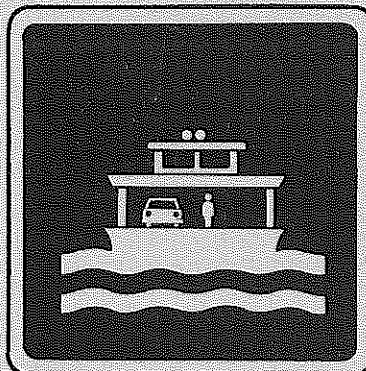
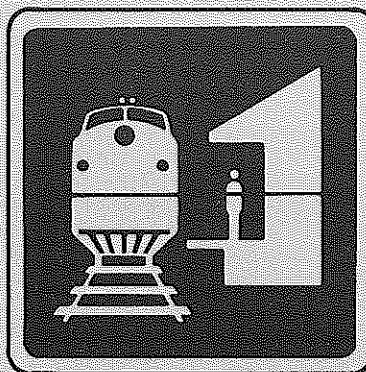
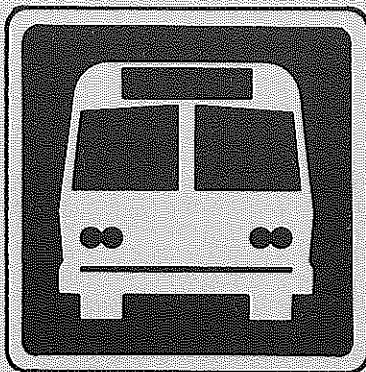


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PUBLIC TRANSPORTATION IN MICHIGAN

1989 MICHIGAN AIR CARRIER AIRPORT STATISTICS

August, 1990



**PASSENGER TRANSPORTATION PLANNING SECTION
MICHIGAN DEPARTMENT OF TRANSPORTATION**

MICHIGAN DEPARTMENT OF TRANSPORTATION

1989 MICHIGAN AIR CARRIER AIRPORT STATISTICS

August, 1990

Bureau of Transportation Planning
Systems Planning Division
Passenger Planning Section
Aviation Planning Unit

This report represents the findings and/or professional opinions of the Michigan Department of Transportation staff and is not an official opinion of the Michigan State Transportation Commission.

James P. Pitz, Director
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Bureau of Transportation
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1989 MICHIGAN SCHEDULED AIR CARRIER AIRPORT STATISTICS

Statewide Air Service Demand:

	<u>Enplaned</u>	<u>Deplaned</u>	<u>Total</u>
Scheduled Passengers	12,436,679	12,429,565	24,866,244
Cargo, Express & Pkg. Frgt. (lbs.)	261,795,064	260,226,750	522,021,814
Air Carried Mail (lbs.)	79,135,167	83,863,009	162,998,176

Statewide Air Service Supply:

	<u>Weekly Arrivals</u>	<u>Weekly Seats</u>
Total	5,282	516,848
Jet	3,251	462,716
Pressurized Propellor	1,482	41,708
Nonpressurized Propellor	549	12,424

Air Service Demand & Supply Levels:

Rank) Community	<u>Passengers</u>			<u>Weekly Arrivals</u>
	<u>Enplaned</u>	<u>Deplaned</u>	<u>Total</u>	
16) Alpena	4,835	4,761	9,596	78
17) Benton Harbor	2,971	3,233	6,204	35
3) Detroit City	358,458	361,038	719,496	202
1) Detroit Metro	10,199,977	10,236,453	20,436,430	3,082
19) Drummond Island	2,537	3,025	5,562	17
24) East Tawas	59	47	106	n/a
13) Escanaba	11,891	11,179	23,070	59
7) Flint	155,195	150,514	305,709	184
2) Grand Rapids	707,218	693,817	1,401,035	381
12) Houghton/Hancock	18,910	18,384	37,294	66
14) Iron Mountain	9,017	9,170	18,187	50
20) Ironwood	2,552	2,559	5,111	23
22) Jackson	236	255	491	19
6) Kalamazoo	240,792	237,748	478,540	258
5) Lansing	256,345	245,464	501,809	241
23) Mackinac Island	208	203	411	16
18) Manistee	2,982	2,944	5,926	36
10) Marquette	40,505	39,569	80,074	83
21) Menominee/Marinette	2,151	2,100	4,251	55
9) Muskegon	43,848	43,181	87,029	109
11) Pellston	19,640	18,754	38,394	34
4) Saginaw	256,828	247,659	504,487	112
15) Sault Ste. Marie	6,109	5,807	11,916	38
8) Traverse City	93,415	91,701	185,116	104
Statewide	12,436,679	12,429,565	24,866,244	5,282

For Further Information: Air Service Statistics (517) 373-1880

1989 Air Carrier Airport Statistics Report

User Survey

The Michigan Department of Transportation publishes this report annually to document levels of air traffic in the state. It is used in a number of ways by state and federal officials. However, this report is also requested by other individuals and agencies. We would like to know what you find useful in this document, if the format is easy to use and what if anything else you would like to see in this report. Please take the time to fill out the survey below and return it to:

Michigan Department of Transportation
Bureau of Transportation Planning
Aviation Planning Unit
P.O. Box 30050
Lansing, MI 48909

Thank you for your time and effort.

Aviation Planning Unit

1) What portion of the report do you use (check all which apply):

- Executive Summary
- Scheduled Air Carrier Passengers
- Scheduled Air Service Supply
- Air Cargo, Express & Package Freight
- Air Carried Mail
- Airport Informational Summaries
- Appendices

2) What portion of the report do you use most often (check only one):

- Executive Summary
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- Air Carried Mail
- Airport Informational Summaries
- Appendices

3) Does the information in this report meet your needs? Yes No

If the report does not always meet your needs, what additional information would you need to see in this report?

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If the format of this report does not always meet your needs, what changes would you like to see made?

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ACKNOWLEDGEMENTS

This document was prepared by the staff of the Aviation Planning Unit of the Passenger Transportation Planning Section. The major staff contributor was Marty Lontz. Data entry work was done by Tsega Isaac and Marty Lontz. Maps were produced by the Mapping and Graphics Unit. Appreciation is extended to the airport managers and their staff for their assistance in providing the data and answering inquiries.

If further information is needed or additional copies of this report are desired, please contact:

Aviation Planning Unit
Bureau of Transportation Planning
Michigan Department of Transportation
P.O. Box 30050
Lansing, Michigan 48909

Telephone: (517) 373-1880

Attention: Air Carrier Airport Statistics



EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The Aviation Planning Unit (APU) of the Bureau of Transportation Planning maintains historical information on passengers and air carried mail and cargo at Michigan airports with scheduled passenger service. Data is provided by airport management and compiled by APU. This information is used both to measure aviation activity and to justify projects for state and federal funding programs. These statistics are also provided to other governmental agencies, private industry, the news media and the general public.

The following are the major findings identified in this report:

Scheduled Air Passenger Service

- During 1989, scheduled air passenger services were provided at 24 Michigan airports. During the year, service was terminated at East Tawas, Iosco County Airport. Mackinac Island, which initiated service in 1982, is the only seasonally operated facility. During 1989, it operated from April through October.
- In 1989, Michigan, with 24,866,244 total passengers, experienced a 9.1 percent increase over the previous year. Exclusive of Detroit Metro Airport, the state experienced 4,429,814 total passengers, an increase of 21.2 percent over 1988. In 1989 Detroit Metro accounted for 82.2 percent of total passengers in Michigan.
- The top ranked airport in the state is Detroit, Metropolitan Wayne County Airport. In 1989, this facility handled 20,436,430 total passengers, a 6.7 percent increase over the previous year. This surpasses the previous all time record established in 1987 and represents the sixth year in a row that Metro Airport has set a new record.
- The second ranked airport in the state is Grand Rapids, Kent County International Airport. In 1989, this facility handled 1,401,035 total passengers, a 6.6 percent increase over the previous year.
- The top five airports in the state were, in order of total passengers: Detroit Metropolitan; Grand Rapids, Kent County International; Detroit City; Saginaw, Tri-City International and Lansing, Capital City Airports. Detroit City displaced Kalamazoo County Airport in this group in 1989.
- The most significant increase in total passengers in 1989 occurred at Detroit City Airport. In the first full year of jet air carrier service by Southwest Airlines, this facility handled 719,496 total passengers, a 154.7 percent increase over the previous year.
- Michigan has experienced growth in total passengers in each of the last seven years. The 1989 level of total passengers is 126.2 percent above that of 1982, the year of the post regulation low point. It is 94.2 percent above the 1978 level, the last year of government regulation of routes and fares.
- Five year upward trends have been recorded at Detroit Metro; Kalamazoo County and Saginaw, Tri-City Airports. Downward trends of five years duration have been recorded at Benton Harbor, Twin Cities and Jackson County Reynolds Fields.
- In 1988 the seven airports in Michigan's upper peninsula accounted for 0.7

percent of the state's total passengers. The upper peninsula airports accounted for 179,903 total passengers, an increase of 16.8 percent over 1988. The upper peninsula airports experienced a decline in total passengers from 1984 through 1987. The 1988 and 1989 reversal of this trend places these facilities only 36.8 percent below their 1978 level, the last year of government regulation of routes and fares.

Air Service Supply

- As of December 31, 1989, Michigan was served by 30 carriers operated by 33 airlines. This was a net loss of only one airline.
- In the 1989 survey, nonstop weekly arrivals at Michigan air carrier airports totaled 5,282, up 676 (14.7 percent) from the previous year. Of these arrivals, 74.4 percent were from hub airports. The high level of flights to hub airports, with their greater number of service options, shows that, statewide, there is a high level of air service choice in flying to Michigan.
- Michigan had nonstop scheduled service from 101 airports in 93 cities. This is a net increase of five origins and six cities over the previous year. The cities gained and lost did not significantly alter the overall air service pattern for the state.
- Statewide in 1989 there were 516,848 weekly arriving seats, an increase of 8.8 percent over the previous year. Of these seats, 89.5 percent were by jet, 8.1 percent were by pressurized propeller and 2.4 percent were by nonpressurized propeller aircraft. In 1989 the shift away from the use of the less popular nonpressurized aircraft continued.
- As of December 31, 1989, Michigan, with the exception of Detroit Metro was served by 21 carriers operated by 23 airlines. This was a net decrease of one carrier from the previous year.
- If Detroit Metro is excluded from the 1989 survey, there were 2,200 nonstop weekly arrivals, up 515 (30.6 percent) from the previous year. Of these arrivals, 71.4 percent were from hub airports. The high percentage of flights to hub airports shows that there is a high level of air service choice in flying to Michigan airports even when not using Detroit Metro.
- Michigan airports exclusive of Detroit Metro had nonstop service from 41 origins in 38 cities. This is a net increase of one origin and one city over the previous year.
- Michigan airports exclusive of Detroit Metro had 118,150 weekly arriving seats, an increase of 18.9 percent over the previous year. Of the weekly arriving seats, 63.7 percent were by jet, 26.1 percent were by pressurized propeller and 10.2 percent were by nonpressurized propeller aircraft. In 1989 the shift away from the use of the less popular nonpressurized aircraft continued.
- As of December 31, 1988, the upper peninsula airports were served by five carriers operated by six airlines. This was a net increase of one airline over the previous year.
- At the upper peninsula airports there were 374 nonstop weekly arrivals, up 58.5 percent over the previous year. Of these arrivals, only 20.6 percent were from hub airports. The percentage of nonstop flights to hub airports is very small and indicates a low level of air service choice when flying to the upper peninsula.

However, many of the flights to upper peninsula airports provide same plane service from a hub airport which in some ways mitigates this problem.

- The upper peninsula airports had nonstop service from 16 cities. This is a net increase of four cities over the previous year. Though individual routings to some upper peninsula communities changed dramatically, only the continued lack of service from Lansing seems to be significant. Upper peninsula airports continue to have service (though in some cases not nonstop) from at least one of the major hub cities of Chicago, IL, Detroit or Minneapolis/St. Paul, MN.
- The upper peninsula airports had 9,953 weekly arriving seats, an increase of 38.6 percent over the previous year. Of these seats, 98.9 percent were by pressurized propeller and only 1.1 percent were by nonpressurized propeller aircraft. This shift is significant. Most of the carriers serving upper peninsula markets have realized the necessity of using pressurized aircraft both to attract passengers and to provide reliable "above the weather" service in the often unpredictable climate.
- The continued lack of jet service in the upper peninsula has been pinpointed by some groups as a major contributing factor in declining passenger levels. However, if the 1988 and 1989 increases in passenger levels is an indication, other factors are more important than jet service to potential passengers in upper peninsula communities. Despite the recent increases in passengers, there does not appear to be any single market in the upper peninsula capable of supporting jet service.

Air Cargo, Express & Package Freight

- During 1988, air cargo, express and package freight levels were reported at 23 Michigan airports. Only cargo figures were reported at Detroit, Willow Run Airport which is included in this analysis due to its importance in the Michigan air cargo system.
- In 1989, Michigan with 522,021,814 pounds (261,011 tons) of total air carried cargo, express and package freight, experienced an 3.8 percent increase over the previous year.
- In 1989, Detroit, Metropolitan Wayne County Airport was the top ranked facility in terms of cargo. Metro Airport accounted for 248,359,046 pounds of total air carried cargo, express and package freight; 47.6 percent of the statewide total. This represented an 11.4 percent increase for this facility.
- In 1989, Detroit, Willow Run Airport was the second ranked facility in terms of cargo. Willow Run Airport accounted for 213,795,475 pounds of total air carried cargo, express and package freight; 41.0 percent of the statewide total. This represented a 7.4 percent decrease for this facility.
- Many airport managers of airports served exclusively by commuter type aircraft continue to note declines in air cargo levels over the past few years. This is generally explainable by the lack of "belly" cargo space on the smaller regional equipment. Many managers stipulated that some of the small package freight has been shifted to specialty cargo carriers. This is especially true at airports where feeder services operate for the larger overnight delivery services such as Federal Express and United Parcel Service.

Air Carried Mail

- During 1989, air carried mail levels were reported at 16 Michigan airports. Three Michigan airports are used as U.S. Postal Service regional mail centers. These facilities are Metropolitan Wayne County, Kent County International and Capital City Airports in Detroit, Grand Rapids and Lansing respectively.
- In 1989, Michigan with 162,998,176 pounds (81,499 tons) of total air carried mail, experienced a 2.3 percent decrease from the previous year.
- Air carried mail can be an important component of the service provided by many airports. Even so, the decisions that are made concerning what levels occur at a facility are under the control of the U.S. Postal service, not the state or airport management.



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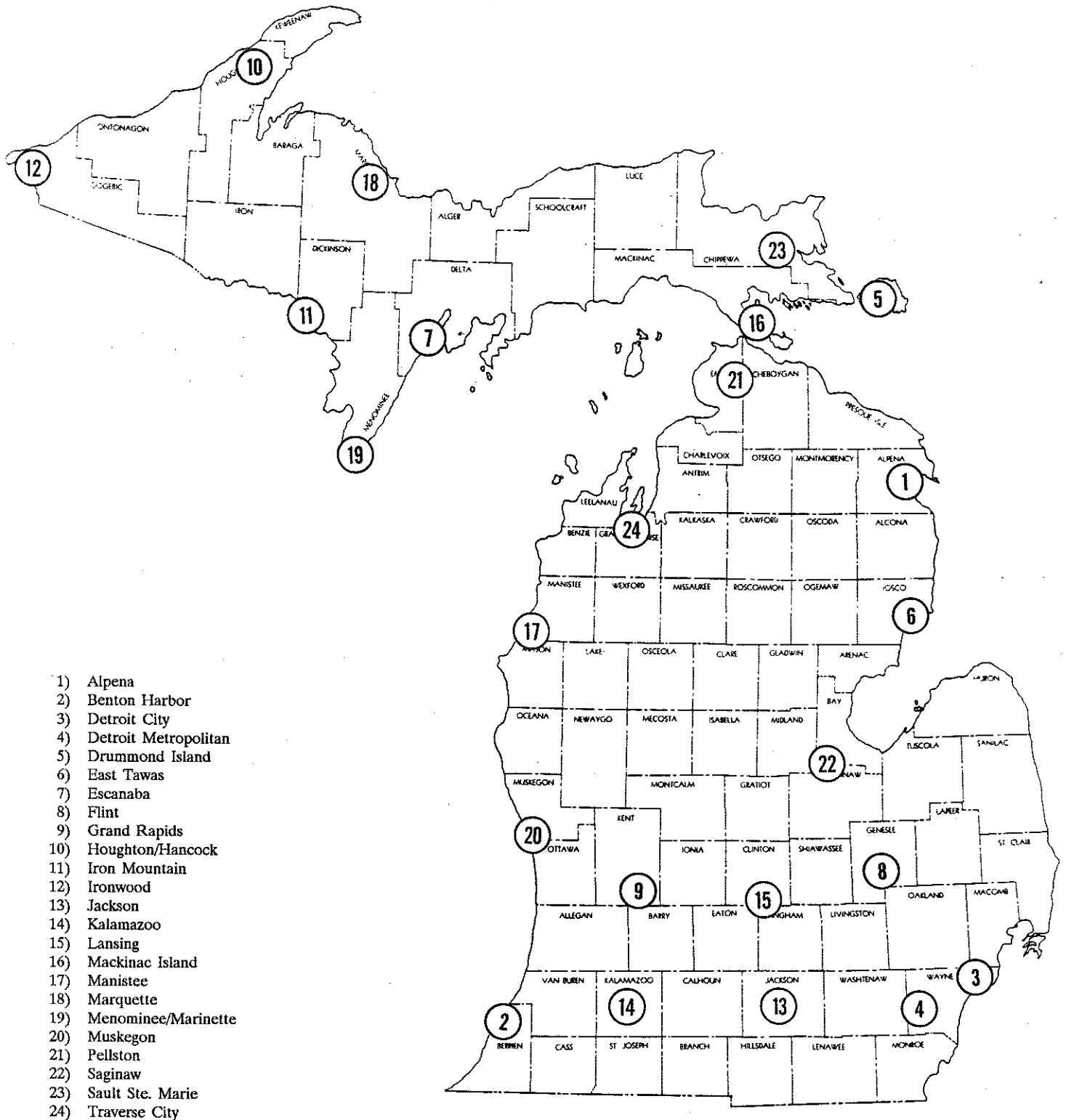
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**Section I:
SCHEDULED AIR CARRIER PASSENGERS**

Exhibit 1
 MICHIGAN AIRPORTS WITH SCHEDULED AIR PASSENGER SERVICE
 1989



SCHEDULED AIR CARRIER PASSENGERS

Introduction

Monitoring of historical, scheduled air passenger levels is conducted by the Michigan Department of Transportation (MDOT), Bureau of Transportation Planning, Aviation Planning Unit. These specific statistics, trends and graphics are important to:

- 1) Airports: The ability to not only know passenger levels at their own airport but also other, similar airports throughout the state, allows a measure of relative performance to be derived. It is also very useful in the local master planning process and allows decisions to be based on sound historical and comparative information.
- 2) Airlines: When studying a possible market in the deregulated environment, it is helpful to know the historical passenger levels. The information provided by historical traffic levels can be used in conjunction with the air service supply levels to make this possible.
- 3) State of Michigan: Ready access to specific, historical air passenger levels is important in state system and project planning. These figures are also used when justifying projects for state and federal funding programs.
- 4) The Public, News Media and Others: Passenger air service, particularly in the deregulated environment, is often a confusing subject for nonaviation people. The quick access to historical information allows media personnel to report air service issues from a well documented base. It also allows the general public to judge the validity of what they might see in the news.

The information in this report covers total passenger levels over the past ten years. Monthly figures are available in graphic form for the past five years and specifically for the year 1989. Comparisons of airports by their relative ranking in total passengers is given for the past five years and by the percentage of statewide total passengers for 1989.

Method Of Measurement

The information in this report is derived from data submitted monthly by those airports with scheduled air carrier service. To be identified as having scheduled air carrier service, a facility must show scheduled passenger service by at least one flight on at least five different days each week. Scheduled flights are those having a published or printed, person portable form. Airports submit data using *MDOT Form Q1609 (R6/86)*, *Airline Monthly Traffic Report*.

Only passengers travelling on scheduled air services are counted. Passengers on non-scheduled services (known as Supplemental Passengers) are not included in this report.

The basic units of passenger counting are the enplaned and deplaned passenger. An enplaned passenger, or enplanement, is one who boards a flight (ie., outbound). A deplaned passenger, or deplanement, is one who disembarks from a flight (ie., inbound).

The basic unit of reporting is total passengers. Total passenger counts are equal to the sum of enplanements and deplanements. This report documents total passengers as well as the breakdown between enplanements and deplanements. This is due to the Federal Aviation Administration (FAA) use of the enplanement as a counting figure. However, due to the uses this information is put to in Michigan, the total passenger figure is

more important to MDOT.

Comparative Groups

Due to the effect of averaging, it is often improper to make comparisons between individual airports and a statewide average. This is particularly true when one considers that 82.2 percent of Michigan's total passengers in 1989 were handled by Detroit, Metropolitan Airport. As such, when reporting air service statistics and trends, this analysis will use comparative groups, consisting of airports with a degree of geographic, funding or statistical commonality, to give a further breakdown of the reported figures. The groups which will be used are:

- 1) Statewide: All 24 scheduled, passenger air carrier airports are used.
- 2) Statewide Excluding Detroit Metro: All of the airports in the state with the exception of Detroit, Metropolitan Wayne County Airport. A total of 23 facilities.
- 3) Top Five Airports: The five airports with the highest annual total passenger levels in 1989. These are, in order of total passengers: Detroit Metropolitan Wayne County; Grand Rapids, Kent County International; Detroit City; Saginaw, Tri-City International and Lansing, Capital City Airports. It should be noted that this group differs from 1988. Detroit City replaces Kalamazoo/ Battle Creek Regional International Airport in this group.
- 4) Upper Peninsula Airports: Those airports located in Michigan's Upper Peninsula. These seven facilities are: Escanaba, Delta County; Houghton/Hancock, Houghton County Memorial; Iron Mountain, Ford; Ironwood, Gogebic County; Marquette County; Menominee/ Marinette, Twin County and Sault Ste. Marie, Chippewa County Airports.

- 5) Essential Air Service Airports: Those four facilities receiving subsidy monies under the federal Essential Air Service program. These facilities are: Iron Mountain, Ford; Ironwood, Gogebic County; Manistee, Blacker and Menominee/Marinette, Twin County Airports.

Air Service Statistics & Trends

Commercial Service Airport Locations

During 1989, scheduled air passenger services were provided at 24 Michigan airports for all or part of the year. Exhibit 1 identifies those airports with scheduled air carrier passenger service (henceforth referred to as service) during the reporting period.

During 1989, service was terminated at East Tawas in February. Mackinac Island, which initiated service in 1982, operates seasonally. In 1989, Mackinac Island Airport had service from April through October.

Airport Total Passenger Levels

Exhibit 2 shows the total passenger levels at the 24 airports with scheduled air passenger service. Michigan airports portray the broad range of passenger levels possible at airports, from the seasonal service levels of Mackinac Island Airport (411 total passengers) to the large, hub facility at Detroit, Metropolitan Wayne County Airport (20,436,430 total passengers). Regardless of total passenger levels, it must be recognized that each of Michigan's airports serve different needs and markets. Thus smaller airports with lower passenger levels can be providing a useful and appropriate service.

1989 Monthly Total Passengers

Exhibits 3 and 4 show the 1989 monthly enplaned, deplaned and total passenger figures for comparative groups and individual airports respectively.

Overall, Michigan experienced a lower level of total passengers than in the previous year in February and March. Of the remaining months, only April was not a five year high in total passengers. This pattern, however, is based on averages. It does not always reflect the patterns at individual airports and is heavily influenced by an early year slowing at Detroit Metro. With the exception of the slight slump in the February and March of 1989, monthly total passenger figures have increased at a relatively steady rate over the last five years. These increases do not appear to have significantly altered the seasonal distribution.

Excluding Detroit Metro from the statewide totals changes the basic statewide trend. This group experienced five year highs in all months. Facilities in this group have experienced overall growth but this growth has had more ups and downs. Despite fluctuations in the monthly totals over the last five years, the seasonal distribution of total passengers does not appear to have been significantly altered.

As a group, the top five airports experienced lower total passenger levels from February through April. The remaining months were five year highs. This pattern, however, is based on averages. It does not always reflect the patterns at individual airports and is heavily influenced by an early year slowing at Detroit Metro. With the exception of the slight slump in the February, March and April of 1989, monthly total passenger figures have increased at a relatively steady rate over the last five years.

As a group, upper peninsula airports experienced a five year low in February. The remaining months experienced higher passenger levels than in the previous year and five year highs were seen from May through December. This pattern, however, is based on averages. It does not always reflect the

patterns at each individual airport. This group has experienced a seasonal shift away from a peak period in February/March but has maintained such a peak in July/August.

As a group, essential air service airports, receiving subsidy monies experienced five year highs in all months. This is due, however, to a change in the composition in the group. Historically, Iron Mountain has maintained higher total passenger levels than Sault Ste. Marie. The same is true of Ironwood and Jackson. Thus comparisons of individual months will be tainted. Despite a shift in the composition of this group, the seasonal pattern remains essentially unchanged.

1988-1989 Total Passenger Comparison

Exhibit 5 shows the changes in total passengers from the previous year.

Overall, Michigan experienced a 9.1 percent increase in total passengers over the previous year. Total passenger levels increased at 19 of the 24 airports. The most significant increase was 437,010 total passengers (154.7 percent) at Detroit City Airport. The introduction of jet air carrier service in July, 1988 continues to cause increases in the total passenger figures. Total passengers decreased at five facilities. There were no significant statistical decreases at airports in Michigan though a termination of service did occur at East Tawas.

Statewide exclusive of Detroit Metro, Michigan experienced a 21.2 percent increase over the previous year. Total passenger levels increased at 18 airports and decreased at five facilities. Statewide passenger level increases have historically been driven by increases at Detroit Metro. However, in 1988, Metro accounted for only 10.4 percent of the increase of 472,246 total passengers in the state. In 1989, Metro accounted for 62.5 percent of the increase of 2,067,279 total passengers in the state.

The top five airports experienced an 8.1 percent increase over the previous year. Total passenger levels increased at all of the top five airports. Due to the major increases at Detroit City Airport, it displaced Kalamazoo/Battle Creek International Airport in this category. Other than City Airport, the largest percentage increase occurred at Capital City Airport in Lansing which rose 14.0 percent above the 1988 level.

The upper peninsula airports experienced a 16.8 percent increase over the previous year. Total passenger levels increased at six of seven airports. The exception was Marquette County Airport which experienced a minor 0.6 percent decrease. Significant increases occurred at Escanaba, Delta County and Iron Mountain, Ford Airports. These facilities increased by 9,763 (73.4 percent) and 7,955 (77.7 percent) total passengers respectively. This was enough for both facilities to obtain guaranteed levels of federal development monies.

The essential air service airports experienced a 79.4 percent increase over the previous year. This is due, however, to a change in the composition in the group. Historically, Iron Mountain has maintained higher total passenger levels than Sault Ste. Marie. The same is true of Ironwood and Jackson.

1985-1989 Five Year Trends

Exhibit 5 shows enplaned, deplaned and total passengers and the percent change in total passengers over the last five years.

Michigan has experienced growth in total passengers in each of the last five years. The current level of 24,866,244 total passengers is 36.7 percent above the 1985 level. Five year upward trends have been recorded at Detroit Metro, Kalamazoo County and Saginaw, Tri-City Airports. Five year downward trends have been recorded at Benton Harbor, Twin

Cities Ross and Jackson County Reynolds Fields. Several Michigan airports which reversed downward trends of two or more years in 1988, continued to experience growth in 1989. These facilities were: Detroit City; Escanaba, Delta County; Flint, Bishop; Houghton/Hancock, Houghton County Memorial and Iron Mountain, Ford Airports.

Excluding Detroit Metro, Michigan has experienced growth in total passengers in each of the last five years. The current level of 4,429,814 total passengers is 43.6 percent above the 1985 level.

The top five airports experienced growth in total passengers in each of the last five years. The current level of 23,563,257 total passengers is 35.7 percent above the 1985 level.

The upper peninsula airports experienced a decline in total passengers from 1985 through 1987. A reversal of this trend in 1988 and 1989 places these facilities 3.5 percent above their 1985 level.

The essential air service airports experienced a decline in total passengers in 1985 and 1986. Since then there has been a growth in total passengers. This reversal, and the change in composition of this group places these facilities 132.2 percent above their 1985 level.

1978-1989 Total Passenger Comparison

Prior to 1979, the federal government regulated routes and fares. From 1979 on, the air carrier industry has been deregulated and, with some exceptions, market forces have been allowed to decide what routes will be served and at what price. This has had a varied and significant impact on Michigan airports. For Michigan airports which had scheduled air carrier service prior to 1979, Exhibit 6 shows a comparison of passenger levels in the final year of regulation and the current levels. Comparative groups can not

be used in this analysis as significant changes can have occurred in the composition of individual groups.

As of 1989, nine Michigan airports experienced higher levels of total passengers than under deregulation. In terms of passengers, Detroit Metro has seen the greatest increase. In 1989, Metro Airport handled 10,848,234 more total passengers than in 1978. This represents an increase of 113.1 percent over the regulated levels. Also with a significant increase is Detroit City Airport which rose 648,487 total passengers (913.2 percent).

As of the end of 1989, only one airport with service in 1978 had ceased having scheduled air carrier service. This was Battle Creek, W.K. Kellogg Airport which ceased service in September, 1987. Significant decreases (those of 50 percent or more) have occurred at seven Michigan airports. Most significant of these were at Benton Harbor, Twin Cities Ross and Jackson County Reynolds Fields. Both of these facilities lost air service in early 1990.

Relative Rank

Exhibit 7 shows the relative rank of airports in terms of total passengers over the past five years. Not unexpectedly, Detroit, Metro Wayne County Airport (20,436,430 total passengers, 82.2 percent of statewide total passengers) ranked first and Grand Rapids, Kent County International Airport (1,401,035 total passengers, 5.6 percent of statewide total passengers) ranked second.

In the first full year of jet air carrier service, Detroit City Airport (719,496 total passengers, 2.9 percent of statewide total passengers) jumped to third place.

Individual Airport Informational Summaries

Section V of this report contains informational summaries for each of the individual

airports and the comparative groups. Graphic and tabular presentation of the material will allow quick reference to statistics monitored by the Michigan Department of Transportation.

Summary

A common perception of total passenger levels in Michigan is that large airports are continually expanding while small airports, particularly those in the upper peninsula, are continually shrinking. In 1989, this perception was only partially correct for Michigan air passenger levels. The perception that large airports continued to expand was correct. All of the top five airports in the state experienced increases in total passengers.

However, the perception is incorrect for twelve of the remaining 18 facilities. These twelve all experienced increases of at least 10.0 percent with four of them increasing by at least 50.0 percent. The perception also appears to be incorrect with regard to the upper peninsula airports. Only one location, Marquette, had a decrease in total passengers and that was of only 456 passengers (0.6 percent). Perhaps most significantly, Sault Ste. Marie posted a 14.3 percent increase, despite the elimination of Essential Air Service subsidies at the location.

Only five of 24 airports experienced decreases. The decrease at Benton Harbor has been shown to be significant by the cessation of scheduled service at the facility in early 1990. The decision to terminate service at East Tawas lies solely with the serving carrier and is presumably due to the lack of a sufficient market to support their service. The elimination of the Essential Air Service subsidy at Jackson contributed to the conclusion of service at the facility. The decrease at Mackinac Island was due to a shift to supplemental carriers at this facility. Finally, as stated previously, the decrease at

Marquette was minimal.

When compared to the growth experienced at Detroit Metro Airport from 1984 through 1987, the current growth is slower. This slowing also seems to contradict the "rich get richer" perception. A part of the slowing of growth at Metro Airport may be attributable to the alternative service provided at Detroit City Airport or to passengers using alternate facilities when they perceive them to be less crowded. Assuming the new passengers at City Airport had used Metro Airport in 1988 and 1989, the growth rate would have been 2.2 percent higher and still less than 10 percent overall.

Similarly, increasing passenger levels at Flint, Bishop, Kalamazoo/Battle Creek International, Lansing, Capital City and Saginaw, Tri-City Airports may reflect a choice by passengers to use a more conveniently located facility as service there improves. A form of negative evidence for this supposition is the continuing downward trend and termination of scheduled service at Jackson. This facility has a traditionally high "leakage" of passengers to Detroit Metro Airport.

Regardless of total passenger levels, it must be recognized that each of Michigan's airports serve different needs and markets. Thus smaller airports with lower passenger levels and lower levels of growth can be providing a useful and appropriate service.

Service level improvements (see Section II, Air Service Supply) tended to correspond with increases in passenger levels. This points to noneconomic factors as being a major determinant in total passenger levels.

The ability to create geographic and/or economic niches for a facility allows an airport to provide better service to its market. Detroit, City Airport provided an excellent example of this in 1988 and 1989. Service to the "down-

town" airports previously served was supplemented by service to new hubs of interest for business travellers. Service to the central business district airports is not available in many cities from Detroit Metro Airport. This means that certain types of passengers will prefer to use the City Airport facility. Additionally, the proximity of City Airport to Detroit's downtown area often makes it a more convenient choice.

Exhibit 2
1989 TOTAL PASSENGERS AT MICHIGAN AIRPORTS
 With Scheduled Air Passenger Service
 (Top Ten Airport Values Shown)

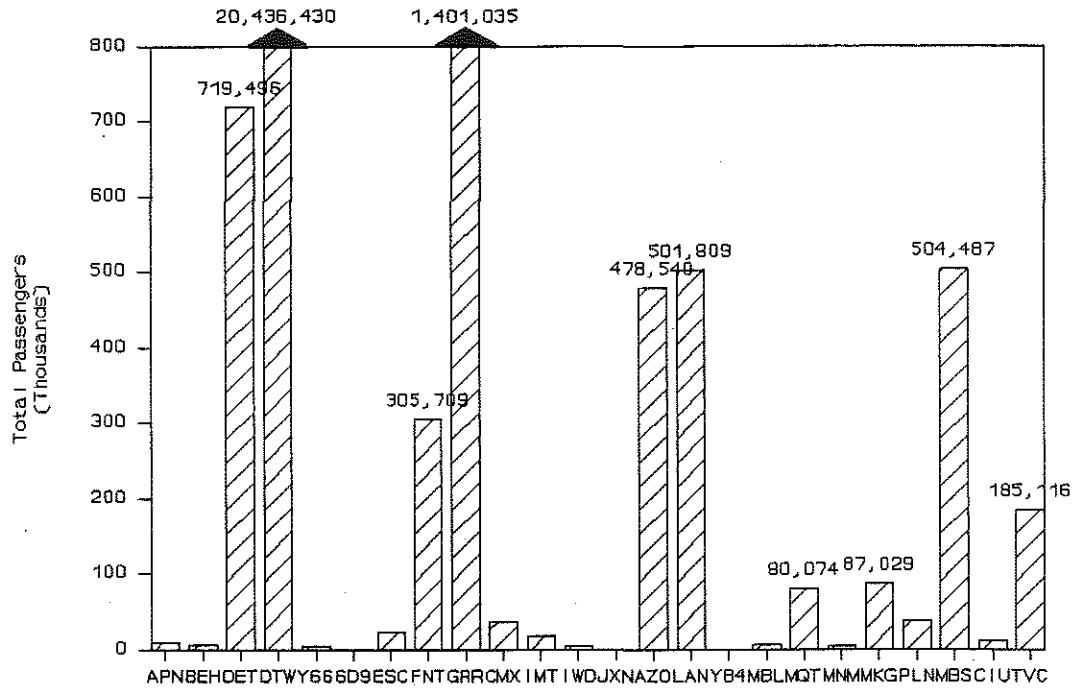


Exhibit 3
ENPLANED, DEPLANED & TOTAL PASSENGER LEVELS
 At Michigan Comparative Groups
 1989 Monthly History

Airport	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Michigan Scheduled Air Carrier Airports													
Enplaned	791,525	819,632	1,041,601	929,487	1,015,681	1,189,536	1,164,448	1,279,479	1,004,392	1,105,723	1,056,235	1,038,940	12,436,679
Deplaned	798,292	795,783	1,012,545	976,280	1,031,082	1,168,772	1,165,859	1,266,440	1,041,634	1,109,094	1,049,322	1,014,462	12,429,565
Total	1,589,817	1,615,415	2,054,146	1,905,767	2,046,763	2,358,308	2,330,307	2,545,919	2,046,026	2,214,817	2,105,557	2,053,402	24,866,244
Michigan Scheduled Air Carrier Airports Excluding Detroit Metro													
Enplaned	147,519	153,220	192,641	169,889	181,888	205,260	205,962	221,710	179,983	200,797	191,701	186,132	2,236,702
Deplaned	142,589	142,881	177,959	187,159	186,157	204,176	203,585	213,469	173,578	195,199	186,638	179,722	2,193,112
Total	290,108	296,101	370,600	357,048	368,045	409,436	409,547	435,179	353,561	395,996	378,339	365,854	4,429,814
Top Five Airports In Terms of Total Passengers													
Enplaned	750,485	777,884	988,736	882,549	964,563	1,129,822	1,098,716	1,207,553	948,487	1,045,805	1,001,793	982,433	11,778,826
Deplaned	758,465	756,830	963,422	925,376	978,449	1,108,027	1,100,942	1,197,195	988,612	1,051,493	996,558	959,062	11,784,431
Total	1,508,950	1,534,714	1,952,158	1,807,925	1,943,012	2,237,849	2,199,658	2,404,748	1,937,099	2,097,298	1,998,351	1,941,495	23,563,257
Upper Peninsula Airports													
Enplaned	5,443	5,458	7,197	6,466	7,237	7,877	9,242	10,264	7,627	8,468	7,494	8,362	91,135
Deplaned	5,197	4,663	6,971	6,781	7,411	8,279	8,874	9,909	7,801	8,079	7,244	8,279	88,768
Total	10,640	10,121	14,168	13,247	14,648	16,156	18,116	20,173	15,428	16,547	14,738	16,641	179,903
Essential Air Service Airports													
Enplaned	1,212	1,109	1,396	963	1,243	1,321	1,599	1,734	1,407	1,592	1,533	1,593	16,702
Deplaned	1,046	1,136	1,374	1,120	1,271	1,426	1,542	1,806	1,410	1,561	1,509	1,572	16,773
Total	2,258	2,245	2,770	2,083	2,514	2,747	3,141	3,540	2,817	3,153	3,042	3,165	33,475

Exhibit 4
ENPLANED, DEPLANED & TOTAL PASSENGER LEVELS
 At Michigan Airports With Scheduled Air Carrier Service
 1989 Monthly History

Airport	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Alpena County Regional Airport													
Enplaned	276	304	291	230	255	379	525	516	484	578	538	459	4,835
Deplaned	261	334	257	234	276	399	492	490	439	618	498	463	4,761
Total	537	638	548	464	531	778	1,017	1,006	923	1,196	1,036	922	9,596
Benton Harbor, Twin Cities Ross Field Airport													
Enplaned	232	226	274	236	217	240	278	259	218	314	287	190	2,971
Deplaned	281	246	280	254	299	304	286	289	234	292	258	210	3,233
Total	513	472	554	490	516	544	564	548	452	606	545	400	6,204
Detroit City Airport													
Enplaned	18,771	20,978	25,785	26,310	33,287	33,171	32,759	35,016	30,677	37,043	38,466	26,195	358,458
Deplaned	18,323	20,910	25,666	28,106	34,030	33,458	33,106	35,059	30,147	37,499	38,153	26,581	361,038
Total	37,094	41,888	51,451	54,416	67,317	66,629	65,865	70,075	60,824	74,542	76,619	52,776	719,496
Detroit Metropolitan Wayne County Airport													
Enplaned	644,006	666,412	848,960	759,598	833,793	984,276	958,486	1,057,769	824,409	904,926	864,534	852,808	10,199,977
Deplaned	655,703	652,902	834,586	789,121	844,925	964,596	962,274	1,052,971	868,056	913,895	862,684	834,740	10,236,453
Total	1,299,709	1,319,314	1,683,546	1,548,719	1,678,718	1,948,872	1,920,760	2,110,740	1,692,465	1,818,821	1,727,218	1,687,548	20,436,430
Drummond Island Airport													
Enplaned	138	213	70	120	136	221	265	286	419	334	183	152	2,537
Deplaned	135	120	150	122	211	238	399	374	477	410	166	223	3,025
Total	273	333	220	242	347	459	664	660	896	744	349	375	5,562
East Tawas, Iosco County Airport													
Enplaned	28	31	---	---	---	---	---	---	---	---	---	---	59
Deplaned	21	26	---	---	---	---	---	---	---	---	---	---	47
Total	49	57	---	---	---	---	---	---	---	---	---	---	106
Escanaba, Delta County Airport													
Enplaned	519	482	943	858	1,012	1,086	1,280	1,267	1,026	1,121	1,041	1,256	11,891
Deplaned	503	419	858	719	1,024	1,084	1,121	1,284	894	1,047	1,041	1,185	11,179
Total	1,022	901	1,801	1,577	2,036	2,170	2,401	2,551	1,920	2,168	2,082	2,441	23,070
Flint, Bishop Airport													
Enplaned	10,502	10,611	13,497	11,969	12,452	14,194	14,063	15,009	12,370	13,606	13,301	13,621	155,195
Deplaned	9,624	9,653	12,645	12,999	12,586	13,971	13,960	14,259	11,791	12,822	12,786	13,418	150,514
Total	20,126	20,264	26,142	24,968	25,038	28,165	28,023	29,268	24,161	26,428	26,087	27,039	305,709
Grand Rapids, Kent County International Airport													
Enplaned	51,489	52,862	65,444	56,210	56,545	66,854	64,582	67,641	52,908	59,113	55,507	58,063	707,218
Deplaned	49,265	48,342	59,734	63,176	58,334	67,753	63,544	65,393	50,690	58,104	54,308	55,174	693,817
Total	100,754	101,204	125,178	119,386	114,879	134,607	128,126	133,034	103,598	117,217	109,815	113,237	1,401,035
Houghton/Hancock, Houghton County Memorial Airport													
Enplaned	870	1,109	1,394	1,408	1,602	1,459	1,904	2,302	1,670	1,909	1,653	1,630	18,910
Deplaned	1,046	766	1,598	1,592	1,555	1,523	1,792	2,345	1,405	1,823	1,477	1,462	18,384
Total	1,916	1,875	2,992	3,000	3,157	2,982	3,696	4,647	3,075	3,732	3,130	3,092	37,294
Iron Mountain, Ford Airport													
Enplaned	662	607	754	526	641	769	813	818	778	851	865	933	9,017
Deplaned	561	642	773	612	683	820	848	838	784	838	875	896	9,170
Total	1,223	1,249	1,527	1,138	1,324	1,589	1,661	1,656	1,562	1,689	1,740	1,829	18,187
Ironwood, Gogebic County Airport													
Enplaned	223	198	226	147	221	201	239	245	178	212	212	250	2,552
Deplaned	208	204	209	179	229	235	199	242	181	202	203	268	2,559
Total	431	402	435	326	450	436	438	487	359	414	415	518	5,111

Exhibit 4 (cont.)
ENPLANED, DEPLANED & TOTAL PASSENGER LEVELS
 At Michigan Airports With Scheduled Air Carrier Service
 1989 Monthly History

Airport	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Jackson County, Reynolds Field													
Enplaned	33	9	10	18	25	17	12	30	40	25	3	14	236
Deplaned	37	15	17	17	26	25	27	36	23	21	2	9	255
Total	70	24	27	35	51	42	39	66	63	46	5	23	491
Kalamazoo County Airport													
Enplaned	17,487	16,784	21,567	18,862	20,518	21,134	20,094	21,674	18,599	22,230	20,812	21,031	240,792
Deplaned	16,745	17,028	20,295	20,867	21,177	20,569	19,915	21,641	17,864	21,533	20,312	19,802	237,748
Total	34,232	33,812	41,862	39,729	41,695	41,703	40,009	43,315	36,463	43,763	41,124	40,833	478,540
Lansing, Capital City Airport													
Enplaned	17,381	18,527	24,254	20,536	19,949	22,827	20,557	23,263	19,969	22,141	22,622	24,319	256,345
Deplaned	18,132	17,136	21,169	22,913	20,042	20,906	20,235	21,103	20,633	20,614	21,405	21,176	245,464
Total	35,513	35,663	45,423	43,449	39,991	43,733	40,792	44,366	40,602	42,755	44,027	45,495	501,809
Mackinac Island Airport													
Enplaned	----	----	----	6	25	40	64	42	28	3	----	----	208
Deplaned	----	----	----	6	20	40	63	43	28	3	----	----	203
Total	----	----	----	12	45	80	127	85	56	6	----	----	411
Manistee County, Blacker Airport													
Enplaned	186	182	236	154	201	188	373	448	255	291	228	240	2,982
Deplaned	155	158	209	202	192	210	331	509	248	272	229	229	2,944
Total	341	340	445	356	393	398	704	957	503	563	457	469	5,926
Marquette County Airport													
Enplaned	2,717	2,700	3,459	3,204	3,344	3,647	4,070	4,385	3,141	3,495	2,942	3,401	40,505
Deplaned	2,454	2,275	3,096	3,375	3,492	3,964	3,972	4,097	3,038	3,337	2,901	3,568	39,569
Total	5,171	4,975	6,555	6,579	6,836	7,611	8,042	8,482	6,179	6,832	5,843	6,969	80,074
Menominee/Marinette, Twin County Airport													
Enplaned	141	122	180	136	180	163	174	223	196	238	228	170	2,151
Deplaned	122	132	183	127	167	161	164	217	197	249	202	179	2,100
Total	263	254	363	263	347	324	338	440	393	487	430	349	4,251
Muskegon County Airport													
Enplaned	2,487	2,628	3,192	3,107	3,169	3,821	4,429	5,089	3,839	4,155	3,848	4,084	43,848
Deplaned	2,310	2,362	3,022	3,369	3,229	4,047	4,477	4,849	3,664	4,019	3,713	4,120	43,181
Total	4,797	4,990	6,214	6,476	6,398	7,868	8,906	9,938	7,503	8,174	7,561	8,204	87,029
Pellston, Emmet County Airport													
Enplaned	675	649	902	812	1,078	1,741	3,431	4,067	2,567	1,390	1,119	1,209	19,640
Deplaned	507	604	764	933	1,059	1,854	3,197	3,790	2,215	1,476	1,089	1,266	18,754
Total	1,182	1,253	1,666	1,745	2,137	3,595	6,628	7,857	4,782	2,866	2,208	2,475	38,394
Saginaw, Tri-City International Airport													
Enplaned	18,838	19,105	24,293	19,895	20,989	22,694	22,332	23,864	20,524	22,582	20,664	21,048	256,828
Deplaned	17,042	17,540	22,267	22,060	21,118	21,314	21,783	22,669	19,086	21,381	20,008	21,391	247,659
Total	35,880	36,645	46,560	41,955	42,107	44,008	44,115	46,533	39,610	43,963	40,672	42,439	504,487
Sault Ste. Marie, Chippewa County International Airport													
Enplaned	311	240	241	187	237	552	762	1,024	638	642	553	722	6,109
Deplaned	303	225	254	177	261	492	778	886	582	582	545	721	5,807
Total	614	465	495	364	498	1,044	1,540	1,910	1,220	1,225	1,098	1,443	11,916
Traverse City, Cherry Capital Airport													
Enplaned	3,553	4,653	5,629	4,958	5,805	9,862	12,956	14,242	9,459	8,524	6,629	7,145	93,415
Deplaned	4,554	3,744	4,513	5,120	6,147	10,809	12,896	13,056	8,958	8,056	6,467	7,381	91,701
Total	8,107	8,397	10,142	10,078	11,952	20,671	25,852	27,298	18,417	16,580	13,096	14,526	185,116

Exhibit 5
DEPLANED, ENPLANED & TOTAL PASSENGER LEVELS
 At Michigan Airports With Scheduled Air Carrier Service
 Five Year History 1985 - 1989

City Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
<u>Alpena, County Regional Airport</u>				
1985	4,985	5,008	9,993	16.6%
1986	4,879	5,169	10,048	0.6%
1987	4,754	4,688	9,442	-6.0%
1988	4,376	4,321	8,697	-7.9%
1989	4,835	4,761	9,596	10.3%
<u>Battle Creek, W.K.Kellogg Regional Airport</u>				
1985	17,112	16,255	33,367	-11.6%
1986	9,311	8,531	17,842	-46.5%
1987	5,009	4,649	9,658	-45.9%
1988	Service terminated September, 1987.			
1989	-----	-----	-----	----
<u>Benton Harbor, Twin Cities Ross Field</u>				
1985	11,536	11,255	22,791	-15.0%
1986	8,128	7,410	15,538	-31.8%
1987	3,882	3,926	7,808	-49.7%
1988	3,204	3,344	6,548	-11.9%
1989	2,971	3,233	6,204	-5.3%
<u>Cadillac, Wexford County Airport</u>				
1985	-----	-----	-----	----
1986	-----	-----	-----	----
1987	Service initiated February, 1988.			
1988	208	187	395	n/c
1989	Service terminated May, 1988.			
<u>Detroit, City Airport</u>				
1985	23,306	22,352	45,658	4.6%
1986	19,317	20,097	39,414	-13.7%
1987	16,062	16,385	32,447	-17.7%
1988	141,252	141,234	282,486	770.6%
1989	358,458	361,038	719,496	154.7%
<u>Detroit, Metropolitan Wayne County Airport</u>				
1985	7,585,820	7,517,719	15,103,539	33.7%
1986	8,648,347	8,423,383	17,071,730	13.0%
1987	9,574,493	9,520,816	19,095,309	11.9%
1988	9,519,268	9,624,981	19,144,249	1.1%
1989	10,199,977	10,236,453	20,436,430	6.7%
<u>Drummond Island Airport</u>				
1985	-----	-----	-----	----
1986	-----	-----	-----	----
1987	Service initiated in 1988.			
1988	436	555	991	n/c
1989	2,537	3,025	5,562	461.3%
<u>East Tawas, Iosco County Airport</u>				
1985	-----	-----	-----	----
1986	Service initiated December, 1987.			
1987	13	13	26	n/a
1988	280	247	527	n/c
1989	59	47	106	-79.9%

City Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
<u>Escanaba, Delta County Airport</u>				
1985	10,865	10,577	21,442	-30.0%
1986	7,725	7,836	15,561	-27.4%
1987	6,140	5,841	11,981	-23.0%
1988	6,805	6,502	13,307	11.1%
1989	11,891	11,179	23,070	73.4%
<u>Flint, Bishop Airport</u>				
1985	134,588	132,891	267,479	14.6%
1986	131,210	128,715	259,925	-2.8%
1987	112,555	110,388	222,943	-14.2%
1988	131,796	129,816	261,612	17.3%
1989	155,195	150,514	305,709	16.9%
<u>Grand Rapids, Kent County Intl. Airport</u>				
1985	595,605	599,636	1,195,241	15.0%
1986	617,461	626,168	1,243,629	4.0%
1987	673,736	665,230	1,338,966	7.7%
1988	657,145	657,701	1,314,846	-1.8%
1989	707,218	693,817	1,401,035	6.6%
<u>Houghton/Hancock, Houghton Co. Mem. Airport</u>				
1985	21,167	20,448	41,615	5.0%
1986	16,674	16,026	32,700	-21.4%
1987	15,417	14,311	29,728	-9.1%
1988	15,797	15,488	31,285	5.2%
1989	18,910	18,384	37,294	19.2%
<u>Iron Mountain, Ford Airport</u>				
1985	8,683	8,713	17,396	-19.3%
1986	5,583	5,488	11,071	-36.4%
1987	4,289	4,427	8,716	-21.3%
1988	5,045	5,187	10,232	17.4%
1989	9,017	9,170	18,187	77.7%
<u>Ironwood, Gogebic County Airport</u>				
1985	2,996	2,893	5,889	-3.5%
1986	3,873	3,663	7,536	28.0%
1987	2,807	2,558	5,365	-28.8%
1988	2,363	2,271	4,634	-13.6%
1989	2,552	2,559	5,111	10.3%
<u>Jackson, County Reynolds Field</u>				
1985	1,029	1,021	2,050	-16.2%
1986	608	570	1,178	-42.5%
1987	488	429	917	-22.2%
1988	340	406	746	-18.6%
1989	236	255	491	-34.2%
<u>Kalamazoo, County Airport</u>				
1985	168,065	172,828	340,893	36.5%
1986	197,277	199,533	396,810	16.4%
1987	208,822	205,840	414,662	4.5%
1988	225,704	222,174	447,878	8.0%
1989	240,792	237,748	478,540	6.8%

Exhibit 5 (cont.)
DEPLANED, ENPLANED & TOTAL PASSENGER LEVELS
 At Michigan Airports With Scheduled Air Carrier Service
 Five Year History 1985 - 1989

City Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
Lansing, Capital City Airport				
1985	172,966	171,033	343,999	3.1%
1986	193,007	189,256	382,263	11.1%
1987	180,653	178,395	359,048	-6.1%
1988	221,651	218,650	440,301	22.6%
1989	256,345	245,464	501,809	14.0%
Mackinac Island, Airport				
1985	720	582	1,302	-7.9%
1986	339	320	659	-49.4%
1987	278	246	524	-20.5%
1988	520	520	1,040	98.5%
1989	208	203	411	-60.5%
Manistee, County Blacker Airport				
1985	97	72	169	-90.2%
1986	672	672	1,344	695.3%
1987	1,419	1,314	2,733	103.3%
1988	2,031	1,823	3,854	41.0%
1989	2,982	2,944	5,926	53.8%
Marquette, County Airport				
1985	38,171	37,039	75,210	4.2%
1986	35,085	34,847	69,932	-7.0%
1987	32,196	31,282	63,478	-9.2%
1988	40,978	39,552	80,530	26.9%
1989	40,505	39,569	80,074	-0.6%
Menominee/Marinette Twin County Airport				
1985	1,056	1,062	2,118	-33.5%
1986	641	667	1,308	-38.2%
1987	1,158	1,122	2,280	74.3%
1988	1,875	1,757	3,632	59.3%
1989	2,151	2,100	4,251	17.0%
Muskegon, County Airport				
1985	44,468	42,314	86,782	-1.1%
1986	48,751	46,921	95,672	10.2%
1987	38,773	38,737	77,510	-19.0%
1988	37,441	36,617	74,058	-4.5%
1989	43,848	43,181	87,029	17.5%
Pellston, Emmet County Airport				
1985	14,740	15,681	30,421	-26.8%
1986	17,645	16,700	34,345	12.9%
1987	17,936	18,508	36,444	6.1%
1988	18,037	18,047	36,084	2.5%
1989	19,640	18,754	38,394	6.4%
Saginaw, Tri-City International Airport				
1985	191,981	188,739	380,720	19.9%
1986	206,131	199,250	405,381	6.5%
1987	220,788	215,286	436,074	7.6%
1988	231,995	228,042	460,037	5.5%
1989	256,828	247,659	504,487	9.7%

City Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
Sault Ste. Marie, Chippewa Co. Intl. Airport				
1985	5,017	5,060	10,077	25.3%
1986	4,971	5,222	10,193	1.2%
1987	4,624	4,521	9,145	-10.3%
1988	5,163	5,261	10,424	14.0%
1989	6,109	5,807	11,916	14.3%
Traverse City, Cherry Capital Airport				
1985	74,540	75,458	149,998	10.2%
1986	83,710	81,037	164,747	9.8%
1987	75,721	75,794	151,515	-8.0%
1988	82,010	78,562	160,572	6.0%
1989	93,415	91,701	185,116	15.3%
Statewide				
1985	9,129,513	9,058,636	18,188,149	29.5%
1986	10,261,345	10,027,481	20,288,826	11.5%
1987	11,202,013	11,124,706	22,326,719	10.0%
1988	11,355,720	11,443,245	22,798,965	2.9%
1989	12,436,679	12,429,565	24,866,244	9.1%
Statewide Excluding Detroit Metro				
1985	1,543,693	1,540,917	3,084,610	12.4%
1986	1,612,998	1,604,098	3,217,096	4.3%
1987	1,627,520	1,603,890	3,231,410	0.4%
1988	1,836,452	1,818,264	3,654,716	13.1%
1989	2,236,702	2,193,112	4,429,814	21.2%
Top Five Airports				
1985	8,714,437	8,649,955	17,364,392	31.2%
1986	9,862,223	9,637,590	19,499,813	12.3%
1987	10,858,492	10,785,567	21,644,059	11.0%
1988	10,855,763	10,951,548	21,807,311	0.8%
1989	11,778,826	11,784,431	23,563,257	8.1%
Upper Peninsula Airports				
1985	87,955	85,792	173,747	-4.2%
1986	74,552	73,749	148,301	-14.6%
1987	66,631	64,062	130,693	-11.9%
1988	78,026	76,018	154,044	17.9%
1989	91,135	88,768	179,903	16.8%
Essential Air Service Airports				
1985	7,199	7,215	14,414	-6.4%
1986	6,892	7,131	14,023	-2.7%
1987	7,689	7,386	15,075	7.5%
1988	9,406	9,247	18,656	23.8%
1989	16,702	16,773	33,475	79.4%

Exhibit 6
CURRENT vs. REGULATED TOTAL PASSENGER LEVELS
 At Michigan Airports With Scheduled Air Carrier Service

Community	Passenger Levels		Difference	
	1978	1989	Value	Percent
Alpena	25,012	9,596	-15,416	-61.6%
Battle Creek	59,497	No Service	-59,497	-100.0%
Benton Harbor	69,138	6,204	-62,934	-91.0%
Detroit City	71,009	719,496	648,487	913.2%
Detroit Metro	9,588,196	20,436,430	10,848,234	113.1%
Escanaba	34,887	23,070	-11,817	-33.9%
Flint	280,144	305,709	25,565	9.1%
Grand Rapids	841,316	1,401,035	559,719	66.5%
Houghton/Hancock	51,824	37,294	-14,530	-28.0%
Iron Mountain	44,191	18,187	-26,004	-58.8%
Ironwood	20,511	5,111	-15,400	-75.1%
Jackson	19,906	491	-19,415	-97.5%
Kalamazoo	274,488	478,540	204,052	74.3%
Lansing	447,259	501,809	54,550	12.2%
Manistee	5,732	5,926	194	3.4%
Marquette	85,496	80,074	-5,422	-6.3%
Menominee/Marinette	22,499	4,251	-18,248	-81.1%
Muskegon	173,232	87,029	-86,203	-49.8%
Pellston	60,665	38,394	-22,271	-36.7%
Saginaw	452,161	504,487	52,326	11.6%
Sault Ste. Marie	25,389	11,916	-13,473	-53.1%
Traverse City	152,719	185,116	32,397	21.2%

Exhibit 7
**RELATIVE RANK OF MICHIGAN SCHEDULED AIR CARRIER
 AIRPORT BY TOTAL PASSENGERS**
 Five Year History 1985 - 1989

City	1989		1988		1987		1986		1985	
	Total Passengers	Rank	Total Passengers	Rank	Total Passengers	Rank	Total Passengers	Rank	Total Passengers	Rank
Alpena	9,596	16	8,697	16	8,697	16	9,442	18	10,048	18
Battle Creek	No Service		No Service		9,658	14	17,842	13	33,367	12
Benton Harbor	6,204	17	6,548	17	7,808	18	15,538	15	22,791	14
Cadillac	No Service		395	25	No Service		No Service		No Service	
Detroit City	719,496	3	282,486	6	32,447	11	39,414	10	45,658	10
Detroit Metro	20,436,430	1	19,144,249	1	19,095,309	1	17,071,730	1	15,103,539	1
Drummond Island	5,562	19	991	22	No Service		No Service		No Service	
East Tawas	106	24	527	24	26	24	No Service		No Service	
Escanaba	23,070	13	13,307	13	11,981	13	15,561	14	21,442	15
Flint	305,709	7	261,612	7	222,943	6	259,925	6	267,479	6
Grand Rapids	1,401,035	2	1,314,846	2	1,338,966	2	1,243,629	2	1,195,241	2
Houghton/Hancock	37,294	12	31,285	12	29,728	12	32,700	12	41,615	11
Iron Mountain	18,187	14	10,232	15	8,716	17	11,071	16	17,396	16
Ironwood	5,111	20	4,634	18	5,365	19	7,536	19	5,889	19
Jackson	491	22	746	23	917	22	1,178	22	2,050	21
Kalamazoo	478,540	6	447,878	4	414,662	4	396,810	4	340,893	5
Lansing	501,809	5	440,301	5	359,048	5	382,263	5	343,999	4
Mackinac Island	411	23	1,040	21	524	23	659	23	1,302	22
Manistee	5,926	18	3,854	19	2,733	20	1,344	20	169	23
Marquette	80,074	10	80,530	9	63,478	9	69,932	9	75,210	9
Menominee/Marinette	4,251	21	3,632	20	2,280	21	1,308	21	2,118	20
Muskegon	87,029	9	74,058	10	77,510	8	95,672	8	86,782	8
Pellston	38,394	11	36,084	11	36,444	10	34,345	11	30,421	13
Saginaw	504,487	4	460,037	3	436,074	3	405,381	3	380,720	3
Sault Ste. Marie	11,916	15	10,424	14	9,145	15	10,193	17	10,077	17
Traverse City	185,116	8	160,572	8	151,515	7	164,747	7	149,998	7



**Section II:
SCHEDULED AIR SERVICE SUPPLY**

SCHEDULED AIR SERVICE SUPPLY

Introduction

Monitoring of historical air service supply levels is conducted by the Michigan Department of Transportation (MDOT), Bureau of Transportation Planning, Aviation Planning Unit. These specific statistics, trends and graphics are important to:

- 1) Airports: The ability to not only know service levels at their own airport but also other, similar airports throughout the state, allows a measure of relative performance to be derived. It is also very useful in the local master planning process and allows decisions to be based on sound historical and comparative information.
- 2) Airlines: When studying a possible market in the deregulated environment, it is helpful to know the historical service levels. The information provided by historical supplied service levels can be used in conjunction with the air service passenger levels to make this possible.
- 3) State of Michigan: Ready access to specific, historical service level information is important in state system and project planning. These figures are also used when justifying projects for state and federal funding programs.
- 4) The Public, News Media and Others: Passenger service supply, particularly in the deregulated environment, is often a confusing subject for non-aviation people. The quick access to historical information allows media personnel to report air service issues from a well documented base. It also allows the general public to judge the validity of what they might see in the news.

The information in this report is based upon data collected since 1986. As time goes on, the base of information will become larger.

Air Service Supply Issues

The supply of air service is subject to a number of forces outside the control of the individual airports being served. It is necessary that these forces be understood.

Deregulation & Essential Air Service

In 1978, Congress passed the Airline Deregulation Act. The purpose of this act is:

*"... to encourage, develop, and attain an air transportation system which relies on competitive market forces to determine the quality, variety and price of air services ..."*¹

Through this act, air carriers were allowed to enter, exit and change equipment and service levels in markets in their efforts to make a profit through the provision of air service.

In an environment such as this, there was never any doubt that carriers would flock to serve markets with large passenger potentials. Profitability in the high density markets was reasonably certain. The problem was the smaller markets, where major and national operators of jets would be unable to maintain service while making a profit.

Under section 419 of the Airline Deregulation Act of 1978, certain air service markets are designated as requiring nonstop or one stop air service to a designated hub airport, but being currently unable to support a profitable service. These essential service points require a replacement carrier to be designated prior to discontinuance of service. To cover losses from services, federal monies are

available to carriers who would operate in these markets. These monies were termed Essential Air Service subsidies.

Four Michigan air markets currently receive subsidization under this program. They are Iron Mountain, Ironwood, Manistee and Menominee. Iron Mountain and Ironwood replaced Jackson and Sault Ste. Marie in the subsidy program in 1989. The dollar values of the subsidies are shown in Exhibit 8.

Exhibit 8
1989 ESSENTIAL AIR SERVICE
SUBSIDIES & SERVICE

Community	Weekly Arrivals	Subsidy Level
Iron Mountain	50	\$ 156,019
Ironwood	23	\$ 156,019
Manistee	36	\$ 322,972
Menominee/Marinette 55		\$ 308,965
TOTAL	164	\$ 943,975

Source: U.S. Dept. of Transportation, Office of Aviation Analysis and MDOT, Bureau of Transportation Planning, Aviation Planning Unit.

Though originally scheduled to expire in October, 1988, Congress has renewed the program for an additional ten years. Problems with funding of this extension have not been solved for the long term. In the short term the solution has been to cut some service points from the program.

Airline Contract Marketing Agreements

Deregulation of the airline industry allowed air carriers to enter and leave markets virtually at will. Due to the inefficiency and the lack of profitability in operating larger jet aircraft in smaller demand markets, many major airlines exercised this right and ceased service to smaller communities. This left an empty niche in the air service market which has been filled by smaller, regional/commuter

airlines. A problem arises in that passengers generally perceive service by regional airlines to be inferior to service by major/national carriers. To combat some of the perceived and real disadvantages, both classes of airline have sought mutually advantageous agreements which effectively link smaller regional carriers to larger national airlines.

This technique is known as a contract marketing or code sharing agreement. It consists of a sharing of the airline designator code (the unique two character code assigned to each airline). This agreement makes the regional carrier the contract carrier, and the major airline the contracting carrier. To differentiate between the two corporate entities, an asterisk is added to the two character code for the contract carrier. In this way the larger airline gains a passenger feeder system which can operate profitably in smaller markets, and the smaller airline gains the advantages of through ticketing, baggage checking and passenger access to destinations outside it's normal markets. Perhaps even more important is the access to busy markets through the use of the contracting carrier's hub facilities.

Exhibit 9
MICHIGAN CODE SHARING
CARRIERS

Contracting Carrier	Contracted Airline
Air Canada [AC*]	Air Ontario [GX]
Air Canada [AC*]	Air Toronto [CS]
Continental Express	Britt Airways [RU]
Delta Connection [DL*]	Comair, Inc. [OH]
The Midway Connection [ML*]	Fisher Bros. Aviation [GP]
The Midway Connection [ML*]	Iowa Airways, Inc. [JT]
Northwest AirlinK	Express Airlines I [9E]
Northwest AirlinK	Mesaba Aviation [XJ]
United Express [UA*]	Air Wisconsin [ZW]
Midwest Express Conn. [YX*]	Skyway Aviation

Source: MDOT, Bureau of Transportation Planning, Aviation Planning Unit.

Mergers & Concentration

Overall, the deregulated environment led to competition by carriers in lucrative and potentially lucrative markets and resulted in lower costs to consumers. The airlines involved in this competition, however, lost revenue due to their inability to maintain higher profit margins in the face of price competition. Thus a natural business decision has been to combine two or more carriers which provide similar services to the same destination into one carrier. This allows the combined entity to better compete with other carriers and to provide better service in given markets.

With major and national carriers, this creates a problem. The process of mergers, coupled with the extreme difficulty in entering the major and national markets, means that there is a gradually diminishing number of competing carriers in the market and thus an increasing concentration of service. Exhibit 10 shows the merger history of the major and national carriers serving Michigan since 1983. In 1983 there were 18 major/national carriers serving Michigan, most of them at Detroit, Metro Airport. At the end of 1989, there were 10 companies serving Michigan. Much of this decrease is due to the absorption of airlines unable to make a profit in the deregulated environment (eg. Frontier). Part of it, however, is due to expediency of operations and the potential for increased profitability (eg. USAir/Piedmont).

The effects of this concentration on Michigan do not appear to have been detrimental. As much of Michigan's air service supply is geared to transporting passengers to the hubs of Chicago, O'Hare, Detroit, Metropolitan and Minneapolis/St.Paul airports, the service is provided by the smaller regional/commuter airlines. As entry into this level of the airline industry is relatively inexpensive, the number of airlines is not decreasing.

Method Of Measurement

The information in this section of the report is derived from data published as of December 31, 1989 in the *Official Airline Guide* (usually issued in mid-December of the subject year). A weekly "snapshot" is taken of service at this time to allow comparisons to be made over time. Though this does not give a perfectly accurate picture of air service, it does allow for consistent monitoring over time. It represents the best compromise of information availability and time required to compile it.

The exception to this source is Mackinac Island Airport. Due to the seasonal nature of service at this facility, the snapshot is taken from the July 1, 1989 *Official Airline Guide*.

The raw data used for analysis is presented in Appendix A: Nonstop Scheduled Air Carrier Arrivals at Michigan Air Carrier Airports. Explanations of the codes used in this section can be found in Appendix B: FAA Air Carrier Airport Codes; Appendix C: Airline Codes; Appendix D: Equipment Codes and Appendix E: Frequency Codes. As examples of the following measures, we will be using the Appendix A listing for Jackson County, Reynolds Field.

The basic unit of air service supply measurement is the arrival. An arrival is counted when an aircraft is scheduled to make a revenue landing at an airport. For example Drummond Island Air (QQ) operates flight number QQ 202 from Detroit Metropolitan Wayne County Airport (DTW) to Jackson County, Reynolds Field (JXN) every day except Sunday (X7). Thus, each day except Sunday, one arrival is counted.

The basic unit of reporting air service supply levels is total weekly arrivals (or just weekly arrivals). This statistic represents the number

of nonstop arrivals at a given airport over the entire week. This figure has been found to give the least biased comparison of supply levels at the broad range of airport sizes found in Michigan. The weekly arrivals figure is equal to the sum of arrivals at a given airport over the course of the sample week. In the above example, there are six flights (*QQ 190, 202, 204, 206 and 210*) which arrive one (*1*), six (*X7*), five (*X14*), five (*X56*), one (*4*) and one (*5*) days a week respectively. By summing these arrivals, we find 19 ($1+6+5+5+1+1$) total weekly arrivals at Jackson.

In general, passenger preferences as to type of aircraft assigned to a service will vary. The most common division used to make comparisons in service uses the three categories of jet, pressurized propeller and nonpressurized propeller aircraft. The unit used to measure the levels of service provided in terms of these divisions is the weekly arriving seat available. This statistic represents the number of passengers which can obtain service in the subject market on a given category of aircraft. To obtain this figure, a factor representing a median capacity in a given aircraft type is applied to each arrival of that type of equipment. These individual numbers are then summed in each of the three categories. The median numbers of seats used for the individual equipment types are shown in Appendix D: Equipment Codes. These figures do not represent individual airline cabin layouts. In the Jackson example, the only category of aircraft represented is the nonpressurized propeller (*PAG*). The weekly arriving seats available is equal to the listed capacity of 7 seats, times 19 weekly arrivals, for a total of 133 nonpressurized weekly arriving seats available.

Another important measure of air service supply is the number of serving carriers. This statistic represents the variety of services

available to a given customer in the subject market as a whole. It does not, however, break down into the number of carriers in individual city pair markets. For the purposes of this report, a carrier is an individual business entity which operates a service. A carrier may or may not operate it's own equipment. Conversely, an airline must operate it's own equipment. This is a necessary distinction in light of the airline contract marketing agreements now being made by the various airlines. In the Jackson example, there is only one carrier, Drummond Island Air (*QQ*), providing service to the facility. Drummond Island Air is also an airline as they operate their own equipment instead of contracting with another firm to provide the service.

The final measure of air service supply used by this report is the number of nonstop origins. This statistic represents the variety of nonstop city pair markets available to a given customer. A nonstop origin is an airport from which a passenger can arrive at the subject facility without an intermediate stop or change of planes. In the Jackson example, there are two nonstop origins available; Ann Arbor and Detroit Metro Airport.

It is important to know what options are available to a passenger in arriving at a Michigan air carrier airport. Generally, there are a greater number of these options at larger "hub" airports. The FAA has four classifications of hub cities. As of December 31, 1988 (the most recent date available) they were designated as nonhub (fewer than 215,708 enplanements), small (215,708 to 1,078,540), medium (1,078,540 to 4,314,161) and large (4,314,161 or more enplanements) hubs². Therefore, a good indicator of the degree to which options are available is the number of arrivals from large and medium hubs. For the purposes of this report, a hub will be defined as an airport which individually meets the criteria of FAA large and

medium hub communities, ie. 1,078,540 or more annual enplanements.

Comparative Groups

Due to the effect of averaging, it is often improper to make comparisons between individual airports and a statewide average. This is particularly true when one considers that 58.3 percent of Michigan's total weekly arrivals are at Detroit, Metropolitan Airport. As such, when reporting air service statistics and trends, this analysis will use comparative groups, consisting of airports with a degree of geographic, funding or statistical commonality, to give a further breakdown of the reported figures. The groups which will be used are:

- 1) Statewide: All 24 scheduled, passenger air carrier airports are used.
- 2) Statewide Excluding Detroit Metro: All of the airports in the state with the exception of Detroit, Metropolitan Wayne County Airport. A total of 23 facilities.
- 3) Top Five Airports: The five airports with the highest annual total passenger levels in 1989. These are, in order of total passengers: Detroit Metropolitan Wayne County; Grand Rapids, Kent County International; Detroit City; Saginaw, Tri-City International and Lansing, Capital City Airports. It should be noted that this group differs from 1988. Detroit City replaces Kalamazoo/Battle Creek Regional International Airport in this group.
- 4) Upper Peninsula Airports: Those airports located in Michigan's Upper Peninsula. These seven facilities are: Escanaba, Delta County; Houghton/Hancock, Houghton County Memorial; Iron Mountain, Ford; Ironwood, Gogebic County; Marquette County; Menominee/Marinette, Twin County and Sault Ste. Marie, Chippewa County Airports.
- 5) Essential Air Service Airports: Those

four facilities receiving subsidy monies under the Essential Air Service program. These facilities are: Iron Mountain, Ford; Ironwood, Gogebic County; Manistee County, Blacker and Menominee/Marinette, Twin County Airports.

Air Service Supply Analysis

Scheduled Arrivals

Statewide nonstop weekly arrivals at Michigan air carrier airports totaled 5,282, up 676 arrivals (14.7 percent) from the previous year. Of these arrivals, 3,929 (74.4 percent) were from hub airports. The high level of flights to hub airports, with their greater number of service options, shows that there is a high level of air service choice in flying to Michigan.

Statewide excluding Detroit Metro there were 2,200 nonstop weekly arrivals, up 515 arrivals (30.6 percent) from the previous year. Of these arrivals, 1,571 (71.4 percent) were from hub airports. The increase in weekly arrivals corresponds to higher passenger levels experienced by this group. This increase in the number of weekly arrivals may be a reflection of airline attempts to fit the service to the market. The high percentage of flights to hub airports shows that there is a high level of air service choice in flying to Michigan airports even when not using Detroit Metro.

At the top five airports there were 4,018 nonstop weekly arrivals, up 199 arrivals (5.2 percent) from the previous year. Of these arrivals, 3,171 (78.9 percent) were from hub airports. The high level of flights to hub airports, with their greater number of service options, shows that there is a high level of air service choice in flying to the top five airports.

At the upper peninsula airports there were 374 nonstop weekly arrivals, up 138 arrivals

(58.5 percent) over the previous year. Of these arrivals, 77 (20.6 percent) were from hub airports. The increase in the number of arrivals reflects a restructuring taking place in service to the upper peninsula. This restructuring is replacing a low number of frequencies from a limited number of origins by larger aircraft with more frequencies from a greater variety of destinations by smaller aircraft. The percentage of nonstop flights to hub airports is small and indicates a low level of air service choice when flying to the upper peninsula. However, many of these services are "same plane" services to hub airports so this may be somewhat misleading.

At the essential air service airports there were 164 nonstop weekly arrivals, up 84 arrivals (105.0 percent) from the previous year. Of these arrivals, 42 (25.6 percent) were from hub airports. The increase in the number of weekly arrivals is due to the change in composition of this group and the same type of restructuring described for the upper peninsula airports. The small percentage of flights to hub airports shows that there is a low level of air service choice when flying to the essential air service airports.

Nonstop Origins

In 1989, Michigan had nonstop service from 101 origins in 93 cities. This is a net increase of five origins and six cities over the previous year. The cities gained and lost did not significantly alter the overall air service pattern for the state.

Exclusive of Detroit Metro in 1989, Michigan had nonstop service from 41 origins in 38 cities. This is a net increase of one origin and one city over the previous year. These changes did not significantly alter the overall air service pattern for the group.

In 1989, the top five airports in Michigan had nonstop service from 89 origins in 81 cities. This is a net increase of nine origins and

eight cities over the previous year. The cities gained and lost did not significantly alter the overall air service pattern for this group.

In 1989, Michigan's upper peninsula airports had nonstop service from 16 origins in 16 cities. This is a net increase of four origins and four cities from the previous year. Though individual routings to some upper peninsula communities changed dramatically, only the continuing lack of service to Lansing seems to be significant. Upper peninsula airports still continue to have service (though in some cases not nonstop) from at least one of the major hub airports of Chicago, IL; Detroit Metro or Minneapolis/St. Paul, MN.

In 1988, Michigan's essential air service airports with standard subsidies had nonstop service from nine origins in nine cities. This is a net increase of three origins and three cities over the previous year. These changes represent the change of composition in this group. In general there is little incentive under the Essential Air Service program, to provide more than rudimentary service to these markets.

Available Seats & Equipment Types

Statewide in 1989 there were 516,848 weekly arriving seats, an increase of 41,618 (8.76 percent) over the previous year. Of these seats, 462,716 (89.5 percent) were by jet, 41,708 (8.1 percent) were by pressurized propeller and 12,424 (2.4 percent) were by nonpressurized propeller aircraft. The change in weekly arriving seats was not distributed evenly among the equipment types. A shift occurred with many flights previously flown with nonpressurized equipment being converted to pressurized aircraft.

Statewide excluding Detroit, Metro, there were 118,150 weekly arriving seats, an increase of 18,749 (18.9 percent) over the previous year. Of the weekly arriving seats, 75,258 (63.7 percent) were by jet, 30,853

(26.1 percent) were by pressurized propeller and 12,039 (10.2 percent) were by nonpressurized propeller aircraft. The change in weekly arriving seats was not distributed evenly among the equipment types. A shift occurred with many flights previously flown with nonpressurized equipment being converted to pressurized aircraft.

The top five airports had 473,711 weekly arriving seats, an increase of 29,530 (6.6 percent) from the previous year. Of these seats, 450,663 (95.1 percent) were by jet, 19,112 (4.0 percent) were by pressurized propeller and 3,936 (0.8 percent) were by nonpressurized propeller aircraft. These changes reflect service restructuring by carriers at these facilities consisting of providing more service by jet and pressurized propeller aircraft. This type of service is best supported by the larger markets represented by the top five airports.

The upper peninsula airports had 9,953 weekly arriving seats, an increase of 2,772 (38.6 percent) from the previous year. Of these seats, 9,841 (98.9 percent) were by pressurized propeller and only 112 (1.1 percent) were by nonpressurized propeller aircraft. The carriers now serving points in the upper peninsula have found that provision of pressurized aircraft is necessary to provide the level of comfort and reliability required by the unpredictable climate. Though the lack of jet service has been pinpointed by some groups as a contributing factor in declining passenger levels, the increases of the last two years indicate that other factors are more important than jet service to potential passengers in upper peninsula communities. Despite the 1989 increase in passengers, there does not appear to be any single market in the upper peninsula capable of supporting jet service.

The essential service airports had 3,061 weekly arriving seats, an increase of 1,236

(67.7 percent) over the previous year. Of these seats, 3,021 (98.7 percent) were by pressurized propeller and only 40 (1.3 percent) were by nonpressurized propeller aircraft. Previously, these airports received service by the minimum number of seats required, in the least desirable category of aircraft. The introduction of pressurized aircraft appears to stem from the same climatic conditions which drive the upper peninsula group (three of whose airports are in this group). Service levels are surprisingly good considering the structure of the subsidy which enables these services to exist.

Carrier Shares

As of December 31, 1989, Michigan was served by 30 carriers operated by 33 airlines. This was a net loss of one airline. In terms of arrivals provided, the top three carriers were Northwest Airlines (39.3 percent), Northwest AirlinK (9.6 percent) and American Eagle (5.8 percent). The top three carriers provided 56.5 percent of the scheduled arrivals at Michigan; down from 56.5 percent in 1988 and 62.9 percent in 1987. Though at first this percentage seems high, the large number of carriers in the state as a whole means that competition is present. This statement, however, speaks to the state as a whole; not to specific city pairs.

As of December 31, 1989, Michigan, with the exception of Detroit Metro was served by 21 carriers operated by 23 airlines. This was a net decrease of one airline from the previous year. In terms of arrivals provided, the top three carriers were American Eagle (13.9 percent), Great Lakes Aviation (12.0 percent) and Northwest AirlinK (11.8 percent). The top three carriers provided 37.7 percent of the scheduled arrivals at airports in this group; down from 43.4 percent in 1988 and 58.1 percent in 1987. Two points should be made concerning the carrier shares in this group. First is the difference in the number of airlines serving Michigan as a whole and

Michigan without Detroit, Metro. This indicates a lesser level of competition outside the Wayne County hub. It should also be noted that seven of the top ten carriers in this group are smaller, regional carriers and six of these share codes with major carriers.

As of December 31, 1989, the top five airports in terms of total passengers, were served by 28 carriers operated by 30 airlines. This was a net change of three carriers and two airlines over the previous year. In terms of arrivals provided, the top three carriers were Northwest Airlines (50.5 percent), Northwest AirlinK (6.7 percent) and USAir (5.1 percent). Statistically, the top five airports are served by a broad range of carriers. What does not show up in these figures is the tendency of each of these carriers to serve a given city pair market almost to the exclusion of other carriers. This can be seen particularly with contract carriers feeding a major carrier at a hub. Also notable in this comparison is the fact that one airline and it's feeder service, Northwest Airlines and Northwest AirlinK, provide over half (57.2 percent) of the scheduled arrivals at the top five Michigan air carrier airports.

As of December 31, 1989, the upper peninsula airports were served by five carriers operated by six airlines. Though there was no net change in the number of carriers, due to contract marketing agreements, there was a net increase of one airline from 1988. In terms of arrivals provided, the top three carriers were Great Lakes Aviation (47.9 percent), Northwest AirlinK (35.6 percent) and American Eagle (14.7 percent). These three carriers provide 98.2 percent of the scheduled arrivals at upper peninsula airports. This figure, and the fact that all of the airports in this group have service by only one airline (though perhaps as multiple carriers), points out a lack of competition in this group. It should be noted, however, that the levels of passengers generated by upper

peninsula communities are generally insufficient to support service by more than one airline in a city pair market.

As of December 31, 1989, the essential air service airports were served by two carriers operated by two airlines. The listings used to generate the MDOT statistics do not reflect the legal absorption of Alliance Airlines by Great Lakes Aviation. As such there is really only one carrier/airline serving this group. Overall share in this group is of little or no consequence due to the size of the group. It is not surprising that there is little or no competition in these markets as they are currently too small to share between carriers and the nature of the subsidy received at these facilities tends to preclude effective competition.

Individual Airport Informational Summaries

Section V of this report contains informational summaries of the individual airports and the comparative groups. Graphic and tabular presentation of the material will allow quick reference to statistics monitored by the Michigan Department of Transportation.

Summary

If all Michigan air carrier airports are considered as a group, the supply of air service is excellent. There are numerous carriers competing in the market, arrivals are frequent with a high percentage being from hub airports and the mixture of equipment favors the more popular jet service. However, due to the dominance of Detroit, Metropolitan and the other top five airports, this is somewhat overstated.

Despite a shift away from nonpressurized equipment, the state exclusive of Metro Airport still shows a relatively high percentage (22.6 percent) of service by these less popular aircraft. Also, there are fewer airlines competing in the market. However, the

percentage of flights from hub airports remains relatively high, with most communities having same plane if not nonstop service to a major hub airport. Additionally, the increases in passenger use of facilities other than Detroit Metro indicate an improving public perception of the quality of air service supplied in Michigan exclusive of Detroit, Metropolitan.

Whereas the worst service is usually given to the essential air service airports receiving subsidy monies, Michigan has service with reasonable frequencies and a high percentage of pressurized flights. These markets are not large enough to support more than one carrier, thus they have no competition.

It should be realized that the carriers will continue to control the levels of air service provided to Michigan air carrier airports. This is what deregulation is all about. If a market fails to provide a carrier with sufficient load factors to produce a profit, the carrier has the right to drop that service. To keep passengers from using airports other than their local facility, it is necessary to make it more attractive to fly from the local airport than to fly from an alternate site. It should be realized that it is not always going to be possible to do this. However, state efforts in this area are underway.

Fly From Nearby is a marketing program which helps airports to promote their local services and the advantages of using the local facility. **Access Michigan** (Which is using Traverse City as it's pilot program) is an effort to show airlines that types of service not currently offered at Michigan airports can be profitable. Efforts of these types will continue to be supported by the state.

Notes

1. Public Law 95-504, The Airline Deregulation Act of 1978 as passed by the 95th Congress.

2. Airport Activity Statistics of Certificated Route Air Carriers for the 12 months ending December 31, 1987, Federal Aviation Administration Research and Special Programs Administration.

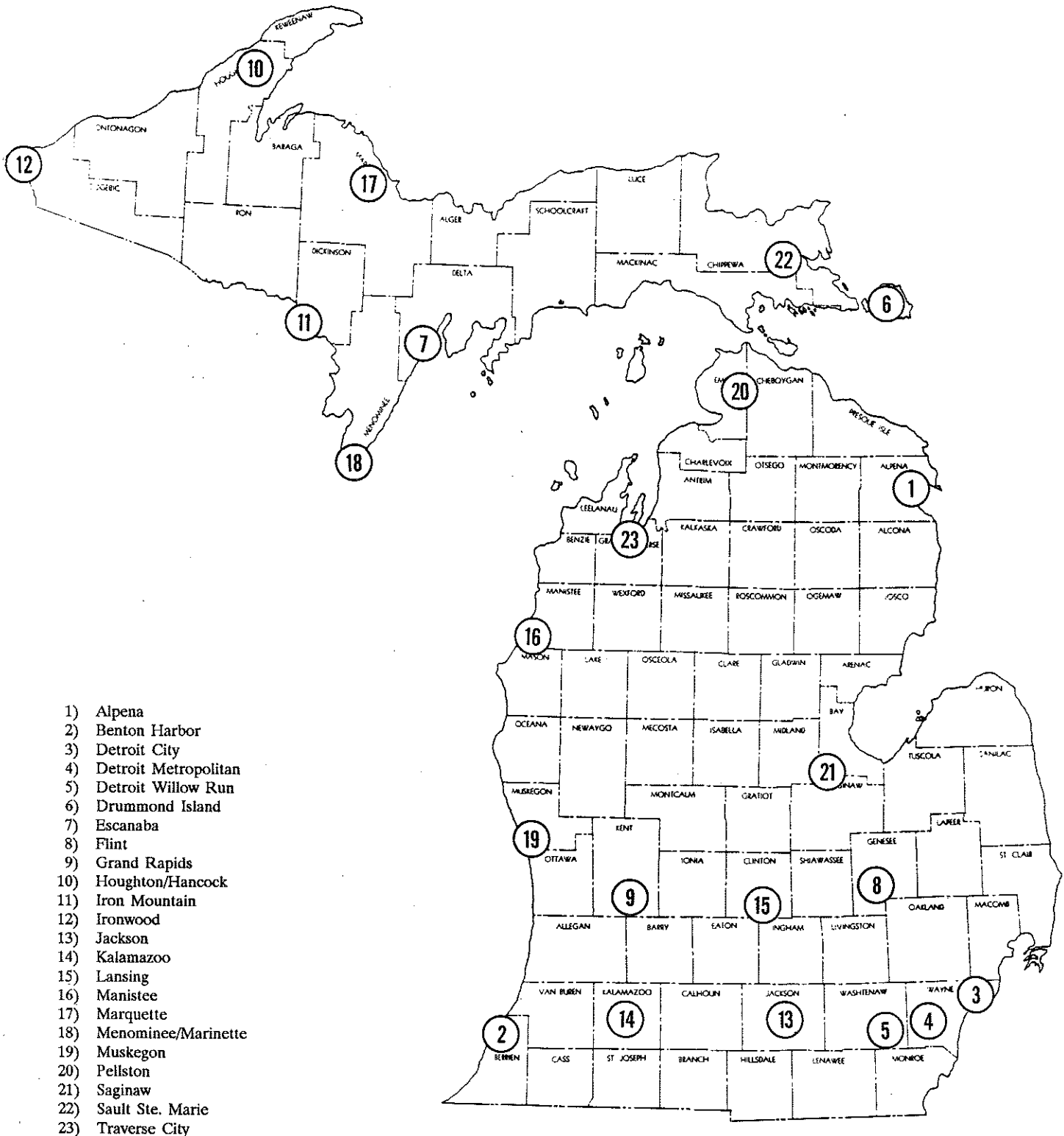
Exhibit 10
**MERGER HISTORY OF MAJOR & NATIONAL AIR CARRIERS
 SERVING MICHIGAN SCHEDULED AIR CARRIER AIRPORTS
 1983 - 1989**

<i>Eastern</i>						
	<i>Continental/Eastern</i>					
<i>Continental</i>						
<i>New York Air</i>						
<i>Frontier</i>						
<i>People Express</i>						
<i>United</i>						
<i>Delta</i>						
	<i>Delta</i>					
<i>Western</i>						
<i>American</i>						
<i>Northwest</i>						
	<i>Northwest</i>					
<i>Republic</i>						
<i>Pan Am</i>						
<i>USAir</i>						<i>USAir</i>
<i>Piedmont</i>	<i>USAir/Piedmont</i>					
<i>Southwest</i>						
<i>Midway</i>						
<i>Trans World Airlines (TWA)</i>						
	<i>Trans World Airlines (TWA)</i>					
<i>Ozark</i>						
1983	1984	1985	1986	1987	1988	1989



**Section III:
AIR CARRIED CARGO, EXPRESS &
PACKAGE FREIGHT**

Exhibit 11
**MICHIGAN AIRPORTS REPORTING AIR CARGO, EXPRESS
 & PACKAGE FREIGHT**
 1989



AIR CARRIED CARGO, EXPRESS & PACKAGE FREIGHT

Introduction

Historical air cargo levels are monitored by the Michigan Department of Transportation (MDOT), Bureau of Transportation Planning, Aviation Planning Unit. These specific statistics and trends are important to:

- 1) Airports: The ability to not only know cargo levels at their own airport but also other similar airports throughout the state, allows a measure of relative performance to be derived. It is also very useful in the local master planning process and allows decisions to be based on sound historical and comparative information.
- 2) State of Michigan: Ready access to specific, historical air cargo levels is important in state system and project planning. These figures are also used to justify projects for state and federal funding programs.
- 3) The Public, News Media and Others: Air cargo service, particularly in the deregulated environment, is often a confusing subject for nonaviation people. The quick access to historical information allows media personnel to report air service issues from a well documented base. It also allows the general public to judge the validity of what they might see in the news.

The information in this report covers total air cargo levels over the past ten years. Monthly figures and comparison to other air cargo facilities are available for 1989.

Method Of Measurement

The information in this report is derived from data submitted monthly by those airports with scheduled air carrier service. To

be identified as having scheduled air carrier service, a facility must show scheduled passenger service by at least one flight on at least five different days. Scheduled flights are those having a published/printed, person portable form. Due to high levels of scheduled cargo service, Detroit, Willow Run Airport is also included in this report. The exception to the normal rule was felt justified due to the large amounts of freight handled at this all cargo facility. All cargo at scheduled air carrier airports and Willow Run is counted. This includes shipments by express and package freight services. Airports submit data using *MDOT Form Q1609(R6/86), Airline Monthly Traffic Report*.

The basic units of counting for air cargo are the enplaned and deplaned pound of freight. Enplaned cargo is that which is loaded aboard an outbound flight. Deplaned cargo is that which is unloaded from an inbound flight.

The basic unit of reporting is pounds of Total Cargo. Total Cargo counts are equal to the sum of enplaned cargo and deplaned cargo. This report documents total cargo as well as the breakdown between enplaned and deplaned cargo.

Comparative Groups

Exhibits 13 and 14 show the significance of Detroit Metropolitan Wayne County Airport and Detroit, Willow Run Airport to air cargo levels. Over the past ten years, these two airports have always ranked first and second in the state and have individually been greater than the sum of all other airports in the state. Of the total cargo at scheduled air carrier airports, 88.5 percent used Metro or Willow Run Airports in 1989. To help put the other facilities in perspective with each other, this analysis will use the following two

comparative groups:

- 1) Statewide: The 22 scheduled, passenger air carrier airports reporting any level of air cargo and Detroit, Willow Run Airport are used. A total of 23 facilities.
- 2) Statewide Excluding Detroit Metro & Detroit, Willow Run: All of the airports in the state with the exception of Detroit, Metropolitan Wayne County Airport and Detroit, Willow Run Airport. A total of 21 facilities.

Air Cargo Statistics & Trends

Many airport managers of airports served exclusively by commuter type aircraft have noted declines in air cargo levels over the past few years. This is generally explainable by the lack of "belly" cargo space on the smaller regional equipment. Many managers stipulated that some of the small package freight has been shifted to specialty cargo carriers. This is especially true at airports where feeder services operate for the larger overnight delivery services such as Federal Express and United Parcel Service.

Cargo Service Airport Locations

During 1989, air cargo levels were reported at 23 Michigan airports. No cargo was reported at East Tawas, Iosco County or Mackinac Island Airports. Only cargo figures were reported at Detroit, Willow Run Airport.

Airport Total Cargo Levels

Exhibit 12 shows the total air cargo levels at the 23 airports at which cargo is currently monitored. Michigan airports portray the broad range of total cargo levels possible at airports from the small, irregular package freight amount at Drummond Island (320 pounds) to the large, regular levels at Willow Run Airport (213,795,475 pounds). However, it must be recognized that these air-

ports all serve different needs and markets. Thus smaller airports with lower cargo levels can be providing a useful and appropriate service.

Exhibit 15 shows the total air cargo levels for the state over the past ten years. In this period, Michigan has shown variation generally linked to nonaviation economic factors. Despite a strong economy, this did not hold true in 1987. In 1988, however, air cargo rebounded with an 18.7 percent gain. This continued in 1989 with a 3.8 percent increase. The 1989 total cargo level of 522,021,814 pounds is the third highest post deregulation air carried cargo level.

1988-1989 Total Cargo Comparison

Exhibit 18 shows comparative changes in total cargo levels at the 23 monitored airports since the previous year. Overall, Michigan experienced a 3.8 percent increase in total cargo over the previous year. Total cargo levels increased at 17 airports and decreased at six facilities.

In 1989, Detroit Metropolitan Airport experienced 248,359,046 pounds of total cargo, an 11.4 percent increase. This increase put Metro Airport in first place in the state. In second place was Detroit Willow Run Airport. Willow Run decreased 7.4 percent to 213,795,475 pounds of total cargo in 1989.

Statewide except Detroit, Metro and Detroit, Willow Run, Michigan experienced a 39.4 percent increase over the previous year. Total cargo levels increased at 16 airports and decreased at five facilities.

Large increases occurred at several facilities across the state. This was tied to the expansion of services by some of the express package services such as Airborne Express, Federal Express and United Parcel Service. The pattern of services by these carriers is to choose a "minihub" where a jet can con-

veniently service the main forwarding point. Smaller aircraft bring parcels from other "feeder" airports to this minihub for consolidation. Thus, expansion of services to the consolidation points, can trickle down to the feeder points. One example of this is the airport at Menominee/Marinette.

1987 Monthly Total Cargo

Exhibit 17 shows the 1989 monthly enplaned, deplaned and total cargo figures. Monthly variation of cargo figures does not tend to follow a "seasonal" variation in the normal sense of the term. Most facilities will vary according to levels of activity at industries in their service area. Some facilities also experience higher levels during the Christmas season.

Summary

Air cargo levels tend to be driven by economic factors outside the control of airport management. An upward trend is usually found in times of economic expansion. Thus, in light of the slight growth in the state economy, it is not surprising that statewide total cargo levels increased.

As the overnight package freight business continues to expand, fluctuations in route structure are inevitable. Michigan experienced this in the movement of United Parcel Service from Grand Rapids to Lansing in 1987. The erratic cargo levels caused by these fluctuations must be understood when analyzing cargo trends. In the deregulated environment, forecasting of cargo levels is increasingly difficult.

Exhibit 12
**TOTAL AIR CARGO, EXPRESS & PACKAGE FREIGHT
 AT MICHIGAN SCHEDULED AIR CARRIER AIRPORTS
 1989**

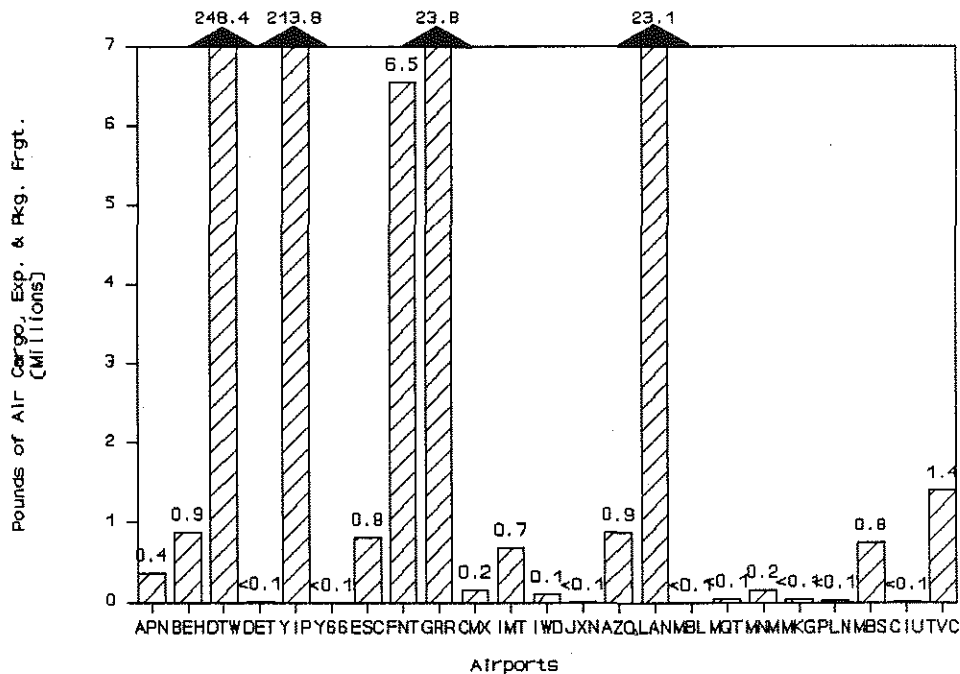


Exhibit 13
1980-1989 ANNUAL TOTAL AIR CARGO COMPARISON

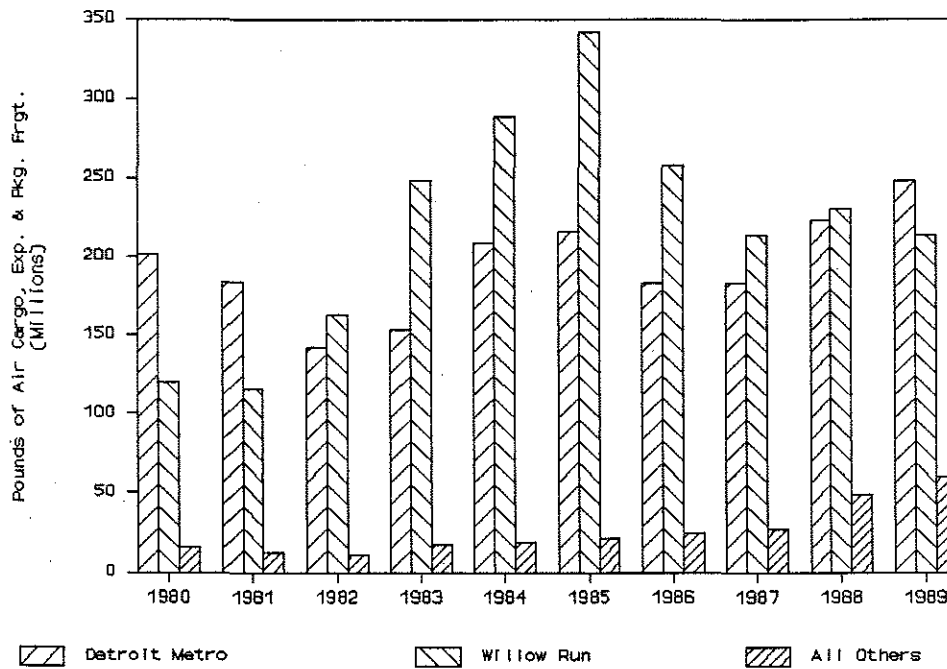


Exhibit 14
1989 AIR CARGO TONNAGE COMPARISON

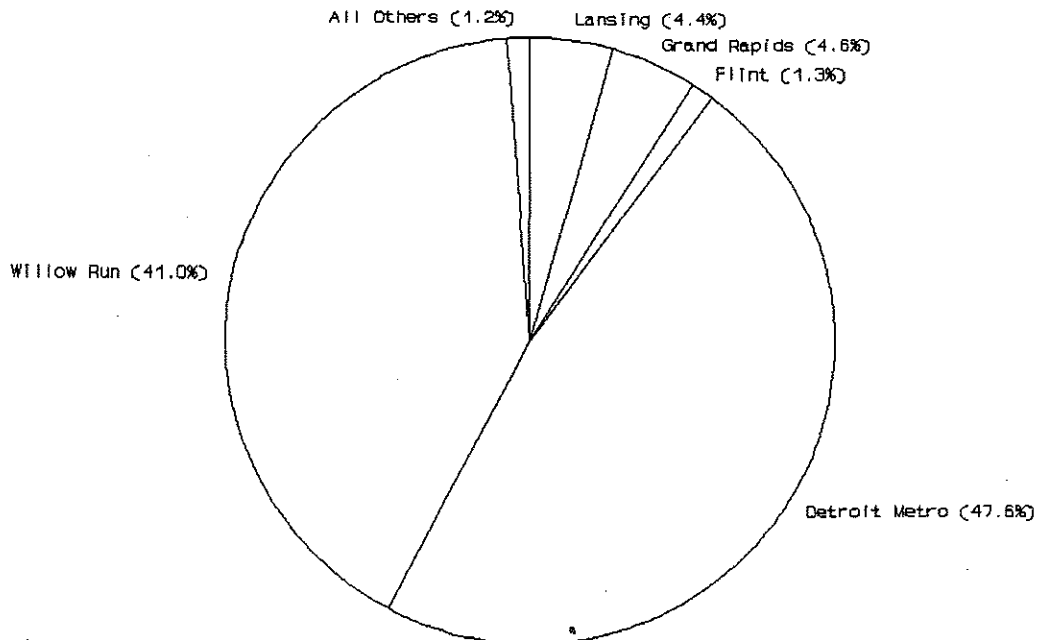


Exhibit 15
1980-1989 STATEWIDE ANNUAL TOTAL CARGO

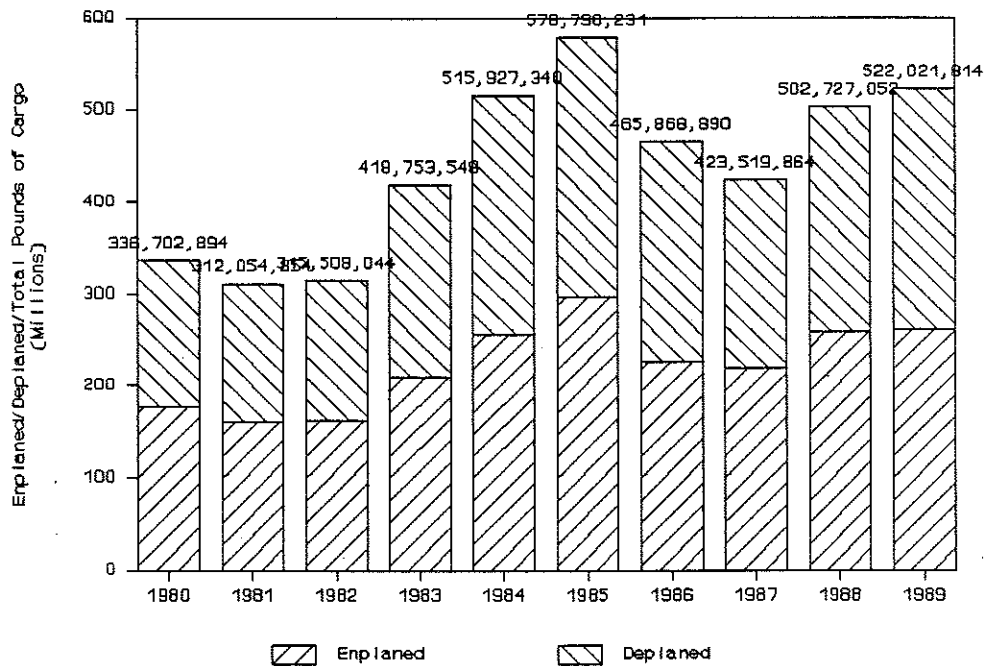
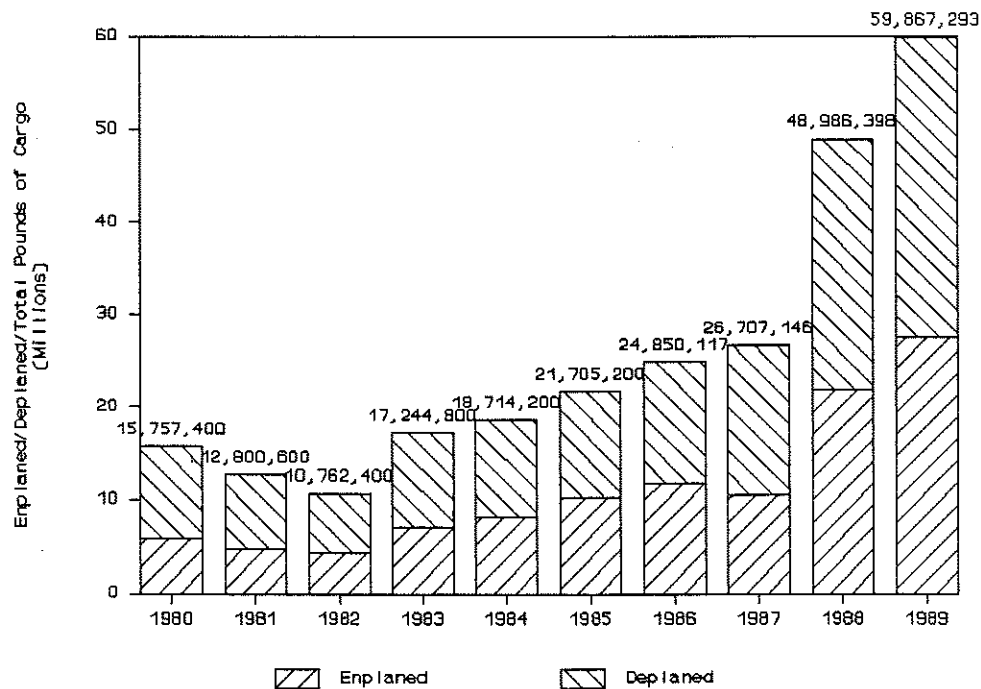


Exhibit 16
1980-1989 STATEWIDE (EXCLUDING DTW & YIP) ANNUAL TOTAL CARGO



Michigan Air Carrier Airport Statistics

Exhibit 17

1989 MONTHLY ENPLANED, DEPLANED & TOTAL CARGO LEVELS
AT MICHIGAN AIRPORTS WITH SCHEDULED AIR CARRIER SERVICE

Airport	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Tot.	
Alpena County Regional Airport														
Enp.	599	12,305	14,043	16,343	13,950	18,285	15,533	16,531	15,431	12,599	11,563	16,592	163,774	
Dep.	370	15,124	16,790	12,638	21,186	22,237	14,493	19,781	18,416	24,706	21,215	19,127	206,083	
Tot.	969	27,429	30,833	28,981	35,136	40,522	30,026	36,312	33,847	37,305	32,778	35,719	369,857	
Benton Harbor, Twin Cities Ross Field Airport														
Enp.	21,139	24,801	36,329	23,749	27,220	25,927	28,603	41,765	37,345	57,686	59,854	55,082	429,500	
Dep.	33,027	29,553	31,822	32,686	35,536	38,952	38,606	41,354	33,700	38,555	47,056	53,972	454,819	
Tot.	54,166	54,354	58,151	56,435	62,756	64,879	67,209	83,119	71,045	96,241	106,910	109,054	884,319	
Detroit City Airport														
Enp.	38	305	337	100	51	798	230	193	1157	219	1073	177	4,678	
Dep.	671	241	372	823	592	160	280	203	630	1300	414	279	5,965	
Tot.	709	546	709	923	643	958	510	396	1787	1519	1487	456	10,643	
Detroit Metropolitan Wayne County Airport														
Enp.	9,400,069	8,599,860	10,060,847	9,372,736	9,503,801	10,438,858	9,208,527	10,342,831	9,291,302	10,138,173	10,286,586	10,139,486	116,786,076	
Dep.	9,430,390	9,598,610	11,504,805	11,314,015	11,749,895	12,037,477	10,295,292	12,201,664	10,221,345	10,935,320	11,491,212	10,795,945	131,575,970	
Tot.	18,830,459	18,198,470	21,565,652	20,686,751	21,253,696	22,476,335	19,503,819	22,544,495	19,512,647	21,073,493	21,777,798	20,935,431	248,359,046	
Detroit, Willow Run Airport														
Enp.	9,350,695	7,344,175	8,366,265	7,874,195	8,244,307	9,798,982	9,668,902	11,421,165	12,373,125	11,989,612	10,784,554	10,255,899	117,471,066	
Dep.	7,025,685	6,312,310	7,085,645	6,435,178	7,357,699	7,402,577	8,078,318	9,419,795	9,393,360	9,504,688	9,357,572	8,951,582	96,324,409	
Tot.	16,376,380	13,656,485	15,451,910	14,309,373	15,602,006	17,201,559	17,746,410	20,840,960	21,766,485	21,494,300	20,142,126	19,207,481	213,795,475	
Drummond Island Airport														
Enp.	200	0	0	0	0	0	0	0	0	0	0	0	200	
Dep.	0	10	95	15	0	0	0	0	0	0	0	0	120	
Tot.	200	10	95	15	0	0	0	0	0	0	0	0	320	
Escanaba, Delta County Airport														
Enp.	26,879	27,786	29,821	31,810	15,836	17,267	13,373	18,362	16,570	19,370	17,592	34,998	269,664	
Dep.	39,419	33,791	35,738	36,541	49,113	53,940	46,489	57,442	53,577	51,013	45,090	47,149	549,302	
Tot.	66,298	61,577	65,559	68,351	64,949	71,207	59,862	75,804	70,147	70,383	62,682	82,147	818,966	
Flint, Bishop Airport														
Enp.	154,209	158,461	198,594	239,427	257,633	322,255	220,712	302,968	425,526	305,190	286,305	223,844	3,095,124	
Dep.	157,693	129,368	249,791	338,475	397,500	340,324	19,853	378,803	285,598	355,836	377,056	422,759	3,453,056	
Tot.	311,902	287,829	448,385	577,902	655,133	662,579	240,565	681,771	711,124	661,026	663,361	646,603	6,548,180	
Grand Rapids, Kent County International Airport														
Enp.	724,134	689,762	846,695	893,829	906,862	1,001,525	926,277	1,147,858	983,184	1,025,197	999,108	931,029	11,075,460	
Dep.	947,441	916,091	1,054,628	1,055,053	1,137,255	1,164,726	1,096,249	1,290,171	1,059,623	1,017,479	1,057,549	964,139	12,760,404	
Tot.	1,671,575	1,605,853	1,901,323	1,948,882	2,044,117	2,166,251	2,022,526	2,438,029	2,042,807	2,042,676	2,056,657	1,895,168	23,835,864	
Houghton/Hancock, Houghton County Memorial Airport														
Enp.	7,377	4,675	6,902	10,193	4,421	7,026	8,546	10,654	6,848	7,440	7,667	7,262	89,011	
Dep.	4,322	6,106	6,066	5,043	6,381	4,918	7,330	7,857	7,033	4,461	4,599	7,247	71,363	
Tot.	11,699	10,781	12,968	15,236	10,802	11,944	15,876	18,511	13,881	11,901	12,266	14,509	160,374	
Iron Mountain, Ford Airport														
Enp.	11,718	11,145	11,961	14,422	12,503	18,498	17,088	33,973	26,865	32,244	28,366	29,463	248,246	
Dep.	34,011	12,598	31,297	29,814	37,538	34,834	33,183	42,340	40,909	52,605	44,652	49,303	443,084	
Tot.	45,729	23,743	43,258	44,236	50,041	53,332	50,271	76,313	67,774	84,849	73,018	78,766	691,330	
Ironwood, Gogebic County Airport														
Enp.	85	0	5,613	3,350	4,480	3,026	2,726	3,520	2,892	3,725	5,095	7,731	42,243	
Dep.	305	96	4,255	2,674	3,780	5,919	5,328	6,743	4,958	7,005	5,431	9,331	55,825	
Tot.	390	96	9,868	6,024	8,260	8,945	8,054	10,263	7,850	10,730	10,526	17,062	98,068	
Jackson County, Reynolds Field														
Enp.	1	440	159	0	0	0	0	0	100	0	0	0	700	
Dep.	0	171	46	202	0	1	321	274	12	498	0	0	1,525	
Tot.	1	611	205	202	0	1	321	274	112	498	0	0	2,225	
Enp. = Enplaned													Dep. = Deplaned	Tot. = Total

Exhibit 17 (cont.)

