

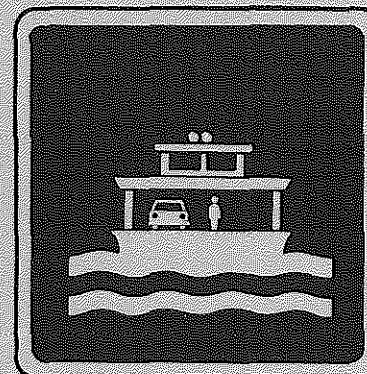
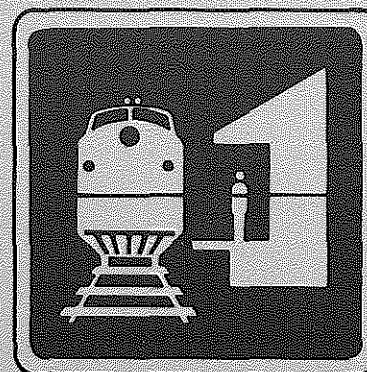
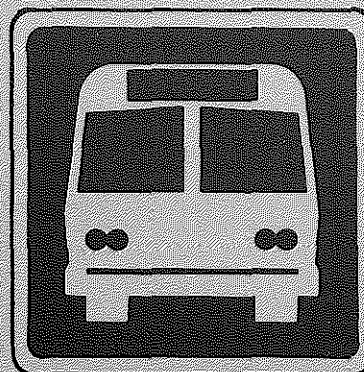
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PUBLIC TRANSPORTATION IN MICHIGAN

TRANSPORTATION

Michigan

Control Tower Airport
Operations
1980 - 1984



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

MICHIGAN DEPARTMENT
OF
TRANSPORTATION

Michigan

Control Tower Airport
Operations
1980 - 1984

April 1985

Bureau of Transportation Planning
Intercity Transportation Planning Division
Passenger Transportation Planning Section

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

STATE TRANSPORTATION COMMISSION

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Director

Control Tower Locations

Since 1980 the 15 airport control towers identified in Map 1 have operated in Michigan. Fourteen of the towers are located in the southern half of Michigan's Lower Peninsula. One control tower, Traverse City, is located in the northern part of the Lower Peninsula. There are no control towers in Michigan's Upper Peninsula. Two of the control towers were closed as a result of the PATCO strike. The tower in Ann Arbor was closed during 1982 and reopened in 1983. The Benton Harbor tower closed in 1982 and remains closed to date.

Control Tower Annual Operations and Trends

Table 1 identifies the itinerant, local and total operations at each of the 15 control tower airports for each year between 1980 and 1984. The percent change in total operations from the previous year is also identified. The trend is graphically portrayed in Figure 1. Table 3 provides a detailed breakdown of operations for 1983 and 1984.

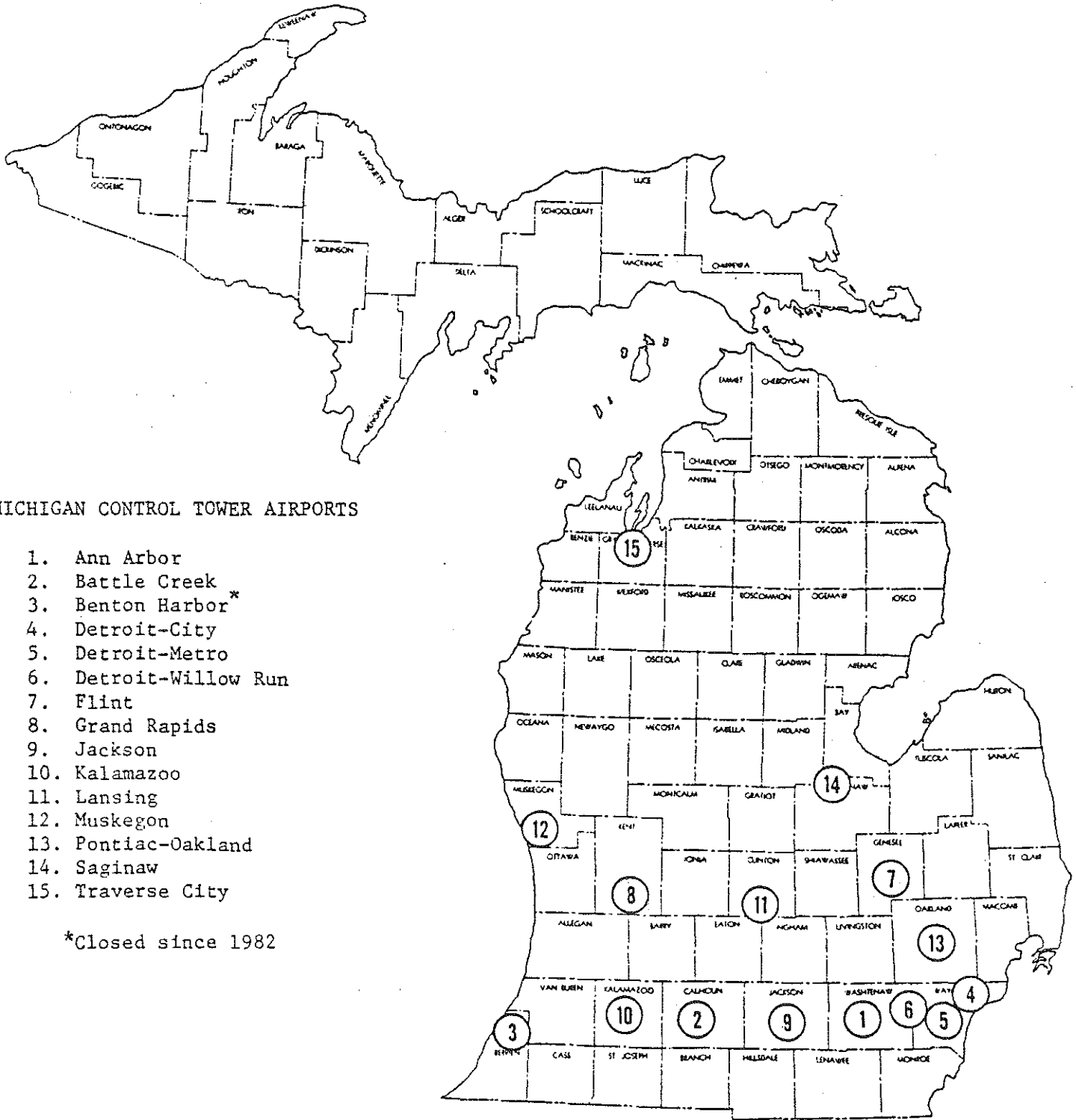
Refer to Table 2 for the hours that the control towers are open for operational counts. It is interesting to note that Pontiac is open only 18 hours a day, while the towers at Detroit City, Willow Run and Detroit Metropolitan are open 24 hours a day.

Since 1980, when the 3-year decline in operations began, total operations have declined between 11.8 and 18.2 percent each year through 1982. In 1983 the declining trend in total operations was reversed and an increase of 18.6 percent occurred. The trend continued in 1984 with a 6.3 percent increase. Total annual operations from 1980 to 1984 have declined by more than 176,000 or 9.0 percent.

Observations and Conclusions

Figures 2 through 15 identify the monthly trend in total operations at each of the 14 FAA governed control tower airports between 1980 and 1984. Seasonal variations and the yearly growth trends are clearly visible. Figures 16 through 20 depict the percent of total operations that each of the seven busiest control tower airports had of the total operational activity for each year 1980 to 1984. The seven busiest towers have increased their percentage share from 67 percent in 1980 to 72.8 percent in 1984. The percentage share declined for the remaining seven locations. Among those airports operating in 1980, only Pontiac and Detroit Metropolitan increased total operation levels over 1980 levels, 12.6 percent and 21.6 percent, respectively. Three locations showed decreases in total operations from 1983 to 1984 - Battle Creek, 7.9 percent; Kalamazoo, 5.7 percent; and Lansing, 5.3 percent. A two year trend of increased statewide local and itinerant operations has been experienced with a 1983 increase of 18.6 percent followed by a 1984 increase of 6.3 percent.

MAP 1



MICHIGAN CONTROL TOWER AIRPORTS

1. Ann Arbor
2. Battle Creek
3. Benton Harbor*
4. Detroit-City
5. Detroit-Metro
6. Detroit-Willow Run
7. Flint
8. Grand Rapids
9. Jackson
10. Kalamazoo
11. Lansing
12. Muskegon
13. Pontiac-Oakland
14. Saginaw
15. Traverse City

*Closed since 1982

TABLE 1

ITINERANT, LOCAL AND TOTAL OPERATIONS AT CONTROL TOWER AIRPORTS, 1980-84

| CITY | YEAR | ITINER OPERAT. | LOCAL OPERAT. | TOTAL OPERAT. | PERCENT CHANGE |
|-------------------------|-------|----------------------|------------------|------------------|-------------------|
| ANN ARBOR | 1980 | 44,949 | 71,812 | 116,761 | |
| | 1981 | 31,763 | 47,350 | 79,113 | (32.2) |
| | 1982 | Control tower closed | | | |
| | 1983a | 32,336 | 47,825 | 80,161 | 1.3 |
| | 1984 | 35,946 | 58,056 | 94,002 | 17.3 |
| BATTLE CREEK | 1980 | 30,890 | 18,213 | 49,103 | |
| | 1981 | 27,868 | 18,112 | 45,980 | (6.4) |
| | 1982 | 24,603 | 15,344 | 39,947 | (13.1) |
| | 1983 | 24,977 | 18,259 | 43,236 | 8.2 |
| | 1984 | 25,112 | 14,728 | 39,840 | (7.9) |
| BENTON HARBOR | 1980 | 20,882 | 13,978 | 34,860 | |
| | 1981 | 13,099 | 8,927 | 22,026 | (36.8) |
| | 1982 | Control tower closed | | | |
| | 1983 | Control tower closed | | | |
| | 1984 | Control tower closed | | | |
| DETROIT - CITY | 1980 | 108,049 | 50,357 | 158,406 | |
| | 1981 | 97,843 | 42,856 | 140,699 | (11.2) |
| | 1982 | 72,357 | 33,280 | 105,637 | (24.9) |
| | 1983 | 84,901 | 45,767 | 130,668 | 23.7 |
| | 1984 | 102,772 | 41,358 | 144,130 | 10.3 |
| DETROIT - METRO | 1980 | 268,270 | 0 | 268,270 | |
| | 1981 | 261,018 | 0 | 261,018 | (2.7) |
| | 1982 | 249,138 | 0 | 249,138 | (4.6) |
| | 1983 | 282,241 | 0 | 282,241 | 13.3 |
| | 1984 | 326,270 | 0 | 326,270 | 15.6 |
| DETROIT - WILLOW RUN | 1980 | 75,130 | 90,123 | 165,253 | |
| | 1981 | 67,542 | 87,462 | 155,004 | (6.2) |
| | 1982 | 58,783 | 79,458 | 138,241 | (10.8) |
| | 1983 | 68,021 | 74,934 | 142,955 | 21.0 |
| | 1984 | 76,961 | 76,548 | 153,509 | 7.4 |
| FLINT | 1980 | 65,925 | 85,846 | 151,771 | |
| | 1981 | 58,626 | 65,157 | 123,783 | (18.4) |
| | 1982 | 48,048 | 41,460 | 89,508 | (27.7) |
| | 1983 | 54,312 | 46,857 | 101,169 | 13.0 |
| | 1984 | 59,223 | 51,680 | 110,903 | 9.6 |
| GRAND RAPIDS | 1980 | 104,414 | 58,455 | 162,869 | |
| | 1981 | 86,539 | 40,965 | 127,504 | (21.7) |
| | 1982 | 80,219 | 28,657 | 108,876 | (14.6) |
| | 1983 | 93,683 | 35,192 | 128,875 | 18.4 |
| | 1984 | 98,558 | 33,679 | 132,237 | 2.6 |

