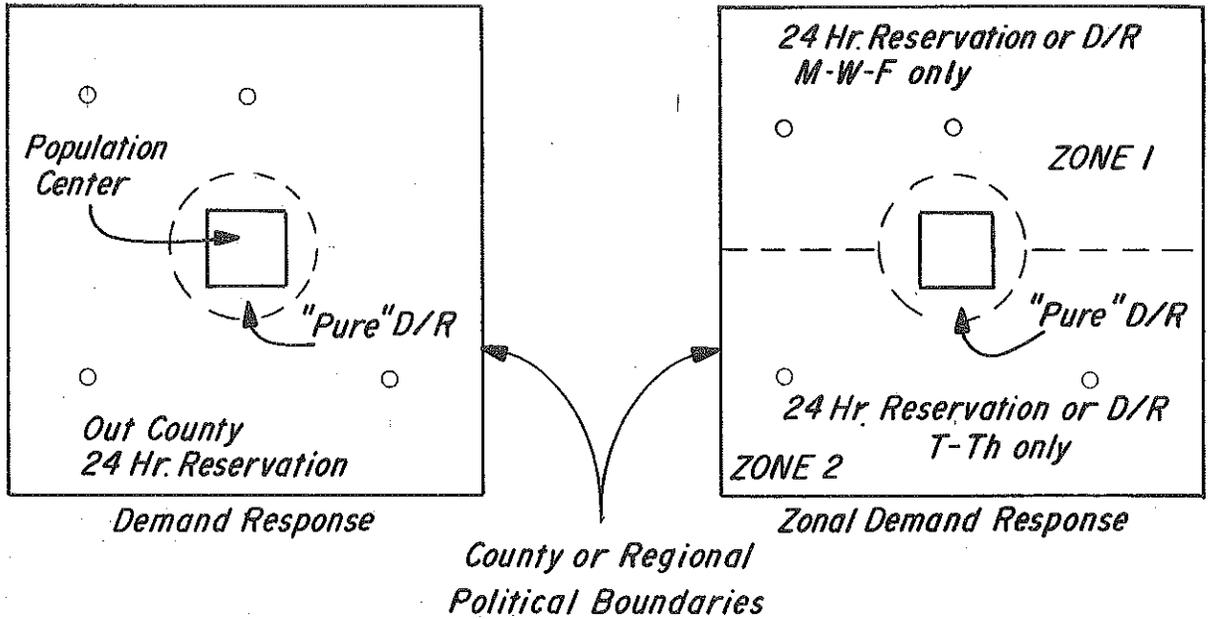
Rural Operations

In rural areas, DART takes on many different forms (Exhibit C). Midland County has now shut down due to an unfavorable millage election. The towns over 2,000 are served with demand-response; however, it is operationally impossible to provide this quality of service to all residents in a typical county covering 500 square miles and keep the cost per passenger under a reasonable amount, such as \$2.50.

The options available are planned demand-service (advance sign-up), shuttles connecting population areas, route deviation service, local coordinators to arrange transportation for low population areas, contracts with community action and social service agencies, etc.

Included in the development of transportation in the rural areas of Michigan are three Federally sponsored projects. These are made possible under Section 147 of the Federal-Aid Highway Act of 1973. One of these projects, the West Michigan Four County system, has shut down and is not included in Exhibit A, although it is included in the informational exhibits later in this report. Portions of the Four County project will be restarted as separate operations.

RURAL



○ Villages
D/R Demand Response

II. Background

A. Legislation and Financing

Act 51 of the Public Acts of 1951, as amended, provides for a two-cent increase in the state gas tax, from which one-half cent is used for public transportation. This landmark legislation spurred the growth of public transportation, including the development of outstate rural and small town demand-response systems. This program was limited to starting eight systems the first year.

The first year operating cost is funded 100 percent from the state, less farebox revenues, and \$1,000 as the local contribution. The covered costs include:

1. Capital Costs
 - a. Vehicles
 - b. Radio System
 - c. Facility Renovation
2. Monthly Operating Costs
 - a. Management
 - b. Insurance
 - c. Marketing
 - d. Office Supplies
 - e. Rent and Utilities
 - f. Telephone
 - g. Dispatch Labor
 - h. Driver Labor
 - i. Vehicle Operations and Maintenance
 - j. Training and Travel

For the first year, the state contracts with the city, county, or authority. If a subcontractor is used, such as a cab company, the local unit of government

must execute a contract with the third party to provide operating services. At the end of the first year, if the system is continued, the equipment is retained by the community, as long as the system continues to operate. The state will continue after the first year to provide operating subsidies up to a maximum of one third of the total operating costs, as well as providing 100 percent state funding or federal/state matching funds for replacement and/or expansion of capital equipment.

B. Population Characteristics

Exhibit D indicates pertinent demographic data for each system. It is readily apparent that a wide range of Michigan communities now have DART service. Gladwin is the smallest with a population of 2,071, and Isabella County is the largest with a population of 44,594. Percent of households with no cars, percent of senior citizens, and percent of families below poverty level are indicators of the relative need for public transportation.

C. System and Service Characteristics

Exhibits E & F describe the basic system characteristics and types of service. The basic fare is generally 50 cents. Senior citizens and handicappers ride for half fare (mandated by state law). Children usually ride at half fare with "babes in arms" riding free. County systems usually increase the basic fare based upon trip length.

All of the systems have at least one vehicle equipped with a wheelchair lift. Public Act 140 of 1978, which requires all line-haul buses to be accessible to

1970 GENERAL POPULATION CHARACTERISTICS

<u>Outstate Systems</u>	<u>Population Served</u>	<u>Service Area (Sq. Miles)</u>	<u>Density</u>	<u>1969 Median Family Income</u>	<u>% Families Below Poverty Level</u>	<u>% Households with no car</u>	<u>% Senior Citizens Age 62 min.</u>	<u>% Handicappers</u>
Adrian	20,382	5.4	3,774	\$ 9,759	6%	12%	13%	6%
Alma	9,790	4.6	2,128	9,352	9%	11%	13%	6%
Alpena	19,805	10.4	1,904	9,039	9%	10%	13%	7%
Belding	5,121	4.2	1,219	9,486	6%	9%	12%	5%
Benton Harbor	35,515	37.8	940	10,322	12%	14%	13%	6%
Big Rapids	11,995	5.1	2,352	8,140	11%	13%	8%	3%
Cadillac	10,490	6.1	1,720	8,474	9%	15%	15%	7%
Davison	5,259	1.6	3,287	13,400	5%	4%	6%	6%
Dowagiac	6,583	3.4	1,923	9,668	9%	16%	13%	6%
Eaton Rapids	4,494	2.7	1,664	10,210	6%	8%	14%	4%
Gladwin	2,071	1.6	1,294	8,157	5%	10%	16%	4%
Grand Haven	17,074	7.5	2,277	10,610	4%	9%	11%	8%
Hillsdale	7,728	4.3	1,797	9,791	6%	14%	14%	5%
Holland	27,137	14.2	1,911	10,135	6%	10%	16%	5%
Ishpeming	8,245	8.7	948	8,986	7%	17%	16%	6%
Ludington	9,521	4.3	2,214	8,811	9%	13%	18%	4%
Marshall	7,253	4.6	1,577	11,304	4%	13%	14%	5%
Midland	35,176	24.9	1,413	13,428	4%	5%	6%	4%
Niles	12,988	5.2	2,498	10,621	9%	16%	15%	7%
Sault Ste. Marie	15,136	15.7	964	8,033	14%	15%	14%	6%
Traverse City	20,011	7.1	2,542	10,143	8%	9%	16%	4%
SUBTOTALS	291,774	180.0	1,621	\$10,172	8%	11%	13%	5%
<u>County Systems</u>								
Antrim County	12,612	476.0	27	\$ 8,043	10%	5%	17%	6%
Crawford County	6,482	561.0	12	7,930	12%	5%	14%	7%
Gogebic County	19,330	540.0	36	7,236	13%	16%	20%	9%
Isabella County	44,594	572.0	78	9,209	10%	6%	8%	3%
Lake County (part)	2,647	120.0	22	6,000	23%	5%	25%	9%
Manistee County	20,094	553.0	45	8,365	12%	8%	19%	5%
Midland County	28,593	495.0	58	11,618	5%	5%	7%	6%
SUBTOTALS	134,352	3,317.0	41	\$ 9,080	10%	6%	10%	6%