**1989 MONTHLY ENPLANED, DEPLANED & TOTAL CARGO LEVELS
AT MICHIGAN AIRPORTS WITH SCHEDULED AIR CARRIER SERVICE**

<u>Airport</u>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Tot.
<u>Kalamazoo County Airport</u>													
Enp.	18,621	8,847	14,507	11,828	17,528	38,252	24,391	22,039	20,637	20,738	13,976	15,962	227,326
Dep.	49,481	54,699	59,236	49,652	55,376	56,919	48,068	50,281	49,523	66,883	60,692	55,301	656,111
Tot.	68,102	63,546	73,743	61,480	72,904	95,171	72,459	72,320	70,160	87,621	74,668	71,263	883,437
<u>Lansing, Capital City Airport</u>													
Enp.	847,959	759,045	870,562	860,175	939,737	990,943	869,305	1,067,899	908,965	1,020,351	956,951	904,882	10,996,774
Dep.	894,376	886,252	991,177	984,082	980,157	1,051,542	924,392	1,131,933	1,096,598	1,089,005	1,039,657	1,057,124	12,126,295
Tot.	1,742,335	1,645,297	1,861,739	1,844,257	1,919,894	2,042,485	1,793,697	2,199,832	2,005,563	2,109,356	1,996,608	1,962,006	23,123,069
<u>Manistee County, Blacker Airport</u>													
Enp.	0	0	1	0	0	0	0	0	143	330	38	107	619
Dep.	0	0	1	0	1	15	64	63	60	30	1	30	265
Tot.	0	0	2	0	1	15	64	63	203	360	39	137	884
<u>Marquette County Airport</u>													
Enp.	542	740	202	530	2,646	1,414	499	472	745	715	889	238	9,632
Dep.	1,327	1,655	1,869	2,365	2,818	3,369	2,279	3,257	4,494	5,563	3,124	3,827	35,947
Tot.	1,869	2,395	2,071	2,895	5,464	4,783	2,778	3,729	5,239	6,278	4,013	4,065	45,579
<u>Menominee/Marinette, Twin County Airport</u>													
Enp.	0	0	0	0	0	0	0	0	0	0	28,920	25,757	54,677
Dep.	0	0	0	0	0	0	0	0	0	0	54,171	46,676	100,847
Tot.	0	0	0	0	0	0	0	0	0	0	83,091	72,433	155,524
<u>Muskegon County Airport</u>													
Enp.	482	751	1,891	210	405	1,972	1,408	1,256	725	22,252	1,900	1,615	34,867
Dep.	155	166	299	1,994	487	268	653	713	642	1,495	1,057	1,267	9,196
Tot.	637	917	2,190	2,204	892	2,240	2,061	1,969	1,367	23,747	2,957	2,882	44,063
<u>Pellston, Emmet County Airport</u>													
Enp.	220	324	694	428	402	1,256	1,949	1,795	773	1,282	2,349	3,104	14,576
Dep.	636	854	744	721	2,088	1,101	2,972	2,903	1,084	1,239	762	697	15,801
Tot.	856	1,178	1,438	1,149	2,490	2,357	4,921	4,698	1,857	2,521	3,111	3,801	30,377
<u>Saginaw, Tri-City International Airport</u>													
Enp.	23,565	20,178	21,350	18,789	15,892	26,287	17,481	19,247	19,828	21,984	21,613	18,832	245,046
Dep.	38,356	38,258	53,445	45,889	42,360	45,261	36,574	43,441	36,630	48,537	44,530	34,586	507,867
Tot.	61,921	58,436	74,795	64,678	58,252	71,548	54,055	62,688	56,458	70,521	66,143	53,418	752,913
<u>Sault Ste. Marie, Chippewa County International Airport</u>													
Enp.	361	432	174	243	196	555	160	372	52	6	26	8	2,585
Dep.	605	832	338	300	186	740	155	444	205	185	80	156	4,226
Tot.	966	1,264	512	543	382	1,295	315	816	257	191	106	164	6,811
<u>Traverse City, Cherry Capital Airport</u>													
Enp.	2,716	1,146	47,103	41,064	45,478	57,603	48,335	56,631	58,041	58,079	78,610	41,414	536,220
Dep.	1,906	3,605	79,447	69,227	86,886	113,307	84,715	94,850	99,387	90,039	61,184	83,717	868,270
Tot.	4,622	4,751	126,550	110,291	132,364	170,910	133,050	151,481	157,428	148,118	139,794	125,131	1,404,490
<u>Michigan Scheduled Air Carrier Airports</u>													
Enp.	20,591,609	17,665,178	20,524,050	19,413,421	20,013,348	22,770,729	21,073,235	24,509,531	24,190,254	24,737,192	23,593,035	22,713,482	261,795,064
Dep.	18,660,176	18,040,390	21,207,906	20,417,387	21,966,834	22,378,587	20,735,614	24,794,312	22,407,784	23,296,442	23,717,104	22,604,214	260,226,750
Tot.	39,251,785	35,705,568	41,731,956	39,830,808	41,980,182	45,149,316	41,808,849	49,303,843	46,598,038	48,033,634	47,310,139	45,317,696	522,021,814
<u>Michigan Scheduled Air Carrier Airports Excluding Detroit Metro & Detroit, Willow Run</u>													
Enp.	1,840,845	1,721,143	2,096,938	2,166,490	2,265,240	2,532,889	2,196,616	2,745,535	2,525,827	2,609,407	2,521,895	2,318,097	27,540,922
Dep.	2,204,101	2,129,470	2,617,456	2,668,194	2,859,240	2,938,533	2,362,004	3,172,853	2,793,079	2,856,434	2,868,320	2,856,687	32,326,371
Tot.	4,044,946	3,850,613	4,714,394	4,834,684	5,124,480	5,471,422	4,558,620	5,918,388	5,318,906	5,465,841	5,390,215	5,174,784	59,867,293

Enp. = Enplaned

Dep. = Deplaned

Tot. = Total

Exhibit 18
**ENPLANED, DEPLANED AND TOTAL CARGO LEVELS
 AT MICHIGAN SCHEDULED AIR PASSENGER AIRPORTS**
 1988-1989 Comparison
 (Figures in Pounds)

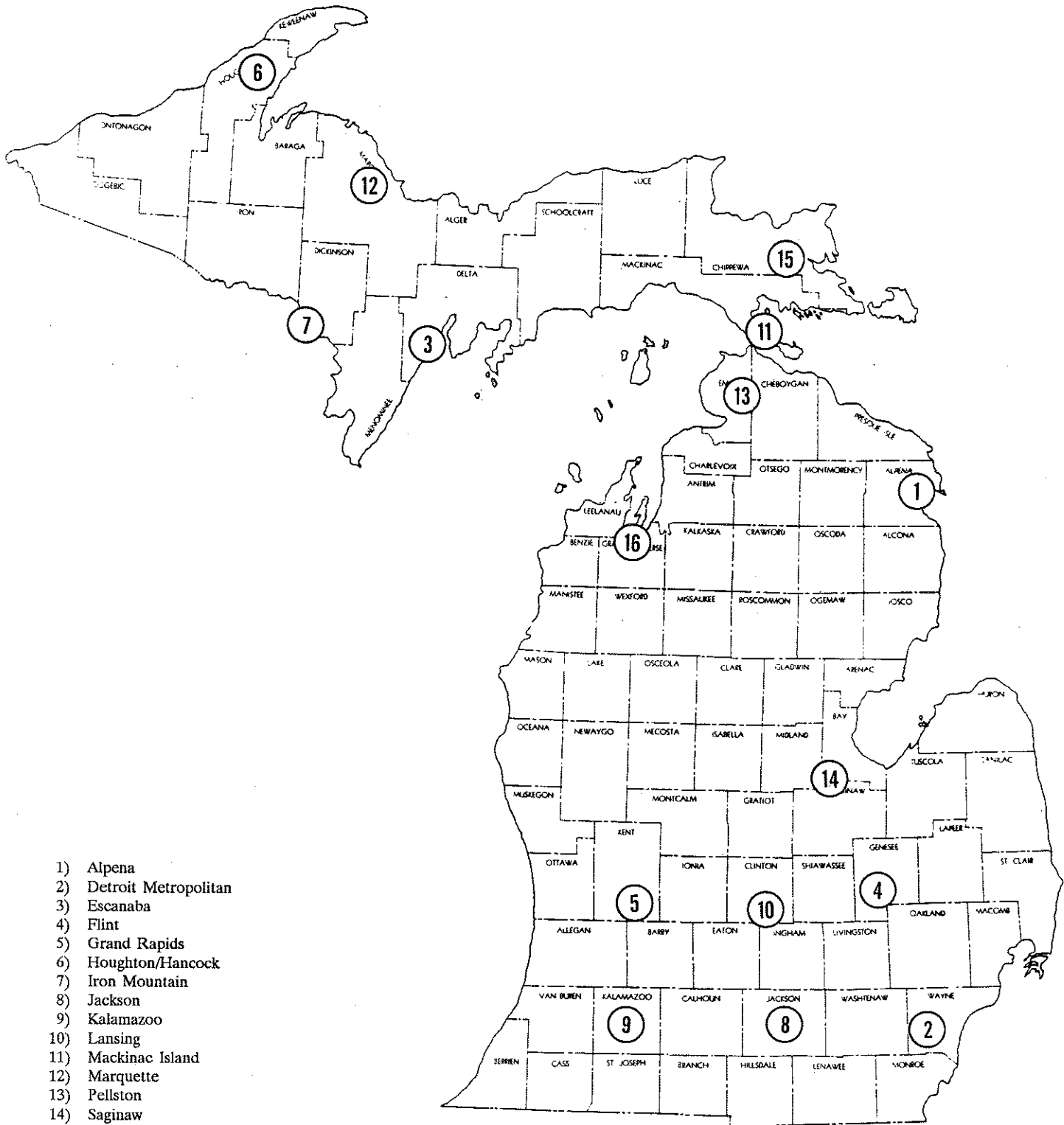
Airport	Enplaned Cargo		Percent Change	Deplaned Cargo		Percent Change	Total Cargo		Percent Change
	1988	1989		1988	1989		1988	1989	
Alpena	3,820	163,774	4187.3%	3,845	206,083	5259.8%	7,665	369,857	4725.3%
Benton Harbor	280,890	429,500	52.9%	380,658	454,819	19.5%	661,548	884,319	33.7%
Detroit City	5,147	4,678	-9.1%	7,550	5,965	-21.0%	12,697	10,643	-16.2%
Detroit Metro	108,908,952	116,783,076	7.2%	113,980,927	131,575,970	15.4%	222,889,879	248,359,046	11.4%
Detroit Willow Run	127,708,874	117,471,066	-8.0%	103,141,901	96,324,409	-6.6%	230,850,775	213,795,475	-7.4%
Drummond Island	0	200	n/c	0	120	n/c	0	320	n/c
Escanaba	338,738	269,664	-20.4%	406,016	549,302	35.3%	744,754	818,966	10.0%
Flint	1,839,098	3,095,124	68.3%	2,018,827	3,453,056	71.0%	3,857,925	6,548,180	69.7%
Grand Rapids	9,150,830	11,075,460	21.0%	12,149,142	12,760,404	5.0%	21,299,972	23,835,864	11.9%
Houghton/Hancock	83,468	89,011	6.6%	59,847	71,363	19.2%	143,315	160,374	11.9%
Iron Mountain	250,303	248,246	-0.8%	497,995	443,084	-11.0%	748,298	691,330	-7.6%
Ironwood	1,530	42,243	2661.0%	3,630	55,825	1437.9%	5,160	98,068	1800.5%
Jackson	485	700	44.3%	909	1,525	67.8%	1,394	2,225	59.6%
Kalamazoo	194,153	227,326	17.1%	479,324	656,111	36.9%	673,477	883,437	31.2%
Lansing	9,428,448	10,996,774	16.6%	10,395,923	12,126,295	16.6%	19,824,371	23,123,069	16.6%
Manistee	101	619	512.9%	2	265	13150.0%	103	884	758.3%
Marquette	29,073	9,632	-66.9%	40,697	35,947	-11.7%	69,770	45,579	-34.7%
Menominee/Marinette	0	54,677	n/c	0	100,847	n/c	0	155,524	n/c
Muskegon	2,809	34,867	1141.3%	10,768	9,196	-14.6%	13,577	44,063	224.5%
Pellston	7,731	14,576	88.5%	16,246	15,801	-2.7%	23,977	30,377	26.7%
Saginaw	238,495	245,046	2.7%	566,107	507,867	-10.3%	804,602	752,913	-6.4%
Sault Ste. Marie	2,373	2,585	8.9%	13,700	4,226	-69.2%	16,073	6,811	-57.6%
Traverse City	25,374	536,220	2013.3%	49,546	868,270	1652.5%	74,920	1,404,490	1774.7%
Statewide	258,503,492	261,795,064	1.3%	244,223,560	260,226,750	6.6%	502,727,052	522,021,814	3.8%
Statewide Excluding Metro & Willow Run	21,885,666	27,540,922	25.8%	27,100,732	32,326,371	19.3%	48,986,398	59,867,293	22.2%

n/c: Not calculatable



**Section IV:
AIR CARRIED MAIL**

Exhibit 19
 MICHIGAN AIRPORTS REPORTING AIR CARRIED MAIL
 1989



- 1) Alpena
- 2) Detroit Metropolitan
- 3) Escanaba
- 4) Flint
- 5) Grand Rapids
- 6) Houghton/Hancock
- 7) Iron Mountain
- 8) Jackson
- 9) Kalamazoo
- 10) Lansing
- 11) Mackinac Island
- 12) Marquette
- 13) Pellston
- 14) Saginaw
- 15) Sault Ste. Marie
- 16) Traverse City

AIR CARRIED MAIL

Introduction

Historical air carried mail levels are monitored by the Michigan Department of Transportation (MDOT), Bureau of Transportation Planning, Aviation Planning Unit. These specific statistics and trends are important to:

- 1) Airports: The ability to not only know air carried mail levels at their own airport but also other similar airports throughout the state, allows a measure of relative performance to be derived. It is also very useful in the local master planning process and allows decisions to be based on sound historical and comparative information.
- 2) State of Michigan: Ready access to specific, historical air carried mail levels is important in state system and project planning.

The information in this report covers total air carried mail levels over the past ten years. Monthly figures and comparison to other facilities are available for 1989.

Information on air carried mail levels can only be reported, not truly analyzed. Decisions as to the use of certain facilities for shipping the U.S. Mail are unilaterally made by the postal service. As such, any analysis or forecasts could be rendered inaccurate or incorrect by a decision which is not within the realm of this report or any type of control by state or federal aviation agencies.

Method Of Measurement

The information in this report is derived from data submitted monthly by those airports with scheduled air carrier service. To be identified as having scheduled air carrier service, a facility must show scheduled passenger service by at least one flight on at

least five different days. Scheduled flights are those having a published/printed, person portable form. Airports submit data using *MDOT Form Q1609(R6/86), Airline Monthly Traffic Report*.

The basic unit of counting for air carried mail is the enplaned or deplaned pound of mail. Enplaned mail is that which is loaded aboard an outbound flight. Deplaned mail is that which is unloaded from an inbound flight.

The basic unit of reporting is Total Mail. Total mail is equal to the sum of enplaned mail and deplaned mail. This report documents total mail as well as the breakdown between enplaned and deplaned mail.

While Exhibit 20 shows the significance of Detroit, Metropolitan Wayne County Airport to air carried mail levels, it is not necessary to use comparative groups to allow a perspective on the other facilities.

Air Carried Mail Statistics

Commercial Service Airport Locations

During 1989, air carried mail levels were reported at 16 Michigan airports. Three Michigan airports are used as U.S. Postal Service regional mail centers. These facilities are Metropolitan Wayne County, Kent County International and Capital City Airports in Detroit, Grand Rapids and Lansing respectively.

Airport Total Mail Levels

Exhibit 21 shows the total air carried mail levels at the 16 scheduled air service airports reporting mail figures. Exhibit 21 shows the total air carried mail levels over the past ten years. The 1989 level of total air carried mail is at the second highest point in ten years. The highest point occurred in 1988.

1988-1989 Air Carried Mail Comparison

Exhibit 24 shows comparative changes in total mail levels at the 17 airports reporting air mail in 1988 and 1989. Overall, Michigan experienced a 2.3 percent decrease in total mail from the previous year. Total mail levels increased at five airports, decreased at eleven and were terminated at one.

1989 Monthly Total Mail

Exhibit 23 shows the 1989 monthly enplaned, deplaned and total mail figures. As would be expected, the highest levels of air carried mail occur near the Christmas holidays.

Summary

Air carried mail is an important component of the service provided by many airports. Even so, the decisions that are made concerning what levels occur at a facility are not something which airport management has control of. Decisions concerning airport development to serve air carried mail must be coordinated with U.S. Postal Service authorities.

Exhibit 20
1988 AIR CARRIED MAIL AIRPORT COMPARISON

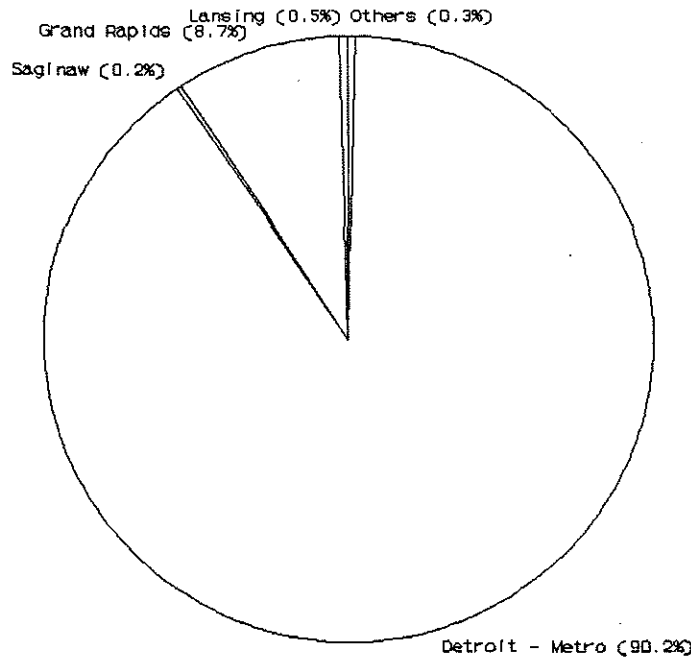


Exhibit 21
 1989 TOTAL AIR CARRIED MAIL AT MICHIGAN AIR CARRIER AIRPORTS

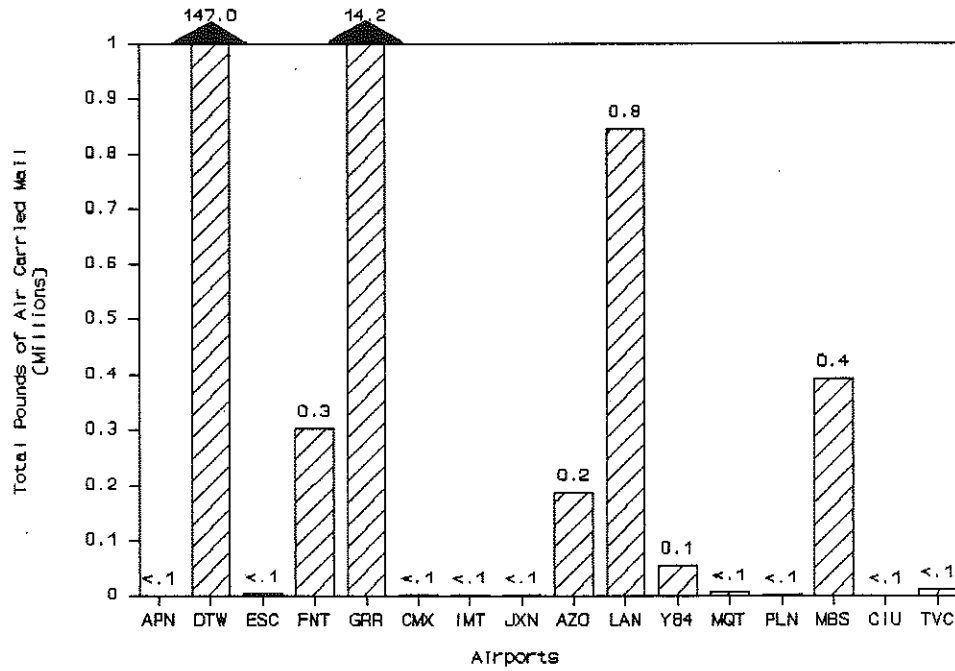


Exhibit 22
 1980-1989 STATEWIDE ANNUAL TOTAL AIR CARRIED MAIL

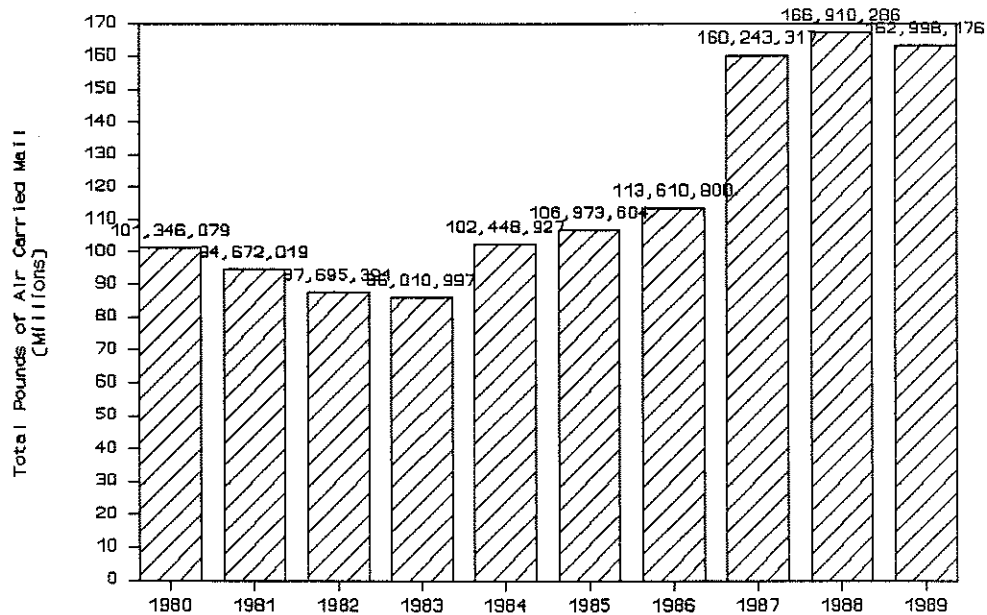


Exhibit 23

ENPLANED, DEPLANED & TOTAL AIR CARRIED MAIL LEVELS
AT MICHIGAN AIRPORTS WITH SCHEDULED AIR CARRIER SERVICE1989 Monthly History
(Figures in Pounds)

Airport	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
Alpena County Regional Airport														
Enp.	0	0	0	0	0	0	0	0	0	0	0	0	0	
Dep.	7	9	72	0	45	0	0	0	0	0	0	0	133	
Tot.	7	9	72	0	45	0	0	0	0	0	0	0	133	
Detroit Metropolitan Wayne County Airport														
Enp.	6,338,178	6,258,465	7,343,642	6,414,348	4,980,740	5,372,758	5,433,941	5,892,452	5,511,798	5,584,529	5,771,913	9,058,953	73,961,717	
Dep.	6,299,192	6,146,297	7,645,636	6,972,377	5,380,786	5,477,263	5,262,547	5,901,035	5,200,161	5,368,408	5,430,119	7,913,720	72,997,541	
Tot.	12,637,370	12,404,762	14,989,278	13,386,725	10,361,526	10,850,021	10,696,488	11,793,487	10,711,959	10,952,937	11,202,032	16,972,673	146,959,258	
Escanaba, Delta County Airport														
Enp.	246	202	250	273	0	201	215	250	209	219	113	249	2,427	
Dep.	0	0	0	0	480	0	0	0	0	0	0	0	480	
Tot.	246	202	250	273	480	201	215	250	209	219	113	249	2,907	
Flint, Bishop Airport														
Enp.	30,576	18,877	21,325	21,726	19,669	20,371	22,676	19,699	20,887	23,358	18,519	51,171	288,854	
Dep.	512	654	615	470	968	3,075	936	1,699	592	202	234	3,340	13,297	
Tot.	31,088	19,531	21,940	22,196	20,637	23,446	23,612	21,398	21,479	23,560	18,753	54,511	302,151	
Grand Rapids, Kent County International Airport														
Enp.	327,517	308,437	365,815	320,198	328,752	341,496	258,815	253,070	248,512	255,083	242,672	360,958	3,611,325	
Dep.	955,013	931,526	1,004,352	888,813	752,309	832,006	805,192	765,899	803,616	842,050	737,198	1,304,369	10,622,343	
Tot.	1,282,530	1,239,963	1,370,167	1,209,011	1,081,061	1,173,502	1,064,007	1,318,969	1,052,128	1,097,133	979,870	1,665,327	14,233,668	
Houghton/Hancock, Houghton County Memorial Airport														
Enp.	14	13	35	88	60	72	27	91	78	165	85	130	858	
Dep.	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tot.	14	13	35	88	60	72	27	91	78	165	85	130	858	
Iron Mountain, Ford Airport														
Enp.	152	110	136	144	0	0	0	0	0	0	0	0	542	
Dep.	68	2	0	0	0	0	0	0	0	0	0	0	70	
Tot.	220	112	136	144	0	0	0	0	0	0	0	0	612	
Jackson County Reynolds Field														
Enp.	0	0	0	0	0	0	0	0	0	0	0	0	0	
Dep.	0	0	0	0	0	0	0	0	0	498	0	0	498	
Tot.	0	0	0	0	0	0	0	0	0	498	0	0	498	
Kalamazoo County Airport														
Enp.	7,569	9,305	6,488	5,591	15,771	9,473	11,629	14,275	10,191	8,673	8,611	17,663	125,239	
Dep.	4,532	4,160	6,534	6,616	5,516	4,598	4,543	5,499	4,225	5,122	4,652	6,685	62,682	
Tot.	12,101	13,465	13,022	12,207	21,287	14,071	16,172	19,774	14,416	13,795	13,263	24,348	187,921	
Enp. = Enplaned							Dep. = Deplaned							Tot. = Total

Exhibit 23 (cont.)
**ENPLANED, DEPLANED & TOTAL AIR CARRIED MAIL LEVELS
 AT MICHIGAN AIRPORTS WITH SCHEDULED AIR CARRIER SERVICE**
 1989 Monthly History
 (Figures in Pounds)

Airport	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Lansing, Capital City Airport													
Enp.	93,449	89,795	97,096	78,815	106,596	91,016	48,760	32,552	20,928	30,603	34,185	50,102	773,897
Dep.	6,185	4,983	7,213	5,681	6,782	4,284	4,489	4,973	4,633	5,239	6,760	9,953	71,175
Tot.	99,634	94,778	104,309	84,496	113,378	95,300	53,249	37,525	25,561	35,842	40,945	60,055	845,072
Mackinac Island Airport													
Enp.	7,748	7,748	7,748	7,748	0	0	0	0	0	0	0	2,435	33,427
Dep.	4,281	4,281	4,281	4,281	0	0	0	0	0	0	0	4,710	21,834
Tot.	12,029	12,029	12,029	12,029	0	0	0	0	0	0	0	7,145	55,261
Marquette County Airport													
Enp.	428	411	506	419	389	432	479	497	400	470	370	637	5,438
Dep.	0	0	0	0	0	0	0	0	0	0	0	0	0
Tot.	428	411	506	419	389	432	479	497	400	470	370	637	5,438
Pellston, Emmet County Airport													
Enp.	3	0	0	0	0	11	20	24	0	0	0	0	58
Dep.	0	36	14	7	3	4	246	3	11	20	8	7	359
Tot.	3	36	14	7	3	15	266	27	11	20	8	7	417
Saginaw, Tri-City International Airport													
Enp.	30,404	35,513	45,478	33,498	28,974	28,048	9,761	18,309	15,276	20,674	18,967	41,463	326,365
Dep.	2,229	6,856	4,088	3,028	4,361	4,248	3,184	4,732	15,601	2,283	12,263	3,148	66,021
Tot.	32,633	42,369	49,566	36,526	33,335	32,296	12,945	23,041	30,877	22,957	31,230	44,611	392,386
Sault Ste. Marie, Chippewa County International Airport													
Enp.	0	0	0	0	0	0	0	0	0	0	0	0	0
Dep.	23	75	5	0	20	0	0	0	0	0	0	0	123
Tot.	23	75	5	0	20	0	0	0	0	0	0	0	123
Traverse City, Cherry Capital Airport													
Enp.	296	256	584	710	636	304	379	393	241	86	420	715	5,020
Dep.	660	413	895	357	557	430	527	546	387	496	483	702	6,453
Tot.	956	669	1,479	1,067	1,193	734	906	939	628	582	903	1,417	11,473
Michigan Scheduled Air Carrier Airports													
Enp.	6,836,580	6,729,132	7,889,103	6,883,558	5,481,587	5,864,182	5,786,702	6,231,612	5,828,520	5,923,860	6,095,855	9,584,476	79,135,167
Dep.	7,272,702	7,099,292	8,673,705	7,881,630	6,151,827	6,325,908	6,081,664	6,684,386	6,029,226	6,224,318	6,191,717	9,246,634	83,863,009
Tot.	14,109,282	13,828,424	16,562,808	14,765,188	11,633,414	12,190,090	11,868,366	12,915,998	11,857,746	12,148,178	12,287,572	18,831,110	162,998,176
Enp. = Enplaned	Dep. = Deplaned						Tot. = Total						

Exhibit 24
 ENPLANED, DEPLANED AND TOTAL AIR CARRIED MAIL LEVELS
 AT MICHIGAN SCHEDULED AIR PASSENGER AIRPORTS
 1988-1989 Comparison
 (Figures in Pounds)

Airport	Enplaned Mail		Percent Change	Deplaned Mail		Percent Change	Total Mail		Percent Change
	1988	1989		1988	1989		1988	1989	
Alpena	157	0	-100.0%	318	133	-58.2%	475	133	-72.0%
Detroit - City	29	0	-100.0%	36	0	-100.0%	65	0	-100.0%
Detroit - Metro	74,902,276	73,961,717	-1.3%	74,160,700	72,997,541	-1.6%	149,062,976	146,959,258	-1.4%
Escanaba	4,042	2,427	-40.0%	0	480	n/c	4,042	2,907	-28.1%
Flint	241,679	288,854	19.5%	14,935	13,297	-11.0%	256,614	302,151	17.7%
Grand Rapids	3,477,693	3,611,325	3.8%	12,404,232	10,622,343	14.4%	15,881,925	14,233,668	-10.4%
Houghton/Hancock	1,351	858	-36.5%	0	0	0.0%	1,351	858	-36.5%
Iron Mountain	4,643	542	-88.3%	260	70	-73.1%	4,903	612	-87.5%
Jackson	0	0	0.0%	0	498	n/c	0	498	n/c
Kalamazoo	256,731	125,239	-51.2%	50,966	62,682	23.0%	307,697	187,921	-38.9%
Lansing	901,085	773,897	-14.1%	56,441	71,175	26.1%	957,526	845,072	-11.7%
Mackinac Island	18,000	33,427	85.7%	18,000	21,834	21.3%	36,000	55,261	53.5%
Marquette	6,645	5,438	-18.2%	0	0	0.0%	6,645	5,438	-18.2
Pellston	508	58	-88.6%	1,057	359	-66.0%	1,565	417	-73.4%
Saginaw	337,064	326,365	-3.2%	41,628	66,021	58.6%	378,692	392,386	3.6%
Sault Ste. Marie	2,587	0	-100.0%	1,801	123	-93.2%	4,388	123	-97.2%
Traverse City	2,835	5,020	77.1%	2,587	6,453	149.4%	5,422	11,473	111.6%
Statewide	80,157,325	79,135,167	-1.3%	86,752,961	83,863,009	-3.3%	166,910,286	162,998,176	-2.3%
n/c: Not calculatable									



Section V:
AIRPORT INFORMATIONAL SUMMARIES

AIRPORT INFORMATIONAL SUMMARIES

Introduction

This section is intended to provide easy access to various useful statistical information on each Michigan airport with scheduled air carrier service. It is provided in a form which allows the user to remove the information for an individual airport for easy reference.

Each Michigan airport which had scheduled air passenger service in 1989 is individually presented in this section with the exception of East Tawas, Iosco County Airport (see below). Additionally, the comparative groups defined in previous sections are presented. These are:

- 1) Statewide: All 24 scheduled, passenger air carrier airports are used.
- 2) Statewide Excluding Detroit Metro: All air carrier airports in the state except for Detroit Metropolitan Wayne County Airport. A total of 24 facilities.
- 3) The Top Five: The five airports with the highest annual total passenger levels in 1989. These are, in order of total passengers: Detroit Metropolitan Wayne County Airport; Grand Rapids, Kent County Airport; Detroit City Airport; Saginaw, Tri-City International Airport; and Lansing, Capital City Airport.
- 4) Upper Peninsula Airports: Those airports located in Michigan's Upper Peninsula. These seven facilities are: Escanaba, Delta County Airport; Houghton/Hancock, Houghton County Memorial Airport; Iron Mountain, Ford Airport; Ironwood, Gogebic County Airport; Marquette County Airport; Menominee/Marinette, Twin County Airport; and

Sault Ste. Marie, Chippewa County Airport.

- 5) Essential Air Service Airports: Those four facilities receiving monies under the Essential Air Service subsidy program. These facilities are: Iron Mountain, Ford Airport; Ironwood, Gogebic County Airport; Manistee, County Blacker Airport; and Menominee/Marinette, Twin County Airport.

East Tawas, Iosco County Airport

Iosco County Airport had service through the end of February, 1989. In that time the facility was served by one airline which enplaned 59 passengers and deplaned 47. In 1989, the facility thus handled 106 total passengers.

Information Displayed

Information is included in the areas listed below. Should a graphic representation of the information be appropriate, it is included. Abbreviations used in the tables are listed in the appendices. The items listed in the airport summaries are:

- Airport location and layout
- Annual total passengers - 10 year history
- Monthly total passengers - 5 year history
- Passenger level comparison
- Scheduled air carrier service levels
- Changes in service level
- Percentage arrivals by carrier
- Percentage arrivals by aircraft type
- Nonstop arrivals from hubs/nonhubs

Michigan Scheduled Air Carrier Airports

Passengers Carried

Michigan, with 24,866,244 total passengers, experienced a 9.1 percent increase in 1989 over the previous year. This surpasses the previous all time record set in 1988, and represents the sixth year in a row in which Michigan has set a new record. Historically, the state has enjoyed a growth in total passengers since the ten year low experienced in 1982. In 1978, the last year of government regulation of routes and fares, Michigan scheduled air carrier airports handled 12,805,271 total passengers. The 1989 figure exceeds this by 94.2 percent. Monthly figures were five year highs in all months except February, March and April. It should be noted that Detroit, Metropolitan Wayne County Airport represents 82.2 percent of these statewide figures.

ANNUAL PASSENGERS

Year	Passengers			Percent Change
	Enplaned	Deplaned	Total	
1980	6,229,844	6,278,362	12,508,206	-10.5%
1981	5,584,450	5,604,992	11,189,442	-10.5%
1982	5,487,238	5,506,010	10,993,248	-1.8%
1983	5,847,404	5,882,861	11,730,265	6.7%
1984	7,014,290	7,026,934	14,041,224	19.7%
1985	9,129,513	9,058,636	18,188,149	29.5%
1986	10,261,345	10,027,481	20,288,826	11.5%
1987	11,202,013	11,124,706	22,326,719	10.0%
1988	11,355,720	11,443,245	22,798,965	2.1%
1989	12,436,679	12,429,565	24,866,244	9.1%

Service Supplied

As of December 31, 1989, Michigan was served by 30 carriers operated by 33 airlines. This figure represents a constant number of carriers and, due to changes in contract marketing agreements, a net loss of one airline operating in the state. Michigan had nonstop service from 101 airports in 93 cities, a net increase of five origins and six cities over the previous year. There were 5,282

weekly arrivals, up 676 from 1988. Of the weekly arrivals, 3,929 (74.4 percent) were from hub airports. Of the 516,848 weekly arriving seats, 462,716 (89.5 percent) were by jet, 41,708 (8.1 percent) were by pressurized propeller and 12,424 (2.4 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS As of December 31

Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	35	89	2,824	821	1,430	5,075
1987	34	93	2,841	805	1,056	4,702
1988	30	96	3,081	607	918	4,606
1989	30	101	3,251	1,482	549	5,282

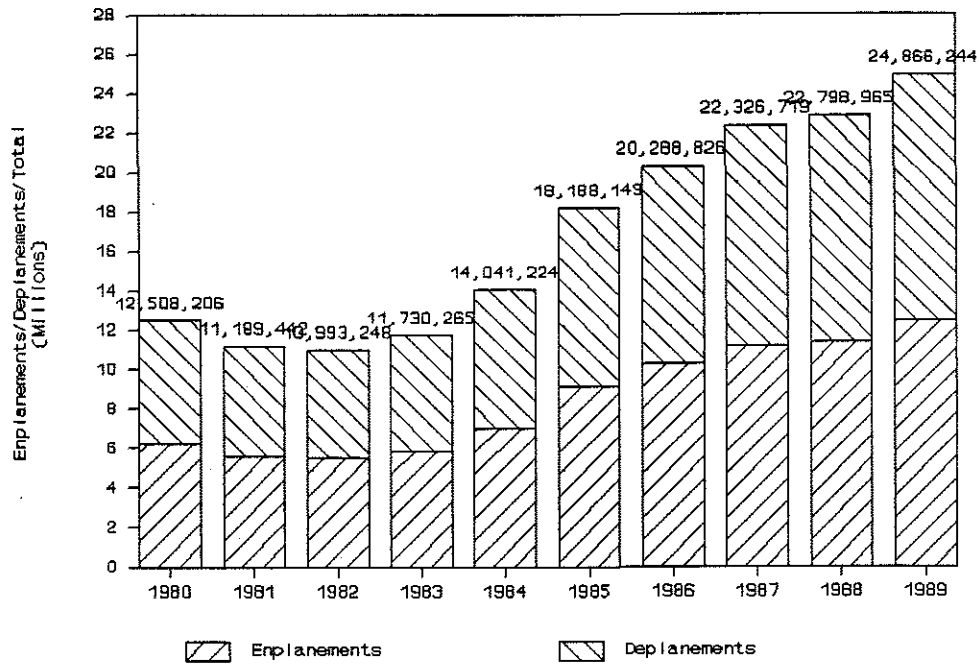
Note: Prior to 1989, Mackinac Island was not included in the statewide total. After 1989, it is included in the total.

WEEKLY ARRIVING SEATS As of December 31

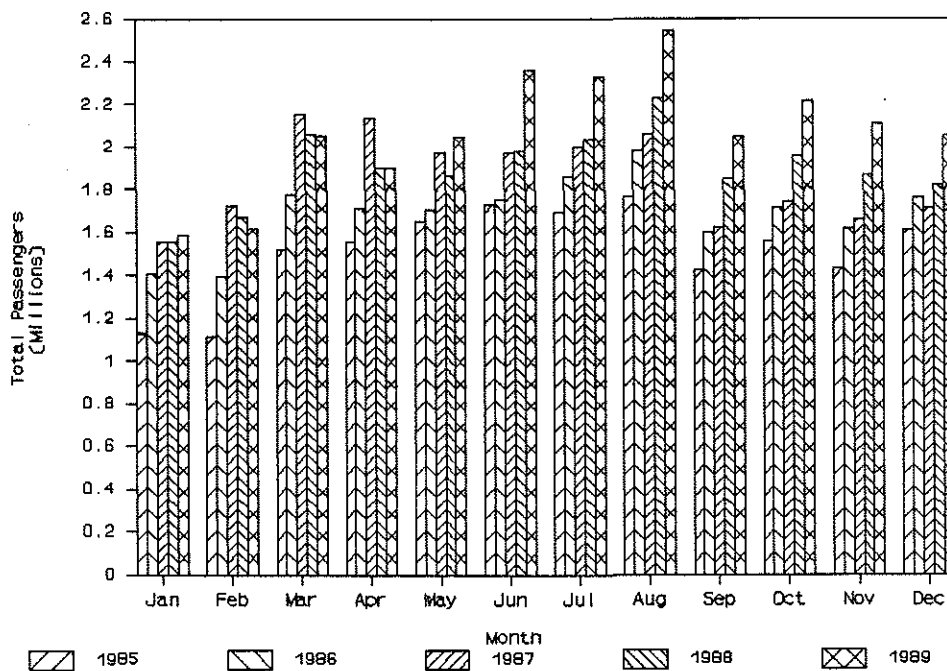
Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	411,860	31,686	38,678	482,224
1987	406,415	31,265	32,531	470,211
1988	431,943	18,118	25,169	475,230
1989	462,716	41,708	12,424	516,848

Note: Prior to 1989, Mackinac Island was not included in the statewide total. After 1989, it is included in the total.

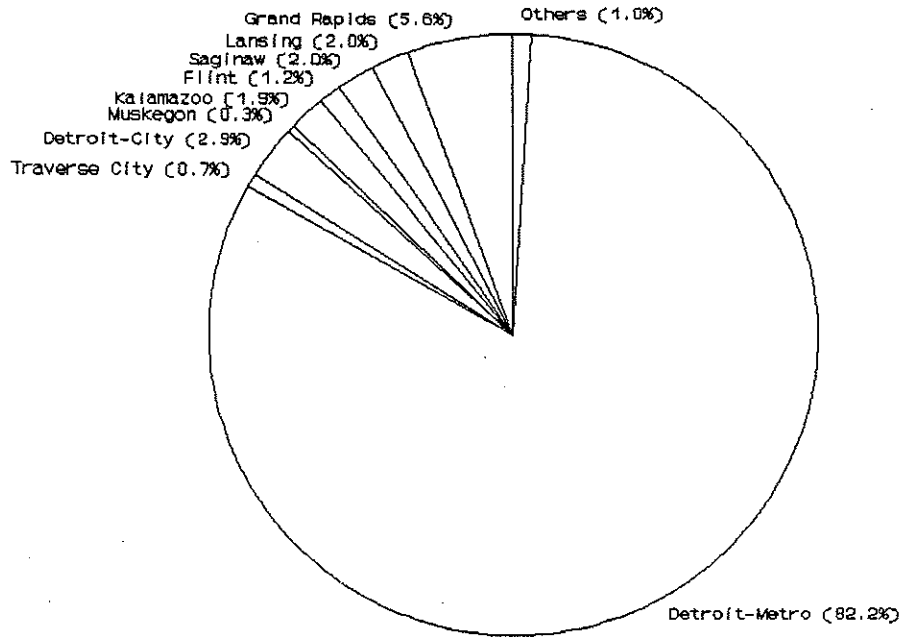
1980 - 1989 ANNUAL TOTAL PASSENGERS Michigan Scheduled Air Carrier Airports



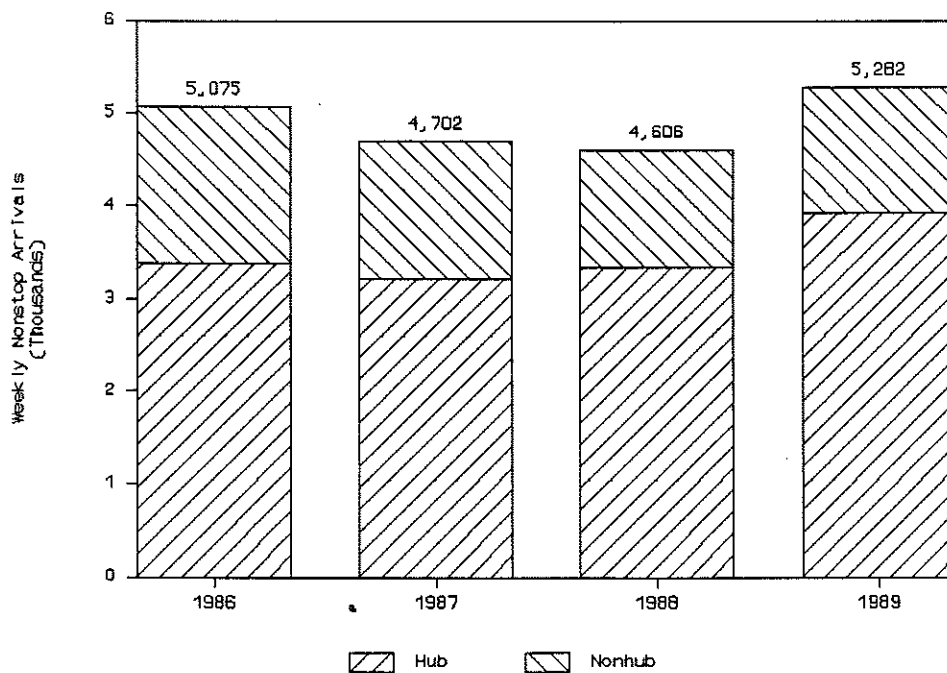
1985 - 1989 MONTHLY TOTAL PASSENGERS Michigan Scheduled Air Carrier Airports



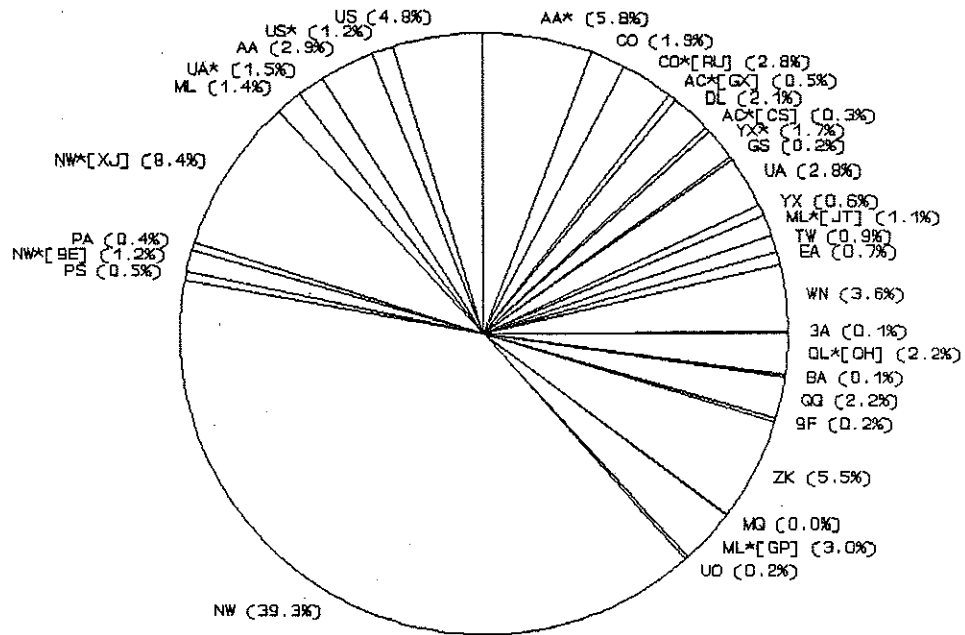
1989 PASSENGER LEVEL COMPARISON Michigan Scheduled Air Carrier Airports



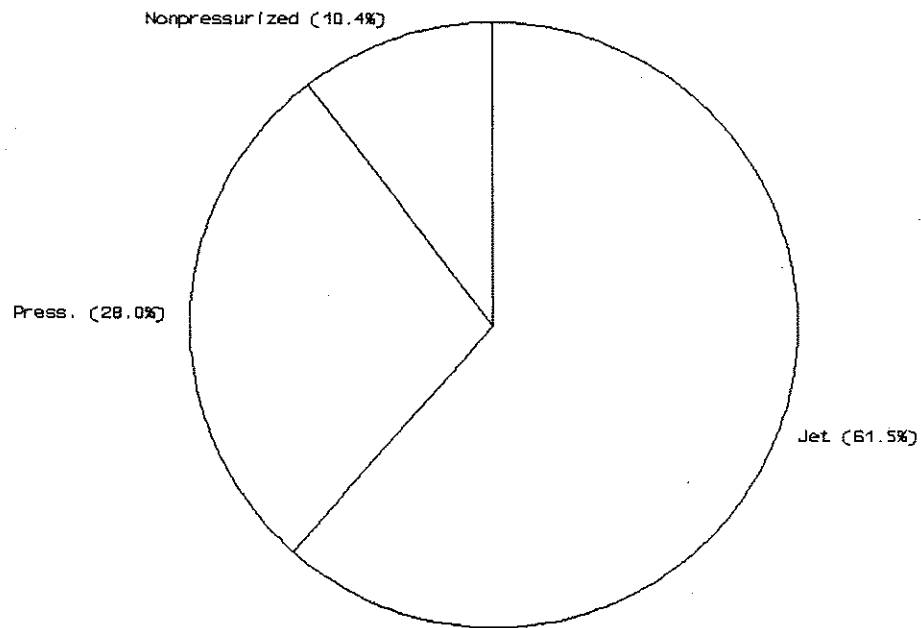
NONSTOP ARRIVALS FROM HUBS/NONHUBS Michigan Scheduled Air Carrier Airports



1989 PERCENTAGE ARRIVALS BY CARRIER Michigan Scheduled Air Carrier Airports



1989 PERCENTAGE ARRIVALS BY AIRCRAFT TYPE Michigan Scheduled Air Carrier Airports



Michigan Scheduled Air Carrier Airports Excluding Detroit Metro

Passengers Carried

Due to the degree to which Metro Airport affects state statistical totals, it is often helpful to make comparisons of other airports based on figures which exclude that facility from the total. Michigan, exclusive of Detroit Metro Airport, had 4,429,814 total passengers, a 21.2 percent increase in 1989 over the previous year. This increase places this group 37.7 percent above the 1978 level, the last year of government regulated routes and fares. Historically, the state exclusive of Detroit Metro has enjoyed a growth in total passengers since the ten year low experienced in 1982. Monthly figures were five year highs in all months.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	1,398,993	1,399,099	2,798,092	-14.9%
1981	1,099,570	1,107,325	2,206,895	-21.1%
1982	1,068,351	1,048,973	2,117,324	-4.1%
1983	1,299,011	1,302,626	2,601,637	22.9%
1984	1,371,082	1,372,317	2,743,399	5.4%
1985	1,543,693	1,540,917	3,084,610	12.4%
1986	1,612,998	1,604,098	3,217,096	4.3%
1987	1,627,520	1,603,890	3,231,410	0.4%
1988	1,836,452	1,818,264	3,654,716	13.1%
1989	2,236,702	2,193,112	4,429,814	21.2%

Service Supplied

As of December 31, 1989, Michigan, with the exception of Detroit Metro was served by 21 carriers operated by 23 airlines. This was a net decrease of one carrier from the previous year. Michigan airports except Detroit Metro had nonstop service from 41 airports in 38 cities. This is a net increase of one origin and one city over 1988. There were 2,200 weekly arrivals, up 515 from 1988. Of the weekly arrivals, 1,571 (71.4 percent) were from hub airports. Of the 118,150 weekly arriving seats, 75,258 (63.7 percent) were by

jet, 30,853 (26.1 percent) were by pressurized propeller and 12,039 (10.2 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	17	35	403	510	808	1,721
1987	18	35	376	505	699	1,580
1988	22	40	536	387	762	1,685
1989	21	41	588	1,118	494	2,200

Note: Prior to 1989, Mackinac Island was not included in the statewide total. After 1989, it is included in the total.

WEEKLY ARRIVING SEATS

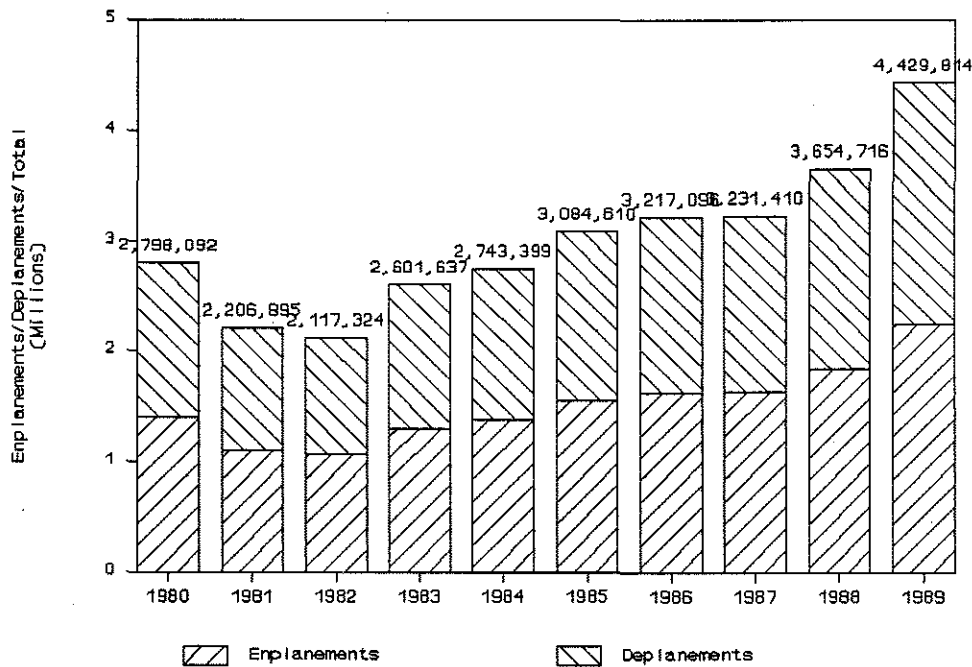
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	50,969	18,591	22,462	92,022
1987	47,317	19,278	20,309	86,904
1988	67,123	11,739	20,539	99,401
1989	75,258	30,853	12,039	118,150

Note: Prior to 1989, Mackinac Island was not included in the statewide total. After 1989, it is included in the total.

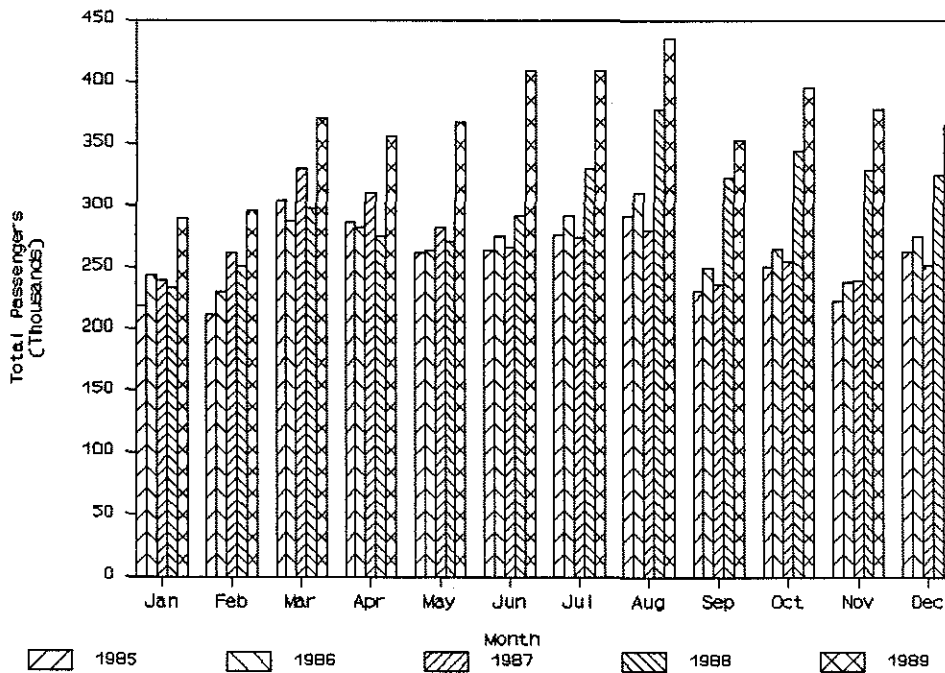
1980 - 1989 ANNUAL TOTAL PASSENGERS

Michigan Scheduled Air Carrier Airports Excluding Detroit Metro

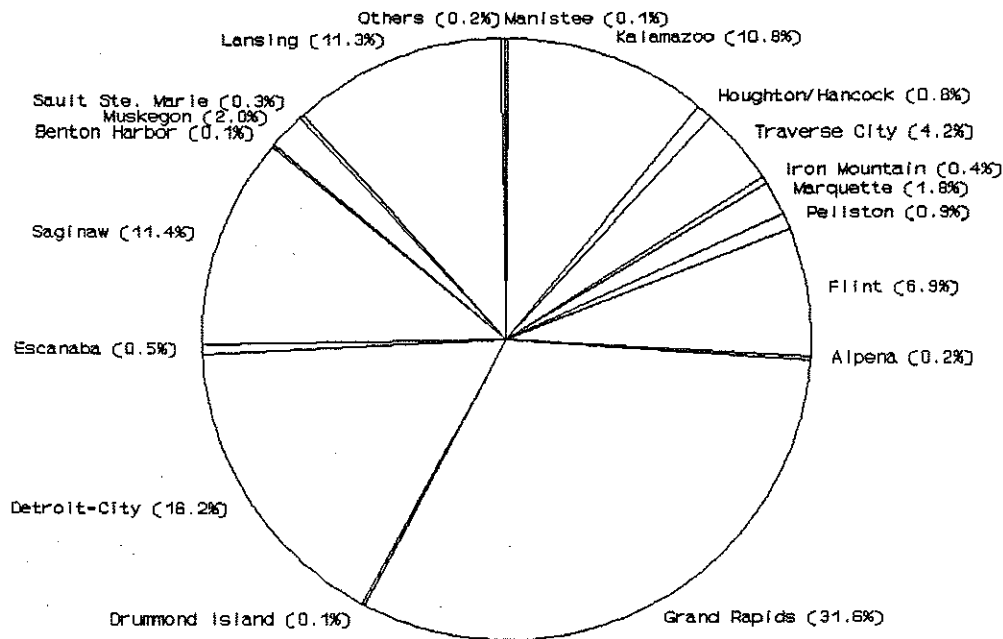


1985 - 1989 MONTHLY TOTAL PASSENGERS

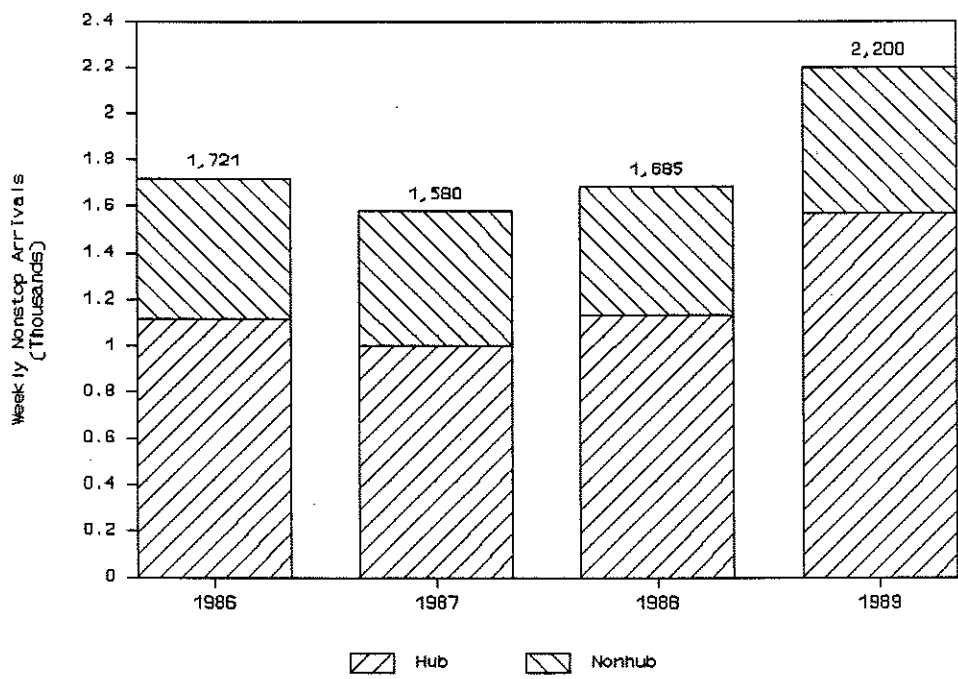
Michigan Scheduled Air Carrier Airports Excluding Detroit Metro



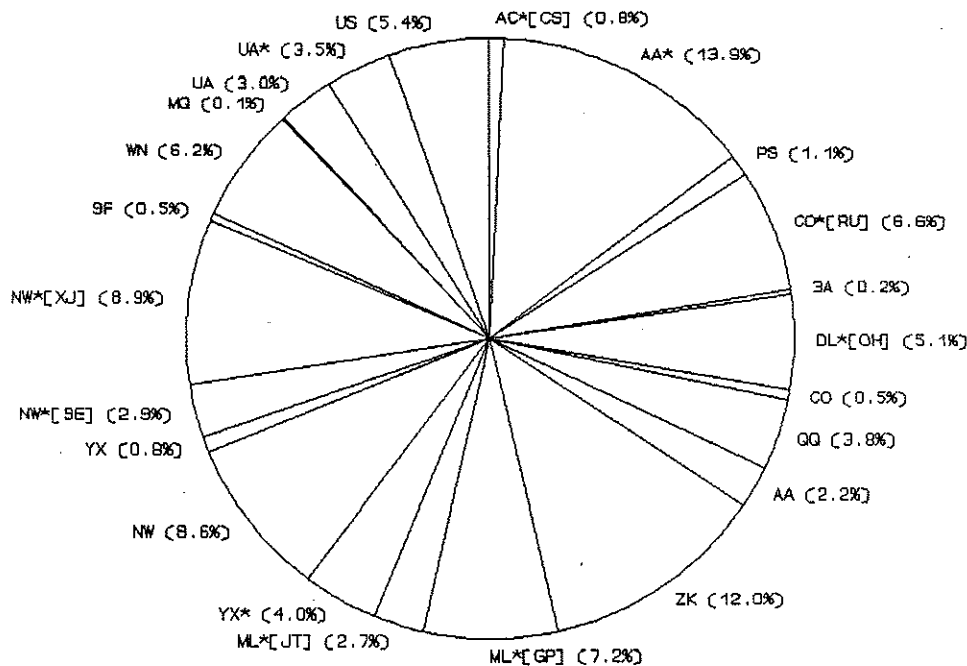
1989 PASSENGER LEVEL COMPARISON Michigan Scheduled Air Carrier Airports Excluding Detroit Metro



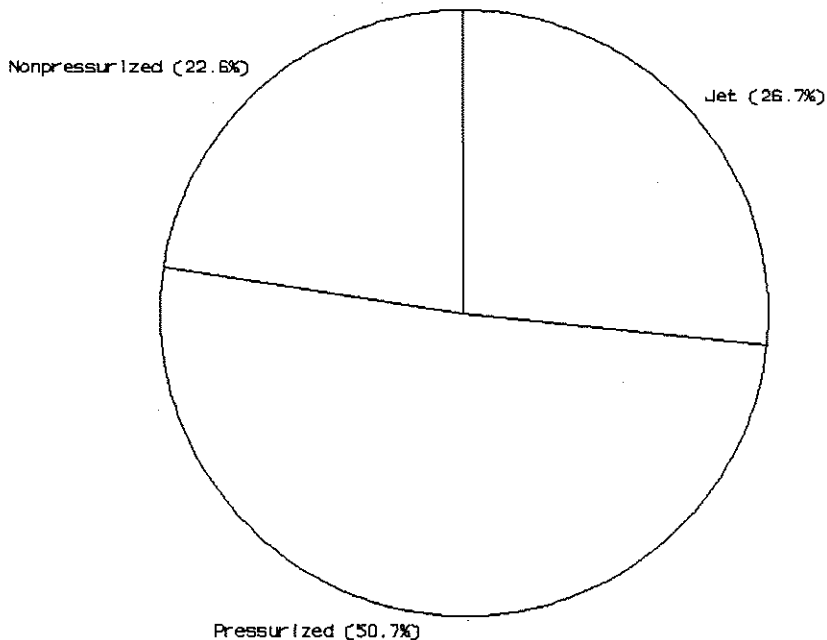
NONSTOP ARRIVALS FROM HUBS/NONHUBS Michigan Scheduled Air Carrier Airports Excluding Detroit Metro



1989 PERCENTAGE ARRIVALS BY CARRIER
Michigan Scheduled Air Carrier Airports Excluding Detroit Metro



1989 PERCENTAGE ARRIVALS BY AIRCRAFT TYPE
Michigan Scheduled Air Carrier Airports Excluding Detroit Metro



Top Five Airports In Terms of Total Passengers

Passengers Carried

The top five airports in the state were, in order of total passengers: Detroit Metropolitan Wayne County Airport; Grand Rapids, Kent County International Airport; Detroit City Airport; Saginaw, Tri-City International Airport; and Lansing, Capital City Airport. Prior to 1989, Kalamazoo/Battle Creek Regional International Airport had held a spot among the top five. It was displaced in 1989 by Detroit City Airport. In 1989, this group of airports accounted for 94.8 percent of Michigan's total passengers. The slight decrease in the percentage of Michigan passengers handled by the top five facilities shows somewhat increased dependence by travelers on their local facilities. The top five airports accounted for 23,563,257 total passengers, an 8.1 percent increase in 1989 over the previous year. Historically, this group has enjoyed a growth in total passengers since the ten year low experienced in 1982. Monthly figures were lower than their 1988 levels in February, March and April. The remaining months were five year highs. It should be noted that Detroit, Metro airport represents 86.7 percent of the values of the top five airports.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	5,749,477	5,797,736	11,547,213	-9.6%
1981	5,211,089	5,242,454	10,453,543	-9.5%
1982	5,158,819	5,185,090	10,343,909	-1.0%
1983	5,477,155	5,514,978	10,992,133	6.3%
1984	6,611,161	6,627,533	13,238,694	20.4%
1985	8,714,437	8,649,955	17,364,392	31.2%
1986	9,862,223	9,637,590	19,499,813	12.3%
1987	10,858,492	10,785,567	21,644,059	11.0%
1988	10,855,763	10,951,548	21,807,311	0.8%
1989	11,778,826	11,784,431	23,563,257	8.1%

Note: Composition of this group changed in 1989.

Service Supplied

As of December 31, 1989, the top five airports in terms of total passengers, were served by 28 carriers operated by 30 airlines. This was a net increase of three carriers and two airlines over the previous year. The top five airports had nonstop service from 89 airports in 81 cities, a net gain of nine origins and eight cities over 1988. There were 4,018 weekly arrivals, up 199 from 1988. Of the weekly arrivals, 3,171 (78.9 percent) were from hub airports. Of the 473,711 weekly arriving seats, 450,663 (95.1 percent) were by jet, 19,112 (4.0 percent) were by pressurized propeller and 3,936 (0.8 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	28	79	2,803	604	862	4,269
1987	25	79	2,820	605	560	3,985
1988	25	80	2,993	409	417	3,819
1989	28	89	3,156	676	186	4,018

Note: Composition of this group changed in 1989.

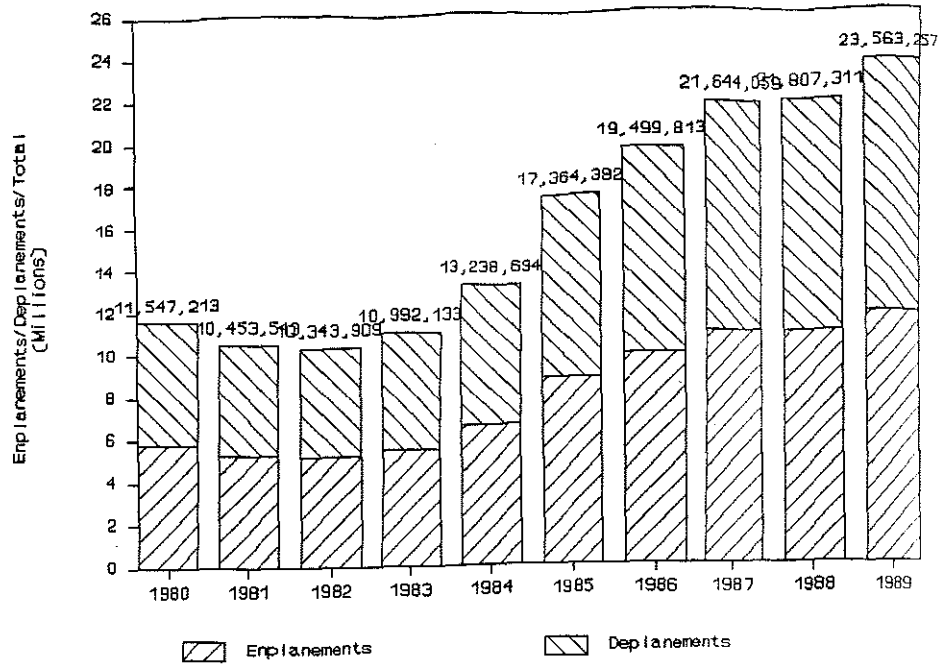
WEEKLY ARRIVING SEATS

As of December 31

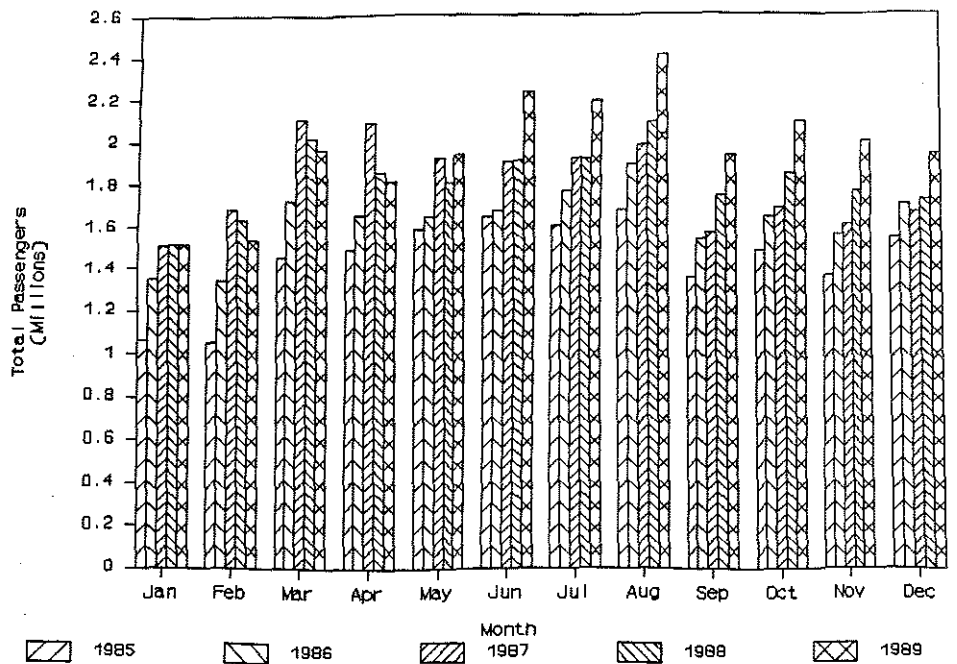
Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	409,074	22,776	23,741	455,591
1987	403,741	22,125	18,884	444,750
1988	420,851	12,244	11,086	444,181
1989	450,663	19,112	3,936	473,711

Note: Composition of this group changed in 1989.

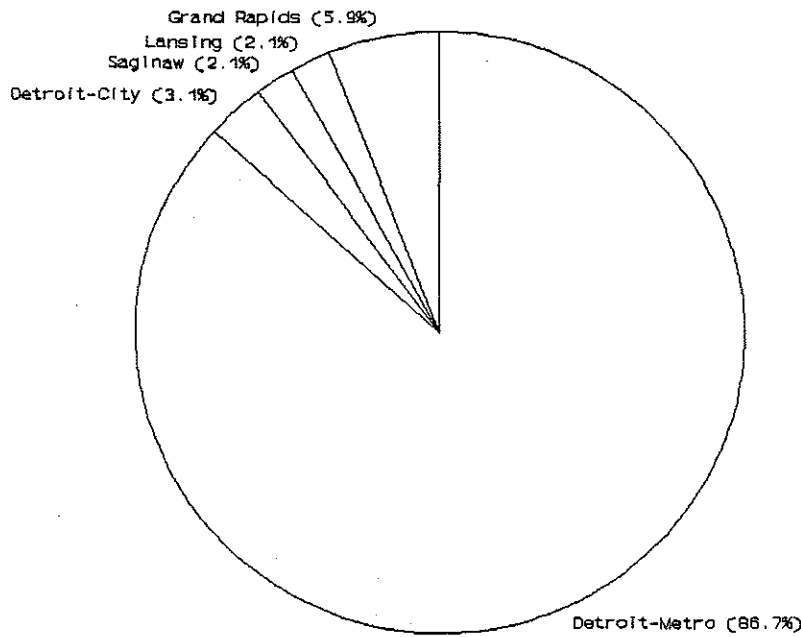
1980 - 1989 ANNUAL TOTAL PASSENGERS Top Five Airports In Terms of Total Passengers



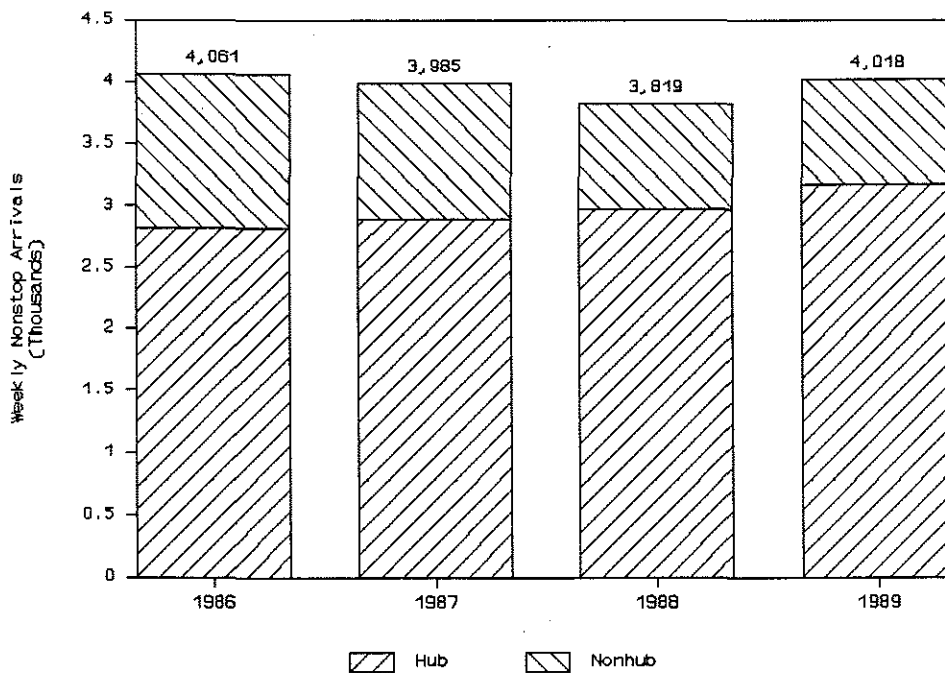
1985 - 1989 MONTHLY TOTAL PASSENGERS Top Five Airports In Terms of Total Passengers



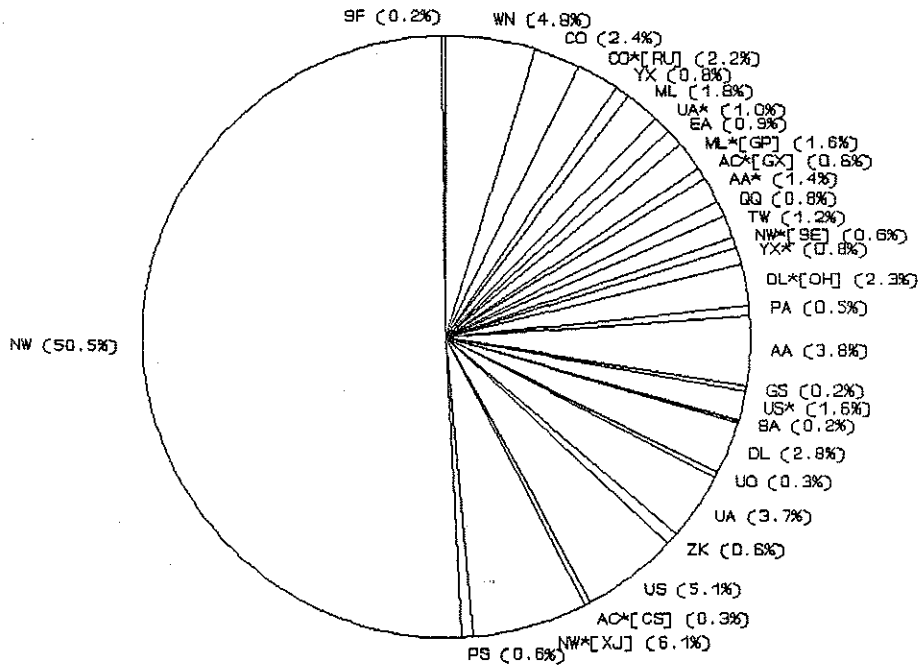
1989 PASSENGER LEVEL COMPARISON
Top Five Airports In Terms of Total Passengers



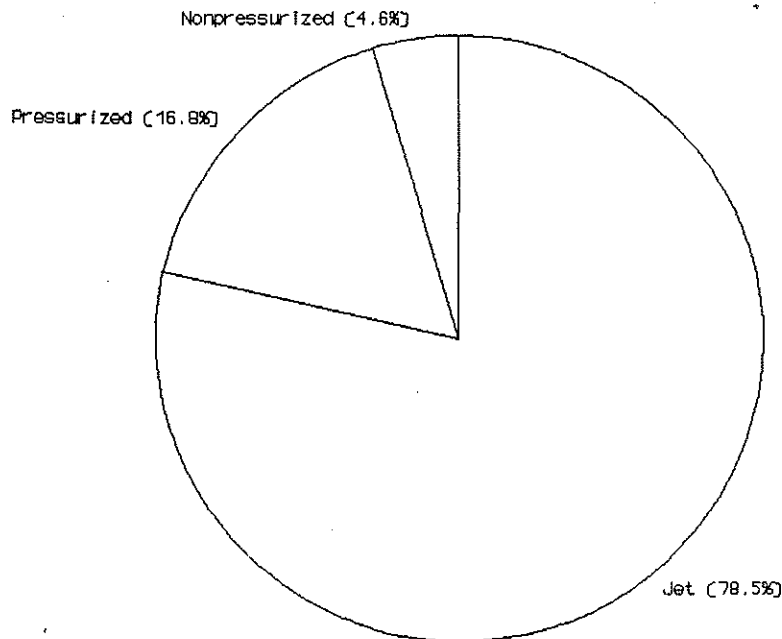
NONSTOP ARRIVALS FROM HUBS/NONHUBS
Top Five Airports In Terms of Total Passengers



1989 PERCENTAGE ARRIVALS BY CARRIER
Top Five Airports In Terms of Total Passengers



1989 PERCENTAGE ARRIVALS BY AIRCRAFT TYPE
Top Five Airports In Terms of Total Passengers



Upper Peninsula Airports

Passengers Carried

The seven airports in Michigan's upper peninsula are: Escanaba, Delta County Airport; Houghton/Hancock, Houghton County Memorial Airport; Iron Mountain, Ford Airport; Ironwood, Gogebic County Airport; Marquette County Airport; Menominee/Marinette, Twin County Airport; and Sault Ste. Marie, Chippewa County International Airport. In 1989, this group of airports accounted for 0.7 percent of Michigan's total passengers. The upper peninsula airports accounted for 179,903 total passengers, a 16.8 percent increase in 1989 over the previous year. Historically, this group experienced a decline in total passengers between 1983 and 1987. Overall, this group is currently at a level 36.8 percent below that of 1978, the last year of government regulation of routes and fares. The monthly figures for February was a five year low. The remaining months experienced higher levels than in the previous year and five year highs were experienced from May through December.

ANNUAL PASSENGERS

Year	Passengers			Percent Change
	Enplaned	Deplaned	Total	
1980	131,134	130,408	261,542	-9.8%
1981	98,691	95,413	194,104	-25.8%
1982	86,762	86,476	173,238	-10.7%
1983	90,988	90,881	181,869	5.0%
1984	90,691	90,628	181,319	-0.3%
1985	87,955	85,792	173,747	-4.2%
1986	74,552	73,749	148,301	-14.6%
1987	66,631	64,062	130,693	-11.9%
1988	78,026	76,018	154,044	17.9%
1989	91,135	88,768	179,903	16.8%

Service Supplied

As of December 31, 1989, the upper

peninsula airports were served by five carriers operated by six airlines. Though there was no net change in the number of carriers, due to contract marketing agreements, there was a net increase of one airline from 1988 serving this group of facilities. The upper peninsula airports had nonstop service from 16 cities, up four from the previous year. There were 374 weekly arrivals, up 138 over 1988. Of the weekly arrivals, 77 (20.6 percent) were from hub airports. Of the 9,953 weekly arriving seats, 9,841 (98.9 percent) were by pressurized propeller and 112 (1.1 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

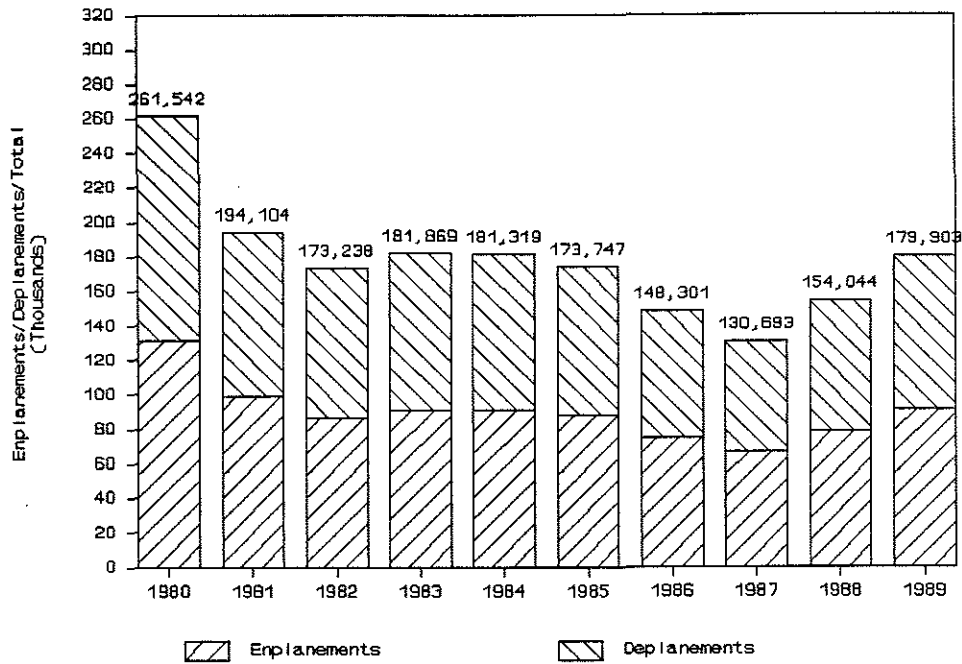
Year	Carriers		Weekly Arrivals			
	Serving	Origins	Jet	Press	Nonpr	Total
1986	6	14	0	68	138	206
1987	6	15	0	63	159	222
1988	5	12	0	112	124	236
1989	5	16	0	367	7	374

WEEKLY ARRIVING SEATS

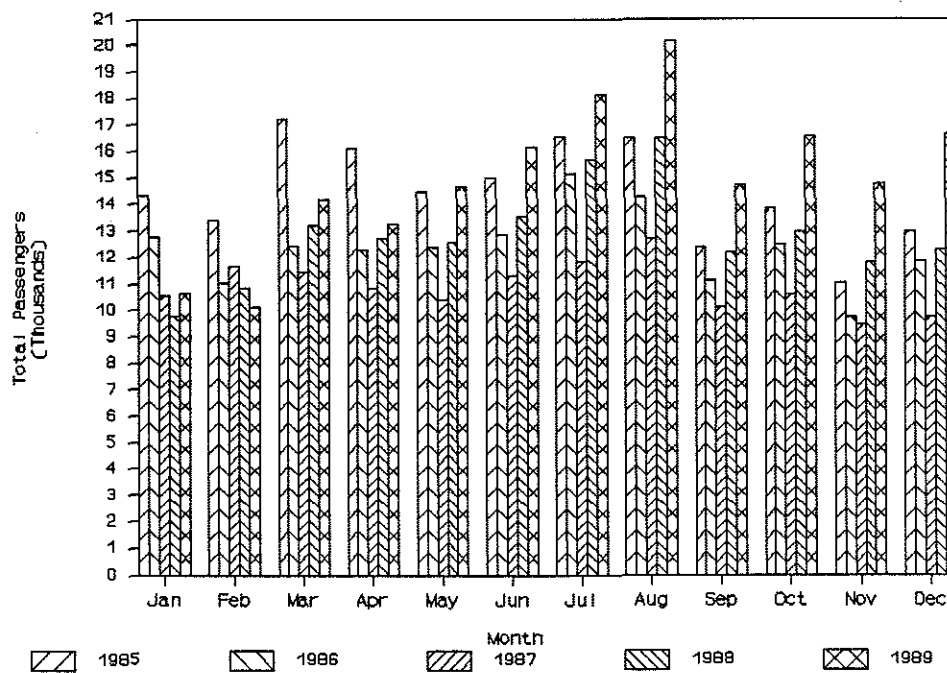
As of December 31

Year	Weekly Arriving Seats			
	Jet	Press	Nonpr	Total
1986	0	3,128	3,833	6,961
1987	0	2,898	4,800	7,698
1988	0	2,857	4,324	7,181
1989	0	9,841	112	9,953

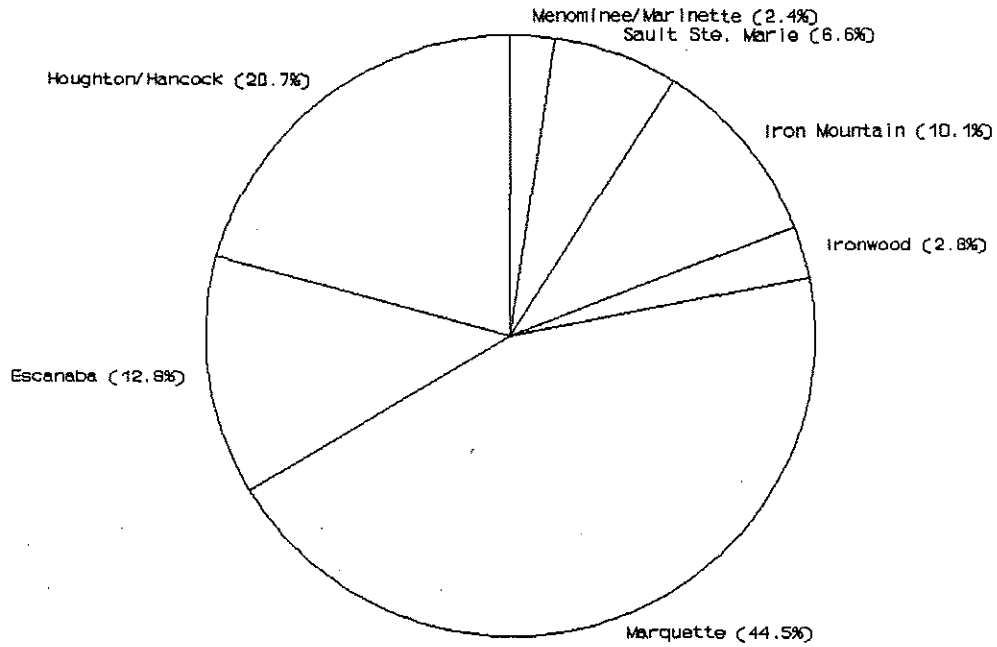
1980 - 1989 ANNUAL TOTAL PASSENGERS Upper Peninsula Airports



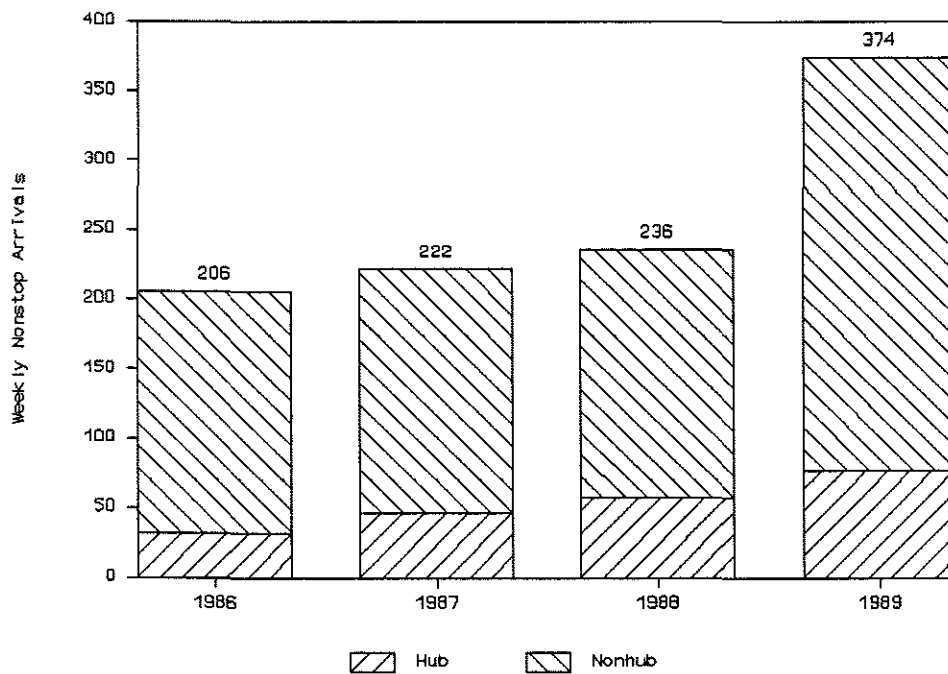
1985 - 1989 MONTHLY TOTAL PASSENGERS Upper Peninsula Airports



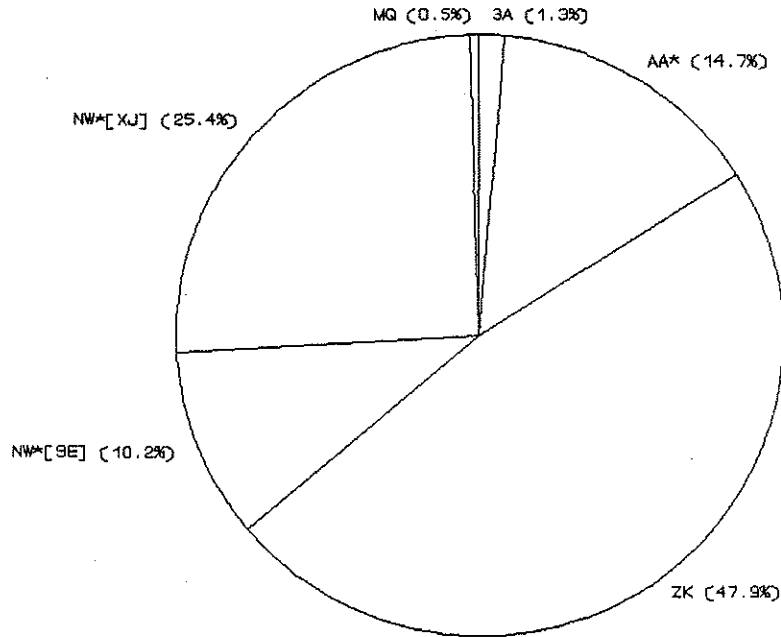
1989 PASSENGER LEVEL COMPARISON Upper Peninsula Airports



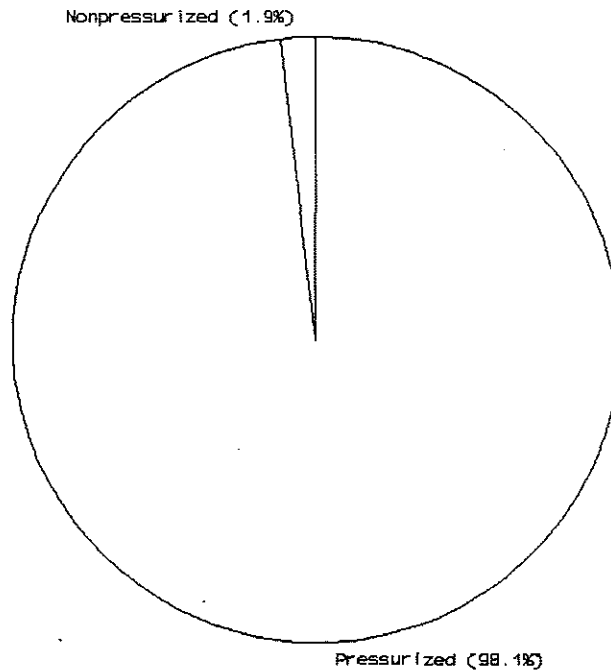
NONSTOP ARRIVALS FROM HUBS/NONHUBS Upper Peninsula Airports



1989 PERCENTAGE ARRIVALS BY CARRIER
Upper Peninsula Airports



1989 PERCENTAGE ARRIVALS BY AIRCRAFT TYPE
Upper Peninsula Airports



Essential Air Service Airports

Passengers Carried

The four airports receiving essential air service subsidies are: Iron Mountain, Ford Airport; Ironwood, Gogebic County Airport; Manistee, County Blacker Airport; and Menominee-Marquette, Twin County Airport. Prior to 1989, Jackson, County Reynolds Field and Sault Ste. Marie, Chippewa County Airport received subsidies and Iron Mountain and Ironwood did not. In 1988, this group of airports accounted for 0.1 percent of Michigan's total passengers. The subsidized airports accounted for 33,475 total passengers. However, the 79.4 percent increase in 1989 over the previous year can be somewhat misleading due to the change in the makeup of this group. Historically, prior to the increase in 1987, this group had experienced a decline in total passengers since 1978.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	30,640	29,640	60,280	-15.4%
1981	15,738	14,874	30,612	-49.2%
1982	10,670	10,203	20,873	-31.8%
1983	8,744	8,857	17,601	-15.7%
1984	7,759	7,640	15,399	-12.5%
1985	7,199	7,215	14,414	-6.4%
1986	6,892	7,131	14,023	-2.7%
1987	7,689	7,386	15,075	7.5%
1988	9,409	9,247	18,656	23.8%
1989	16,702	16,773	33,475	79.4%

Note: Composition of this group changed in 1989.

Service Supplied

As of December 31, 1989, the essential air service airports were served by 2 carriers operated by 2 airlines. This net decrease of one carrier from 1988 serving this group of facilities is somewhat misleading. The listings

used to generate the MDOT statistics do not reflect the legal absorption of Alliance Airlines by Great Lakes Aviation, Ltd. As such, there is really only one carrier operated by one airline serving the essential air service airports. The reasons for leaving some of the flight listings under the Alliance Airlines code are unknown.

The essential air service airports had nonstop service from nine cities, a net increase of three over the previous year. There were 164 weekly arrivals, up 84 over 1988. Of the weekly arrivals, 42 (25.6 percent) were from hub airports. Of the 3,061 weekly arriving seats, 3,021 (98.7 percent) were by pressurized propeller and 40 (1.3 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	4	5	0	0	72	72
1987	4	5	0	0	70	70
1988	3	6	0	39	41	80
1989	2	9	0	159	5	164

Note: Composition of this group changed in 1989.

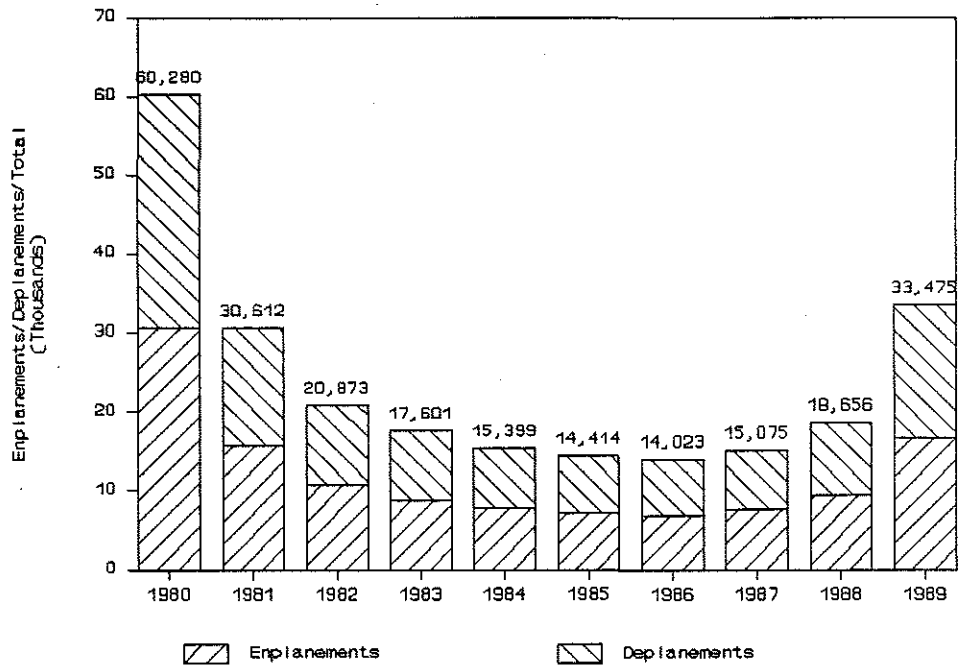
WEEKLY ARRIVING SEATS

As of December 31

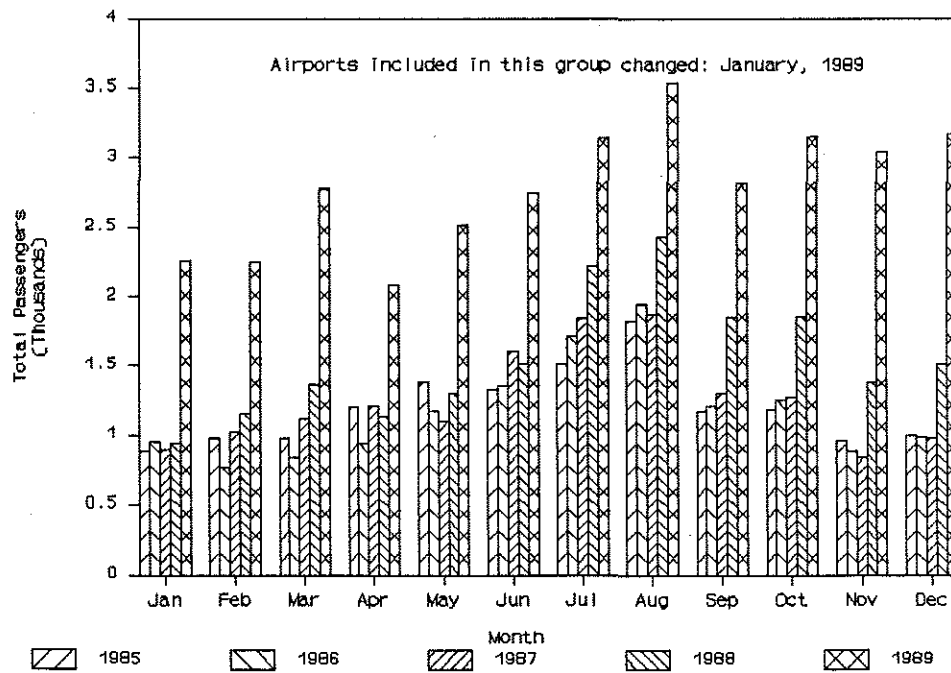
Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	0	917	917
1987	0	0	1,232	1,232
1988	0	741	1,084	1,825
1989	0	3,021	40	3,061

Note: Composition of this group changed in 1989.

