

Michigan Intercity Bus Study: Comparison of 1985 and 1977 User and Ticket Surveys

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ABSTRACT

The characteristics and origin-destination patterns of Michigan intercity bus service passengers in 1977 and 1985 are compared. One question addressed is whether the 1982 federal and state deregulation of the intercity bus industry resulted in any change in these characteristics and patterns. Intercity bus users in 1985 are somewhat older, have more operating automobiles per household, have a higher family income, and have made fewer intercity bus trips during the past 12 months than their 1977 counterparts. The predominant user continues to be female, but the female-male percentage gap has narrowed. The percentage of employed users has increased, that of college students has decreased, and that of retirees has remained about the same. User rating of intercity bus services is presented. Users are generally satisfied with the courtesy of employees, the condition of buses, schedule information, and adherence to schedule; they are generally dissatisfied with frequency of service and condition of terminals. Detroit continues to be the hub of Michigan's intercity bus system; nine of the top ten city pairs have Detroit as one terminus. The top corridor is Detroit-Chicago.

Significant changes have occurred nationwide in the intercity bus industry, the population, and the economy in the more than 8 years that have passed since the last Michigan intercity bus survey. Even when regular-route service is cross subsidized with charter revenues, it is becoming increasingly difficult for revenues to cover operating costs (the 1984 operating ratio was 98.3 percent), the number of operating companies has tripled (1,2), the number of employees has increased by more than 10 percent, and the number of bus-miles has decreased somewhat. At the same time, the number of passengers has increased by 10 percent and revenue passenger-miles by 5 percent.

Deregulation is linked to some of these trends. Passage of the Motor Bus Transportation Act of 1982 in Michigan and the Bus Regulatory Reform Act of 1982 at the federal level triggered changes, which are still taking place 3 years later, in the delivery and cost of intercity bus transportation. These include discontinuance and reduction of service, franchising services, a move away from terminal ownership to terminal leasing, cross subsidizing, anemic operating ratios, and a proliferation of intercity bus companies that provide a variety of services (e.g., regular-route, airport, work commuter, charter).

Michigan's population decreased during the early 1980s, although it recovered somewhat in 1984, and remains substantially below its 9.3 million 1980 census figure (3,p.5). The state continues to have a decreasing percentage of the nation's population: 4.4 percent in 1970, 4.1 percent in 1980, and an estimated 3.9 percent in 1985. The population of Wayne County (comprised primarily of Detroit), as a

percentage of that of Michigan, has experienced a more rapid decline.

The employment picture in Michigan is uncertain. On one hand, the state's 1984 employment was higher than that of any year in the past two decades, except 1978 and 1979 (3,p.131). On the other hand, the 1984 unemployment rate of 11.2 percent, although lower than that of 1980, was more than 1.5 times the national average (7.1 percent), and it fluctuated between 10 and 11 percent in 1985.

Consequently, with the advent of deregulation, changes in the intercity bus industry, and a variable socioeconomic climate, the need existed to survey users of intercity bus service in Michigan. Some of the study objectives were to

1. Measure the effect of intercity bus deregulation on intercity bus users and service levels in Michigan,
2. Determine if the profile of the intercity bus user has changed since 1977 when a similar study was conducted,
3. Identify changes in the trip-making patterns of intercity bus users since 1977, and
4. Determine the users' perception of intercity bus service in Michigan.

1977 STUDY

Two surveys were conducted in Michigan during May 1977 to provide socioeconomic and travel information about intercity bus passengers. These were an on-board user survey and an intercity bus ticket survey (4).

The user survey was conducted in 12 travel corridors (Figure 1). Nearly 75 percent of the approxi-