| | | | | | |
|-------------------|------|-----------|---------|-----------|--------|
| JACKSON | 1980 | 42,681 | 35,633 | 78,314 | |
| | 1981 | 37,119 | 25,012 | 62,131 | (20.7) |
| | 1982 | 29,414 | 16,584 | 45,998 | (26.0) |
| | 1983 | 33,430 | 21,245 | 54,675 | 18.9 |
| | 1984 | 34,753 | 23,810 | 58,563 | 7.1 |
| KALAMAZOO | 1980 | 57,900 | 45,868 | 103,768 | |
| | 1981 | 54,727 | 43,444 | 98,171 | (5.4) |
| | 1982 | 49,777 | 36,115 | 85,895 | (12.5) |
| | 1983 | 55,095 | 35,534 | 90,532 | 5.5 |
| | 1984 | 57,580 | 27,897 | 85,477 | (5.7) |
| LANSING | 1980 | 77,991 | 49,721 | 127,712 | |
| | 1981 | 72,496 | 53,102 | 125,598 | (1.7) |
| | 1982 | 63,727 | 48,681 | 112,408 | (10.5) |
| | 1983 | 74,787 | 48,479 | 123,266 | 9.7 |
| | 1984 | 71,536 | 45,258 | 116,794 | (5.3) |
| MUSKEGON | 1980 | 38,365 | 37,383 | 75,748 | (17.3) |
| | 1981 | 39,282 | 29,285 | 68,567 | (9.5) |
| | 1982 | 37,350 | 25,009 | 62,359 | (9.1) |
| | 1983 | 40,297 | 20,495 | 60,793 | (2.5) |
| | 1984 | 43,959 | 19,155 | 63,115 | 3.8 |
| PONTIAC - OAKLAND | 1980 | 148,538 | 122,738 | 271,276 | |
| | 1981 | 127,100 | 129,554 | 256,654 | (5.4) |
| | 1982 | 110,361 | 128,201 | 238,582 | (7.0) |
| | 1983 | 131,090 | 157,664 | 288,754 | 21.0 |
| | 1984 | 144,627 | 160,893 | 305,520 | 5.8 |
| SAGINAW | 1980 | 49,671 | 23,444 | 73,115 | |
| | 1981 | 41,421 | 17,929 | 59,350 | (18.8) |
| | 1982 | 37,147 | 9,916 | 47,063 | (20.7) |
| | 1983 | 42,317 | 12,814 | 55,131 | 17.1 |
| | 1984 | 41,754 | 14,957 | 56,711 | 2.9 |
| TRAVERSE CITY | 1980 | 51,386 | 60,686 | 112,072 | |
| | 1981 | 44,644 | 49,483 | 94,127 | (16.0) |
| | 1982 | 40,861 | 41,804 | 82,665 | (12.2) |
| | 1983 | 45,509 | 40,208 | 85,717 | 3.7 |
| | 1984 | 45,957 | 40,106 | 86,063 | 0.4 |
| T O T A L | 1980 | 1,185,041 | 764,257 | 1,949,298 | |
| | 1981 | 1,061,087 | 658,638 | 1,719,725 | (11.8) |
| | 1982 | 901,805 | 504,512 | 1,406,317 | (18.2) |
| | 1983 | 1,062,999 | 605,274 | 1,668,273 | 18.6 |
| | 1984 | 1,165,007 | 608,125 | 1,773,132 | 6.3 |

Source: FAA Control Tower Monthly Reports as compiled by Michigan Department of Transportation Aviation Planning Unit.

Note: Ann Arbor control tower reopened in 1983. Percent change is calculated from 1981 to 1983.

Table 2
Control Tower Hours of Operation

| <u>Location</u> | <u>1983</u> | <u>1984</u> |
|----------------------|--|---|
| Ann Arbor | Open February 1983 5 days/week 8:00 a.m. - 4:00 p.m. (Closed Wednesday & Thursday) July 1, 1983 - 7 days/week 8:00 a.m. - 8:00 p.m. | 7 days/week 8:00 a.m. - 8:00 p.m. |
| Battle Creek | 7:00 a.m. - 9:00 p.m. | 6:00 a.m. - 10:00 p.m. |
| Benton Harbor | Closed | Closed |
| Detroit City | 7:00 a.m. - 10:00 p.m. October 1983 - 24 Hours | 24 Hours |
| Detroit Metropolitan | 24 Hours | 24 Hours |
| Detroit Willow Run | 24 Hours | 24 Hours |
| Flint | 6:30 a.m. - 11:00 p.m. | 6:30 a.m. - 11:00 p.m. |
| Grand Rapids | 6:00 a.m. - 12:00 p.m. | 6:00 a.m. - 12:00 p.m. |
| Jackson | 7:00 a.m. - 10:00 p.m. | 7:00 a.m. - 10:00 p.m. |
| Kalamazoo | 6:00 a.m. - 9:30 p.m. | 6:00 a.m. - 9:30 p.m. November 11, 1984 6:00 a.m. - 11:00 p.m. |
| Lansing | 6:30 a.m. - 11:00 p.m. | 6:30 a.m. - 11:00 p.m. November 1984 6:30 a.m. - 12:00 p.m. |
| Muskegon | 6:00 a.m. - 11:00 p.m. | 6:00 a.m. - 12:00 p.m. |
| Pontiac | 6:00 a.m. - 10:00 p.m. July 1, 1983 6:00 a.m. - 12:00 p.m. | 6:00 a.m. - 12:00 p.m. |
| Saginaw | 6:30 a.m. - 11:00 p.m. | 6:30 a.m. - 11:00 p.m. |
| Traverse City | Winter/October 27-April 27 7:00 a.m. - 9:00 p.m. Summer/April 28-October 26 7:00 a.m. - 10:00 p.m. | Winter/October 27-April 27 7:00 a.m. - 9:00 p.m. Summer/April 28-October 26 7:00 a.m. - 10:00 p.m. |

Source: Control Tower Managers

Figure 1

TOTAL OPERATIONS AT CONTROL TOWER AIRPORTS
1980 - 1984

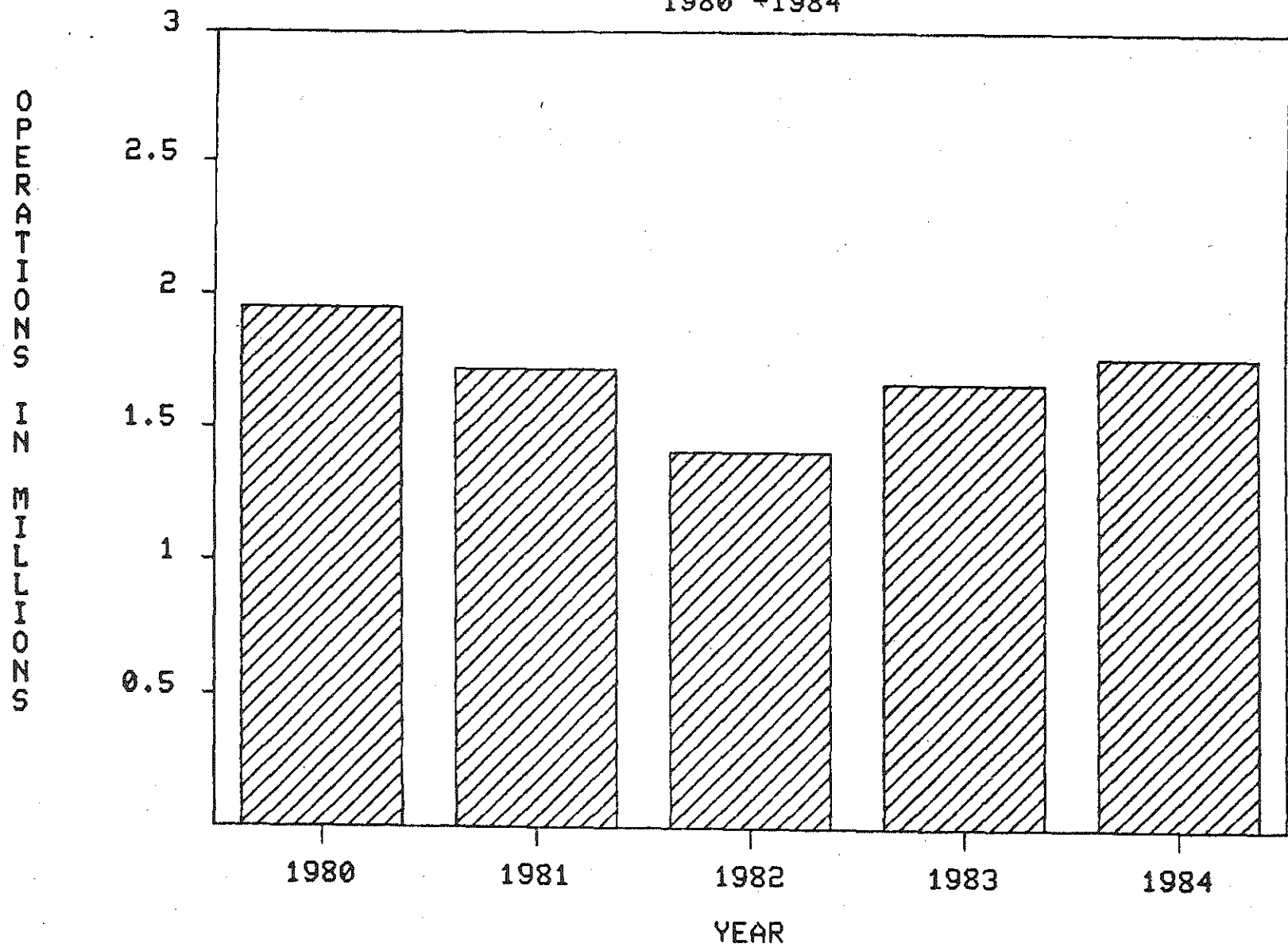


Table 3

ITINERANT, LOCAL & TOTAL OPERATIONS FOR TOWER AIRPORTS JAN - DEC 1984
(AIRPORTS LISTED ALPHABETICALLY)

| AIRPORT NAME (COMMUNITY) | JAN THRU DEC | ITINERANT OPERATIONS | | | | LOCAL OPERATIONS | | | | OPS RANK | INSTRUMENT OPS | |
|---|--------------------|----------------------|---------------------|----------------------|--------------------|---------------------|----------|----------------|---------------------|-------------|-----------------|-----------------|
| | | AIR CARRIER | GENERAL AVIATION | AIR MILITARY TAXI | TOTAL ITINERANT | GENERAL AVIATION | MILITARY | TOTAL LOCAL | TOTAL OPERATIONS | | OPER- ATIONS | APPRO- ACHES |
| ANN ARBOR MUNICIPAL (ANN ARBOR) | 1984 | 0 | 35,359 | 587 | 35,946 | 57,956 | 100 | 58,056 | 94,002 | 8 | 5,000 | 0 |
| | 1983 | 0 | 31,854 | 482 | 32,336 | 47,758 | 67 | 47,825 | 80,161 | 10 | 3,844 | 0 |
| | %CHG | + 0.0% | + 11.0% | + 21.8% | + 11.2% | + 21.4% | + 49.3% | + 21.4% | + 17.3% | | + 30.1% | + 0.0% |
| W. K. KELLOGG REGIONAL (BATTLE CREEK) | 1984 | 4,256 | 15,986 | 4,870 | 25,112 | 12,120 | 2,608 | 14,728 | 39,840 | 14 | 13,971 | 0 |
| | 1983 | 4,705 | 16,391 | 3,881 | 24,977 | 15,651 | 2,608 | 18,259 | 43,236 | 14 | 13,653 | 0 |
| | %CHG | - 9.5% | - 2.5% | + 25.5% | + 0.5% | - 22.6% | + 0.0% | - 19.3% | - 7.9% | | + 2.3% | + 0.0% |
| ROSS FIELD (BENTON HARBOR) | 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| | 1983 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| | %CHG | + 0.0% | + 0.0% | + 0.0% | + 0.0% | + 0.0% | + 0.0% | + 0.0% | + 0.0% | | + 0.0% | + 0.0% |
| DETROIT CITY (DETROIT) | 1984 | 4,406 | 82,763 | 15,603 | 102,772 | 41,343 | 15 | 41,358 | 144,130 | 4 | 51,043 | 0 |
| | 1983 | 3,020 | 67,935 | 13,946 | 84,901 | 45,654 | 113 | 45,767 | 130,668 | 4 | 42,136 | 0 |
| | %CHG | + 45.9% | + 21.8% | + 11.9% | + 21.0% | - 9.4% | - 86.7% | - 9.6% | + 10.3% | | + 21.1% | + 0.0% |
| DETROIT METROPOLITAN (DETROIT) | 1984 | 195,157 | 65,373 | 65,740 | 326,270 | 0 | 0 | 0 | 326,270 | 1 | 526,831 | 33,954 |
| | 1983 | 169,007 | 60,967 | 52,267 | 282,241 | 0 | 0 | 0 | 282,241 | 2 | 459,109 | 25,037 |
| | %CHG | + 15.5% | + 7.2% | + 25.8% | + 15.6% | + 0.0% | + 0.0% | + 0.0% | + 15.6% | | + 14.8% | + 35.6% |
| DETROIT-WILLOW RUN (DETROIT) | 1984 | 16,854 | 42,367 | 17,740 | 76,961 | 76,426 | 122 | 76,548 | 153,509 | 3 | 43,535 | 0 |
| | 1983 | 13,232 | 47,058 | 7,731 | 68,021 | 74,815 | 119 | 74,934 | 142,955 | 3 | 34,421 | 0 |
| | %CHG | + 27.4% | - 10.0% | + 129.5% | + 13.1% | + 2.2% | + 2.5% | + 2.2% | + 7.4% | | + 26.5% | + 0.0% |
| BISHOP (FLINT) | 1984 | 3,499 | 39,751 | 15,973 | 59,223 | 50,622 | 1,058 | 51,680 | 110,903 | 7 | 108,367 | 3,857 |
| | 1983 | 1,733 | 38,963 | 13,616 | 54,312 | 46,072 | 785 | 46,857 | 101,169 | 7 | 102,169 | 3,388 |
| | %CHG | + 101.9% | + 2.0% | + 17.3% | + 9.0% | + 9.9% | + 34.8% | + 10.3% | + 9.6% | | + 6.1% | + 13.8% |
| KENT COUNTY INTERNATIONAL (GRAND RAPIDS) | 1984 | 30,429 | 58,639 | 9,490 | 98,558 | 32,393 | 1,286 | 33,679 | 132,237 | 5 | 132,683 | 6,484 |
| | 1983 | 28,823 | 58,037 | 6,823 | 93,683 | 34,292 | 900 | 35,192 | 128,875 | 5 | 124,942 | 7,121 |
| | %CHG | + 5.6% | + 1.0% | + 39.1% | + 5.2% | - 5.5% | + 42.9% | - 4.3% | + 2.6% | | + 6.2% | - 8.9% |
| JACKSON COUNTY REYNOLDS (JACKSON) | 1984 | 2 | 32,196 | 2,555 | 34,753 | 23,468 | 342 | 23,810 | 58,563 | 12 | 22,716 | 1,152 |
| | 1983 | 0 | 29,960 | 3,470 | 33,430 | 21,039 | 206 | 21,245 | 54,675 | 13 | 22,322 | 1,281 |
| | %CHG | + 100.0% | + 7.5% | - 26.4% | + 4.0% | + 11.5% | + 66.0% | + 12.1% | + 7.1% | | + 1.8% | - 10.1% |
| KALAMAZOO MUNICIPAL (KALAMAZOO) | 1984 | 8,870 | 40,918 | 7,792 | 57,580 | 27,733 | 164 | 27,897 | 85,477 | 10 | 109,099 | 3,353 |
| | 1983 | 6,952 | 41,648 | 6,498 | 55,098 | 35,332 | 202 | 35,534 | 90,632 | 8 | 103,623 | 3,879 |
| | %CHG | + 27.6% | - 1.8% | + 19.9% | + 4.5% | - 21.5% | - 18.8% | - 21.5% | - 5.7% | | + 5.3% | - 13.6% |
| CAPITAL CITY (LANSING) | 1984 | 9,872 | 50,840 | 10,824 | 71,536 | 43,680 | 1,578 | 45,258 | 116,794 | 6 | 118,809 | 3,657 |
| | 1983 | 12,845 | 52,416 | 9,526 | 74,787 | 41,543 | 6,936 | 48,479 | 123,266 | 6 | 118,320 | 4,216 |
| | %CHG | - 23.1% | - 3.0% | + 13.6% | - 4.3% | + 5.1% | - 77.2% | - 6.6% | - 5.3% | | + 0.4% | - 13.3% |
| MUSKEGON COUNTY (MUSKEGON) | 1984 | 7,297 | 27,673 | 8,988 | 43,958 | 17,263 | 1,892 | 19,155 | 63,113 | 11 | 75,485 | 1,617 |
| | 1983 | 6,920 | 26,218 | 7,159 | 40,297 | 18,846 | 1,650 | 20,496 | 60,793 | 11 | 75,996 | 2,414 |
| | %CHG | + 5.4% | + 5.5% | + 25.5% | + 9.1% | - 8.4% | + 14.7% | - 6.5% | + 3.8% | | - 0.7% | - 33.0% |
| OAKLAND-PONTIAC (PONTIAC) | 1984 | 852 | 136,898 | 6,877 | 144,627 | 160,686 | 207 | 160,893 | 305,520 | 2 | 39,986 | 0 |
| | 1983 | 907 | 123,814 | 6,369 | 131,090 | 157,418 | 246 | 157,664 | 288,754 | 1 | 35,560 | 0 |
| | %CHG | - 6.1% | + 10.6% | + 8.0% | + 10.3% | + 2.1% | - 15.9% | + 2.0% | + 5.8% | | + 12.4% | + 0.0% |