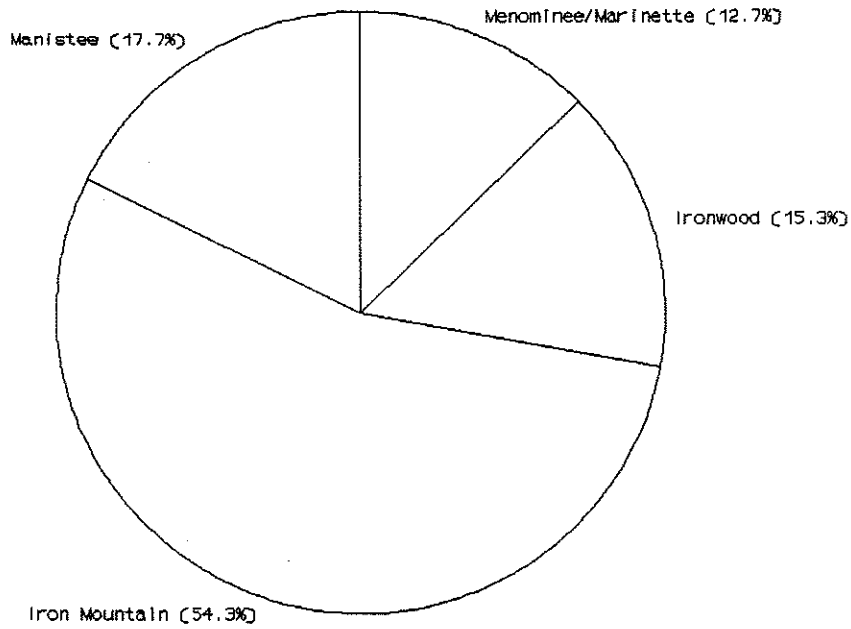
1980 - 1989 ANNUAL TOTAL PASSENGERS Essential Air Service Airports



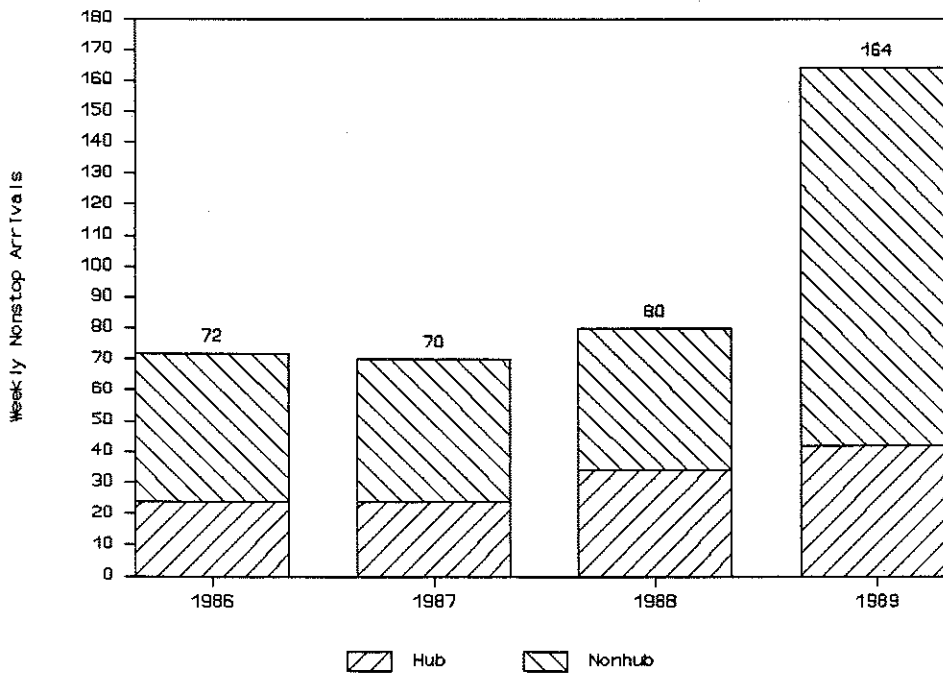
1985 - 1989 MONTHLY TOTAL PASSENGERS Essential Air Service Airports



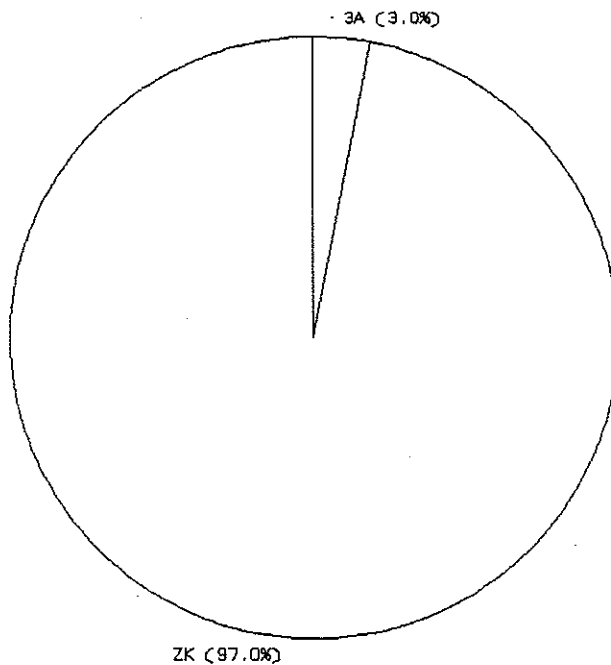
1989 PASSENGER LEVEL COMPARISON Essential Air Service Airports



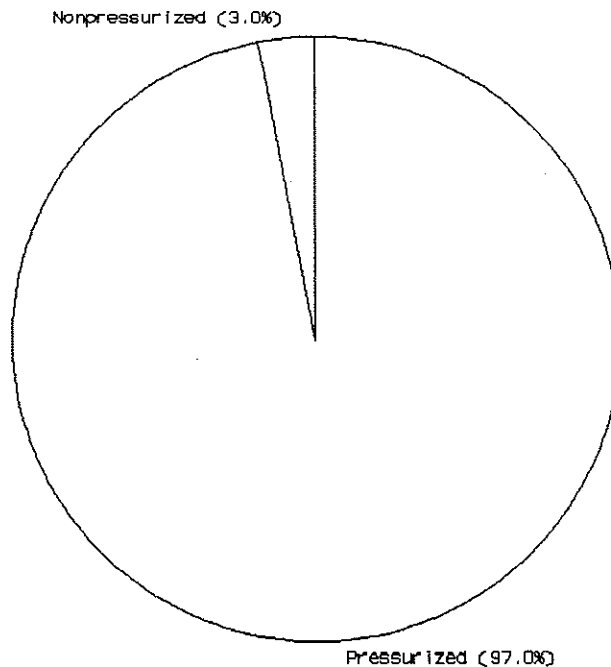
NONSTOP ARRIVALS FROM HUBS/NONHUBS Essential Air Service Airports



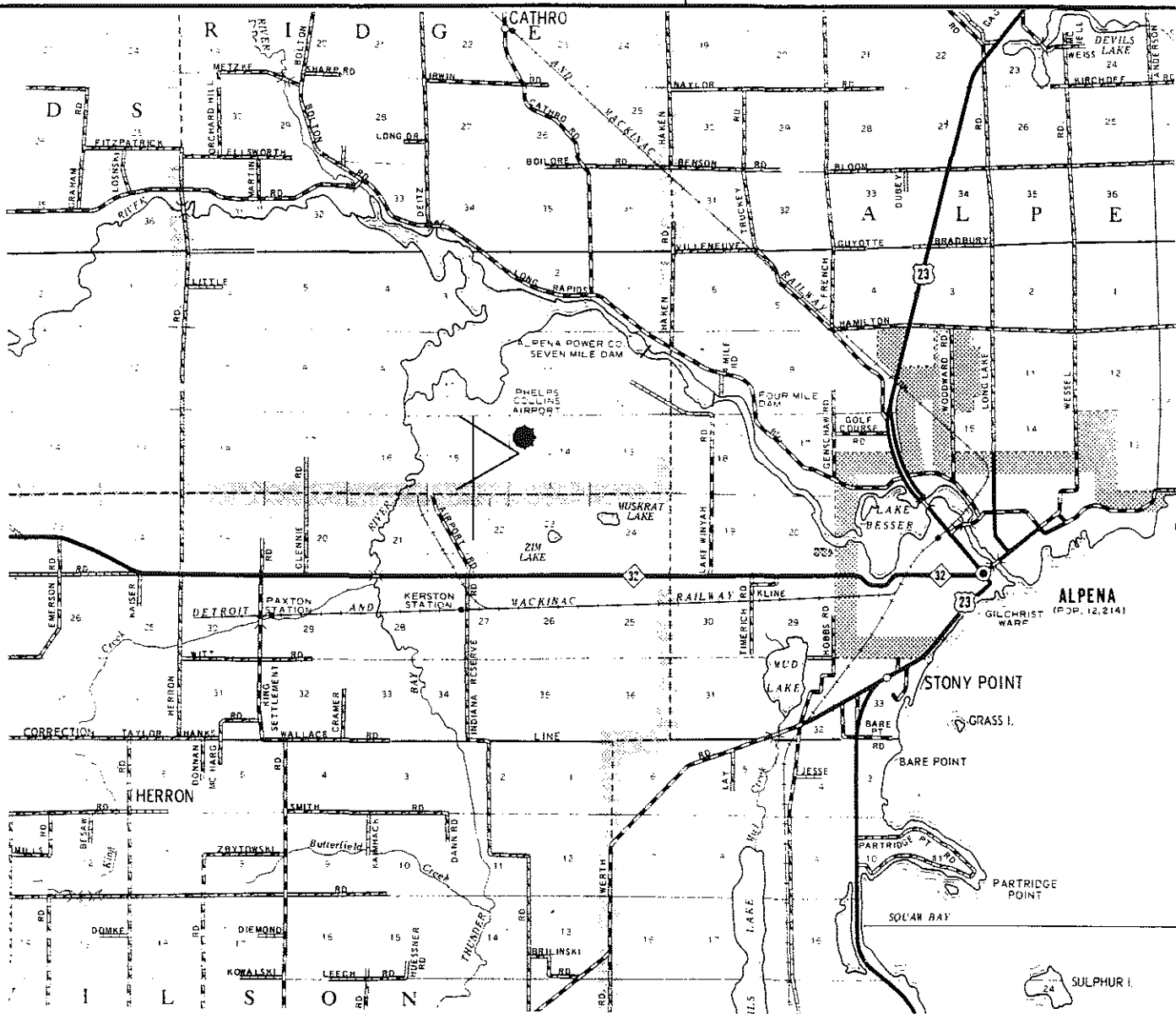
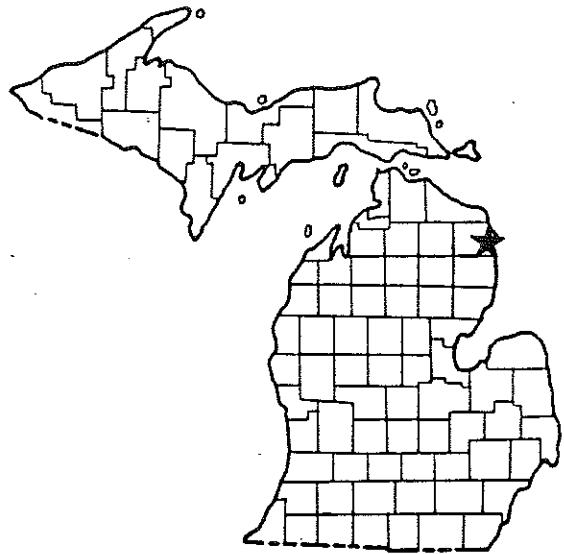
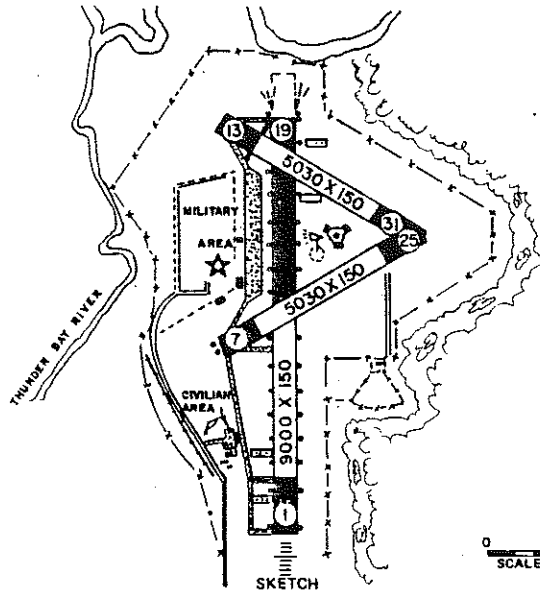
1989 PERCENTAGE ARRIVALS BY CARRIER
Essential Air Service Airports



1989 PERCENTAGE ARRIVALS BY AIRCRAFT TYPE
Essential Air Service Airports



Alpena County Regional Airport



Alpena County Regional Airport

Passengers Carried

Alpena County Regional Airport (previously Phelps Collins Airport), with 9,596 total passengers, experienced a 10.3 percent increase in 1989 from the previous year. This increase comes after two years of decline. The 1989 level is 61.6 percent below the 1978 level, the last year of government regulated routes and fares. However, 1989 is 19.8 percent above the post regulation low experienced in 1982. Monthly figures were five year lows in January and from March through June. February exceeded the 1988 level and August was higher than the 1987 and 1988 levels. The remaining months were five year highs. Alpena County Regional Airport ranked sixteenth in the state in total passengers with less than 0.1 percent of the statewide total.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	12,038	12,160	24,198	-7.4%
1981	7,007	7,079	14,086	-41.8%
1982	3,963	4,046	8,009	-43.1%
1983	4,091	4,074	8,165	1.9%
1984	4,375	4,196	8,571	5.0%
1985	4,985	5,008	9,993	16.6%
1986	4,879	5,169	10,048	0.6%
1987	4,754	4,688	9,442	-6.0%
1988	4,376	4,321	8,697	-7.9%
1989	4,835	4,761	9,596	10.3%

Service Supplied

As of December 31, 1989, Alpena was served by two airlines. Between survey dates Northwest AirlinK (Simmons Airlines) was replaced by Great Lakes Aviation, Ltd. Alpena County Regional Airport continued to have nonstop service from Detroit Metro, Drummond Island and Sault Ste. Marie as in

the previous year. Service from East Tawas and Saginaw was dropped leaving a total of three cities served nonstop. There were 78 weekly arrivals, up 19 from 1988. Of the weekly arrivals, 39 (50.0 percent) were from a hub airport. Of the 1,146 weekly arriving seats, 950 (82.9 percent) were in pressurized propeller and 196 (17.1 percent) were in nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

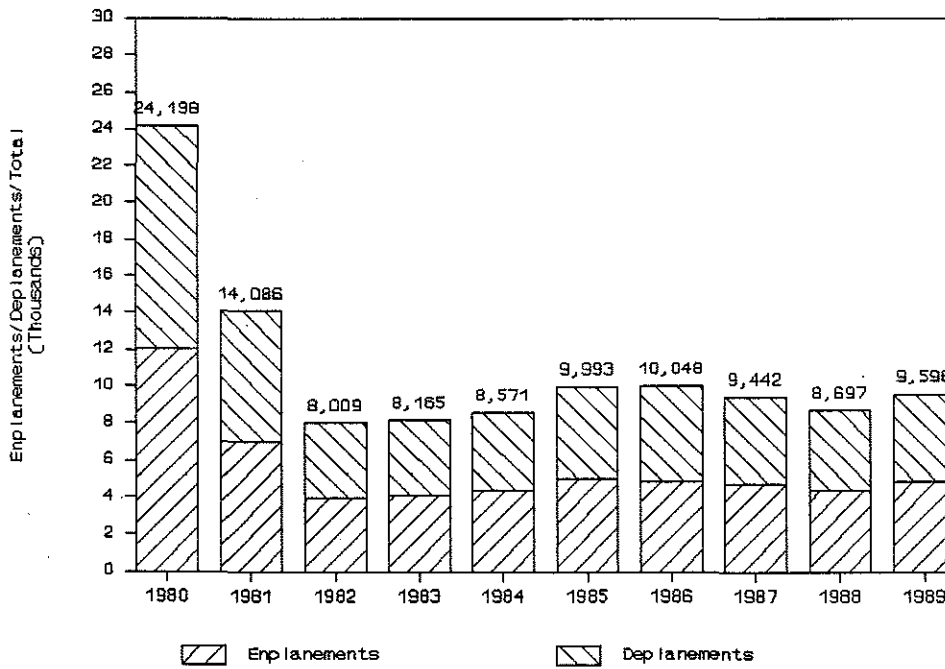
Year	Carriers		Weekly Arrivals			Total
	Serving	Origins	Jet	Press	Nonpr	
1986	1	2	0	0	38	38
1987	1	2	0	0	24	24
1988	2	5	0	0	59	59
1989	2	3	0	50	28	78

WEEKLY ARRIVING SEATS

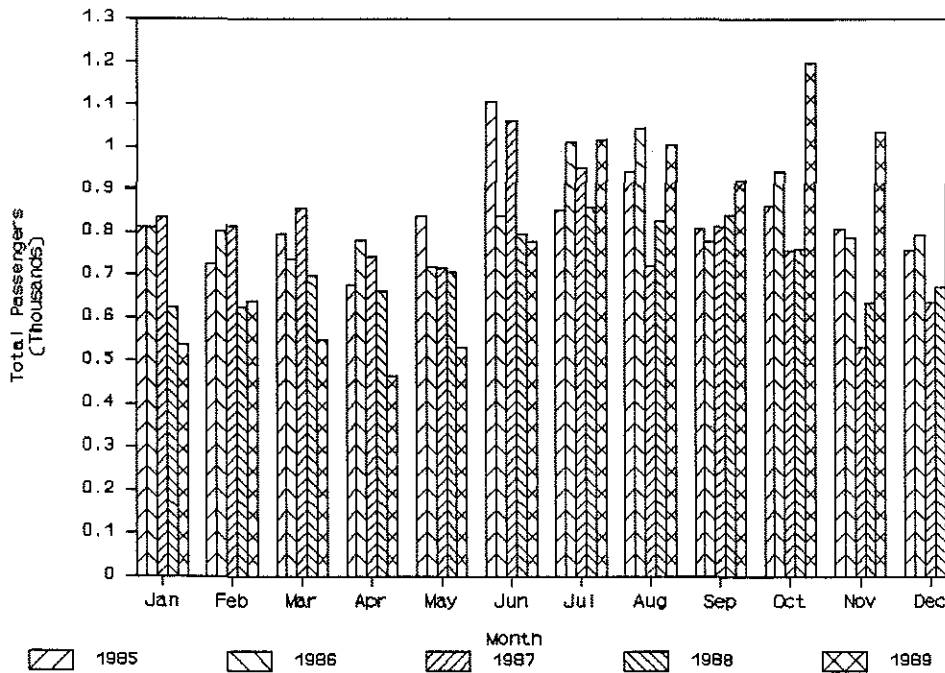
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	0	722	722
1987	0	0	864	864
1988	0	0	1,080	1,080
1989	0	950	196	1,146

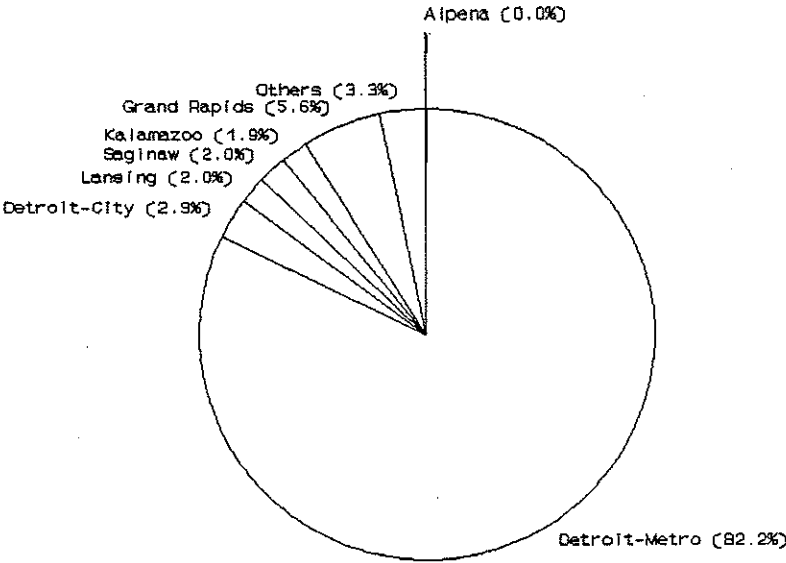
1980 - 1989 ANNUAL TOTAL PASSENGERS Alpena County Regional Airport



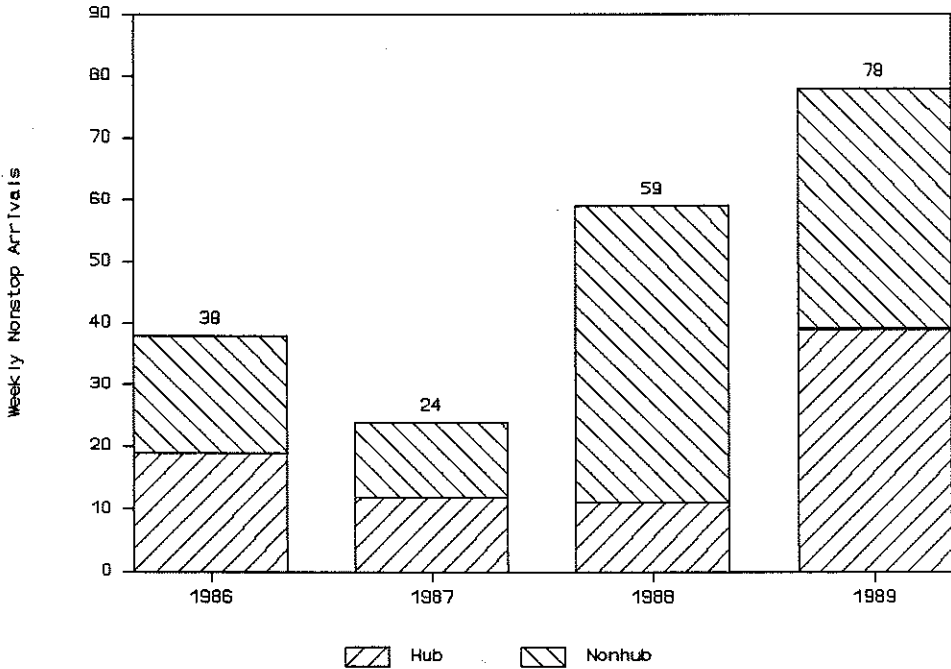
1985 - 1989 MONTHLY TOTAL PASSENGERS Alpena County Regional Airport



1989 PASSENGER LEVEL COMPARISON Alpena County Regional Airport



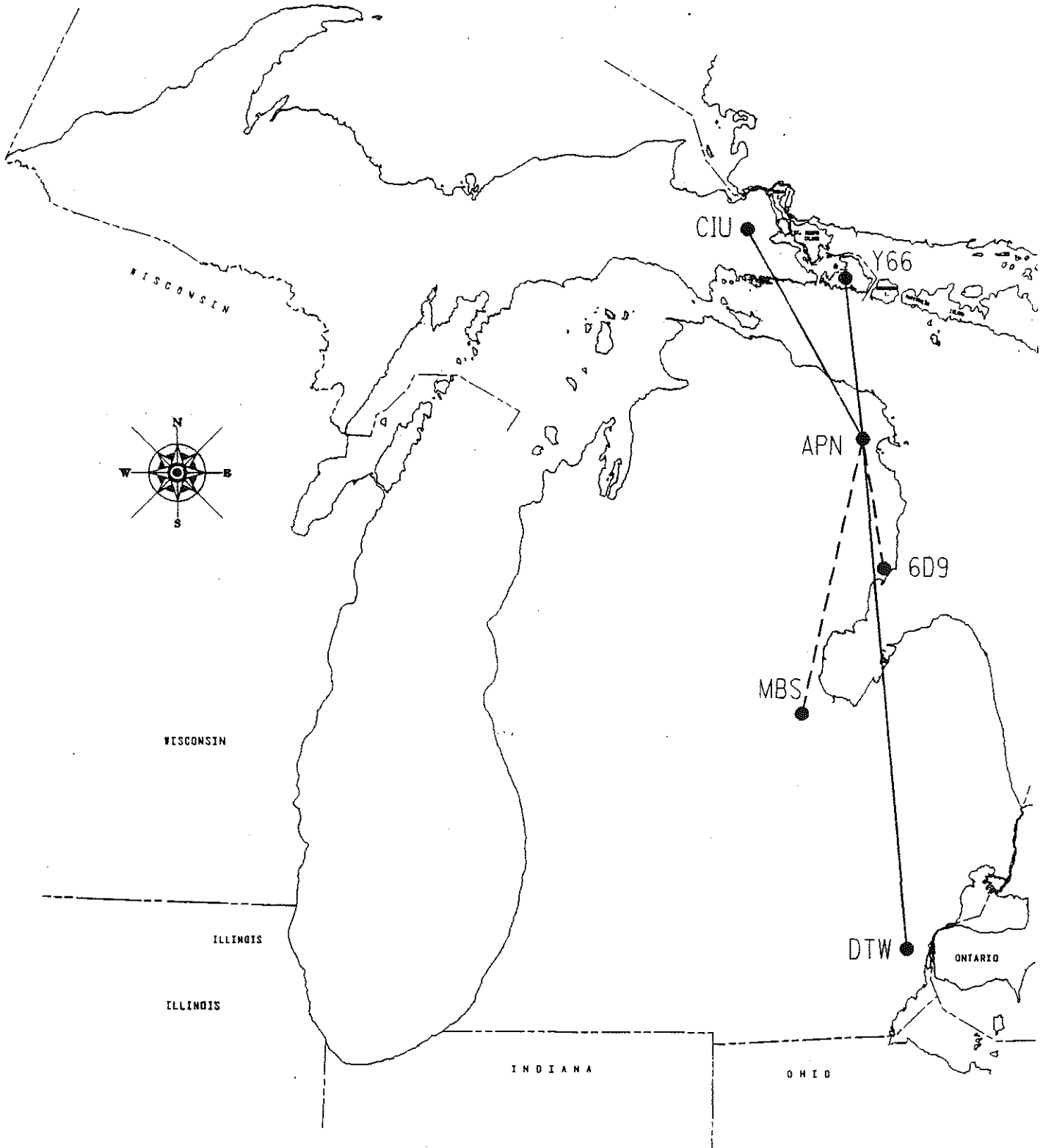
NONSTOP ARRIVALS FROM HUBS/NONHUBS Alpena County Regional Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Alpena County Regional Airport

As of December 31, 1989



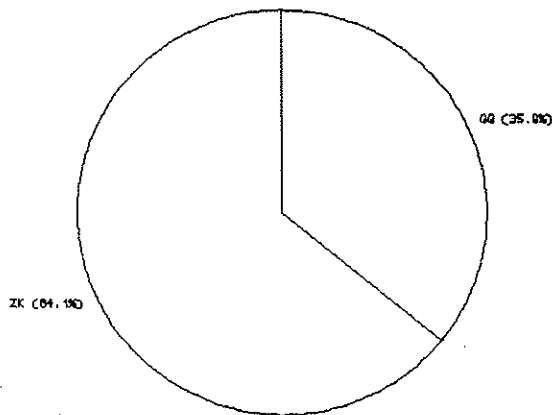
Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

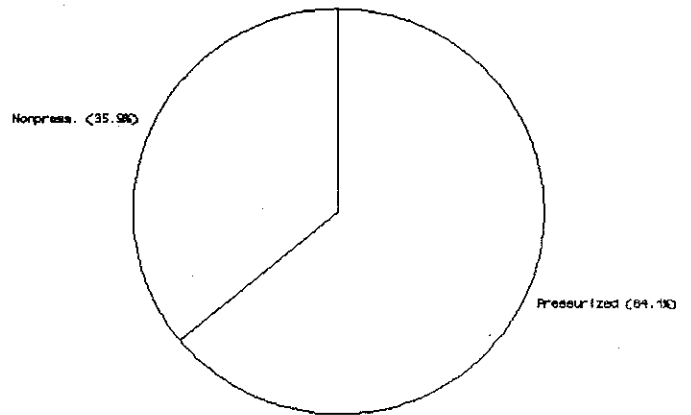
PERCENTAGE ARRIVALS
BY CARRIER

Alpena County Regional Airport



PERCENTAGE ARRIVALS BY
AIRCRAFT TYPE

Alpena County Regional Airport



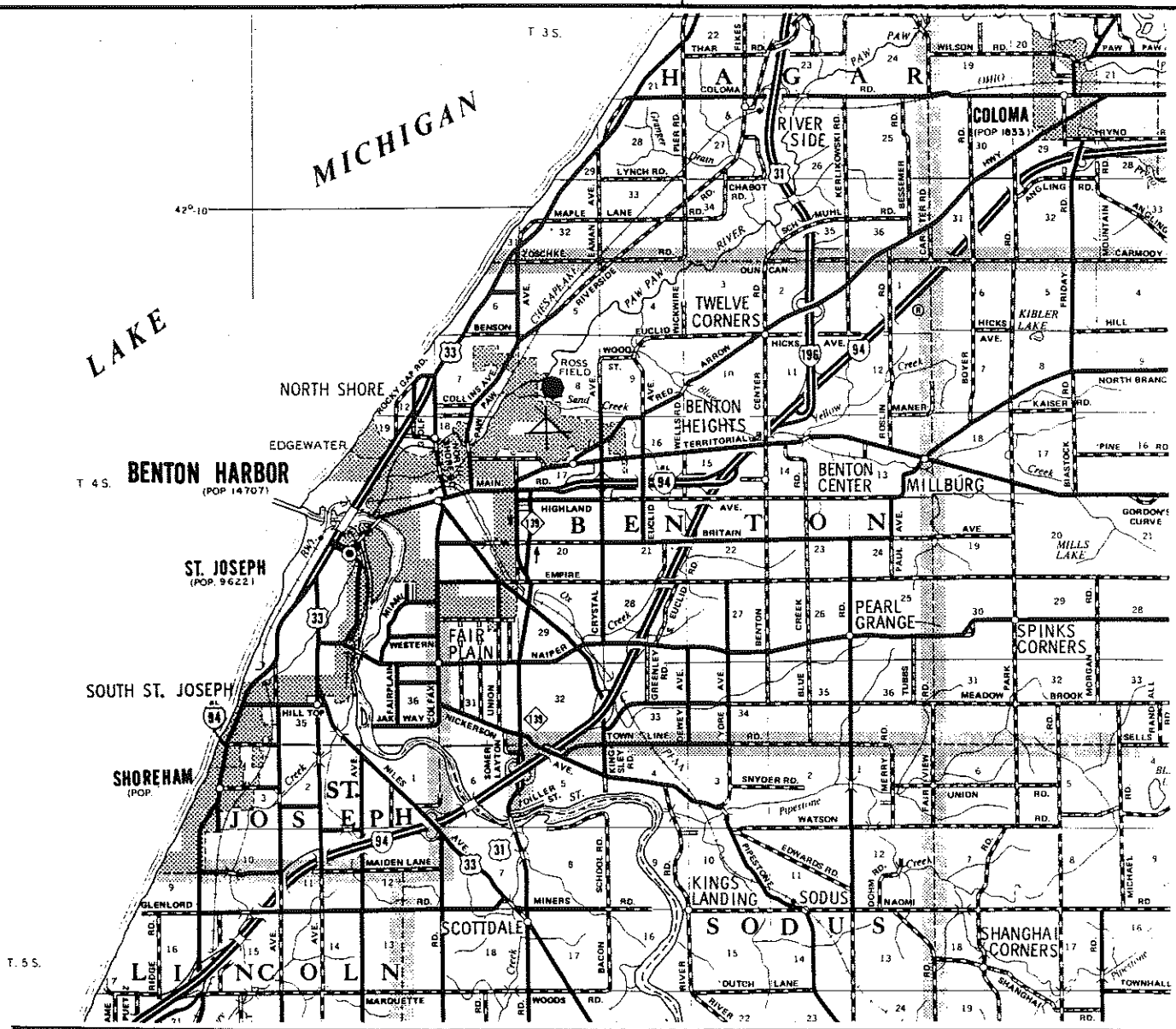
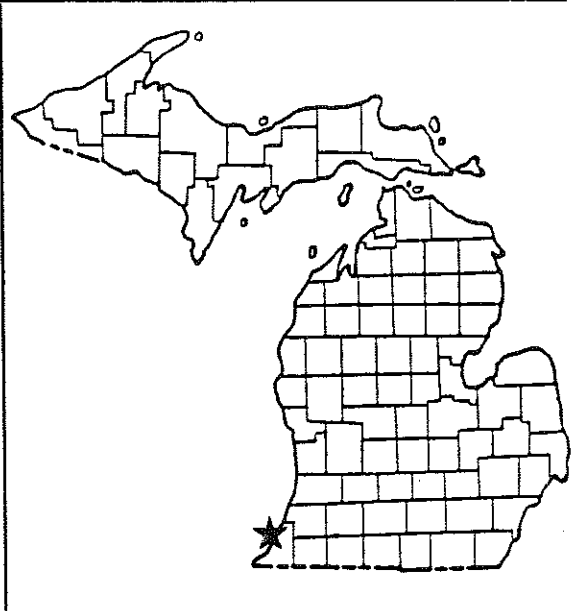
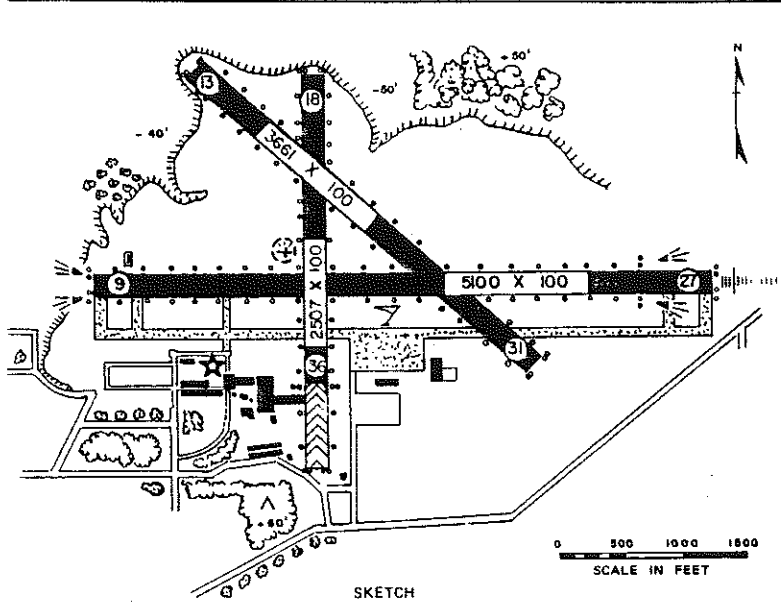
CITY PAIR SERVICE SUMMARIES

Alpena County Regional Airport

As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Detroit, MI [DTW]							
Drummond Island Air [QQ]	PAG	7	14	0	0	98	98
Great Lakes Aviation, Ltd. [ZK]	BE1	19	25	0	475	0	475
Drummond Island, MI [Y66]							
Drummond Island Air [QQ]	PAG	7	14	0	0	98	98
Sault Ste. Marie, MI [CIU]							
Great Lakes Aviation, Ltd. [ZK]	BE1	19	25	0	475	0	475
Totals			78	0	950	196	1,146

Benton Harbor, Twin Cities Ross Field Airport



Benton Harbor, Twin Cities Ross Field Airport

Passengers Carried

Benton Harbor, with 6,204 total passengers, experienced a 5.3 percent decrease in 1989 from the previous year. Historically, Ross Field has experienced a decline in total passengers since 1984. The 1989 level of total passengers is 91.0 percent below that of 1978, the last year of government regulation of routes and fares. January through April monthly figures exceeded their 1988 levels. Monthly figures were five year lows from May through September. In the remaining months passenger levels exceeded the 1987 levels but were less than in 1988. Benton Harbor ranked seventeenth in the state in total passengers with less than 0.1 percent of the statewide total.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	29,133	27,700	56,833	-22.9%
1981	17,607	15,003	32,610	-42.6%
1982	9,898	8,498	18,396	-43.6%
1983	11,454	10,673	22,127	20.3%
1984	13,749	13,068	26,817	21.2%
1985	11,536	11,255	22,791	-15.0%
1986	8,128	7,410	15,538	-31.8%
1987	3,882	3,926	7,808	-49.7%
1988	3,204	3,344	6,548	-11.9%
1989	2,971	3,233	6,204	-5.3%

Service Supplied

As of December 31, 1987, Benton Harbor was served by one airline. No change in carriers took place between survey dates. Ross Field continues to have nonstop service from Chicago Midway Airport and Elkhart, IN. There were 35 weekly arrivals, down one from 1988. Of the weekly arrivals, 23 (65.7 percent) were from a hub airport. Of the 665 weekly arriving seats, all were in

nonpressurized propeller aircraft.

The Midway Connection terminated service to this facility at the end of February, 1990. Attempts are being made to find a replacement carrier.

WEEKLY ARRIVALS

As of December 31

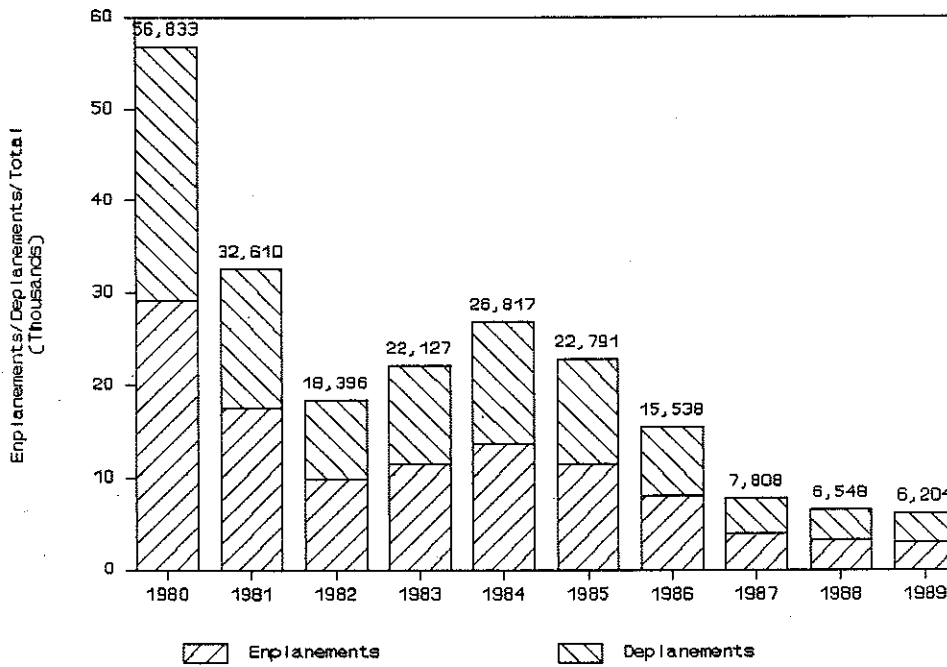
Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	1	2	0	28	0	28
1987	1	2	0	0	32	32
1988	1	2	0	0	36	36
1989	1	2	0	0	35	35

WEEKLY ARRIVING SEATS

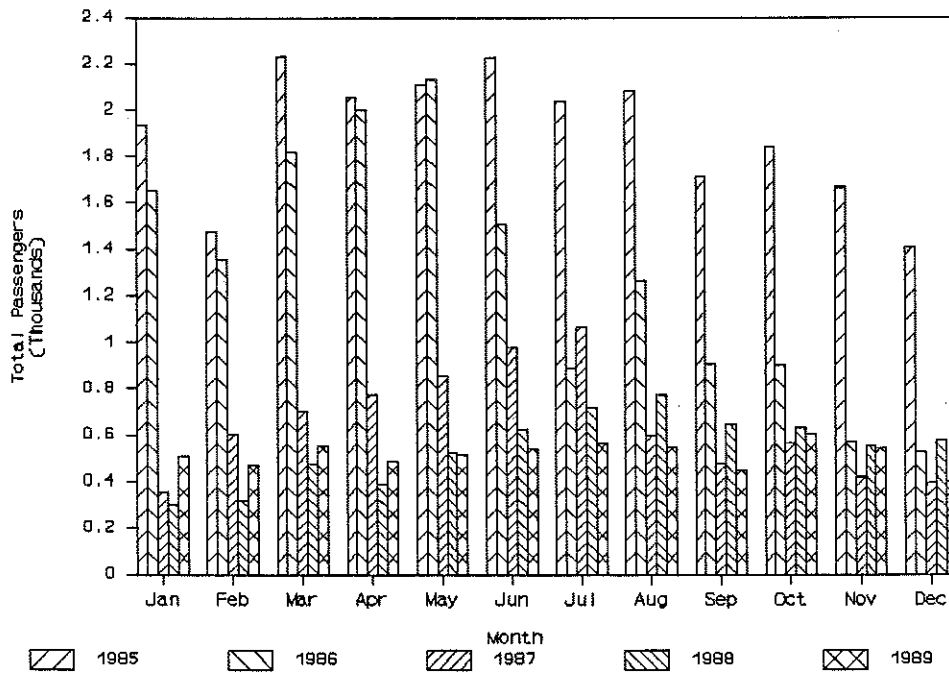
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	1,344	0	1,344
1987	0	0	608	608
1988	0	0	684	684
1989	0	0	665	665

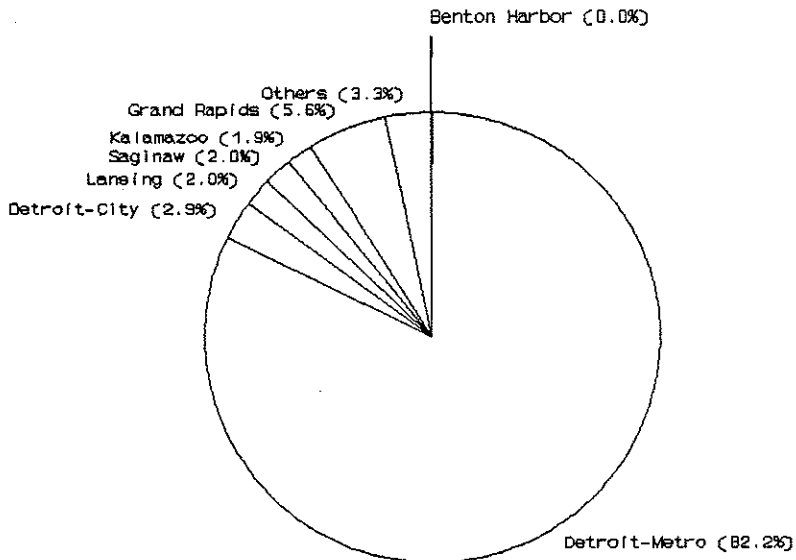
1980 - 1989 ANNUAL TOTAL PASSENGERS
Benton Harbor, Twin Cities Ross Field Airport



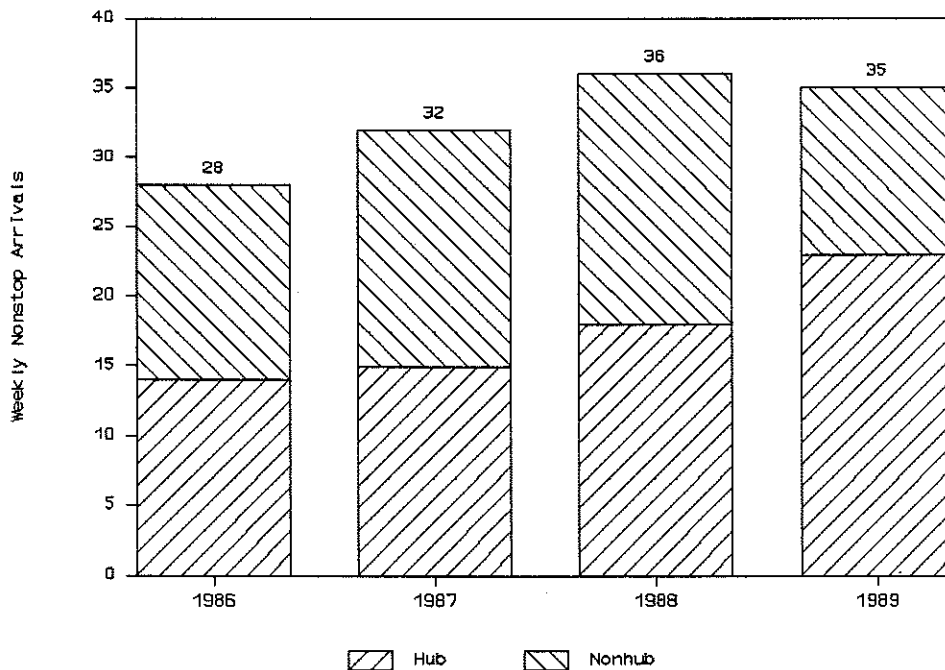
1985 - 1989 MONTHLY TOTAL PASSENGERS
Benton Harbor, Twin Cities Ross Field Airport



1989 PASSENGER LEVEL COMPARISON Benton Harbor, Twin Cities Ross Field Airport



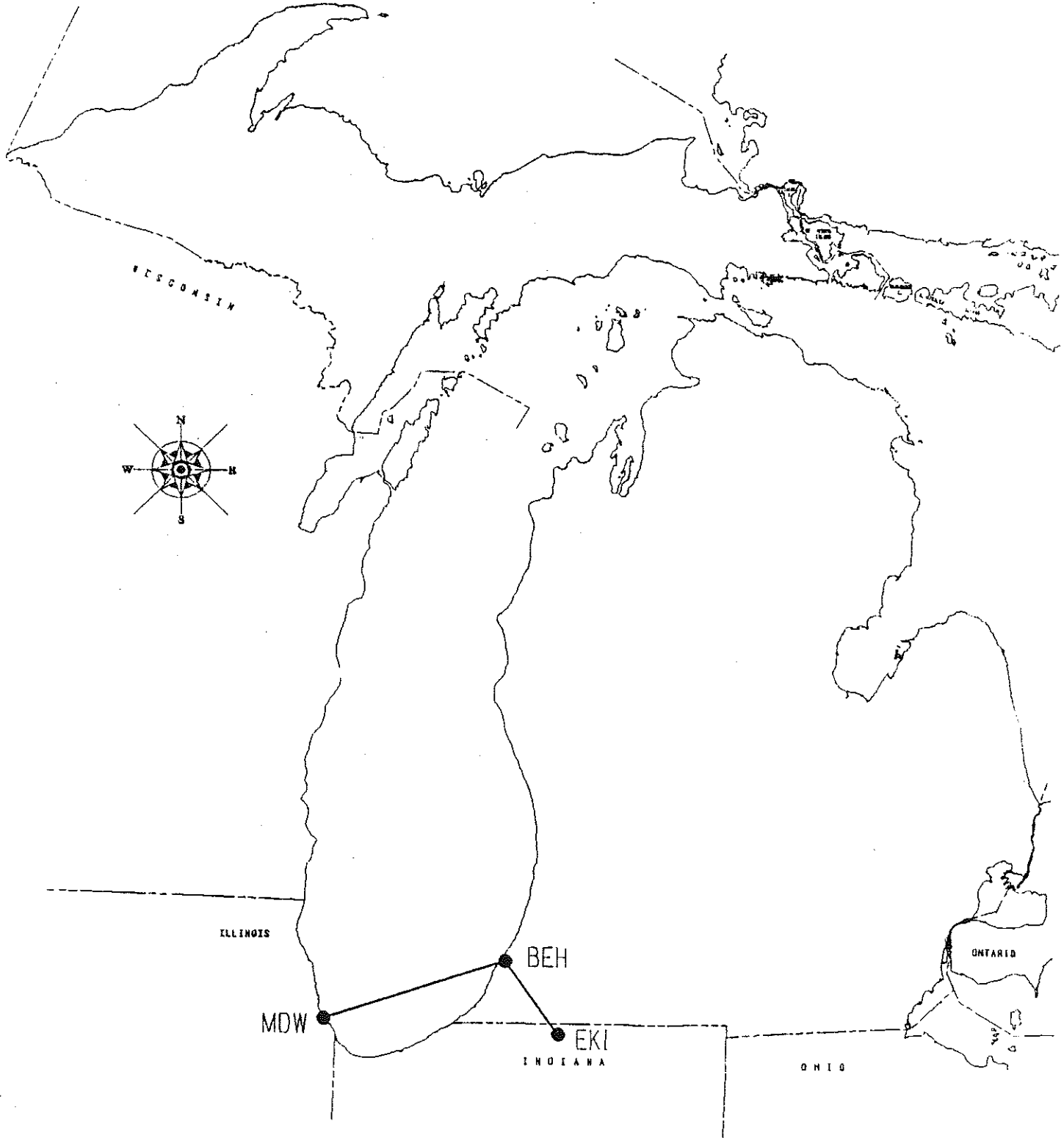
NONSTOP ARRIVALS FROM HUBS/NONHUBS Benton Harbor, Twin Cities Ross Field Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Benton Harbor, Twin Cities Ross Field Airport

As of December 31, 1989



Discontinued Since 1988

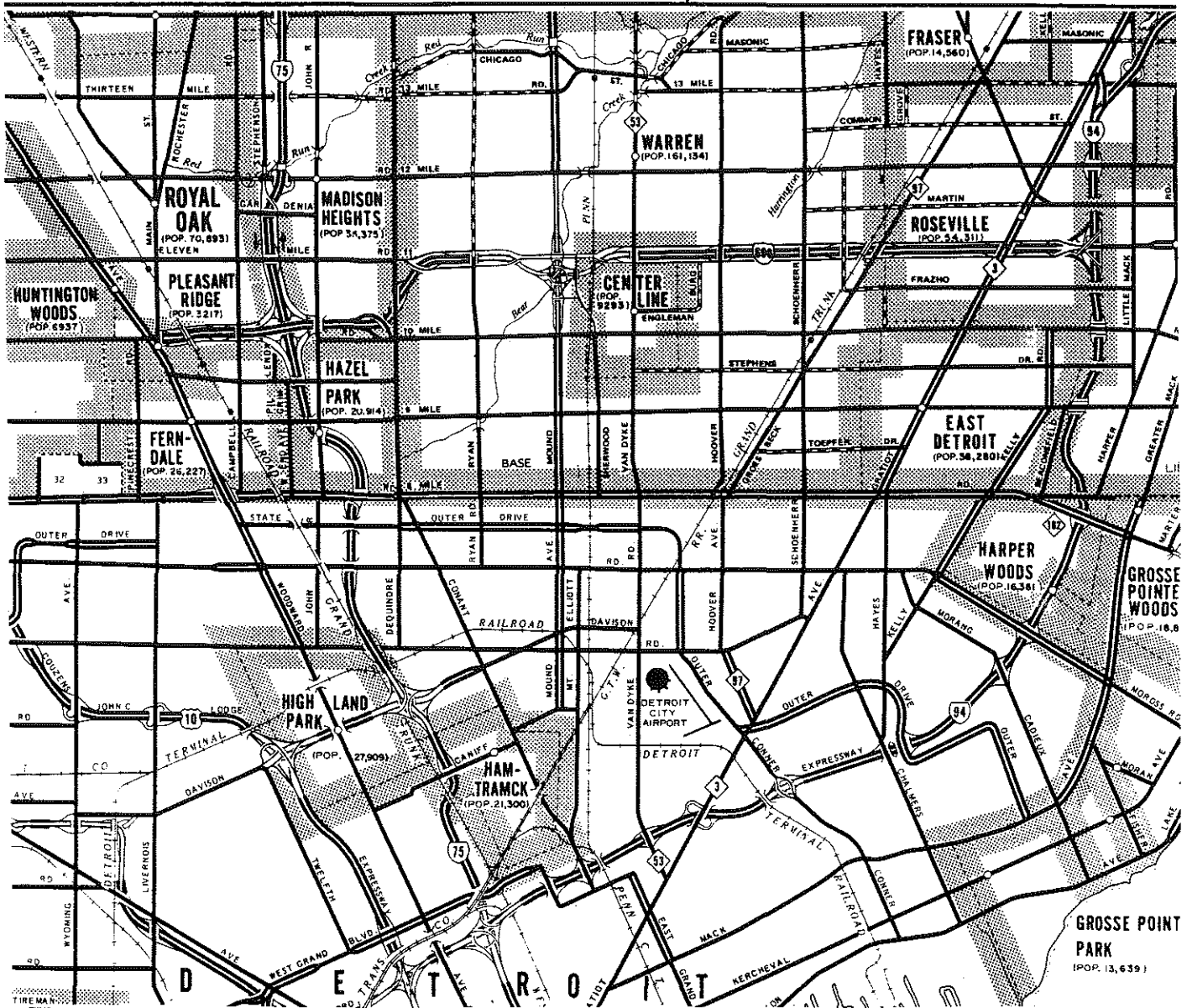
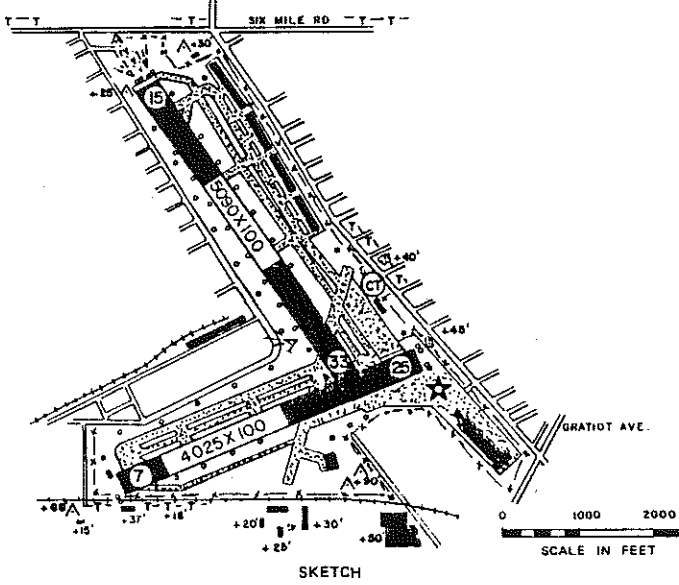
Flown in 1988 and 1989

New Since 1988

CITY PAIR SERVICE SUMMARIES
 Benton Harbor, Twin Cities Ross Field Airport
 As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			
				Jet	Pres.	Npres.	Total
Chicago, IL [MDW] The Midway Conn. (Iowa Airways) [ML*]	EMB	19	23	0	0	437	437
Elkhart, IN [EKI] The Midway Conn. (Iowa Airways) [ML*]	EMB	19	12	0	0	228	228
Totals			35	0	0	665	665

Detroit City Airport



Detroit City Airport

Passengers Carried

Detroit City Airport, with 719,496 total passengers, experienced a 154.7 percent increase in 1989 over the previous year. Except in 1985, City Airport had experienced a steady decline in total passengers since 1979. The turnaround experienced in 1988 was mainly due to the commencement of jet air carrier service at the facility by Southwest Airlines. Monthly figures were five year highs in all months. Detroit City Airport ranked third in the state in total passengers with 2.9 percent of the statewide total.

ANNUAL PASSENGERS				
Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	33,732	32,767	66,499	-12.0%
1981	27,507	25,992	53,499	-19.5%
1982	25,217	25,856	51,073	-4.5%
1983	23,080	22,868	45,948	-10.0%
1984	22,354	21,286	43,640	-5.0%
1985	23,306	22,352	45,658	4.6%
1986	19,317	20,097	39,414	-13.7%
1987	16,062	16,385	32,447	-17.7%
1988	141,252	141,234	282,486	770.6%
1989	358,458	361,038	719,496	154.7%

percent) were from a hub airport and all were from origins outside Michigan. Of the 18,850 weekly arriving seats, 17,530 (93.0 percent) were by jet, 1,020 (5.4 percent) were by pressurized propeller and 300 (1.6 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS As of December 31

Year	Carriers		Weekly Arrivals			Total
	Serving	Origins	Jet	Press	Nonpr	
1986	3	3	0	10	65	75
1987	4	4	0	5	44	49
1988	4	6	54	25	25	104
1989	4	7	137	55	10	202

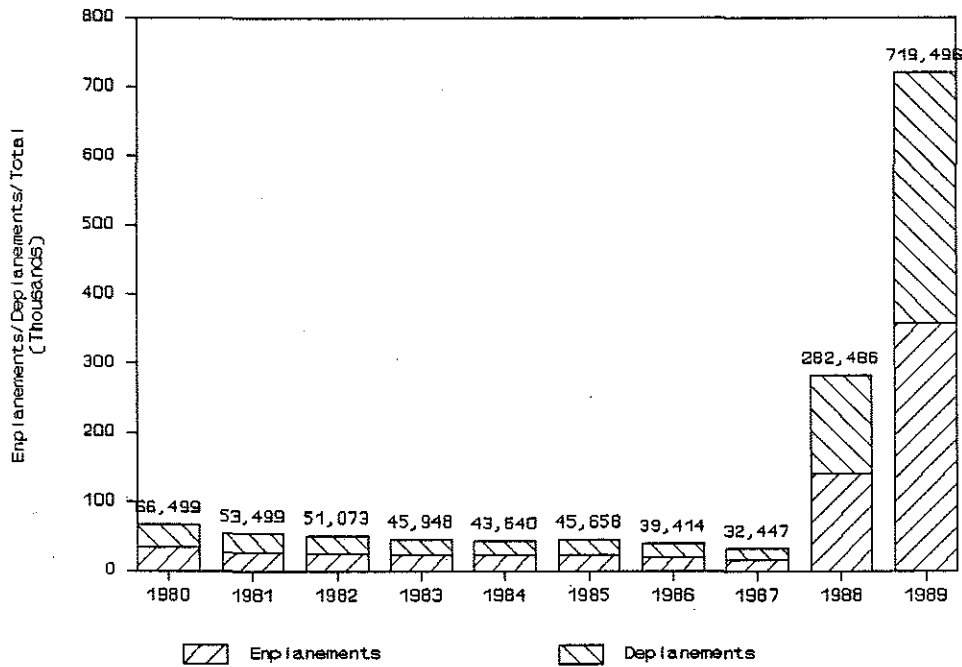
WEEKLY ARRIVING SEATS As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	340	850	1,190
1987	0	170	781	951
1988	6,748	475	405	7,628
1989	17,530	1,020	300	18,850

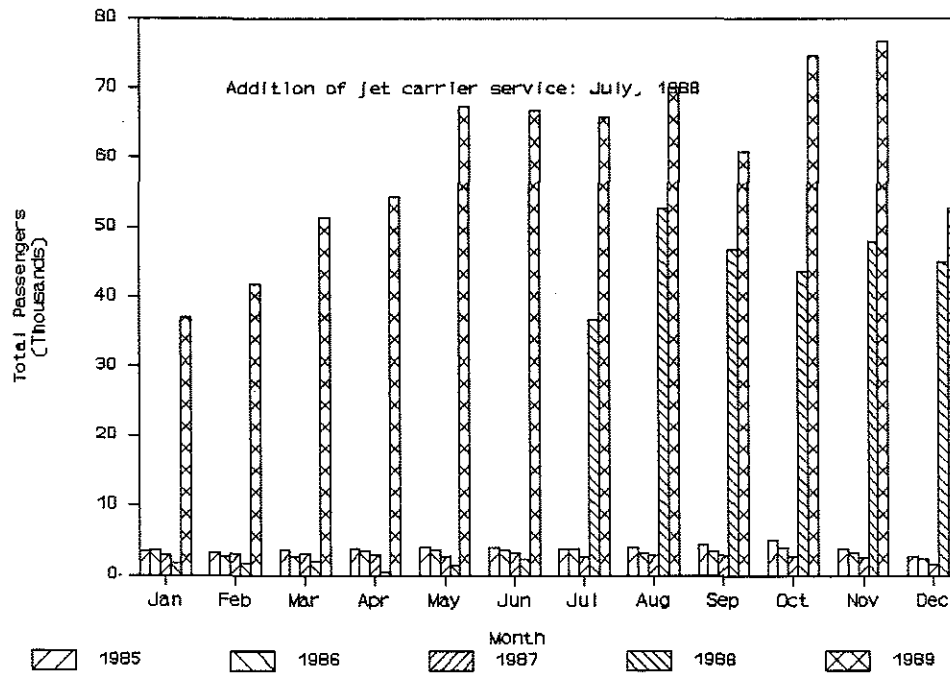
Service Supplied

As of December 31, 1989, Detroit City Airport was served by four airlines. Between survey dates, the facility lost service by BAS Airlines but gained service by Central States Airlines. City Airport had nonstop service from seven origins in six cities. Between the survey dates, service was lost from Youngstown, OH. However, service was gained to Cleveland, OH (Cuyahoga Airport), and Indianapolis, IN resulting in a net increase of one origin over the previous year. There were 202 weekly arrivals, up 98 from 1988. Of the weekly arrivals, 137 (67.8

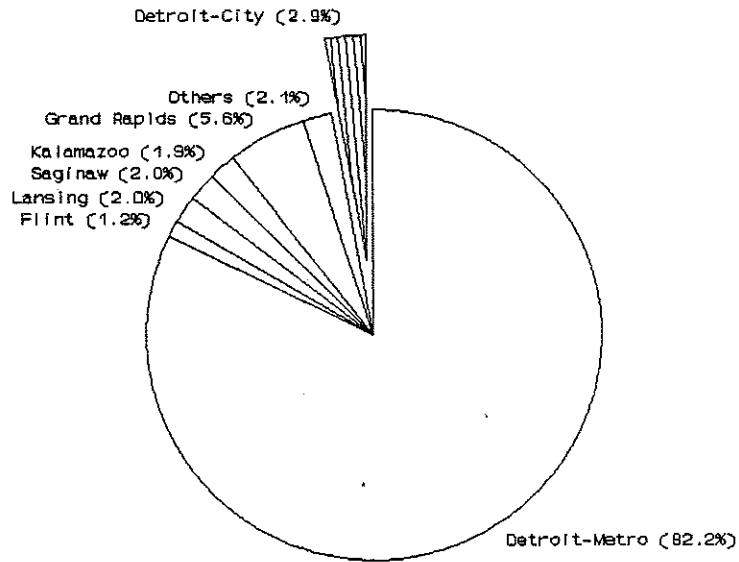
1980 - 1989 ANNUAL TOTAL PASSENGERS Detroit City Airport



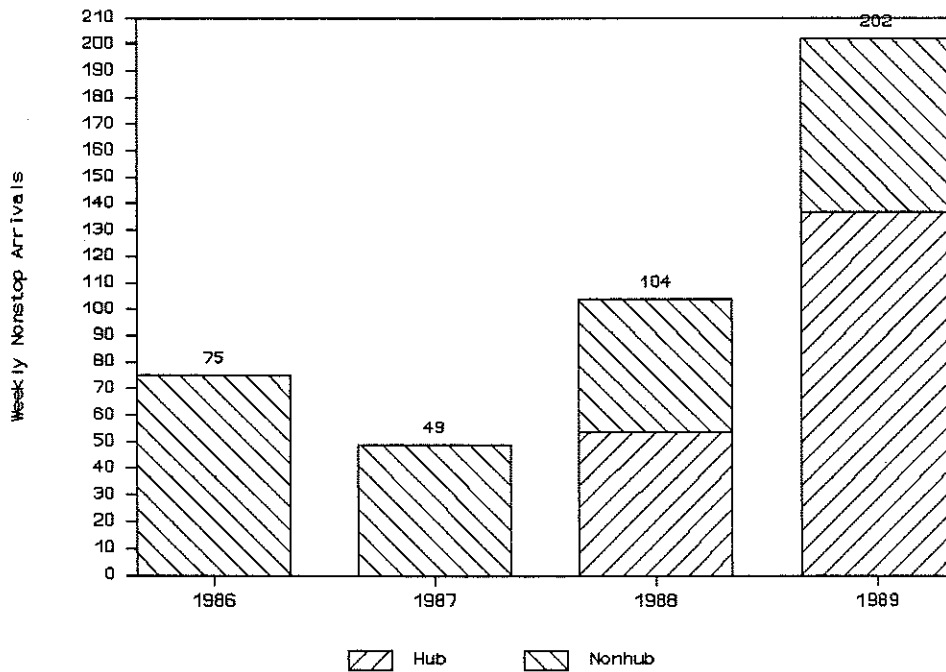
1985 - 1989 MONTHLY TOTAL PASSENGERS Detroit City Airport



1989 PASSENGER LEVEL COMPARISON Detroit City Airport

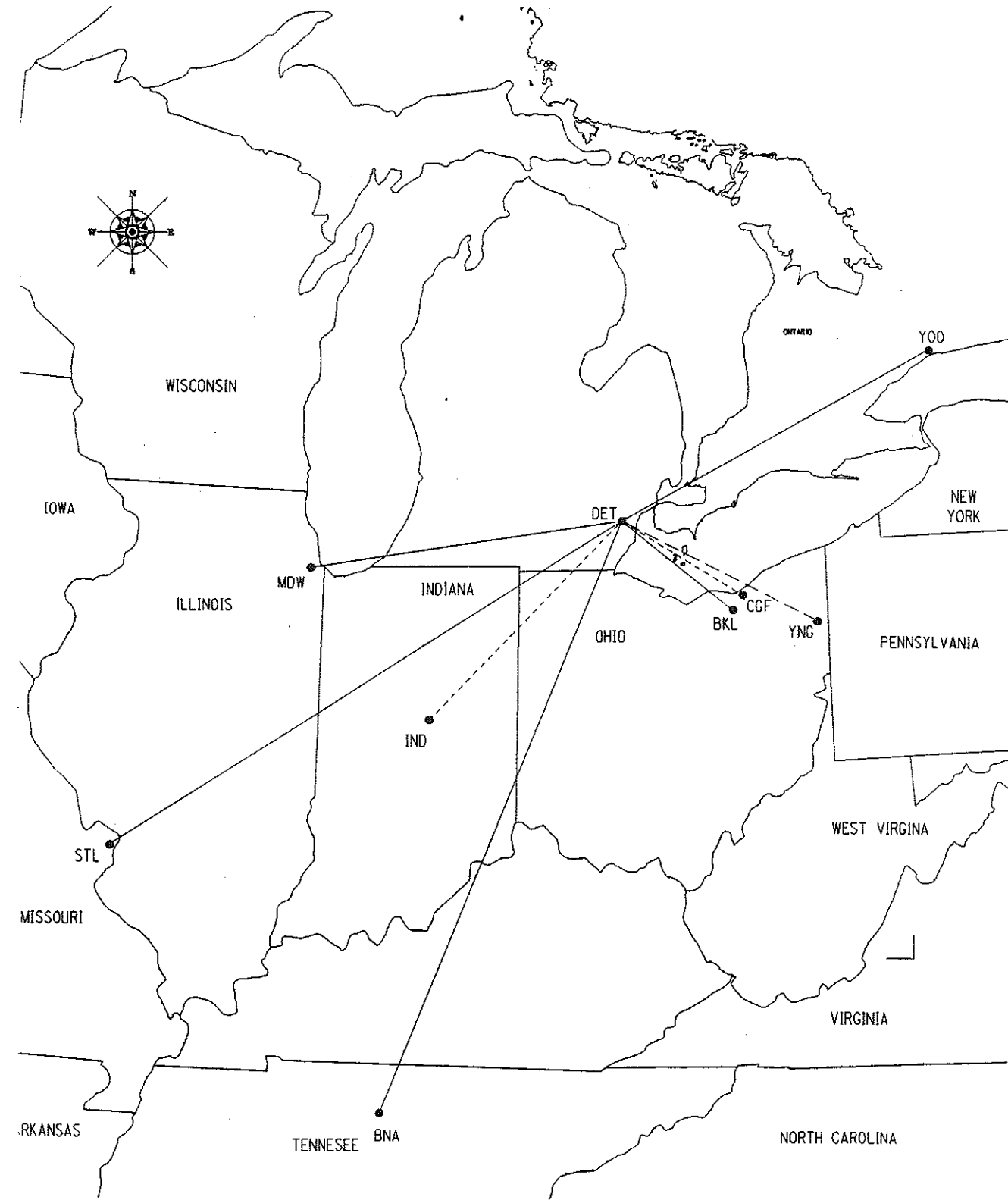


NONSTOP ARRIVALS FROM HUBS/NONHUBS Detroit City Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Detroit City Airport
As of December 31, 1989

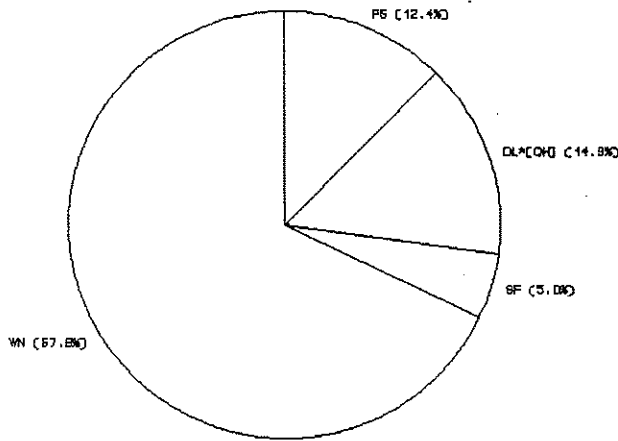


Discontinued Since 1988

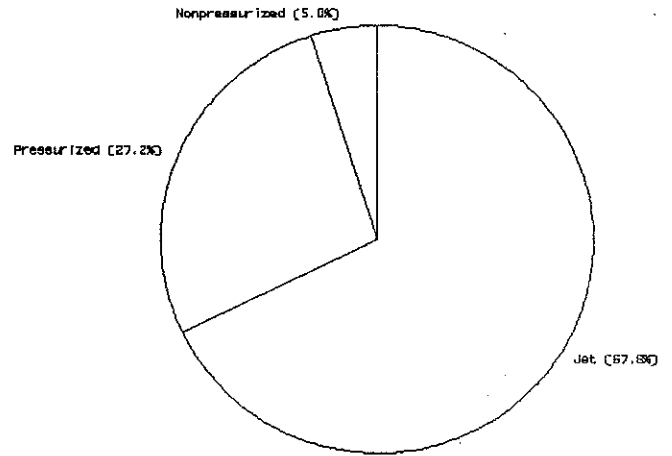
Flown in 1988 and 1989

New Since 1988

PERCENTAGE ARRIVALS
BY CARRIER
Detroit City Airport



PERCENTAGE ARRIVALS BY
AIRCRAFT TYPE
Detroit City Airport

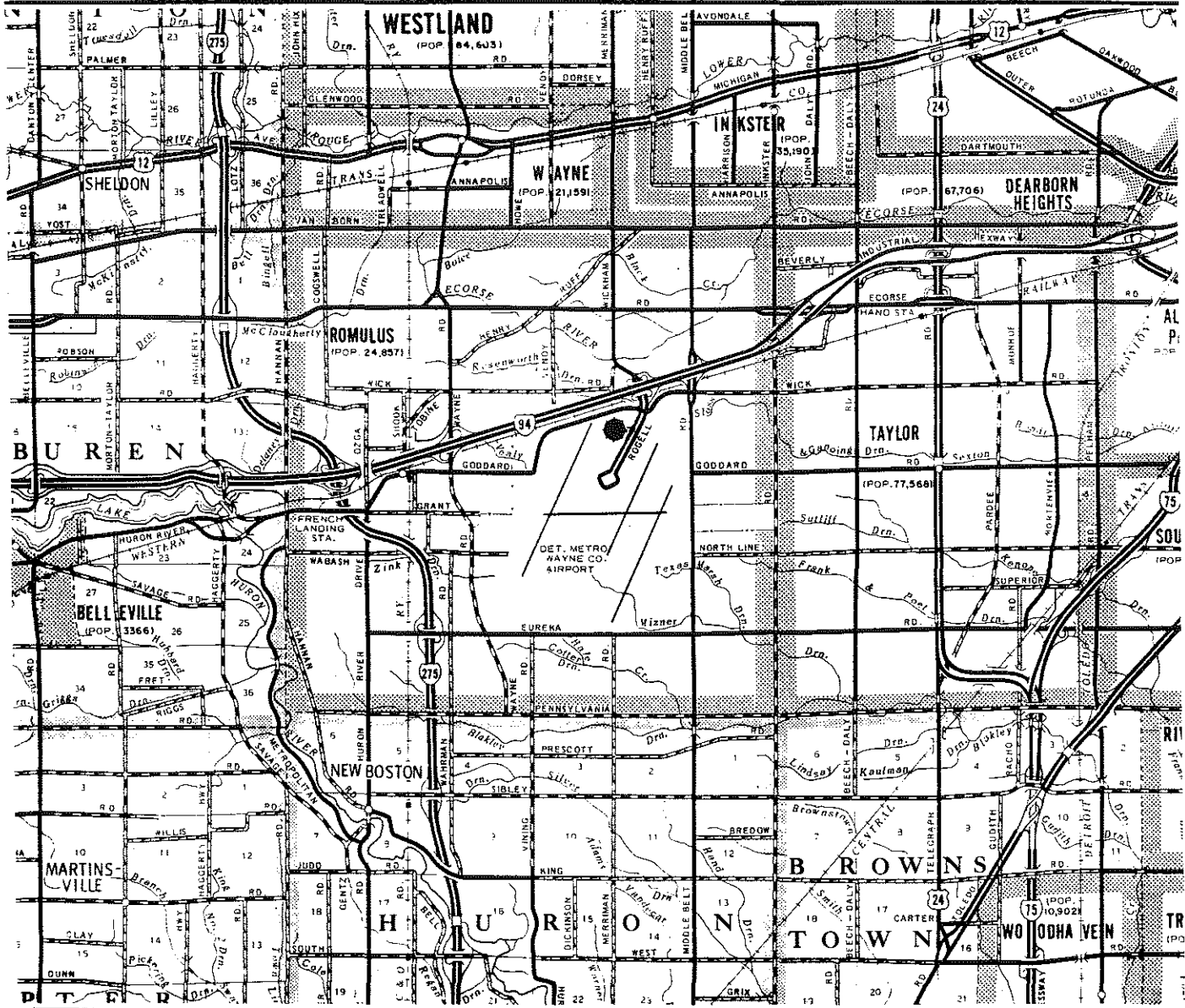
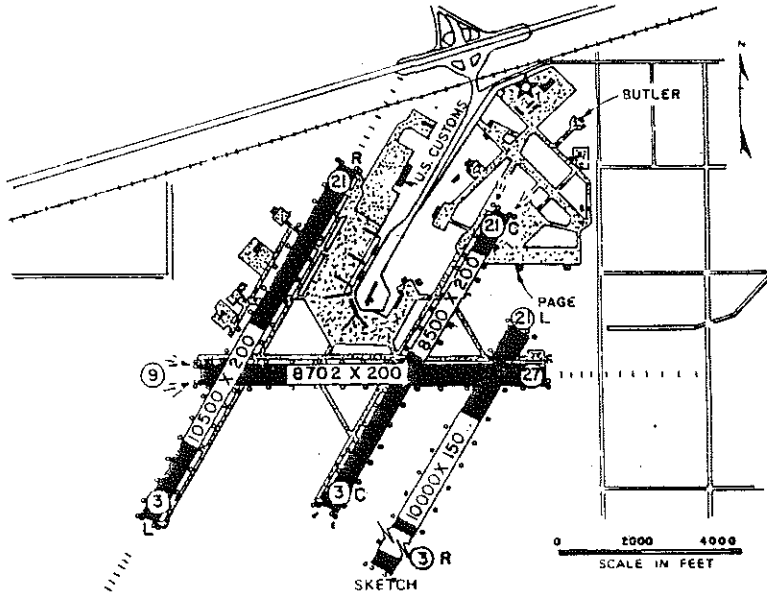


CITY PAIR SERVICE SUMMARIES

Detroit City Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Chicago, IL [MDW]							
Southwest Airlines [WN]	733	138	34	4,692	0	0	4,692
Southwest Airlines [WN]	73S	122	30	3,660	0	0	3,660
Cleveland, OH [BKL]							
Delta Conn. (Comair, Inc.) [DL*]	SWM	19	30	0	570	0	570
Cleveland, OH [CGF]							
Central States Airlines, Inc. [PS]	J31	18	25	0	450	0	450
Indianapolis, IN [IND]							
Southwest Airlines [WN]	733	138	6	828	0	0	828
Southwest Airlines [WN]	73S	122	32	3,904	0	0	3,904
Nashville, TN [BNA]							
Southwest Airlines [WN]	733	138	11	1,518	0	0	1,518
Oshawa, ONT [YOO]							
Skycraft Air Transport, Inc. [9F]	SH3	30	10	0	0	300	300
St. Louis, MO [STL]							
Southwest Airlines [WN]	73S	122	24	2,928	0	0	2,928
Totals			202	17,530	1,020	300	18,850

Detroit Metropolitan Wayne County Airport



Detroit Metropolitan Wayne County Airport

Passengers Carried

Metropolitan Wayne County Airport, with 20,436,430 total passengers, experienced a 6.7 percent increase in 1989 over the previous year. This surpasses the previous all time record set in 1988, and represents the sixth year in a row in which Metro Airport has set a new record. Historically, Metro Airport has enjoyed a growth in total passengers since the ten year low experienced in 1982. The 1989 passenger levels place Metro Airport 113.1 percent above the 1978 levels, the last year of government regulation of routes and fares. Monthly figures were lower than 1987 and 1988 from January through April. The May figure was exceeded only by the 1987 level. The remaining months were five year highs. Detroit, Metropolitan Airport ranked first in the state in total passengers with 82.2 percent of the statewide total.

ANNUAL PASSENGERS				
Year	Passengers			Percent Change
	Enplaned	Deplaned	Total	
1980	4,830,851	4,879,263	9,710,114	-9.1%
1981	4,484,880	4,497,667	8,982,547	-7.5%
1982	4,418,887	4,457,037	8,875,924	-1.2%
1983	4,548,393	4,580,235	9,128,628	2.8%
1984	5,643,208	5,654,617	11,297,825	23.8%
1985	7,585,820	7,517,719	15,103,539	33.7%
1986	8,648,347	8,423,383	17,071,730	13.0%
1987	9,574,493	9,520,816	19,095,309	11.9%
1988	9,519,268	9,624,981	19,144,249	1.1%
1989	10,199,977	10,236,453	20,436,430	6.7%

Service Supplied

As of December 31, 1989, Detroit, Metro was served by 21 carriers operated by 21 airlines. Between survey dates, the facility lost service by four carriers due to restructuring, merger or bankruptcy. These carriers were Braniff Airlines (bankruptcy), the Northwest Airlink service operated by Simmons Airlines

(purchase of Simmons by AMR-Eagle), Piedmont and Piedmont Commuter (merger with USAir). An additional carrier, Sabena Belgian World Airlines, ceased service by choice. During the same time, service was gained by Direct Air, Great Lakes Aviation and USAir Express. This represented a net decrease of two carriers from the year before. Metro Airport had nonstop service from 85 airports in 79 cities, a net increase of six origins and seven cities over the previous year. Nonstop service was lost from Montreal International Airport, QUE and Portland, OR. Service was gained from Drummond Island; Frankfort, FRG; Kokomo, IN; Muskegon; Paris, FRA; Pellston; Seoul, ROK and Stevens Point/Wausau, WI. There were 3,082 weekly arrivals, up 161 from 1988. Of the weekly arrivals, 2,358 (76.5 percent) were from hub airports. Of the 398,698 weekly arriving seats, 387,458 (97.2 percent) were by jet, 10,855 (2.7 percent) were by pressurized propeller and 385 (0.1 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

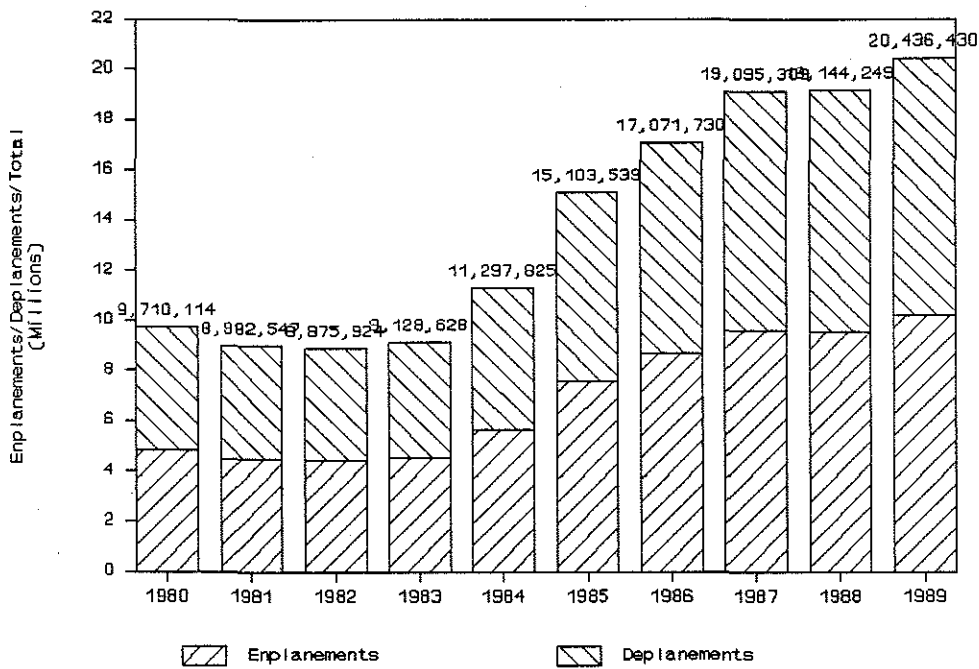
Year	Carriers		Weekly Arrivals			
	Serving	Origins	Jet	Press	Nonpr	Total
1986	24	74	2,421	311	622	3,354
1987	21	78	2,465	300	357	3,122
1988	23	79	2,545	220	156	2,921
1989	21	85	2,663	364	55	3,082

WEEKLY ARRIVING SEATS

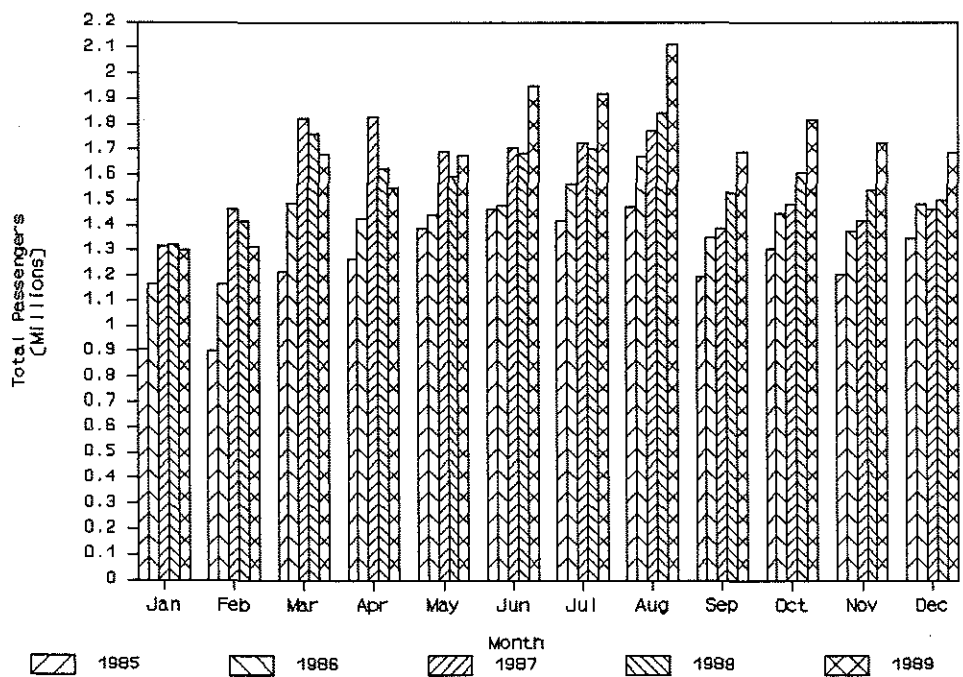
As of December 31

Year	Weekly Arriving Seats			
	Jet	Press	Nonpr	Total
1986	360,891	13,095	16,216	390,202
1987	359,098	11,987	12,222	383,307
1988	364,820	6,379	4,630	375,829
1989	387,458	10,855	385	398,698

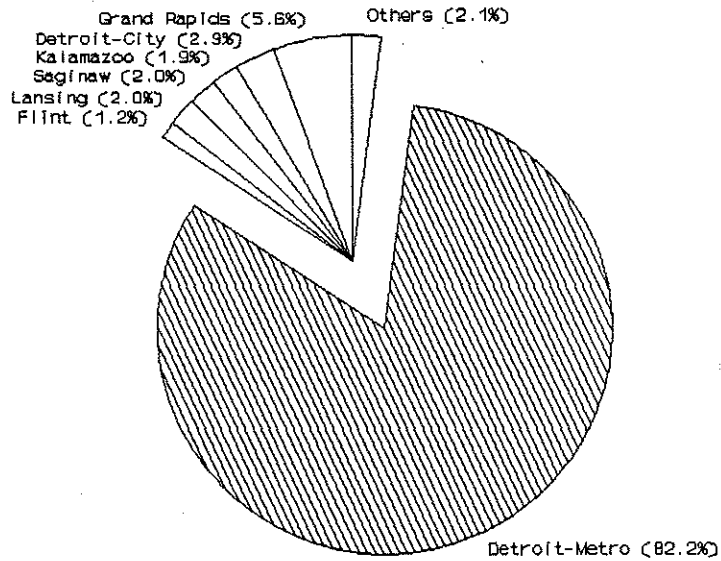
1980 - 1989 ANNUAL TOTAL PASSENGERS Detroit Metropolitan Wayne County Airport



1985 - 1989 MONTHLY TOTAL PASSENGERS Detroit Metropolitan Wayne County Airport



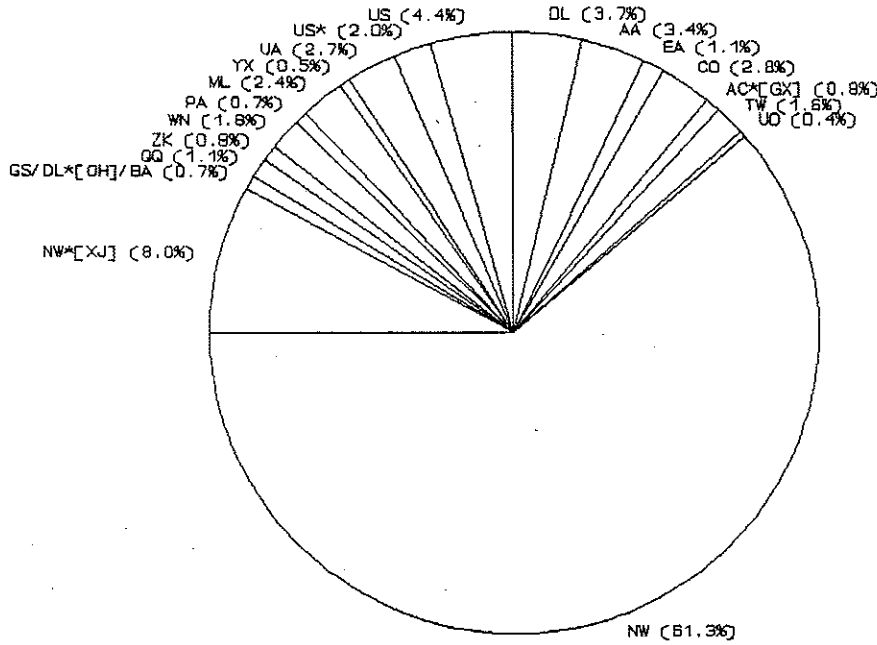
1989 PASSENGER LEVEL COMPARISON Detroit Metropolitan Wayne County Airport



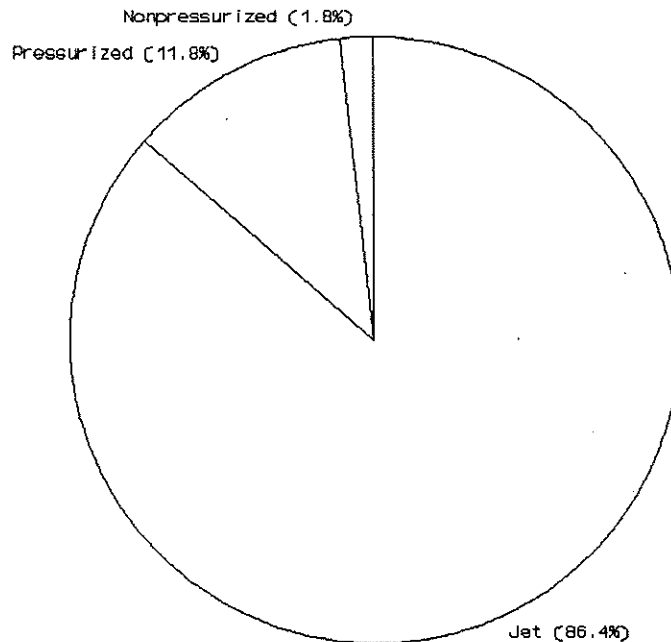
NONSTOP ARRIVALS FROM HUBS/NONHUBS Detroit Metropolitan Wayne County Airport



PERCENTAGE ARRIVALS BY CARRIER Detroit Metropolitan Wayne County Airport

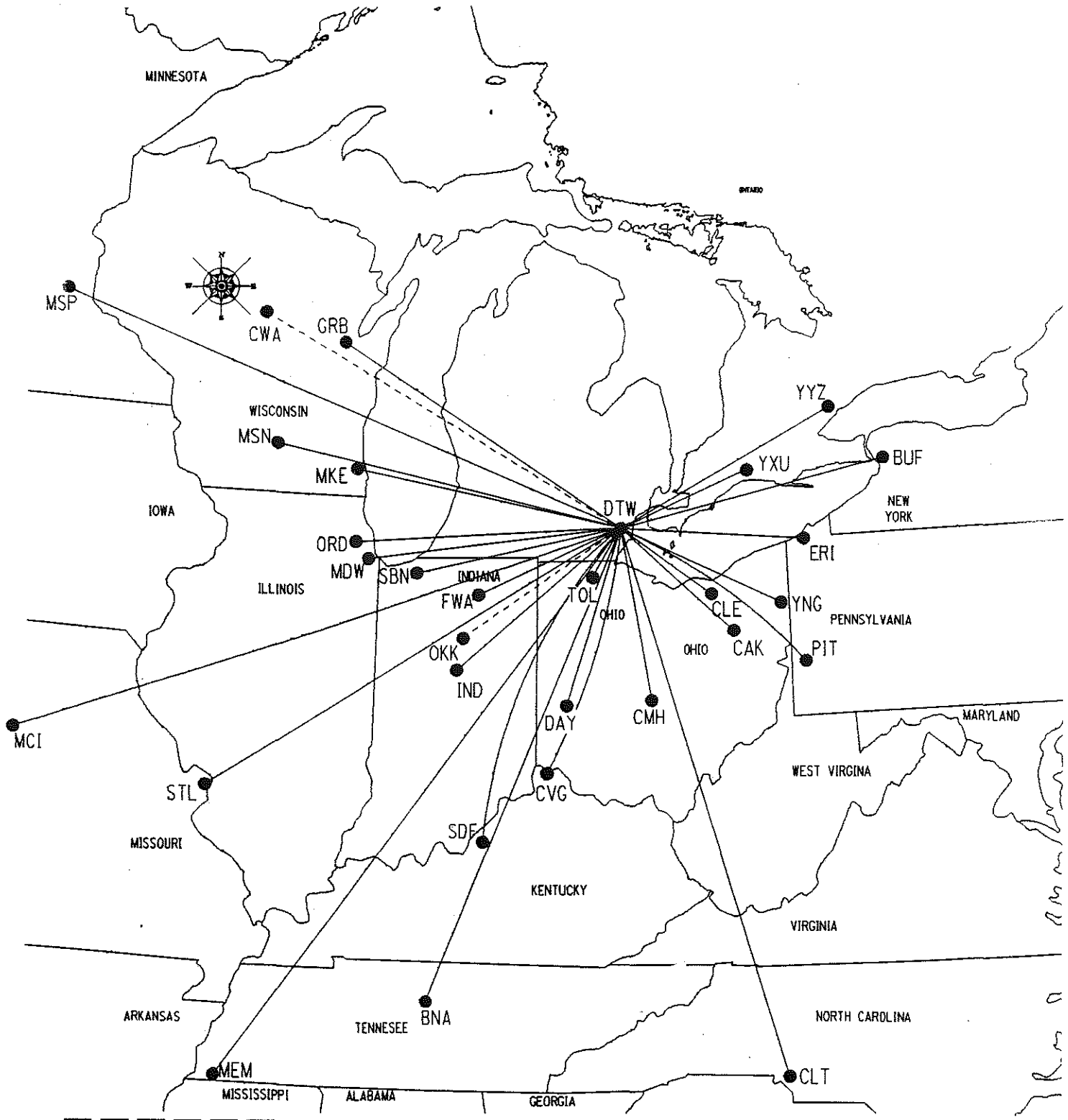


PERCENTAGE ARRIVALS BY AIRCRAFT TYPE Detroit Metropolitan Wayne County Airport



ORIGINS OF SCHEDULED INTERSTATE NONSTOP ARRIVALS

Detroit Metropolitan Wayne County Airport
(Inset of Map on Following Page)
As of December 31, 1989



Discontinued Since 1988

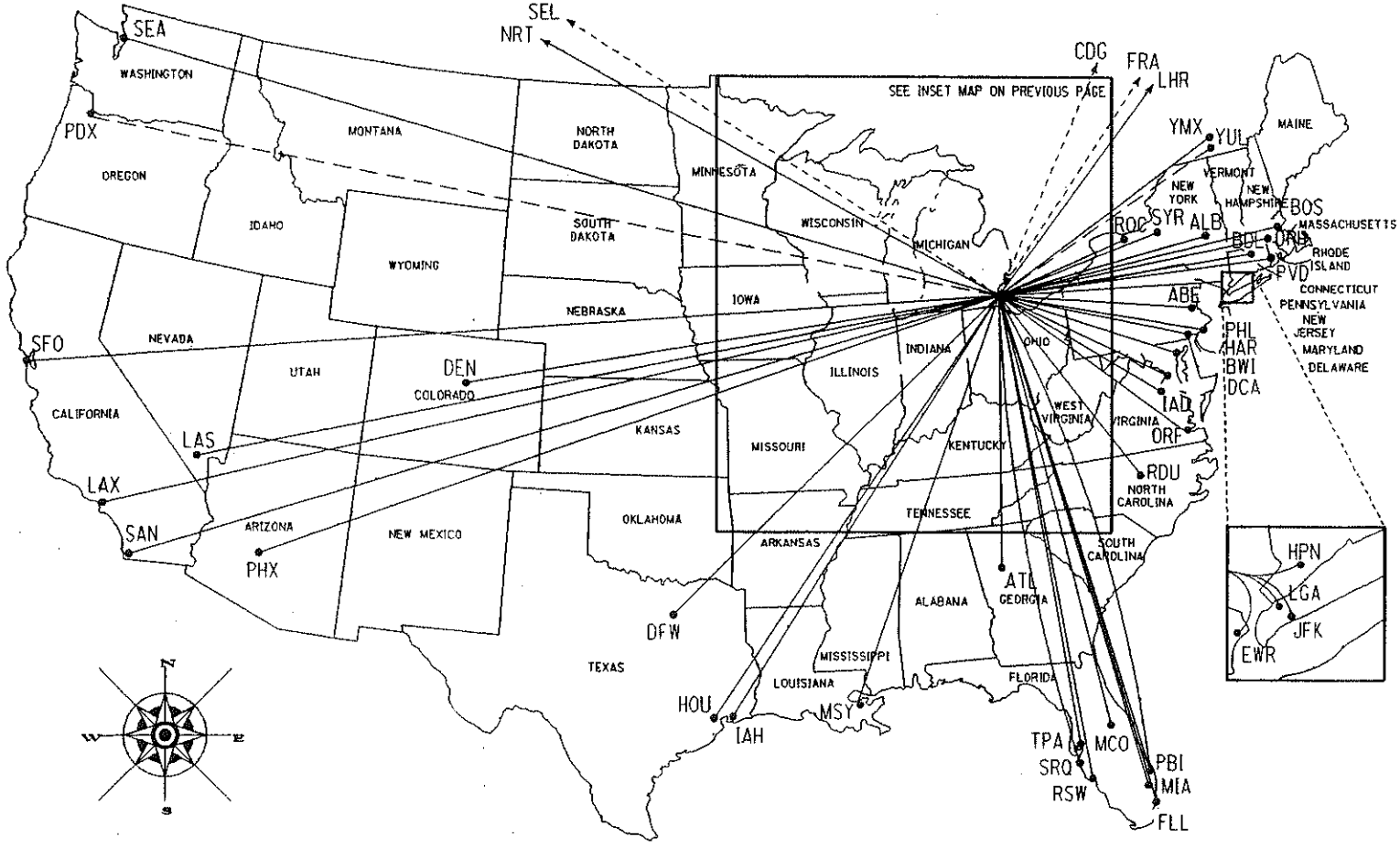
Flown in 1988 and 1989

New Since 1988

ORIGINS OF SCHEDULED INTERSTATE NONSTOP ARRIVALS

Detroit Metropolitan Wayne County Airport

As of December 31, 1989



Discontinued Since 1988

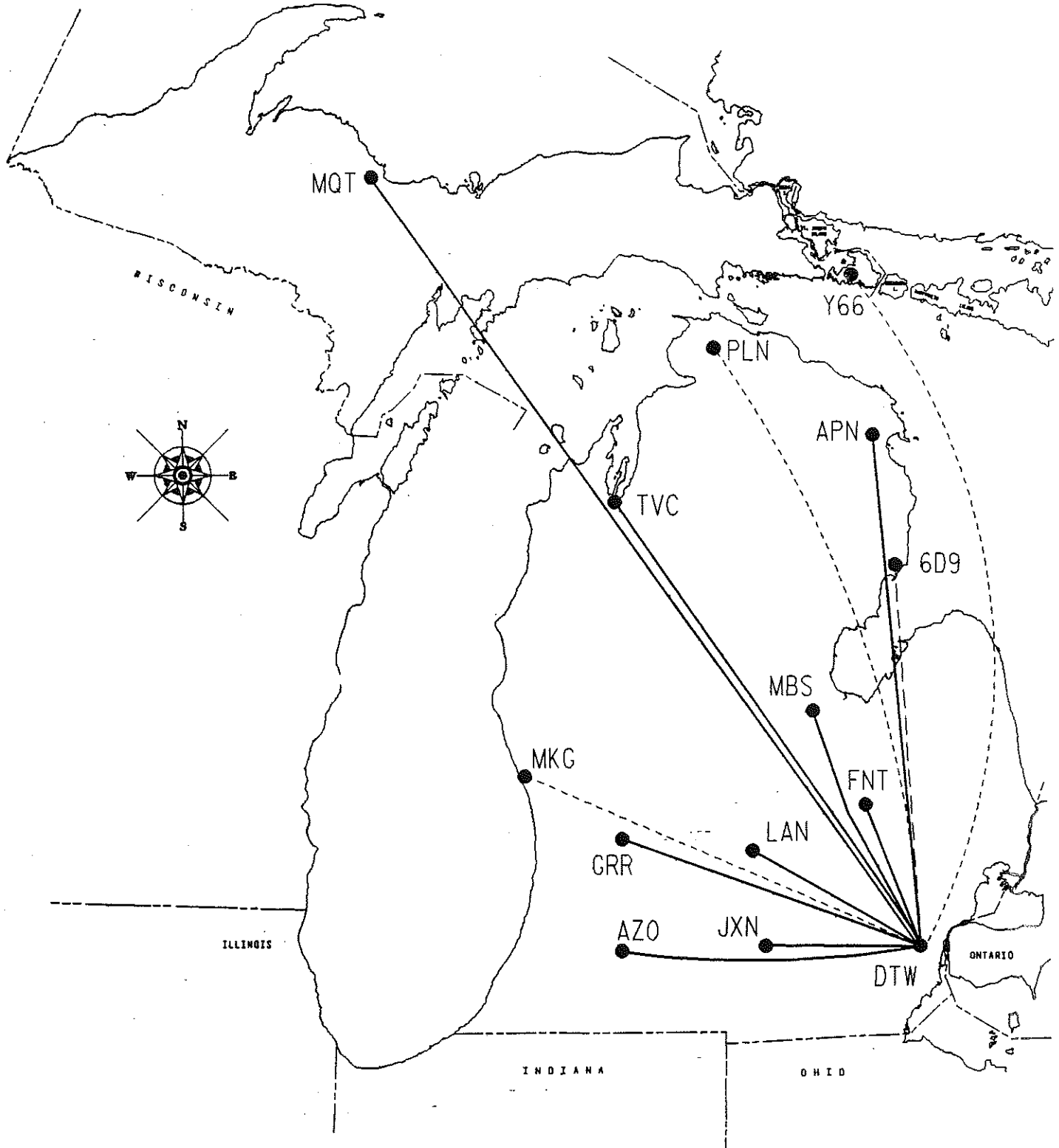
Flown in 1988 and 1989

New Since 1988

ORIGINS OF SCHEDULED INTRASTATE NONSTOP ARRIVALS

Detroit Metropolitan Wayne County Airport

As of December 31, 1989



Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

CITY PAIR SERVICE SUMMARIES

Detroit Metropolitan Wayne County Airport

As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Equip.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Akron/Canton, OH [CAK]							
Northwest Airlin (Mesaba Avtn.) [NW*]	F27	48	19	0	912	0	912
Albany, NY [ALB]							
Northwest Airlines, Inc. [NW]	D9S	125	20	2,500	0	0	2,500
Allentown, PA [ABE]							
Northwest Airlines, Inc. [NW]	D9S	125	13	1,625	0	0	1,625
Northwest Airlines, Inc. [NW]	DC9	90	7	630	0	0	630
Alpena, MI [APN]							
Drummond Island Air [QQ]	PAG	7	14	0	0	98	98
Great Lakes Aviation, Ltd. [ZK]	BE1	19	25	0	475	0	475
Atlanta, GA [ATL]							
Delta Airlines, Inc. [DL]	72S	145	7	1,015	0	0	1,015
Delta Airlines, Inc. [DL]	757	201	7	1,407	0	0	1,407
Delta Airlines, Inc. [DL]	767	250	14	3,500	0	0	3,500
Delta Airlines, Inc. [DL]	M80	154	14	2,156	0	0	2,156
Eastern Airlines, Inc. [EA]	D9S	125	35	4,375	0	0	4,375
Northwest Airlines, Inc. [NW]	72S	145	6	870	0	0	870
Northwest Airlines, Inc. [NW]	D9S	125	21	2,625	0	0	2,625
Baltimore, MD/Washington, DC [BWI]							
Northwest Airlines, Inc. [NW]	727	100	1	100	0	0	100
Northwest Airlines, Inc. [NW]	72S	145	14	2,030	0	0	2,030
Northwest Airlines, Inc. [NW]	D9S	125	13	1,625	0	0	1,625
USAir [US]	72S	145	6	870	0	0	870
USAir [US]	735	160	7	1,120	0	0	1,120
USAir [US]	73S	122	6	732	0	0	732
USAir [US]	D9S	125	7	875	0	0	875
Boston, MA [BOS]							
Northwest Airlines, Inc. [NW]	72S	145	7	1,015	0	0	1,015
Northwest Airlines, Inc. [NW]	757	201	7	1,407	0	0	1,407
Northwest Airlines, Inc. [NW]	D10	288	21	6,048	0	0	6,048
Northwest Airlines, Inc. [NW]	D9S	125	6	750	0	0	750
Buffalo, NY [BUF]							
Northwest Airlines, Inc. [NW]	727	100	19	1,900	0	0	1,900
Northwest Airlines, Inc. [NW]	72S	145	6	870	0	0	870
Northwest Airlines, Inc. [NW]	D9S	125	2	250	0	0	250
Charlotte, NC [CLT]							
USAir [US]	72S	145	7	1,015	0	0	1,015
USAir [US]	733	138	7	966	0	0	966
USAir [US]	734	159	6	954	0	0	954
USAir [US]	F28	60	1	60	0	0	60
USAir [US]	M80	154	7	1,078	0	0	1,078
Chicago, IL [MDW]							
Midway Airlines, Inc. [ML]	73S	122	25	3,050	0	0	3,050
Midway Airlines, Inc. [ML]	D9S	125	35	4,375	0	0	4,375
Midway Airlines, Inc. [ML]	DC9	90	13	1,170	0	0	1,170
Northwest Airlines, Inc. [NW]	D9S	125	13	1,625	0	0	1,625

CITY PAIR SERVICE SUMMARIES
 Detroit Metropolitan Wayne County Airport
 As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			
				Jet	Pres.	Npres.	Total
Chicago, IL [MDW] (cont.)							
Northwest Airlines, Inc. [NW]	DC9	90	14	1,260	0	0	1,260
Southwest Airlines [WN]	733	138	22	3,036	0	0	3,036
Southwest Airlines [WN]	73S	122	19	2,318	0	0	2,318
Chicago, IL [ORD]							
American Airlines, Inc. [AA]	72S	145	7	1,015	0	0	1,015
American Airlines, Inc. [AA]	757	201	14	2,814	0	0	2,814
American Airlines, Inc. [AA]	767	250	7	1,750	0	0	1,750
American Airlines, Inc. [AA]	D10	288	7	2,016	0	0	2,016
American Airlines, Inc. [AA]	M80	154	7	1,078	0	0	1,078
Northwest Airlines, Inc. [NW]	320	171	6	1,026	0	0	1,026
Northwest Airlines, Inc. [NW]	72S	145	16	2,320	0	0	2,320
Northwest Airlines, Inc. [NW]	757	201	12	2,412	0	0	2,412
Northwest Airlines, Inc. [NW]	D9S	125	28	3,500	0	0	3,500
Northwest Airlines, Inc. [NW]	DC9	90	6	540	0	0	540
Northwest Airlines, Inc. [NW]	M80	154	7	1,078	0	0	1,078
United Airlines, Inc. [UA]	72S	145	11	1,595	0	0	1,595
United Airlines, Inc. [UA]	733	138	14	1,932	0	0	1,932
United Airlines, Inc. [UA]	757	201	6	1,206	0	0	1,206
United Airlines, Inc. [UA]	767	250	6	1,500	0	0	1,500
Cincinnati, OH [CVG]							
Delta Airlines, Inc. [DL]	72S	145	14	2,030	0	0	2,030
Delta Airlines, Inc. [DL]	757	201	7	1,407	0	0	1,407
Delta Airlines, Inc. [DL]	M80	154	7	1,078	0	0	1,078
Northwest Airlines, Inc. [NW]	D9S	125	14	1,750	0	0	1,750
Northwest Airlines, Inc. [NW]	DC9	90	12	1,080	0	0	1,080
Cleveland, OH [CLE]							
Northwest Airlines, Inc. [NW]	72S	145	7	1,015	0	0	1,015
Northwest Airlines, Inc. [NW]	D9S	125	33	4,125	0	0	4,125
Northwest Airlines, Inc. [NW]	DC9	90	7	630	0	0	630
Northwest Airlin (Mesaba Avtn.) [NW*]	F27	48	12	0	576	0	576
Northwest Airlin (Mesaba Avtn.) [NW*]	SWM	19	6	0	114	0	114
Columbus, OH [CMH]							
Northwest Airlines, Inc. [NW]	72S	145	7	1,015	0	0	1,015
Northwest Airlines, Inc. [NW]	D9S	125	14	1,750	0	0	1,750
Northwest Airlines, Inc. [NW]	DC9	90	6	540	0	0	540
Dallas/Ft. Worth, TX [DFW]							
American Airlines, Inc. [AA]	767	250	7	1,750	0	0	1,750
American Airlines, Inc. [AA]	D10	288	14	4,032	0	0	4,032
Delta Airlines, Inc. [DL]	73S	122	7	854	0	0	854
Delta Airlines, Inc. [DL]	M80	154	14	2,156	0	0	2,156
Northwest Airlines, Inc. [NW]	D9S	125	21	2,625	0	0	2,625
Dayton, OH [DAY]							
Northwest Airlin (Mesaba Avtn.) [NW*]	F27	48	13	0	624	0	624
Northwest Airlin (Mesaba Avtn.) [NW*]	SWM	19	12	0	228	0	228
USAir Express [US*]	J31	18	63	0	1,134	0	1,134

CITY PAIR SERVICE SUMMARIES

Detroit Metropolitan Wayne County Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Denver, CO [DEN]							
Continental Airlines, Inc. [CO]	M80	154	21	3,234	0	0	3,234
Northwest Airlines, Inc. [NW]	727	100	14	1,400	0	0	1,400
United Airlines, Inc. [UA]	72S	145	19	2,755	0	0	2,755
Drummond Island, MI [Y66]							
Drummond Island Air [QQ]	PAG	7	1	0	0	7	7
Erie, PA [ERI]							
Northwest Airlin (Mesaba Avtn.) [NW*]	F27	48	19	0	912	0	912
Northwest Airlin (Mesaba Avtn.) [NW*]	SWM	19	6	0	114	0	114
Flint, MI [FNT]							
Northwest Airlin (Mesaba Avtn.) [NW*]	F27	48	20	0	960	0	960
Northwest Airlin (Mesaba Avtn.) [NW*]	SWM	19	14	0	266	0	266
Frankfurt, FRP [FRA]							
Northwest Airlines, Inc. [NW]	D10	288	3	864	0	0	864
Ft. Lauderdale, FL [FLL]							
Delta Airlines, Inc. [DL]	72S	145	7	1,015	0	0	1,015
Northwest Airlines, Inc. [NW]	727	100	7	700	0	0	700
Northwest Airlines, Inc. [NW]	D9S	125	7	875	0	0	875
Ft. Myers, FL [RSW]							
Northwest Airlines, Inc. [NW]	72S	145	14	2,030	0	0	2,030
Ft. Wayne, IN [FWA]							
Northwest Airlines, Inc. [NW]	DC9	90	26	2,340	0	0	2,340
Grand Rapids, MI [GRR]							
Northwest Airlines, Inc. [NW]	727	100	6	600	0	0	600
Northwest Airlines, Inc. [NW]	D9S	125	35	4,375	0	0	4,375
Green Bay, WI [GRB]							
Northwest Airlines, Inc. [NW]	D9S	125	20	2,500	0	0	2,500
Northwest Airlines, Inc. [NW]	DC9	90	6	540	0	0	540
Harrisburg, PA [HAR]							
Northwest Airlines, Inc. [NW]	D9S	125	7	875	0	0	875
Northwest Airlines, Inc. [NW]	DC9	90	13	1,170	0	0	1,170
Hartford, CT/Springfield, MA [BDL]							
Northwest Airlines, Inc. [NW]	72S	145	13	1,885	0	0	1,885
Northwest Airlines, Inc. [NW]	D9S	125	20	2,500	0	0	2,500
Houston, TX [HOU]							
Northwest Airlines, Inc. [NW]	D9S	125	21	2,625	0	0	2,625
Houston, TX [IAH]							
Continental Airlines, Inc. [CO]	72S	145	14	2,030	0	0	2,030
Continental Airlines, Inc. [CO]	D9S	125	6	750	0	0	750
Indianapolis, IN [IND]							
Northwest Airlines, Inc. [NW]	72S	145	14	2,030	0	0	2,030
Northwest Airlines, Inc. [NW]	757	201	6	1,206	0	0	1,206
Northwest Airlines, Inc. [NW]	D9S	125	28	3,500	0	0	3,500
Jackson, MI [JXN]							
Drummond Island Air [QQ]	PAG	7	19	0	0	133	133

