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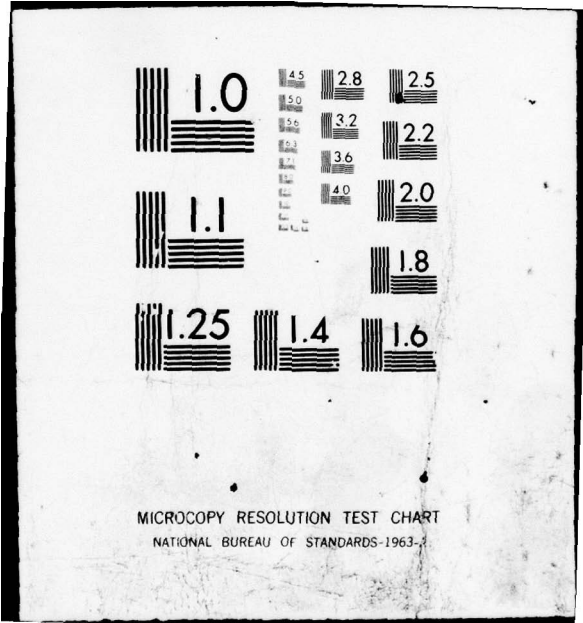
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FAA STATISTICAL HANDBOOK OF AVIATION, CALENDAR YEAR 1978.(U)
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FAA STATISTICAL HANDBOOK OF AVIATION

CALENDAR YEAR 1978

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CALENDAR YEAR 1978



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**U.S. DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration**

PREFACE

The FAA Statistical Handbook of Aviation is published annually by the Federal Aviation Administration (FAA). Its prime purpose is to serve as a convenient source for historical data, and to assist in evaluating progress. This edition contains data on major civil aviation activities for the period ending December 31, 1978.

The handbook should provide a valuable source of information for the Department of Transportation (DOT), operating offices of the FAA, the Civil Aeronautics Board (CAB), and other government agencies, as well as non-government organizations interested in aviation.

Chapter I deals with the FAA and its functions. This section also includes a comparison of the agency's appropriations from fiscal years 1977-1979, and the agency's personnel complement for 6-month intervals from June 30, 1969, to December 31, 1978.

National Airspace System data reflecting the workload of the FAA air traffic facilities--terminal and en route--are contained in Chapter II. This chapter contains air traffic activity reported by FAA-operated airport traffic control towers, air route traffic control centers, and domestic and international flight service stations.

Selected statistics concerning the Nation's Airport Facilities are presented in Chapter III by state within FAA regions. In addition to the total count of these facilities, this chapter includes statistics pertaining to the physical characteristics (paved vs. unpaved runways, lighted vs.

unlighted runways, length of runways, etc.), size of populated areas served, funds allocated for airport development, etc.

Airport activity statistics comprising Chapter IV were prepared from data published in the calendar year 1978 edition of Airport Activity Statistics of the Certificated Route Air Carriers, issued jointly by the CAB and the FAA. In addition, this chapter presents individual passenger and traffic activity data from some of the Nation's international airports.

The U.S. Civil Air Carrier Fleet, as of December 31, 1978, is described in detail in Chapter V. These statistics were developed from Monthly Aircraft/Engine Utilization Reports submitted by the air carrier operators. The aircraft population discussed here is not an inventory of the aircraft owned by the air carriers, but represents the aircraft actually used by the air carrier fleet during the last quarter of calendar year 1978.

U.S. Civil Air Carrier Operating Data--revenue passenger miles flown, available seat-miles and enplanements, revenue ton-miles flown, revenue aircraft miles flown, personnel, payroll, average salary, and operating revenues and expenses of the certificated route air carriers--are presented in Chapter VI. These statistics were obtained from schedules submitted by the certificated route air carriers to the CAB.

The Airmen data shown in Chapter VII were obtained from official airmen certification records maintained by the FAA Aeronautical Center in Oklahoma City, Oklahoma.

The general aviation aircraft data presented in Chapter VIII were collected from the General Aviation Activity and Avionics Survey. Numbers of active aircraft, hours flown and the avionics equipment on board is shown for each aircraft type.

Aeronautical Production and Exports are summarized in Chapter IX. This information was obtained from reports submitted to the U.S. Bureau of the Census by the manufacturers of civil aircraft, and the General Aviation Manufacturers Association's shipment reports.

Aircraft Accidents, both air carrier and general aviation, appear in Chapter X. Up to 1965, air carrier accident data were furnished by the CAB. Comparable data for 1965 to 1978, inclusive, were made available by the National Transportation Safety Board (NTSB). General aviation accident data from 1959 to 1965 were obtained from the CAB. The following two years data were collected by the NTSB. However, during 1957 and 1958, the CAB and the Civil Aeronautics Administration shared responsibility for the investigation and analysis of general aviation accidents.

The FAA Statistical Handbook of Aviation is prepared by the Information Analysis Branch, Information and Statistics Division, Office of Management Systems, with the cooperation of other FAA and DOT offices. Appreciation is expressed to the Civil Aeronautics Board, U.S. Bureau of the Census, U.S. Department of Labor, Interstate Commerce Commission, Immigration and Naturalization Service, and many municipalities and private organizations for their assistance.

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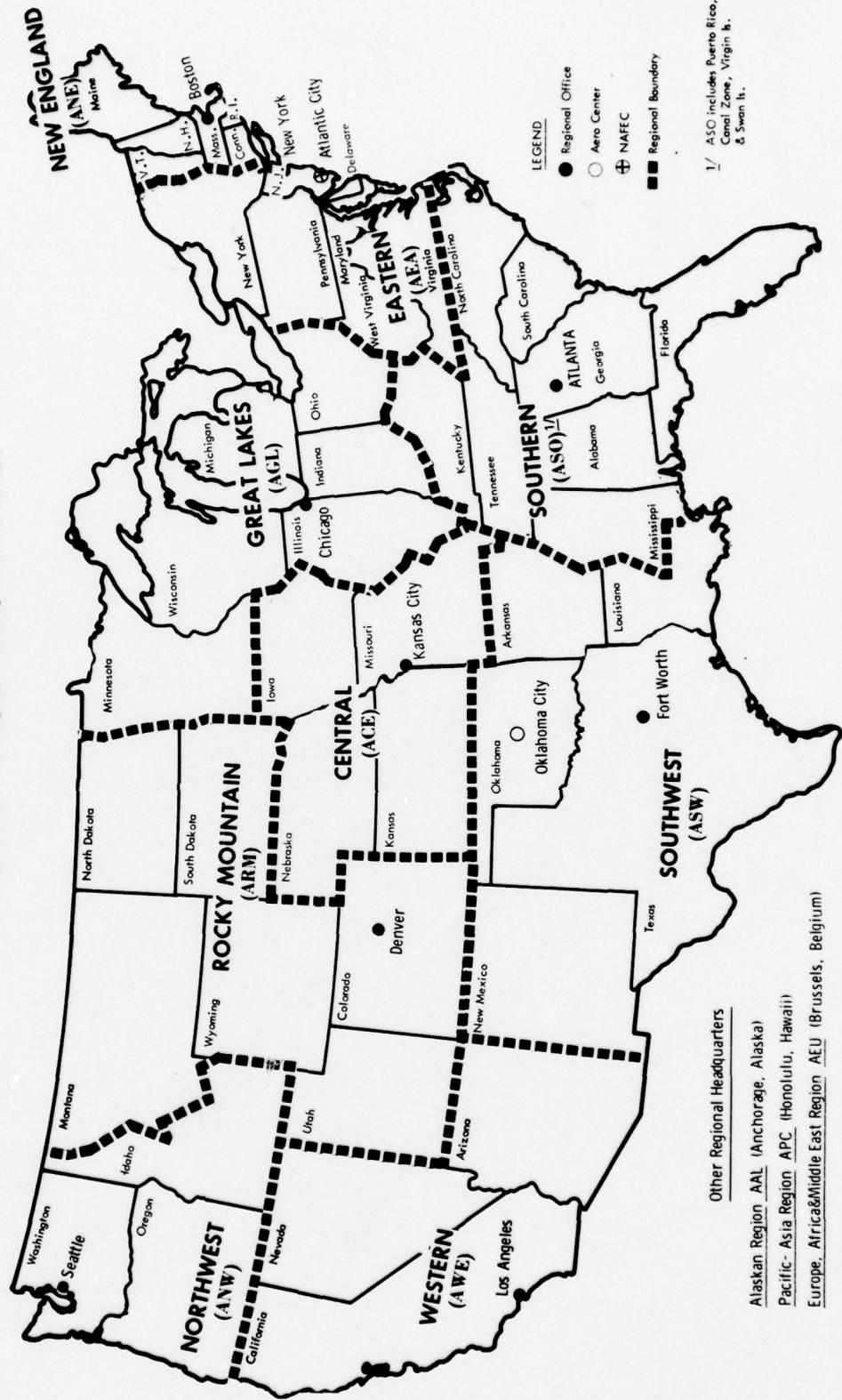
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Department of Transportation
Federal Aviation Administration

FAA REGIONAL BOUNDARIES

Including Locations of Regional Headquarters & Centers



Other Regional Headquarters

Alaskan Region AAL (Anchorage, Alaska)
 Pacific-Asia Region APC (Honolulu, Hawaii)
 Europe, Africa & Middle East Region AEU (Brussels, Belgium)

I. THE FEDERAL AVIATION ADMINISTRATION

The Department of Transportation Act of 1966 established a new executive department known as the Department of Transportation. The general welfare, economic growth, stability, and security of the Nation pointed to the need for the development of national transportation policies and programs effectively utilizing the Nation's transportation resources. The Act provided for inclusion of the Federal Aviation Agency in the Department as the Federal Aviation Administration.

Directed by an Administrator, who is appointed by the President, by and with the advice and consent of the Senate, the FAA has as its primary function fostering the development and safety of American aviation. More specifically, the FAA is responsible for developing the major policies necessary to guide the long-range growth of civil aviation; modernizing the air traffic control system; establishing in a single authority the essential management functions necessary to support the common needs of civil and military operations; providing for the most effective and efficient use of the airspace over the United States; and for the rulemaking responsibilities relative to these functions.

The FAA constructs, operates, and maintains the National Airspace System and the facilities which are a part of the system; it allocates and regulates the use of the airspace; it ensures adequate separation between aircraft operating in controlled airspace; and, through research

and development programs, it provides new systems and equipment for improving utilization of the Nation's airspace.

The Federal-aid Airport Program (FAAP) authorized the FAA to make grants of federal funds to sponsors for airport development and for advanced planning and engineering. Under FAAP, approximately \$1.2 billion was granted by FAA to airport sponsors for airport development purposes from 1947 through 1970. FAAP was superseded by the Airport Development Act of 1970. The FAA maintains and operates Washington National and Dulles International airports. Dulles International is the first airport in the world specifically designed for the use of commercial jet transports.

The FAA prescribes and administers rules and regulations concerning airmen competency, aircraft airworthiness, and air traffic control. It promotes safety through certification of airmen, aircraft, and flight and aircraft maintenance schools. It reviews the design, structure, and performance of new aircraft to insure the safety of the flying public.

Services provided by FAA toward the development of aviation and air commerce include:

Dissemination of news and information on civil aviation generally.

Publication of flight information data for pilots.

Technical aviation assistance to other governments, operation of overseas civil aviation missions, and the aviation training of foreign nationals.

Development of medical standards for airmen through aviation medical research.

Research and development in the field of aeronautics and electronics.

Other activities required to encourage and foster the world-wide development of civil aviation and air commerce.

Policies governing these programs are developed in the Washington headquarters of FAA, and are executed by field employees under the supervision of regional offices strategically located throughout the United States as well as the National Aviation Facilities Experimental Center (NAFEC) at Atlantic City, New Jersey, and the Mike Marononey Aeronautical Center at Oklahoma City, Oklahoma.

TABLE 1.1

FAA APPROPRIATIONS: FISCAL YEARS 1977 THROUGH 1978

| Appropriation | 1977 | 1978 | 1979 | 1980 |
|---|------------------------|------------------------|------------------------|-----------------------------|
| Total | <u>\$2,599,150,000</u> | <u>\$2,775,556,000</u> | <u>\$3,030,165,000</u> | Not available at press time |
| Operations | 1,487,800,000 | 1,622,700,000(c) | 1,681,400,000 | |
| Operations (Airport and Airway Trust Fund) | 250,000,000 | 275,000,000 | 300,000,000 | |
| Facilities and Equipment (Airport and Airway Trust Fund) | 200,000,000 | 200,000,000(d) | 282,297,000(f) | |
| Grants-in-Aid for Airports (Airport and Airway Trust Fund) | 545,000,000(a) | 555,000,000 | 644,140,000 | |
| Research, Engineering and Development (Airport and Airway Trust Fund) | 74,350,000 | 80,800,000 | 75,100,000 | |
| Operation and Maintenance | | | | |
| Metropolitan Washington Airports | <u>21,500,000</u> | <u>22,293,000</u> | <u>23,858,000</u> | |
| Washington National Airport | 10,954,100 | 11,278,400 | 12,123,000 | |
| Dulles International Airport | 10,545,900 | 11,014,600 | 11,734,900 | |
| Construction | | | | |
| Metropolitan Washington Airports | 5,000,000 | 5,500,000 | 5,000,000 | |
| Facilities, Engineering, and Development | 15,500,000(b) | 14,263,000(e) | 18,370,000(g) | |

(a) Includes \$35,000,000 additional obligational authority made available by the Economic Stimulus Act, P.L. 95-29.

(b) Does not reflect \$1,900,000 additional obligational authority transferred from other accounts.

(c) Does not reflect \$5,600,000 additional obligational authority transferred from other accounts.

(d) Does not reflect \$9,000,000 additional obligational authority transferred from other accounts.

(e) Does not reflect \$2,350,000 additional obligational authority transferred from other accounts.

(f) Does not reflect \$54,363,000 additional obligational authority transferred from other accounts.

(g) Does not reflect \$145,000 additional obligational authority transferred from other accounts.

TABLE 1.2

FAA EMPLOYEES ON JUNE 30 AND DECEMBER 31: 1969 THROUGH 1978*

| Date | Total Employees | Washington Headquarters** | | Other Field | |
|-----------------------------|-----------------|---------------------------|----------------------|-------------|------------------|
| | | Total | Washington Stationed | | Washington Field |
| June 30, 1969 | 49,106 | 3,858 | 2,896 | 962 | 45,248 |
| December 31, 1969 | 48,331 | 3,774 | 2,855 | 919 | 44,557 |
| June 30, 1970 | 51,477 | 3,808 | 2,838 | 970 | 47,669 |
| December 31, 1970 | 53,125 | 3,917 | 2,944 | 973 | 49,208 |
| June 30, 1971 | 54,550 | 3,807 | 2,887 | 920 | 50,743 |
| December 31, 1971 | 54,258 | 3,862 | 2,951 | 911 | 50,396 |
| June 30, 1972 | 53,330 | 3,648 | 2,757 | 891 | 49,682 |
| December 31, 1972 | 52,528 | 3,598 | 2,687 | 911 | 48,930 |
| June 30, 1973 | 53,533 | 3,594 | 2,713 | 881 | 49,939 |
| December 31, 1973 | 53,068 | 3,625 | 2,704 | 921 | 49,443 |
| June 30, 1974 | 55,971 | 3,981 | 2,940 | 1,041 | 51,990 |
| December 31, 1974 | 55,259 | 3,873 | 2,863 | 1,010 | 51,386 |
| June 30, 1975 | 57,708 | 3,930 | 2,956 | 974 | 53,778 |
| December 31, 1975 | 56,761 | 3,839 | 2,908 | 931 | 52,922 |
| June 30, 1976 | 59,093 | 4,064 | 3,106 | 958 | 55,029 |
| December 31, 1976 | 57,820 | 4,027 | 3,052 | 975 | 53,793 |
| June 30, 1977 | 58,581 | 4,101 | 3,113 | 988 | 54,480 |
| December 31, 1977 | 57,655 | 3,799 | 2,824 | 955 | 53,876 |
| June 30, 1978 | 58,419 | 3,769 | 2,810 | 959 | 54,650 |
| December 31, 1978 | 57,028 | 3,391 | 2,453 | 938 | 53,637 |

*Includes all paid civilian employees (full-time, part-time, and intermittent), and military personnel assigned on a reimbursable basis.

**Washington stationed includes only those employees on the Washington headquarters' rolls whose duty station is the District of Columbia. Washington field includes those employees on the Washington headquarters' rolls whose duty stations are outside the District of Columbia, such as Washington National Airport, Dulles International Airport, overseas Civil Aviation Assistance Groups, inspectors stationed at equipment manufacturers' plants, etc.

II. The National Airspace System

This chapter furnishes terminal and enroute air traffic activity information of the National Airspace System. The data have been reported by the FAA-operated Airport Traffic Control Towers, Air Route Traffic Control Centers, and Flight Service facilities (Flight Service Stations, Combined Station/Towers and International Flight Service Stations). These reports are used as a guide in determining the need for larger or additional facilities, and possible changes in the number of personnel at existing facilities.

Data for towers are reported on Airport Operations and Instrument Approaches Monthly Summary (FAA Form 7230-11). This form contains landings and takeoffs (aircraft operations) reported by the towers by aviation category--air carriers, air taxi, general aviation, and military; instrument operations (IFR landings and takeoffs) and instrument approaches (IFR landings) are also included. Data for Air Route Traffic Control Centers (ARTCC's) are reported on ARTCC Operations and Instrument Approaches Monthly Summary (FAA Form 7230-12). Data contained on this form show departures, overs, and aircraft handled, plus instrument approaches handled by the ARTCC's. Activity of flight service stations, international flight service stations and combined station/towers is submitted on Monthly Activity Record--Flight Service Stations (FAA Form 7230-013). More detailed data pertaining to activity of these facilities may be found in the fiscal year 1978 edition of FAA Air Traffic Activity.

TABLE 2.1

U.S. AIR ROUTE AIRWAY MILEAGE: 1969 THROUGH 1978*

(Contiguous 48 States)

| December 31 | Very High Frequency VOR/VORTAC | | |
|-------------|--------------------------------|-----------|------------|
| | Low Altitude | | Jet Routes |
| | Direct | Alternate | |
| 1969 | 138,295 | 32,356 | 108,171 |
| 1970 | 140,268 | 33,215 | 112,662 |
| 1971 | 142,093 | 33,274 | 114,373 |
| 1972 | 143,241 | 33,436 | 117,417 |
| 1973 | 144,578 | 32,999 | 119,672 |
| 1974 | 144,939 | 32,999 | 122,372 |
| 1975 | 148,834 | 32,320 | 123,258 |
| 1976 | 150,172 | 31,888 | 130,160 |
| 1977 | 152,947 | 31,270 | 131,968 |
| 1978 | 155,242 | 31,235 | 134,709 |

* Mileage shown in nautical miles based on National Ocean Survey figures.

TABLE 2.2

FAA AIR ROUTE FACILITIES AND SERVICES: 1969 THROUGH 1978

| December 31 | VOR VORTAC | Nondirectional Radio Beacons | Air Route Traffic Control Centers | Airport Traffic Control Towers | Combined Station/ Towers | Flight Service Stations | Inter- national Flight Service Stations | Instrument Landing Systems | Airport Surveil- ance Radar |
|-------------|---------------|------------------------------------|--|---|--------------------------------|-------------------------------|---|----------------------------------|--------------------------------------|
| 1969 | 947 | 589 | 27 | 281 | 48 | 332 | 8 | 288 | 124 |
| 1970 | 964 | 640 | 27 | 288 | 46 | 332 | 8 | 310 | 120 |
| 1971 | 980 | 669 | 27 | 347 | 44 | 331 | 8 | 337 | 122 |
| 1972 | 991 | 706 | 27 | 355 | 42 | 324 | 7 | 403 | 125 |
| 1973 | 995 | 739 | 27 | 403 | 29 | 315 | 7 | 467 | 142 |
| 1974 | 1,000 | 793 | 27 | 417 | 21 | 320 | 7 | 490 | 156 |
| 1975 | 1,011 | 848 | 26 | 487 | 21 | 321 | 7 | 580 | 177 |
| 1976 | 1,020 | 920 | 25 | 488 | 16 | 321 | 7 | 640 | 175 |
| 1977 | 1,021(a) | 959(b) | 25(c) | 495(d) | 7 | 319 | 7 | 678(e) | 182(f) |
| 1978 | 1,020(a) | 988(b) | 25(c) | 494(d) | 6 | 319 | 6 | 698(e) | 185(f) |

(a) Includes 58 nonfederal and 44 military.

(b) Includes 632 nonfederal and 59 military.

(c) Includes 2 military combined center/radar approach control facilities (CERAP).

(d) Includes 30 nonfederal and 43 military.

(e) Includes 7 Landing Directional Aid (LDA), 53 nonfederal, and 6 military.

(f) Includes 29 military.

TABLE 2.3--AIR TRAFFIC ACTIVITY AT AIR ROUTE TRAFFIC CONTROL CENTERS, BY AVIATION CATEGORY--FISCAL YEARS 1974-1978

| | Year | Total | | Air Carrier | | Air Taxi | | General Aviation | | Military | |
|--------------------------------|------|------------|---------------|-------------|---------------|-----------|---------------|------------------|---------------|-----------|---------------|
| | | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change |
| <u>IFR Aircraft Handled 1/</u> | 1978 | 28,055,382 | +8% | 13,642,071 | +5% | 1,931,216 | +19% | 7,813,848 | +14% | 4,168,247 | +4% |
| | 1977 | 25,973,299 | ** | 12,986,985 | ** | 1,639,300 | ** | 6,856,057 | ** | 4,499,957 | ** |
| | 1976 | 23,924,963 | +1 | 12,406,660 | (*) | 1,395,304 | +6 | 5,956,575 | +8 | 4,166,424 | -5 |
| | 1975 | 23,585,999 | +3 | 12,370,936 | (*) | 1,316,590 | +23 | 5,520,551 | +9 | 4,377,922 | +1 |
| | 1974 | 22,882,796 | (*) | 12,399,806 | -2 | 1,070,700 | +19 | 5,082,604 | +10 | 4,329,686 | -8 |
| <u>IFR Departures</u> | 1978 | 11,007,775 | +8 | 5,014,806 | +5 | 923,731 | +18 | 3,387,877 | +14 | 1,681,361 | +3 |
| | 1977 | 10,178,872 | ** | 4,790,929 | ** | 781,158 | ** | 2,971,633 | ** | 1,635,152 | ** |
| | 1976 | 9,403,277 | +2 | 4,616,439 | (*) | 668,362 | +6 | 2,584,473 | +8 | 1,533,953 | -4 |
| | 1975 | 9,258,198 | +3 | 4,623,462 | (*) | 631,750 | +23 | 2,399,351 | +9 | 1,603,635 | -1 |
| | 1974 | 8,962,992 | +1 | 4,636,828 | -1 | 511,765 | +18 | 2,199,364 | +10 | 1,615,035 | -8 |
| <u>IFR Overs</u> | 1978 | 6,039,832 | +8 | 3,612,459 | +6 | 83,754 | +9 | 1,038,094 | +14 | 1,305,525 | +7 |
| | 1977 | 5,615,555 | ** | 3,405,127 | ** | 76,984 | ** | 912,791 | ** | 1,220,653 | ** |
| | 1976 | 5,118,509 | +1 | 3,173,782 | +2 | 58,580 | +10 | 787,629 | +9 | 1,098,518 | -6 |
| | 1975 | 5,069,603 | +2 | 3,124,012 | (*) | 53,090 | +13 | 721,849 | +6 | 1,170,652 | +6 |
| | 1974 | 4,956,812 | -3 | 3,126,150 | -3 | 47,170 | +31 | 683,876 | +8 | 1,099,616 | -9 |

1/The number of IFR Departures multiplied by two to account for IFR approaches, plus the number of IFR Overs.

(*)Less than 0.5 percent.

**Percent change not calculated because of change in fiscal year to October 1 - September 30. Prior to 1977 fiscal year was July 1 - June 30.

TABLE 2.4--AIR TRAFFIC ACTIVITY AT AIRPORT TRAFFIC CONTROL TOWERS, BY AVIATION CATEGORY--FISCAL YEARS 1974-1978

| | Year | Total | | Air Carrier | | Air Taxi | | General Aviation | | Military | |
|----------------------------------|------|------------|---------------|-------------|---------------|-----------|---------------|------------------|---------------|-----------|---------------|
| | | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change |
| <u>Total Aircraft Operations</u> | 1978 | 67,173,434 | +1% | 10,063,259 | +3% | 3,773,484 | +14% | 50,798,779 | (*) | 2,537,912 | -6% |
| | 1977 | 66,724,291 | ** | 9,770,137 | ** | 3,296,502 | ** | 50,958,847 | ** | 2,698,805 | ** |
| | 1976 | 62,491,505 | +6 | 9,339,479 | (*) | 2,867,621 | +6 | 47,594,278 | +8% | 2,690,127 | (*) |
| | 1975 | 58,934,700 | +4 | 9,374,363 | -1 | 2,708,901 | +15 | 44,159,682 | +5 | 2,691,754 | -4 |
| | 1974 | 56,845,120 | +5 | 9,476,535 | -3 | 2,351,900 | +11 | 42,202,326 | +9 | 2,814,359 | -13 |
| <u>Itinerant Operations</u> | 1978 | 43,562,963 | +3 | 10,063,259 | +3 | 3,773,484 | +14 | 28,515,850 | +1 | 1,210,370 | -4 |
| | 1977 | 42,425,767 | ** | 9,770,137 | ** | 3,296,502 | ** | 28,101,396 | ** | 1,257,732 | ** |
| | 1976 | 39,660,709 | +6 | 9,339,479 | (*) | 2,867,621 | +6 | 26,180,772 | +8 | 1,272,837 | -1 |
| | 1975 | 37,552,859 | +4 | 9,374,363 | -1 | 2,708,901 | +15 | 24,183,342 | +5 | 1,286,253 | -2 |
| | 1974 | 36,067,118 | +6 | 9,476,535 | -3 | 2,351,900 | +11 | 22,922,885 | +11 | 1,315,798 | -11 |
| <u>Local Operations</u> | 1978 | 23,610,471 | -3 | --- | --- | --- | --- | 22,282,929 | -3 | 1,327,542 | -8 |
| | 1977 | 24,298,524 | ** | --- | --- | --- | --- | 22,857,451 | ** | 1,441,073 | ** |
| | 1976 | 22,830,796 | +7 | --- | --- | --- | --- | 21,413,506 | +7 | 1,417,290 | +1 |
| | 1975 | 21,381,841 | +3 | --- | --- | --- | --- | 19,976,340 | +4 | 1,405,501 | -6 |
| | 1974 | 20,778,002 | +4 | --- | --- | --- | --- | 19,279,441 | +6 | 1,498,561 | -14 |

(*) Less than 0.5 percent.

