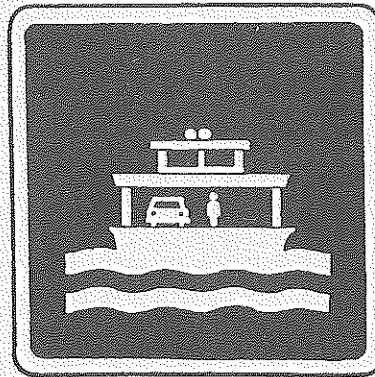
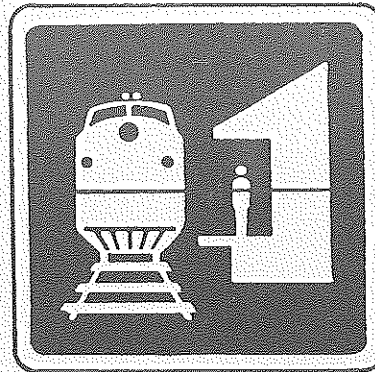
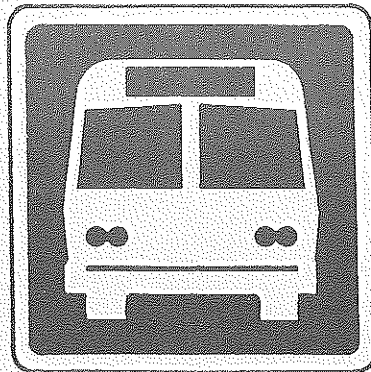


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INTERCITY PASSENGER TRANSPORTATION
IN MICHIGAN

**SOUTHWESTERN MICHIGAN
EMPLOYER/WORK COMMUTER
STUDY**

FEBRUARY, 1988



PASSENGER TRANSPORTATION PLANNING SECTION
MICHIGAN DEPARTMENT OF TRANSPORTATION

MICHIGAN DEPARTMENT

OF

TRANSPORTATION

Report 14

SOUTHWESTERN MICHIGAN EMPLOYER/WORK
COMMUTER STUDY

February, 1988

Bureau of Transportation Planning
System Planning Division
Passenger Transportation Planning Section
Surface Systems Unit

This report represents the findings and professional opinions of the Michigan Department of Transportation staff. Its publication does not represent an official opinion of the State Transportation Commission.

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ACKNOWLEDGMENTS

This document was prepared by the staff of the Bureau of Transportation Planning, Passenger Transportation Planning Section. The study concept was suggested by a private intercity bus carrier to the Bureau of Urban and Public Transportation, Intercity Bus Operations and Regulatory Affairs Section, which provided technical knowledge, background information, and assisted throughout the development of the study.

The Data Base Management Section developed and applied the zip code to county equivalencies, and the Transportation Planning Procedures Section created the computer maps for each employer. The Technical Services Division developed the remaining maps and graphics. An interdepartmental task force consisting of members of the Bureau of Urban and Public Transportation (UPTRAN), Intercity Division; and the Bureau of Transportation Planning reviewed the report and procedures used and fostered a multimodal viewpoint for the report.

A draft copy of the text was reviewed by representatives of the following organizations: Local Ridesharing Offices in Grand Rapids and Muskegon; MDOT district offices in Cadillac and Kalamazoo; Battle Creek Area Transportation Study; Southwestern Michigan Commission; UPTRAN; and VPSI, Inc. They offered suggestions for revising or improving the text, and updated carpool, carpool parking lot, vanpool, and buspool information.

The cooperation and assistance of the eleven employers who provided data made this study possible and is appreciated.

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EXECUTIVE SUMMARY

The Southwestern Michigan Employer/Work Commuter Study provides information that permits interested transportation providers to identify the potential for carpools, vanpools, and buspools for work commuter trips at 11 selected employers in southwestern Michigan. Data presented includes the number of employees who live in the same county, the distance of the commute trip, the possibility of combining trips for workers from two different employers, and cost information for operating each type of ridesharing included in the study.

Three criteria were established to determine which employers to include in the study:

1. Employer size of 1,000 or more in one location. This assures a sufficient pool of workers to justify vanpools and buspools.
2. Concentrations of employer locations in or near an urbanized area. This increases the potential for pooling.
3. Employer type suited to ridesharing options. Generally, this is comprised of employers with large central or clustered facilities having many employees with similar work schedules.

Participating employers provided the number of employees residing in each zip code. This information was aggregated and mapped showing the number of employees residing in each county for each company.

The results of the study indicate there is potential for a variety of ridesharing options for each of the employers. The table below summarizes ridesharing options by type for each employer included in the study.

SUMMARY OF EMPLOYER POTENTIAL FOR RIDESHARING

| <u>Employer</u> | <u>Opportunities for Carpools</u> | <u>Opportunities for Vanpools</u> | <u>Opportunities for Buspools</u> |
|---------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| General Foods | 3 | 2 | 0 |
| General Motors, Grand Rapids | 5 | 2 | 2 |
| General Motors, Kalamazoo | 5 | 1 | 4 |
| Haworth | 3 | 2 | 1 |
| Herman Miller | 2 | 1 | 1 |
| Howmet Turbine | 2 | 1 | 2 |
| Kellogg | 2 | 2 | 1 |
| Lear Siegler | 6 | 1 | 0 |
| Steelcase | 5 | 2 | 2 |
| Teledyne | 2 | 2 | 0 |
| Whirlpool | 2 | 1 | 1 |

The report is designed to help the transportation provider understand the procedures used in the study, to present the findings and limitations of the study, and to offer some practical suggestions specifically relating to the establishment and operation of buspools.

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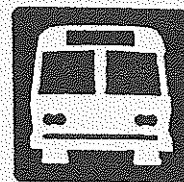
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PART I
INTRODUCTION



I. INTRODUCTION

I.A. REASON FOR STUDY

In recent years, intercity bus carriers have been developing new markets for their services. Deregulation of the industry has provided opportunities for entry into a variety of non-traditional markets with little regulatory interference. Declining ridership on regular routes has increased the desire of bus carriers to expand into specialized markets.

As intercity bus companies began looking at new marketing strategies, the Michigan Department of Transportation (MDOT), Bureau of Urban and Public Transportation, Intercity Division received requests for information which might assist in this effort. Carriers were interested in the number of employees commuting from communities in southwestern Michigan to determine the feasibility of commuter bus service to major employers in the area.

This report is an expanded response to these requests; the study includes data related to carpools and vanpools as well as buspools. Each of these options provide different opportunities for various types of work trips. Commuter travel patterns and ridesharing methods to efficiently accommodate them vary depending on the distance from the work site, the number of employees, and the cost involved. Information for all these options is provided in this report. No attempt is being made to establish a state-sponsored buspool program.

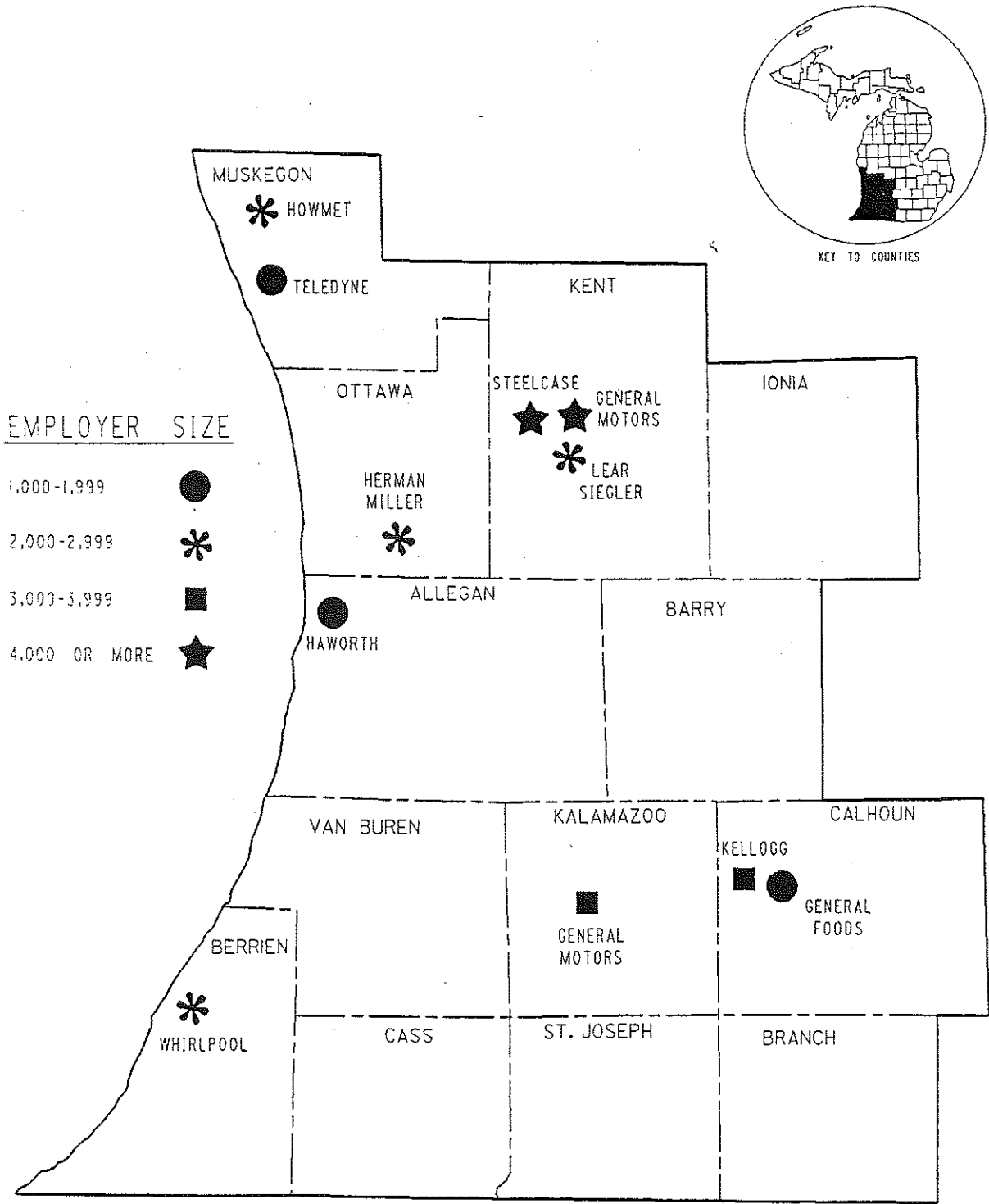
I.B. STUDY AREA

The study area included in this report consists of 13 counties in the southwestern portion of Michigan's Lower Peninsula (see Figure 1). The study is limited to southwestern Michigan for two reasons: 1) this is the area of most immediate interest by the intercity bus companies contacting MDOT, and 2) it permits a small test analysis to determine if this process is useful before expanding the study to include the entire state.

The 13 counties selected represent the general geographic area identified as southwestern Lower Michigan. Each of the 13 counties contain a mixture of urban and rural characteristics. Some, such as Barry County, are predominantly rural in nature. Others, such as Kent County, have a much greater urban influence. The counties included in the study area are: Allegan, Barry, Berrien, Branch, Calhoun, Cass, Ionia, Kalamazoo, Kent, Muskegon, Ottawa, St. Joseph, and Van Buren.

Figure 1

STUDY AREA AND EMPLOYERS



There are eight major population centers with populations over 10,000 in the study area. These are (followed by 1980 or later population as listed on the 1987 state highway map): Battle Creek (56,339), Benton Harbor/St. Joseph (24,329), Grand Haven (11,763), Grand Rapids (181,843), Holland (26,281), Kalamazoo (79,722), Muskegon (40,823), and Niles (13,115). Several of the central cities have surrounding suburban communities which meet the 10,000 population criteria. These communities are not included for ease of analysis.

The southwestern Michigan area has a diverse economic base including strong agricultural, industrial, educational, and recreational resources. Grand Rapids, the state's second most populous city, has a correspondingly high level of industrial development. Battle Creek, with its concentration of food companies, is known by some as the "breakfast food center of the nation." Communities near the western shore of Lake Michigan such as Muskegon, Grand Haven, and Holland have strong tourist and vacation attractions (in a prime location to serve the greater Chicago market) in addition to various levels of commercial and manufacturing development.

Benton Harbor/St. Joseph has had a strong industrial base, serving for many years as home for one of the several major corporate headquarters found in the region. Kalamazoo has a well developed manufacturing base and is the home of Western Michigan University, one of the state's five largest universities. The region is famous for its fine vegetable and fruit crops, and a

significant wine industry. Because of this wide diversity, southwestern Michigan is often less sensitive to the market fluctuations of the automobile industry than the Detroit Metropolitan area in the southeastern part of the state.

I.C. EMPLOYER SELECTION CRITERIA

Employer selection criteria was developed to select which employers in southwestern Michigan would be included in the study. To some degree, the selection criteria was subjective. It was partly based on past experience with ridesharing studies, employee commuter patterns, and general market assumptions necessary to operate a profitable vanpool and intercity bus. Three selection criteria were established:

I.C.1. Employer Size

A sufficient number of employees must live in the same general vicinity (or along a similar route) to have a successful intercity commuter bus route. The larger an employer is, the greater the opportunity for this to occur. To increase the opportunity for success, the minimum employer size for this study is 1,000 employees.

The 1,000 employee threshold was found to be a significant breaking point in a recent similar study¹. It provides a large employee pool upon which to draw and places reasonable limits on the percentage of total employees required to participate in a ridesharing program to make it successful.

For example, with a minimum employee population of 1,000, about one percent would be necessary to establish a successful vanpool operation of 10 persons. Similarly, about two percent of the work force would be necessary to justify the development of a carpool parking lot (20 vehicles), and about two and one-half percent of the total employment would be needed to establish a profitable commuter bus route (25 persons).

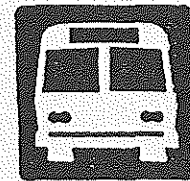
I.C.2. Employer Location

Commercial, industrial, and residential land uses are highly concentrated in urban areas. Because of this, the opportunities for ridesharing increase when some segment of the trip involves an urbanized area. The average percentage of residents in the study area living in urbanized areas (as defined by the 1980 Census) is approximately 42%. The two most rural counties (Barry and Van Buren) have about 14% of their residents living in urban areas. The most urbanized county (Kent) has 82% of its residents living in an urban setting.

I.C.3. Employer Type

Certain employer characteristics lend themselves most appropriately to ridesharing opportunities. These include employers with large central or clustered facilities with many employees and similar work schedules. Examples of this type of employer include manufacturing plants, office or governmental complexes, and large medical facilities. While size is a benefit, there can be difficulties coordinating ridesharing at larger employers, particularly if there is a wide variety of work schedules.

PART II
STUDY METHODOLOGY



II. STUDY METHODOLOGY

II.A. EMPLOYER IDENTIFICATION AND SELECTION

To identify employers within the range established for this study (see Part I.C., Employer Selection Criteria), two sources were used. The first was information on file with the Michigan Employment Security Commission (MESC). MESC provided a listing of employers in the state with 1,000 or more employees. The information was for 1983, the most current year available at the time. Employers with addresses in southwestern Michigan were selected from this list.

This provided a working data set, although it was somewhat old, and misleading. This is because the data is based on the number of employees reported at a certain address, not how many actually work at the given address. For example, a company may have several plants or offices located in various communities throughout the state, but all employee data is handled through one central administrative office. The MESC data reports all employees of the company under that one address, even though only a small part of the employees may actually work at the location. This can lead to a substantial error in determining the number of employees working in a given area.

To compensate for this error, a second reference source, the Michigan Manufacturers Directory was used. This is a privately published, annual book. It lists various information for manufacturing facilities in the state, including location and

number of employees. The information is presented at the plant level when possible. This was useful as a cross-check and update of the MESC data. It is, however, limited to a particular type of employer--those manufacturing primary products within the Standard Industrial Classification (SIC) numbers beginning with 2000 and ending with 3999 (see Appendix A).

After comparing the MESC data to the Michigan Manufacturers Directory, a preliminary list of employers meeting the 1,000 employee criteria was developed. It was then reduced to a final list of 15 employers using the two other employer selection criteria of location in an urban area and type of employer. Some employers which met the criteria may not have been included in the study due to inaccuracies in the data.

II.B. EMPLOYEE RESIDENCE DATA

After identifying employers, residence information for the employees was needed. Each of the 15 companies were contacted by letter and asked to provide, by city and zip code, the home residence location of employees working at the plant. This information was in generic format, with the number of employees residing in each community or zip code. No specific employee address information was requested or provided. This assured the confidentiality of each employee's personal information. The cooperation of the employers was excellent; 11 of the 15 provided the requested information (see Figure 2).

Figure 2

EMPLOYERS INCLUDED IN THE ANALYSIS

| <u>Company</u> | <u>Location</u> | <u>Number of Employees</u> |
|------------------|----------------------|----------------------------|
| General Foods | Battle Creek | 1,090 |
| General Motors | Grand Rapids | 7,130 |
| General Motors | Kalamazoo | 3,180 |
| Haworth | Holland | 1,170 |
| Herman Miller | Zeeland | 2,120 |
| Howmet Turbine | Whitehall | 2,290 |
| Kellogg | Battle Creek | 3,660 |
| Lear Siegler | Grand Rapids | 2,580 |
| Steelcase | Grand Rapids | 7,080 |
| Teledyne | Muskegon | 1,480 |
| <u>Whirlpool</u> | <u>Benton Harbor</u> | <u>2,890</u> |

Note: Figures are rounded to the nearest tenth.

Source: Michigan Manufacturers Directory, Pick Publications, Southfield, MI, 1985.

The employee residence information was reviewed and entered into a data base. This allowed further analysis by generating computer maps showing concentrations of employee residences by county for each of the 11 employers. The maps permit easy identification of high-potential corridors for various types of commuter ridesharing.

II.C. EXISTING RIDESHARING OPTIONS AND CONDITIONS

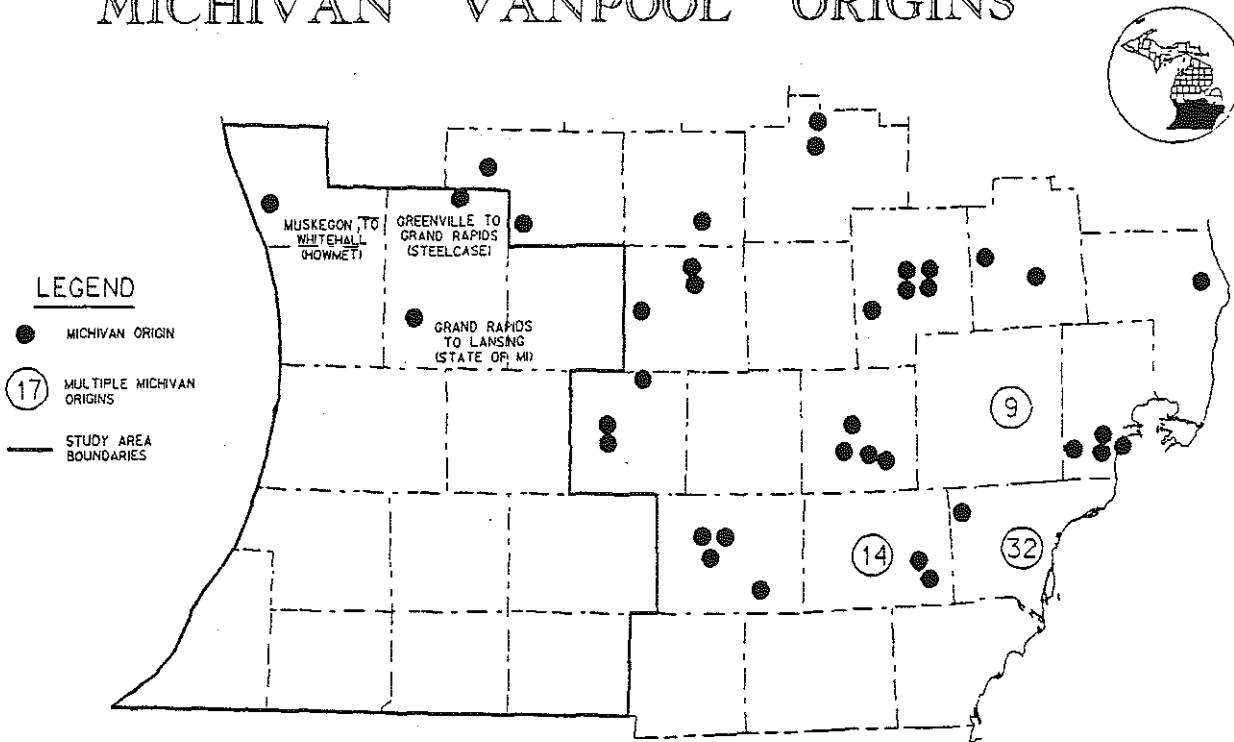
Existing ridesharing corridors in the southwestern Michigan area were researched and identified, using information on file

identifying existing vanpools, carpool parking lots, and buspools. Buspool information had not been updated due to deregulation (intercity bus companies are no longer required to provide ridership information). A telephone survey was conducted to update statistics on these operations.

Existing carpool and vanpool information is available because of MDOT involvement in these programs. The carpool parking lot program is managed directly through the department (see Appendix B) and the statewide vanpool program, Michivan, was established and initially operated by the department before being contracted to a private firm (see Figure 3 and Appendix C).

Figure 3

MICHIVAN VANPOOL ORIGINS



Past studies established criteria to determine when it is most economically advantageous to utilize carpools, vanpools, and buspools². This data shows that carpools are generally cost effective whenever 2-5 individuals can share a ride to and from common points. Vanpools are generally a good ridesharing option when there are a minimum of 10 riders (including the driver), and the trip distance is longer than 10 one-way miles. When the 10 mile trip is met or exceeded, the data indicates it is more cost effective to have one vanpool than two carpools. Buspools are cost efficient modes of transportation when 25 or more passengers travel 10 or more one-way miles (see Figure 4).

Figure 4

DAILY OPERATING COST PER PASSENGER OF
CARPOOLS, VANPOOLS, & BUSPOOLS
1981 Data

| Type of Pool | Round Trip Distance (Miles) | | | |
|----------------|-----------------------------|--------|--------|---------|
| | 20 | 40 | 80 | 120 |
| Carpool | | | | |
| Drive Alone | \$2.90 | \$5.50 | \$8.78 | \$12.50 |
| Four Passenger | 0.87 | 1.59 | 2.87 | 4.15 |
| Vanpool | | | | |
| 12 Passenger | \$2.36 | \$2.75 | \$3.54 | \$4.33 |
| 15 Passenger | 1.88 | 2.18 | 2.77 | 3.36 |
| Buspool | | | | |
| 25 Passenger | \$2.30 | \$2.60 | \$3.54 | \$4.33 |
| 43 Passenger | 1.35 | 1.50 | 1.85 | 2.20 |

Source: Buspools in Michigan, Michigan Department of Transportation, Passenger Transportation Planning Section, Surface Systems Unit, May 1982, p. 28.

This criteria was used as the basis to determine how many employees should reside in an area before it is possible enough

of them will participate in a ridesharing effort to make it cost effective. Since not all employees will participate in ridesharing, it is necessary to develop criteria that has a standard higher than the optimum. This will help insure that at least the minimum number of employees will chose to participate. Realizing this, the standards chosen for this report are listed below.

Figure 5

CONDITIONS FOR CONSIDERING VARIOUS RIDESHARING OPTIONS
(CARPOOLS, VANPOOLS, AND BUSPOOLS)

| No. Employees | Work Trip Distance | | |
|---------------|--------------------|-------------|-----------|
| | <10 miles | 10-20 miles | >20 miles |
| 10-99 | C | C | C |
| 100-249 | C*,V | C,V* | C,V* |
| 250 or more | C*,V | C,V* | C,V,B* |

Notes: * = preferred ridesharing option (most efficient) when more than one option is available.

C = Carpool, V = Vanpool, B = Buspool

Source: Michigan Department of Transportation, Passenger Transportation Planning Section, Surface Systems Unit, Southwestern Michigan Employer/Work Commuter Study, October, 1985.

II.D. ANALYSIS

The next step in the process was to analyze the collected data and compare it to the criteria and standards just developed. The analysis followed a four-step process.

II.D.1. Analysis Step 1: Compile Employee Residence Data

The employee residence data supplied by the 11 employers was

organized and mapped. The maps indicate the number (by category) of employees residing in each of Michigan's 83 counties for each employer. This map presents a concise picture of where concentrations of employees live. Effort was made to develop categories for the maps that had breaking points easily divided by multiples of five to accommodate the normal passenger standards for carpools, buspool, and vanpools.

II.D.2. Analysis Step 2: Identify Potential Routes

The selection criteria developed in PART II.C. was used to determine potential carpool, vanpool, and buspool routes for each employer. This criteria compared number of employees and the distance from the employer to determine which ridesharing options had greatest potential for success.

II.D.3. Analysis Step 3: Compare Potential Opportunities to Existing Conditions

Potential routes identified above were compared to existing carpool parking lots, vanpools, and buspools to determine if service to the employer existed or if limited service could be improved. Combined options between various employers was considered at this stage. In other words, if several individuals reside in the same area but work for different employers (who are located near each other) the potential for serving both employers with one car, van, or bus was considered.

II.D.4. Analysis Step 4: Recommend Potential Options

The potential for new carpool, vanpool, or buspool options, based on a composite map containing employee data, and existing options

are summarized to identify areas that appear to have the best potential for new ridesharing facilities based on the criteria established in this report.

PART III
INDIVIDUAL
EMPLOYER ANALYSIS



III. INDIVIDUAL EMPLOYER ANALYSIS

III.A. INTRODUCTION

An analysis for each of the 11 employers is included in this section of the report. Employers are listed alphabetically. Potential for carpooling, vanpooling, and buspooling is listed for each county in which employees for that company reside. A description for each of these three options and for the maps that accompany each employer analysis is provided below.

III.A.1 COUNTIES WITH POTENTIAL FOR CARPOOLING ONLY

This category includes only those counties which have between 10 and 99 employee residents who work for the given employer. The counties are listed alphabetically with the number of employee residents following in parenthesis. The location of existing carpool parking lots in each county is given in the second column. Refer to the appropriate map in Appendix B to identify specific carpool parking lot locations. The third column lists the existing capacity of each lot. The fourth column indicates the current use of each lot (as of 1987), and the last column presents this use as a percentage of capacity. Following this table is a short paragraph entitled "Existing Carpool Parking Lot Analysis and New Potential" which describes the use of the existing lots according to the capacity figures.

III.A.2. COUNTIES WITH POTENTIAL FOR VANPOOLING

This section identifies each county which has the potential for vanpooling services. Potential is defined as having 100-249

employee residents and a one-way trip length of 10 or more miles. In some instances, parts of a county will not meet the distance criteria. In these cases the expression "If Trip >10 Mi." is listed in the comments column indicating that the trip must meet the distance requirement to be most economically feasible. Once again, the county names are listed alphabetically followed by the number of employee residents in parenthesis. If existing vanpools are known to travel the route serving the employer, they are listed in the second column. Unknown vanpools may exist. Following the table is a paragraph entitled "Existing Vanpool Analysis and New Potential" which summarizes the use of the existing vanpools and suggests counties with potential for new vanpools based on the number of employee residents. While carpools are not included in this category, it is possible that carpooling is an option for the trips involved in these areas.

III.A.3. COUNTIES WITH POTENTIAL FOR BUSPOOLING

This section catalogs counties where 250 or more employees reside and where the one-way trip to the employer is 10 miles or more. The location of known existing buspools is indicated in the second column. If part of a county is closer than the minimum 10 miles, it is noted by commenting "If Trip >10 Mi." in the third column. The trip must be greater than 10 one-way miles to take full advantage of the economic efficiencies of a buspool. Even though carpools and vanpools are not mentioned in this category, each of these options is feasible. Following this table is a short paragraph entitled "Existing Buspool Analysis and New Potential" which notes any existing buspools and suggests

counties with potential for new buspools based on the number of employee residents.

III.A.4. POTENTIAL FOR COMBINATION SERVICE WITH OTHER EMPLOYERS

This section identifies areas where the potential to combine service between two or more employers exists. This is done by locating employees of different employers who live and work in similar areas. Even though they do not work for the same employer, if the places of work are near each other, or along a direct route from one to another, it may be possible for employees to share the ride to work.

The county of residence for employees not working for the given employer is listed (followed by the number of employees in parenthesis) in the first column. The name of the other employer, and the total employees for both employers combined are given in the second and third columns. The type of potential service is indicated in the last column. This may be different than the potential for either of the companies alone, since it is based on the combined number of employees. It is understood that all routes should meet the minimum mileage requirements to be efficient.

III.A.5. ACCESS TIME ANALYSIS

This section describes the average driving times from employee residences to their place of work in thirty minute intervals. The times can be converted to approximate distances by using an average driving speed.

III.A.6. COMPOSITE SUMMARY

This final section presents information regarding the potential for carpool parking lots, vanpools, buspools, and the access time analysis for a quick overall summary of the information presented for each employer.

III.A.7. TOOLS

III.A.7.1. Employee Residence Distribution Map

A map of Michigan portraying the 83 counties indicates concentrations of employees for each employer. Note that while counties with one to nine resident employees are shown on the map, they are not considered candidates for carpooling in this report. This map is useful to identify employee residence concentrations for each employer.

III.A.7.2. Access Time Map

Directly underneath the employee residence distribution map is an access time map which shows the driving times, in 30 minute increments, to the employer from all locations in the state. The state is divided into sub-county units for more accurate time estimates. This map is helpful in determining driving times, estimating distances from each employer, and developing estimated schedules. The map is summarized in the accompanying text for each employer and a table summarizing the access times for all employers is provided in Appendix D.

III.A.7.3. Simulated Travel Patterns Map

The third map shows simulated travel patterns from each employer

to employees' home locations following the state highway network. The width of the line pattern indicates the number of employees traveling along the route. This map provides an alternate view of employee residence patterns and may be used to quickly identify existing commuter patterns. This, in turn, indicates where a vanpool or buspool may be feasible.

III.A.7.4. Composite Map

This map depicts counties which are candidates for carpools, vanpools, and buspools (based on employee residence density) together with existing carpool parking lot locations, existing known Michivan vanpools, and existing known buspools. It helps identify where new carpool lots, vanpools, or buspools may be feasible.

Company: General Foods
 Plant Location: Battle Creek
 Number of Employees: 1,090



NOTE: Data for employees residing in the Battle Creek Metropolitan area are not included in this information or in the accompanying maps.

**Counties With Potential for Carpooling Only
 (10-99 Employees Residing in County)**

| <u>County</u> <u>(# Employees)</u> | <u>Existing Carpool</u> <u>Parking Lots</u> | <u>Capacity</u> | <u>Use</u> | <u>% Use</u> |
|---------------------------------------|--|-----------------|------------|--------------|
| Barry (58) | M-66 @ M-79 (S. Jct.) | 34 | 12 | 35.3 |
| | M-43 @ M-66 (S. Jct.) | 30 | 4 | 13.3 |
| Branch (16) | I-69 @ US-12 | 37 | 10 | 27.0 |
| Eaton (59) | I-69 @ I-69BL (Charlotte) | 56 | 14 | 25.0 |
| | M-43 in Sunfield | 45 | 27 | 60.0 |

Existing Carpool Parking Lot Analysis and New Potential

There appears to be sufficient carpool parking facilities along major state trunklines in counties with employee densities of 10 or greater.

**Counties With Potential for Vanpooling
 (100-249 Employees Residing in County, Trip Length >10 Miles)**

| <u>County (#Employees)</u> | <u>Existing Vanpools</u> | <u>Comments</u> |
|----------------------------|--------------------------|-----------------|
| Calhoun (213) | None known | If Trip >10 Mi. |
| Kalamazoo (107) | None known | |

Existing Vanpool Analysis and New Potential

There are no known existing vanpools operating through the Michivan program serving the General Foods facility in Battle Creek. Employee density codes of three suggest that there are possibilities for new vanpools in Calhoun and Kalamazoo counties.

**Counties With Potential for Buspooling
 (250 or more Employees, One Way Trip Length >10 Miles)**

| <u>County (# Employees)</u> | <u>Existing Buspools</u> | <u>Comments</u> |
|-----------------------------|--------------------------|-----------------|
| None | | |

Company: General Foods
 Plant Location: Battle Creek
 Page 2

Existing Buspool Analysis and New Potential

No known buspools currently serve the General Foods facility in Battle Creek. Employee density patterns suggest that opportunities for new service are limited.

Potential for Combination Service With Other Employers

| <u>County of Employee Residence (#)</u> | <u>Other Employer</u> | <u>Gen. Foods and Other Employees</u> | <u>Type of Poten. Service*</u> |
|---|-----------------------|---------------------------------------|--------------------------------|
| Barry (184) | Kellogg | 242 | V,C |
| Branch (14) | Kellogg | 30 | C |
| Calhoun (619) | Kellogg | 832 | B,V,C |
| Eaton (56) | Kellogg | 115 | V,C |
| Kalamazoo (199) | Kellogg | 306 | B,V,C |

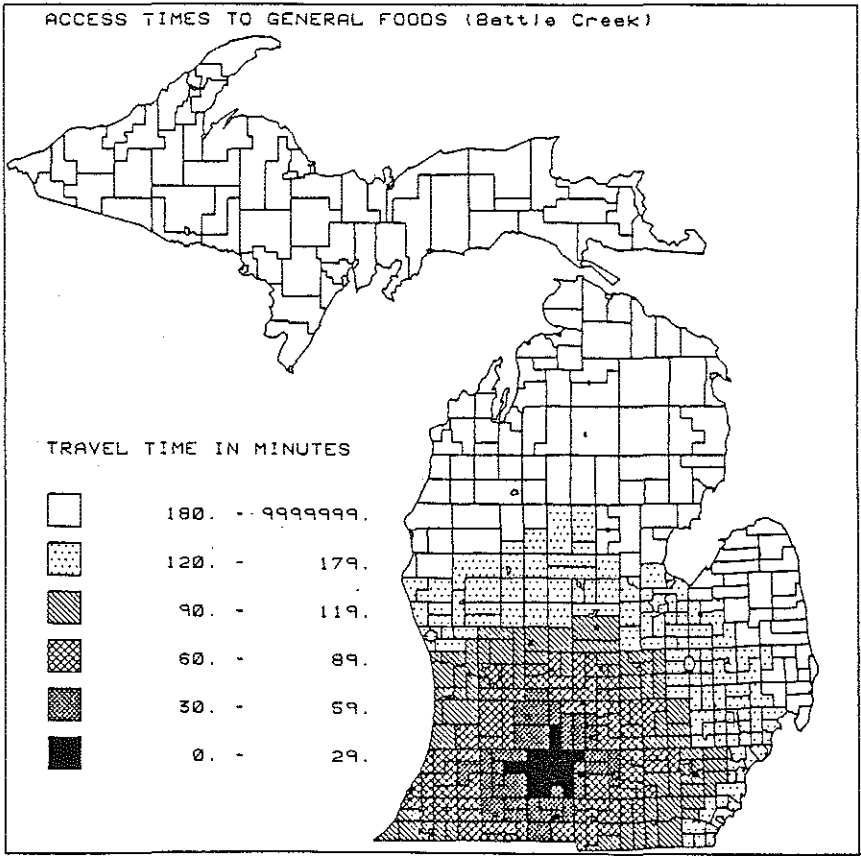
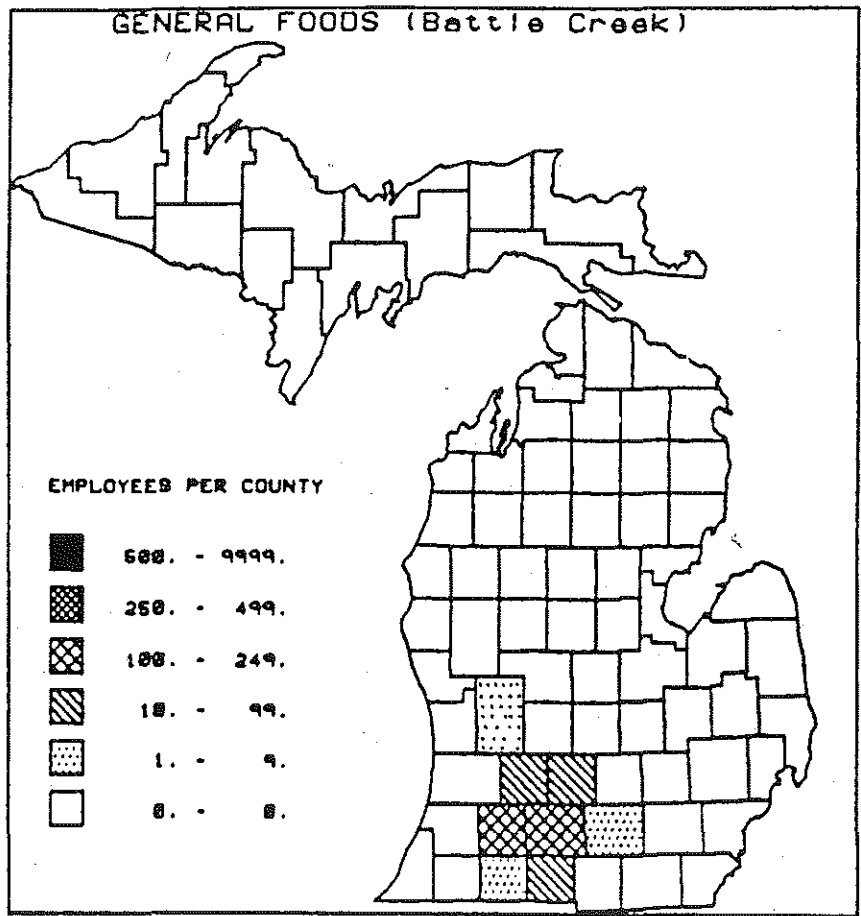
Access Time Analysis

Access time analysis indicates that over 50% (235) of the reported employees working for General Foods live within 30 minutes from their place of employment. About 95% (439) of the reported employees reside within a 60 minute commute from Battle Creek. Note that the reported figures do not include employees residing in the Battle Creek Metropolitan area. Using an estimated total employment figure of 1,090, if all of the surplus employees are assigned to the metro area, about 80% (861) of the General Foods employees live within 30 minutes of their place of employment.