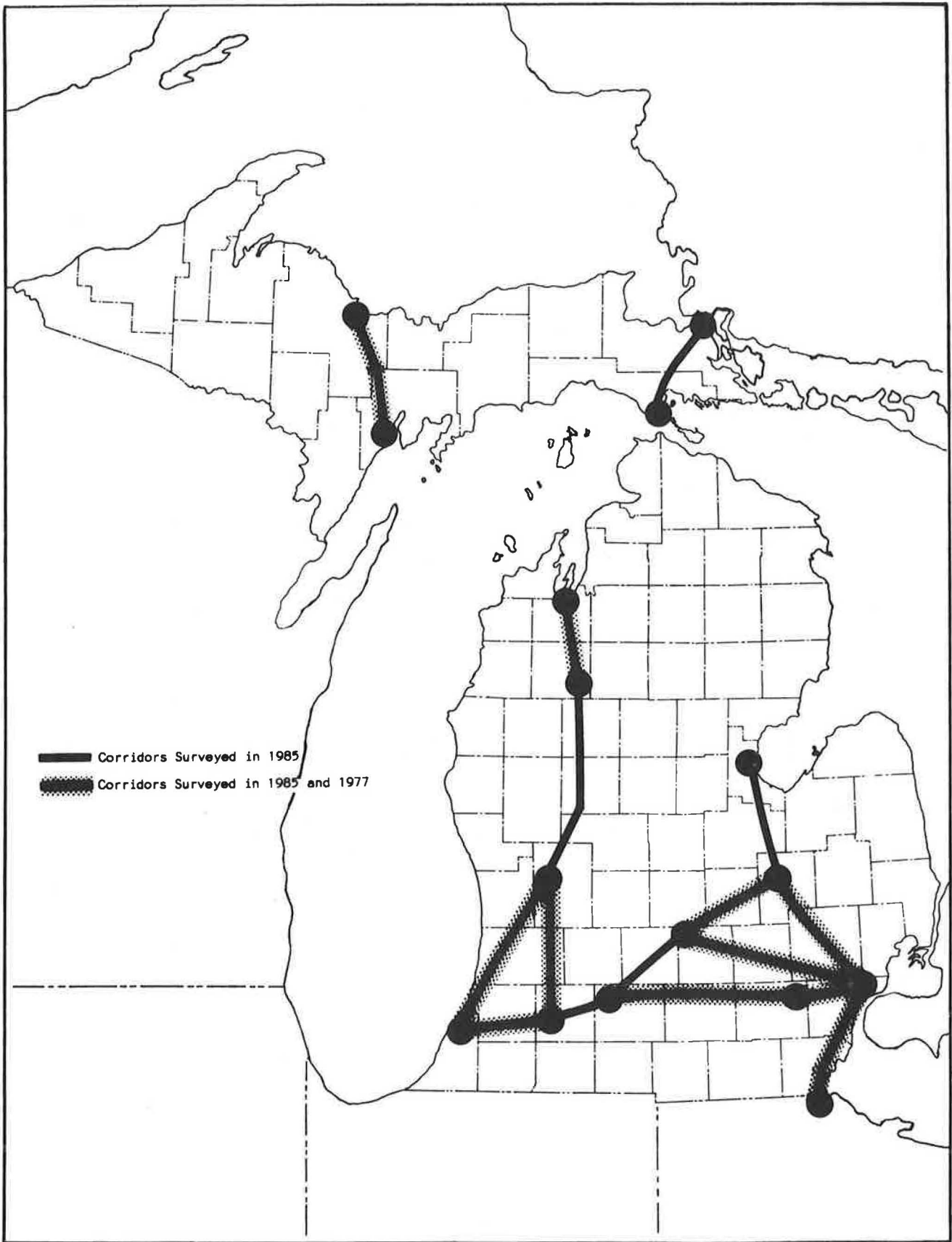


FIGURE 1 User survey corridors.

mately 3,300 questionnaires distributed were usable. Major findings of this on-board survey included:

- Somewhat more than half of the users (53 percent) traveled by automobile at the origin and destination ends of their intercity bus trip. The exception to this was at stations located adjacent to college campuses where an above-average number of riders walked to and from the station.
- Half of the users (50 percent) were riding the bus to visit friends or relatives; one in six (17 percent) was riding for personal business reasons.
- Nearly half (47 percent) of the users were 18 to 29 years old, and one in four (25 percent) was 50 or older.
- College students constituted the largest group (22 percent) of users.
- Approximately 60 percent of the users were female.

The ticket survey consisted of counting tickets for at least 7 consecutive days (May 9-15) at 36 intercity bus stations located throughout Michigan (Figure 2). The following were among the findings of the ticket survey.

- A daily average of 2,033 tickets was sold at the 36 surveyed stations.
- Detroit was the most frequent Michigan destination, generally followed by Michigan's larger urbanized areas. It was also the most frequent origin of trips destined out of state.
- Chicago was the largest out-of-state attraction for trips originating in Michigan (116 trips daily).

1985 SURVEY

May 1985 appeared to be an appropriate time to measure the effect of intercity bus deregulation. More than 2 years had passed since passage of the deregulation legislation at the state and federal levels. Although more changes in intercity bus services could be expected, many had already occurred.

To maximize comparability, the 1985 survey was conducted during the same time of year as the 1977 survey. The 1977 survey was conducted during the second full week in May, so May 12-18, 1985, was selected as the time for tabulating all tickets sold and conducting most of the user survey.

The same corridors and stations included in the 1977 study were surveyed in 1985. This was done to improve data comparability. Twelve corridors and 36 stations were surveyed in the 1977 user and ticket surveys, respectively. In 1985, 15 corridors were included in the user survey and 40 stations in the ticket survey.

OPERATING ENVIRONMENT AND MODAL CHOICES

The study area was the entire state of Michigan: 83 counties and 13 urbanized areas on the upper and lower peninsulas. Michigan has

- 9.3 million residents (eighth largest state) with 80 percent living in 13 urbanized areas plus those portions of two out-of-state urbanized areas (South Bend and Toledo) that extend into Michigan; some 85 percent reside in the southern half of the

lower peninsula as defined by an imaginary line from Muskegon to Bay City (Figure 3);

- Approximately 1,600 employers with 250 employees or more;
- More than 90 percent of its 4-year college enrollment attending schools located in the southern half of the lower peninsula; this amounts to more than one-quarter million students;
- Approximately 9,500 mi of Interstate freeways and trunk lines that accommodate 31.9 billion annual vehicle miles of travel (8 percent of the roads carry nearly 50 percent of the traffic); and
- A maximum driving distance of approximately 640 mi from boundary to boundary (New Buffalo to Ironwood); this is farther than it is from Detroit to St. Louis or to Philadelphia.

Several changes have occurred in Michigan's intercity passenger transportation system since May 1977. Intercity bus route mileage, communities served, and use have decreased; intercity rail passenger route mileage, communities served, and use have increased; air service departures and use have increased; state trunk-line mileage and use have increased.

The highest level of intercity bus service in 1985 was east-west between Detroit and Chicago and north-south between Detroit and Toledo with more than 10 daily round trips (Figure 4). This was also the case in 1977. Eleven of Michigan's 13 urbanized areas are connected by routes that have at least five daily round trips. There is no service in the thumb, most of the northeast lower peninsula, and between Sault Ste. Marie and Marquette. In addition, service was discontinued in December 1985 along Michigan's western shoreline between Holland (35 mi south of Muskegon) and Petoskey. There is reduced service, compared with 1977, south of the Detroit-Chicago corridor (I-94).