CITY PAIR SERVICE SUMMARIES
 Detroit Metropolitan Wayne County Airport
 As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Kalamazoo, MI [AZO]							
Northwest Airlines, Inc. [NW]	D9S	125	19	2,375	0	0	2,375
Northwest Airlines, Inc. [NW]	DC9	90	7	630	0	0	630
Kansas City, MO [MCI]							
Northwest Airlines, Inc. [NW]	72S	145	7	1,015	0	0	1,015
Northwest Airlines, Inc. [NW]	D9S	125	28	3,500	0	0	3,500
Kokomo, IN [OKK]							
Direct Air, Inc. [UO]	PAG	7	11	0	0	77	77
Lansing, MI [LAN]							
Northwest Airlines, Inc. [NW]	D9S	125	13	1,625	0	0	1,625
Northwest Airlines, Inc. [NW]	DC9	90	13	1,170	0	0	1,170
Las Vegas, NV [LAS]							
Northwest Airlines, Inc. [NW]	72S	145	21	3,045	0	0	3,045
Northwest Airlines, Inc. [NW]	757	201	7	1,407	0	0	1,407
London, ONT [YXU]							
Air Canada (Air Ontario) [AC*]	DH8	34	24	0	816	0	816
London, UK [LHR]							
Pan American World Airways [PA]	310	225	7	1,575	0	0	1,575
Los Angeles, CA [LAX]							
Northwest Airlines, Inc. [NW]	72S	145	13	1,885	0	0	1,885
Northwest Airlines, Inc. [NW]	747	452	7	3,164	0	0	3,164
Northwest Airlines, Inc. [NW]	757	201	14	2,814	0	0	2,814
Northwest Airlines, Inc. [NW]	D10	288	7	2,016	0	0	2,016
Louisville, KY [SDF]							
Delta Conn. (Comair, Inc.) [DL*]	SF3	34	5	0	170	0	170
Northwest Airlines, Inc. [NW]	D9S	125	13	1,625	0	0	1,625
Northwest Airlines, Inc. [NW]	DC9	90	6	540	0	0	540
Madison, WI [MSN]							
Northwest Airlines, Inc. [NW]	72S	145	1	145	0	0	145
Northwest Airlines, Inc. [NW]	D9S	125	20	2,500	0	0	2,500
Northwest Airlines, Inc. [NW]	M80	154	6	924	0	0	924
Marquette, MI [MQT]							
Northwest Airlink (Mesaba Avtn.) [NW*]	F27	48	14	0	672	0	672
Northwest Airlink (Mesaba Avtn.) [NW*]	SWM	19	7	0	133	0	133
Memphis, TN [MEM]							
Northwest Airlines, Inc. [NW]	320	171	1	171	0	0	171
Northwest Airlines, Inc. [NW]	757	201	7	1,407	0	0	1,407
Northwest Airlines, Inc. [NW]	D9S	125	26	3,250	0	0	3,250
Northwest Airlines, Inc. [NW]	DC9	90	7	630	0	0	630
Miami, FL [MIA]							
Delta Airlines, Inc. [DL]	757	201	1	201	0	0	201
Northwest Airlines, Inc. [NW]	72S	145	8	1,160	0	0	1,160
Northwest Airlines, Inc. [NW]	D9S	125	20	2,500	0	0	2,500
Milwaukee, WI [MKE]							
Midwest Express Airlines, Inc. [YX]	DC9	90	15	1,350	0	0	1,350

CITY PAIR SERVICE SUMMARIES

Detroit Metropolitan Wayne County Airport

As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Milwaukee, WI [MKE] (cont.)							
Northwest Airlines, Inc. [NW]	727	100	1	100	0	0	100
Northwest Airlines, Inc. [NW]	72S	145	19	2,755	0	0	2,755
Northwest Airlines, Inc. [NW]	757	201	13	2,613	0	0	2,613
Northwest Airlines, Inc. [NW]	D9S	125	15	1,875	0	0	1,875
Trans World Airlines, Inc. [TW]	72S	145	7	1,015	0	0	1,015
Minneapolis/St. Paul, MN [MSP]							
Northwest Airlines, Inc. [NW]	320	171	8	1,368	0	0	1,368
Northwest Airlines, Inc. [NW]	72S	145	26	3,770	0	0	3,770
Northwest Airlines, Inc. [NW]	744	544	5	2,720	0	0	2,720
Northwest Airlines, Inc. [NW]	747	452	9	4,068	0	0	4,068
Northwest Airlines, Inc. [NW]	757	201	14	2,814	0	0	2,814
Northwest Airlines, Inc. [NW]	D10	288	7	2,016	0	0	2,016
Northwest Airlines, Inc. [NW]	M80	154	1	154	0	0	154
Montreal, QUE [YMX]							
Northwest Airlines, Inc. [NW]	D9S	125	27	3,375	0	0	3,375
Muskegon, MI [MKG]							
Northwest Airlin (Mesaba Avtn.) [NW*]	SWM	19	19	0	361	0	361
Nashville, TN [BNA]							
American Airlines, Inc. [AA]	72S	145	14	2,030	0	0	2,030
American Airlines, Inc. [AA]	M80	154	7	1,078	0	0	1,078
Northwest Airlines, Inc. [NW]	72S	145	6	870	0	0	870
Northwest Airlines, Inc. [NW]	D9S	125	27	3,375	0	0	3,375
New Orleans, LA [MSY]							
Northwest Airlines, Inc. [NW]	D9S*	125	7	875	0	0	875
Northwest Airlines, Inc. [NW]	DC9	90	7	630	0	0	630
New York, NY [JFK]							
Northwest Airlines, Inc. [NW]	72S	145	1	145	0	0	145
Northwest Airlines, Inc. [NW]	D9S	125	6	750	0	0	750
Pan American World Airways [PA]	72S	145	14	2,030	0	0	2,030
Trans World Airlines, Inc. [TW]	72S	145	7	1,015	0	0	1,015
New York, NY [LGA]							
Northwest Airlines, Inc. [NW]	72S	145	7	1,015	0	0	1,015
Northwest Airlines, Inc. [NW]	757	201	40	8,040	0	0	8,040
Northwest Airlines, Inc. [NW]	D9S	125	27	3,375	0	0	3,375
New York, NY/Newark, NJ [EWR]							
Continental Airlines, Inc. [CO]	737	120	25	3,000	0	0	3,000
Continental Airlines, Inc. [CO]	73S	122	7	854	0	0	854
Continental Airlines, Inc. [CO]	D9S	125	7	875	0	0	875
Continental Airlines, Inc. [CO]	M80	154	6	924	0	0	924
Northwest Airlines, Inc. [NW]	72S	145	21	3,045	0	0	3,045
Northwest Airlines, Inc. [NW]	757	201	14	2,814	0	0	2,814
Northwest Airlines, Inc. [NW]	D9S	125	12	1,500	0	0	1,500
Northwest Airlines, Inc. [NW]	DC9	90	6	540	0	0	540
USAir [US]	D9S	125	6	750	0	0	750

CITY PAIR SERVICE SUMMARIES
 Detroit Metropolitan Wayne County Airport
 As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
New York/White Plains, NY [HPN]							
Northwest Airlines, Inc. [NW]	D9S	125	26	3,250	0	0	3,250
Norfolk/Va.Beach/Wmsburg, VA [ORF]							
Northwest Airlines, Inc. [NW]	D9S	125	13	1,625	0	0	1,625
Northwest Airlines, Inc. [NW]	DC9	90	14	1,260	0	0	1,260
Orlando, FL [MCO]							
Delta Airlines, Inc. [DL]	72S	145	14	2,030	0	0	2,030
Northwest Airlines, Inc. [NW]	757	201	14	2,814	0	0	2,814
Northwest Airlines, Inc. [NW]	D9S	125	14	1,750	0	0	1,750
Paris, FRA [CDG]							
Northwest Airlines, Inc. [NW]	D10	288	3	864	0	0	864
Pellston, MI [PLN]							
Northwest Airlin (Mesaba Avtn.) [NW*]	SWM	19	20	0	380	0	380
Philadelphia,PA/Wilmington,DE [PHL]							
Northwest Airlines, Inc. [NW]	72S	145	7	1,015	0	0	1,015
Northwest Airlines, Inc. [NW]	757	201	21	4,221	0	0	4,221
Northwest Airlines, Inc. [NW]	D9S	125	12	1,500	0	0	1,500
USAir [US]	733	138	7	966	0	0	966
USAir [US]	D9S	125	7	875	0	0	875
USAir [US]	F28	60	6	360	0	0	360
USAir [US]	M80	154	6	924	0	0	924
Phoenix, AZ [PHX]							
Northwest Airlines, Inc. [NW]	727	100	7	700	0	0	700
Northwest Airlines, Inc. [NW]	72S	145	21	3,045	0	0	3,045
Southwest Airlines [WN]	733	138	13	1,794	0	0	1,794
Pittsburgh, PA [PIT]							
Northwest Airlines, Inc. [NW]	D9S	125	6	750	0	0	750
Northwest Airlines, Inc. [NW]	DC9	90	20	1,800	0	0	1,800
USAir [US]	72S	145	7	1,015	0	0	1,015
USAir [US]	73S	122	7	854	0	0	854
USAir [US]	D9S	125	21	2,625	0	0	2,625
USAir [US]	F28	60	7	420	0	0	420
USAir [US]	M80	154	7	1,078	0	0	1,078
Providence, RI [PVD]							
Northwest Airlines, Inc. [NW]	D9S	125	13	1,625	0	0	1,625
Northwest Airlines, Inc. [NW]	DC9	90	13	1,170	0	0	1,170
Raleigh/Durham, NC [RDU]							
American Airlines, Inc. [AA]	72S	145	14	2,030	0	0	2,030
American Airlines, Inc. [AA]	M80	154	7	1,078	0	0	1,078
Rochester, NY [ROC]							
Northwest Airlines, Inc. [NW]	D9S	125	19	2,375	0	0	2,375
Northwest Airlines, Inc. [NW]	DC9	90	7	630	0	0	630
Saginaw, MI [MBS]							
Northwest Airlines, Inc. [NW]	72S	145	14	2,030	0	0	2,030
Northwest Airlines, Inc. [NW]	D9S	125	27	3,375	0	0	3,375

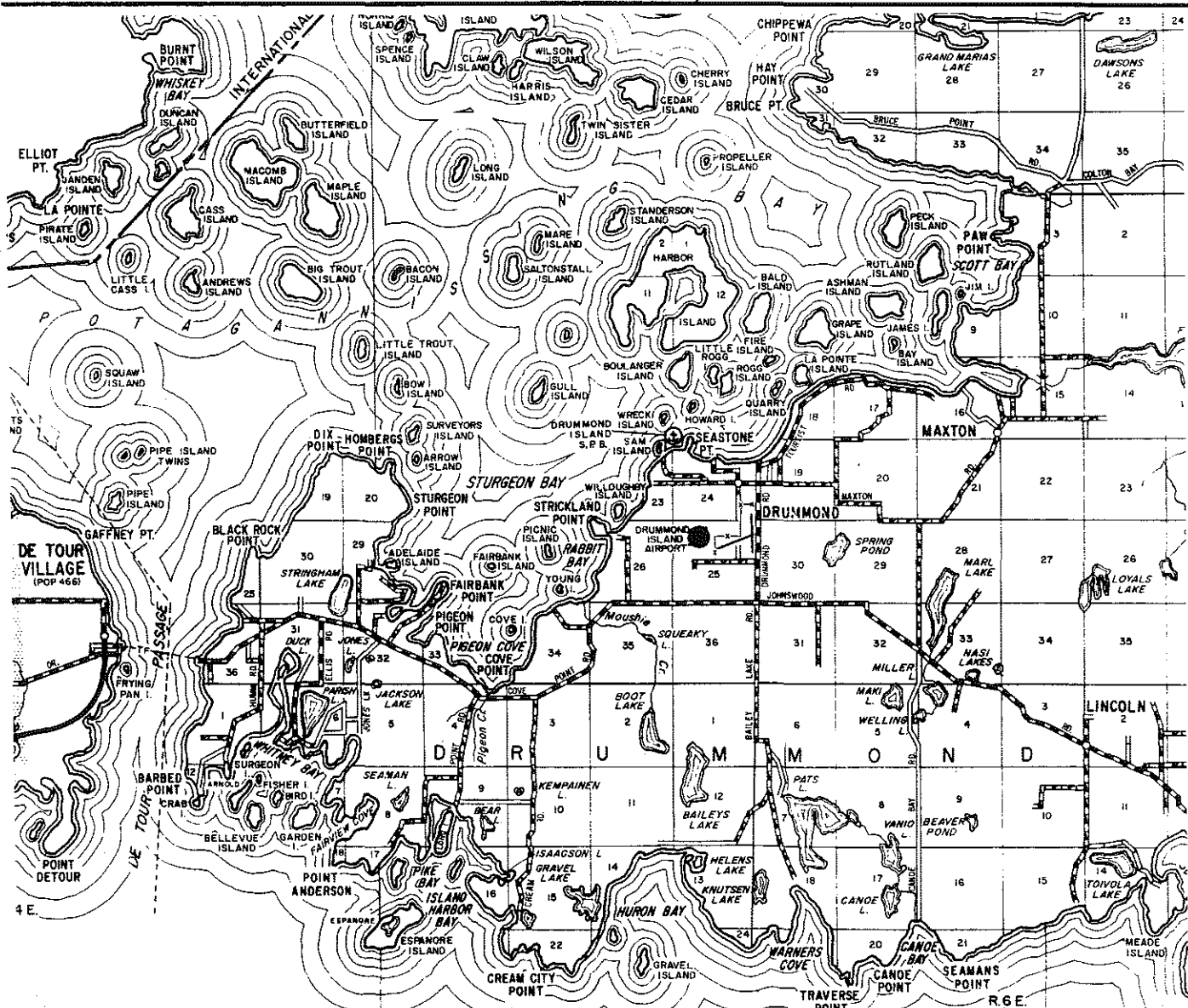
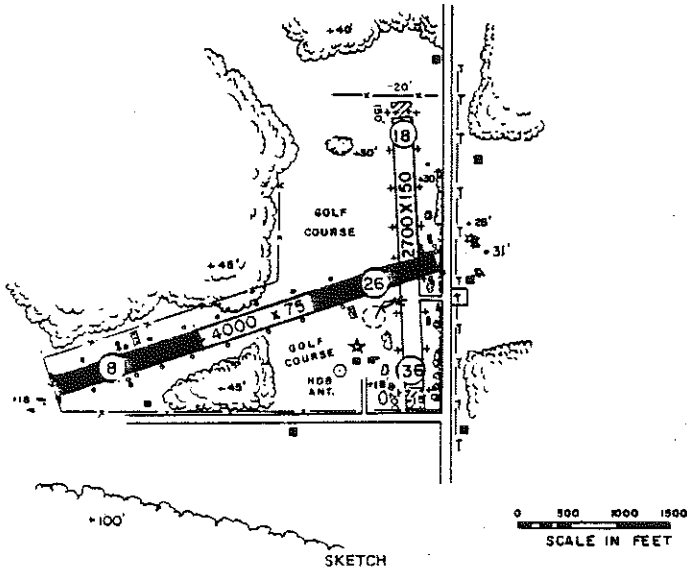
CITY PAIR SERVICE SUMMARIES
 Detroit Metropolitan Wayne County Airport
 As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
San Diego, CA [SAN]							
Northwest Airlines, Inc. [NW]	320	171	20	3,420	0	0	3,420
San Francisco/Oakland, CA [SFO]							
Northwest Airlines, Inc. [NW]	72S	145	7	1,015	0	0	1,015
Northwest Airlines, Inc. [NW]	757	201	7	1,407	0	0	1,407
Northwest Airlines, Inc. [NW]	D10	288	14	4,032	0	0	4,032
United Airlines, Inc. [UA]	733	138	7	966	0	0	966
Sarasota/Bradenton, FL [SRQ]							
Northwest Airlines, Inc. [NW]	D9S	125	14	1,750	0	0	1,750
Seattle/Tacoma, WA [SEA]							
Northwest Airlines, Inc. [NW]	757	201	21	4,221	0	0	4,221
Seoul, ROK [SEL]							
Northwest Airlines, Inc. [NW]	747	452	2	904	0	0	904
South Bend, IN [SBN]							
Northwest Airlines, Inc. [NW]	DC9	90	26	2,340	0	0	2,340
Stevens Point/Wausau, WI [CWA]							
Northwest Airlin (Mesaba Avtn.) [NW*]	F27	48	6	0	288	0	288
Northwest Airlin (Mesaba Avtn.) [NW*]	SWM	19	14	0	266	0	266
St. Louis, MO [STL]							
Northwest Airlines, Inc. [NW]	D9S	125	26	3,250	0	0	3,250
Northwest Airlines, Inc. [NW]	DC9	90	7	630	0	0	630
Trans World Airlines, Inc. [TW]	D9S	125	21	2,625	0	0	2,625
Trans World Airlines, Inc. [TW]	M80	154	14	2,156	0	0	2,156
Syracuse, NY [SYR]							
Northwest Airlines, Inc. [NW]	D9S	125	19	2,375	0	0	2,375
Northwest Airlines, Inc. [NW]	DC9	90	7	630	0	0	630
Tampa/St. Petersburg, FL [TPA]							
Northwest Airlines, Inc. [NW]	72S	145	28	4,060	0	0	4,060
Northwest Airlines, Inc. [NW]	D9S	125	14	1,750	0	0	1,750
Tokyo, JPN [NRT]							
Northwest Airlines, Inc. [NW]	747	452	7	3,164	0	0	3,164
Toledo, OH [TOL]							
Northwest Airlin (Mesaba Avtn.) [NW*]	SWM	19	26	0	494	0	494
Toronto, ONT [YYZ]							
British Airways [BA]	747	452	7	3,164	0	0	3,164
Northwest Airlines, Inc. [NW]	72S	145	14	2,030	0	0	2,030
Northwest Airlines, Inc. [NW]	757	201	21	4,221	0	0	4,221
Traverse City, MI [TVC]							
Northwest Airlines, Inc. [NW]	D9S	125	7	875	0	0	875
Northwest Airlin (Mesaba Avtn.) [NW*]	F27	48	20	0	960	0	960
Washington, DC [DCA]							
Northwest Airlines, Inc. [NW]	320	171	20	3,420	0	0	3,420
Northwest Airlines, Inc. [NW]	72S	145	12	1,740	0	0	1,740
Northwest Airlines, Inc. [NW]	757	201	14	2,814	0	0	2,814
Northwest Airlines, Inc. [NW]	D9S	125	7	875	0	0	875

CITY PAIR SERVICE SUMMARIES
 Detroit Metropolitan Wayne County Airport
 As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Washington, DC [IAD]							
Northwest Airlines, Inc. [NW]	DC9	90	26	2,340	0	0	2,340
United Airlines, Inc. [UA]	73S	122	19	2,318	0	0	2,318
West Palm Beach, FL [PBI]							
Northwest Airlines, Inc. [NW]	D9S	125	14	1,750	0	0	1,750
Worcester, MA [ORH]							
Northwest Airlines, Inc. [NW]	D9S	125	7	875	0	0	875
Northwest Airlines, Inc. [NW]	DC9	90	13	1,170	0	0	1,170
Youngstown, OH [YNG]							
BAS Airlines [GS]	PAG	7	10	0	0	70	70
Totals			3,082	387,552	10,855	385	398,792

Drummond Island Airport



Drummond Island Airport

Passengers Carried

Drummond Island Airport, with 5,562 total passengers, experienced a 461.3 percent increase in 1989 over the previous year. This increase is somewhat misleading as the facility only had four months of service in 1988. If the 1988 figure is annualized, the increase is a more modest 87.1 percent increase. Monthly figures for September through December exceeded their 1988 levels. Drummond Island Airport ranked nineteenth in the state in total passengers with less than 0.1 percent of the statewide total.

WEEKLY ARRIVING SEATS As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1987	Service commenced in September, 1988.			
1988	0	0	84	84
1989	0	0	119	119

ANNUAL PASSENGERS

Year	Passengers		Percent	
	Enplaned	Deplaned	Total	Change
1987	Service commenced in September, 1988.			
1988	436	555	991	n/c
1989	2,537	3,025	5,562	461.3%

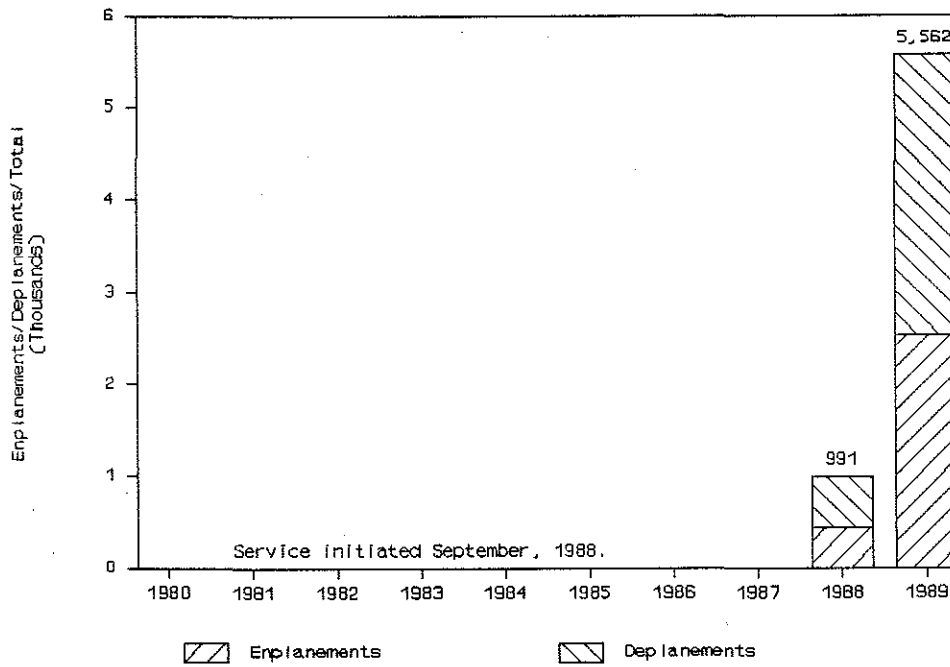
Service Supplied

As of December 31, 1988, Drummond Island was served by one airline. Between the survey dates, the facility added nonstop service from Ann Arbor and Detroit to the Alpena flights. There were 17 weekly arrivals, one of which is from a hub airport. Of the 119 weekly arriving seats, all were in nonpressurized propeller aircraft.

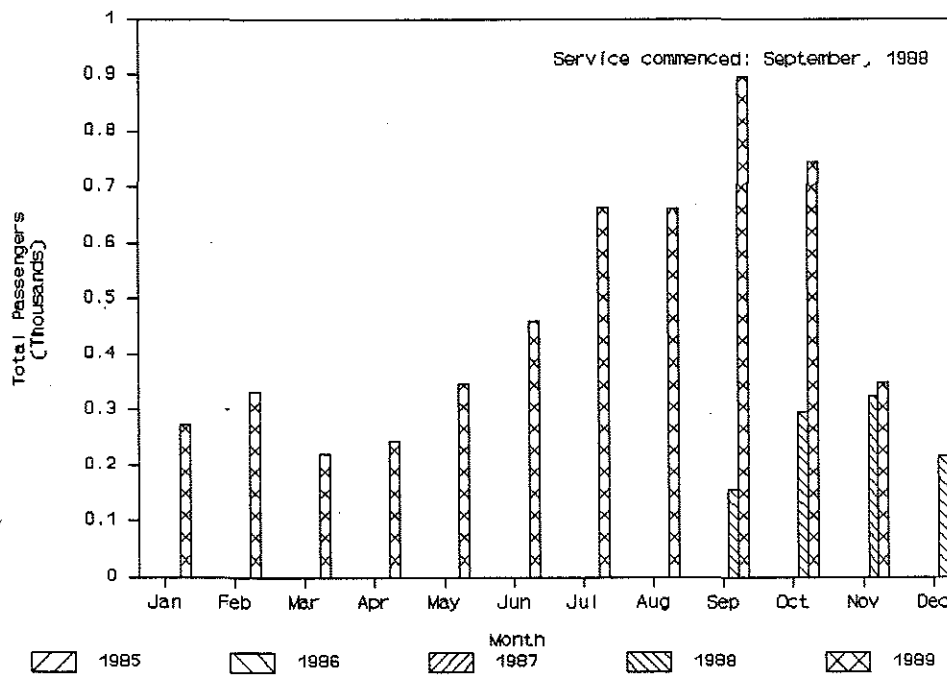
WEEKLY ARRIVALS As of December 31

Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1987	Service commenced in September, 1988.					
1988	1	1	0	0	12	12
1989	1	3	0	0	17	17

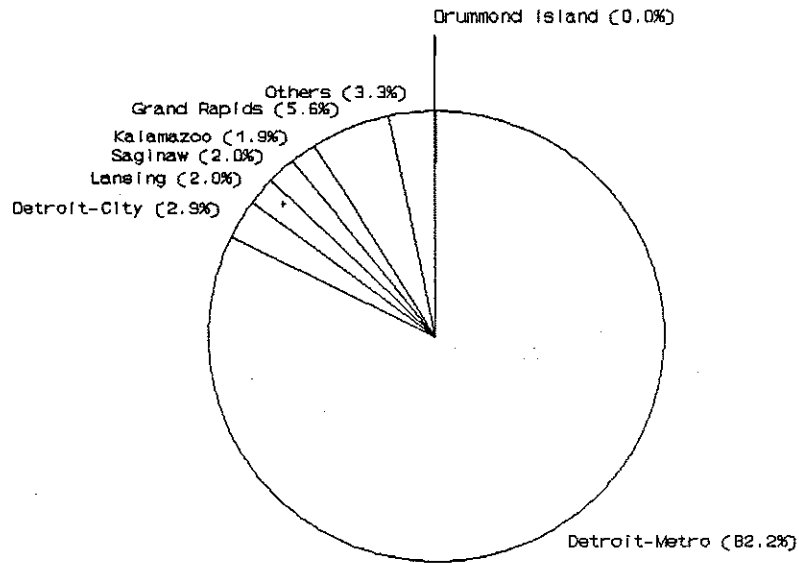
1980 - 1989 ANNUAL TOTAL PASSENGERS Drummond Island Airport



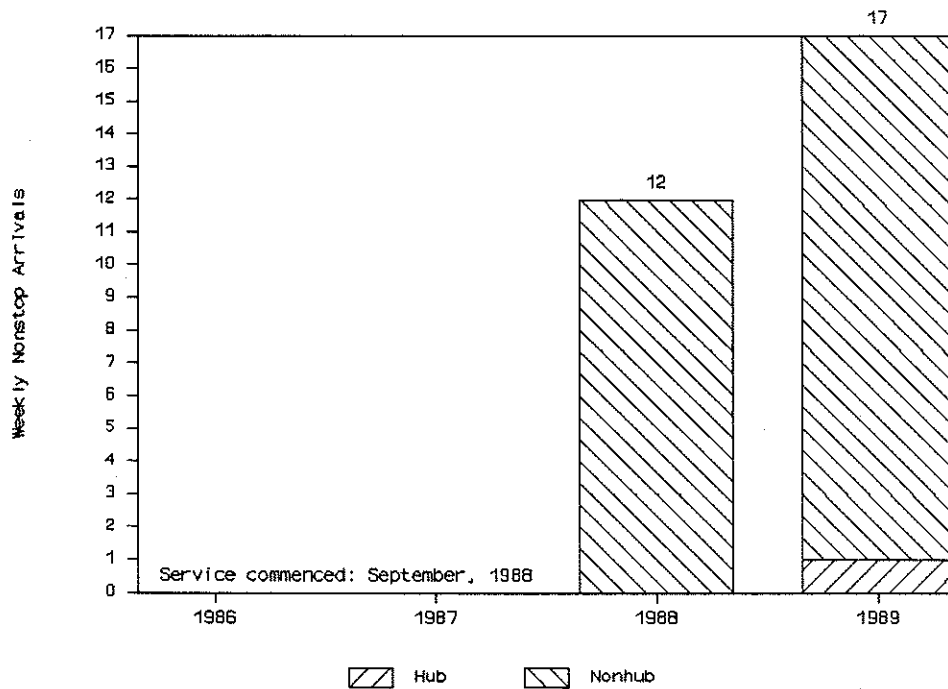
1985 - 1989 MONTHLY TOTAL PASSENGERS Drummond Island Airport



1989 PASSENGER LEVEL COMPARISON Drummond Island Airport



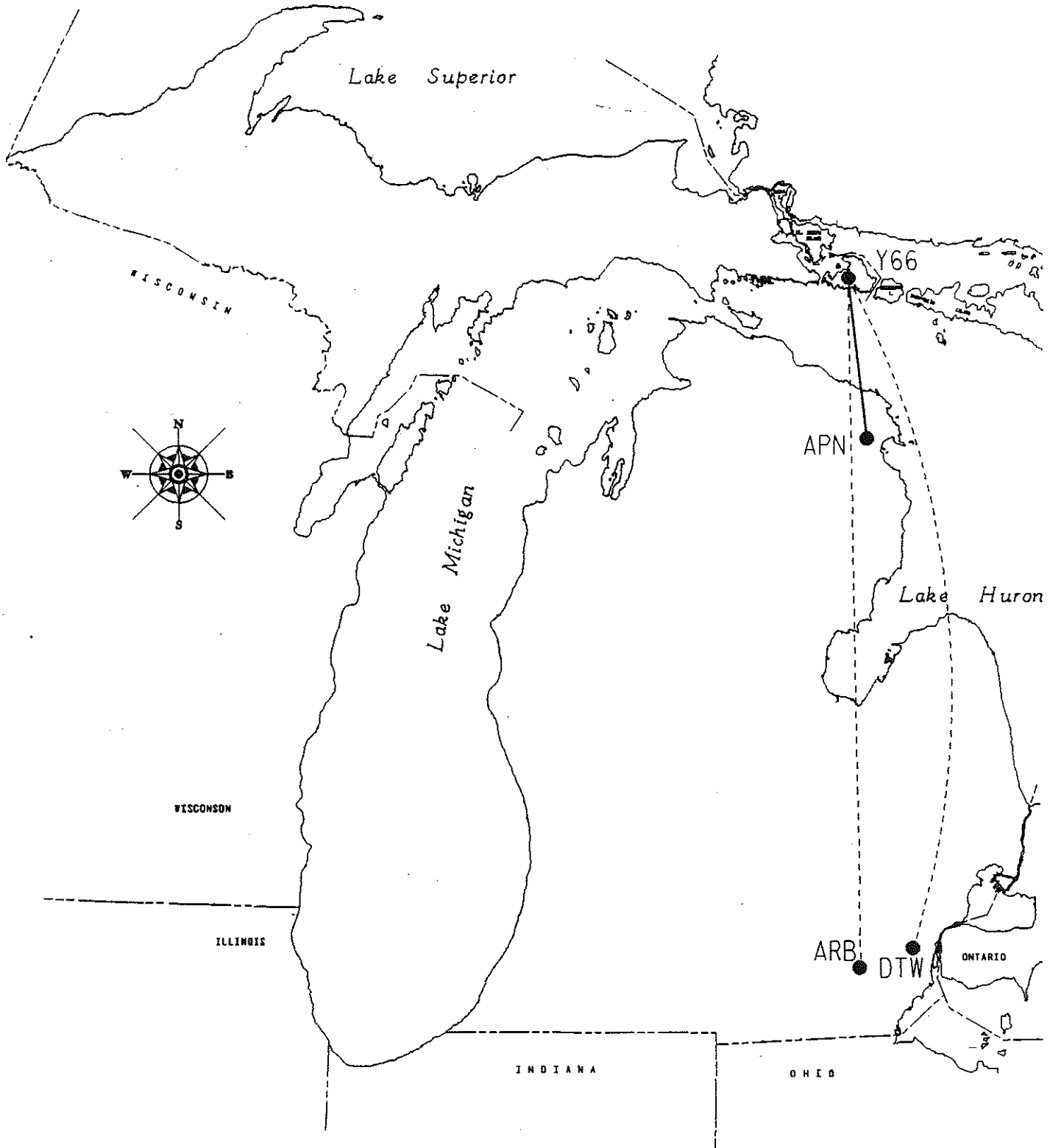
NONSTOP ARRIVALS FROM HUBS/NONHUBS Drummond Island Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Drummond Island Airport

As of December 31, 1989



Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

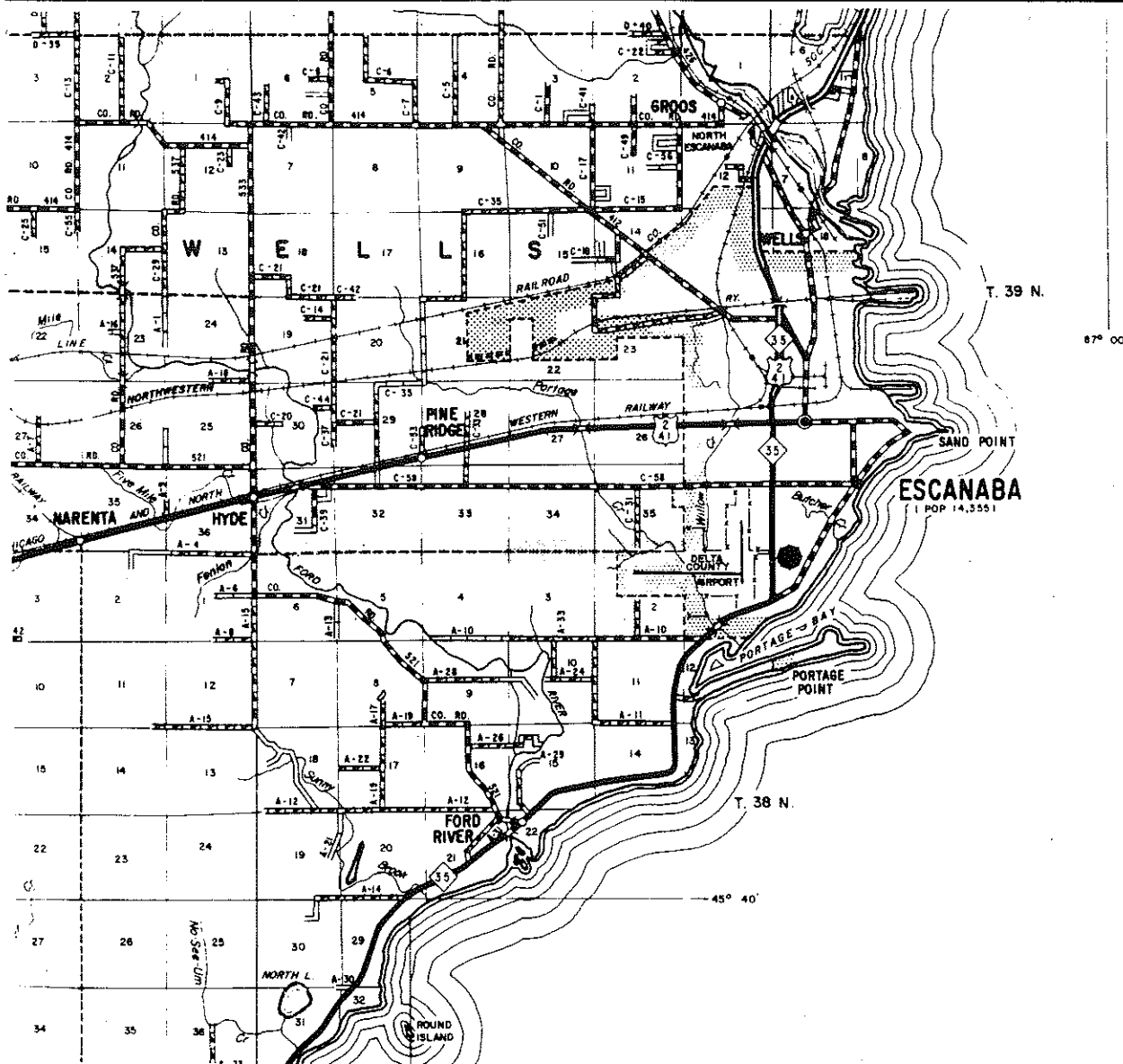
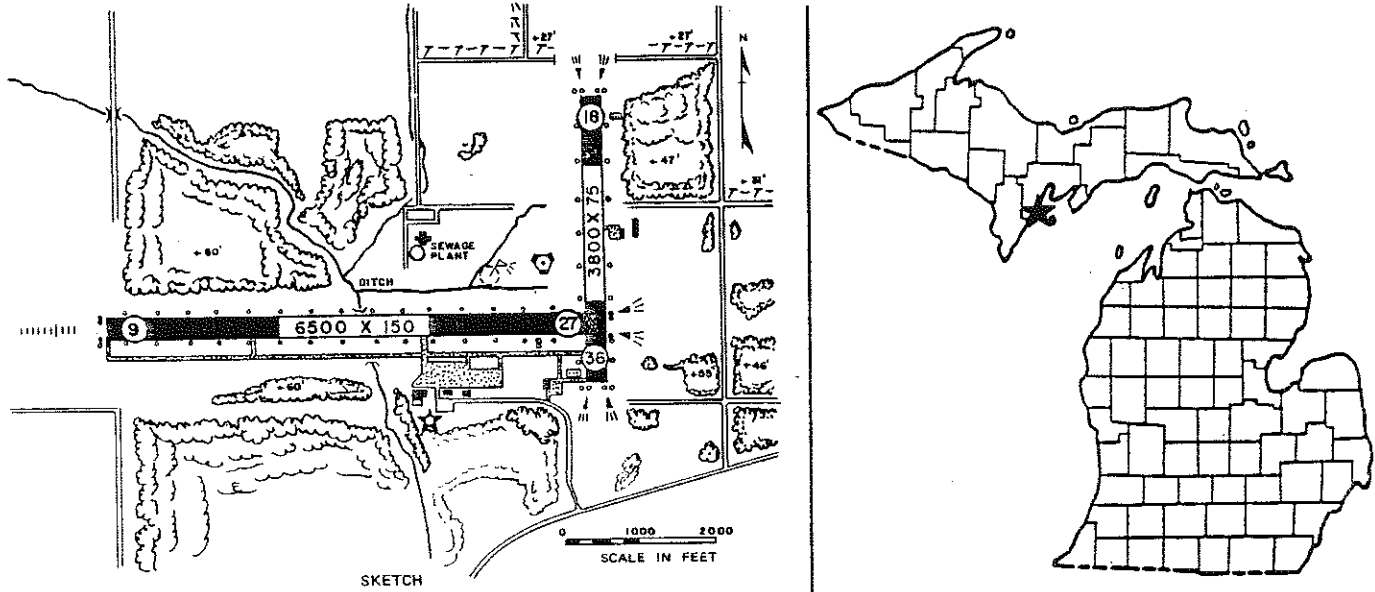
CITY PAIR SERVICE SUMMARIES

Drummond Island Airport

As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Alpena, MI [APN] Drummond Island Air [QQ]	PAG	7	14	0	0	98	98
Ann Arbor, MI [ARB] Drummond Island Air [QQ]	PAG	7	2	0	0	14	14
Detroit, MI [DTW] Drummond Island Air [QQ]	PAG	7	1	0	0	7	7
Totals			17	0	0	119	119

Escanaba, Delta County Airport



Escanaba, Delta County Airport

Passengers Carried

Escanaba, with 23,070 total passengers, experienced a 73.4 percent increase in 1989 over the previous year. Historically, Delta County Airport had experienced a decline in total passengers between 1982 and 1987. The 1989 levels represent the second year of increase in a row and bring Escanaba to only 33.9 percent below their 1978 level, the last year of government regulation of routes and fares. Monthly figures were five year highs from May through December. The remaining months were greater than their 1988 levels. Escanaba ranked thirteenth in the state in total passengers with 0.1 percent of the statewide total.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	21,464	18,805	40,269	-6.0%
1981	16,376	14,469	30,845	-23.4%
1982	15,933	16,571	32,504	5.4%
1983	15,824	14,797	30,621	-5.8%
1984	15,459	15,160	30,619	0.0%
1985	10,865	10,577	21,442	-30.0%
1986	7,725	7,836	15,561	-27.4%
1987	6,140	5,841	11,981	-23.0%
1988	6,805	6,502	13,307	11.1%
1989	11,891	11,179	23,070	73.4%

Service Supplied

As of December 31, 1989, Escanaba was served by two airlines, an increase of one over the previous year. Between survey dates, Delta County Airport added nonstop service from three cities; Green Bay, WI, Marquette and Rhinelander, WI. There were 59 weekly arrivals, up 45 from 1988. None of the weekly arrivals were from a hub airport. Of the 1,650 weekly arriving seats, all were by pressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

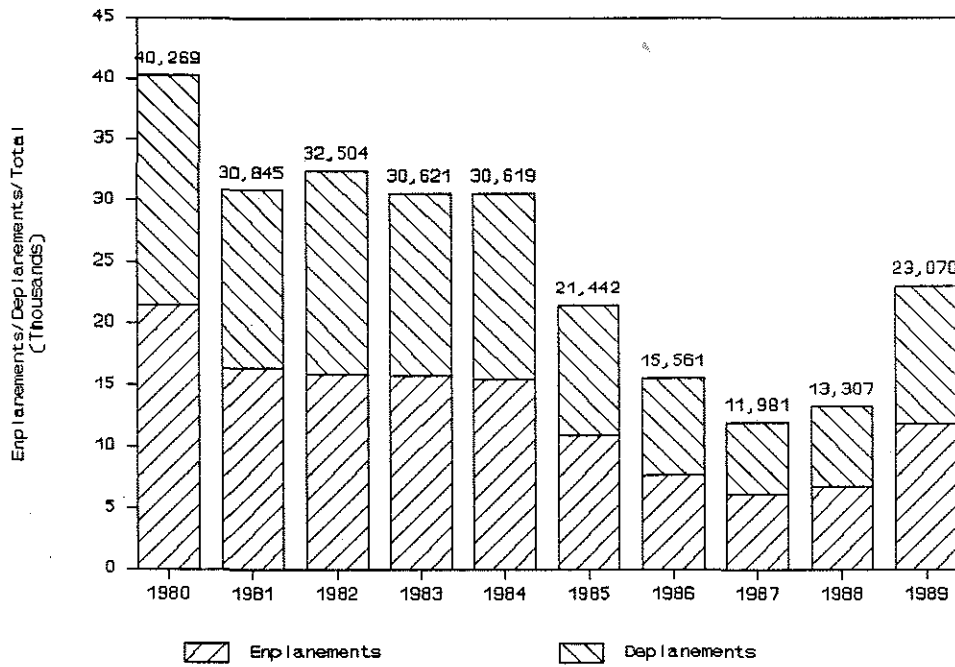
Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	1	2	0	2	12	14
1987	1	1	0	1	12	13
1988	1	1	0	0	14	14
1989	2	4	0	59	0	59

WEEKLY ARRIVING SEATS

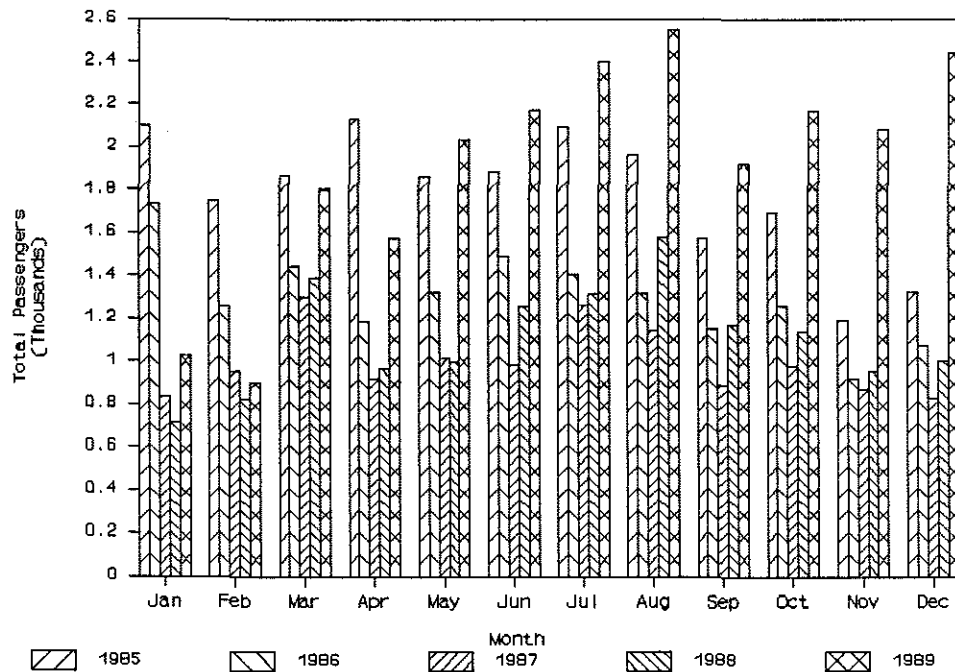
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	92	432	524
1987	0	46	432	478
1988	0	0	504	504
1989	0	1,650	0	1,650

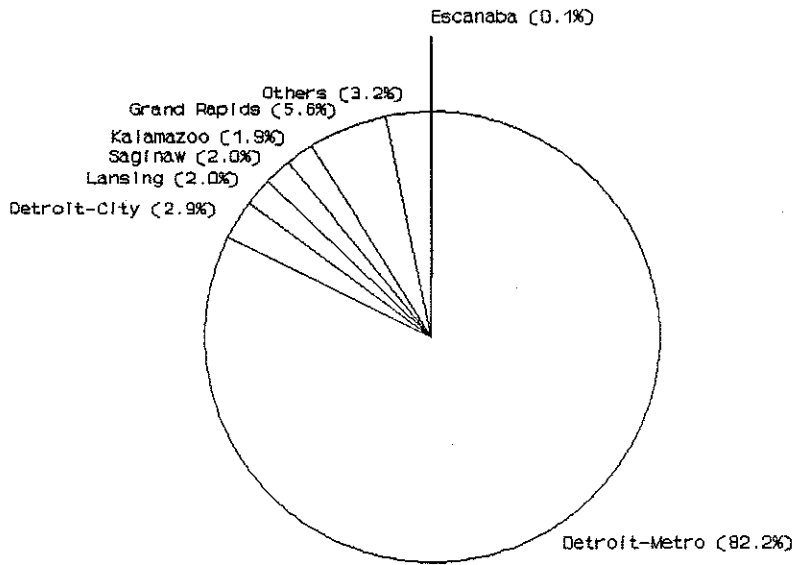
1980 - 1989 ANNUAL TOTAL PASSENGERS Escanaba, Delta County Airport



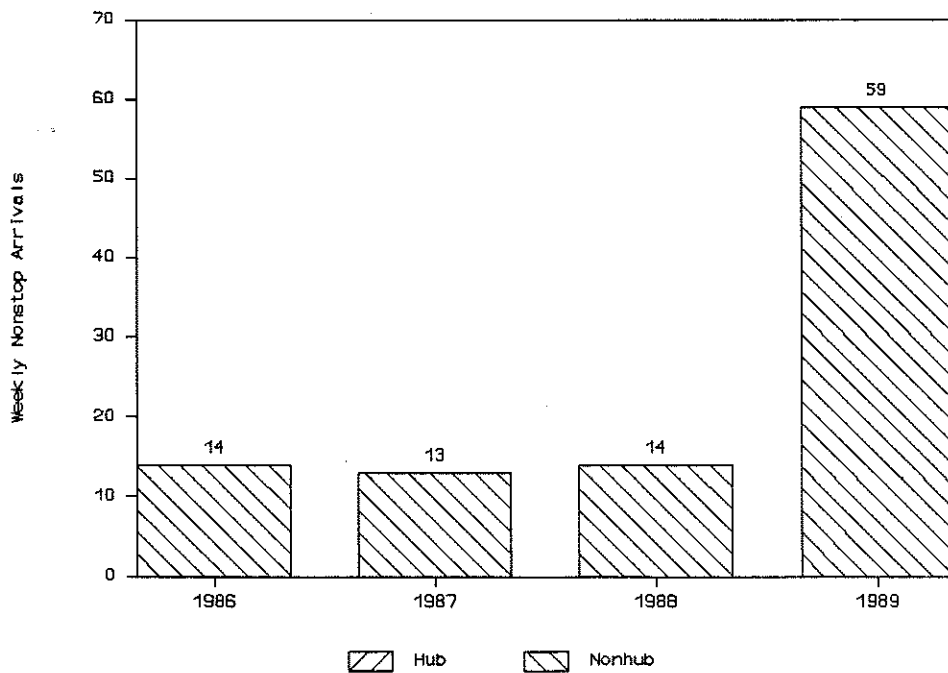
1985 - 1989 MONTHLY TOTAL PASSENGERS Escanaba, Delta County Airport



1989 PASSENGER LEVEL COMPARISON Escanaba, Delta County Airport



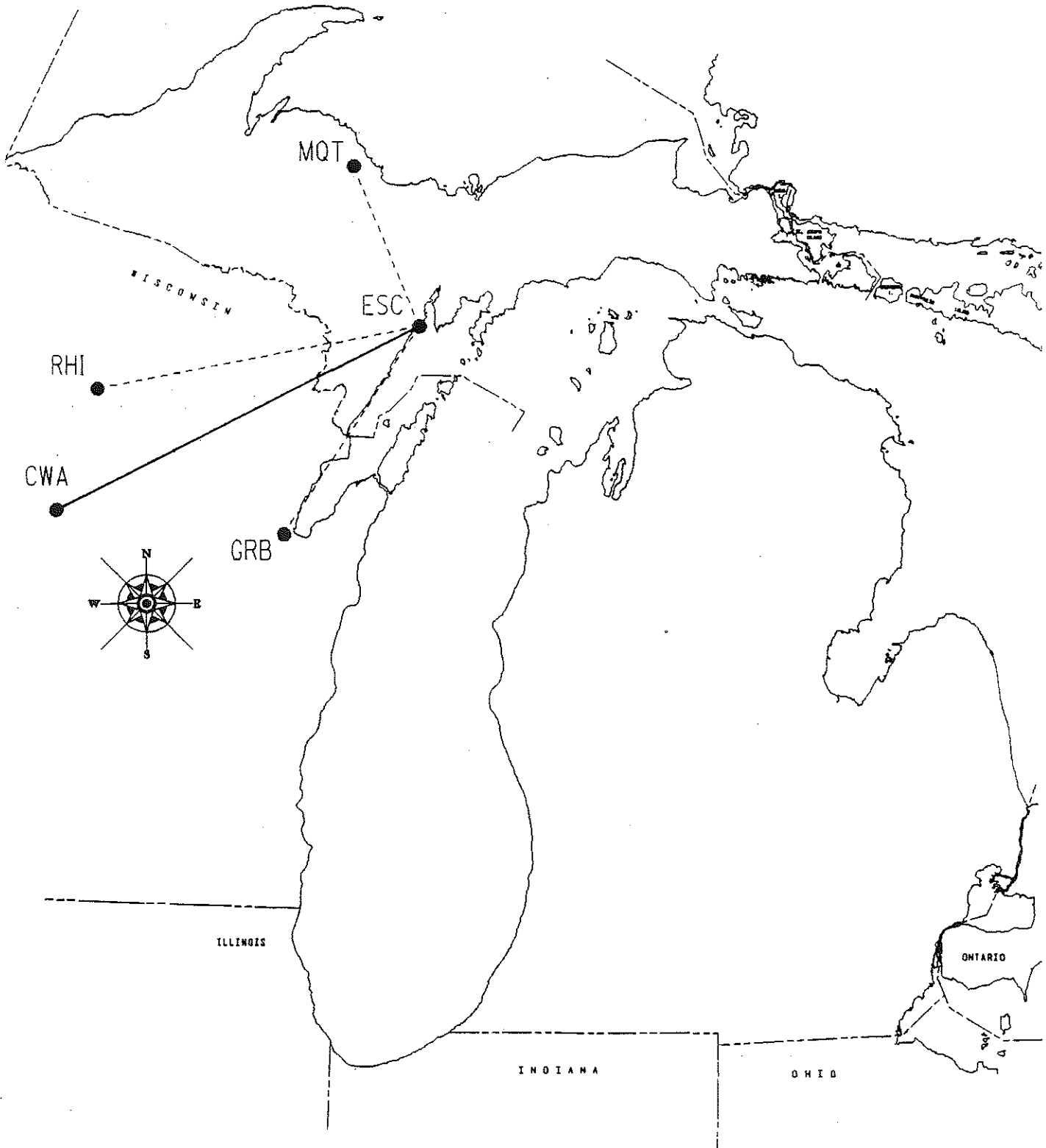
NONSTOP ARRIVALS FROM HUBS/NONHUBS Escanaba, Delta County Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Escanaba, Delta County Airport

As of December 31, 1989



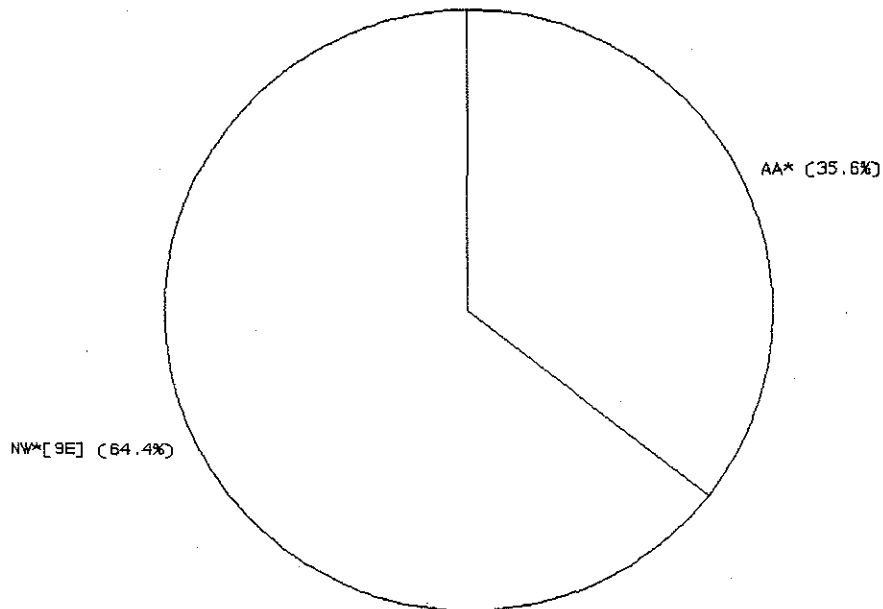
Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

PERCENTAGE ARRIVALS BY CARRIER

Escanaba, Delta County Airport



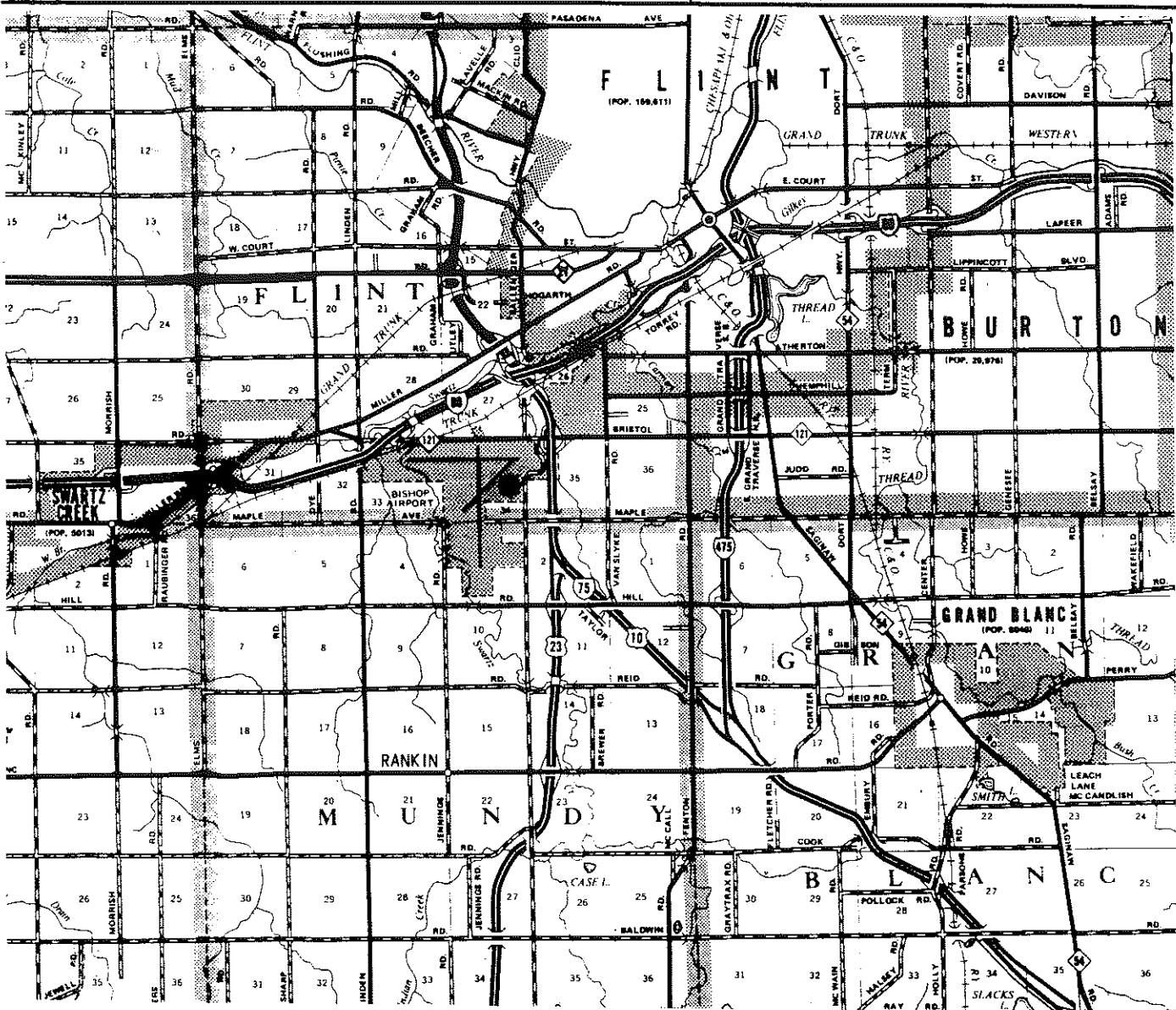
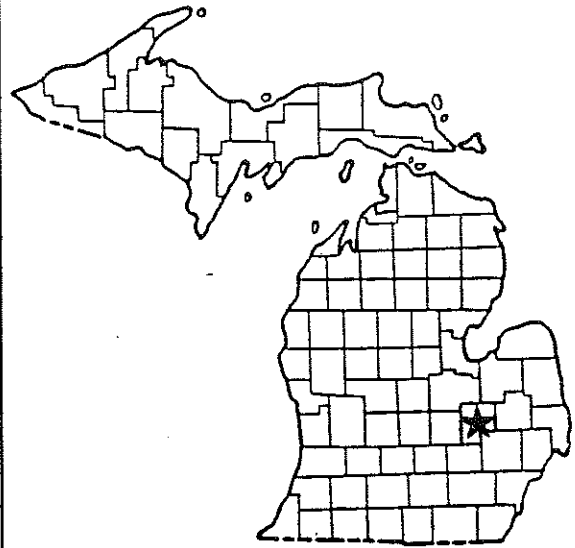
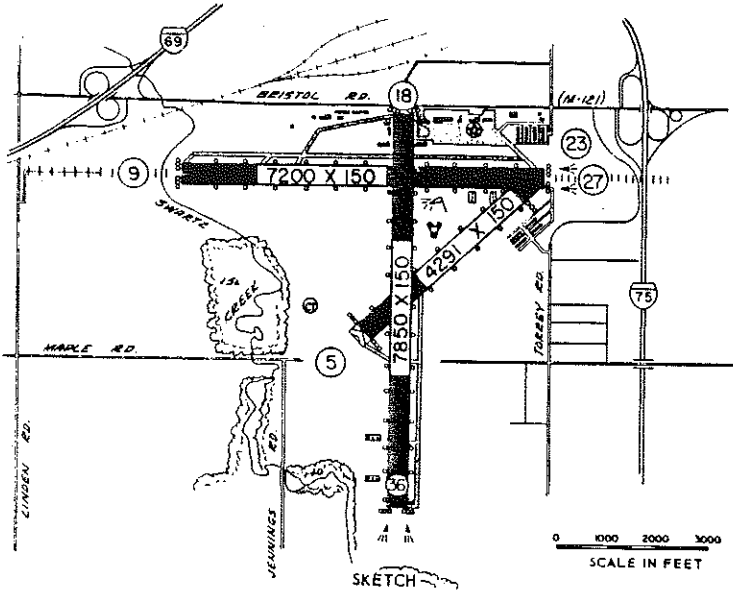
CITY PAIR SERVICE SUMMARIES

Escanaba, Delta County Airport

As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Green Bay, WI [GRB]							
American Eagle [AA*]	ATR	46	7	0	322	0	322
Northwest Airlin (Exp.Arln.I)[NW*]	J31	18	19	0	342	0	342
Marquette, MI [MQT]							
American Eagle [AA*]	ATR	46	7	0	322	0	322
Rhineland, WI [RHI]							
Northwest Airlin (Exp.Arln.I)[NW*]	J31	18	19	0	342	0	342
Stevens Point/Wausau, WI [CWA]							
American Eagle [AA*]	ATR	46	7	0	322	0	322
Totals			59	0	1,650	0	1,650

Flint, Bishop Airport



Flint, Bishop Airport

Passengers Carried

Bishop Airport, with 305,709 total passengers, experienced a 16.9 percent increase in 1989 over the previous year. Historically, Bishop Airport enjoyed a growth in total passengers between 1982 and 1985 and declines in 1986 and 1987. The 1989 increase places Bishop Airport 9.1 percent above the 1978 levels, the last year of government regulation of routes and fares. Monthly figures exceeded their 1988 levels in every month except October. Five year monthly highs were experienced in all months except January, February and October. Bishop Airport ranked seventh in the state in total passengers with 1.2 percent of the statewide total.

ANNUAL PASSENGERS

Year	Passengers			Percent Change
	Enplaned	Deplaned	Total	
1980	83,880	87,597	171,477	-30.3%
1981	54,031	55,399	109,430	-36.2%
1982	46,286	45,487	91,773	-16.1%
1983	85,005	83,606	168,611	83.7%
1984	118,257	115,163	233,420	38.4%
1985	134,588	132,891	267,479	14.6%
1986	131,210	128,715	259,925	-2.8%
1987	112,555	110,388	222,943	-14.2%
1988	131,796	129,816	261,612	17.3%
1989	155,195	150,514	305,709	16.9%

Service Supplied

As of December 31, 1989, Flint was served by six airlines, a net gain of one between survey dates. Bishop Airport had nonstop service from nine origins in eight cities. Between survey dates service was lost from Muskegon and Saginaw. However, service was gained from Chicago, IL (Midway and O'Hare Airports) Kalamazoo, Milwaukee, WI and Rochester, NY for a net gain of three nonstop origins over the previous year.

There were 184 weekly arrivals, up 79 from 1988. Of the weekly arrivals, 149 (81.0 percent) were from hub airports. Of the 7,884 weekly arriving seats, 2,947 (37.4 percent) were by jet, 2,465 (31.3 percent) were by pressurized propeller and 2,472 (31.4 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

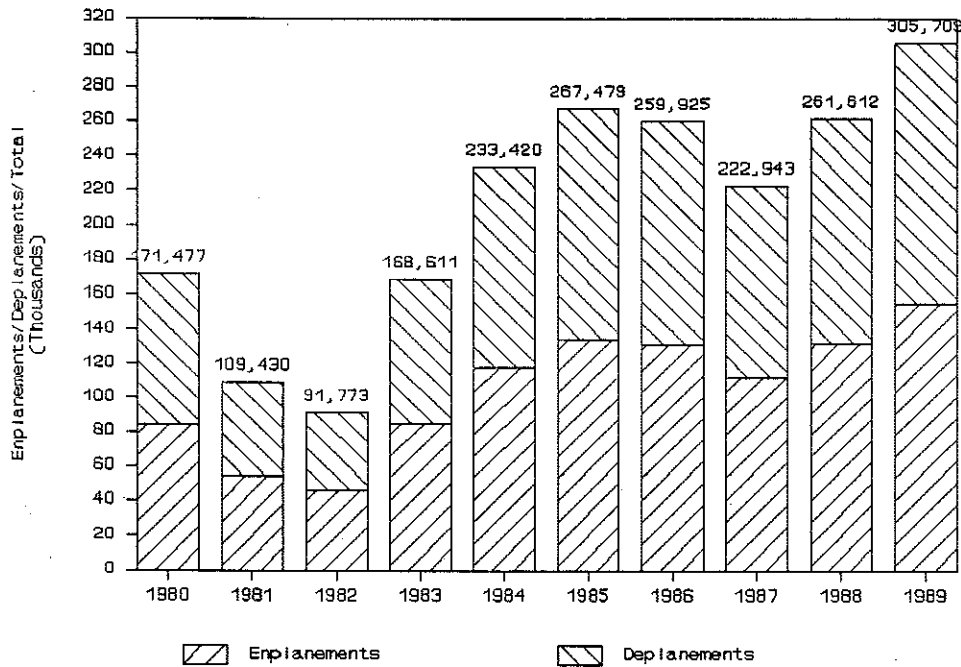
Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	5	8	21	24	135	180
1987	3	4	21	0	78	99
1988	5	6	34	12	59	105
1989	6	9	21	83	80	184

WEEKLY ARRIVING SEATS

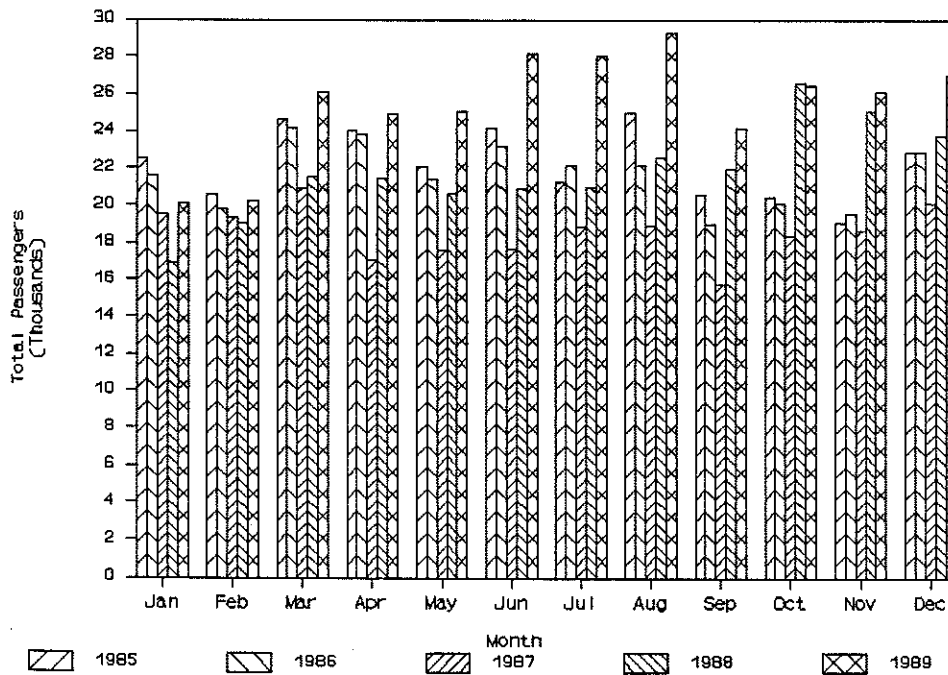
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	2,786	456	3,907	7,149
1987	2,674	0	2,808	5,482
1988	4,344	288	2,124	6,756
1989	2,947	2,465	2,472	7,884

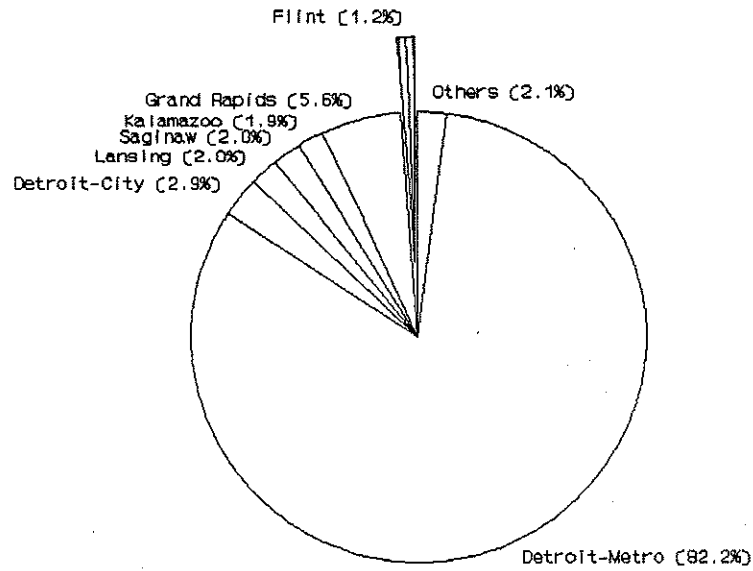
1980 - 1989 ANNUAL TOTAL PASSENGERS Flint, Bishop Airport



1985 - 1989 MONTHLY TOTAL PASSENGERS Flint, Bishop Airport

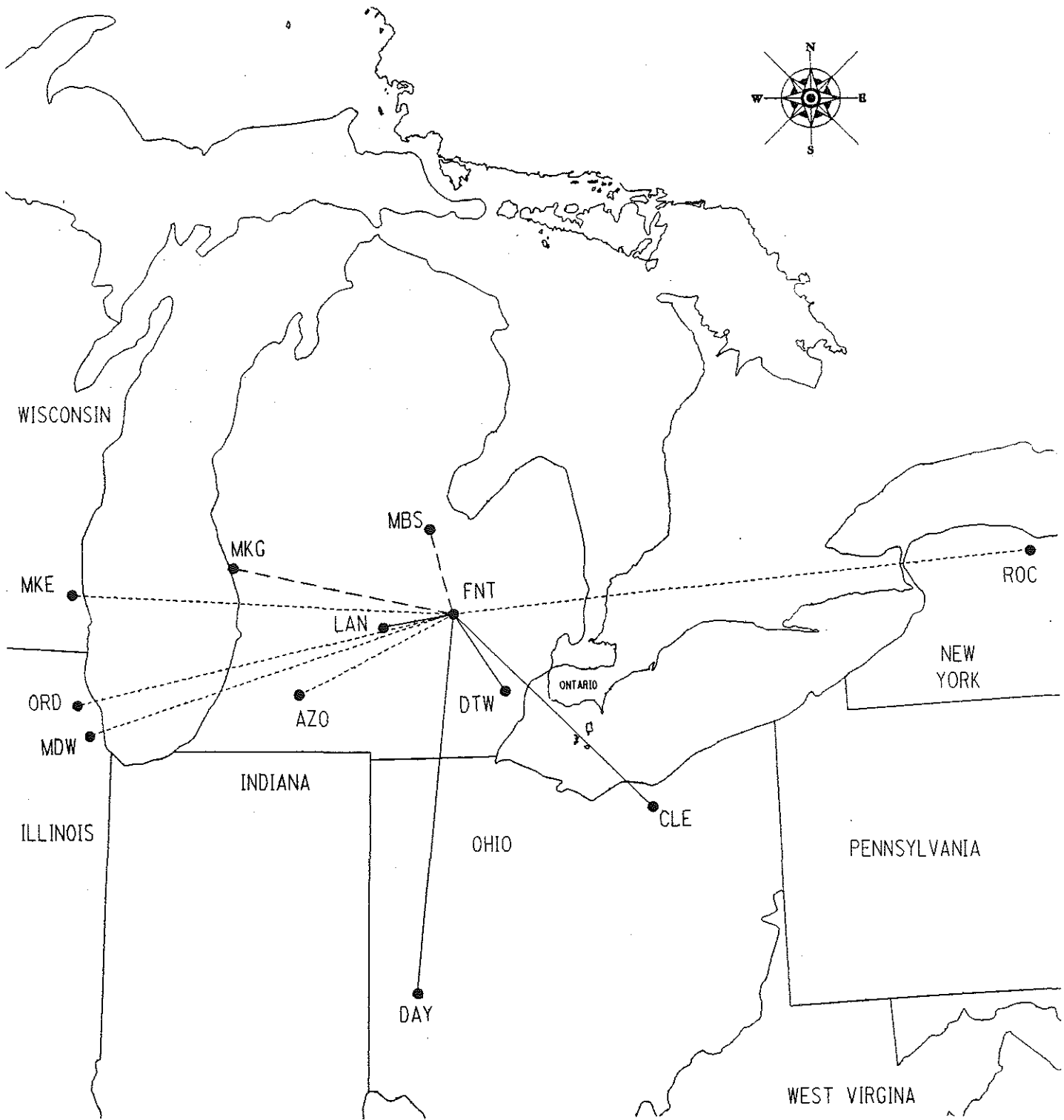


1989 PASSENGER LEVEL COMPARISON Flint, Bishop Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Flint, Bishop Airport
As of December 31, 1989



Discontinued Since 1988

Flown in 1988 and 1989

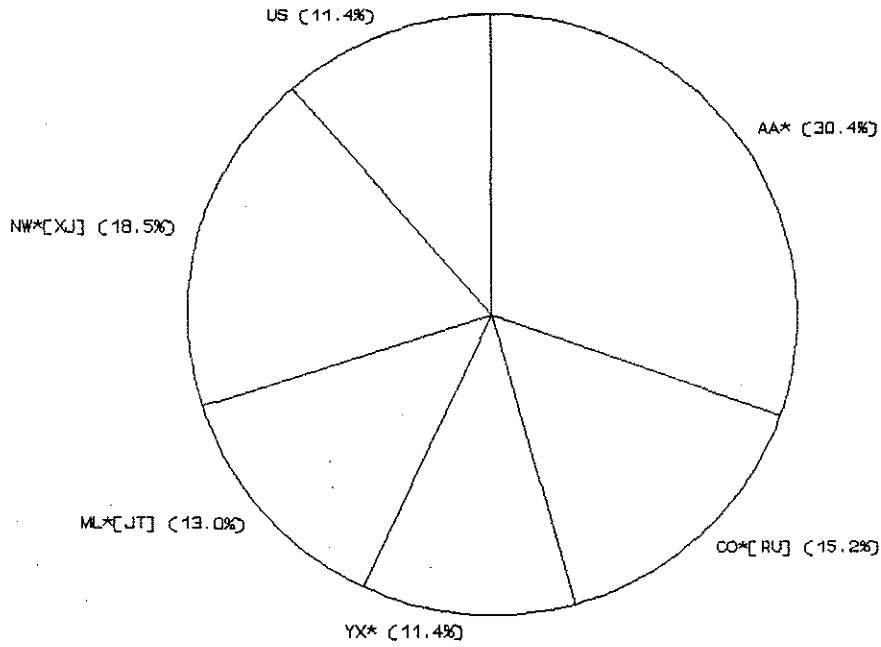
New Since 1988

CITY PAIR SERVICE SUMMARIES

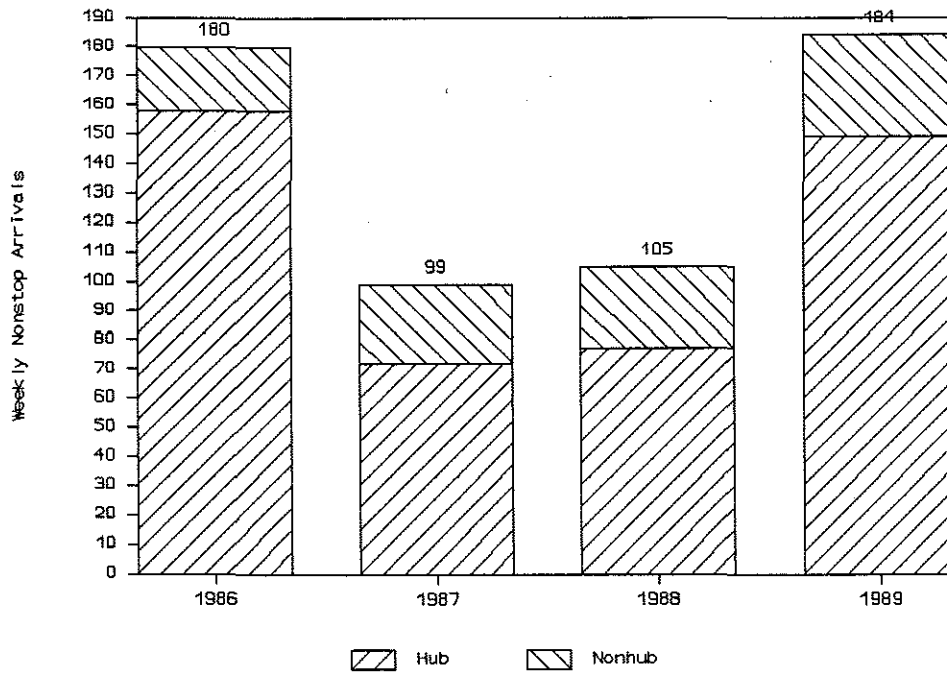
Flint, Bishop Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Chicago, IL [MDW] The Midway Conn.(Fisher Bros.)[ML*]	EMB	19	24	0	0	456	456
Chicago, IL [ORD] American Eagle [AA*]	SH6	36	21	0	0	756	756
Cleveland, OH [CLE] Continental Express(Britt Awys.)[CO*]	EM2	30	28	0	840	0	840
Dayton, OH [DAY] USAir [US]	72S	145	7	1,015	0	0	1,015
	733	138	14	1,932	0	0	1,932
Detroit, MI [DTW] Northwest Airlink(Mesaba Avtn.)[NW*]	F27	48	20	0	960	0	960
	SWM	19	14	0	266	0	266
Kalamazoo, MI [AZO] American Eagle [AA*]	SH6	36	7	0	0	252	252
Lansing, MI [LAN] American Eagle [AA*]	SH6	36	28	0	0	1,008	1,008
Milwaukee, WI [MKE] Midwest Exp.Conn.(Skyway Arln.)[YX*]	BE1	19	11	0	209	0	209
Rochester, NY [ROC] Midwest Exp.Conn.(Skyway Arln.)[YX*]	BE1	19	10	0	190	0	190
Totals			184	2,947	2,465	2,472	7,884

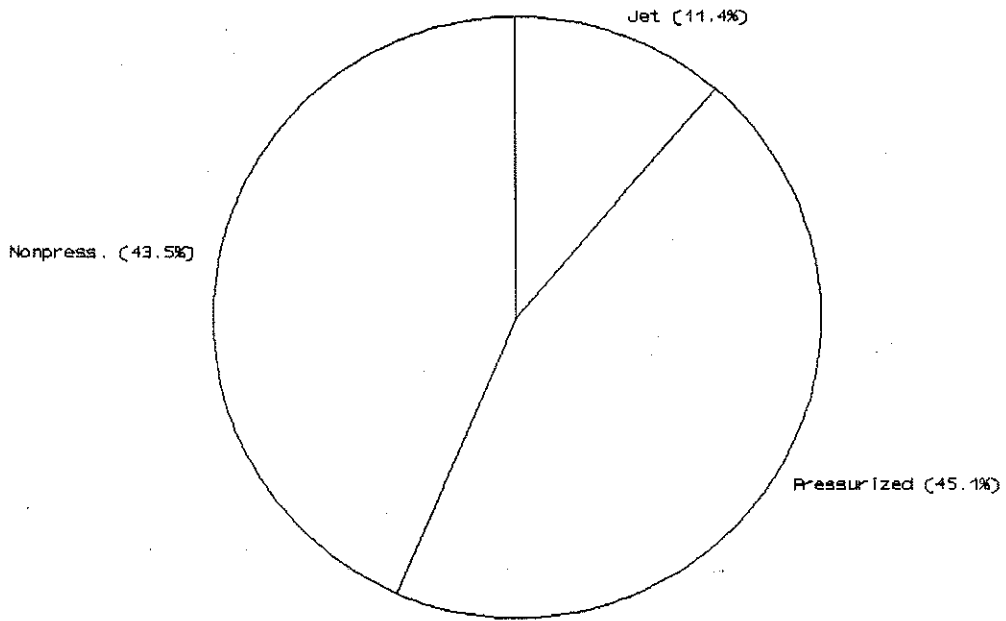
PERCENTAGE ARRIVALS BY CARRIER
Flint, Bishop Airport



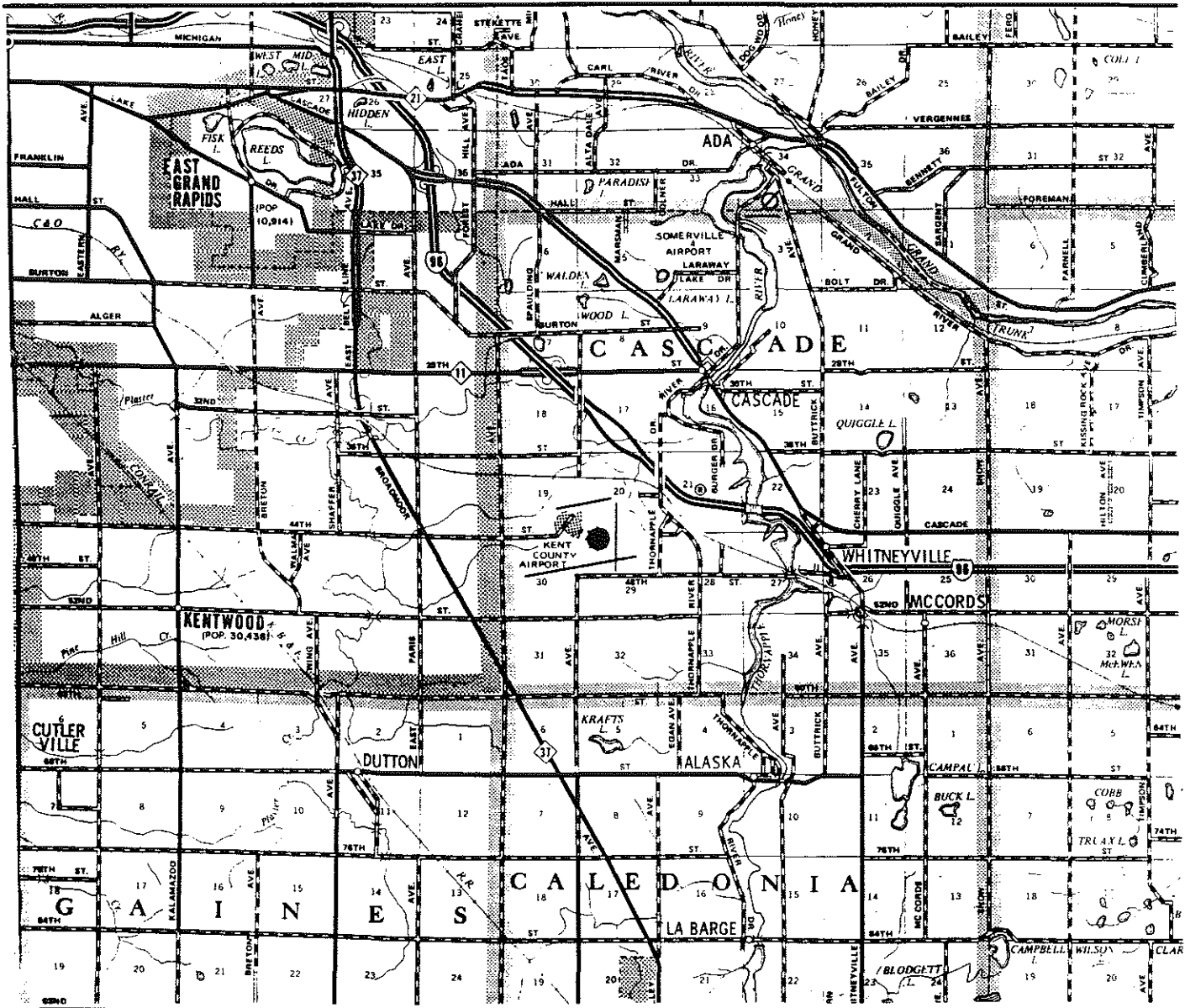
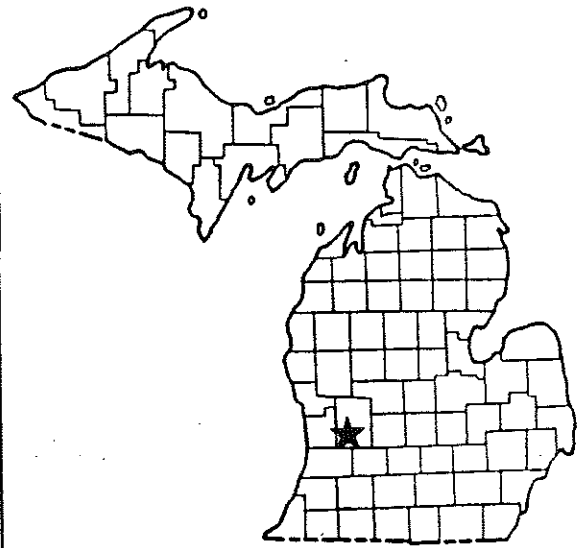
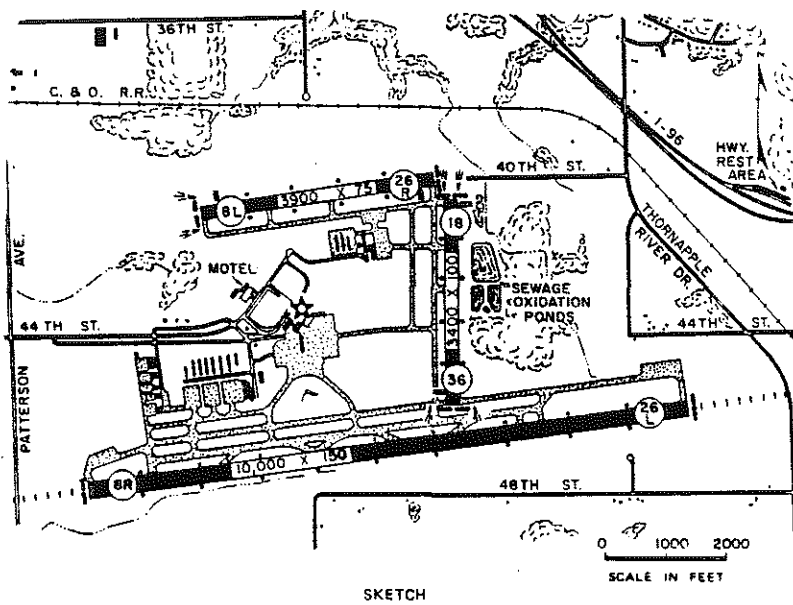
NONSTOP ARRIVALS FROM HUBS/NONHUBS
Flint, Bishop Airport



PERCENTAGE ARRIVALS BY AIRCRAFT TYPE
Flint, Bishop Airport



Grand Rapids, Kent County International Airport



Grand Rapids, Kent County International Airport

Passengers Carried

Kent County International Airport, with 1,401,035 total passengers, experienced a 6.6 percent increase in 1988 over the previous year. With the exception of 1988, Grand Rapids has experienced a growth in total passengers since 1981 and has experienced record years in six of the last seven. The 1989 increase places Grand Rapids at a level 66.5 percent higher than it experienced in 1978, the last year of government regulation of routes and fares. Monthly figures were five year highs in January and from June through December. Kent County Airport ranked second in the state in total passengers with 5.6 percent of the statewide total.

ANNUAL PASSENGERS				
Year	Passengers			Percent Change
	Enplaned	Deplaned	Total	
1980	429,341	420,460	849,981	-7.9%
1981	345,810	356,536	702,346	-17.4%
1982	373,477	366,762	740,239	5.4%
1983	491,416	494,525	985,941	33.2%
1984	520,686	519,085	1,039,771	5.5%
1985	595,605	599,636	1,195,241	15.0%
1986	617,461	626,168	1,243,629	4.0%
1987	673,736	665,230	1,338,966	7.7%
1988	657,145	657,701	1,314,846	-1.8%
1989	707,218	693,817	1,401,035	6.6%

Service Supplied

As of December 31, 1989, Grand Rapids was served by eleven airlines. Between survey dates, American Eagle ceased service and Piedmont Airlines was merged into USAir. However, service was started by Air Canada (Air Toronto), Continental Express (Britt Airways) and Midwest Express Connection (Skyway Airlines, Inc), the net result being an increase of one carrier over the year before. Kent County Airport had nonstop service from 11 airports in 10 cities, a net decrease of two airports and two cities from the

previous year. Service was lost from Flint, Madison, WI, Memphis, TN and Traverse City. Service was gained from New York/Newark, NJ and Toronto, ONT. There were 381 weekly arrivals, up 48 from 1988. All of the weekly arrivals were from hub airports. Of the 32,366 weekly arriving seats, 28,823 (89.1 percent) were by jet, 2,916 (9.0 percent) were by pressurized propeller and 627 (1.9 percent) were by nonpressurized propeller aircraft.

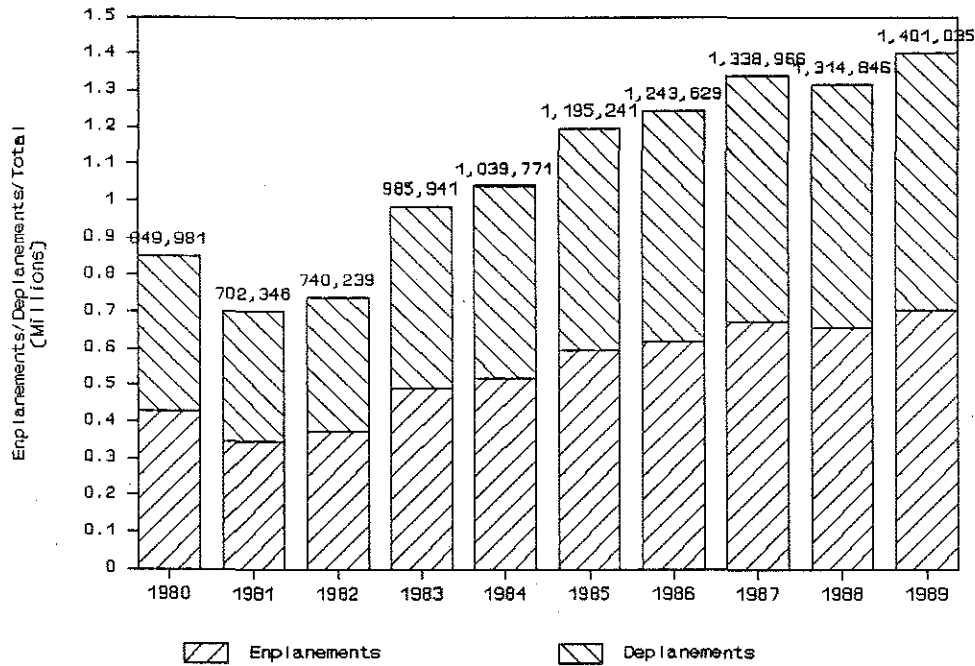
WEEKLY ARRIVALS As of December 31

Year	Carriers		Weekly Arrivals			
	Serving	Origins	Jet	Press	Nonpr	Total
1986	11	15	216	157	41	414
1987	10	14	179	100	59	338
1988	10	13	211	71	51	333
1989	11	11	223	125	33	381

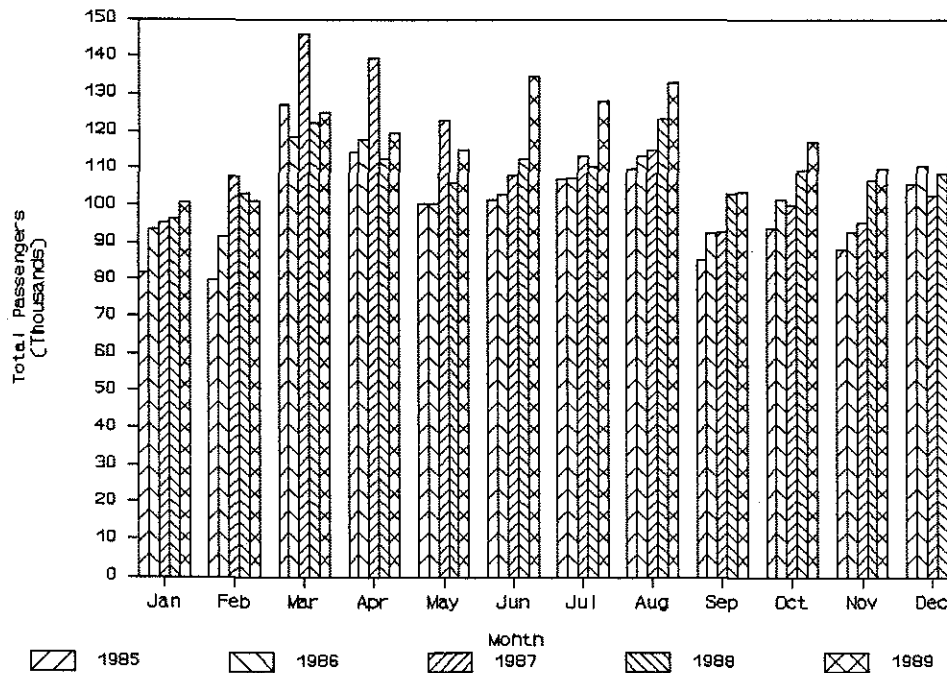
WEEKLY ARRIVING SEATS As of December 31

Year	Weekly Arriving Seats			
	Jet	Press	Nonpr	Total
1986	27,574	3,732	1,306	32,612
1987	24,181	2,468	1,478	28,127
1988	27,080	1,558	1,190	29,828
1989	28,823	2,916	627	32,366

1980 - 1989 ANNUAL TOTAL PASSENGERS
Grand Rapids, Kent County International Airport

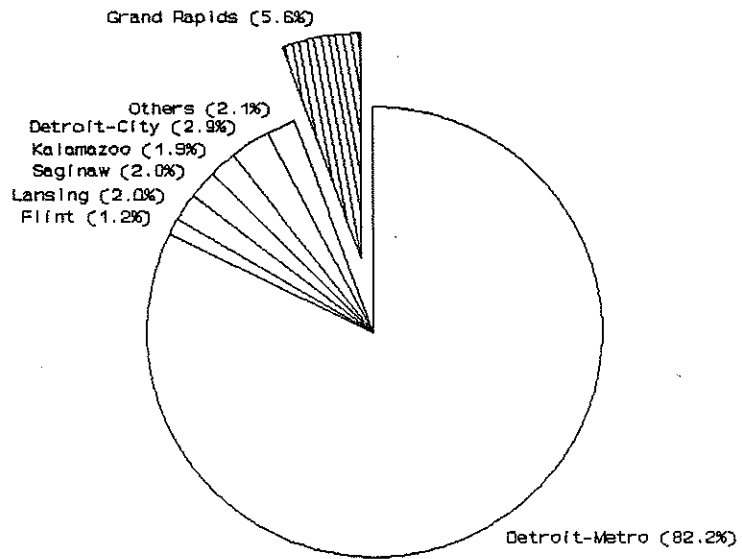


1985 - 1989 MONTHLY TOTAL PASSENGERS
Grand Rapids, Kent County International Airport



1989 PASSENGER LEVEL COMPARISON

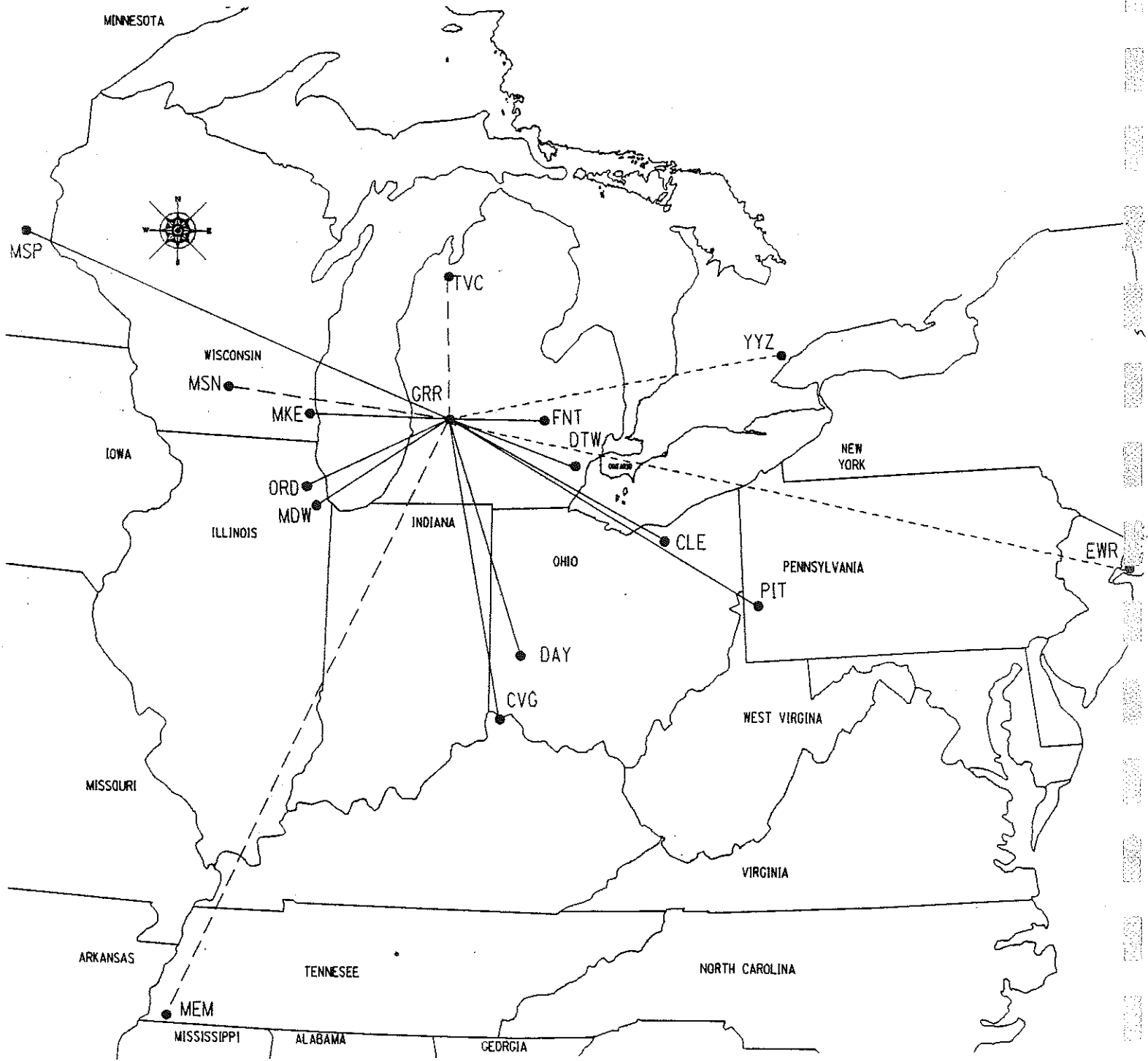
Grand Rapids, Kent County International Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Grand Rapids, Kent County International Airport

As of December 31, 1989



Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

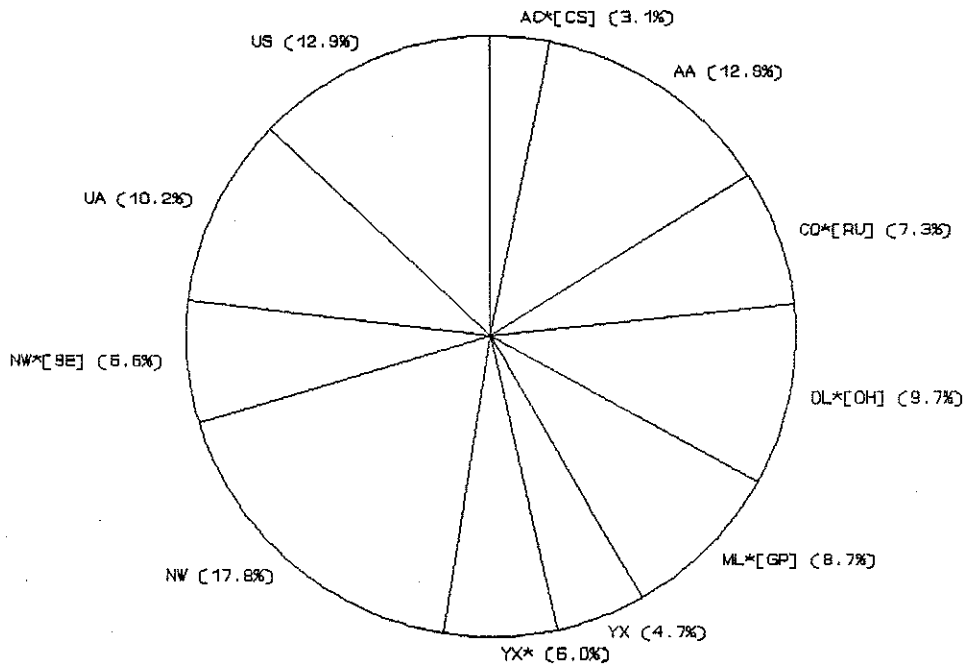
CITY PAIR SERVICE SUMMARIES

Grand Rapids, Kent County International Airport

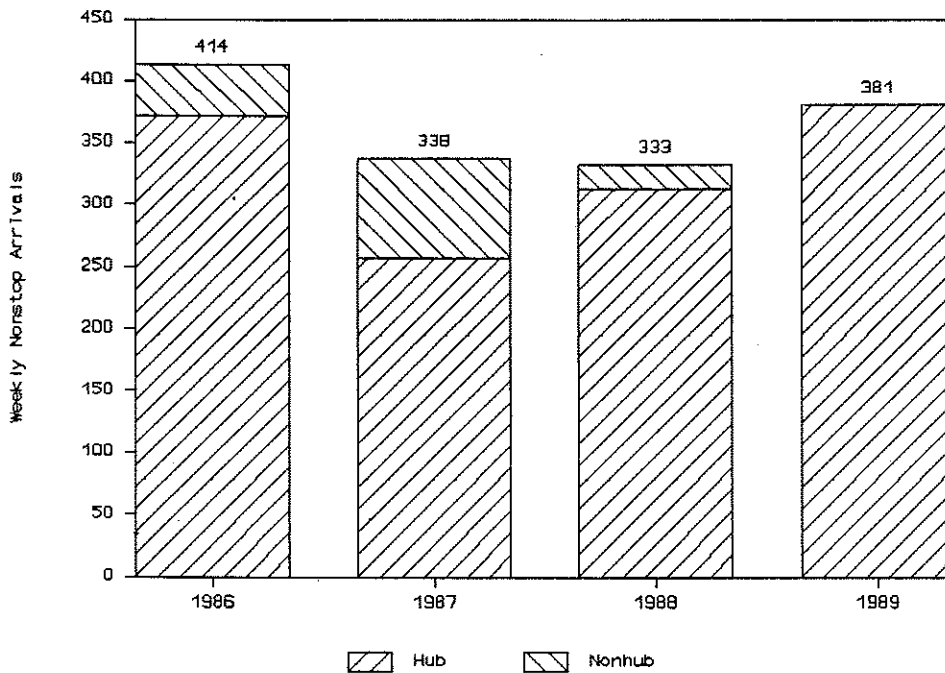
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Chicago, IL [MDW]							
The Midway Conn.(Fisher Bros.)[ML*]	DO8	19	33	0	0	627	627
Chicago, IL [ORD]							
American Airlines, Inc. [AA]	72S	145	21	3,045	0	0	3,045
American Airlines, Inc. [AA]	M80	154	28	4,312	0	0	4,312
United Airlines, Inc. [UA]	727	100	13	1,300	0	0	1,300
United Airlines, Inc. [UA]	72S	145	14	2,030	0	0	2,030
United Airlines, Inc. [UA]	73S	122	12	1,464	0	0	1,464
Cincinnati, OH [CVG]							
Delta Conn. (Comair, Inc.) [DL*]	SF3	34	13	0	442	0	442
Delta Conn. (Comair, Inc.) [DL*]	SWM	19	19	0	361	0	361
Cleveland, OH [CLE]							
Continental Express(Britt Awys.)[CO*]	EM2	30	28	0	840	0	840
Dayton, OH [DAY]							
USAir [US]	72S	145	21	3,045	0	0	3,045
USAir [US]	73S	122	7	854	0	0	854
Detroit, MI [DTW]							
Northwest Airlines, Inc. [NW]	727	100	1	100	0	0	100
Northwest Airlines, Inc. [NW]	D9S	125	40	5,000	0	0	5,000
Milwaukee, WI [MKE]							
Delta Conn. (Comair, Inc.) [DL*]	SF3	34	5	0	170	0	170
Midwest Express Airlines, Inc. [YX]	DC9	90	13	1,170	0	0	1,170
Midwest Exp.Conn.(Skyway Arln.)[YX*]	BE1	19	23	0	437	0	437
Northwest Airlin (Exp.Arln.I)[NW*]	J31	18	25	0	450	0	450
Minneapolis/St. Paul, MN [MSP]							
Northwest Airlines, Inc. [NW]	727	100	6	600	0	0	600
Northwest Airlines, Inc. [NW]	D9S	125	21	2,625	0	0	2,625
New York, NY/Newark, NJ [EWR]							
Midwest Express Airlines, Inc. [YX]	DC9	90	5	450	0	0	450
Pittsburgh, PA [PIT]							
USAir [US]	D9S	125	14	1,750	0	0	1,750
USAir [US]	M80	154	7	1,078	0	0	1,078
Toronto, ONT [YYZ]							
Air Canada (Air Toronto) [AC*]	J31	18	12	0	216	0	216
Totals			381	28,823	2,916	627	32,366

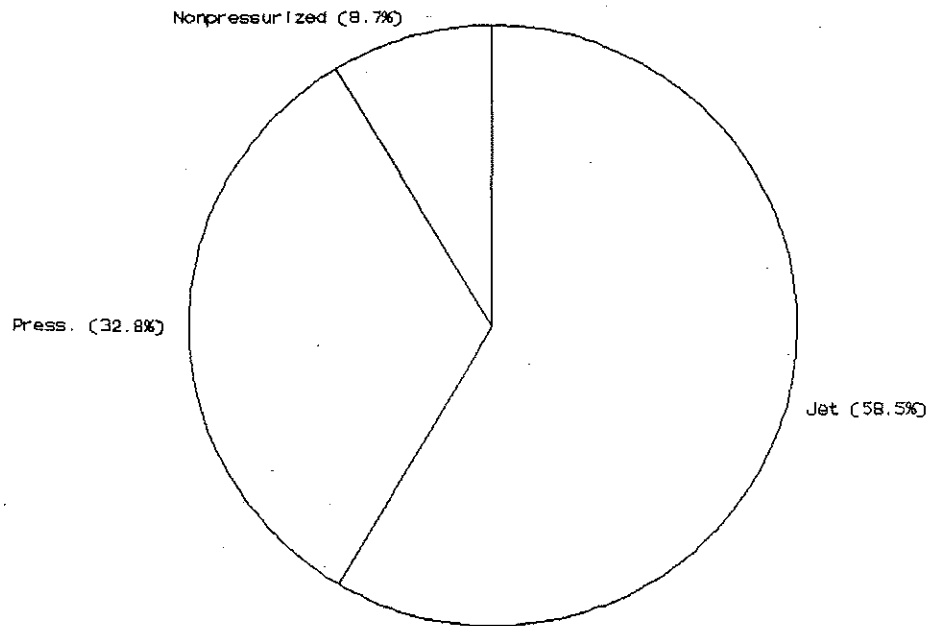
PERCENTAGE ARRIVALS BY CARRIER
Grand Rapids, Kent County International Airport