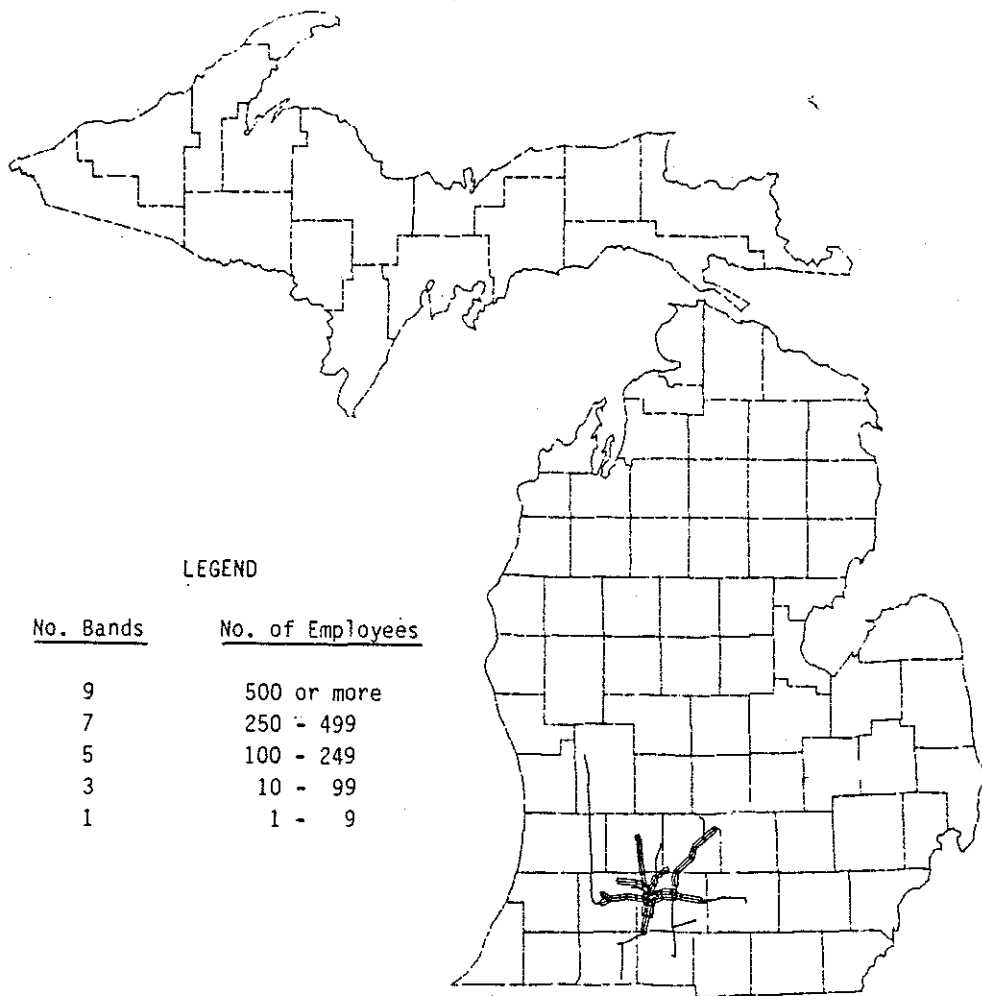
Composite Summary for General Foods

| | |
|------------------------------------|---|
| Access Time Analysis: | 80% within 30 min., 100% within 60 min. |
| Carpool Development Potential: | Limited |
| New Vanpool Development Potential: | Calhoun and Kalamazoo counties |
| New Buspool Development Potential: | Limited |

*Must meet mileage criteria. C = Carpool, V = Vanpool, B = Buspool.

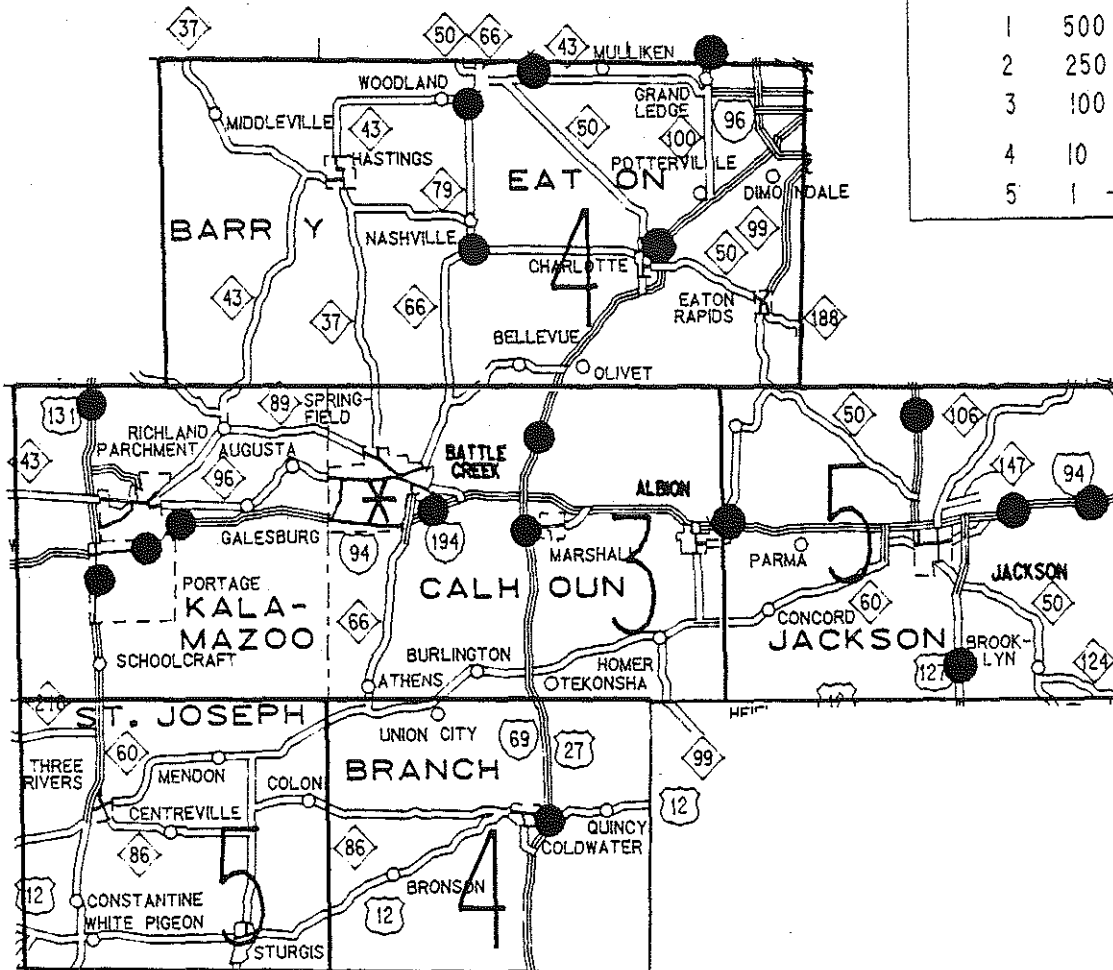
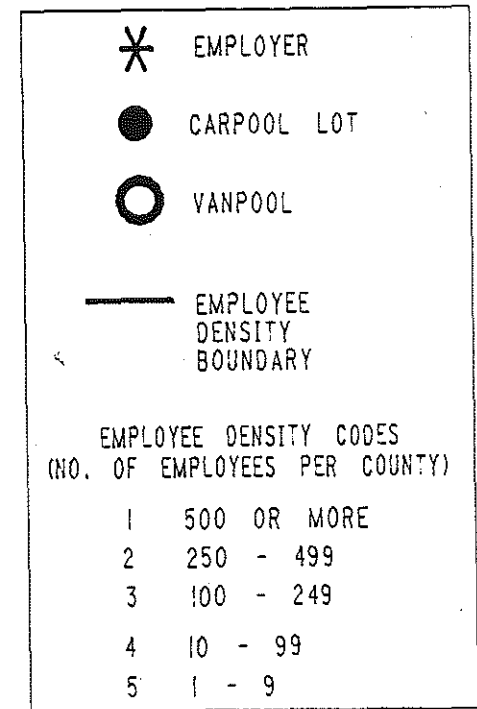


SIMULATED TRAVEL PATTERNS FOR GENERAL FOODS



GENERAL FOODS, BATTLE CREEK

LEGEND



NOTE: DATA FOR EMPLOYEES RESIDING IN THE BATTLE CREEK METROPOLITAN AREA IS NOT INCLUDED IN THIS MAP. IF IT WERE, CALHOUN COUNTY WOULD HAVE A DENSITY CODE OF 1.

Company: General Motors
 Plant Location: Grand Rapids
 Number of Employees: 7,130



**Counties With Potential for Carpooling Only
 (10-99 Employees Residing in County)**

| <u>County</u> <u>(# Employees)</u> | <u>Existing Carpool</u> <u>Parking Lots</u> | <u>Capacity</u> | <u>Use</u> | <u>% Use</u> |
|---------------------------------------|--|-----------------|------------|--------------|
| Barry (51) | M-66 @ M-79 (S. Jct.) | 34 | 12 | 35.3 |
| | M-43 @ M-66 (S. Jct.) | 30 | 4 | 13.3 |
| Ionia (51) | I-96 @ Gd. River (2 lots) | 107 | 87 | 81.3 |
| | I-96 @ Portland Rd. | 15 | 5 | 33.3 |
| | M-66 @ M-44 | 10 | 6 | 60.0 |
| Mecosta (12) | US-131 @ M-20 | 30 | 5 | 16.7 |
| | US-131 @ 8 Mile Rd. | 40 | 8 | 20.0 |
| Montcalm (61) | US-131 @ 22 Mile Rd. | 30 | 18 | 60.0 |
| | US-131 @ M-82 | 35 | 10 | 28.6 |
| | M-66 @ M-57 | 30 | 11 | 36.7 |
| | M-57 @ in Carson City | 20 | 10 | 50.0 |
| Muskegon (23) | M-46 @ Old US-131 | 20 | 12 | 60.0 |
| | US-31 @ US-31BR (Colby Rd.) | 30 | 21 | 70.0 |
| | US-31 @ Fruitville Rd. | 30 | 10 | 33.3 |
| | M-37 @ Casnovia | 30 | 6 | 20.0 |

Existing Carpool Parking Lot Analysis and New Potential

There may be potential for new carpool parking lot development at locations along US-31 and M-40 in Allegan County and M-37 in Barry County. State trunkline routes to the facility from other outlying counties appear to have adequate carpool parking lot provisions.

**Counties With Potential for Vanpooling
 (100-249 Employees Residing in County, Trip Length >10 Miles)**

| <u>County (#Employees)</u> | <u>Existing Vanpools</u> | <u>Comments</u> |
|----------------------------|--------------------------|-----------------|
| Allegan (135) | None known | If Trip >10 Mi. |
| Newaygo (102) | None known | |

Existing Vanpool Analysis and New Potential

There are no known existing Michivan vanpools serving the General Motors facility in Grand Rapids. Employee density patterns suggest that there are possibilities for new vanpools in Allegan, Newaygo, and Ottawa counties.

*Must meet mileage criteria. C = Carpool, V = Vanpool, B = Buspool.

Company: General Motors
 Plant Location: Grand Rapids
 Page 2

**Counties With Potential for Buspooling
 (250 or more Employees, One Way Trip Length >10 Miles)**

| <u>County (# Employees)</u> | <u>Existing Buspools</u> | <u>Comments</u> |
|-----------------------------|--------------------------|-----------------|
| Kent (1999) | None known | If Trip >10 Mi. |
| Ottawa (594) | None known | If Trip >10 Mi. |

Existing Buspool Analysis and New Potential

No known buspools currently serve the General Motors facility in Grand Rapids. The employee density patterns suggest the possibility of developing a buspool from Ottawa County to the facility, contingent on meeting the 10 mile one-way trip distance criteria.

Potential for Combination Service With Other Employers

| <u>County of Employee Residence (#)</u> | <u>Other Employer</u> | <u>G.M. and Other Employees</u> | <u>Type of Poten. Service*</u> |
|---|-----------------------|---------------------------------|--------------------------------|
| Allegan (51) | Lear Siegler | 186 | V,C |
| Allegan (288) | Steelcase | 423 | B,V,C |
| Barry (24) | Lear Siegler | 75 | C |
| Barry (235) | Steelcase | 286 | B,V,C |
| Ionia (49) | Lear Siegler | 100 | V,C |
| Ionia (84) | Steelcase | 135 | V,C |
| Kent (203) | Lear Siegler | 2202 | B,V,C |
| Kent (5654) | Steelcase | 7653 | B,V,C |
| Mecosta (19) | Steelcase | 31 | C |
| Montcalm (14) | Lear Siegler | 75 | C |
| Montcalm (104) | Steelcase | 165 | V,C |
| Muskegon (17) | Steelcase | 40 | C |
| Newaygo (14) | Lear Siegler | 116 | V,C |
| Newaygo (88) | Steelcase | 190 | V,C |
| Ottawa (54) | Lear Siegler | 648 | B,C |
| Ottawa (1232) | Steelcase | 1826 | B,C |

Access Time Analysis

Access time analysis indicates that over 77% (2,353) of the reported employees working for General Motors, Grand Rapids live within 30 minutes of their place of employment. About 97% (2,949) of the employees reside within a 60 minute commute from

*Must meet mileage criteria. C = Carpool, V = Vanpool, B = Buspool.

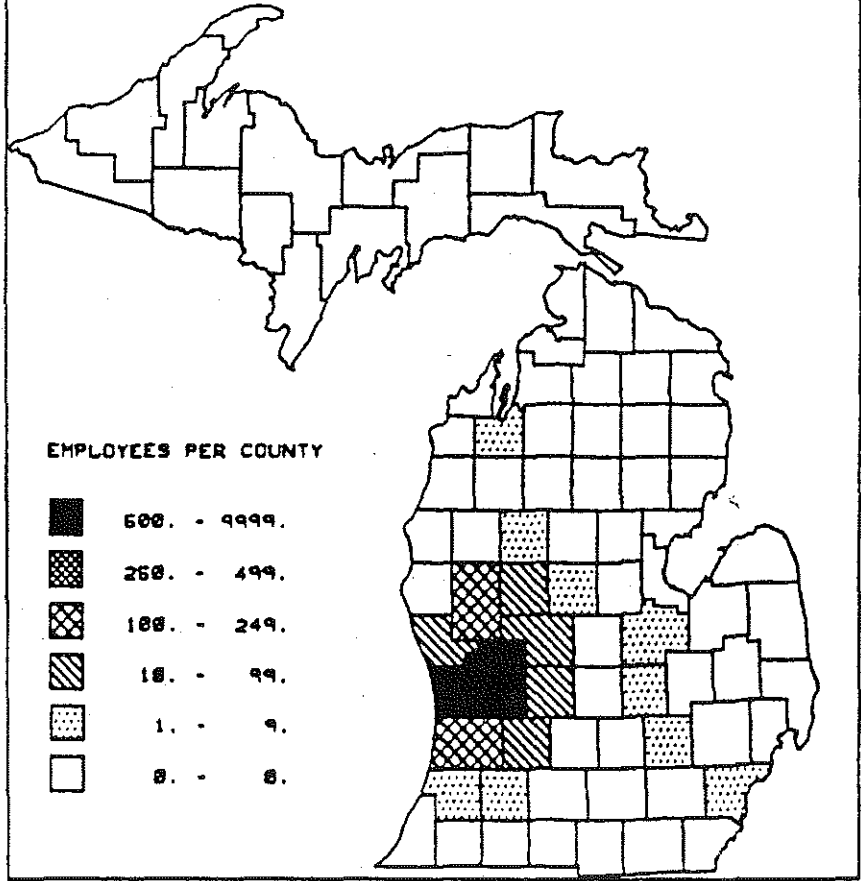
Company: General Motors
Plant Location: Grand Rapids
Page 3

Grand Rapids. All significant employee residence concentrations are within a 90 minute commute (3,030, 99.5%).

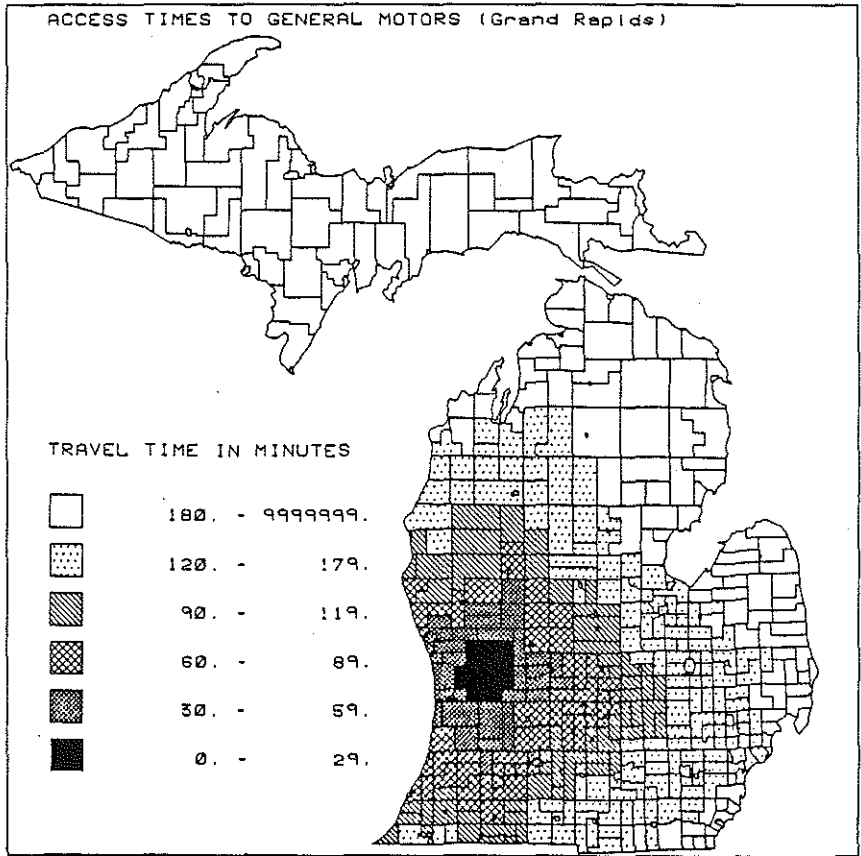
Composite Summary for General Motors, Grand Rapids

| | |
|------------------------------------|--|
| Access Time Analysis: | 77% within 30 min., 97% within 60 min. |
| Carpool Development Potential: | US-31 in Allegan County and M-37 in Barry County |
| New Vanpool Development Potential: | Allegan, Newaygo, and Ottawa counties |
| New Buspool Development Potential: | Ottawa County |

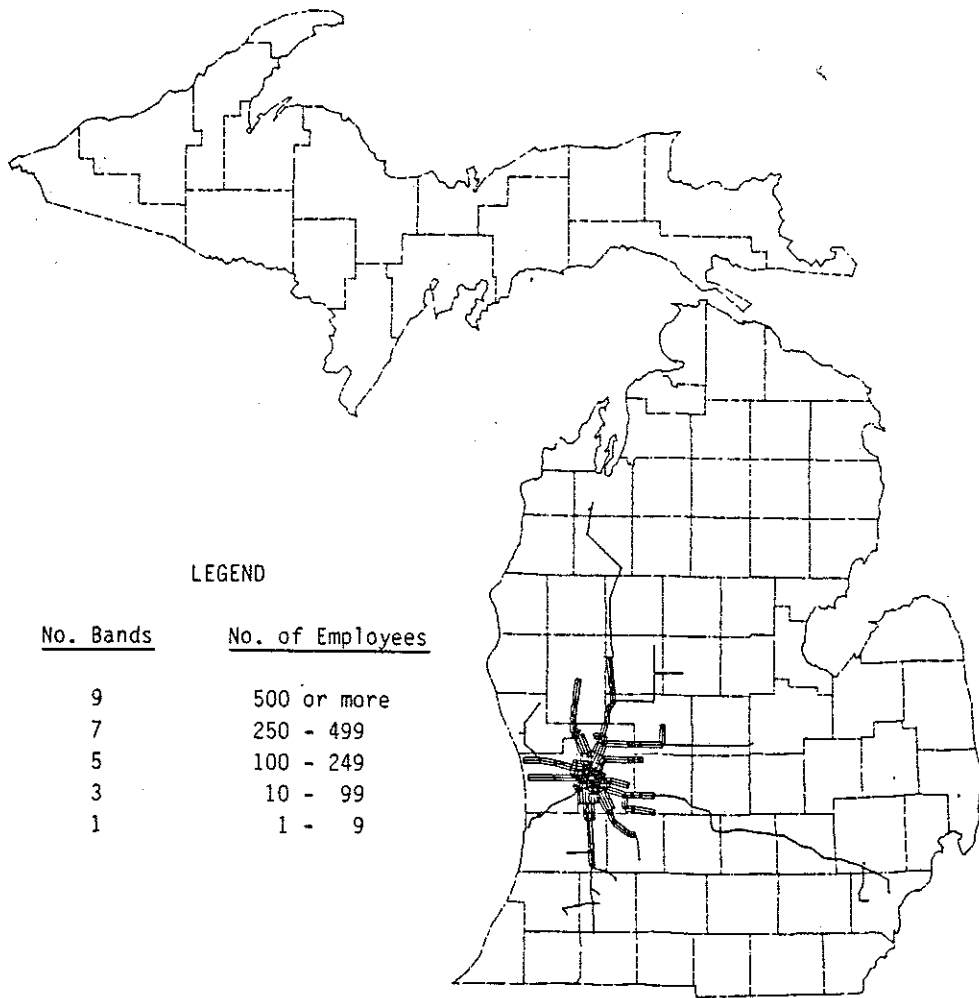
GENERAL MOTORS (Grand Rapids)



ACCESS TIMES TO GENERAL MOTORS (Grand Rapids)







SIMULATED TRAVEL PATTERNS FOR G.M., GD. RAPIDS



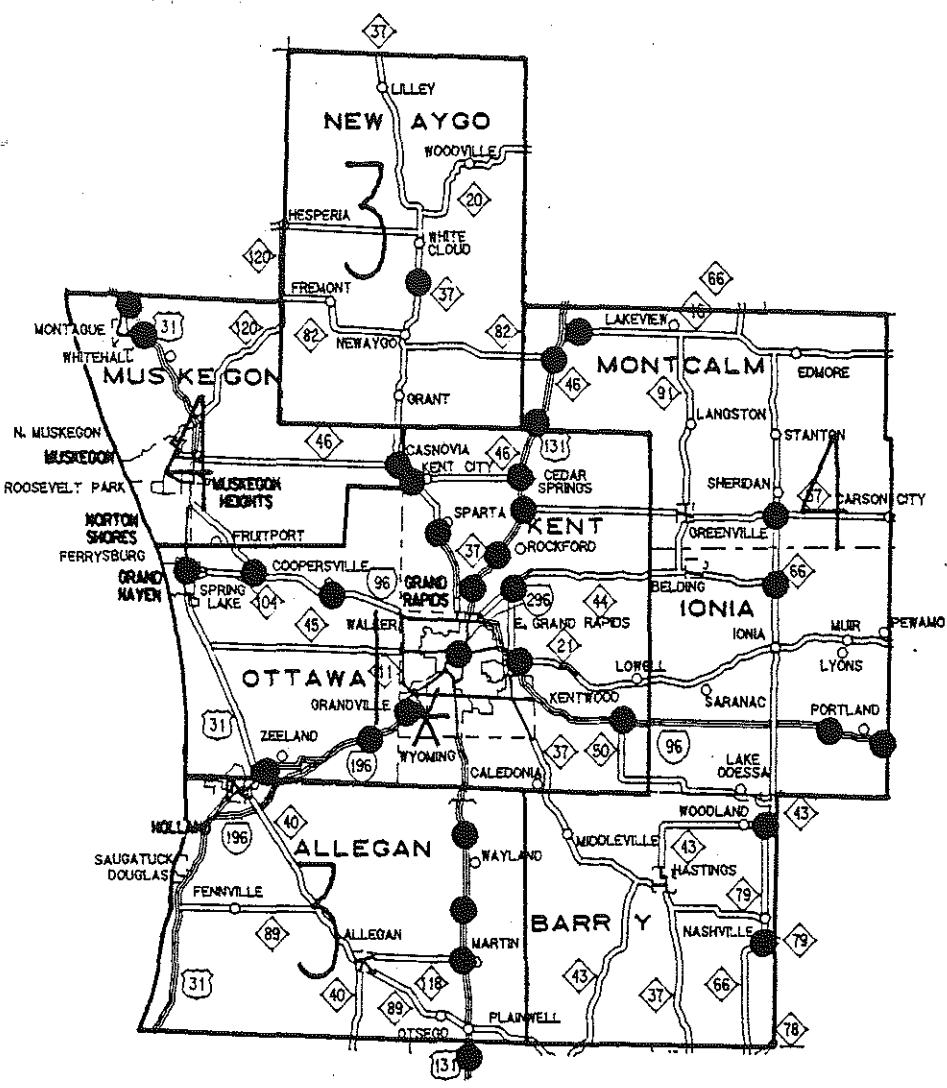
GENERAL MOTORS, GRAND RAPIDS

LEGEND

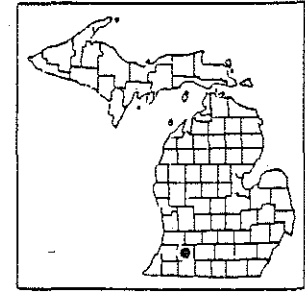
| | |
|---|---------------------------|
|  | EMPLOYER |
|  | CARPOOL LOT |
|  | VANPOOL |
|  | EMPLOYEE DENSITY BOUNDARY |

EMPLOYEE DENSITY CODES
(NO. OF EMPLOYEES PER COUNTY)

| | |
|---|-------------|
| 1 | 500 OR MORE |
| 2 | 250 - 499 |
| 3 | 100 - 249 |
| 4 | 10 - 99 |
| 5 | 1 - 9 |



Company: General Motors
 Plant Location: Kalamazoo
 Number of Employees: 3,180



Counties With Potential for Carpooling Only
 (10-99 Employees Residing in County)

| County (# Employees) | Existing Carpool Parking Lots | Capacity | Use | % Use |
|-------------------------|----------------------------------|----------|-----|-------|
| Barry (89) | M-66 @ M-79 (S. Jct.) | 34 | 12 | 35.3 |
| | M-43 @ M-66 (S. Jct.) | 30 | 4 | 13.3 |
| Berrien (21) | I-94 @ I-94BL (Lakeshore Dr.) | 25 | 8 | 32.0 |
| | In Niles (Sycamore St.) | 57 | 40 | 70.2 |
| | In Buchanan (Oak @ Front) | 62 | 35 | 56.5 |
| Cass (19) | None | -- | -- | -- |
| Kent (21) | I-96 @ M-44/M-47 (Mich. Ave.) | 50 | 25 | 50.0 |
| | I-96 @ 44th | 35 | 27 | 77.1 |
| | I-96 @ M-50 | 20 | 20 | 100.0 |
| | US-131 @ W. River Rd. | 75 | 35 | 46.7 |
| | US-131 @ M-46 (17 Mile Rd.) | 60 | 30 | 50.0 |
| | US-131 @ 10 Mile Rd. | 45 | 25 | 55.6 |
| | US-131 @ Post Rd. | 30 | 10 | 33.3 |
| | US-131 @ M-57 | 50 | 30 | 60.0 |
| | M-44 @ 7 Mile Rd. | 24 | 19 | 79.2 |
| | M-37 @ Peach Ridge Rd. | 30 | 6 | 20.0 |
| Newaygo (19) | M-37 @ 13 Mile Rd. | 30 | 10 | 33.3 |
| | M-37 @ 40th St. | 15 | 6 | 40.0 |

Existing Carpool Parking Lot Analysis and New Potential

There may be potential for new carpool parking lot development at locations along M-40 and M-89 in Allegan County, M-43 in Barry County, I-94 in Berrien County, and US-131 in St. Joseph County. State trunkline routes to the facility from other outlying counties appear to have adequate carpool parking lot provisions.

Counties With Potential for Vanpooling
 (100-249 Employees Residing in County, Trip Length >10 Miles)

| County (#Employees) | Existing Vanpools | Comments |
|---------------------|-------------------|----------|
| St. Joseph (112) | None Known | |

Existing Vanpool Analysis and New Potential

There are no known existing vanpools operating through the Michivan program serving the General Motors facility in Kalamazoo. Employee density patterns suggest that there are

Company: General Motors
 Plant Location: Kalamazoo
 Page 2

possibilities for new vanpools in Allegan, Barry, Calhoun, Kalamazoo, St. Joseph, and Van Buren counties.

**Counties With Potential for Buspooling
 (250 or more Employees, One Way Trip Length >10 Miles)**

| <u>County (# Employees)</u> | <u>Existing Buspools</u> | <u>Comments</u> |
|-----------------------------|--------------------------|-----------------|
| Allegan (257) | None known | If Trip >10 Mi. |
| Calhoun (351) | None known | |
| Kalamazoo (2474) | None known | If Trip >10 Mi. |
| Van Buren (397) | None known | |

Existing Buspool Analysis and New Potential

No known buspools currently serve the General Motors facility in Kalamazoo. The employee density patterns suggest that there may be the possibility to develop new buspools from Allegan, Barry, Kalamazoo, and Van Buren counties, contingent on meeting the 10 mile one-way trip distance criteria.

Potential for Combination Service With Other Employers

| <u>County of Employee Residence (#)</u> | <u>Other Employer</u> | <u>Total Employees</u> | <u>Type of Poten. Service*</u> |
|---|-----------------------|------------------------|--------------------------------|
|---|-----------------------|------------------------|--------------------------------|

None

Access Time Analysis

Access time analysis indicates that nearly 60% (1,478) of the reported employees working for General Motors, Kalamazoo live within 30 minutes of their place of employment. All significant employee residence concentrations are within a 60 minute commute time (3,772, 98%).

Composite Summary for General Motors, Kalamazoo

Access Time Analysis: 60% within 30 min.,
 98% within 60 min.

*Must meet mileage criteria. C = Carpool, V = Vanpool,
 B = Buspool.

Company: General Motors
Plant Location: Kalamazoo
Page 3

Carpool Parking Lot Potential:

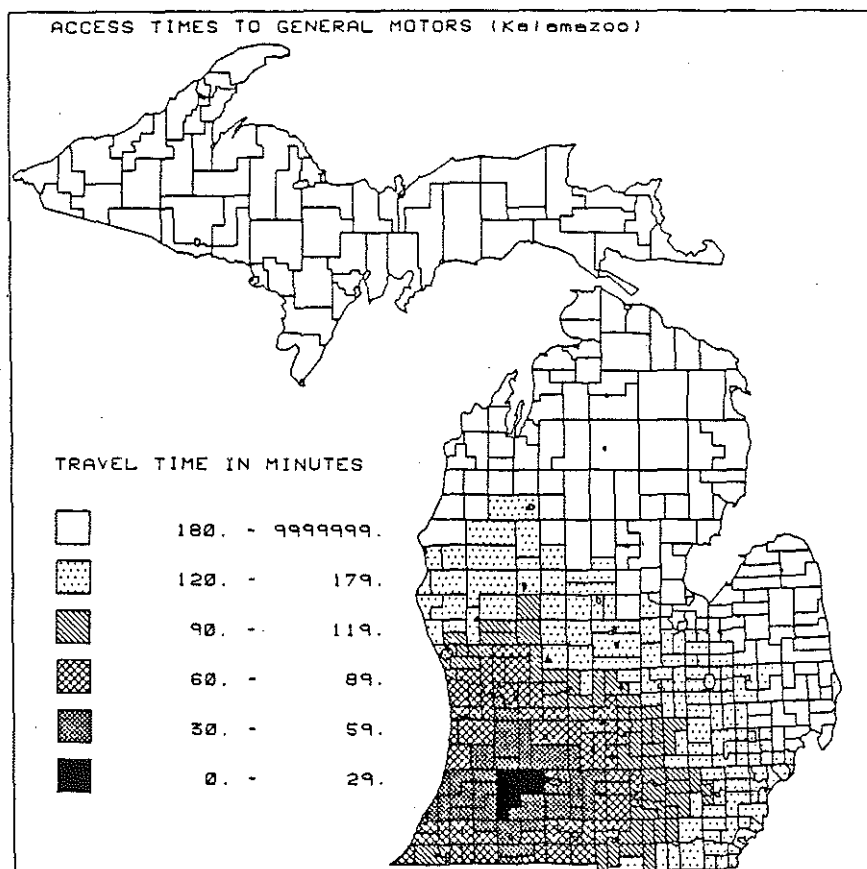
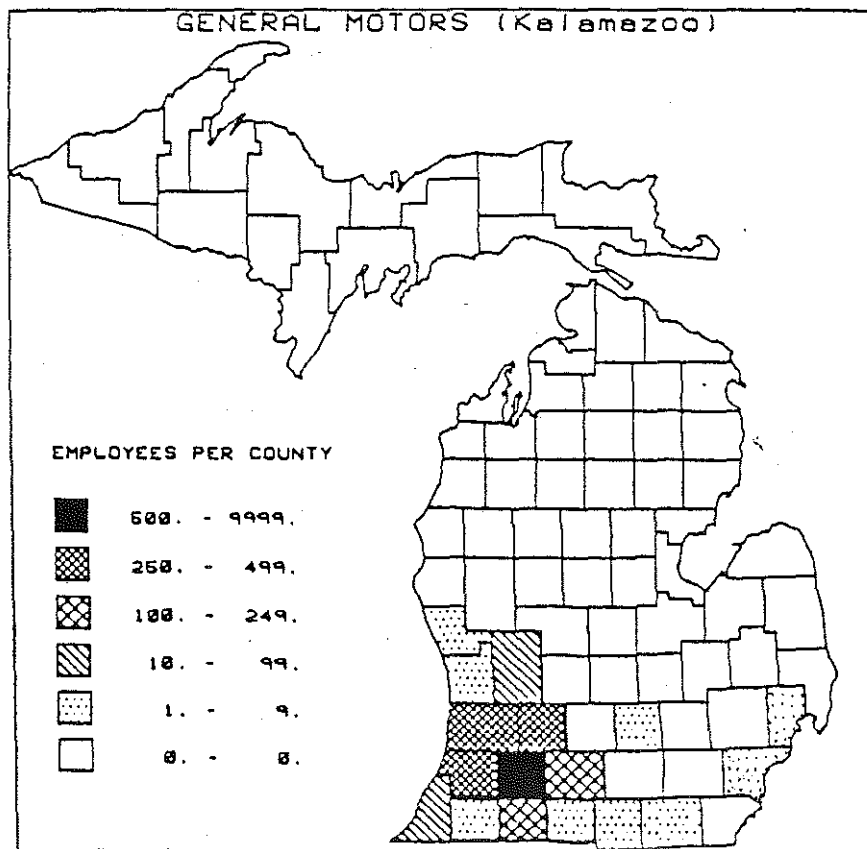
M-40 and M-89 in
Allegan County, M-43
in Barry County, I-94
in Berrien County, and
US-131 in St. Joseph
County

New Vanpool Development Potential:

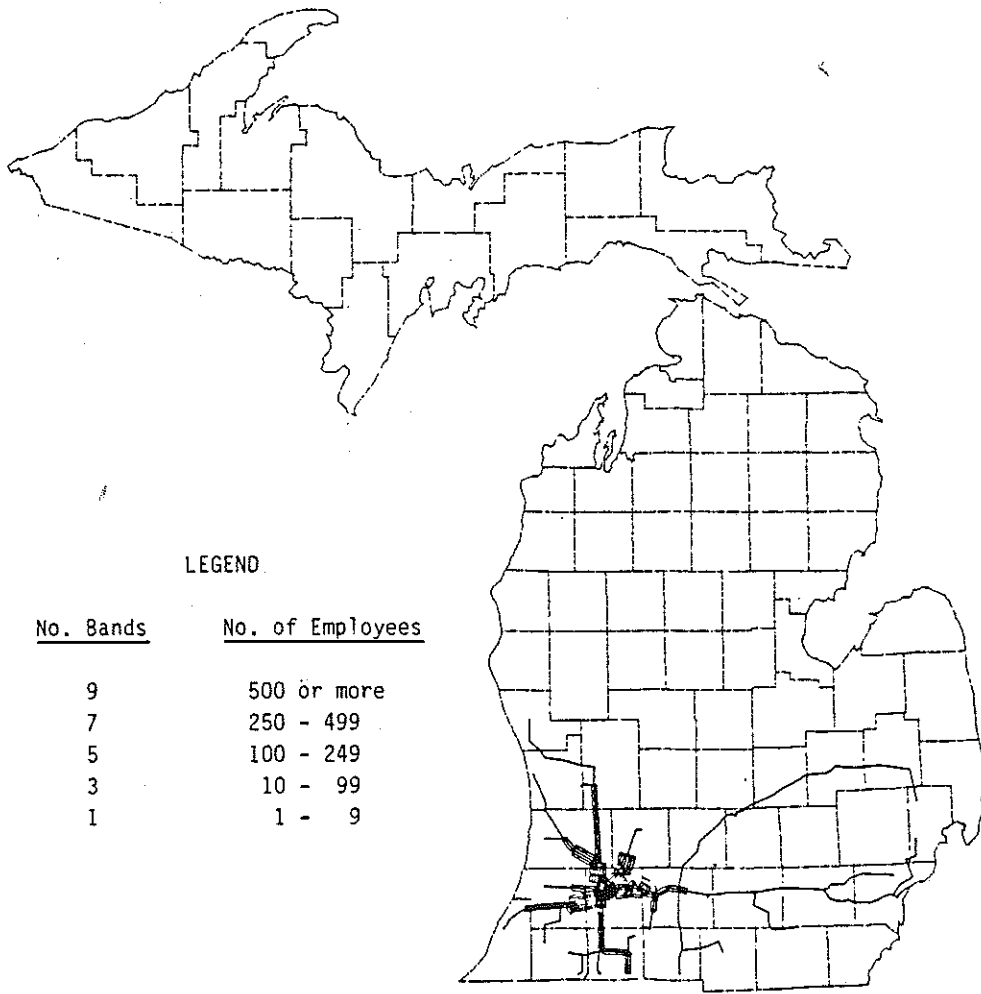
Allegan, Barry,
Calhoun, Kalamazoo,
St. Joseph, and Van
Buren counties

New Buspool Development Potential:

Allegan, Barry,
Kalamazoo, and Van
Buren counties



SIMULATED TRAVEL PATTERNS FOR G.M., KALAMAZOO



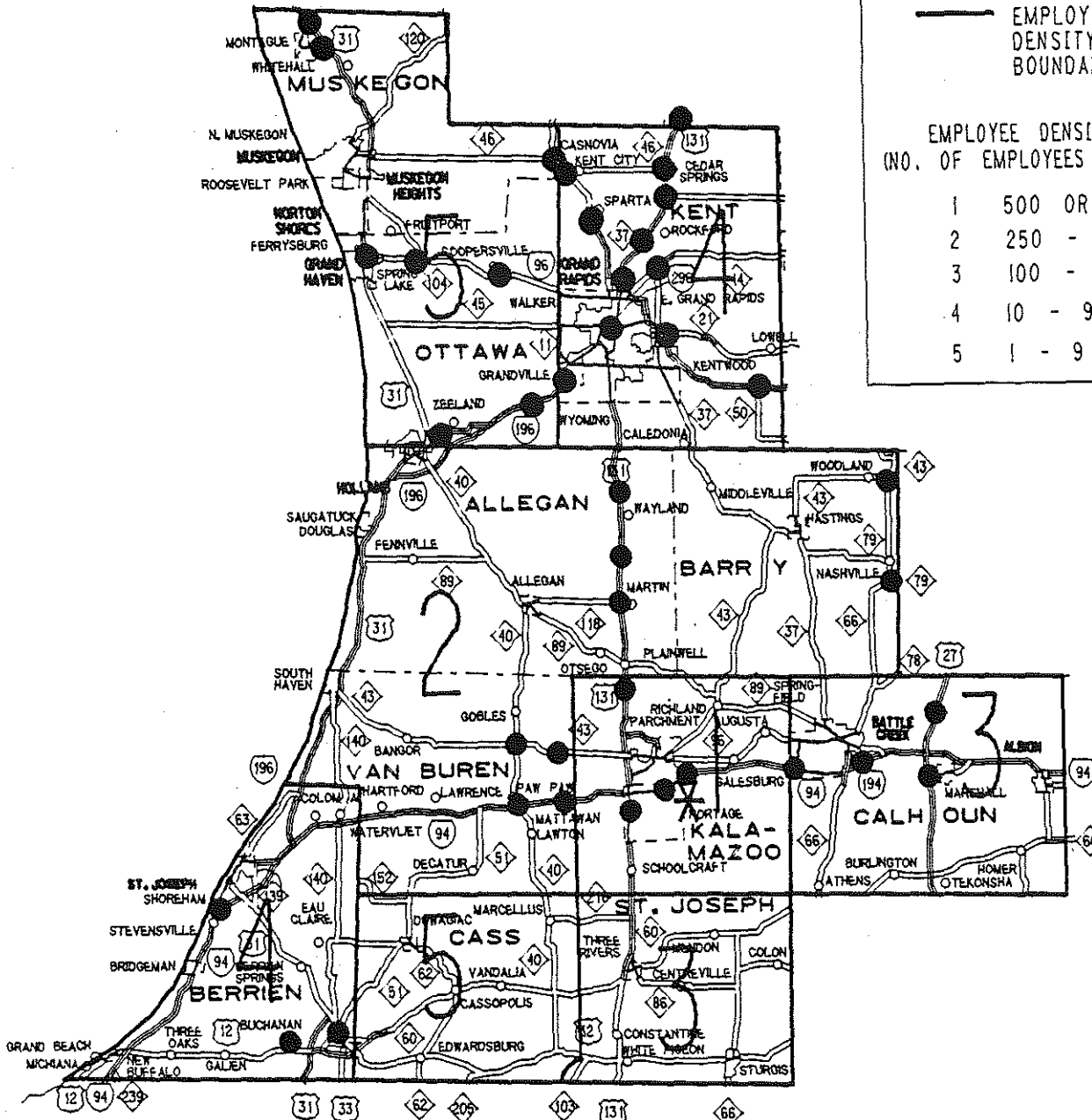
GENERAL MOTORS, KALAMAZOO

LEGEND

- * EMPLOYER
- CARPOOL LOT
- VANPOOL
- EMPLOYEE DENSITY BOUNDARY

EMPLOYEE DENSITY CODES
(NO. OF EMPLOYEES PER COUNTY)

| | |
|---|-------------|
| 1 | 500 OR MORE |
| 2 | 250 - 499 |
| 3 | 100 - 249 |
| 4 | 10 - 99 |
| 5 | 1 - 9 |



Company: Haworth
 Plant Location: Holland
 Number of Employees: 1,170



**Counties With Potential for Carpooling Only
 (10-99 Employees Residing in County)**

| <u>County (# Employees)</u> | <u>Existing Carpool Parking Lots</u> | <u>Capacity</u> | <u>Use</u> | <u>% Use</u> |
|---------------------------------|--|-----------------|------------|--------------|
| Benzie (41) | None | -- | -- | -- |
| Muskegon (58) | US-31 @ US-31BR (Colby Rd.) | 30 | 21 | 70.0 |
| | US-31 @ Fruitville Rd. | 30 | 10 | 33.3 |
| | M-37 @ Casnovia | 30 | 6 | 20.0 |
| Van Buren (23) | I-94 @ Mattawan Rd. | 35 | 15 | 42.9 |
| | I-94 @ M-40 | 75 | 20 | 26.7 |
| | M-43 @ M-40 | 50 | 20 | 40.0 |
| | M-43 @ Fish Hatchery Rd. | 12 | 2 | 16.7 |

Existing Carpool Parking Lot Analysis and New Potential

There may be potential for new carpool parking lot development at locations along US-31 and M-89 in Allegan County. State trunkline routes to the facility from other outlying counties appear to have adequate carpool parking lot provisions.

**Counties With Potential for Vanpooling
 (100-249 Employees Residing in County, Trip Length >10 Miles)**

| <u>County (#Employees)</u> | <u>Existing Vanpools</u> | <u>Comments</u> |
|----------------------------|--------------------------|-----------------------|
| Allegan (214) | None known | |
| Kent (214) | 1 (Lansing) | #196 (See Append. C.) |

Existing Vanpool Analysis and New Potential

There is one known existing vanpool operating through the Michivan program serving the Haworth facility from Grand Rapids. Employee density patterns suggest that there are possibilities for new vanpools in Allegan and Ottawa counties.

**Counties With Potential for Buspooling
 (250 or more Employees, One Way Trip Length >10 Miles)**

| <u>County (# Employees)</u> | <u>Existing Buspools</u> | <u>Comments</u> |
|-----------------------------|--------------------------|-----------------|
| Ottawa (1230) | None known | If Trip >10 Mi. |

Company: Haworth
Plant Location: Holland
Page 2

Existing Buspool Analysis and New Potential

No known buspools currently serve Haworth. The employee density patterns suggest that there may be the possibility to develop new buspools from Ottawa County, contingent on meeting the 10 mile one-way trip distance criteria.

Potential for Combination Service With Other Employers

| <u>County of Employee Residence (#)</u> | <u>Other Employer</u> | <u>Haworth and Other Employees</u> | <u>Type of Poten. Service*</u> |
|---|-----------------------|------------------------------------|--------------------------------|
| Van Buren (2) | Herman Miller | 25 | C |
| Kent (215) | Herman Miller | 429 | B,V,C |

Access Time Analysis

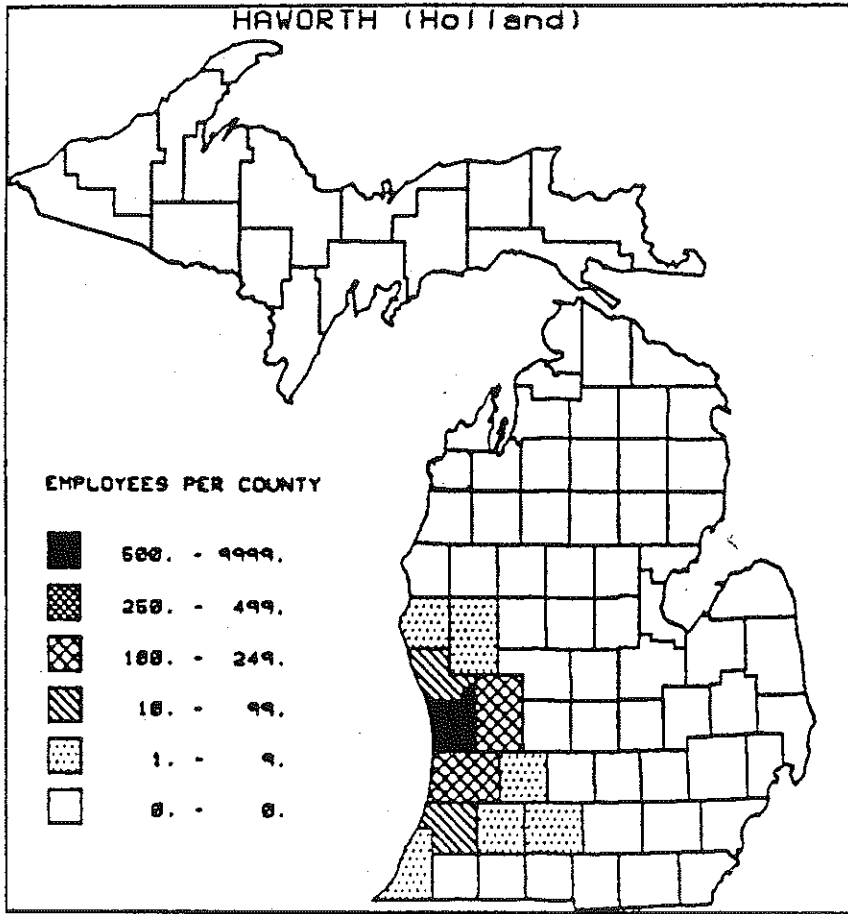
Access time analysis indicates that nearly 77% (1,372) of the reported employees working for Haworth live within 30 minutes of their place of employment. All significant employee residence concentrations are within a 60 minute commute time (1,759, 98%).

Composite Summary for Haworth

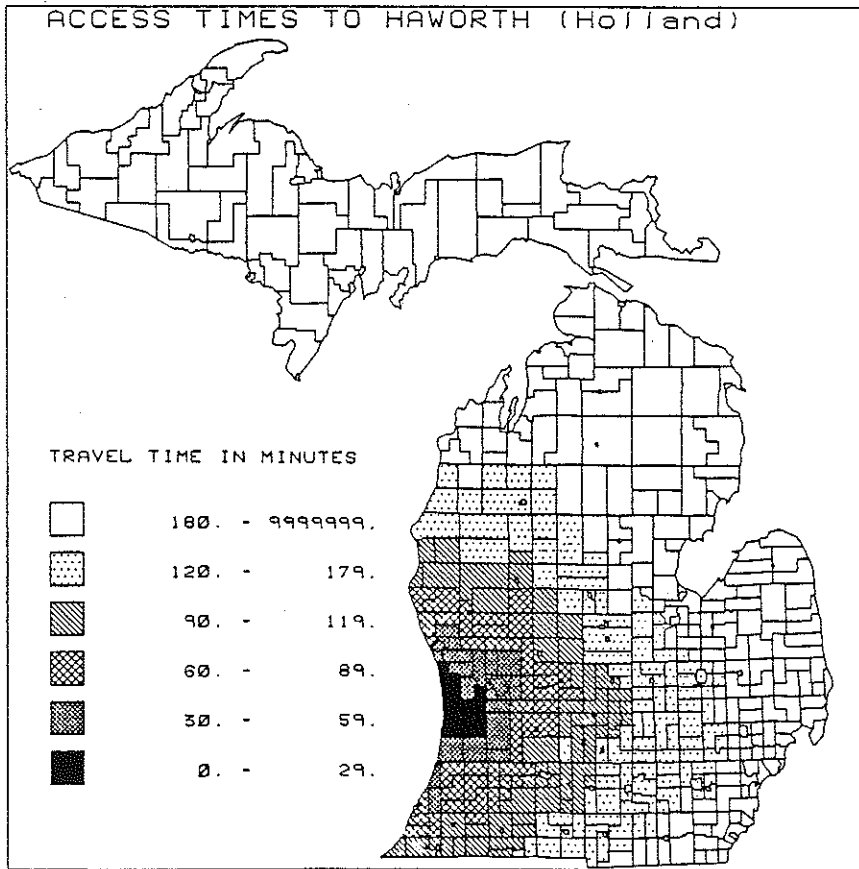
| | |
|------------------------------------|---|
| Access Time Analysis: | 77% within 30 min., 98% within 60 min. |
| Carpool Parking Lot Potential: | US-31 and M-89 in Allegan County |
| New Vanpool Development Potential: | Allegan and Ottawa counties |
| New Buspool Development Potential: | Ottawa County |

*Must meet mileage criteria. C = Carpool, V = Vanpool, B = Buspool.

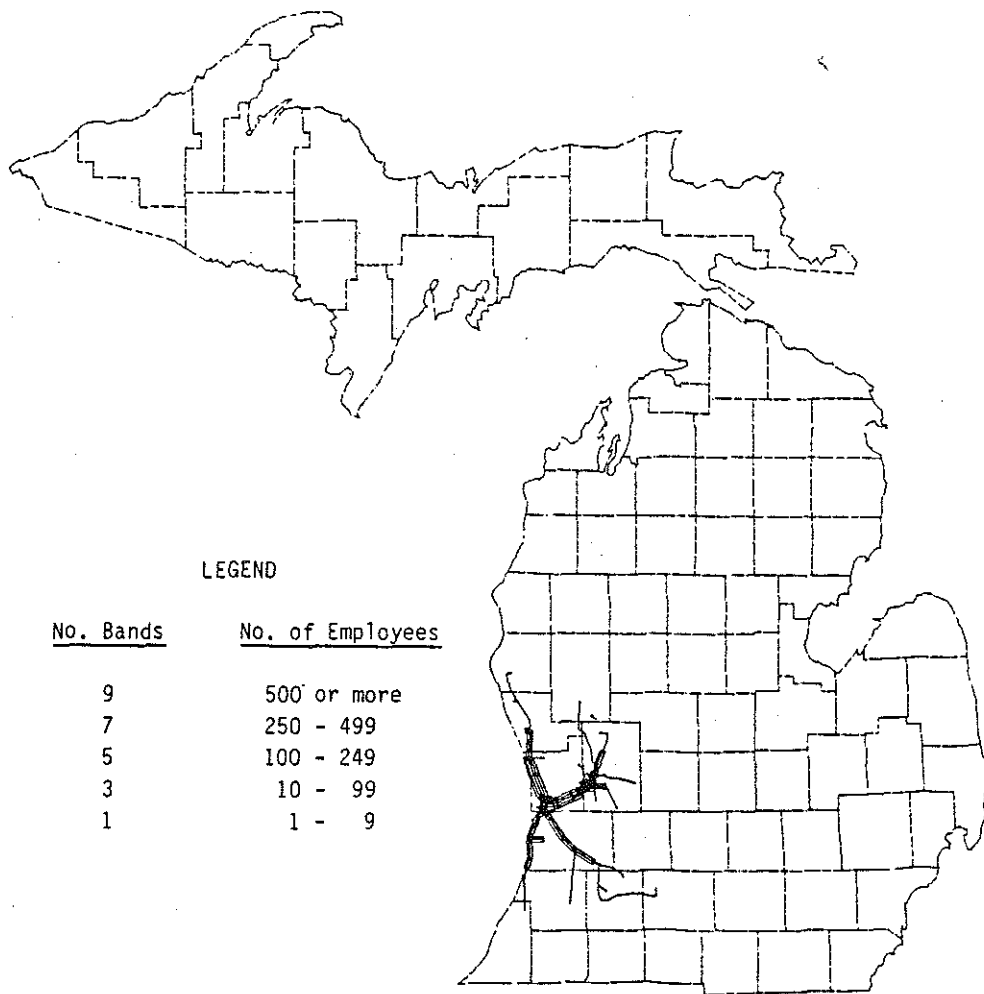
HAWORTH (Holland)



ACCESS TIMES TO HAWORTH (Holland)



SIMULATED TRAVEL PATTERNS FOR HAWORTH



Company: Herman Miller
 Plant Location: Zeeland
 Number of Employees: 2,120



Counties With Potential for Carpooling Only
 (10-99 Employees Residing in County)

| County (# Employees) | Existing Carpool Parking Lots | Capacity | Use | % Use |
|-------------------------|----------------------------------|----------|-----|-------|
| Allegan (59) | US-131 @ 129th St. | 12 | 9 | 75.0 |
| | US-131 @ 142nd | 50 | 15 | 30.0 |
| | US-131 @ M-118 | 18 | 10 | 55.6 |
| Muskegon (22) | US-31 @ US-31BR (Colby Rd.) | 30 | 21 | 70.0 |
| | US-31 @ Fruitville Rd. | 30 | 10 | 33.3 |
| | M-37 @ Casnovia | 30 | 6 | 20.0 |

Existing Carpool Parking Lot Analysis and New Potential

There may be potential for new carpool parking lot development at locations along US-31, M-40, and M-89 in Allegan County. State trunkline routes to the facility from other outlying counties appear to have adequate carpool parking lot provisions.

Counties With Potential for Vanpooling
 (100-249 Employees Residing in County, Trip Length >10 Miles)

| County (#Employees) | Existing Vanpools | Comments |
|---------------------|-------------------|----------------------|
| Kent (215) | 2 (Lansing) | #196 (See Append. C) |

Existing Vanpool Analysis and New Potential

There are no known existing vanpools operating through the Michivan program serving the Herman Miller facility. Employee density patterns suggest that there are possibilities for new vanpools in Ottawa and Kent counties.

Counties With Potential for Buspooling
 (250 or more Employees, One Way Trip Length >10 Miles)

| County (# Employees) | Existing Buspools | Comments |
|----------------------|-------------------|-----------------|
| Ottawa (1255) | None known | If Trip >10 Mi. |

Existing Buspool Analysis and New Potential

No known buspools currently serve Herman Miller. The employee

Company: Herman Miller
 Plant Location: Zeeland
 Page 2

density patterns suggest that there may be the possibility to develop new buspools from Ottawa County, contingent on meeting the 10 mile one-way trip distance criteria.

Potential for Combination Service With Other Employers

| <u>County of Employee Residence (#)</u> | <u>Other Employer</u> | <u>H. Miller and Other Employees</u> | <u>Type of Poten. Service*</u> |
|---|-----------------------|--------------------------------------|--------------------------------|
| Kent (214) | Haworth | 429 | B, V, C |
| Van Buren (23) | Haworth | 25 | C |

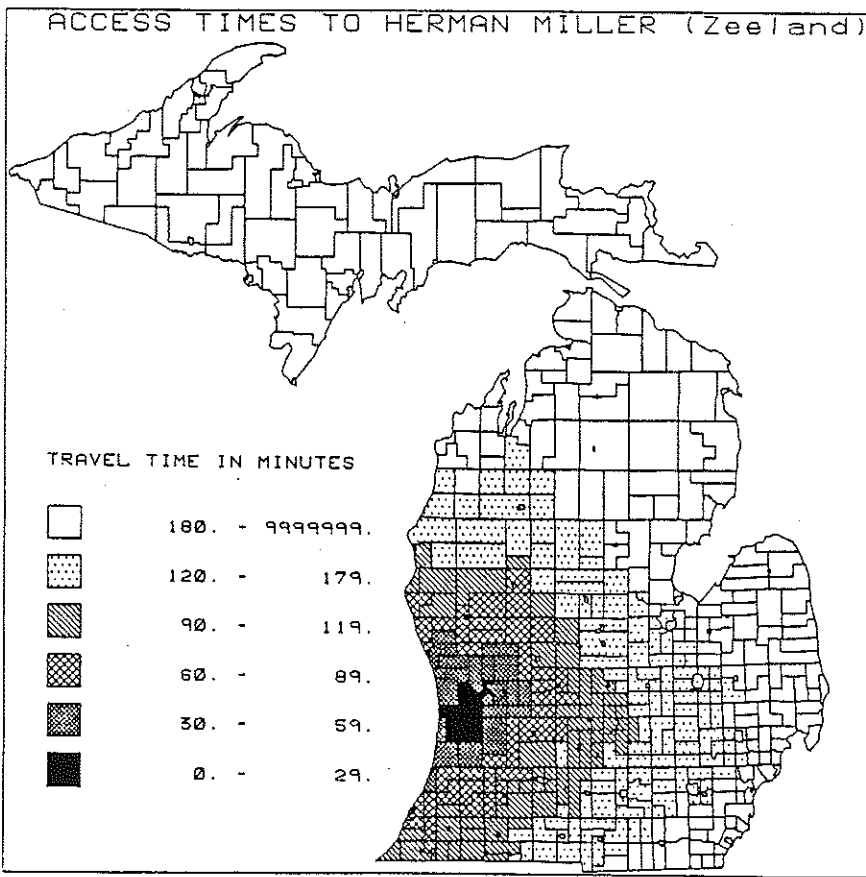
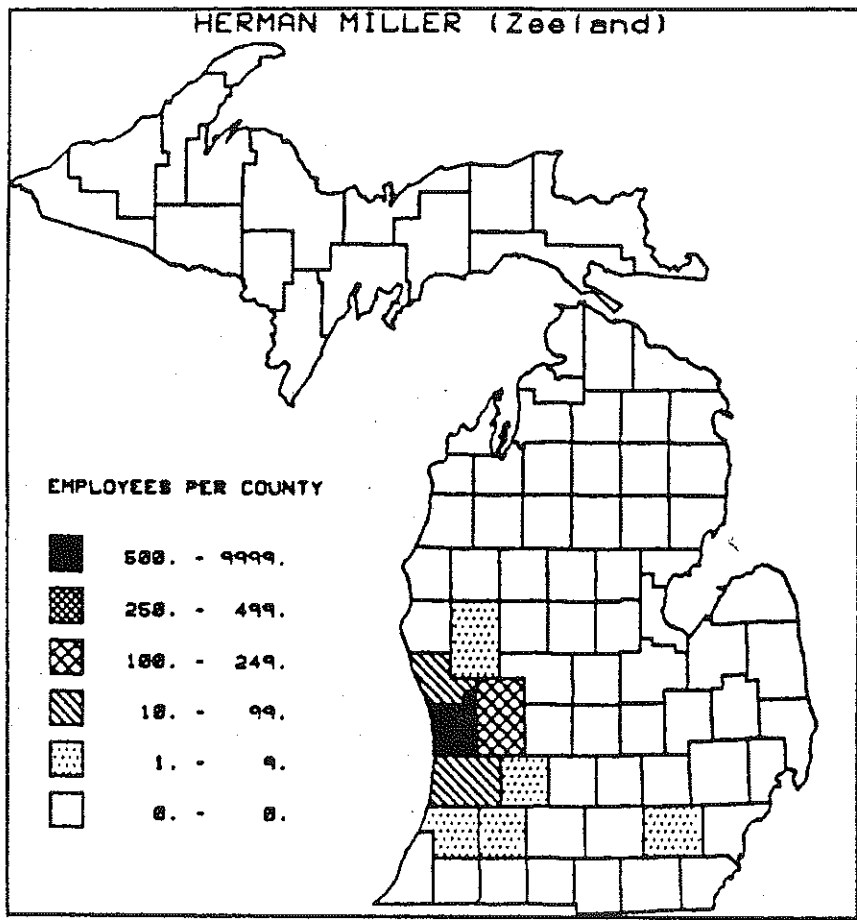
Access Time Analysis

Access time analysis indicates that nearly 86% (1,332) of the reported employees working for Herman Miller live within 30 minutes of their place of employment. Essentially all employee residence concentrations are within a 60 minute commute time (1,551, 100%).

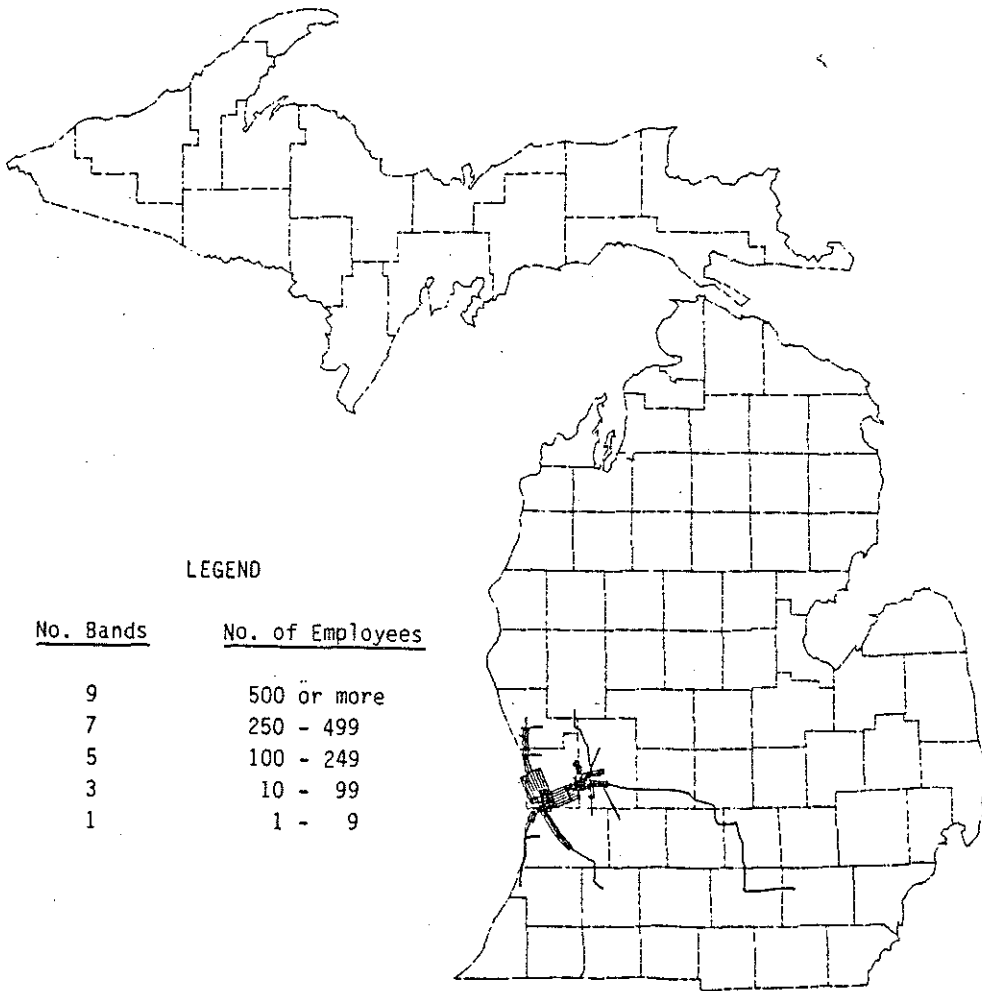
Composite Summary for Herman Miller

| | |
|------------------------------------|--|
| Access Time Analysis: | 86% within 30 min., 100% within 60 min. |
| Carpool Parking Lot Potential: | US-31, M-40, and M-89 in Allegan County |
| New Vanpool Development Potential: | Ottawa and Kent counties |
| New Buspool Development Potential: | Ottawa County |

*Must meet mileage criteria. C = Carpool, V = Vanpool,
 B = Buspool.







SIMULATED TRAVEL PATTERNS FOR HERMAN MILLER



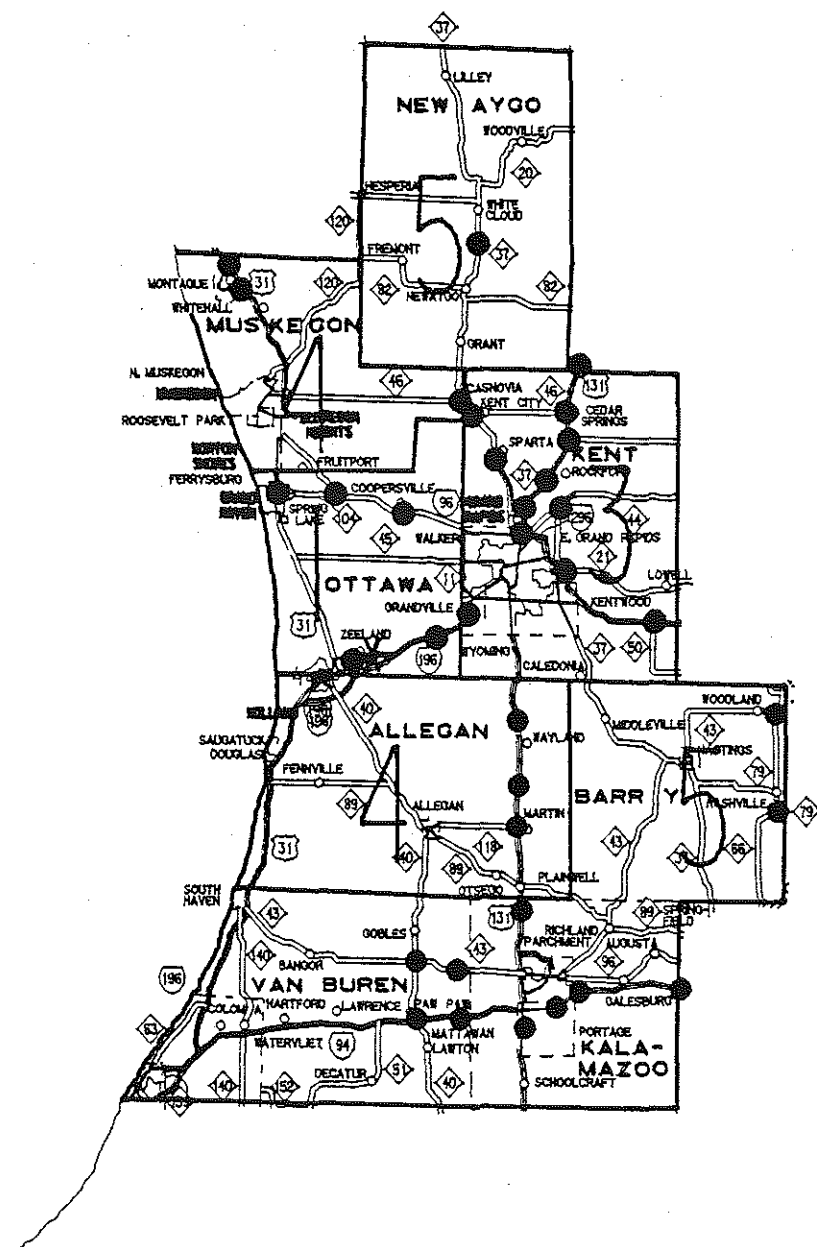
HERMAN MILLER, ZEELAND

LEGEND

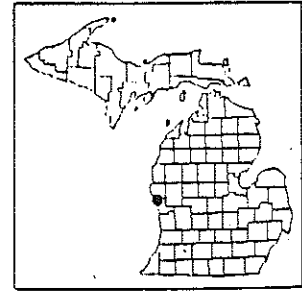
| | |
|---|---------------------------|
|  | EMPLOYER |
|  | CARPOOL LOT |
|  | VANPOOL |
|  | EMPLOYEE DENSITY BOUNDARY |

EMPLOYEE DENSITY CODES
(NO. OF EMPLOYEES PER COUNTY)

| | |
|---|-------------|
| 1 | 500 OR MORE |
| 2 | 250 - 499 |
| 3 | 100 - 249 |
| 4 | 10 - 99 |
| 5 | 1 - 9 |



Company: Howmet Turbine
 Plant Location: Whitehall
 Number of Employees: 2,290



Counties With Potential for Carpooling Only
 (10-99 Employees Residing in County)

| County (# Employees) | Existing Carpool Parking Lots | Capacity | Use | % Use |
|-------------------------|----------------------------------|----------|-----|-------|
| Mason (61) | None | -- | -- | -- |
| Ottawa (61) | I-96 @ 32nd (Hudsonville) | 20 | 15 | 75.0 |
| | I-96 @ 112th | 35 | 15 | 42.9 |
| | I-196BL @ 112th | 30 | 20 | 66.7 |
| | I-96 @ 68th | 30 | 12 | 40.0 |
| | M-104 @ Pine St. (Ferrysburg) | 40 | 10 | 25.0 |

Existing Carpool Parking Lot Analysis and New Potential

There may be potential for new carpool parking lot development at locations along US-31 in Mason County and M-120 in Muskegon County. State trunkline routes to the facility from other outlying counties appear to have adequate carpool parking lot provisions.

Counties With Potential for Vanpooling
 (100-249 Employees Residing in County, Trip Length >10 Miles)

| County (#Employees) | Existing Vanpools | Comments |
|---------------------|-------------------|----------|
| Newaygo (221) | None known | |

Existing Vanpool Analysis and New Potential

There is one known existing vanpool operating through the Michivan program serving the Howmet facility from Muskegon. Employee density patterns suggest that there are possibilities for new vanpools in Newaygo County.

Counties With Potential for Buspooling
 (250 or more Employees, One Way Trip Length >10 Miles)

| County (# Employees) | Existing Buspools | Comments |
|----------------------|-------------------|-----------------|
| Muskegon (2666) | None known | If Trip >10 Mi. |
| Oceana (537) | None known | If Trip >10 Mi. |

Existing Buspool Analysis and New Potential

Company: Howmet Turbine
Plant Location: Whitehall
Page 2

No known buspools currently serve Howmet. The employee density patterns suggest that there may be the possibility to develop new buspools from Oceana and Muskegon counties, contingent on meeting the 10 mile one-way trip distance criteria.