Exhibit D

<u>Sec. 147 Rural Systems</u>	<u>Population Served</u>	<u>Service Area (Sq. Miles)</u>	<u>Density</u>	<u>1969 Median Family Income</u>	<u>% Families Below Poverty Level</u>	<u>% Households with no car</u>	<u>% Senior Citizens Age 62 min.</u>	<u>% Handicappers</u>
Baraga County	7,789	901.0	9	\$ 8,045	12%	12%	16%	7%
Eastern Upper Peninsula	33,725	3,510.0	10	7,415	14%	5%	15%	6%
West Mich. Four County	<u>61,841</u>	<u>2,436.0</u>	<u>25</u>	<u>7,923</u>	<u>13%</u>	<u>5%</u>	<u>15%</u>	<u>7%</u>
SUBTOTALS	103,355	6,847.0	15	\$ 7,766	13%	6%	15%	7%
<u>SEMTA Systems</u>								
Birmingham	34,000	6.0	5,667	\$17,292	2%	3%	10%	3%
Ferndale	32,130	4.8	6,694	11,525	4%	6%	10%	5%
Harper Woods	18,600	2.6	7,154	13,534	2%	5%	15%	4%
Lakes Area	25,000	16.0	1,563	11,625	4%	1%	4%	4%
Monroe	40,100	50.5	794	11,545	6%	11%	13%	6%
Mt. Clemens	20,300	4.0	5,075	11,210	5%	6%	7%	6%
N.E. Oakland County	54,190	198.0	274	12,025	4%	4%	7%	5%
Port Huron	55,900	43.4	1,288	9,792	8%	12%	12%	6%
Redford Twp.	66,600	11.2	5,946	15,216	2%	4%	8%	4%
Trenton	24,400	7.4	3,291	14,581	3%	3%	6%	4%
Waterford Twp.	<u>60,400</u>	<u>35.1</u>	<u>1,721</u>	<u>12,573</u>	<u>4%</u>	<u>4%</u>	<u>7%</u>	<u>5%</u>
SUBTOTALS	431,620	379	1,139	\$12,786	4%	6%	9%	5%
GRAND TOTALS	961,101	10,723.0	90	\$11,035	7%	8%	11%	5%

-01-

SYSTEM CHARACTERISTICS

Outstate Systems	Service Area Description	Operator	Start of Service	No. of Vehicles		No. of Employees		System Hours	Reg. Fare	
				Reg.	Lift Eqpt.	Full Time	Part Time			
Adrian	City & surrounding area	Taxi Co.	4-7-76	4	1	1	14	Mon-Th Fri Sat	6:00a-6:00p 6:00a-10:00p 8:00a-6:00p	.50
Alma	City, portion of Pine River Twp. & Gratiot Airport	City	6-30-75	3	1	5	3	Mon-Fri Sat	6:30a-10:00p 9:00a-5:00p	.50
Alpena	City plus 1/2 mi. W. & 1 mi. S.	Private	7-29-74	4	1	8	1	Mon&Fri Tu-Wed-Th Sat Sun	7:00a-9:00p 7:00a-7:00p 8:00a-6:00p 9:00a-3:00p	.60
Belding	City	City	4-14-75	2	0	2	2	Mon-Fri Sat	6:30a-8:00p 7:30a-3:30p	.50
Benton Harbor	City & Benton Township	Trans. Auth.	9-30-74	14	3	16	4	Mon-Fri	6:00a-6:30p	.75
Big Rapids	City	City	3-31-75	4	1	0	12	Mon-Fri Sat	6:30a-6:30p 9:00a-6:30p	.50
Cadillac	City plus 1 mi. N.	Private	12-9-74	3	1	9	5	Mon-Th Fri Sat	6:00a-6:00p 6:00a-9:00p 8:00a-6:00p	.50
Davison	City and surrounding area	City	8-17-76	2	2	0	14	Mon-Sat	7:00a-6:00p	.50
Dowagiac	City & 1 mi. beyond	City	6-16-75	2	1	2	4	Mon-Fri	7:00a-6:00p	.50
Eaton Rapids	City & 2 mi. beyond	City	6-21-76	1	1	0	5	Mon-Fri Sat Sun	7:00a-6:00p 10:00a-5:00p 9:00a-1:00p	.50

Outstate Systems	Service Area Description	Operator	Start of Service	No. of Vehicles		No. of Employees		System Hours	Reg. Fare
				Reg.	Lift Eqpt.	Full Time	Part Time		
Gladwin	City	Hsg. Comm.	5-13-75	1	2	3	1	Mon-Fri 7:30a-4:15p	.50
Grand Haven	Cities of Ferrysburg Spring Lake & Grand Haven	Trans. Auth.	8-18-75	5	2	7	16	Mon&Fri 6:00a-8:00p Tu-Wed-Th 6:00a-6:00p Sat 8:00a-5:00p	.50
Hillsdale	City & Hillsdale Twp.	Private	2-10-75	3	1	4	2	Mon-Fri 6:30a-6:30p Sat 9:30a-3:30p	.75
Holland	City plus shopping area	Private	2-4-74	5	1	9	0	Mon-Fri 6:00a-6:00p Sat 9:30a-3:30p	.50
Ishpeming	City & surrounding area	S.C. Center	3-6-75	3	0	3	2	M-Tu-W&Fri 8:30a-6:00p Th 8:30a-11:00p Sat 3:00p-6:00p	.50
Ludington	City plus E. shopping area & N. residential	Trans. Auth.	2-19-74	4	1	8	6	Mon-Fri 6:00a-6:00p Sat 9:00a-4:00p	.50
Marshall	City plus outside service areas	City	11-21-74	2	1	3	5	Mon-Fri 6:00a-6:00p Sat 8:00a-6:00p	.50
Midland	City	City	6-25-74	11	2	11	12	Mon-Fri 6:30a-9:30p Sat 8:00a-6:30p Sun 9:00a-1:00p	.50
Niles	City plus 2 shopping areas	Taxi Co.	11-4-74	5	1	10	5	Mon-Th 6:00a-6:00p Fri 6:00a-9:00p Sat 8:00a-6:00p	.50
Sault Ste. Marie	City & International Bridge	C.A. Agency	4-29-74	5	1	9	3	Mon-Fri 7:00a-11:00p Sat-Sun 8:00a-6:00p	.50 City .35 Br.
Traverse City	City plus portions of Garfield & East Bay Twps.	Taxi Co.	5-20-74	5	1	13	2	Mon-Fri 6:00a-6:00p Sat 7:00a-5:30p	.50

Outstate Systems	Service Area Description	Operator	Start of Service	No. of Vehicles		No. of Employees		System Hours	Reg. Fare
				Reg.	Lift Eqpt.	Full Time	Part Time		
Antrim	County	County	1-17-77	3	2	6	6	Mon-Fri 5:30a-6:00p	.50-.75-1.00
Crawford	County	County	12-1-76	3	1	5	4	Mon-Fri 6:00a-6:00p Sat 7:00a-5:00p Sun 8:00a-4:00p	.50-.75-1.00
Gogebic	All except two eastern townships	C.A. Agency	4-1-75	1	0	1	2	Mon-Fri 8:30a-4:30p	.60 thru 2.00
Isabella	County	Trans. Auth.	1-1-77*	10	1	10	6	Mon-Th 7:00a-7:00p Fri 7:00a-9:00p Sat 8:00a-9:00p Sun 9:00a-5:00p	.50 & 1.00
Lake	Village of Baldwin and surrounding area	Non-Profit	8-9-76	2	1	4	1	Mon-Fri 6:30a-6:00p Sat 9:00a-5:30p	1.00
Manistee	County	Aging Comm.	3-3-75	5	1	4	7	Mon-Fri 6:30a-6:00p	.50
Midland	County except City of Midland	Private	6-2-77	5	1	13	0	Mon-Fri 7:00a-6:00p Sat 8:00a-6:00p	.50
				29	7				

*The city of Mt. Pleasant began service on 3-18-74 and was operated by the city. The remainder of Isabella County began service on 6-10-74 and was operated by the Commission on Aging. A Transportation Authority was formed combining the two services effective 1-1-77.