**Percent change not calculated because of change in fiscal year to October 1 - September 30. Prior to 1977 fiscal year was July 1 - June 30.

TABLE 2.5--AIR TRAFFIC ACTIVITY AT FAA FACILITIES, BY AVIATION CATEGORY--FISCAL YEARS 1974-1978

| | Year | Total | | Air Carrier | | Air Taxi | | General Aviation | | Military | |
|--|------|------------|---------------|-------------|---------------|-----------|---------------|------------------|---------------|-----------|---------------|
| | | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change |
| <u>Total Instrument Operations</u> | 1978 | 33,456,726 | +6% | 10,421,496 | +4% | 3,066,809 | +20% | 16,310,259 | +8% | 3,658,162 | -2% |
| | 1977 | 31,518,742 | ** | 10,053,440 | ** | 2,563,882 | ** | 15,150,698 | ** | 3,750,782 | ** |
| | 1976 | 28,097,463 | +8 | 9,461,957 | -1 | 2,156,475 | +16 | 12,754,841 | +19 | 3,724,190 | -6 |
| | 1975 | 26,063,156 | +8 | 9,537,250 | +1 | 1,858,651 | +29 | 10,718,382 | +17 | 3,948,873 | -2 |
| | 1974 | 24,081,360 | +7 | 9,472,974 | -3 | 1,438,929 | +27 | 9,153,598 | +23 | 4,015,859 | -5 |
| <u>Total Instrument Approaches 1/</u> | 1978 | 2,223,426 | +25 | 853,853 | +27 | 285,508 | +47 | 975,766 | +20 | 108,299 | +10 |
| | 1977 | 1,776,691 | ** | 670,064 | ** | 194,347 | ** | 813,612 | ** | 98,668 | ** |
| | 1976 | 1,671,558 | -12 | 675,213 | -16 | 176,599 | -10 | 706,625 | -8 | 113,121 | -8 |
| | 1975 | 1,892,335 | +5 | 803,397 | +1 | 196,820 | +18 | 769,281 | +7 | 122,837 | (*) |
| | 1974 | 1,802,429 | -7 | 791,555 | -15 | 166,225 | +1 | 721,528 | +3 | 123,121 | -12 |
| <u>Total Instrument Approaches at Control Facilities</u> | 1978 | 2,049,828 | +27 | 820,143 | +28 | 260,040 | +49 | 868,313 | +22 | 101,332 | +10 |
| | 1977 | 1,618,381 | ** | 640,895 | ** | 174,015 | ** | 710,941 | ** | 92,530 | ** |
| | 1976 | 1,519,443 | -11 | 640,465 | +15 | 154,909 | -7 | 617,523 | -7 | 106,546 | -5 |
| | 1975 | 1,698,432 | +3 | 753,206 | +1 | 166,087 | +16 | 667,136 | +5 | 112,003 | -2 |
| | 1974 | 1,644,812 | -8 | 748,951 | -16 | 143,758 | +1 | 637,944 | +1 | 114,159 | -12 |

1/Includes instrument approaches at Air Route Traffic Control Centers.

(*)Less than 0.5 percent.

**Percent change not calculated because of change in fiscal year to October 1 - September 30. Prior to 1977 fiscal year was July 1 - June 30.

TABLE 2.6--AIR TRAFFIC ACTIVITY AT FLIGHT SERVICE FACILITIES--FISCAL YEARS 1974-1978

| | Year | FLIGHT PLANS ORIGINATED | | | | | AIRPORT ADVISORIES | | | PILOT BRIEFS | |
|--|------|-------------------------|---------------|-----------|---------------|-----------|--------------------|-----------|---------------|--------------|---------------|
| | | Total | Annual change | IFR-DVFR | Annual change | VFR | Annual change | Total | Annual change | Total | Annual change |
| <u>Flight Service Stations</u> | 1978 | 9,041,583 | +5% | 6,369,364 | +9% | 2,672,219 | -3% | 3,244,961 | +6% | 18,230,172 | +8% |
| | 1977 | 8,607,414 | ** | 5,858,565 | ** | 2,748,849 | ** | 3,054,885 | ** | 16,852,412 | ** |
| | 1976 | 8,028,349 | +2 | 5,357,865 | +4 | 2,670,484 | -2 | 2,878,486 | -3 | 15,938,507 | -1 |
| | 1975 | 7,886,054 | +3 | 5,173,777 | +5 | 2,712,277 | (*) | 2,964,845 | -5 | 16,072,668 | +5 |
| | 1974 | 7,658,941 | +8 | 4,933,104 | +11 | 2,725,837 | +3 | 3,124,909 | -18 | 15,268,816 | +5 |
| <u>Combined Station/ Towers</u> | 1978 | 46,739 | -27 | 6,923 | -57 | 39,816 | -17 | 0 | 0 | 25,447 | -45 |
| | 1977 | 63,932 | ** | 16,054 | ** | 47,878 | ** | 0 | 0 | 45,937 | ** |
| | 1976 | 96,963 | +5 | 34,212 | -3 | 62,751 | +10 | 0 | 0 | 92,979 | +5 |
| | 1975 | 92,293 | -15 | 35,098 | -12 | 57,195 | -17 | 0 | 0 | 88,245 | -17 |
| | 1974 | 109,015 | -25 | 39,808 | -29 | 69,207 | -23 | 0 | 0 | 106,161 | -37 |
| <u>International Flight Service Stations</u> | 1978 | 462,282 | +10 | 20,166 | +13 | 262,116 | +8 | 1,778 | +10 | 499,914 | +31 |
| | 1977 | 420,536 | ** | 177,119 | ** | 243,417 | ** | 1,615 | ** | 382,959 | ** |
| | 1976 | 371,799 | +3 | 135,498 | +3 | 236,301 | +3 | 1,205 | +12 | 329,728 | -5 |
| | 1975 | 360,434 | -1 | 131,874 | -1 | 228,560 | -1 | 1,071 | -19 | 348,619 | -3 |
| | 1974 | 364,873 | -29 | 133,748 | -51 | 231,125 | -5 | 1,329 | +50 | 358,947 | +4 |

(*)Less than 0.5 percent.

**Percent change not calculated because of change in fiscal year to October 1 - September 30. Prior to 1977 fiscal year was July 1--June 30.

TABLE 2.7--AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES, BY AVIATION CATEGORY--FISCAL YEARS 1974-1978

| | Year | Total | | Air Carrier | | Air Taxi | | General Aviation | | Military | |
|--------------------------------|-----------|------------|---------------|-------------|---------------|----------|---------------|------------------|---------------|----------|---------------|
| | | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change |
| <u>Flight Service Stations</u> | 1978 | 10,147,333 | +1% | 401,192 | +11% | 838,268 | +10% | 8,382,210 | +1% | 525,663 | -9% |
| | 1977 | 10,008,516 | ** | 359,899 | ** | 763,995 | ** | 8,308,058 | ** | 576,564 | ** |
| | 1976 | 9,577,407 | -2 | 374,170 | -11 | 731,127 | +4 | 7,895,816 | -1 | 576,294 | -16 |
| | 1975 | 9,794,845 | +1 | 418,360 | -6 | 699,925 | +9 | 7,988,973 | +1 | 687,587 | +2 |
| | 1974 | 9,703,763 | +1 | 442,957 | -21 | 643,049 | +2 | 7,946,718 | +3 | 671,039 | -1 |
| <u>IFR-DVFR</u> | 1978 | 1,917,549 | +17 | 318,789 | +14 | 218,344 | +26 | 1,187,224 | +21 | 193,192 | -4 |
| | 1977 | 1,637,448 | ** | 279,199 | ** | 173,224 | ** | 984,207 | ** | 200,818 | ** |
| | 1976 | 1,525,214 | -6 | 298,600 | -12 | 161,547 | -3 | 859,131 | -3 | 205,936 | -8 |
| | 1975 | 1,618,865 | +8 | 339,721 | +5 | 166,969 | +17 | 887,159 | +8 | 225,016 | +8 |
| | 1974 | 1,495,105 | -1 | 324,179 | +4 | 142,602 | -9 | 819,284 | +1 | 209,040 | -10 |
| <u>VFR</u> | 1978 | 8,229,784 | -2 | 82,403 | +2 | 619,924 | +5 | 7,194,986 | -2 | 332,471 | -12 |
| | 1977 | 8,371,068 | ** | 80,700 | ** | 590,771 | ** | 7,323,851 | ** | 375,746 | ** |
| | 1976 | 8,052,193 | -2 | 75,570 | -4 | 569,580 | +7 | 7,036,685 | -1 | 370,358 | -20 |
| | 1975 | 8,175,980 | (*) | 78,639 | -34 | 532,956 | +6 | 7,101,814 | (*) | 462,571 | (*) |
| 1974 | 8,208,658 | +2 | 118,778 | -52 | 500,447 | +6 | 7,127,434 | +3 | 461,999 | +4 | |

(*) Less than 0.5 percent.

**Percent change not calculated because of change in fiscal year to October 1 - September 30. Prior to 1977 fiscal year was July 1 - June 30.

TABLE 2.7--AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES, BY AVIATION CATEGORY--FISCAL YEARS 1974-1978 - Continued

| | Year | Total | | Air Carrier | | Air Taxi | | General Aviation | | Military | |
|------------------------------------|------|---------|---------------|-------------|---------------|----------|---------------|------------------|---------------|----------|---------------|
| | | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change |
| <u>Combined Station/ Tower</u> | 1978 | 99,784 | -38% | 1,017 | -76% | 57,712 | -10% | 33,356 | -59% | 7,699 | -31% |
| | 1977 | 160,553 | ** | 4,279 | ** | 64,175 | ** | 80,940 | ** | 11,159 | ** |
| | 1976 | 213,670 | +6 | 5,099 | +116 | 55,486 | +36 | 139,079 | -2 | 14,006 | -18 |
| | 1975 | 201,725 | -16 | 2,365 | -5 | 40,867 | +19 | 141,494 | -23 | 16,999 | -18 |
| | 1974 | 241,484 | -27 | 2,487 | -35 | 34,332 | -6 | 183,931 | -29 | 20,734 | -38 |
| <u>IFR-DVFR</u> | 1978 | 4,333 | -68 | 616 | -81 | 1,443 | -59 | 1,134 | -76 | 1,140 | -50 |
| | 1977 | 13,717 | ** | 3,248 | ** | 3,507 | ** | 4,666 | ** | 2,296 | ** |
| | 1976 | 20,231 | +28 | 4,794 | +121 | 3,645 | +240 | 8,206 | -4 | 3,586 | -11 |
| | 1975 | 15,775 | -11 | 2,170 | -6 | 1,072 | +103 | 8,507 | -14 | 4,026 | -20 |
| | 1974 | 17,755 | -32 | 2,317 | -34 | 529 | -58 | 9,880 | -31 | 5,029 | -30 |
| <u>VFR</u> | 1978 | 95,451 | -35 | 401 | -61 | 56,269 | -7 | 32,222 | -58 | 6,559 | -26 |
| | 1977 | 146,836 | ** | 1,031 | ** | 60,668 | ** | 76,274 | ** | 8,863 | ** |
| | 1976 | 193,439 | +4 | 305 | +56 | 51,841 | +30 | 130,873 | -2 | 10,420 | -20 |
| | 1975 | 185,950 | -17 | 195 | +15 | 39,795 | +18 | 132,987 | -24 | 12,973 | -17 |
| | 1974 | 223,729 | -27 | 170 | -46 | 33,803 | -4 | 174,051 | -28 | 15,705 | -40 |

**Percent change not calculated because of change in fiscal year to October 1 - September 30. Prior to 1977 fiscal year was July 1--June 30.

TABLE 2.7--AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES, BY AVIATION CATEGORY--FISCAL YEARS 1974-1978 - Continued

| | Year | Total | | Air Carrier | | Air Taxi | | General Aviation | | Military | |
|--|---------|---------|---------------|-------------|---------------|----------|---------------|------------------|---------------|----------|---------------|
| | | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change | Total | Annual change |
| <u>International Flight Service Stations</u> | 1978 | 670,904 | +2% | 104,468 | -13% | 228,097 | -4% | 307,929 | +13% | 30,410 | +20% |
| | 1977 | 656,683 | ** | 120,170 | ** | 238,397 | ** | 272,870 | ** | 25,246 | ** |
| | 1976 | 429,394 | +1 | 87,109 | +15 | 123,059 | -5 | 205,465 | (*) | 13,761 | -10 |
| | 1975 | 425,767 | +22 | 75,824 | +7 | 129,110 | +4 | 205,467 | +45 | 15,366 | +22 |
| | 1974 | 348,945 | -9 | 70,605 | -4 | 124,159 | -12 | 141,620 | -7 | 12,561 | -20 |
| <u>IFR-DVFR</u> | 1978 | 143,421 | -7 | 103,906 | -12 | 3,581 | -15 | 29,767 | +16 | 6,167 | -4 |
| | 1977 | 155,029 | ** | 118,712 | ** | 4,204 | ** | 25,714 | ** | 6,399 | ** |
| | 1976 | 109,160 | +14 | 85,998 | +16 | 3,339 | -13 | 15,656 | +19 | 4,167 | -12 |
| | 1975 | 95,775 | +15 | 74,065 | +9 | 3,842 | +36 | 13,135 | +57 | 4,733 | +20 |
| | 1974 | 83,342 | -8 | 68,222 | -2 | 2,817 | -9 | 8,368 | -24 | 3,935 | -39 |
| <u>VFR</u> | 1978 | 527,483 | +5 | 562 | -61 | 224,516 | -4 | 278,162 | +13 | 24,243 | +29 |
| | 1977 | 501,654 | ** | 1,458 | ** | 234,193 | ** | 247,156 | ** | 18,847 | ** |
| | 1976 | 320,234 | -3 | 1,111 | -37 | 119,720 | -4 | 189,809 | -1 | 9,594 | -10 |
| | 1975 | 329,992 | +24 | 1,759 | -26 | 125,268 | +3 | 192,332 | +44 | 10,633 | +23 |
| 1974 | 265,603 | -9 | 2,383 | -36 | 121,342 | -12 | 133,252 | -5 | 8,626 | -8 | |

(*)Less than 0.5 percent.

**Percent change not calculated because of change in fiscal year to October 1--September 30. Prior to 1977 fiscal year was July 1 - June 30.

III. AIRPORTS

Data pertaining to U.S. civil and joint-use landing facilities (including airports, heliports, stolports, and seaplane bases) were furnished by the FAA Office of Airports Programs. This information was obtained through physical inspection and mail solicitations, and was reported on the Airport Master Record (Form FAA 5010-1) and FAA Landing Facilities Information Request on Airports, Heliports, Stolports, and Seaplane Bases (Forms 5010-2 and 5010-5).

TABLE 3.1

AIRPORTS ON RECORD WITH FAA: 1969 THROUGH 1978*

| Year | Total | With Runway Lights | With Paved Runways | Airports of Entry |
|------|--------|--------------------|--------------------|-------------------|
| 1969 | 11,050 | 3,430 | 3,650 | 63 |
| 1970 | 11,261 | 3,554 | 3,805 | 61 |
| 1971 | 12,070 | 3,759 | 4,176 | 64 |
| 1972 | 12,405 | 3,827 | 4,390 | 63 |
| 1973 | 12,700 | 3,880 | 4,527 | 60 |
| 1974 | 13,062 | 3,999 | 4,716 | 61 |
| 1975 | 13,251 | 4,171 | 4,865 | 62 |
| 1976 | 13,770 | 4,362 | 5,106 | 76 |
| 1977 | 14,117 | 4,483 | 5,313 | 70 |
| 1978 | 14,574 | 4,567 | 5,484 | 70 |

*Includes seaplane bases, heliports, stolports, and military fields having joint civil-military use.

TABLE 3.2

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES,
AND REPORTED ABANDONMENTS ON RECORD, BY FAA REGION AND STATE: DECEMBER 31, 1978

| FAA Region and State | Total Airport Facilities | Airports | Heliports | Stolports | Seaplane Bases | Reported Abandonments During Year |
|-----------------------|--------------------------|----------|-----------|-----------|----------------|-----------------------------------|
| Total | 14,574 | 12,006 | 1,986 | 46 | 536 | 237 |
| United States--total* | 14,525 | 11,972 | 1,975 | 46 | 532 | 237 |
| New England--total | 540 | 350 | 115 | 9 | 66 | 15 |
| Connecticut | 104 | 54 | 42 | 2 | 6 | 3 |
| Maine | 157 | 111 | 5 | 2 | 39 | 6 |
| Massachusetts | 140 | 82 | 43 | 3 | 12 | 2 |
| New Hampshire | 55 | 40 | 9 | --- | 6 | 1 |
| Rhode Island | 23 | 15 | 6 | --- | 2 | 1 |
| Vermont | 61 | 48 | 10 | 2 | 1 | 2 |
| Eastern--total | 1,976 | 1,448 | 454 | 8 | 66 | 27 |
| Delaware | 32 | 23 | 9 | --- | --- | --- |
| District of Columbia | 17 | 2 | 14 | --- | 1 | --- |
| Maryland | 148 | 108 | 35 | 3 | 2 | 3 |
| New Jersey | 263 | 126 | 126 | --- | 11 | 4 |
| New York | 498 | 386 | 81 | 1 | 30 | 8 |
| Pennsylvania | 692 | 525 | 147 | 2 | 18 | 9 |
| Virginia | 255 | 219 | 30 | 2 | 4 | 3 |
| West Virginia | 71 | 59 | 12 | --- | --- | --- |
| Great Lakes--total | 3,011 | 2,606 | 290 | 6 | 109 | 39 |
| Illinois | 901 | 756 | 135 | --- | 10 | 10 |
| Indiana | 317 | 285 | 32 | --- | --- | 3 |
| Michigan | 418 | 392 | 16 | 2 | 8 | 7 |
| Minnesota | 420 | 337 | 14 | 1 | 68 | 4 |
| Ohio | 584 | 494 | 81 | 2 | 7 | 8 |
| Wisconsin | 371 | 342 | 12 | 1 | 16 | 7 |
| Central--total | 1,322 | 1,246 | 63 | 3 | 10 | 26 |
| Iowa | 257 | 245 | 10 | 1 | 1 | 4 |
| Kansas | 372 | 357 | 10 | 1 | 4 | 5 |
| Missouri | 371 | 334 | 31 | 1 | 5 | 12 |
| Nebraska | 322 | 310 | 12 | --- | --- | 5 |
| Southern--total | 1,719 | 1,464 | 226 | 4 | 25 | 18 |
| Alabama | 147 | 134 | 13 | --- | --- | --- |
| Florida | 454 | 345 | 91 | 1 | 17 | 3 |
| Georgia | 278 | 237 | 39 | 2 | --- | 8 |
| Kentucky | 101 | 90 | 11 | --- | --- | --- |
| Mississippi | 160 | 152 | 8 | --- | --- | 1 |
| North Carolina | 270 | 249 | 19 | --- | 2 | 4 |
| Puerto Rico | 27 | 16 | 10 | --- | 1 | --- |
| South Carolina | 126 | 116 | 10 | --- | --- | --- |
| Tennessee | 150 | 123 | 24 | 1 | 2 | 2 |
| Virgin Islands | 6 | 2 | 1 | --- | 3 | --- |
| Southwest--total | 2,178 | 1,882 | 263 | 3 | 30 | 42 |
| Arkansas | 163 | 160 | 1 | --- | 2 | 8 |
| Louisiana | 287 | 177 | 89 | --- | 21 | 7 |
| New Mexico | 142 | 132 | 10 | --- | --- | 2 |
| Oklahoma | 288 | 274 | 13 | --- | 1 | 4 |
| Texas | 1,298 | 1,139 | 150 | 3 | 6 | 21 |
| Rocky Mountain--total | 992 | 893 | 91 | 3 | 5 | 10 |
| Colorado | 272 | 202 | 64 | 2 | 4 | 3 |
| Montana | 172 | 168 | 4 | --- | --- | --- |
| North Dakota | 217 | 214 | 3 | --- | --- | 4 |
| South Dakota | 142 | 138 | 4 | --- | --- | --- |
| Utah | 95 | 82 | 11 | 1 | 1 | 2 |
| Wyoming | 94 | 89 | 5 | --- | --- | 1 |
| Western--total | 1,151 | 854 | 276 | 6 | 15 | 24 |
| Arizona | 209 | 182 | 25 | 2 | --- | 2 |
| California | 822 | 570 | 234 | 3 | 15 | 19 |
| Nevada | 120 | 102 | 17 | 1 | --- | 3 |
| Northwest--total | 857 | 686 | 151 | 4 | 16 | 18 |
| Idaho | 190 | 172 | 15 | --- | 3 | 5 |
| Oregon | 302 | 242 | 55 | 3 | 2 | 8 |
| Washington | 365 | 272 | 81 | 1 | 11 | 5 |
| Alaskan--total | 756 | 520 | 42 | --- | 194 | 18 |
| Pacific--total | 72 | 57 | 15 | --- | --- | --- |
| Hawaii | 56 | 41 | 15 | --- | --- | --- |
| N. Mariana Islands | 4 | 4 | --- | --- | --- | --- |
| South Pacific** | 12 | 12 | --- | --- | --- | --- |

*Excludes Puerto Rico, Virgin Islands, N. Mariana Islands, and South Pacific.

**American Samoa, Guam and Trust Territories.

TABLE 3.3

U. S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES
ON RECORD BY TYPE OF OWNERSHIP
DECEMBER 31, 1978

| FAA Region and State | Total Facilities | By Ownership | | Paved Airports | | Unpaved Airports | |
|-----------------------|---------------------|--------------|---------|----------------|-------------|------------------|-------------|
| | | Public | Private | Lighted | Not Lighted | Lighted | Not Lighted |
| Total | 14,574 | 4,751 | 9,823 | 3,645 | 1,839 | 922 | 8,168 |
| United States--total* | 14,525 | 4,720 | 9,805 | 3,628 | 1,823 | 921 | 8,153 |
| New England--total | 540 | 142 | 398 | 127 | 106 | 10 | 297 |
| Connecticut | 104 | 14 | 90 | 27 | 31 | -- | 46 |
| Maine | 157 | 48 | 109 | 26 | 15 | 4 | 112 |
| Massachusetts | 140 | 31 | 109 | 41 | 36 | 2 | 61 |
| New Hampshire | 55 | 20 | 35 | 15 | 14 | 3 | 23 |
| Rhode Island | 23 | 8 | 15 | 8 | 5 | 1 | 9 |
| Vermont | 61 | 21 | 40 | 10 | 5 | -- | 46 |
| Eastern--total | 1,976 | 303 | 1,673 | 397 | 282 | 120 | 1,177 |
| Delaware | 32 | 3 | 29 | 6 | 4 | 10 | 12 |
| District of Columbia | 17 | 8 | 9 | 5 | 7 | -- | 5 |
| Maryland | 148 | 25 | 123 | 35 | 27 | 8 | 78 |
| New Jersey | 263 | 30 | 233 | 47 | 49 | 13 | 154 |
| New York | 498 | 74 | 424 | 96 | 74 | 37 | 291 |
| Pennsylvania | 692 | 78 | 614 | 109 | 81 | 41 | 461 |
| Virginia | 255 | 57 | 198 | 70 | 26 | 9 | 150 |
| West Virginia | 71 | 28 | 43 | 29 | 14 | 2 | 26 |
| Great Lakes--total | 3,011 | 676 | 2,335 | 626 | 181 | 253 | 1,951 |
| Illinois | 901 | 97 | 804 | 105 | 60 | 59 | 677 |
| Indiana | 317 | 69 | 248 | 84 | 23 | 32 | 178 |
| Michigan | 418 | 134 | 284 | 117 | 20 | 44 | 237 |
| Minnesota | 420 | 147 | 273 | 91 | 10 | 37 | 282 |
| Ohio | 584 | 126 | 458 | 134 | 53 | 53 | 344 |
| Wisconsin | 371 | 103 | 268 | 95 | 15 | 28 | 233 |
| Central--total | 1,322 | 449 | 873 | 367 | 76 | 140 | 739 |
| Iowa | 257 | 115 | 142 | 92 | 8 | 50 | 107 |
| Kansas | 372 | 125 | 247 | 94 | 20 | 42 | 216 |
| Missouri | 371 | 116 | 255 | 114 | 31 | 24 | 202 |
| Nebraska | 322 | 93 | 229 | 67 | 17 | 24 | 214 |
| Southern--total | 1,719 | 709 | 1,010 | 649 | 216 | 95 | 759 |
| Alabama | 147 | 95 | 52 | 88 | 19 | 3 | 37 |
| Florida | 454 | 126 | 328 | 119 | 65 | 30 | 240 |
| Georgia | 278 | 121 | 157 | 108 | 34 | 8 | 128 |
| Kentucky | 101 | 55 | 46 | 45 | 21 | 5 | 30 |
| Mississippi | 160 | 77 | 83 | 67 | 18 | 8 | 67 |
| North Carolina | 270 | 76 | 194 | 81 | 19 | 24 | 146 |
| Puerto Rico | 27 | 12 | 15 | 10 | 12 | -- | 5 |
| South Carolina | 126 | 64 | 62 | 52 | 8 | 14 | 52 |
| Tennessee | 150 | 78 | 72 | 77 | 20 | 3 | 50 |
| Virgin Islands | 6 | 5 | 1 | 2 | -- | -- | 4 |
| Southwest--total | 2,178 | 641 | 1,537 | 625 | 344 | 66 | 1,143 |
| Arkansas | 163 | 76 | 87 | 65 | 16 | 8 | 74 |
| Louisiana | 287 | 74 | 213 | 69 | 48 | 9 | 161 |
| New Mexico | 142 | 61 | 81 | 44 | 22 | 1 | 75 |
| Oklahoma | 288 | 129 | 159 | 117 | 28 | 11 | 132 |
| Texas | 1,298 | 301 | 997 | 330 | 230 | 37 | 701 |
| Rocky Mountain--total | 992 | 472 | 520 | 285 | 94 | 84 | 529 |
| Colorado | 272 | 86 | 186 | 67 | 41 | 14 | 150 |
| Montana | 172 | 115 | 57 | 61 | 9 | 15 | 87 |
| North Dakota | 217 | 96 | 121 | 51 | 10 | 22 | 134 |
| South Dakota | 142 | 75 | 67 | 40 | 4 | 31 | 67 |
| Utah | 95 | 58 | 37 | 39 | 19 | -- | 37 |
| Wyoming | 94 | 42 | 52 | 27 | 11 | 2 | 54 |
| Western--total | 1,151 | 452 | 699 | 322 | 336 | 29 | 464 |
| Arizona | 209 | 97 | 112 | 57 | 35 | 10 | 107 |
| California | 822 | 297 | 525 | 243 | 281 | 16 | 282 |
| Nevada | 120 | 58 | 62 | 22 | 20 | 3 | 75 |
| Northwest--total | 857 | 337 | 520 | 185 | 151 | 57 | 464 |
| Idaho | 190 | 128 | 62 | 35 | 24 | 4 | 127 |
| Oregon | 302 | 92 | 210 | 61 | 55 | 20 | 166 |
| Washington | 365 | 117 | 248 | 89 | 72 | 33 | 171 |
| Alaskan--total | 756 | 537 | 219 | 47 | 17 | 66 | 626 |
| Pacific--total | 72 | 33 | 39 | 15 | 36 | 2 | 19 |
| Hawaii | 56 | 19 | 37 | 10 | 32 | 1 | 13 |
| N. Mariana Islands | 4 | 4 | -- | 1 | 1 | -- | 2 |
| South Pacific** | 12 | 10 | 2 | 4 | 3 | 1 | 4 |

*Excludes Puerto Rico, Virgin Islands, N. Mariana Islands, and South Pacific.