Potential for Combination Service With Other Employers

| <u>County of Employee Residence (#)</u> | <u>Other Employer</u> | <u>Howmet and Other Employees</u> | <u>Type of Poten. Service*</u> |
|---|-----------------------|-----------------------------------|--------------------------------|
| Kent (9) | Teledyne | 11 | C |
| Newaygo (81) | Teledyne | 302 | B,V,C |
| Oceana (58) | Teledyne | 595 | B,V,C |
| Ottawa (125) | Teledyne | 186 | V,C |

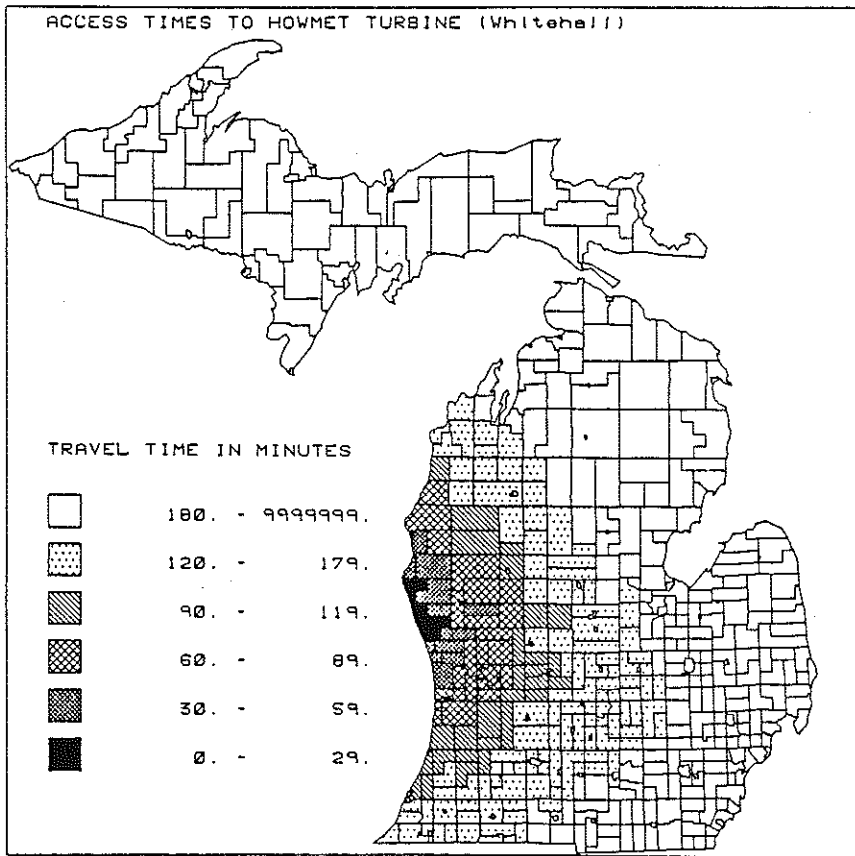
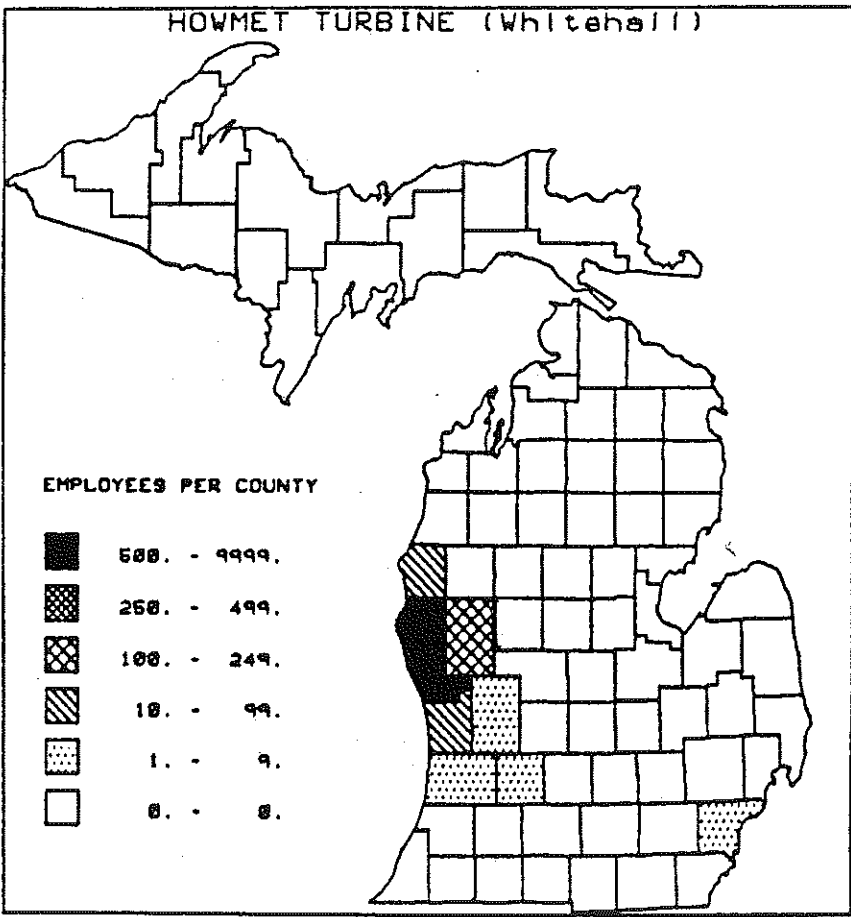
Access Time Analysis

Access time analysis indicates that about one-half, 49% (1,739) of the reported employees working for Howmet live within 30 minutes of their place of employment. Nearly 94% of the employees reside within a 60 minute commute time (3,325).

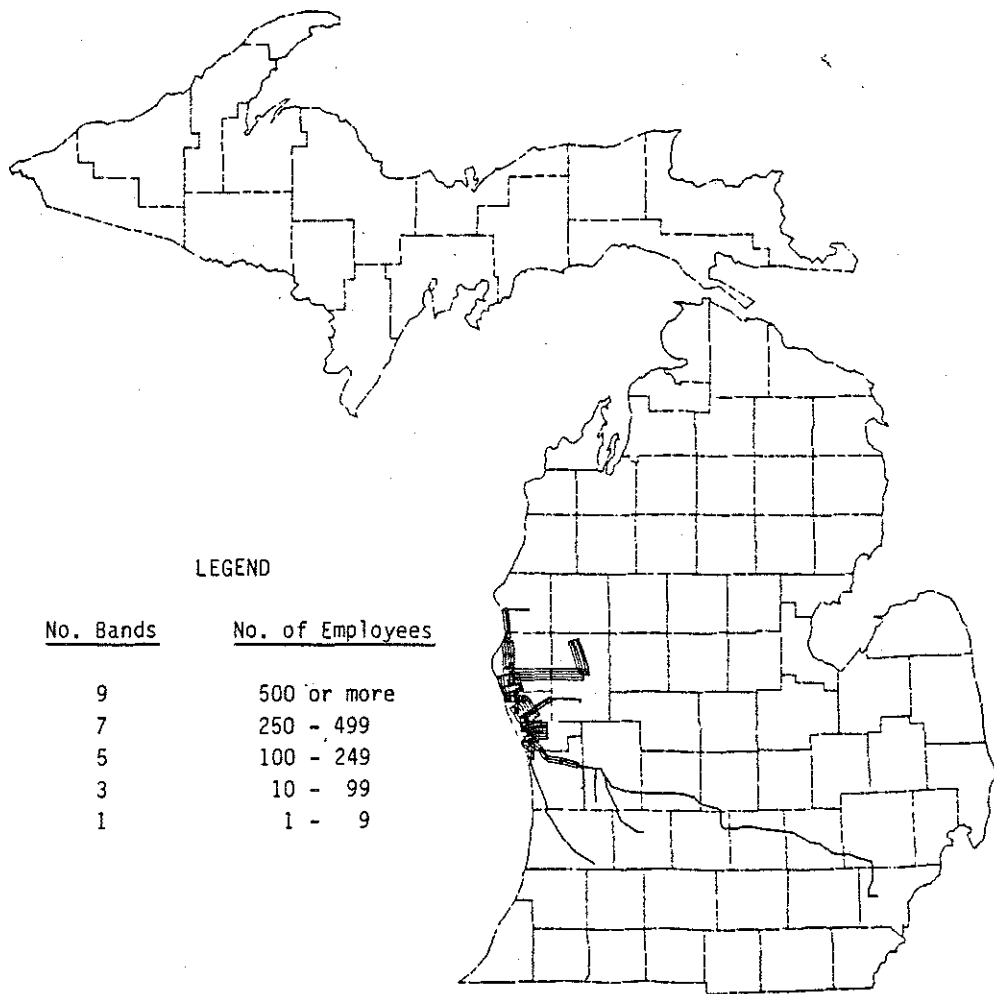
Composite Summary for Howmet Turbine

| | |
|------------------------------------|---|
| Access Time Analysis: | 49% within 30 min., 94% within 60 min. |
| Carpool Parking Lot Potential: | US-31 Mason County and M-120 in Muskegon County |
| New Vanpool Development Potential: | Newaygo County |
| New Buspool Development Potential: | Oceana and Muskegon Counties |

*Must meet mileage criteria. C = Carpool, V = Vanpool,
B = Buspool.







SIMULATED TRAVEL PATTERNS FOR HOWMET



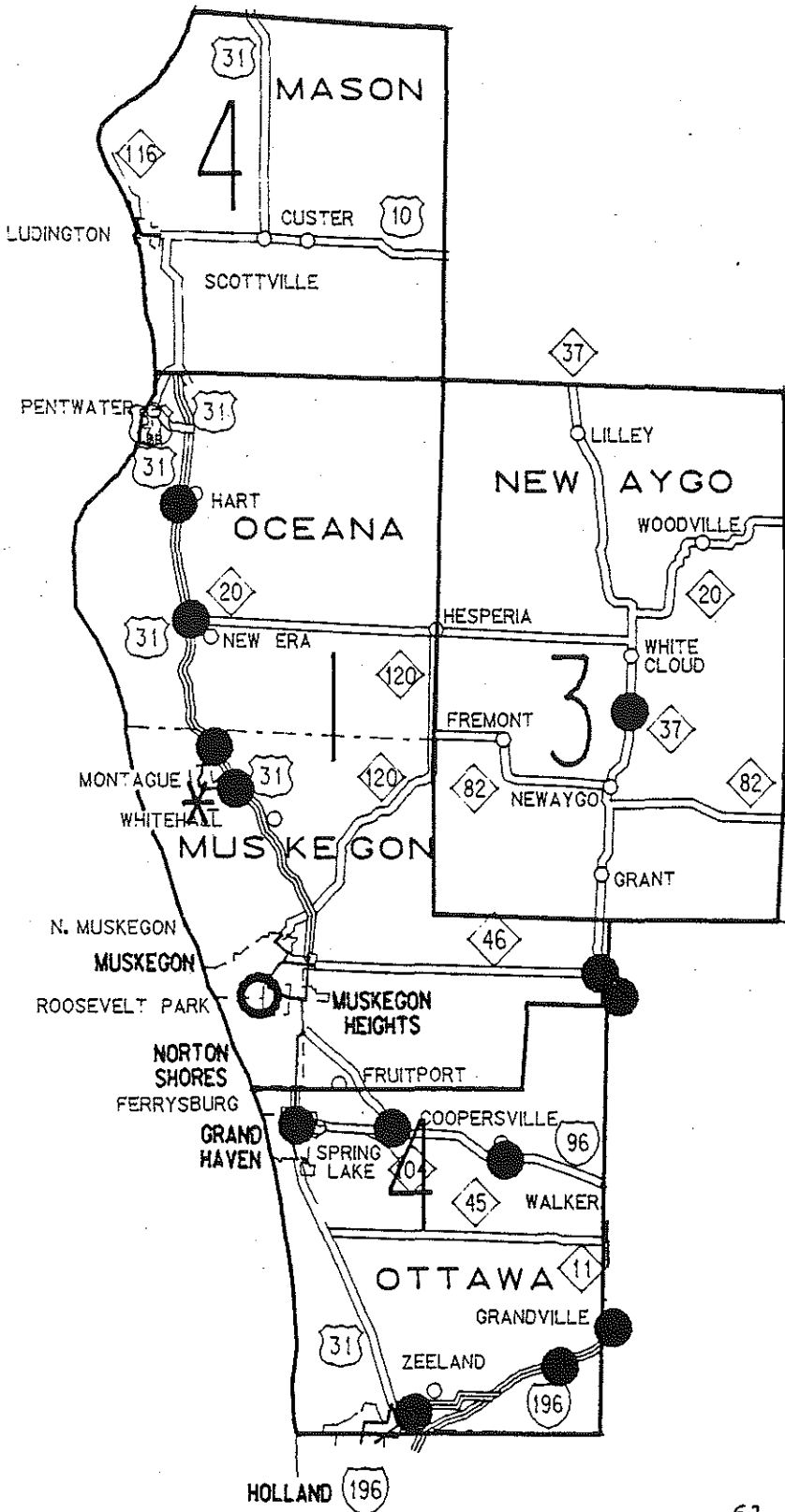
HOWMET TURBINE, WHITEHALL

LEGEND

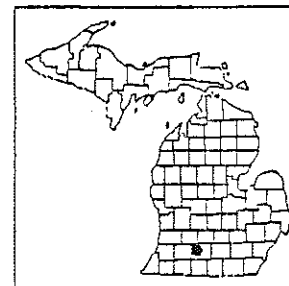
| | |
|---|---------------------------|
|  | EMPLOYER |
|  | CARPOOL LOT |
|  | VANPOOL |
|  | EMPLOYEE DENSITY BOUNDARY |

EMPLOYEE DENSITY CODES
(NO. OF EMPLOYEES PER COUNTY)

| | |
|---|-------------|
| 1 | 500 OR MORE |
| 2 | 250 - 499 |
| 3 | 100 - 249 |
| 4 | 10 - 99 |
| 5 | 1 - 9 |



Company: Kellogg
 Plant Location: Battle Creek
 Number of Employees: 3,660



**Counties With Potential for Carpooling Only
 (10-99 Employees Residing in County)**

| <u>County (# Employees)</u> | <u>Existing Carpool Parking Lots</u> | <u>Capacity</u> | <u>Use</u> | <u>% Use</u> |
|---------------------------------|---|-----------------|------------|--------------|
| Branch (14) | I-69 @ US-12 | 37 | 10 | 27.0 |
| Eaton (56) | I-69 @ I-69BL (Charlotte) M-43 in Sunfield | 56 45 | 14 27 | 25.0 60.0 |

Existing Carpool Parking Lot Analysis and New Potential

There may be potential for new carpool parking lot development at locations along M-37 in Barry County and I-69 in Eaton County. State trunkline routes to the facility from other outlying counties appear to have adequate carpool parking lot provisions.

**Counties With Potential for Vanpooling
 (100-249 Employees Residing in County, Trip Length >10 Miles)**

| <u>County (#Employees)</u> | <u>Existing Vanpools</u> | <u>Comments</u> |
|----------------------------|--------------------------|-----------------|
| Barry (184) | None known | |
| Kalamazoo (199) | None known | |

Existing Vanpool Analysis and New Potential

There are no known existing vanpools operating through the Michivan program serving the Kellogg facility. Employee density patterns suggest that there are possibilities for new vanpools in Barry, Calhoun, and Kalamazoo counties.

**Counties With Potential for Buspooling
 (250 or more Employees, One Way Trip Length >10 Miles)**

| <u>County (# Employees)</u> | <u>Existing Buspools</u> | <u>Comments</u> |
|-----------------------------|--------------------------|-----------------|
| Calhoun (619) | None known | If Trip >10 Mi. |

Existing Buspool Analysis and New Potential

No known buspools currently serve Kellogg. The employee density patterns suggest that there may be the possibility to develop new buspools from Calhoun County, contingent on meeting the 10 mile one-way trip distance criteria.

Company: Kellogg
 Plant Location: Battle Creek
 Page 2

Potential for Combination Service With Other Employers

| <u>County of Employee Residence (#)</u> | <u>Other Employer</u> | <u>Kellogg and Other Employees</u> | <u>Type of Poten. Service*</u> |
|---|-----------------------|------------------------------------|--------------------------------|
| Barry (58) | General Foods | 242 | V,C |
| Branch (16) | General Foods | 30 | C |
| Calhoun (213) | General Foods | 832 | B,V,C |
| Eaton (59) | General Foods | 115 | V,C |
| Jackson (4) | General Foods | 12 | C |
| Kalamazoo (107) | General Foods | 306 | B,V,C |

Access Time Analysis

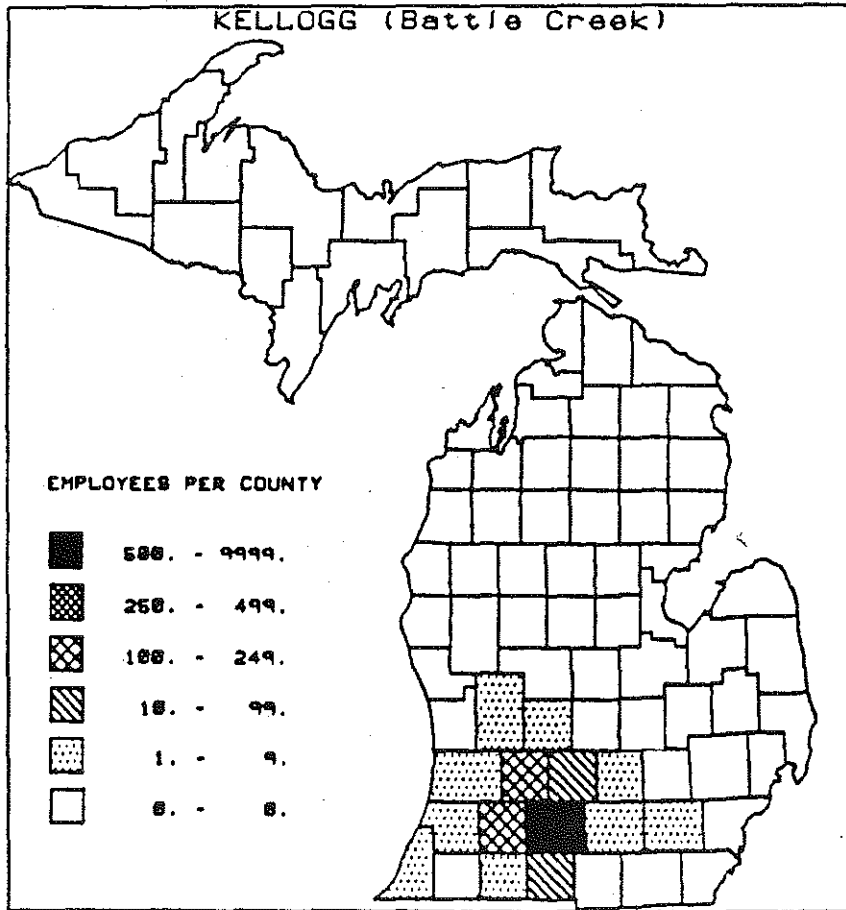
Access time analysis indicates that 58% (638) of the reported employees working for Kellogg live within 30 minutes of their place of employment. All significant employee residence concentrations are within a 60 minute commute time (1,091, 98%).

Composite Summary for Kellogg

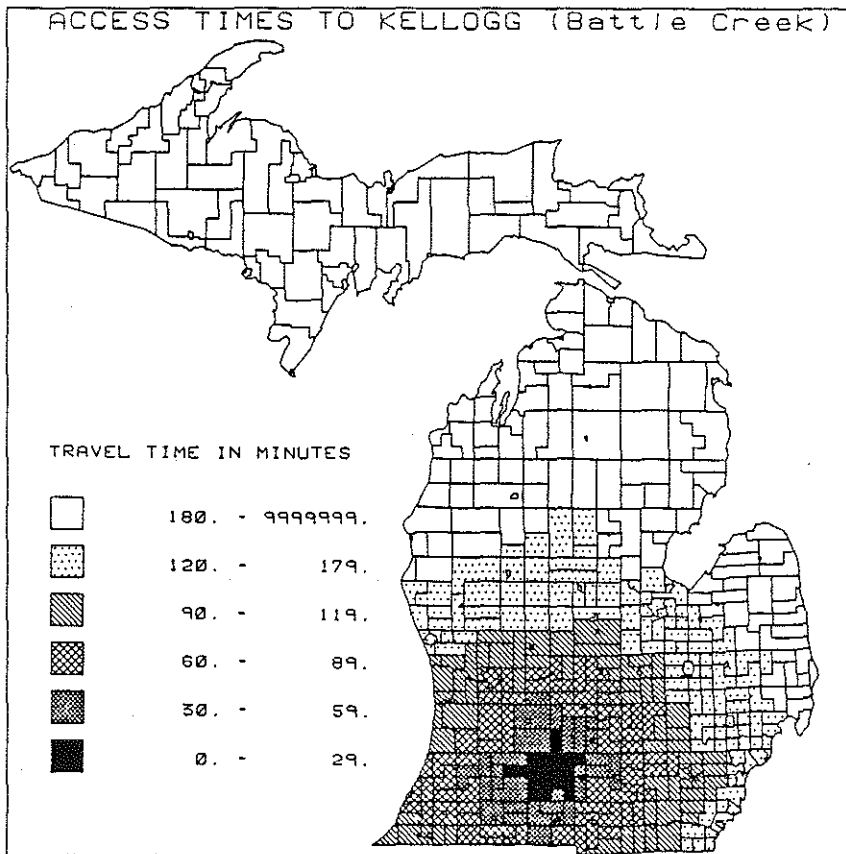
| | |
|------------------------------------|---|
| Access Time Analysis: | 58% within 30 min., 99% within 60 min. |
| Carpool Parking Lot Potential: | M-37 in Barry County and M-27 in Eaton County |
| New Vanpool Development Potential: | Barry, Calhoun, and Kalamazoo counties |
| New Buspool Development Potential: | Calhoun County |

*Must meet mileage criteria. C = Carpool, V = Vanpool,
 B = Buspool.

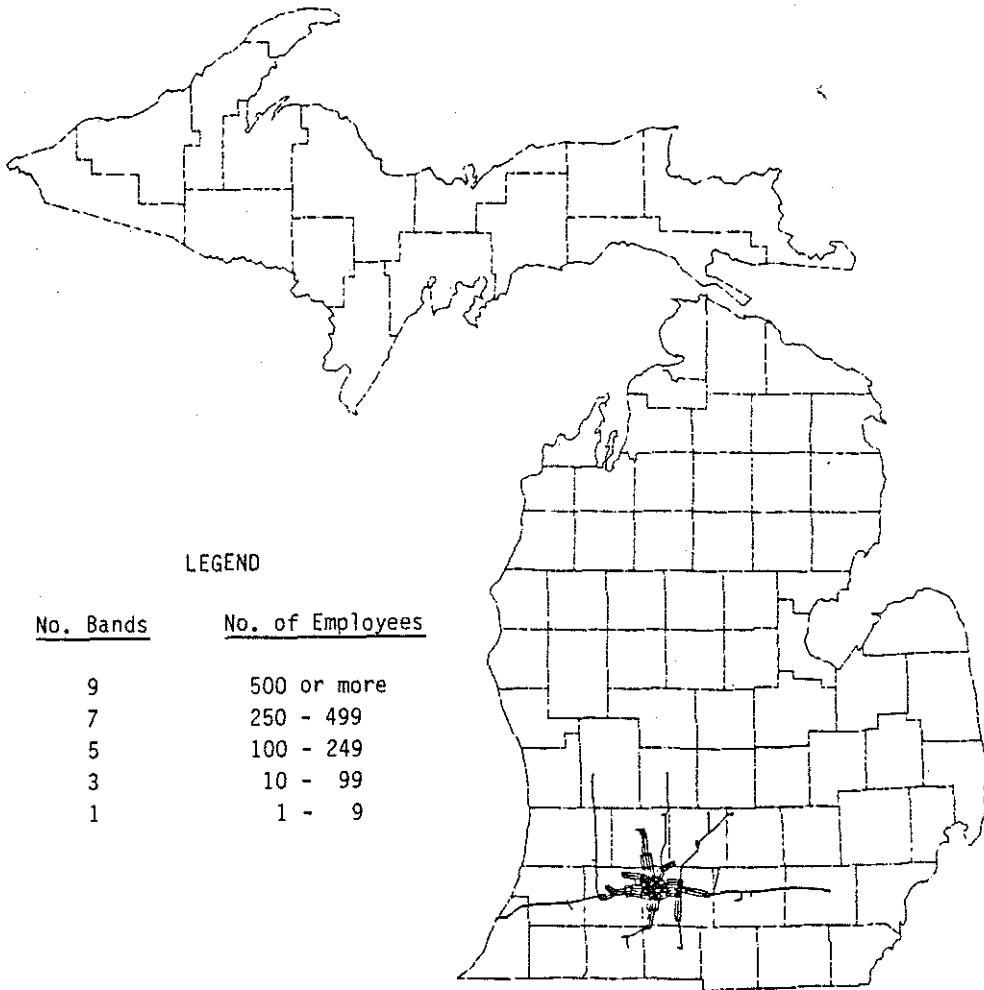
KELLOGG (Battle Creek)



ACCESS TIMES TO KELLOGG (Battle Creek)







SIMULATED TRAVEL PATTERNS FOR KELLOGG



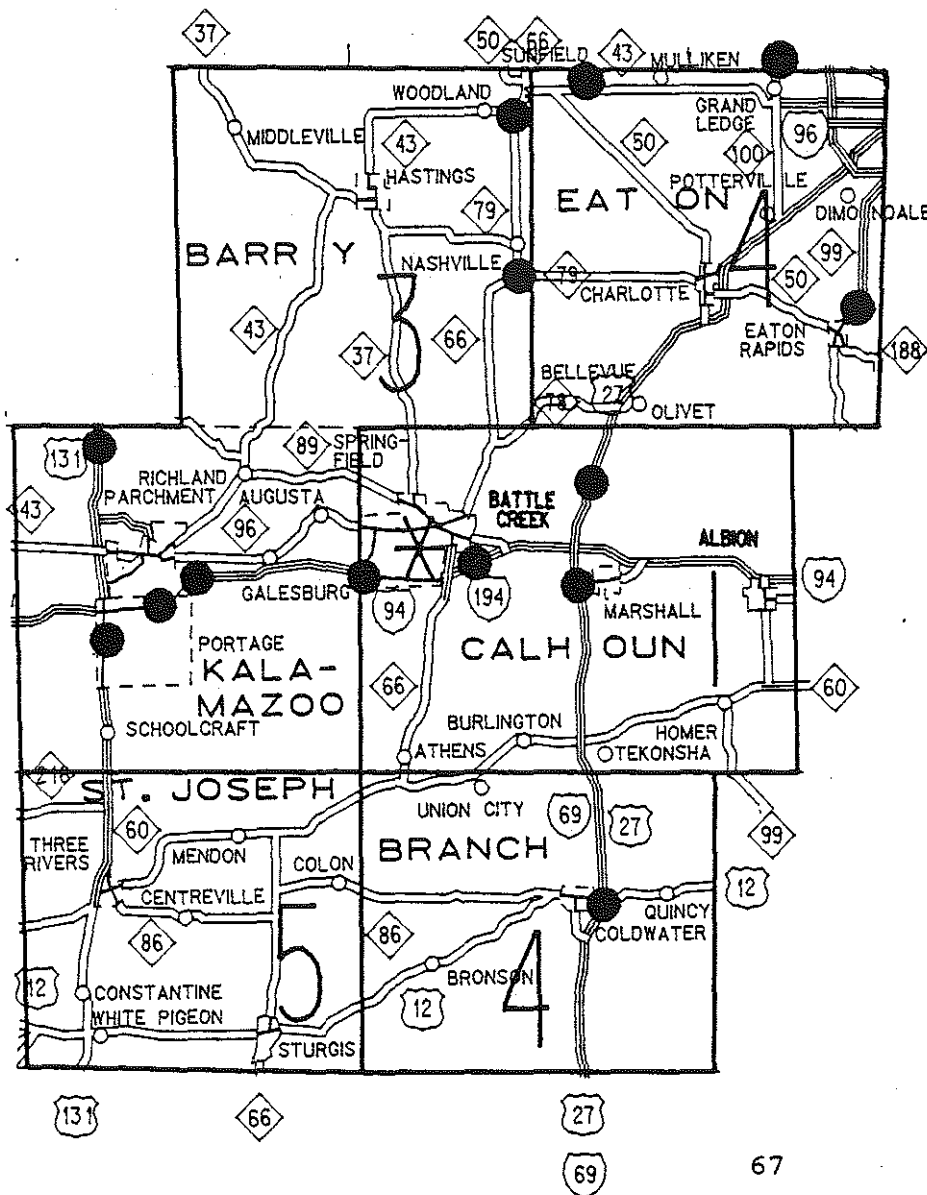
KELLOGG, BATTLE CREEK

LEGEND

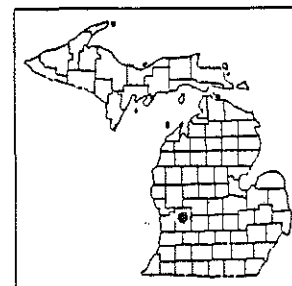
| | |
|---|---------------------------|
|  | EMPLOYER |
|  | CARPOOL LOT |
|  | VANPOOL |
|  | EMPLOYEE DENSITY BOUNDARY |

EMPLOYEE DENSITY CODES
(NO. OF EMPLOYEES PER COUNTY)

| | |
|---|-------------|
| 1 | 500 OR MORE |
| 2 | 250 - 499 |
| 3 | 100 - 249 |
| 4 | 10 - 99 |
| 5 | 1 - 9 |



Company: Lear Siegler
 Plant Location: Grand Rapids
 Number of Employees: 2,580



NOTE: Data for employees residing in the Grand Rapids Metropolitan area are not included in this information or the accompanying map.

**Counties With Potential for Carpooling Only
 (10-99 Employees Residing in County)**

| <u>County</u> <u>(# Employees)</u> | <u>Existing Carpool</u> <u>Parking Lots</u> | <u>Capacity</u> | <u>Use</u> | <u>% Use</u> |
|---------------------------------------|--|-----------------|------------|--------------|
| Allegan (51) | US-131 @ 129th St. | 12 | 9 | 75.0 |
| | US-131 @ 142nd | 50 | 15 | 30.0 |
| | US-131 @ M-118 | 18 | 10 | 55.6 |
| Barry (24) | M-66 @ M-79 (S. Jct.) | 34 | 12 | 35.3 |
| | M-43 @ M-66 (S. Jct.) | 30 | 4 | 13.3 |
| Ionia (49) | I-96 @ Gd. River (2 lots) | 107 | 87 | 81.3 |
| | I-96 @ Portland Rd. | 15 | 5 | 33.3 |
| | M-66 @ M-44 | 10 | 6 | 60.0 |
| Montcalm (14) | US-131 @ 22 Mile Rd. | 30 | 18 | 60.0 |
| | US-131 @ M-82 | 35 | 10 | 28.6 |
| | M-66 @ M-57 | 30 | 11 | 36.7 |
| | M-57 @ in Carson City | 20 | 10 | 50.0 |
| | M-46 @ Old US-131 | 20 | 12 | 60.0 |
| Newaygo (14) | M-37 @ 40th St. | 15 | 6 | 40.0 |
| Ottawa (54) | I-96 @ 32nd (Hudsonville) | 20 | 15 | 75.0 |
| | I-96 @ 112th | 35 | 15 | 42.9 |
| | I-196BL @ 112th | 30 | 20 | 66.7 |
| | I-96 @ 68th | 30 | 12 | 40.0 |
| | M-104 @ Pine St. (Ferrysburg) | 40 | 10 | 25.0 |

Existing Carpool Parking Lot Analysis and New Potential

There may be potential for new carpool parking lot development at locations along M-37 in Barry County and M-21 in Ionia County. State trunkline routes to the facility from other outlying counties appear to have adequate carpool parking lot provisions.

**Counties With Potential for Vanpooling
 (100-249 Employees Residing in County, Trip Length >10 Miles)**

| <u>County (#Employees)</u> | <u>Existing Vanpools</u> | <u>Comments</u> |
|----------------------------|--------------------------|---------------------------------------|
| Kent (203) | 1 (Lansing) | #196, If Trip >10 Mi. (See Append. C) |

Company: Lear Siegler
 Plant Location: Grand Rapids
 Page 2

Existing Vanpool Analysis and New Potential

There are no known existing vanpools operating through the Michivan program serving the Lear Siegler facility in Grand Rapids. Employee density patterns suggest that there are possibilities for new vanpools in Kent County.

Counties With Potential for Buspooling
 (250 or more Employees, One Way Trip Length >10 Miles)

| <u>County (# Employees)</u> | <u>Existing Buspools</u> | <u>Comments</u> |
|-----------------------------|--------------------------|-----------------|
|-----------------------------|--------------------------|-----------------|

None

Existing Buspool Analysis and New Potential

No known buspools currently serve Lear Siegler. The employee density patterns suggest that opportunities to develop new service are limited.

Potential for Combination Service With Other Employers

| <u>County of Employee Residence (#)</u> | <u>Other Employer</u> | <u>Lear Sieg. and Other Employees</u> | <u>Type of Poten. Service*</u> |
|---|-----------------------|---------------------------------------|--------------------------------|
| Allegan (135) | GM Gd. Rapids | 186 | V,C |
| Allegan (128) | Steelcase | 339 | B,V,C |
| Barry (51) | GM Gd. Rapids | 75 | C |
| Barry (235) | Steelcase | 259 | B,V,C |
| Ionia (51) | GM Gd. Rapids | 100 | V,C |
| Ionia (84) | Steelcase | 133 | V,C |
| Kalamazoo (7) | GM Gd. Rapids | 14 | C |
| Kent (1999) | GM Gd. Rapids | 2202 | B,V,C |
| Kent (5654) | Steelcase | 5857 | B,V,C |
| Montcalm (61) | GM Gd. Rapids | 75 | C |
| Montcalm (104) | Steelcase | 118 | V,C |
| Newaygo (102) | GM Gd. Rapids | 116 | V,C |
| Newaygo (88) | Steelcase | 102 | V,C |
| Ottawa (594) | GM Gd. Rapids | 648 | B,V,C |
| Ottawa (1232) | Steelcase | 1268 | B,V,C |

Access Time Analysis

Access time analysis indicates that nearly 30% (126) of the

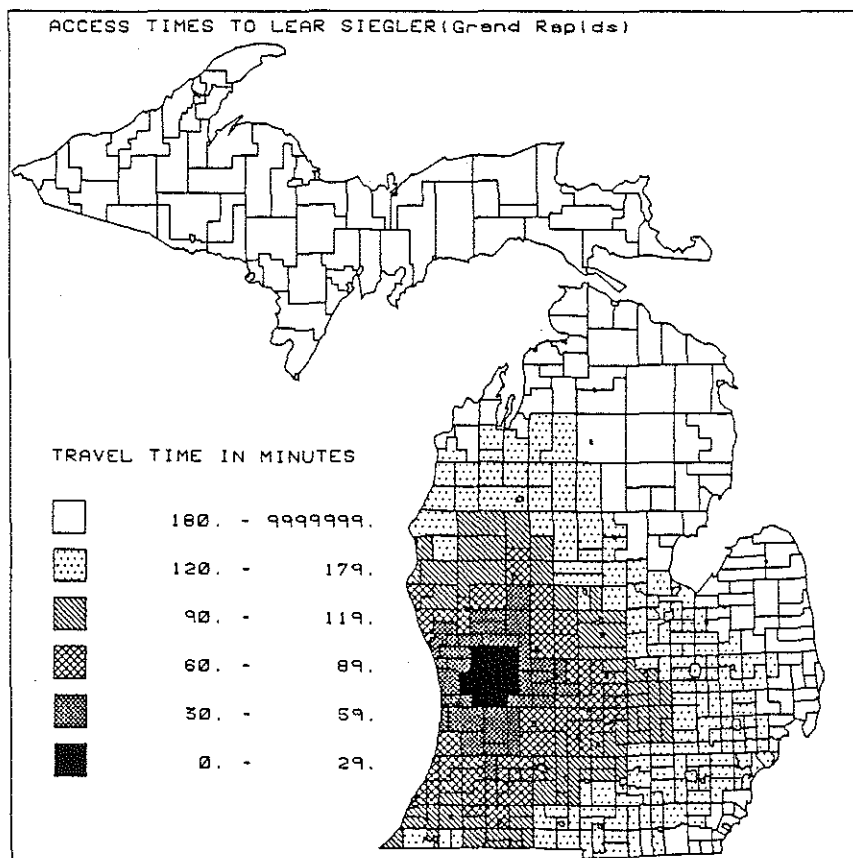
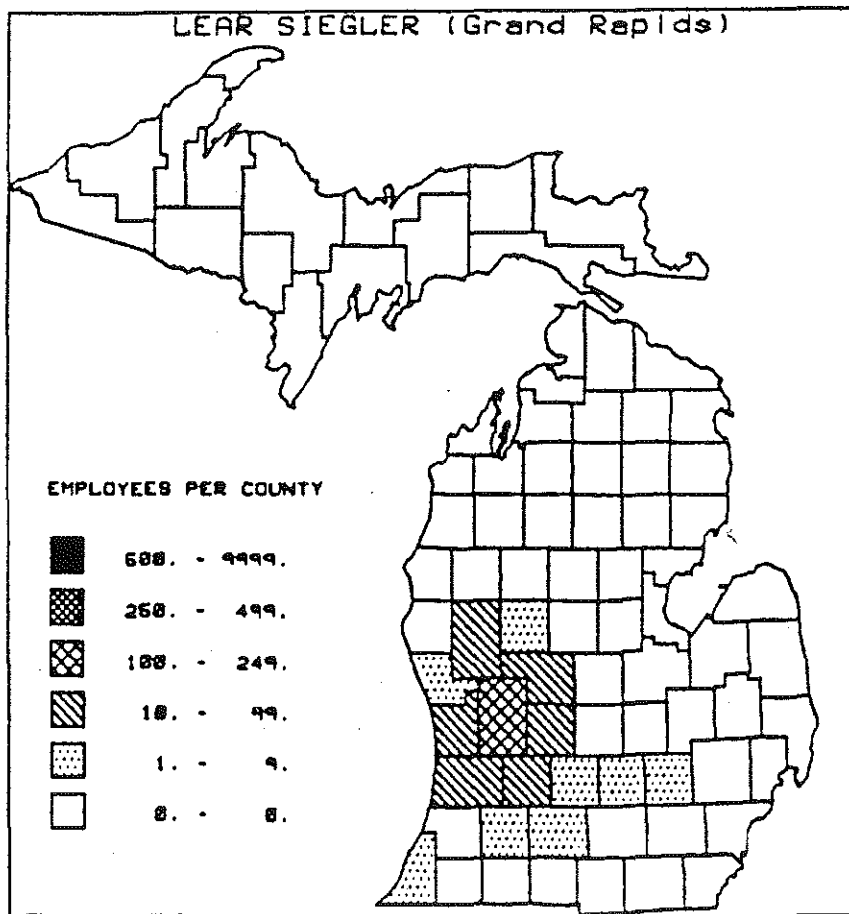
*Must meet mileage criteria. C = Carpool, V = Vanpool, B = Buspool.