At the time of the 1977 survey (5,p.III-113), most population and employment centers in Michigan, both in the lower and the upper peninsulas, had direct intercity bus service (Figure 5). In 1985 some of these places had either no service or inconvenient routing and schedule times. However, rail passenger transportation served three more population centers in 1985 than in 1977, commercial air service departures had increased, and Michigan's highway system had increased by 68 mi.

The number of average daily intercity bus passengers in Michigan in 1985 had decreased 44 percent since 1977 (6,p.46). Meanwhile, rail passengers increased by 6 percent, commercial air passengers by 22 percent, and state trunk-line traffic by 8 percent.

USER SURVEY

The user survey was designed to profile the intercity bus user in the current deregulated environment and to compare that profile with the 1977 profile. The survey was conducted in 15 corridors (Figure 1). In addition, riders rated the service.

Procedures

It was recognized that any such survey needed the full consent and cooperation of the intercity bus carriers serving Michigan and needed to generate data comparable to the 1977 survey results. Finally, it was decided to use a mail-back survey form in an

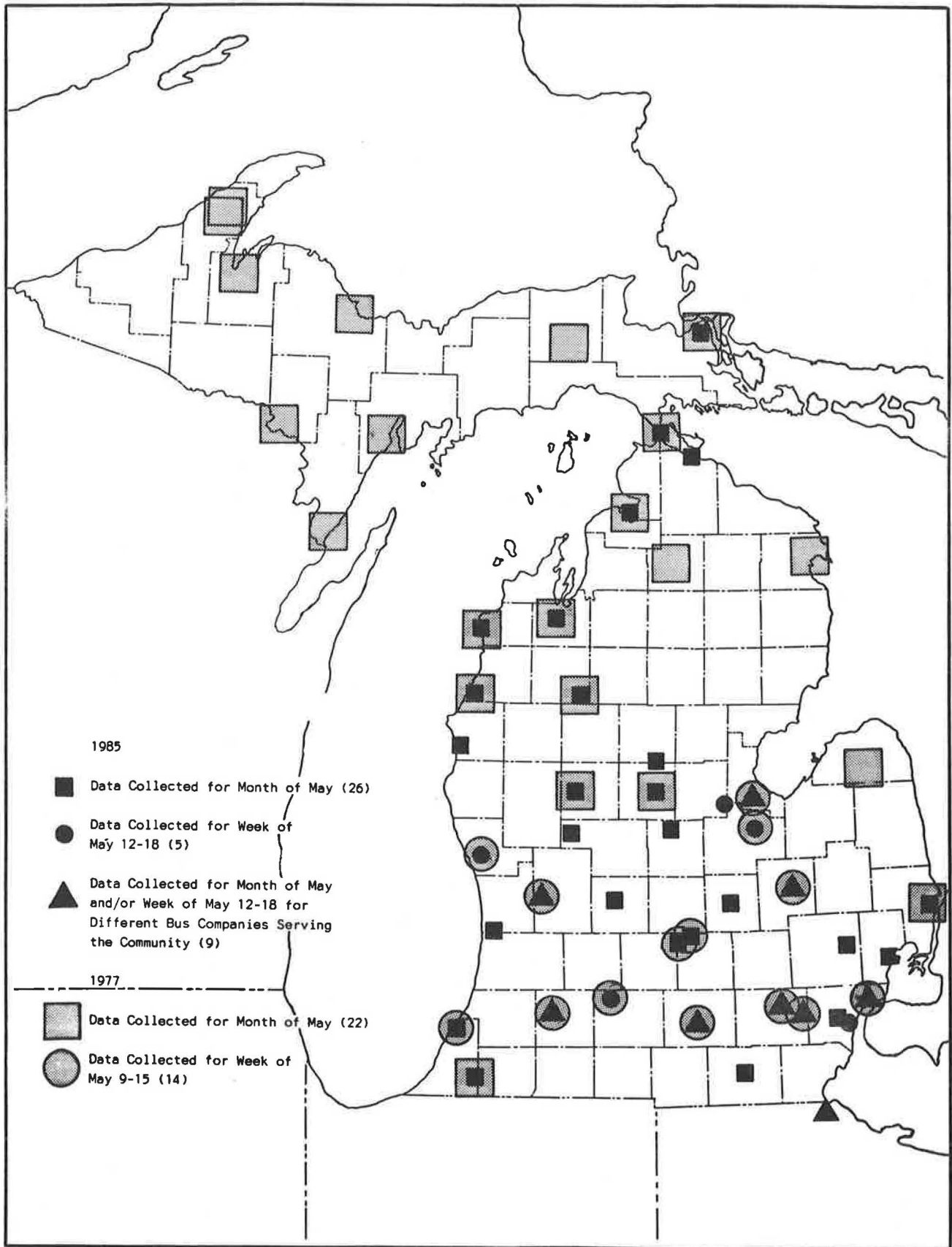


FIGURE 2 Intercity bus ticket survey stations.

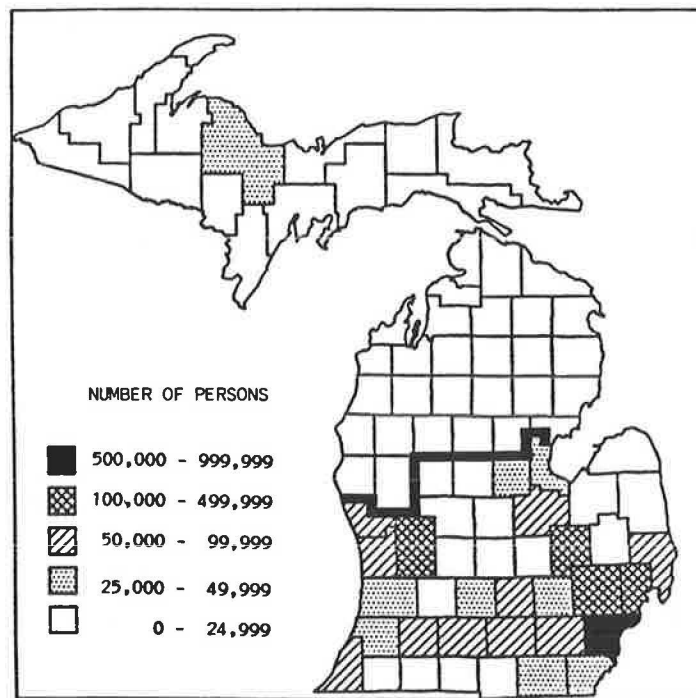


FIGURE 3 1980 population.

attempt to obtain user data for more routes without using additional survey personnel.