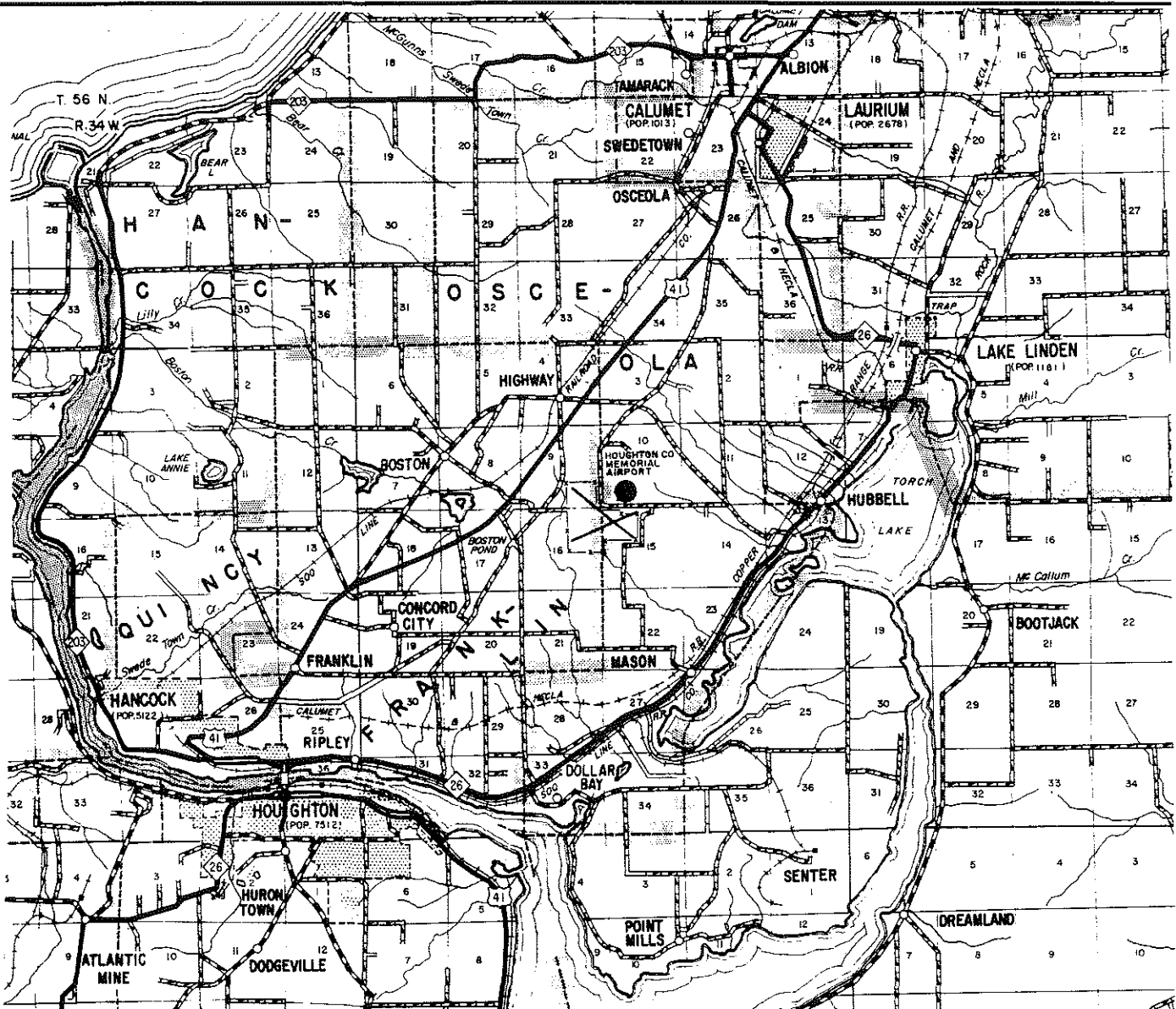
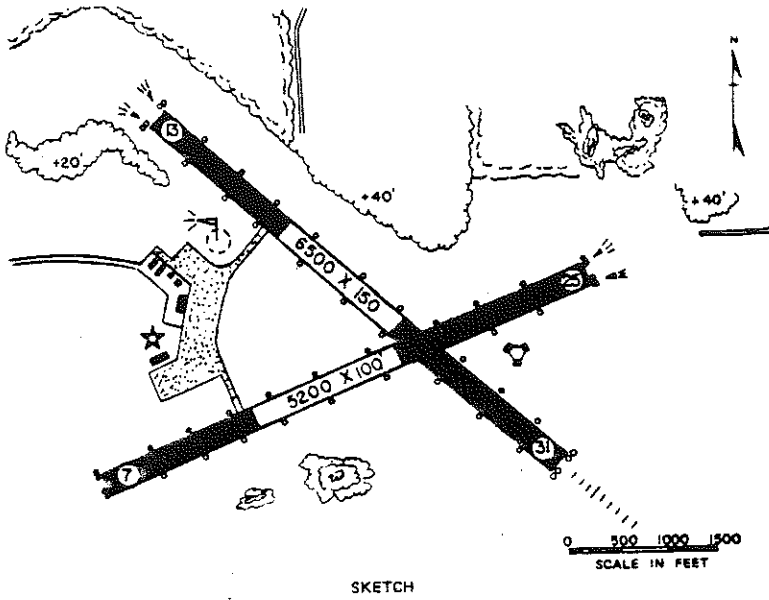
NONSTOP ARRIVALS FROM HUBS/NONHUBS
Grand Rapids, Kent County International Airport



PERCENTAGE ARRIVALS BY AIRCRAFT TYPE
Grand Rapids, Kent County International Airport



Houghton/Hancock, Houghton County Memorial Airport



Houghton/Hancock, Houghton County Memorial Airport

Passengers Carried

Houghton County Memorial Airport, with 37,294 total passengers, experienced a 19.2 percent increase in 1989 over the previous year. Historically, this facility had enjoyed relative passenger level stability from 1981 through 1985. This was followed by a large drop in passenger levels in 1986/1987. The increases in 1988 and 1989 have brought the facility up to only 28.0 percent below the 1978 level, the last year of government regulated routes and fares. Monthly figures were five year lows in January and February, four year highs from March through July and five year highs from August through December. Houghton/Hancock ranked twelfth in the state in total passengers with 0.1 percent of the statewide total.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	24,796	24,534	49,330	-8.1%
1981	20,895	20,715	41,610	-15.6%
1982	18,727	18,389	37,116	-10.8%
1983	19,939	21,344	41,283	11.2%
1984	19,644	20,002	39,646	-4.0%
1985	21,167	20,448	41,615	5.0%
1986	16,674	16,026	32,700	-21.4%
1987	15,417	14,311	29,728	-9.1%
1988	15,797	15,488	31,285	5.2%
1989	18,910	18,384	37,294	19.2%

Service Supplied

As of December 31, 1988, Houghton/Hancock was served by three carriers. Mesaba Airlines replaced Simmons Airlines as the operating airline for Northwest Airlink when the latter was purchased by AMR Eagle. Great Lakes Aviation also began operations at the facility. Between the survey dates Houghton County Airport added to the

flights from Marquette and Minneapolis/St. Paul, MN with flights from Iron Mountain and Manistee. This resulted in a net increase of one carrier and two origins. There were 66 weekly arrivals, up 23 from 1988. Of the weekly arrivals, 20 (36.4 percent) were from a hub airport. Of the 1,880 weekly arriving seats, 1,844 (98.1 percent) were by pressurized propeller and 36 (1.9 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

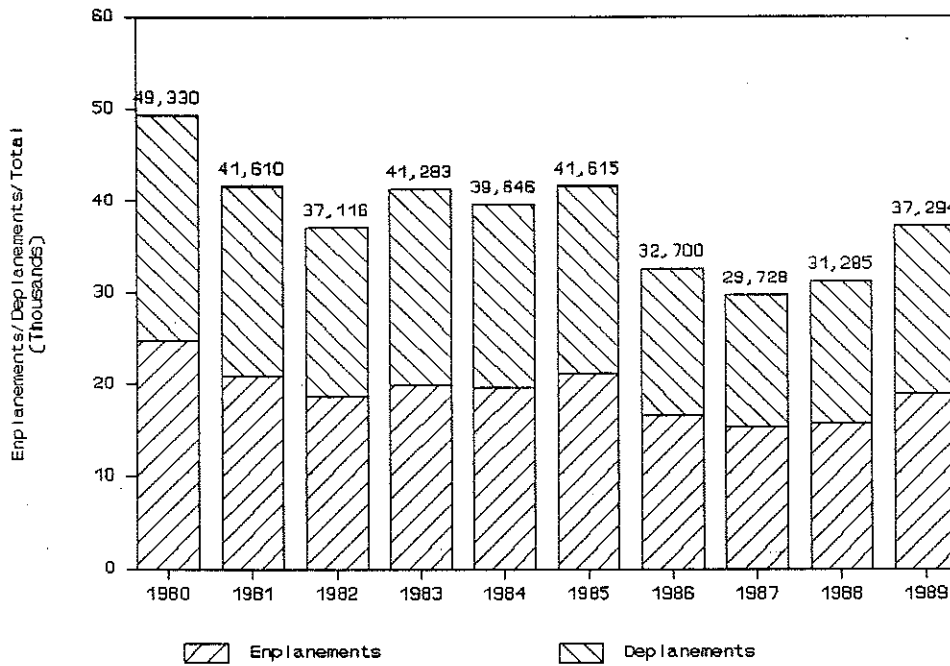
Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	2	3	0	25	17	42
1987	2	3	0	14	29	43
1988	2	2	0	0	43	43
1989	3	4	0	65	1	66

WEEKLY ARRIVING SEATS

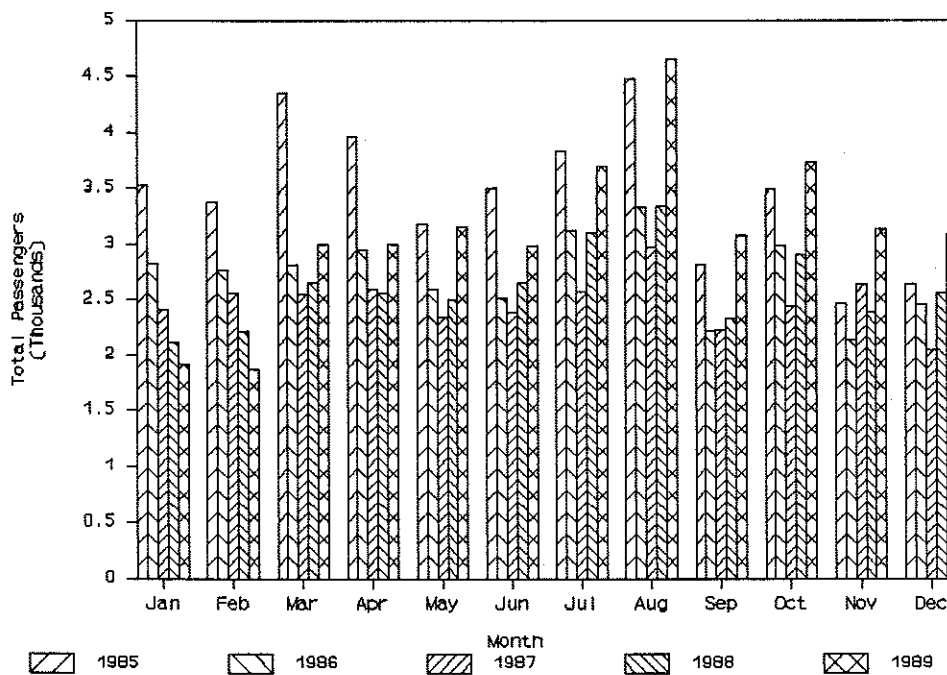
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	1,150	612	1,762
1987	0	644	1,044	1,688
1988	0	0	1,548	1,548
1989	0	1,844	36	1,880

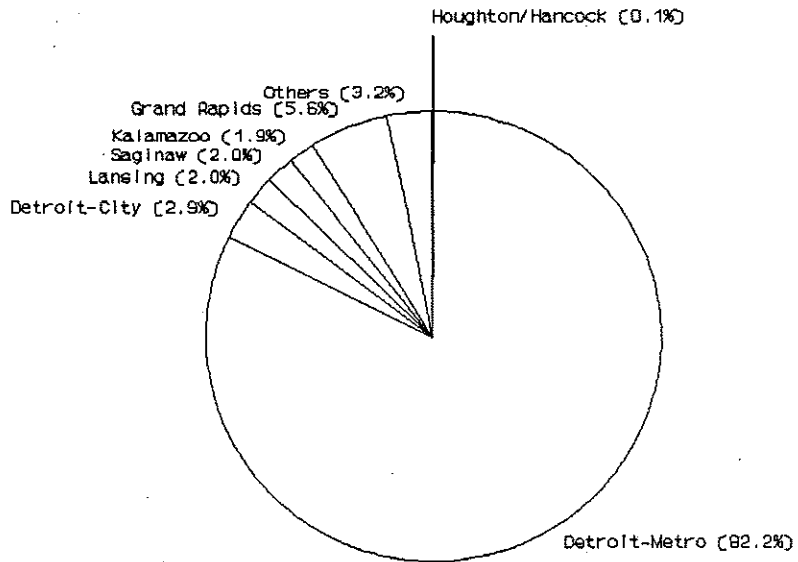
1980 - 1989 ANNUAL TOTAL PASSENGERS
Houghton/Hancock, Houghton County Memorial Airport



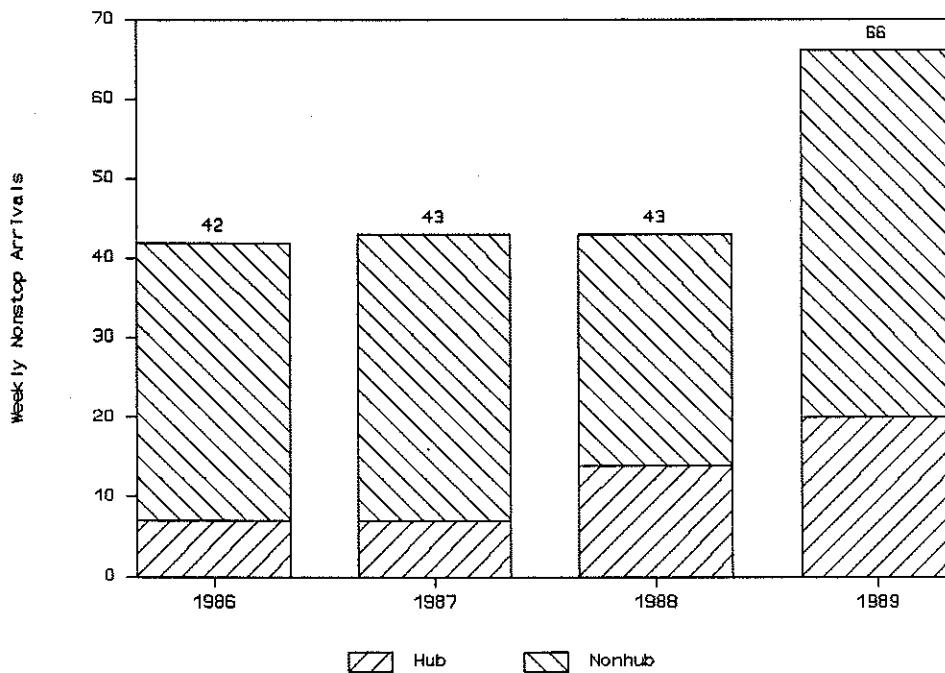
1985 - 1989 MONTHLY TOTAL PASSENGERS
Houghton/Hancock, Houghton County Memorial Airport



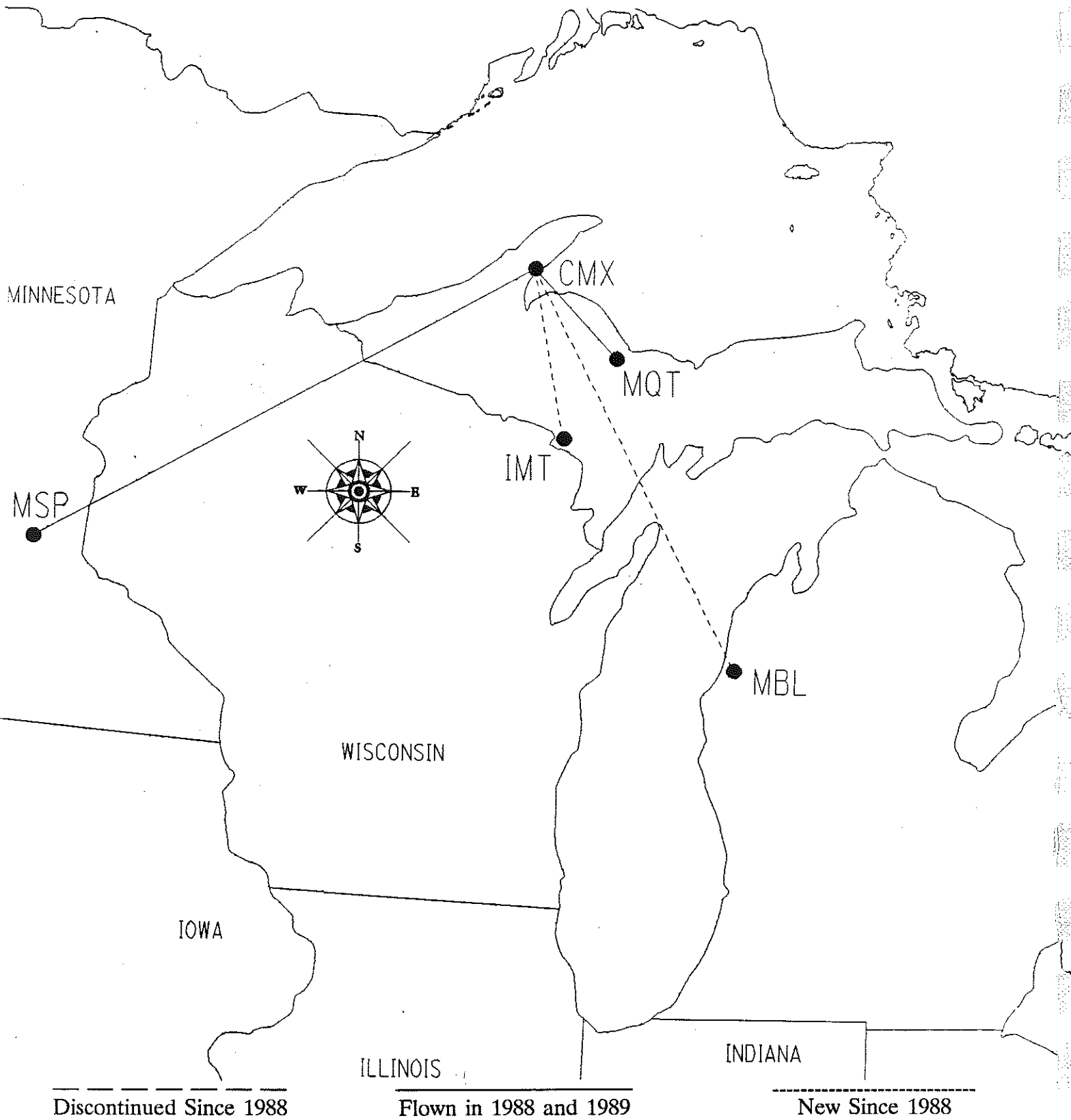
1989 PASSENGER LEVEL COMPARISON Houghton/Hancock, Houghton County Memorial Airport



NONSTOP ARRIVALS FROM HUBS/NONHUBS Houghton/Hancock, Houghton County Memorial Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS
Houghton/Hancock, Houghton County Memorial Airport
As of December 31, 1989



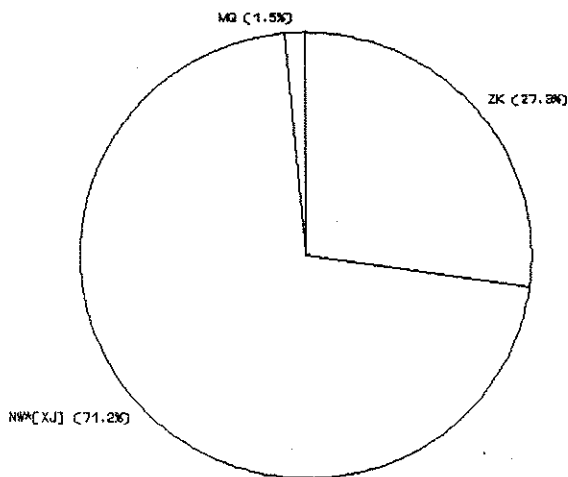
Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

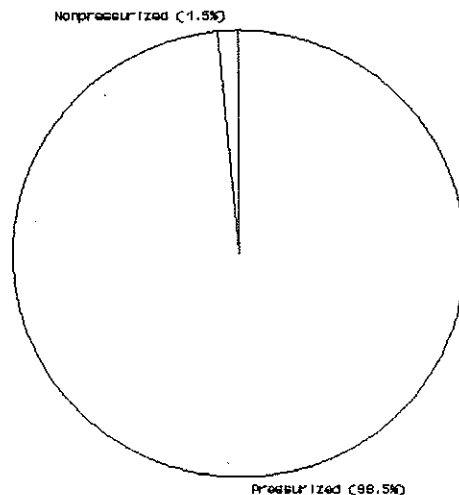
PERCENTAGE ARRIVALS
BY CARRIER

Houghton County Memorial Airport



PERCENTAGE ARRIVALS BY
AIRCRAFT TYPE

Houghton County Memorial Airport

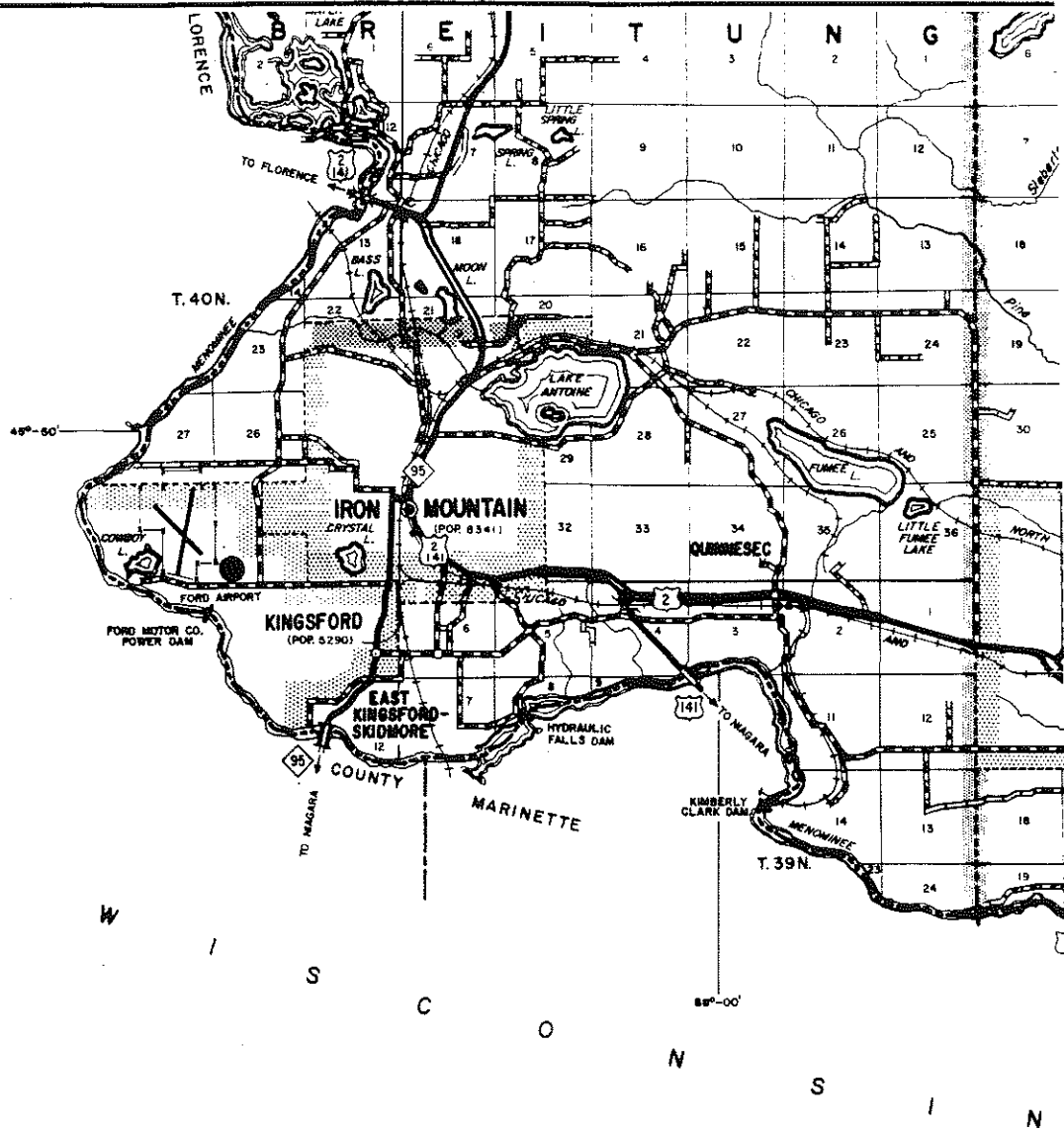
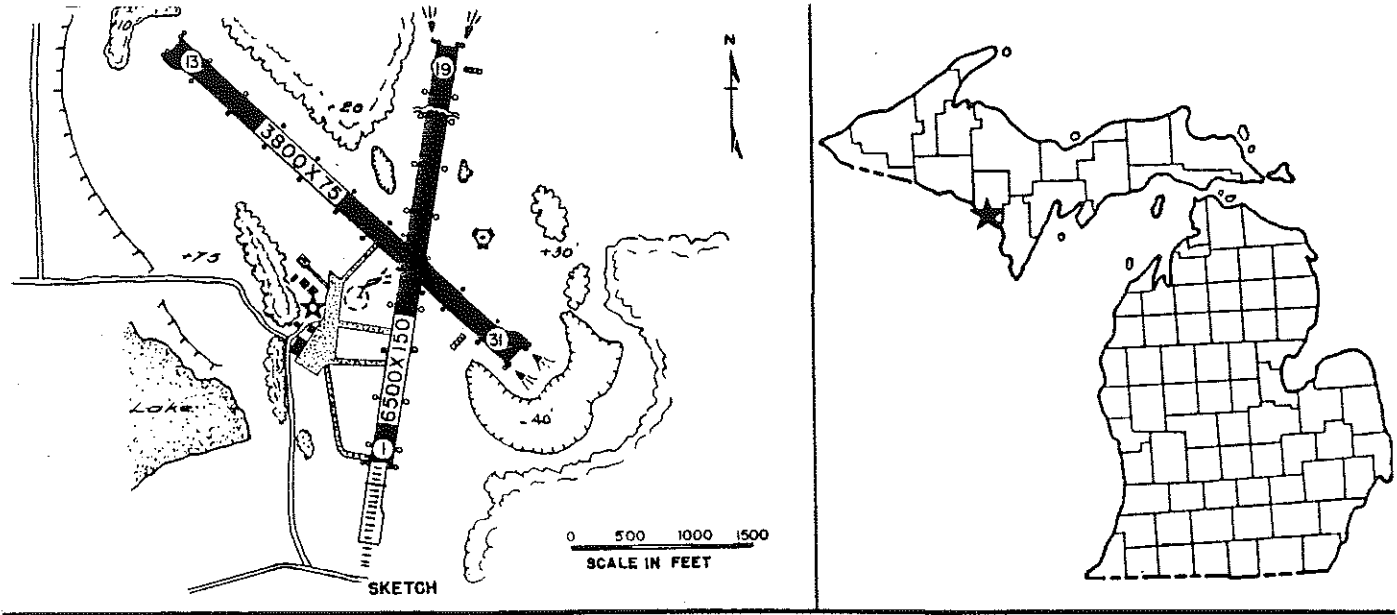


CITY PAIR SERVICE SUMMARIES

Houghton/Hancock, Houghton County Memorial Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Iron Mountain, MI [IMT]							
Great Lakes Aviation, Ltd. [ZK]	BE1	19	13	0	247	0	247
Manistee, MI [MBL]							
Great Lakes Aviation, Ltd. [ZK]	BE1	19	5	0	95	0	95
Marquette, MI [MQT]							
Northwest Airlink(Mesaba Avtn.)[NW*]	F27	48	14	0	672	0	672
Northwest Airlink(Mesaba Avtn.)[NW*]	SWM	19	13	0	247	0	247
Simmons Airlines [MQ]	SH6	36	1	0	0	36	36
Minneapolis/St. Paul, MN [MSP]							
Northwest Airlink(Mesaba Avtn.)[NW*]	F27	48	7	0	336	0	336
Northwest Airlink(Mesaba Avtn.)[NW*]	SWM	19	13	0	247	0	247
Totals			66	0	1,844	36	1,880

Iron Mountain, Ford Airport



Iron Mountain, Ford Airport

Passengers Carried

Ford Airport, with 18,187 total passengers, experienced a 77.7 percent increase in 1989 over the previous year. Historically, Iron Mountain experienced a decline in total passengers from 1984 to 1987. The 1988 and 1989 increases bring the facility to a level 58.8 percent below that of 1978, the last year of government regulation of routes and fares. The January monthly figure was a three year high. Four year highs occurred in February and from April through July. The remaining months experienced five year high levels. Iron Mountain ranked fourteenth in the state in total passengers with 0.1 percent of the statewide total. Ford Airport is one of four Michigan airports receiving federal monies under the Essential Air Service subsidy program.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	18,676	19,571	38,247	7.1%
1981	13,263	13,020	26,283	-31.3%
1982	10,370	10,095	20,465	-22.1%
1983	10,662	10,336	20,998	2.6%
1984	10,845	10,718	21,563	2.7%
1985	8,683	8,713	17,396	-19.3%
1986	5,583	5,488	11,071	-36.4%
1987	4,289	4,427	8,716	-21.3%
1988	5,045	5,187	10,232	17.4%
1989	9,017	9,170	18,187	77.7%

Service Supplied

As of December 31, 1989, Iron Mountain was served by one airline. No change in carriers took place between survey dates. Ford Airport had nonstop service from three cities. Service from Ironwood and Menominee was supplemented by flights from Houghton/Hancock. There were 50 weekly arrivals, up

16 from 1988. None of the weekly arrivals were from a hub airport. All of the 950 weekly arriving seats were by pressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

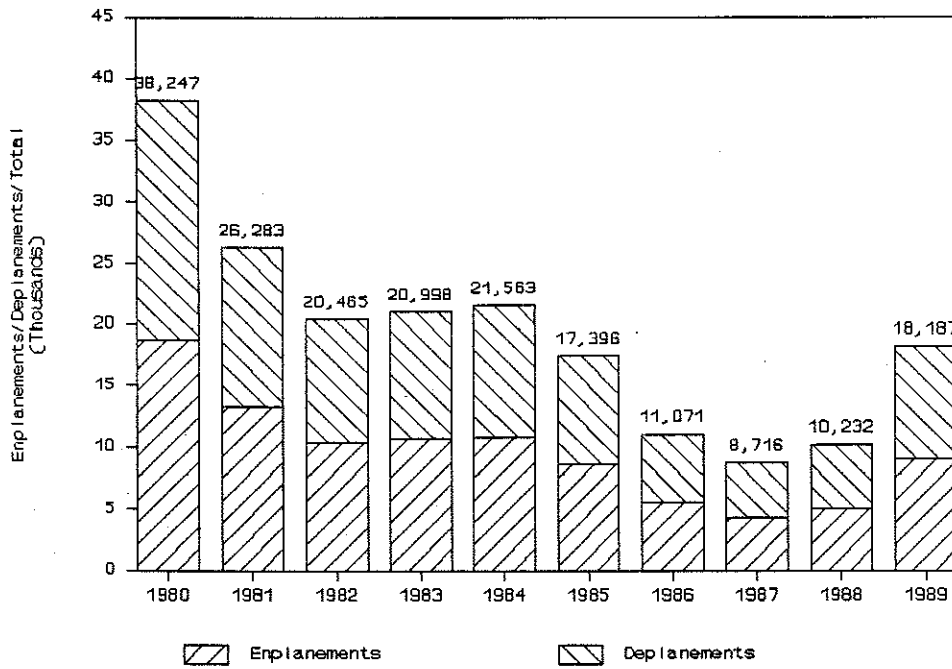
Year	Carriers		Weekly Arrivals			Total
	Serving	Origins	Jet	Press	Nonpr	
1986	1	1	0	0	13	13
1987	1	2	0	0	19	19
1988	1	2	0	34	0	34
1989	1	3	0	50	0	50

WEEKLY ARRIVING SEATS

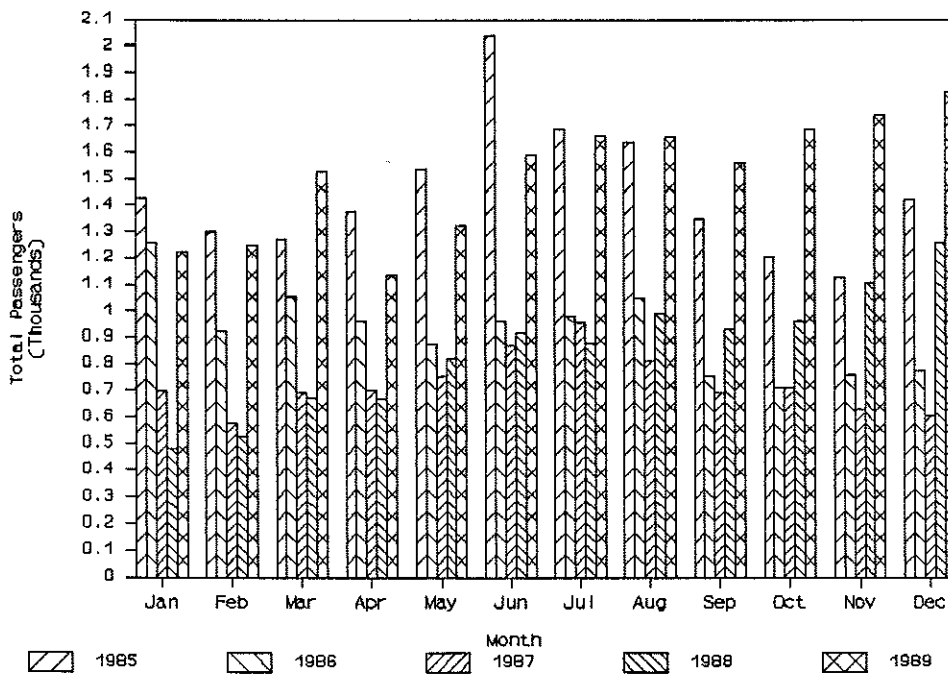
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	0	468	468
1987	0	0	684	684
1988	0	646	0	646
1989	0	950	0	950

1980 - 1989 ANNUAL TOTAL PASSENGERS Iron Mountain, Ford Airport

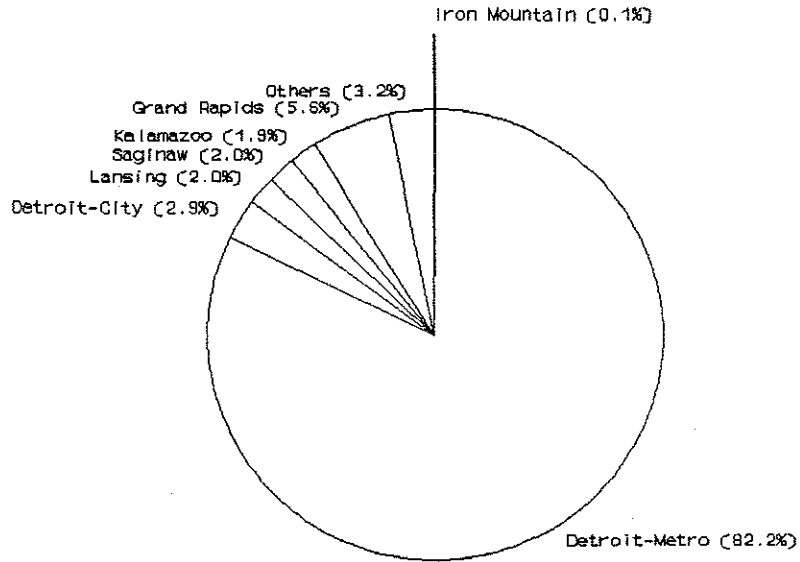


1985 - 1989 MONTHLY TOTAL PASSENGERS Iron Mountain, Ford Airport



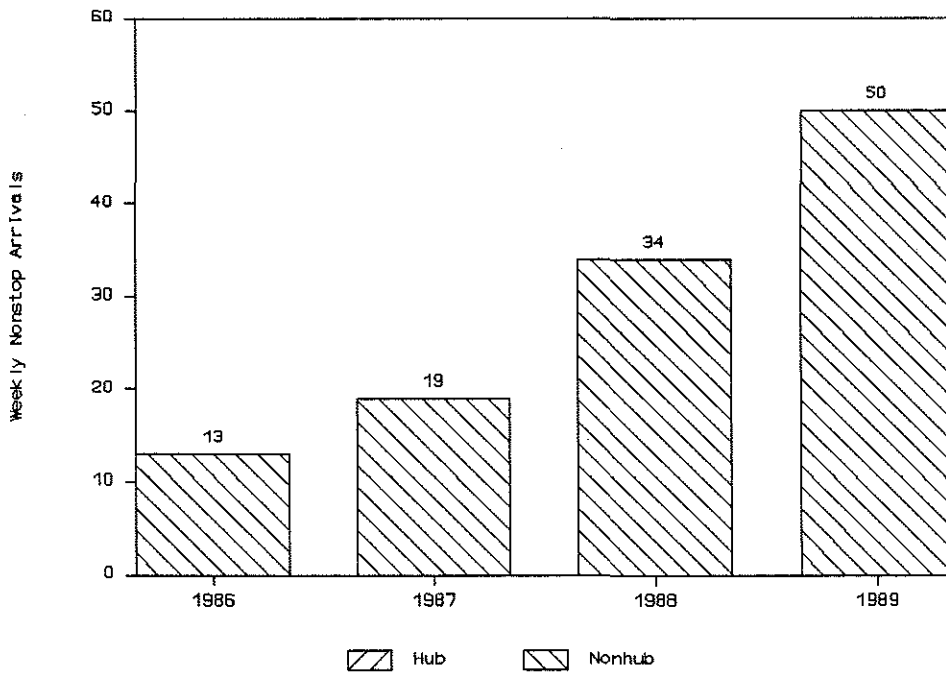
1989 PASSENGER LEVEL COMPARISON

Iron Mountain, Ford Airport



NONSTOP ARRIVALS FROM HUBS/NONHUBS

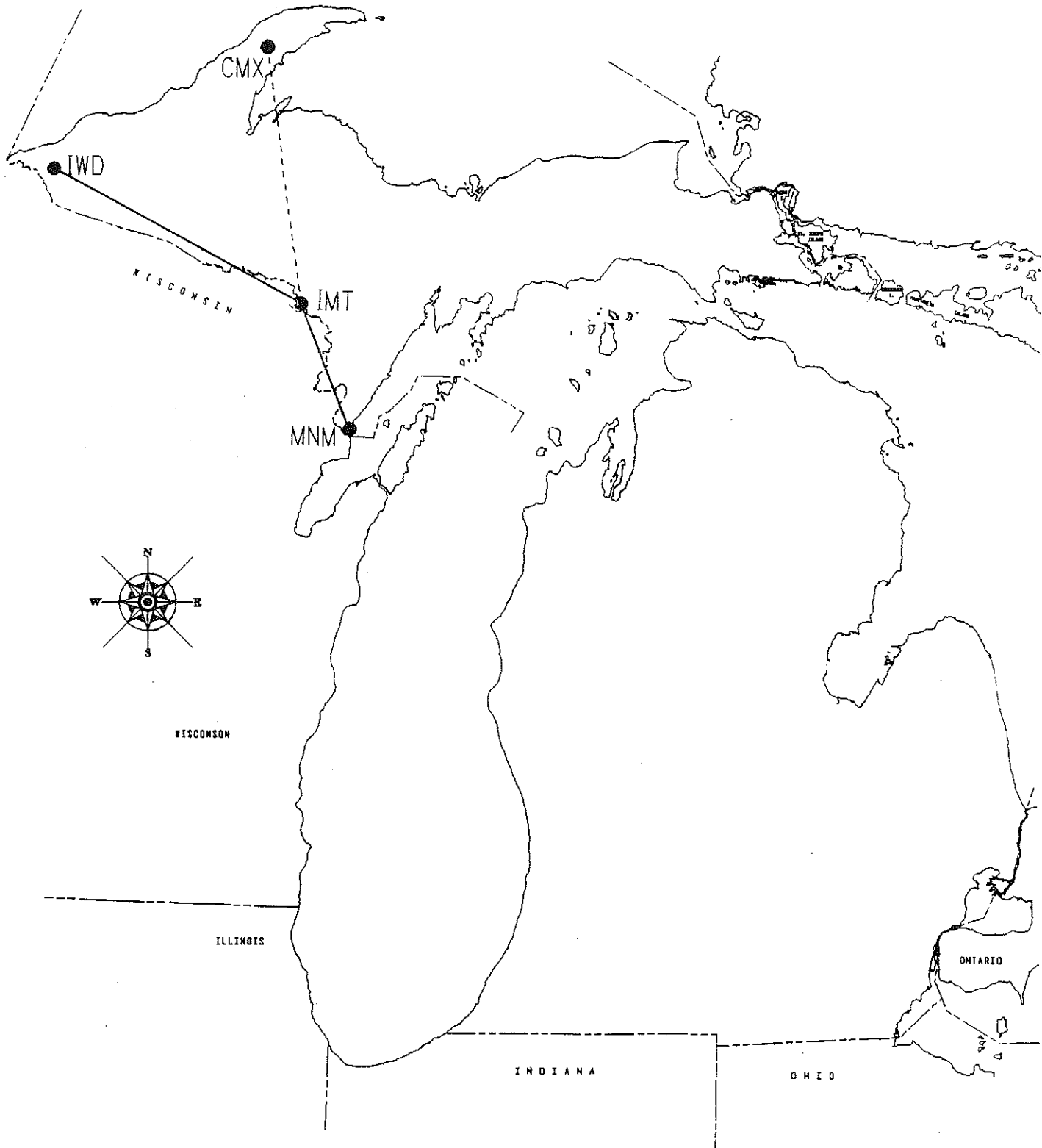
Iron Mountain, Ford Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Iron Mountain, Ford Airport

As of December 31, 1989



Discontinued Since 1988

_____ Flown in 1988 and 1989

New Since 1988

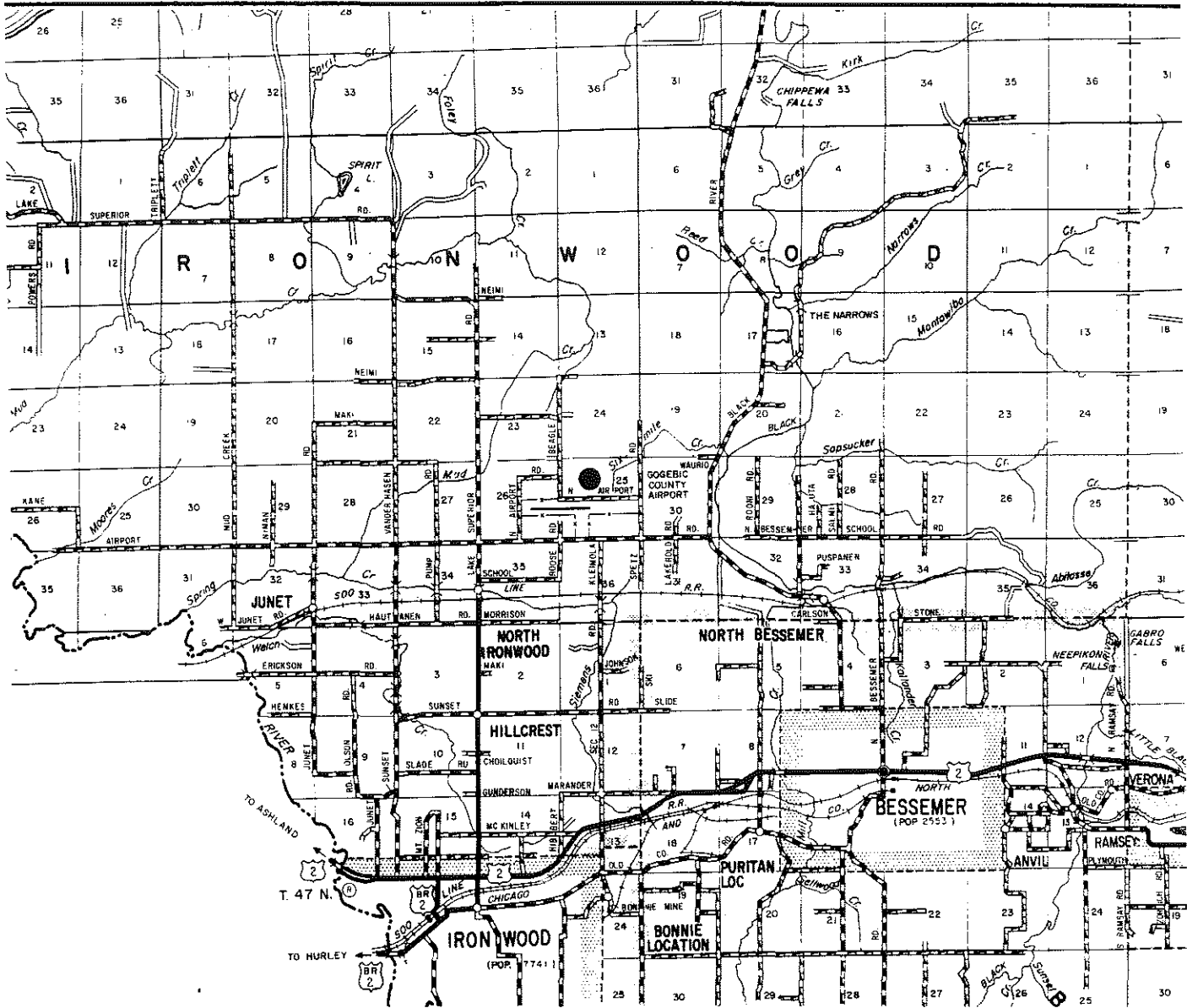
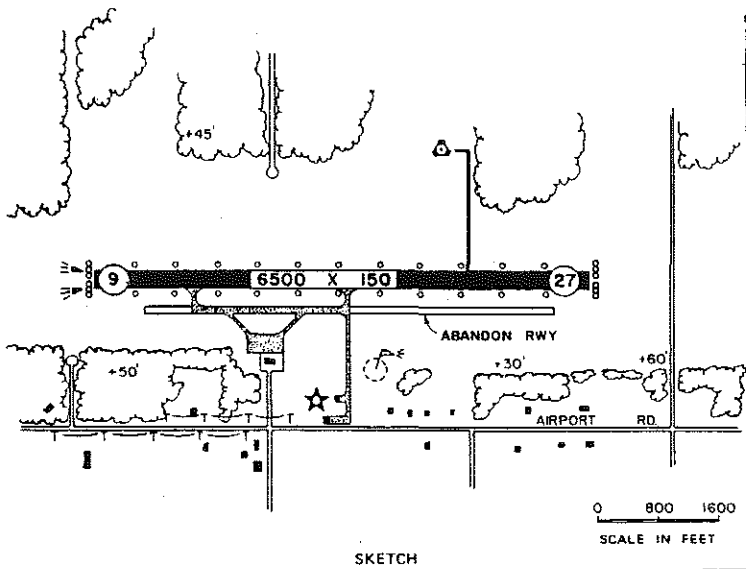
CITY PAIR SERVICE SUMMARIES

Iron Mountain, Ford Airport

As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Houghton/Hancock, MI [CMX] Great Lakes Aviation, Ltd. [ZK]	BE1	19	13	0	247	0	247
Ironwood, MI [IWD] Great Lakes Aviation, Ltd. [ZK]	BE1	19	12	0	228	0	228
Menominee, MI/Marinette, WI [MNM] Great Lakes Aviation, Ltd. [ZK]	BE1	19	25	0	475	0	475
Totals			50	0	950	0	950

Ironwood, Gogebic County Airport



Ironwood, Gogebic County Airport

Passengers Carried

Gogebic County Airport, with 5,111 total passengers, experienced a 10.3 percent increase in 1989 from the previous year. Historically, Ironwood has experienced an overall decrease since 1979, the only years of increase being 1986 and 1989. This decrease places the facility 75.1 percent below the level experienced in 1978, the last year of government regulated routes and fares. Monthly figures were five year lows in January and April. However, the remaining months were higher than their 1988 levels except in October. Ironwood ranked twentieth in the state in total passengers with less than 0.1 percent of the statewide total. Gogebic County Airport is one of four Michigan airports receiving federal monies under the Essential Air Service subsidy program.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	11,533	12,457	23,990	-0.8%
1981	8,131	7,939	16,070	-33.0%
1982	6,702	7,152	13,854	-13.8%
1983	5,158	5,131	10,289	-25.7%
1984	3,079	3,026	6,105	-40.7%
1985	2,996	2,893	5,889	-3.5%
1986	3,873	3,663	7,536	28.0%
1987	2,807	2,558	5,365	-28.8%
1988	2,363	2,271	4,634	-13.6%
1989	2,552	2,559	5,111	10.3%

Service Supplied

As of December 31, 1989, Iron Mountain was served by one airline. No change in carriers took place between survey dates. Gogebic County Airport had nonstop service from two cities. Service from Iron Mountain was supplemented by service from Minneapolis/St.

Paul, MN. There were 23 weekly arrivals, up eleven from 1988. Eleven of the weekly arrivals were from a hub airport. All of the 437 weekly arriving seats were by pressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

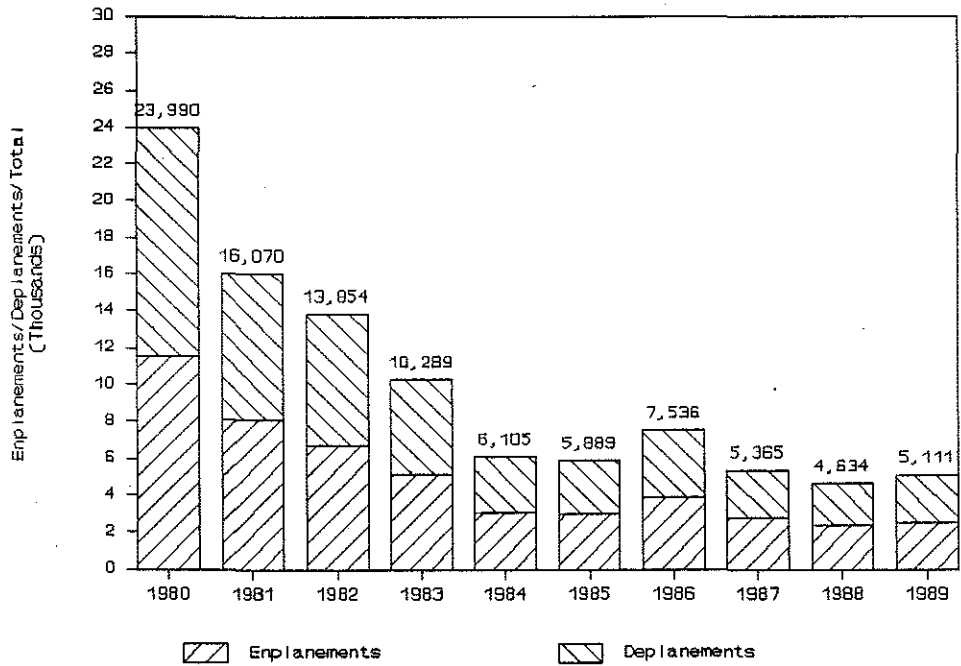
Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	1	2	0	0	14	14
1987	1	2	0	0	20	20
1988	1	1	0	12	0	12
1989	1	2	0	23	0	23

WEEKLY ARRIVING SEATS

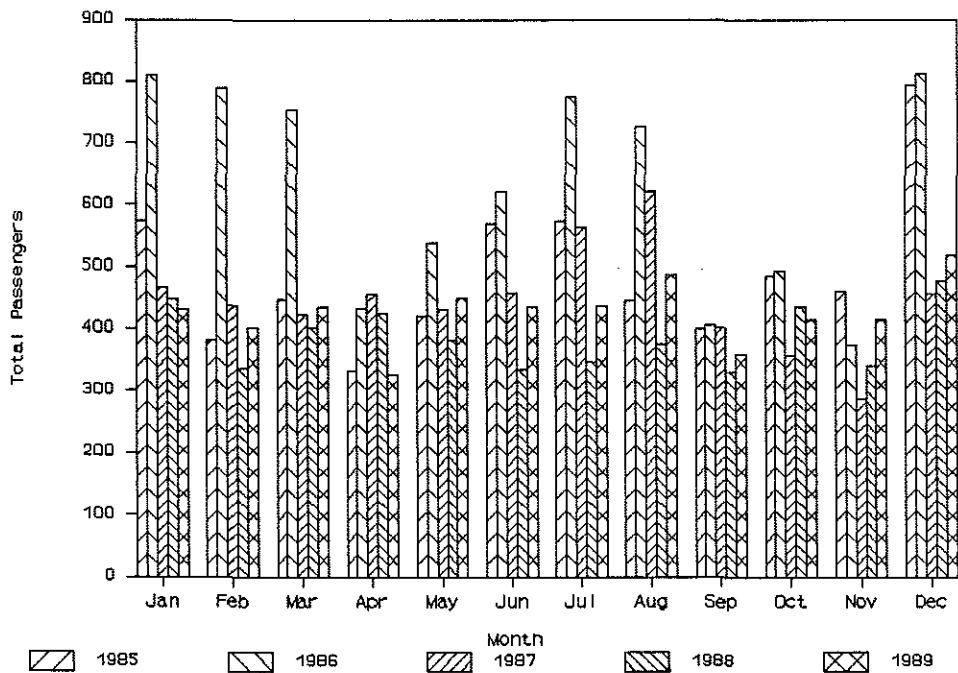
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	0	504	504
1987	0	0	720	720
1988	0	228	0	228
1989	0	437	0	437

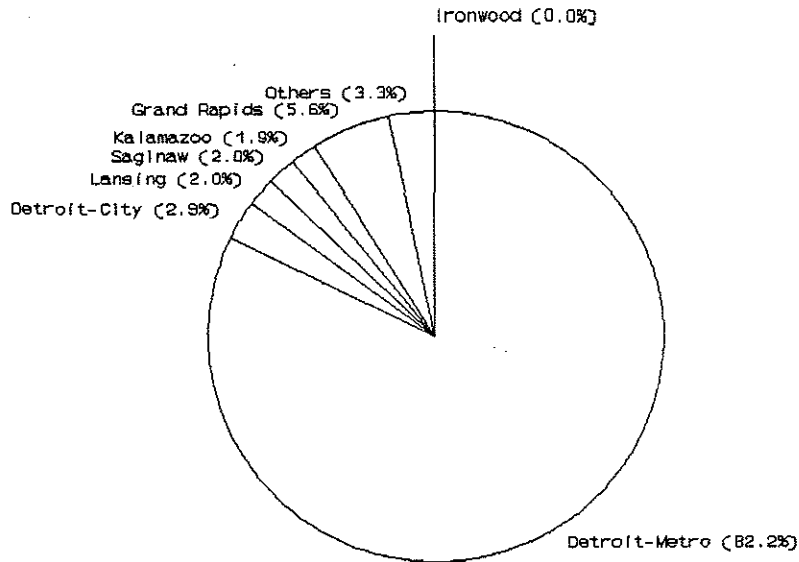
1980 - 1989 ANNUAL TOTAL PASSENGERS
Ironwood, Gogebic County Airport



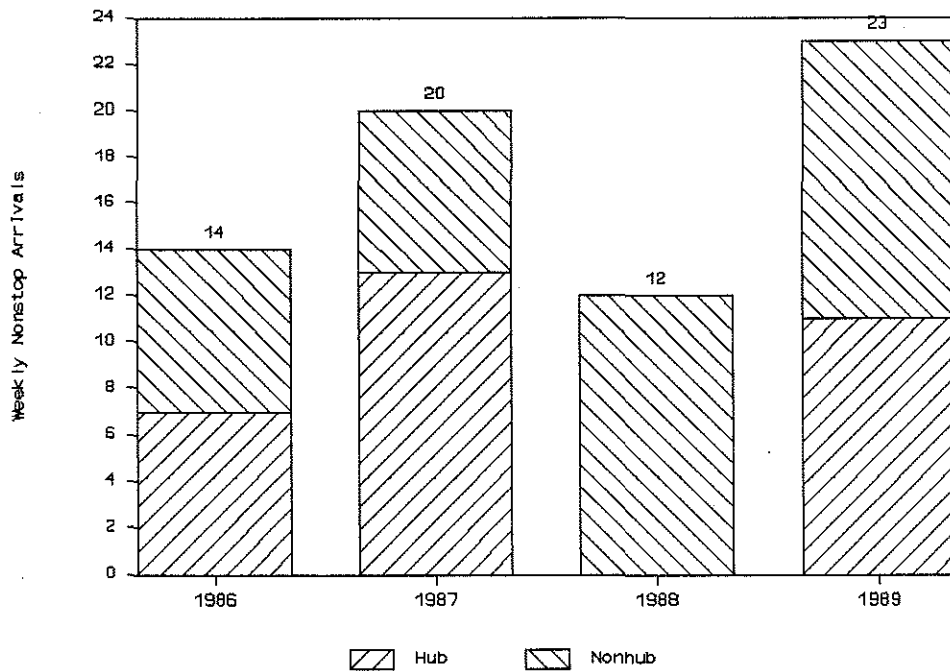
1985 - 1989 MONTHLY TOTAL PASSENGERS
Ironwood, Gogebic County Airport



1989 PASSENGER LEVEL COMPARISON Ironwood, Gogebic County Airport



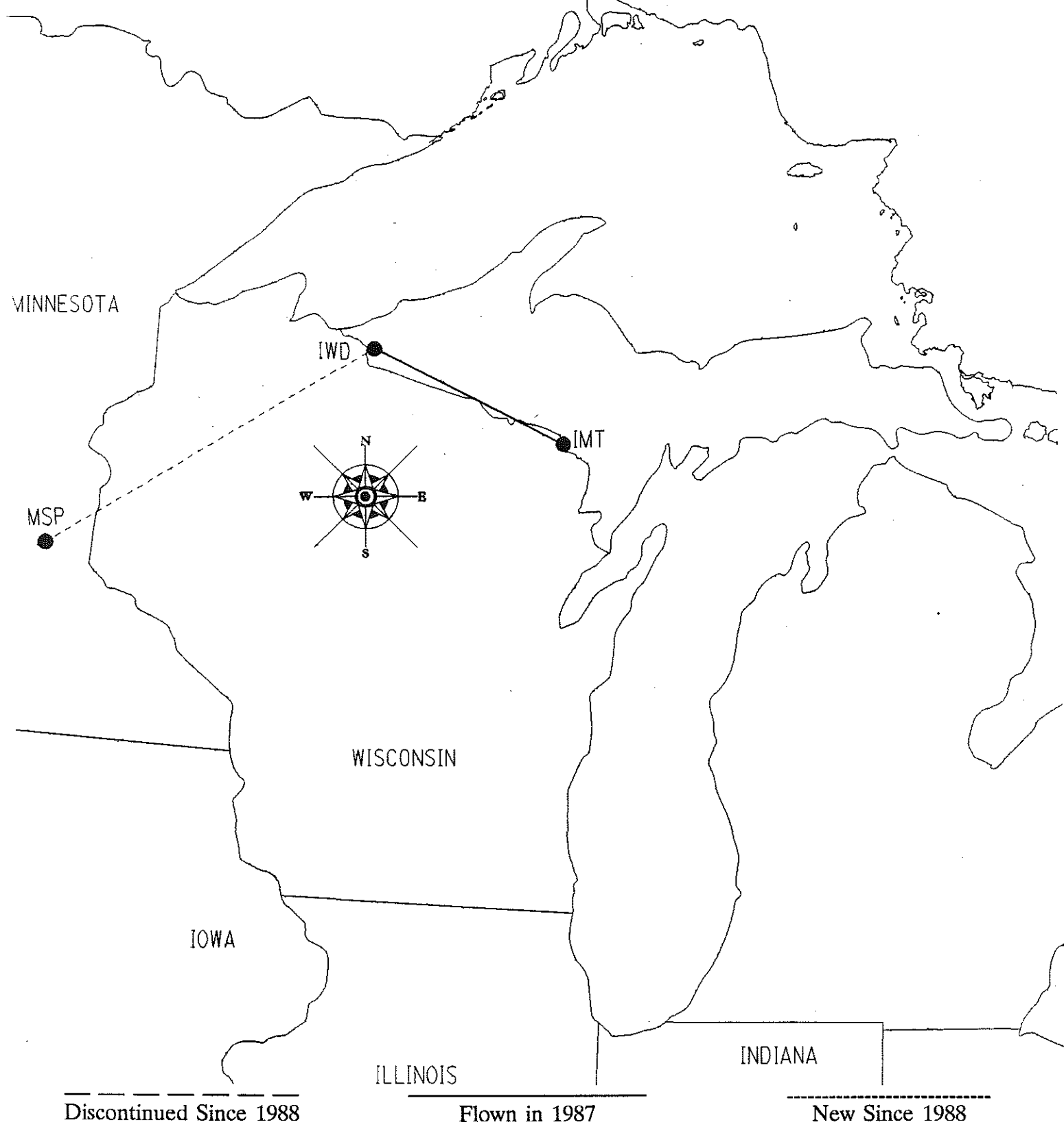
NONSTOP ARRIVALS FROM HUBS/NONHUBS Ironwood, Gogebic County Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Ironwood, Gogebic County Airport

As of December 31, 1989



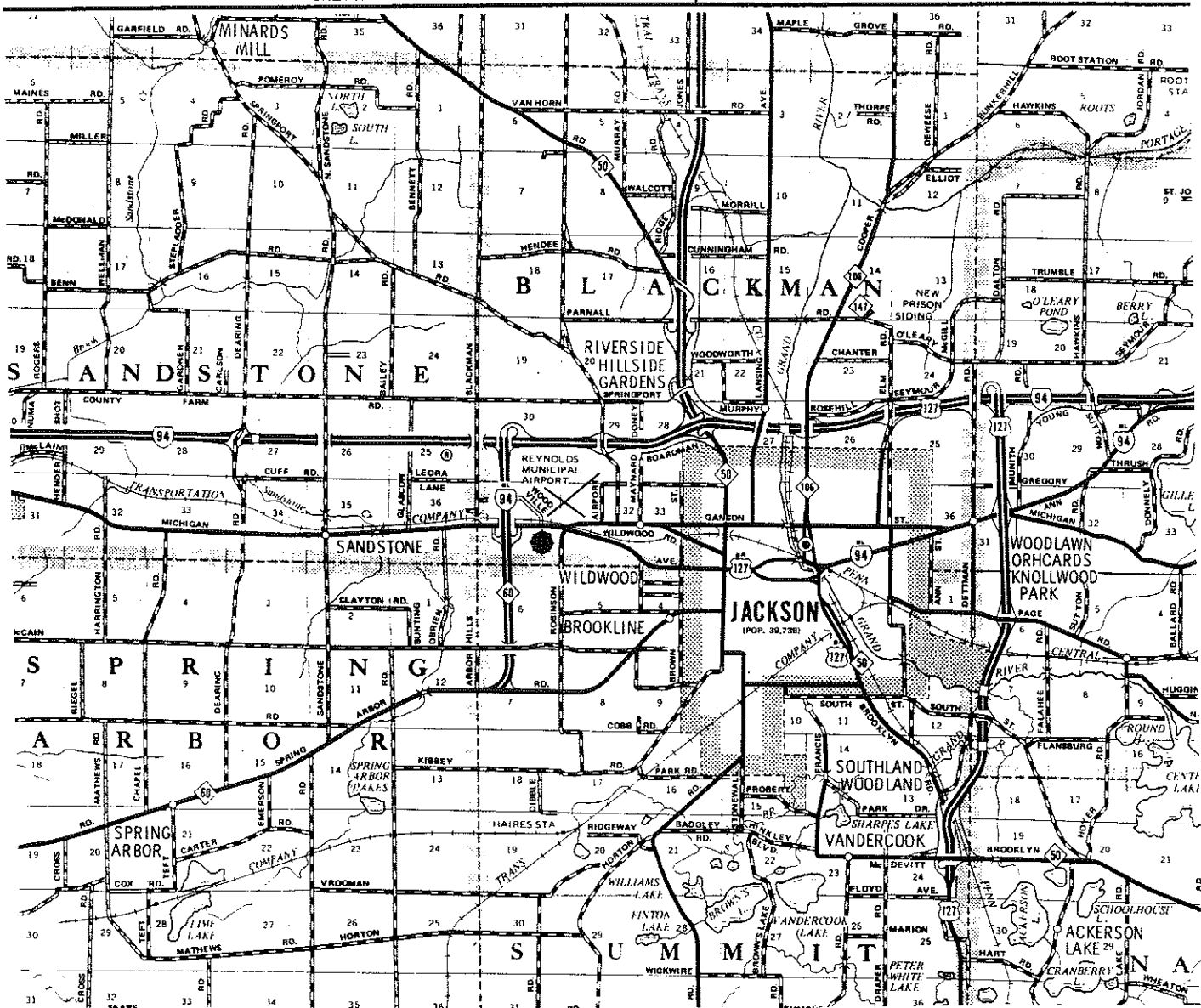
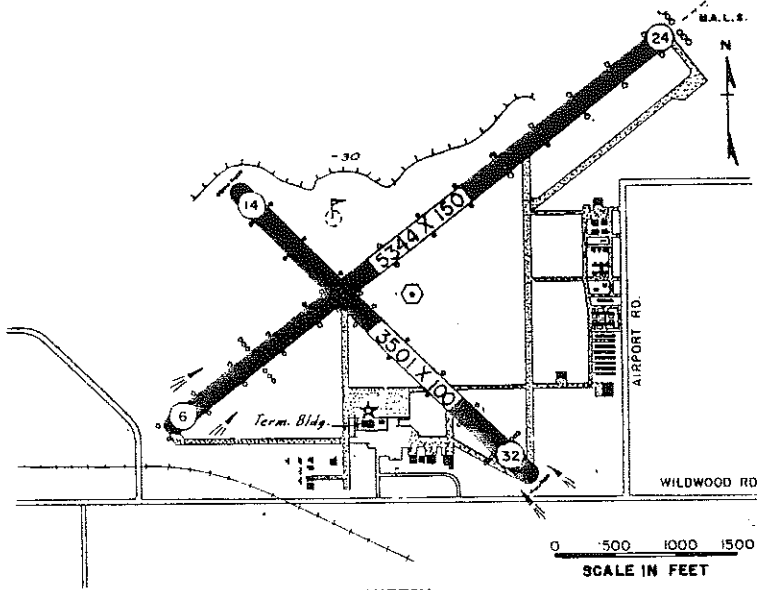
CITY PAIR SERVICE SUMMARIES

Ironwood, Gogebic County Airport

As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Iron Mountain, MI [IMT] Great Lakes Aviation, Ltd. [ZK]	BE1	19	12	0	228	0	228
Minneapolis/St. Paul, MN [MSP] Great Lakes Aviation, Ltd. [ZK]	BE1	19	11	0	209	0	209
Totals			23	0	437	0	437

Jackson County, Reynolds Field



Jackson County, Reynolds Field

Passengers Carried

Reynolds Field, with 491 total passengers, experienced a 34.2 percent decrease in 1989 from the previous year. Historically, Jackson has experienced declining total passenger levels every year since 1978. The 1989 decrease leaves the facility at a level 97.5 percent below that of 1978, the last year of government regulated routes and fares. Monthly figures were five year lows in all months except January. January exceeded only it's 1988 level. Jackson ranked twenty-second in the state in total passengers with less than 0.1 percent of the statewide total. During 1989, Jackson was eliminated from the federal Essential Air Service (EAS) subsidy program.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	7,277	6,724	14,001	-17.6%
1981	3,767	3,360	7,127	-49.1%
1982	1,994	1,893	3,887	-45.5%
1983	1,429	1,585	3,014	-22.5%
1984	1,103	1,342	2,445	-18.9%
1985	1,029	1,021	2,050	-16.2%
1986	608	570	1,178	-42.5%
1987	488	429	917	-22.2%
1988	340	406	746	-18.6%
1989	236	255	491	-34.2%

Service Supplied

As of December 31, 1988, Jackson was served by one airline. Between the survey dates Drummond Island Air replaced the Northwest Airlink service operated by Simmons Airlines. Jackson County Airport had nonstop service from Detroit Metro Airport, it's previously designated EAS hub facility. One weekly flight was also provided from Ann Arbor. There were 19 weekly

arrivals, up seven over 1988. All but one of the arrivals was from a hub airport. All of the 133 weekly arriving seats were in nonpressurized propeller aircraft.

Drummond Island Air terminated service at this facility early in 1990.

WEEKLY ARRIVALS

As of December 31

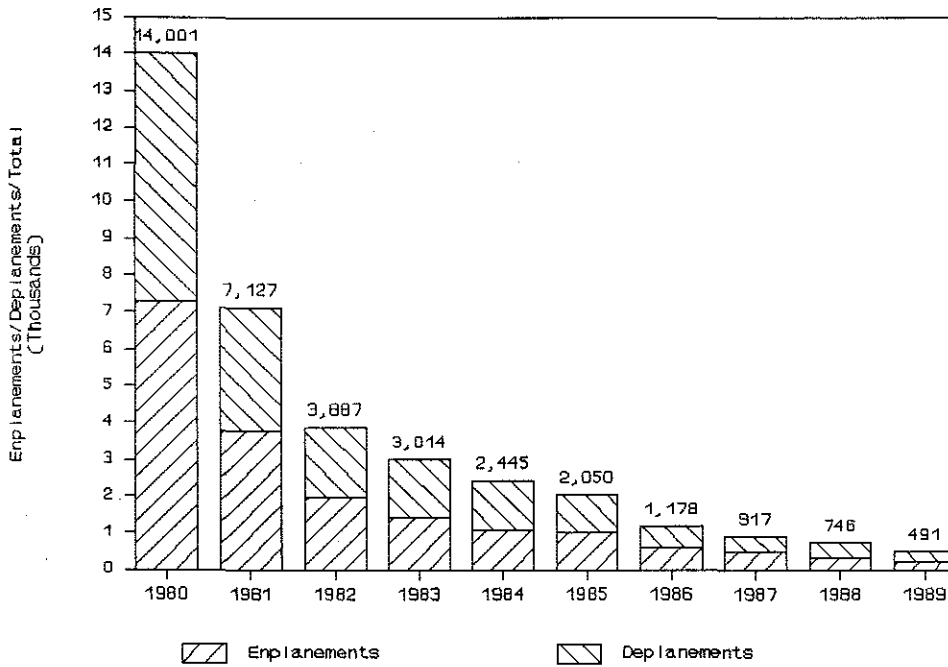
Year	Carriers		Weekly Arrivals			Total
	Serving	Origins	Jet	Press	Nonpr	
1986	1	1	0	0	12	12
1987	1	1	0	0	12	12
1988	1	1	0	0	12	12
1989	1	2	0	0	19	19

WEEKLY ARRIVING SEATS

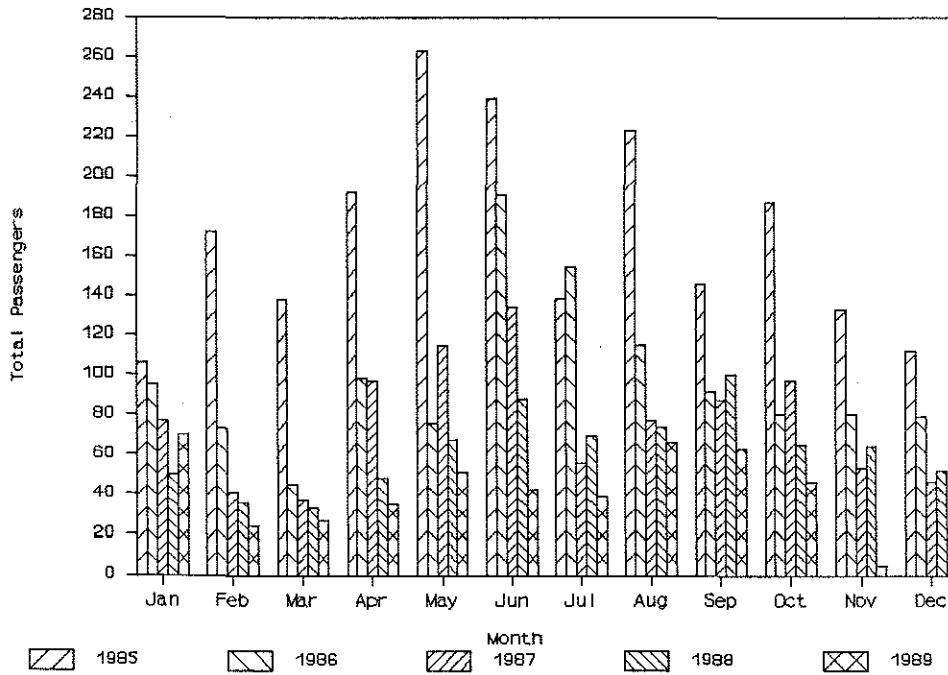
As of December 31

Year	Weekly Arriving Seats				Total
	Jet	Press	Nonpr	Total	
1986	0	0	228	228	228
1987	0	0	432	432	432
1988	0	0	432	432	432
1989	0	0	133	133	133

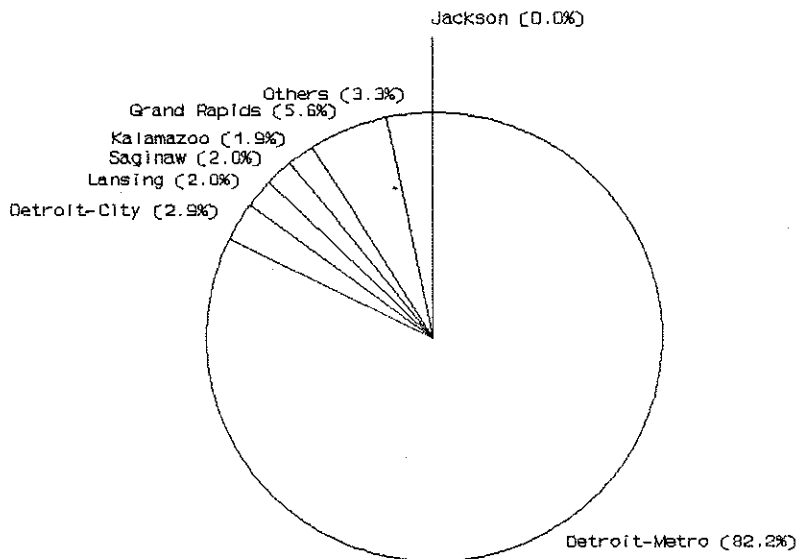
1980 - 1989 ANNUAL TOTAL PASSENGERS Jackson County, Reynolds Field



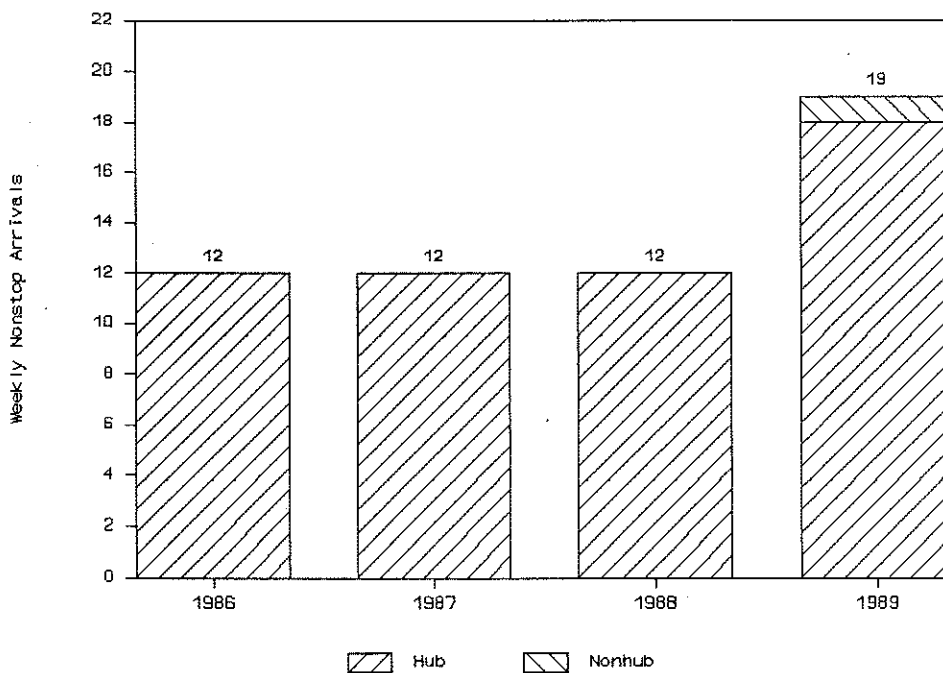
1985 - 1989 MONTHLY TOTAL PASSENGERS Jackson County, Reynolds Field



1989 PASSENGER LEVEL COMPARISON Jackson County, Reynolds Field



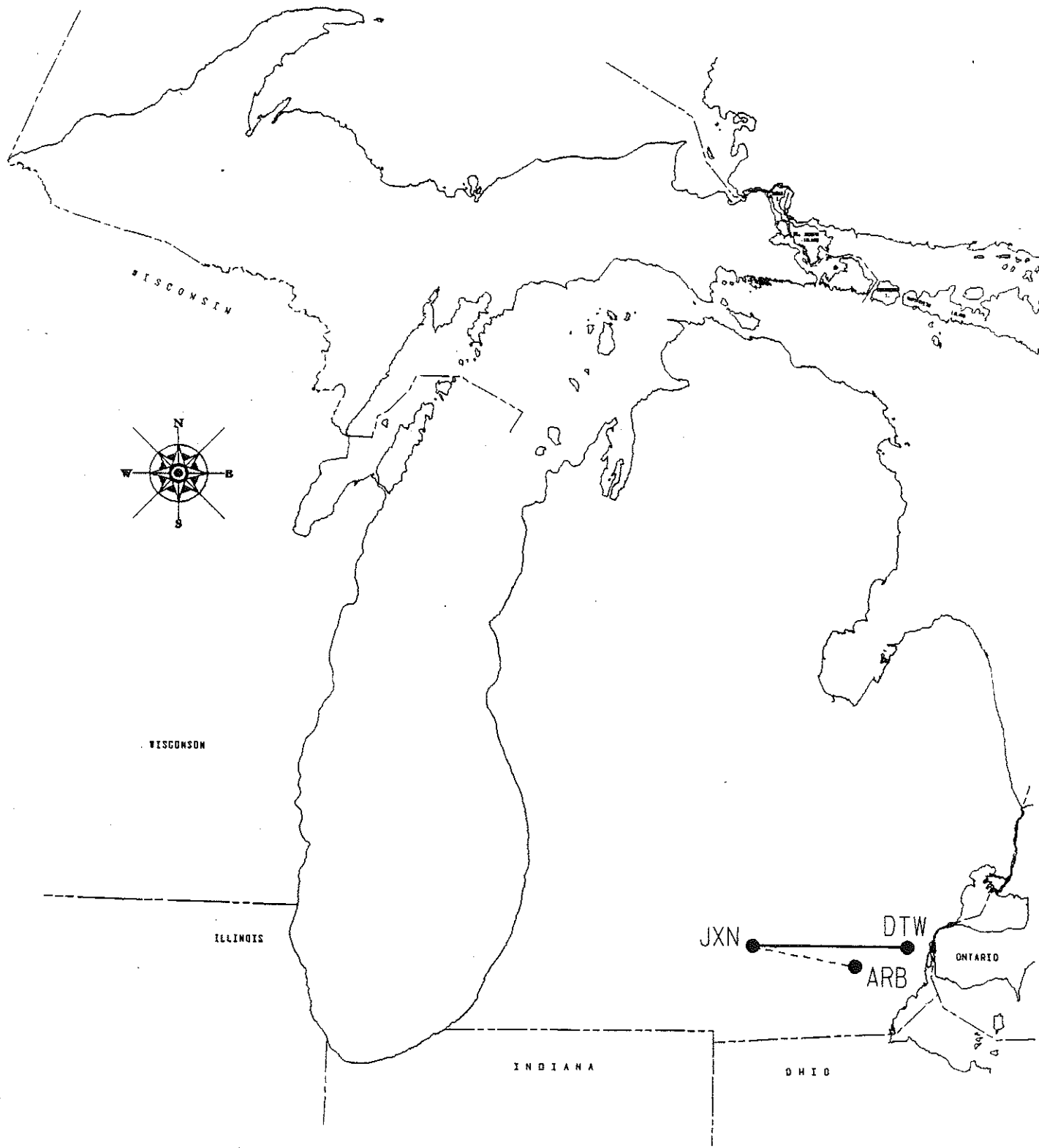
NONSTOP ARRIVALS FROM HUBS/NONHUBS Jackson County, Reynolds Field



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Jackson County, Reynolds Field

As of December 31, 1989



Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

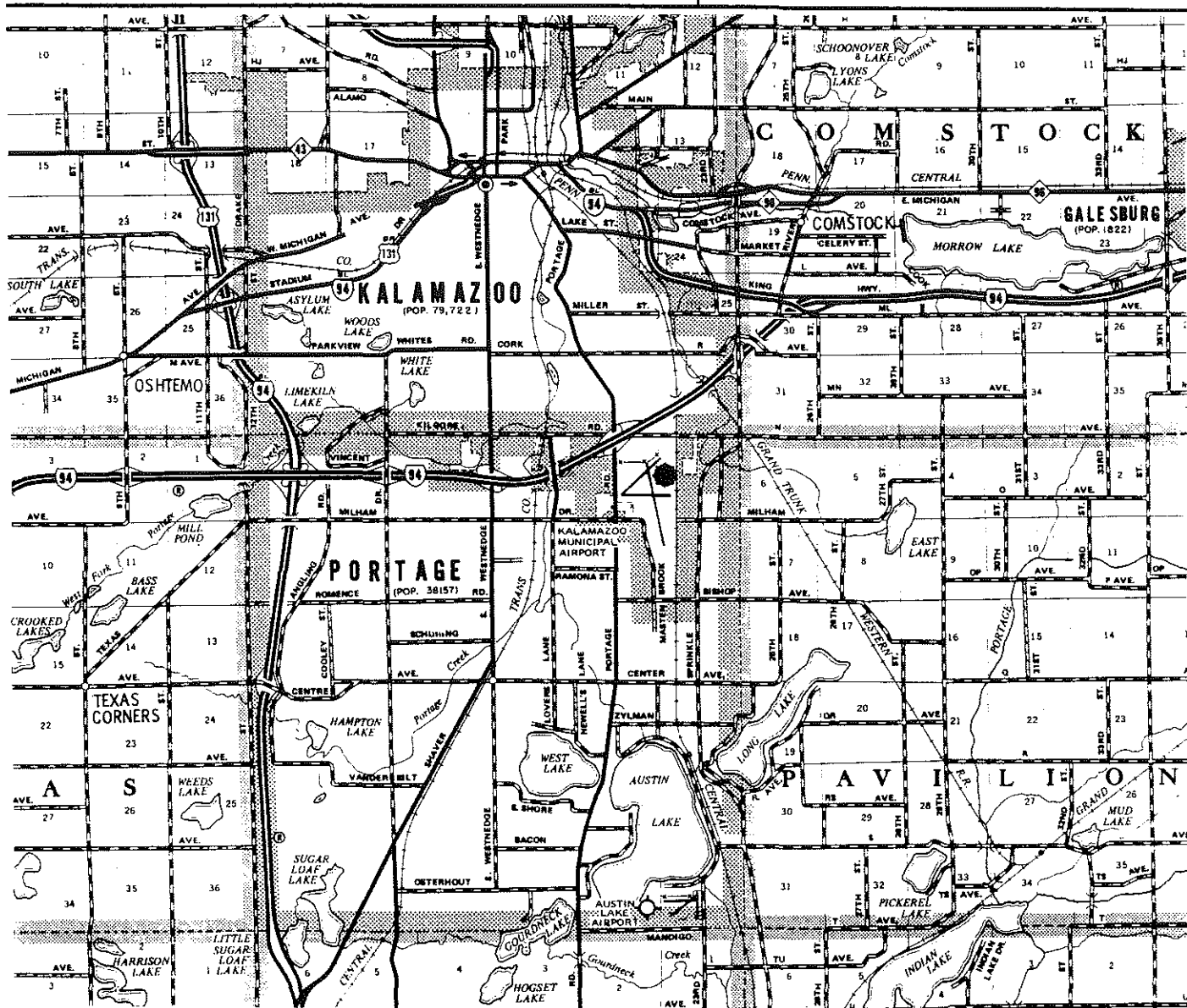
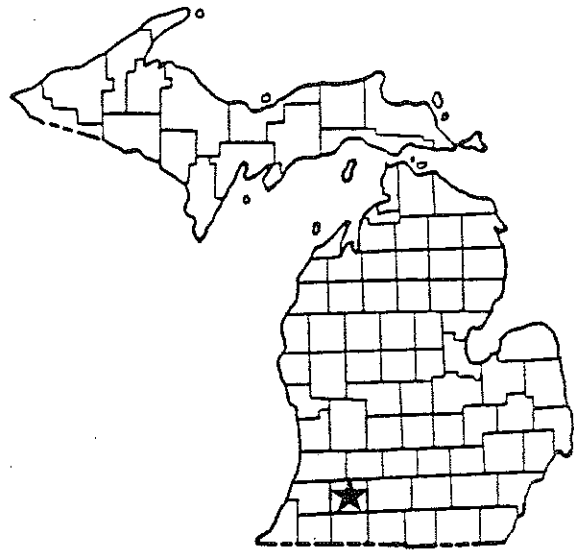
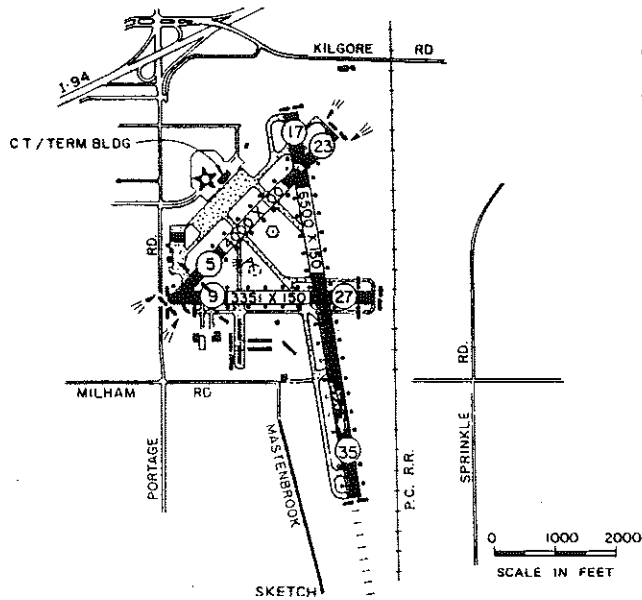
CITY PAIR SERVICE SUMMARIES

Jackson County, Reynolds Field

As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Ann Arbor, MI [ARB] Drummond Island Air [QQ]	PAG	7	1	0	0	7	7
Detroit, MI [DTW] Drummond Island Air [QQ]	PAG	7	18	0	0	126	126
Totals			19	0	0	133	133

Kalamazoo/Battle Creek Regional Intl. Airport



Kalamazoo/Battle Creek Regional Intl. Airport

Passengers Carried

Kalamazoo/Battle Creek Regional International Airport (previously Kalamazoo County Airport), with 478,540 total passengers, experienced a 6.8 percent increase in 1989 over the previous year. This surpasses the previous record set in 1988 and represents the fifth year in a row in which a new record has been set. Historically, Kalamazoo has enjoyed a growth in total passengers since 1982. The 1989 increase places the facility at a level 74.3 percent above that of 1978, the last year of government regulation of routes and fares. Monthly figures were five year highs in all months. Kalamazoo ranked sixth in the state in total passengers with 1.9 percent of the statewide total.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	118,591	121,492	240,083	-15.2%
1981	101,197	102,040	203,237	-15.3%
1982	86,364	89,563	175,927	-13.4%
1983	100,989	106,162	207,151	17.7%
1984	124,684	124,975	249,659	20.5%
1985	168,065	172,828	340,893	36.5%
1986	197,277	199,533	396,810	16.4%
1987	208,822	205,840	414,662	4.5%
1988	225,704	222,174	447,878	8.0%
1989	240,792	237,748	478,540	6.8%

Service Supplied

As of December 31, 1989, Kalamazoo was served by nine airlines, three more than in 1988. Between survey dates, the facility gained service by Air Canada (Air Toronto), Continental Express (Britt Airways) and Midwest Express Connection (Skyway Airlines). Piedmont completed its merger with USAir but this did not result in any

significant changes to the supply of service. Kalamazoo County Airport had nonstop service from ten origins in nine cities, an increase of one origin and one city from 1988. Service from Saginaw was discontinued. However, service started from Cleveland, OH and Toronto, ONT. There were 258 weekly arrivals, up 44 from the previous year. Of the weekly arrivals, 226 (87.6 percent) were from hub airports. Of the 14,127 weekly arriving seats, 8,231 (58.3 percent) were by jet, 3,505 (24.8 percent) were by pressurized propeller and 2,391 (16.9 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

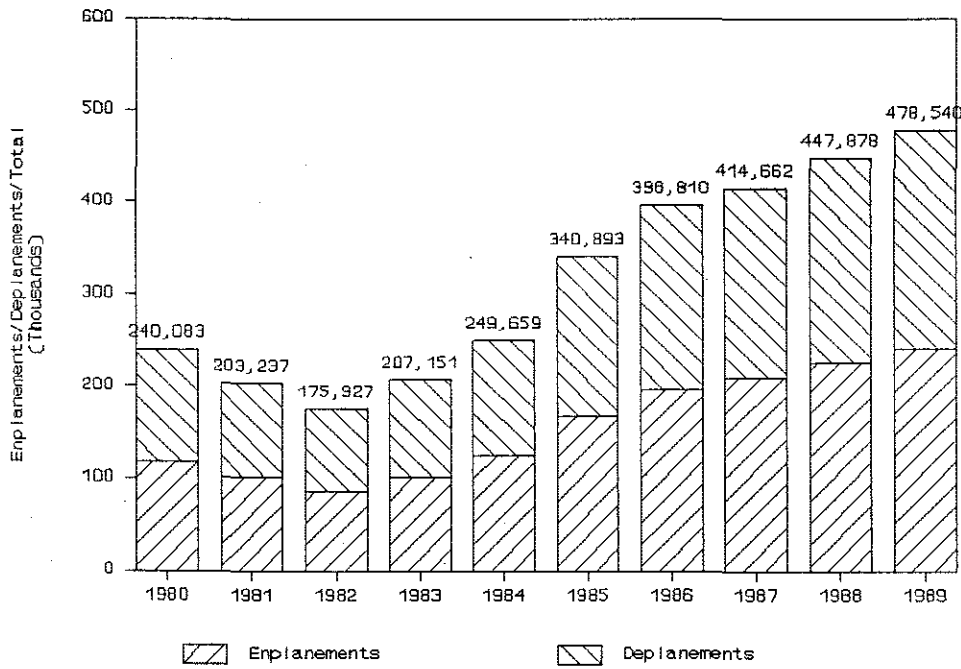
Year	Carriers		Weekly Arrivals			Total
	Serving	Origins	Jet	Press	Nonpr	
1986	4	6	47	55	33	135
1987	6	8	82	88	52	222
1988	6	9	83	57	74	214
1989	9	10	67	109	82	258

WEEKLY ARRIVING SEATS

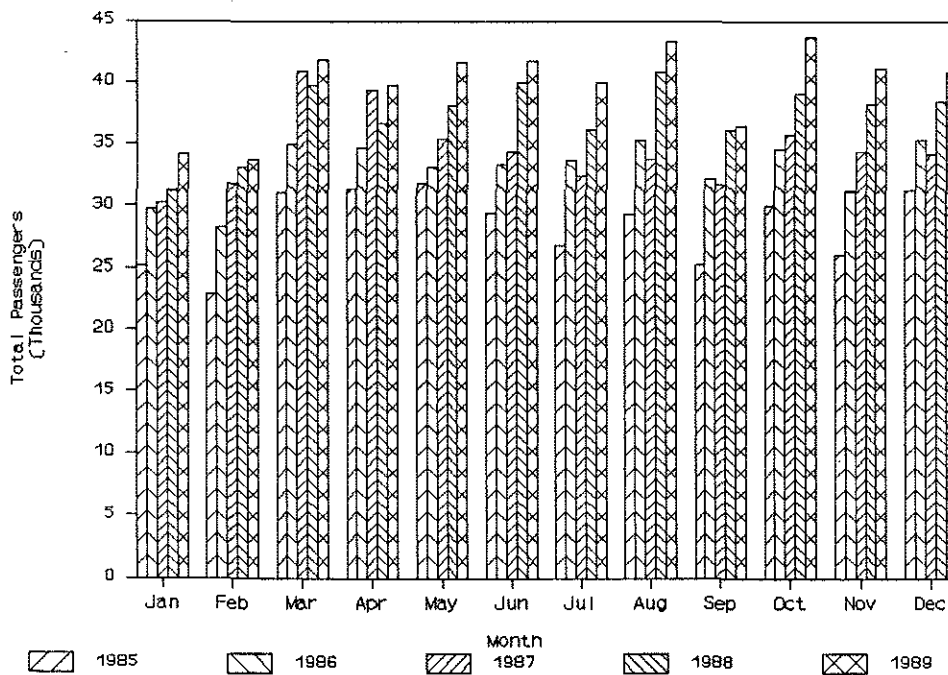
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	5,993	2,588	1,188	9,769
1987	8,842	3,151	1,872	13,865
1988	9,426	2,202	2,103	13,731
1989	8,231	3,505	2,391	14,127

1980 - 1989 ANNUAL TOTAL PASSENGERS Kalamazoo County Airport

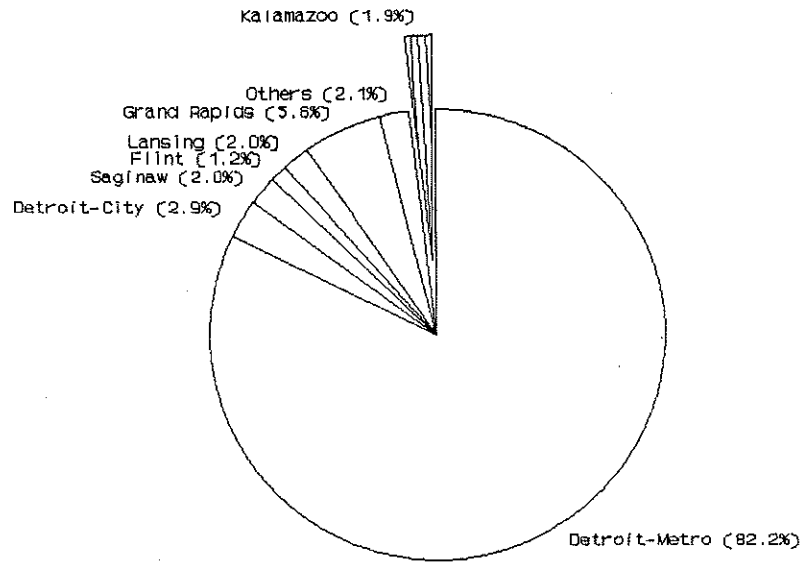


1985 - 1989 MONTHLY TOTAL PASSENGERS Kalamazoo County Airport



1989 PASSENGER LEVEL COMPARISON

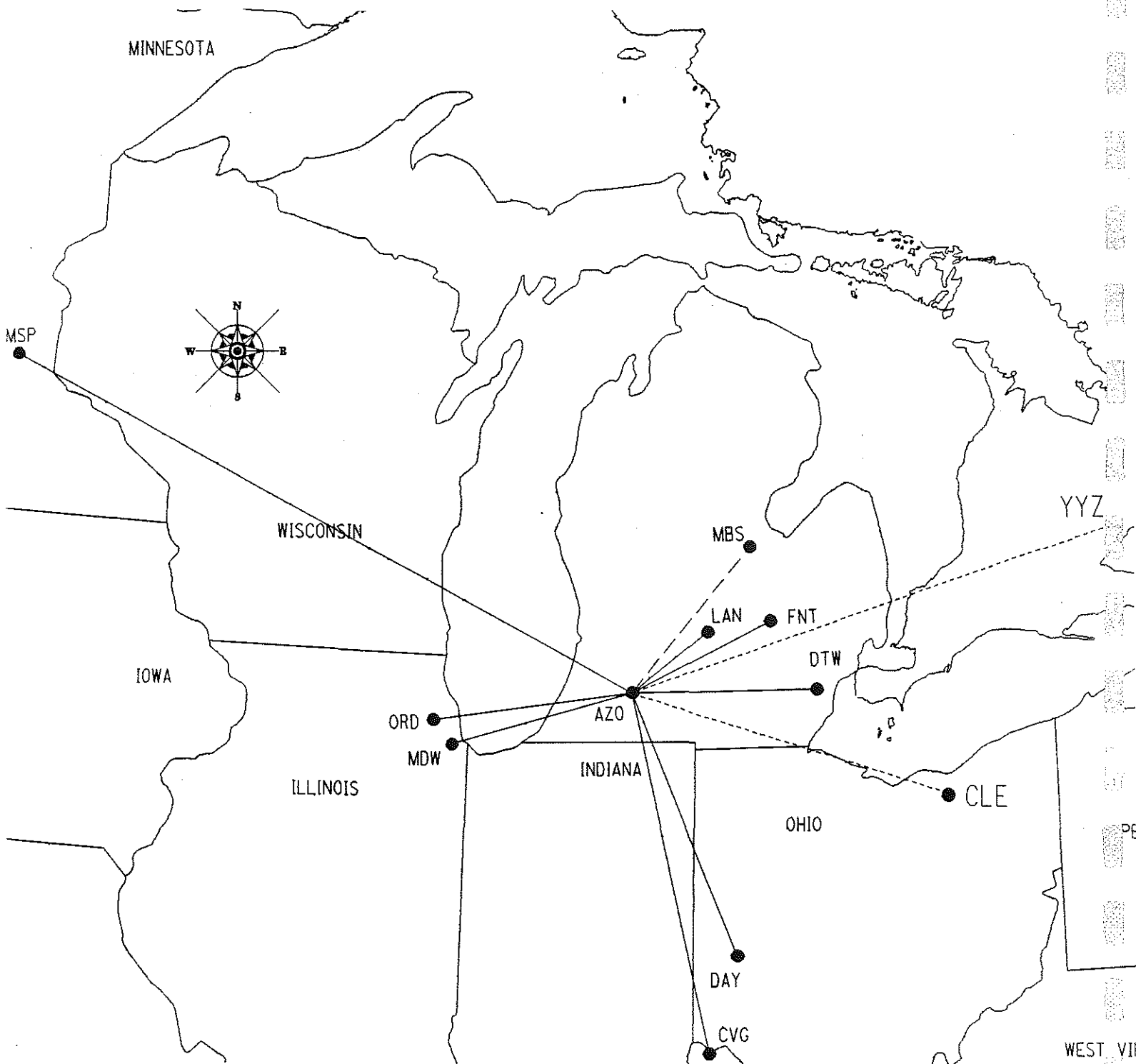
Kalamazoo County Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Kalamazoo County Airport

As of December 31, 1989



Discontinued Since 1988

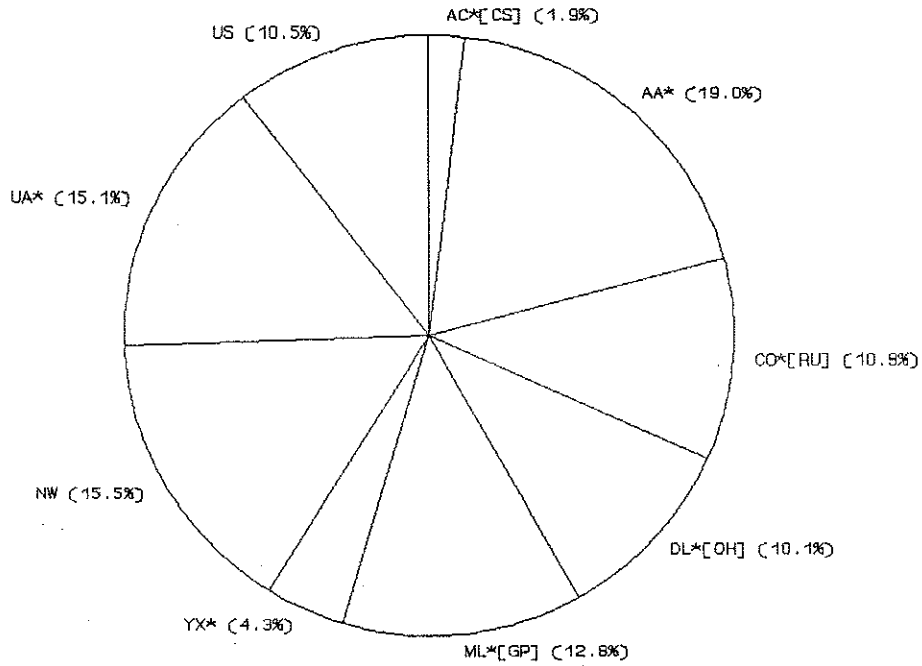
Flown in 1988 and 1989

New Since 1988

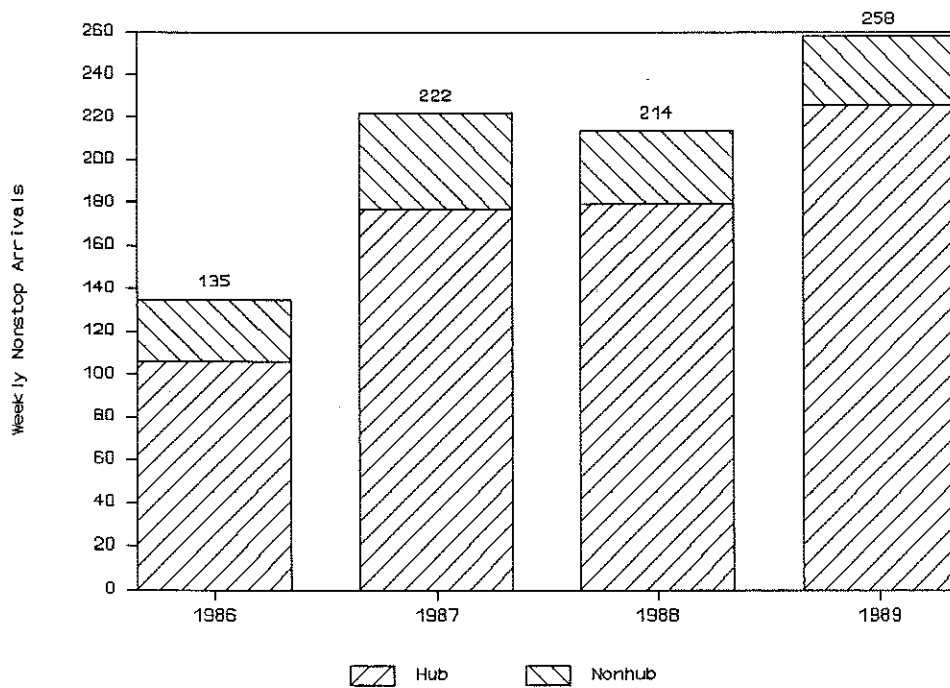
CITY PAIR SERVICE SUMMARIES
Kalamazoo/Battle Creek Regional International Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Chicago, IL [MDW]							
The Midway Conn.(Fisher Bros.)[ML*]	DO8	19	33	0	0	627	627
Chicago, IL [ORD]							
American Eagle [AA*]	SH6	36	35	0	0	1,260	1,260
United Express (Air Wisconsin)[UA*]	F27	48	39	0	1,872	0	1,872
Cincinnati, OH [CVG]							
Delta Conn. (Comair, Inc.) [DL*]	SWM	19	26	0	494	0	494
Cleveland, OH [CLE]							
Continental Express(Britt Airways)[CO*]	EM2	30	28	0	840	0	840
Dayton, OH [DAY]							
USAir [US]	72S	145	7	1,015	0	0	1,015
USAir [US]	73S	122	13	1,586	0	0	1,586
USAir [US]	D9S	125	7	875	0	0	875
Detroit, MI [DTW]							
Northwest Airlines, Inc. [NW]	D9S	125	19	2,375	0	0	2,375
Northwest Airlines, Inc. [NW]	DC9	90	7	630	0	0	630
Flint, MI [FNT]							
American Eagle [AA*]	SH6	36	7	0	0	252	252
Lansing, MI [LAN]							
American Eagle [AA*]	SH6	36	7	0	0	252	252
Midwest Exp.Conn.(Skyway Arln.)[YX*]	BE1	19	11	0	209	0	209
Northwest Airlines, Inc. [NW]	D9S	125	7	875	0	0	875
Minneapolis/St. Paul, MN [MSP]							
Northwest Airlines, Inc. [NW]	D9S	125	7	875	0	0	875
Toronto, ONT [YYZ]							
Air Canada (Air Toronto) [AC*]	J31	18	5	0	90	0	90
Totals			258	8,231	3,505	2,391	14,127

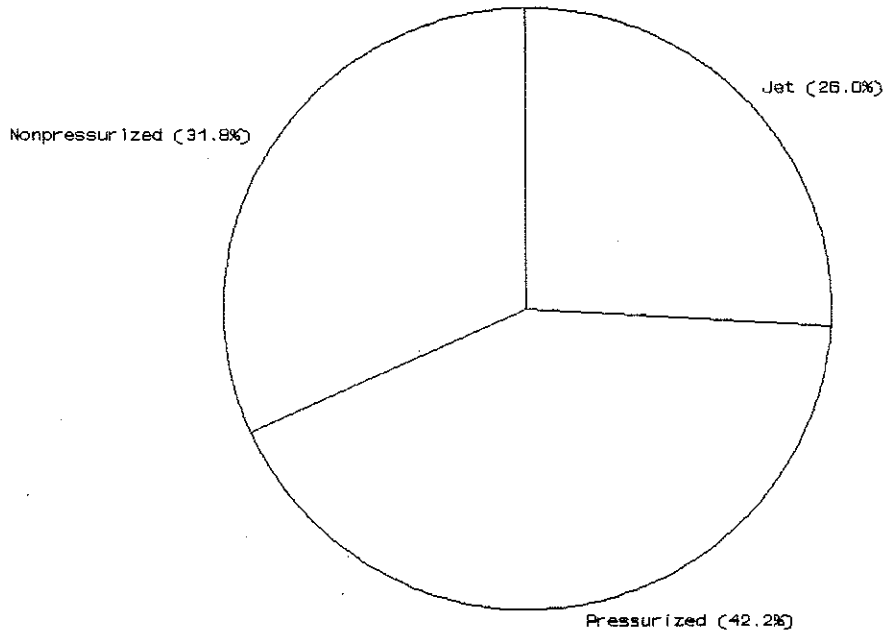
PERCENTAGE ARRIVALS BY CARRIER
Kalamazoo County Airport



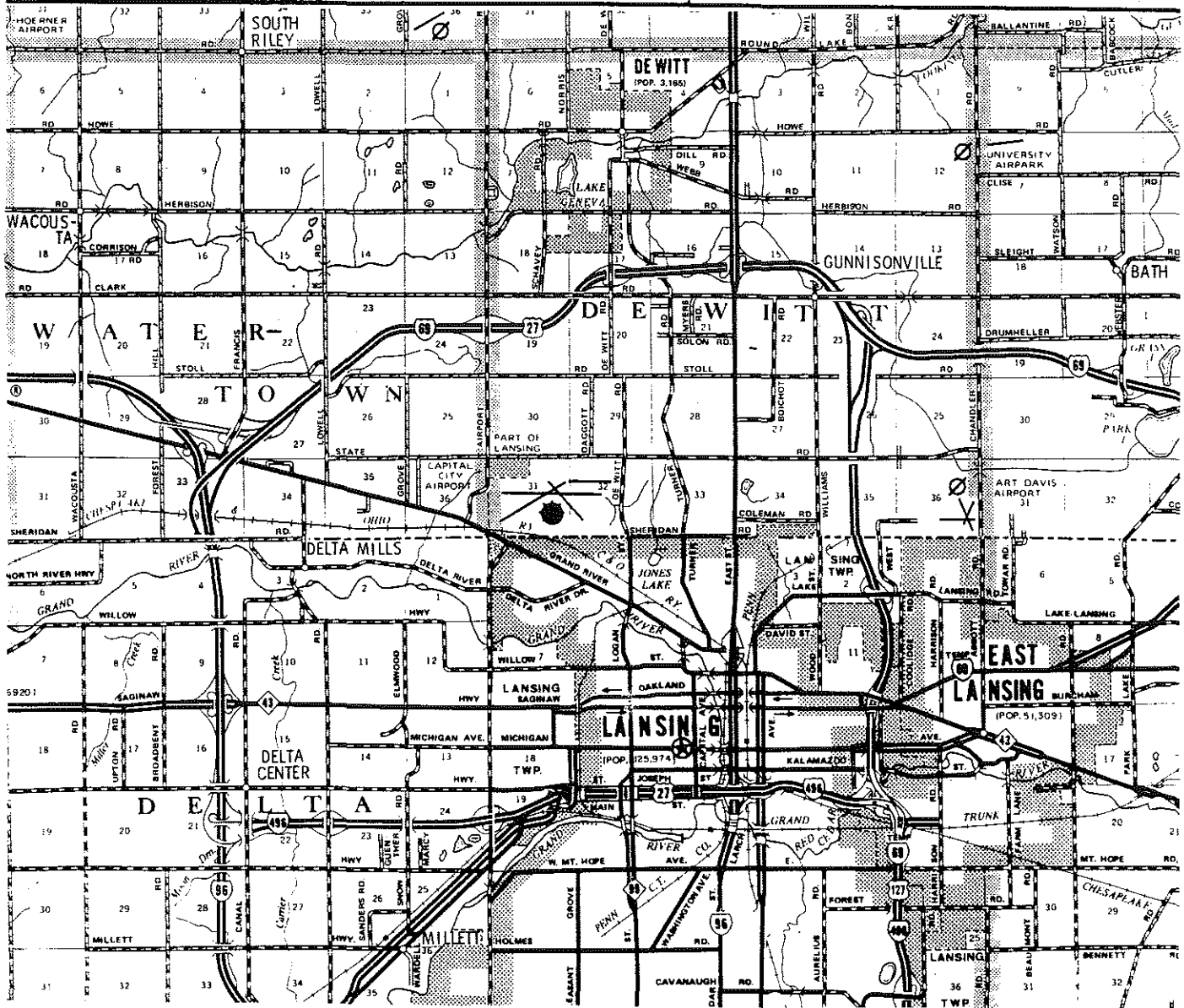
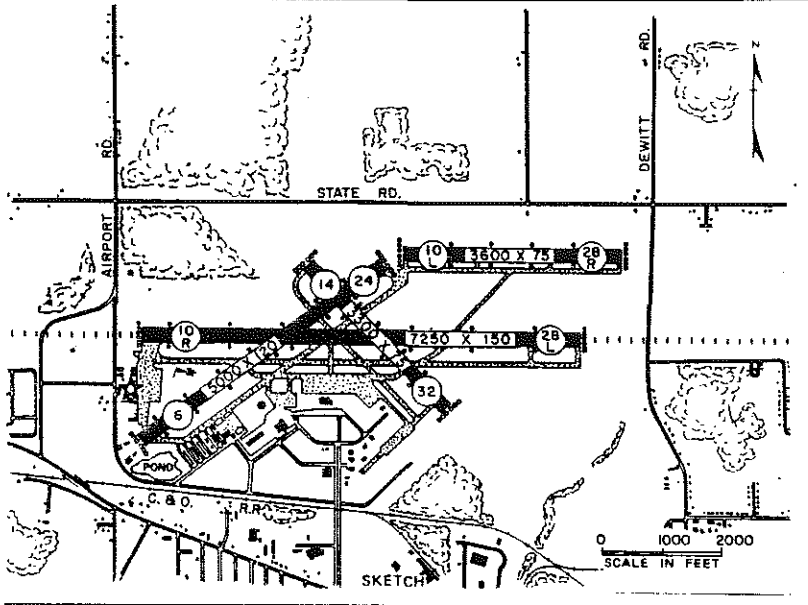
NONSTOP ARRIVALS FROM HUBS/NONHUBS
Kalamazoo County Airport