Company: Lear Siegler
Plant Location: Grand Rapids
Page 3

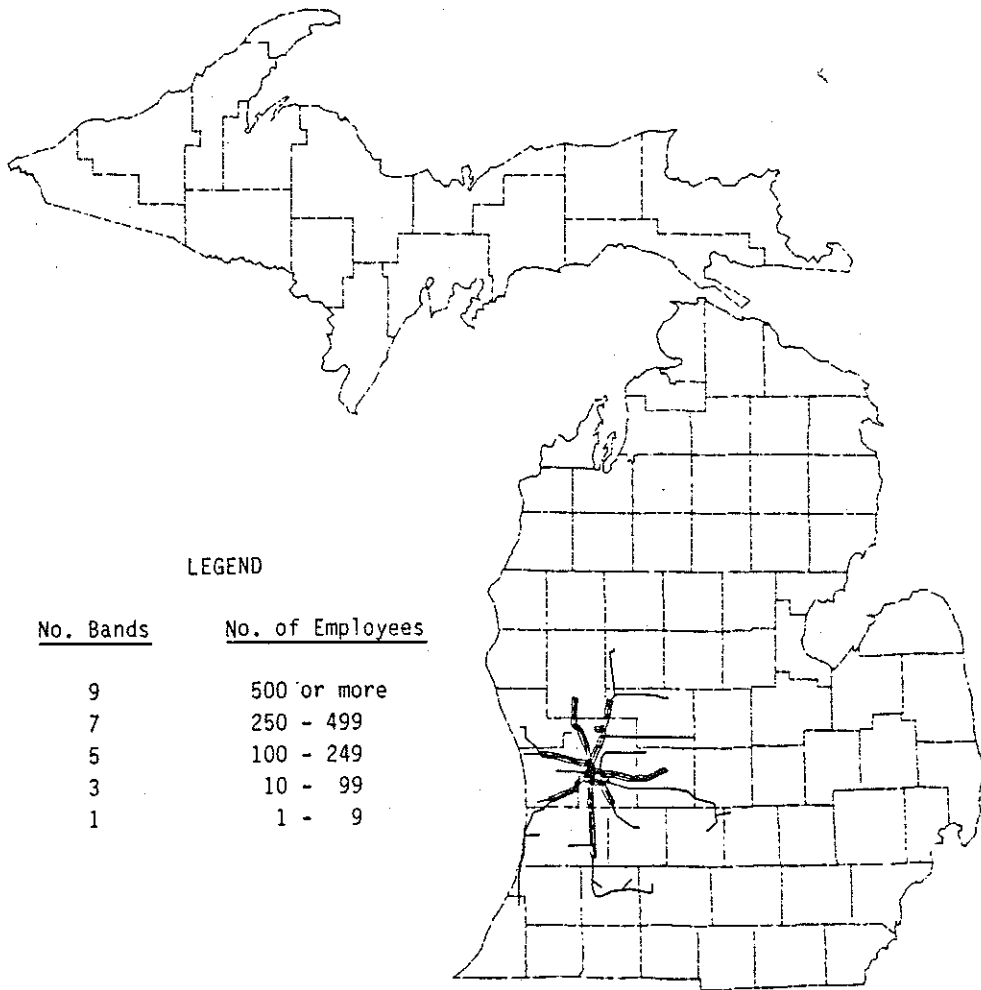
reported employees working for Lear Siegler live within 30 minutes of their place of employment. About 95% (417) of the reported employees reside within a 60 minute commute from Grand Rapids. Note that the reported figures do not include employees residing in the Grand Rapids Metropolitan area. Using an estimated total employment figure of 2,580, if all surplus employees are assigned to the metro area, about 88% (2,268) of the Lear Siegler employees live within 30 minutes of their place of employment.

Composite Summary for Lear Siegler

| | |
|------------------------------------|---|
| Access Time Analysis: | 88% within 30 min., 100% within 60 min. |
| Carpool Parking Lot Potential: | US-37 in Barry County and M-21 in Ionia County |
| New Vanpool Development Potential: | Kent County |
| New Buspool Development Potential: | Limited |







SIMULATED TRAVEL PATTERNS FOR LEAR SIEGLER

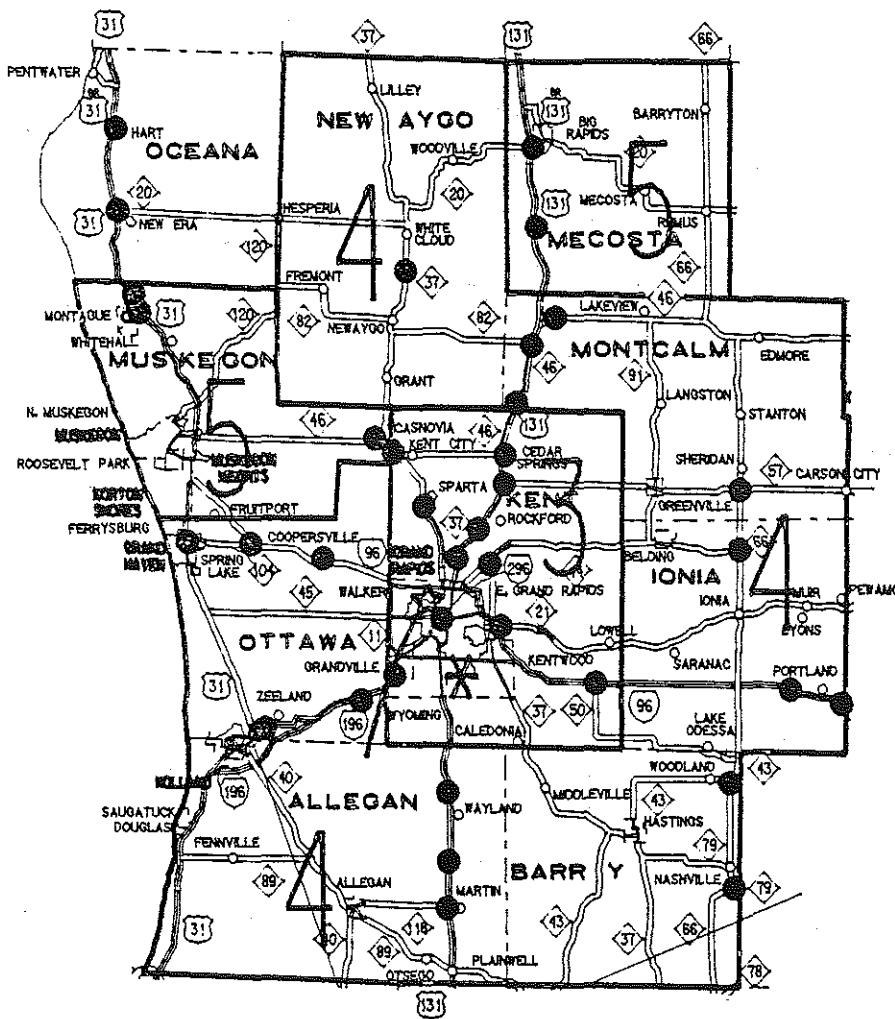


LEAR SIEGLER, GRAND RAPIDS

LEGEND

| | |
|---|---------------------------|
|  | EMPLOYER |
|  | CARPOOL LOT |
|  | VANPOOL |
|  | EMPLOYEE DENSITY BOUNDARY |

| EMPLOYEE DENSITY CODES (NO. OF EMPLOYEES PER COUNTY) | |
|---|-------------|
| 1 | 500 OR MORE |
| 2 | 250 - 499 |
| 3 | 100 - 249 |
| 4 | 10 - 99 |
| 5 | 1 - 9 |



NOTE: DATA FOR EMPLOYEES RESIDING IN THE GRAND RAPIDS METROPOLITAN AREA IS NOT INCLUDED IN THIS MAP. IF IT WERE, KENT COUNTY WOULD HAVE A DENSITY CODE OF 1.

Company: Steelcase
 Plant Location: Grand Rapids
 Number of Employees: 7,080



**Counties With Potential for Carpooling Only
 (10-99 Employees Residing in County)**

| <u>County (# Employees)</u> | <u>Existing Carpool Parking Lots</u> | <u>Capacity</u> | <u>Use</u> | <u>% Use</u> |
|---------------------------------|--|-----------------|------------|--------------|
| Ionia (84) | I-96 @ Gd. River (2 lots) | 107 | 87 | 81.3 |
| | I-96 @ Portland Rd. | 15 | 5 | 33.3 |
| | M-66 @ M-44 | 10 | 6 | 60.0 |
| Mecosta (19) | US-131 @ M-20 | 30 | 5 | 16.7 |
| | US-131 @ 8 Mile Rd. | 40 | 8 | 20.0 |
| Muskegon (17) | US-31 @ US-31BR (Colby Rd.) | 30 | 21 | 70.0 |
| | US-31 @ Fruitville Rd. | 30 | 10 | 33.3 |
| | M-37 @ Casnovia | 30 | 6 | 20.0 |
| Newaygo (88) | M-37 @ 40th St. | 15 | 6 | 40.0 |
| Oakland (13) | I-75 @ M-15 | 32 | 19 | 59.4 |
| | I-75 @ Baldwin Rd. | 44 | 15 | 34.1 |
| | I-75 @ Sashabaw Rd. | 100 | 37 | 37.0 |
| | I-275 @ 8 Mile Rd. | 30 | 15 | 50.0 |
| | I-96 @ Milford Rd. | 145 | 85 | 58.6 |
| | I-75 @ US-10 (Dixie Hwy.) | 41 | 20 | 48.8 |
| | I-696 @ Lahser Rd. | 100 | 30 | 30.0 |
| M-24 @ Oakwood Rd. | 24 | 10 | 41.7 | |

Existing Carpool Parking Lot Analysis and New Potential

There may be potential for new carpool parking lot development at locations along M-37 or M-43 in Barry County and M-21 in Ionia County. State trunkline routes to the facility from other outlying counties appear to have adequate carpool parking lot provisions.

**Counties With Potential for Vanpooling
 (100-249 Employees Residing in County, Trip Length >10 Miles)**

| <u>County (#Employees)</u> | <u>Existing Vanpools</u> | <u>Comments</u> |
|----------------------------|--------------------------|-----------------------------------|
| Barry (235) | None known | |
| Montcalm (104) | 3 (All to Steelcase) | #232, 235, 241 (See Append. C) |

Existing Vanpool Analysis and New Potential

There are three known existing vanpools operating through the Michivan program serving the Steelcase facility in Grand Rapids. The vanpools originate from Trufant, Greenville, and Sand Lake.

Company: Steelcase
 Plant Location: Grand Rapids
 Page 2

Employee density patterns suggest that there are possibilities for new vanpools in Allegan, Barry, Ottawa, Kent counties.

**Counties With Potential for Buspooling
 (250 or more Employees, One Way Trip Length >10 Miles)**

| <u>County (# Employees)</u> | <u>Existing Buspools</u> | <u>Comments</u> |
|-----------------------------|--------------------------|-----------------|
| Kent (5654) | None known | If Trip >10 Mi. |
| Ottawa (1232) | None known | |

Existing Buspool Analysis and New Potential

No known buspools currently serve Steelcase. The employee density patterns suggest that there may be the possibility to develop new buspools from Allegan, Kent, and Ottawa counties contingent on meeting the 10 mile one-way trip distance criteria.

Potential for Combination Service With Other Employers

| <u>County of Employee Residence (#)</u> | <u>Other Employer</u> | <u>Steelcase and Other Employees</u> | <u>Type of Poten. Service*</u> |
|---|-----------------------|--------------------------------------|--------------------------------|
| Allegan (135) | GM Gd. Rapids | 423 | B,V,C |
| Allegan (51) | Lear Siegler | 339 | B,V,C |
| Barry (51) | GM Gd. Rapids | 286 | B,V,C |
| Barry (24) | Lear Siegler | 259 | B,V,C |
| Ionia (51) | GM Gd. Rapids | 135 | V,C |
| Ionia (49) | Lear Siegler | 133 | V,C |
| Kalamazoo (7) | GM Gd. Rapids | 12 | C |
| Kent (1999) | GM Gd. Rapids | 7653 | B,V,C |
| Kent (203) | Lear Siegler | 5857 | B,V,C |
| Mecosta (12) | GM Gd. Rapids | 31 | C |
| Montcalm (61) | GM Gd. Rapids | 165 | V,C |
| Montcalm (14) | Lear Siegler | 118 | V,C |
| Muskegon (23) | GM Gd. Rapids | 40 | C |
| Newaygo (102) | GM Gd. Rapids | 190 | V,C |
| Newaygo (14) | Lear Siegler | 102 | V,C |
| Ottawa (594) | GM Gd. Rapids | 1826 | B,V,C |
| Ottawa (54) | Lear Siegler | 1286 | B,V,C |

*Must meet mileage criteria. C = Carpool, V = Vanpool, B = Buspool.

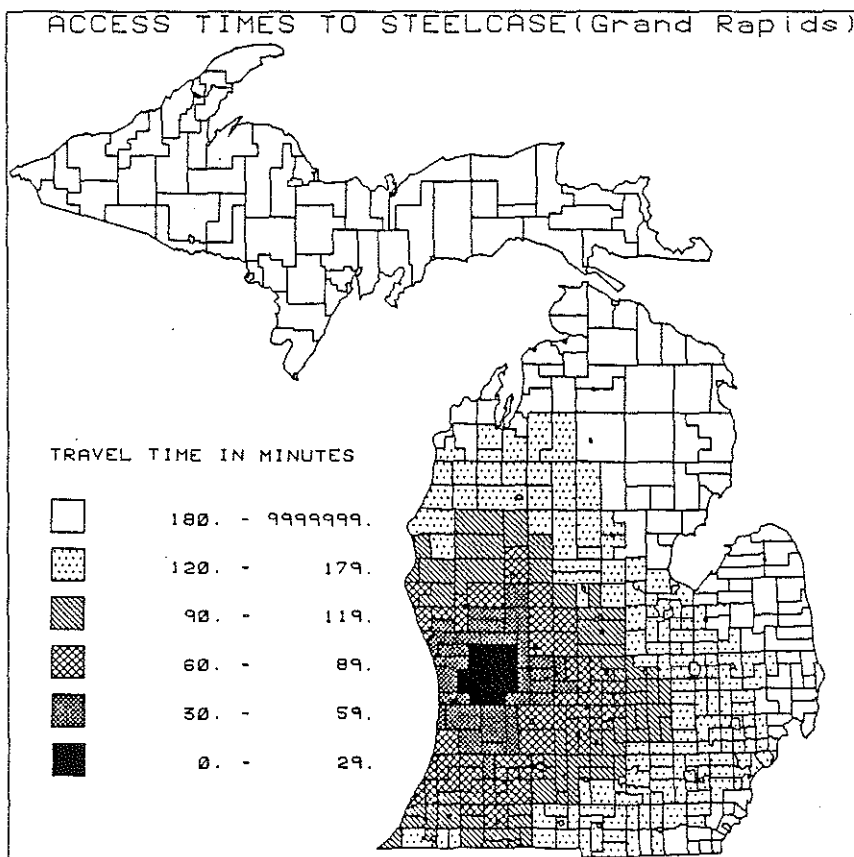
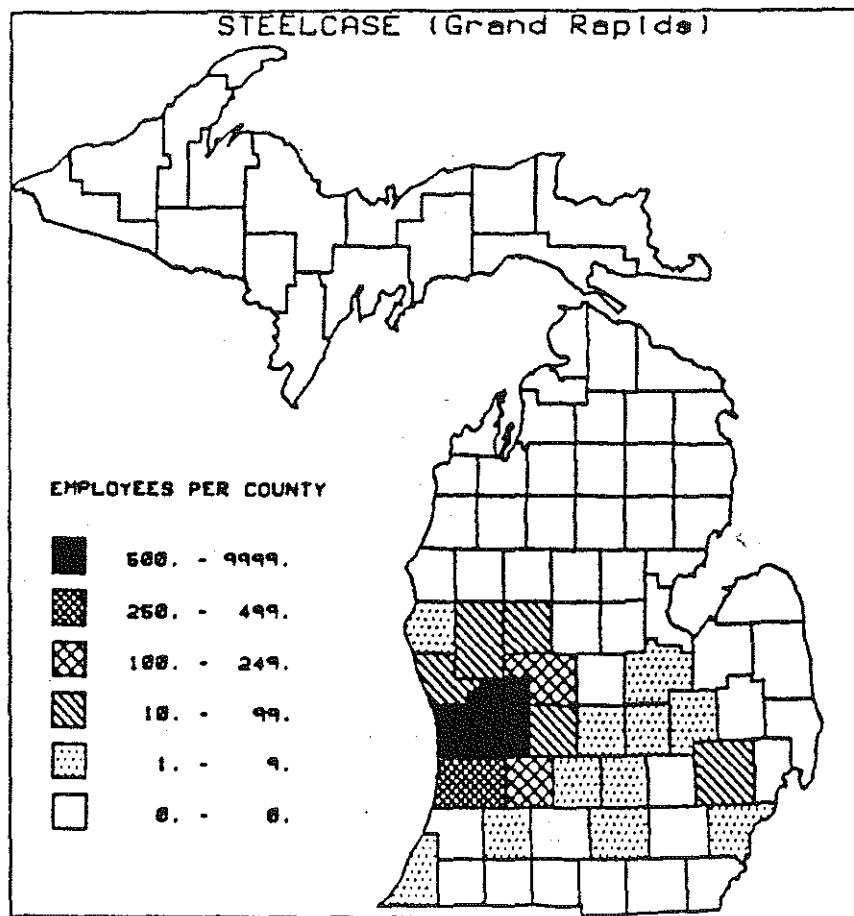
Company: Steelcase
Plant Location: Grand Rapids
Page 3

Access Time Analysis

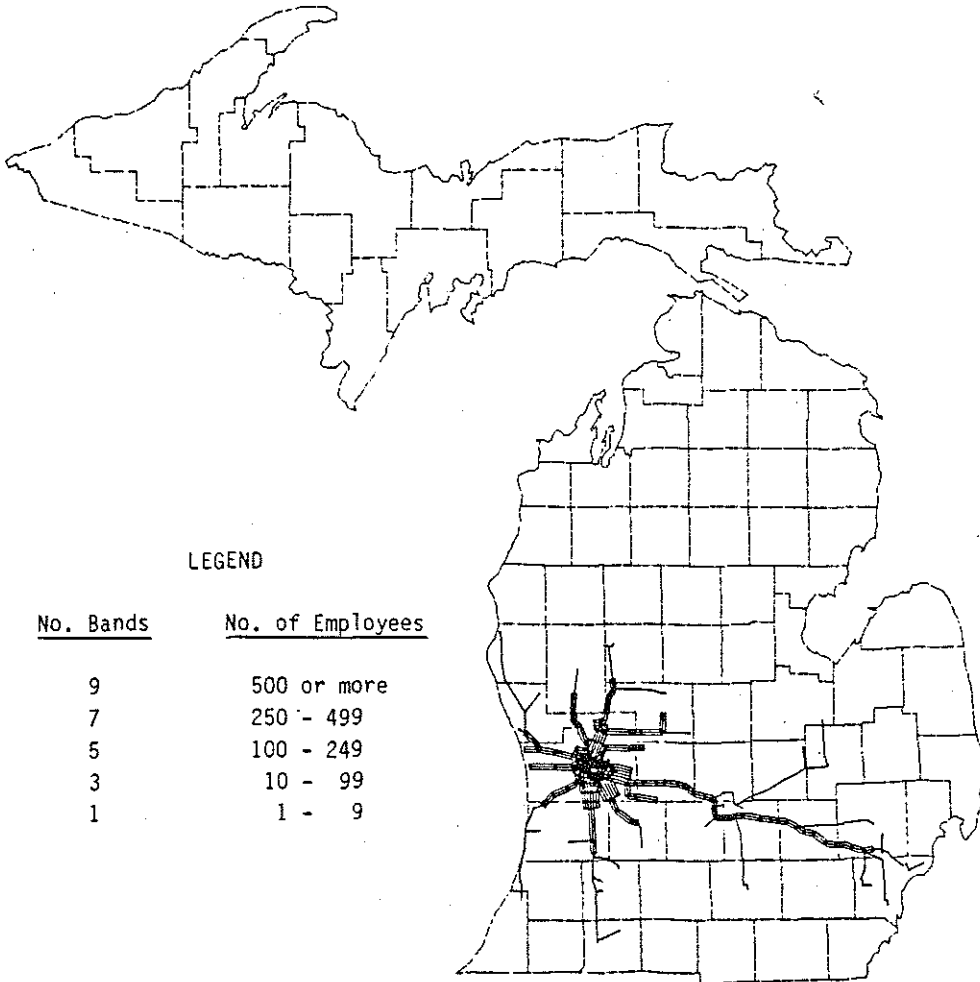
Access time analysis indicates that nearly 81% (6,275) of the reported employees working for Steelcase live within 30 minutes of their place of employment. About 98% (7,606) of the reported employees reside within a 60 minute commute from Grand Rapids.

Composite Summary for Steelcase

| | |
|------------------------------------|---|
| Access Time Analysis: | 81% within 30 min., 98% within 60 min. |
| Carpool Parking Lot Potential: | M-37 or M-43 in Barry County and M-21 in Ionia County |
| New Vanpool Development Potential: | Allegan, Barry, Ottawa, and Kent counties |
| New Buspool Development Potential: | Allegan, Kent, and Ottawa counties |







SIMULATED TRAVEL PATTERNS FOR STEELCASE



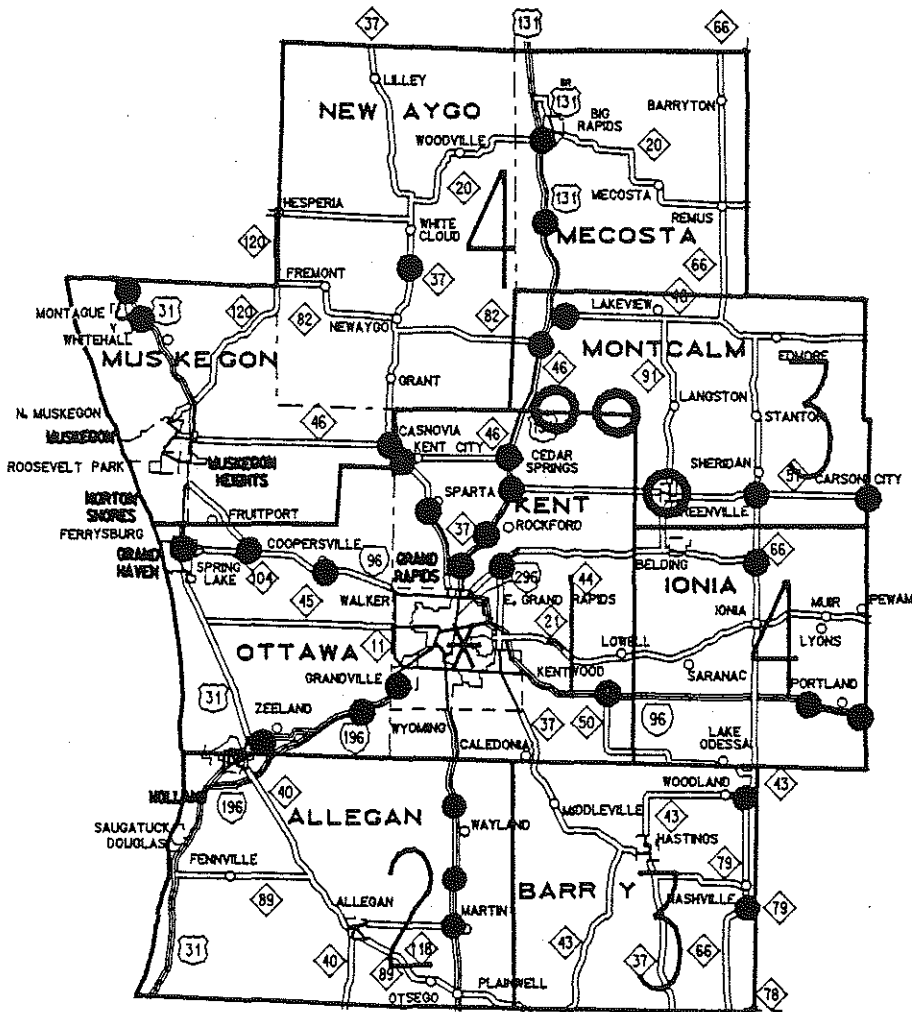
STEELCASE, GRAND RAPIDS

LEGEND

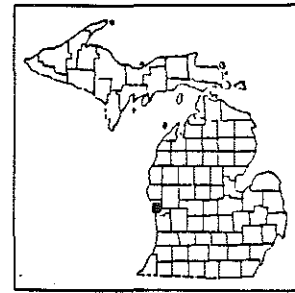
-  EMPLOYER
-  CARPOOL LOT
-  VANPOOL
-  EMPLOYEE DENSITY BOUNDARY

EMPLOYEE DENSITY CODES (NO. OF EMPLOYEES PER COUNTY)

- 1 500 OR MORE
- 2 250 - 499
- 3 100 - 249
- 4 10 - 99
- 5 1 - 9



Company: Teledyne
 Plant Location: Muskegon
 Number of Employees: 1,480



**Counties With Potential for Carpooling Only
 (10-99 Employees Residing in County)**

| <u>County (# Employees)</u> | <u>Existing Carpool Parking Lots</u> | <u>Capacity</u> | <u>Use</u> | <u>% Use</u> |
|---------------------------------|--|-----------------|------------|--------------|
| Newaygo (81) | M-37 @ 40th St. | 15 | 6 | 40.0 |
| Oceana (58) | US-31 @ M-20 | 15 | 10 | 66.7 |
| | US-31 @ Polk Rd. | 25 | 12 | 48.0 |

Existing Carpool Parking Lot Analysis and New Potential

There may be potential for new carpool parking lot development at locations along M-120 in Newaygo County. State trunkline routes to the facility from other outlying counties appear to have adequate carpool parking lot provisions.

**Counties With Potential for Vanpooling
 (100-249 Employees Residing in County, Trip Length >10 Miles)**

| <u>County (#Employees)</u> | <u>Existing Vanpools</u> | <u>Comments</u> |
|----------------------------|--------------------------|--|
| Muskegon (972) | 1 (To Howmet) | #237, If Trip >10 Mi., (See Append. C) |
| Ottawa (125) | None known | |

Existing Vanpool Analysis and New Potential

There are no known existing vanpools operating through the Michivan program serving the Teledyne facility in Muskegon. Employee density patterns suggest that there are possibilities for new vanpools in Ottawa and Muskegon counties.

**Counties With Potential for Buspooling
 (250 or more Employees, One Way Trip Length >10 Miles)**

| <u>County (# Employees)</u> | <u>Existing Buspools</u> | <u>Comments</u> |
|-----------------------------|--------------------------|-----------------|
| None | | |

Existing Buspool Analysis and New Potential

No known buspools currently serve Teledyne. Employee density patterns suggest that opportunities to develop new service are

Company: Teledyne
Plant Location: Muskegon
Page 2

limited.

Potential for Combination Service With Other Employers

| <u>County of Employee Residence (#)</u> | <u>Other Employer</u> | <u>Teledyne and Other Employees</u> | <u>Type of Potential Service*</u> |
|---|---------------------------|---|---------------------------------------|
| None | | | |

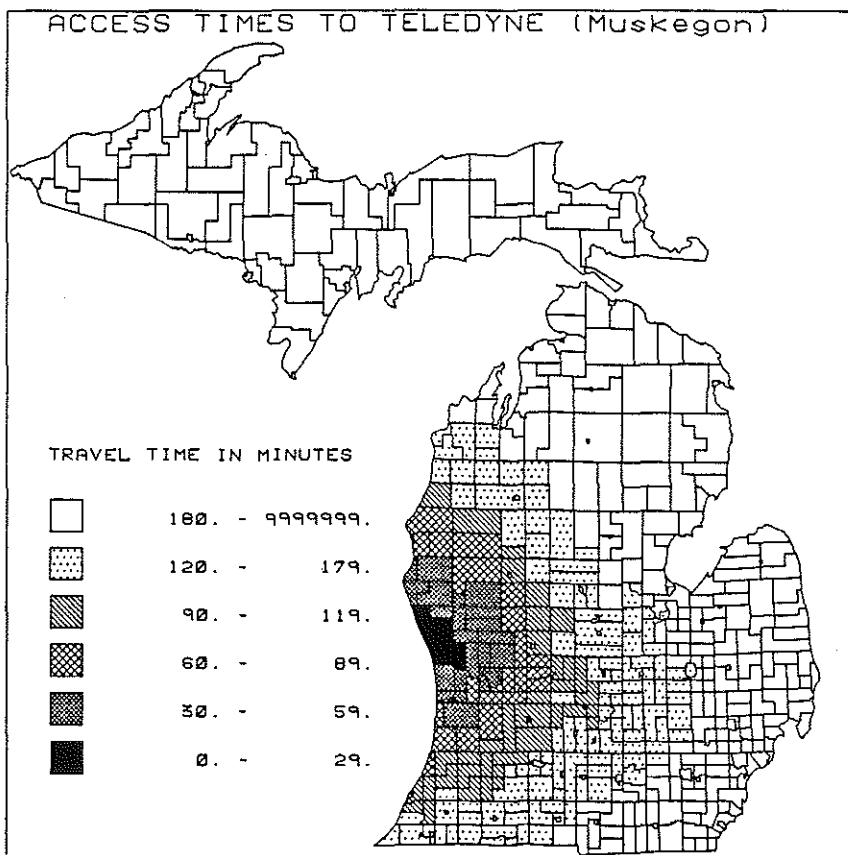
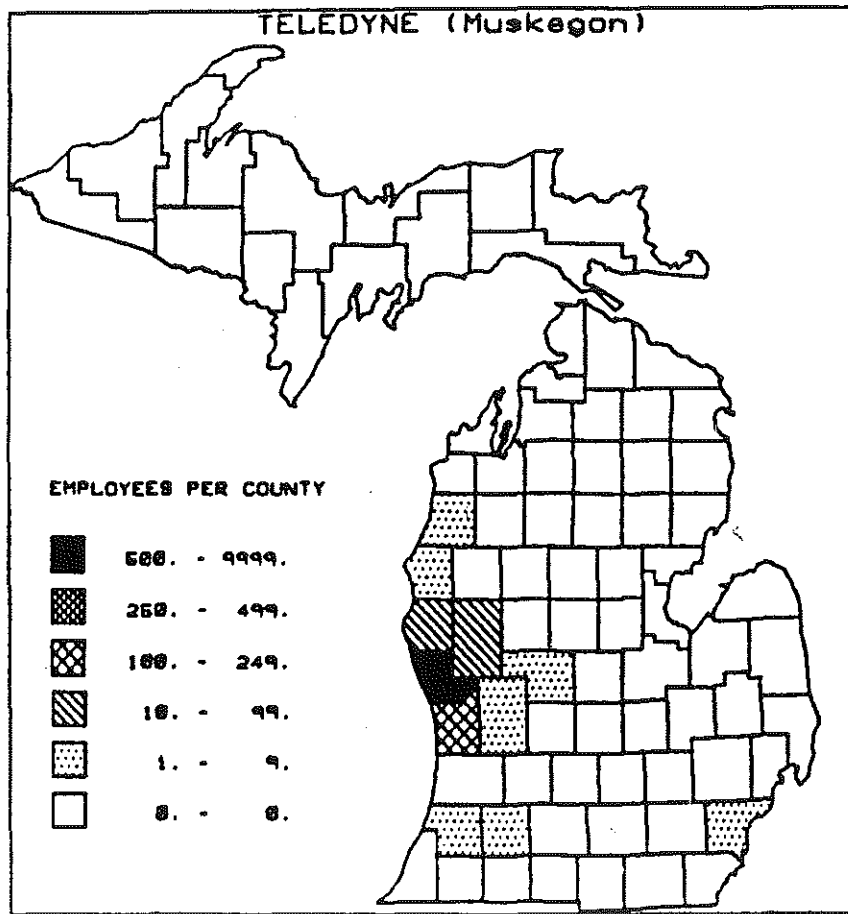
Access Time Analysis

Access time analysis indicates that nearly 80% (1,000) of the reported employees working for Teledyne live within 30 minutes of their place of employment. About 94% (1,185) of the reported employees reside within a 60 minute commute from Muskegon.

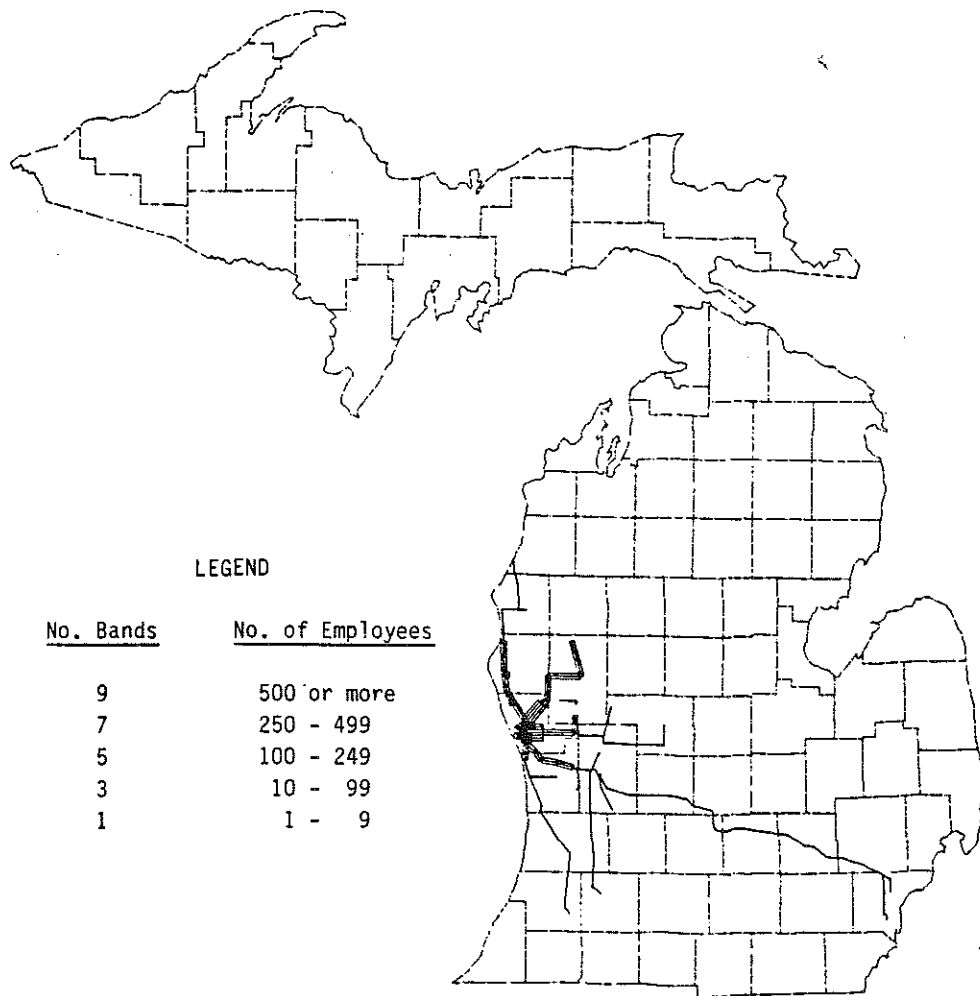
Composite Summary for Teledyne

| | |
|------------------------------------|---|
| Access Time Analysis: | 80% within 30 min., 94% within 60 min. |
| Carpool Parking Lot Potential: | M-120 in Newaygo County |
| New Vanpool Development Potential: | Ottawa and Muskegon counties |
| New Buspool Development Potential: | Limited |

*Must meet mileage criteria. C = Carpool, V = Vanpool,
B = Buspool.