Some salient points regarding the procedures include (a) the intercity carriers offered their complete cooperation; (b) the 1985 survey was conducted in May, the same month as the 1977 survey; (c) more corridors were included in 1985 than in 1977; and (d) most routes with five or more daily intercity bus round trips were surveyed.

Sample Size

Careful attention was given to sample size when evaluating the data collected in the user survey. For the survey, 1,187 questionnaires were distributed. Of these, 437 were usable returns. This constituted a 36.8 percent return rate, which is an 18 percent sample of the approximately 2,400 daily intercity bus users in Michigan. It is not as large a return rate as was desired, nor was it as large as that obtained in the 1977 survey (74.5 percent), which did not use the mail-back technique. The 36.8 percent return rate is, however, acceptable and fairly standard for mail-back surveys conducted by the Michigan Department of Transportation (a 30 percent return rate is average).

Findings and Conclusions

Access

Fewer people walk to the intercity bus station to begin their bus trip. Approximately 10 percent did so in 1985 compared with 17 percent in 1977. At the same time, more passengers access bus stations via the automobile (64 versus 54 percent). This is somewhat less than Texas' 68 percent and North Carolina's 74 percent (7). This shift away from walking and toward the automobile may be partly attributable to the higher number of automobiles per household and

family income of 1985 users. This trend could continue if more bus terminals are relocated to improve bus travel times (such as near freeway interchanges) and terminals are shared with other transportation modes.

Use of local public transit going to and from intercity bus terminals remains about the same. About 11 percent of passengers used local public transportation to reach a terminal and 9 percent used it to reach their destination from a terminal in both 1985 and 1977.

There continues to be little interconnecting of intercity bus and Amtrak trips. That is, few people (less than 1 percent) use intercity bus service to reach an Amtrak terminal.

Fewer than 5 percent of the users transferred from one intercity route to another to complete their trip, either in 1985 or 1977.

One conclusion to be drawn from the access data is that, because the automobile is used more now than in 1977 between intercity bus terminals and trip origins and destinations, adequate off-street parking, drop-off, waiting, and pick-up space should be assured. A second conclusion is that, because use of local public transit remained the same (about 10 percent), local transit to and from intercity bus terminals should be maintained or improved. A third conclusion is that, because walking to terminals has declined substantially, catering to the walk-in intercity bus user may not be as important a criterion for station location as it was in the past. For instance, a recent passenger survey in one of Michigan's urbanized areas revealed that more than 85 percent used an automobile to go to and from the downtown bus terminal. A full 79 percent of these intercity bus users lived outside the community in which the terminal was located (8). A fourth conclusion is that, because few people use intercity bus service to access Amtrak (1 percent) and not many more transfer to another intercity route (5 percent or fewer), intercity bus services that feed Amtrak trains and other intercity buses should be reevaluated.

Trip Purpose, Frequency, and Travel Options

Visiting friends and relatives continues to be the dominant trip purpose (approximately 5 of 10 trips) although to a lesser extent than in 1977 (44 percent versus 51 percent). When vacation trips are added, the 1985 and 1977 percentages are approximately the same.

Personal business trips continue to rank second, comprising one-fourth of all trips. This is significantly higher than the 1977 figure of 18 percent. This change is tempered by a possible lack of understanding of what "personal business" connotes to the respondent.

Work or business trips continue to constitute about 1 of 10 trips made by intercity bus. Urban