**American Samoa, Guam and Trust Territories.

TABLE 3.4

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES
ON RECORD BY LENGTH OF LONGEST RUNWAY, BY FAA REGION AND STATE: DECEMBER 31, 1978

| FAA Region and State | Total | Under 3,000 | 3,000- 3,999 | 4,000- 4,999 | 5,000- 5,999 | 6,000- 6,999 | 7,000- 7,999 | 8,000- 8,999 | 9,000- 9,999 | 10,000- & over |
|-----------------------|--------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|
| Total | 14,574 | 9,265 | 2,568 | 1,045 | 781 | 311 | 166 | 106 | 64 | 268 |
| United States--total* | 14,525 | 9,240 | 2,565 | 1,041 | 777 | 308 | 163 | 105 | 62 | 264 |
| New England--total | 540 | 379 | 50 | 28 | 39 | 12 | 8 | 3 | 2 | 19 |
| Connecticut | 104 | 88 | 2 | 6 | 5 | 1 | 1 | 1 | 1 | 1 |
| Maine | 157 | 90 | 16 | 14 | 10 | 7 | 3 | 1 | 1 | 16 |
| Massachusetts | 140 | 100 | 15 | 5 | 13 | 2 | 2 | 1 | 1 | 1 |
| New Hampshire | 55 | 34 | 10 | 1 | 7 | 2 | 1 | 1 | 1 | 1 |
| Rhode Island | 23 | 16 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| Vermont | 61 | 51 | 5 | 1 | 3 | 1 | 1 | 1 | 1 | 1 |
| Eastern--total | 1,976 | 1,551 | 204 | 70 | 64 | 25 | 14 | 10 | 8 | 30 |
| Delaware | 32 | 26 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| District of Columbia | 17 | 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Maryland | 148 | 119 | 18 | 5 | 3 | 1 | 1 | 1 | 1 | 1 |
| New Jersey | 263 | 222 | 20 | 5 | 9 | 1 | 2 | 1 | 1 | 2 |
| New York | 498 | 362 | 55 | 22 | 19 | 8 | 5 | 3 | 4 | 20 |
| Pennsylvania | 692 | 583 | 55 | 18 | 16 | 7 | 3 | 2 | 2 | 6 |
| Virginia | 255 | 182 | 41 | 13 | 11 | 4 | 1 | 3 | 1 | 1 |
| West Virginia | 71 | 43 | 13 | 4 | 5 | 4 | 2 | 1 | 1 | 1 |
| Great Lakes--total | 3,011 | 2,226 | 439 | 110 | 96 | 45 | 24 | 17 | 10 | 44 |
| Illinois | 901 | 792 | 68 | 11 | 12 | 9 | 4 | 2 | 1 | 3 |
| Indiana | 317 | 232 | 52 | 14 | 10 | 3 | 2 | 1 | 2 | 1 |
| Michigan | 418 | 279 | 82 | 16 | 19 | 10 | 7 | 1 | 1 | 4 |
| Minnesota | 420 | 245 | 81 | 15 | 29 | 11 | 5 | 4 | 3 | 27 |
| Ohio | 584 | 427 | 88 | 38 | 17 | 6 | 1 | 4 | 2 | 1 |
| Wisconsin | 371 | 251 | 68 | 16 | 9 | 6 | 5 | 6 | 2 | 8 |
| Central--total | 1,322 | 928 | 255 | 58 | 33 | 19 | 12 | 6 | 2 | 9 |
| Iowa | 257 | 175 | 55 | 14 | 3 | 5 | 1 | 2 | 1 | 1 |
| Kansas | 372 | 261 | 69 | 16 | 14 | 2 | 7 | 1 | 1 | 2 |
| Missouri | 371 | 270 | 67 | 10 | 10 | 6 | 2 | 1 | 1 | 5 |
| Nebraska | 322 | 222 | 64 | 18 | 6 | 6 | 2 | 2 | 1 | 1 |
| Southern--total | 1,719 | 873 | 451 | 162 | 122 | 44 | 22 | 20 | 10 | 15 |
| Alabama | 147 | 52 | 47 | 23 | 13 | 6 | 1 | 2 | 2 | 1 |
| Florida | 454 | 263 | 76 | 41 | 33 | 14 | 9 | 7 | 1 | 10 |
| Georgia | 278 | 142 | 79 | 22 | 25 | 5 | 1 | 3 | 1 | 1 |
| Kentucky | 101 | 59 | 20 | 9 | 6 | 5 | 1 | 1 | 1 | 1 |
| Mississippi | 160 | 61 | 67 | 15 | 8 | 3 | 2 | 3 | 1 | 1 |
| North Carolina | 270 | 154 | 69 | 26 | 8 | 7 | 4 | 2 | 1 | 1 |
| Puerto Rico | 27 | 19 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 |
| South Carolina | 126 | 55 | 42 | 8 | 14 | 2 | 2 | 1 | 2 | 1 |
| Tennessee | 150 | 66 | 49 | 15 | 13 | 2 | 1 | 2 | 2 | 1 |
| Virgin Islands | 6 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Southwest--total | 2,178 | 1,163 | 544 | 209 | 143 | 46 | 31 | 11 | 8 | 23 |
| Arkansas | 163 | 85 | 41 | 13 | 15 | 7 | 1 | 1 | 1 | 1 |
| Louisiana | 287 | 174 | 65 | 14 | 14 | 5 | 3 | 1 | 1 | 10 |
| New Mexico | 142 | 29 | 23 | 32 | 33 | 10 | 10 | 2 | 1 | 3 |
| Oklahoma | 288 | 159 | 83 | 18 | 16 | 4 | 3 | 1 | 2 | 2 |
| Texas | 1,298 | 716 | 332 | 132 | 65 | 20 | 14 | 6 | 5 | 8 |
| Rocky Mountain--total | 992 | 453 | 234 | 145 | 77 | 34 | 19 | 13 | 8 | 9 |
| Colorado | 272 | 122 | 50 | 45 | 27 | 10 | 6 | 7 | 1 | 4 |
| Montana | 172 | 65 | 61 | 26 | 10 | 2 | 1 | 2 | 4 | 2 |
| North Dakota | 217 | 148 | 47 | 12 | 4 | 2 | 2 | 1 | 1 | 1 |
| South Dakota | 142 | 80 | 35 | 17 | 2 | 5 | 2 | 1 | 1 | 1 |
| Utah | 95 | 14 | 23 | 23 | 19 | 8 | 5 | 1 | 1 | 2 |
| Wyoming | 94 | 24 | 18 | 22 | 15 | 7 | 4 | 2 | 1 | 1 |
| Western--total | 1,151 | 646 | 198 | 129 | 78 | 46 | 17 | 12 | 5 | 20 |
| Arizona | 209 | 74 | 46 | 50 | 19 | 9 | 6 | 2 | 1 | 3 |
| California | 822 | 534 | 138 | 56 | 39 | 24 | 6 | 6 | 3 | 16 |
| Nevada | 120 | 38 | 14 | 23 | 20 | 13 | 5 | 4 | 2 | 1 |
| Northwest--total | 857 | 590 | 117 | 66 | 48 | 12 | 5 | 2 | 4 | 13 |
| Idaho | 190 | 95 | 42 | 32 | 13 | 2 | 1 | 1 | 2 | 2 |
| Oregon | 302 | 221 | 33 | 20 | 15 | 7 | 1 | 1 | 1 | 4 |
| Washington | 365 | 274 | 42 | 14 | 20 | 3 | 3 | 1 | 2 | 7 |
| Alaskan--total | 756 | 408 | 72 | 65 | 77 | 22 | 13 | 11 | 4 | 84 |
| Pacific--total | 72 | 48 | 4 | 3 | 4 | 6 | 1 | 1 | 3 | 2 |
| Hawaii | 56 | 44 | 3 | 2 | 2 | 3 | 1 | 1 | 1 | 1 |
| N. Mariana Islands | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| South Pacific** | 12 | 3 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |

*Excludes Puerto Rico, Virgin Islands, N. Mariana Islands, and South Pacific.

**American Samoa, Guam and Trust Territories.

TABLE 3.5

U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES ON RECORD
BY FAA REGION AND STATE AND OTHER AREAS: DECEMBER 31, 1969 -1978

| FAA Region and State | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Total | 11,050 | 11,261 | 12,070 | 12,405 | 12,700 | 13,062 | 13,251 | 13,770 | 14,117 | 14,574 |
| United States--total* | 11,016 | 11,226 | 12,028 | 12,362 | 12,656 | 13,019 | 13,207 | 13,728 | 14,069 | 14,525 |
| New England--total | 440 | 445 | 463 | 457 | 481 | 512 | 529 | 547 | 542 | 540 |
| Connecticut | 74 | 78 | 86 | 79 | 83 | 91 | 91 | 104 | 103 | 104 |
| Maine | 140 | 139 | 148 | 153 | 155 | 158 | 161 | 162 | 162 | 157 |
| Massachusetts | 117 | 118 | 116 | 117 | 125 | 131 | 139 | 141 | 139 | 140 |
| New Hampshire | 51 | 52 | 54 | 46 | 50 | 56 | 58 | 57 | 54 | 55 |
| Rhode Island | 14 | 14 | 14 | 15 | 17 | 17 | 18 | 22 | 24 | 23 |
| Vermont | 44 | 44 | 45 | 47 | 51 | 59 | 62 | 61 | 60 | 61 |
| Eastern--total | 1,350 | 1,418 | 1,505 | 1,543 | 1,631 | 1,729 | 1,776 | 1,860 | 1,906 | 1,976 |
| Delaware | 24 | 26 | 25 | 30 | 30 | 32 | 32 | 32 | 32 | 32 |
| District of Columbia | 5 | 6 | 7 | 7 | 9 | 14 | 16 | 16 | 17 | 17 |
| Maryland | 82 | 81 | 91 | 99 | 107 | 123 | 128 | 135 | 142 | 148 |
| New Jersey | 167 | 184 | 189 | 192 | 207 | 222 | 222 | 239 | 254 | 263 |
| New York | 409 | 414 | 444 | 442 | 465 | 478 | 488 | 496 | 490 | 498 |
| Pennsylvania | 453 | 475 | 511 | 514 | 541 | 579 | 609 | 644 | 651 | 692 |
| Virginia | 161 | 185 | 192 | 209 | 220 | 227 | 230 | 240 | 249 | 255 |
| West Virginia | 49 | 47 | 46 | 50 | 52 | 54 | 51 | 58 | 71 | 71 |
| Great Lakes--total | 2,027 | 2,048 | 2,258 | 2,419 | 2,490 | 2,594 | 2,620 | 2,772 | 2,832 | 3,011 |
| Illinois | 585 | 599 | 652 | 749 | 773 | 829 | 831 | 867 | 876 | 901 |
| Indiana | 180 | 179 | 199 | 208 | 220 | 232 | 237 | 293 | 306 | 317 |
| Michigan | 302 | 305 | 376 | 383 | 401 | 403 | 400 | 421 | 413 | 418 |
| Minnesota | 259 | 262 | 266 | 276 | 279 | 295 | 301 | 312 | 336 | 420 |
| Ohio | 451 | 447 | 491 | 522 | 536 | 543 | 548 | 558 | 569 | 584 |
| Wisconsin | 250 | 256 | 274 | 281 | 281 | 292 | 303 | 321 | 332 | 371 |
| Central--total | 1,059 | 1,051 | 1,125 | 1,159 | 1,197 | 1,205 | 1,198 | 1,243 | 1,274 | 1,322 |
| Iowa | 240 | 236 | 241 | 244 | 246 | 248 | 241 | 250 | 253 | 257 |
| Kansas | 272 | 270 | 295 | 307 | 315 | 314 | 318 | 334 | 351 | 372 |
| Missouri | 287 | 286 | 313 | 319 | 341 | 346 | 343 | 358 | 365 | 371 |
| Nebraska | 260 | 259 | 276 | 289 | 295 | 297 | 296 | 301 | 305 | 322 |
| Southern--total | 1,287 | 1,297 | 1,365 | 1,397 | 1,409 | 1,436 | 1,474 | 1,555 | 1,666 | 1,719 |
| Alabama | 131 | 128 | 130 | 128 | 127 | 126 | 129 | 131 | 142 | 147 |
| Florida | 296 | 291 | 323 | 329 | 332 | 341 | 355 | 391 | 438 | 454 |
| Georgia | 192 | 202 | 218 | 231 | 232 | 236 | 248 | 262 | 275 | 278 |
| Kentucky | 69 | 69 | 73 | 76 | 80 | 81 | 87 | 90 | 97 | 101 |
| Mississippi | 153 | 152 | 130 | 134 | 138 | 141 | 145 | 148 | 154 | 160 |
| North Carolina | 209 | 210 | 231 | 228 | 227 | 236 | 237 | 251 | 258 | 270 |
| Puerto Rico | 20 | 20 | 27 | 27 | 27 | 26 | 25 | 23 | 27 | 27 |
| South Carolina | 108 | 113 | 116 | 120 | 120 | 117 | 116 | 123 | 126 | 126 |
| Tennessee | 105 | 108 | 113 | 120 | 122 | 128 | 128 | 132 | 144 | 150 |
| Virgin Islands | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 6 |
| Southwest--total | 1,663 | 1,704 | 1,913 | 1,986 | 2,020 | 2,046 | 2,070 | 2,087 | 2,123 | 2,178 |
| Arkansas | 135 | 144 | 151 | 155 | 161 | 161 | 165 | 166 | 167 | 163 |
| Louisiana | 218 | 221 | 240 | 260 | 278 | 286 | 281 | 280 | 282 | 287 |
| New Mexico | 124 | 127 | 129 | 131 | 134 | 134 | 134 | 139 | 139 | 142 |
| Oklahoma | 226 | 230 | 265 | 273 | 278 | 273 | 277 | 285 | 285 | 288 |
| Texas | 960 | 982 | 1,128 | 1,167 | 1,169 | 1,192 | 1,213 | 1,217 | 1,250 | 1,298 |
| Rocky Mountain--total | 821 | 846 | 871 | 869 | 872 | 895 | 898 | 947 | 961 | 992 |
| Colorado | 185 | 209 | 217 | 214 | 220 | 228 | 230 | 255 | 261 | 272 |
| Montana | 180 | 179 | 180 | 176 | 167 | 168 | 167 | 172 | 169 | 172 |
| North Dakota | 175 | 184 | 191 | 193 | 194 | 196 | 198 | 209 | 211 | 217 |
| South Dakota | 112 | 113 | 114 | 114 | 115 | 124 | 125 | 131 | 134 | 142 |
| Utah | 82 | 81 | 85 | 87 | 92 | 93 | 90 | 90 | 93 | 95 |
| Wyoming | 87 | 80 | 84 | 85 | 84 | 86 | 88 | 90 | 93 | 94 |
| Western--total | 1,034 | 1,047 | 1,059 | 1,064 | 1,063 | 1,076 | 1,090 | 1,124 | 1,140 | 1,151 |
| Arizona | 207 | 215 | 209 | 198 | 196 | 196 | 196 | 202 | 209 | 209 |
| California | 720 | 730 | 746 | 754 | 753 | 769 | 781 | 804 | 813 | 822 |
| Nevada | 107 | 102 | 104 | 112 | 114 | 111 | 113 | 118 | 118 | 120 |
| Northwest--total | 609 | 627 | 680 | 685 | 712 | 743 | 765 | 807 | 841 | 857 |
| Idaho | 168 | 166 | 169 | 169 | 170 | 174 | 181 | 187 | 190 | 190 |
| Oregon | 206 | 221 | 255 | 258 | 264 | 273 | 277 | 286 | 301 | 302 |
| Washington | 235 | 240 | 256 | 258 | 278 | 296 | 307 | 334 | 350 | 365 |
| Alaskan--total | 691 | 708 | 762 | 766 | 766 | 766 | 769 | 762 | 763 | 756 |
| Pacific--total | 69 | 70 | 69 | 60 | 59 | 60 | 62 | 66 | 69 | 72 |
| Hawaii | 59 | 59 | 58 | 48 | 46 | 47 | 47 | 51 | 53 | 56 |
| N. Mariana Islands | --- | --- | --- | --- | --- | --- | --- | --- | --- | 4 |
| South Pacific** | 10 | 11 | 11 | 12 | 13 | 13 | 15 | 15 | 16 | 12 |

*Excludes Puerto Rico, Virgin Islands, N. Mariana Islands, and South Pacific.

**American Samoa, Guam and Trust Territories.

TABLE 3.6

AIRPORT DEVELOPMENT AND PROGRAM STATUS AS OF DECEMBER 31, 1978

| FAA Region and State | Air Carrier | | | General Aviation | | |
|-----------------------|---------------------------|----------------|----------------|---------------------------|----------------|----------------|
| | Total Federal Funds (000) | Total Airports | Total Projects | Total Federal Funds (000) | Total Airports | Total Projects |
| Total | \$2,654,993 | 680 | 3,168 | \$381,121 | 1,036 | 1,557 |
| United States--total* | 2,586,706 | 669 | 3,112 | 380,430 | 1,034 | 1,555 |
| New England--total | 66,907 | 33 | 177 | 13,933 | 51 | 111 |
| Connecticut | 12,154 | 5 | 27 | 2,428 | 2 | 11 |
| Maine | 12,792 | 8 | 48 | 3,339 | 19 | 29 |
| Massachusetts | 28,755 | 10 | 59 | 6,160 | 19 | 51 |
| New Hampshire | 4,581 | 4 | 20 | 1,247 | 6 | 10 |
| Rhode Island | 4,953 | 2 | 5 | --- | --- | --- |
| Vermont | 3,672 | 4 | 18 | 759 | 5 | 10 |
| Eastern--total | 351,713 | 76 | 460 | 52,154 | 92 | 164 |
| Delaware | 2,488 | 1 | 7 | 953 | 1 | 4 |
| District of Columbia | --- | --- | --- | --- | --- | --- |
| Maryland | 20,805 | 4 | 21 | 5,039 | 8 | 12 |
| New Jersey | 43,887 | 5 | 48 | 9,703 | 8 | 20 |
| New York | 115,033 | 23 | 153 | 14,116 | 25 | 52 |
| Pennsylvania | 103,839 | 22 | 117 | 9,305 | 21 | 25 |
| Virginia | 34,231 | 12 | 67 | 7,941 | 19 | 33 |
| West Virginia | 31,430 | 9 | 47 | 5,097 | 10 | 18 |
| Great Lakes--total | 373,066 | 105 | 395 | 63,798 | 152 | 199 |
| Illinois | 104,555 | 26 | 94 | 12,744 | 34 | 48 |
| Indiana | 47,816 | 13 | 46 | 13,974 | 21 | 26 |
| Michigan | 87,751 | 24 | 92 | 10,749 | 22 | 26 |
| Minnesota | 35,486 | 15 | 56 | 9,709 | 30 | 32 |
| Ohio | 49,825 | 13 | 49 | 9,533 | 16 | 30 |
| Wisconsin | 47,633 | 14 | 58 | 7,089 | 29 | 37 |
| Central--total | 116,723 | 51 | 214 | 26,392 | 94 | 119 |
| Iowa | 25,217 | 12 | 42 | 5,040 | 18 | 25 |
| Kansas | 27,230 | 16 | 48 | 6,273 | 23 | 26 |
| Missouri | 30,167 | 9 | 52 | 8,133 | 25 | 31 |
| Nebraska | 34,109 | 14 | 72 | 6,946 | 28 | 37 |
| Southern--total | 515,270 | 107 | 532 | 62,985 | 207 | 293 |
| Alabama | 34,619 | 11 | 55 | 6,343 | 18 | 26 |
| Florida | 130,491 | 29 | 133 | 11,638 | 34 | 59 |
| Georgia | 110,707 | 12 | 54 | 9,089 | 35 | 42 |
| Kentucky | 35,104 | 7 | 54 | 6,005 | 15 | 21 |
| Mississippi | 29,666 | 12 | 54 | 7,516 | 41 | 56 |
| North Carolina | 55,394 | 13 | 64 | 10,881 | 27 | 45 |
| Puerto Rico | 9,995 | 2 | 13 | 691 | 2 | 2 |
| South Carolina | 23,753 | 8 | 25 | 4,625 | 16 | 19 |
| Tennessee | 56,271 | 11 | 66 | 6,197 | 19 | 23 |
| Virgin Islands | 29,270 | 2 | 14 | --- | --- | --- |
| Southwest--total | 349,483 | 75 | 476 | 56,830 | 184 | 278 |
| Arkansas | 22,323 | 10 | 66 | 5,518 | 22 | 35 |
| Louisiana | 70,847 | 10 | 74 | 5,101 | 14 | 21 |
| New Mexico | 16,253 | 10 | 66 | 6,053 | 18 | 30 |
| Oklahoma | 48,909 | 13 | 76 | 7,694 | 50 | 67 |
| Texas | 191,151 | 32 | 194 | 32,464 | 80 | 125 |
| Rocky Mountain--total | 205,364 | 61 | 289 | 32,067 | 94 | 127 |
| Colorado | 76,704 | 15 | 59 | 10,209 | 16 | 27 |
| Montana | 32,121 | 15 | 72 | 4,342 | 18 | 20 |
| North Dakota | 22,420 | 7 | 39 | 4,861 | 18 | 21 |
| South Dakota | 22,458 | 9 | 61 | 4,082 | 13 | 15 |
| Utah | 29,051 | 5 | 21 | 4,717 | 16 | 23 |
| Wyoming | 22,610 | 10 | 37 | 3,856 | 13 | 21 |
| Western--total | 294,036 | 65 | 285 | 37,605 | 89 | 145 |
| Arizona | 48,889 | 13 | 50 | 7,214 | 19 | 22 |
| California | 209,565 | 48 | 212 | 27,341 | 62 | 109 |
| Nevada | 35,582 | 4 | 23 | 3,050 | 8 | 14 |
| Northwest--total | 118,616 | 37 | 163 | 17,720 | 61(a) | 97 |
| Idaho | 17,127 | 9 | 42 | 4,226 | 16 | 23 |
| Oregon | 45,503 | 11 | 51 | 5,690 | 21 | 30 |
| Washington | 55,986 | 17 | 70 | 7,804 | 24 | 44 |
| Alaskan--total | 152,814 | 55 | 110 | 17,348 | 11 | 23 |
| Pacific--total | 111,001 | 15 | 67 | 289 | 1 | 1 |
| Hawaii | 81,979 | 8 | 38 | 289 | 1 | 1 |
| South Pacific** | 29,022 | 7 | 29 | --- | --- | --- |

*Excludes Puerto Rico, Virgin Islands, and South Pacific.

**Includes American Samoa, Guam and Trust Territories.

(a) Moscow, Idaho, and Pullman, Washington Airport collocated -- counted as one.

IV. AIRPORT ACTIVITY

The data presented in this chapter were obtained from quarterly reports submitted to the Civil Aeronautics Board (CAB) by the certificated route air carriers on Schedule T-3 (a) (b) (c), Airport Activity Statistics--Revenue Service. These statistics summarize revenue; passenger enplanements; aircraft departures; and tons of freight, express, and mail enplaned at the 629 certificated points in the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration (FAA) receiving scheduled and nonscheduled service during calendar year 1978. Effective January 1, 1970, in accordance with CAB's stated definition for "Domestic Operations," operations between the 48 conterminous States, Alaska, and Hawaii have been reclassified as domestic.

Air traffic hubs are not airports; they are the cities and Standard Metropolitan Statistical Areas (SMSA) requiring aviation services. An SMSA is a county that contains at least one city of 50,000 population, or twin cities with a combined population of at least 50,000, plus any contiguous counties that are metropolitan in character and have similar economic and social relationships. These metropolitan areas constitute a primary focal point for the transportation research programs of the FAA, and the analyses of individual cities within an area are treated in relationship to the entire area. In those instances where two or more individually certificated communities are located in an SMSA, those communities are grouped under the SMSA definition throughout this publication.