Exhibit E

Sec. 147 Rural Systems	Service Area Description	Operator	Start Service	No. of Vehicles		No. of Employees		System Hours	Reg. Fare	
				of	Reg.	Lift Eqpt.	Full Time			Part Time
Baraga County	County	County	8-8-77	4	1	4	4	Mon-Fri Sat	6:00a-6:00p 9:00a-5:00p	.50 & 1.00
Eastern Upper Peninsula	Chippewa, Luce & Mackinac Counties	Trans. Auth.	3-1-76	4	1	8	3	Newberry M-F St. Ignace M-F Routes M-Sat	5:00a-7:00p 9:30a-3:30p Varies	.50 .50 .50 thru 2.00
West Mich. Four Co.	Osceola, Mecosta, Lake & Newaygo Co's	Transit Auth.	11-22-76	6	6	2	22	Mon-Fri	6:00a-6:00p	.50
				<u>14</u>	<u>8</u>					
<u>SEMTA Systems</u>										
Birmingham	City & outlying areas	Taxi Co.	7-7-75	3	1	--	--	Mon-Fri Sat Sun	7:00a-6:30p 10:00a-6:00p 10:00a-2:30p	.50
Ferndale	Cities of Ferndale & Pleasant Ridge	City	4-14-75	3	1	--	--	Mon-Fri Sat	6:30a-6:30p 10:00a-4:00p	.50
Harper Woods	City	City	5-5-75	1	1	--	--	Mon-Fri	9:00a-5:00p	.50
Lakes Area	Cities of Walled Lake & Wolverine Lake, Portions of Commerce & White Lake Twps.	Waterford Twp.	4-4-77	1	0	--	--	Mon-Fri	7:15a-6:00p	.50
Monroe	City of Monroe and Frenchtown Twp.	Trans. Comm.	5-9-77	8	1	--	--	Mon-Fri	6:00a-6:15p	.40

Exhibit E

SEMTA Systems	Service Area Description	Operator	Start Service	No. of Vehicles		No. of Employees		System Hours	Reg. Fare	
				of	Lift	Full	Part			
				Reg.	Eqpt.	Time	Time			
Mount Clemens	City	City	3-31-75	6	0	--	--	Mon-Fri Sat	7:00a-6:00p 9:00a-1:00p	.50
N.E. Oakland County	Twps. of Oxford Addison, Orion, Oak- land & Pontiac	H.S. Agency	9-8-75	4	1	--	--	Mon-Fri	6:30a-6:30p	.50
Port Huron	Cities of Port Huron & Marysville, Twps. of Fort Gratiot & Port Huron	Trans. Comm.	9-1-76	13	1	--	--	Mon&Fri Tu-Wed-Th Sat	6:15a-9:15p 6:15a-6:15p 8:00a-6:15p	.40
Redford Township	Township	Township	7-10-75	6	0	--	--	Mon-Fri	6:00a-7:00p	.60
Trenton	City	City	8-19-74	5	0	--	--	Mon-Fri	6:00a-6:00p	.60
Waterford Township	Township	Township	11-15-76	<u>5</u>	<u>1</u>	--	--	Mon-Fri	7:15a-6:00p	.50
				55	7					
		Grand Totals		186	47					

SERVICE CHARACTERISTICS

<u>Outstate Systems</u>	<u>General Operations</u>	<u>Special Services</u>	<u>Charter Services Rates</u>	<u>Other Services</u>
Adrian	Demand-response	\$5.00 book of tickets sold for \$4.50.	None	10¢ rides on Annual Anniversary Day of start of service.
Alma	Demand-response	\$6.00 book of tickets sold for \$5.00. Serve airport 2 mi. south of city. Transport for Adult Education, Day Care Center, Head Start Program & Special Education.	None	10¢ days for local civic events.
Alpena	Demand-response	Weekly outing for senior citizens & handicappers.	None	1/2 fare for Washington Sale Days.
Belding	Demand-response	Church charters.	\$10.00 per hour.	None
Benton Harbor	Demand-response	None	\$25.00 per hour.	None
Big Rapids	Demand-response	\$5.00 book of tickets sold for \$4.00. Field trips for Day Care & Senior Centers.	\$10.00 per hour driving time. \$4.00 per hour waiting time.	Annual 10¢ Day.
Cadillac	Demand-response	Two no-dial/direct-line pick-up stations. Trips to airport north of city.	None	Special hours for Christmas shopping. 5¢ ride during Annual Transportation Week.
Davison	Demand-response	\$5.00 book of tickets sold for \$4.50. Seniors to shopping center once a week.	\$6.00 per hour plus 25¢ per mile.	10¢ rides on Election Day. 25¢ rides for Sidewalk Sale Days.

Exhibit F

<u>Outstate Systems</u>	<u>General Operations</u>	<u>Special Services</u>	<u>Charter Services Rates</u>	<u>Other Services</u>
Dowagiac	Demand-response	Ticket books - no discount.	None	Free rides to polls on Election Day.
Eaton Rapids	Demand-response & Routes to Charlotte & Lansing.	Adult Special Ed to evening school in Charlotte.	Each negotiated to cover expenses.	None
Gladwin	Demand-response	20% discount on ticket books.	None	Free rides to voting polls. Half fares during Transportation Week. Extended hours during County Fair.
Grand Haven	Demand-response	\$6.00 book of tickets sold for \$5.00. Transport for handicappers workshop.	\$5.00 per hour & 30¢ per mile during regular hours. \$7.00 per hour & 30¢ per mile after regular hours.	Free Rides to voting polls. Downtown merchants sponsor free rides on special shopping days.
Hillsdale	Demand-response Route to Jonesville	Senior Citizen trips.	None	None
Holland	Demand-response	Serve shopping centers and social services agencies just outside the city.	\$5.00 per hour plus 30¢ per mile for senior citizen groups only.	Downtown Merchants Assoc. sponsor free rides on special occasions.
Ishpeming	Demand-response & route	Bi-weekly Friday run to Village of Republic for senior citizens. Meal delivery.	Driver cost plus 50¢ per mile.	Allow church to use one bus each Sunday, driver time donated and passengers pay fares.
Ludington	Demand-response	10% discount on ticket books. Handicappers tours.	None	25¢ rides during Transportation Week.
Marshall	Demand-response	Deliver mail for a large company.	None	None

<u>Outstate Systems</u>	<u>General Operations</u>	<u>Special Services</u>	<u>Charter Services Rates</u>	<u>Other Services</u>
Midland	Zonal demand-response & route with central transfer point.	20% discount on ticket books.	\$15.00 per hour.	None
Niles	Demand-response	\$5.50 book of tickets for \$5.00.	\$10.00 per hour.	Free rides to voting polls. 5¢ rides on "Transpo Day."
Sault Ste. Marie	Demand-response and route across International Bridge.	Free transport of senior citizens for special functions. Transport students to Alternative Education School.	None	Free rides to senior citizens on Senior Citizens Day.
Traverse City	Demand-response and cross town route service.	None	\$9.00 per hour.	None