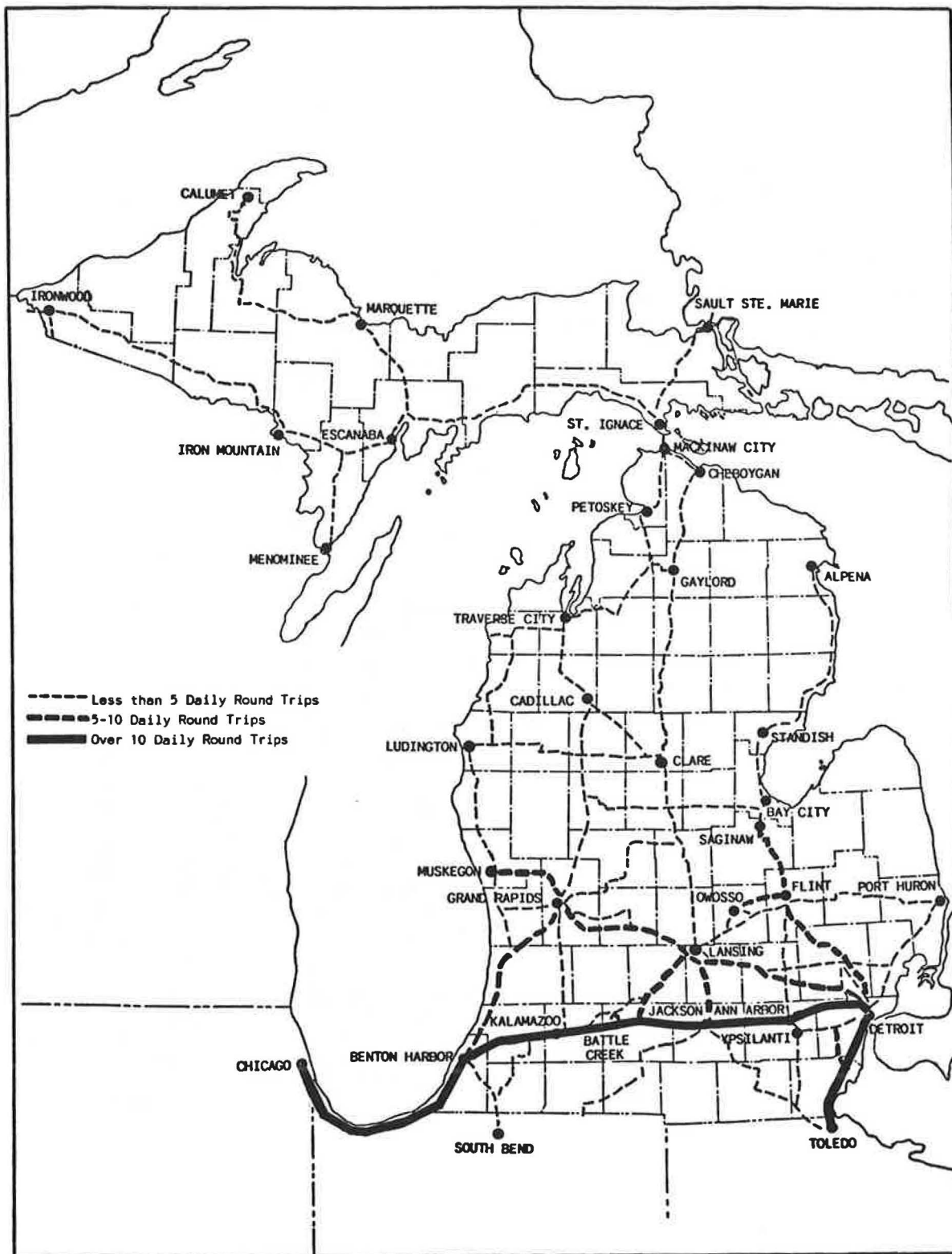


FIGURE 4 Intercity bus regular-route system, 1985.

areas are the origin or destination for 9 of 10 trips, and Detroit is the urban area in 3 of 10 cases. This percentage has increased slightly since 1977, from 8 to 10 percent. The 9 percent figure of those using intercity bus services 20 or more times in the past 12 months corroborates the 10 percent work trips figure.

Users are making somewhat fewer trips by intercity bus. Nearly 3 of 10 users had made more than 10 trips in the past year in 1977 compared with fewer than 2 of 10 in 1985.

More than 8 of every 10 passengers use intercity bus service fewer than 10 times a year. Nearly 2 of these had not used it at all previously, and another