Individual communities fall into four hub classifications as determined by each community's percentage of the total enplaned revenue passengers

in all services and all operations of U.S. certificated route air carriers within the 50 States, the District of Columbia, and other U.S. areas designated by the FAA. Classifications in this issue are based on 264,026,746 total enplaned revenue passengers.

The percentage and number of enplaned passengers in the hub classifications for calendar year 1977 are:

| <u>Hub Classification</u> | <u>Percentage of Total Enplaned Passengers</u> | <u>Number of Enplaned Passengers</u> |
|---------------------------|--|--------------------------------------|
| Large (L) | 1.00 or more | 2,640,267 or more |
| Medium (M) | 0.25 to 0.99 | 666,667 to 2,640,268 |
| Small (S) | 0.05 to 0.24 | 133,333 to 666,668 |
| Nonhub (N) | less than 0.05 | less than 133,333 |

For the 12-month period ending December 31, 1978, there were 158 air traffic hubs. These hubs represented 25.1 percent of the 629 certificated points in the 50 States, the District of Columbia, and other U.S. areas receiving air carrier service during the period. The dominance of the hubs in the air traffic patterns is brought out by the fact that of the 264,026,746 passenger enplanements during the period, 96.7 percent (255,345,946) were recorded at the 158 hubs, while the nonhubs accounted for only 3.3 percent (8,680,800). Of the 96.7 percent of the passenger enplanements recorded at the hubs, the 25 large hubs accounted for 68.7 percent, the 39 medium hubs accounted for 18.2 percent, and the 94 small hubs accounted for 9.8 percent.

Commencing 1971, data for passenger enplanements included enplaned passengers in both domestic and international, and scheduled and non-scheduled service of the certificated route air carriers, for all types of aircraft for the 50 States, the District of Columbia, and other U.S. areas designated by the FAA.

TABLE 4.1

CERTIFICATED ROUTE AIR CARRIERS AND NUMBER OF CERTIFICATED ROUTE MILES
AUTHORIZED: SEPTEMBER 30, 1978

| Carrier Type and Certificated Route Carrier | Certificated Linear Route Miles Authorized | Carrier Type and Certificated Route Carrier | Certificated Linear Route Miles Authorized |
|--|--|--|--|
| Domestic Passenger/Cargo Carriers | | | |
| Trunk Lines: | | Intra-Hawaiian Lines: | |
| Big Four: | | Aloha Airlines | 494 |
| American Airlines | 43,755 | Hawaiian Airlines | 400 |
| Eastern Airlines | 43,576 | Local Service: | |
| Trans World Airlines | 29,127 | Air Midwest, Inc. | 896 |
| United Air Lines | 48,709 | Air New England | 797 |
| Other: | | Allegheny Airlines | 8,304 |
| Braniff Airways | 25,540 | Frontier Airlines | 17,968 |
| Continental Air Lines | 27,928 | Hughes Air West | 9,370 |
| Delta Air Lines | 50,380 | North Central Airlines | 10,297 |
| National Airlines | 8,401 | Ozark Air Lines | 7,579 |
| Northwest Airlines | 39,393 | Piedmont Aviation | 5,286 |
| Western Airlines | 4,563 | Southern Airways | 14,281 |
| Intra-Alaskan Air Lines: | | Texas International | 7,078 |
| Alaska Airlines | 4,906 | Helicopter: | |
| Kodiak-Western Alaska Airlines, Inc. | 1,250 | Chicago Helicopter | 422 |
| Munz Northern | 291 | New York Airways | 139 |
| Reeve Aleutian Airways | 3,281 | | |
| Wien Air Alaska | 9,746 | | |
| International and Territorial Passenger/Cargo Carriers | | | |
| Air Micronesia | 14,561 | National Airlines | 9,596 |
| American Airlines | 27,730 | Northwest Airlines | 36,565 |
| Braniff Airways | 62,587 | Pan American World Airways | 246,479 |
| Continental Air Lines | 18,751 | Trans World Airlines | 123,895 |
| Delta Air Lines | 13,084 | Western Airlines | 7,017 |
| Eastern Airlines | 27,387 | | |
| All Cargo Carriers | | | |
| Flying Tiger Line | 15,721 | Seaboard World Airlines | 16,293 |
| Airlift International | 10,656 | | |
| Other Carriers | | | |
| Aspen Airways | 112 | Wright Air Lines | 476 |

1/Certificated route miles authorized are based on each carrier's certificate. This is duplication in that if a pair of points are on different segments, they are counted for each segment.

2/Carrier authorized to suspend service over its route for an indefinite period.

Source: Records Services Section, Office of Facilities and Operations, CAB.

TABLE 4.2

DOMESTIC AIRLINE TRAFFIC ENPLANED AT U.S. STATIONS
(EXCLUDING ALASKA AND HAWAII): 1969 THROUGH 1978*

| Year | Air Carrier Aircraft Departures | Number of Enplaned Passenger | Tons of Enplaned Mail | Tons of Enplaned Cargo |
|------------------|---------------------------------|------------------------------|-----------------------|------------------------|
| 1969 | 4,699,273 | 148,072,090 | 753,123.8 | 1,740,082.8 |
| 1970** | 5,001,557 | 155,938,787 | 782,229.9 | 1,926,258.3 |
| 1971** | 4,680,678 | 152,291,732 | 862,939.3 | 2,075,811.5 |
| 1972 | 4,741,495 | 172,263,469 | 852,941.2 | 2,451,766.5 |
| 1973 | 4,818,587 | 182,987,738 | 829,023.4 | 2,717,932.6 |
| 1974 | 4,452,156 | 189,316,615 | 827,270.8 | 2,599,894.1 |
| 1975 | 4,447,559 | 188,495,858 | 825,563.2 | 2,356,691.3 |
| 1976 | 4,597,522 | 206,664,841 | 895,081.0 | 2,483,597.9 |
| 1977 | 4,781,923 | 229,344,987(r) | 997,473.3 | 3,031,518.1 |
| 1978 | 4,844,426 | 261,313,500 | 1,043,564.5 | 3,244,108.8 |

*These data include domestic all-cargo figures which are shown in Table 4.6.

**Fiscal year data.

(r)Revised.

NOTE: Data for 1970 and subsequent years include Alaska and Hawaii. Commencing 1971 and subsequent years, data include scheduled and nonscheduled operations.

Source: CAB-FAA "Airport Activity Statistics of Certificated Route Air Carriers."

TABLE 4.3

AMERICAN FLAG AIRLINE TRAFFIC ENPLANED AT TERRITORIAL
U.S. STATIONS: 1969 THROUGH 1978

| Year | Air Carrier Aircraft Departures | Number of Enplaned Passengers | Tons of Enplaned Mail | Tons of Enplaned Cargo |
|-----------------|---------------------------------|-------------------------------|-----------------------|------------------------|
| 1969 | 262,091 | 7,137,624 | 33,078.0 | 96,194.0 |
| 1970* | 42,941 | 2,331,797 | 4,792.9 | 44,719.9 |
| 1971* | 39,445 | 2,192,217 | 3,714.3 | 32,199.1 |
| 1972 | 41,495 | 2,524,395 | 4,310.1 | 37,397.2 |
| 1973 | 46,080 | 2,622,340 | 5,109.1 | 40,548.0 |
| 1974 | 35,906 | 2,601,804 | 5,639.3 | 45,922.6 |
| 1975 | 30,485 | 2,243,793 | 5,807.0 | 47,394.0 |
| 1976 | 28,559 | 2,258,714 | 5,551.2 | 48,329.3 |
| 1977 | 27,511 | 2,358,039 | 6,212.7 | 55,971.6 |
| 1978 | 29,040 | 2,713,246 | 5,919.4 | 59,188.7 |

*Fiscal year data.

NOTE: Commencing 1971 and subsequent years, data include scheduled and nonscheduled operations.

Source: CAB-FAA "Airport Activity Statistics of Certificated Route Air Carriers."

TABLE 4.4

DOMESTIC HELICOPTER TRAFFIC ENPLANED AT U.S. STATIONS
(EXCLUDING ALASKA AND HAWAII): 1969 THROUGH 1978

| Year | Air Carrier Aircraft Departures | Number of Enplaned Passenger | Tons of Enplaned Mail | Tons of Enplaned Cargo |
|-----------------|---------------------------------|------------------------------|-----------------------|------------------------|
| 1969 | 112,918 | 744,436 | 1,042.9 | 1,791.0 |
| 1970* | 93,298 | 620,945 | 574.2 | 1,396.8 |
| 1971* | 79,518 | 544,368 | 302.8 | 963.2 |
| 1972 | 79,979 | 588,288 | 200.5 | 969.2 |
| 1973 | 83,152 | 614,952 | 154.7 | 737.9 |
| 1974 | 80,743 | 591,830 | 163.5 | 418.3 |
| 1975 | 67,923 | 505,827 | 201.7 | 210.3 |
| 1976 | 54,123 | 443,651 | 109.0 | 148.8 |
| 1977 | 35,305 | 268,023 | 81.1 | 52.3 |
| 1978 | 31,779 | 282,539 | 54.9 | 53.5 |

*Fiscal year data.

NOTE: Data for 1970 and subsequent years include Alaska and Hawaii. Commencing 1971 and subsequent years, data include scheduled and nonscheduled operations.

Source: CAB-FAA "Airport Activity Statistics of Certificated Route Air Carriers."

TABLE 4.5

AMERICAN FLAG AIRLINE TRAFFIC ENPLANED AT FOREIGN STATIONS:
1969 THROUGH 1978*

| Year | Air Carrier Aircraft Departures | Number of Enplaned Passenger | Tons of Enplaned Mail | Tons of Enplaned Cargo |
|------------------|---------------------------------|------------------------------|-----------------------|------------------------|
| 1969 | 232,640 | 9,328,318 | 58,816.9 | 213,858.7 |
| 1970** | 188,188 | 8,886,734 | 56,003.4 | 203,979.4 |
| 1971** | 229,164 | 11,852,243 | 80,457.5 | 293,380.1 |
| 1972 | 223,865 | 12,357,957 | 61,506.7 | 361,157.3 |
| 1973 | 224,793 | 12,614,201 | 70,614.1 | 366,634.1 |
| 1974 | 203,980 | 11,787,449 | 68,958.2 | 367,988.3 |
| 1975 | 189,918 | 10,908,448 | 62,206.1 | 363,510.7 |
| 1976 | 183,431 | 11,575,637 | 62,557.5 | 390,220.0 |
| 1977 | 178,711 | 12,319,732 | 62,314.1 | 384,406.4 |
| 1978 | 174,416 | 13,556,828 | 57,401.5 | 386,444.9 |

*Includes operations of certificated all-cargo carriers.

**Fiscal year data.

NOTE: Data for 1970 and subsequent years include Alaska and Hawaii. Commencing 1971 and subsequent years, data include scheduled and nonscheduled operations.

Source: CAB-FAA "Airport Activity Statistics of Certificated Route Air Carriers."

TABLE 4.6

DOMESTIC ALL-CARGO AIRLINE TRAFFIC ENPLANED AT U.S. STATIONS
(EXCLUDING ALASKA AND HAWAII): 1969 THROUGH 1978*

| Year | Air Carrier Aircraft Departures | Number of Enplaned Passenger | Tons of Enplaned Mail | Tons of Enplaned Cargo |
|------------------|---------------------------------|------------------------------|-----------------------|------------------------|
| 1969 | 13,887 | --- | 3,937.2 | 109,208.9 |
| 1970** | 12,046 | --- | 4,162.5 | 116,179.2 |
| 1971** | 11,360 | --- | 8,823.7 | 150,970.7 |
| 1972 | 11,790 | --- | 6,993.3 | 217,611.8 |
| 1973 | 15,658 | 845 | 16,590.9 | 306,601.8 |
| 1974 | 16,351 | 440 | 16,086.5 | 321,405.3 |
| 1975 | 13,959 | 1,641 | 10,021.6 | 284,131.9 |
| 1976 | 13,594 | --- | 8,466.7 | 285,333.4 |
| 1977 | 16,008 | --- | 9,525.8 | 332,200.2 |
| 1978 | 23,029 | --- | 17,443.3 | 495,296.0 |

*These data are included in Table 4.2.

**Fiscal year data.

NOTE: Data for 1970 and subsequent years include Alaska and Hawaii. Commencing 1971 and subsequent years, data include scheduled and nonscheduled operations.

Source: CAB-FAA "Airport Activity Statistics of Certificated Route Air Carriers."

TABLE 4.7
 AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
 OPERATIONS ALL SERVICES AT LARGE AIR TRAFFIC HUBS

12 MONTHS ENDED DECEMBER 31, 1978

| Line No. | Community (Airport Name) Percent of Enplanements | Aircraft departures | | | Enplaned passengers | Enplaned revenue tons | | | | |
|-------------|--|---------------------|-----------|------------------------|------------------------|-----------------------|----------|-----------|-------------|-----------------|
| | | Total performed | Scheduled | Scheduled completed | | Freight | Express | U.S. Mail | | Foreign mail |
| | | | | | | | | Priority | Nonpriority | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | ATLANTA, GEORGIA | | | | | | | | | |
| 2 | (WILLIAM B. HARTSFIELD INT'L) | | | | | | | | | |
| 3 | 6.90 | 240741 | 242685 | 238143 | 18226652 | 146268.92 | 6005.02 | 78046.07 | 189.40 | |
| 4 | BOSTON, MASSACHUSETTS | | | | | | | | | |
| 5 | (LOGAN INTERNATIONAL) | | | | | | | | | |
| 6 | 2.38 | 98271 | 97051 | 93196 | 6286825 | 84867.23 | 1169.32 | 18079.94 | 5681.59 | 12.01 |
| 7 | CHICAGO, ILLINOIS | | | | | | | | | |
| 8 | (MIDWAY) | | | | | | | | | |
| 9 | 0.01 | 848 | 860 | 843 | 48565 | 11.04 | 2.96 | 3.52 | | |
| 10 | (O'HARE INTERNATIONAL) | | | | | | | | | |
| 11 | 8.15 | 289960 | 293359 | 285533 | 21527037 | 411789.42 | 10238.83 | 75195.11 | 24631.95 | |
| 12 | COMMUNITY TOTAL | | | | | | | | | |
| 13 | 8.16 | 290808 | 294219 | 286376 | 21575602 | 411800.46 | 10241.79 | 75198.63 | 24631.95 | |
| 14 | CLEVELAND, OHIO | | | | | | | | | |
| 15 | (BURKE LAKEFRONT) | | | | | | | | | |
| 16 | 0.02 | 2320 | 2271 | 2196 | 56060 | | | | | |
| 17 | (HOPKINS INTERNATIONAL) | | | | | | | | | |
| 18 | 1.32 | 62840 | 63956 | 62128 | 3485207 | 45157.91 | 3206.29 | 11961.00 | 673.73 | |
| 19 | COMMUNITY TOTAL | | | | | | | | | |
| 20 | 1.34 | 65160 | 66227 | 64324 | 3541267 | 45157.91 | 3206.29 | 11961.00 | 673.73 | |
| 21 | DALLAS-FORT WORTH, TEXAS | | | | | | | | | |
| 22 | (LOVE FIELD) | | | | | | | | | |
| 23 | 0.00 | 4 | | | 106 | | | | | |
| 24 | (DALLAS-FORT WORTH REGIONAL) | | | | | | | | | |
| 25 | 3.65 | 153534 | 154223 | 152075 | 9638136 | 96649.56 | 1665.63 | 41737.59 | 501.84 | 20.14 |
| 26 | COMMUNITY TOTAL | | | | | | | | | |
| 27 | 3.65 | 153538 | 154223 | 152075 | 9638242 | 96649.56 | 1665.63 | 41737.59 | 501.84 | 20.14 |
| 28 | DENVER, COLORADO | | | | | | | | | |
| 29 | (STAPLETON INTERNATIONAL) | | | | | | | | | |
| 30 | 3.35 | 136638 | 137719 | 135105 | 8861423 | 67442.68 | 894.70 | 21843.30 | 2696.02 | |
| 31 | DETROIT/ANN ARBOR, MICHIGAN | | | | | | | | | |
| 32 | (DETROIT CITY) | | | | | | | | | |
| 33 | 0.01 | 1508 | 1492 | 1437 | 36993 | | | | | |
| 34 | (DETROIT METROPOLITAN WAYNE CTY) | | | | | | | | | |
| 35 | 1.82 | 79731 | 79999 | 77893 | 4805448 | 126646.48 | 1206.95 | 18641.88 | 3944.18 | |
| 36 | COMMUNITY TOTAL | | | | | | | | | |
| 37 | 1.83 | 81239 | 81491 | 79330 | 4842441 | 126646.48 | 1206.95 | 18641.88 | 3944.18 | |
| 38 | HONOLULU, OAHU, HAWAII | | | | | | | | | |
| 39 | (HONOLULU INTERNATIONAL) | | | | | | | | | |
| 40 | 2.22 | 48570 | 44710 | 41043 | 5864914 | 83427.66 | 258.60 | 12400.07 | 7294.74 | 601.79 |
| 41 | HOUSTON, TEXAS | | | | | | | | | |
| 42 | (HOUSTON INTERCONTINENTAL) | | | | | | | | | |
| 43 | 1.73 | 76247 | 76565 | 75294 | 4593382 | 54209.95 | 474.08 | 12855.18 | 3056.03 | 33.76 |
| 44 | (WILLIAM P. HOBBY) | | | | | | | | | |
| 45 | 0.01 | 614 | 804 | 784 | 39318 | 25.92 | .09 | | | |
| 46 | COMMUNITY TOTAL | | | | | | | | | |
| 47 | 1.74 | 77061 | 77369 | 76078 | 4632700 | 54235.87 | 474.17 | 12855.18 | 3056.03 | 33.76 |
| 48 | KANSAS CITY, MISSOURI | | | | | | | | | |
| 49 | (INTERNATIONAL) | | | | | | | | | |
| 50 | 1.05 | 62540 | 62879 | 61774 | 2789820 | 20528.39 | 335.56 | 16042.25 | 984.44 | |
| 51 | LAS VEGAS, NEVADA | | | | | | | | | |
| 52 | (MC. CARRAN INTL) | | | | | | | | | |
| 53 | 1.49 | 54675 | 51155 | 50319 | 3957489 | 3875.23 | 41.14 | 1721.93 | 12.42 | |
| 54 | LOS ANGELES/BURBANK/LNG. BCH. CAL | | | | | | | | | |
| 55 | (HOLLYWOOD-BURBANK) | | | | | | | | | |
| 56 | 0.09 | 5819 | 5890 | 5784 | 243769 | 2645.83 | 6.76 | .06 | | |
| 57 | (LOS ANGELES INTERNATIONAL) | | | | | | | | | |
| 58 | 4.89 | 152122 | 151724 | 149448 | 12913589 | 344766.83 | 5441.09 | 39950.99 | 17339.90 | 38.94 |
| 59 | (ORANGE COUNTY) | | | | | | | | | |
| 60 | 0.12 | 4991 | 5075 | 4971 | 321789 | 774.22 | 4.28 | .07 | | |
| 61 | COMMUNITY TOTAL | | | | | | | | | |
| 62 | 5.10 | 162932 | 162689 | 160203 | 13479147 | 348186.88 | 5452.13 | 39951.12 | 17339.90 | 38.94 |
| 63 | MIAMI/FT. LAUDERDALE, FLORIDA | | | | | | | | | |
| 64 | (FT. LAUDERDALE-HOLLYWOOD INTL) | | | | | | | | | |
| 65 | 1.02 | 39789 | 39899 | 39263 | 2694533 | 8388.52 | 243.28 | 2866.27 | 126.61 | |
| 66 | (MIAMI INTERNATIONAL) | | | | | | | | | |
| 67 | 2.38 | 85527 | 84923 | 83448 | 6299389 | 138633.22 | 1317.87 | 14174.68 | 2340.55 | 57.87 |
| 68 | COMMUNITY TOTAL | | | | | | | | | |
| 69 | 3.40 | 125316 | 124822 | 122711 | 8993922 | 147021.74 | 1561.15 | 17040.95 | 2467.16 | 57.87 |
| 70 | MINNEAPOLIS-ST. PAUL, MINNESOTA | | | | | | | | | |
| 71 | (MINNEAPOLIS-ST. PAUL INTL) | | | | | | | | | |
| 72 | 1.49 | 60873 | 59713 | 58788 | 3952367 | 42764.70 | 586.28 | 17621.34 | 2703.55 | |
| 73 | NEWARK, NEW JERSEY | | | | | | | | | |
| 74 | (NEWARK) | | | | | | | | | |
| 75 | 1.59 | 65444 | 65835 | 63517 | 4215808 | 42529.70 | 1412.69 | 14293.74 | 7682.99 | |
| 76 | NEW ORLEANS, LOUISIANA | | | | | | | | | |
| 77 | (INTERNATIONAL/MOISANT FIELD) | | | | | | | | | |
| 78 | 1.14 | 49098 | 49177 | 48438 | 3018722 | 14779.19 | 462.97 | 5448.29 | 493.13 | .02 |
| 79 | NEW YORK, NEW YORK | | | | | | | | | |
| 80 | (JOHN F. KENNEDY INTL) | | | | | | | | | |
| 81 | 3.23 | 101774 | 98739 | 94641 | 8531818 | 378557.24 | 2441.57 | 57416.72 | 22425.36 | 18.90 |
| 82 | (LA GUARDIA) | | | | | | | | | |
| 83 | 3.23 | 133507 | 129233 | 123702 | 8541582 | 26731.82 | 1646.49 | 20407.33 | 3668.21 | |
| 84 | (WALL STREET HELIPORT) | | | | | | | | | |
| 85 | 0.00 | 3309 | 4692 | 3135 | 8648 | .31 | | | | |
| 86 | COMMUNITY TOTAL | | | | | | | | | |
| 87 | 6.46 | 248590 | 232654 | 221478 | 17082048 | 405289.37 | 4088.06 | 77824.05 | 26093.57 | 18.90 |