<u>County Systems</u>	<u>General Operations</u>	<u>Special Services</u>	<u>Charter Services Rates</u>	<u>Other Services</u>
Antrim Co.	Zonal demand-response	\$5.50 book of tickets sold for \$5.00. Midnight transport of factory workers. Saturday transport of hospital nurses.	Actual driver & gasoline costs.	None
Crawford Co.	Demand-response in Grayling. 24 hour advance sign up out county.	\$5.50 book of tickets sold for \$5.00. Deliver meals, groceries & prescriptions to shut-ins.	\$12.00 per hour.	Free rides on "mystery bus" during Transportation Week. National Guard Camp Summer into Grayling.
Gogebic Co.	Selected out-county service into Ironwood	None	\$2.75 per hour plus 20¢ per mile.	Color tours for senior citizens.
Isabella Co.	Demand-response in Mt. Pleasant. Advance sign up out county.	\$5.00 book of tickets sold for \$4.00. Once a week senior citizens to grocery store. Child Care & Adult Activities Center transport.	\$15.00 per hour.	None
Lake Co.	Demand-response	\$5.00 book of tickets sold for \$4.00.	None	Free rides to Annual Troutarama festivities.
Manistee Co.	Demand-response in Manistee. Advance sign up out county	Provide an aide to help handi-cappers on special days.	None	None
Midland Co.	Zonal demand-response route. Connector to Midland.	\$5.00 book of tickets sold for \$4.00. Transport senior citizens to special events.	\$13.00 per hour.	Half fare for County Fair.
<u>Section 147 Rural Systems</u>				
Baraga Co.	Demand-response area & two routes.	\$5.00 book of tickets sold for \$4.50.	None	Fall color tour.
Eastern Upper Peninsula	Two demand-response areas and three routes.	Annual pass for senior citizens @ \$52.00 & students @ \$104.00. Freight delivery.	60¢ per mile.	Transport for Soo Area High School, Soo Sheltered Workshop and Luce County Social Services.
West Michigan Four County	Demand-response in Reed City & routes.	Freight delivery. \$5.00 ticket books - no discount.	None	None

Exhibit F

<u>SEMTA Systems</u>	<u>General Operations</u>	<u>Special Services</u>	<u>Charter Services Rates</u>	<u>Other Services</u>
Birmingham	Demand-response	None	None	None
Ferndale	Demand-response	None	None	None
Harper Woods	Demand-response	None	None	None
Lakes Area	Route	None	None	None
Monroe	Demand-response & routes.	None	None	None
Mt. Clemens	Demand-response	None	None	None
NE Oakland Co.	Demand-response	Ticket bulk discount.	None	None
Port Huron	Demand-response & routes.	Go As You Please Pass @ \$14.00 per mo.	None	Merchant purchased tickets for customers.
Redford Twp.	Demand-response	Mall service.	None	None
Trenton	Demand-response	None	None	None
Waterford Twp.	Demand-response & routes.	None	None	None

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

handicappers, also requires 100 percent accessibility on demand-response systems unless the department approves a plan for providing equivalent services for handicappers. The new law will probably have the effect of substantially increasing the number of lift vehicles in each system. Service for customers using the lift is limited generally to curb-to-curb service to avoid liability problems. If required, the passengers must provide an attendant. Operating hours are generally 12 hours per day with the actual number of vehicles on the road at any one time varied according to demand.

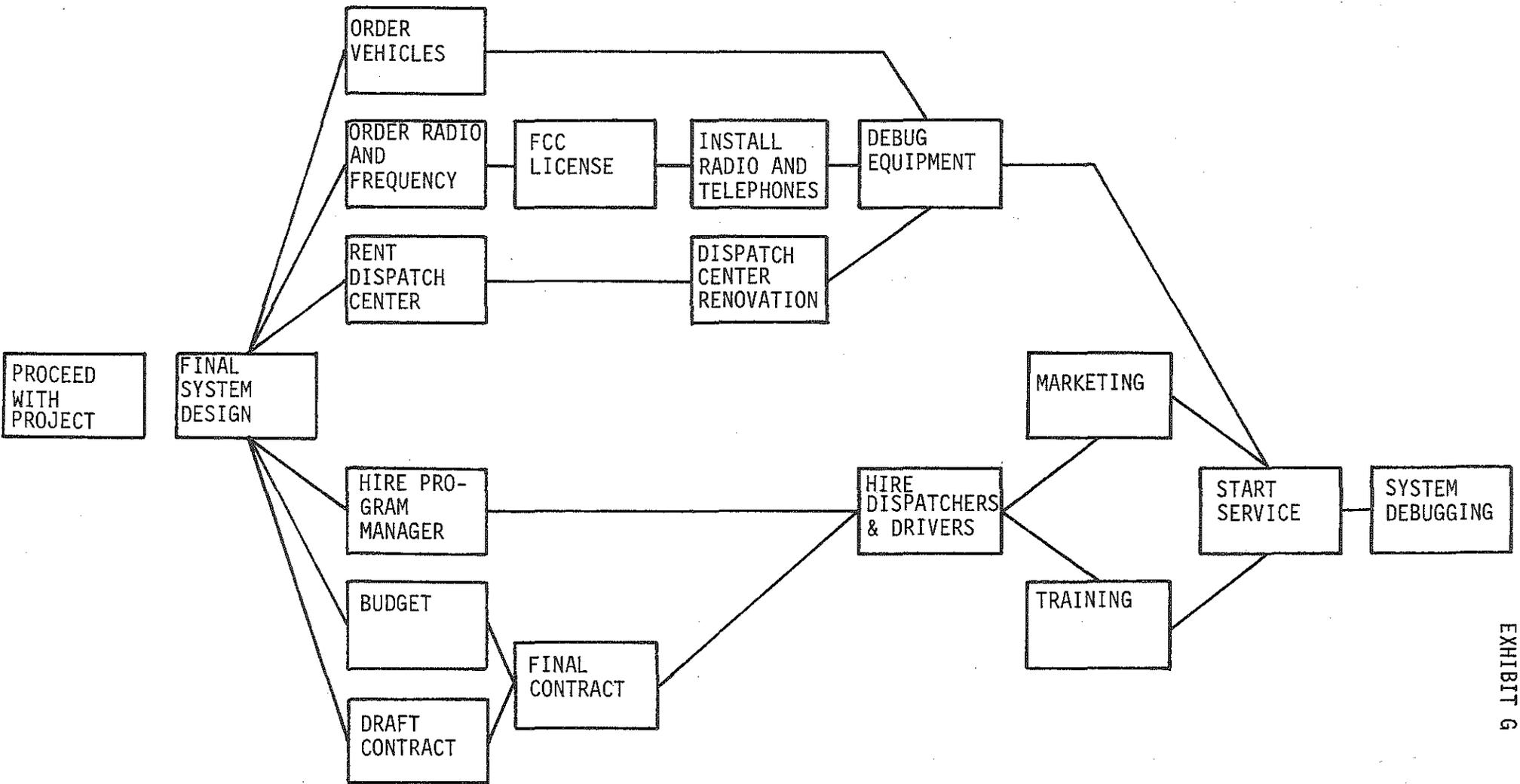
D. Flow Chart

A number of basic steps must be taken in order to implement a DART system as shown in simplified form in Exhibit G. Obviously, all of these steps must be coordinated to insure that everything is set to go at the projected start-up date.

All equipment is purchased by the state. Vehicles and communication equipment, in general, are taking 90 to 180 days for delivery and are generally the biggest holdup in starting the system. Training is also handled by state staff and covers such things as rules of the road, emergency procedures, proper radio procedures, use of the equipment, especially the safe operation of the wheelchair lift, customer relations, dispatcher and driving techniques, etc.

In addition, state staff and the local project manager develop a low-key marketing program initially, including an informational brochure, opening ceremony, talks to local groups, and as much free radio, TV, and newspaper

START UP



coverage as possible prior to and during the start-up period. An excessively large marketing campaign at the outset could overload the system at the beginning causing long wait and ride times which will in turn drive customers away. The marketing should, therefore, be geared to create a gradual but continual increase in ridership over the first year, allowing the project manager to efficiently adjust the system to meet the increasing demand, thus maintaining a consistent quality of service.

III. Operational Data

Of course, the measure of success in any transportation system is the service on the street to the people as reflected in the ridership statistics. Exhibit H indicates the average statistics for the most recent year completed by each system. Exhibit I shows, in graph form, the monthly ridership totals for outstate Michigan DART for its first four years.