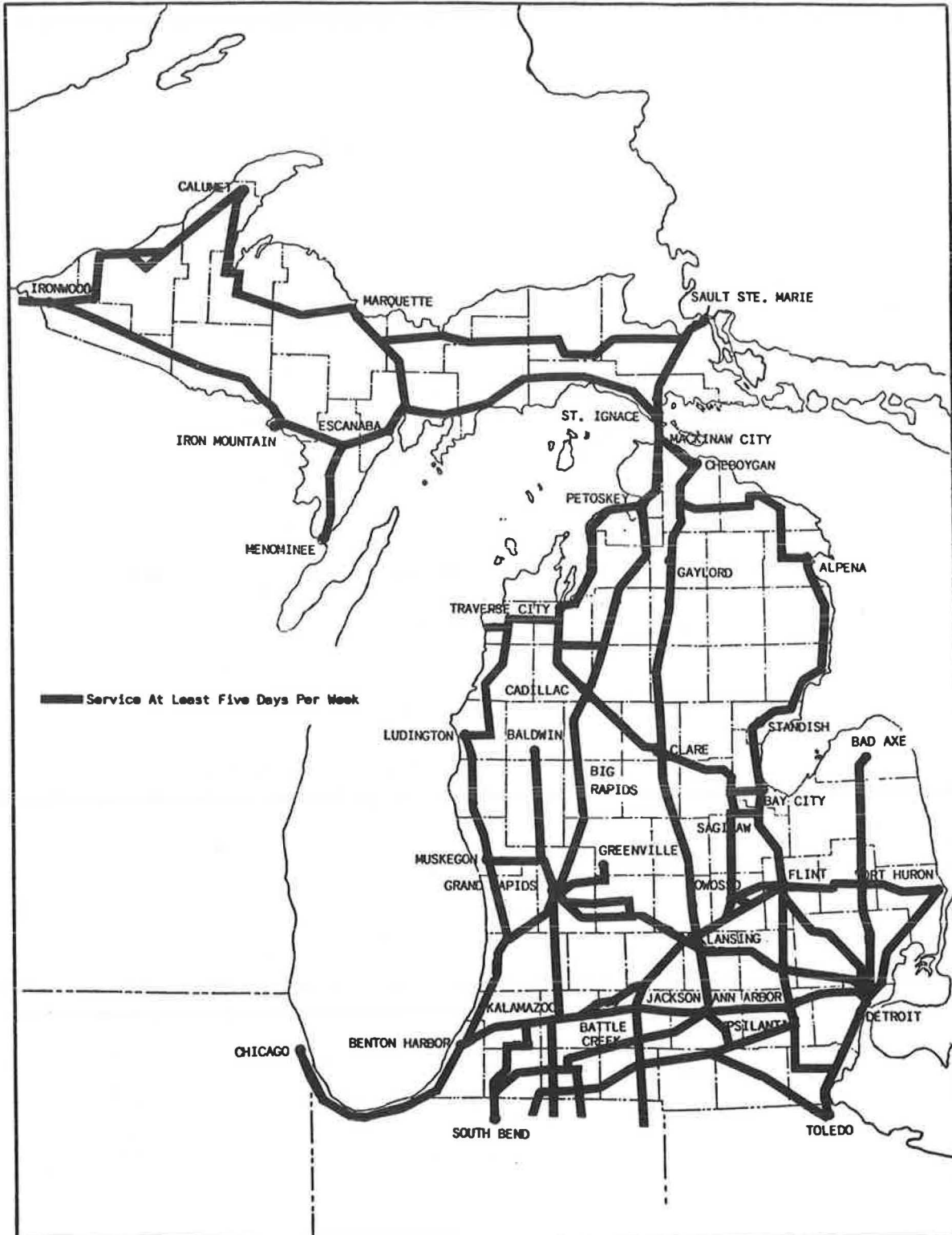


FIGURE 5 Intercity bus regular-route system, 1977.

3 had used it only once or twice in 1985. The 1977 report did not provide a breakdown of the 0 to 9 category.

If intercity bus service were discontinued, nearly one-half of the passengers would drive an automobile or ride with a friend, 35 percent would use another mode of public transportation (rail and air were equally popular), and 16 percent would not take the trip. The latter might be due to nonavailability, high price, or fear of the alternate travel options.

One perception is that older Americans have fewer alternatives than do younger bus riders. A cross tabulation of retirees and travel options yields percentages similar to those for all intercity bus users with one exception: more would take Amtrak (25 versus 16 percent) and fewer would fly (10 to 11 percent versus 16 to 17 percent). The conclusion is that retirees would make the trip as often as any other user although they would be more likely to take Amtrak than fly. A second conclusion is that although older Americans who use intercity bus service have fewer automobiles and less income (more than half have incomes of less than \$10,000), they would make the trip as often as any other user.

Household Size and Operating Vehicles per Household

The user's household size is slightly smaller than that of the overall Michigan population (2.7 versus 2.8). Two of 10 users are single, which is similar to the state's percentage; however, fewer than the state's percentage are from two-person households (18 versus 30 percent) and more come from households of five or more persons (28 versus 20 percent). This data item was not obtained in the 1977 survey. One conclusion is that intercity bus travel is not a family affair. Eight of 10 users are traveling alone, yet only 2 of 10 are from one-person households.

There are significantly fewer intercity bus users from no-car households. A reduction of 12 percent from 36 to 24 percent was experienced from 1977 to 1985. The number of no-car households in Michigan decreased by 2.5 percent from 12.2 percent to 9.7 percent.

There has been a similar percentage increase in the groups with one, two, and three or more operating vehicles per household. This increase is 5 percent for the groups with one and three or more vehicles per household and 2 percent in the group with two vehicles per household. The pattern for all Michigan households was dramatically different: one vehicle per household (decreased 13 percent); two vehicles per household (increased 4 percent); three or more vehicles per household (increased 12 percent).

The number of employed (full- or part-time) users has increased substantially. More than 4 of 10 users were employed in 1985 compared with fewer than 3 of 10 in 1977. It should be noted that employment in Michigan, and the nation, was higher in 1985 than in 1977.

The number of unemployed users remained about the same (10 versus 9 percent) during a time when the unemployment rate in Michigan increased by 37 percent from 8.2 percent (1977) to 11.2 percent (1985).

College students decreased as a percentage of total users from nearly 3 of 10 to fewer than 2 of 10 during a period when Michigan's college enrollment was stable. Enrollment at 4-year universities and colleges in Michigan was 284,947 in 1977 and 282,413 in 1984. A survey of Michigan rail passengers indicated a similar decline, from more than 25 percent in 1975 to 18 percent in 1985.

Retired users remained about the same as a percentage of total users (15 percent). At the same

time, senior citizens (65 and older) are constituting an increasing percentage of Michigan's population (8.2 percent in 1960, 8.5 percent in 1970, and 9.6 percent in 1980). One conclusion is that services to major 4-year universities should be evaluated to better accommodate weekend student travel. A second conclusion is that a fare structure, marketing program, and image should be created that will increase use of intercity bus service by retirees.

Sex, Age, and Family Income

The majority of intercity bus users continues to be female, although decreasingly so. The 1977 percentage differential of male to female passengers of 22.2 percent had been narrowed to 7.0 percent in 1985. The differential for Michigan's total population in 1980 was 2.5 percent.

The age distribution of users has not changed markedly since 1977 although the average age has increased from 28 to 33 years. This is similar to all Michigan residents and to the population of the nation as a whole. In Michigan, the median age increased from 1970 to 1980 to 1985 from 26.3 to 28.8 to 30.5 years; nationally, it increased from 1970, to 1980 to 1985 from 28.1 to 29.9 to 31.6 years.

A somewhat surprising finding is that most riders are neither younger nor older. Nearly half the users are in the 25 to 64 age range. This is consistent with the 1981 Indiana (55.1 percent) and 1980 New Mexico (51.7 percent) survey findings (7).

No major shift in the income distribution of users is discernible, although the median family income (in 1985 dollars) increased about \$1,000 from 1977 to 1985. The median family income of bus passengers in both years was considerably below the median family income of Michigan's residents in 1980, which was \$24,200. The median family income (in 1985 dollars) of intercity bus users was \$18,100 in 1985 and \$16,900 in 1977. The \$10,000 to \$19,999 group decreased by 28 percent whereas all other income groups increased slightly.