SIMULATED TRAVEL PATTERNS FOR TELEDYNE



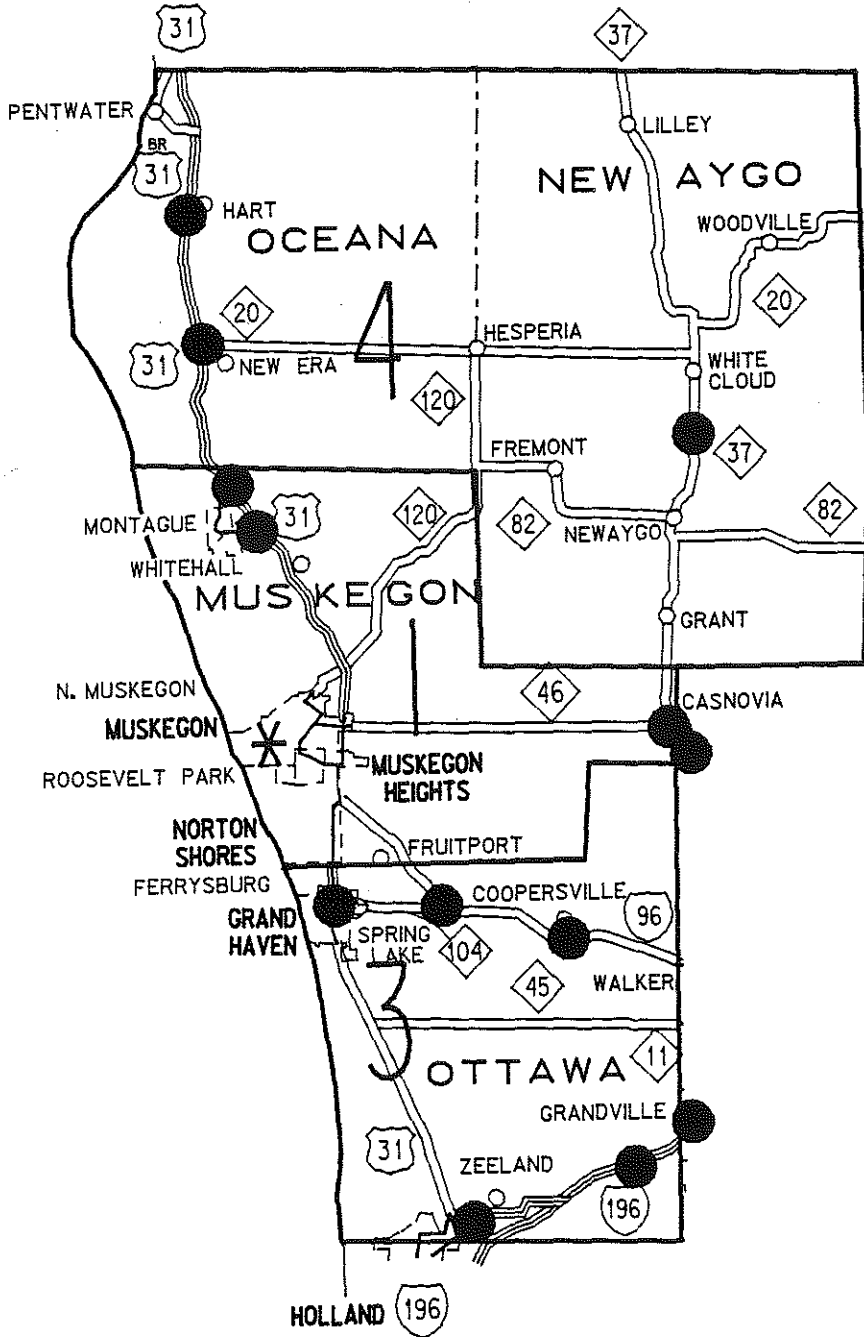
TELEDYNE, MUSKEGON

LEGEND

-  EMPLOYER
-  CARPOOL LOT
-  VANPOOL
-  EMPLOYEE DENSITY BOUNDARY

EMPLOYEE DENSITY CODES
(NO. OF EMPLOYEES PER COUNTY)

| | |
|---|-------------|
| 1 | 500 OR MORE |
| 2 | 250 - 499 |
| 3 | 100 - 249 |
| 4 | 10 - 99 |
| 5 | 1 - 9 |



Company: Whirlpool
 Plant Location: Benton Harbor
 Number of Employees: 2,890



**Counties With Potential for Carpooling Only
 (10-99 Employees Residing in County)**

| <u>County</u> <u>(# Employees)</u> | <u>Existing Carpool</u> <u>Parking Lots</u> | <u>Capacity</u> | <u>Use</u> | <u>% Use</u> |
|---------------------------------------|--|-----------------|------------|--------------|
| Allegan (18) | US-131 @ 129th St. | 12 | 9 | 75.0 |
| | US-131 @ 142nd | 50 | 15 | 30.0 |
| | US-131 @ M-118 | 18 | 10 | 55.6 |
| Cass (19) | None | -- | -- | -- |

Existing Carpool Parking Lot Analysis and New Potential

There may be potential for new carpool parking lot development at locations along US-31 in Allegan or Van Buren counties and I-94 near Hartford in Van Buren County. State trunkline routes to the facility from other outlying counties appear to have an adequate carpool parking lot provisions.

**Counties With Potential for Vanpooling
 (100-249 Employees Residing in County, Trip Length >10 Miles)**

| <u>County (#Employees)</u> | <u>Existing Vanpools</u> | <u>Comments</u> |
|----------------------------|--------------------------|-----------------|
| Van Buren (112) | None known | |

Existing Vanpool Analysis and New Potential

There are no known existing vanpools operating through the Michivan program serving the Whirlpool facility in Benton Harbor. Employee density patterns suggest that there are possibilities for new vanpools in Berrien and Van Buren counties.

**Counties With Potential for Buspooling
 (250 or more Employees, One Way Trip Length >10 Miles)**

| <u>County (# Employees)</u> | <u>Existing Buspools</u> | <u>Comments</u> |
|-----------------------------|--------------------------|-----------------|
| Berrien (2673) | None known | Trip > 10 miles |

Existing Buspool Analysis and New Potential

No known buspools currently serve Whirlpool. Employee density patterns suggest that opportunities to develop new service are limited.

Company: Whirlpool
Plant Location: Benton Harbor
Page 2

Potential for Combination Service With Other Employers

| <u>County of Employee Residence (#)</u> | <u>Other Employer</u> | <u>Whirlpool and Other Employees</u> | <u>Type of Poten. Service*</u> |
|---|-----------------------|--------------------------------------|--------------------------------|
|---|-----------------------|--------------------------------------|--------------------------------|

None

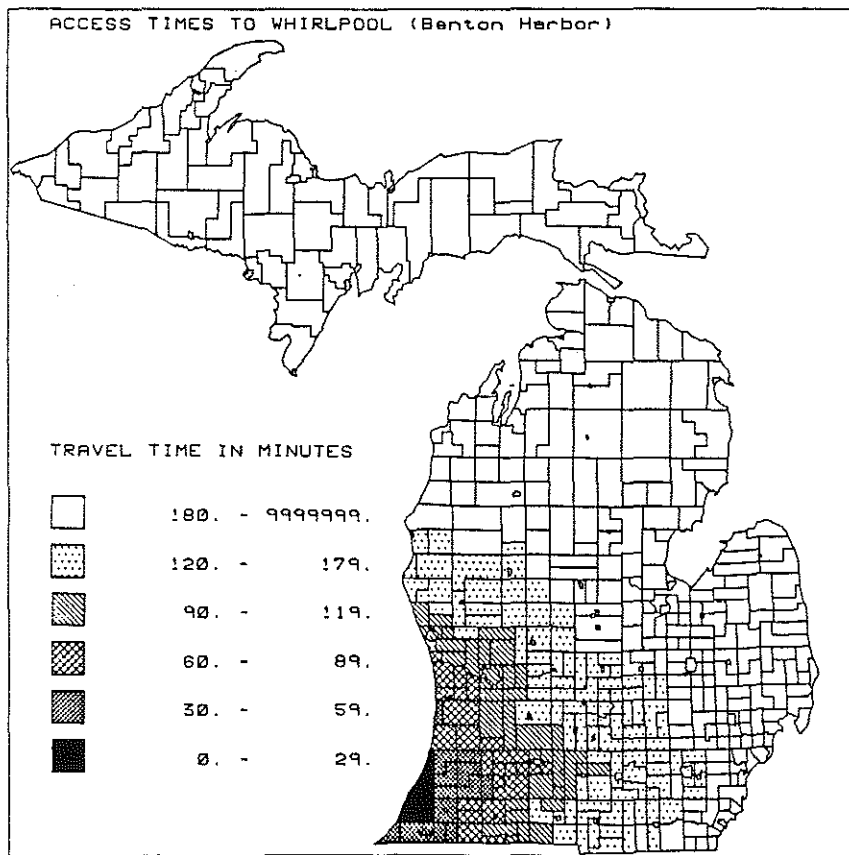
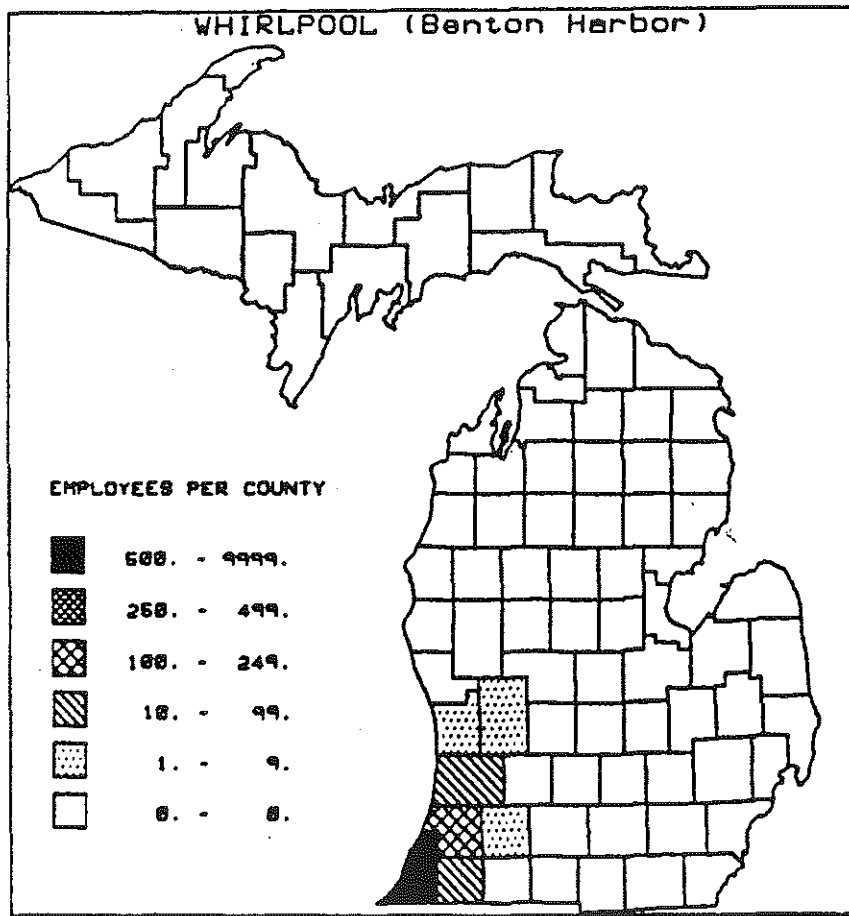
Access Time Analysis

Access time analysis indicates that nearly 78% (2,200) of the reported employees working for Steelcase live within 30 minutes of their place of employment. Essentially all significant concentrations of the reported employees residences are within a 60 minute commute Benton Harbor (3,827, ~100%).

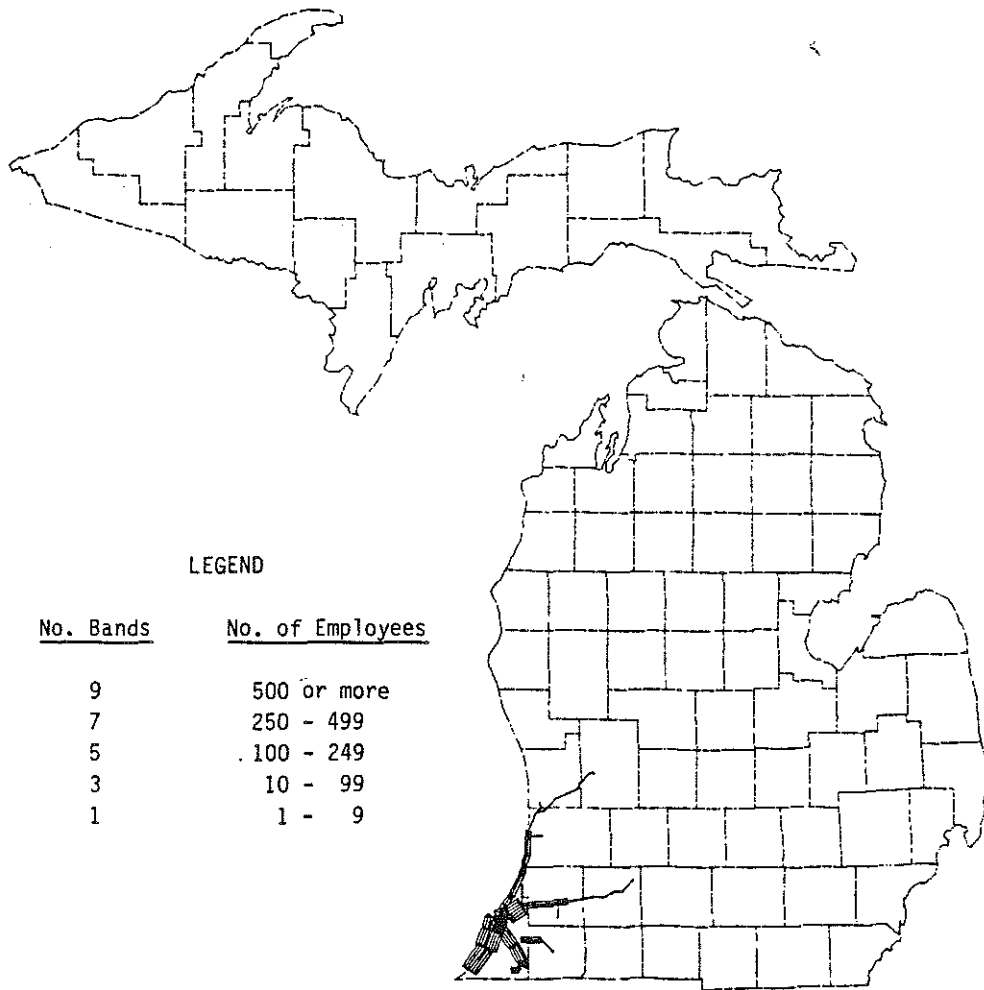
Composite Summary for Whirlpool

| | |
|------------------------------------|--|
| Access Time Analysis: | 78% within 30 min., ~100% within 60 min. |
| Carpool Parking Lot Potential: | US-31 in Allegan or Van Buren counties and I-94 in Van Buren County |
| New Vanpool Development Potential: | Berrien and Van Buren counties |
| New Buspool Development Potential: | Limited |

*Must meet mileage criteria. C = Carpool, V = Vanpool,
B = Buspool.



SIMULATED TRAVEL PATTERNS FOR WHIRLPOOL



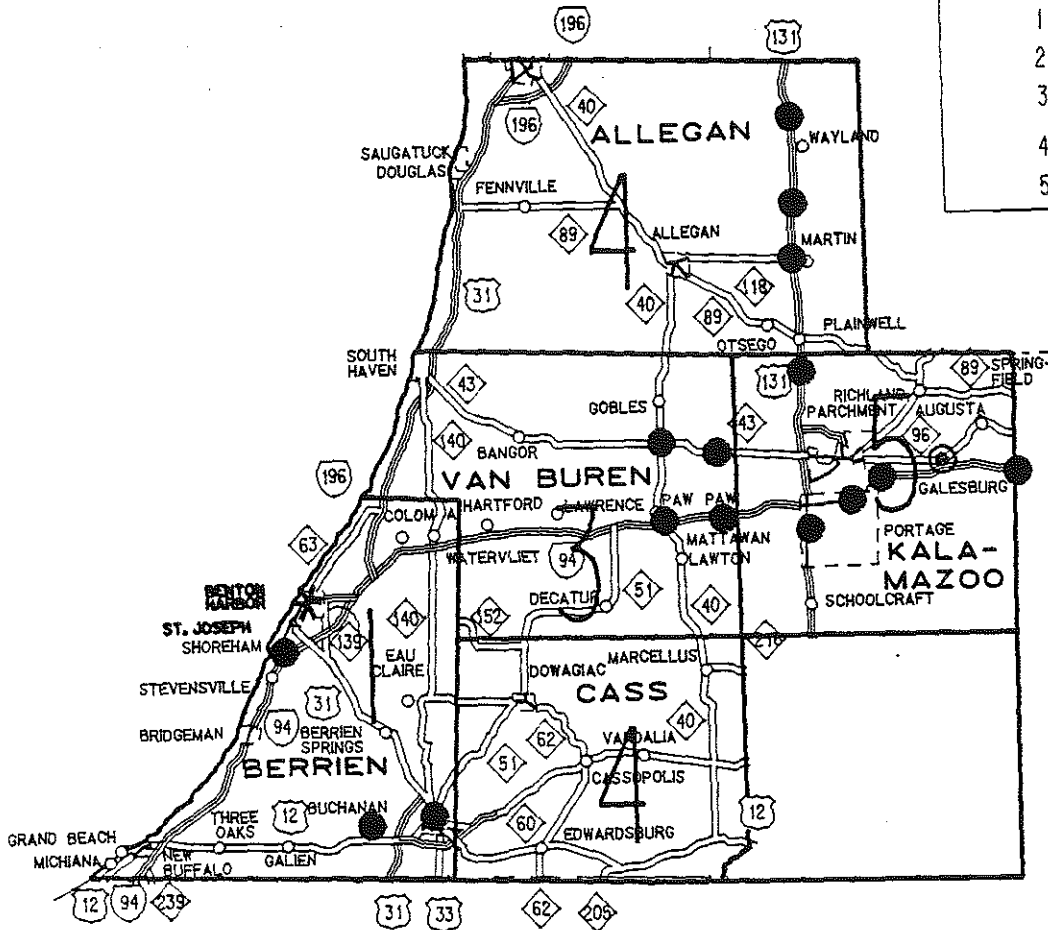
WHIRLPOOL BENTON HARBOR

LEGEND

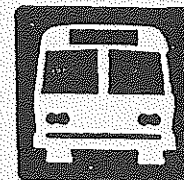
- * EMPLOYER
- CARPOOL LOT
- VANPOOL
- EMPLOYEE DENSITY BOUNDARY

EMPLOYEE DENSITY CODES
(NO. OF EMPLOYEES PER COUNTY)

| | |
|---|-------------|
| 1 | 500 OR MORE |
| 2 | 250 - 499 |
| 3 | 100 - 249 |
| 4 | 10 - 99 |
| 5 | 1 - 9 |



PART IV
FINDINGS AND LIMITATIONS



IV. FINDINGS AND LIMITATIONS

IV.A. FINDINGS

In Part III commuter patterns for each employer are examined. This part draws upon the individual analyses and presents some general findings for commuter patterns in southwestern Michigan for all of the employers included in this study.

IV.A.1. Employee density diminishes as distance from employer increases.

Most live within the first ring of counties around the employer. Employee residences outside the second ring of counties around the employer are rare and represent a limited number of employees (see Figure 6). The patterns radiate out from the employer location (where the greatest number of employees reside) to the outlying counties (where less employees reside). Of the total employees, approximately 71% reside within 30 minutes of their place of employment and 98% reside within 60 minutes of work (see Appendix D).

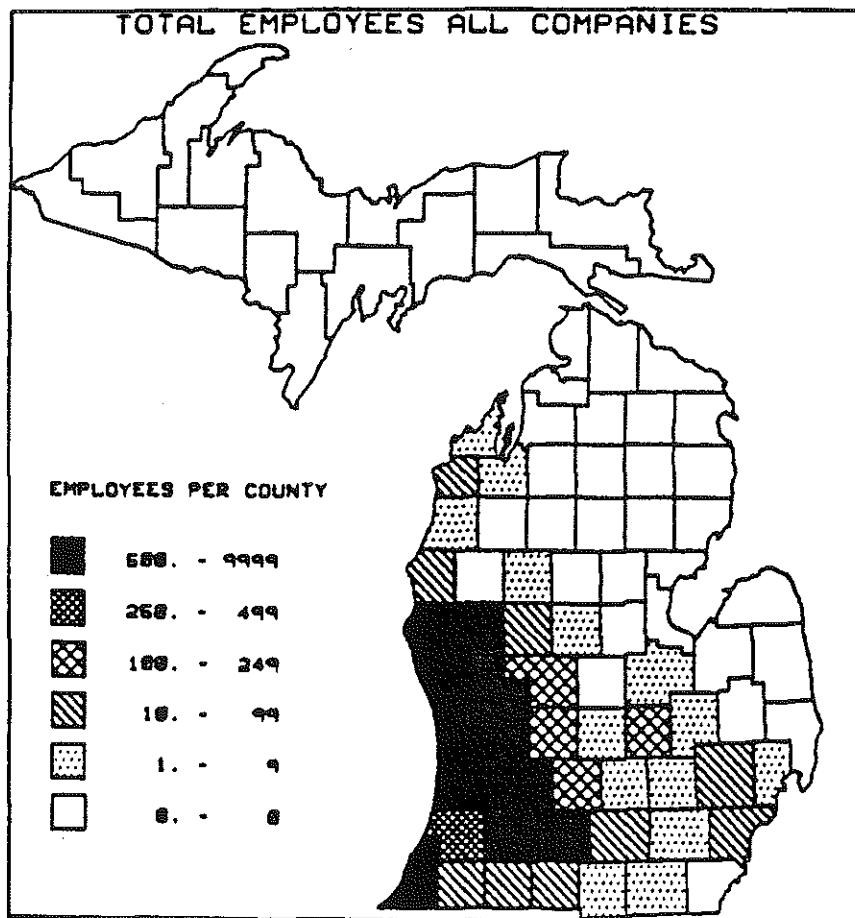
IV.A.2. The number of carpool parking lots in southwestern Michigan communities is generally sufficient to meet the need for the potential carpool only patterns for most employers included in this study.

Of the counties included in the study having employee residents, only two do not have state sponsored carpool parking lots. It is difficult to assess the number and nature of carpools existing throughout the state because of their widespread, informal nature. In turn, it is beyond the scope of this study to suggest specific carpool parking lot facility improvements. This study

does, however, indicate that the following highway corridors have the potential for carpool parking lot use based on employee residence patterns in southwestern Michigan:

| <u>Highway</u> | <u>County Location(s)</u> | <u>Highway</u> | <u>County Location(s)</u> |
|----------------|---------------------------|----------------|---------------------------|
| I-94 | Berrien, Van Buren | M-43 | Barry |
| M-21 | Ionia | M-89 | Allegan |
| I-69 | Eaton | M-120 | Muskegon, Newaygo |
| M-37 | Barry | US-31 | Allegan, Mason, Van Buren |
| M-40 | Allegan | US-131 | St. Joseph |

Figure 6



It is important to realize that this does not indicate that carpool parking lots are being studied for these locations. Past experience with employee location criteria has shown it to be an unreliable indicator of how many people will use a carpool parking lot. MDOT policy now requires that there be 1) a demonstrated need for a facility (e.g., a request from a district office based on observation of 6-10 cars currently parking on the roadside) and 2) land is available at zero or low cost (e.g. either excess right-of-way currently owned by MDOT or private land where the owner is willing to issue an annual permit for a nominal sum of \$1.00). Unless these two criteria are met, it is unlikely that a new carpool parking lot will be established by MDOT.

IV.A.3. A majority of the employees who work for the companies also live in southwestern Michigan (see Figure 6).

This is to be expected since most employees reside near their place of employment, as described in Finding 1. There are some exceptions, however. These include the heavily populated Oakland and Wayne counties, and the rural Benzie and Shiawassee counties. Other outlying counties with employee residences either border our study area, or have a negligible number of employees living in them.

IV.A.4. There is potential for new vanpools and buspools for all of the employers included in this study.

The ridesharing potential of each employer included in the study is summarized in the table below (see Figure 7). The first

column of the table indicates which employer is being considered. The second column lists the county of residence (where employees live) that has ridesharing potential, followed by the number of employees who reside in the county in parenthesis. The third column indicates the type of ridesharing potential (carpool, vanpool, or buspool). The last column shows the total number of potential carpools, vanpools, and buspools for each employer.

Figure 7

SUMMARY OF EMPLOYER POTENTIAL FOR RIDESHARING

| <u>Employer</u> | <u>Co. of Residence (No. of Employees)</u> | <u>Ridesharing Potential</u> | <u>Employer Total</u> |
|------------------------------|--|----------------------------------|---------------------------|
| General Foods | Barry (58) | Carpool | |
| | Branch (16) | Carpool | |
| | Calhoun (213) | Vanpool | Carpool: 3 |
| | Eaton (59) | Carpool | Vanpool: 2 |
| | Kalamazoo (107) | Vanpool | Buspool: 0 |
| General Motors, Grand Rapids | Allegan (135) | Vanpool | |
| | Barry (51) | Carpool | |
| | Ionia (51) | Carpool | |
| | Kent (1999) | Buspool | |
| | Mecosta (12) | Carpool | |
| | Montcalm (61) | Carpool | |
| | Muskegon (23) | Carpool | Carpool: 5 |
| | Newaygo (102) | Vanpool | Vanpool: 2 |
| | Ottawa (594) | Buspool | Buspool: 2 |
| General Motors, Kalamazoo | Allegan (257) | Buspool | |
| | Barry (89) | Carpool | |
| | Berrien (21) | Carpool | |
| | Calhoun (351) | Buspool | |
| | Cass (19) | Carpool | |
| | Kalamazoo (2474) | Buspool | |
| | Kent (21) | Carpool | |
| | Newaygo (19) | Carpool | Carpool: 5 |
| | St. Joseph (112) | Vanpool | Vanpool: 1 |
| | Van Buren (397) | Buspool | Buspool: 4 |

| <u>Employer</u> | <u>Co. of Residence (No. of Employees)</u> | <u>Ridesharing Potential</u> | <u>Employer Total</u> |
|-----------------|--|----------------------------------|---------------------------|
| Haworth | Allegan (214) | Vanpool | |
| | Benzie (41) | Carpool | |
| | Kent (214) | Vanpool | |
| | Muskegon (58) | Carpool | Carpool: 3 |
| | Ottawa (1230) | Buspool | Vanpool: 2 |
| | Van Buren (23) | Carpool | Buspool: 1 |
| Herman Miller | Allegan (59) | Carpool | |
| | Kent (215) | Vanpool | Carpool: 2 |
| | Muskegon (22) | Carpool | Vanpool: 1 |
| | Ottawa (1255) | Buspool | Buspool: 1 |
| Howmet Turbine | Mason (61) | Carpool | |
| | Muskegon (2666) | Buspool | |
| | Newaygo (221) | Vanpool | Carpool: 2 |
| | Ottawa (61) | Carpool | Vanpool: 1 |
| | Oceana (537) | Buspool | Buspool: 2 |
| Kellogg | Barry (184) | Vanpool | |
| | Branch (14) | Carpool | |
| | Eaton (56) | Carpool | Carpool: 2 |
| | Kalamazoo (199) | Vanpool | Vanpool: 2 |
| | Calhoun (619) | Buspool | Buspool: 1 |
| | Lear Siegler | Allegan (51) | Carpool |
| Barry (24) | | Carpool | |
| Ionia (49) | | Carpool | |
| Kent (203) | | Vanpool | |
| Montcalm (14) | | Carpool | Carpool: 6 |
| Newaygo (14) | | Carpool | Vanpool: 1 |
| Ottawa (54) | | Carpool | Buspool: 0 |
| Steelcase | Barry (235) | Vanpool | |
| | Ionia (84) | Carpool | |
| | Kent (5654) | Buspool | |
| | Mecosta (19) | Carpool | |
| | Montcalm (104) | Vanpool | |
| | Muskegon (17) | Carpool | |
| | Newaygo (88) | Carpool | Carpool: 5 |
| | Oakland (13) | Carpool | Vanpool: 2 |
| | Ottawa (1232) | Buspool | Buspool: 2 |
| Teledyne | Muskegon (972) | Vanpool | |
| | Newaygo (81) | Carpool | Carpool: 2 |
| | Oceana (58) | Carpool | Vanpool: 2 |
| | Ottawa (125) | Vanpool | Buspool: 0 |

| <u>Employer</u> | <u>Co. of Residence (No. of Employees)</u> | <u>Ridesharing Potential</u> | <u>Employer Total</u> |
|-----------------|--|----------------------------------|---------------------------|
| Whirlpool | Allegan (18) | Carpool | |
| | Berrien (2673) | Buspool | Carpool: 2 |
| | Cass (19) | Carpool | Vanpool: 1 |
| | Van Buren (112) | Vanpool | Buspool: 1 |

IV.B. LIMITATIONS

Several limitations have been identified in connection with this study. The careful reader should be aware of the limitations listed below when examining this study to avoid unintentionally misinterpreting the findings.

1. Residence information for employees residing outside of Michigan is not included in the analysis. This could have an impact on the potential for ridesharing opportunities for non-resident workers for some of the companies studied. As an aid to determine where out-of-state employees reside, a list showing the number of non-resident employees by company and state is provided (see Appendix E).

2. Many carpools and vanpools exist that are not recorded. Because carpools and vanpools are not state licensed or regulated, it is difficult to determine the number of carpools and vanpools operating between two points at any given time. This is particularly true of vanpool programs operated privately. While studies and surveys to determine this information are possible and have been done, they are expensive and time consuming. Three of the employers in the study known to have company vanpool programs in the past were contacted by telephone to determine a

general level of private ridesharing participation in the study area. Two of the employers indicated that a program was still in operation. Readers should be aware that when "none known" is indicated for existing carpools or vanpools, the accuracy of the data is limited.

3. Some companies that meet the selection criteria for this study may not be included. There are two reasons for this: 1) a company chose not to participate, and 2) data was unavailable or reported in a manner that made it impossible to determine if the company met the criteria. This reduces the total number of employees available to participate in ridesharing and restricts the potential for combination service between different employers.

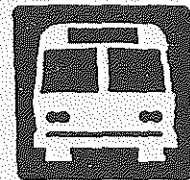
4. Non-manufacturing employers may be under represented in the study. Employment data is difficult to obtain for all types of employers, but particularly for non-manufacturing businesses such as hospitals and large governmental or office complexes. Employment data for these type of employers was available only through MESC sources, and was not cross-checked as was the data for manufacturing related employers.

5. Zip code to county matches are not always correct. The employment data for employees was submitted to us by residence zip code. This allows identification of a fairly precise residence location while still assuring confidentiality. In the study, employee residence patterns are summarized by county to

further assure anonymity. In most instances, this works quite well. There are a few cases, however, where zip code boundaries cross county lines and it is not possible to determine in which county the employees reside. In these instances, a review of the zip code and other residence patterns was undertaken, and all employees were placed in the most likely county. This was generally the county closest to the employer location or having the greatest number of known employee residents.

6. Changes in the economy have the potential to significantly alter the employment picture. Such changes will have a corresponding impact on the commuting patterns and ridesharing potentials described in this study.

PART V
USER'S GUIDE



V. USER'S GUIDE

V.A. INTRODUCTION

The User's Guide provides the intercity bus operator and the employer with suggestions, procedures, actions, and possibilities to develop new buspools. These suggestions and the accompanying examples are based in part on established procedures used by local ridesharing offices throughout the state for carpool and vanpool programs. Written in non-technical language, the User's Guide provides information designed to help initiate intercity bus service to the employers of southwestern Michigan where potential has been identified (see Part IV). The comments provided in this section are not to be considered formal recommendations, but suggestions outlining possible courses of action.

For assistance with carpools or vanpools, check with your nearest local ridesharing office (see Appendix F). These offices have assisted in the development of carpool and vanpool programs for many years and can provide you with information, experience, and publicity materials to use in your efforts.

V.B. PROCEDURES

After determining to start a new intercity bus commuter service, make sure that you have the proper authority to operate in Michigan. With the deregulation of the industry, this is a fairly simple operation, but there are still some steps involved. Be aware of them. The steps are generally designed to assure that equipment you use meets Michigan safety standards and that

your company is certified as a motor common carrier of passengers. There are two different procedures to follow, one if you are currently a certified motor common carrier of passengers, and the other if you are not certified.

V.B.1. Certified Companies

If your company is currently certified as a motor common carrier of passengers in Michigan, for either regular route or charter service, the procedure you must follow is:

1. File a letter with the Michigan Department of Transportation that describes the route you intend to take. This letter must identify the origin and destination points served, the major state trunk line highways used, and the scheduled service times.

Send this letter to:

Michigan Department of Transportation
Bureau of Urban and Public Transportation (UPTRAN)
Intercity Division
Intercity Bus Programs & Regulatory Affairs
P.O. Box 30050
425 W. Ottawa Street
Lansing, MI 48909

Telephone: (517) 335-2560

2. A check for \$25.00, made payable to the State of Michigan, for the application extension fee must accompany the letter.

V.B.2. Non-Certified Companies

The procedure for non-certified companies is a little more involved. You must first receive certification before beginning passenger service. Generally, certification is required if you operate a vehicle with a maximum passenger capacity of ten or more persons on a public highway in Michigan. Vanpools are generally exempt from this requirement. Check with the Intercity

Bus Programs & Regulatory Affairs Section listed above if you have any questions as to whether or not you need to be certified. The steps described in the certification procedure are based on Public Act 432 of 1982, as amended (see Appendix G).

First, you should contact the Michigan Department of Transportation, Bureau of Urban and Public Transportation, Intercity Bus Programs & Regulatory Affairs to obtain a packet of information (see Appendix G). The packet will contain:

1. A list of the procedures involved in applying for certification.
2. An example of a Certificate of Insurance.
3. An equipment vehicle roster.
4. A copy of Public Act 432 of 1982 as amended.

You may contact the Michigan Department of Transportation at:

Michigan Department of Transportation
Bureau of Urban and Public Transportation Intercity
Division
Intercity Bus Programs & Regulatory Affairs
P.O. Box 30050
425 W. Ottawa Street
Lansing, MI 48909

Telephone: (517) 335-2560

Review the packet carefully. It describes the information you must provide to receive certification. This includes:

1. A letter outlining a description of the authority sought (charter service or regular route), identifying the origin and destination points served, the major state trunk line highways used, and the scheduled service times.

2. A completed vehicle roster, which includes a signed statement on the back stating each of the vehicles listed has been safety inspected and approved.

3. A Certificate of Insurance which specifies that your company has at least \$5 million bodily injury protection and property damage coverage, and \$1 million personal injury protection (no-fault) coverage, for one year.

4. A \$300 check, made payable to the State of Michigan, for the application fee, plus \$20 for every vehicle listed on the vehicle roster.

If you have any questions or problems, be sure to contact the Intercity Bus Programs & Regulatory Affairs Section at the address or telephone number listed above. Remember that the information provided here is to be used only as a guide. All official requirements, forms, and procedures are established by MDOT, Bureau of Urban and Public Transportation. Be sure to contact them at the above number to obtain the most current information and the proper forms.

V.C. MARKETING SUGGESTIONS

A major consideration in developing a successful buspool in a corridor with identified potential is a marketing program. You must identify the market you intend to serve and design your service to meet the needs and desires of that market. Some marketing ideas are presented below.

V.C.1. Route Design Characteristics

Several features can be designed into a buspool route to make it more desirable or serviceable to potential riders.

- Develop your route to service more than one

employer. The employers can be located near each other, or along the route you plan to travel.

- Take advantage of existing public parking facilities such as park and ride lots. These areas make good collection points for several passengers. They are usually located conveniently near major highway interchanges and there are existing lots in nearly every county in the state. (See APPENDIX B)
- Make arrangements to use existing private parking facilities that will provide a convenient central collection point for your riders. Private parking facilities include shopping centers, churches, and business lots with excess capacity. If you are not familiar with the communities you hope to serve, you can often obtain excellent information (including location maps) on local facilities by contacting Chambers of Commerce, local county planning departments, or area economic development agencies. The information operator can generally locate telephone numbers of one of these agencies for you. Check with the agency you contact to see if there is some other group that can provide you with additional information.
- Consider the possibility of using worker-drivers. Worker-drivers are employees who work for the employer and drive the bus in return for a free or reduced fare.

This procedure has been highly successful in vanpooling programs, but you must consider it carefully before applying it to buspooling. It has potential because of its cost savings features, and it eliminates the problem of what to do with a driver for the 8-10 hours employees are on the job. On the other hand, there are difficulties. Contractual obligations may not permit the use of worker drivers. Also, the worker-driver must meet special state training and certification requirements for drivers of vehicles with more than 15 seats.

Finally, consider where the vehicle will be stored. Most individuals do not have the facilities to garage an intercity bus at their place of residence, even if it were permitted by local zoning and regulatory codes. All of these qualifications should not stop you from considering the idea of buspooling. The concept has been applied successfully in Europe, and to a limited degree, in the United States. (See Appendix K)

- Look at your existing intercity bus service to see

if there is some way to provide commuter service to an employer by expanding or changing an existing route. Consider complementing the two services; design the route so that most employees get off the bus near the beginning of the regular route and get on the bus near the end of the regular route to avoid possible conflicts between regular passengers and commuters -- if you feel the potential for conflict exists.

- Provide for flexibility in scheduling. Make advance agreements to serve workers during special overtime working situations. Develop fare schedules that encourage regular ridership by providing discounts, but that also permit the infrequent rider to take advantage of the service. Consider seasonal adjustments such as hunting season when many employees may be off work for several days. Always allow for major legal and religious holidays and expected manufacturing changeovers.

V.C.2 Service Amenities

It is possible to add low cost perks to a service that can increase the number of riders. Some suggestions (tried and untried) are offered below.

- Consider offering use of the vehicle to regular riders for non-work special events such as weekend trips to sporting events, cultural outings, and family trips. Again, consider the responsibilities and legal requirements of operating the bus as a charter service.
- Provide refreshments and have a server on board. Light packaged snacks, soft drinks, coffee, and tea could be sold or provided at no cost. Special commuter buspools in England have utilized the "stewardess/steward" concept with success for several years.
- Provide special services to meet the needs of your riders. You may provide a radio tuned to a specific type of station (news-talk, rock, easy listening, country, etc.), offer local and national newspapers on board, or provide cards, checkers or chess sets (with magnetized boards) for use on longer routes.