ITINERANT LOCAL & TOTAL OPERATIONS FOR TOWER AIRPORTS JAN - DEC 1984
 (AIRPORTS LISTED ALPHABETICALLY)

| AIRPORT NAME (COMMUNITY) | JAN THRU DEC | ITINERANT OPERATIONS | | | | LOCAL OPERATIONS | | | | OPS RANK MICH | INSTRUMENT OPS | |
|-------------------------------------|--------------------|----------------------|---------------------|-----------------|-------------------|---------------------|----------|----------------|---------------------|---------------------|-----------------|-----------------|
| | | AIR CARRIER | GENERAL AVIATION | AIR MILITARY | TAXI ITINERANT | GENERAL AVIATION | MILITARY | TOTAL LOCAL | TOTAL OPERATIONS | | OPER- ATIONS | APPRO- ACHES |
| TRI-CITY INTERNATIONAL (SAGINAW) | 1984 | 9,021 | 23,237 | 9,196 | 41,754 | 14,753 | 204 | 14,957 | 56,711 | 13 | 79,879 | 3,393 |
| | 1983 | 9,570 | 22,604 | 10,143 | 42,317 | 12,466 | 348 | 12,814 | 55,131 | 12 | 79,211 | 3,732 |
| | %CHG | - 5.7% | + 2.8% | - 6.4% | - 1.3% | + 18.3% | - 41.4% | + 16.7% | + 2.9% | + 0.8% | - 9.1% | |
| CHERRY CAPITAL (TRAVERSE CITY) | 1984 | 6,088 | 28,631 | 11,238 | 45,957 | 33,169 | 6,937 | 40,106 | 86,063 | 9 | 20,563 | 0 |
| | 1983 | 6,077 | 27,663 | 11,769 | 45,509 | 32,586 | 7,622 | 40,208 | 85,717 | 9 | 20,909 | 0 |
| | %CHG | + 0.2% | + 3.5% | - 4.5% | + 1.0% | + 1.8% | - 9.0% | - 0.3% | + 0.4% | - 1.7% | + 0.0% | |
| TOTAL (MICHIGAN) | 1984 | 296,603 | 680,631 | 187,773 | 1,165,007 | 591,612 | 16,513 | 608,125 | 1,773,132 | | 1,347,967 | 57,467 |
| | 1983 | 263,791 | 645,528 | 153,680 | 1,062,999 | 583,472 | 21,802 | 505,274 | 1,668,273 | | 1,236,215 | 51,068 |
| | %CHG | + 12.4% | + 5.4% | + 22.2% | + 9.6% | + 1.4% | - 24.3% | + 0.5% | + 6.3% | + 9.0% | + 12.5% | |