Users' Rating of Service

Users are generally satisfied with employee courtesy, condition of buses, schedule information, and adherence to schedule. They are generally dissatisfied with frequency of service and terminal conditions, although even these percentages are in the high sixties as the following tabulation indicates.

| Rank | Feature | Very Good and Good (%) |
|------|------------------------|------------------------|
| 1 | Courtesy of employees | 84.9 |
| 2 | Condition of buses | 83.8 |
| 3 | Schedule information | 80.1 |
| 4 | Adherence to schedule | 79.6 |
| 5 | Frequency of service | 69.5 |
| 6 | Condition of terminals | 67.0 |

When asked "What one thing would you change about the bus service?" approximately 38 percent stated level of service. Suggestions included (a) improve frequency of service, departure and arrival times, and connections and (b) reduce number of stops and travel time. Condition of the buses received 24 percent of the comments. Eliminate smoking, improve seating, provide cleaner bathrooms and cleaner buses, and provide music were mentioned. More than 7 percent indicated that no changes were needed. Approximately 40 percent did not comment.

The perception that intercity bus terminals are

generally undesirable because of their location or condition, or both, was somewhat confirmed by the users surveyed. Approximately one-third of the users rated bus terminals as being in fair or poor condition. Twenty of the users' comments pertained to the condition of terminals.

TICKET SURVEY

The ticket survey was designed to profile current travel patterns, some of which have emerged in the postderegulation period, and compare them with 1977 travel patterns. This survey provided data for every trip made from 40 intercity bus stations located throughout the state (Figure 2). Information at lower volume stations was collected for 1 month, at higher volume stations, for 1 week. These data have been incorporated into a trip table of intercity bus passenger travel patterns that represent an average day.

Procedures

Several steps were followed in developing and conducting the ticket survey. Many of the procedures are the same as, or similar to, those followed for the user survey. Selected steps were done simultaneously for both surveys. Some salient features of these procedures are that (a) the two surveys were conducted during the same time frame, (b) the week of May 12-18 was used to determine average daily passenger volumes, and (c) tickets sold at 40 intercity bus terminals (compared with 36 terminals in 1977) throughout the state were counted.

Sample Size

Virtually all tickets issued at 40 intercity bus stations throughout the state were included in the ticket survey. Four assumptions, which are important when determining the validity of the ticket data, were made in obtaining ticket information. The first assumption was that most tickets would be used within 1 week of purchase. The second assumption was that the return portion of a round-trip ticket would, in the majority of instances, be used within 1 week as well. The third assumption was that round-trip tickets would be mirrored in paired cities. This means that the same number of round-trip tickets would be purchased from Lansing to Jackson as were bought from Jackson to Lansing. The fourth assumption was that all tickets to out-of-state or other nonsurveyed stations would be mirrored.

The sample size, based on tickets sold at stations surveyed, was more than 95 percent. That is, although the percentage of stations surveyed was small, the percentage of tickets surveyed exceeded 95 percent of all tickets sold in Michigan. Only if the month of May or the week of May 12-18 were completely atypical could the data be unrepresentative of intercity bus trip characteristics throughout the state.

Findings and Conclusions

During the week of May 12-18, 1985, some 9,364 tickets were sold at the stations included in the ticket survey. This is an average of 1,338 tickets per day. Approximately one-third of these were sold in Detroit (2,919). More than 500 were sold at three additional Michigan terminals.

The 1985 survey week ticket sales were significantly lower than the 1977 figure: 9,364 versus

14,233. Correspondingly, the average number of tickets sold daily at surveyed stations was 1,338 and 2,033, respectively. This constituted a decrease of 34.2 percent during the 8-year period. Because the 1985 figure is based on ticket counts at more stations in a system that is smaller than the 1977 system, the actual decrease in ridership exceeds 34.2 percent and may possibly be as high as 44 percent.

The 10 most productive stations changed somewhat (Table 1). Detroit continued to be the highest in weekly ticket sales. The only change in the top five was that Ann Arbor replaced Kalamazoo in the number-five position. In the second five, some shuffling occurred and Jackson bumped Saginaw from the top 10.

TABLE 1 Top 10 Michigan Intercity Bus Communities (based on weekly ticket sales) 1985 and 1977

| Community | 1980 Population | 1985 Rank | 1985 Tickets | 1977 Rank | 1977 Tickets |
|--------------|--------------------|--------------|-----------------|--------------|-----------------|
| Detroit | 1,203,339 | 1 | 2,919 | 1 | 4,865 |
| East Lansing | 48,309 | 2 | 805 | 2 | 1,376 |
| Grand Rapids | 181,843 | 3 | 770 | 3 | 1,103 |
| Flint | 159,611 | 4 | 578 | 4 | 877 |
| Ann Arbor | 107,316 | 5 | 497 | 6 | 664 |
| Kalamazoo | 79,722 | 6 | 467 | 5 | 817 |
| Lansing | 130,414 | 7 | 447 | 8 | 631 |
| Battle Creek | 35,724 | 8 | 284 | 7 | 654 |
| Ypsilanti | 24,031 | 9 | 241 | 9 | 470 |
| Jackson | 39,739 | 10 | 237 | 12 | 357 |

Note: The 1985 survey week was May 12-18 (Sunday through Saturday). The 1977 survey week was May 9-15 (Monday through Sunday).

Source: MDOT, Bureau of Transportation Planning, Passenger Transportation Planning Section.

The top 10 Michigan (intrastate) city pairs in 1985 had 18 or more bus passenger trips between them, and the highest volume was 62 (Table 2). The highest number of intercity bus passenger trips (82) occurred between Detroit and Chicago, which is Michigan's gateway to the west and southwest. Also one of the highest is the Detroit-Toledo city pair at 36; Toledo represents Michigan's gateway to the east and south-east.