V.B.3 Publicity

Informing potential riders of your new buspool service is an important consideration. Without riders even the best service will not survive long. There are several low cost options you should explore to publicize the new service.

- Establish a cooperative working relationship with the employer you are serving from the beginning. Approach the company with your idea. Be prepared to support the service -- why you think there is potential, how you intend to provide service, and how the company will benefit. Request an on-site parking space for the bus if you need it. Get permission to distribute informational brochures through company pay envelopes, bulletin boards, and newsletters. Ask for a letter of endorsement by a member of the company and have it distributed through official company channels (See Appendix H).
- Develop a written schedule for distribution (see Appendix I). Make sure the schedule is clear and easy to read. Many inexpensive, highly effective micro computer graphic programs are available to assist you in developing a schedule, or you can hire a local artist, printing, or ad firm.
- See if you can get the personnel office to mail schedules or informational brochures to employees in the areas you plan on serving.
- Recruit an in-plant representative who, in return for a discounted fare, sees to it that posters are hung on bulletin boards and who can knowledgeably answer questions about the service.
- Utilize the newsletter and bulletin board resources with permission, of unions, professional societies, or social organizations that exist in the firm.
- Make the bus high profile while it is near the plant. Park near the main entrance. Have a large schedule posted in the window (where it doesn't obstruct the driver's view). Keep the bus clean and in good repair.
- Operate on time and efficiently with well maintained, clean equipment. The benefits of word-of-mouth advertising can be significant and often has

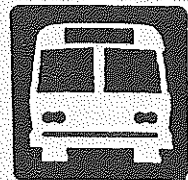
the greatest impact of any form of advertisement.

V.D. Conclusion

Some general ideas are suggested in the User's Guide to assist in developing a new buspool. Many more ideas can be developed. The key is to always be flexible. It is important to constantly identify and incorporate new concepts that meet the needs of your riders and makes their trip more pleasant.

If you develop new ideas or would like to suggest changes to this report, please contact us. We are interested in improving the usefulness of the document. Send your comments to the address in the Acknowledgements section of this report.

APPENDICES



APPENDIX A

STANDARD INDUSTRIAL CLASSIFICATION CODE DESCRIPTIONS 2000-3999

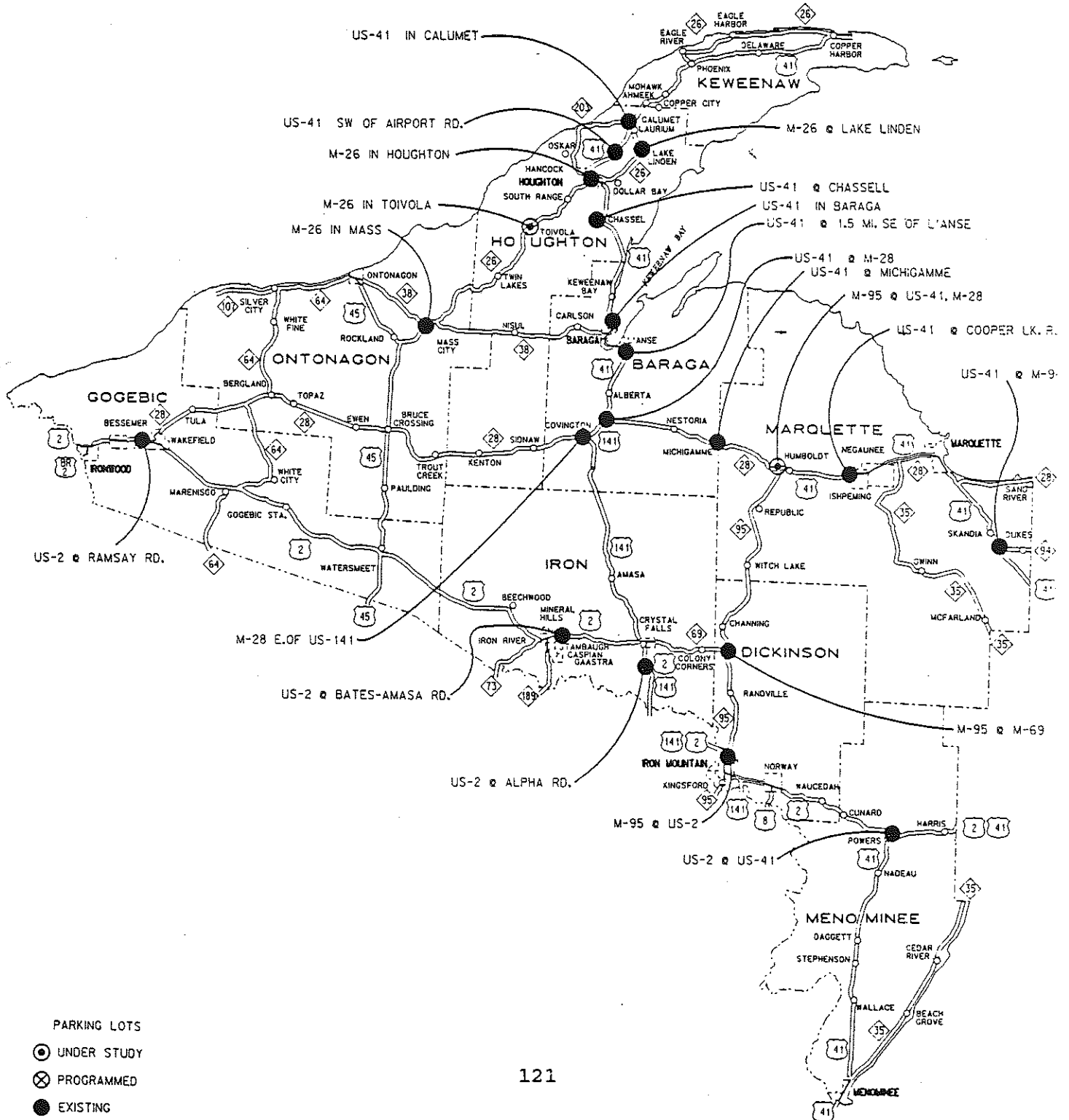
BASIC GROUP CATEGORIES FOR S.I.C. NUMBERS 2000 TO 3999

- Basic Group 20 Food and Kindred Products
- Basic Group 21 Tobacco Manufacturers
- Basic Group 22 Textile Mill Products
- Basic Group 23 Apparel and Other Finished Products Made From
Fabrics and Similar Materials
- Basic Group 24 Lumber and Wood Products Except Furniture
- Basic Group 25 Furniture and Fixtures
- Basic Group 26 Paper and Allied Products
- Basic Group 27 Printing, Publishing, and Allied Industries
- Basic Group 28 Chemicals and Allied Products
- Basic Group 29 Petroleum Refining and Related Industries
- Basic Group 30 Rubber and Miscellaneous Plastics Products
- Basic Group 31 Leather and Leather Products
- Basic Group 32 Stone, Clay, Glass, and Concrete Products
- Basic Group 33 Primary Metal Industries
- Basic Group 34 Fabricated Metal Products, Except Machinery and
Transportation Equipment
- Basic Group 35 Machinery, Except Electrical
- Basic Group 36 Electrical and Electronic Machinery, Equipment,
and Supplies
- Basic Group 37 Transportation Equipment
- Basic Group 38 Measuring, Analyzing, and Controlling Instruments,
Photographic, Medical and Optical Goods: Watches
and Clocks
- Basic Group 39 Miscellaneous Manufacturing Industries

APPENDIX B
CARPOOL PARKING LOTS IN MICHIGAN
1987

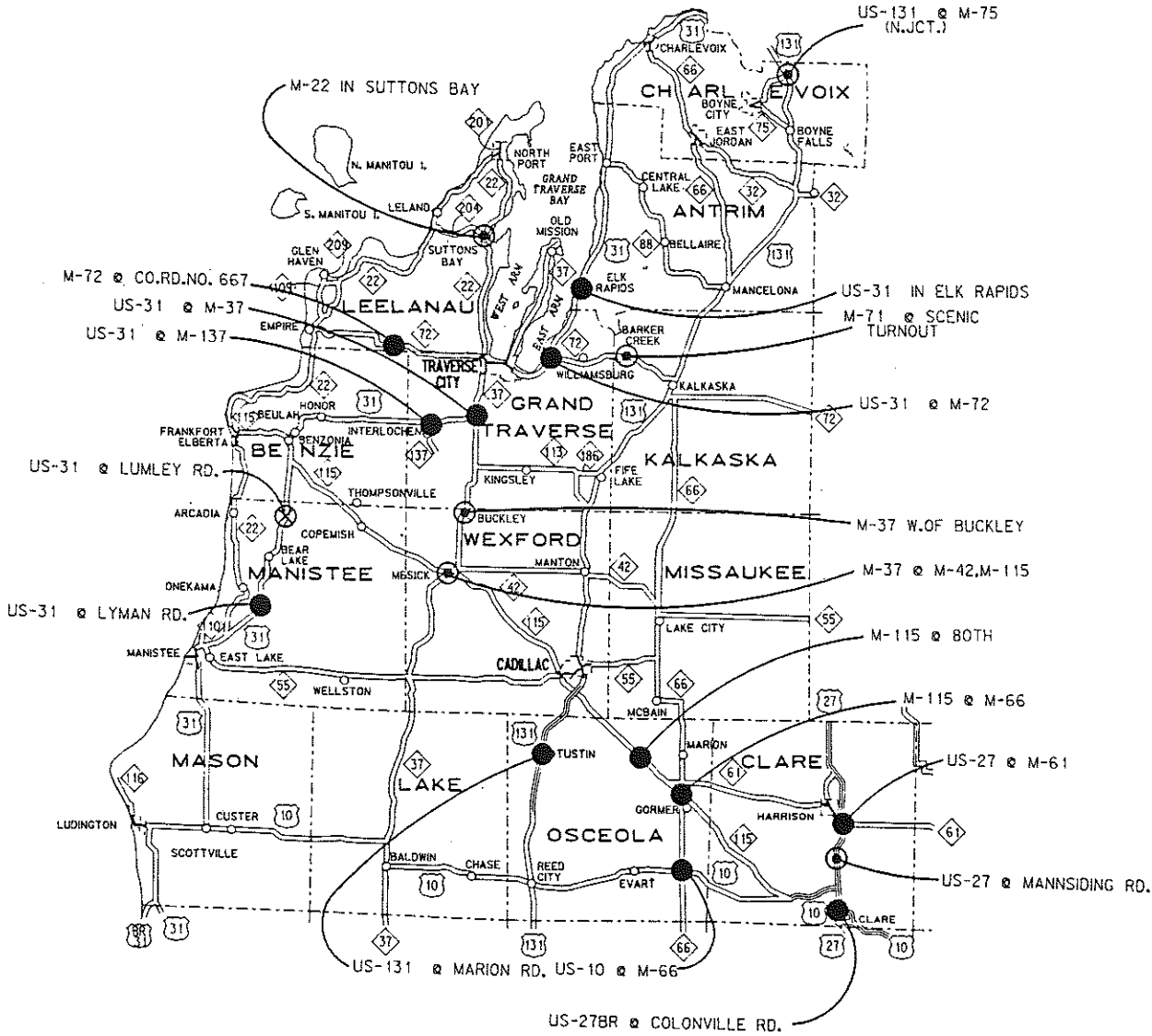


STATEWIDE CARPOOL PARKING LOT PROGRAM





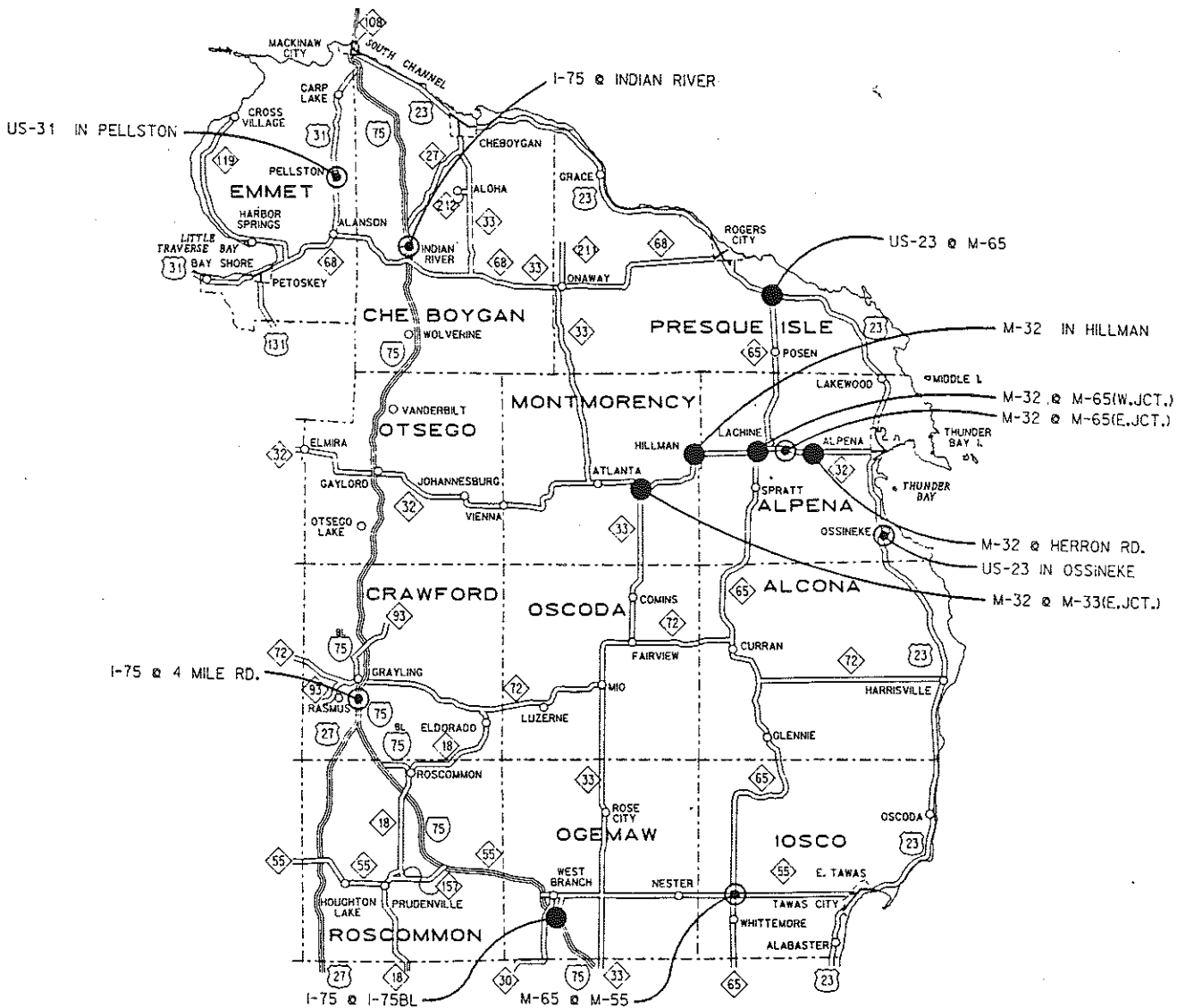
STATEWIDE CARPOOL PARKING LOT PROGRAM



- PARKING LOTS
- ⊙ UNDER STUDY
 - ⊗ PROGRAMMED
 - EXISTING



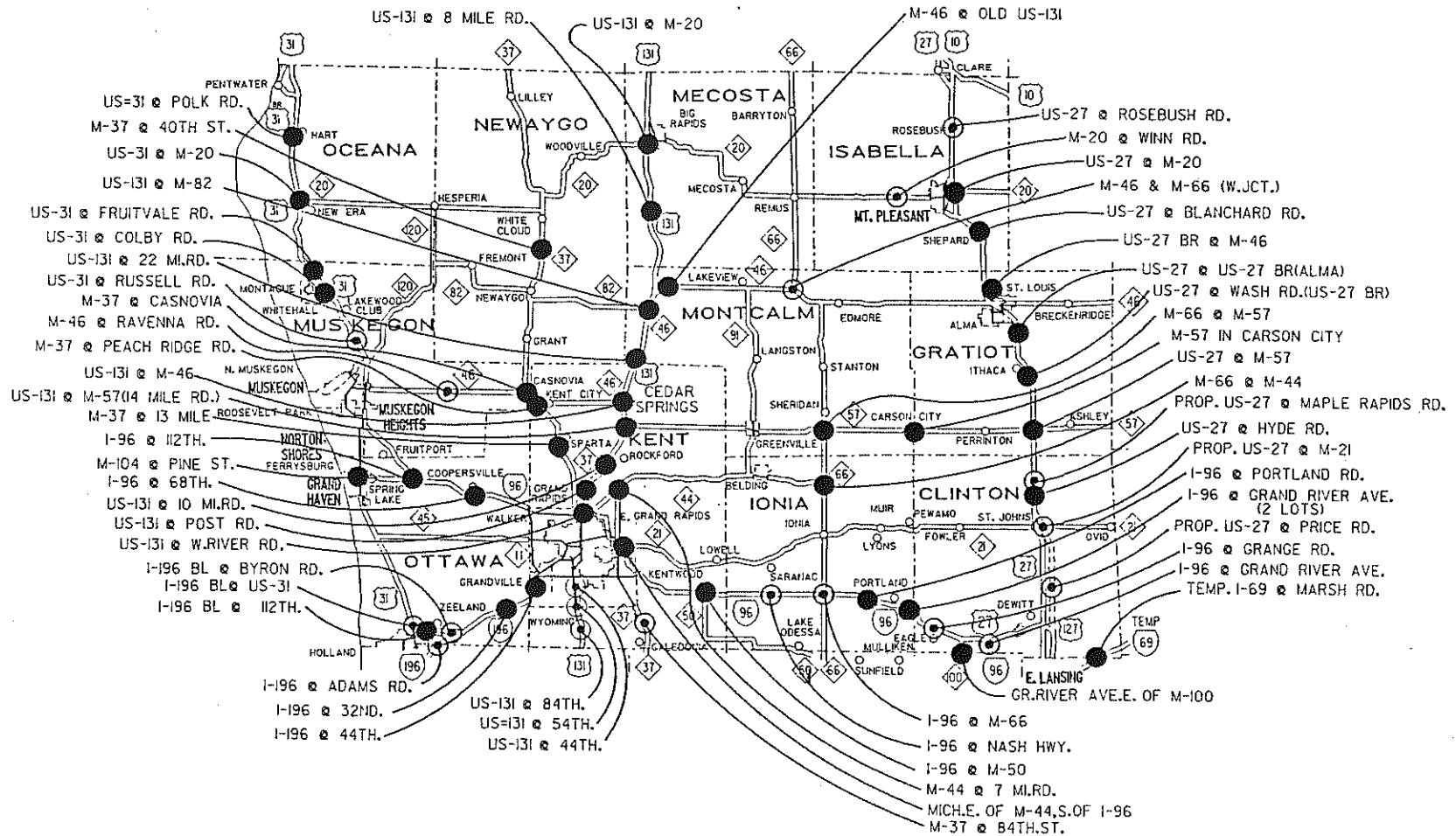
STATEWIDE CARPOOL PARKING LOT PROGRAM



- PARKING LOTS
- ⊙ UNDER STUDY
- ⊗ PROGRAMMED
- EXISTING



STATEWIDE CARPOOL PARKING LOT PROGRAM



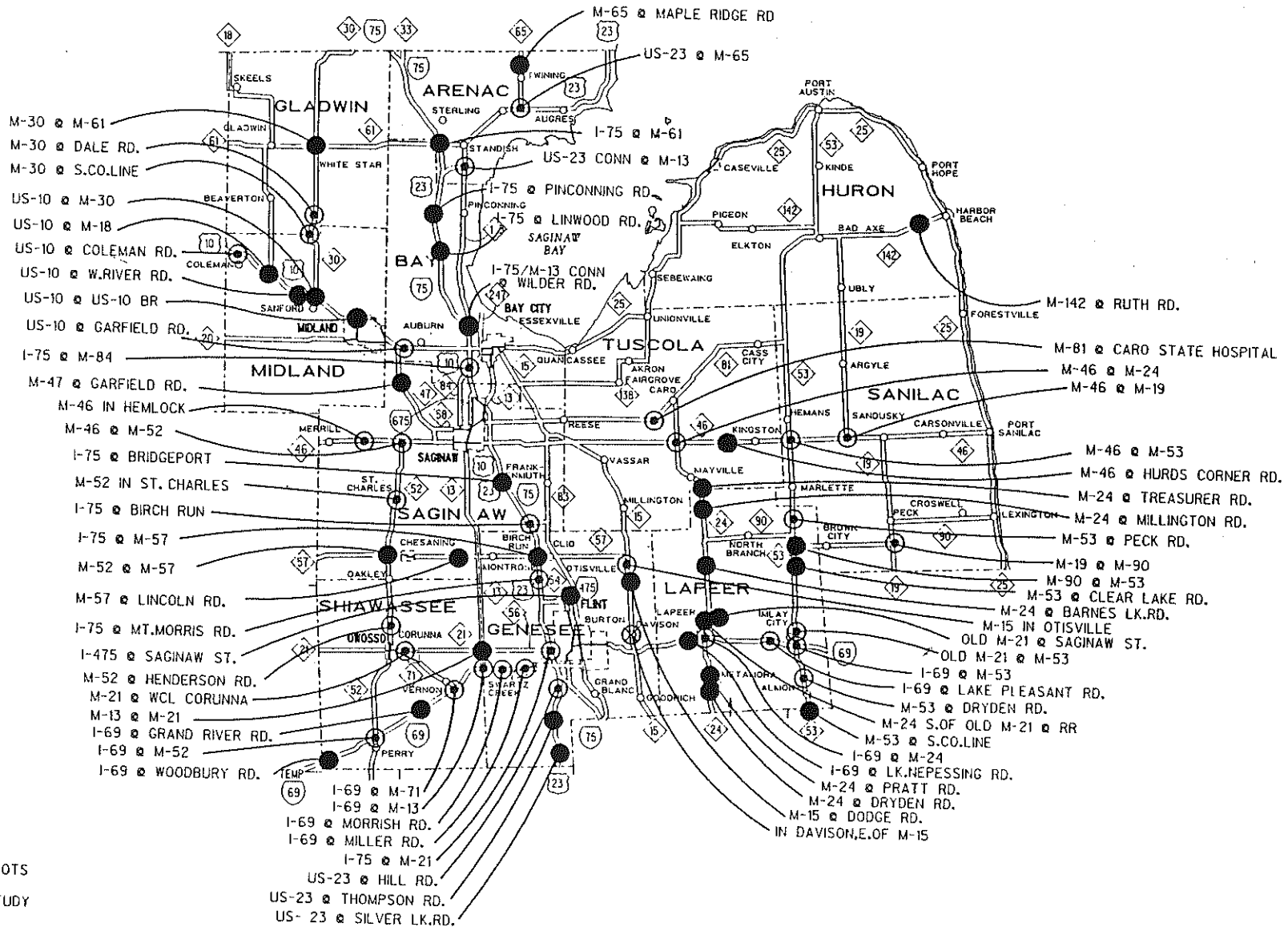
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PARKING LOTS

- ⊙ UNDER STUDY
- ⊗ PROGRAMMED
- EXISTING



STATEWIDE CARPOOL PARKING LOT PROGRAM

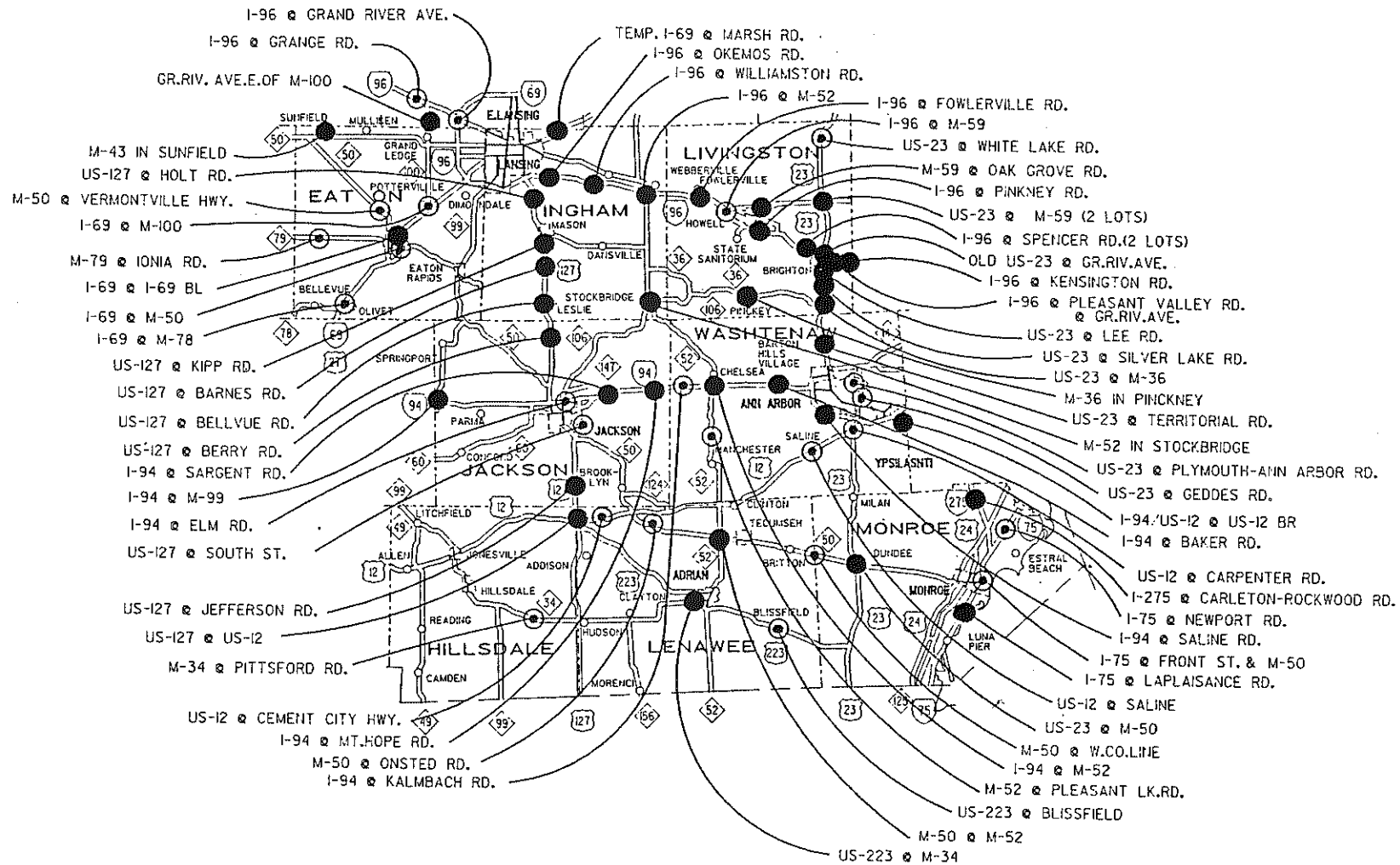


PARKING LOTS

- ⊙ UNDER STUDY
- ⊗ PROGRAMMED
- EXISTING



STATEWIDE CARPOOL PARKING LOT PROGRAM



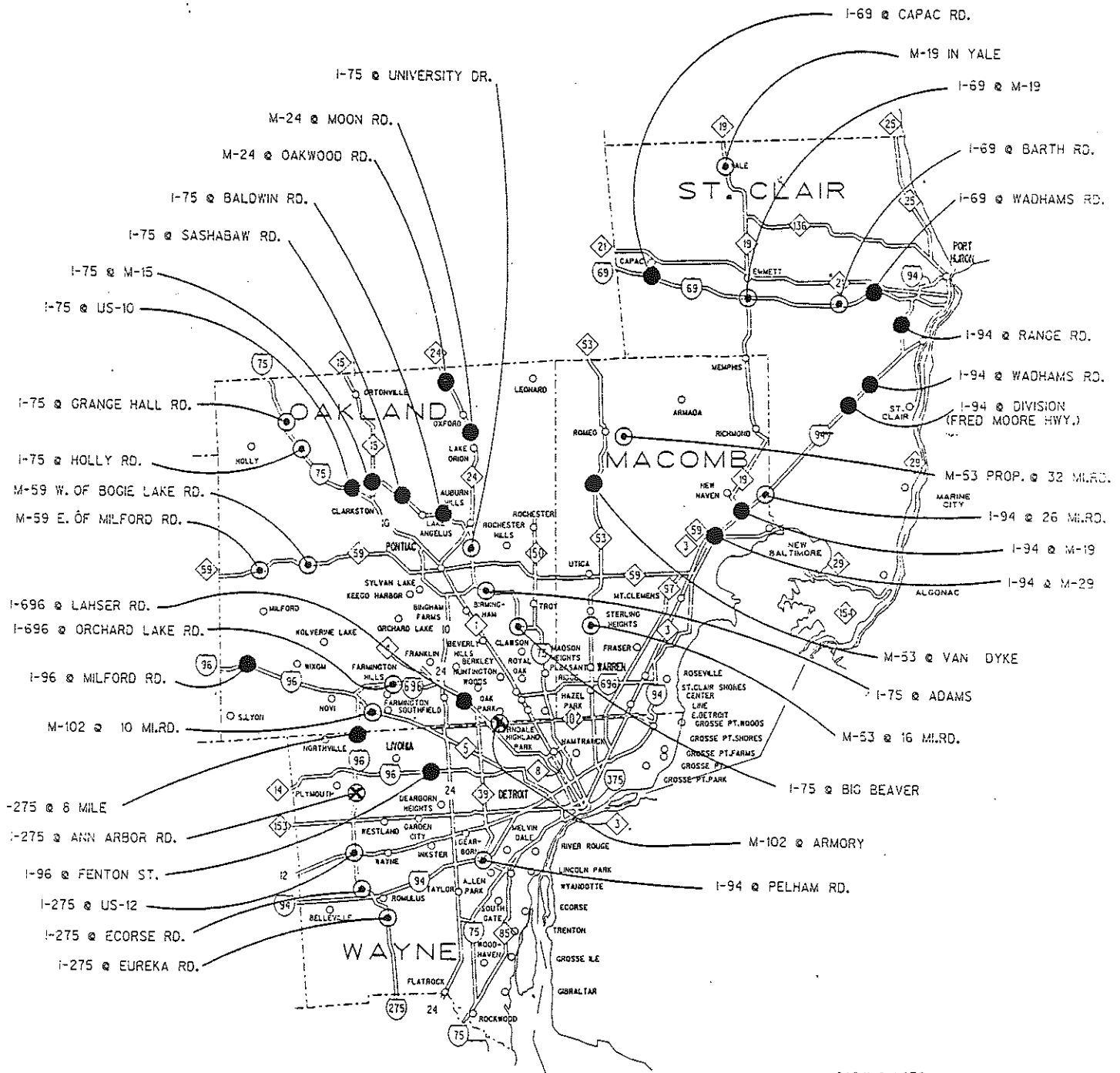
128

PARKING LOTS

- UNDER STUDY
- ⊗ PROGRAMMED
- EXISTING



STATEWIDE CARPOOL PARKING LOT PROGRAM



- PARKING LOTS
- ⊙ UNDER STUDY
 - ⊗ PROGRAMMED
 - EXISTING

APPENDIX C
LISTING OF EXISTING MICHIVAN ROUTES

MICHIVAN VANPOOL LIST
 As of January, 1988
 (Sorted by Employer)

| <u>VAN</u> | <u>ORIGIN</u> | <u>DESTINATION</u> | <u>EMPLOYER</u> |
|------------|------------------|--------------------|--------------------|
| 71 | ANN ARBOR | DETROIT | AM NATL RESOURCES |
| 19 | BIRMINGHAM | DETROIT | AMERICAN NATL BK |
| 12 | DETROIT | FARMINGTON HILLS | AMERISURE |
| 62 | BALDWIN | GRAND RAPIDS | BALDWIN SCHOOLS |
| 18 | CANTON | DETROIT | BLUE CROSS |
| 8 | LAKE ORION | DETROIT | COLLIER COLORTYPE |
| 25 | DETROIT | AUBURN HILLS | COMERICA |
| 41 | DETROIT | AUBURN HILLS | COMERICA |
| 36 | DETROIT | AUBURN HILLS | COMERICA |
| 38 | DETROIT | AUBURN HILLS | COMERICA |
| 17 | DETROIT | AUBURN HILLS | COMERICA |
| 11 | DETROIT | AUBURN HILLS | COMERICA |
| 28 | DETROIT | AUBURN HILLS | COMERICA |
| 45 | E DETROIT | AUBURN HILLS | COMERICA |
| 35 | ST CLAIR SHORES | AUBURN HILLS | COMERICA |
| 73 | AUBURN HILLS | DETROIT | COMERICA |
| 21 | ANN ARBOR | DETROIT | DETROIT EDISON |
| 46 | PORT HURON | DETROIT | DETROIT EDISON |
| 26 | CANTON | DETROIT | DIFCO LABORATORIES |
| 5 | ANN ARBOR | DETROIT | DSS |
| 79 | ANN ARBOR | DETROIT | DSS |
| 51 | MT CLEMENS | DETROIT | FEDERAL BUILDING |
| 56 | MT CENTER | DETROIT | FEDERAL BUILDING |
| 23 | E DETROIT | DEARBORN | FORD MOTOR |
| 55 | DETROIT | DETROIT | FORD MOTOR |
| 29 | YPSILANTI | DETROIT | FORD MOTOR |
| 39 | ANN ARBOR | DETROIT | GM (DOWNTOWN) |
| 53 | ANN ARBOR | DETROIT | GM (DOWNTOWN) |
| 48 | FLINT | LAKE ORION | GM |
| 22 | MUSKEGON | WHITEHALL | HOWMET |
| 58 | TROY | DETROIT | IRS |
| 69 | CANTON | DETROIT | MANUFACTURERS |
| 42 | LIVONIA | DETROIT | MANUFACTURERS |
| 77 | DEARBORN | LIVONIA | MANUFACTURERS |
| 3 | DEARBORN | LIVONIA | MANUFACTURERS |
| 2 | ROSEVILLE | LIVONIA | MANUFACTURERS |
| 75 | ROSEVILLE | LIVONIA | MANUFACTURERS |
| 9 | ANN ARBOR | DETROIT | MI CANCER FOUND. |
| 52 | ANN ARBOR | DETROIT | MICHCON |
| 68 | BRIGHTON | DETROIT | MICHIGAN BELL |
| 20 | ANN ARBOR | DETROIT | NBD |
| 65 | BLOOMFIELD HILLS | DETROIT | NBD |
| 50 | NORTHVILLE | DETROIT | NBD |
| 43 | FLINT | LAKE ORION | PONTIAC MOTORS |
| 64 | GRAND BLANC | PONTIAC | PONTIAC MOTORS |
| 33 | LAPEER | PONTIAC | PONTIAC MOTORS |
| 74 | TROY | DETROIT | REN CEN |
| 60 | ANN ARBOR | DETROIT | SEMCOG |

| | | | |
|----|--------------|--------------|--------------------|
| 63 | ANN ARBOR | DETROIT | SEMCOG |
| 76 | STERLING HTS | DETROIT | SEMCOG |
| 32 | ANN ARBOR | DETROIT | ST OF MICHIGAN |
| 59 | BRIGHTON | DETROIT | ST OF MICHIGAN |
| 54 | ROCHESTER | DETROIT | ST OF MICHIGAN |
| 57 | ANN ARBOR | LANSING | ST OF MICHIGAN |
| 31 | ANN ARBOR | LANSING | ST OF MICHIGAN |
| 66 | ASHLEY | LANSING | ST OF MICHIGAN |
| 44 | BRIGHTON | LANSING | ST OF MICHIGAN |
| 61 | CLARKSVILLE | LANSING | ST OF MICHIGAN |
| 40 | DETROIT | LANSING | ST OF MICHIGAN |
| 67 | DETROIT | LANSING | ST OF MICHIGAN |
| 13 | GRAND RAPIDS | LANSING | ST OF MICHIGAN |
| 72 | HOWELL | LANSING | ST OF MICHIGAN |
| 47 | JACKSON | LANSING | ST OF MICHIGAN |
| 70 | JACKSON | LANSING | ST OF MICHIGAN |
| 6 | ST. JOHNS | LANSING | ST OF MICHIGAN |
| 7 | WESTPHALIA | LANSING | ST OF MICHIGAN |
| 10 | DETROIT | NORTHVILLE | STATE HOSPITAL |
| 14 | DETROIT | NORTHVILLE | STATE HOSPITAL |
| 16 | DETROIT | NORTHVILLE | STATE HOSPITAL |
| 37 | GREENVILLE | GRAND RAPIDS | STEELCASE |
| 34 | TRUFANT | GRAND RAPIDS | STEELCASE |
| 27 | ANN ARBOR | DEARBORN | U OF M |
| 30 | STERLING HTS | DETROIT | VET ADM REG OFFICE |
| 4 | DETROIT | SOUTHFIELD | VPSI |

APPENDIX D

NUMBER OF REPORTED EMPLOYEES BY TIME DISTANCE FROM EMPLOYER

NUMBER OF REPORTED EMPLOYEES BY DISTANCE FROM EMPLOYER 1/

| Employer | 0-30 Min. | | 31-60 Min. | | 61-90 Min. | | 91-120 Min. | | 121+ Min. | | Total | |
|----------------------------------|-----------|-------|------------|-------|------------|------|-------------|------|-----------|------|-------|---------|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| General Foods | 235 | 50.6% | 204 | 44.0% | 2 | 0.4% | 3 | 0.6% | 20 | 4.3% | 464 | 2/ 1.7% |
| General Motors (Grand Rapids) | 2353 | 77.2% | 596 | 19.6% | 81 | 2.7% | 10 | 0.3% | 6 | 0.2% | 3046 | 11.0% |
| General Motors (Kalamazoo) | 2237 | 59.2% | 1478 | 39.1% | 57 | 1.5% | 2 | 0.1% | 3 | 0.1% | 3777 | 13.7% |
| Haworth | 1372 | 76.7% | 387 | 21.6% | 29 | 1.6% | 1 | 0.1% | 0 | 0.0% | 1789 | 6.5% |
| Herman Miller | 1332 | 85.5% | 219 | 14.1% | 5 | 0.3% | 0 | 0.0% | 1 | 0.1% | 1557 | 5.6% |
| Howmet Turbine | 1739 | 49.0% | 1586 | 44.7% | 224 | 6.3% | 1 | 0.0% | 1 | 0.0% | 3551 | 12.9% |
| Kellogg | 638 | 58.0% | 453 | 41.2% | 9 | 0.8% | 0 | 0.0% | 0 | 0.0% | 1100 | 4.0% |
| Lear Siegler | 126 | 28.8% | 291 | 66.4% | 21 | 4.8% | 0 | 0.0% | 0 | 0.0% | 438 | 3/ 1.6% |
| Steelcase | 6275 | 80.9% | 1331 | 17.2% | 123 | 1.6% | 4 | 0.1% | 20 | 0.3% | 7753 | 28.1% |
| Teledyne | 1000 | 79.6% | 185 | 14.7% | 66 | 5.3% | 5 | 0.4% | 0 | 0.0% | 1256 | 4.6% |
| Whirlpool | 2200 | 77.5% | 627 | 22.1% | 8 | 0.3% | 2 | 0.1% | 0 | 0.0% | 2837 | 10.3% |
| Total | 19507 | 70.8% | 7357 | 26.7% | 625 | 2.3% | 28 | 0.1% | 51 | 0.2% | 27568 | 100.0% |

Notes: 1/ Total number of employees may differ with total number of employees listed elsewhere in this document due to reporting differences.