TABLE 4.7
 AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
 OPERATIONS, ALL SERVICES AT LARGE AIR TRAFFIC HUBS
 12 MONTHS ENDED DECEMBER 31, 1970

| Line No. | Community (Airport Name) Percent of Enplanements | Aircraft departures | | | Enplaned passengers | Enplaned revenue tons | | | | |
|-------------|---|---------------------|-----------|------------------------|------------------------|-----------------------|----------|-----------|-------------|-----------------|
| | | Total performed | Scheduled | Scheduled completed | | Freight | Express | U.S. Mail | | Foreign mail |
| | | | | | | | | Priority | Nonpriority | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 1 | PHILADELPHIA, PA/CAMDEN, NJ (INTERNATIONAL) | | | | | | | | | |
| 2 | 1.56 | 68789 | 69835 | 67954 | 4138542 | 54513.41 | 1161.17 | 19080.40 | 7045.31 | |
| 3 | PHOENIX, ARIZONA (PHOENIX SKY HARBOR INTL) | | | | | | | | | |
| 4 | 1.15 | 50610 | 50907 | 50120 | 3056169 | 15823.56 | 230.01 | 5488.07 | 1619.44 | |
| 5 | PITTSBURGH, PA/WHEELING, W VA (GREATER PITTSBURGH) | | | | | | | | | |
| 6 | 1.75 | 92531 | 94106 | 91329 | 4635645 | 19384.21 | 836.50 | 14399.85 | 1814.05 | |
| 7 | ST. LOUIS, MISSOURI (LAMBERT-ST LOUIS MUNI) | | | | | | | | | |
| 8 | 1.78 | 93484 | 94490 | 92417 | 4714822 | 28740.85 | 412.89 | 19816.22 | 1516.58 | |
| 9 | SAN FRANCISCO/OAKLAND, CAL. (OAKLAND METROPOLITAN INTL) | | | | | | | | | |
| 10 | 0.16 | 9647 | 9683 | 9507 | 438736 | 1170.23 | 22.98 | 826.01 | .23 | |
| 11 | (SAN FRANCISCO INTL) | | | | | | | | | |
| 12 | 3.09 | 104433 | 103976 | 102291 | 6159652 | 197515.44 | 3727.56 | 32857.00 | 17641.25 | 1.19 |
| 13 | COMMUNITY TOTAL | | | | | | | | | |
| 14 | 3.25 | 114080 | 113659 | 111798 | 8598388 | 198685.67 | 3750.54 | 33683.01 | 17641.48 | 1.19 |
| 15 | SEATTLE/TACOMA, WASHINGTON (BOEING FIELD INTL.) | | | | | | | | | |
| 16 | 0.00 | 135 | 117 | 103 | 1412 | 220.10 | .09 | 6.27 | | |
| 17 | (SEATTLE-TACOMA INTERNATIONAL) | | | | | | | | | |
| 18 | 1.55 | 55678 | 55676 | 54370 | 4112657 | 113768.97 | 949.93 | 17854.66 | 5298.74 | |
| 19 | COMMUNITY TOTAL | | | | | | | | | |
| 20 | 1.55 | 55813 | 55793 | 54473 | 4114069 | 113989.07 | 950.02 | 17860.93 | 5298.74 | |
| 21 | TAMPA ST. PETERSBURG/CLEARWATER, FLA (TAMPA INTERNATIONAL) | | | | | | | | | |
| 22 | 1.17 | 58930 | 59245 | 58491 | 3106218 | 15709.66 | 290.01 | 7309.84 | 785.27 | .03 |
| 23 | WASHINGTON, DIST. OF COL. (DULLES INTERNATIONAL) | | | | | | | | | |
| 24 | 0.54 | 25267 | 25040 | 24582 | 1426236 | 13445.28 | 132.74 | 7676.62 | 9587.48 | 28.65 |
| 25 | (WASHINGTON NATIONAL) | | | | | | | | | |
| 26 | 2.50 | 103202 | 100332 | 98392 | 6609837 | 18487.91 | 492.63 | 21550.98 | 10396.71 | |
| 27 | COMMUNITY TOTAL | | | | | | | | | |
| 28 | 3.04 | 128469 | 125372 | 122974 | 8036073 | 31933.19 | 625.37 | 29227.60 | 19984.19 | 28.65 |
| 29 | OVER-ALL TOTAL, LARGE HUBS | | | | | | | | | |
| 30 | 68.54 | 2674200 | 2668035 | 2602454 | 161359315 | 2620251.59 | 47318.96 | 627573.25 | 162151.70 | 813.30 |
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TABLE 4.8
 AIRCRAFT DEPARTURES, ENPLANED PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
 OPERATIONS, ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS
 12 MONTHS ENDED DECEMBER 31, 1978

| Line No. | Community (Airport Name) Percent of Enplanements | Aircraft departures | | | Enplaned passengers | Enplaned revenue tons | | | | |
|-------------|--|---------------------|-----------|------------------------|------------------------|-----------------------|---------|-----------|-------------|-----------------|
| | | Total performed | Scheduled | Scheduled completed | | Freight | Express | U.S. Mail | | Foreign mail |
| | | | | | | | | Priority | Nonpriority | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 1 | ALBANY, NEW YORK | | | | | | | | | |
| 2 | (ALBANY COUNTY) | | | | | | | | | |
| 3 | 0.25 | 14247 | 14703 | 14213 | 663818 | 1188.47 | 20.89 | 843.53 | .62 | |
| 4 | ALBUQUERQUE, NEW MEXICO | | | | | | | | | |
| 5 | (ALBUQUERQUE SUNPRT/KIRTLND AFB) | | | | | | | | | |
| 6 | 0.41 | 23277 | 23529 | 23165 | 1094525 | 3607.81 | 8.78 | 2605.44 | 212.64 | |
| 7 | ANCHORAGE, ALASKA | | | | | | | | | |
| 8 | (ANCHORAGE INTERNATIONAL) | | | | | | | | | |
| 9 | 0.32 | 17999 | 16913 | 16104 | 860380 | 115077.38 | 64.19 | 14928.46 | 11349.06 | .56 |
| 10 | (ELMENDORF AFB) | | | | | | | | | |
| 11 | 0.00 | 4 | 3 | 3 | 84 | .02 | | .06 | | |
| 12 | COMMUNITY TOTAL | 18003 | 16916 | 16107 | 860464 | 115077.40 | 64.19 | 14928.52 | 11349.06 | .56 |
| 13 | 0.32 | | | | | | | | | |
| 14 | BALTIMORE, MARYLAND | | | | | | | | | |
| 15 | (BALTO/WASH INTL) | | | | | | | | | |
| 16 | 0.64 | 35073 | 35219 | 34461 | 1690098 | 17545.61 | 536.92 | 7646.14 | 2281.84 | |
| 17 | BIRMINGHAM, ALABAMA | | | | | | | | | |
| 18 | (BIRMINGHAM MUNI) | | | | | | | | | |
| 19 | 0.29 | 21975 | 22029 | 21694 | 773652 | 2665.59 | 115.40 | 2930.91 | 41.46 | |
| 20 | BUFFALO/NIAGARA FALLS, NEW YORK | | | | | | | | | |
| 21 | (GREATER BUFFALO INTERNATIONAL) | | | | | | | | | |
| 22 | 0.65 | 37387 | 38179 | 37104 | 1739843 | 12185.13 | 450.41 | 4997.24 | 1210.07 | |
| 23 | (INTERNATIONAL) | | | | | | | | | |
| 24 | 0.00 | 1 | 1 | 1 | 12 | | | | | |
| 25 | COMMUNITY TOTAL | 37388 | 38180 | 37105 | 1739855 | 12185.13 | 450.41 | 4997.24 | 1210.07 | |
| 26 | 0.65 | | | | | | | | | |
| 27 | CHARLOTTE, NORTH CAROLINA | | | | | | | | | |
| 28 | (DOUGLAS MUNI) | | | | | | | | | |
| 29 | 0.55 | 32438 | 32779 | 32058 | 1456132 | 17454.95 | 570.19 | 6672.01 | 66.09 | |
| 30 | CINCINNATI, OHIO | | | | | | | | | |
| 31 | (GREATER CINCINNATI) | | | | | | | | | |
| 32 | 0.58 | 38263 | 38920 | 38019 | 1536142 | 12471.72 | 201.66 | 5607.61 | 868.07 | |
| 33 | COLUMBUS, OHIO | | | | | | | | | |
| 34 | (PORT COLUMBUS INTERNATIONAL) | | | | | | | | | |
| 35 | 0.48 | 28092 | 28388 | 27816 | 1290199 | 5997.71 | 261.12 | 5342.81 | 557.27 | |
| 36 | DAYTON, OHIO | | | | | | | | | |
| 37 | (JAMES M COX DAYTON MUNI) | | | | | | | | | |
| 38 | 0.37 | 24750 | 25236 | 24584 | 979209 | 13495.55 | 203.20 | 3082.69 | 321.30 | |
| 39 | EL PASO, TEXAS | | | | | | | | | |
| 40 | (EL PASO INTERNATIONAL) | | | | | | | | | |
| 41 | 0.30 | 15503 | 15507 | 15395 | 796734 | 7974.30 | 74.49 | 1753.95 | .15 | |
| 42 | GREENSBORO/HIGH PT/WINSTN, N.C. | | | | | | | | | |
| 43 | (GREENSBORO-HIGH PT-WINSTN REG.) | | | | | | | | | |
| 44 | 0.23 | 16068 | 16182 | 15851 | 608383 | 3396.62 | 306.19 | 2346.64 | 42.07 | |
| 45 | (SMITH-REYNOLDS) | | | | | | | | | |
| 46 | 0.02 | 4599 | 4219 | 4079 | 60256 | 256.85 | .04 | 1.95 | | |
| 47 | COMMUNITY TOTAL | 20667 | 20401 | 19930 | 668639 | 3653.47 | 306.23 | 2348.59 | 42.07 | |
| 48 | 0.25 | | | | | | | | | |
| 49 | HARTFD, CON/SPGFLD/WESTFLD, MASS | | | | | | | | | |
| 50 | (BRADLEY INTL) | | | | | | | | | |
| 51 | 0.55 | 30450 | 30916 | 30026 | 1476451 | 16029.02 | 558.35 | 6673.01 | 593.80 | |
| 52 | INDIANAPOLIS, INDIANA | | | | | | | | | |
| 53 | (INDIANAPOLIS MUNI/JANEIR-COOK) | | | | | | | | | |
| 54 | 0.58 | 37458 | 37722 | 36871 | 1556591 | 17619.81 | 428.87 | 8278.46 | 966.80 | |
| 55 | JACKSONVILLE, FLORIDA | | | | | | | | | |
| 56 | (JACKSONVILLE INTERNATIONAL) | | | | | | | | | |
| 57 | 0.31 | 17011 | 17098 | 16886 | 820113 | 2485.93 | 95.88 | 4601.17 | 6.19 | |
| 58 | KAHULUI, MAUI, HAWAII | | | | | | | | | |
| 59 | (KAHULUI) | | | | | | | | | |
| 60 | 0.57 | 20575 | 19123 | 16749 | 1511332 | 2461.56 | | 436.04 | 408.01 | |
| 61 | LIHUE, KAUAI, HAWAII | | | | | | | | | |
| 62 | (LIHUE) | | | | | | | | | |
| 63 | 0.42 | 12667 | 11081 | 9808 | 1117412 | 780.80 | | 254.72 | 184.54 | |
| 64 | LOUISVILLE, KENTUCKY | | | | | | | | | |
| 65 | (STANDIFORD FIELD) | | | | | | | | | |
| 66 | 0.39 | 29197 | 29584 | 28938 | 1051933 | 6069.43 | 175.60 | 4749.20 | 14.10 | |
| 67 | MEMPHIS, TENNESSEE | | | | | | | | | |
| 68 | (MEMPHIS INTERNATIONAL) | | | | | | | | | |
| 69 | 0.88 | 62406 | 63209 | 62037 | 2344531 | 20191.33 | 575.53 | 10182.88 | 243.69 | |
| 70 | MILWAUKEE, WISCONSIN | | | | | | | | | |
| 71 | (GENERAL MITCHELL FIELD) | | | | | | | | | |
| 72 | 0.55 | 35618 | 35574 | 34671 | 1460755 | 9312.99 | 290.95 | 6574.54 | 96.70 | |
| 73 | NASHVILLE, TENNESSEE | | | | | | | | | |
| 74 | (METROPOLITAN) | | | | | | | | | |
| 75 | 0.43 | 31390 | 31760 | 31183 | 1156836 | 8051.67 | 289.95 | 3870.95 | 423.60 | |
| 76 | NORFOLK/VA RCH/PTSMH/CHESPE, VA | | | | | | | | | |
| 77 | (NORFOLK REGIONAL) | | | | | | | | | |
| 78 | 0.33 | 19331 | 19599 | 19221 | 887487 | 1933.51 | 48.08 | 1890.13 | 200.07 | |
| 79 | OKLAHOMA CITY, OKLAHOMA | | | | | | | | | |
| 80 | (WILL ROGERS WORLD) | | | | | | | | | |
| 81 | 0.39 | 25675 | 25970 | 25566 | 1042187 | 4541.64 | 32.96 | 4142.73 | 388.74 | |
| 82 | OMAHA, NEBRASKA | | | | | | | | | |
| 83 | (EPPLEY AIRFIELD) | | | | | | | | | |
| 84 | 0.34 | 22763 | 22813 | 22282 | 918023 | 4123.34 | 166.41 | 5213.39 | 67.61 | |
| 85 | | | | | 31 | | | | | |

TABLE 4.8
 AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
 OPERATIONS, ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS
 12 MONTHS ENDED DECEMBER 31, 1978

| Line No. | Community (Airport Name) Percent of Enplanements | Aircraft departures | | | Enplaned passengers | Enplaned revenue tons | | | | | |
|-------------|--|---------------------|-----------|------------------------|------------------------|-----------------------|-----------|-----------|-------------|-----------------|------|
| | | Total performed | Scheduled | Scheduled completed | | Freight | Express | U.S. Mail | | Foreign mail | |
| | | | | | | | | Priority | Nonpriority | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 1 | ORLANDO, FLORIDA | | | | | | | | | | |
| 2 | (MCCOY AFB) | | | | | | | | | | |
| 3 | 0.92 | 40156 | 40482 | 39562 | 2446984 | 20580.97 | 127.52 | 2864.00 | 115.32 | | |
| 4 | PORTLAND, OREGON | | | | | | | | | | |
| 5 | (PORTLAND INTERNATIONAL) | | | | | | | | | | |
| 6 | 0.77 | 40142 | 40568 | 39736 | 2058535 | 23173.37 | 324.00 | 6197.42 | 678.43 | | |
| 7 | RALFIGH/DURHAM, NORTH CAROLINA | | | | | | | | | | |
| 8 | (RALFIGH-DURHAM) | | | | | | | | | | |
| 9 | 0.30 | 16643 | 16627 | 16398 | 792640 | 4902.79 | 249.55 | 2596.49 | 18.40 | | |
| 10 | RENO, NEVADA | | | | | | | | | | |
| 11 | (RENO INTL) | | | | | | | | | | |
| 12 | 0.38 | 17887 | 18065 | 17732 | 1024232 | 1639.58 | 122.51 | 1306.33 | 2.49 | | |
| 13 | ROCHESTER, NEW YORK | | | | | | | | | | |
| 14 | (ROCHESTER-MONROE COUNTY) | | | | | | | | | | |
| 15 | 0.34 | 21945 | 22639 | 21775 | 901125 | 4617.29 | 184.95 | 3718.50 | 96.96 | | |
| 16 | SACRAMENTO, CALIFORNIA | | | | | | | | | | |
| 17 | (SACRAMENTO METROPOLITAN) | | | | | | | | | | |
| 18 | 0.25 | 11394 | 11471 | 11219 | 667303 | 1429.44 | 76.39 | 2232.05 | | | |
| 19 | SALT LAKE CITY, UTAH | | | | | | | | | | |
| 20 | (SALT LAKE CITY INTL) | | | | | | | | | | |
| 21 | 0.76 | 37966 | 38155 | 37660 | 2022249 | 10682.73 | 175.77 | 6639.40 | 52.66 | | |
| 22 | SAN ANTONIO, TEXAS | | | | | | | | | | |
| 23 | (SAN ANTONIO INTERNATIONAL) | | | | | | | | | | |
| 24 | 0.42 | 23861 | 23916 | 23591 | 1111959 | 6385.03 | 73.95 | 3827.66 | 297.52 | | |
| 25 | SAN DIEGO, CALIFORNIA | | | | | | | | | | |
| 26 | (SAN DIEGO INTL-LINDSEY FLD) | | | | | | | | | | |
| 27 | 0.77 | 28511 | 28655 | 28227 | 2051226 | 9893.88 | 169.61 | 4687.62 | 4.14 | | |
| 28 | SAN JUAN, PUERTO RICO | | | | | | | | | | |
| 29 | (PUERTO RICO INTERNATIONAL) | | | | | | | | | | |
| 30 | 0.75 | 15125 | 14813 | 14359 | 1982531 | 54633.78 | 13.92 | 2985.46 | 427.18 | 7.87 | |
| 31 | SPOKANE, WASHINGTON | | | | | | | | | | |
| 32 | (SPOKANE INTERNATIONAL) | | | | | | | | | | |
| 33 | 0.26 | 13378 | 13503 | 13271 | 695278 | 2468.15 | 57.99 | 1843.39 | 20.96 | | |
| 34 | SYRACUSE, NEW YORK | | | | | | | | | | |
| 35 | (CLARENCE F HANCOCK) | | | | | | | | | | |
| 36 | 0.31 | 15760 | 16158 | 15681 | 831029 | 10016.00 | 158.49 | 2360.03 | 59.62 | | |
| 37 | TUCSON, ARIZONA | | | | | | | | | | |
| 38 | (TUCSON INTL) | | | | | | | | | | |
| 39 | 0.31 | 17346 | 17474 | 17277 | 837498 | 2926.99 | 22.47 | 1375.41 | 7.16 | | |
| 40 | TULSA, OKLAHOMA | | | | | | | | | | |
| 41 | (TULSA INTL) | | | | | | | | | | |
| 42 | 0.36 | 23964 | 24102 | 23801 | 952622 | 6902.31 | 88.75 | 4162.14 | 1152.07 | | |
| 43 | WEST PALM BEACH/PALM BEACH, FLA | | | | | | | | | | |
| 44 | (PALM BEACH INTERNATIONAL) | | | | | | | | | | |
| 45 | 0.33 | 17042 | 17163 | 16908 | 894810 | 1902.06 | 162.03 | 1417.89 | 58.78 | | |
| 46 | OVER-ALL TOTAL, MEDIUM HUBS | 18.06 | 995327 | 1000097 | 975982 | 48163139 | 469073.11 | 7483.96 | 163840.41 | 23364.18 | 8.43 |

TABLE 4.9
 AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
 OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS
 12 MONTHS ENDED DECEMBER 31, 1978

| L i n e No. | Community (Airport Name) Percent of Enplanements | Aircraft departures | | | Enplaned passengers | Enplaned revenue tons | | | | |
|-----------------------------|--|---------------------|-----------|------------------------|------------------------|-----------------------|---------|-----------|-------------|-----------------|
| | | Total performed | Scheduled | Scheduled completed | | Freight | Express | U.S. Mail | | Foreign mail |
| | | | | | | | | Priority | Nonpriority | |
| | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | AKRON/CANTON, OHIO | | | | | | | | | |
| 2 | (AKRON-CANTON) | | | | | | | | | |
| 3 | 0.10 | 7247 | 7411 | 7199 | 284723 | 677.49 | 58.02 | 1104.49 | 1.18 | |
| 4 | | | | | | | | | | |
| 5 | ALLENTOWN/BETHLEHEM/EASTON, PA | | | | | | | | | |
| 6 | (ALLENTOWN-BETHLEHEM-EASTON) | | | | | | | | | |
| 7 | 0.10 | 5196 | 5280 | 5154 | 280296 | 296.67 | 19.44 | 69.35 | 1.21 | |
| 8 | | | | | | | | | | |
| 9 | AMARILLO/BORGER, TEXAS | | | | | | | | | |
| 10 | (AMARILLO AIR TERMINAL) | | | | | | | | | |
| 11 | 0.11 | 7831 | 7998 | 7797 | 294273 | 620.18 | 1.42 | 684.68 | .56 | |
| 12 | | | | | | | | | | |
| 13 | ASHEVILLE, NORTH CAROLINA | | | | | | | | | |
| 14 | (ASHEVILLE MUNI) | | | | | | | | | |
| 15 | 0.06 | 6947 | 7151 | 6920 | 182242 | 499.84 | 3.87 | 241.50 | .90 | |
| 16 | | | | | | | | | | |
| 17 | AUGUSTA, GEORGIA | | | | | | | | | |
| 18 | (BUSH FIELD) | | | | | | | | | |
| 19 | 0.07 | 6049 | 6102 | 5990 | 200535 | 742.70 | 7.85 | 218.11 | | |
| 20 | | | | | | | | | | |
| 21 | AUSTIN, TEXAS | | | | | | | | | |
| 22 | (ROBERT MUELLES MUNI) | | | | | | | | | |
| 23 | 0.19 | 10108 | 10158 | 10047 | 517030 | 1718.97 | 6.79 | 1568.76 | | |
| 24 | | | | | | | | | | |
| 25 | BAKERSFIELD, CALIFORNIA | | | | | | | | | |
| 26 | (MEADOWS FIELD) | | | | | | | | | |
| 27 | 0.05 | 3251 | 3284 | 3193 | 139536 | 244.02 | 21.13 | 48.45 | .11 | |
| 28 | | | | | | | | | | |
| 29 | BANGOR, MAINE | | | | | | | | | |
| 30 | (BANGOR INTERNATIONAL) | | | | | | | | | |
| 31 | 0.05 | 2792 | 2828 | 2759 | 142717 | 730.75 | .76 | 90.50 | | |
| 32 | | | | | | | | | | |
| 33 | BATON ROUGE, LOUISIANA | | | | | | | | | |
| 34 | (RYAN) | | | | | | | | | |
| 35 | 0.09 | 7226 | 7247 | 7127 | 251265 | 447.04 | 9.33 | 89.86 | | |
| 36 | | | | | | | | | | |
| 37 | BILLINGS, MONTANA | | | | | | | | | |
| 38 | (LOGAN FIELD) | | | | | | | | | |
| 39 | 0.10 | 7897 | 8117 | 7859 | 285007 | 770.43 | 4.49 | 1146.04 | 7.16 | |
| 40 | | | | | | | | | | |
| 41 | BOISE, IDAHO | | | | | | | | | |
| 42 | (BOISE AIR TERMINAL/GOWEN FLD) | | | | | | | | | |
| 43 | 0.17 | 10597 | 10620 | 10524 | 459845 | 987.29 | 45.94 | 1300.80 | 7.01 | |
| 44 | | | | | | | | | | |
| 45 | BRISTOL/KINGSPT/JHNSN CTY, TENN | | | | | | | | | |
| 46 | (TRI CITY) | | | | | | | | | |
| 47 | 0.08 | 9567 | 9795 | 9510 | 228945 | 1909.54 | 32.16 | 319.76 | | |
| 48 | | | | | | | | | | |
| 49 | BURLINGTON, VERMONT | | | | | | | | | |
| 50 | (BURLINGTON INTERNATIONAL) | | | | | | | | | |
| 51 | 0.06 | 5261 | 5440 | 5225 | 177830 | 722.96 | 4.28 | 98.13 | | |
| 52 | | | | | | | | | | |
| 53 | CASPER, WYOMING | | | | | | | | | |
| 54 | (CASPER AIR TERMINAL) | | | | | | | | | |
| 55 | 0.05 | 4109 | 4139 | 4052 | 132625 | 665.76 | 4.37 | 71.55 | .06 | |
| 56 | | | | | | | | | | |
| 57 | CEDAR RAPIDS/IOWA CITY, IOWA | | | | | | | | | |
| 58 | (CEDAR RAPIDS MUNI) | | | | | | | | | |
| 59 | 0.09 | 7810 | 7922 | 7721 | 263955 | 1949.65 | 125.99 | 835.10 | .06 | |
| 60 | | | | | | | | | | |
| 61 | CHARLESTON, SOUTH CAROLINA | | | | | | | | | |
| 62 | (CHARLESTON AFB/MUNI) | | | | | | | | | |
| 63 | 0.16 | 10121 | 10178 | 10036 | 444341 | 1321.58 | 60.56 | 628.64 | 15.21 | |
| 64 | | | | | | | | | | |
| 65 | CHARLESTON/DUNBAR, W. VIRGINIA | | | | | | | | | |
| 66 | (KANAWHA) | | | | | | | | | |
| 67 | 0.10 | 8011 | 8458 | 7971 | 270691 | 358.38 | 17.19 | 554.34 | .27 | |
| 68 | | | | | | | | | | |
| 69 | CHARLOTTE AMALIE, VIRGIN IS. US | | | | | | | | | |
| 70 | (HARRY S. TRUMAN) | | | | | | | | | |
| 71 | 0.06 | 3369 | 3352 | 3261 | 174787 | 130.80 | | 69.10 | .72 | |
| 72 | | | | | | | | | | |
| 73 | CHATTANOOGA, TENNESSEE | | | | | | | | | |
| 74 | (LOVELL FIELD) | | | | | | | | | |
| 75 | 0.11 | 9137 | 9164 | 9008 | 307600 | 1702.69 | 57.98 | 1070.03 | 1.25 | |
| 76 | | | | | | | | | | |
| 77 | CHRISTIANSTED, ST. CROIX, V.I., US | | | | | | | | | |
| 78 | (ALEXANDER HAMILTON) | | | | | | | | | |
| 79 | 0.08 | 4308 | 4199 | 4167 | 236587 | 470.81 | | 117.89 | 1.66 | |
| 80 | | | | | | | | | | |
| 81 | COLORADO SPRINGS, COLORADO | | | | | | | | | |
| 82 | (PETERSON FIELD) | | | | | | | | | |
| 83 | 0.10 | 7609 | 7900 | 7499 | 287630 | 1459.59 | 8.71 | 99.51 | | |
| 84 | | | | | | | | | | |
| 85 | COLUMBIA, SOUTH CAROLINA | | | | | | | | | |
| 86 | (COLUMBIA METROPOLITAN) | | | | | | | | | |
| 87 | 0.15 | 10358 | 10444 | 10252 | 415933 | 1475.58 | 118.13 | 1242.76 | 1.22 | |
| 88 | | | | | | | | | | |
| 89 | COLUMBUS, GEORGIA | | | | | | | | | |
| 90 | (COLUMBUS METROPOLITAN) | | | | | | | | | |
| 91 | 0.06 | 5739 | 5780 | 5682 | 171499 | 640.01 | 18.62 | 101.47 | .39 | |
| 92 | | | | | | | | | | |
| 93 | CORPUS CHRISTI, TEXAS | | | | | | | | | |
| 94 | (CORPUS CHRISTI INTERNATIONAL) | | | | | | | | | |
| 95 | 0.07 | 3503 | 3498 | 3454 | 207853 | 487.59 | 18.88 | 152.32 | .39 | |
| 96 | | | | | | | | | | |
| 97 | DAYTONA BEACH, FLORIDA | | | | | | | | | |
| 98 | (DAYTONA BEACH REGIONAL) | | | | | | | | | |
| 99 | 0.12 | 5839 | 5839 | 5761 | 331352 | 779.73 | 11.51 | 1.44 | .01 | |
| 100 | | | | | | | | | | |
| 101 | DES MOINES, IOWA | | | | | | | | | |
| 102 | (DES MOINES MUNI) | | | | | | | | | |
| 103 | 0.24 | 16761 | 16849 | 16512 | 654821 | 2420.95 | 127.15 | 412.42 | 55.64 | |
| 104 | | | | | | | | | | |
| 105 | DULUTH, MINN./SUPERIOR, WIS. | | | | | | | | | |
| 106 | (DULUTH INTERNATIONAL) | | | | | | | | | |
| 107 | 0.05 | 5997 | 6065 | 5903 | 139651 | 947.53 | 1.92 | 153.01 | | |
| 108 | | | | | | | | | | |
| 109 | ERIE, PENNSYLVANIA | | | | | | | | | |
| 110 | (ERIE INTL) | | | | | | | | | |
| 111 | 0.05 | 3514 | 3622 | 3475 | 143232 | 469.99 | 28.01 | 131.56 | | |
| 112 | | | | | | | | | | |
| | | | | | 33 | | | | | |