PERCENTAGE ARRIVALS BY AIRCRAFT TYPE
Kalamazoo County Airport



Lansing, Capital City Airport



Lansing, Capital City Airport

Passengers Carried

Capital City Airport, with 501,809 total passengers, experienced a 14.0 percent increase in 1989 over the previous year. Historically, this facility has experienced overall growth since 1981. The 1989 increase places Lansing 12.2 percent over the levels of 1978, the last year of government regulation of routes and fares. Monthly figures were five year highs in all months except October. October was exceeded by it's 1988 value. Lansing ranked fifth in the state in total passengers with 2.0 percent of the statewide total.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	180,302	188,151	368,453	-17.1%
1981	123,767	133,038	256,805	-30.3%
1982	129,779	127,315	257,094	0.1%
1983	172,858	177,255	350,113	36.2%
1984	163,569	170,235	333,804	-4.7%
1985	172,966	171,033	343,999	3.1%
1986	193,007	189,256	382,263	11.1%
1987	180,653	178,395	359,048	-6.1%
1988	221,651	218,650	440,301	22.6%
1989	256,345	245,464	501,809	14.0%

Service Supplied

As of December 31, 1989, Lansing was served by eight airlines, one more than in 1988. Between survey dates, Continental Express took over some of the flights previously operated by their parent carrier. Piedmont completed it's merger with USAir but this did not have a significant impact on the supply of service. Capital City Airport had nonstop service from nine origins in eight cities, a net decrease of one origin and one city. Service was discontinued from Grand Rapids. There were 241 weekly arrivals, up

33 from 1988. Of the weekly arrivals, 200 (83.0 percent) were from hub airports. Of the 13,214 weekly arriving seats 7,318 (55.4 percent) were by jet, 3,272 (24.8 percent) were by pressurized propeller and 2,624 (19.9 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

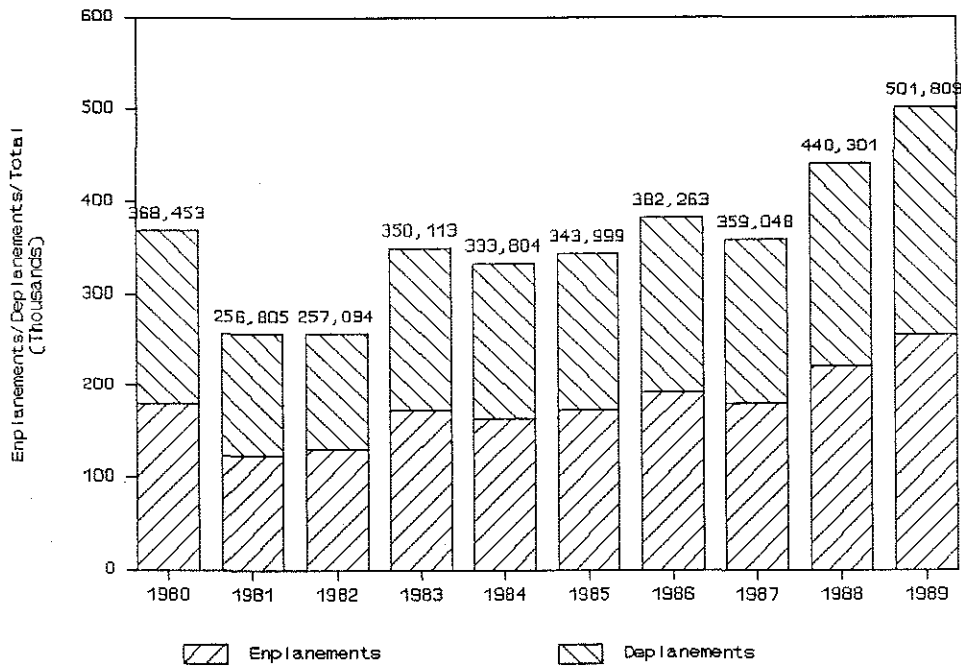
Year	Carriers		Weekly Arrivals			Total
	Serving	Origins	Jet	Press	Nonpr	
1986	6	9	49	67	126	242
1987	6	8	35	99	72	206
1988	7	10	84	50	74	208
1989	8	9	60	93	88	241

WEEKLY ARRIVING SEATS

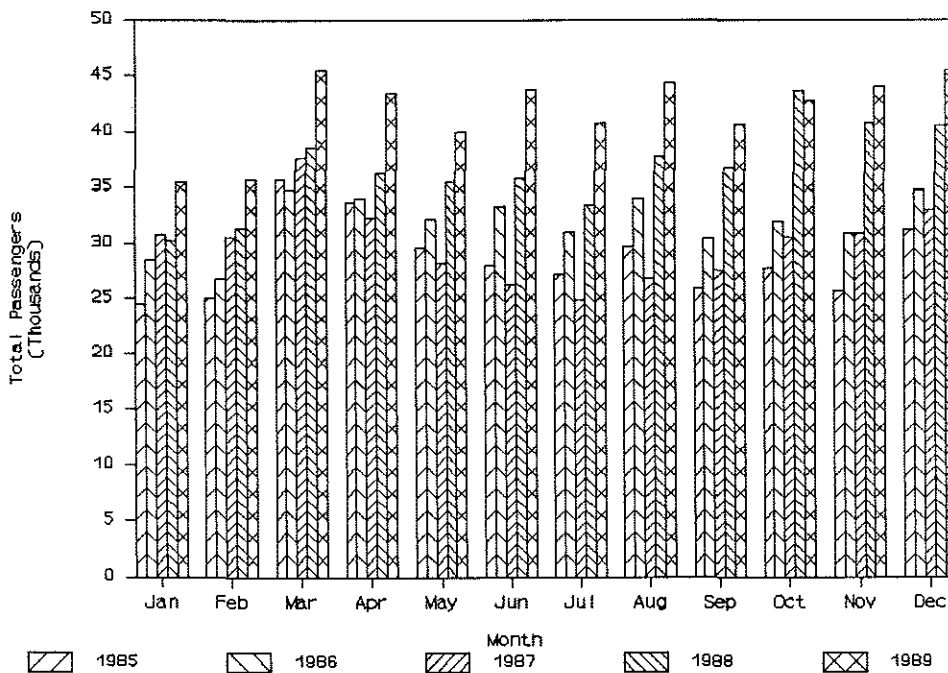
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	6,468	2,689	3,829	12,986
1987	4,062	3,974	2,592	10,628
1988	10,005	1,907	2,120	14,032
1989	7,318	3,272	2,624	13,214

1980 - 1989 ANNUAL TOTAL PASSENGERS Lansing, Capital City Airport

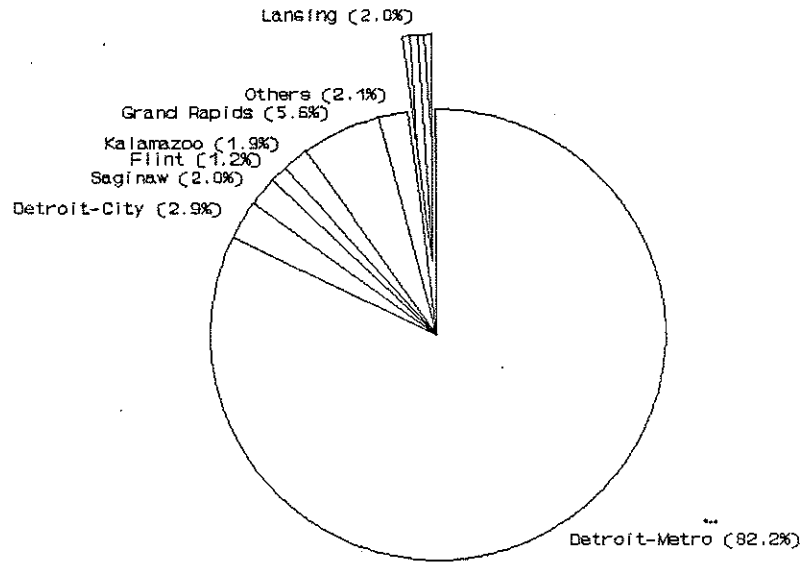


1985 - 1989 MONTHLY TOTAL PASSENGERS Lansing, Capital City Airport



1989 PASSENGER LEVEL COMPARISON

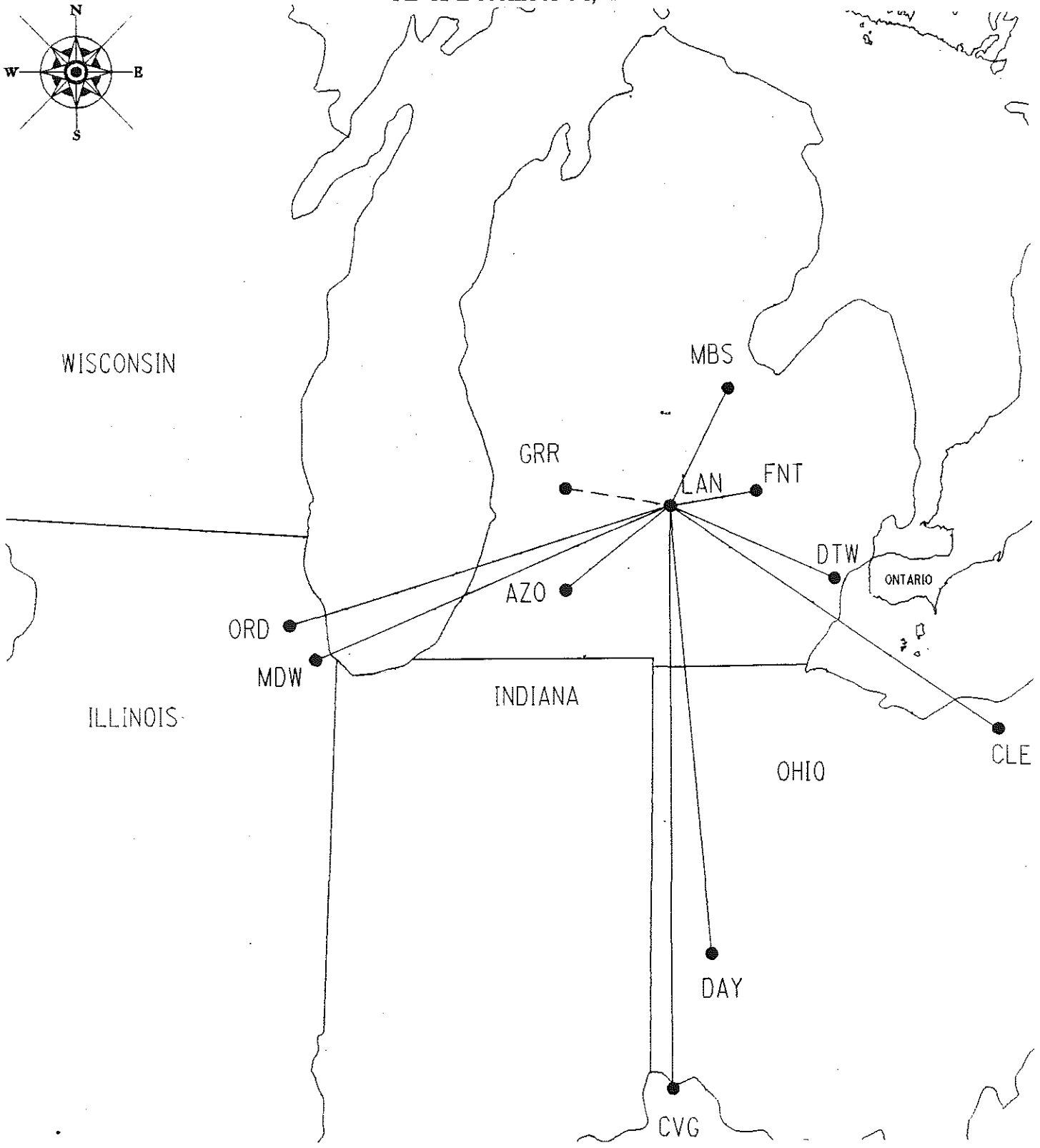
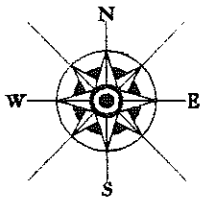
Lansing, Capital City Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Lansing, Capital City Airport

As of December 31, 1989



Discontinued Since 1988

Flown in 1988 and 1989

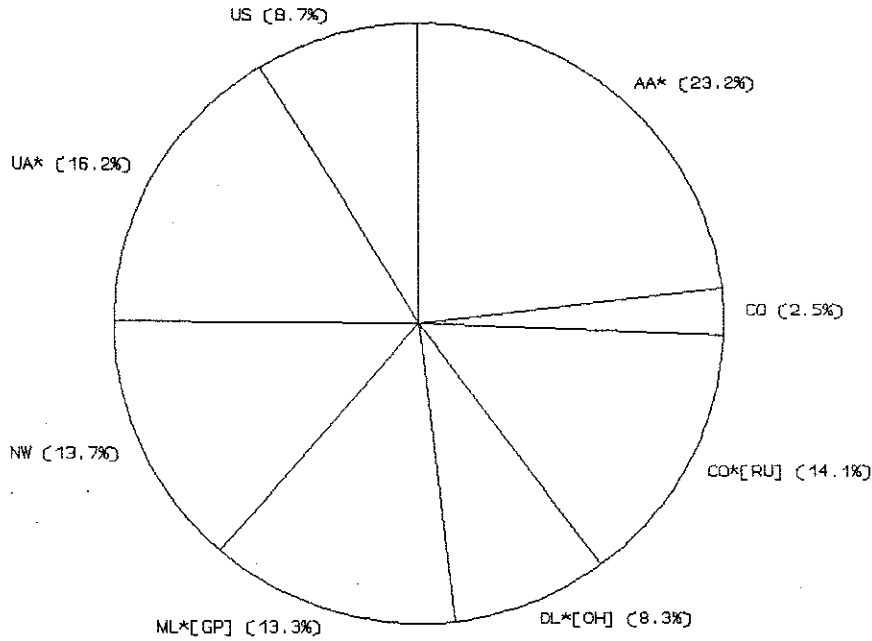
New Since 1988

CITY PAIR SERVICE SUMMARIES

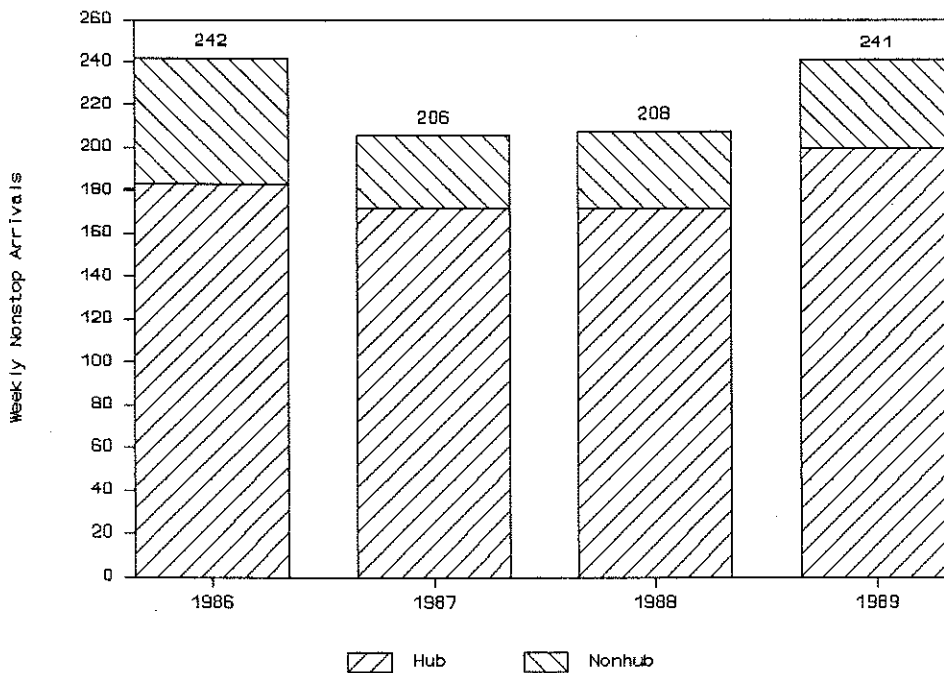
Lansing, Capital City Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			
				Jet	Pres.	Npres.	Total
Chicago, IL [MDW] The Midway Conn.(Fisher Bros.)(ML*)	DO8	19	32	0	0	608	608
Chicago, IL [ORD] American Eagle [AA*]	SH6	36	28	0	0	1,008	1,008
United Express (Air Wisconsin)(UA*)	F27	48	39	0	1,872	0	1,872
Cincinnati, OH [CVG] Delta Conn. (Comair, Inc.) [DL*]	SWM	19	20	0	380	0	380
Cleveland, OH [CLE] Continental Airlines, Inc. [CO]	D9S	125	6	750	0	0	750
Continental Express (Britt Awys.)(CO*)	EM2	30	28	0	840	0	840
Dayton, OH [DAY] USAir [US]	733	138	7	966	0	0	966
USAir [US]	734	159	7	1,113	0	0	1,113
USAir [US]	73S	122	7	854	0	0	854
Detroit, MI [DTW] Northwest Airlines, Inc. [NW]	D9S	125	12	1,500	0	0	1,500
Northwest Airlines, Inc. [NW]	DC9	90	14	1,260	0	0	1,260
Flint, MI [FNT] American Eagle [AA*]	SH6	36	21	0	0	756	756
Kalamazoo, MI [AZO] American Eagle [AA*]	SH6	36	7	0	0	252	252
Northwest Airlines, Inc. [NW]	D9S	125	7	875	0	0	875
Saginaw, MI [MBS] Continental Express(Britt Awys.)(CO*)	EM2	30	6	0	180	0	180
Totals			241	7,318	3,272	2,624	13,214

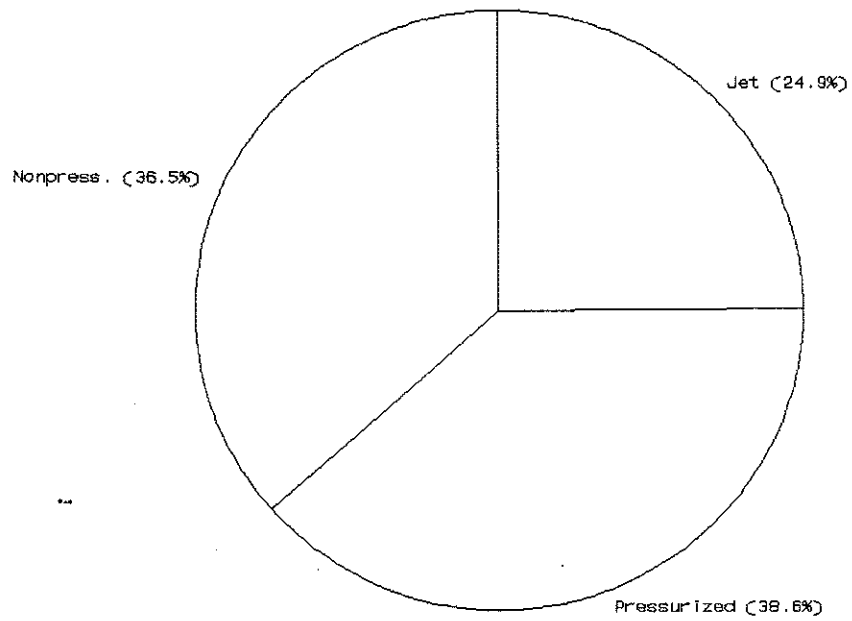
PERCENTAGE ARRIVALS BY CARRIER
Lansing, Capital City Airport



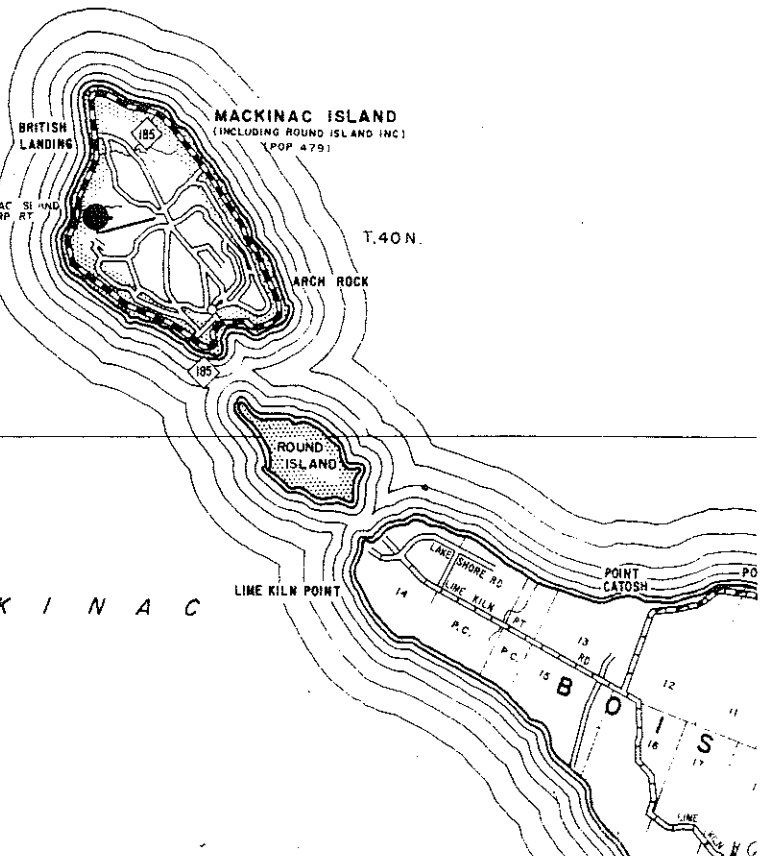
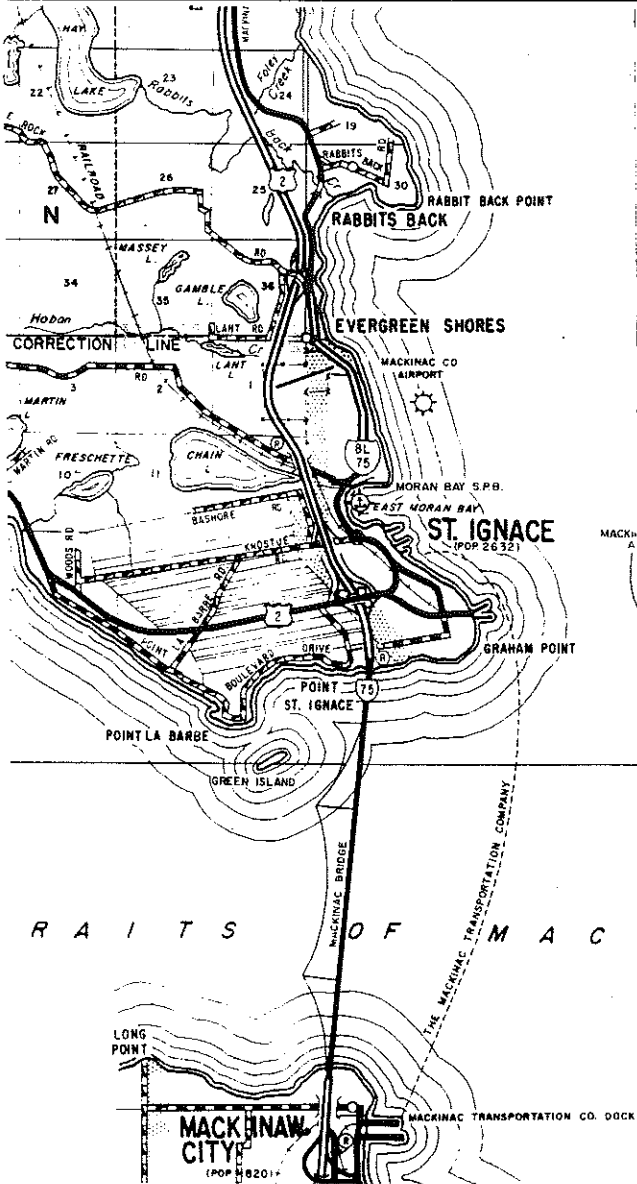
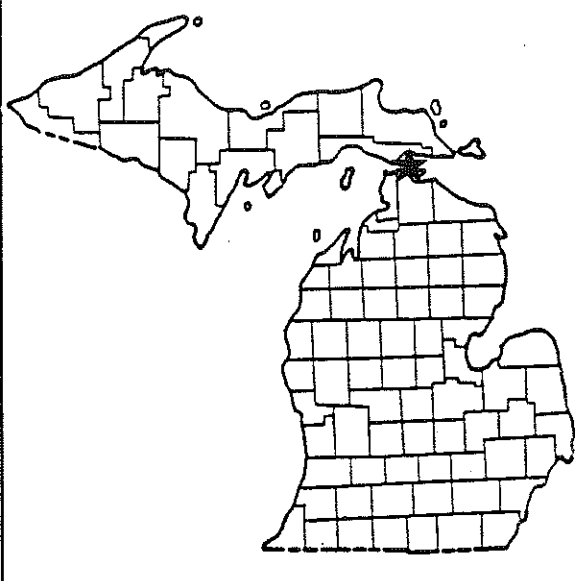
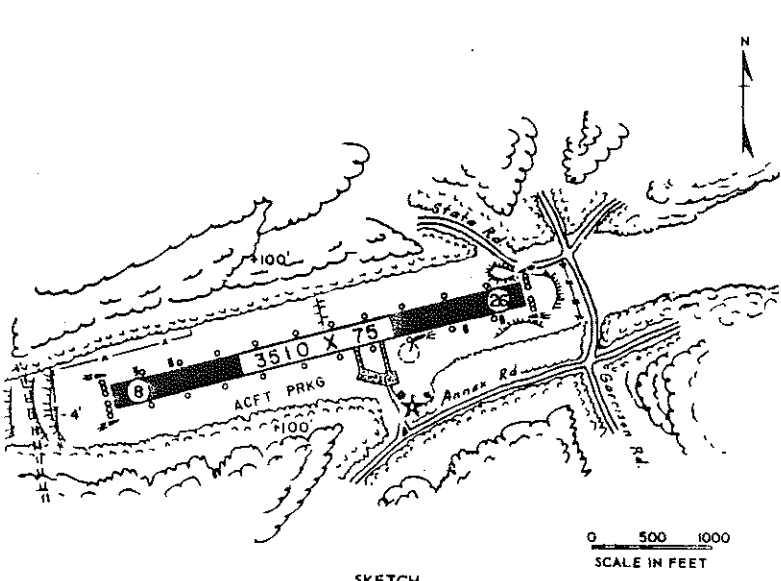
NONSTOP ARRIVALS FROM HUBS/NONHUBS
Lansing, Capital City Airport



PERCENTAGE ARRIVALS BY AIRCRAFT TYPE
Lansing, Capital City Airport



Mackinac Island Airport



Mackinac Island Airport

Passengers Carried

Mackinac Island with 411 total passengers, experienced a 60.5 percent decrease in 1989 from the previous year. Historically, Mackinac Island had experienced declining total passenger levels in each year since the 1982 startup of scheduled service except 1988. Scheduled service to this location is seasonal, generally operating from April or May through September or October, depending on passenger demand. Monthly figures were five year lows from July through October. Mackinac Island ranked twenty-third in the state in total passengers with less than 0.1 percent of the statewide total.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1981	Service commenced in 1982			
1982	990	946	1,936	n/c
1983	881	870	1,751	-9.6%
1984	783	630	1,413	-19.3%
1985	720	582	1,302	-7.9%
1986	339	320	659	-49.4%
1987	278	246	524	-20.5%
1988	520	520	1,040	98.5%
1989	208	203	411	-60.5%

Service Supplied

Flight schedules at Mackinac Island Airport are surveyed on July 1 of each year due to the seasonal nature of the service. As of July 1, 1989, Mackinac Island was served by one airline. Between survey dates Michigan Airways became Drummond Island Air. Mackinac Island Airport had nonstop service from one nonhub city, the same as the previous year. Service from Pellston was replaced by service from Drummond Island. There were 16 weekly arrivals, down 33 from 1988. All of the 304 weekly arriving seats

were by pressurized propeller aircraft.

WEEKLY ARRIVALS

As of July 1

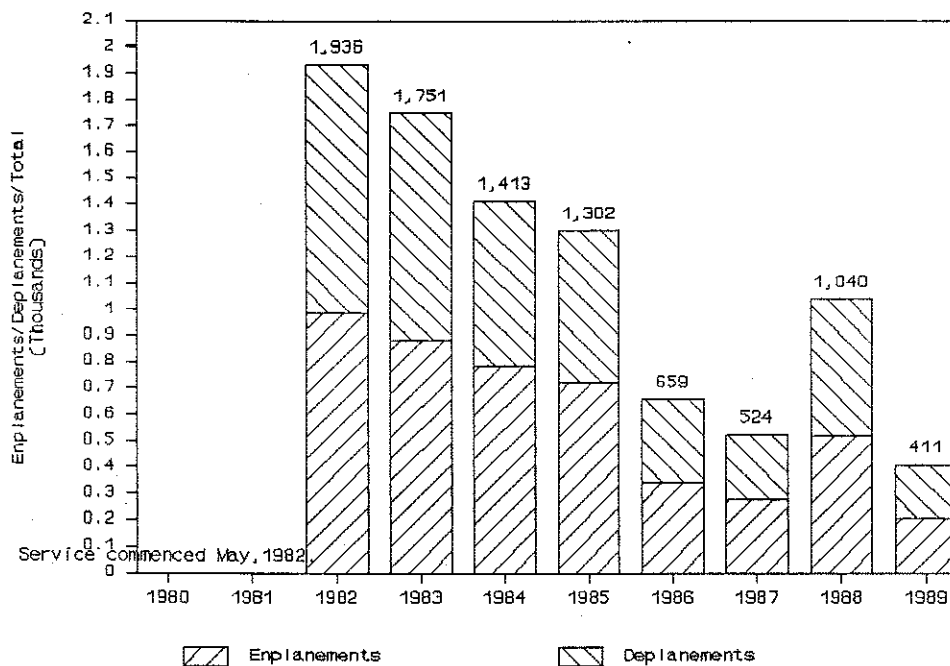
Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	1	1	0	0	18	18
1987	1	2	0	0	47	47
1988	1	1	0	0	49	49
1989	1	1	0	16	0	16

WEEKLY ARRIVING SEATS

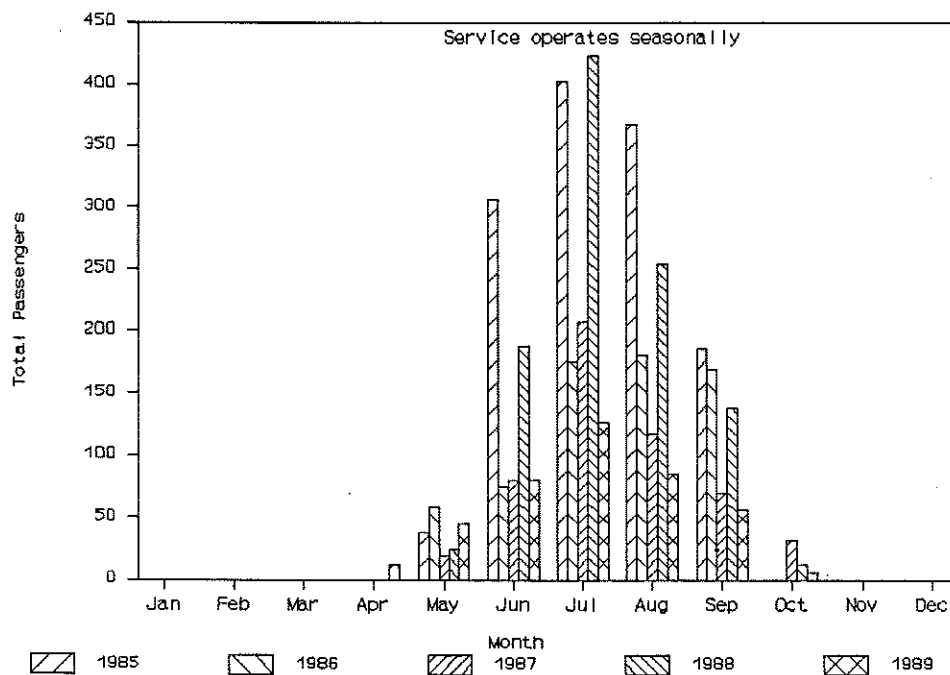
As of July 1

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	0	108	108
1987	0	0	282	282
1988	0	0	343	343
1989	0	304	0	304

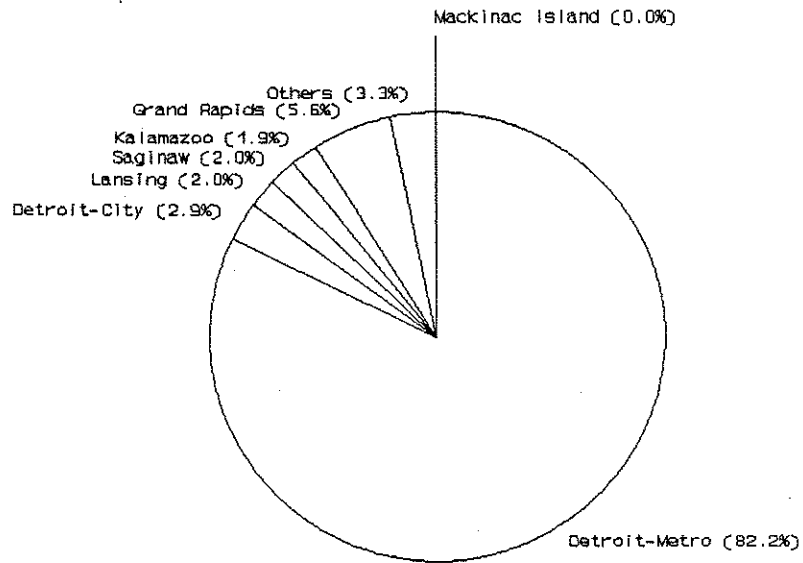
1980 - 1989 ANNUAL TOTAL PASSENGERS Mackinac Island Airport



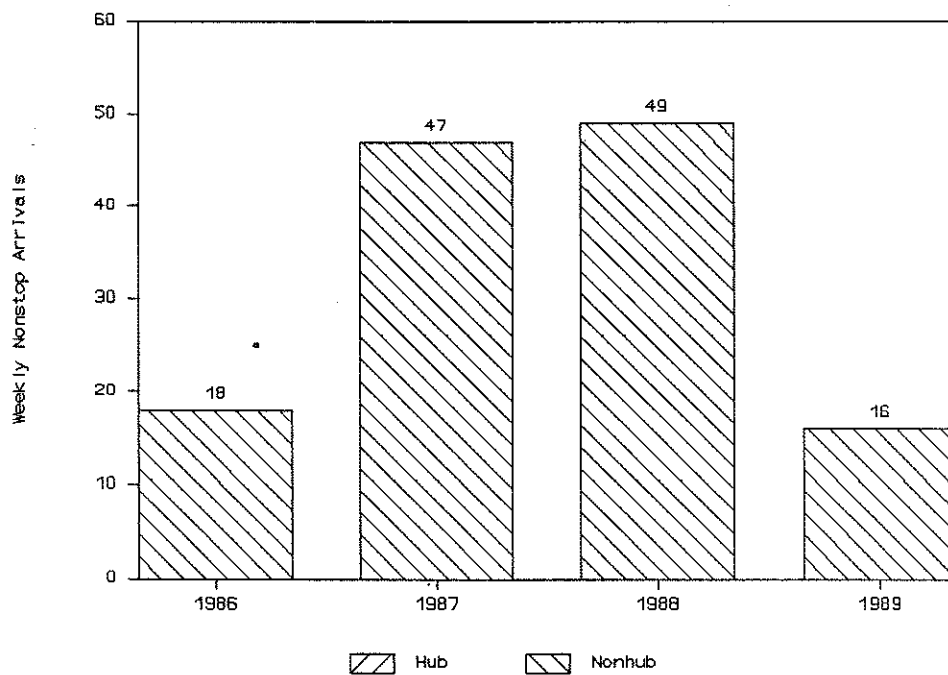
1985 - 1989 MONTHLY TOTAL PASSENGERS Mackinac Island Airport



1989 PASSENGER LEVEL COMPARISON Mackinac Island Airport



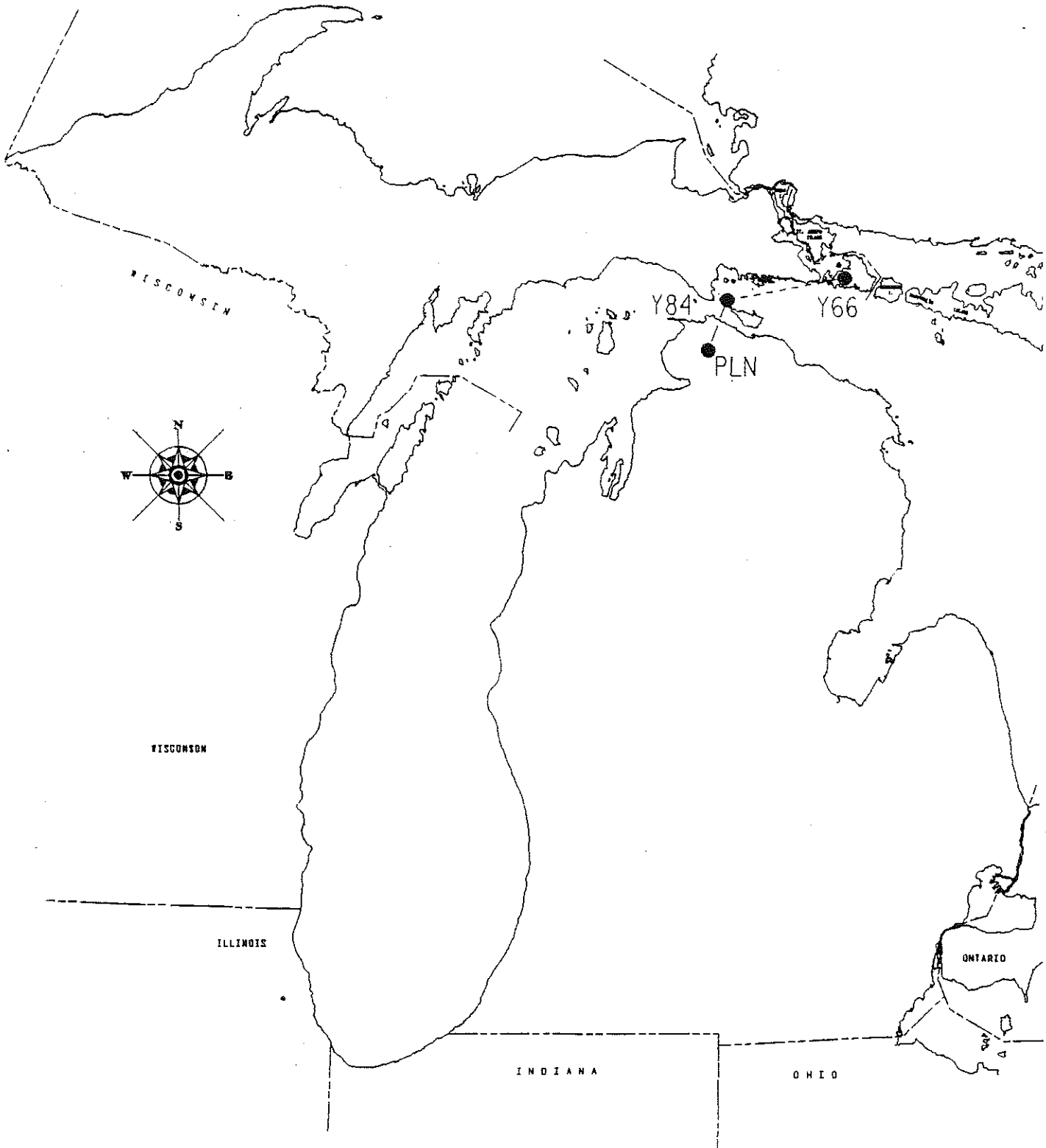
NONSTOP ARRIVALS FROM HUBS/NONHUBS Mackinac Island Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Mackinac Island Airport

As of July 1, 1989



Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

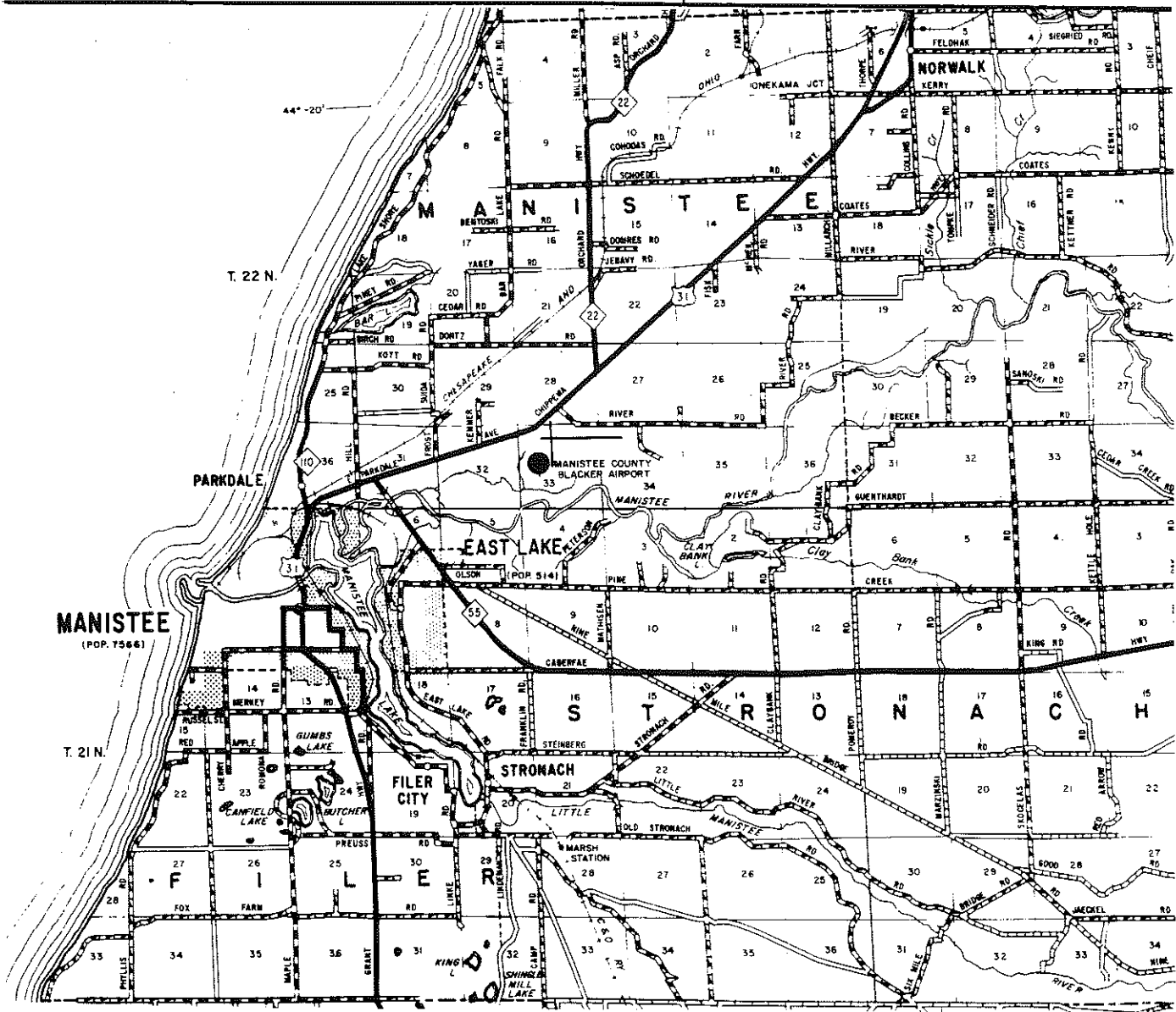
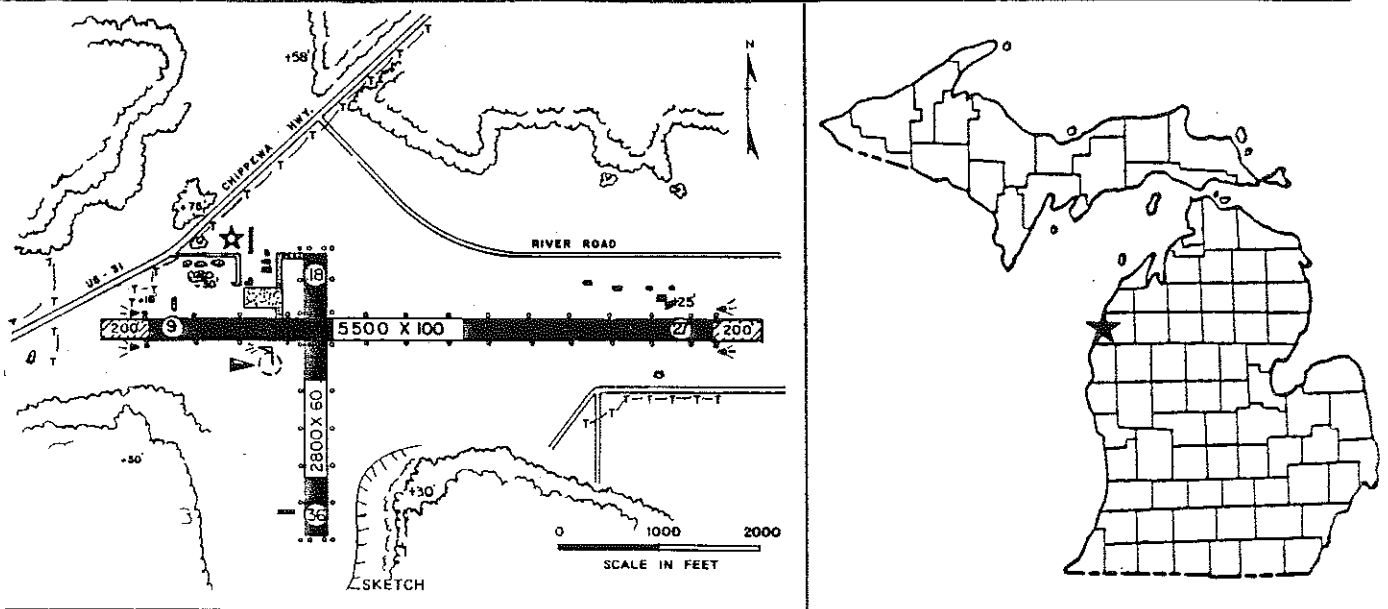
CITY PAIR SERVICE SUMMARIES

Mackinac Island Airport

As of July 1, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Drummond Island, MI [Y66] Drummond Island Air [QQ]	DHT	19	16	0	304	0	304
	Totals		16	0	304	0	304

Manistee, Blacker Airport



Manistee, Blacker Airport

Passengers Carried

Blacker Airport, with 5,926 total passengers, experienced a 53.8 percent increase in 1989 over the previous year. Historically, Manistee has enjoyed a growth in total passengers since the renewal of service in October, 1985. The 1989 figure represents the highest passenger level at the facility since 1979. The 1989 increase also places the facility at 3.4 percent above it's 1978 level, the last year of government regulation of routes and fares. Monthly figures were five year highs in all months. Manistee ranked eighteenth in the state in total passengers with less than 0.1 percent of the statewide total. Manistee is one of four Michigan cities receiving federal monies under the Essential Air Service subsidy program.

ANNUAL PASSENGERS					
Year	Passengers			Percent	
	Enplaned	Deplaned	Total	Change	
1980	2,416	2,108	4,524	-21.2%	
1981	1,555	1,219	2,774	-38.7%	
1982	901	665	1,566	-43.5%	
1983	852	814	1,666	6.4%	
1984	890	834	1,724	3.5%	
1985	97	72	169	-90.2%	
1986	672	672	1,344	695.3%	
1987	1,419	1,314	2,733	103.3%	
1988	2,031	1,823	3,854	41.0%	
1989	2,982	2,944	5,926	53.8%	

Service Supplied

As of December 31, 1989, Manistee was served by the same airline as in the previous year. Blacker Airport had nonstop service from four cities, a gain of three from 1988. To the service from Manitowoc, WI was added flights from Chicago O'Hare, IL; Houghton/Hancock and Sault Ste. Marie.

There were 36 weekly arrivals, an increase of 24 from 1988. Six of the weekly arrivals were from a hub airport. All of the 684 weekly arriving seats were in pressurized propeller aircraft.

WEEKLY ARRIVALS

As of July 1

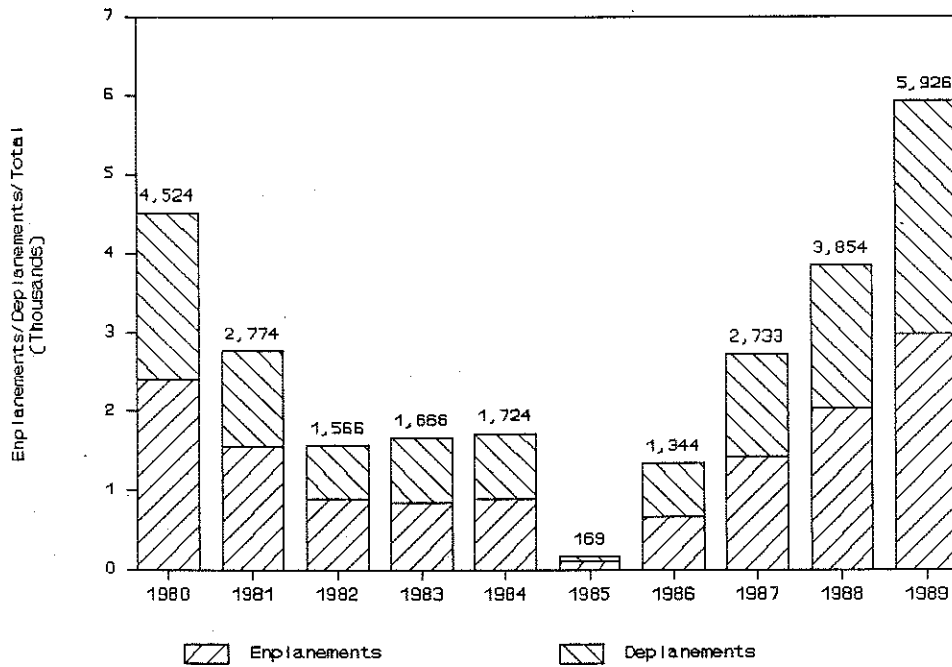
Year	Carriers		Weekly Arrivals			
	Serving	Origins	Jet	Press	Nonpr	Total
1986	1	1	0	0	12	12
1987	1	1	0	0	13	13
1988	1	1	0	0	12	12
1989	1	4	0	36	0	36

WEEKLY ARRIVING SEATS

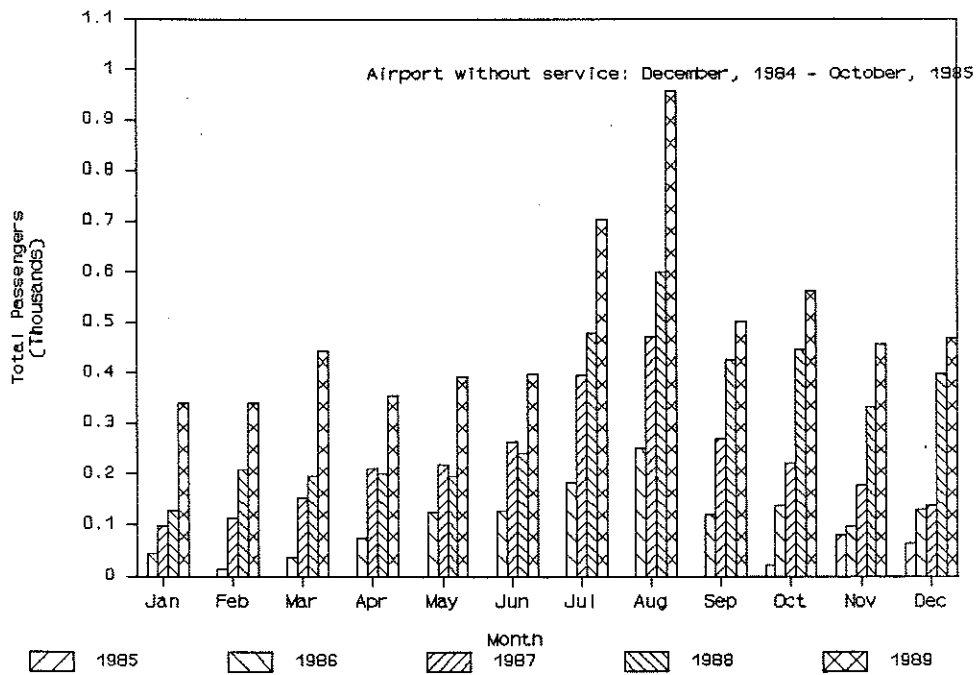
As of July 1

Year	Weekly Arriving Seats			
	Jet	Press	Nonpr	Total
1986	0	0	96	96
1987	0	0	104	104
1988	0	0	180	180
1989	0	684	0	684

1980 - 1989 ANNUAL TOTAL PASSENGERS Manistee, Blacker Airport

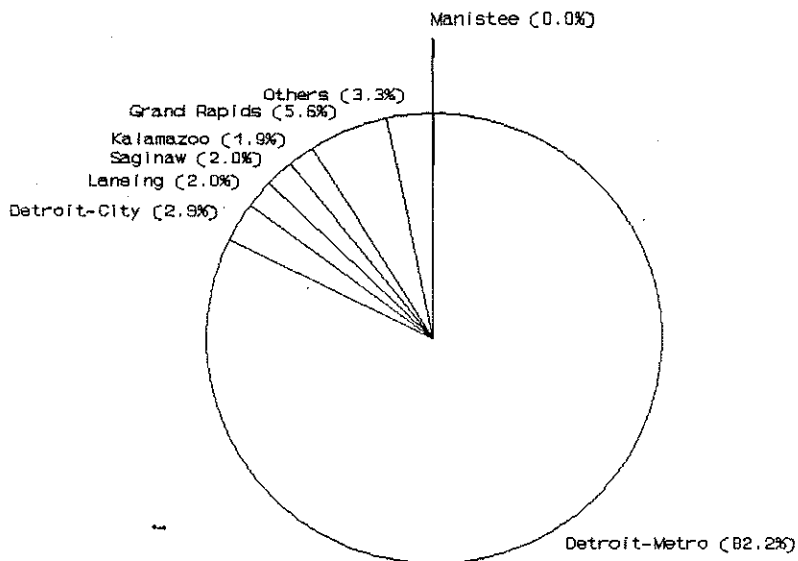


1985 - 1989 MONTHLY TOTAL PASSENGERS Manistee, Blacker Airport



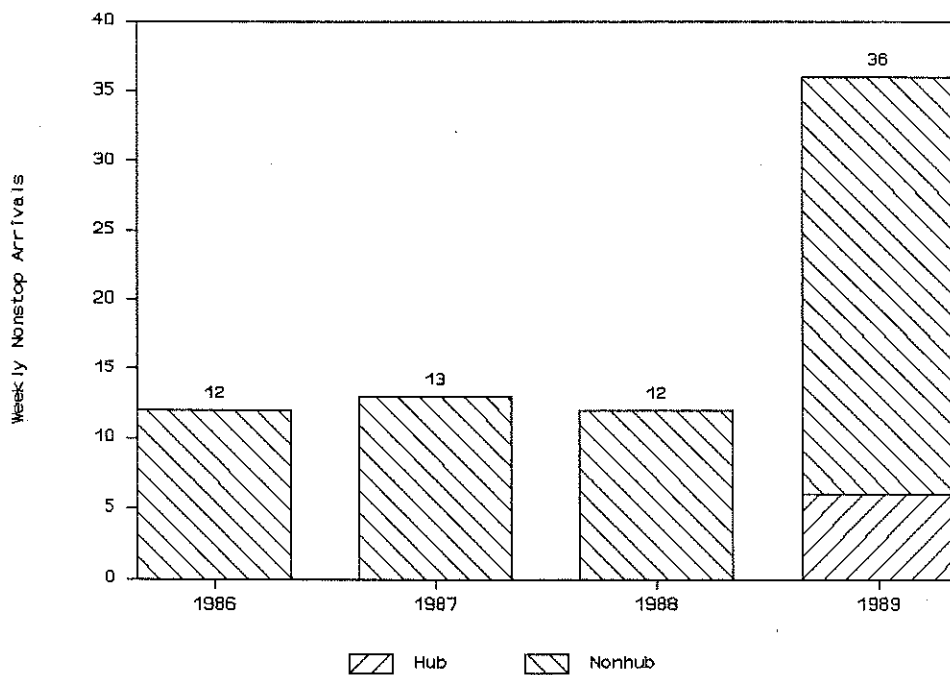
1989 PASSENGER LEVEL COMPARISON

Manistee, Blacker Airport



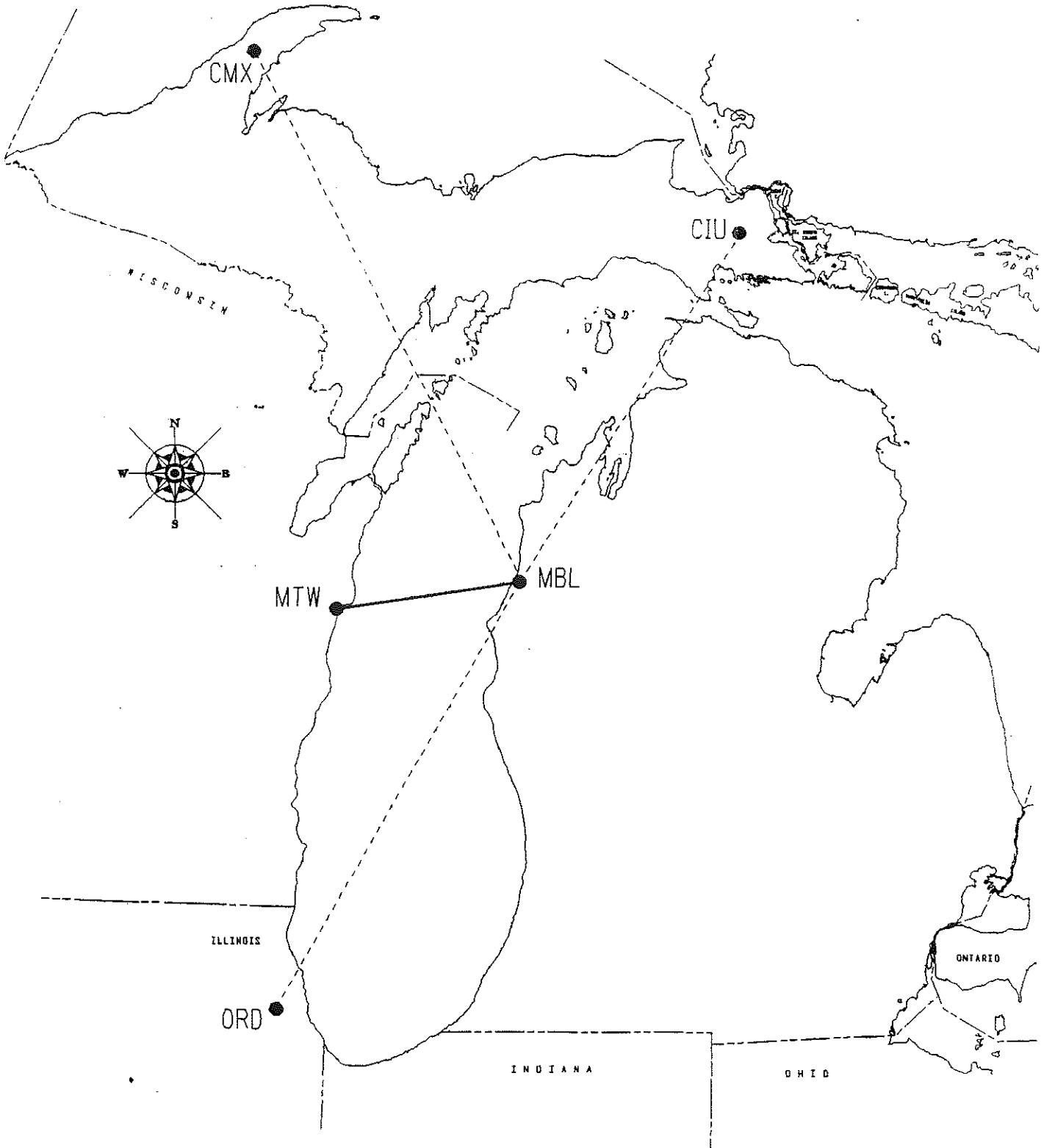
NONSTOP ARRIVALS FROM HUBS/NONHUBS

Manistee, Blacker Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Manistee, Blacker Airport
As of December 31, 1989



Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

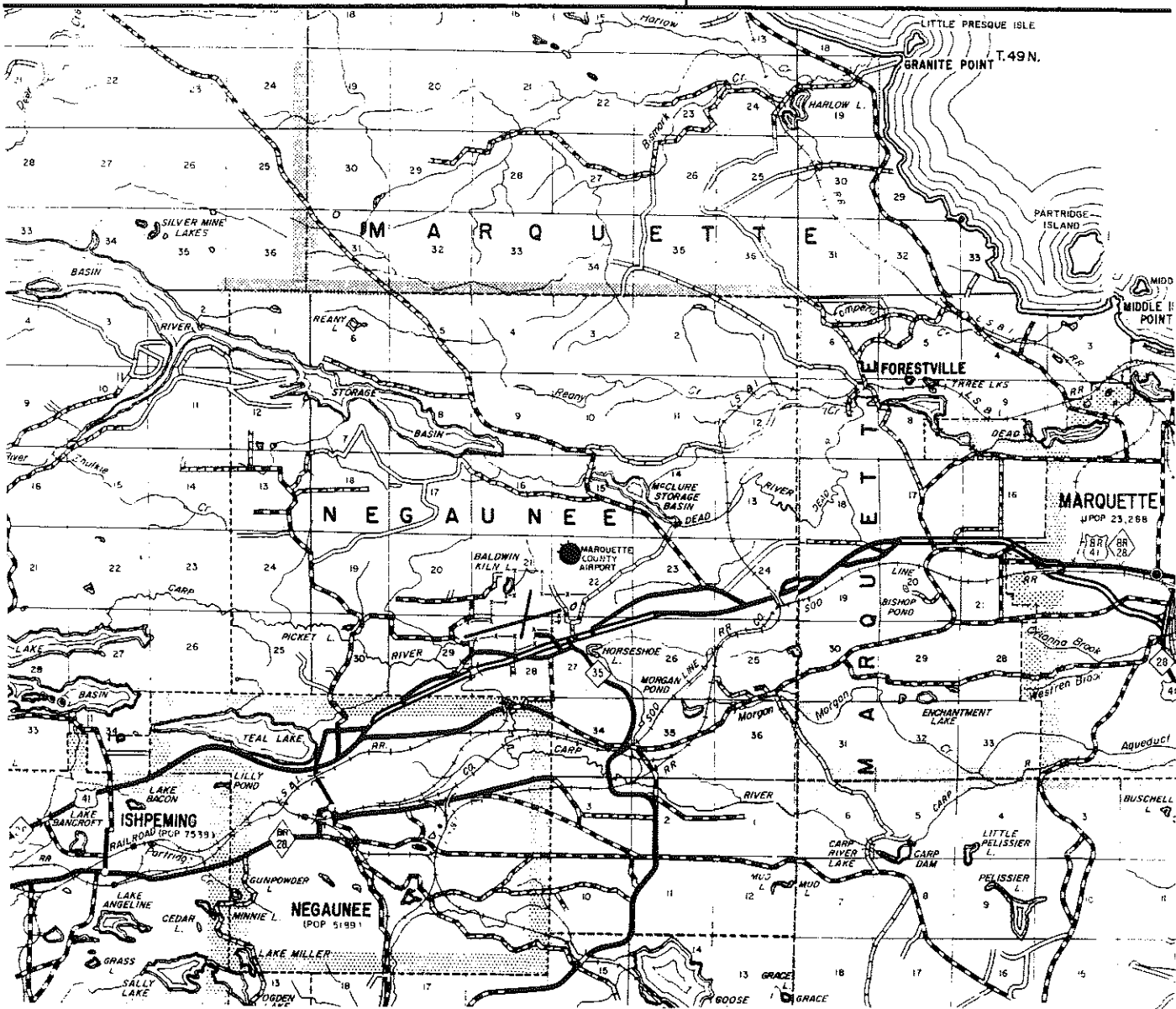
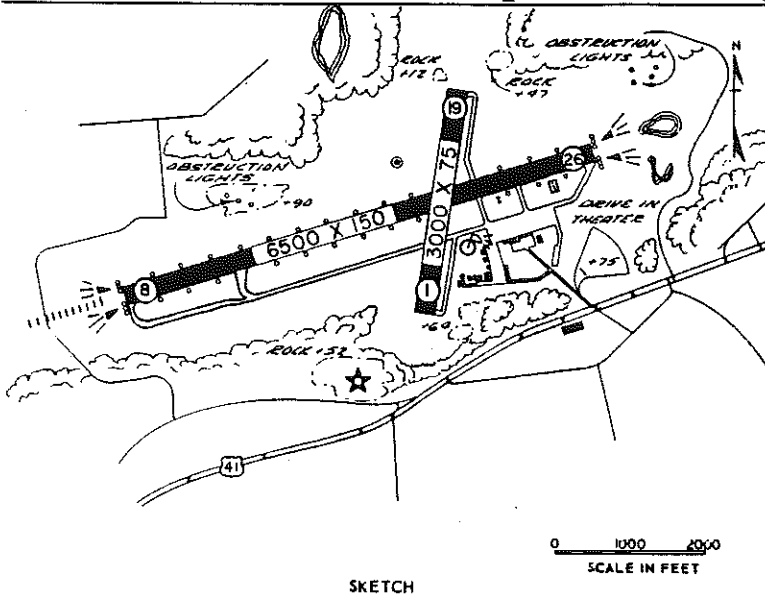
CITY PAIR SERVICE SUMMARIES

Manistee, Blacker Airport

As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Chicago, IL [ORD]							
Great Lakes Aviation, Ltd. [ZK]	BE1	19	6	0	114	0	114
Houghton/Hancock, MI [CMX]							
Great Lakes Aviation, Ltd. [ZK]	BE1	19	5	0	95	0	95
Manitowoc, WI [MTW]							
Great Lakes Aviation, Ltd. [ZK]	BE1	19	12	0	228	0	228
Sault Ste. Marie, MI [CIU]							
Great Lakes Aviation, Ltd. [ZK]	BE1	19	13	0	247	0	247
Totals			36	0	684	0	684

Marquette County Airport



Marquette County Airport

Passengers Carried

Marquette County Airport, with 80,074 total passengers, experienced a very minor 0.6 percent decrease in 1989 from the previous year. Historically, Marquette experienced a decline in total passengers in 1986 and 1987. The 1988 increase put the facility at the highest level since 1979. The 1989 level is only 6.3 percent below that of 1978, the last year of government regulation of routes and fares. Monthly figures were five year highs in June, from August through October and in December. The remaining months were lower than their corresponding 1988 levels. Marquette ranked tenth in the state in total passengers with 0.3 percent of the statewide total. Marquette is the busiest airport in the upper peninsula, accounting for 44.5 percent of all total passengers in this group.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	33,718	34,233	67,951	-20.0%
1981	29,610	28,975	58,585	-13.8%
1982	27,255	26,624	53,879	-8.0%
1983	32,942	32,815	65,757	22.0%
1984	35,898	36,258	72,156	9.7%
1985	38,171	37,039	75,210	4.2%
1986	35,085	34,847	69,932	-7.0%
1987	32,196	31,282	63,478	-9.2%
1988	40,978	39,552	80,530	26.9%
1989	40,505	39,569	80,074	-0.6%

Service Supplied

As of December 31, 1989, Marquette was served by three airlines, one of which provides only one arrival per week. Service is provided by American Eagle and Northwest AirlinK (Mesaba Aviation). An arrival listing is still shown in the schedules for Simmons Airlines despite their absorption by

AMR Eagle. Marquette County Airport has nonstop service from six cities; up three from the previous year. To service from Detroit, Green Bay, WI and Houghton/Hancock were added flights from Chicago O'Hare, IL; Escanaba and Traverse City. There were 83 weekly arrivals, up six from 1988. Twenty-one weekly arrivals (25.3 percent) were from a hub airport. Of the 3,324 weekly arriving seats, all but 36 (1.1 percent) were by pressurized propeller aircraft. The remainder were provided by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

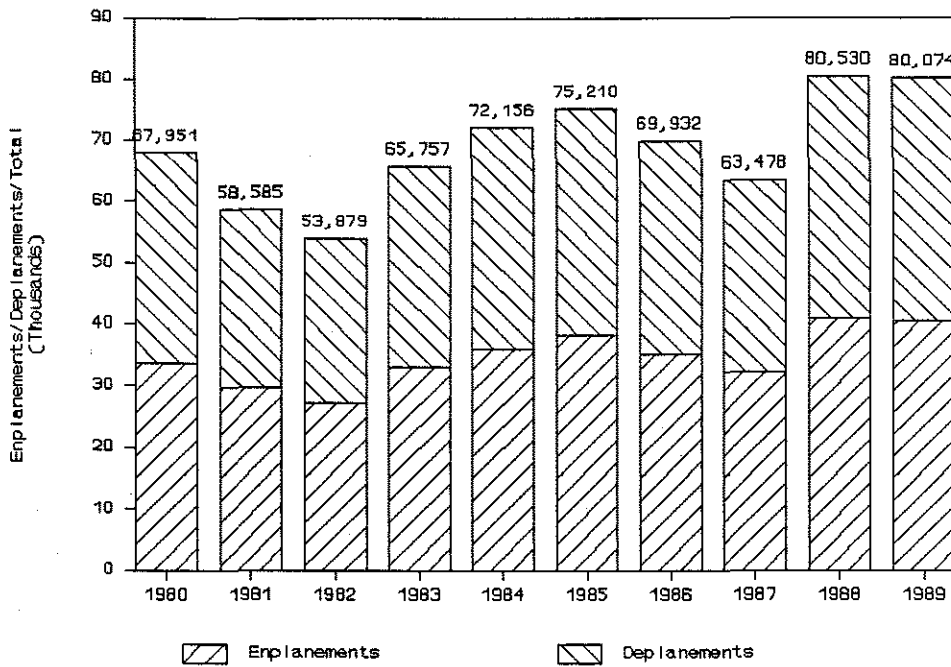
Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	3	7	0	41	34	75
1987	3	7	0	48	34	82
1988	3	3	0	27	50	77
1989	3	6	0	82	1	83

WEEKLY ARRIVING SEATS

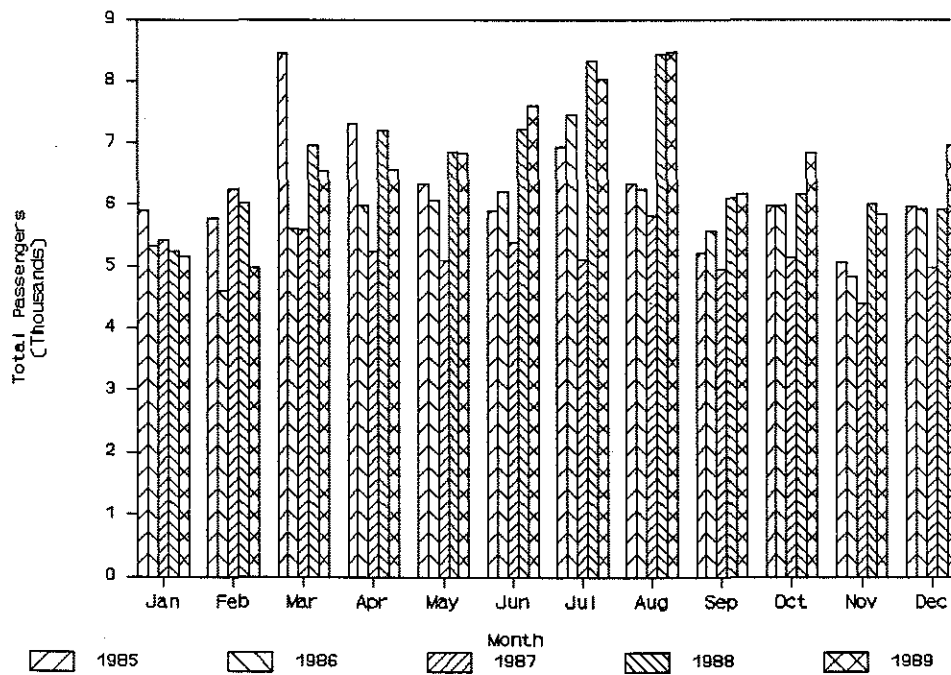
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	1,886	1,224	3,110
1987	0	2,208	1,224	3,432
1988	0	1,242	1,800	3,042
1989	0	3,288	36	3,324

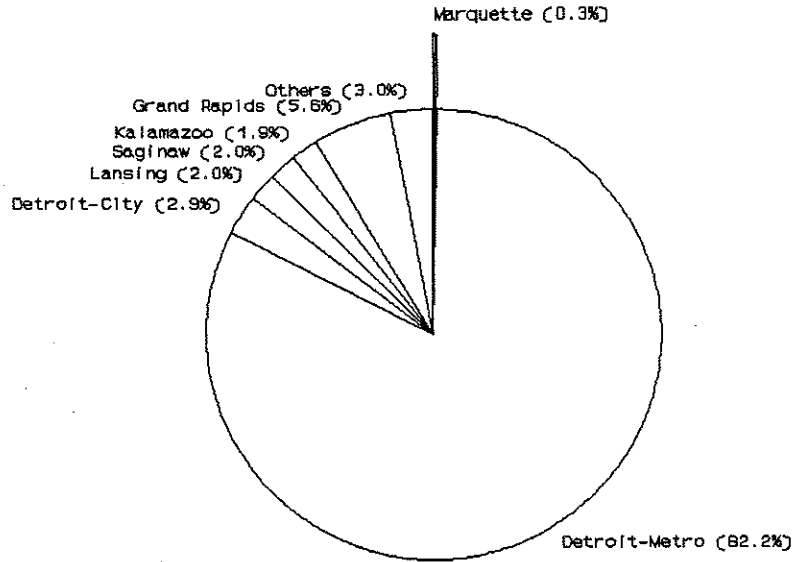
1980 - 1989 ANNUAL TOTAL PASSENGERS Marquette County Airport



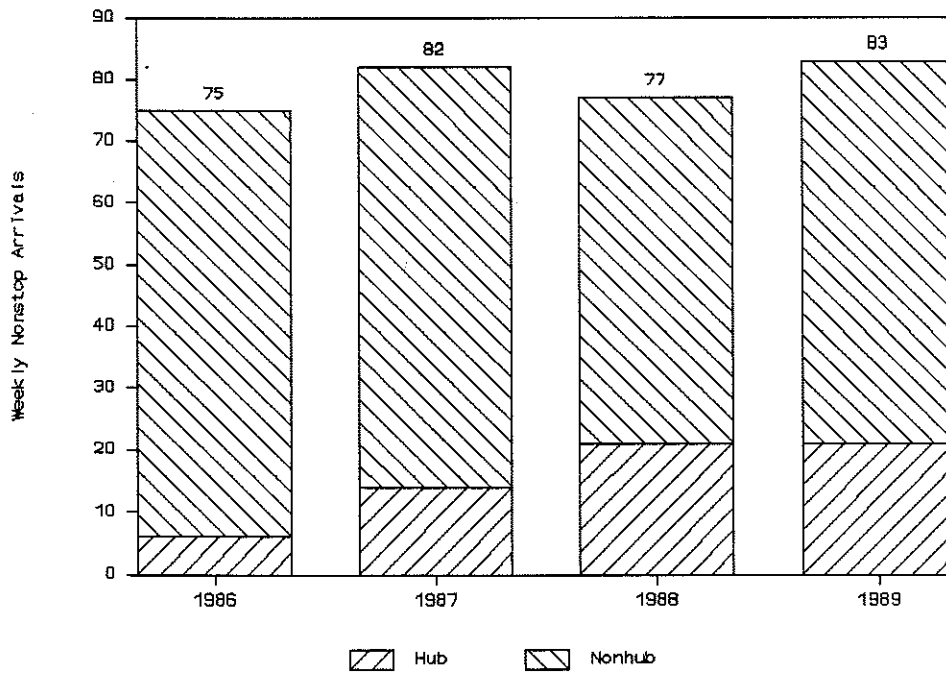
1985 - 1989 MONTHLY TOTAL PASSENGERS Marquette County Airport



1989 PASSENGER LEVEL COMPARISON Marquette County Airport



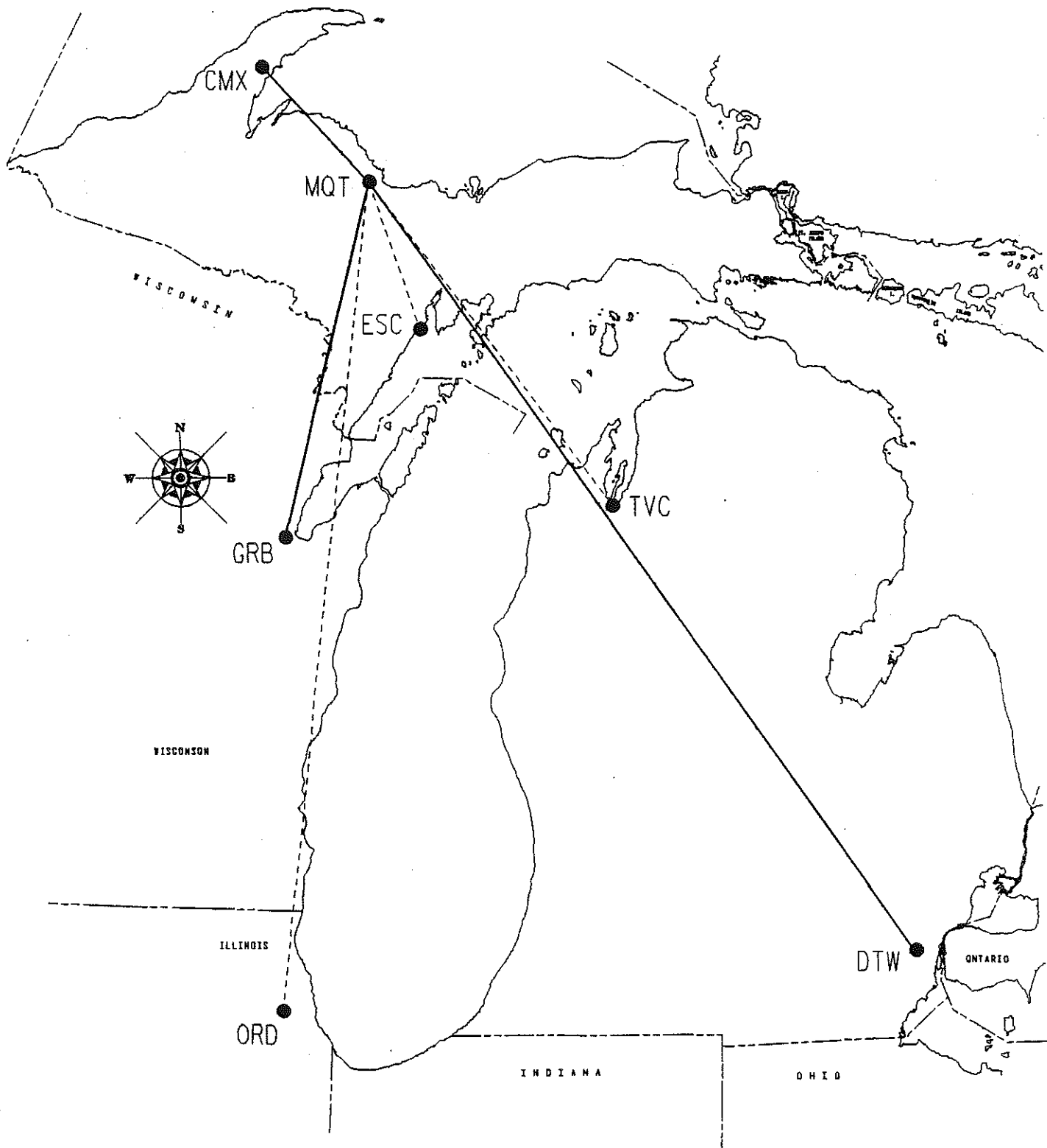
NONSTOP ARRIVALS FROM HUBS/NONHUBS Marquette County Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Marquette County Airport

As of December 31, 1989



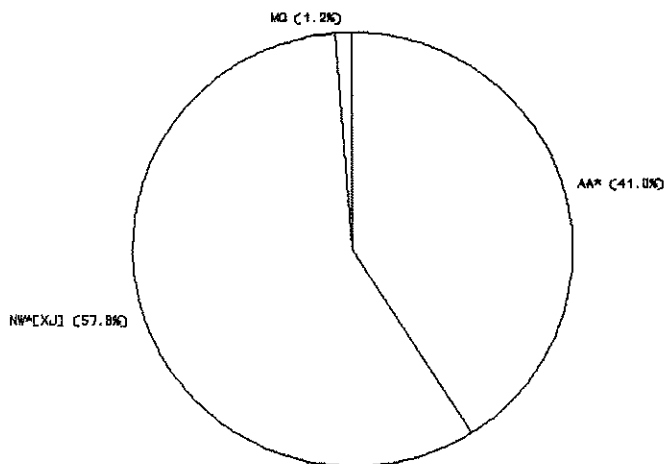
Discontinued Since 1988

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Flown in 1988 and 1989

New Since 1988

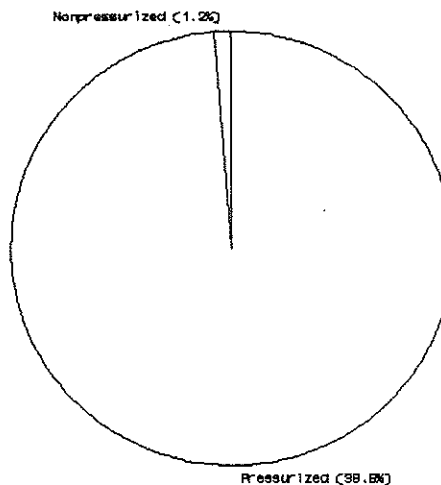
PERCENTAGE ARRIVALS
BY CARRIER

Marquette County Airport



PERCENTAGE ARRIVALS BY
AIRCRAFT TYPE

Marquette County Airport

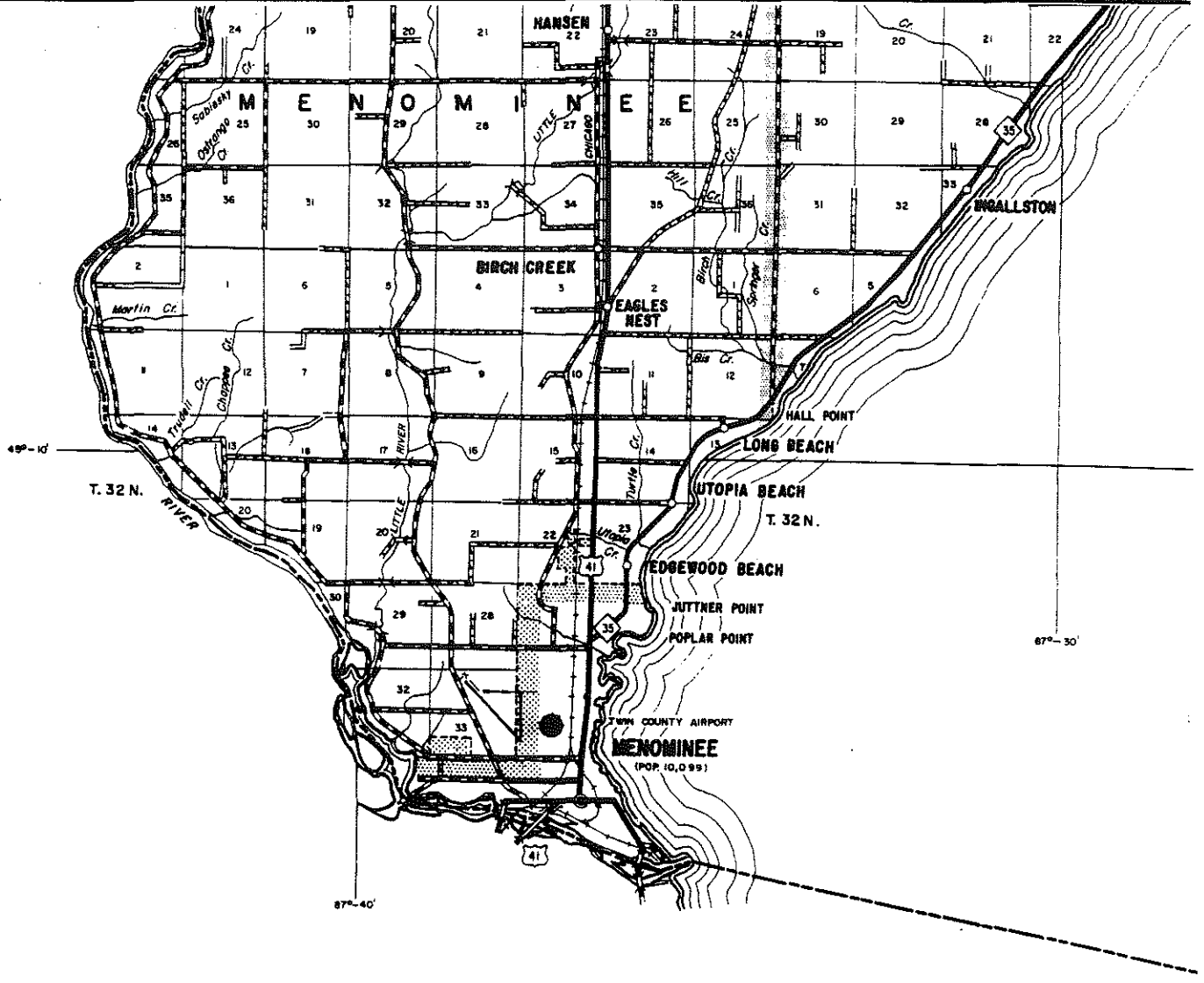
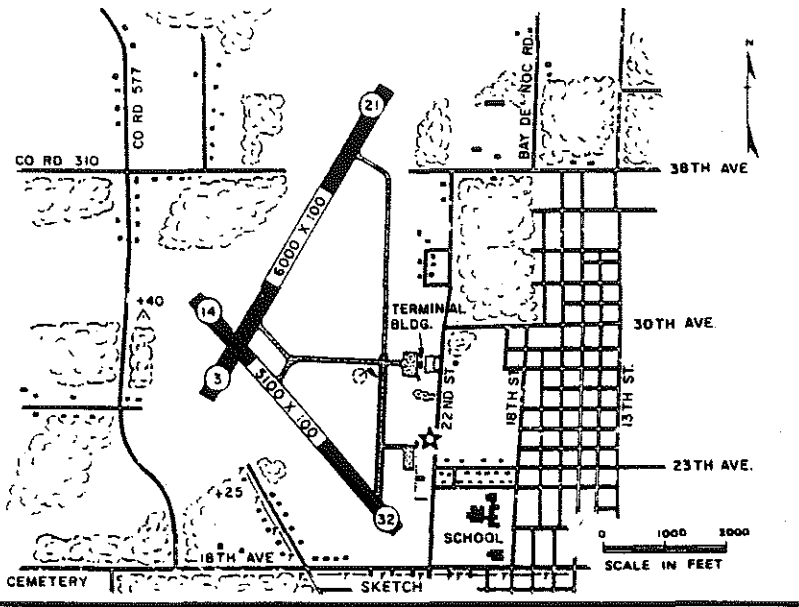


CITY PAIR SERVICE SUMMARIES

Marquette County Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Chicago, IL [ORD] American Eagle [AA*]	ATR	46	7	0	322	0	322
Detroit, MI [DTW] Northwest Airlink(Mesaba Avtn.)[NW*]	F27	48	14	0	672	0	672
Escanaba, MI [ESC] American Eagle [AA*]	ATR	46	7	0	322	0	322
Green Bay, WI [GRB] American Eagle [AA*]	ATR	46	20	0	920	0	920
Houghton/Hancock, MI [CMX] Northwest Airlink(Mesaba Avtn.)[NW*]	F27	48	14	0	672	0	672
Northwest Airlink(Mesaba Avtn.)[NW*]	SWM	19	13	0	247	0	247
Simmons Airlines [MQ]	SH6	36	1	0	0	36	36
Traverse City, MI [TVC] Northwest Airlink(Mesaba Avtn.)[NW*]	SWM	19	7	0	133	0	133
Totals			83	0	3,288	36	3,324

Menominee/Marinette, Twin County Airport



Menominee/Marinette, Twin County Airport

Passengers Carried

Twin County Airport, with 4,251 total passengers, experienced a 17.0 percent increase in 1989 over the previous year. With the exception of 1984, Menominee experienced a decline in total passengers in the period 1978 through 1986. The 1989 increase represents the second straight year of increase and places the facility 81.1 percent below its 1978 level, the last year of government regulation of routes and fares. Monthly figures were five year highs in all months except July and December. These two months were exceeded by their 1988 levels. Menominee/Marinette ranked twenty-first in the state in total passengers with less than 0.1 percent of the statewide total. Twin County Airport is one of four Michigan cities receiving federal monies under the Essential Air Service subsidy program.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	10,211	9,887	20,098	-7.2%
1981	3,959	4,079	8,038	-60.0%
1982	2,206	2,327	4,533	-43.6%
1983	1,494	1,675	3,169	-30.1%
1984	1,571	1,615	3,186	0.5%
1985	1,056	1,062	2,118	-33.5%
1986	641	667	1,308	-38.2%
1987	1,158	1,122	2,280	74.3%
1988	1,875	1,757	3,632	59.3%
1989	2,151	2,100	4,251	17.0%

Service Supplied

As of December 31, 1989, Menominee/Marinette showed service listings by two carriers: Alliance Airlines and Great Lakes Aviation. As Great Lakes Aviation acquired Alliance Airlines prior to the 1988 survey, the two carriers are operated by the same airline.