TABLE 2 Top 10 Michigan Intercity Bus Corridors (based on daily passengers) 1985 and 1977

| City Pair | Distance (mi) | 1985 Rank | 1985 Pas- sengers | 1977 Rank | 1977 Pas- sengers |
|------------------------|------------------|--------------|----------------------|--------------|----------------------|
| Detroit-Chicago | 280 | | 82 | | 92 |
| Detroit-Ann Arbor | 38 | 1 | 62 | 1 | 79 |
| Detroit-East Lansing | 80 | 2 | 60 | 3 | 59 |
| Detroit-Flint | 60 | 3 | 49 | 4 | 57 |
| Detroit-Ypsilanti | 30 | 4 | 43 | 2 | 68 |
| Detroit-Lansing | 85 | 5 | 40 | 5 | 42 |
| Detroit-Toledo | 58 | | 36 | | 66 |
| Detroit-Jackson | 73 | 6 | 29 | 6 | 36 |
| Detroit-Grand Rapids | 149 | 7 | 24 | 7 | 28 |
| Ann Arbor-East Lansing | 58 | 8 | 23 | 13 | 16 |
| Detroit-Saginaw | 96 | 9 | 20 | 10 | 23 |
| Battle Creek-Kalamazoo | 23 | 10 | 18 | 12 | 20 |

Source: MDOT, Bureau of Transportation Planning, Passenger Transportation Planning Section.

Ten of these city pairs have Detroit as either an origin or a destination. The top city pair is Detroit-Chicago, the second is Detroit-Ann Arbor, and the third is Detroit-East Lansing. It should be noted that Ann Arbor and East Lansing are the homes of Michigan's two largest universities (the University of Michigan and Michigan State University). One conclusion is that emphasis should be placed on fre-

quent, on-time service in corridors that contain these city pairs.

The top five Michigan city pairs remained the same, although not in rank order, as in 1977. Detroit-Ann Arbor continued to be the number-one city pair. The order of the other four, however, changed. Two city pairs were new to the top 10: Ann Arbor-East Lansing and Battle Creek-Kalamazoo replaced East Lansing-Flint and Grand Rapids-Kalamazoo.

The predominant distance defined by the top 10 Michigan city pairs was in the 50- to 100-mi range. Six city pairs were in this category, and one was nearly 150 mi. Eight were in this group in 1977. These are truly intercity transportation distances. Three city pairs fall into the commuter service range with a distance of less than 40 mi; the shortest is 23 mi.

Several Michigan cities had more than 100 daily intercity bus passenger trip ends. These were Detroit (956), East Lansing (252), Grand Rapids (239), Flint (210), Lansing (159), Kalamazoo (154), and Ann Arbor (152).

SUMMARY

Users

The typical 1985 intercity bus passenger was from a household with 2.7 persons, 0.8 operating vehicles, and an average family income of \$18,100 (in 1985 dollars); was employed, female, approximately 33 years old; and was not traveling with others in her household.

This means that intercity bus users in 1985 were somewhat older, had more operating automobiles per household, had a higher family income, and had made fewer intercity bus trips during the past 12 months than their 1977 counterparts. The predominant user continues to be female, but the female-male percentage gap has narrowed. The percentage of employed users has increased, that of college students has decreased, and that of retirees has remained about the same.

Users gave courtesy of employees, condition of buses, schedule information, and adherence to schedule high marks (approximately 80 percent or more ranked these very good or good). Frequency of service and condition of terminals received average or below-average marks. A significant number of users believe that no changes are needed.

Two dozen findings and nine conclusions have been made on the basis of the user survey data. There are, of course, additional findings and conclusions not explicitly identified that could affect the delivery and pricing of intercity bus service. These pertain to such items as terminals, buses, service, access to and from service, and fares.

Travel Pattern

A number of changes have occurred since 1977. These include a 44 percent decrease in Michigan-based intercity bus users, an increased percentage of users generated by Michigan's urban areas, and some shifts in the top 10 city pairs in terms of intercity bus passengers.

Detroit is the hub of Michigan's intercity bus system. Approximately one-third of all tickets sold in Michigan are purchased at the two Detroit terminals as was the case in 1977. The top corridor in Michigan is Detroit-Chicago, and most high-volume intercity bus corridors emanate from Detroit.

Intercity bus usage between urban areas is the strongest part of the intercity bus market. The number of passengers between communities that comprise

the top 10 city pairs decreased significantly less than the total ticket sales of these communities. Whereas the number of passengers between these city pairs decreased by only 14 percent, total ticket sales declined by 39 percent.

Achievement of Study Objectives

The objectives of the Michigan Intercity Bus User and Ticket Study have been achieved to varying degrees. The 1985 user profile has been determined and compared with that of the 1977 user. Changes in trip-making patterns have been identified. The user's perception of intercity bus service has been described. Just how many of the changes are due to intercity bus deregulation, however, is subject to question. Certainly, service reconfigurations, reductions, and discontinuances have affected intercity bus trip-making patterns. However, economic conditions and alternate transportation modes also affect intercity bus use and the user profile, so all the changes noted are clearly not attributable to deregulation of intercity buses.

Intercity bus service in the United States is at a crossroad in its 60-year history. Deregulation and its concomitant competition, increasing costs and declining ridership, and continued competition from other intercity passenger transportation modes have brought the intercity bus industry to the threshold of major modification or collapse. A number of possible actions have been identified in this comparative study of 1985 and 1977. Some of these are being done; others warrant additional attention.

ACKNOWLEDGMENTS

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