As might be expected, senior citizens have used Dial-A-Ride in large numbers, generally ranging from 30 to 50 percent of the total ridership.

Passengers per vehicle hour is an indication of system efficiency. We generally believe that small urban DART systems should be averaging six to eight passengers per vehicle hour by the end of the first year. Rural systems will generally fall in the range of four to six passengers per vehicle hour due to the longer trip length and lower densities. The low productivity for the Section 147 systems reflects excessive use of fixed routes to provide area-wide coverage. Our experience now indicates that for rural areas, 24-hour advance reservation service should be used in low density areas with fixed routes used only on high density corridors. Passengers per capita is an indicator of system usage and provides a basis for comparing systems. Wait and ride times are one of the best measures of quality of service provided to the riding public. Wait and ride times tend to vary according to demand and point up the need for system management to avoid excessive passenger inconvenience. Inaccurate estimated arrival times by the dispatcher and excessive ride time will, more than any other factors, drive customers away. There is a seasonal pattern to ridership based on our limited data; however,

each system reacts differently to weather variations, tourist traffic, economic conditions, and seasonal variations. Winter weather does bring about some dramatic increases in ridership. A great deal more research is needed in this area.

OPERATIONAL DATA
Thru January 31, 1978

<u>Outstate Systems</u>	<u>Average Monthly Ridership</u>	<u>%Change Previous Year</u>	<u>Average Weekday Ridership</u>	<u>Average Saturday Ridership</u>	<u>Average Sunday Ridership</u>	<u>%Full Fares</u>	<u>%Half Fares</u>	<u>%Free Fares</u>	<u>%Special Fares</u>	<u>%Senior Citizens</u>	<u>%Handicappers</u>
Adrian	7,492	--	315	217	--	28%	57%	--	5%	31%	4.4%
Alma	4,497	+12%	199	56	--	33%	47%	3%	17%	20%	0.2%
Alpena	5,854	-16%	226	141	80	31%	60%	--	9%	42%	6.6%
Belding	2,317	+23%	102	41	--	23%	72%	5%	--	30%	--
Benton Harbor	11,566	-21%	521	152	--	45%	39%	1%	15%	38%	1.1%
Big Rapids	8,793	+29%	376	194	--	34%	59%	7%	--	32%	1.3%
Cadillac	7,051	+9%	295	171	--	39%	53%	8%	--	32%	1.8%
Davison	4,865	--	197	110	34*	12%	88%	--	--	12%	1.8%
Dowagiac	1,721	+34%	82	--	--	26%	71%	3%	--	29%	0.0%
Eaton Rapids	1,050	--	44	18	8	12%	65%	--	23%	55%	20.1%
Gladwin	2,374	+47%	113	--	--	8%	56%	27%	9%	23%	0.5%
Grand Haven	8,542	+42%	366	200	--	29%	66%	4%	1%	27%	1.6%
Hillsdale	4,511	+20%	191	129	--	25%	59%	--	16%	46%	8.5%
Holland	6,713	+16%	305	111	--	45%	44%	10%	1%	41%	2.3%
Ishpeming	1,930	+5%	82	20	31	15%	84%	1%	--	90%	8.3%
Ludington	6,002	+12%	258	128	--	26%	62%	--	12%	56%	4.3%
Marshall	3,599	+9%	165	86	--	35%	59%	--	6%	33%	0.1%
Midland	10,057	-6%	432	180	19	65%	27%	5%	3%	17%	7.7%
Niles	6,054	-1%	262	104	--	27%	52%	--	21%	32%	5.4%
Sault Ste. Marie	7,966	-7%	320	221	75	27%	32%	8%	33%	40%	1.0%
Traverse City	5,766	+3%	244	132	--	32%	52%	--	16%	53%	4.5%
SUBTOTALS	118,720	--	5,095	2,411	247	30%	57%	4%	9%	34%	3.7%
<u>County Systems</u>											
Antrim County	2,732	--	127	--	--	56%	39%	1%	4%	29%	7.0%
Crawford County	3,863	--	150	109	41	55%	44%	1%	--	25%	0.4%
Gogebic County	913	+50%	46	--	--	4%	96%	--	--	92%	4.6%
Isabella County	8,350	-19%	351	220	42*	42%	27%	8%	23%	24%	3.0%
Lake County	1,256	--	54	24	--	23%	47%	2%	28%	50%	0.1%
Manistee County	5,551	+44%	235	139	--	37%	58%	--	5%	45%	4.8%
Midland County	3,568	--	157	59	--	60%	28%	7%	5%	8%	4.4%
SUBTOTALS	26,233	--	1,120	551	83	40%	48%	3%	9%	31%	3.5%

Exhibit H-1

<u>Sec. 147 Rural Systems</u>	<u>Average Monthly Ridership</u>	<u>%Change Previous Year</u>	<u>Average Weekday Ridership</u>	<u>Average Saturday Ridership</u>	<u>Average Sunday Ridership</u>	<u>%Full Fares</u>	<u>%Half Fares</u>	<u>%Free Fares</u>	<u>%Special Fares</u>	<u>%Senior Citizens</u>	<u>%Handicappers</u>
Baraga County	2,549	--	114	32	--	43%	49%	7%	1%	15%	2.7%
Eastern Upper Peninsula	2,371	+49%	134	9	--	37%	38%	3%	22%	32%	16.4%
West Mich. Four Co.	2,214	--	101	--	--	69%	27%	4%	--	23%	3.9%
SUBTOTALS	7,134	--	349	41	--	50%	37%	5%	8%	23%	7.6%
<u>SEMTA Systems</u>											
Birmingham	3,699	-15%	148	99	21	37%	62%	--	1%	35%	--
Ferndale	5,270	+8%	229	101	--	28%	68%	4%	--	41%	0.1%
Harper Woods	2,762	+35%	133	--	--	31%	67%	2%	0%	62%	0.1%
Lakes Area	208	--	11	--	--	23%	77%	--	--	61%	--
Monroe	7,882	--	358	--	--	56%	35%	9%	--	17%	0.2%
Mt. Clemens	6,826	+12%	304	94	--	65%	27%	8%	0%	27%	--
N.E. Oakland County	2,683	-18%*	131	--	--	69%	26%	5%	--	26%	0.1%
Port Huron	25,218	--	1,020	1,229	--	44%	38%	9%	9%	9%	0.5%
Redford Twp.	4,823	+11%	227	--	--	22%	57%	5%	16%	29%	--
Trenton	5,149	+22%	241	--	--	32%	66%	2%	--	24%	--
Waterford Twp.	5,249	--	245	--	--	50%	48%	2%	--	15%	3.0%
SUBTOTALS	69,769	--	3,047	1,523	21	40%	53%	4%	3%	33%	0.5%
GRAND TOTALS	221,856	--	9,611	4,526	351	36%	53%	3%	8%	34%	3.1%

*Davison Sunday average represents only 14 Sundays as Sunday service was only recently started.

Isabella County Sunday service in Mt. Pleasant only.

Eastern Upper Peninsula Saturday service is provided in only one of its five service areas.