The reason for the continued listing of Alliance Airlines is unknown. Twin County Airport had nonstop service from the same three cities as the previous year. There were 55 weekly arrivals, an increase of eleven over 1988. Twenty-five of the weekly arrivals were from a hub airport. Of the 990 weekly arriving seats, 950 (96.0 percent) were by pressurized propeller and 40 (4.0 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	2	2	0	0	29	29
1987	3	3	0	0	33	33
1988	2	3	0	39	5	44
1989	2	3	0	50	5	55

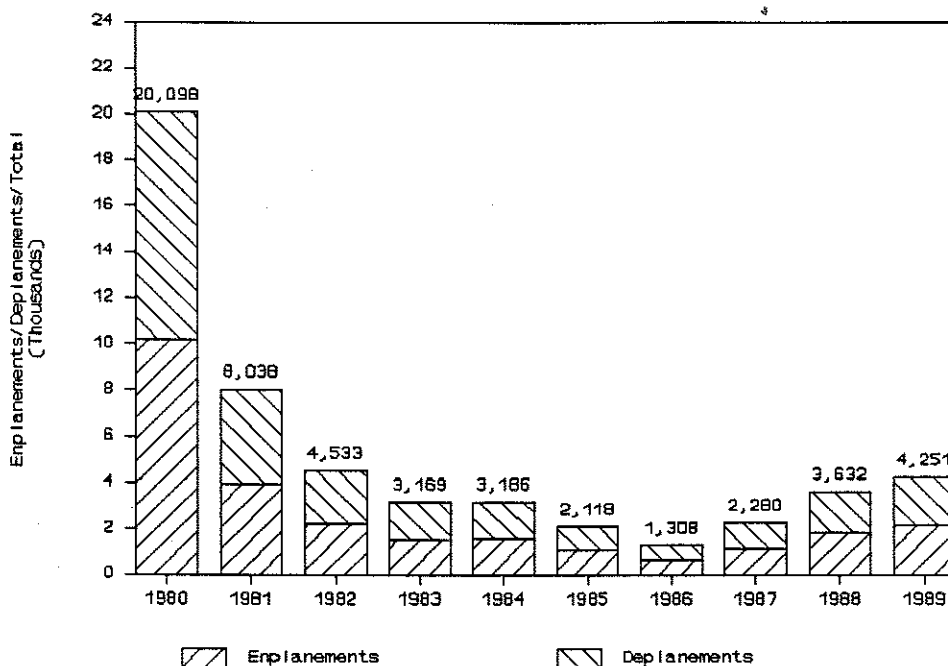
WEEKLY ARRIVING SEATS

As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	0	232	232
1987	0	0	264	264
1988	0	741	40	781
1989	0	950	40	990

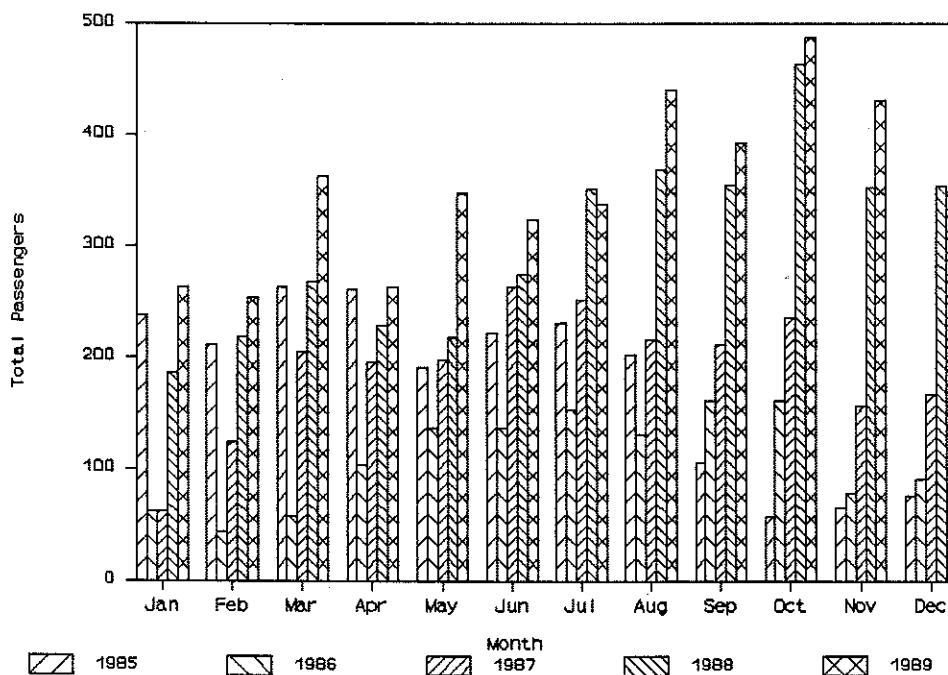
1980 - 1989 ANNUAL TOTAL PASSENGERS

Menominee/Marinette, Twin County Airport

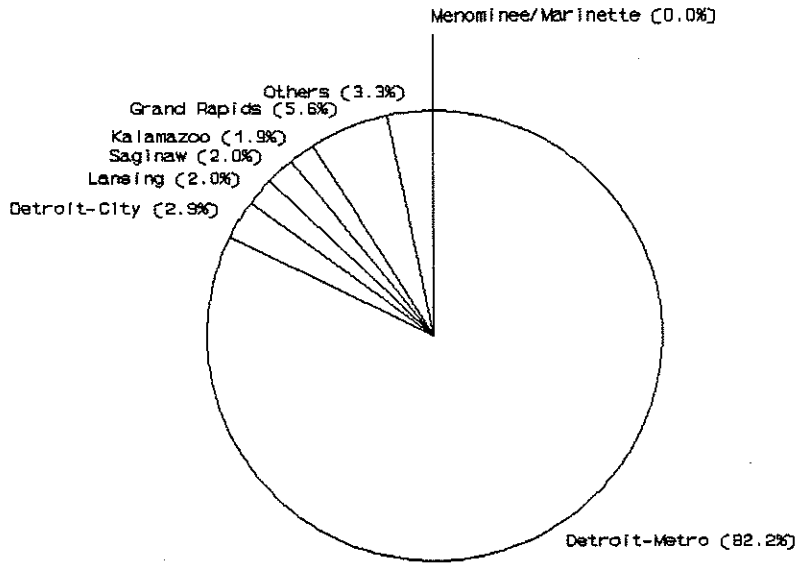


1985 - 1989 MONTHLY TOTAL PASSENGERS

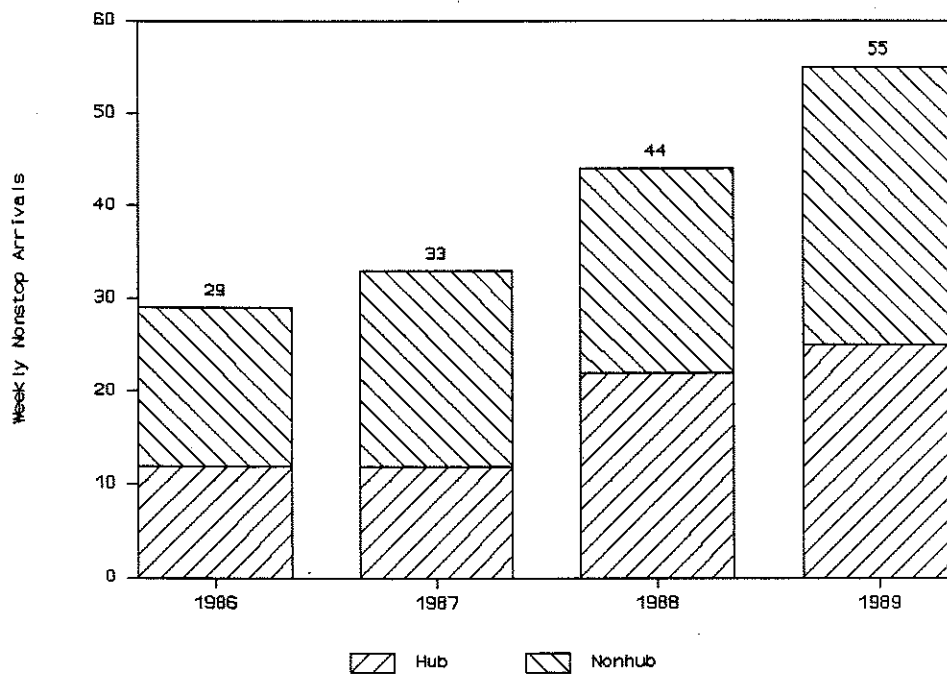
Menominee/Marinette, Twin County Airport



1989 PASSENGER LEVEL COMPARISON Menominee/Marinette, Twin County Airport



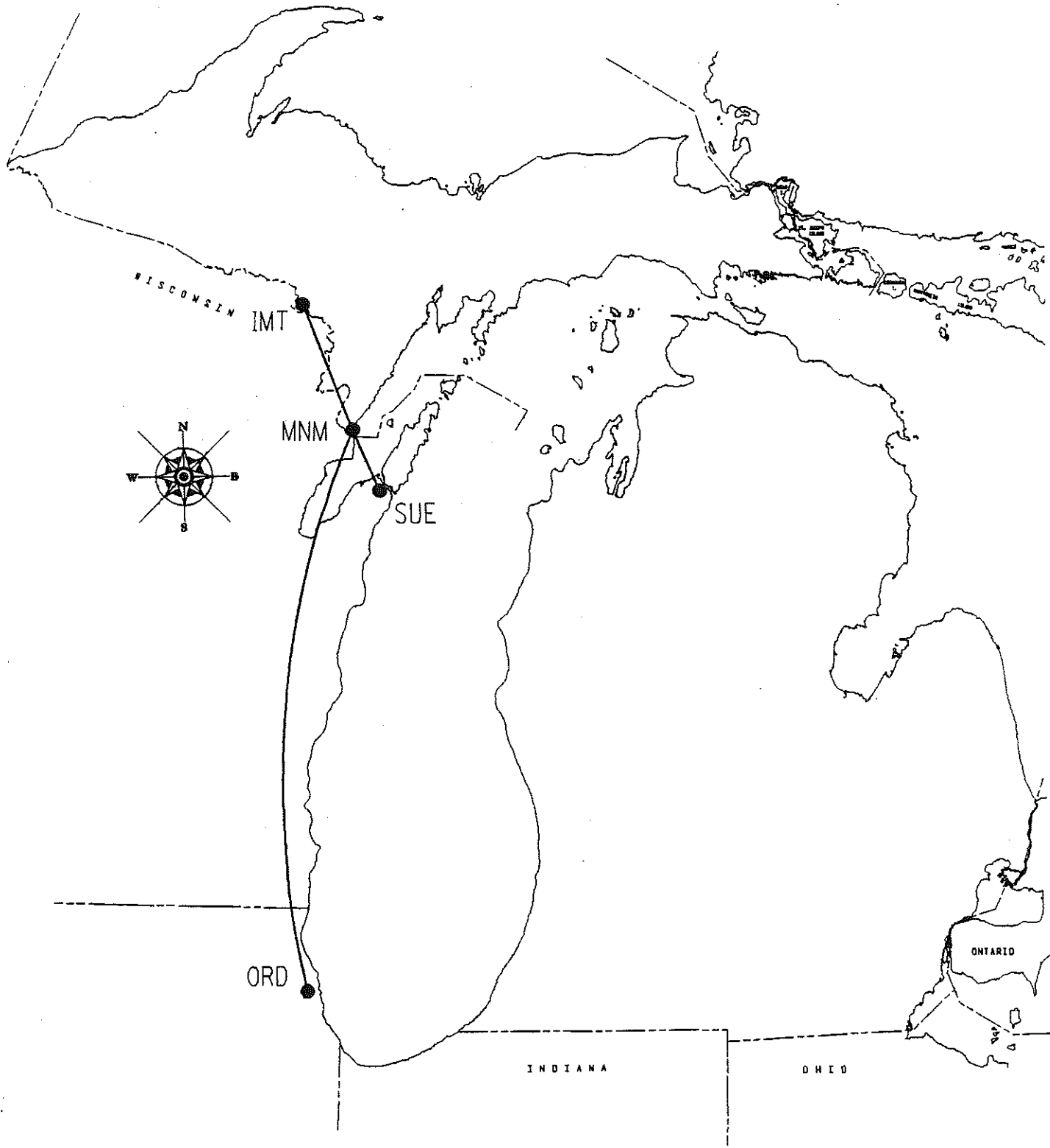
NONSTOP ARRIVALS FROM HUBS/NONHUBS Menominee/Marinette, Twin County Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Menominee/Marinette, Twin County Airport

As of December 31, 1989



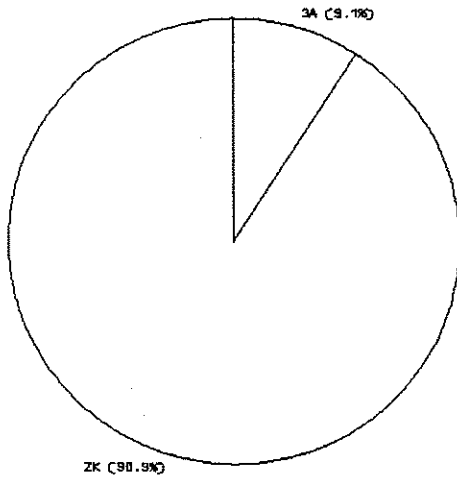
Discontinued Since 1988

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Flown in 1988 and 1989

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New Since 1988

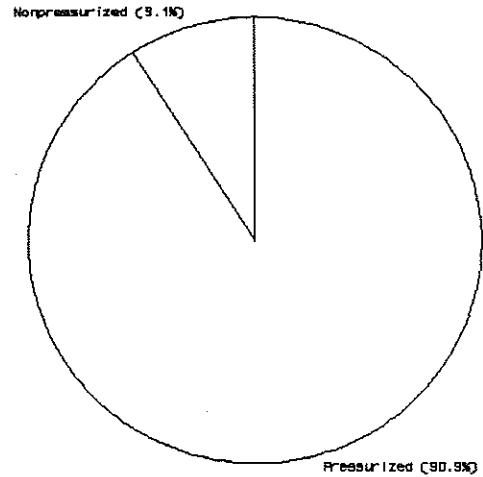
**PERCENTAGE ARRIVALS
BY CARRIER**

Menominee/Marinette, Twin County Airport



**PERCENTAGE ARRIVALS BY
AIRCRAFT TYPE**

Menominee/Marinette, Twin County Airport

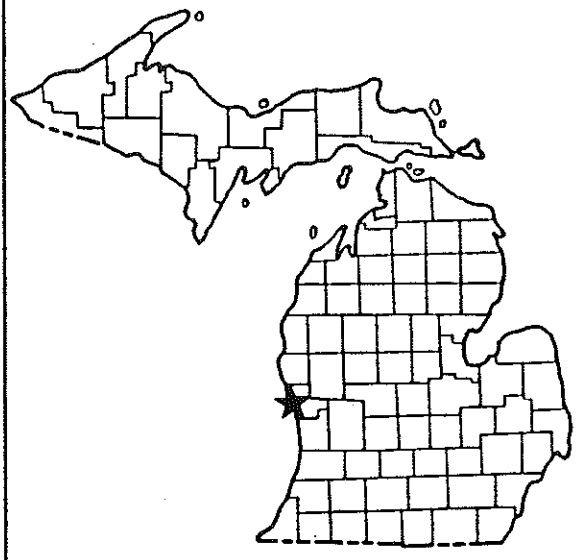
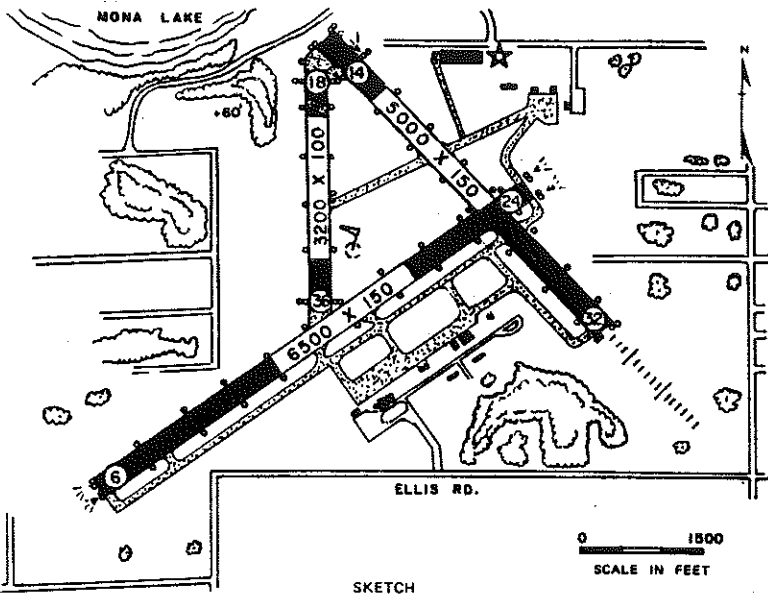


CITY PAIR SERVICE SUMMARIES

Menominee/Marinette, Twin County Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Chicago, IL [ORD] Great Lakes Aviation, Ltd. [ZK]	BE1	19	25	0	475	0	475
Iron Mountain, MI [IMT] Great Lakes Aviation, Ltd. [ZK]	BE1	19	25	0	475	0	475
Sturgeon Bay, WI [SUE] Alliance Airlines [3A]	CNA	8	5	0	0	40	40
Totals			55	0	950	40	990

Muskegon County Airport



Muskegon County Airport

Passengers Carried

Muskegon County Airport, with 87,029 total passengers, experienced a 17.5 percent increase in 1988 over the previous year. Historically, Muskegon has experienced declines in total passengers in every year since 1978 except 1986 and 1989. Despite this, the 1989 increase places the facility only 49.8 percent below the 1978 level, the last year of government regulation of routes and fares. Monthly figures were five year lows from January through March, but exceeded their 1988 levels from April through September. Monthly figures were five year highs from October through December. Muskegon ranked ninth in the state in total passengers with 0.3 percent of the statewide total.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	53,040	56,172	109,212	-34.9%
1981	50,762	49,495	100,257	-8.2%
1982	48,612	46,036	94,648	-5.6%
1983	44,690	44,413	89,103	-5.9%
1984	43,986	43,802	87,788	-1.5%
1985	44,468	42,314	86,782	-1.1%
1986	48,751	46,921	95,672	10.2%
1987	38,773	38,737	77,510	-19.0%
1988	37,441	36,617	74,058	-4.5%
1989	43,848	43,181	87,029	17.5%

Service Supplied

As of December 31, 1989, Muskegon was served by four airlines. Added to service by American Eagle and The Midway Connection (Fisher Bros. Aviation) was service by Midwest Express Connection (Skyway Airlines) and Northwest Airlink (Mesaba Airlines). Between the survey dates Muskegon County Airport added nonstop

service from the hub airport of Milwaukee, WI and regained service from the Detroit Metro hub. Service from the two Chicago, IL hub airports has been maintained. There were 109 weekly arrivals, up 41 from 1988. Of the 2,666 weekly arriving seats, 798 (29.9 percent) were by pressurized propeller and 1,868 (70.1 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

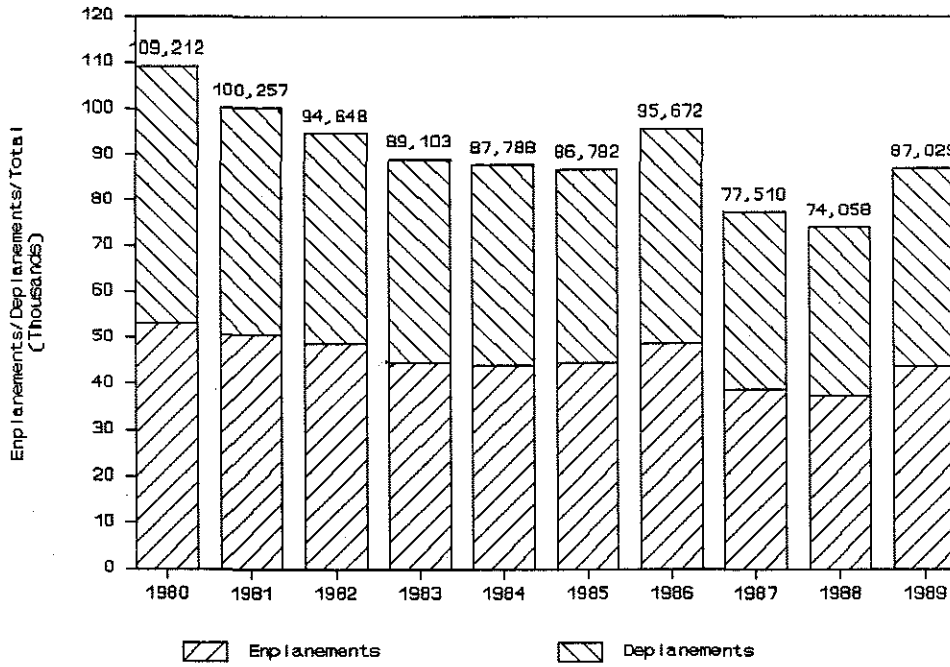
Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	2	3	0	38	25	63
1987	3	4	0	14	85	99
1988	2	2	0	0	68	68
1989	4	4	0	42	67	109

WEEKLY ARRIVING SEATS

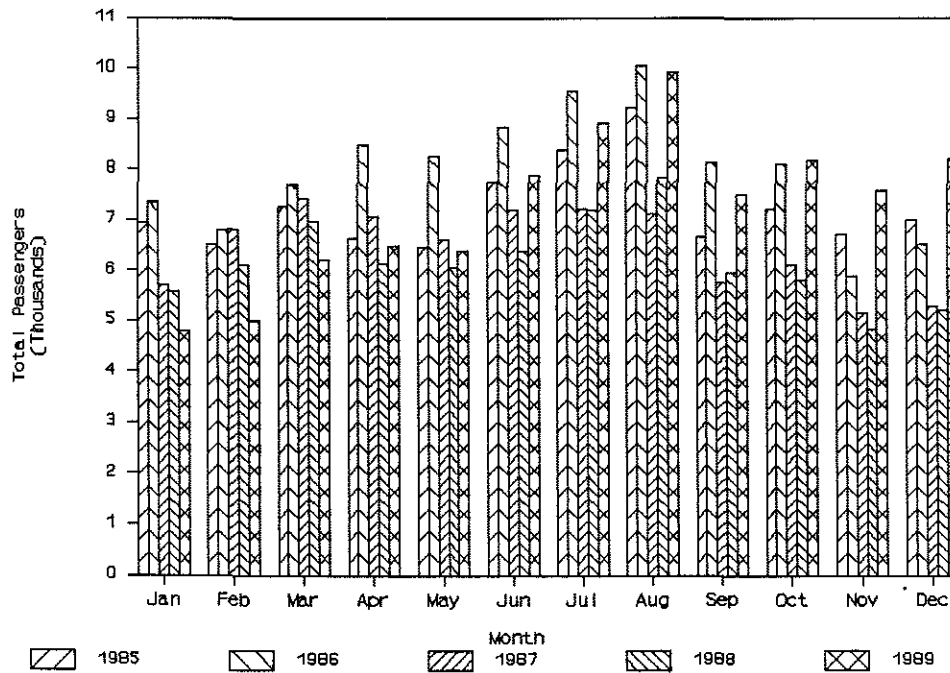
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	1,824	475	2,299
1987	0	644	2,516	3,160
1988	0	0	1,887	1,887
1989	0	798	1,868	2,666

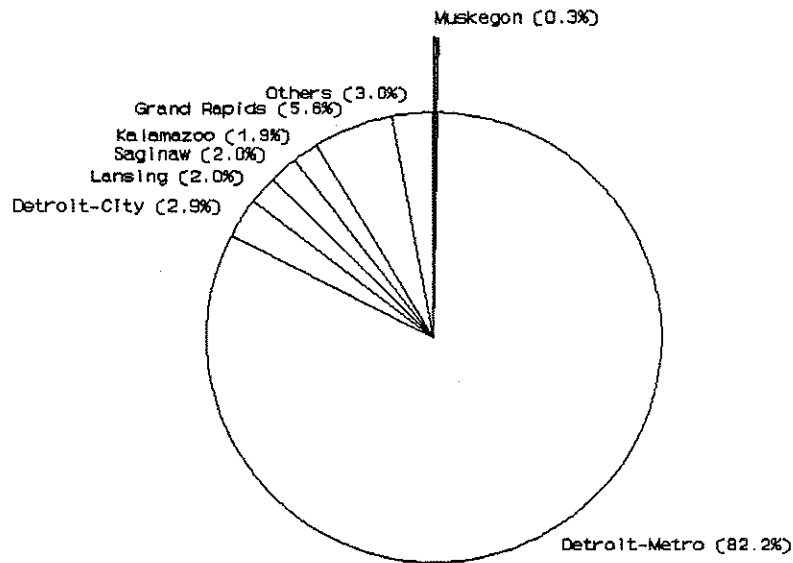
1980 - 1989 ANNUAL TOTAL PASSENGERS Muskegon County Airport



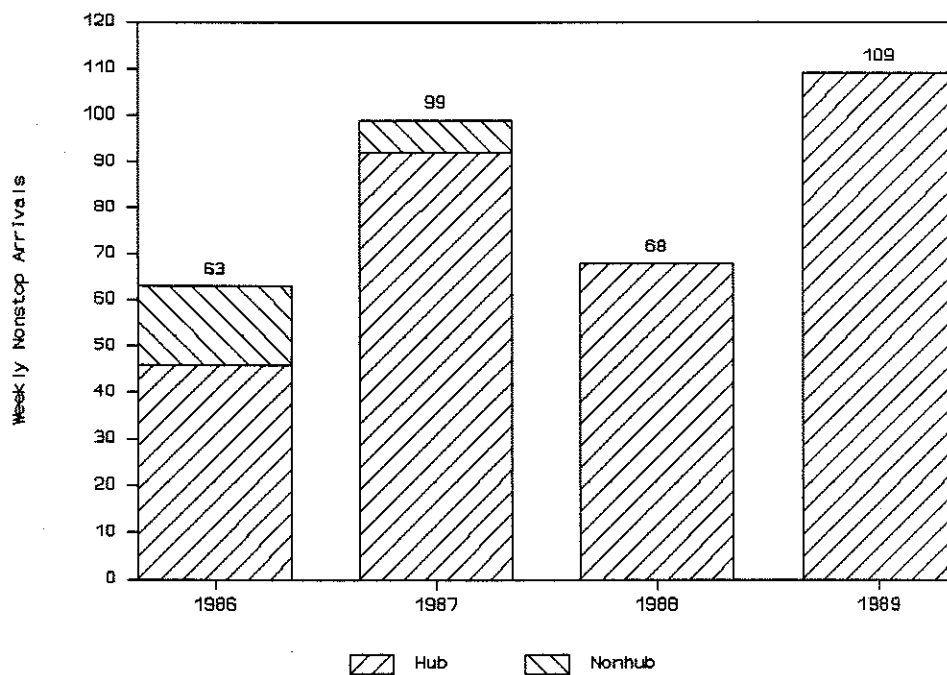
1985 - 1989 MONTHLY TOTAL PASSENGERS Muskegon County Airport



1989 PASSENGER LEVEL COMPARISON Muskegon County Airport



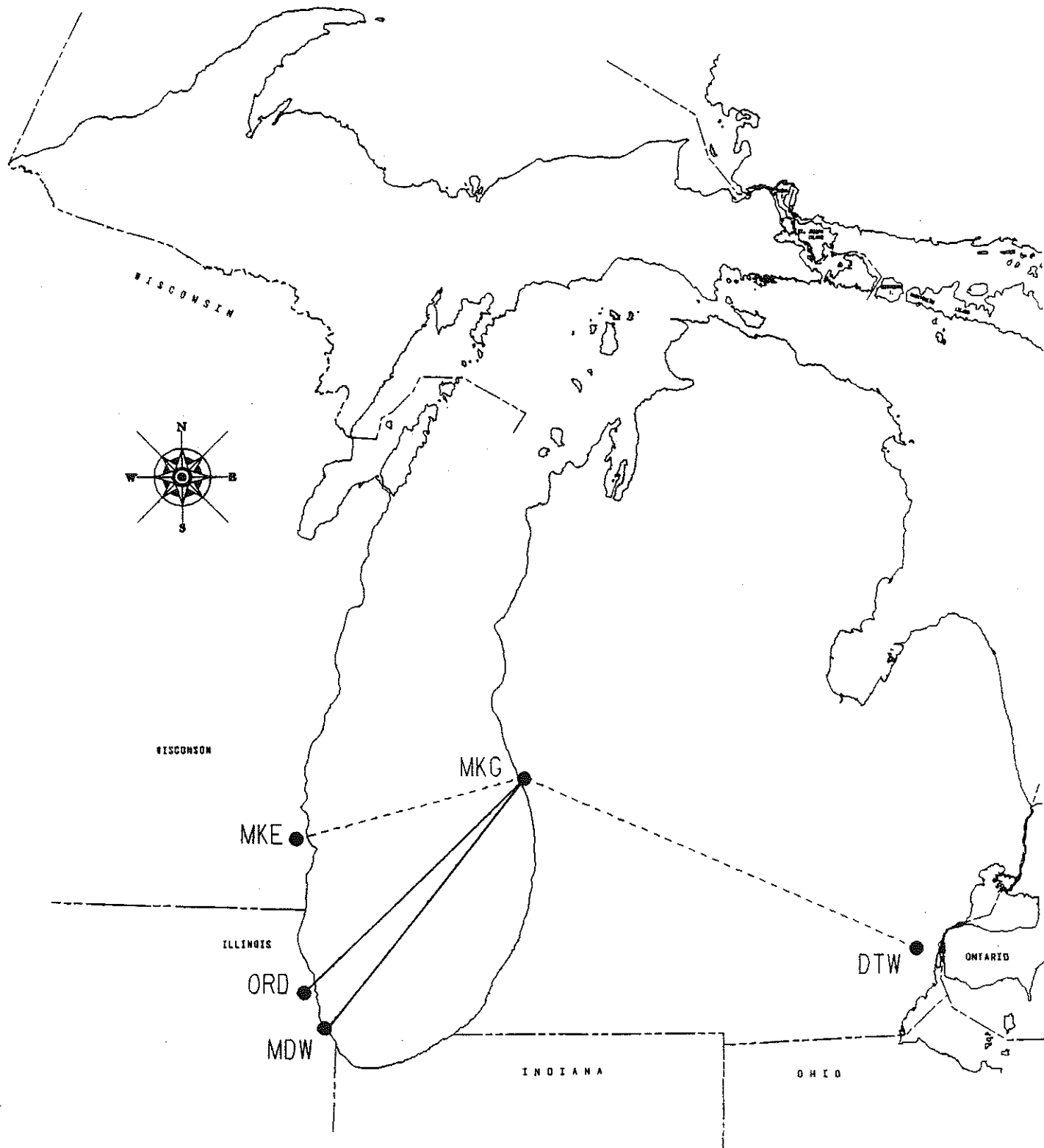
NONSTOP ARRIVALS FROM HUBS/NONHUBS Muskegon County Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Muskegon County Airport

As of December 31, 1989



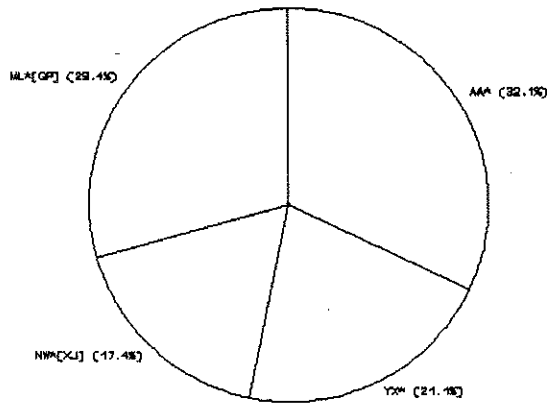
Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

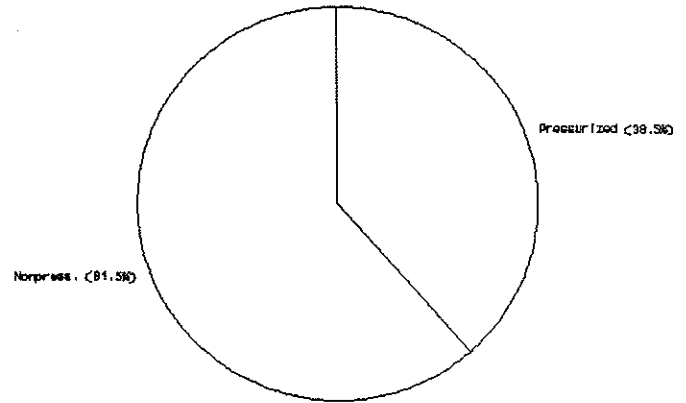
PERCENTAGE ARRIVALS
BY CARRIER

Muskegon County Airport



PERCENTAGE ARRIVALS BY
AIRCRAFT TYPE

Muskegon County Airport

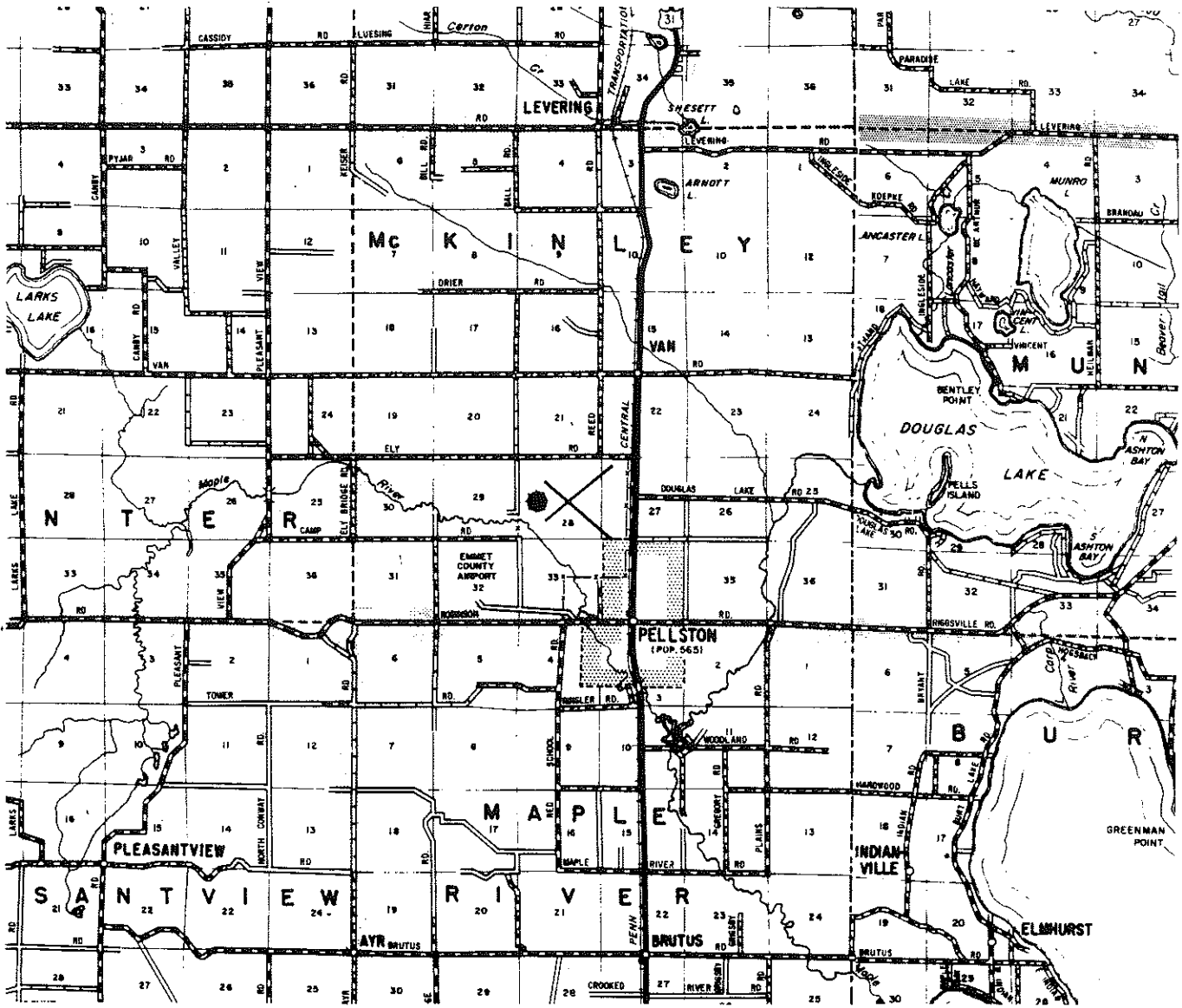
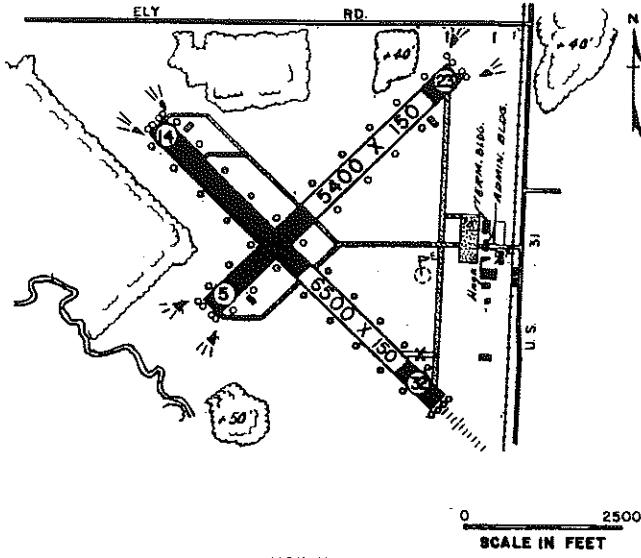


CITY PAIR SERVICE SUMMARIES

Muskegon County Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Chicago, IL [MDW] The Midway Conn.(Fisher Bros.)[ML*]	DO8	19	32	0	0	608	608
Chicago, IL [ORD] American Eagle [AA*]	SH6	36	35	0	0	1,260	1,260
Detroit, MI [DTW] Northwest Airlin(Mesaba Avtn.)[NW*]	SWM	19	19	0	361	0	361
Milwaukee, WI [MKE] Midwest Exp.Conn.(Skyway Arln.)[YX*]	BE1	19	23	0	437	0	437
Totals			109	0	798	1,868	2,666

Pellston, Emmet County Airport



Pellston, Emmet County Airport

Passengers Carried

Emmet County Airport, with 38,394 total passengers, experienced a 6.4 percent increase in 1989 from the previous year. Historically, Pellston has had relatively unstable passenger levels with fluctuations in the range of 30,000 to 42,000 total passengers since 1981. The 1989 increase places the facility at a level 36.7 percent below that of 1978, the last year of government regulation of routes and fares. Monthly passenger figures were somewhat irregular. While five year highs were experienced in April, September, November and December, five year lows occurred in January, June, July and August. The remaining months exceeded their 1988 levels. Pellston ranked eleventh in the state in total passengers with 0.2 percent of the statewide total.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	25,457	24,482	49,939	-17.6%
1981	18,624	18,304	36,928	-26.1%
1982	17,307	16,648	33,955	-8.1%
1983	20,154	19,731	39,885	17.5%
1984	20,706	20,833	41,539	4.1%
1985	14,740	15,681	30,421	-26.8%
1986	17,645	16,700	34,345	12.9%
1987	17,936	18,508	36,444	6.1%
1988	18,037	18,047	36,084	-1.0%
1989	19,640	18,754	38,394	6.4%

Service Supplied

As of December 31, 1989, Pellston was served by two carriers. No change in carriers took place between survey dates. To service from Traverse City, the facility added nonstop service from Detroit Metro. There were 34 weekly arrivals, up six from 1988. Of the weekly arrivals, 20 (58.8 percent) were

from a hub airport. All of the 1,024 weekly arriving seats were by pressurized propeller aircraft.

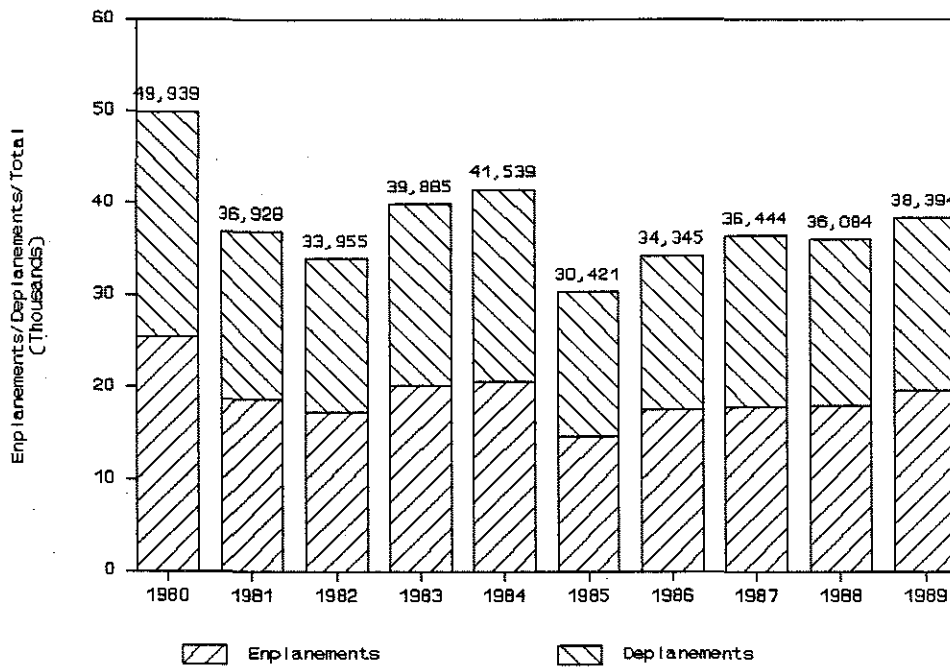
WEEKLY ARRIVALS As of December 31

Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	3	2	0	0	33	33
1987	3	2	0	25	2	27
1988	2	1	0	14	14	28
1989	2	2	0	34	0	34

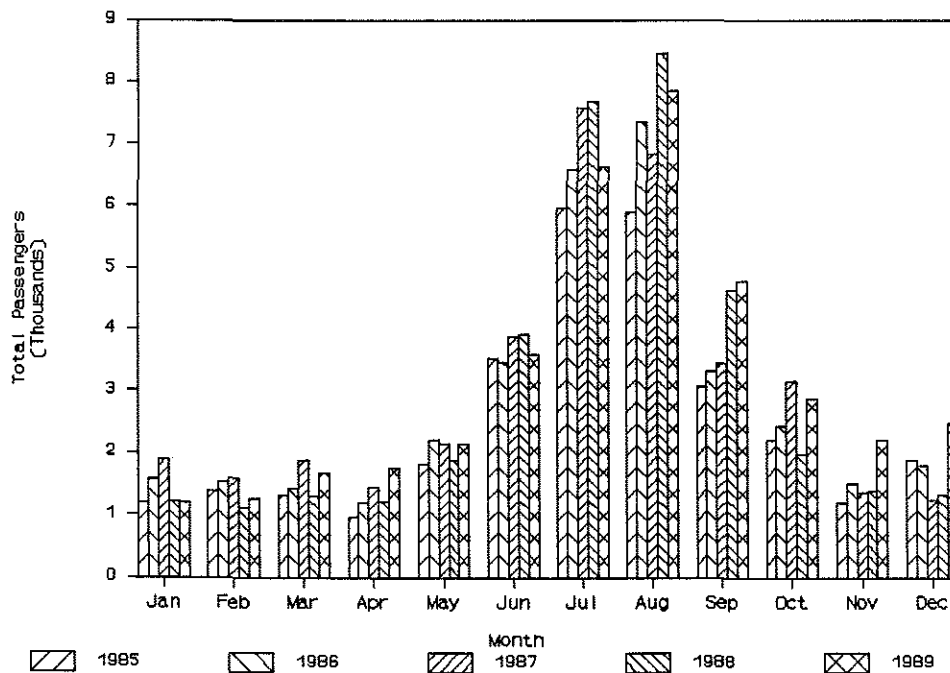
WEEKLY ARRIVING SEATS As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	0	1,188	1,188
1987	0	1,150	72	1,222
1988	0	644	504	1,148
1989	0	1,024	0	1,024

1980 - 1989 ANNUAL TOTAL PASSENGERS Pellston, Emmet County Airport

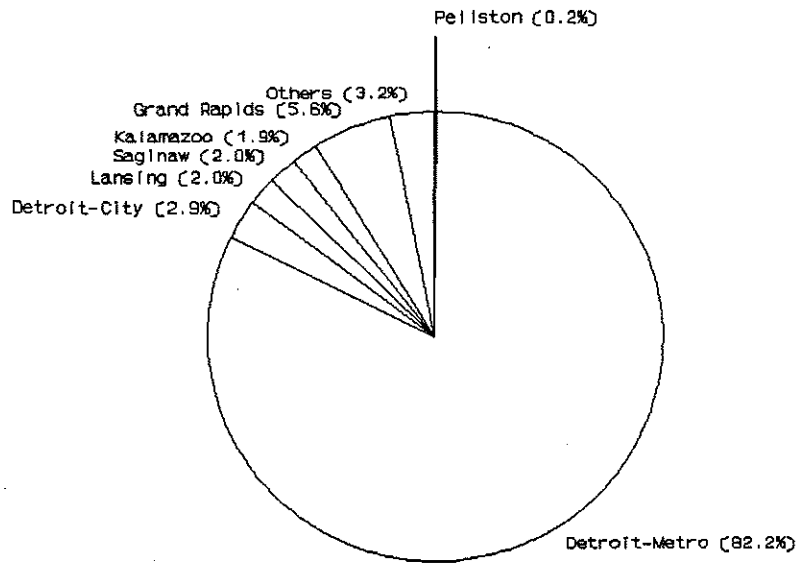


1985 - 1989 MONTHLY TOTAL PASSENGERS Pellston, Emmet County Airport



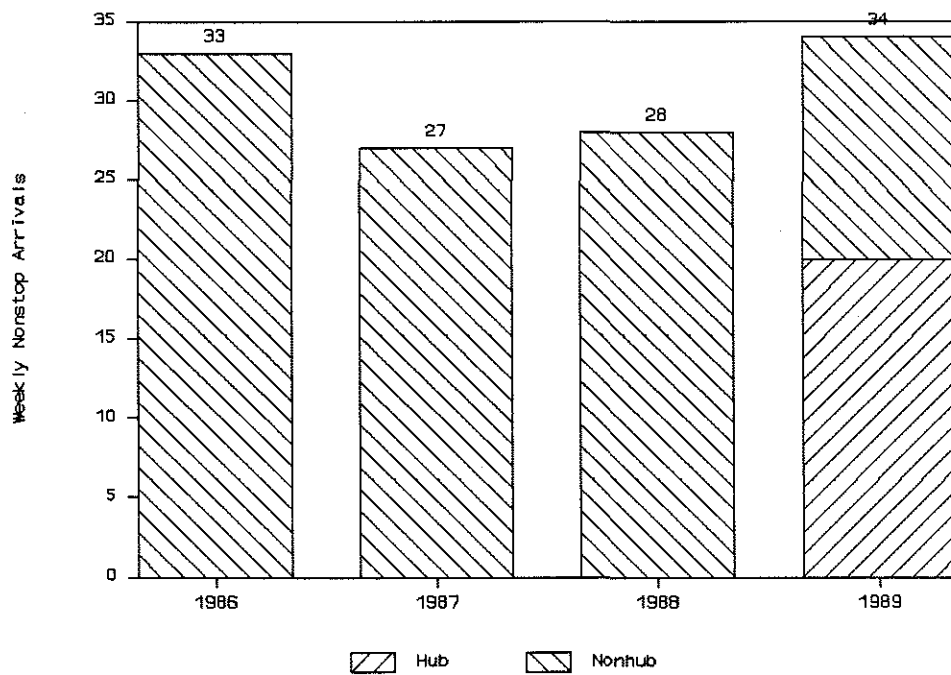
1989 PASSENGER LEVEL COMPARISON

Pellston, Emmet County Airport



NONSTOP ARRIVALS FROM HUBS/NONHUBS

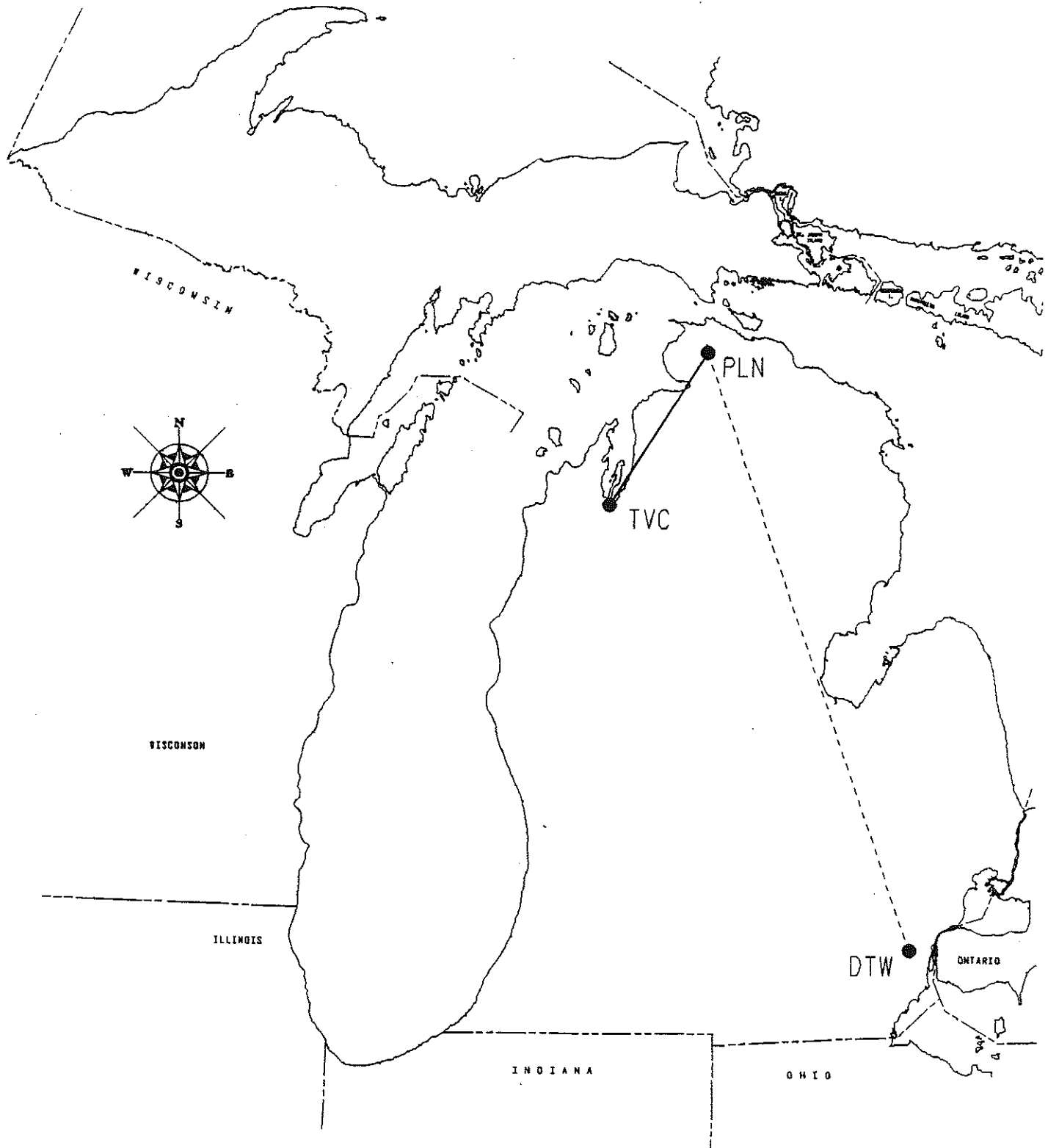
Pellston, Emmet County Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Pellston, Emmet County Airport

As of December 31, 1989

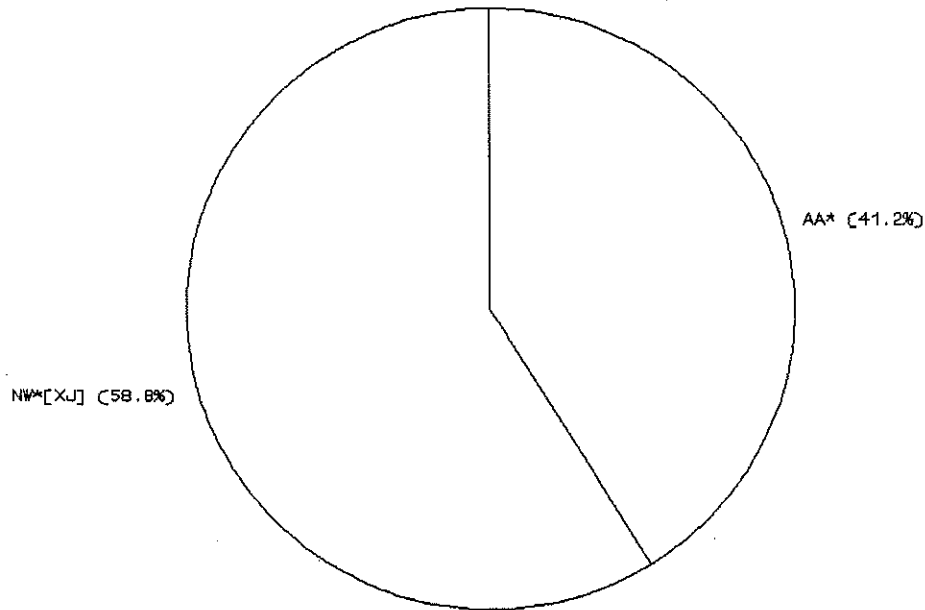


Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

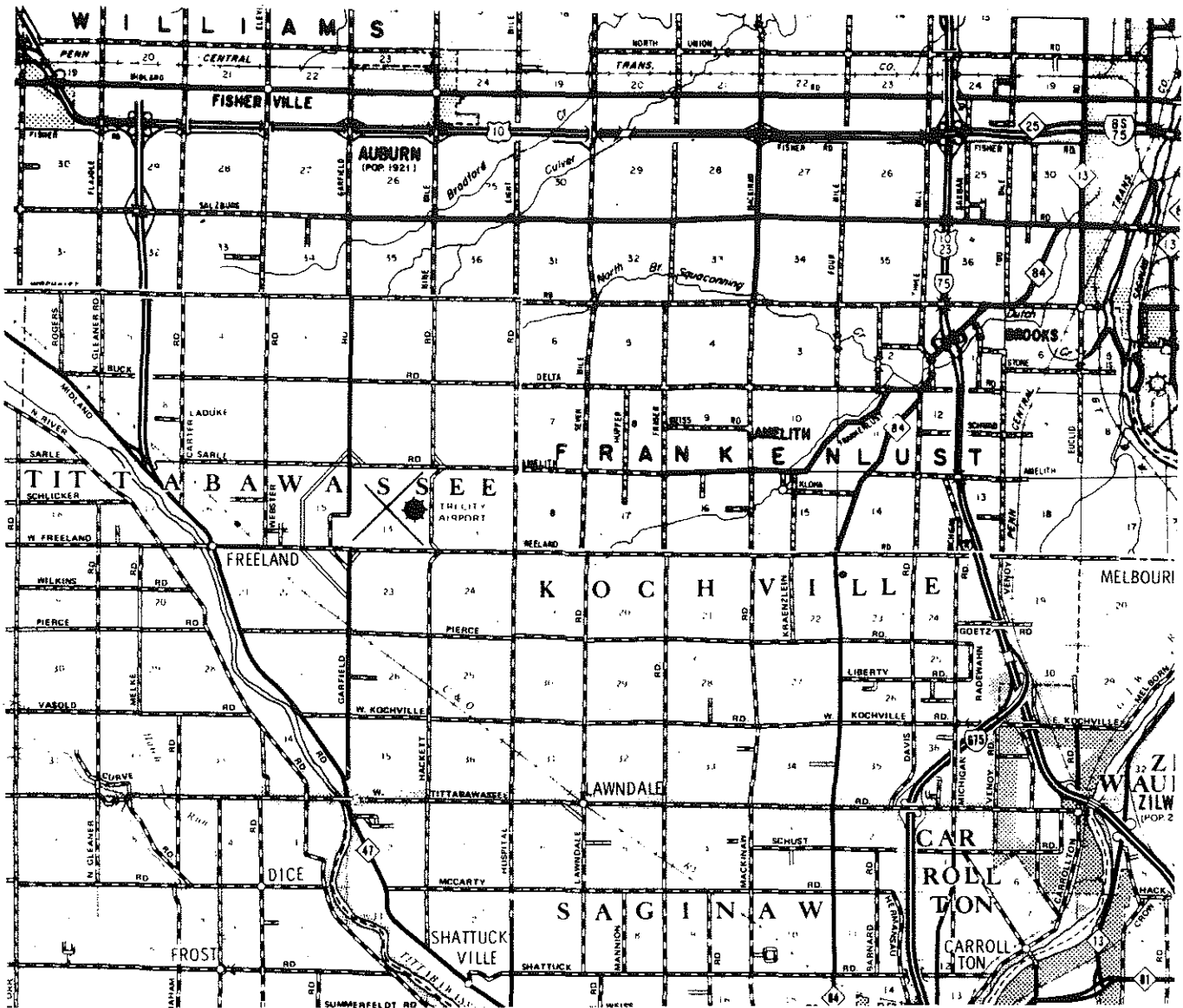
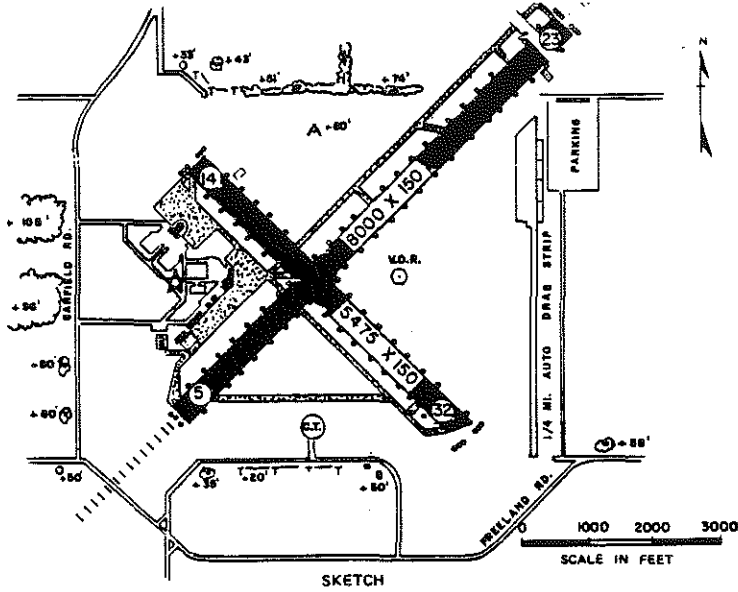
PERCENTAGE ARRIVALS BY CARRIER
Pellston, Emmet County Airport



CITY PAIR SERVICE SUMMARIES
Pellston, Emmet County Regional Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp. Cap.	Weekly Arrivals	Weekly Arriving Seats Available			
			Jet	Pres.	Npres.	Total
Detroit, MI [DTW] Northwest Airlin(Mesaba Avtn.)[NW*]	SWM 19	20	0	380	0	380
Traverse City, MI [TVC] American Eagle [AA*]	ATR 46	14	0	644	0	644
Totals		34	0	1,024	0	1,024

Saginaw, Tri-City International Airport



Saginaw, Tri-City International Airport

Passengers Carried

Tri-City International Airport, with 504,487 total passengers, experienced a 9.7 percent increase in 1989 over the previous year. Historically, Saginaw has enjoyed a growth in total passengers since 1982 with the exception of a slight drop in 1984. The 1989 increase places the facility 11.6 percent above the 1978 level, the last year of government regulation of routes and fares. All monthly passenger figures were higher than their 1988 levels and five year highs occurred in January and February, from June through September and in December. Saginaw ranked fourth in the state in total passengers with 2.0 percent of the statewide total.

ANNUAL PASSENGERS				
Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	190,392	188,190	378,582	-15.2%
1981	155,435	153,173	308,608	-18.5%
1982	150,312	144,413	294,725	-4.5%
1983	163,499	156,801	320,300	8.7%
1984	159,014	158,621	317,635	-0.8%
1985	191,981	188,739	380,720	19.9%
1986	206,131	199,250	405,381	6.5%
1987	220,788	215,286	436,074	7.6%
1988	231,995	228,042	460,037	5.5%
1989	256,828	247,659	504,487	9.7%

Service Supplied

As of December 31, 1989, Saginaw was served by five airlines. Between the survey dates, American Eagle, Air Canada (Air Ontario) and Drummond Island Air terminated service. There was no net loss in carriers, however, as Continental Airlines, their commuter feeder Continental Express (Britt Airways) and Midwest Express Connection (Skyway Airlines) commenced service. Tri-City Airport had nonstop service

from five cities. Service was lost from Alpena, Kalamazoo and Toronto, ONT. Service was started from Cleveland, OH making a net loss of two origins. There were 112 weekly arrivals, down 31 from 1988. Of the weekly arrivals, 95 (84.8 percent) were from a hub airport. Of the 10,583 weekly arriving seats, 9,534 (90.1 percent) were by jet, and 1,049 (9.9 percent) were by pressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

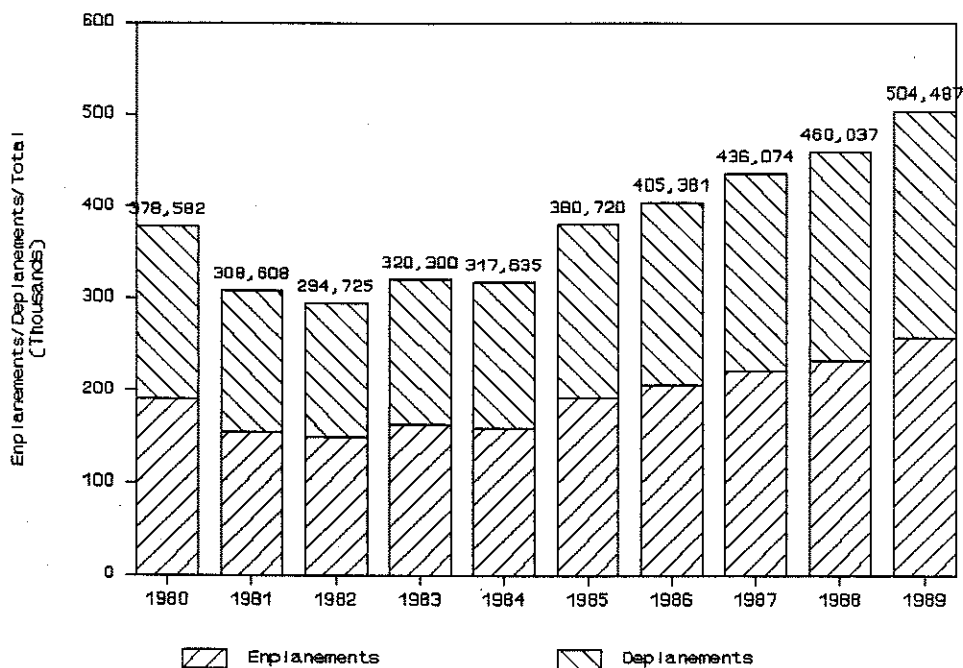
Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	4	6	70	14	40	124
1987	5	5	59	18	20	97
1988	5	7	70	11	62	143
1989	5	5	73	39	0	112

WEEKLY ARRIVING SEATS

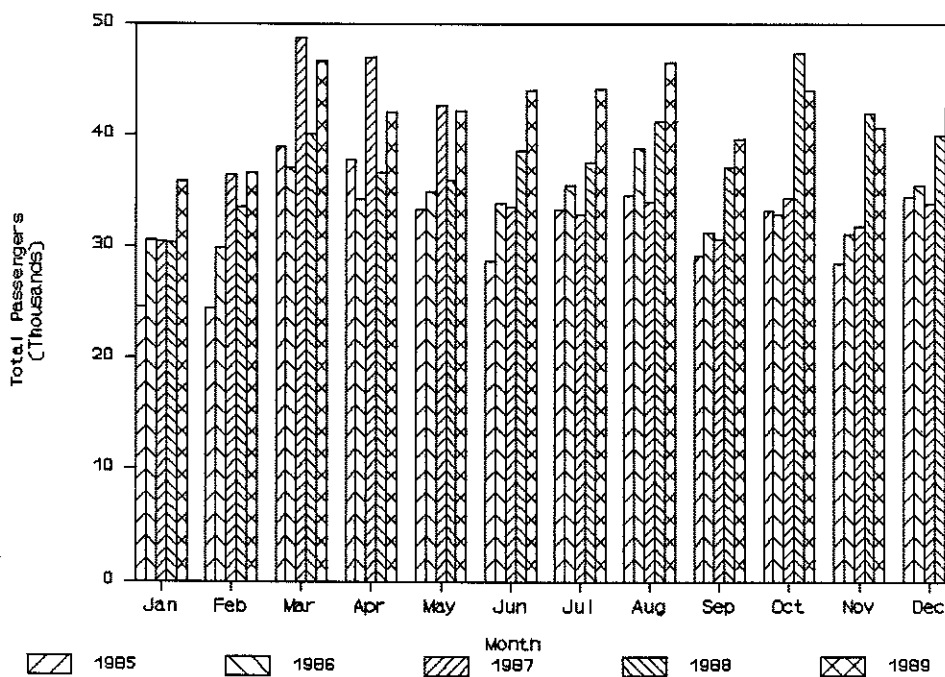
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	8,148	672	1,202	10,022
1987	7,558	545	720	8,823
1988	9,520	198	1,043	10,761
1989	9,534	1,049	0	10,583

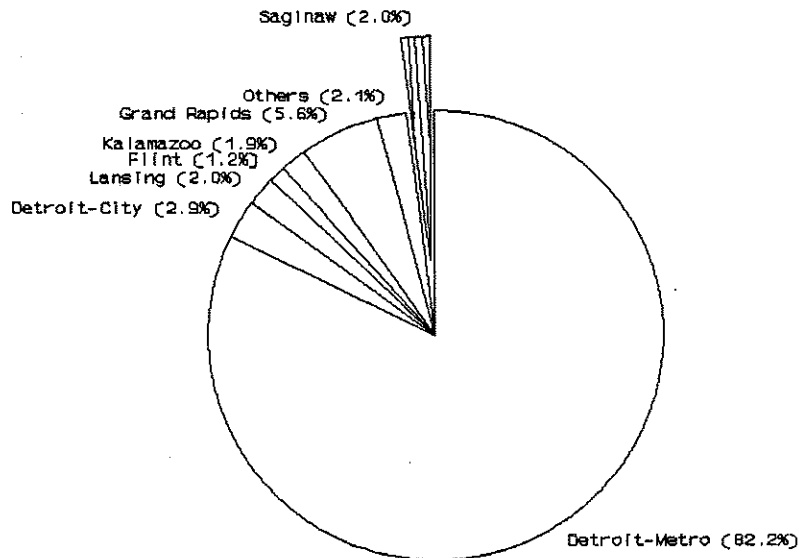
1980 - 1989 ANNUAL TOTAL PASSENGERS Saginaw, Tri-City International Airport



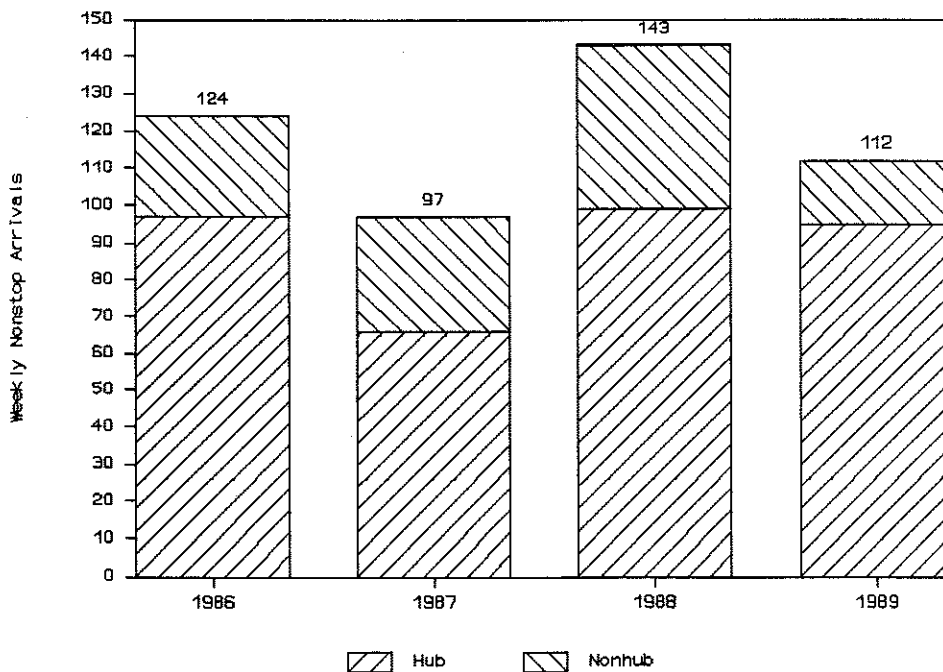
1985 - 1989 MONTHLY TOTAL PASSENGERS Saginaw, Tri-City International Airport



1989 PASSENGER LEVEL COMPARISON Saginaw, Tri-City International Airport



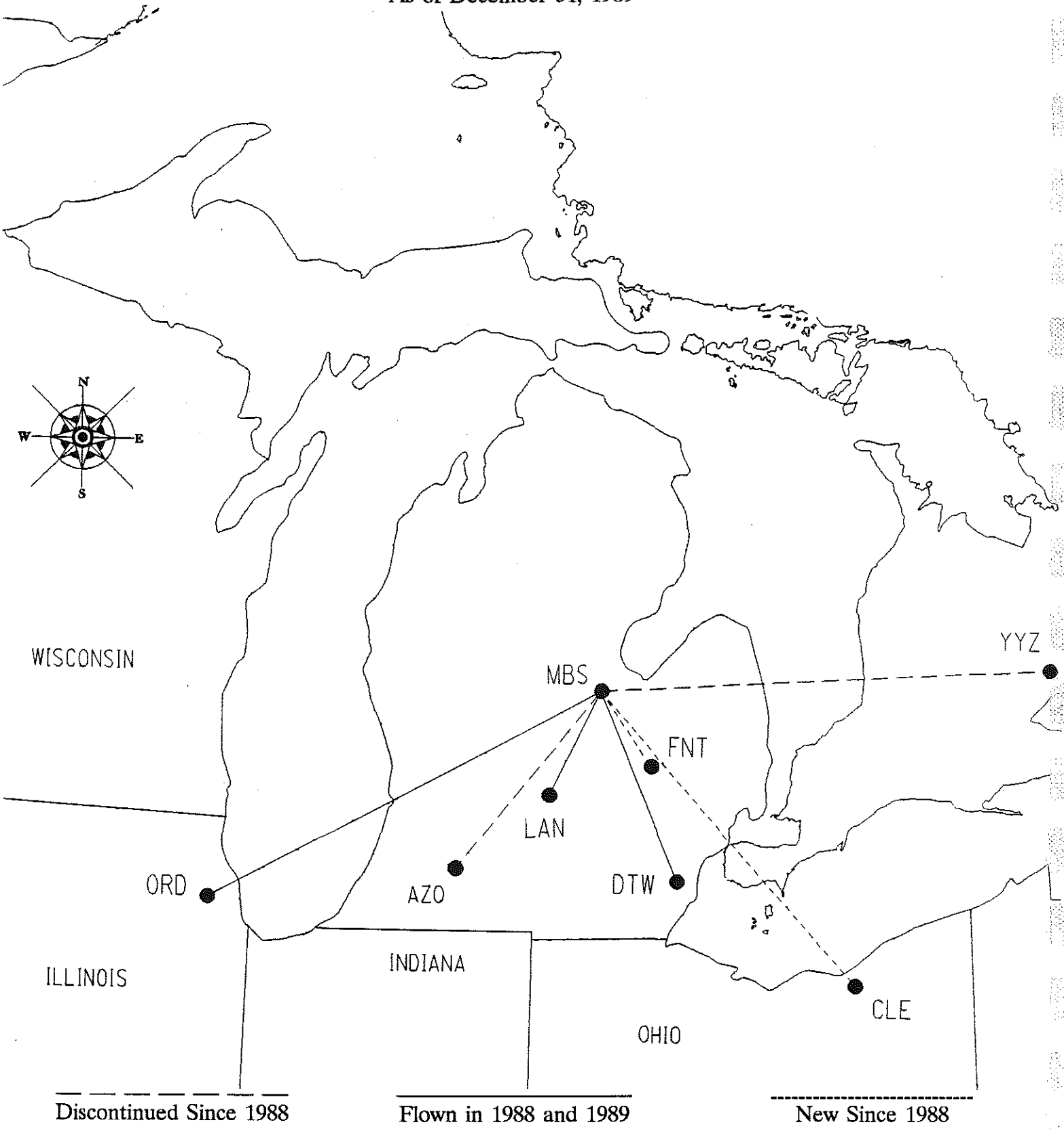
NONSTOP ARRIVALS FROM HUBS/NONHUBS Saginaw, Tri-City International Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

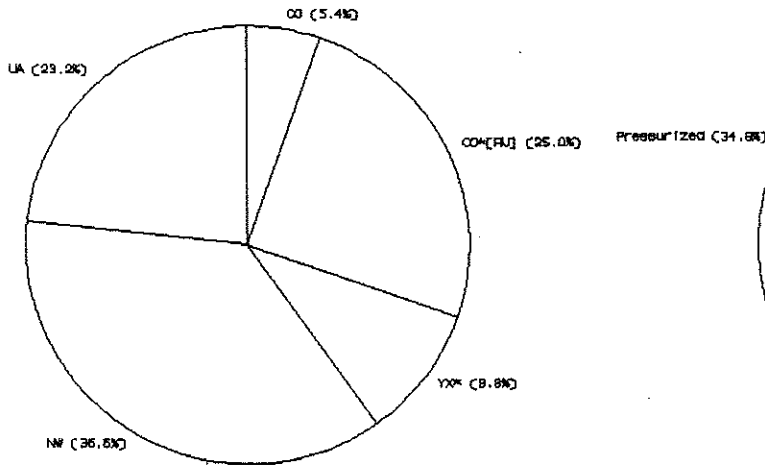
Saginaw, Tri-City International Airport

As of December 31, 1989



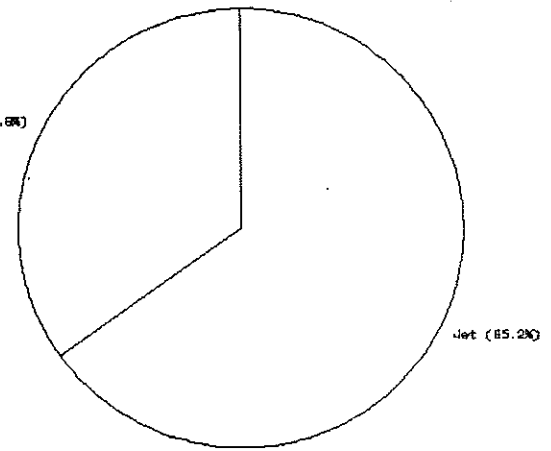
**PERCENTAGE ARRIVALS
BY CARRIER**

Saginaw, Tri-City International Airport



**PERCENTAGE ARRIVALS BY
AIRCRAFT TYPE**

Saginaw, Tri-City International Airport

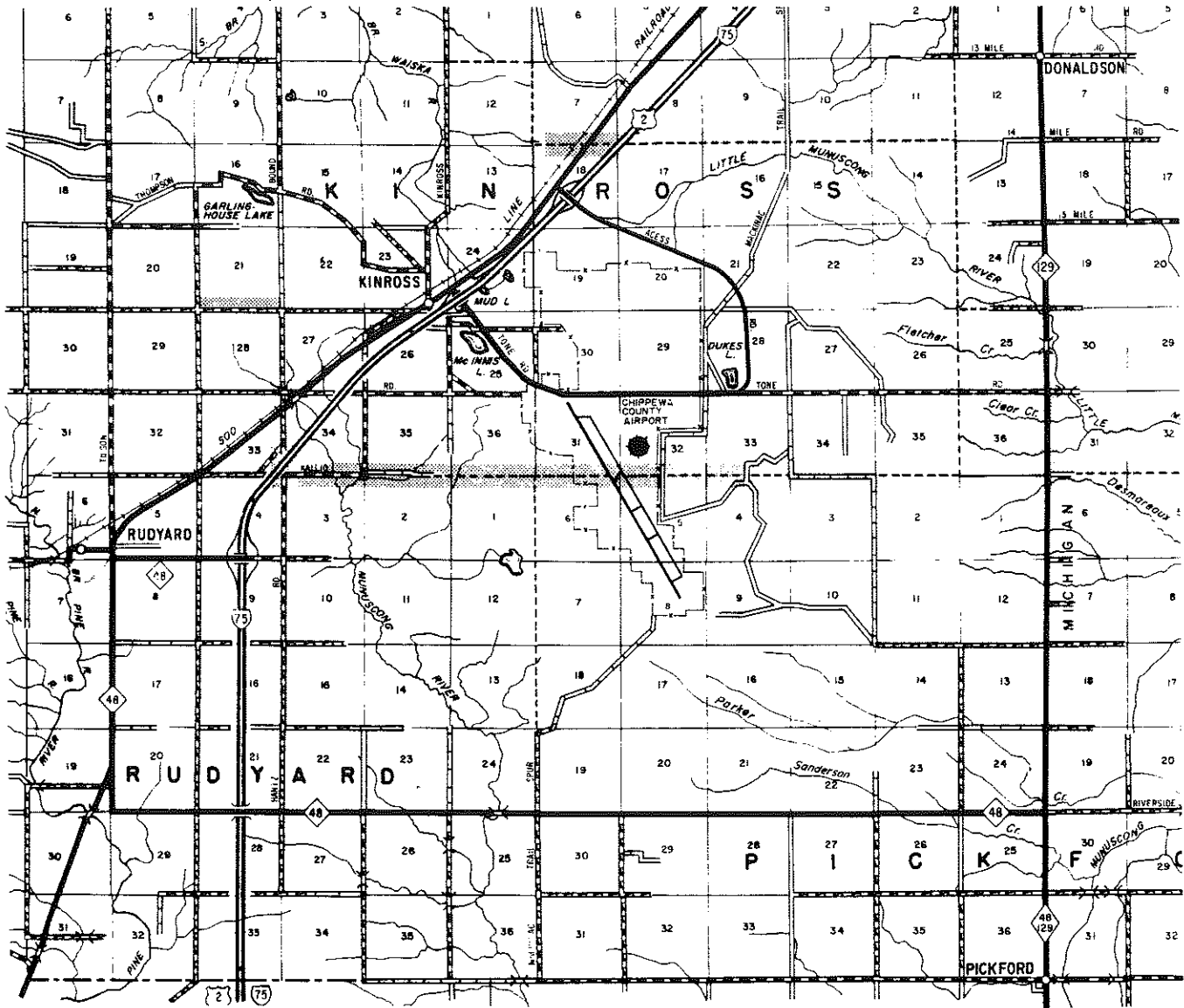
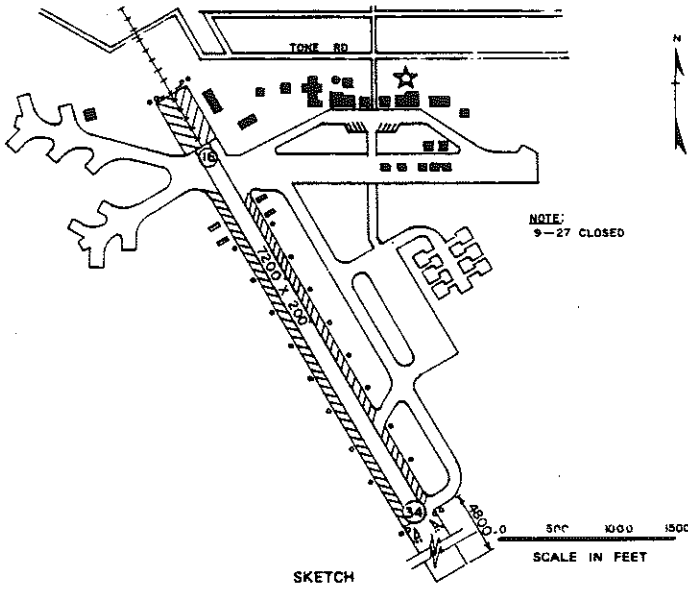


CITY PAIR SERVICE SUMMARIES

Saginaw, Tri-City International Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			
				Jet	Pres.	Npres.	Total
Chicago, IL [ORD]							
United Airlines, Inc. [UA]	727	100	6	600	0	0	600
United Airlines, Inc. [UA]	72S	145	7	1,015	0	0	1,015
United Airlines, Inc. [UA]	733	138	13	1,794	0	0	1,794
Cleveland, OH [CLE]							
Continental Airlines, Inc. [CO]	737	120	6	720	0	0	720
Continental Express(Britt Awys.)[CO*]	EM2	30	22	0	660	0	660
Detroit, MI [DTW]							
Northwest Airlines, Inc. [NW]	72S	145	14	2,030	0	0	2,030
Northwest Airlines, Inc. [NW]	D9S	125	27	3,375	0	0	3,375
Flint, MI [FNT]							
Midwest Exp.Conn.(Skyway Arln.)[YX*]	BE1	19	11	0	209	0	209
Lansing, MI [LAN]							
Continental Express(Britt Awys.)[CO*]	EM2	30	6	0	180	0	180
Totals			112	9,534	1,049	0	10,583

Sault Ste. Marie, Chippewa County International Airport



Sault Ste. Marie, Chippewa County International Airport

Passengers Carried

Chippewa County International Airport, with 11,916 total passengers, experienced a 14.3 percent increase in 1989 over the previous year. Historically, Sault Ste. Marie has exhibited relative stability in total passengers since 1982, the level remaining between 8,000 and 12,000. The 1989 increase places the facility 53.1 percent below the 1978 level, the last year of government regulated routes and fares. Monthly passenger figures were higher than their 1988 level in January. Five year lows were experienced from February through May. However, five year highs occurred from June through December. Sault Ste. Marie ranked fifteenth in the state in total passengers with less than 0.1 percent of the statewide total. During 1989, Sault Ste. Marie was eliminated from the federal Essential Air Service (EAS) subsidy program.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	10,736	10,921	21,657	-19.3%
1981	6,457	6,216	12,673	-41.5%
1982	5,569	5,318	10,887	-14.1%
1983	4,969	4,783	9,752	-10.4%
1984	4,195	3,849	8,044	-17.5%
1985	5,017	5,060	10,077	25.3%
1986	4,971	5,222	10,193	1.2%
1987	4,624	4,521	9,145	-10.3%
1988	5,163	5,261	10,424	14.0%
1989	6,109	5,807	11,916	14.3%

Service Supplied

As of December 31, 1989, Sault Ste. Marie was served by one airline. Between the survey dates Great Lakes Aviation replaced Northwest AirlinK (Simmons Airlines) as the serving carrier. To nonstop service from Alpena, the facility added flights from

Manistee. Neither of these origins is a hub airport. However, same plane service is provided through these points to the hub airports in Chicago O'Hare, IL and Detroit Metro. There were 38 weekly arrivals, up 26 from the previous year. All of the 722 weekly arriving seats were in pressurized propeller aircraft.

WEEKLY ARRIVALS

As of July 1

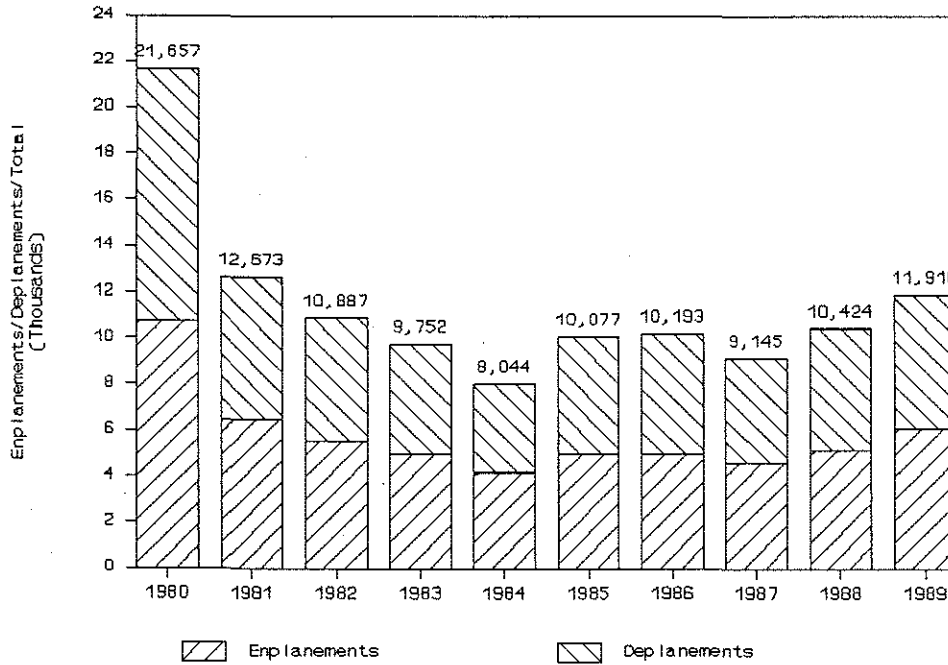
Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	1	1	0	0	19	19
1987	1	1	0	0	12	12
1988	1	1	0	0	12	12
1989	1	2	0	38	0	38

WEEKLY ARRIVING SEATS

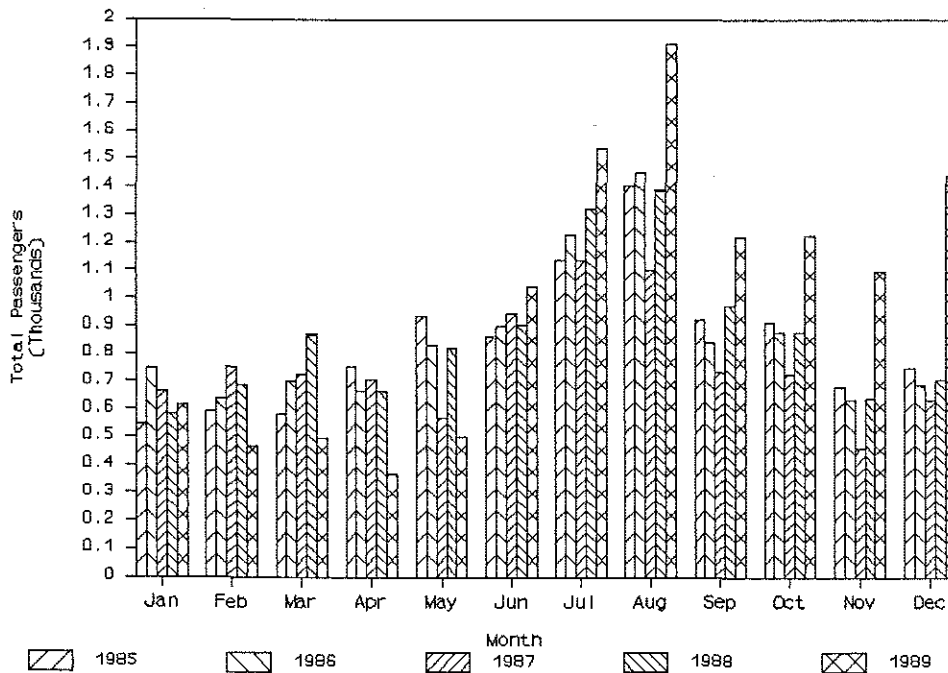
As of July 1

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	0	361	361
1987	0	0	432	432
1988	0	0	432	432
1989	0	722	0	722

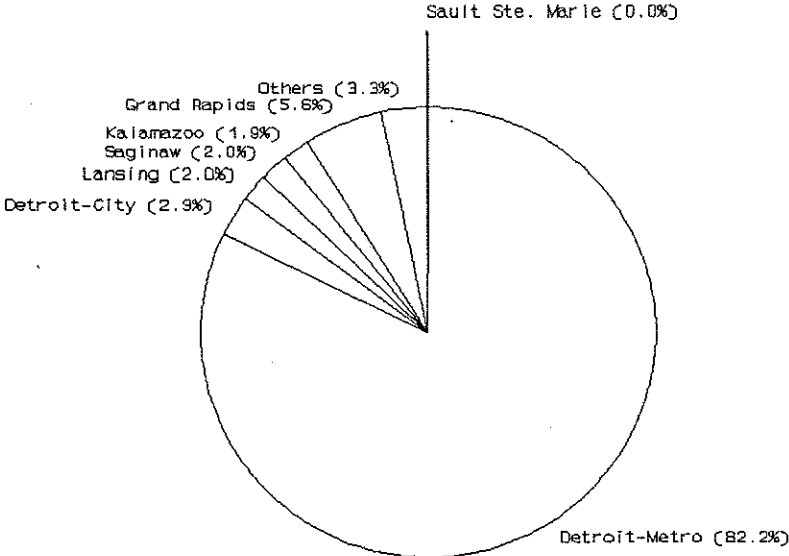
1980 - 1989 ANNUAL TOTAL PASSENGERS
Sault Ste. Marie, Chippewa County International Airport



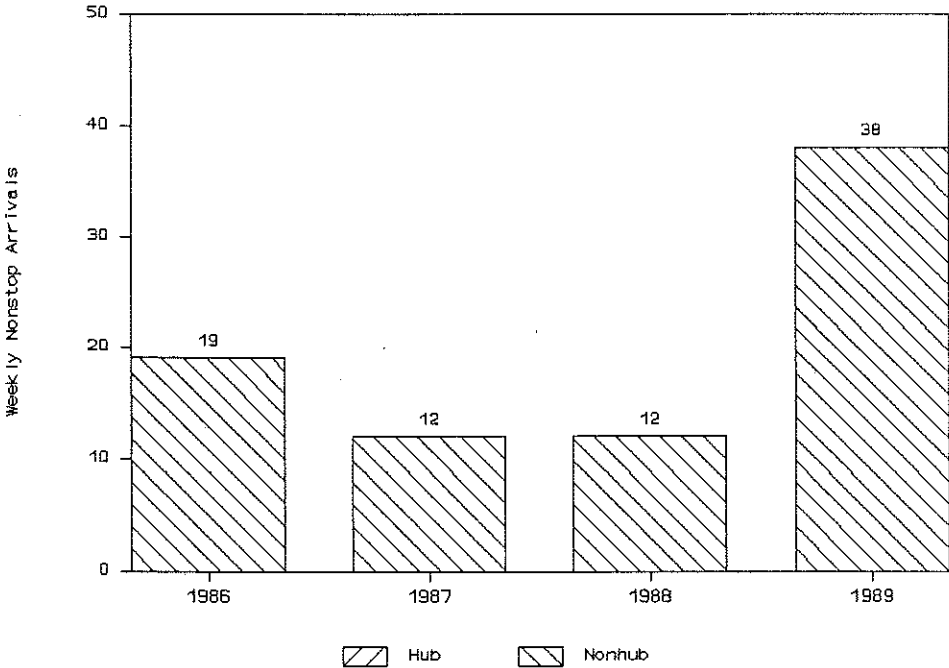
1985 - 1989 MONTHLY TOTAL PASSENGERS
Sault Ste. Marie, Chippewa County International Airport



1989 PASSENGER LEVEL COMPARISON Sault Ste. Marie, Chippewa County International Airport



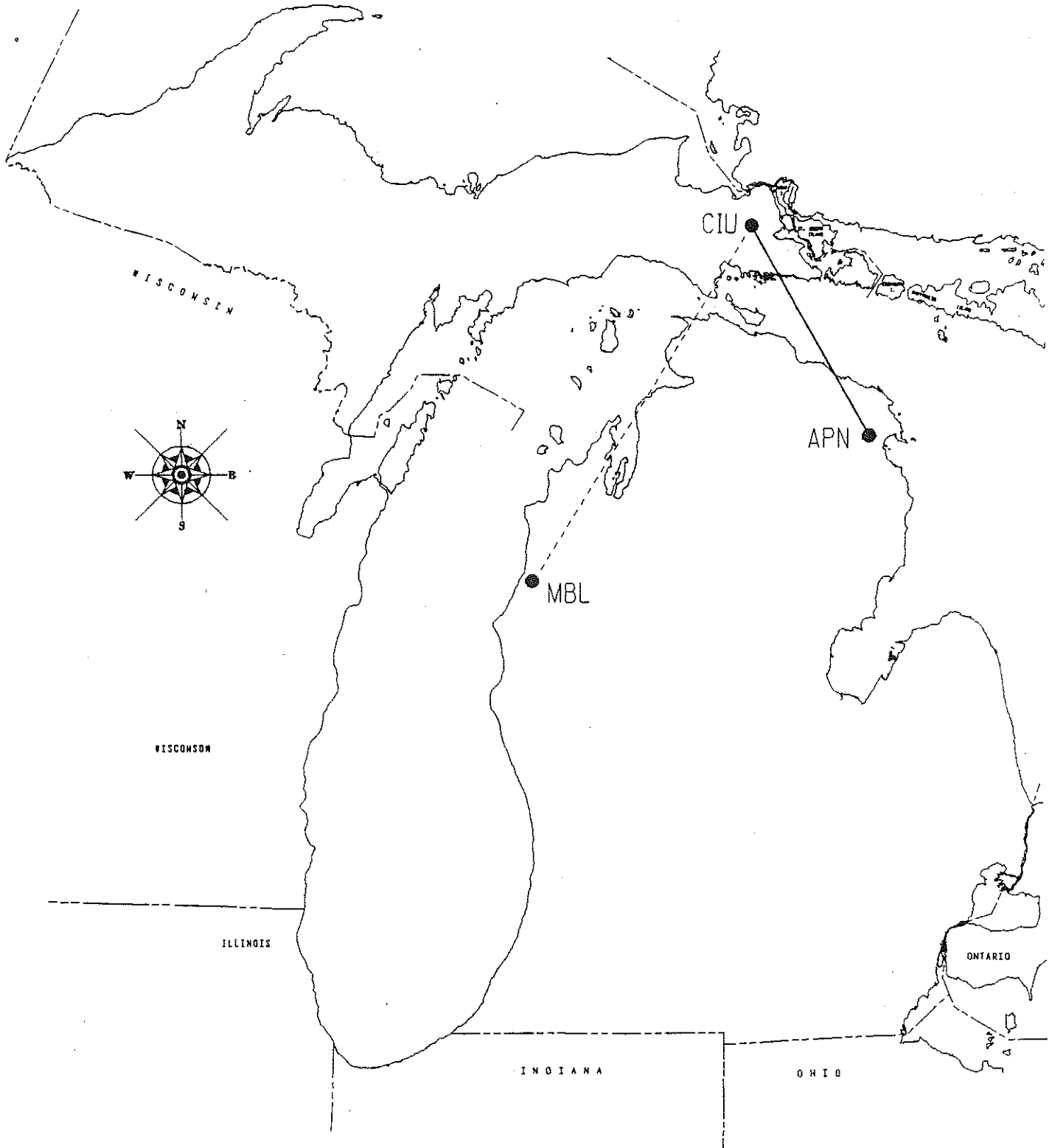
NONSTOP ARRIVALS FROM HUBS/NONHUBS Sault Ste. Marie, Chippewa County International Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Sault Ste. Marie, Chippewa County International Airport

As of December 31, 1989



Discontinued Since 1988

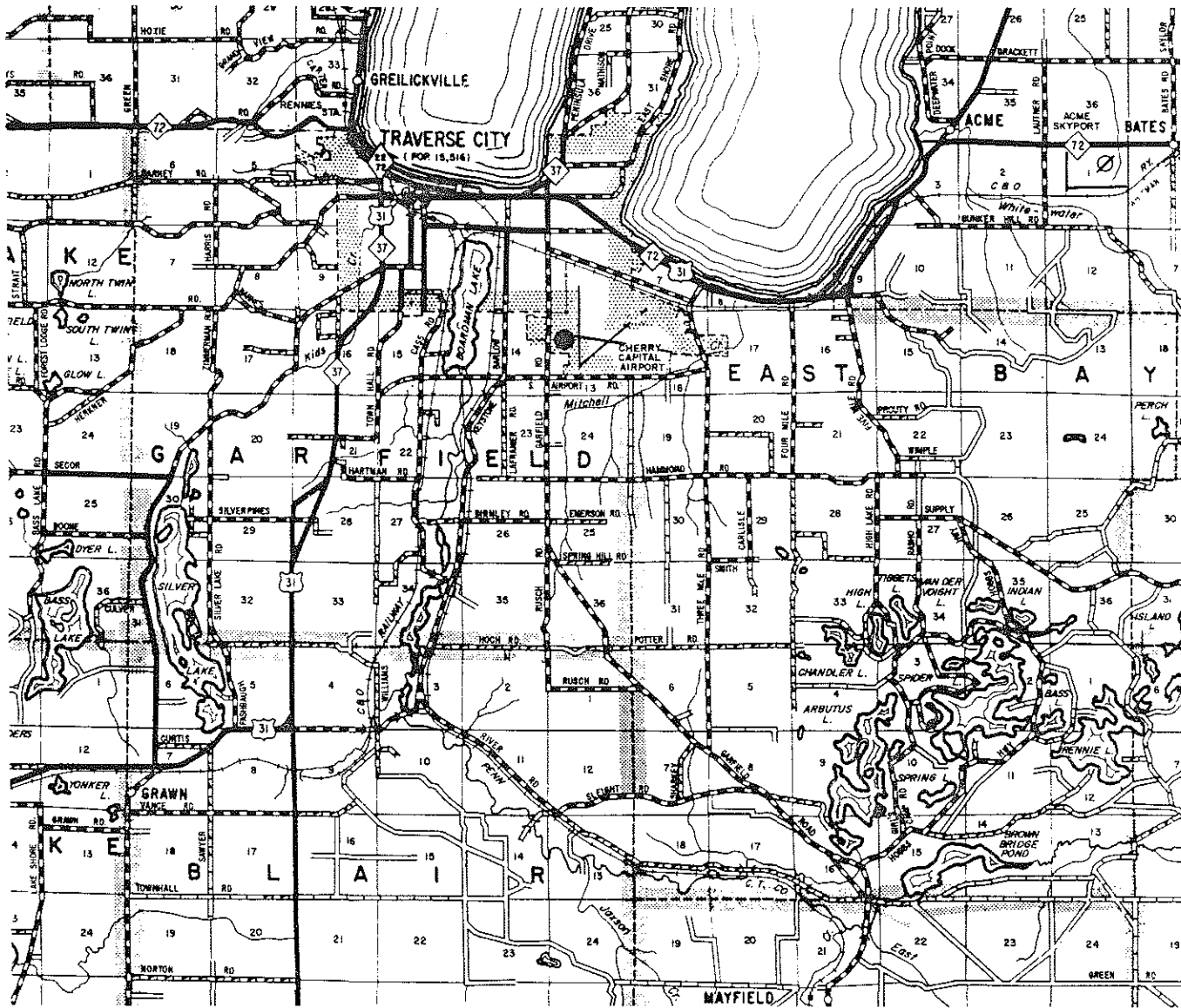
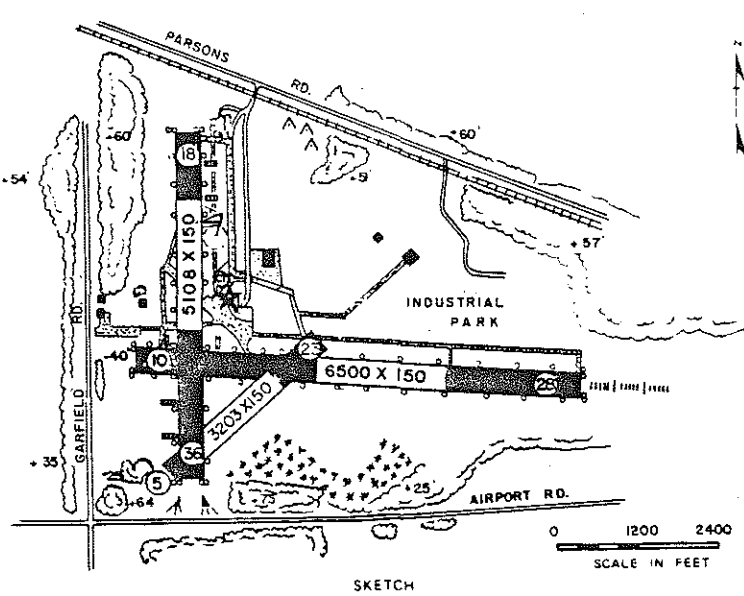
Flown in 1988 and 1989

New Since 1988

CITY PAIR SERVICE SUMMARIES
 Sault Ste. Marie, Chippewa County International Airport
 As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Alpena, MI [APN] Great Lakes Aviation, Ltd. [ZK]	BE1	19	25	0	475	0	475
Manistee, MI [MBL] Great Lakes Aviation, Ltd. [ZK]	BE1	19	13	0	247	0	247
Totals			38	0	722	0	722

Traverse City, Cherry Capital Airport



Traverse City, Cherry Capital Airport

Passengers Carried

Cherry Capital Airport, with 185,116 total passengers, experienced a 15.3 percent increase in 1989 over the previous year. Historically, Traverse City has enjoyed a somewhat sporadic growth in total passengers since the post regulatory low experienced in 1982. The 1989 increase places the facility 21.2 percent above the 1978 level, the last year of government regulation of routes and fares. Monthly passenger figures were five year lows in January and February, lower than their 1988 levels in March and May and Higher than their 1988 values in all other months. Five year highs were experienced in June and July and from September through December. Traverse City ranked eighth in the state in total passengers with 0.7 percent of the statewide total.

ANNUAL PASSENGERS

Year	Passengers		Total	Percent Change
	Enplaned	Deplaned		
1980	78,163	77,549	155,712	-9.3%
1981	73,166	71,660	144,826	-7.0%
1982	65,638	64,021	129,659	-10.5%
1983	68,927	70,156	139,083	7.3%
1984	67,295	68,828	136,123	-2.1%
1985	74,540	75,458	149,998	10.2%
1986	83,710	81,037	164,747	9.8%
1987	75,721	75,794	151,515	-8.0%
1988	82,010	78,562	160,572	6.0%
1989	93,415	91,701	185,116	15.3%

Service Supplied

As of December 31, 1988, Traverse City was served by four carriers. Between the survey dates Trans North Aviation ceased service. However, there was no net change in the number of carriers as Northwest Airlines commenced service as part of the *Air Access Michigan* program. Cherry Capital Airport

had nonstop service from four airports in three cities. Service was lost from Chicago Palwaukee, IL and Grand Rapids resulting in a net loss of two origins but only one city. There were 104 weekly arrivals, up five from 1988. Of the weekly arrivals, 90 (86.5 percent) were from a hub airport. Of the 4,432 weekly arriving seats, 875 (19.7 percent) were by jet, 3,025 (68.3 percent) were by pressurized propeller and 532 (12.0 percent) were by nonpressurized propeller aircraft.

WEEKLY ARRIVALS

As of December 31

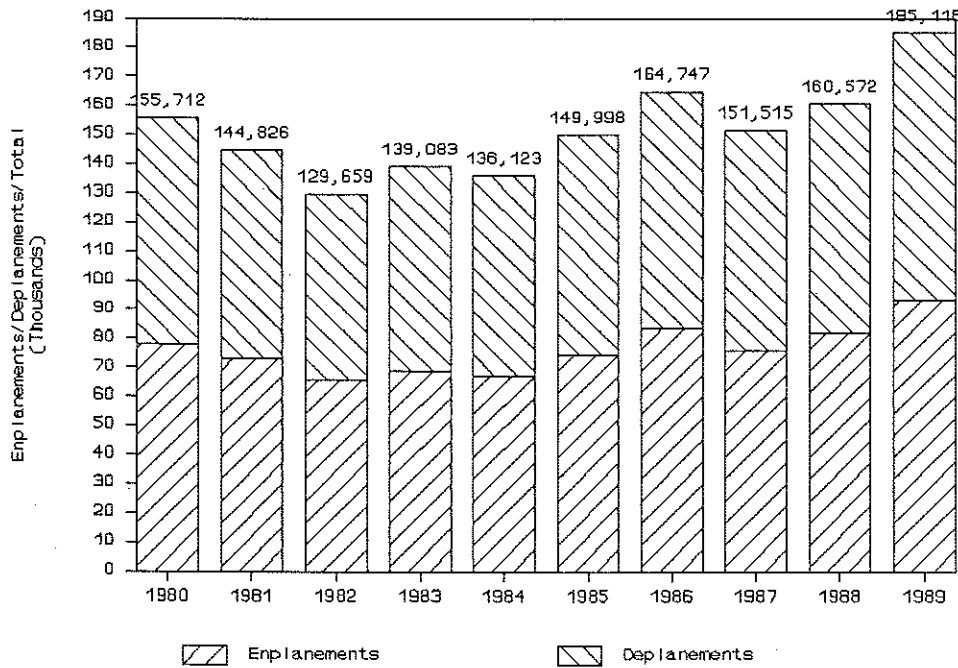
Year	Carriers Serving	Origins	Weekly Arrivals			Total
			Jet	Press	Nonpr	
1986	5	8	0	35	110	145
1987	4	8	0	93	26	119
1988	4	6	0	35	64	99
1989	4	4	7	69	28	104

WEEKLY ARRIVING SEATS

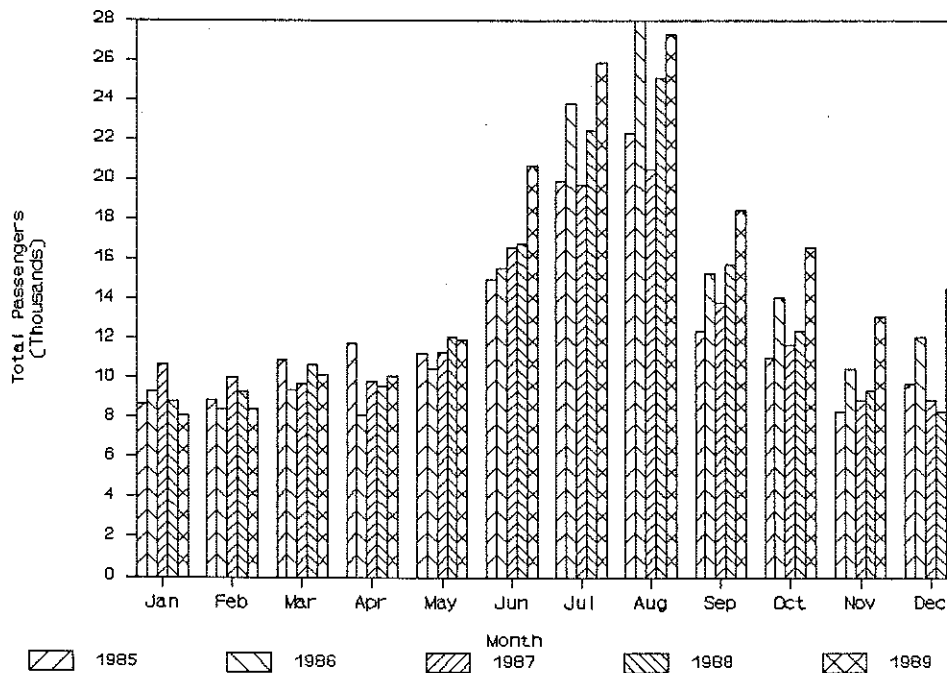
As of December 31

Year	Weekly Arriving Seats			Total
	Jet	Press	Nonpr	
1986	0	1,146	3,638	4,784
1987	0	4,278	536	4,814
1988	0	1,610	2,008	3,618
1989	875	3,025	532	4,432

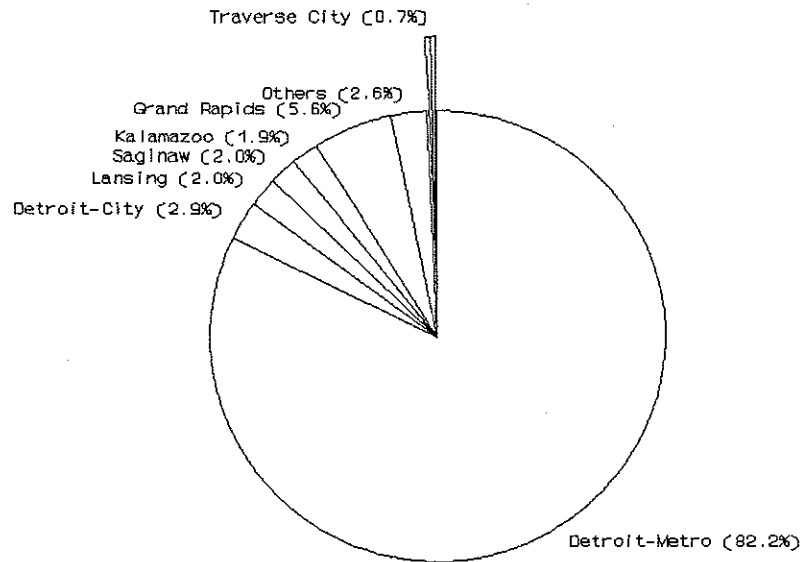
1980 - 1989 ANNUAL TOTAL PASSENGERS
Traverse City, Cherry Capital Airport



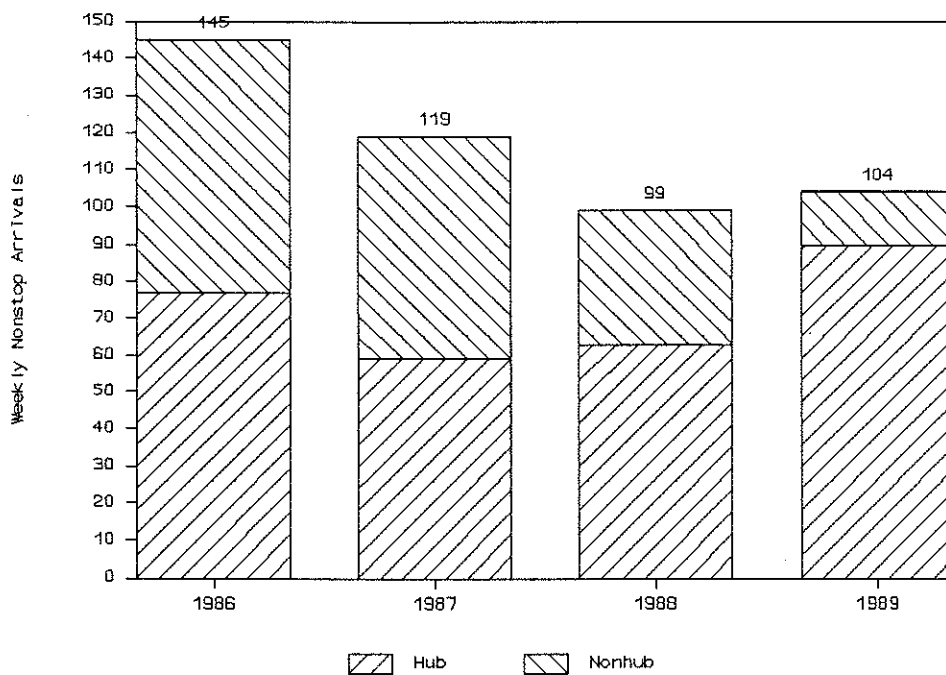
1985 - 1989 MONTHLY TOTAL PASSENGERS
Traverse City, Cherry Capital Airport



1989 PASSENGER LEVEL COMPARISON Traverse City, Cherry Capital Airport



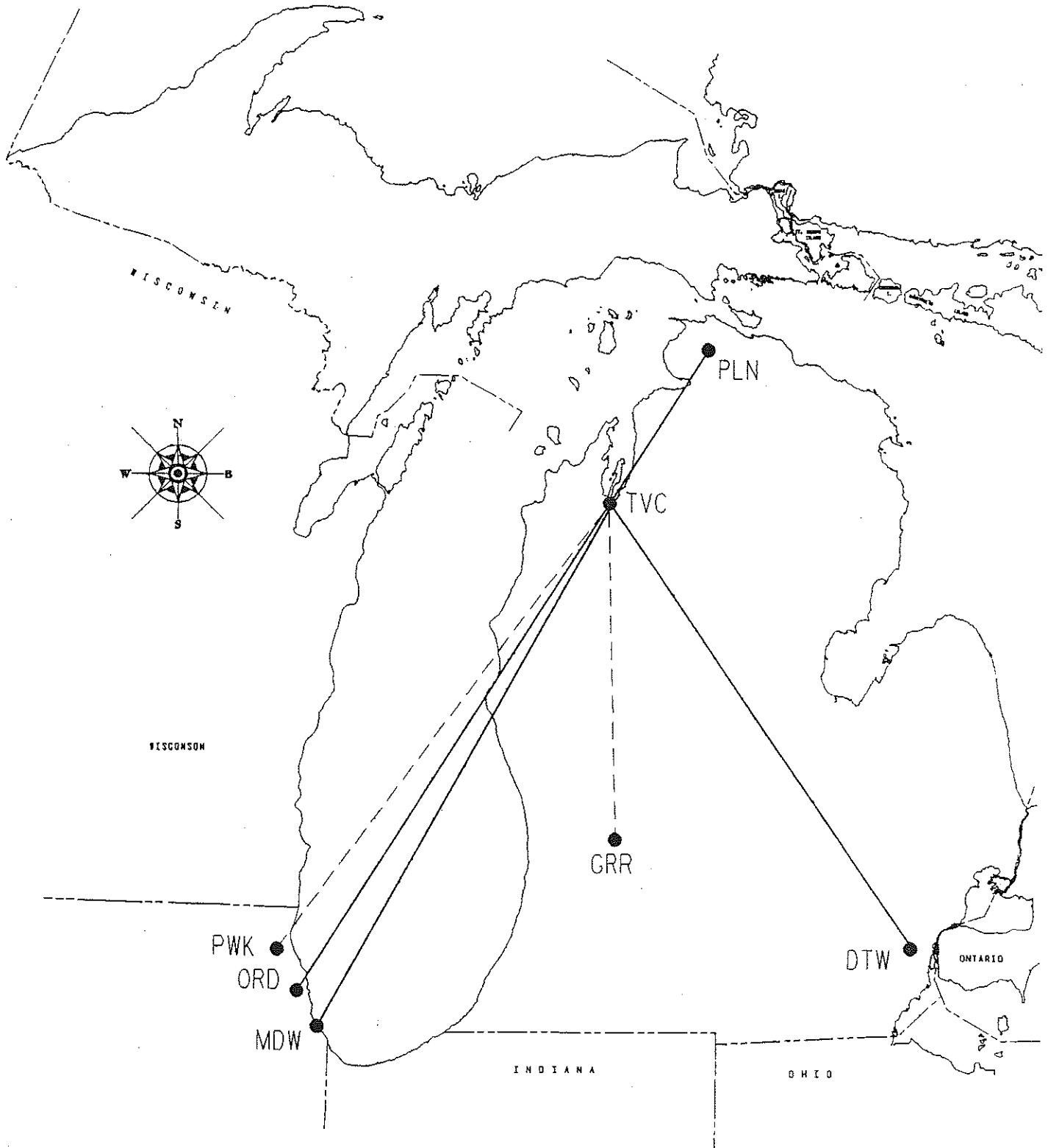
NONSTOP ARRIVALS FROM HUBS/NONHUBS Traverse City, Cherry Capital Airport



ORIGINS OF SCHEDULED NONSTOP ARRIVALS

Traverse City, Cherry Capital Airport

As of December 31, 1989



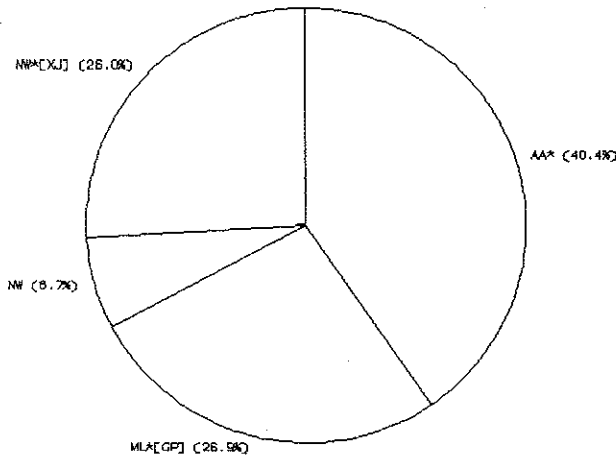
Discontinued Since 1988

Flown in 1988 and 1989

New Since 1988

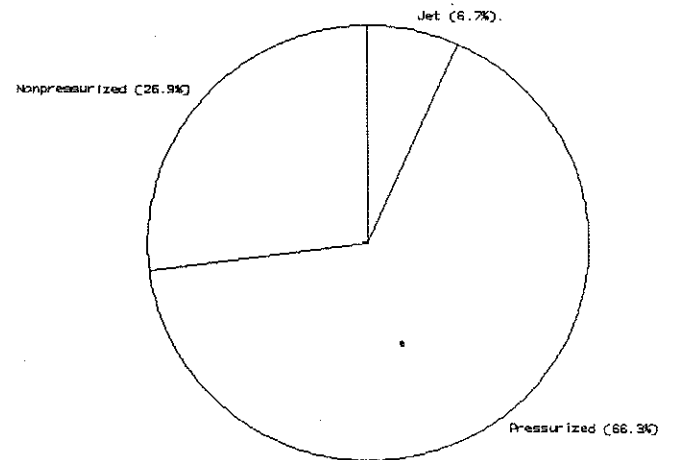
PERCENTAGE ARRIVALS
BY CARRIER

Traverse City, Cherry Capital Airport



PERCENTAGE ARRIVALS BY
AIRCRAFT TYPE

Traverse City, Cherry Capital Airport



CITY PAIR SERVICE SUMMARIES

Traverse City, Cherry Capital Airport
As of December 31, 1989

Origin [Airport Code] Carrier (Operator) [Carrier Code]	Eqp.	Cap.	Weekly Arrivals	Weekly Arriving Seats Available			Total
				Jet	Pres.	Npres.	
Chicago, IL [MDW] The Midway Conn.(Fisher Bros.)[ML*]	DO8	19	28	0	0	532	532
Chicago, IL [ORD] American Eagle [AA*]	ATR	46	28	0	1,288	0	1,288
Detroit, MI [DTW] Northwest Airlines, Inc. [NW]	D9S	125	7	875	0	0	875
Northwest Airlin(Mesaba Avtn.)[NW*]	F27	48	20	0	960	0	960
Northwest Airlin(Mesaba Avtn.)[NW*]	SWM	19	7	0	133	0	133
Pellston, MI [PLN] American Eagle [AA*]	ATR	46	14	0	644	0	644
Totals			104	875	3,025	532	4,432



**Appendix A:
NONSTOP SCHEDULED AIR CARRIER ARRIVALS AT
MICHIGAN AIRPORTS WITH SCHEDULED
AIR CARRIER SERVICE**

Appendix A: Nonstop Scheduled Air Carrier Arrivals At Michigan Air Carrier
Airports

The data provided in this appendix is derived from the *Official Airline Guide North American Edition*, December 15, 1989 unless otherwise attributed. The data is for scheduled airlines at Michigan scheduled air carrier airports as of December 31, 1988 unless otherwise stated. Though not defined as a scheduled air carrier airport, Ann Arbor Municipal Airport is included in this listing only for completeness.

This data is presented in alphabetical order and is delineated, respectively by:

- 1) Destination airport
- 2) Origin airport
- 3) Departure time

The data for each entry includes:

- 1) Destination city and it's FAA airport code
- 2) Origin city and it's FAA airport code
- 3) Frequency of the flight
- 4) Departure time
- 5) Arrival time
- 6) Airline flight number
- 7) Equipment used

Explanations of the codes used in these entries can be found in later appendices. Entries in the *Notes* column indicate the following:

- A) Schedule has been reconstructed from alternate sources due to errors in the main source document.
- B) Flights cancelled for certain days during the holiday season are included even if not flying on the effective date.
- C) Flight listing effective as of July 1, 1989 is used due to the seasonal nature of service. The source used is the *Official Airline Guide North American Edition*, July 1, 1989.
- D) An international flight for which the source is the *Official Airline Guide Worldwide Edition*, October 29, 1989.