Figure 2

TOTAL OPERATIONS AT ANN ARBOR MUNICIPAL AIRPORT - ANN ARBOR
1980 - 1984

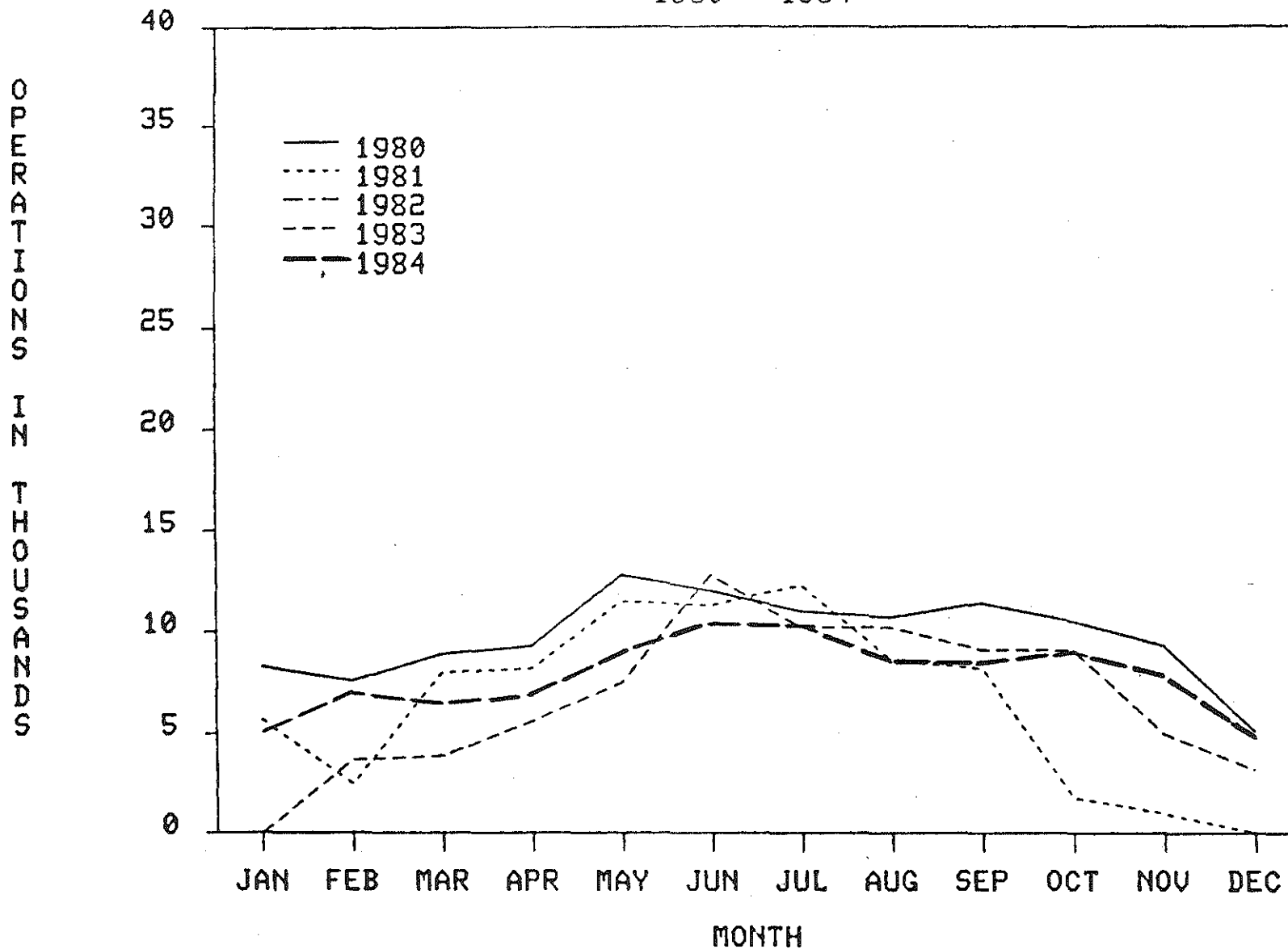


Figure 3

TOTAL OPERATIONS AT KELLOGG REG. AIRPORT - BATTLE CREEK
1980 - 1984

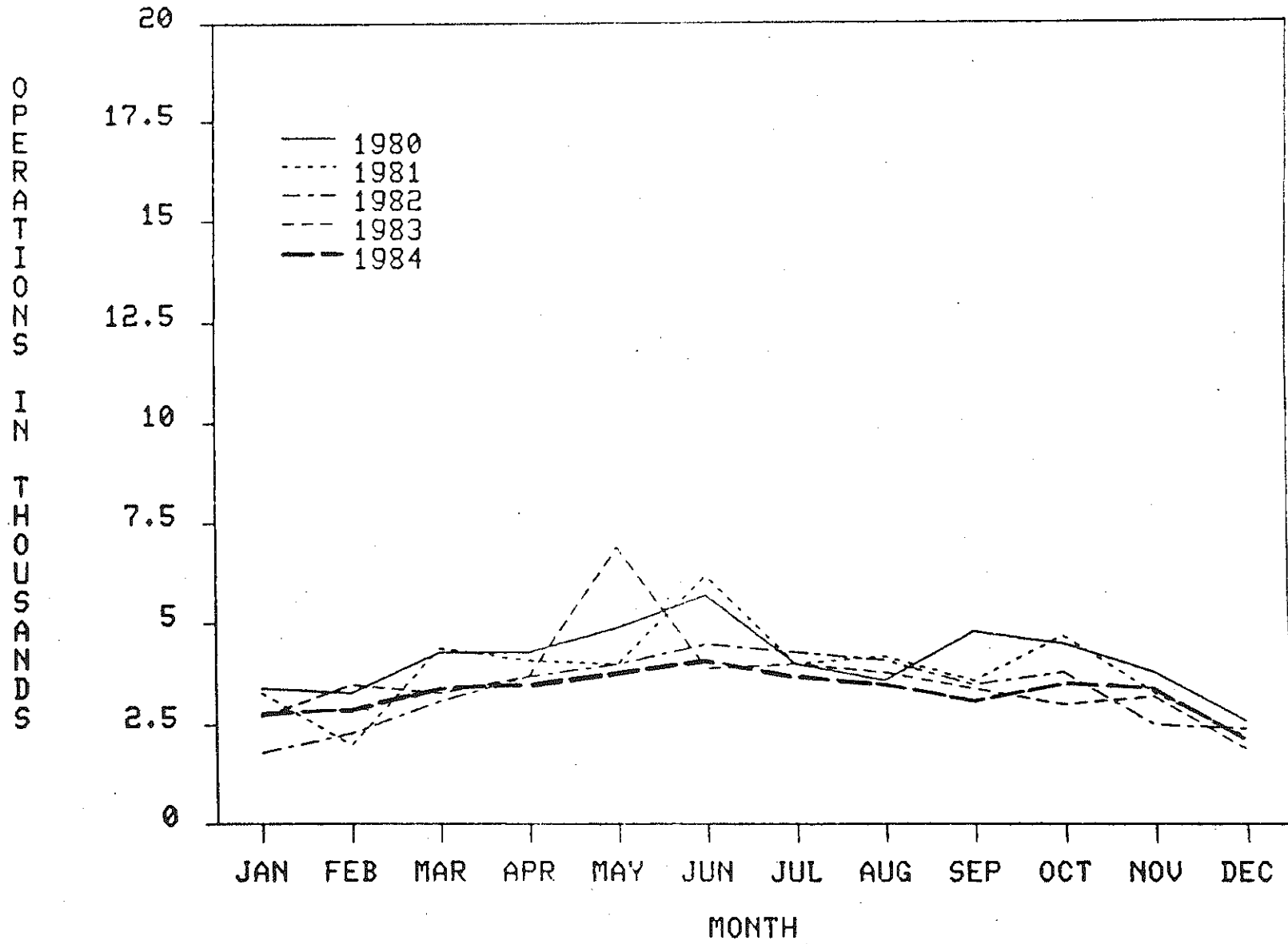


Figure 4

TOTAL OPERATIONS AT CITY AIRPORT - DETROIT
1980 - 1984

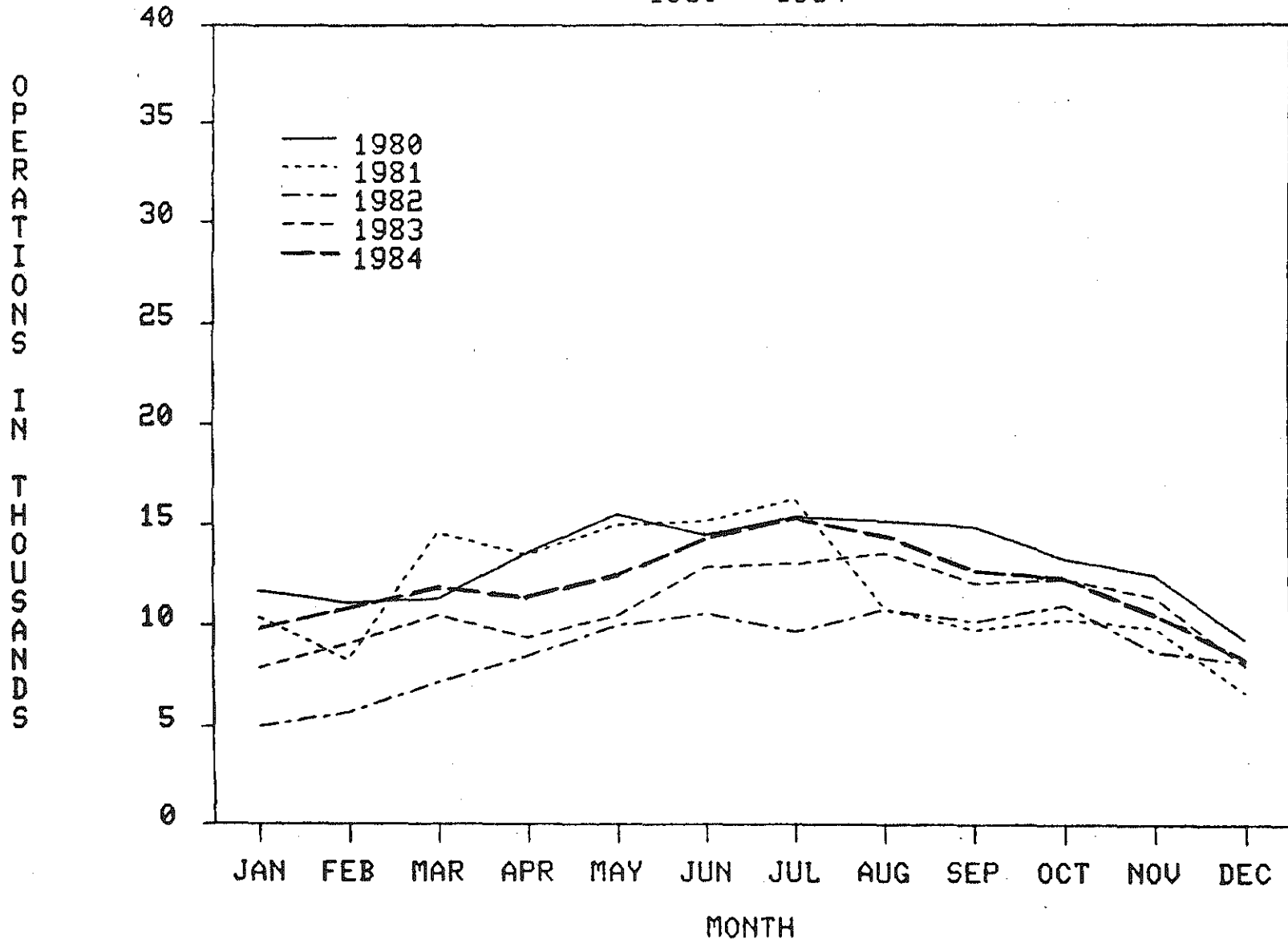


Figure 5

TOTAL OPERATIONS AT METROPOLITAN AIRPORT - DETROIT 1980 - 1984