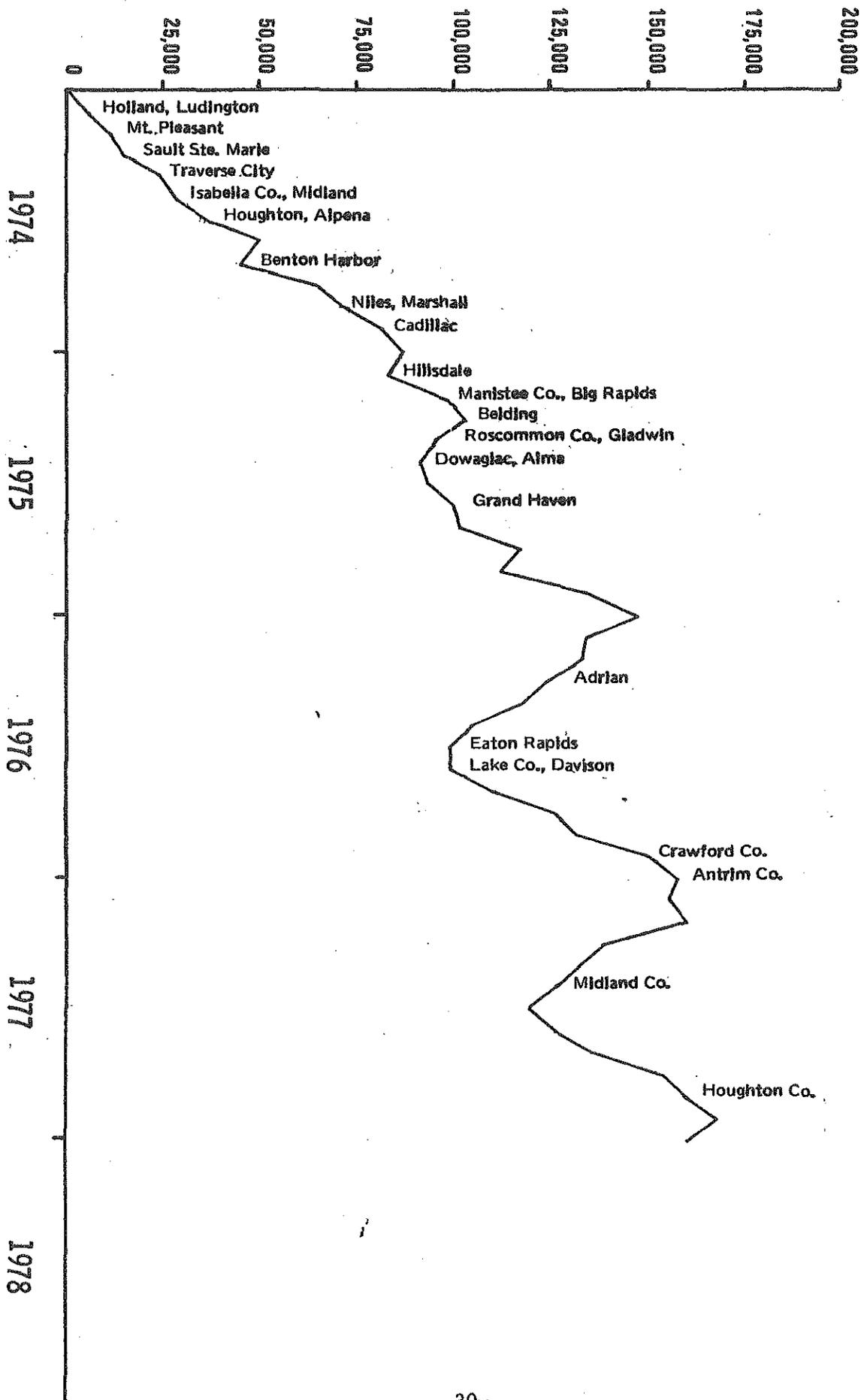
N.E. Oakland County reduced its vehicles from ten to six in second year and reduced its service area from six to five townships.

-27-

OPERATIONAL DATA
Thru January 31, 1978

<u>Outstate Systems</u>	<u>Passengers/ Vehicle Hour</u>	<u>Passengers/ Vehicle Mile</u>	<u>Ave. Monthly per Capita Ridership</u>	<u>Average Monthly Vehicle Hours</u>	<u>Average Monthly Vehicle Miles</u>	<u>Average Monthly Vehicle Miles per Vehicle</u>
Adrian	7.7	.55	.37	979	13,887	2,914
Alma	6.8	.70	.46	662	6,468	1,617
Alpena	6.0	.46	.30	971	12,698	2,540
Belding	7.0	.66	.45	333	3,508	1,754
Benton Harbor	5.9	.34	.26	1,973	34,323	2,263
Big Rapids	8.4	.75	.73	1,051	11,698	2,340
Cadillac	7.7	.63	.67	911	11,204	2,801
Davison	6.5	.57	.93	754	8,476	2,267
Dowagiac	5.9	.64	.26	294	2,675	1,107
Eaton Rapids	4.5	.45	.23	235	2,357	1,252
Gladwin	6.4	.96	1.15	369	2,468	1,021
Grand Haven	7.1	.53	.50	1,199	16,264	2,471
Hillsdale	7.3	.71	.58	618	6,364	1,591
Holland	6.4	.53	.25	1,046	12,765	2,128
Ishpeming	6.2	.44	.23	312	4,368	1,456
Ludington	9.0	.74	.63	669	8,122	1,624
Marshall	7.9	.55	.50	455	6,537	2,179
Midland	5.4	.36	.29	1,848	28,224	2,419
Niles	5.5	.53	.47	1,110	12,174	2,029
Sault Ste. Marie	5.9	.47	.53	1,360	16,836	2,322
Traverse City	5.1	.43	.29	1,141	13,354	2,226
SUBTOTALS	6.5	.51	.41	18,290	234,770	2,015
<u>County Systems</u>						
Antrim County	2.8	.13	.22	979	20,761	4,752
Crawford County	4.3	.24	.60	888	15,844	4,133
Gogebic County	5.7	.79	.05	160	1,155	1,155
Isabella County	4.7	.31	.19	1,779	26,995	2,454
Lake County	2.5	.19	.47	493	6,580	2,468
Manistee County	6.5	.38	.28	851	14,489	2,415
Midland County	2.2	.10	.12	1,600	35,722	5,954
SUBTOTALS	3.9	.22	.20	6,750	121,546	3,333

<u>Sec. 147 Rural Systems</u>	<u>Passengers/ Vehicle Hour</u>	<u>Passengers/ Vehicle Mile</u>	<u>Ave. Monthly per Capita Ridership</u>	<u>Average Monthly Vehicle Hours</u>	<u>Average Monthly Vehicle Miles</u>	<u>Average Monthly Vehicle Miles per Vehicle</u>
Baraga County	4.0	.19	.33	632	13,267	2,814
Eastern Upper Peninsula	3.5	.16	.07	676	14,905	2,981
West Mich. Four Co.	1.0	.06	.04	2,116	52,737	4,395
SUBTOTALS	2.1	.09	.07	3,424	80,909	3,397
<u>SEMATA Systems</u>						
Birmingham	5.2	.46	.11	712	7,996	1,999
Ferndale	7.1	.60	.16	743	8,797	2,932
Harper Woods	9.0	.67	.15	306	4,132	2,066
Lakes Area	1.1	.06	.01	183	3,383	3,383
Monroe	4.4	.34	.20	1,805	23,445	2,605
Mt. Clemens	8.2	.61	.34	827	11,193	2,239
N.E. Oakland County	2.7	.12	.05	996	21,726	3,504
Port Huron	7.8	.51	.45	3,247	49,594	3,990
Redford Twp.	5.3	.34	.07	907	14,280	2,856
Trenton	8.0	.51	.21	648	10,188	2,038
Waterford Twp.	4.3	.25	.09	1,227	20,908	3,485
SUBTOTALS	6.3	.41	.16	11,601	175,642	2,827
GRAND TOTALS	5.6	.36	.23	40,065	612,867	2,545



OUTSTATE DART RIDERSHIP PER MONTH

February 1974 - January 1978

IV. Cost and Revenue Data

Another measure of the relative success of the DART program is the actual cost per passenger, as well as the subsidy per passenger as shown in Exhibit J. The average cost per passenger for small urban systems is \$1.49, \$2.69 for rural systems, and \$1.59 for urban systems. The high per passenger cost of Section 147 projects is reflected in the type of operation provided, i.e., too many fixed routes. Average revenue is \$.34, leaving a required subsidy of \$1.15 for the outstate systems. By way of comparison, the average cost per passenger for the metropolitan fixed-route bus systems is \$1.02 with revenues averaging \$.20, leaving a required subsidy of \$.82. For the urban DART systems, average revenue is \$.33 per passenger, leaving a required subsidy of \$1.26. As one would expect with demand-response service, labor amounts to 62 percent of the total cost (Exhibit K).