Michigan Air Carrier Airport Statistics

SCHEDULED AIR CARRIER ARRIVALS

Nonstop To Michigan Air Carrier Airports
As of December 31, 1989

Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Alpena County Regional Airport [APN]							
Detroit, MI	[DTW]	6	0925	1055	QQ 925	PAG	
Detroit, MI	[DTW]	X67	0940	1040	ZK 21	BE1	
Detroit, MI	[DTW]	1235	1100	1225	QQ 1100	PAG	
Detroit, MI	[DTW]	D	1325	1425	ZK 23	BE1	
Detroit, MI	[DTW]	47	1525	1645	QQ 1525	PAG	
Detroit, MI	[DTW]	D	1745	1845	ZK 25	BE1	
Detroit, MI	[DTW]	1235	1800	1925	QQ 1800	PAG	
Detroit, MI	[DTW]	6	1830	1950	QQ 1830	PAG	
Detroit, MI	[DTW]	47	2030	2150	QQ 2030	PAG	
Detroit, MI	[DTW]	X6	2055	2155	ZK 29	BE1	
Drummond Island, MI	[Y66]	6	0700	0730	QQ 700	PAG	
Drummond Island, MI	[Y66]	1235	0815	0850	QQ 815	PAG	
Drummond Island, MI	[Y66]	47	1300	1330	QQ 1300	PAG	
Drummond Island, MI	[Y66]	1235	1515	1550	QQ 1515	PAG	
Drummond Island, MI	[Y66]	6	1605	1635	QQ 1605	PAG	
Drummond Island, MI	[Y66]	47	1800	1830	QQ 1800	PAG	
Sault Ste. Marie, MI	[CIU]	X67	0605	0630	ZK 20	BE1	
Sault Ste. Marie, MI	[CIU]	67	0930	0955	ZK 26	BE1	
Sault Ste. Marie, MI	[CIU]	X67	1130	1155	ZK 22	BE1	
Sault Ste. Marie, MI	[CIU]	D	1510	1535	ZK 24	BE1	
Sault Ste. Marie, MI	[CIU]	X6	1700	1725	ZK 28	BE1	
Ann Arbor Municipal Airport [ARB]							
Drummond Island, MI	[Y66]	1	1300	1430	QQ 191	PAG	
Jackson, MI	[JXN]	4	1000	1030	QQ 207	PAG	
Jackson, MI	[JXN]	5	1400	1420	QQ 193	PAG	
Benton Harbor/St. Joseph, Twin Cities Ross Field Airport [BEH]							
Chicago, IL	[MDW]	X67	0900	1030	ML*1542	EMB	
Chicago, IL	[MDW]	6	1100	1230	ML*1541	EMB	
Chicago, IL	[MDW]	X67	1230	1400	ML*1543	EMB	
Chicago, IL	[MDW]	X67	1715	1845	ML*1545	EMB	
Chicago, IL	[MDW]	7	1715	1845	ML*1546	EMB	
Chicago, IL	[MDW]	X6	2015	2145	ML*1547	EMB	
Elkhart, IN	[EKI]	X67	0705	0720	ML*1541	EMB	
Elkhart, IN	[EKI]	7	1250	1310	ML*1544	EMB	
Elkhart, IN	[EKI]	X67	1700	1720	ML*1544	EMB	
Elkhart, IN	[EKI]	7	1700	1720	ML*1545	EMB	
Detroit City Airport [DET]							
Chicago, IL	[MDW]	X67	0605	0805	WN 811	73S	A
Chicago, IL	[MDW]	X67	0700	0900	WN 511	733	A
Chicago, IL	[MDW]	D	0920	1120	WN 512	73S	A
Chicago, IL	[MDW]	7	1130	1330	WN 528	733	A
Chicago, IL	[MDW]	6	1130	1330	WN 716	733	A
Chicago, IL	[MDW]	X67	1135	1335	WN 514	73S	A

SCHEDULED AIR CARRIER ARRIVALS

Nonstop To Michigan Air Carrier Airports
As of December 31, 1989

Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Detroit City Airport [DET] (cont.)							
Chicago, IL	[MDW]	D	1300	1500	WN 515	733	A
Chicago, IL	[MDW]	X6	1500	1700	WN 456	733	A
Chicago, IL	[MDW]	X6	1600	1800	WN 414	73S	A
Chicago, IL	[MDW]	X67	1700	1900	WN 549	73S	A
Chicago, IL	[MDW]	67	1715	1915	WN 352	73S	A
Chicago, IL	[MDW]	6	1925	2125	WN 516	733	A
Chicago, IL	[MDW]	D	2045	2245	WN 993	733	A
Chicago, IL	[MDW]	X6	2145	2345	WN 506	733	A
Cleveland, OH	[BKL]	X67	0700	0735	DL*3257	SWM	B
Cleveland, OH	[BKL]	X67	0840	0915	DL*3163	SWM	B
Cleveland, OH	[BKL]	X67	1315	1350	DL*3222	SWM	B
Cleveland, OH	[BKL]	X67	1455	1530	DL*3224	SWM	B
Cleveland, OH	[BKL]	X67	1635	1710	DL*3226	SWM	B
Cleveland, OH	[BKL]	X67	1815	1850	DL*3204	SWM	B
Cleveland, OH	[CGF]	X67	0655	0730	PS 101	J31	
Cleveland, OH	[CGF]	X67	1025	1100	PS 103	J31	
Cleveland, OH	[CGF]	X67	1315	1350	PS 205	J31	
Cleveland, OH	[CGF]	X67	1515	1550	PS 207	J31	
Cleveland, OH	[CGF]	X67	1910	1945	PS 209	J31	
Indianapolis, IN	[IND]	X67	0730	0830	WN 828	73S	
Indianapolis, IN	[IND]	X7	1035	1135	WN 830	73S	
Indianapolis, IN	[IND]	X7	1250	1350	WN 770	733	
Indianapolis, IN	[IND]	7	1250	1350	WN 770	73S	
Indianapolis, IN	[IND]	D	1530	1630	WN 656	73S	
Indianapolis, IN	[IND]	D	1805	1905	WN 832	73S	
Indianapolis, IN	[IND]	X6	2000	2100	WN 621	73S	
Nashville, TN	[BNA]	X67	0930	1155	WN 366	733	B
Nashville, TN	[BNA]	X6	1855	2120	WN 649	733	B
Oshawa, ONT	[YOO]	X67	0650	0800	9F 521	SH3	
Oshawa, ONT	[YOO]	X67	1540	1655	9F 531	SH3	
St. Louis, MO	[STL]	X67	0755	1020	WN 672	73S	B
St. Louis, MO	[STL]	D	1350	1615	WN 619	73S	B
St. Louis, MO	[STL]	X6	1435	1655	WN 619	73S	B
St. Louis, MO	[STL]	X6	1805	2030	WN 538	73S	B
Detroit Metropolitan Wayne County Airport [DTW]							
Akron/Canton, OH	[CAK]	X7	1100	1200	NW*3033	F27	
Akron/Canton, OH	[CAK]	D	1440	1540	NW*3039	F27	
Akron/Canton, OH	[CAK]	X6	1820	1920	NW*3037	F27	
Albany, NY	[ALB]	X7	0705	0850	NW 1517	D9S	
Albany, NY	[ALB]	D	1040	1235	NW 1519	D9S	
Albany, NY	[ALB]	D	1450	1647	NW 695	D9S	

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<u>Detroit Metropolitan Wayne County Airport [DTW] (cont.)</u>							
Allentown, PA	[ABE]	D	0710	0843	NW 541	D9S	
Allentown, PA	[ABE]	X6	1500	1638	NW 543	DC9	
Allentown, PA	[ABE]	6	1500	1638	NW 543	DC9	
Allentown, PA	[ABE]	X6	1810	1952	NW 545	D9S	
Alpena, MI	[APN]	X67	0635	0735	ZK 20	BE1	
Alpena, MI	[APN]	6	0735	0855	QQ 700	PAG	
Alpena, MI	[APN]	1235	0855	1020	QQ 815	PAG	
Alpena, MI	[APN]	67	1000	1100	ZK 26	BE1	
Alpena, MI	[APN]	X67	1200	1300	ZK 22	BE1	
Alpena, MI	[APN]	47	1335	1455	QQ 1300	PAG	
Alpena, MI	[APN]	D	1540	1640	ZK 24	BE1	
Alpena, MI	[APN]	1235	1555	1720	QQ 1515	PAG	
Alpena, MI	[APN]	6	1640	1800	QQ 1605	PAG	
Alpena, MI	[APN]	X6	1735	1835	ZK 28	BE1	
Alpena, MI	[APN]	47	1835	1955	QQ 1800	PAG	
Atlanta, GA	[ATL]	X17	0700	0849	NW 492	72S	
Atlanta, GA	[ATL]	1	0700	0849	NW 492	72S	
Atlanta, GA	[ATL]	D	0820	1010	DL 868	M80	
Atlanta, GA	[ATL]	D	0915	1102	EA 614	D9S	
Atlanta, GA	[ATL]	D	1000	1150	DL 846	M80	
Atlanta, GA	[ATL]	D	1045	1240	NW 494	D9S	
Atlanta, GA	[ATL]	D	1225	1414	EA 762	D9S	
Atlanta, GA	[ATL]	D	1330	1515	DL 548	72S	
Atlanta, GA	[ATL]	D	1410	1606	EA 368	D9S	
Atlanta, GA	[ATL]	X6	1500	1657	NW 496	D9S	
Atlanta, GA	[ATL]	6	1500	1657	NW 496	D9S	
Atlanta, GA	[ATL]	D	1703	1850	DL 210	767	
Atlanta, GA	[ATL]	D	1740	1934	NW 498	D9S	
Atlanta, GA	[ATL]	D	1815	2005	EA 648	D9S	
Atlanta, GA	[ATL]	D	1950	2143	EA 526	D9S	
Atlanta, GA	[ATL]	D	2040	2225	DL 148	767	
Atlanta, GA	[ATL]	D	2340	0115	DL 714	757	
Baltimore, MD/Washington, DC	[BWI]	D	0705	0837	NW 1137	72S	
Baltimore, MD/Washington, DC	[BWI]	X7	1000	1134	US 126	735	
Baltimore, MD/Washington, DC	[BWI]	7	1000	1134	US 2036	735	
Baltimore, MD/Washington, DC	[BWI]	X7	1100	1234	NW 1132	D9S	
Baltimore, MD/Washington, DC	[BWI]	7	1100	1234	NW 1132	727	
Baltimore, MD/Washington, DC	[BWI]	D	1310	1444	US 267	D9S	
Baltimore, MD/Washington, DC	[BWI]	X6	1500	1648	NW 251	72S	
Baltimore, MD/Washington, DC	[BWI]	6	1500	1648	NW 251	72S	
Baltimore, MD/Washington, DC	[BWI]	X6	1545	1718	US 1502	72S	
Baltimore, MD/Washington, DC	[BWI]	D	1815	1947	NW 1653	D9S	
Baltimore, MD/Washington, DC	[BWI]	X6	2105	2239	US 182	73S	
Boston, MA	[BOS]	2357	0615	0825	NW 25	D10	
Boston, MA	[BOS]	146	0615	0825	NW 25	D10	
Boston, MA	[BOS]	X6	0910	1125	NW 383	72S	

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Boston, MA	[BOS]	6	0910	1125	NW 383	72S	
Boston, MA	[BOS]	D	1005	1220	NW 343	757	
Boston, MA	[BOS]	D	1425	1642	NW 1669	D10	
Boston, MA	[BOS]	X6	1710	1937	NW 49	D10	
Boston, MA	[BOS]	6	1710	1937	NW 49	D10	
Boston, MA	[BOS]	X6	1855	2133	NW 393	D9S	
Buffalo, NY	[BUF]	X7	0720	0836	NW 1117	72S	
Buffalo, NY	[BUF]	X7	1110	1223	NW 244	727	
Buffalo, NY	[BUF]	7	1110	1223	NW 244	D9S	
Buffalo, NY	[BUF]	X6	1520	1638	NW 641	727	
Buffalo, NY	[BUF]	6	1520	1638	NW 641	727	
Buffalo, NY	[BUF]	X6	1820	1929	NW 583	727	
Buffalo, NY	[BUF]	6	1820	1929	NW 583	D9S	
Charlotte, NC	[CLT]	D	0901	1035	US 336	M80	
Charlotte, NC	[CLT]	D	1215	1351	US 1280	72S	
Charlotte, NC	[CLT]	X6	1625	1804	US 1468	734	
Charlotte, NC	[CLT]	6	1625	1804	US 2236	F28	
Charlotte, NC	[CLT]	D	1929	2108	US 1856	733	
Chicago, IL	[MDW]	X7	0645	0849	NW 1408	D9S	
Chicago, IL	[MDW]	X67	0645	0835	WN 547	733	
Chicago, IL	[MDW]	X67	0650	0840	WN 547	733	
Chicago, IL	[MDW]	X7	0700	0900	ML 302	73S	
Chicago, IL	[MDW]	D	0900	1100	ML 132	D9S	
Chicago, IL	[MDW]	D	0920	1123	NW 1450	DC9	
Chicago, IL	[MDW]	D	0950	1140	WN 451	73S	
Chicago, IL	[MDW]	D	1000	1200	ML 304	D9S	
Chicago, IL	[MDW]	16	1010	1200	WN 761	733	
Chicago, IL	[MDW]	X67	1120	1310	WN 536	73S	
Chicago, IL	[MDW]	D	1200	1400	ML 318	D9S	
Chicago, IL	[MDW]	D	1340	1540	NW 1412	DC9	
Chicago, IL	[MDW]	D	1400	1600	ML 106	D9S	
Chicago, IL	[MDW]	D	1420	1610	WN 922	73S	
Chicago, IL	[MDW]	X6	1500	1700	ML 308	DC9	
Chicago, IL	[MDW]	D	1600	1800	ML 314	DC9	
Chicago, IL	[MDW]	D	1700	1900	ML 310	D9S	
Chicago, IL	[MDW]	X67	1715	1905	WN 354	733	
Chicago, IL	[MDW]	D	1800	2000	ML 320	73S	
Chicago, IL	[MDW]	D	1845	2053	NW 1414	D9S	
Chicago, IL	[MDW]	1235	1925	2115	WN 648	733	
Chicago, IL	[MDW]	X6	2000	2200	ML 795	73S	
Chicago, IL	[MDW]	X6	2100	2300	ML 316	73S	
Chicago, IL	[ORD]	X67	0630	0843	NW 162	DC9	
Chicago, IL	[ORD]	7	0630	0843	NW 162	72S	
Chicago, IL	[ORD]	6	0630	0843	NW 162	DC9	
Chicago, IL	[ORD]	D	0644	0852	AA 72	767	
Chicago, IL	[ORD]	D	0655	0908	UA 500	733	

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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Detroit Metropolitan Wayne County Airport [DTW] (cont.)							
Chicago, IL	[ORD]	X67	0700	0918	NW 242	D9S	
Chicago, IL	[ORD]	67	0700	0918	NW 242	D9S	
Chicago, IL	[ORD]	6	0815	1005	WN 336	733	
Chicago, IL	[ORD]	X7	0820	1025	UA 684	72S	
Chicago, IL	[ORD]	D	0915	1130	NW 438	72S	
Chicago, IL	[ORD]	D	0959	1211	AA 300	M80	
Chicago, IL	[ORD]	D	1030	1240	NW 168	M80	
Chicago, IL	[ORD]	D	1115	1330	NW 414	72S	
Chicago, IL	[ORD]	X7	1125	1332	UA 590	733	
Chicago, IL	[ORD]	7	1125	1332	UA 1090	733	
Chicago, IL	[ORD]	D	1300	1517	NW 128	D9S	
Chicago, IL	[ORD]	D	1335	1553	AA 984	757	
Chicago, IL	[ORD]	X7	1400	1608	UA 122	767	
Chicago, IL	[ORD]	X6	1430	1647	NW 1658	757	
Chicago, IL	[ORD]	6	1430	1647	NW 1656	72S	
Chicago, IL	[ORD]	X6	1500	1714	NW 176	D9S	
Chicago, IL	[ORD]	D	1625	1846	AA 608	757	
Chicago, IL	[ORD]	X67	1700	1910	UA 484	72S	
Chicago, IL	[ORD]	X6	1700	1922	NW 178	320	
Chicago, IL	[ORD]	D	1720	1942	NW 474	D9S	
Chicago, IL	[ORD]	X6	1845	2108	NW 182	757	
Chicago, IL	[ORD]	6	1845	2108	NW 182	D9S	
Chicago, IL	[ORD]	X7	2010	2216	UA 786	757	
Chicago, IL	[ORD]	D	2030	2249	AA 212	D10	
Chicago, IL	[ORD]	D	2210	0021	AA 248	72S	
Cincinnati, OH	[CVG]	X7	0645	0743	NW 1448	DC9	
Cincinnati, OH	[CVG]	D	0653	0750	DL 948	72S	
Cincinnati, OH	[CVG]	X6	1010	1114	NW 266	D9S	
Cincinnati, OH	[CVG]	6	1010	1114	NW 266	D9S	
Cincinnati, OH	[CVG]	D	1050	1145	DL 880	757	
Cincinnati, OH	[CVG]	X6	1410	1514	NW 1452	D9S	
Cincinnati, OH	[CVG]	6	1410	1514	NW 1452	D9S	
Cincinnati, OH	[CVG]	D	1437	1535	DL 685	M80	
Cincinnati, OH	[CVG]	X6	1955	2105	NW 1016	DC9	
Cincinnati, OH	[CVG]	D	2035	2135	DL 246	72S	
Cleveland, OH	[CLE]	X7	0655	0740	NW 1144	D9S	
Cleveland, OH	[CLE]	X6	0745	0835	NW 1108	72S	
Cleveland, OH	[CLE]	6	0745	0835	NW 1108	72S	
Cleveland, OH	[CLE]	X67	1040	1130	NW*3009	F27	
Cleveland, OH	[CLE]	D	1140	1233	NW 1587	D9S	
Cleveland, OH	[CLE]	D	1325	1415	NW 368	D9S	
Cleveland, OH	[CLE]	D	1430	1520	NW*3003	F27	
Cleveland, OH	[CLE]	D	1600	1655	NW 1591	D9S	
Cleveland, OH	[CLE]	X6	1745	1839	NW 1593	D9S	
Cleveland, OH	[CLE]	D	1850	1940	NW 1595	DC9	
Cleveland, OH	[CLE]	X6	1945	2035	NW*3015	SWM	
Columbus, OH	[CMH]	X7	0645	0739	NW 276	DC9	

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Detroit Metropolitan Wayne County Airport [DTW] (cont.)							
Columbus, OH	[CMH]	D	1020	1117	NW 1138	72S	
Columbus, OH	[CMH]	X6	1440	1534	NW 499	D9S	
Columbus, OH	[CMH]	6	1440	1534	NW 499	D9S	
Columbus, OH	[CMH]	D	1855	1950	NW 484	D9S	
Dallas/Ft. Worth, TX	[DFW]	D	0730	1057	NW 690	D9S	
Dallas/Ft. Worth, TX	[DFW]	D	0827	1158	AA 198	767	
Dallas/Ft. Worth, TX	[DFW]	D	0955	1320	DL 722	73S	
Dallas/Ft. Worth, TX	[DFW]	D	1210	1535	NW 692	D9S	
Dallas/Ft. Worth, TX	[DFW]	D	1315	1645	DL 1410	M80	
Dallas/Ft. Worth, TX	[DFW]	D	1437	1806	AA 1132	D10	
Dallas/Ft. Worth, TX	[DFW]	D	1705	2030	DL 870	M80	
Dallas/Ft. Worth, TX	[DFW]	D	1715	2100	NW 694	D9S	
Dallas/Ft. Worth, TX	[DFW]	D	2002	2330	AA 158	D10	
Dayton, OH	[DAY]	X67	0625	0720	US*4081	J31	B
Dayton, OH	[DAY]	X7	0740	0850	NW*3051	SWM	B
Dayton, OH	[DAY]	X7	0815	0915	US*4026	J31	B
Dayton, OH	[DAY]	X67	0910	1005	US*4082	J31	B
Dayton, OH	[DAY]	X67	1055	1155	US*4083	J31	B
Dayton, OH	[DAY]	X7	1120	1230	NW*3057	SWM	B
Dayton, OH	[DAY]	X6	1155	1255	US*4051	J31	B
Dayton, OH	[DAY]	D	1350	1450	US*4022	J31	B
Dayton, OH	[DAY]	D	1415	1325	NW*3055	F27	B
Dayton, OH	[DAY]	X67	1600	1700	US*4024	J31	B
Dayton, OH	[DAY]	X67	1645	1745	US*4182	J31	B
Dayton, OH	[DAY]	D	1740	1840	US*4198	J31	B
Dayton, OH	[DAY]	X6	1810	1920	NW*3053	F27	B
Dayton, OH	[DAY]	X67	1930	2030	US*4085	J31	B
Dayton, OH	[DAY]	X6	2045	2145	US*4054	J31	B
Dayton, OH	[DAY]	6	2245	2345	US*3355	J31	B
Denver, CO	[DEN]	D	1025	1502	UA 680	72S	
Denver, CO	[DEN]	D	1050	1530	NW 1224	727	
Denver, CO	[DEN]	D	1055	1551	CO 1704	M80	
Denver, CO	[DEN]	D	1340	1834	CO 1240	M80	
Denver, CO	[DEN]	D	1504	1939	UA 374	72S	
Denver, CO	[DEN]	D	1610	2106	CO 1292	M80	
Denver, CO	[DEN]	D	1620	2109	NW 1226	727	
Denver, CO	[DEN]	X67	1845	2320	UA 720	72S	
Drummond Island, MI	[Y66]	5	1640	1810	QQ 195	PAG	
Erie, PA	[ERI]	X7	0720	0830	NW*3043	F27	
Erie, PA	[ERI]	X7	1115	1220	NW*3049	SWM	
Erie, PA	[ERI]	D	1435	1540	NW*3047	F27	
Erie, PA	[ERI]	X6	1810	1920	NW*3045	F27	
Flint, MI	[FNT]	X7	0705	0740	NW*3152	F27	
Flint, MI	[FNT]	D	1045	1120	NW*3162	F27	

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Detroit Metropolitan Wayne County Airport [DTW] (cont.)							
Flint, MI	[FNT]	D	1425	1500	NW*3168	SWM	
Flint, MI	[FNT]	D	1650	1725	NW*3164	SWM	
Flint, MI	[FNT]	D	1855	1930	NW*3160	F27	
Frankfurt, FRP	[FRA]	257	1235	1550	NW 53	D10	D
Ft. Lauderdale, FL	[FLL]	D	1310	1558	DL 215	72S	
Ft. Lauderdale, FL	[FLL]	D	1345	1657	NW 243	D9S	
Ft. Lauderdale, FL	[FLL]	D	1655	1953	NW 245	727	
Ft. Myers, FL	[RSW]	D	1345	1639	NW 1111	72S	
Ft. Myers, FL	[RSW]	D	1700	1950	NW 1115	72S	
Ft. Wayne, IN	[FWA]	X7	0700	0744	NW 1554	DC9	
Ft. Wayne, IN	[FWA]	D	1045	1129	NW 1402	DC9	
Ft. Wayne, IN	[FWA]	D	1445	1530	NW 1464	DC9	
Ft. Wayne, IN	[FWA]	X6	1850	1938	NW 497	DC9	
Grand Rapids, MI	[GRR]	D	0700	0744	NW 265	D9S	
Grand Rapids, MI	[GRR]	X67	0800	0844	NW 1430	727	
Grand Rapids, MI	[GRR]	7	0800	0844	NW 1430	D9S	
Grand Rapids, MI	[GRR]	6	0800	0844	NW 1430	727	
Grand Rapids, MI	[GRR]	D	1045	1130	NW 495	D9S	
Grand Rapids, MI	[GRR]	D	1430	1528	NW 1119	D9S	
Grand Rapids, MI	[GRR]	X6	1600	1654	NW 944	D9S	
Grand Rapids, MI	[GRR]	6	1600	1654	NW 944	D9S	
Grand Rapids, MI	[GRR]	X6	2005	2055	NW 180	D9S	
Green Bay, WI	[GRB]	X7	0540	0745	NW 1518	D9S	
Green Bay, WI	[GRB]	D	0920	1124	NW 1520	D9S	
Green Bay, WI	[GRB]	D	1445	1653	NW 999	D9S	
Green Bay, WI	[GRB]	X6	1850	2102	NW 1406	DC9	
Harrisburg, PA	[HAR]	D	0700	0837	NW 1463	D9S	
Harrisburg, PA	[HAR]	D	1500	1641	NW 1465	DC9	
Harrisburg, PA	[HAR]	X6	1810	1939	NW 1467	DC9	
Hartford, CT/Springfield, MA	[BDL]	X7	0650	0855	NW 1181	72S	
Hartford, CT/Springfield, MA	[BDL]	D	1030	1229	NW 1183	D9S	
Hartford, CT/Springfield, MA	[BDL]	D	1440	1640	NW 1185	72S	
Hartford, CT/Springfield, MA	[BDL]	D	1730	1932	NW 1187	D9S	
Hartford, CT/Springfield, MA	[BDL]	X67	1910	2116	NW 1189	D9S	
Hartford, CT/Springfield, MA	[BDL]	7	1910	2116	NW 1189	D9S	
Houston, TX	[HOU]	D	0730	1107	NW 270	D9S	
Houston, TX	[HOU]	D	1155	1528	NW 272	D9S	
Houston, TX	[HOU]	D	1720	2059	NW 274	D9S	
Houston, TX	[IAH]	X6	0815	1152	CO 1080	D9S	
Houston, TX	[IAH]	D	1335	1513	CO 938	72S	

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Detroit Metropolitan Wayne County Airport [DTW] (cont.)							
Houston, TX	[IAH]	D	1930	2309	CO 1681	72S	
Indianapolis, IN	[IND]	X7	0640	0734	NW 1100	D9S	
Indianapolis, IN	[IND]	X67	0750	0853	NW 1002	D9S	
Indianapolis, IN	[IND]	67	0750	0853	NW 1002	D9S	
Indianapolis, IN	[IND]	X7	1014	1114	NW 412	757	
Indianapolis, IN	[IND]	7	1014	1114	NW 412	D9S	
Indianapolis, IN	[IND]	X7	1135	1237	NW 530	D9S	
Indianapolis, IN	[IND]	7	1135	1237	NW 530	D9S	
Indianapolis, IN	[IND]	X6	1440	1540	NW 1184	D9S	
Indianapolis, IN	[IND]	6	1440	1540	NW 1184	D9S	
Indianapolis, IN	[IND]	X6	1745	1850	NW 957	72S	
Indianapolis, IN	[IND]	6	1745	1850	NW 957	72S	
Indianapolis, IN	[IND]	X6	1950	2055	NW 1012	72S	
Indianapolis, IN	[IND]	6	1950	2055	NW 1012	72S	
Jackson, MI	[JXN]	X7	0700	0730	QQ 201	PAG	
Jackson, MI	[JXN]	D	1000	1030	QQ 203	PAG	
Jackson, MI	[JXN]	X56	1600	1630	QQ 205	PAG	
Jackson, MI	[JXN]	5	1830	1900	QQ209	PAG	
Kalamazoo, MI	[AZO]	X7	0700	0738	NW 890	D9S	
Kalamazoo, MI	[AZO]	D	1045	1123	NW 1102	D9S	
Kalamazoo, MI	[AZO]	D	1440	1526	NW 1404	DC9	
Kalamazoo, MI	[AZO]	X6	1855	1942	NW 442	D9S	
Kansas City, MO	[MCI]	D	0830	1109	NW 638	72S	
Kansas City, MO	[MCI]	D	1000	1235	NW 632	D9S	
Kansas City, MO	[MCI]	D	1220	1500	NW 640	D9S	
Kansas City, MO	[MCI]	D	1630	1915	NW 648	D9S	
Kansas City, MO	[MCI]	D	1820	2105	NW 642	D9S	
Kokomo, IN	[OKK]	X67	0800	0915	UO 481	PAG	
Kokomo, IN	[OKK]	X6	1700	1815	UO 483	PAG	
Lansing, MI	[LAN]	X7	0655	0732	NW 493	D9S	
Lansing, MI	[LAN]	D	1045	1123	NW 1146	D9S	
Lansing, MI	[LAN]	D	1440	1518	NW 1458	DC9	
Lansing, MI	[LAN]	X6	1850	1928	NW 300	DC9	
Las Vegas, NV	[LAS]	D	0815	1455	NW 1190	757	
Las Vegas, NV	[LAS]	D	1005	1649	NW 1188	72S	
Las Vegas, NV	[LAS]	D	1410	2054	NW 1192	72S	
Las Vegas, NV	[LAS]	D	2315	0557	NW 1194	72S	
London, ONT	[YXU]	X67	0650	0730	AC*1481	DH8	
London, ONT	[YXU]	X7	1000	1045	AC*1483	DH8	
London, ONT	[YXU]	X7	1445	1530	AC*1485	DH8	
London, ONT	[YXU]	7	1500	1545	AC*1485	DH8	
London, ONT	[YXU]	X6	1755	1840	AC*1487	DH8	

Michigan Air Carrier Airport Statistics

SCHEDULED AIR CARRIER ARRIVALS

Nonstop To Michigan Air Carrier Airports
As of December 31, 1989

Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Detroit Metropolitan Wayne County Airport [DTW] (cont.)							
London, UK	[LHR]	D	1300	1700	PA 55	310	D
Los Angeles, CA	[LAX]	X7	0020	0730	NW 330	72S	
Los Angeles, CA	[LAX]	D	0750	1505	NW 332	D10	
Los Angeles, CA	[LAX]	D	1215	1932	NW 334	72S	
Los Angeles, CA	[LAX]	2457	1325	2050	NW 26	747	
Los Angeles, CA	[LAX]	136	1325	2050	NW 26	747	
Los Angeles, CA	[LAX]	D	1745	0054	NW 336	757	
Los Angeles, CA	[LAX]	D	2245	0555	NW 338	757	
Louisville, KY	[SDF]	X67	0635	0742	NW 1480	DC9	
Louisville, KY	[SDF]	6	0635	0742	NW 1480	DC9	
Louisville, KY	[SDF]	X6	1420	1535	NW 1552	D9S	
Louisville, KY	[SDF]	6	1425	1535	NW 1552	D9S	
Louisville, KY	[SDF]	X67	1535	1655	DL*3125	SF3	
Louisville, KY	[SDF]	X6	1745	1902	NW 1410	D9S	
Madison, WI	[MSN]	X7	0535	0743	NW 1136	D9S	
Madison, WI	[MSN]	X7	0915	1123	NW 997	M80	
Madison, WI	[MSN]	7	0915	1123	NW 997	72S	
Madison, WI	[MSN]	D	1435	1647	NW 1062	D9S	
Madison, WI	[MSN]	D	1850	2100	NW 1482	D9S	
Marquette, MI	[MQT]	D	0655	0845	NW*3120	F27	
Marquette, MI	[MQT]	D	1105	1240	NW*3334	SWM	
Marquette, MI	[MQT]	D	1755	1945	NW*3330	F27	
Memphis, TN	[MEM]	X7	0840	1128	NW 290	DC9	
Memphis, TN	[MEM]	X7	0935	1225	NW 828	D9S	
Memphis, TN	[MEM]	7	0935	1225	NW 828	DC9	
Memphis, TN	[MEM]	D	1040	1330	NW 292	D9S	
Memphis, TN	[MEM]	D	1345	1637	NW 258	757	
Memphis, TN	[MEM]	D	1510	1800	NW 294	D9S	
Memphis, TN	[MEM]	X6	1925	1012	NW 296	D9S	
Memphis, TN	[MEM]	6	1925	1012	NW 296	320	
Miami, FL	[MIA]	X45	0800	1104	NW 992	72S	
Miami, FL	[MIA]	45	0800	1104	NW 992	72S	
Miami, FL	[MIA]	D	0920	1228	NW 994	D9S	
Miami, FL	[MIA]	D	1205	1513	NW 996	D9S	
Miami, FL	[MIA]	6	1320	1613	DL 552	757	
Miami, FL	[MIA]	X6	1800	2109	NW 998	D9S	
Miami, FL	[MIA]	6	1800	2109	NW 998	72S	
Milwaukee, WI	[MKE]	X7	0545	0744	NW 410	72S	
Milwaukee, WI	[MKE]	X67	0630	0830	YX 250	DC9	
Milwaukee, WI	[MKE]	X7	0645	0846	NW 478	72S	
Milwaukee, WI	[MKE]	7	0645	0846	NW 478	D9S	
Milwaukee, WI	[MKE]	X7	0920	1119	NW 528	757	
Milwaukee, WI	[MKE]	7	0920	1119	NW 528	727	

SCHEDULED AIR CARRIER ARRIVALS

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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Detroit Metropolitan Wayne County Airport [DTW] (cont.)							
Milwaukee, WI	[MKE]	X67	1250	1450	YX 151	DC9	
Milwaukee, WI	[MKE]	D	1252	1446	TW 766	72S	
Milwaukee, WI	[MKE]	6	1315	1525	NW 52	D9S	
Milwaukee, WI	[MKE]	2357	1315	1525	NW 52	D9S	
Milwaukee, WI	[MKE]	14	1315	1525	NW 52	D9S	
Milwaukee, WI	[MKE]	D	1430	1635	NW 1208	72S	
Milwaukee, WI	[MKE]	X67	1600	1800	YX 258	DC9	
Milwaukee, WI	[MKE]	D	1730	1934	NW 340	D9S	
Milwaukee, WI	[MKE]	D	1855	2101	NW 210	757	
Minneapolis/St. Paul, MN	[MSP]	D	0600	0837	NW 740	757	
Minneapolis/St. Paul, MN	[MSP]	6	0805	1045	NW 742	744	
Minneapolis/St. Paul, MN	[MSP]	2357	0805	1045	NW 742	744	
Minneapolis/St. Paul, MN	[MSP]	14	0805	1045	NW 742	747	
Minneapolis/St. Paul, MN	[MSP]	X7	0845	1125	NW 366	72S	
Minneapolis/St. Paul, MN	[MSP]	7	0845	1125	NW 366	320	
Minneapolis/St. Paul, MN	[MSP]	X6	0955	1233	NW 746	757	
Minneapolis/St. Paul, MN	[MSP]	6	0955	1233	NW 746	72S	
Minneapolis/St. Paul, MN	[MSP]	D	1250	1528	NW 750	D10	
Minneapolis/St. Paul, MN	[MSP]	D	1425	1700	NW 98	72S	
Minneapolis/St. Paul, MN	[MSP]	D	1705	1954	NW 754	320	
Minneapolis/St. Paul, MN	[MSP]	X6	1810	2054	NW 756	747	
Minneapolis/St. Paul, MN	[MSP]	6	1810	2054	NW 756	747	
Minneapolis/St. Paul, MN	[MSP]	X6	2030	2309	NW 378	72S	
Minneapolis/St. Paul, MN	[MSP]	6	2030	2309	NW 378	757	
Minneapolis/St. Paul, MN	[MSP]	X6	2225	0103	NW 758	72S	
Minneapolis/St. Paul, MN	[MSP]	6	2225	0103	NW 758	M80	
Montreal, QUE	[YMX]	D	0700	0855	NW 1101	D9S	
Montreal, QUE	[YMX]	D	1040	1238	NW 1103	D9S	
Montreal, QUE	[YMX]	D	1445	1655	NW 1105	D9S	
Montreal, QUE	[YMX]	X6	1900	2106	NW 757	D9S	
Muskegon, MI	[MKG]	X7	0640	0735	NW*3021	SWM	
Muskegon, MI	[MKG]	X7	1035	1130	NW*3023	SWM	
Muskegon, MI	[MKG]	D	1435	1530	NW*3025	SWM	
Nashville, TN	[BNA]	D	0835	1058	AA 1212	72S	
Nashville, TN	[BNA]	D	0850	1125	NW 1444	D9S	
Nashville, TN	[BNA]	D	1255	1527	NW 1104	D9S	
Nashville, TN	[BNA]	D	1340	1611	AA 914	M80	
Nashville, TN	[BNA]	X6	1455	1728	NW 1078	D9S	
Nashville, TN	[BNA]	D	1820	2103	NW 1454	D9S	
Nashville, TN	[BNA]	D	1915	2142	AA 860	72S	
Nashville, TN	[BNA]	X6	2035	2310	NW 318	72S	
New Orleans, LA	[MSY]	D	0745	1107	NW 1556	D9S	
New Orleans, LA	[MSY]	D	1740	2102	NW 1486	DC9	
New York, NY	[JFK]	X1	1755	2002	TW 769	72S	

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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Detroit Metropolitan Wayne County Airport [DTW] (cont.)							
New York, NY	[JFK]	D	1755	2020	PA 563	72S	
New York, NY	[JFK]	1	1755	2002	TW 769	72S	
New York, NY	[JFK]	X6	1900	2113	NW 39	D9S	
New York, NY	[JFK]	6	1900	2113	NW 39	72S	
New York, NY	[JFK]	D	2230	0033	PA 3011	72S	
New York, NY	[LGA]	X7	0645	0840	NW 436	757	
New York, NY	[LGA]	7	0645	0840	NW 436	757	
New York, NY	[LGA]	X7	0829	1030	NW 523	72S	
New York, NY	[LGA]	D	0920	1119	NW 525	757	
New York, NY	[LGA]	D	1050	1240	NW 335	757	
New York, NY	[LGA]	D	1130	1330	NW 529	757	
New York, NY	[LGA]	D	1200	1355	NW 547	D9S	
New York, NY	[LGA]	X6	1445	1644	NW 517	757	
New York, NY	[LGA]	6	1445	1644	NW 517	72S	
New York, NY	[LGA]	X6	1750	1950	NW 1197	757	
New York, NY	[LGA]	D	1750	1950	NW 533	D9S	
New York, NY	[LGA]	D	1900	2105	NW 537	D9S	
New York, NY	[LGA]	X6	2050	2250	NW 539	D9S	
New York, NY/Newark, NJ	[EWR]	X7	0700	0850	NW 247	72S	
New York, NY/Newark, NJ	[EWR]	X67	0700	0858	CO 789	737	
New York, NY/Newark, NJ	[EWR]	7	0700	0850	NW 247	72S	
New York, NY/Newark, NJ	[EWR]	D	0830	1030	CO 769	737	
New York, NY/Newark, NJ	[EWR]	X7	0850	1053	NW 363	DC9	
New York, NY/Newark, NJ	[EWR]	X14	1020	1220	NW 29	757	
New York, NY/Newark, NJ	[EWR]	14	1020	1220	NW 29	757	
New York, NY/Newark, NJ	[EWR]	D	1030	1228	CO 835	73S	
New York, NY/Newark, NJ	[EWR]	D	1150	1345	NW 367	72S	
New York, NY/Newark, NJ	[EWR]	D	1310	1507	CO 798	D9S	
New York, NY/Newark, NJ	[EWR]	D	1500	1655	NW 1195	72S	
New York, NY/Newark, NJ	[EWR]	X6	1505	1700	CO 795	737	
New York, NY/Newark, NJ	[EWR]	D	1730	1928	NW 369	757	
New York, NY/Newark, NJ	[EWR]	X6	1755	1952	CO 867	M80	
New York, NY/Newark, NJ	[EWR]	X6	1800	1958	NW 371	D9S	
New York, NY/Newark, NJ	[EWR]	X6	1940	2135	NW 373	D9S	
New York, NY/Newark, NJ	[EWR]	X6	2015	2307	US 114	D9S	
New York, NY/Newark, NJ	[EWR]	D	2030	2224	CO 693	737	
New York/White Plains, NY	[HPN]	X7	0705	0855	NW 1145	D9S	
New York/White Plains, NY	[HPN]	D	1040	1236	NW 273	D9S	
New York/White Plains, NY	[HPN]	D	1429	1624	NW 1149	D9S	
New York/White Plains, NY	[HPN]	X6	1808	1955	NW 1151	D9S	
Norfolk/Va.Beach/Wmsburg, VA	[ORF]	X7	0650	0844	NW 1451	D9S	
Norfolk/Va.Beach/Wmsburg, VA	[ORF]	D	1035	1229	NW 1411	DC9	
Norfolk/Va.Beach/Wmsburg, VA	[ORF]	D	1445	1649	NW 1453	DC9	
Norfolk/Va.Beach/Wmsburg, VA	[ORF]	D	1810	1951	NW 1455	D9S	
Orlando, FL	[MCO]	D	0830	1115	NW 437	D9S	

SCHEDULED AIR CARRIER ARRIVALS

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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Detroit Metropolitan Wayne County Airport [DTW] (cont.)							
Orlando, FL	[MCO]	D	1000	1235	NW 435	D9S	
Orlando, FL	[MCO]	D	1255	1530	NW 439	757	
Orlando, FL	[MCO]	D	1415	1658	NW 441	72S	
Orlando, FL	[MCO]	D	1815	2057	NW 443	757	
Orlando, FL	[MCO]	D	1925	2155	DL 368	72S	
Paris, FRA	[CDG]	246	1255	1550	NW 51	D10	D
Pellston, MI	[PLN]	X7	0610	0735	NW*3170	SWM	
Pellston, MI	[PLN]	D	1115	1240	NW*3182	SWM	
Pellston, MI	[PLN]	D	1805	1930	NW*3176	SWM	
Philadelphia,PA/Wilmington,DE	[PHL]	X67	0700	0850	NW 579	757	
Philadelphia,PA/Wilmington,DE	[PHL]	67	0700	0850	NW 579	757	
Philadelphia,PA/Wilmington,DE	[PHL]	X7	0755	0931	US 1058	F28	
Philadelphia,PA/Wilmington,DE	[PHL]	D	1040	1229	NW 249	72S	
Philadelphia,PA/Wilmington,DE	[PHL]	X6	1145	1330	NW 205	D9S	
Philadelphia,PA/Wilmington,DE	[PHL]	D	1330	1506	US 535	D9S	
Philadelphia,PA/Wilmington,DE	[PHL]	D	1500	1656	NW 581	757	
Philadelphia,PA/Wilmington,DE	[PHL]	D	1745	1933	NW 347	757	
Philadelphia,PA/Wilmington,DE	[PHL]	D	1745	1921	US 532	733	
Philadelphia,PA/Wilmington,DE	[PHL]	57	1940	2133	NW 211	D9S	
Philadelphia,PA/Wilmington,DE	[PHL]	1234	1940	2133	NW 211	D9S	
Philadelphia,PA/Wilmington,DE	[PHL]	X6	2050	2226	US 322	M80	
Phoenix, AZ	[PHX]	D	0020	0600	NW 246	72S	
Phoenix, AZ	[PHX]	D	0915	1457	NW 256	72S	
Phoenix, AZ	[PHX]	D	1105	1650	NW 250	727	
Phoenix, AZ	[PHX]	D	1250	1825	WN 924	733	
Phoenix, AZ	[PHX]	D	1520	2058	NW 252	72S	
Phoenix, AZ	[PHX]	X6	1935	0110	WN 719	733	
Pittsburgh, PA	[PIT]	X7	0745	0854	NW 1481	D9S	
Pittsburgh, PA	[PIT]	D	0950	1048	US 161	D9S	
Pittsburgh, PA	[PIT]	X6	1115	1223	NW 1483	DC9	
Pittsburgh, PA	[PIT]	6	1115	1223	NW 1483	DC9	
Pittsburgh, PA	[PIT]	D	1315	1412	US 469	D9S	
Pittsburgh, PA	[PIT]	D	1430	1527	US 739	73S	
Pittsburgh, PA	[PIT]	D	1525	1637	NW 1485	DC9	
Pittsburgh, PA	[PIT]	D	1655	1752	US 788	M80	
Pittsburgh, PA	[PIT]	D	1750	1848	US 1200	F28	
Pittsburgh, PA	[PIT]	X6	1830	1935	NW 465	DC9	
Pittsburgh, PA	[PIT]	D	2015	2113	US 772	72S	
Pittsburgh, PA	[PIT]	D	2210	2307	US 114	D9S	
Providence, RI	[PVD]	X7	0645	0855	NW 1443	D9S	
Providence, RI	[PVD]	D	1030	1240	NW 1445	DC9	
Providence, RI	[PVD]	D	1425	1639	NW 1447	D9S	
Providence, RI	[PVD]	X6	1900	2112	NW 1449	DC9	

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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Detroit Metropolitan Wayne County Airport [DTW] (cont.)							
Raleigh/Durham, NC	[RDU]	D	1015	1157	AA 596	72S	
Raleigh/Durham, NC	[RDU]	D	1410	1557	AA 298	72S	
Raleigh/Durham, NC	[RDU]	D	2051	2240	AA 956	M80	
Rochester, NY	[ROC]	X67	0700	0814	NW 1526	D9S	
Rochester, NY	[ROC]	6	0700	0814	NW 1526	D9S	
Rochester, NY	[ROC]	D	1100	1224	NW 329	DC9	
Rochester, NY	[ROC]	X6	1510	1639	NW 894	D9S	
Rochester, NY	[ROC]	6	1510	1639	NW 894	D9S	
Rochester, NY	[ROC]	X6	1810	1937	NW 179	D9S	
Saginaw, MI	[MBS]	X7	0700	0739	NW 1180	D9S	
Saginaw, MI	[MBS]	D	0800	0844	NW 271	D9S	
Saginaw, MI	[MBS]	D	1045	1125	NW 384	72S	
Saginaw, MI	[MBS]	D	1415	1500	NW 1148	D9S	
Saginaw, MI	[MBS]	D	1600	1643	NW 275	D9S	
Saginaw, MI	[MBS]	D	1900	1939	NW 253	72S	
San Diego, CA	[SAN]	D	0755	1508	NW 286	320	
San Diego, CA	[SAN]	D	1340	2053	NW 288	320	
San Diego, CA	[SAN]	X6	2230	0543	NW 280	320	
San Francisco/Oakland, CA	[SFO]	D	0025	0739	NW 82	757	
San Francisco/Oakland, CA	[SFO]	357	0730	1500	NW 50	D10	
San Francisco/Oakland, CA	[SFO]	1246	0730	1500	NW 50	D10	
San Francisco/Oakland, CA	[SFO]	D	1225	1949	NW 342	72S	
San Francisco/Oakland, CA	[SFO]	D	1310	2050	NW 1660	D10	
San Francisco/Oakland, CA	[SFO]	D	1335	2109	UA 758	733	
Sarasota/Bradenton, FL	[SRQ]	D	1250	1530	NW 1133	D9S	
Sarasota/Bradenton, FL	[SRQ]	D	1655	1940	NW 1135	D9S	
Seattle/Tacoma, WA	[SEA]	D	0750	1458	NW 578	757	
Seattle/Tacoma, WA	[SEA]	D	1335	2050	NW 580	757	
Seattle/Tacoma, WA	[SEA]	D	2305	0615	NW 582	757	
Seoul, ROK	[SEL]	36	1530	1425	NW 30	747	D
South Bend, IN	[SBN]	X7	0700	0744	NW 1400	DC9	
South Bend, IN	[SBN]	D	1040	1130	NW 542	DC9	
South Bend, IN	[SBN]	D	1440	1529	NW 1484	DC9	
South Bend, IN	[SBN]	X6	1855	1945	NW 1010	DC9	
Stevens Point/Wausau, WI	[CWA]	X7	0835	1125	NW*3286	F27	
Stevens Point/Wausau, WI	[CWA]	D	1245	1530	NW*3314	SWM	
Stevens Point/Wausau, WI	[CWA]	D	1655	1940	NW*3290	SWM	
St. Louis, MO	[STL]	X67	0630	0853	NW 458	D9S	
St. Louis, MO	[STL]	X7	0845	1119	NW 460	DC9	
St. Louis, MO	[STL]	7	0845	1119	NW 460	DC9	

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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Detroit Metropolitan Wayne County Airport [DTW] (cont.)							
St. Louis, MO	[STL]	D	0939	1005	TW 432	D9S	
St. Louis, MO	[STL]	D	1045	1314	TW 648	D9S	
St. Louis, MO	[STL]	D	1235	1504	NW 1522	D9S	
St. Louis, MO	[STL]	D	1349	1620	TW 224	M80	
St. Louis, MO	[STL]	D	1430	1656	NW 466	D9S	
St. Louis, MO	[STL]	D	1749	2025	TW 220	D9S	
St. Louis, MO	[STL]	D	1815	2050	NW 464	D9S	
St. Louis, MO	[STL]	D	2040	2310	TW 320	M80	
Syracuse, NY	[SYR]	X7	0705	0839	NW 1130	D9S	
Syracuse, NY	[SYR]	D	1055	1232	NW 1555	DC9	
Syracuse, NY	[SYR]	X6	1500	1637	NW 1557	D9S	
Syracuse, NY	[SYR]	6	1500	1637	NW 1557	D9S	
Syracuse, NY	[SYR]	X6	1805	1934	NW 995	D9S	
Tampa/St. Petersburg, FL	[TPA]	D	0840	1118	NW 479	D9S	
Tampa/St. Petersburg, FL	[TPA]	D	0955	1230	NW 481	72S	
Tampa/St. Petersburg, FL	[TPA]	D	1250	1530	NW 483	72S	
Tampa/St. Petersburg, FL	[TPA]	D	1705	1940	NW 487	D9S	
Tampa/St. Petersburg, FL	[TPA]	D	1835	2109	NW 485	72S	
Tampa/St. Petersburg, FL	[TPA]	D	1835	2109	NW 463	72S	
Tokyo, JPN	[NRT]	D	1550	1330	NW 12	747	D
Toledo, OH	[TOL]	X7	0700	0735	NW*3141	SWM	
Toledo, OH	[TOL]	X7	1045	1120	NW*3145	SWM	
Toledo, OH	[TOL]	D	1425	1500	NW*3147	SWM	
Toledo, OH	[TOL]	D	1840	1915	NW*3143	SWM	
Toronto, ONT	[YYZ]	D	0725	0855	NW 103	757	
Toronto, ONT	[YYZ]	D	1110	1224	NW 411	72S	
Toronto, ONT	[YYZ]	D	1410	1522	NW 415	757	
Toronto, ONT	[YYZ]	D	1420	1545	BA 093	747	
Toronto, ONT	[YYZ]	D	1550	1700	NW 440	72S	
Toronto, ONT	[YYZ]	D	1830	1943	NW 419	757	
Traverse City, MI	[TVC]	D	0655	0745	NW 1510	D9S	
Traverse City, MI	[TVC]	D	1120	1235	NW*3174	F27	
Traverse City, MI	[TVC]	D	1405	1520	NW*3196	F27	
Traverse City, MI	[TVC]	X6	1935	2050	NW*3178	F27	
Washington, DC	[DCA]	D	0710	0852	NW 285	320	
Washington, DC	[DCA]	X7	0830	1004	NW 233	320	
Washington, DC	[DCA]	45	1015	1153	NW 1165	72S	
Washington, DC	[DCA]	1236	1015	1153	NW 1165	72S	
Washington, DC	[DCA]	D	1100	1235	NW 11	757	
Washington, DC	[DCA]	D	1359	1536	NW 235	D9S	
Washington, DC	[DCA]	D	1459	1640	NW 287	320	
Washington, DC	[DCA]	X6	1810	1944	NW 239	757	
Washington, DC	[DCA]	6	1810	1944	NW 239	757	

Michigan Air Carrier Airport Statistics

SCHEDULED AIR CARRIER ARRIVALS

Nonstop To Michigan Air Carrier Airports
As of December 31, 1989

Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
<u>Detroit Metropolitan Wayne County Airport [DTW] (cont.)</u>							
Washington, DC	[DCA]	X6	2000	2130	NW 241	72S	
Washington, DC	[IAD]	X7	0705	0838	NW 1401	DC9	
Washington, DC	[IAD]	X7	0940	1110	UA 1069	73S	
Washington, DC	[IAD]	D	1100	1234	NW 1403	DC9	
Washington, DC	[IAD]	D	1515	1647	NW 1405	DC9	
Washington, DC	[IAD]	D	1610	1739	UA 1424	73S	
Washington, DC	[IAD]	X6	1810	1942	NW 1407	DC9	
Washington, DC	[IAD]	X6	2130	2259	UA 1106	73S	
West Palm Beach, FL	[PBI]	D	0815	1112	NW 889	D9S	
West Palm Beach, FL	[PBI]	D	1200	1500	NW 891	D9S	
Worcester, MA	[ORH]	X17	0645	0852	NW 461	D9S	
Worcester, MA	[ORH]	17	0645	0852	NW 461	D9S	
Worcester, MA	[ORH]	D	1440	1650	NW 1459	DC9	
Worcester, MA	[ORH]	X6	1800	1949	NW 1461	DC9	
Youngstown, OH	[YNG]	X67	0650	0750	GS 200	PAG	
Youngstown, OH	[YNG]	X67	1600	1700	GS 206	PAG	
<u>Drummond Island Airport [Y66]</u>							
Alpena, MI	[APN]	6	1100	1130	QQ 925	PAG	
Alpena, MI	[APN]	1235	1230	1315	QQ 1100	PAG	
Alpena, MI	[APN]	47	1655	1925	QQ 1525	PAG	
Alpena, MI	[APN]	1235	1930	2005	QQ 1800	PAG	
Alpena, MI	[APN]	6	1955	2025	QQ 1830	PAG	
Alpena, MI	[APN]	47	2155	2245	QQ 2030	PAG	
Ann Arbor, MI	[ARB]	4	1035	1205	QQ 194	PAG	
Ann Arbor, MI	[ARB]	5	1440	1610	QQ 196	PAG	
Detroit, MI	[DTW]	1	1100	1230	QQ 192	PAG	
<u>Escanaba, Delta County Airport [ESC]</u>							
Green Bay, WI	[GRB]	X7	1015	1150	NW*2668	J31	
Green Bay, WI	[GRB]	X6	1320	1455	NW*2670	J31	
Green Bay, WI	[GRB]	6	1355	1530	NW*2670	J31	
Green Bay, WI	[GRB]	X6	1945	2120	NW*2674	J31	
Green Bay, WI	[GRB]	D	1240	1415	AA*4238	ATR	
Marquette, MI	[MQT]	D	0600	0626	AA*4290	ATR	
Rhineland, WI	[RHI]	X7	1015	1155	NW*2625	J31	
Rhineland, WI	[RHI]	D	1420	1555	NW*2631	J31	
Rhineland, WI	[RHI]	X6	2020	2158	NW*2633	J31	
Stevens Point/Wausau, WI	[CWA]	D	0817	1005	AA*4297	ATR	

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Nonstop To Michigan Air Carrier Airports
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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Flint, Bishop Airport [FNT]							
Chicago, IL	[MDW]	X67	0820	1040	ML*1502	EMB	
Chicago, IL	[MDW]	6	1005	1225	ML*1502	EMB	
Chicago, IL	[MDW]	X67	1200	1420	ML*1504	EMB	
Chicago, IL	[MDW]	D	1545	1800	ML*1506	EMB	
Chicago, IL	[MDW]	X6	2005	2225	ML*1508	EMB	
Chicago, IL	[ORD]	D	1005	1233	AA*4387	SH6	
Chicago, IL	[ORD]	D	1850	2120	AA*4221	SH6	
Chicago, IL	[ORD]	D	2020	2250	AA*4067	SH6	
Cleveland, OH	[CLE]	X7	0935	1030	CO*4439	EM2	
Cleveland, OH	[CLE]	7	1010	1105	CO*4471	EM2	
Cleveland, OH	[CLE]	D	1255	1350	CO*4437	EM2	
Cleveland, OH	[CLE]	D	1540	1635	CO*4631	EM2	
Cleveland, OH	[CLE]	D	1910	2005	CO*4435	EM2	
Dayton, OH	[DAY]	D	1350	1440	US 1033	733	
Dayton, OH	[DAY]	D	1747	1840	US 1427	72S	
Dayton, OH	[DAY]	D	2258	2351	US 1575	733	
Detroit, MI	[DTW]	D	0935	1010	NW*3161	F27	
Detroit, MI	[DTW]	D	1320	1355	NW*3165	SWM	
Detroit, MI	[DTW]	D	1555	1630	NW*3169	SWM	
Detroit, MI	[DTW]	D	1755	1830	NW*3163	F27	
Detroit, MI	[DTW]	X6	2045	2120	NW*3167	F27	
Kalamazoo, MI	[AZO]	D	1040	1120	AA*4391	SH6	
Lansing, MI	[LAN]	D	0926	0951	AA*4118	SH6	
Lansing, MI	[LAN]	D	1556	1620	AA*4110	SH6	
Lansing, MI	[LAN]	D	1851	1920	AA*4255	SH6	
Lansing, MI	[LAN]	D	2251	2317	AA*4371	SH6	
Milwaukee, WI	[MKE]	X67	0740	0940	YX*1001	BE1	
Milwaukee, WI	[MKE]	X6	1745	1940	YX*1006	BE1	
Rochester, NY	[ROC]	X67	0800	0930	YX*1081	BE1	
Rochester, NY	[ROC]	X67	1800	1930	YX*1087	BE1	
Grand Rapids, Kent County International Airport [GRR]							
Chicago, IL	[MDW]	X7	0833	1033	ML*1859	DO8	
Chicago, IL	[MDW]	D	1110	1310	ML*1802	DO8	
Chicago, IL	[MDW]	D	1400	1600	ML*1691	DO8	
Chicago, IL	[MDW]	D	1625	1820	ML*1737	DO8	
Chicago, IL	[MDW]	X6	2000	2200	ML*1710	DO8	
Chicago, IL	[ORD]	D	0635	0827	UA 780	727	
Chicago, IL	[ORD]	D	0640	0834	AA 1236	M80	
Chicago, IL	[ORD]	X7	0950	1139	UA 701	727	
Chicago, IL	[ORD]	D	0959	1151	AA 1386	72S	

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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Grand Rapids, Kent County International Airport [GRR] (cont.)							
Chicago, IL	[ORD]	D	1114	1303	UA 65	73S	
Chicago, IL	[ORD]	D	1130	1323	AA 1013	72S	
Chicago, IL	[ORD]	D	1445	1639	AA 517	M80	
Chicago, IL	[ORD]	D	1518	1704	UA 73	72S	
Chicago, IL	[ORD]	D	1625	1821	AA 1052	M80	
Chicago, IL	[ORD]	X67	1655	1847	UA 870	73S	
Chicago, IL	[ORD]	D	1829	2017	AA 1004	M80	
Chicago, IL	[ORD]	D	2045	2235	UA 488	72S	
Chicago, IL	[ORD]	D	2205	2351	AA 1395	72S	
Cincinnati, OH	[CVG]	X7	1035	1150	DL*3049	SF3	
Cincinnati, OH	[CVG]	X67	1246	1359	DL*3217	SWM	
Cincinnati, OH	[CVG]	D	1440	1555	DL*3244	SWM	
Cincinnati, OH	[CVG]	D	1846	1959	DL*3201	SWM	
Cincinnati, OH	[CVG]	D	2040	2155	DL*3016	SF3	
Cleveland, OH	[CLE]	D	1035	1145	CO*4613	EM2	
Cleveland, OH	[CLE]	D	1255	1405	CO*4683	EM2	
Cleveland, OH	[CLE]	D	1510	1620	CO*4673	EM2	
Cleveland, OH	[CLE]	D	1915	2025	CO*4646	EM2	
Dayton, OH	[DAY]	D	0920	1012	US 1507	73S	
Dayton, OH	[DAY]	D	1350	1439	US 1439	72S	
Dayton, OH	[DAY]	D	1750	1840	US 1064	72S	
Dayton, OH	[DAY]	D	2250	2340	US 1031	72S	
Detroit, MI	[DTW]	X67	0930	1015	NW 1517	D9S	
Detroit, MI	[DTW]	67	0930	1015	NW 1517	D9S	
Detroit, MI	[DTW]	D	1315	1355	NW 632	D9S	
Detroit, MI	[DTW]	X6	1620	1712	NW 237	D9S	
Detroit, MI	[DTW]	6	1620	1712	NW 237	727	
Detroit, MI	[DTW]	D	1755	1844	NW 176	D9S	
Detroit, MI	[DTW]	X6	2030	2120	NW 533	D9S	
Detroit, MI	[DTW]	D	2205	2252	NW 1189	D9S	
Milwaukee, WI	[MKE]	X7	0740	0925	NW*2667	J31	
Milwaukee, WI	[MKE]	X67	0750	0940	DL*3059	SF3	
Milwaukee, WI	[MKE]	X7	0800	0936	YX*1074	BE1	
Milwaukee, WI	[MKE]	X67	1100	1240	YX*1002	BE1	
Milwaukee, WI	[MKE]	7	1245	1440	YX 722	DC9	
Milwaukee, WI	[MKE]	D	1310	1455	NW*2669	J31	
Milwaukee, WI	[MKE]	X67	1340	1515	YX 305	DC9	
Milwaukee, WI	[MKE]	6	1455	1630	YX 365	DC9	
Milwaukee, WI	[MKE]	X6	1600	1739	NW*2671	J31	
Milwaukee, WI	[MKE]	X6	1600	1735	YX*1045	BE1	
Milwaukee, WI	[MKE]	X6	1755	1940	NW*2681	J31	
Milwaukee, WI	[MKE]	X6	1800	1940	YX*1048	BE1	
Milwaukee, WI	[MKE]	X6	2115	2250	YX 528	DC9	
Minneapolis/St. Paul, MN	[MSP]	X7	0745	0959	NW 514	D9S	

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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Grand Rapids, Kent County International Airport [GRR] (cont.)							
Minneapolis/St. Paul, MN	[MSP]	D	1300	1518	NW 220	D9S	
Minneapolis/St. Paul, MN	[MSP]	X6	1745	2010	NW 1014	D9S	
Minneapolis/St. Paul, MN	[MSP]	6	1745	2010	NW 1014	D9S	
Minneapolis/St. Paul, MN	[MSP]	X6	2030	2253	NW 1018	727	
Minneapolis/St. Paul, MN	[MSP]	6	2030	2253	NW 1018	D9S	
New York, NY/Newark, NJ	[EWR]	X67	1250	1440	YX 527	DC9	
Pittsburgh, PA	[PIT]	D	0950	1100	US 160	D9S	
Pittsburgh, PA	[PIT]	D	1645	1755	US 374	M80	
Pittsburgh, PA	[PIT]	D	2030	2140	US 17	D9S	
Toronto, ONT	[YYZ]	X67	0930	1105	AC*1131	J31	
Toronto, ONT	[YYZ]	6	1210	1345	AC*1137	J31	
Toronto, ONT	[YYZ]	X6	2000	2135	AC*1135	J31	
Houghton/Hancock, Houghton County Memorial Airport [CMX]							
Iron Mountain, MI	[IMT]	X6	1355	1520	ZK 33	BE1	
Iron Mountain, MI	[IMT]	6	1840	2005	ZK 39	BE1	
Iron Mountain, MI	[IMT]	X6	2210	2335	ZK 31	BE1	
Manistee, MI	[MBL]	X67	1010	1105	ZK 41	BE1	
Marquette, MI	[MQT]	X7	0605	0630	NW*3129	SWM	
Marquette, MI	[MQT]	6	0645	0710	MQ 750	SH6	
Marquette, MI	[MQT]	D	1155	1225	NW*3123	F27	
Marquette, MI	[MQT]	D	1650	1720	NW*3125	SWM	
Marquette, MI	[MQT]	D	2245	2315	NW*3127	F27	
Minneapolis/St. Paul, MN	[MSP]	D	0740	1005	NW*3334	SWM	
Minneapolis/St. Paul, MN	[MSP]	D	1430	1655	NW*3330	F27	
Minneapolis/St. Paul, MN	[MSP]	X6	2030	2300	NW*3336	SWM	
Iron Mountain, Ford Airport [IMT]							
Houghton/Hancock, MI	[CMX]	X67	0615	0540	ZK 36	BE1	
Houghton/Hancock, MI	[CMX]	67	1040	1005	ZK 34	BE1	
Houghton/Hancock, MI	[CMX]	X6	1540	1505	ZK 38	BE1	
Ironwood, MI	[IWD]	X67	0935	1005	ZK 32	BE1	
Ironwood, MI	[IWD]	6	1435	1505	ZK 38	BE1	
Ironwood, MI	[IWD]	X6	1715	1745	ZK 30	BE1	
Menominee, MI/Marinette, WI	[MNM]	X67	0850	0910	ZK 37	BE1	
Menominee, MI/Marinette, WI	[MNM]	D	1325	1345	ZK 33	BE1	
Menominee, MI/Marinette, WI	[MNM]	D	1815	1835	ZK 39	BE1	
Menominee, MI/Marinette, WI	[MNM]	X6	2145	2205	ZK 31	BE1	
Ironwood, Gogebic County Airport [IWD]							
Iron Mountain, MI	[IMT]	X67	0915	0945	ZK 37	BE1	
Iron Mountain, MI	[IMT]	6	1350	1420	ZK 33	BE1	

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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Ironwood, Gogebic County Airport [IWD] (cont.)							
Iron Mountain, MI	[IMT]	X6	1840	1910	ZK 39	BE1	
Minneapolis/St. Paul, MN	[MSP]	X67	0835	0925	ZK 32	BE1	
Minneapolis/St. Paul, MN	[MSP]	X6	1620	1710	ZK 30	BE1	
Jackson County, Reynolds Field [JXN]							
Ann Arbor, MI	[ARB]	1	1435	1455	QQ 190	PAG	
Detroit, MI	[DTW]	X7	0825	0855	QQ 202	PAG	
Detroit, MI	[DTW]	X14	1100	1130	QQ 204	PAG	
Detroit, MI	[DTW]	4	1435	1455	QQ 208	PAG	
Detroit, MI	[DTW]	X56	1745	1815	QQ 206	PAG	
Detroit, MI	[DTW]	5	1930	2000	QQ 210	PAG	
Kalamazoo/Battle Creek Regional International Airport [AZO]							
Chicago, IL	[MDW]	X7	0805	0955	ML*1722	DO8	
Chicago, IL	[MDW]	D	1140	1330	ML*1667	DO8	
Chicago, IL	[MDW]	D	1355	1545	ML*1726	DO8	
Chicago, IL	[MDW]	D	1640	1830	ML*1985	DO8	
Chicago, IL	[MDW]	X6	2002	2152	ML*1734	DO8	
Chicago, IL	[ORD]	X67	0714	0854	UA*2712	F27	
Chicago, IL	[ORD]	D	0730	0928	AA*4198	SH6	
Chicago, IL	[ORD]	D	1000	1201	AA*4182	SH6	
Chicago, IL	[ORD]	D	1010	1150	UA*2714	F27	
Chicago, IL	[ORD]	D	1249	1429	UA*2716	F27	
Chicago, IL	[ORD]	D	1327	1528	AA*4123	SH6	
Chicago, IL	[ORD]	D	1355	1535	UA*2718	F27	
Chicago, IL	[ORD]	D	1625	1826	AA*4154	SH6	
Chicago, IL	[ORD]	D	1644	1824	UA*2720	F27	
Chicago, IL	[ORD]	X6	2020	2200	UA*2724	F27	
Chicago, IL	[ORD]	D	2022	2225	AA*4391	SH6	
Cincinnati, OH	[CVG]	X7	1035	1150	DL*3273	SWM	
Cincinnati, OH	[CVG]	D	1438	1548	DL*3319	SWM	
Cincinnati, OH	[CVG]	X6	1845	1950	DL*3310	SWM	
Cincinnati, OH	[CVG]	D	2035	2145	DL*3202	SWM	
Cleveland, OH	[CLE]	X7	0940	1045	CO*4681	EM2	
Cleveland, OH	[CLE]	7	1010	1115	CO*4473	EM2	
Cleveland, OH	[CLE]	D	1255	1400	CO*4697	EM2	
Cleveland, OH	[CLE]	D	1515	1620	CO*4695	EM2	
Cleveland, OH	[CLE]	D	1900	2005	CO*4693	EM2	
Dayton, OH	[DAY]	X7	0916	1004	US 453	D9S	
Dayton, OH	[DAY]	D	1355	1443	US 1584	73S	
Dayton, OH	[DAY]	D	1747	1840	US 1485	72S	
Dayton, OH	[DAY]	X6	2215	2259	US 1545	73S	
Dayton, OH	[DAY]	6	2215	2259	US 937	D9S	

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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
<u>Kalamazoo/Battle Creek Regional International Airport [AZO] (cont.)</u>							
Detroit, MI	[DTW]	X7	0935	1015	NW 1443	D9S	
Detroit, MI	[DTW]	X6	1325	1409	NW 1445	DC9	
Detroit, MI	[DTW]	6	1325	1409	NW 1445	DC9	
Detroit, MI	[DTW]	D	1740	1820	NW 466	D9S	
Detroit, MI	[DTW]	X6	2035	2122	NW 545	D9S	
Flint, MI	[FNT]	D	0650	0730	AA*4216	SH6	
Lansing, MI	[LAN]	D	0710	0740	NW 707	D9S	
Lansing, MI	[LAN]	X67	0945	1010	YX*1133	BE1	
Lansing, MI	[LAN]	D	1310	1342	AA*4183	SH6	
Lansing, MI	[LAN]	X6	2000	2025	YX*1134	BE1	
Minneapolis/St. Paul, MN	[MSP]	D	1755	2010	NW 1022	D9S	
Toronto, ONT	[YYZ]	X67	1400	1540	AC*1133	J31	
<u>Lansing, Capital City Airport [LAN]</u>							
Chicago, IL	[MDW]	X7	0820	1030	ML*1916	DO8	
Chicago, IL	[MDW]	D	1105	1310	ML*1928	DO8	
Chicago, IL	[MDW]	D	1400	1610	ML*1676	DO8	
Chicago, IL	[MDW]	X6	1600	1810	ML*1614	DO8	
Chicago, IL	[MDW]	X6	2002	2212	ML*1926	DO8	
Chicago, IL	[ORD]	X67	0647	0847	UA*2780	F27	
Chicago, IL	[ORD]	D	0650	0911	AA*4118	SH6	
Chicago, IL	[ORD]	D	0944	1144	UA*2784	F27	
Chicago, IL	[ORD]	D	1125	1325	UA*2786	F27	
Chicago, IL	[ORD]	D	1320	1541	AA*4110	SH6	
Chicago, IL	[ORD]	X6	1350	1550	UA*2790	F27	
Chicago, IL	[ORD]	D	1535	1735	UA*2788	F27	
Chicago, IL	[ORD]	D	1620	1836	AA*4255	SH6	
Chicago, IL	[ORD]	D	2005	2205	UA*2792	F27	
Chicago, IL	[ORD]	D	2020	2236	AA*4371	SH6	
Cincinnati, OH	[CVG]	X7	1035	1150	DL*3209	SWM	
Cincinnati, OH	[CVG]	D	1434	1545	DL*3323	SWM	
Cincinnati, OH	[CVG]	D	2040	2155	DL*3229	SWM	
Cleveland, OH	[CLE]	X7	0935	1030	CO*4421	EM2	
Cleveland, OH	[CLE]	7	1000	1055	CO*4475	EM2	
Cleveland, OH	[CLE]	D	1255	1350	CO*4427	EM2	
Cleveland, OH	[CLE]	D	1535	1630	CO*4425	EM2	
Cleveland, OH	[CLE]	X6	1905	1958	CO 299	D9S	
Cleveland, OH	[CLE]	6	1905	2000	CO*4415	EM2	
Cleveland, OH	[CLE]	X6	2120	2215	CO*4687	EM2	
Dayton, OH	[DAY]	D	0915	1007	US 2145	73S	
Dayton, OH	[DAY]	D	1745	1837	US 1668	733	
Dayton, OH	[DAY]	D	2248	2340	US 1037	734	

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Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Lansing, Capital City Airport [LAN] (cont.)							
Detroit, MI	[DTW]	X67	0935	1011	NW 1145	D9S	
Detroit, MI	[DTW]	6	0935	1011	NW 1145	D9S	
Detroit, MI	[DTW]	D	1330	1406	NW 1555	DC9	
Detroit, MI	[DTW]	D	1740	1819	NW 1465	DC9	
Detroit, MI	[DTW]	X6	2040	2115	NW 371	D9S	
Flint, MI	[FNT]	D	0648	0722	AA*4169	SH6	
Flint, MI	[FNT]	D	0930	1000	AA*4063	SH6	
Flint, MI	[FNT]	D	1653	1718	AA*4111	SH6	
Kalamazoo, MI	[AZO]	D	1216	1248	AA*4182	SH6	
Kalamazoo, MI	[AZO]	D	2040	2109	NW 1022	D9S	
Saginaw, MI	[MBS]	X7	0820	0850	CO*4408	EM2	
Mackinac Island Airport [Y84]							
Drummond Island, MI	[Y66]	2346	0655	0715	QQ 655	DHT	C
Drummond Island, MI	[Y66]	15	1200	1220	QQ 1200	DHT	C
Drummond Island, MI	[Y66]	2346	1340	1400	QQ 1340	DHT	C
Drummond Island, MI	[Y66]	15	1810	1840	QQ 1810	DHT	C
Drummond Island, MI	[Y66]	2346	2030	2100	QQ 2030	DHT	C
Manistee County Blacker Airport [MBL]							
Chicago, IL	[ORD]	X67	0815	1005	ZK 41	BE1	
Chicago, IL	[ORD]	7	1215	1405	ZK 43	BE1	
Houghton/Hancock, MI	[CMX]	X67	1120	1215	ZK 44	BE1	
Manitowoc, WI	[MTW]	X7	1335	1500	ZK 45	BE1	
Manitowoc, WI	[MTW]	X6	2145	2310	ZK 47	BE1	
Sault Ste. Marie, MI	[CIU]	X67	0555	0640	ZK 40	BE1	
Sault Ste. Marie, MI	[CIU]	67	1030	1115	ZK 42	BE1	
Sault Ste. Marie, MI	[CIU]	X6	1930	2015	ZK 48	BE1	
Marquette County Airport [MQT]							
Chicago, IL	[ORD]	D	0842	1126	AA*4225	ATR	
Detroit, MI	[DTW]	D	0945	1140	NW*3123	F27	
Detroit, MI	[DTW]	D	2035	2230	NW*3127	F27	
Escanaba, MI	[ESC]	D	2020	2045	AA*4297	ATR	
Green Bay, WI	[GRB]	D	1453	1638	AA*4170	ATR	
Green Bay, WI	[GRB]	D	2000	2147	AA*4229	ATR	
Green Bay, WI	[GRB]	X6	2141	2327	AA*4227	ATR	
Houghton/Hancock, MI	[CMX]	D	0610	0640	NW*3120	F27	
Houghton/Hancock, MI	[CMX]	D	1020	1050	NW*3334	SWM	
Houghton/Hancock, MI	[CMX]	6	1205	1230	MQ 751	SH6	

SCHEDULED AIR CARRIER ARRIVALS

Nonstop To Michigan Air Carrier Airports
As of December 31, 1989.

Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Marquette County Airport [MQT] (cont.)							
Houghton/Hancock, MI	[CMX]	D	1710	1740	NW*3330	F27	
Houghton/Hancock, MI	[CMX]	X6	2315	2340	NW*3336	SWM	
Traverse City, MI	[TVC]	D	1535	1630	NW*3125	SWM	
Menominee/Marinette, Twin County Airport [MNM]							
Chicago, IL	[ORD]	X67	0745	0845	ZK 37	BE1	
Chicago, IL	[ORD]	D	1220	1320	ZK 33	BE1	
Chicago, IL	[ORD]	D	1710	1810	ZK 39	BE1	
Chicago, IL	[ORD]	X6	2040	2140	ZK 31	BE1	
Iron Mountain, MI	[IMT]	X67	0550	0610	ZK 36	BE1	
Iron Mountain, MI	[IMT]	X67	1015	1035	ZK 32	BE1	
Iron Mountain, MI	[IMT]	67	1015	1035	ZK 34	BE1	
Iron Mountain, MI	[IMT]	D	1515	1535	ZK 38	BE1	
Iron Mountain, MI	[IMT]	X6	1750	1810	ZK 30	BE1	
Sturgeon Bay, WI	[SUE]	X67	0615	0630	3A 136	CNA	
Muskegon County Airport [MKG]							
Chicago, IL	[MDW]	X67	0830	1025	ML*1748	DO8	
Chicago, IL	[MDW]	D	1125	1320	ML*1744	DO8	
Chicago, IL	[MDW]	D	1357	1552	ML*1746	DO8	
Chicago, IL	[MDW]	D	1625	1820	ML*1650	DO8	
Chicago, IL	[MDW]	X6	2000	2155	ML*1640	DO8	
Chicago, IL	[ORD]	D	0836	1033	AA*4271	SH6	
Chicago, IL	[ORD]	D	1130	1328	AA*4223	SH6	
Chicago, IL	[ORD]	D	1330	1528	AA*4114	SH6	
Chicago, IL	[ORD]	D	1628	1830	AA*4215	SH6	
Chicago, IL	[ORD]	D	2017	2220	AA*4256	SH6	
Detroit, MI	[DTW]	X7	0920	1015	NW*3022	SWM	
Detroit, MI	[DTW]	D	1315	1410	NW*3024	SWM	
Detroit, MI	[DTW]	X6	1800	1855	NW*3026	SWM	
Milwaukee, WI	[MKE]	X67	1045	1220	YX*1043	BE1	
Milwaukee, WI	[MKE]	X67	1330	1500	YX*1064	BE1	
Milwaukee, WI	[MKE]	6	1500	1630	YX*1664	BE1	
Milwaukee, WI	[MKE]	X6	1600	1730	YX*1004	BE1	
Milwaukee, WI	[MKE]	X6	2115	2245	YX*1025	BE1	
Pellston Regional Airport [PLN]							
Detroit, MI	[DTW]	D	0930	1055	NW*3191	SWM	
Detroit, MI	[DTW]	D	1445	1610	NW*3153	SWM	
Detroit, MI	[DTW]	X6	2040	2205	NW*3179	SWM	
Traverse City, MI	[TVC]	D	1349	1417	AA*4315	ATR	
Traverse City, MI	[TVC]	D	2118	2150	AA*4172	ATR	

Michigan Air Carrier Airport Statistics

SCHEDULED AIR CARRIER ARRIVALS

Nonstop To Michigan Air Carrier Airports
As of December 31, 1989

Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
Midland/Bay City/Saginaw, Tri-City International Airport [MBS]							
Chicago, IL	[ORD]	X6	0945	1142	UA 317	727	
Chicago, IL	[ORD]	D	1120	1319	UA 697	733	
Chicago, IL	[ORD]	D	1530	1726	UA 843	72S	
Chicago, IL	[ORD]	X6	2100	2300	UA 876	733	
Cleveland, OH	[CLE]	X7	0930	1030	CO*4407	EM2	
Cleveland, OH	[CLE]	7	1000	1100	CO*4477	EM2	
Cleveland, OH	[CLE]	D	1255	1355	CO*4405	EM2	
Cleveland, OH	[CLE]	D	1525	1625	CO*4403	EM2	
Cleveland, OH	[CLE]	6	1905	2005	CO*4417	EM2	
Cleveland, OH	[CLE]	X6	1910	2010	CO 627	737	
Detroit, MI	[DTW]	X7	0930	1010	NW 492	72S	
Detroit, MI	[DTW]	D	1215	1259	NW 270	D9S	
Detroit, MI	[DTW]	D	1335	1417	NW 994	D9S	
Detroit, MI	[DTW]	D	1740	1821	NW 1188	72S	
Detroit, MI	[DTW]	X6	2025	2110	NW 430	D9S	
Detroit, MI	[DTW]	6	2025	2110	NW 430	72S	
Detroit, MI	[DTW]	D	2155	2240	NW 274	D9S	
Flint, MI	[FNT]	X67	0950	1015	YX*1001	BE1	
Flint, MI	[FNT]	X6	1950	2015	YX*1006	BE1	
Lansing, MI	[LAN]	X6	2225	2255	CO*4687	EM2	
Sault Ste. Marie, Chippewa County International Airport [CIU]							
Alpena, MI	[APN]	X67	1045	1110	ZK 21	BE1	
Alpena, MI	[APN]	D	1430	1455	ZK 23	BE1	
Alpena, MI	[APN]	D	1850	1915	ZK 25	BE1	
Alpena, MI	[APN]	X6	2200	2225	ZK 29	BE1	
Manistee, MI	[MBL]	7	1410	1445	ZK 43	BE1	
Manistee, MI	[MBL]	X7	1510	1555	ZK 45	BE1	
Manistee, MI	[MBL]	X6	2315	2359	ZK 47	BE1	
Traverse City, Cherry Capital Airport [TVC]							
Chicago, IL	[MDW]	D	1000	1220	ML*1602	DO8	
Chicago, IL	[MDW]	D	1300	1515	ML*1682	DO8	
Chicago, IL	[MDW]	D	1540	1755	ML*1994	DO8	
Chicago, IL	[MDW]	D	1935	2155	ML*1688	DO8	
Chicago, IL	[ORD]	D	0850	1108	AA*4190	ATR	
Chicago, IL	[ORD]	D	1120	1334	AA*4315	ATR	
Chicago, IL	[ORD]	D	1445	1700	AA*4047	ATR	
Chicago, IL	[ORD]	D	1845	2103	AA*4172	ATR	
Detroit, MI	[DTW]	D	0940	1055	NW*3177	F27	
Detroit, MI	[DTW]	D	1215	1330	NW*3193	F27	
Detroit, MI	[DTW]	D	1400	1515	NW*3125	SWM	
Detroit, MI	[DTW]	X6	1745	1900	NW*3175	F27	

SCHEDULED AIR CARRIER ARRIVALS

Nonstop To Michigan Air Carrier Airports

As of December 31, 1989

Origin	Origin Codes	Frequency	Dep. Time	Arr. Time	Flight Number	Eqp	Notes
<u>Traverse City, Cherry Capital Airport [TVC] (cont.)</u>							
Detroit, MI	[DTW]	D	2155	2250	NW 1511	D9S	
Pellston, MI	[PLN]	D	0600	0628	AA*4207	ATR	
Pellston, MI	[PLN]	D	1437	1503	AA*4316	ATR	



Appendix B:
FAA AIR CARRIER AIRPORT CODES

Appendix B: FAA Air Carrier Airport Codes

The data provided in this appendix is derived from the *Official Airline Guide North American Edition* December 15, 1989 or the *Official Airline Guide Worldwide Edition* October 29, 1989. The data is for the origins of scheduled flights to Michigan scheduled air carrier airports as of December 31, 1988 except for Mackinac Island Airport. This facility is effective as of July 1, 1989.

This data is presented in alphabetical order in two ways. These are:

- 1) Origin code
- 2) Origin airport

The data for each entry includes:

- 1) FAA airport code of the origin
- 2) Origin city/airport

In the case where there are two airports serving the same community, the name of the airport has been listed after the city name.

In Section V, Airport Informational Summaries, the individual airport service maps show routes which were discontinued between the surveys taken in 1988 and 1989. There are four origins no longer sending scheduled flights to Michigan but whose codes are used in these maps. These cities and their codes are:

- [PWK] Chicago, Palwaukee Airport, IL
- [6D9] East Tawas, MI
- [YUL] Montreal International Airport, QUE
- [PDX] Portland, OR

FAA AIRPORT DESIGNATION CODES

Alphabetical by Origins of Nonstop Flights to Michigan Air Carrier Airports
As of: December 31, 1989

Designation	Origin Community/Airport
[CAK]	Akron/Canton, OH
[ALB]	Albany, NY
[ABE]	Allentown, PA
[APN]	Alpena, MI
[ARB]	Ann Arbor, MI
[ATL]	Atlanta, GA
[BWI]	Baltimore, MD/Washington, DC International Airport
[BEH]	Benton Harbor, MI
[BOS]	Boston, MA
[BUF]	Buffalo, NY
[CLT]	Charlotte, NC
[MDW]	Chicago, Midway Airport, IL
[ORD]	Chicago, O'Hare Airport, IL
[CVG]	Cincinnati, OH
[BKL]	Cleveland, Burke Lakefront Airport, OH
[CLE]	Cleveland, Cuyahoga Airport, OH
[CLE]	Cleveland, Hopkins International Airport, OH
[CMH]	Columbus, OH
[DFW]	Dallas/Ft. Worth, TX
[DAY]	Dayton, OH
[DEN]	Denver, CO
[DET]	Detroit, City Airport
[DTW]	Detroit, Metropolitan Airport, MI
[Y66]	Drummond Island, MI
[EKI]	Elkhart, IN
[ERI]	Erie, PA
[ESC]	Escanaba, MI
[FNT]	Flint, MI
[FLL]	Ft. Lauderdale, FL
[RSW]	Ft. Myers, FL
[FWA]	Ft. Wayne, IN
[GRR]	Grand Rapids, MI
[GRB]	Green Bay, WI
[HAR]	Harrisburg, PA
[BDL]	Hartford, CT/Springfield, MA
[CMX]	Houghton/Hancock, MI
[IAH]	Houston, Intercontinental Airport, TX
[HOU]	Houston, William P. Hobby Airport, TX
[IND]	Indianapolis, IN
[IMT]	Iron Mountain, MI
[IWD]	Ironwood, MI
[JXN]	Jackson, MI
[AZO]	Kalamazoo, MI
[OKK]	Kokomo, IN
[MCI]	Kansas City, MO
[LAN]	Lansing, MI
[LAS]	Las Vegas, NV
[YXU]	London, ONT
[LHR]	London, UK
[LAX]	Los Angeles, CA
[SDF]	Louisville, KY

cont.

FAA AIRPORT DESIGNATION CODES

Alphabetical by Origins of Nonstop Flights to Michigan Air Carrier Airports
As of: December 31, 1989

Designation	Origin Community/Airport
[Y84]	Mackinac Island, MI
[MSN]	Madison, WI
[MBL]	Manistee, MI
[MTW]	Manitowoc, WI
[MQT]	Marquette, MI
[MEM]	Memphis, TN
[MNM]	Menominee, MI
[MIA]	Miami, FL
[MKE]	Milwaukee, WI
[MSP]	Minneapolis/St. Paul, MN
[YMX]	Montreal, Mirabel Airport, QUE
[MKG]	Muskegon, MI
[BNA]	Nashville, TN
[MSY]	New Orleans, LA
[JFK]	New York, John F. Kennedy Airport, NY
[LGA]	New York, La Guardia Airport, NY
[EWR]	New York/Newark International Airport, NJ
[HPN]	New York/White Plains, NY
[ORF]	Norfolk/Virginia Beach/Williamsburg, VA
[MCO]	Orlando, FL
[YOO]	Oshawa, ONT
[CDG]	Paris, FRA
[PLN]	Pellston, MI
[PHL]	Philadelphia, PA
[PHX]	Phoenix, AZ
[PIT]	Pittsburgh, PA
[PVD]	Providence, RI
[RDU]	Raleigh/Durham, NC
[RHI]	Rhineland, WI
[ROC]	Rochester, NY
[MBS]	Saginaw, MI
[SAN]	San Diego, CA
[SFO]	San Francisco/Oakland, CA
[SRQ]	Sarasota/Bradenton, FL
[CIU]	Sault Ste. Marie, MI
[SEA]	Seattle/Tacoma, WA
[SEL]	Seoul, ROK
[SBN]	South Bend, IN
[CWA]	Stevens Point/Wausau, WI
[SUE]	Sturgeon Bay, WI
[STL]	St. Louis, MO
[SYR]	Syracuse, NY
[TPA]	Tampa/St. Petersburg, FL
[NRT]	Tokyo, JPN
[TOL]	Toledo, OH
[YYZ]	Toronto, International Airport, ONT
[TVC]	Traverse City, MI
[IAD]	Washington, Dulles International Airport, DC
[DCA]	Washington, National Airport, DC
[PBI]	West Palm Beach, FL
[ORH]	Worcester, MA
[YNG]	Youngstown, OH

FAA AIRPORT DESIGNATION CODES

Alphabetical by Origin Code of Nonstop Flights to Michigan Air Carrier Airports

As of: December 31, 1989

Designation	Origin Community/Airport
[ABE]	Allentown, PA
[ALB]	Albany, NY
[APN]	Alpena, MI
[ARB]	Ann Arbor, MI
[ATL]	Atlanta, GA
[AZO]	Kalamazoo, MI
[BDL]	Hartford, CT/Springfield, MA
[BEH]	Benton Harbor, MI
[BKL]	Cleveland, Burke Lakefront Airport, OH
[BNA]	Nashville, TN
[BOS]	Boston, MA
[BUF]	Buffalo, NY
[BWI]	Baltimore, MD/Washington, DC International Airport
[CAK]	Akron/Canton, OH
[CDG]	Paris, FRA
[CGF]	Cleveland, Cuyahoga Airport, OH
[CIU]	Sault Ste. Marie, MI
[CLE]	Cleveland, Hopkins International Airport, OH
[CLT]	Charlotte, NC
[CMH]	Columbus, OH
[CMX]	Houghton/Hancock, MI
[CVG]	Cincinnati, OH
[CWA]	Stevens Point/Wausau, WI
[DAY]	Dayton, OH
[DCA]	Washington, National Airport, DC
[DEN]	Denver, CO
[DET]	Detroit, City Airport
[DFW]	Dallas/Ft. Worth, TX
[DTW]	Detroit, Metropolitan Airport, MI
[EKI]	Elkhart, IN
[ERI]	Erie, PA
[ESC]	Escanaba, MI
[EWR]	New York/Newark International Airport, NJ
[FLL]	Ft. Lauderdale, FL
[FNT]	Flint, MI
[FRA]	Frankfurt, FRP
[FWA]	Ft. Wayne, IN
[GRB]	Green Bay, WI
[GRR]	Grand Rapids, MI
[HAR]	Harrisburg, PA
[HOU]	Houston, William P. Hobby Airport, TX
[HPN]	New York/White Plains, NY
[IAD]	Washington, Dulles International Airport, DC
[IAH]	Houston, Intercontinental Airport, TX
[IMT]	Iron Mountain, MI
[IND]	Indianapolis, IN
[IWD]	Ironwood, MI
[JFK]	New York, John F. Kennedy Airport, NY
[JXN]	Jackson, MI
[LAN]	Lansing, MI
[LAS]	Las Vegas, NV
[LAX]	Los Angeles, CA

cont.

FAA AIRPORT DESIGNATION CODES

Alphabetical by Origin Code of Nonstop Flights to Michigan Air Carrier Airports

As of: December 31, 1989

Designation	Origin Community/Airport
[LGA]	New York, La Guardia Airport, NY
[LHR]	London, UK
[MBL]	Manistee, MI
[MBS]	Saginaw, MI
[MCI]	Kansas City, MO
[MCO]	Orlando, FL
[MDW]	Chicago, Midway Airport, IL
[MEM]	Memphis, TN
[MIA]	Miami, FL
[MKE]	Milwaukee, WI
[MKG]	Muskegon, MI
[MNM]	Menominee, MI
[MQT]	Marquette, MI
[MSN]	Madison, WI
[MSP]	Minneapolis/St. Paul, MN
[MSY]	New Orleans, LA
[MTW]	Manitowoc, WI
[NRT]	Tokyo, JPN
[OKK]	Kokomo, IN
[ORD]	Chicago, O'Hare Airport, IL
[ORF]	Norfolk/Virginia Beach/Williamsburg, VA
[ORH]	Worcester, MA
[PBI]	West Palm Beach, FL
[PHL]	Philadelphia, PA
[PHX]	Phoenix, AZ
[PIT]	Pittsburgh, PA
[PLN]	Pellston, MI
[PVD]	Providence, RI
[RDU]	Raleigh/Durham, NC
[RHI]	Rhineland, WI
[ROC]	Rochester, NY
[RSW]	Ft. Myers, FL
[SAN]	San Diego, CA
[SBN]	South Bend, IN
[SDF]	Louisville, KY
[SEA]	Seattle/Tacoma, WA
[SEL]	Seoul, ROK
[SFO]	San Francisco/Oakland, CA
[SRQ]	Sarasota/Bradenton, FL
[STL]	St. Louis, MO
[SUE]	Sturgeon Bay, WI
[SYR]	Syracuse, NY
[TOL]	Toledo, OH
[TPA]	Tampa/St. Petersburg, FL
[TVC]	Traverse City, MI
[Y66]	Drummond Island, MI
[Y84]	Mackinac Island, MI
[YMX]	Montreal, Mirabel Airport, QUE
[YNG]	Youngstown, OH
[YOO]	Oshawa, ONT
[YXU]	London, ONT
[YYZ]	Toronto, International Airport, ONT



Appendix C: AIRLINE CODES

Appendix C: Airline Codes

The data provided in this appendix is derived from the *Official Airline Guide North American Edition* December 15, 1989 or the *Official Airline Guide Worldwide Edition* October 29, 1989. The data is for the airlines providing scheduled flights to Michigan scheduled air carrier airports as of December 31, 1988 except for Mackinac Island Airport. This facility is effective as of July 1, 1989.

This data is presented in alphabetical order in two ways. These are by:

- 1) Carrier name
- 2) Carrier code

The data for each entry includes:

- 1) Carrier's FAA code
- 2) Carriers name
- 3) Airline operating the service (If contracted)
- 4) Which flight numbers of the named carrier are operated by the listed contract carrier in Michigan

SCHEDULED AIR CARRIERS

Serving Michigan Air Carrier Airports
(Listing in Alphabetic Order by Carrier)

As of: December 31, 1989

Carrier Code	Carrier Name	Contract Carrier	Flight Numbers
AC*	Air Canada	CS	1100-1199
AC*	Air Canada	GX	1200-1499
GX	Air Ontario		
CS	Air Toronto		
ZW	Air Wisconsin		
3A	Alliance Airlines		
AA	American Airlines, Inc.		
AA*	American Eagle		
GS	BAS Airlines		
RU	Britt Airways, Inc.		
BA	British Airways		
PS	Central States Airlines, Inc.		
OH	Comair, Inc.		
CO	Continental Airlines, Inc.		
CO*	Continental Express	RU	All
DL	Delta Airlines, Inc.		
DL*	Delta Connection	OH	All
UO	Direct Air, Inc.		
QQ	Drummond Island Air		
EA	Eastern Airlines, Inc.		
9E	Express Airlines I, Inc.		
GP	Fisher Bros. Aviation, Inc.		
ZK	Great Lakes Aviation, Ltd.		
JT	Iowa Airways, Inc.		
XJ	Mesaba Aviation		
ML	Midway Airlines, Inc.		
ML*	The Midway Connection	GP	1500-1550
ML*	The Midway Connection	JT	4200-4500
YX	Midwest Express Airlines, Inc.		
YX*	Midwest Express Connection	**	All
NW	Northwest Airlines, Inc.		
NW*	Northwest AirlinK	9E	2500-2999
NW*	Northwest AirlinK	XJ	3500-3799
PA	Pan American World Airways, Inc.		
MQ	Simmons Airlines		
9F	Skycraft Air Transport, Inc.		
**	Skyway Aviation, Inc.		
WN	Southwest Airlines		
TW	Trans World Airlines, Inc.		
UA	United Airlines, Inc.		
UA*	United Express	ZW	All
US	USAir		
US*	USAir Express		

Note: Flight numbers with a designation of "All" refer to all flights to Michigan destinations, not to all nationwide destinations. In 1988, USAir changed their carrier code from "AL" to "US". In 1989, Michigan Airways was renamed Drummond Island Air but kept the same carrier code.

SCHEDULED AIR CARRIERS

Serving Michigan Air Carrier Airports
(Listing in Alphabetic Order by Carrier Code)
As of: December 31, 1989

Carrier Code	Carrier Name	Contract Carrier	Flight Numbers
3A	Alliance Airlines		
9E	Express Airlines I		
9F	Skycraft Air Transport, Inc.		
AA	American Airlines, Inc.		
AA*	American Eagle		
AC*	Air Canada	CS	1100-1199
AC*	Air Canada	GX	1200-1499
BA	British Airways		
CO	Continental Airlines, Inc.		
CO*	Continental Express	RU	All
CS	Air Toronto		
DL	Delta Airlines, Inc.		
DL*	Delta Connection	OH	All
EA	Eastern Airlines, Inc.		
GP	Fisher Bros. Aviation, Inc.		
GS	BAS Airlines		
GX	Air Ontario, Inc.		
JT	Iowa Airways, Inc.		
ML	Midway Airlines, Inc.		
ML*	The Midway Connection	GP	1500-1550
ML*	The Midway Connection	JT	4200-4500
MQ	Simmons Airlines		
NW	Northwest Airlines, Inc.		
NW*	Northwest Airlink	9E	2500-2999
NW*	Northwest Airlink	XJ	3500-3799
OH	Comair, Inc.		
PA	Pan American World Airways, Inc.		
PS	Central States Airlines, Inc.		
QQ	Drummond Island Air		
RU	Britt Airways, Inc.		
TW	Trans World Airlines, Inc.		
UA	United Airlines, Inc.		
UA*	United Express		ZWAll
UO	Direct Air, Inc.		
US	USAir		
US*	USAir Express		
WN	Southwest Airlines		
XJ	Mesaba Aviation		
YX	Midwest Express Airlines, Inc.		
YX*	Midwest Express Connection	**	All
ZK	Great Lakes Aviation, Ltd.		
ZW	Air Wisconsin		
**	Skyway Aviation, Inc.		

Note: Flight numbers with a designation of "All" refer to all flights to Michigan destinations, not to all nationwide destinations. In 1988, USAir changed their carrier code from "AL" to "US". In 1989, Michigan Airways was renamed Drummond Island Air but kept the same carrier code.



**Appendix D:
EQUIPMENT CODES**

Appendix D: Equipment Codes

The data provided in this appendix is derived from the *Official Airline Guide North American Edition* December 15, 1989 or the *Official Airline Guide Worldwide Edition* October 29, 1989. The data is for the equipment used on scheduled flights to Michigan scheduled air carrier airports as of December 31, 1988 except for Mackinac Island Airport. This facility is effective as of July 1, 1989.

This data is presented in alphabetical order in two ways. These are by:

- 1) Aircraft Manufacturer and Model
- 2) Equipment Code

The data for each entry includes:

- 1) Equipment code
- 2) Manufacturer name
- 3) Model of aircraft
- 4) Aircraft name (if any)
- 5) Median capacity
- 6) Classification by jet, pressurized propeller or non-pressurized propeller

The median number of seats is not related to any changes in cabin configuration which an airline may chose to use. It is the median of the maximum and minimum capacities for the model of aircraft.

AIRCRAFT LISTING

Aircraft Used by Scheduled Carriers Serving Michigan Air Carrier Airports
(Listing in Alphabetical Order by Manufacturer and Model)

As of: December 31, 1988

Equipment Codes	Manufacturer	Model	Aircraft Name	Capacity	Notes
310	Aerospatiale	310	Airbus	225	Jet
320	Aerospatiale	320	Airbus	171	Jet
ATR	Aerospatiale	ATR 42		46	Pressurized
BE1	Beechcraft	1900		19	Pressurized
727	Boeing	727-100		100	Jet
72S	Boeing	727-200		145	Jet
737	Boeing	737		120	Jet
73S	Boeing	737-200		122	Jet
733	Boeing	737-300		138	Jet
734	Boeing	737-400		159	Jet
735	Boeing	737-500		160	Jet
744	Boeing	747-400		544	Jet
747	Boeing	747		452	Jet
757	Boeing	757		201	Jet
767	Boeing	767		250	Jet
J31	British Aerospace	J31	Jetstream 31	18	Pressurized
CNA	Cessna	404	Titan	8	Nonpressurized
DHT	DeHavilland of Canada	DHC6	Twin Otter	19	Nonpressurized
DH8	DeHavilland of Canada	DHC8	Dash 8	34	Pressurized
DO8	Dornier	228		19	Nonpressurized
EMB	Embraer	EMB 110	Bandeirante	19	Nonpressurized
EM2	Embraer	EMB 120	Brasilia	30	Pressurized
SWM	Fairchild-Swearingen		Metroliner	19	Pressurized
F27	Fokker-VFW-Fairchild	F27	Friendship	48	Pressurized
F28	Fokker	F28	Fellowship	60	Jet
D10	McDonnell Douglas	DC10		288	Jet
DC9	McDonnell Douglas	DC9		90	Jet
D9S	McDonnell Douglas	DC9	Stretched	125	Jet
M80	McDonnell Douglas	DC9-80	Super 80	154	Jet
PAG	Piper (All Series)				See Below
---	Piper		Navajo	6	Nonpressurized
---	Piper		Aztec	8	Nonpressurized
SF3	Saab-Fairchild	340		34	Pressurized
SH3	Short Brothers	330		30	Nonpressurized
SH6	Short Brothers	360		36	Nonpressurized

Note: Capacity is a median number of seats which can be configured in the aircraft. This is the number used in all Available Seat calculations. The Official Airline Guide does not differentiate between different models of Piper aircraft in scheduled air carrier service. In Michigan, the aircraft in question will be either the Navajo (PAN) or the Aztec (PAZ).

AIRCRAFT LISTING

Aircraft Used by Scheduled Carriers Serving Michigan Air Carrier Airports
(Listing in Alphabetic Order by Equipment Code)

As of: December 31, 1988

Equipment Codes	Manufacturer	Model	Aircraft Name	Capacity	Notes
310	Aerospatiale	310	Airbus	225	Jet
320	Aerospatiale	320	Airbus	171	Jet
727	Boeing	727-100		100	Jet
72S	Boeing	727-200		145	Jet
733	Boeing	737-300		138	Jet
734	Boeing	737-400		159	Jet
735	Boeing	737-500		160	Jet
737	Boeing	737		120	Jet
73S	Boeing	737-200		122	Jet
744	Boeing	747-400		544	Jet
747	Boeing	747		452	Jet
757	Boeing	757		201	Jet
767	Boeing	767		250	Jet
ATR	Aerospatiale	ATR 42		46	Pressurized
BE1	Beechcraft	1900		19	Pressurized
CNA	Cessna	404	Titan	8	Nonpressurized
D10	McDonnell Douglas	DC10		288	Jet
D9S	McDonnell Douglas	DC9	Stretched	125	Jet
DC9	McDonnell Douglas	DC9		90	Jet
DH8	DeHavilland of Canada	DHC8	Dash 8	34	Pressurized
DHT	DeHavilland of Canada	DHC6	Twin Otter	19	Nonpressurized
DO8	Dornier	228		19	Nonpressurized
EM2	Embraer	EMB 120	Brasilia	30	Pressurized
EMB	Embraer	EMB 110	Bandeirante	19	Nonpressurized
F27	Fokker-VFW-Fairchild	F27	Friendship	48	Pressurized
F28	Fokker	F28	Fellowship	60	Jet
J31	British Aerospace	J31	Jetstream 31	18	Pressurized
M80	McDonnell Douglas	DC9-80	Super 80	154	Jet
PAG	Piper (All Series)				See Below
---	Piper		Aztec	8	Nonpressurized
---	Piper		Navajo	6	Nonpressurized
SF3	Saab-Fairchild	340		34	Pressurized
SH3	Short Brothers	330		30	Nonpressurized
SH6	Short Brothers	360		36	Nonpressurized
SWM	Fairchild-Swearingen		Metroliner	19	Pressurized

Note: Capacity is a median number of seats which can be configured in the aircraft. This is the number used in all Available Seat calculations. The Official Airline Guide does not differentiate between different models of Piper aircraft in scheduled air carrier service. In Michigan, the aircraft in question will be either the Navajo (PAN) or the Aztec (PAZ).



Appendix E: FREQUENCY CODES

Appendix E: Frequency Codes

The data provided in this appendix is that used in all *Official Airline Guide* publications.

Code	Meaning
D	Daily
X	Except
1	Monday
2	Tuesday
3	Wednesday
4	Thursday
5	Friday
6	Saturday
7	Sunday



**Appendix F:
KEY TO
AIRPORT LOCATION
&
LAYOUT MAPS**

Appendix F: Key to Airport Location & Layout Maps

The data provided in this appendix will allow interpretation of the airport location and layout maps found in *Section V: Airport Informational Summaries*. It is derived from a variety of MDOT sources. The airport layout diagram is from the *1989 Michigan Airport Directory* published by the Michigan Department of Transportation's (MDOT) Bureau of Aeronautics. The state airport location map is a product of the MDOT, Bureau of Transportation Planning. The detail maps were prepared by the MDOT, Bureau of Administration, in cooperation with the U.S. Department of Transportation, Federal Highway Administration.

AIRPORT LOCATION & FEATURES KEY

PLAN SYMBOLS

	Obstruction 1000 Feet and higher		R.E.I.L.
	Obstruction Below 1000 Feet		R.A.I.L.
	Pave line		V.A.S.I.
	High tension wire		Segmented circle
	Lines curved		Relocated threshold (Usable as taxiway)
	Airport beacon		Relocated threshold (Usable as taxiway)
	Helipad		Under construction
	Tetrahedron, Tee, Windsock, Lighted A.I.		Turf/Hard surface ramp, (usually not used for landings or take-off)
	Bridge		Hard surface runway, Total length and heading.
	Fence		Hard surface runway with unpaved stopway (current) and length.
	Railroad		M.A.C. markers no stop- placement
	Highway		Non-Standard runway width, i.e., 1000, 600, 300, etc.
	Shelf		Displaced threshold (lighted/unlighted)
	Marsh		Lighted runway (no displacement)
	Water area		ALS approach light system
	Dam		
	River or stream		
	Trees, stumps or brush		
	Evergreen		
	Elevation (A.G.L.) or obstruction		
	V.G.R., T.A.C., V.G.R.		



LEGEND

- ROADS**
- UNIMPROVED ROAD
 - GRAVEL AND DRAINED ROAD
 - SOIL SURFACED ROAD
 - GRAVEL OR SIMILAR ROAD
 - BITUMINOUS SURFACED ROAD
 - PAVED ROAD
 - DIVIDED HIGHWAY
 - DIVIDED HIGHWAY WITH FRONTAGE ROAD

ROAD SYSTEM DESIGNATION

- INTERSTATE HIGHWAY
- UNITED STATES HIGHWAY
- STATE HIGHWAY
- BUSINESS LOOP
- BUSINESS ROUTE
- BUSINESS SPUR

AIRPORTS
(WITH FIELD LIMITS AND RUNWAYS)

- MILITARY FIELD (SOME FACILITIES AVAILABLE)
- AIRPORT, COMPLETE FACILITIES (COMMERCIAL OR MUNICIPAL)
- AIRFIELD, LIMITED FACILITIES
- LANDING AREA OR STRIP (INCLUDING PRIVATE AIRFIELDS)

RAILROADS

- RAILROAD (ANY NUMBER TRACKS) USED BY SINGLE OPERATING COMPANY
- RAILROAD (ANY NUMBER TRACKS) USED BY MORE THAN ONE OPERATING COMPANY ON SAME OR ADJACENT RIGHTS OF WAY (NOT TRACKAGE RIGHTS)
- RAILROAD STATION
- RAILROAD ABOVE ROAD
- RAILROAD BELOW ROAD
- RAILROAD TUNNEL

HIGHWAY BRIDGES
(20 TO 200 FT LENGTH)

- GENERAL DRAWBRIDGE (200 FT LENGTH OR OVER)
- GENERAL DRAWBRIDGE
- SUSPENSION
- ARCH
- TRUSS OR GIRDER

- HIGHWAY GRADE SEPARATION
- INTERCHANGE SHOWING RAMPS

DRAINAGE

- NARROW STREAM
- WIDE STREAM (OVER 250 FT)

NAVIGATION

- FREE FERRY
- TOLL FERRY

DAMS

- DAM WITH ROAD
- DAM WITHOUT ROAD

BOUNDARIES

- NATIONAL BOUNDARY
- STATE BOUNDARY
- COUNTY BOUNDARY
- CIVIL TOWNSHIP BOUNDARY
- CONGRESSIONAL (U.S. LAND)
- TOWNSHIP BOUNDARY
- SECTION LINE

CITY AND VILLAGE

- STATE CAPITAL
- COUNTY SEAT
- UNINCORPORATED COMMUNITIES
- INCORPORATED CITY OR VILLAGE





GLOSSARY

GLOSSARY

Airline: A business entity providing air transportation service through the operation of aircraft which are owned, leased or otherwise designated as assets to the firm. Business entities which do not operate their own aircraft, but only contract the services of another airline are termed "carriers".

Airline Designator Code: The unique two character code assigned to each airline for scheduling, ticketing and reporting purposes. Generally this code will be suffixed with an asterisks when denoting service by a contracted carrier under a contract marketing agreement.

Belly Cargo: Common name for cargo carried in scheduled passenger aircraft.

Cabotage: Flights made by foreign carriers which stop at multiple United States cities, but may not carry passengers between domestic points. These are ticketed as nonstop international flights regardless of the number of domestic stops.

Carrier: Either an airline or a business entity providing air transportation service through contract with an airline.

Code Sharing Agreement: Common name for a contract marketing agreement.

Commuter Aircraft: Common name for smaller aircraft used by regional and commuter carriers. Generally seats fewer than 60 persons.

Commuter Airline: Common name for an airline whose annual gross revenues do not exceed \$75 million.

Computer Reservation System: A service subscribed to by travel agents and airlines.

The system consists of stored airline schedule information which can be accessed by subscribers. It is used for booking of flights and issuance of tickets. Commonly abbreviated as CRS.

Contract Marketing Agreement: A business technique consisting of a sharing of the airline designator code (the unique two character code assigned to each airline). This agreement makes the regional carrier the contract carrier, and the major airline the contracting carrier. To differentiate between the two corporate entities, an asterisk is added to the two character code for the contract carrier. This effectively gives the larger airline a passenger feeder system which can operate profitably in the smaller markets, and the smaller airline the advantages of through ticketing, baggage checking and passenger access to destinations outside it's normal markets. Perhaps even more important is the access to busy markets through the use of the slots of the contracting carrier.

Deplane: The act of disembarking or being off loaded from an aircraft.

Deplanement: A passenger who has disembarked from an aircraft.

Enplane: The act of embarking or being loaded on to an aircraft.

Enplanement: A passenger who has embarked on an aircraft.

Essential Air Service: Under Section 419 of the Airline Deregulation Act of 1978, certain air service markets are designated as requiring nonstop or one stop air service to a designated hub airport, but being currently unable to support a profitable service. These

essential service points require a replacement carrier to be designated prior to discontinuance of service. To cover losses from services, federal monies are available to carriers who would operate in these markets. These monies are termed Essential Air Service (EAS) subsidies. Two types of subsidies exist. The standard subsidization is given to certain EAS locations where no airline can currently profitably serve the facility. Continuance subsidies are paid at other EAS airports when the serving carrier petitions to discontinue service.

Hub Airport: For the purposes of this report, a hub airport is defined as an airport which individually meets the criteria of FAA large and medium hub communities. The FAA has four classifications of hub cities. As of December 31, 1986 (the most recent Airport Activity Statistics of Certificated Route Air Carriers report available) they were designated as nonhub (fewer than 200,004 enplanements), small (200,004 to 1,000,020 enplanements), medium (1,000,020 to 4,000,080 enplanements) and large (4,000,080 or more enplanements) hub.

Jet Aircraft: An aircraft propelled by either turbojet or turbofan engines. Commercial jet aircraft are always pressurized.

Leakage: Common term used to denote a loss of potential local passengers to an alternate facility.

Major Airline: An airline whose annual gross revenues exceed \$1 billion.

Minihub: Common term applied by airlines to central transfer points on their route systems where passenger levels do not require the use of large jet aircraft. Minihubs will generally feed passengers into large transfer points which do use large jet aircraft.

National Airline: An airline whose annual gross revenues exceed \$75 million but do not exceed \$1 billion.

Nonpressurized: An aircraft lacking equipment for maintaining a constant atmospheric pressure in the cabin for passenger comfort.

Pressurized: An aircraft with equipment for maintaining a constant atmospheric pressure in the cabin for passenger comfort.

Propeller Aircraft: An aircraft deriving propulsion from various types of engines turning an airscrew.

Regional Airline: An airline whose annual gross revenues do not exceed \$75 million.

Slots: Common name for the right of a carrier to land at an airport during specified times of the day. The imposition of a slot system is necessary at large airports to prevent aircraft from overloading the available capacity. Some airports divide slots available into categories based on the size of the aircraft.

Stretched: Common name for an aircraft model which is derived from and increases the capacity of a certain base aircraft. An example of this would be the McDonnell Douglas DC-9 (capacity 90 passengers) and its derivatives the DC-9 Stretched (125 passengers), DC-9-50 (139 passengers) and DC-9-80 (154 passengers).

Through Baggage/Fares/Ticketing: Procedures which allow a passenger to access the services of multiple airlines by the purchase of the services of one airline. This is particularly useful for regional carriers with contract marketing agreements as it allows them to negate some of the negative perceptions of smaller air carriers.