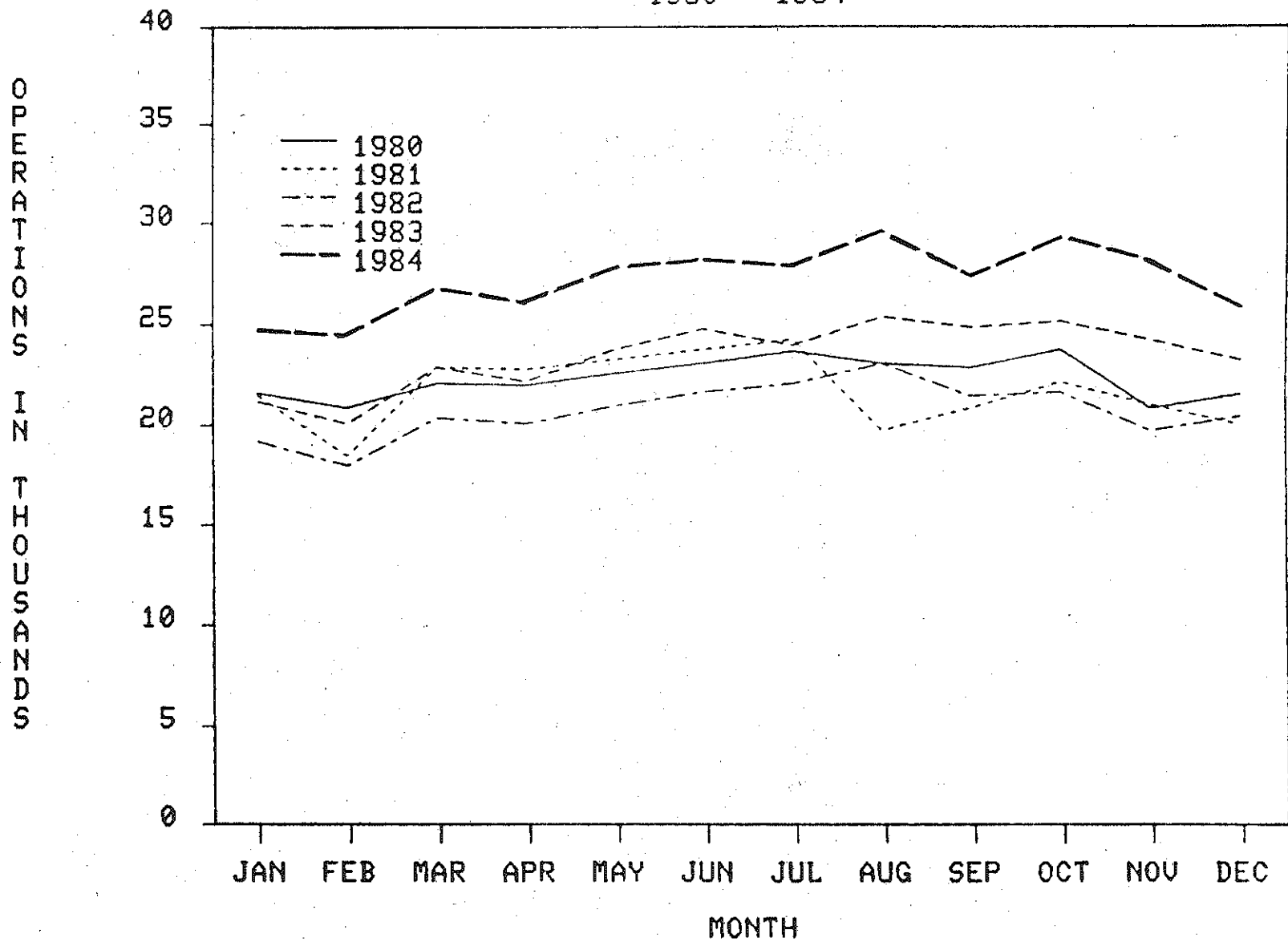


Figure 6

TOTAL OPERATIONS AT WILLOW RUN AIRPORT - DETROIT
1980 - 1984

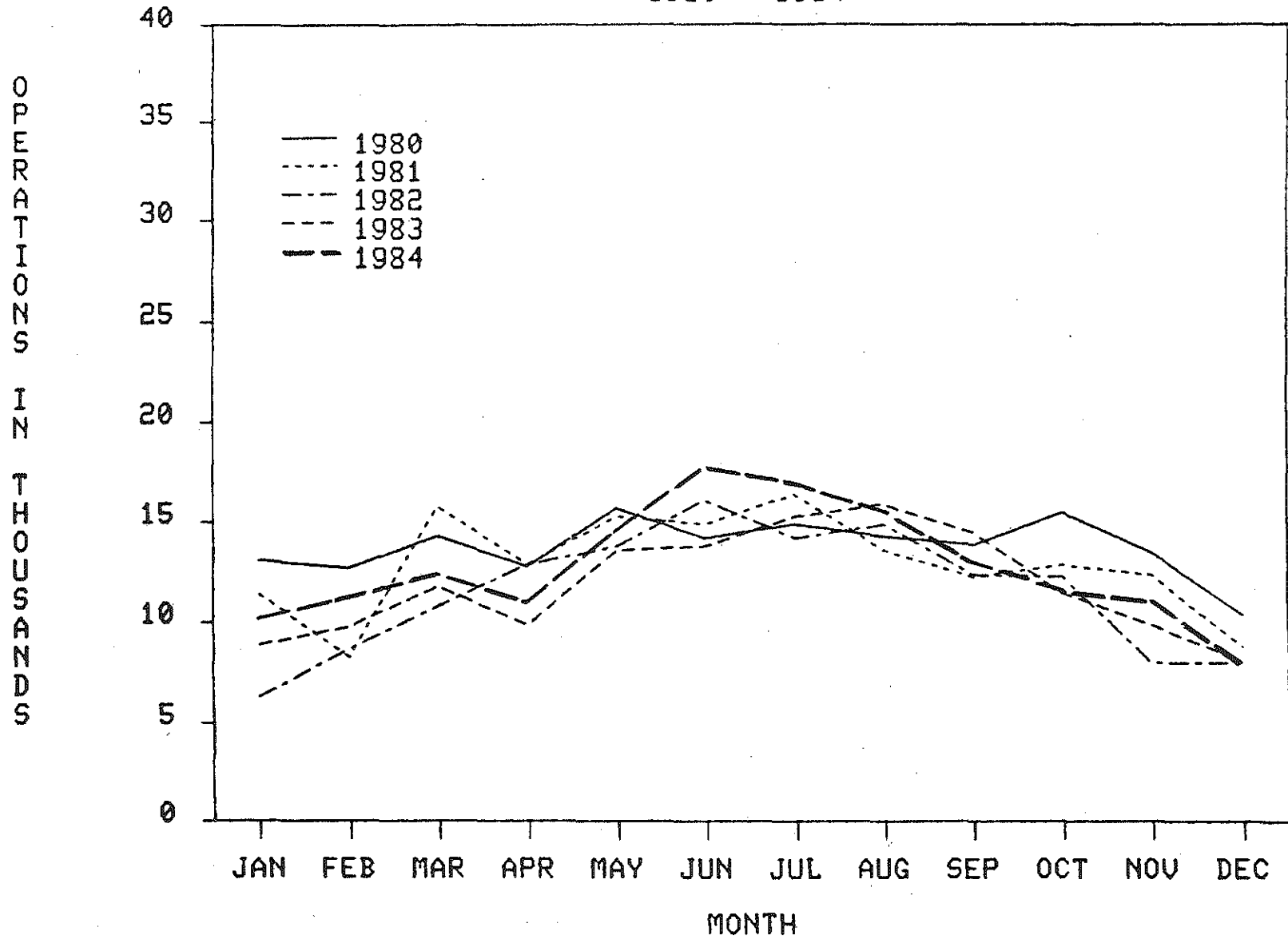


Figure 7

TOTAL OPERATIONS AT BISHOP AIRPORT - FLINT
1980 - 1984

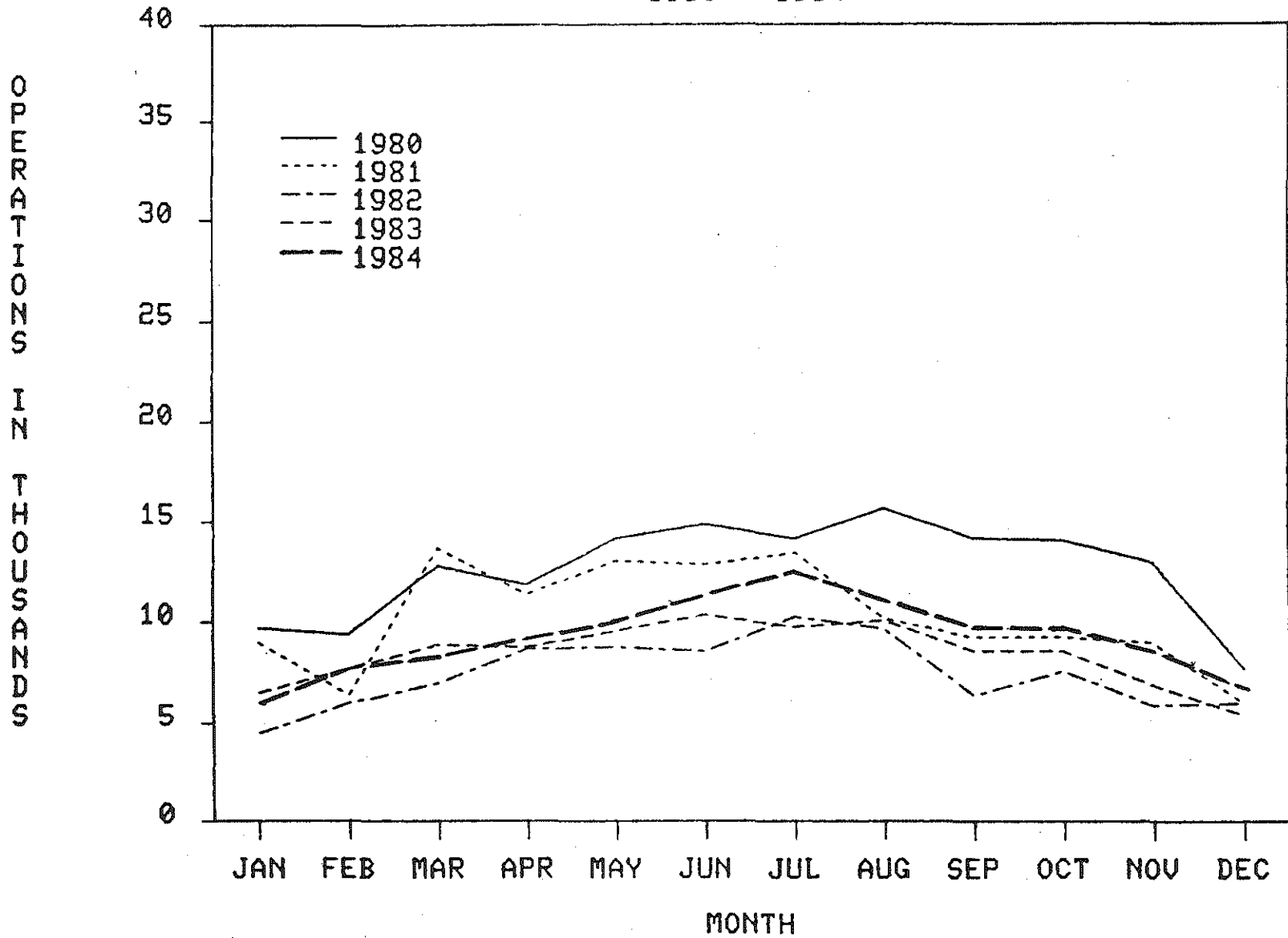


Figure 8

TOTAL OPERATIONS AT KENT COUNTY AIRPORT - GRAND RAPIDS
1980 - 1984

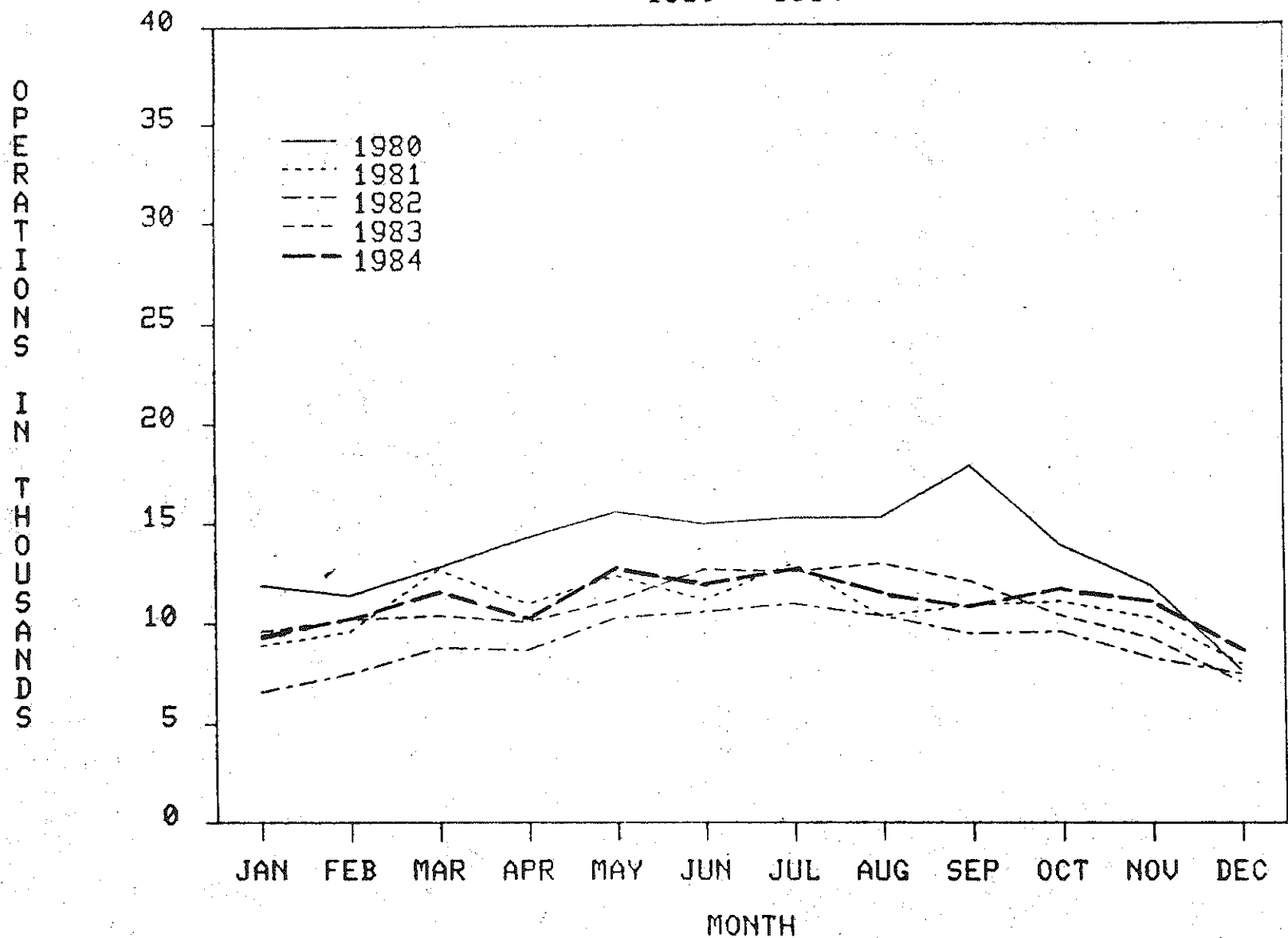


Figure 9

TOTAL OPERATIONS AT JACKSON COUNTY REYNOLDS FIELD - JACKSON