It should be noted again, that after the first year, the state covers one third of the total operating cost. Revenues will cover 20 to 35 percent, leaving the balance to be provided from local funds.

The nature of public transportation, especially demand-response service, being door-to-door, economical, comfortable, and convenient to the passenger, requires a tradeoff in higher operating costs. We do feel, however, that an overall average of \$1.49/passenger is not excessive in relation to the high quality of service being provided.

COST AND REVENUE DATA
Thru January 31, 1978

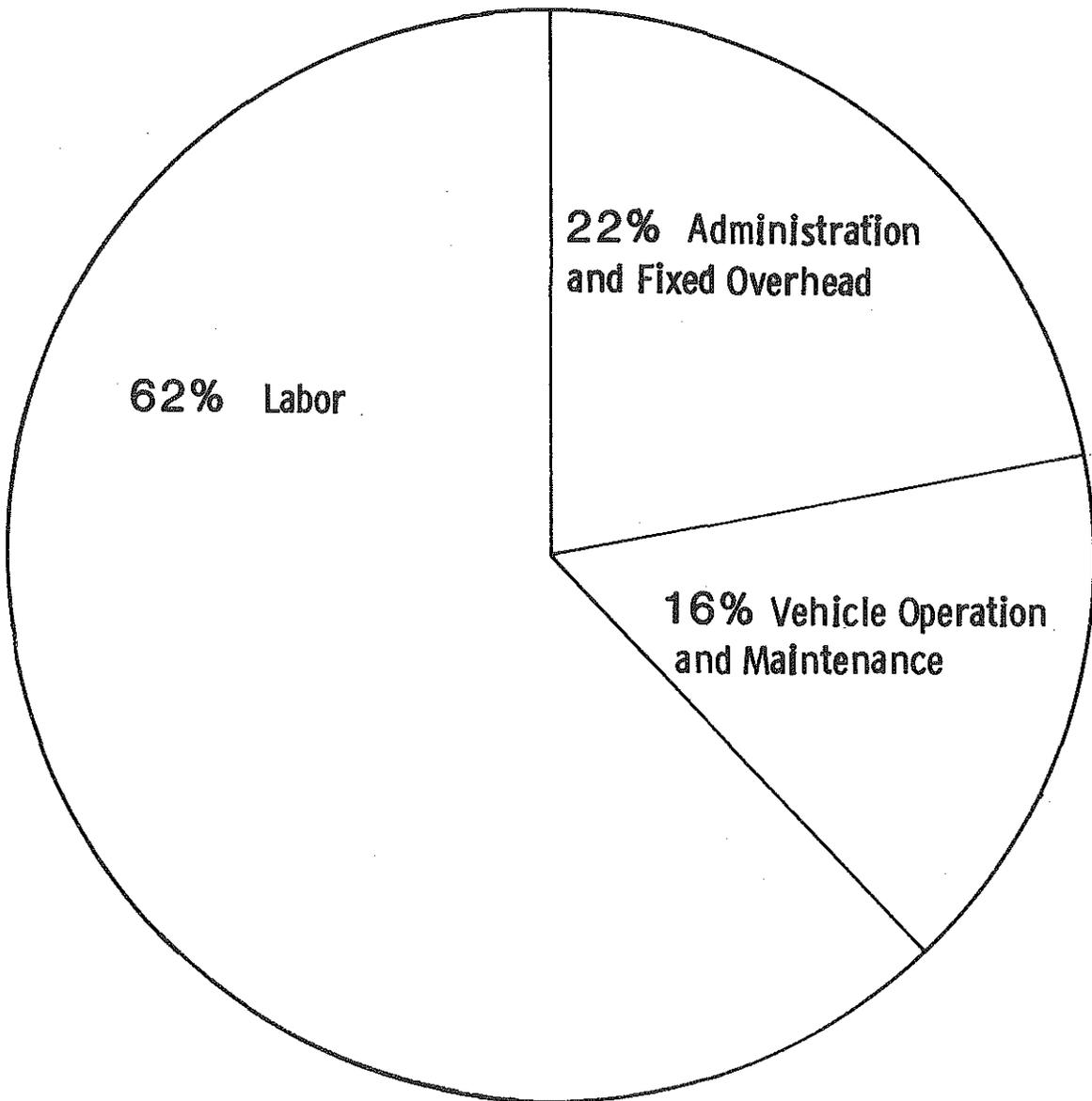
<u>Outstate Systems</u>	<u>Average Operating Cost per Month</u>	<u>%Change Previous Year</u>	<u>%Adm. & Fixed Overhead</u>	<u>%Labor</u>	<u>%Vehicle Operation</u>	<u>Cost per Passenger</u>	<u>Cost per Vehicle Hour</u>	<u>Cost per Vehicle Mile</u>	<u>Average Monthly Revenue</u>	<u>Revenue per Passenger</u>	<u>%Revenue to Cost</u>
Adrain	\$ 6,998	--	19%	63%	18%	\$0.93	\$ 7.15	\$.51	\$ 2,780	\$.37	40%
Alma	6,874	-6%	15%	71%	14%	1.53	10.38	1.06	1,304	.29	19%
Alpena	9,853	-11%	19%	65%	16%	1.68	10.15	.78	2,314	.40	23%
Belding	2,047	+8%	2%	83%	15%	0.88	6.15	.58	613	.26	30%
Benton Harbor	27,444	-6%	23%	59%	18%	2.37	13.91	.80	5,367	.46	20%
Big Rapids	7,922	+7%	20%	64%	16%	0.90	7.54	.68	2,716	.31	34%
Cadillac	9,102	+17%	23%	62%	15%	1.29	10.00	.81	2,250	.32	25%
Davison	4,976	--	19%	66%	15%	1.02	6.60	.63	1,302	.27	25%
Dowagiac	1,284	-6%	17%	70%	13%	0.75	4.37	.48	530	.31	30%
Eaton Rapids	1,701	--	18%	69%	13%	1.62	7.24	.72	490	.47	29%
Gladwin	2,299	+68%	31%	55%	14%	0.97	6.23	.93	415	.17	18%
Grand Haven	8,742	+36%	8%	76%	16%	1.02	7.29	.54	2,504	.29	29%
Hillsdale	6,305	+14%	27%	60%	13%	1.40	10.21	.99	1,585	.35	25%
Holland	9,892	+21%	22%	60%	18%	1.47	9.46	.77	2,327	.35	24%
Ishpeming	3,978	--	35%	54%	11%	2.06	12.75	.91	441	.23	11%
Ludington	8,580	+19%	20%	60%	20%	1.43	12.82	1.06	2,157	.36	25%
Marshall	5,922	+18%	21%	66%	13%	1.65	13.01	.91	1,229	.34	25%
Midland	23,528	+17%	16%	69%	15%	2.34	12.73	.83	3,635	.36	15%
Niles	10,783	+17%	29%	53%	18%	1.78	9.72	.94	2,242	.37	21%
Sault Ste. Marie	8,791	+25%	21%	60%	19%	1.10	6.46	.52	2,526	.32	29%
Traverse City	10,194	+28%	16%	60%	24%	1.77	8.94	.76	2,227	.39	22%
SUBTOTALS	\$177,215	--	20%	64%	16%	\$1.49	\$ 9.69	\$.75	\$40,954	\$.34	23%
<u>County Systems</u>											
Antrim County	\$ 8,429	--	13%	67%	20%	\$3.09	\$ 8.61	\$.41	\$ 1,495	\$.55	18%
Crawford County	7,785	--	16%	60%	24%	2.02	8.76	.49	1,666	.43	21%
Gogebic County	1,549	+13%	30%	61%	9%	1.70	9.68	1.34	165	.18	11%
Isabella County	23,762	+40%	26%	54%	29%	2.85	13.36	.88	3,299	.40	14%
Lake County	3,946	--	29%	57%	14%	3.14	7.99	.59	733	.58	19%
Manistee County	8,771	+24%	31%	50%	19%	1.58	10.31	.61	2,084	.38	24%
Midland County	16,437	--	31%	60%	9%	4.65	10.06	.45	1,104	.31	7%
SUBTOTALS	\$ 70,679	--	25%	59%	16%	\$2.69	\$10.47	\$.58	\$10,546	\$.40	15%