TABLE 4.9
 AIRCRAFT DEPARTURES, ENPLANED PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
 OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS
 12 MONTHS ENDED DECEMBER 31, 1978

| L i n e No. | Community (Airport Name) Percent of Enplanements | Aircraft departures | | | Enplaned passengers | Enplaned revenue tons | | | | |
|-----------------------------|--|---------------------|-----------|------------------------|------------------------|-----------------------|---------|-----------|-------------|-----------------|
| | | Total performed | Scheduled | Scheduled completed | | Freight | Express | U.S. Mail | | Foreign mail |
| | | | | | | | | Priority | Nonpriority | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | EUGENE, OREGON | | | | | | | | | |
| 2 | (MAHLON SWEET FIELD) | | | | | | | | | |
| 3 | 0.07 | 4495 | 4535 | 4451 | 204607 | 405.22 | 23.17 | 282.67 | .01 | |
| 4 | EVANSVILLE, INDIANA | | | | | | | | | |
| 5 | (EVANSVILLE BRESS REGIONAL) | | | | | | | | | |
| 6 | 0.09 | 5837 | 5942 | 5789 | 249826 | 1731.64 | 101.29 | 165.53 | 1.91 | |
| 7 | | | | | | | | | | |
| 8 | FAIRBANKS, ALASKA | | | | | | | | | |
| 9 | (FAIRBANKS INTERNATIONAL) | | | | | | | | | |
| 10 | 0.08 | 7076 | 6591 | 5945 | 221511 | 401.95 | | 2195.45 | 1934.44 | |
| 11 | | | | | | | | | | |
| 12 | FARGO, N.D./MOORHEAD, MINNESOTA | | | | | | | | | |
| 13 | (HECTER FIELD) | | | | | | | | | |
| 14 | 0.05 | 5250 | 5138 | 5053 | 155639 | 365.87 | 1.63 | 606.82 | 1.67 | |
| 15 | | | | | | | | | | |
| 16 | FAYETTEVILLE, NORTH CAROLINA | | | | | | | | | |
| 17 | (FAYETTEVILLE MUNI/GRANNIS FLD) | | | | | | | | | |
| 18 | 0.06 | 5772 | 5889 | 5758 | 165000 | 628.53 | 3.52 | 153.45 | | |
| 19 | | | | | | | | | | |
| 20 | FLINT, MICHIGAN | | | | | | | | | |
| 21 | (BISHOP) | | | | | | | | | |
| 22 | 0.05 | 4861 | 4991 | 4803 | 140378 | 170.69 | 14.50 | 226.61 | | |
| 23 | | | | | | | | | | |
| 24 | FORY MYERS, FLORIDA | | | | | | | | | |
| 25 | (PAGE FIELD) | | | | | | | | | |
| 26 | 0.12 | 4850 | 4837 | 4783 | 328317 | 856.90 | 23.28 | 8.92 | | |
| 27 | | | | | | | | | | |
| 28 | FORT WAYNE, INDIANA | | | | | | | | | |
| 29 | (MUNICIPAL/BAER FIELD) | | | | | | | | | |
| 30 | 0.09 | 6074 | 6174 | 5977 | 255867 | 2545.66 | 125.52 | 982.51 | .56 | |
| 31 | | | | | | | | | | |
| 32 | FRESNO, CALIFORNIA | | | | | | | | | |
| 33 | (FRESNO AIR TERMINAL) | | | | | | | | | |
| 34 | 0.14 | 5362 | 5400 | 5321 | 374279 | 512.55 | 37.06 | 733.58 | .02 | |
| 35 | | | | | | | | | | |
| 36 | GAINESVILLE, FLORIDA | | | | | | | | | |
| 37 | (GAINESVILLE MUNI) | | | | | | | | | |
| 38 | 0.05 | 1835 | 1839 | 1823 | 141388 | 182.02 | 27.25 | .11 | .43 | |
| 39 | | | | | | | | | | |
| 40 | GRAND JUNCTION, COLORADO | | | | | | | | | |
| 41 | (WALKER FIELD) | | | | | | | | | |
| 42 | 0.06 | 3760 | 3763 | 3680 | 161536 | 389.54 | 24.30 | 139.67 | | |
| 43 | | | | | | | | | | |
| 44 | GRAND RAPIDS, MICHIGAN | | | | | | | | | |
| 45 | (KEM COUNTY) | | | | | | | | | |
| 46 | 0.15 | 12409 | 12583 | 12213 | 421734 | 1847.94 | 79.02 | 968.66 | .59 | |
| 47 | | | | | | | | | | |
| 48 | GREAT FALLS, MONTANA | | | | | | | | | |
| 49 | (GREAT FALLS INTERNATIONAL) | | | | | | | | | |
| 50 | 0.05 | 4603 | 4675 | 4572 | 142263 | 474.03 | 1.05 | 399.81 | 1.97 | |
| 51 | | | | | | | | | | |
| 52 | GREEN BAY/CLINTONVILLE, WIS. | | | | | | | | | |
| 53 | (AUSTIN-STRAUBEL FIELD) | | | | | | | | | |
| 54 | 0.12 | 11045 | 11157 | 10876 | 329402 | 1778.77 | 9.46 | 778.87 | .04 | |
| 55 | | | | | | | | | | |
| 56 | GREENVILLE/SPARTANBURG, S.C. | | | | | | | | | |
| 57 | (GREENVILLE-SPARTANBURG) | | | | | | | | | |
| 58 | 0.12 | 8490 | 8528 | 8310 | 335467 | 1215.57 | 472.90 | 905.06 | 12.16 | |
| 59 | | | | | | | | | | |
| 60 | AGANA NAS, GUAM ISLAND | | | | | | | | | |
| 61 | (AGANA FIELD) | | | | | | | | | |
| 62 | 0.06 | 2543 | 2430 | 2343 | 171473 | 2666.60 | | 1008.22 | 991.47 | 1.11 |
| 63 | | | | | | | | | | |
| 64 | HARRISBURG/PA. | | | | | | | | | |
| 65 | (HARRISBURG INTERNATIONAL) | | | | | | | | | |
| 66 | 0.11 | 6229 | 6381 | 6151 | 315963 | 1163.48 | 3.65 | 770.53 | .01 | |
| 67 | | | | | | | | | | |
| 68 | HILG, HAWAII, HAWAII | | | | | | | | | |
| 69 | (GENERAL LYMAN FIELD) | | | | | | | | | |
| 70 | 0.24 | 9074 | 8666 | 7904 | 659695 | 18179.01 | .02 | 644.99 | 401.73 | |
| 71 | | | | | | | | | | |
| 72 | HUNTSVILLE/DECATUR, ALABAMA | | | | | | | | | |
| 73 | (MADISON COUNTY JETPORT) | | | | | | | | | |
| 74 | 0.10 | 8092 | 8131 | 8032 | 276000 | 1347.61 | 13.99 | 84.98 | 1.29 | |
| 75 | | | | | | | | | | |
| 76 | INDIO/PALM SPRINGS, CALIFORNIA | | | | | | | | | |
| 77 | (PALM SPRINGS MUNI) | | | | | | | | | |
| 78 | 0.07 | 3469 | 3511 | 3444 | 196988 | 184.07 | 3.40 | 2.12 | | |
| 79 | | | | | | | | | | |
| 80 | JACKSON-VICKSBURG, MISS. | | | | | | | | | |
| 81 | (ALLEN C THOMPSON FIELD) | | | | | | | | | |
| 82 | 0.15 | 12776 | 12877 | 12717 | 421072 | 2183.41 | 17.25 | 1347.96 | | |
| 83 | | | | | | | | | | |
| 84 | JUNEAU, ALASKA | | | | | | | | | |
| 85 | (JUNEAU MUNI) | | | | | | | | | |
| 86 | 0.05 | 3042 | 3034 | 3003 | 142961 | 764.09 | | 536.50 | 200.03 | |
| 87 | | | | | | | | | | |
| 88 | KAILUA-KONA, HAWAII, HAWAII | | | | | | | | | |
| 89 | (KE-ANOLE) | | | | | | | | | |
| 90 | 0.21 | 7805 | 6729 | 6110 | 566932 | 1951.34 | | 169.61 | 130.27 | |
| 91 | | | | | | | | | | |
| 92 | KALAMAZOO-BATTLE CREEK, MICH. | | | | | | | | | |
| 93 | (KALAMAZOO MUNI) | | | | | | | | | |
| 94 | 0.05 | 5014 | 5183 | 4969 | 136746 | 350.70 | .50 | 232.62 | | |
| 95 | | | | | | | | | | |
| 96 | KNOXVILLE, TENNESSEE | | | | | | | | | |
| 97 | (MC GHEE LYSON) | | | | | | | | | |
| 98 | 0.18 | 12145 | 12244 | 12037 | 476799 | 3326.99 | 127.33 | 1287.05 | 12.75 | |
| 99 | | | | | | | | | | |
| 100 | LANSING, MICHIGAN | | | | | | | | | |
| 101 | (CAPITAL CITY) | | | | | | | | | |
| 102 | 0.08 | 8170 | 8324 | 8072 | 223243 | 449.08 | 25.03 | 556.72 | .19 | |
| 103 | | | | | | | | | | |
| 104 | LEXINGTON/FRANKFORT, KENTUCKY | | | | | | | | | |
| 105 | (BLUE GRASS) | | | | | | | | | |
| 106 | 0.12 | 8342 | 8525 | 8284 | 325363 | 1811.06 | 139.32 | 412.45 | .78 | |
| 107 | | | | | | | | | | |
| 108 | LINCOLN, NEBRASKA | | | | | | | | | |
| 109 | (LINCOLN MUNI) | | | | | | | | | |
| 110 | 0.08 | 9168 | 9296 | 9053 | 230346 | 945.20 | 18.66 | 563.30 | 3.11 | |
| 111 | | | | | | | | | | |
| 112 | | | | | 34 | | | | | |

TABLE 4.9
 AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
 OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS
 12 MONTHS ENDED DECEMBER 31, 1978

| Line No. | Community (Airport Name) Percent of Enplanements | Aircraft departures | | | Enplaned passengers | Enplaned revenue tons | | | | |
|----------|---|---------------------|-----------|---------------------|---------------------|-----------------------|---------|-----------|-------------|--------------|
| | | Total performed | Scheduled | Scheduled completed | | Freight | Express | U.S. Mail | | Foreign mail |
| | | | | | | | | Priority | Nonpriority | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 1 | LITTLE ROCK, ARKANSAS (ADAMS FIELD) 0.21 | 13336 | 13494 | 13255 | 555942 | 2606.70 | 96.52 | 1752.41 | 2.01 | |
| 4 | LUBBOCK, TEXAS (LUBBOCK REGIONAL) 0.10 | 6843 | 7062 | 6786 | 273008 | 1745.35 | 8.86 | 460.21 | | |
| 8 | MADISON, WISCONSIN (TRUAK FIELD) 0.13 | 11077 | 11136 | 10881 | 356601 | 1564.20 | 7.52 | 423.19 | | |
| 13 | MIAMI BEACH, FLORIDA (CAPE KENNEDY REGIONAL) 0.07 | 4342 | 4367 | 4309 | 193022 | 433.75 | 22.25 | .97 | 1.04 | |
| 16 | MIDLAND/ODESSA, TEXAS (MIDLAND REGIONAL) 0.10 | 6445 | 6539 | 6412 | 281449 | 1548.03 | 5.64 | 452.55 | | |
| 20 | MOBILE, AL/PASCAGOULA, MISS (RAFS FIELD) 0.13 | 10324 | 10389 | 10228 | 343543 | 595.89 | 83.03 | 477.57 | .62 | |
| 24 | MOLINE, ILLINOIS/DAVENPORT, IOWA (QUAD-CITY) 0.12 | 10865 | 10958 | 10715 | 340967 | 753.16 | 31.61 | 862.65 | | |
| 28 | MONTGOMERY, ALABAMA (DANNELLY FIELD) 0.09 | 7327 | 7344 | 7263 | 237937 | 726.51 | 38.18 | 286.07 | .95 | |
| 32 | NEWPT NEW/HAMPTN/WILBG/YKTN,VA (PATRICK HENRY) 0.06 | 4857 | 4935 | 4825 | 168020 | 447.44 | 54.52 | 3.77 | | |
| 36 | ONTARIO/SAN BERNARD/RIVERSE,CA (ONTARIO INTERNATIONAL) 0.21 | 11081 | 11163 | 10944 | 554855 | 1858.71 | 41.71 | 8.14 | 15.43 | |
| 40 | PENSACOLA, FLORIDA (PENSACOLA REGIONAL) 0.08 | 4341 | 4422 | 4310 | 235500 | 482.74 | 13.23 | 856.27 | 2.81 | |
| 44 | PEORIA, ILLINOIS (GREATER PEORIA) 0.10 | 9885 | 10041 | 9791 | 271999 | 1187.02 | 1.43 | 739.01 | | |
| 48 | PORTLAND, MAINE (PORTLAND INTERNATIONAL AIRPORT) 0.09 | 6204 | 6452 | 6109 | 239425 | 1149.60 | 14.40 | 316.39 | | |
| 52 | PROVIDENCE, RHODE ISLAND (THEODORE FRANCIS GREEN STATE) 0.18 | 10737 | 11111 | 10654 | 500144 | 2168.80 | 70.73 | 1799.19 | 3.87 | |
| 56 | RAPID CITY, SOUTH DAKOTA (RAPID CITY REGIONAL) 0.05 | 5555 | 5619 | 5522 | 151741 | 298.50 | 2.39 | 259.95 | 1.34 | |
| 60 | RICHMOND, VIRGINIA (RICHARD E BYRD FLYING FIELD) 0.21 | 15460 | 15673 | 15307 | 567816 | 1444.25 | 42.28 | 1009.56 | 1.14 | |
| 64 | ROANOKE, VIRGINIA (ROANOKE MUNI) 0.14 | 14311 | 14919 | 14235 | 392082 | 1635.59 | 9.08 | 326.61 | .07 | |
| 68 | ROCHESTER, MINNESOTA (ROCHESTER MUNI) 0.05 | 6214 | 6241 | 6067 | 150469 | 239.79 | 8.32 | 56.16 | | |
| 72 | SAGINAW/BAY CITY/MIDLAND, MICH. (TRI CITY) 0.08 | 5907 | 6044 | 5858 | 226895 | 502.94 | 35.63 | 208.19 | | |
| 76 | SALINAS/MONTEREY, CALIFORNIA (PENINSULA) 0.09 | 4537 | 4612 | 4524 | 244255 | 304.63 | 23.49 | 5.38 | | |
| 80 | SAN JOSE, CALIFORNIA (SAN JOSE MUNI) 0.22 | 11482 | 11505 | 11335 | 588448 | 4960.25 | 50.31 | 817.09 | 9.36 | |
| 84 | SANTA BARBARA CALIFORNIA (SANTA BARBARA) 0.06 | 2849 | 2992 | 2839 | 165782 | 210.47 | 22.55 | 39.68 | .13 | |
| 88 | (SANTA MARTA PUBLIC) 0.00 | 692 | 746 | 689 | 19056 | 23.70 | .12 | | | |
| 92 | COMMUNITY TOTAL 0.06 | 3541 | 3738 | 3528 | 184838 | 234.17 | 22.67 | 39.68 | .13 | |
| 96 | SARASOTA/BRADENTON, FLORIDA (SARASOTA-BRADENTON) 0.16 | 7914 | 7967 | 7855 | 443366 | 927.92 | 45.26 | 1.38 | .10 | |
| 100 | SAVANNAH, GEORGIA (SAVANNAH MUNI) 0.13 | 5386 | 5426 | 5366 | 346096 | 551.25 | 6.91 | 186.70 | | |
| 104 | SCRANTON/WILKES-BARRE, PENNA. (WILKES-BARRE-SCRANTON) 0.06 | 3668 | 3761 | 3635 | 167096 | 290.46 | 3.91 | 68.96 | 3.59 | |
| 108 | SHREVEPORT, LOUISIANA (GREATER SHREVEPORT MUNI) 0.16 | 13119 | 13255 | 13066 | 428352 | 1658.42 | 17.79 | 964.82 | | |
| 112 | STOUX FALLS, SOUTH DAKOTA (JOE FOSS FIELD) 0.10 | 11736 | 11771 | 11501 | 280822 | 1075.28 | 4.80 | 1048.37 | 2.32 | |

TABLE 4.9
 AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS, AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL
 OPERATIONS, ALL SERVICES AT SMALL AIR TRAFFIC HUBS
 12 MONTHS ENDED DECEMBER 31, 1978

| L i n e No. | Community (Airport Name) Percent of Enplanements | Aircraft departures | | | Enplaned passengers | Enplaned revenue tons | | | | | |
|-----------------------------|--|---------------------|-----------|------------------------|------------------------|-----------------------|-----------|-----------|-------------|-----------------|------|
| | | Total performed | Scheduled | Scheduled completed | | Freight | Express | U.S. Mail | | Foreign mail | |
| | | | | | | | | Priority | Nonpriority | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 1 | SOUTH BEND, INDIANA | | | | | | | | | | |
| 2 | (ST JOSEPH COUNTY) | | | | | | | | | | |
| 3 | 0.08 | 6293 | 6498 | 6198 | 232397 | 946.75 | 94.72 | 360.49 | | | |
| 4 | SPRINGFIELD, MISSOURI | | | | | | | | | | |
| 5 | (SPRINGFIELD MUNI) | | | | | | | | | | |
| 6 | 0.07 | 6966 | 7060 | 6928 | 185864 | 648.87 | .52 | 75.07 | | | |
| 7 | TALLAHASSEE, FLORIDA | | | | | | | | | | |
| 8 | (TALLAHASSEE MUNI) | | | | | | | | | | |
| 9 | 0.08 | 6277 | 6357 | 6235 | 236790 | 379.66 | 48.97 | 342.63 | 104.28 | | |
| 10 | TOLEDO, OHIO | | | | | | | | | | |
| 11 | (TOLEDO EXPRESS) | | | | | | | | | | |
| 12 | 0.12 | 7703 | 7872 | 7658 | 336728 | 751.21 | 25.33 | 1180.96 | .04 | | |
| 13 | WICHITA, KANSAS | | | | | | | | | | |
| 14 | (WICHITA MUNI) | | | | | | | | | | |
| 15 | 0.21 | 17364 | 17622 | 17234 | 572032 | 3141.82 | 105.46 | 2853.40 | 9.06 | | |
| 16 | YOUNGSTOWN, OHIO | | | | | | | | | | |
| 17 | (YOUNGSTOWN MUNI) | | | | | | | | | | |
| 18 | 0.05 | 3960 | 4085 | 3894 | 137397 | 212.99 | 14.09 | 101.09 | .03 | | |
| 19 | OVER-ALL TOTAL | | | | | | | | | | |
| 20 | SMALL HUBS | 9.31 | 658847 | 665651 | 647966 | 25823492 | 115568.69 | 3159.16 | 51431.22 | 3948.63 | 1.11 |
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TABLE 4.10

DOMESTIC INTERCITY PASSENGER-MILES BY MODE OF TRAVEL AND CLASS OF SERVICE: 1969 THROUGH 1978
(In Millions)

| Mode and Class | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---------------------|------------------|
| Total | <u>1,105,469</u> | <u>1,161,625</u> | <u>1,207,341</u> | <u>1,277,070</u> | <u>1,323,770</u> | <u>1,232,924</u> | <u>1,285,379</u> | <u>1,363,218</u> | <u>1,433,920(r)</u> | <u>1,518,125</u> |
| Total common carrier | <u>128,469</u> | <u>135,625</u> | <u>136,341</u> | <u>148,070</u> | <u>157,770</u> | <u>161,924</u> | <u>162,379</u> | <u>176,218</u> | <u>188,020(r)</u> | <u>213,625</u> |
| Scheduled air carrier ¹ | 95,946 | 104,146 | 106,438 | 118,138 | 126,317 | 128,425 | 131,728 | 145,271 | 156,610 | 182,669 |
| Regular service | 20,186 | 19,797 | 19,370 | 21,956 | 23,564 | 24,602 | 23,622 | 24,400 | 25,441 | 29,665 |
| Coach service | 75,760 | 84,349 | 87,068 | 96,182 | 102,753 | 103,823 | 108,106 | 120,871 | 131,169 | 153,004 |
| Class I line-haul railways | 7,623 | 6,179 | 4,403 | 4,332 | 5,053 | 5,799 | 5,251 | 5,847 | 5,710 | 5,556 |
| First-class service | 1,021 | 765 | 516 | 520 | 583 | 613 | 502 | 570 | 524 | 467 |
| Coach service | 6,602 | 5,414 | 3,887 | 3,812 | 4,470 | 5,186 | 4,749 | 5,277 | 5,186 | 5,089 |
| Motor carriers ³ Class I, II, III | 24,900 | 25,300 | 25,500 | 25,600 | 26,400 | 27,700 | 25,400 | 25,100 | 25,700(r) | 25,400 |
| Private automobiles ⁴ | <u>977,000</u> | <u>1,026,000</u> | <u>1,071,000</u> | <u>1,129,000</u> | <u>1,166,000</u> | <u>1,071,000</u> | <u>1,123,000</u> | <u>1,187,000</u> | <u>1,245,900(r)</u> | <u>1,304,500</u> |
| Percent air to total | 8.7 | 9.0 | 8.8 | 9.3 | 9.5 | 10.4 | 10.3 | 10.6 | 10.9 | 12.0 |
| Percent air to total common carrier | 74.7 | 76.8 | 78.1 | 79.8 | 80.1 | 79.3 | 81.1 | 82.4 | 83.3 | 85.5 |
| Percent total rail to air | 7.9 | 5.9 | 4.1 | 3.7 | 4.0 | 4.5 | 4.0 | 4.0 | 3.6 | 3.0 |
| Percent first-class rail to total air | 1.0 | 0.7 | 0.5 | 0.4 | 0.5 | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 |

1 Scheduled operations of domestic trunk and local service carriers.

2 Includes Pullman Company and excludes commutation.

3 Excludes intrastate and other local movements. Series revised to include Alaska and Hawaii.

4 Series revised to include Alaska and Hawaii.

(r) Revised

Source: Interstate Commerce Commission, Bureau of Economics; Bureau of Accounts and Statistics, CAB; and Transportation Facts and Trends, July 1978.

V. U.S. CIVIL AIR CARRIER FLEET

Data pertaining to the U.S. civil air carrier fleet are obtained from the Monthly Aircraft/Engine Utilization Reports submitted by the air carrier operators. The U.S. air carrier fleet (for these statistics) is comprised of: (1) certificated route air carriers, (2) supplemental carriers, and (3) commercial operators of large aircraft.

TABLE 5.1

COMPOSITION OF THE U.S. AIR CARRIER FLEET BY TYPE OF AIRCRAFT AND NUMBER OF ENGINES: DECEMBER 31, 1978 THROUGH 1983 AND 1989*

| Type of Aircraft | Dec. 31 1978 | Forecast Air Carrier Fleet: December 31 | | | | | |
|----------------------------|-----------------|---|-------|-------|-------|-------|-------|
| | | 1979 | 1980 | 1981 | 1982 | 1983 | 1989 |
| Total | 2,545 | 2,581 | 2,620 | 2,668 | 2,716 | 2,764 | 3,049 |
| Fixed-wing aircraft--total | 2,542 | 2,577 | 2,615 | 2,663 | 2,710 | 2,758 | 3,041 |
| Turbojet | 2,237 | 2,310 | 2,366 | 2,432 | 2,497 | 2,563 | 2,960 |
| 2-engine | 582 | 643 | 703 | 769 | 836 | 906 | 1,069 |
| 3-engine | 1,146 | 1,178 | 1,210 | 1,230 | 1,238 | 1,277 | 1,476 |
| 4-engine | 509 | 489 | 453 | 433 | 403 | 380 | 415 |
| Turboprop | 240 | 217 | 207 | 197 | 187 | 177 | 81 |
| 2-engine | 173 | 166 | 160 | 154 | 148 | 142 | 61 |
| 4-engine | 67 | 51 | 47 | 43 | 39 | 35 | 20 |
| Piston | 65 | 50 | 42 | 34 | 26 | 18 | -- |
| 1- and 2-engine | 23 | 26 | 24 | 22 | 20 | 18 | -- |
| 4-engine | 42 | 24 | 18 | 12 | 6 | -- | -- |
| Rotary-wing--total | 3 | 4 | 5 | 6 | 6 | 6 | 8 |
| Turbine | 3 | 4 | 5 | 6 | 6 | 6 | 8 |
| Piston | -- | -- | -- | -- | -- | -- | -- |

*Does not include aircraft operated by air taxi operators who hold authority to operate aircraft over 12,500 pounds, turbojet aircraft under blanket authority or aircraft operated by air travel clubs. These aircraft are shown in separate tables.

NOTE: Included in the forecast are all passenger and cargo aircraft owned or leased by and in the domestic or international service of the United States certified route, supplemental, intrastate, and commercial air carriers. Aircraft used for training and aircraft that have been withdrawn from service and are awaiting disposal are not included here.

Source: Aviation Forecast: Fiscal Years 1979 through 1990, Aviation Forecast Branch, Office of Aviation Economics, Federal Aviation Administration, Department of Transportation.

TABLE 5.2
 COMPOSITION OF U.S. AIR CARRIER FLEET BY TYPE OF AIRCRAFT:
 DECEMBER 1969 THROUGH 1978*

| Year | Total | Fixed-wing Aircraft | | | | | Rotary-Wing Aircraft | | |
|------|-------|---------------------|---------|----------|-----------|--------|----------------------|---------|--------|
| | | Total Fixed-Wing | Turbine | | | Piston | Total Rotary-Wing | Turbine | Piston |
| | | | Total | Turbojet | Turboprop | | | | |
| 1969 | 2,690 | 2,672 | 2,448 | 2,068 | 380 | 224 | 18 | 15 | 3 |
| 1970 | 2,679 | 2,663 | 2,510 | 2,136 | 374 | 153 | 16 | 13 | 3 |
| 1971 | 2,642 | 2,628 | 2,482 | 2,132 | 350 | 146 | 14 | 11 | 3 |
| 1972 | 2,583 | 2,569 | 2,436 | 2,118 | 318 | 133 | 14 | 11 | 3 |
| 1973 | 2,599 | 2,586 | 2,449 | 2,145 | 304 | 137 | 13 | 10 | 3 |
| 1974 | 2,472 | 2,462 | 2,344 | 2,078 | 266 | 118 | 10 | 10 | --- |
| 1975 | 2,495 | 2,488 | 2,374 | 2,114 | 260 | 114 | 7 | 7 | --- |
| 1976 | 2,492 | 2,487 | 2,384 | 2,139 | 245 | 103 | 5 | 4 | 1 |
| 1977 | 2,473 | 2,470 | 2,402 | 2,168 | 234 | 68 | 3 | 3 | --- |
| 1978 | 2,545 | 2,542 | 2,477 | 2,237 | 240 | 65 | 3 | 3 | --- |

*Includes only those aircraft used during the last quarter. Does not include aircraft operated by air taxi operators who hold authority to operate aircraft over 12,500 pounds, turbojet aircraft under blanket authority, or aircraft operated by air travel clubs. These aircraft are shown on separate tables.