1980 - 1984

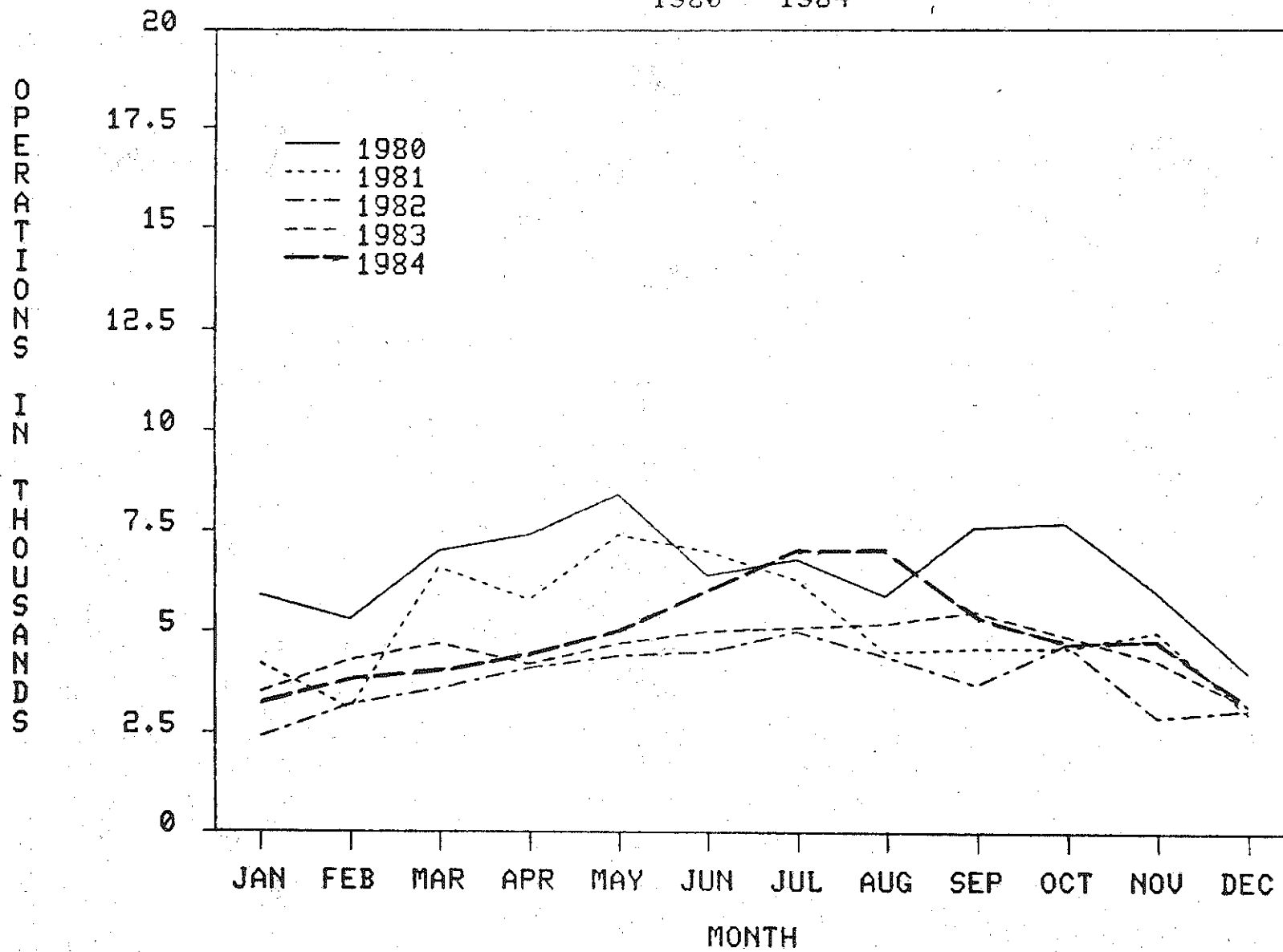


Figure 10

TOTAL OPERATIONS AT MUNICIPAL AIRPORT - KALAMAZOO
1980 - 1984

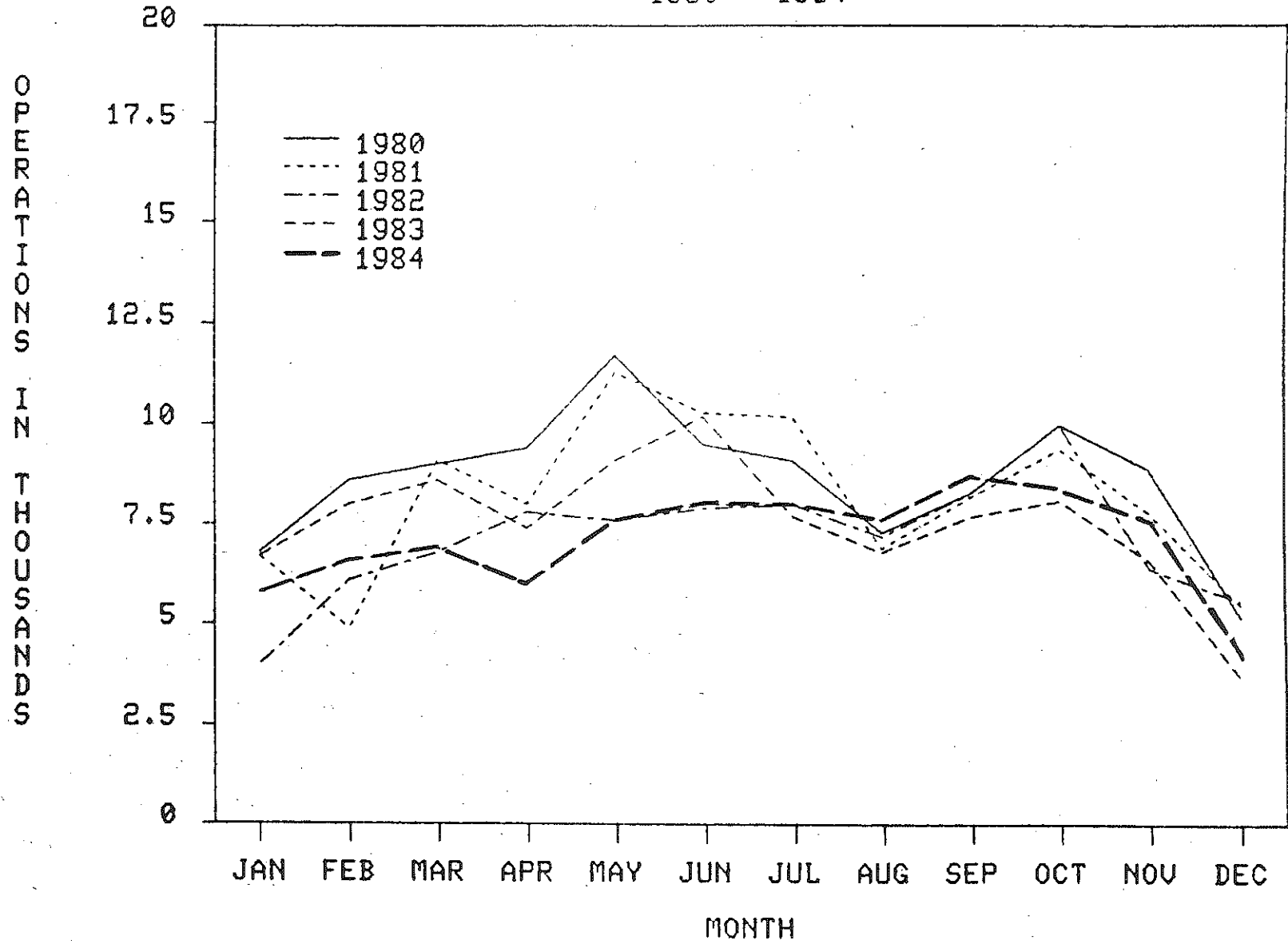


Figure 11

TOTAL OPERATIONS AT CAPITAL CITY AIRPORT - LANSING
1980 - 1984

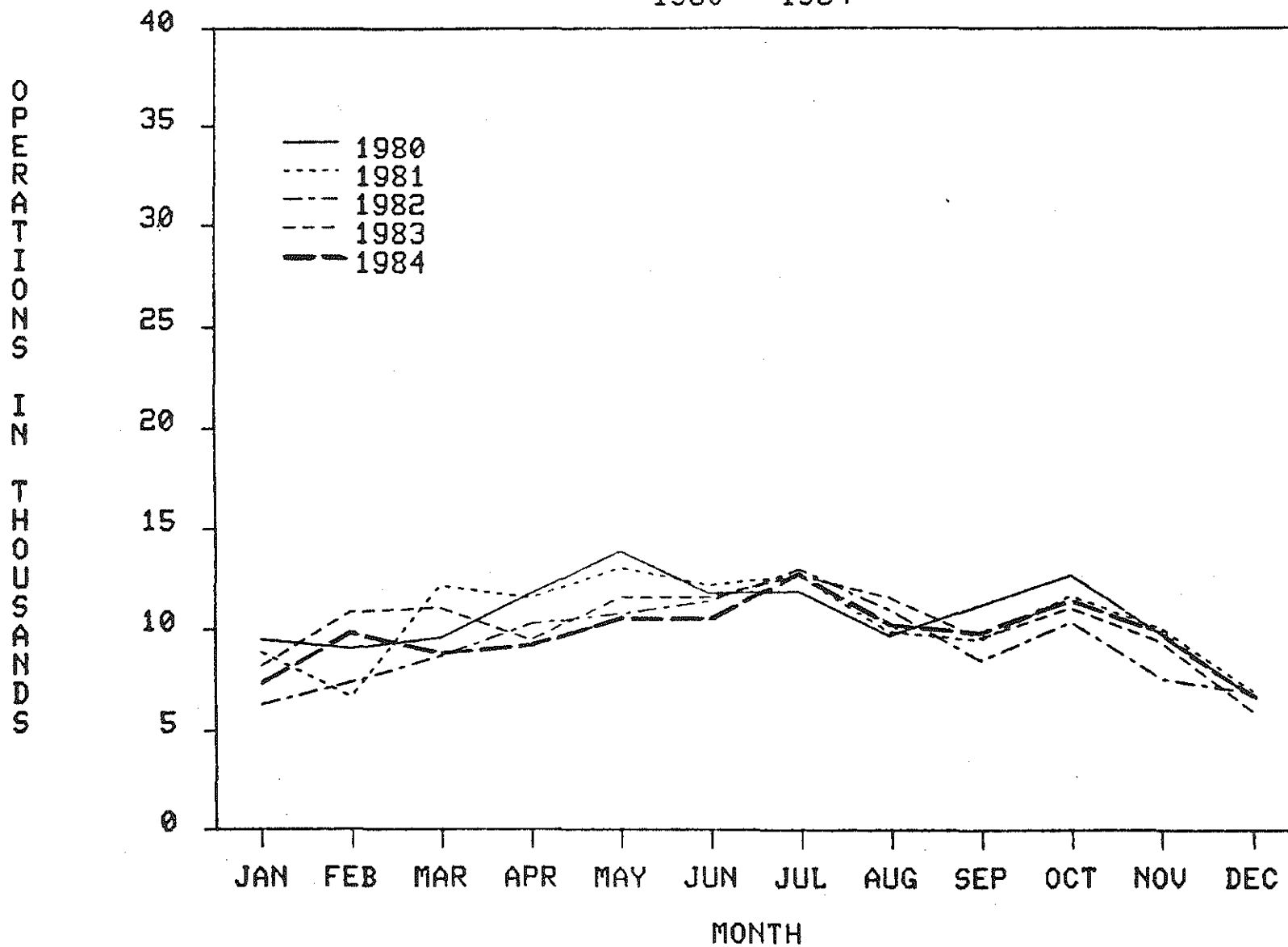


Figure 12

TOTAL OPERATIONS AT MUSKEGON COUNTY AIRPORT - MUSKEGON
1980 - 1984

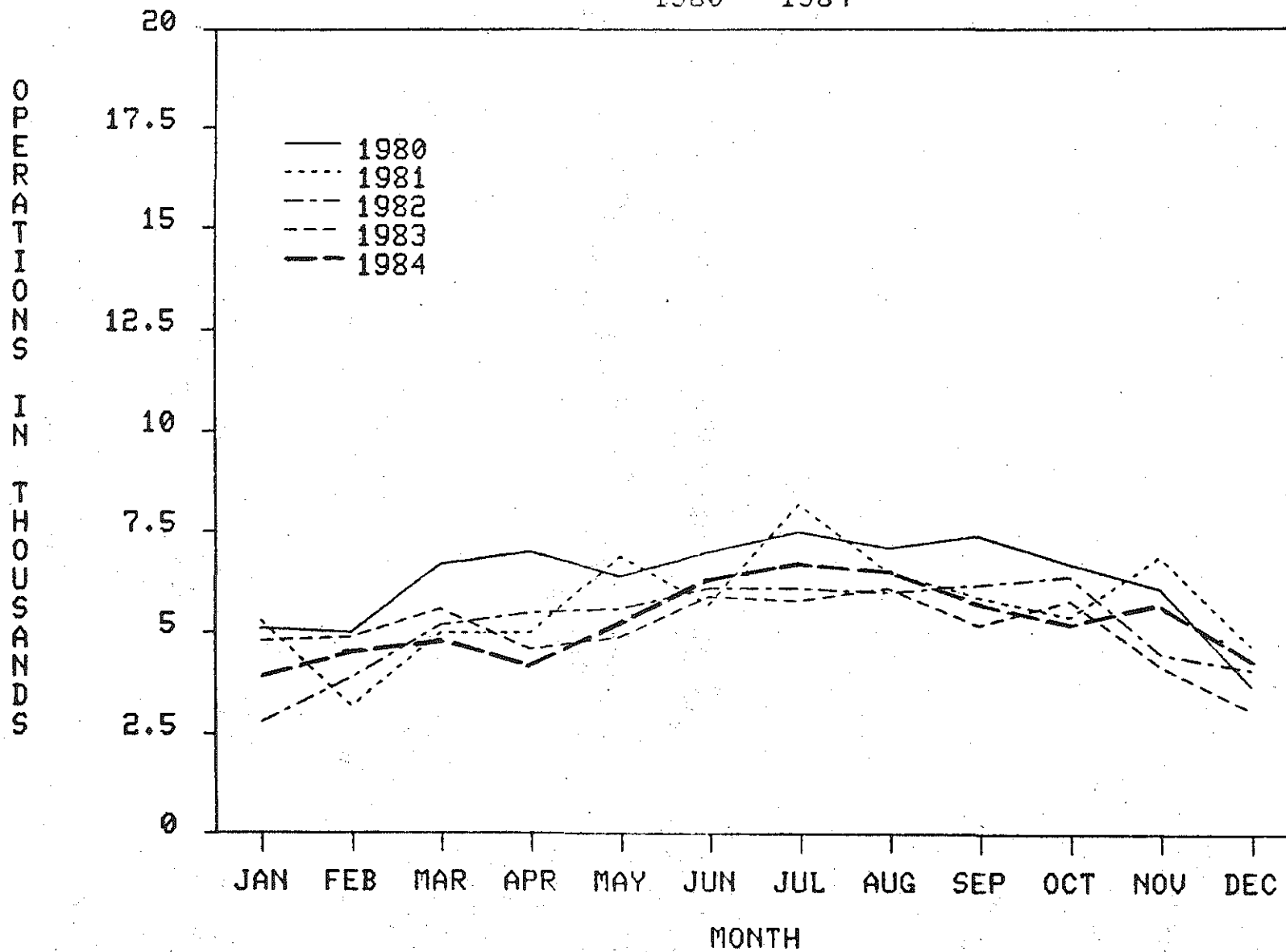


Figure 13