2/ Total excludes number of employees residing in Battle Creek.

3/ Total excludes number of employees residing in Grand Rapids.

Source: MDOT, Bureau of Transportation Planning, Passenger Transportation Planning Section, Surface Systems Unit.

APPENDIX E

NUMBER OF OUT-OF-STATE EMPLOYEES BY COMPANY

TOTAL NUMBER OF REPORTED OUT-OF-STATE EMPLOYEES

| <u>Company</u> | <u>State</u> | <u>Number of Employees</u> |
|----------------|--------------|----------------------------|
| General Food | -- | 0 |
| General Motors | IN | 24 |
| | IL | <u>2</u> |
| | Total | 26 |
| Haworth | -- | 0 |
| Herman Miller | -- | 0 |
| Howmet | NJ | 1 |
| | PA | 1 |
| | VA | 6 |
| | IN | 2 |
| | WI | 1 |
| | NE | <u>1</u> |
| | | 12 |
| Kellogg | -- | 0 |
| Lear Siegler | -- | 0 |
| Steelcase | OH | 2 |
| | CA | <u>1</u> |
| | Total | 3 |
| Teledyne | OH | 1 |
| | IN | <u>2</u> |
| | Total | 3 |

APPENDIX F
LOCAL RIDESHARING OFFICES IN MICHIGAN

LOCAL RIDESHARING OFFICES IN MICHIGAN

| | |
|---|--|
| ANN ARBOR TRANSPORTATION AUTHORITY 2700 SOUTH INDUSTRIAL HWY ANN ARBOR, MI 48104 | 313/973-6500 CHRIS WHITE |
| CAPITAL AREA TRANSPORTATION AUTHORITY 4615 TRANTER AVENUE LANSING, MI 48910 | 517/393-RIDE DEBBIE PULLIAM |
| GENESEE COUNTY METROPOLITAN PLANNING COMMISSION 1101 BEACH STREET FLINT, MI 48502 | 313/257-3010 BONITA BINGHAM PHIL STAIR |
| JACKSON AREA TRANSPORTATION COUNCIL JACKSON COMMUTER POOL 2350 EAST HIGH STREET JACKSON, MI 49203-3490 | 517/787-8363 DAVE VASSAL |
| KALAMAZOO AREA TRANSPORTATION STUDY P.O. BOX 2826 KALAMAZOO, MI 49003 | 616/342-RIDE ANDY IRWIN |
| SOUTHEASTERN MICHIGAN COUNCIL OF GOVERNMENTS--RIDEMATCH 1900 EDISON PLAZA 660 PLAZA DRIVE DETROIT, MI 48226 | 313/963-RIDE ANITA STE. MARIE MARY TAVANA NICK RAMFOS |
| WEST MICHIGAN REGIONAL PLANNING COMMISSION 60 NORTH DIVISION, SUITE 240 GRAND RAPIDS, MI 49503 | 616/458-SAVE SUE HIGGINS |
| WEST MICHIGAN SHORELINE REGIONAL DEVELOPMENT COMMISSION 137 MUSKEGON MALL MUSKEGON, MI 49440-1192 | 616/722-RIDE BRENDA KLING |
| NORTHEAST MICHIGAN COUNCIL OF GOVERNMENTS P.O. BOX 457 GAYLORD, MI 49735 | 517/732-3551 DIANE REKOWSKI |
| EASTERN UPPER PENINSULA REGIONAL PLANNING & DEVELOPMENT COMMISSION 416 ASHMUN SAULT STE. MARIE, MI 48783 | 906/635-1581 ALLEN PRIDEAUX |
| CENTRAL UPPER PENINSULA PLAN. & DEVELOPMENT REGIONAL COMMISSION 2415 14TH AVENUE S. ESCANABA, MI 49829 | 906/786-9234 DAVE GILLIS SUE PETERSON |

WESTERN UPPER PENINSULA PLANNING
& DEVELOPMENT REGION
P.O. BOX 365
HOUGHTON, MI 49931

906/482-7205
JIM STINGLE

EAST CENTRAL MICHIGAN PLANNING
AND DEVELOPMENT REGION
P.O. BOX 930
500 FEDERAL AVENUE
SAGINAW, MI 48606

517/752-RIDE
LARRY SZYNKOWSKI
BRENDA MOORE

APPENDIX G
CERTIFICATION PROCEDURES & REGULATORY INFORMATION

**PROCEDURE FOR FILING
APPLICATION FOR INTRASTATE
CHARTER OR REGULAR ROUTE AUTHORITY
WITH THE**

**MICHIGAN DEPARTMENT OF TRANSPORTATION
Bureau of Urban and Public Transportation
Intercity Division
Intercity Bus Programs and Regulatory Affairs Section
Post Office Box 30050
Lansing, Michigan 48909**

The following four steps must be completed correctly to obtain a Certificate of Authority to operate as a motor common carrier of intrastate passengers in the State of Michigan. Following completion of these steps, an Interim Certificate of Authority will be issued to the applicant. Following completion of the required vehicle safety inspections, a Permanent Certificate of Authority will be issued.

1. LETTER OF APPLICATION

Submit a letter outlining a description of the authority sought.

- A. If applicant is seeking CHARTER operations, describe scope of authority being sought showing cities, counties or geographical areas where charters will originate.
- B. If the applicant is seeking REGULAR ROUTE operations, submit a route description naming the streets and highways service will operate over from point of origination (beginning) to final destination (end).
- C. If applicant is seeking REGULAR ROUTE operations, submit a time schedule showing the effective date, time points, points to be served and number of trips.

2. EQUIPMENT VEHICLE ROSTER

Submit a list of equipment (vehicle roster) to be used by the applicant and the location of same for state inspection services. Evidence of current equipment inspections from the States of New York, Pennsylvania, California, or the Michigan State Police (school bus type equipment only) will be accepted as competent evidence that the equipment may be operated safely upon public highways. Please be sure to complete affidavit on reverse side of form.

3. CERTIFICATE OF INSURANCE

Submit a certificate of insurance, with specific bodily injury and property damage protection of \$5 million combined as well as \$1 million Michigan basic no-fault coverage.

4. APPLICANT FILING FEES

Submit a check made out to the State of Michigan for:

- A. Original applicant fee in the amount of \$300.
- B. Annual registration fees for each motor bus listed on the equipment vehicle roster in the amount of \$20 each.
- C. Extension or addition/deletion of an existing certificate of authority in the amount of \$25.

Any of the above fees may be combined in one check.

DS:2547-4/sm

(To be completed only if current safety inspection has been performed by one or more governmental jurisdictions as shown on the Equipment Vehicle Roster--SEE CODE 1.)

VERIFICATION OF SAFETY INSPECTION

In compliance with R 474.103 (4) of the Administrative Rules pursuant to Public Act 432, of the Public Acts of 1982, I _____, being duly sworn upon oath, verify that the facts asserted on the reverse side of this document are true and correct. If representing a company, corporation, or organization, I further certify that I am authorized and qualified to submit this information.

Date

Signature of Person Verifying

Subscribed and sworn to before me, a notary public in and for the county of _____, acting in the county of _____, State of _____, this _____ day of _____, 19_____.

(Signature of Notary Public)

(Notary Public's stamp)

(Expiration date of Notary's Commission)

2032-1/d

Michigan Department
of Transportation
3007 (3/87)

- S A M P L E -

CERTIFICATE OF INSURANCE

INTRASTATE MOTOR COMMON CARRIERS OF PASSENGERS FOR HIRE

Applicable only to Intrastate Motor Common Carriers of Passengers as defined in Section 474.109 of the Michigan Compiled Laws

DISTRIBUTION: White Copy — Michigan Department of Transportation, Intercity Division — UPTRAN, P.O. Box 30050,
425 West Ottawa Street, Lansing, MI 48909. Yellow Copy — To the Insured. Pink Copy — Retained by Insurer.

DATE ISSUED

Date Signed

This is to certify, that the ABC INSURANCE COMPANY * (hereinafter called company)
at 300 W. Adams Street, Harrisburg, PA 54321 has issued
to ANY BUS COMPANY at 1 Fort Street, Detroit, MI 12345
Name of Insured Address of Insured
Name of the Company Address of Company

the policy of insurance to provide under Terms and Coverages described as follows: Check as applicable.

- This insurance is to provide personal and property protection insurance as required by Section 500.3101 of the Michigan Compiled Laws. (Michigan No-Fault).
- This insurance is to provide liability insurance that is primary and the company shall not be liable for amounts in excess of \$ 5,000,000 for each accident. The aggregation of the primary and the excess policies must total 5,000,000 minimum
- This insurance is to provide liability insurance that is excess and the company shall not be liable for amounts in excess of \$ _____ for each accident in excess of the underlying limit of \$ _____ for each accident.

Policy No. 2A6-431895 effective from 1/1/87 to 1/1/88 12:01 a.m., standard time at the address of the insured as stated in said policy.

The receipt of this certificate by the department certifies that a policy or policies of Public Liability (or Automobile Bodily Injury and Property Damage Liability) insurance has been issued by the company identified on the face of this form. To provide the coverage for the protection of the public required under Section 9 of Act No. 432 of the Public Acts of 1982, being Section 474.105 of the Michigan Compiled Laws with respect to the operation, maintenance, or use of any vehicle for which the intrastate motor common carrier of passengers authority is required or has been issued by the Department of Transportation of the State of Michigan, regardless of whether such motor vehicles are specifically described in the policy or policies or not. Whenever requested by the Michigan Department of Transportation of the State of Michigan, the Company agrees to furnish said department a duplicate original of said policy and all endorsements thereon.

This certificate may not be cancelled, except by the expiration of the term for which it is written, until the Company shall have given thirty (30) days notice on authorized form to the Department of Transportation of the State of Michigan at its office, Lansing, Michigan, said thirty (30) days to commence to run from the date notice is actually received in the office of said department.

| | |
|--|---|
| NAME OF AGENT (Please Print or Type) <u>John Smith Insurance Agency</u> | NAME OF AUTHORIZED REPRESENTATIVE (Please Print or Type) <u>John Smith</u> |
| AGENT SIGNATURE | REPRESENTATIVE SIGNATURE |

ACT NO. 432 OF THE PUBLIC
ACTS OF 1982, AS
AMENDED THRU APRIL 1986

474.101

AN ACT to regulate persons who transport passengers by motor bus; to prescribe powers and duties for the state transportation department; to impose certain fees; and to impose penalties.

The People of the State of Michigan enact:

Sec. 1. This act shall be known and may be cited as the "motor bus transportation act".

Sec. 3. As used in this act:

(a) "Certificate of authority" means a certificate of authority issued under the terms of this act unless the context indicates otherwise.

(b) "Department" means the state transportation department.

(c) "For hire" means for remuneration or reward of any kind, paid or promised, either directly or indirectly.

(d) "Motor bus" means a self-propelled motor vehicle used in the transportation of passengers and their baggage for hire upon any public highway of this state with a maximum seating capacity of 10 persons or more, including the driver. Motor bus does not include a self-propelled motor vehicle having a seating capacity of 15 passengers or less which is used by or on behalf of an employer to transport its employees to and from their place of employment.

(e) "Motor common carrier of passengers" means any person who, either directly or through any device or arrangement, holds himself or herself out to the public as willing to undertake for hire to transport by motor bus from place to place over the public highways of this state persons who may choose to employ him or her for such purpose or for the purpose of transporting package express, baggage of passengers, newspapers, or United States mail in the same vehicle used to transport passengers.

(f) "Person" means an individual, partnership, association, corporation, or the lessee, trustee, or receiver of any of these entities.

(g) "Public highway" means any highway, road, street, avenue, alley, or thoroughfare of any kind, or any bridge, tunnel, or subway used by the public.

(h) "The public" means that part or portion of the general public which the motor carrier is ready, able, willing, and equipped to serve.

(i) "Through any device or arrangement" means any and all methods, means, agreements, circumstances, operations, or subterfuges under which any person undertakes for hire to conduct, direct, control, or otherwise perform the transportation of passengers by motor bus upon the public highways of this state.

Sec. 4. This act shall not apply to a motor common carrier of passengers which is an authority under Act No. 55 of the Public Acts of 1963, as amended, being sections 124.351 to 124.359 of the Michigan Compiled Laws, or the metropolitan transportation authorities act of 1967, Act No. 204 of the Public Acts of 1967, as amended, being sections 124.401 to 124.425 of the Michigan Compiled Laws, or which operates a transportation service pursuant to an inter-local agreement under the urban cooperation act of 1967, Act No. 7 of

the Public Acts of the Extra Session of 1967, as amended, being sections 124.501 to 124.512 of the Michigan Compiled Laws, and which uses motor buses, facilities, or equipment funded in whole or in part with state or federal funds.

Sec. 5. A motor common carrier of passengers shall not operate any motor bus for the transportation of persons for hire on any public highway in this state except in accordance with this act. A motor common carrier of passengers shall not operate upon any public highway without first having obtained from the department a certificate of authority.

Sec. 7. The department shall issue without a hearing a certificate of authority to a motor common carrier of passengers authorizing that carrier to provide transportation services subject to the jurisdiction of the department under this act, if the department finds pursuant to section 9(1) that the carrier is fit, willing, and able to provide the transportation service authorized by the certificate of authority and to comply with this act and if the applicant presents evidence of the acquisition of personal injury protection and property damage liability insurance as required by section 9(2). The department may attach to the exercise of the privilege granted by a certificate of authority such terms or conditions as the department considers appropriate.

Sec. 9. (1) In determining the fitness, willingness, and ability of an applicant for a certificate of authority to provide transportation service, the department shall consider all of the following:

(a) The applicant's safety record.

(b) The character and condition of the motor buses proposed to be operated by the applicant and presentation of competent evidence that they may be operated safely upon the public highways.

(c) The applicant's financial ability to provide continuous insurance coverage as required by subsection (2) and have adequate financial resources in order to pay for damage claims against the applicant.

(2) An applicant shall acquire the following insurance coverage of liability for acts or omissions of the applicant as a motor common carrier of passengers:

(a) Bodily injury and property damage liability insurance with a minimum combined single limit of \$5,000,000 for all persons injured or for property damage.

(b) Personal protection insurance and property protection insurance as required by Sections 3101 to 3179 of the insurance code of 1956, Act No. 218 of the Public Acts of 1956, being Sections 500.3101 to 500.3179 of the Michigan Compiled Laws.

A motor common carrier of passengers shall maintain the insurance described in this subsection as a condition of maintaining a certificate of authority issued under this act.

Sec. 11. (1) The department shall approve or deny an application for a certificate of authority within 90 days after the complete application is filed with the department.

(2) If the department denies an application for a certificate of authority, the department shall notify the applicant in writing of the reason or reasons for the denial, and the applicant shall have 30 days from the date

of denial to correct any deficiency and reapply without payment of an additional application fee.

Sec. 13. An applicant for an original certificate of authority shall pay to the department a filing fee of \$300.00.

Sec. 15. The department shall issue a certificate of authority as provided in this act to a motor common carrier of passengers who hold either a valid permit as a contract motor carrier of passengers or a valid certificate of authority as a common motor carrier of passengers under the motor carrier act, Act No. 254 of the Public Acts of 1933, as amended, being sections 475.1 to 479.49 of the Michigan Compiled Laws, on the day immediately before the effective date of this act, without making the determination required by section 9(1) if the department determines that the carrier has met the insurance requirements of section 9(2).

Sec. 17. Each motor common carrier of passengers who holds a certification of authority issued under this act shall pay to the department an annual renewal fee equal to \$20.00 times the number of motor buses used exclusively by the carrier to provide transportation of passengers for hire.

Sec. 21. Upon request of a motor common carrier of passengers, a certificate of authority issued to the motor common carrier of passengers shall include authority to transport newspapers, baggage of passengers, package express, or United States mail in the same motor bus with the passengers and, in addition, shall include authority to transport in a separate motor vehicle baggage of passengers and package express having a prior or subsequent movement by motor bus.

Sec. 23. If there is an immediate and urgent need for the transportation of passengers to a point or between points within this state, the department may grant upon a proper application temporary authority for such service by a motor common carrier of passengers having a certificate of authority or by an applicant for a certificate of authority. Any temporary authority granted by the department under this section, unless suspended or revoked for good cause, shall be valid for the time which the department specifies, but in no event for a period exceeding 90 days.

Sec. 25. Upon application and the filing of a \$25.00 fee, the department may grant a motor common carrier of passengers holding a certificate of authority under this act an extension of authority for regular route service between points within this state or for charter service within this state, if the department determines that the carrier has met the requirements of section 9.

Sec. 27. (1) A motor common carrier of passengers holding a certificate of authority for regular route service between points within this state or for charter service within this state may apply to discontinue all or a portion of its service under this certificate of authority by filing written application with the department, and within 10 days thereafter by publishing notice of the application once a day for 2 different days in a newspaper of general circulation published in the county seat of each county to which the service proposed to be discontinued extends. Within 20 days after the last date of publication, any person opposing the application shall file written notice of protest with the department. If the application is not opposed, the motor

common carrier of passengers holding a certificate of authority may immediately discontinue the service. If the application is opposed, the department shall, within 20 days, conduct a hearing on the application, providing at least 10 days' notice to all interested parties.

(2) The department shall grant an application for authority to discontinue if the applicant demonstrates that intrastate revenue per mile derived from the route or routes proposed to be discontinued is less than the fully allocated cost per mile including depreciation. If the department's final determination on the application is not issued within 90 days after the last date of publication, the applicant may discontinue the service described in the application.

Sec. 29. A motor common carrier of passengers authorized to provide a transportation service under this act shall not abandon or discontinue any service established under this act without the approval of the department, except as provided in section 27(2). If a motor common carrier of passengers discontinues service for more than 10 days without the previous approval of the department authorizing the discontinuance, the certificate of authority issued to that carrier shall be considered revoked without any further action upon the part of the department.

Sec. 33. Every motor common carrier of passengers subject to this act who operates a passenger service without obtaining a certificate of authority required under this act or without meeting the insurance requirements provided in this act shall be subject to a fine of not more than \$500.00. Each violation constitutes a separate offense.

Sec. 34. A motor common carrier of passengers, or an officer or agent of a motor common carrier of passengers, who requires or permits a driver to operate to drive or operate a motor bus in violation of this act, or a rule promulgated under this act, is guilty of a misdemeanor punishable by a fine of not more than \$500.00 or by imprisonment for not more than 90 days, or both.

Sec. 35. The department may alter, suspend, or revoke a certificate of authority issued under this act if the department determines in a contested case hearing held pursuant to chapter 4 of the administrative procedures act of 1969, Act No. 306 of the Public Acts of 1969, as amended, being sections 24.271 to 24.287 of the Michigan Compiled Laws, that a motor common carrier of passengers to whom a certificate of authority has been issued has wilfully violated or refused to comply with this act.

Sec. 37. A person shall not violate or evade the provisions of this act through any device or arrangement.

Sec. 39. The department may promulgate rules to implement this act pursuant to Act No. 306 of the Public Acts of 1969, as amended, being sections 24.201 to 24.315 of the Michigan Compiled Laws.

Sec. 41. This act shall not take effect unless House Bill No. 5669 of the 81st Legislature is enacted into law.

1480-0

DEPARTMENT OF TRANSPORTATION
BUREAU OF URBAN AND PUBLIC TRANSPORTATION
MOTOR BUS TRANSPORTATION

Filed with the Secretary of State on June 4, 1985
These rules take effect 15 days after filing with the Secretary of State

(By authority conferred on the department of transportation by section 39 of Act No. 432 of the Public Acts of 1982, being §474.139 of the Michigan Compiled Laws)

R 474.101 Definitions.

Rule 1. (1) As used in these rules:

(a) "Act" means Act No. 432 of the Public Acts of 1982, being §474.101 et seq. of the Michigan Compiled Laws.

(b) "Applicant" means any person who seeks a certificate of authority pursuant to the act.

(c) "Certificate" means a certificate of authority issued pursuant to the act.

(d) "Department" means the director of the department of transportation or any person who is duly authorized to act on behalf of the director.

(e) "Regular route" means scheduled bus service operated on a regular basis. It does not include charter service.

(f) "Service" means the movement of the public by motor common carrier of passengers.

(2) The terms defined in the act have the same meanings when used in these rules.

R 474.102 Application for certificate; information required.

Rule 2. (1) An applicant shall provide all of the following information to the department before an application for a certificate is approved:

(a) A written description of proposed services, including all of the following information:

(i) Points to be served.

(ii) Public highways to be used.

(iii) Current schedule of service provided.

(b) A roster of all motor buses to be used in the provision of proposed services pursuant to subdivision (a) of this subrule. The roster shall include all of the following information:

(i) Fleet number.

(ii) Make or model.

(iii) Year.

(iv) Serial number of each unit.

(v) Whether units are owned or leased.

(2) The information specified in the act and in these rules shall be sent to the Michigan Department of Transportation, Bureau of Urban and Public Transportation, Intercity Division, P.O. Box 30050, Lansing, Michigan 48909.

R 474.103 Application for certificate; safety inspection; insurance; payment; filing.

Rule 3. (1) An applicant shall permit the department to inspect the motor buses as to operating condition and character. An applicant shall provide a suitable place where the inspection may be conducted.

(2) As a substitute for an inspection pursuant to subrule (1) of this rule, an applicant may provide evidence of a current year motor bus inspection by the state of California, New York, or Pennsylvania, the District of Columbia, the Province of Ontario, Canada, or by any other state having a reciprocal safety inspection agreement with Michigan.

(3) A current year state police inspection may be submitted for school bus type equipment instead of an inspection pursuant to subrule (1) of this rule.

(4) A verified statement by an officer of a bus company attesting to compliance with the safety requirements of any of the states set forth in subrule (2) of this rule shall be accepted for purposes of a certificate or certificate renewal. The statement shall include a list of the units in compliance with safety requirements.

(5) A carrier shall provide proof of financial ability to provide continuous insurance coverage in the form of an insurance policy meeting all insurance requirements of the act.

(6) A certificate of insurance meeting the requirements of section 9(2) of the act shall accompany the application. The insurance policy shall require the insurance carrier to notify the department, in writing, of policy modification or cancellation for any reason 30 days before the contemplated modification or cancellation.

(7) A certified check payable to the state of Michigan shall accompany each application in accordance with the rates specified in the act.

(8) If any other instrument is presented in payment of such rates, a certificate shall not be issued until supporting funds have been collected by the department of treasury. Cash payments shall only be accepted in person at the department, located at 425 West Ottawa, Lansing, Michigan.

(9) An original application shall not be considered complete until the applicant has complied with this rule and R 474.102.

(10) An application for renewal shall not be considered complete until the applicant has complied with R 474.105.

R 474.104 Authority decal; issuance; placement.

Rule 4. (1) Upon satisfactory completion of the certification requirements set forth in these rules, the department shall issue a designation of authority to operate in the form of a dated decal for each motor bus to be operated by an applicant.

(2) A designation of authority decal shall be affixed to each motor bus to be operated under the certificate of authority granted. The decal shall be located on the left side of the motor bus in the area immediately under the driver's window.

(3) Each motor bus operated under the authority of a state of Michigan certificate shall be plainly and visibly marked with the name of the owner and operator of the motor bus. Such identification shall appear on the left side of the unit.

R 474.105 Certificate renewal; safety inspection; application; annual report.

Rule 5. (1) The department shall conduct safety inspections pursuant to R 474.103 from December 1 to March 31 of each year for the renewal of certificates.

(2) The department shall issue a valid designation of authority decal upon completion of a satisfactory inspection.

(3) The certificate of any carrier operating without a valid designation of authority decal after March 31 each year shall be revoked pursuant to the act.

(4) An applicant for certificate renewal shall include all of the following items with the application:

(a) Fees required pursuant to section 17 of the act.

(b) Evidence of a safety inspection pursuant to R 474.103.

(c) A list identifying all motor bus vehicles to be used by an applicant in providing service.

(5) As a condition of an annual certificate renewal, carriers operating regular routes shall provide the department with a report of operations when submitting the annual renewal fee. Only information regarding regular route service within Michigan shall be reported. If a certificate holder carries less than 10% of its passengers in regular route service, this subrule shall not apply and the certificate holder shall not be required to file a report.

(6) Instead of the department report, a certificate holder may provide the department with a copy of the required report filed with the interstate commerce commission. Any regular route certificate holder who does not file a report with the interstate commerce commission shall file the annual report, as prescribed by the department.

R 474.106 Notice of motor bus accident.

Rule 6. An applicant shall provide the department with notice of any vehicle accident involving the applicant's services through submittal of any of the following:

(a) A police accident investigation report.

(b) Insurance accident report.

(c) An interstate-commerce commission accident report form, if an accident results in damages of more than \$2,000.00 or results in personal injury.

APPENDIX H
PROMOTIONAL MATERIAL FOR BUSPOOLS

MICHIGAN COMMUTER BUS, INC.

123 Main Street, Michiopolis, MI (616) 555-4287
Harold H. Head, Chief of Operations

July 7, 1987

Dear XYZ Company Employee:

I would like to take a few moments of your time to describe a new service being offered to you. This is a new commuter bus service to the XYZ Company from Michiopolis and all points in-between (see attached schedule).

We are designing this service to accommodate your travel to and from work in the most convenient way we can. The current schedule calls for the bus to leave from the carpool parking lot on M-501 south of Michiopolis at 5:30 a.m. each week day. This will get you safely and comfortably to the Gate 6 entrance of the XYZ Company by 7:45 a.m., with 15 minutes to spare before the shift start at 8:00 a.m.

Just think of the spare time you will have to relax, doze, or read the morning newspaper when you ride on our modern, comfortable air conditioned bus instead of spending two and one-quarter hours driving to work every day. We will even provide a low-cost beverage and snack service on board the bus for your convenience.

The fee for five day, round trip service is only \$45.00 per week. Compare that to the cost of driving your automobile. It is probably less than you currently spend on gasoline alone, not to mention the wear and tear on your vehicle.

If you are interested, contact Herb Busley, your in-plant coordinator, at station 12, plant 6. Or call me at (616) 555-4BUS.

Thanks for your interest. I hope to be serving you soon!

Sincerely,

Harold H. Head
Chief of Operations

SHARE THE RIDE AND SAVE

Join Our Buspool

TO:

FROM:

TIMES:

WHY?:

- Save \$\$ Money \$\$



- Enjoy the Company of Friends



- Rest on Your Way



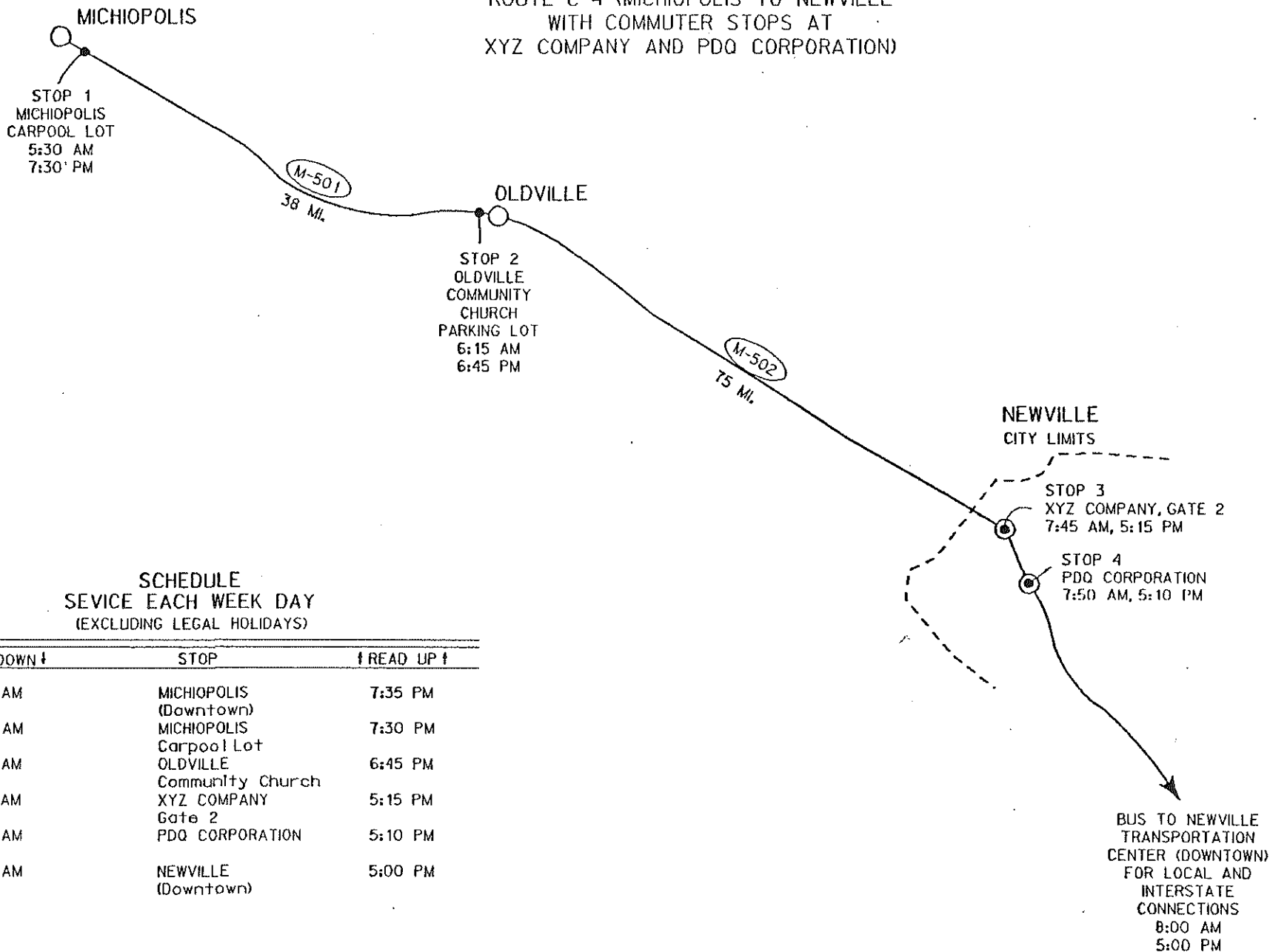
- All This and More!

FOR INFORMATION, CONTACT:

APPENDIX I
BUSPOOL ROUTE MAP & SCHEDULE EXAMPLE

MICHIGAN COMMUTER BUS SERVICE

ROUTE C-4 (MICHIOPOLIS TO NEWVILLE
WITH COMMUTER STOPS AT
XYZ COMPANY AND PDQ CORPORATION)



SCHEDULE SERVICE EACH WEEK DAY (EXCLUDING LEGAL HOLIDAYS)

| ↓ READ DOWN ↓ | STOP | ↑ READ UP ↑ |
|---------------|------------------------------|-------------|
| 5:25 AM | MICHIOPOLIS (Downtown) | 7:35 PM |
| 5:30 AM | MICHIOPOLIS Carpool Lot | 7:30 PM |
| 6:15 AM | OLDVILLE Community Church | 6:45 PM |
| 7:45 AM | XYZ COMPANY Gate 2 | 5:15 PM |
| 7:50 AM | PDQ CORPORATION | 5:10 PM |
| 8:00 AM | NEWVILLE (Downtown) | 5:00 PM |

APPENDIX J
EXISTING MICHIGAN BUSPOOLS

MICHIGAN BUSPOOL LOCATIONS & DAILY ROUND TRIPS BY CARRIER
November, 1987

| <u>Carrier</u> | <u>Origin</u> | <u>Destination</u> | <u>Daily Round Trips</u> | <u>Employment Center</u> |
|--------------------------|------------------|--------------------|----------------------------------|---|
| Saginaw Transit System | Downtown Saginaw | University Center | 8 | Delta College |
| Indian Trails | Owosso | Flint | 1 | Buick |
| White Pine Transit Co. | Ironwood | White Pine | 1 | White Pine Mine |
| | Ironwood | Mercer, WI | 1 | Simpson |
| Electronics | Ironwood | Ashland, WI | 1 | Musingwear |
| | Baraga | Ishpeming | 3 | Tilden Mine |
| | Mohawk | Houghton | 2 | Michigan Technological University |
| Maple Valley Road Runner | Alma | Lansing | 4 | Oldsmobile |

**APPENDIX K
EMPLOYER/DRIVER ARTICLE**

... and leave the driving to him

Shortage puts bus riders behind wheel

By Michael Fleeman
Associated Press

NEWARK, N.J. — Ira Gens has a New York City commute with a twist. He not only rides a bus to and from work, but he also gets paid to drive it part time when his regular work is over.

Gens, a Defense Department administrator, is one of nearly two dozen part-time drivers hired by New Jersey Transit to ease a staff shortage.

The firm began moving passengers into the driver's seat when it had trouble hiring enough regular operators for split shifts of two hours in the morning and two hours in the evening. In an innovative step, the line aimed a recruiting campaign at rush-hour passengers

Newspaper ads, pamphlets on buses and an information booth at the Port Authority Bus Terminal in Manhattan helped put a policeman, telephone technician, teacher and bank clerk behind the wheel of the buses they rode.

"They have to have pretty regular hours," said George Heinle, general manager of bus operations. "We don't have too many traveling salesmen in the program."

Commuter drivers go through the same 10-day training session as regular drivers, take a state driving test and are given a uniform. The pay starts at \$9 an hour.

"It's like winning the Lotto — getting paid to commute," said Gens.

To reach his government job, which starts at

7 a.m., he rides a New Jersey Transit coach as a passenger from Howell Township to Manhattan. When that shift is up, he goes to a bus parking lot near the Port Authority terminal and changes into the uniform he carried to work.

Gens then takes a load of passengers back to New Jersey and parks in a bus line garage near his home.

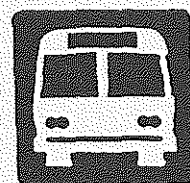
"This job is really everything I expected it to be," he said. "It pays well. I love it."

To expand the ranks, Heinle's firm now directs its pitch at automobile commuters.

"Too many of the bus commuters are so comfortable sitting back and reading their paper," he noted, "they don't want to go through the hassle of driving the bus."

To lure drivers out of their sedans, the company notes that in addition to making money en route they could save time by driving in the express bus lane.

BIBLIOGRAPHY AND NOTES



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NOTES

1. Michigan Department of Transportation, Passenger Transportation Planning Section, Surface Systems Unit, Michigan Intercity Bus Study: A Comparison of 1985 and 1977 User and Ticket Surveys, December, 1985. This study considered similar issues concerning weekend home trips for college students. It indicated that a clear breaking point for profitable intercity bus service was schools having student enrollments less than 1,000. While the type of travel in the study is not the same as work commuter trips, the assumption is made that the 1,000 person threshold is valid.

2. Michigan Department of Transportation, Passenger Transportation Planning Section, Surface Systems Unit, Buspools in Michigan, May 1982.