TABLE 5.3

TOTAL AIRCRAFT IN OPERATION BY THE U.S. AIR CARRIER FLEET BY TYPE OF CARRIER AND BY TYPE OF AIRCRAFT: DECEMBER 1977 AND 1978*

| Type of Aircraft | All Air Carriers | | Certificated Route Air Carriers | | Supplemental Air Carriers | | Commercial Operators | |
|------------------------|------------------|--------------|---------------------------------|--------------|---------------------------|------------|----------------------|------------|
| | 1977 | 1978 | 1977 | 1978 | 1977 | 1978 | 1977 | 1978 |
| Total | <u>2,473</u> | <u>2,545</u> | <u>2,234</u> | <u>2,348</u> | <u>78</u> | <u>74</u> | <u>161</u> | <u>123</u> |
| Fixed-wing--total | <u>2,470</u> | <u>2,542</u> | <u>2,231</u> | <u>2,345</u> | <u>78</u> | <u>74</u> | <u>161</u> | <u>123</u> |
| Turbine powered--total | <u>2,402</u> | <u>2,477</u> | <u>2,220</u> | <u>2,339</u> | <u>72</u> | <u>68</u> | <u>110</u> | <u>70</u> |
| Turbojet--total | <u>2,168</u> | <u>2,237</u> | <u>2,064</u> | <u>2,184</u> | <u>44</u> | <u>35</u> | <u>60</u> | <u>18</u> |
| 4-engine | <u>544</u> | <u>509</u> | <u>500</u> | <u>465</u> | <u>36</u> | <u>26</u> | <u>8</u> | <u>18</u> |
| 3-engine | <u>1,069</u> | <u>1,146</u> | <u>1,035</u> | <u>1,140</u> | <u>5</u> | <u>6</u> | <u>29</u> | <u>---</u> |
| 2-engine | <u>555</u> | <u>582</u> | <u>529</u> | <u>579</u> | <u>3</u> | <u>3</u> | <u>23</u> | <u>---</u> |
| Turboprop--total | <u>234</u> | <u>240</u> | <u>156</u> | <u>155</u> | <u>28</u> | <u>33</u> | <u>50</u> | <u>52</u> |
| 4-engine | <u>60</u> | <u>67</u> | <u>6</u> | <u>9</u> | <u>23</u> | <u>26</u> | <u>31</u> | <u>32</u> |
| 2-engine | <u>174</u> | <u>173</u> | <u>150</u> | <u>146</u> | <u>5</u> | <u>7</u> | <u>19</u> | <u>20</u> |
| Piston-powered--total | <u>68</u> | <u>65</u> | <u>11</u> | <u>6</u> | <u>6</u> | <u>6</u> | <u>51</u> | <u>53</u> |
| 4-engine | <u>33</u> | <u>42</u> | <u>---</u> | <u>---</u> | <u>2</u> | <u>3</u> | <u>31</u> | <u>39</u> |
| 2-engine | <u>34</u> | <u>21</u> | <u>11</u> | <u>4</u> | <u>4</u> | <u>3</u> | <u>19</u> | <u>14</u> |
| 1-engine | <u>1</u> | <u>2</u> | <u>---</u> | <u>2</u> | <u>---</u> | <u>---</u> | <u>1</u> | <u>---</u> |
| Rotary-wing--total | <u>3</u> | <u>3</u> | <u>3</u> | <u>3</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> |
| Turbine-powered | <u>3</u> | <u>3</u> | <u>3</u> | <u>3</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> |
| Piston-powered | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> |

*Does not include aircraft operated by air taxi operators who hold authority to operate aircraft over 12,500 pounds, turbojet aircraft under blanket authority or aircraft operated by air travel clubs. These aircraft are shown in separate tables.

TABLE 5.4

COMPOSITION OF U.S. AIR CARRIER FLEET BY TYPE OF AIRCRAFT,
NUMBER OF ENGINES, AND MODEL: DECEMBER 31, 1977 and 1978*

| Type of Aircraft Number of Engines and Model | 1978 | 1977 | Type of Aircraft Number of Engines and Model | 1977 | 1978 |
|--|--------------|--------------|--|-----------|------------|
| Total aircraft | <u>2,545</u> | <u>2,473</u> | DeHavilland DHC6 | 13 | 14 |
| Fixed-wing aircraft--total | <u>2,542</u> | <u>2,470</u> | Fairchild F27 | 7 | 4 |
| Turbine-powered--total | <u>2,477</u> | <u>2,402</u> | Fairchild F227 | 23 | 22 |
| 4-engine--total | <u>576</u> | <u>604</u> | Grumman G159 | 1 | 1 |
| Turbojet--total | <u>509</u> | <u>544</u> | Hawker Siddley HS748 | 1 | 1 |
| Boeing 707 | <u>201</u> | <u>225</u> | Nihon YS11 | 19 | 23 |
| Boeing 720 | 14 | 18 | Nord ND262 | 9 | 5 |
| Boeing 747 | 115 | 108 | Swearingen SA226 | 8 | 6 |
| Douglas DC8 | 178 | 193 | Short SHD330 | 1 | --- |
| Lockheed L1329 | 1 | --- | Piston-powered--total | <u>65</u> | <u>68</u> |
| Turboprop--total | <u>67</u> | <u>60</u> | 4-engine--total | <u>42</u> | <u>33</u> |
| Lockheed L188 | <u>46</u> | <u>40</u> | Douglas DC4 | <u>2</u> | <u>1</u> |
| Lockheed L382 | 21 | 20 | Douglas DC6 | 39 | 30 |
| 3-engine--total | <u>1,146</u> | <u>1,069</u> | Douglas DC7 | --- | 1 |
| Boeing 727 | <u>931</u> | <u>865</u> | Lockheed L1049 | 1 | 1 |
| Douglas DC10 | 133 | 127 | 2-engine--total | <u>21</u> | <u>34</u> |
| Lockheed 1011 | 82 | 77 | Cessna C402 | <u>1</u> | <u>---</u> |
| 2-engine--total | <u>755</u> | <u>729</u> | Convair CV340/440 | --- | 6 |
| Turbojet--total | <u>582</u> | <u>555</u> | Curtiss Wright CW46 | 10 | 15 |
| Airbus A300 | <u>6</u> | <u>2</u> | DeHavilland DHC4 | 2 | --- |
| Boeing 737 | 173 | 160 | Douglas DC3 | 2 | 3 |
| British Aircraft Corp. BAC111 | 30 | 31 | Fairchild C82 | 2 | 2 |
| Douglas DC9 | 373 | 362 | Grumman G21 | 1 | --- |
| Turboprop--total | <u>173</u> | <u>174</u> | Martin M404 | 3 | 8 |
| Convair CV580 | <u>69</u> | <u>76</u> | 1-engine--total | <u>2</u> | <u>1</u> |
| Convair CV600 | 8 | 8 | Cessna C185 | --- | 1 |
| Convair CV640 | 14 | 14 | Cessna C206 | 1 | --- |
| | | | Cessna C207 | 1 | --- |
| | | | Rotary-wing aircraft--total | <u>3</u> | <u>3</u> |
| | | | Turbine-powered--total | <u>3</u> | <u>3</u> |
| | | | Sikorsky S61 | <u>3</u> | <u>3</u> |

*Includes only those aircraft used during the last quarter. Does not include aircraft operated by air taxi operators who hold authority to operate aircraft over 12,500 pounds, turbojet aircraft under blanket authority or aircraft operated by air travel clubs. These aircraft are shown in separate tables.

TABLE 5.5

AIRCRAFT IN OPERATION BY CERTIFICATED ROUTE AIR CARRIERS BY TYPE OF AIRCRAFT AND NUMBER OF ENGINES: DECEMBER 1969 THROUGH 1978*

| Type of Aircraft | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Total | <u>2,423</u> | <u>2,437</u> | <u>2,389</u> | <u>2,361</u> | <u>2,361</u> | <u>2,244</u> | <u>2,267</u> | <u>2,271</u> | <u>2,234</u> | <u>2,348</u> |
| Fixed-wing--total | <u>2,405</u> | <u>2,421</u> | <u>2,375</u> | <u>2,347</u> | <u>2,348</u> | <u>2,234</u> | <u>2,260</u> | <u>2,266</u> | <u>2,231</u> | <u>2,345</u> |
| 4-engine | <u>919</u> | <u>951</u> | <u>879</u> | <u>793</u> | <u>735</u> | <u>612</u> | <u>578</u> | <u>556</u> | <u>506</u> | <u>474</u> |
| Turbojet | 840 | 891 | 847 | 768 | 712 | 594 | 561 | 533 | 500 | 465 |
| Turboprop | 61 | 55 | 29 | 22 | 20 | 17 | 16 | 21 | 6 | 9 |
| Piston | 18 | 5 | 3 | 3 | 3 | 1 | 1 | 2 | --- | --- |
| 3-engine | <u>605</u> | <u>631</u> | <u>651</u> | <u>738</u> | <u>844</u> | <u>893</u> | <u>961</u> | <u>992</u> | <u>1,035</u> | <u>1,140</u> |
| 2-engine | <u>870</u> | <u>825</u> | <u>831</u> | <u>803</u> | <u>754</u> | <u>717</u> | <u>714</u> | <u>708</u> | <u>690</u> | <u>729</u> |
| Turbojet | 528 | 519 | 530 | 522 | 500 | 501 | 500 | 518 | 529 | 579 |
| Turboprop | 261 | 256 | 255 | 234 | 218 | 184 | 177 | 159 | 150 | 146 |
| Piston | 81 | 50 | 46 | 47 | 36 | 32 | 37 | 31 | 11 | 4 |
| 1-engine | <u>11</u> | <u>14</u> | <u>14</u> | <u>13</u> | <u>15</u> | <u>12</u> | <u>7</u> | <u>10</u> | <u>---</u> | <u>2</u> |
| Turboprop | <u>5</u> | <u>5</u> | <u>3</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> |
| Piston | 6 | 9 | 11 | 13 | 15 | 12 | 7 | 10 | --- | 2 |
| Rotary-wing--total | <u>18</u> | <u>16</u> | <u>14</u> | <u>14</u> | <u>13</u> | <u>10</u> | <u>7</u> | <u>5</u> | <u>3</u> | <u>3</u> |
| Turbine | 15 | 13 | 11 | 11 | 10 | 10 | 7 | 4 | 3 | 3 |
| Piston | 3 | 3 | 3 | 3 | 3 | --- | --- | 1 | --- | --- |

*Excludes aircraft not used in air carrier operations (such as those used for crew training and general utility purposes and aircraft held for disposal).

TABLE 5.6

AIRCRAFT IN OPERATION BY CERTIFICATED ROUTE AIR CARRIERS BY MANUFACTURER AND MODEL
DECEMBER 31, 1969 THROUGH 1978*

| Aircraft Make and Model | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Total | <u>2,423</u> | <u>2,437</u> | <u>2,389</u> | <u>2,361</u> | <u>2,361</u> | <u>2,244</u> | <u>2,267</u> | <u>2,271</u> | <u>2,234</u> | <u>2,348</u> |
| Turbojet--4-engine--total | <u>840</u> | <u>891</u> | <u>847</u> | <u>768</u> | <u>712</u> | <u>594</u> | <u>561</u> | <u>533</u> | <u>500</u> | <u>465</u> |
| Boeing 707 | 417 | 399 | 359 | 337 | 315 | 281 | 264 | 240 | 244 | 198 |
| Boeing 720 | 127 | 115 | 106 | 56 | 44 | 30 | 23 | 18 | 15 | 10 |
| Boeing 747 | 1 | 79 | 104 | 105 | 109 | 108 | 97 | 104 | 107 | 115 |
| Convair 880 | 41 | 41 | 41 | 41 | 37 | --- | --- | --- | --- | --- |
| Douglas DC8 | 254 | 257 | 236 | 227 | 207 | 180 | 177 | 171 | 154 | 142 |
| Lockheed L1329 | --- | --- | 1 | 1 | --- | --- | --- | --- | --- | --- |
| Turbojet--3-engine--total | <u>605</u> | <u>631</u> | <u>651</u> | <u>738</u> | <u>844</u> | <u>893</u> | <u>961</u> | <u>992</u> | <u>1,035</u> | <u>1,140</u> |
| Boeing 727 | 605 | 631 | 638 | 662 | 710 | 724 | 765 | 793 | 836 | 931 |
| Douglas DC10 | --- | --- | 13 | 59 | 86 | 103 | 121 | 122 | 122 | 127 |
| Lockheed L1011 | --- | --- | --- | 17 | 48 | 66 | 76 | 77 | 77 | 82 |
| Turbojet--2-engine--total | <u>528</u> | <u>519</u> | <u>530</u> | <u>522</u> | <u>500</u> | <u>501</u> | <u>500</u> | <u>518</u> | <u>529</u> | <u>579</u> |
| Airbus A300 | --- | --- | --- | --- | --- | --- | --- | --- | 2 | 6 |
| BAC111 | 60 | 59 | 58 | 58 | 31 | 36 | 30 | 31 | 31 | 30 |
| Boeing 737 | 132 | 133 | 133 | 134 | 134 | 136 | 133 | 138 | 141 | 173 |
| Dassault MD20 | --- | --- | 5 | 1 | --- | --- | --- | --- | --- | --- |
| Douglas DC9 | 316 | 327 | 334 | 329 | 335 | 329 | 337 | 349 | 355 | 370 |
| Sud Caravelle | 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Turboprop--4-engine--total | <u>61</u> | <u>55</u> | <u>29</u> | <u>22</u> | <u>20</u> | <u>17</u> | <u>16</u> | <u>21</u> | <u>6</u> | <u>9</u> |
| Canadair CL44 | 9 | 8 | 1 | --- | --- | --- | --- | --- | --- | --- |
| Lockheed L188 | 40 | 36 | 24 | 19 | 19 | 17 | 16 | 21 | 6 | 9 |
| Lockheed L382 | 9 | 8 | 4 | 3 | 1 | --- | --- | --- | --- | --- |
| Vickers Viscount | 3 | 3 | --- | --- | --- | --- | --- | --- | --- | --- |
| Turboprop--2-engine--total | <u>266</u> | <u>261</u> | <u>258</u> | <u>234</u> | <u>218</u> | <u>184</u> | <u>177</u> | <u>159</u> | <u>150</u> | <u>146</u> |
| Beech BE99 | --- | 3 | 5 | 1 | --- | --- | 3 | 3 | --- | --- |
| Convair CV580/640 | 143 | 118 | 115 | 110 | 105 | 89 | 69 | 69 | 68 | 60 |
| Convair 600 | --- | 24 | 22 | 25 | 24 | 16 | 19 | 12 | 8 | 8 |
| DeHavilland DHC6 | 9 | 6 | 8 | 13 | 9 | 8 | 21 | 18 | 14 | 13 |
| Fairchild FH227 | 53 | 47 | 48 | 32 | 31 | 33 | 29 | 27 | 22 | 23 |
| Fairchild FH27 | 36 | 35 | 34 | 29 | 24 | 15 | 10 | 7 | 4 | 5 |
| Nihon YS11 | 17 | 21 | 21 | 22 | 23 | 21 | 23 | 23 | 23 | 19 |
| Nord ND262 | --- | --- | --- | --- | --- | --- | --- | --- | 5 | 9 |
| Pilatus PC6A, 6B | 5 | 5 | 3 | --- | --- | --- | --- | --- | --- | --- |
| Short SC7 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | --- | --- | --- |
| Short SHD330 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| Swearingen SA226 | --- | --- | --- | --- | --- | --- | --- | --- | 6 | 8 |
| Piston--4-engine--total | <u>18</u> | <u>5</u> | <u>3</u> | <u>3</u> | <u>3</u> | <u>1</u> | <u>1</u> | <u>2</u> | --- | --- |
| Douglas DC6, 6A, 6B | 7 | 3 | 3 | 3 | 3 | 1 | 1 | 2 | --- | --- |
| Douglas DC7, 7B, 7C | 10 | 2 | --- | --- | --- | --- | --- | --- | --- | --- |
| Lockheed L1049 | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Piston--2-engine--total | <u>81</u> | <u>50</u> | <u>46</u> | <u>47</u> | <u>36</u> | <u>32</u> | <u>37</u> | <u>31</u> | <u>11</u> | <u>4</u> |
| Piston--1-engine--total | <u>6</u> | <u>9</u> | <u>11</u> | <u>13</u> | <u>15</u> | <u>12</u> | <u>7</u> | <u>10</u> | --- | <u>2</u> |
| Helicopters--total | <u>18</u> | <u>16</u> | <u>14</u> | <u>14</u> | <u>13</u> | <u>10</u> | <u>7</u> | <u>5</u> | <u>3</u> | <u>3</u> |

*Aircraft not used in air carrier operations, such as those used for crew training and general utility purposes and aircraft held for disposal are excluded.

TABLE 5.7

TOTAL FLIGHT TIME BY TYPE OF AIRCRAFT
IN THE U.S. CARRIER FLEET: 1977 and 1978

| Type of Aircraft Number of Engines and Model | Hours | | Type of Aircraft Number of Engines and Model | Hours | |
|--|-----------|-----------|--|---------|---------|
| | 1978* | 1977 | | 1978 | 1977 |
| Total aircraft | 6,984,816 | 6,684,622 | Rockwell International NA265 | 1,197 | 613 |
| Total fixed-wing | 6,980,252 | 6,677,199 | Sud Aviation-S210 | 925 | 116 |
| Turbine-powered--total | 6,814,252 | 6,502,075 | Turboprop--total | 383,487 | 353,444 |
| Four-engine--total | 1,693,251 | 1,770,950 | Beech B99 | — | 143 |
| Turbojet--total | 1,555,849 | 1,644,925 | Cessna C212 | 256 | — |
| Boeing 707 | 592,885 | 670,239 | Convair CV580 | 134,105 | 139,083 |
| Boeing 720 | 39,072 | 59,901 | Convair CV600 | 12,405 | 9,952 |
| Boeing 747 | 418,177 | 405,014 | Convair CV640 | 14,930 | 16,203 |
| Convair CV22 | 307 | 603 | DeHavilland DHC6 | 26,768 | 30,272 |
| Douglas DC8 | 504,868 | 511,797 | DeHavilland DHC7 | 2,905 | — |
| Lockheed L1329 | 540 | 371 | Fairchild F27 | 9,514 | 9,172 |
| Turboprop--total | 137,402 | 126,025 | Fairchild F227 | 38,455 | 37,203 |
| Lockheed L188 | 79,422 | 68,514 | Grumman G159 | 5,842 | 3,211 |
| Lockheed L382 | 57,980 | 57,511 | Hawker Siddeley HS748 | 2,067 | 2,111 |
| Three-engine--total | 3,159,647 | 2,916,795 | Nord ND262 | 51,984 | 40,575 |
| Boeing B727 | 2,509,204 | 2,303,950 | Nihon YS11 | 51,925 | 56,747 |
| Douglas DC10 | 409,816 | 390,646 | Short SD330 | 5,519 | 3,465 |
| Lockheed L1011 | 240,627 | 222,199 | Short SD3 | 8,170 | 953 |
| Twin-engine--total | 1,961,354 | 1,814,330 | Swearingen SA226 | 18,642 | 4,354 |
| Turbojet--total | 1,577,867 | 1,460,886 | Piston-powered--total | 166,000 | 175,124 |
| Airbus A300 | 11,431 | 1,128 | Four-engine--total | 36,956 | 36,205 |
| Boeing B737 | 412,829 | 358,152 | Douglas DC4 | 4,759 | 1,473 |
| British Aircraft Corp. BAC111 | 76,624 | 75,260 | Douglas DC6 | 31,958 | 34,356 |
| Convair CV30 | 2,202 | 1,792 | Douglas DC7 | — | 231 |
| Dassault MD20 | 59,448 | 71,785 | Lockheed L1049 | 239 | 145 |
| DeHavilland DHC125 | 583 | 1,024 | Twin-engine--total | 128,523 | 134,030 |
| Douglas DC9 | 993,765 | 937,826 | Britten-Norman BN2A | — | 4,409 |
| Grumman G1159 | 2,839 | 2,310 | Aero Commander AC680 | — | 856 |
| Hamburger Flugzeubau HF320 | 2,933 | 1,415 | Beech BE18 | 31 | 395 |
| Israel Aircraft WW23 | 269 | — | Cessna CE402 | 64 | 272 |
| Israel Aircraft WW24 | 83 | — | Convair CV240 | 367 | — |
| Learjet LR23 | — | 300 | Convair CV340/440 | 12,011 | 8,232 |
| Learjet LR24 | 229 | 141 | Curtiss Wright CW46 | 8,708 | 12,432 |
| Learjet LR25 | 8,036 | 5,643 | DeHavilland DH4 | 527 | — |
| Learjet LR35 | 4,284 | 3,381 | Dornier DO28 | — | 448 |
| Learjet LR36 | 190 | — | Douglas DC3 | 94,597 | 88,836 |
| | | | Fairchild C82 | 1,856 | 1,764 |
| | | | Grumman G21 | 114 | 1,893 |
| | | | Grumman G44 | 11 | 1,103 |

TABLE 5.7 (Continued)

TOTAL FLIGHT TIME BY TYPE OF AIRCRAFT
IN THE U.S. CARRIER FLEET: 1977 and 1978

| Type of Aircraft Number of Engines and Model | Hours | | Type of Aircraft Number of Engines and Model | Hours | |
|--|------------|--------------|--|--------------|--------------|
| | 1978 | 1977 | | 1978 | 1977 |
| Martin M404 | 10,337 | 13,203 | DeHavilland DHC2 | -- | 828 |
| Piper PA23 | -- | 31 | DeHavilland DHC3 | -- | 243 |
| Piper PA34 | -- | 156 | Total rotary-wing | <u>4,564</u> | <u>7,423</u> |
| Single-engine--total | <u>421</u> | <u>4,889</u> | Turbine-powered--total | <u>4,564</u> | <u>7,423</u> |
| Cessna CE185 | -- | 565 | Sikorsky S61 | <u>4,564</u> | <u>7,423</u> |
| Cessna CE206 | 89 | 1,343 | | | |
| Cessna CE207 | 332 | 1,910 | | | |

*Includes 6,242,690 hours for Certificated Route Air Carriers; 184,664 hours for Supplemental Carriers; 275,396 hours for Commercial Carriers; 276,102 hours for Air Taxi and 5,964 hours for Air Travel Clubs.

TABLE 5.8

TOTAL FIXED WING AIRCRAFT IN CERTIFICATED ROUTE AIR CARRIER OPERATIONS
BY CARRIER AND BY ENGINE TYPE: DECEMBER 31, 1978

| Air Carrier Group and Carrier | Total Turbine and Piston | Turbine Turbojet | | | | Turboprop | | Piston | | | |
|--------------------------------|--------------------------|------------------|----------|----------|----------|-----------|----------|--------------|----------|----------|----------|
| | | Total Turbine | 4-Engine | 3-Engine | 2-Engine | 4-Engine | 2-Engine | Total Piston | 4-Engine | 2-Engine | 1-Engine |
| | | | | | | | | | | | |
| Total | 2,345 | 2,339 | 465 | 1,140 | 579 | 9 | 146 | 6 | --- | 4 | 2 |
| Trunk carriers--total | 1,645 | 1,645 | 342 | 1,069 | 234 | --- | --- | --- | --- | --- | --- |
| American | 247 | 247 | 83 | 164 | --- | --- | --- | --- | --- | --- | --- |
| Braniff | 103 | 103 | 18 | 85 | --- | --- | --- | --- | --- | --- | --- |
| Continental | 65 | 65 | --- | 65 | --- | --- | --- | --- | --- | --- | --- |
| Delta | 206 | 206 | 23 | 133 | 50 | --- | --- | --- | --- | --- | --- |
| Eastern | 245 | 245 | --- | 156 | 89 | --- | --- | --- | --- | --- | --- |
| National | 54 | 54 | --- | 54 | --- | --- | --- | --- | --- | --- | --- |
| Northwest | 104 | 104 | 21 | 83 | --- | --- | --- | --- | --- | --- | --- |
| Trans World | 203 | 203 | 94 | 95 | 14 | --- | --- | --- | --- | --- | --- |
| United | 339 | 339 | 88 | 192 | 59 | --- | --- | --- | --- | --- | --- |
| Western | 79 | 79 | 15 | 42 | 22 | --- | --- | --- | --- | --- | --- |
| Local service carriers-- total | 500 | 500 | --- | 47 | 321 | 7 | 125 | --- | --- | --- | --- |
| Air California | 13 | 13 | --- | --- | 10 | 3 | --- | --- | --- | --- | --- |
| Air Florida | 7 | 7 | --- | --- | 7 | --- | --- | --- | --- | --- | --- |
| Air New England | 18 | 18 | --- | --- | --- | --- | 18 | --- | --- | --- | --- |
| Allegheny | 92 | 92 | --- | 7 | 76 | --- | 9 | --- | --- | --- | --- |
| Frontier | 61 | 61 | --- | --- | 31 | --- | 30 | --- | --- | --- | --- |
| Hughes Air West | 48 | 48 | --- | 4 | 40 | --- | 4 | --- | --- | --- | --- |
| North Central | 58 | 58 | --- | --- | 35 | --- | 23 | --- | --- | --- | --- |
| Ozark | 45 | 45 | --- | --- | 32 | --- | 13 | --- | --- | --- | --- |
| Pacific Southwest Airlines | 34 | 34 | --- | 30 | --- | 4 | --- | --- | --- | --- | --- |
| Piedmont Aviation | 44 | 44 | --- | 6 | 21 | --- | 17 | --- | --- | --- | --- |
| Southern | 38 | 38 | --- | --- | 30 | --- | 8 | --- | --- | --- | --- |
| Southwest Airlines | 13 | 13 | --- | --- | 13 | --- | --- | --- | --- | --- | --- |
| Texas International | 29 | 29 | --- | --- | 26 | --- | 3 | --- | --- | --- | --- |
| Intra-Alaska carriers-- total | 29 | 23 | --- | 9 | 7 | 2 | 5 | 6 | --- | 4 | 2 |
| Alaska Airlines | 9 | 9 | --- | 9 | --- | --- | --- | --- | --- | --- | --- |
| Kodiak-Western | 4 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Alaskan Airlines | 6 | 4 | --- | --- | --- | 2 | 2 | 4 | --- | 2 | --- |
| Reeve Aleutian | 10 | 10 | --- | --- | 7 | --- | 3 | --- | --- | --- | --- |
| Wien Air Alaska | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Intra Hawaii carriers-- total | 18 | 18 | --- | --- | 17 | --- | 1 | --- | --- | --- | --- |
| Aloha | 8 | 8 | --- | --- | 8 | --- | --- | --- | --- | --- | --- |
| Hawaiian | 10 | 10 | --- | --- | 9 | --- | 1 | --- | --- | --- | --- |