TOTAL OPERATIONS AT OAKLAND PONTIAC AIRPORT - PONTIAC
1980 - 1984

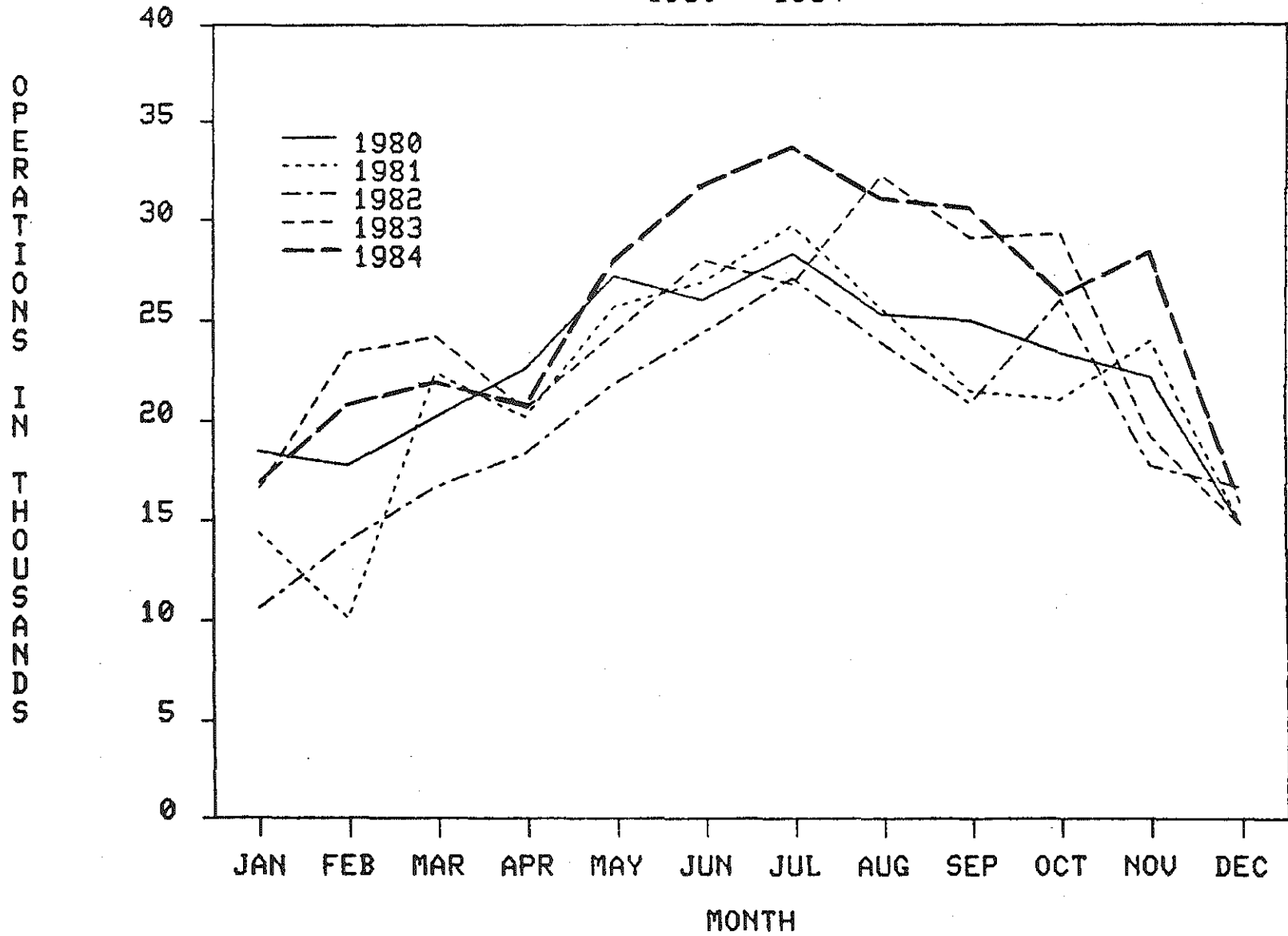


Figure 14

TOTAL OPERATIONS AT TRI-CITY INTERNATIONAL AIRPORT - SAGINAW
1980 - 1984

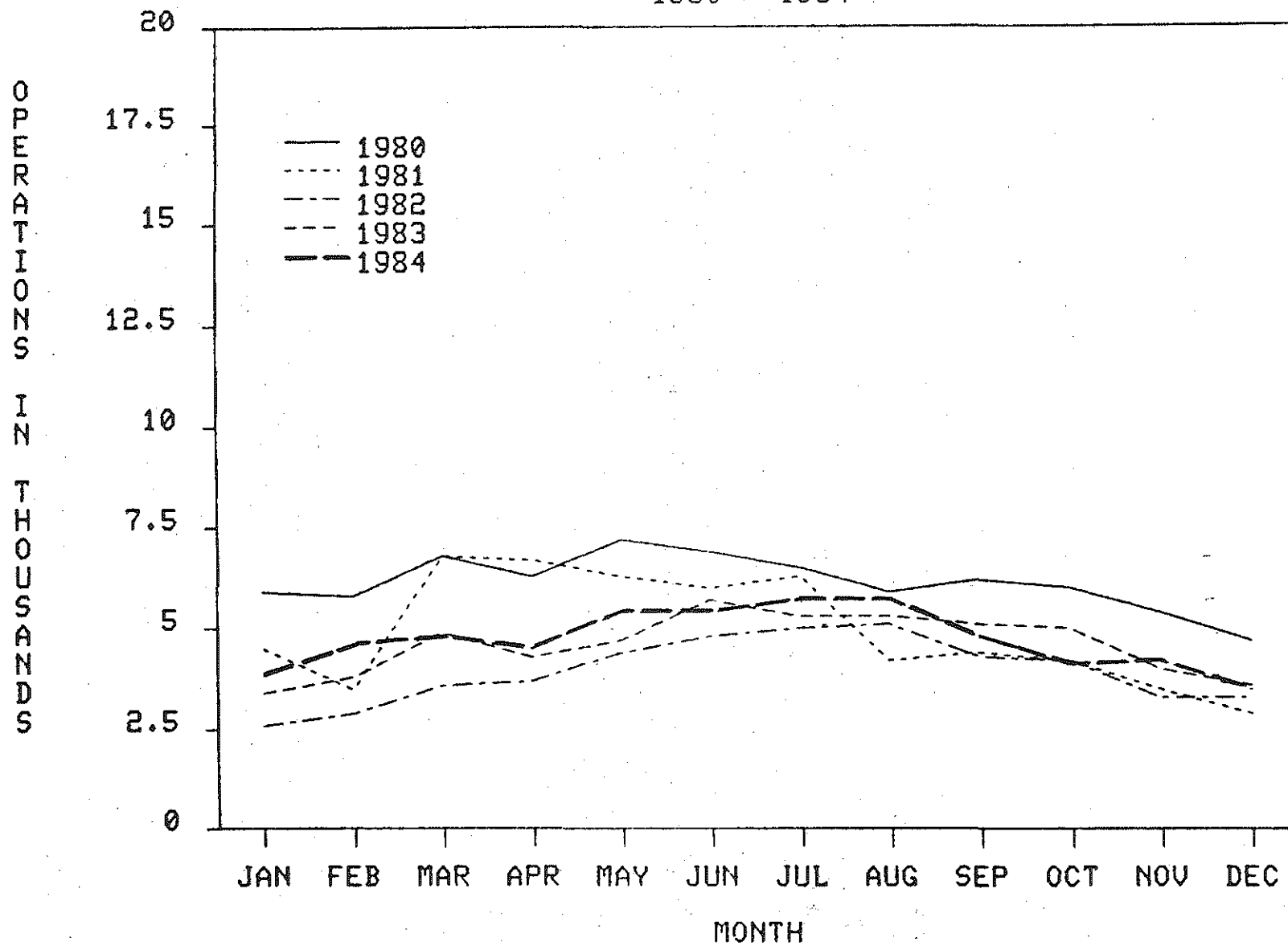


Figure 15

TOTAL OPERATIONS AT CHERRY CAPITAL AIRPORT - TRAVERSE CITY
1980 - 1984

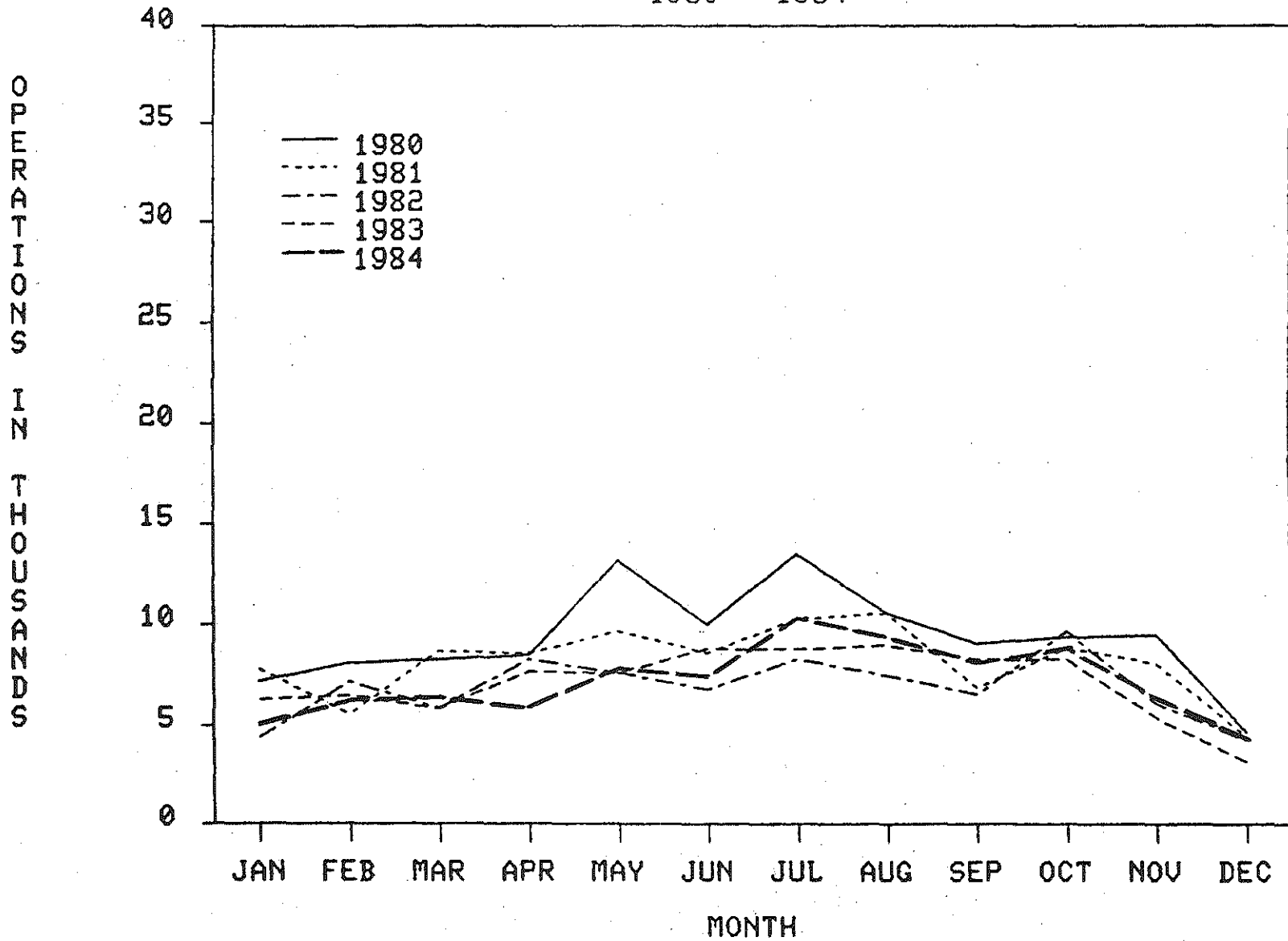


Figure 16

PERCENT OF TOTAL OPERATIONS BY CONTROL TOWER AIRPORT
1984