Exhibit J

<u>Sec. 147 Rural Systems</u>	<u>Average Operating Cost per Month</u>	<u>%Change Previous Year</u>	<u>%Adm. & Fixed Overhead</u>	<u>%Labor</u>	<u>%Vehicle Operation</u>	<u>Cost per Passenger</u>	<u>Cost per Vehicle Hour</u>	<u>Cost per Vehicle Mile</u>	<u>Average Monthly Revenue</u>	<u>Revenue per Passenger</u>	<u>%Revenue to Cost</u>
Baraga County	\$ 5,825	--	29%	53%	18%	\$2.41	\$ 9.18	\$.46	\$ 925	\$.38	16%
Eastern U. P.	9,227	--	37%	43%	20%	5.81	15.51	.66	819	.52	9%
W. Mich. Four Co.	20,859	--	26%	49%	25%	9.42	9.86	.40	1,034	.47	5%
SUBTOTALS	\$ 35,911	--	31%	48%	21%	\$5.03	\$10.49	\$.44	\$ 2,778	\$.39	8%
<u>SEMTA Systems</u>											
Birmingham	\$ 8,108	+12%	31%	52%	17%	\$2.19	\$11.39	\$1.01	\$ 1,102	\$.30	14%
Ferndale	5,989	+7%	6%	81%	13%	1.14	8.06	.68	1,675	.32	28%
Harper Woods	2,745	+56%	7%	76%	17%	0.99	8.97	.66	907	.33	33%
Lakes Area	974	--	NA	NA	NA	4.66	5.33	.29	127	.61	13%
Monroe	NA	--	NA	NA	NA	NA	NA	NA	2,420	.31	NA
Mt. Clemens	8,167	+27%	35%	52%	13%	1.20	9.87	.73	2,630	.39	32%
N.E. Oakland Co.	11,827	NA	NA	NA	NA	4.41	11.87	.54	1,690	.63	14%
Port Huron	36,122	--	15%	NA	NA	1.43	11.12	.73	6,672	.26	18%
Redford Twp.	7,689	+20%	25%	50%	25%	1.59	8.47	.54	1,783	.37	23%
Trenton	7,669	+12%	NA	NA	NA	1.49	11.83	.75	1,854	.36	24%
Waterford Twp.	9,273	--	30%	57%	13%	1.81	7.48	.46	1,923	.38	21%
SUBTOTALS	\$98,563+	--	21%	63%	16%	\$1.59	\$10.06	\$.65	\$22,783	\$.33	21%
GRAND TOTALS	\$382,368+	--	22%	62%	16%	\$1.79	\$ 9.99	\$.65	\$77,061	\$.35	20%

COST BREAKDOWN

DART PROGRAM AVERAGES



V. Vehicle Operating Data

The backbone of the DART system is, of course, the equipment used to carry passengers. There are many vehicles on the market which are purported by each company to be the ideal Dial-A-Ride vehicle. Some are van conversions, mobile-home conversions, electrics, diesels, school bus conversions, etc.

In the Michigan DART program, the high-roof van conversion has been used extensively and is well suited for service in small to medium-sized towns (Exhibit L). It is unobtrusive, comfortable, and very maneuverable on residential streets. We are presently purchasing this type of vehicle for approximately \$14,000 to \$16,000 per unit. Lift-equipped vehicles are also provided in each system (Exhibit M).

The major drawbacks to the small buses presently on the market are maintenance, limited vehicle life, and problems with the conversion work done by the body manufacturer. The chassis and body conversions are not built for the daily stop and go operations of a bus system. Each vehicle will put on approximately 35,000 miles per year providing a 3 to 4 year life expectancy. Some systems are using a combination of van conversions and larger buses (12 to 21 passenger) with and without lifts. These buses range in price from \$20,000 to \$30,000 per unit.





VI. Community Impact

To date, the DART systems have had a favorable impact on the community as a whole as reflected in millage elections in various communities (Exhibit N). The fact that only two of the original start ups have permanently shut down indicates that the first year impact has been sufficient to convince the voting public, as well as local elected officials, of the need to provide local support funds to insure continuation of the service. Public transportation must be thought of as a public service to a community, such as libraries, police and fire departments, public works, etc. This has apparently occurred in all the systems which have continued beyond the first year.

EXHIBIT N

Local Funding Sources for Michigan's Small Vehicle Transit Systems Beyond Demonstration Period, May 1977

Community	Millage Amount	Passed or Failed	Percent "For"	Date of Vote	Date of Expiration
Ann Arbor	2½	Passed	--	--	--
Houghton	1½	Passed	74%	7/16/75	--
Hancock	1½	Failed	49%	7/06/75	--
Big Rapids	1	Passed	80%	2/03/76	6/30/78
Grand Haven	1	Passed	75%	5/18/76	No Limit
Springlake	1	Passed	75%	2/17/76	No Limit
Marshall	1	Passed	74%	8/05/75	No Limit
Ferrysburg	1	Passed	73%	6/14/76	No Limit
Eaton Rapids	1	Passed	68%	4/26/77	No Limit
Port Huron	1	Passed	67%	5/06/77	7/31/78
Marysville	1	Passed	66%	5/06/77	7/31/78
Mount Pleasant I/	1	Passed	65%	11/14/75	
Fort Gratiot Township	1	Passed	63%	5/06/77	7/31/78
Port Huron Township	1	Passed	57%	5/06/77	7/31/78
Dowagiac	1	Passed	61%	11/04/75	No Limit
Hillsdale	1	Passed	60%	11/04/75	12/31/77
Ludington	1	Passed	58%	11/18/74	12/31/78
Cadillac	1	Passed	55%	11/04/75	12/31/80
Alma	1	Passed	53%	5/18/76	No Limit
Traverse City	3/4	Passed	58%	4/07/75	No Limit
Isabella County	7/10	Passed	59%	5/18/76	12/31/80
Belding	½	Passed	78%	5/18/76	5/18/78
Holland	½	Passed	73%	11/74	6/30/80
Alpena	½	Passed	65%	11/04/75	6/30/78
Manistee County	35/100	Passed	50%	11/02/76	1/31/79
Roscommon County	¼	Failed	49%	5/18/76	--
St. Joseph Township	¼	Failed	--	5/18/76	--
Midland County	½	Failed		8/8/78	
Adrian	2/GF	No Vote	--	--	--
Benton Harbor	3/CD	No Vote	--	--	--
Davison	4/RS	Passed	65%	--	--
Ferndale	GF	No Vote	--	--	--
Gladwin	GF	No Vote	--	--	--
Harper Woods	GF	No Vote	--	--	--
Midland	GF	No Vote	--	--	--
Mount Clemens	CD/GF	No Vote	--	--	--
Niles	GF	No Vote	--	--	--
Redford	GF	No Vote	--	--	--
Sault Ste Marie	GF	Passed	--	--	--
Trenton	GF	Passed	--	--	--

EXHIBIT N - continued

- Notes: 1/City of Mount Pleasant system became part of Isabella County system effective 1 January 1977. Isabella County millage vote applied to city of Mount Pleasant as well as Isabella County.
- 2/"GF" means General Funds.
- 3/"CD" means Community Development Funds.
- 4/"RS" means Revenue Sharing Funds.

Source: Michigan Department of State Highways and Transportation, Mass Transportation Planning Section and Bus Development Section.

VII. Summary

The Michigan DART program has been running since February, 1974, when the first system started in Holland, Michigan. The thirty eight operating DART systems and two Section 147 Federal Projects are providing service to nearly one million Michigan citizens. None of these citizens have previously had the availability of public transportation which is low cost, convenient, comfortable, safe, and most of all provides the freedom of movement when the need arises, not when it is convenient for someone else to provide the transportation.