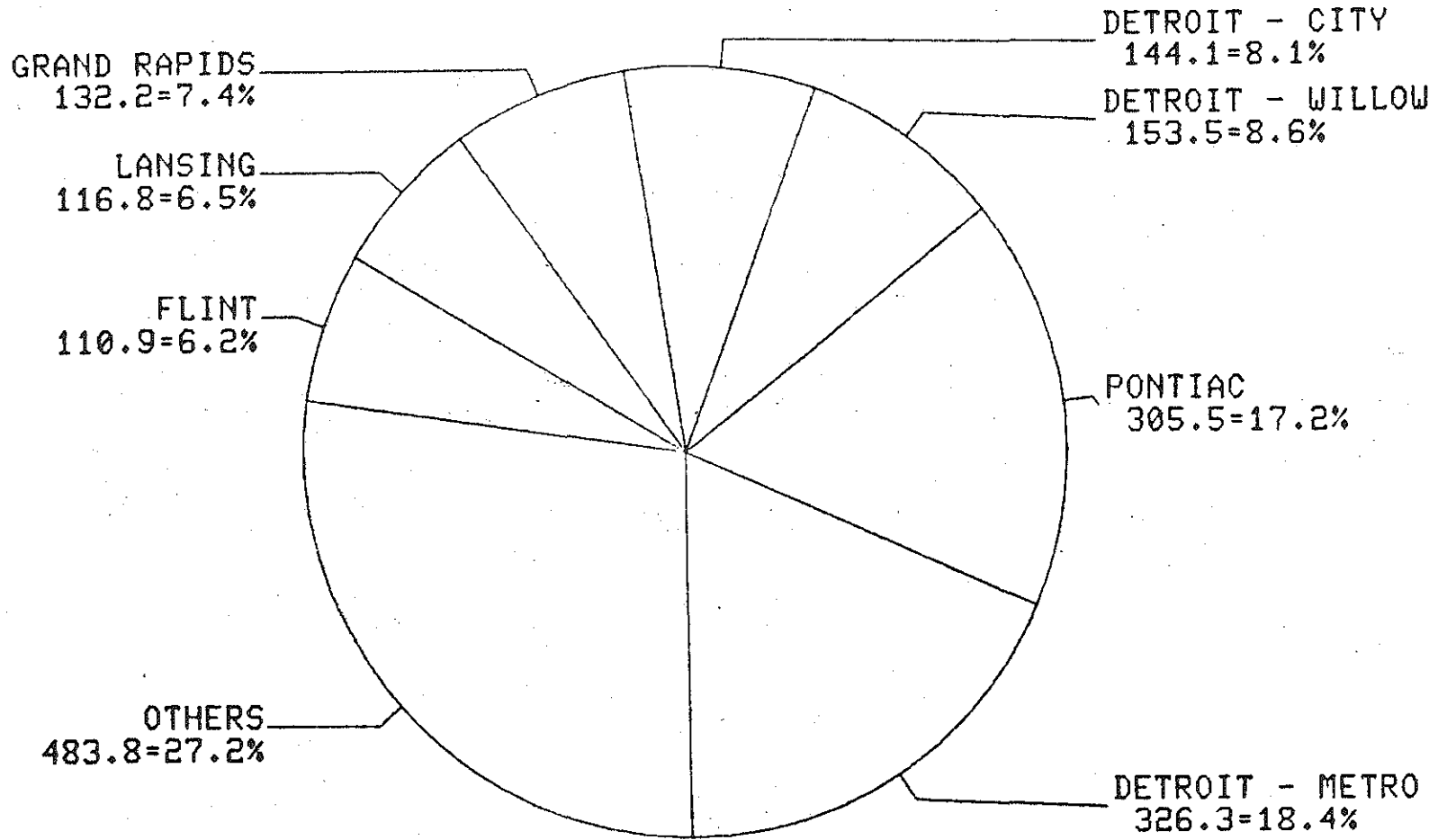


Figure 17

PERCENT OF TOTAL OPERATIONS BY CONTROL TOWER AIRPORT
1983

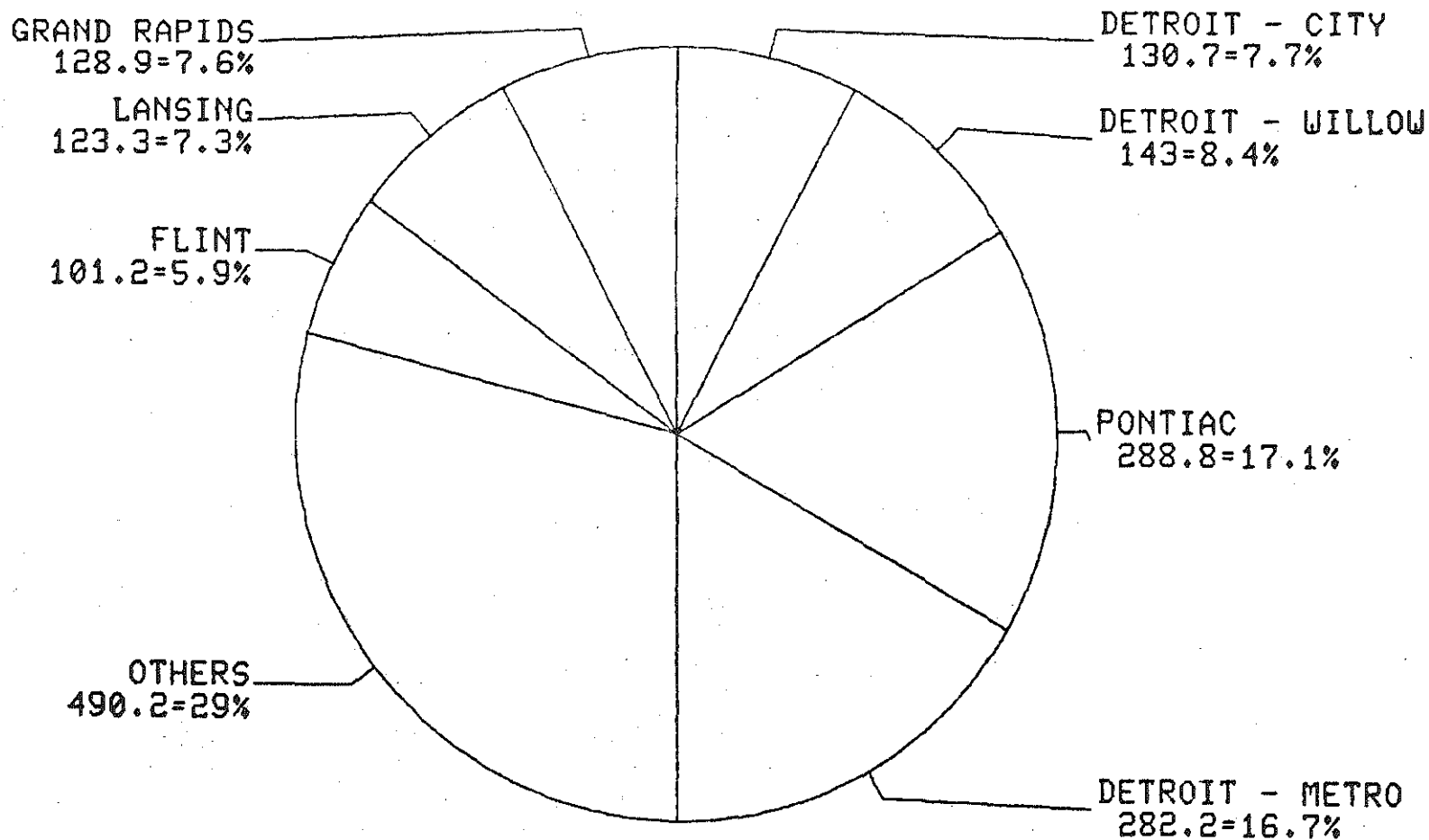


Figure 18

PERCENT OF TOTAL OPERATIONS BY CONTROL TOWER AIRPORT
1982

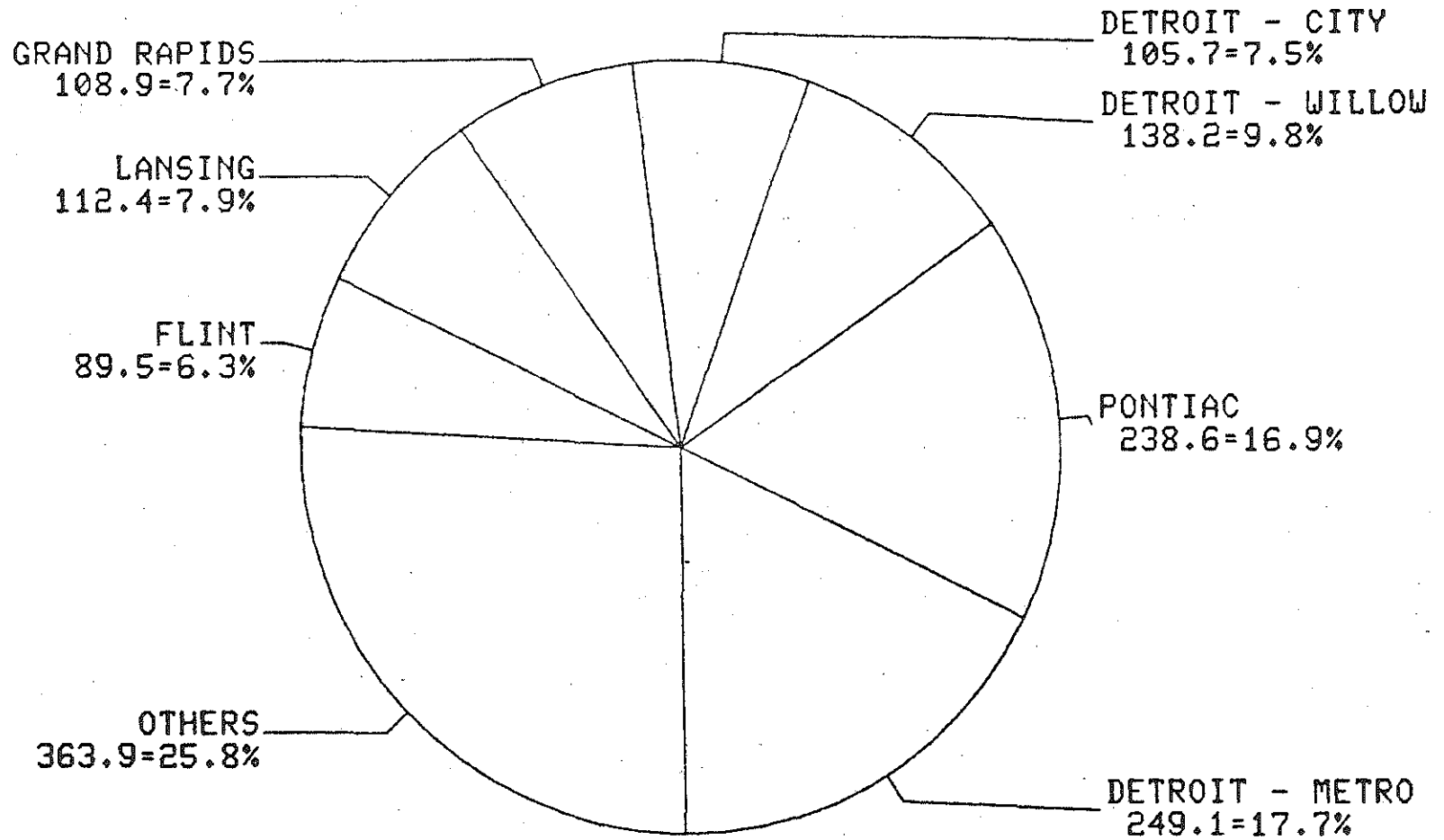


Figure 19

PERCENT OF TOTAL OPERATIONS BY CONTROL TOWER AIRPORT
1981

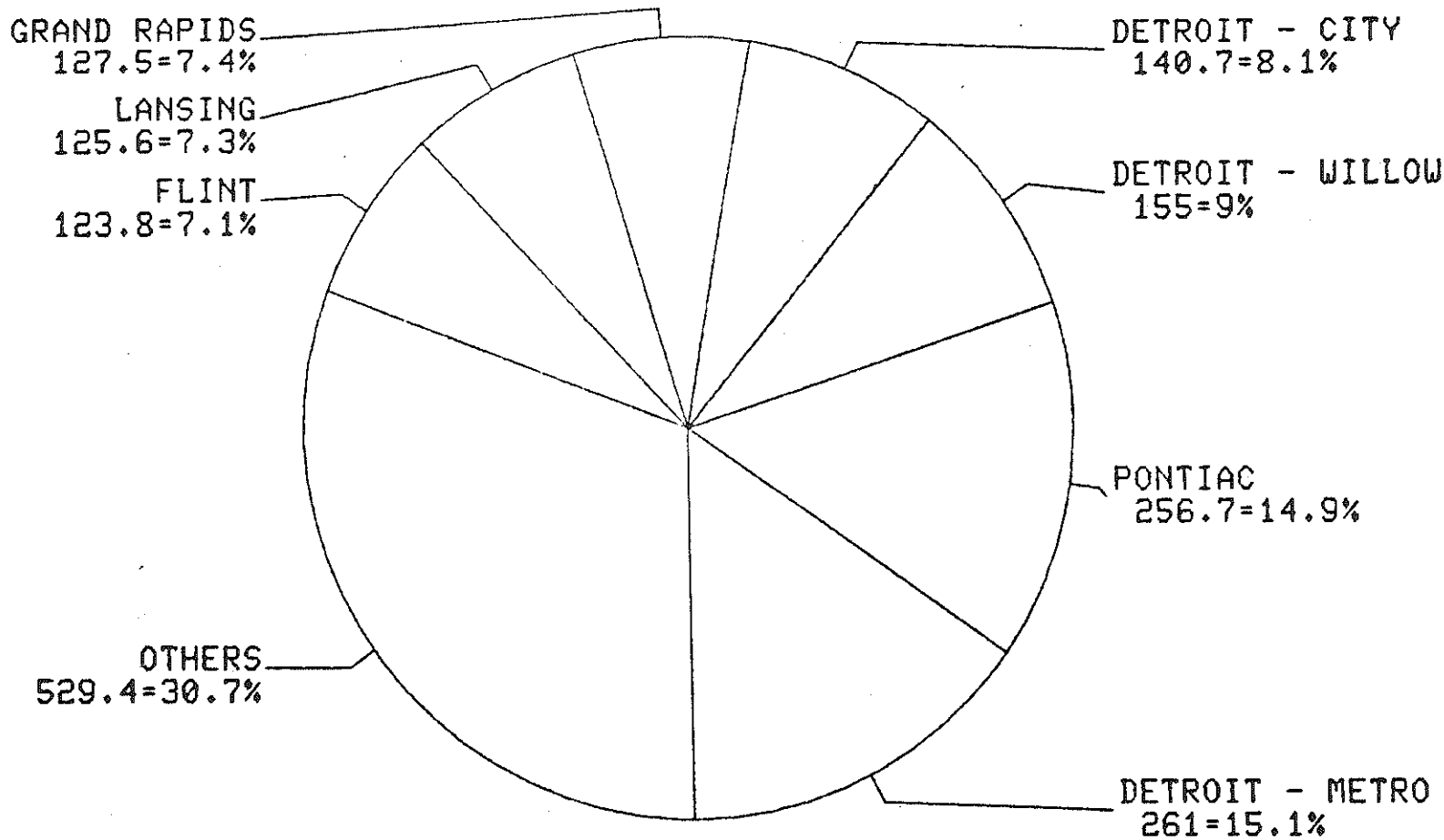


Figure 20

PERCENT OF TOTAL OPERATIONS BY CONTROL TOWER AIRPORT
1980