TABLE 5.8 (Continued)
 TOTAL FIXED WING AIRCRAFT IN CERTIFICATED ROUTE AIR CARRIER OPERATIONS
 BY CARRIER AND BY ENGINE TYPE: DECEMBER 31, 1978

| Air Carrier Group and Carrier | Total Turbine and Piston | Turbine | | | | | | Piston | | | | | |
|--|--------------------------|---------------------|-------------------|----------|----------|-----------|---------------|--------------|----------|----------|----------|--|--|
| | | Total Turbine | Turbojet | | | Turboprop | | Total Piston | 4-Engine | 2-Engine | 1-Engine | | |
| | | | 4-Engine | 3-Engine | 2-Engine | 4-Engine | 2-Engine | | | | | | |
| International and territorial passenger/cargo--total Pan American | 92 92 | 79 79 | 13 13 | | | | | | | | | | |
| All cargo carriers--total Airlift International Flying Tiger Seaboard World | 46 11 26 9 | 44 10 26 8 | 2 1 -- 1 | | | | | | | | | | |
| Other--total Aspen Wright | 15 10 5 | -- -- -- | -- -- -- | | | | 15 10 5 | | | | | | |

TABLE 5.9

FOUR-ENGINE TURBINE-POWERED FIXED-WING AIRCRAFT IN CERTIFIED ROUTE AIR CARRIER OPERATIONS
BY CARRIER AND BY MANUFACTURER AND MODEL: DECEMBER 31, 1978

| Carrier Group and Carrier | Total 4-Engine Turbine Aircraft | Turbojet | | | | Total Turboprop Lockheed L188 |
|--|---------------------------------|----------------|---------|-----|-------------|-------------------------------|
| | | Total Turbojet | Boeing | | Douglas DC8 | |
| | | | 707/720 | 747 | | |
| Total | 474 | 465 | 208 | 115 | 142 | 9 |
| Trunk carriers--total | 342 | 342 | 173 | 62 | 107 | --- |
| American | 83 | 83 | 73 | 10 | --- | --- |
| Braniff | 18 | 18 | --- | 4 | 14 | --- |
| Delta | 23 | 23 | --- | --- | 23 | --- |
| Northwest | 21 | 21 | --- | 21 | --- | --- |
| Trans World | 94 | 94 | 85 | 9 | --- | --- |
| United | 88 | 88 | --- | 18 | 70 | --- |
| Western | 15 | 15 | 15 | --- | --- | --- |
| Local service carriers--total | 7 | --- | --- | --- | --- | 7 |
| Air California | 3 | --- | --- | --- | --- | 3 |
| Pacific Southwest Airlines | 4 | --- | --- | --- | --- | 4 |
| Intra Alaskan carriers--total | 2 | --- | --- | --- | --- | 2 |
| Reeve Aleutian | 2 | --- | --- | --- | --- | 2 |
| Intra-Hawaii carriers--total | --- | --- | --- | --- | --- | --- |
| International and territorial passenger/cargo--total | 79 | 79 | 35 | 44 | --- | --- |
| Pan American | 79 | 79 | 35 | 44 | --- | --- |
| All cargo carriers--total | 44 | 44 | --- | 9 | 35 | --- |
| Airlift International | 10 | 10 | --- | --- | 10 | --- |
| Flying Tiger | 26 | 26 | --- | 6 | 20 | --- |
| Seaboard World | 8 | 8 | --- | 3 | 5 | --- |

TABLE 5.10
TWO- AND THREE-ENGINE TURBINE-POWERED FIXED-WING AIRCRAFT IN CERTIFICATED
AIR CARRIER OPERATIONS BY CARRIER AND BY MANUFACTURER AND MODEL: DECEMBER 31, 1978*

| Carrier Group and Carrier | Total Turbine Aircraft | Turbojet | | | | Turboprop | | | | | |
|--|------------------------|------------------------------|-------|-------------------|------|-------------------|-------|-----------|----------|-------|-----|
| | | Total 2- & 3-Engine Aircraft | | 3-Engine Aircraft | | 2-Engine Aircraft | | Total | | | |
| | | DC10 | L1011 | B727 | B737 | DC9 | Other | CV580/600 | F27/F227 | Other | |
| Total | 1,865 | 1,719 | 82 | 931 | 173 | 370 | 36 | 146 | 68 | 28 | 50 |
| Trunk carriers--total** | 1,303 | 1,164 | 82 | 861 | 81 | 147 | 6 | --- | --- | --- | --- |
| American | 164 | 136 | --- | 85 | --- | --- | --- | --- | --- | --- | --- |
| Braniff | 85 | 15 | --- | 50 | --- | --- | --- | --- | --- | --- | --- |
| Continental | 65 | 183 | 26 | 107 | --- | 50 | --- | --- | --- | --- | --- |
| Delta | 183 | 245 | 32 | 124 | --- | 83 | 6 | --- | --- | --- | --- |
| Eastern | 245 | 54 | --- | 39 | --- | --- | --- | --- | --- | --- | --- |
| National | 54 | 15 | --- | 61 | --- | --- | --- | --- | --- | --- | --- |
| Northwest | 83 | 22 | --- | 71 | --- | 14 | --- | --- | --- | --- | --- |
| Trans World | 109 | 109 | 24 | 71 | 59 | --- | --- | --- | --- | --- | --- |
| United | 251 | 37 | --- | 155 | 22 | --- | --- | --- | --- | --- | --- |
| Western | 64 | 9 | --- | 33 | --- | --- | --- | --- | --- | --- | --- |
| Local service carriers--total | 493 | 368 | --- | 47 | 77 | 214 | 30 | 125 | 53 | 25 | 47 |
| Air California | 10 | 10 | --- | --- | 10 | --- | --- | --- | --- | --- | --- |
| Air Florida | 7 | 7 | --- | --- | 2 | 5 | --- | --- | --- | --- | --- |
| Air New England | 18 | --- | --- | --- | --- | 46 | 30 | 18 | --- | 8 | 10 |
| Allegheny | 92 | 31 | --- | 7 | --- | --- | --- | --- | --- | 9 | --- |
| Frontier | 61 | 44 | --- | 4 | 31 | --- | --- | 30 | 27 | --- | 3 |
| Hughes Air West | 48 | 35 | --- | --- | --- | 40 | --- | 4 | --- | 4 | --- |
| North Central | 58 | 32 | --- | --- | --- | 35 | --- | 23 | 23 | --- | --- |
| Ozark | 45 | 30 | --- | --- | --- | 32 | --- | 13 | --- | 13 | --- |
| Pacific Southwest Airlines | 30 | 30 | --- | 30 | --- | --- | --- | 17 | --- | --- | 17 |
| Piedmont Aviation | 44 | 27 | --- | 6 | 21 | --- | --- | 8 | --- | --- | 8 |
| Southern | 38 | 30 | --- | --- | 13 | 30 | --- | 3 | --- | --- | --- |
| Southwest Airlines | 13 | 13 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Texas International | 29 | 26 | --- | --- | --- | 26 | --- | 3 | --- | --- | --- |
| Intra-Alaska carriers--total | 21 | 16 | --- | 9 | 7 | --- | --- | 5 | --- | 3 | 2 |
| Alaska Airlines | 9 | 9 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reeve Aleutian | 2 | --- | --- | --- | --- | --- | --- | 2 | --- | --- | --- |
| Wien Air Alaska | 10 | 7 | --- | --- | 7 | --- | --- | 3 | --- | --- | --- |
| Intra Hawaii carriers--total | 18 | 17 | --- | --- | 8 | 9 | --- | 1 | --- | --- | 1 |
| Aloha | 8 | 8 | --- | --- | 8 | --- | --- | --- | --- | --- | --- |
| Hawaiian | 10 | 9 | --- | --- | --- | 9 | --- | 1 | --- | --- | 1 |
| International/territorial passenger/cargo--total | 13 | 13 | --- | 13 | --- | --- | --- | --- | --- | --- | --- |
| Fan American | 13 | 13 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Air cargo carriers--total | 2 | 2 | --- | 1 | --- | --- | --- | --- | --- | --- | --- |
| Airlift International | 1 | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Seaboard World | 1 | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Other--total | 15 | --- | --- | --- | --- | --- | --- | 15 | 15 | --- | --- |
| Aspen | 10 | --- | --- | --- | --- | --- | --- | 10 | 10 | --- | --- |
| Wright | 5 | --- | --- | --- | --- | --- | --- | 5 | 5 | --- | --- |

*All carriers constituting this group are listed in Table 5.10.

**All trunk carriers except United have both domestic and international/territorial operating certificates.

TABLE 5.11

PISTON-POWERED AIRCRAFT IN CERTIFICATED ROUTE
 AIR CARRIER OPERATIONS BY CARRIER AND BY
 MANUFACTURER AND MODEL: DECEMBER 31, 1978*

| Carrier Group and Carrier | Total Piston Aircraft | 2-Engine | | 1-Engine |
|-----------------------------------|-----------------------------|----------------|----------|-----------------------|
| | | G21/44 BE18 | Other | Cessna 185/206/207 |
| Total | <u>6</u> | <u>1</u> | <u>3</u> | <u>2</u> |
| Local service carriers--total | --- | --- | --- | --- |
| Intra-Alaskan carriers--total | <u>6</u> | <u>1</u> | <u>3</u> | <u>2</u> |
| Kodiak-Western Alaska Airlines | 4 | 1(a) | 1(b) | 2(c) |
| Reeve Aleutian | 2 | --- | 2(d) | --- |
| Other--total | --- | --- | --- | --- |

*All carriers constituting this group are listed in Table 5.10.

(a)Grumman G21.

(b)Cessna 402.

(c)Cessna 207 (1) and Cessna 206 (1).

(d)Curtiss-Wright CW46.

TABLE 5.12

HELICOPTERS IN CERTIFICATED ROUTE AIR CARRIER OPERATIONS
 BY CARRIER AND BY
 MANUFACTURER AND MODEL: DECEMBER 31, 1978

| Carrier | Total | Turbine Sikorsky S61 |
|-----------------|----------|----------------------|
| Total | <u>3</u> | <u>3</u> |
| New York Airway | 3 | 3 |

TABLE 5.13

AIRCRAFT IN OPERATION BY SUPPLEMENTAL CARRIERS BY TYPE OF AIRCRAFT:
DECEMBER 1969-1978

| Type of Aircraft | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|
| Total aircraft in operation | 149 | 119 | 114 | 100 | 94 | 73 | 74 | 77 | 78 | 74 |
| 4-engine--total | 106 | 94 | 92 | 85 | 79 | 58 | 60 | 69 | 61 | 55 |
| Turbojet | 44 | 40 | 42 | 42 | 37 | 32 | 33 | 42 | 36 | 26 |
| Turboprop | 37 | 48 | 47 | 43 | 41 | 26 | 27 | 27 | 23 | 26 |
| Piston | 25 | 6 | 3 | --- | 1 | --- | --- | --- | 2 | 3 |
| 3-engine--total | 9 | 9 | 9 | 4 | 9 | 7 | 8 | 3 | 5 | 6 |
| Turbojet | 9 | 9 | 9 | 4 | 9 | 7 | 8 | 3 | 5 | 6 |
| 2-engine--total | 34 | 16 | 13 | 11 | 6 | 8 | 6 | 5 | 12 | 13 |
| Turbojet | 10 | 11 | 8 | 7 | 5 | 5 | 4 | 3 | 3 | 3 |
| Turboprop | --- | --- | --- | 1 | 1 | --- | --- | 1 | 5 | 7 |
| Piston | 24 | 5 | 5 | 3 | --- | 3 | 2 | 1 | 4 | 3 |

TABLE 5.14
 AIRCRAFT IN OPERATION BY SUPPLEMENTAL CARRIERS, BY CARRIER AND BY MANUFACTURER AND MODEL
 DECEMBER 31, 1978

| Name of Carrier | Total Aircraft | Turbojet | | | Turboprop | | Piston | |
|----------------------------------|----------------|----------|----------|----------|------------|----------|----------|----------|
| | | 4-Engine | 3-Engine | 2-Engine | 4-Engine | 2-Engine | 4-Engine | 2-Engine |
| | | DC 8 | DC 10 | DC 9 | L188, L382 | CV 580 | DC 6 | OM 46 |
| Total | 74 | 26 | 6 | 3 | 26 | 7 | 3 | 3 |
| Capitol International Airways | 10 | 10 | --- | --- | --- | --- | --- | --- |
| Evergreen International Airlines | 19 | 5 | --- | 3 | 4(a) | 7 | --- | --- |
| Rich International | 6 | --- | --- | --- | --- | --- | 3 | 3 |
| Trans International Airlines | 33 | 8 | 3 | --- | 22(b) | --- | --- | --- |
| World Airways | 6 | 3 | 3 | --- | --- | --- | --- | --- |

(a)Lockheed L188

(b)Lockheed L188 (9); L382 (13)

TABLE 5.15

AIRCRAFT IN OPERATION BY COMMERCIAL CARRIERS BY TYPE OF AIRCRAFT:
DECEMBER 31, 1969 THROUGH 1978

| Aircraft Type | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Total aircraft in operation | <u>118</u> | <u>123</u> | <u>139</u> | <u>122</u> | <u>144</u> | <u>155</u> | <u>154</u> | <u>144</u> | <u>161</u> | <u>123</u> |
| 4-engine--total | $\frac{36}{2}$ | $\frac{30}{-}$ | $\frac{39}{1}$ | $\frac{39}{1}$ | $\frac{52}{1}$ | $\frac{60}{6}$ | $\frac{69}{8}$ | $\frac{63}{7}$ | $\frac{70}{8}$ | $\frac{89}{18}$ |
| Turbojet | 13 | 7 | 13 | 14 | 13 | 24 | 25 | 21 | 31 | 32 |
| Turboprop | 21 | 23 | 25 | 24 | 38 | 30 | 36 | 35 | 31 | 39 |
| 3-engine--total | $\frac{14}{14}$ | $\frac{19}{19}$ | $\frac{18}{18}$ | $\frac{17}{17}$ | $\frac{26}{26}$ | $\frac{23}{23}$ | $\frac{25}{25}$ | $\frac{27}{27}$ | $\frac{29}{29}$ | $\frac{-}{-}$ |
| Turbojet | | | | | | | | | | |
| 2-engine--total | $\frac{68}{16}$ | $\frac{74}{16}$ | $\frac{82}{26}$ | $\frac{66}{19}$ | $\frac{66}{11}$ | $\frac{72}{17}$ | $\frac{59}{14}$ | $\frac{53}{14}$ | $\frac{61}{23}$ | $\frac{34}{-}$ |
| Turbojet | 3 | 3 | 3 | 4 | 11 | 15 | 15 | 16 | 19 | 20 |
| Turboprop | 49 | 55 | 53 | 43 | 44 | 40 | 30 | 23 | 19 | 14 |
| 1-engine--total | $\frac{-}{-}$ | $\frac{-}{-}$ | $\frac{-}{-}$ | $\frac{-}{-}$ | $\frac{-}{-}$ | $\frac{-}{-}$ | $\frac{1}{1}$ | $\frac{1}{1}$ | $\frac{1}{1}$ | $\frac{-}{-}$ |
| Piston | | | | | | | | | | |

TABLE 5.16

AIRCRAFT IN OPERATION BY COMMERCIAL AIR CARRIER OPERATORS BY CARRIER AND BY TYPE OF AIRCRAFT:
DECEMBER 31, 1978

| Name of Carrier | Total Aircraft | Turbojet | | Turboprop | | Piston | | |
|-------------------------------------|----------------|-----------------|----------|-----------|----------|----------|----------|----------|
| | | 4- and 3-Engine | 2-Engine | 4-Engine | 2-Engine | 4-Engine | 2-Engine | 1-Engine |
| | | | | | | | | |
| Total | 123 | 18 | --- | 32 | 20 | 39 | 14 | --- |
| Aeroamerica, Inc. | 4 | 4 | --- | --- | --- | --- | --- | --- |
| Air Distribution, Inc. | 2 | --- | --- | --- | --- | 2 | --- | --- |
| Air Illinois, Inc. | 1 | --- | --- | --- | 1 | --- | --- | --- |
| Alaska International Air, Inc. | 5 | --- | --- | 5 | --- | --- | --- | --- |
| Central America International, Inc. | 2 | --- | --- | --- | --- | 1 | 1 | --- |
| Challenge Air Transport, Inc. | 1 | --- | --- | --- | --- | --- | --- | --- |
| Concord International Airlines | 3 | 1 | --- | --- | --- | 2 | --- | --- |
| Fairways Corporation | 1 | --- | --- | --- | 1 | --- | --- | --- |
| Fleming International Airways | 5 | --- | --- | 5 | --- | --- | --- | --- |
| General Mills, Inc. | 1 | 1 | --- | --- | --- | --- | --- | --- |
| Global Int. Airways Corp. | 1 | 1 | --- | --- | --- | --- | --- | --- |
| Great Northern Airlines, Inc. | 4 | --- | --- | 4 | --- | --- | --- | --- |
| Inter Continental Airways | 1 | 1 | --- | --- | --- | --- | --- | --- |
| Mark Air Transport | 3 | --- | --- | --- | --- | 3 | --- | --- |
| Maverick International, Inc. | 2 | 2 | --- | --- | --- | --- | --- | --- |
| Mountainwest Aviation, Inc. | 2 | --- | --- | --- | 2 | --- | --- | --- |
| Northern Air Cargo, Inc. | 5 | --- | --- | --- | --- | 3 | 2 | --- |
| Pacific Alaska Airlines | 4 | --- | --- | --- | 2 | 2 | --- | --- |
| Petroleum Air Transport, Inc. | 8 | 4 | --- | --- | --- | 5 | 3 | --- |
| Rosenbalm Aviation, Inc. | 4 | --- | --- | --- | --- | --- | --- | --- |
| Shaw Flight Service, Inc. | 3 | --- | --- | --- | --- | --- | 3 | --- |
| Southern Air Transport, Inc. | 3 | --- | --- | 3 | --- | --- | --- | --- |
| Transcontinental Airlines, Inc. | 13 | --- | --- | --- | --- | 9 | 4 | --- |
| Zantop International Airlines | 45 | 4 | --- | 15 | 14 | 12 | --- | --- |

TABLE 5.17

AIRCRAFT IN OPERATION BY COMMERCIAL OPERATORS BY MANUFACTURER
AND MODEL: DECEMBER 31, 1977 AND 1978

| | <u>1977</u> | <u>1978</u> |
|----------------------|-------------|-------------|
| Total Aircraft | <u>161</u> | <u>123</u> |
| Turbojet -- total | <u>60</u> | <u>18</u> |
| 4-engine | <u>8</u> | <u>18</u> |
| Boeing B707 | <u>1</u> | <u>3</u> |
| Boeing B720 | <u>3</u> | <u>4</u> |
| Douglas DC8 | <u>4</u> | <u>10</u> |
| Lockheed L1329 | <u>—</u> | <u>1</u> |
| 3-engine | <u>29</u> | <u>—</u> |
| Boeing 727 | <u>29</u> | <u>—</u> |
| 2-engine | <u>23</u> | <u>—</u> |
| Boeing 737 | <u>10</u> | <u>—</u> |
| Douglas DC9 | <u>13</u> | <u>—</u> |
| Turboprop -- total | <u>50</u> | <u>52</u> |
| 4-engine | <u>31</u> | <u>32</u> |
| Lockheed L188 | <u>23</u> | <u>24</u> |
| Lockheed L382 | <u>8</u> | <u>8</u> |
| 2-engine | <u>19</u> | <u>20</u> |
| Convair CV580 | <u>3</u> | <u>2</u> |
| Convair CV640 | <u>14</u> | <u>14</u> |
| Fairchild F27 | <u>—</u> | <u>2</u> |
| Grumman G159 | <u>1</u> | <u>1</u> |
| Hawker Siddley HS748 | <u>1</u> | <u>1</u> |
| Piston -- total | <u>51</u> | <u>53</u> |
| 4-engine | <u>31</u> | <u>39</u> |
| Lockheed 4049 | <u>1</u> | <u>2</u> |
| Douglas 4 | <u>28</u> | <u>36</u> |
| Douglas 6 | <u>1</u> | <u>—</u> |
| Douglas 7 | <u>1</u> | <u>1</u> |
| 2-engine | <u>19</u> | <u>14</u> |
| Convair CV440 | <u>2</u> | <u>—</u> |
| Curtiss-Wright CW46 | <u>9</u> | <u>5</u> |
| Deltavailand DHC4 | <u>—</u> | <u>2</u> |
| Fairchild C82 | <u>2</u> | <u>2</u> |
| Martin M404 | <u>3</u> | <u>3</u> |
| Douglas 3 | <u>3</u> | <u>2</u> |
| 1-engine | <u>1</u> | <u>—</u> |
| Cessna C185 | <u>1</u> | <u>—</u> |

TABLE 5.18

AIRCRAFT IN OPERATION BY AIR TAXI OPERATORS*
DECEMBER 31, 1978

| Name of Carrier | Total All Engines | Turbojet | | Turboprop | | Piston | | |
|--------------------------------|----------------------|-----------|----------|-----------|-----------|----------|------------|----------|
| | | 2-engine | 3-engine | 4-engine | 2-engine | 4-engine | 2-engine | 1-engine |
| Total | <u>339</u> | <u>86</u> | <u>9</u> | <u>14</u> | <u>45</u> | <u>5</u> | <u>178</u> | <u>2</u> |
| Academy Airlines | 3 | --- | --- | --- | --- | --- | 3 | --- |
| Aero-Dyne Airlines, Inc. | 4 | --- | --- | --- | --- | --- | 4 | --- |
| Aero Transit, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Aero Virgin Island Corp. | 4 | --- | --- | --- | --- | --- | 4 | --- |
| Airgo, Inc. | 12 | --- | --- | --- | --- | --- | 12 | --- |
| Air Logistics of Alaska | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Air North, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Air Sunshine | 6 | --- | --- | --- | --- | --- | 6 | --- |
| Alaska Air Service, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Alpha Airlines, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Altair Airlines, Inc. | 7 | --- | --- | --- | 7 | --- | --- | --- |
| American Cynamid Co. | 2 | 2 | --- | --- | --- | --- | --- | --- |
| American Inter-island, Inc. | 4 | --- | --- | --- | --- | --- | 4 | --- |
| Argosy Airlines, Inc. | 3 | --- | --- | --- | --- | --- | 2 | 1 |
| Atlantic Jet Charter, Inc. | 2 | 1 | --- | --- | 1 | --- | --- | --- |
| ATT Airlines, Inc. | 6 | --- | --- | --- | --- | --- | 6 | --- |
| Aviation Methods, Inc. | 1 | 1 | --- | --- | --- | --- | --- | --- |
| Baron Aviation Services, Inc. | 3 | --- | --- | --- | --- | --- | 3 | --- |
| Basler Flight Services, Inc. | 4 | --- | --- | --- | --- | --- | 4 | --- |
| Boise Cascade Corp. | 3 | 3 | --- | --- | --- | --- | --- | --- |
| Bo-S-Aire Corp. | 2 | --- | --- | --- | --- | --- | 2 | --- |
| Caribbean Air Service | 3 | --- | --- | --- | --- | --- | 3 | --- |
| Century Airlines | 4 | --- | --- | --- | --- | --- | 4 | --- |
| Christler Flying Service, Inc. | 2 | --- | --- | --- | --- | --- | 2 | --- |

TABLE 5.18 (Continued)
 AIRCRAFT IN OPERATION BY AIR TAXI OPERATORS*
 DECEMBER 31, 1978

| Name of Carrier | Total All Engines | Turbojet | | Turboprop | | Piston | | |
|--------------------------------------|----------------------|----------|----------|-----------|----------|----------|----------|----------|
| | | 2-engine | 3-engine | 4-engine | 2-engine | 4-engine | 2-engine | 1-engine |
| Chrysler Corp. Air Transportation | 2 | 2 | --- | --- | --- | --- | --- | --- |
| Combs Airways, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Command Airways, Inc. | 2 | --- | --- | 2 | --- | --- | --- | --- |
| Commuter Airlines, Inc. | 3 | --- | --- | 3 | --- | --- | --- | --- |
| Commuter Express | 12 | --- | --- | --- | --- | --- | 12 | --- |
| Crystal Shamrock, Inc. | 2 | --- | --- | --- | --- | --- | 2 | --- |
| DHL Island Airways | 3 | --- | --- | --- | --- | 1 | 2 | --- |
| Emerald Airlines | 1 | --- | --- | --- | 1 | --- | --- | --- |
| Era Helicopters, Inc. | 1 | 1 | --- | --- | --- | --- | --- | --- |
| Executive Air Fleet Corp. | 7 | 7 | --- | --- | --- | --- | --- | --- |
| Falcon Airways, Inc. | 7 | --- | --- | --- | --- | 2 | 5 | --- |
| Federal Express Corp. | 41 | 32 | 9 | --- | --- | --- | --- | --- |
| Florida Airlines, Inc. | 11 | --- | --- | --- | --- | --- | 11 | --- |
| Florida Airmotives, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Frontier Flying Service, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Global Air Enterprises, Inc. | 1 | 1 | --- | --- | --- | --- | --- | --- |
| Golden State Airlines, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Golden West Airlines, Inc. | 3 | --- | --- | 2 | 1 | --- | --- | --- |
| Great Western Airlines | 1 | --- | --- | --- | 1 | --- | --- | --- |
| Hawaiian Airlines Air Cargo Division | 7 | 1 | --- | 6 | --- | --- | --- | --- |
| Henson Aviation, Inc. | 3 | --- | --- | 2 | 1 | --- | --- | --- |
| International Air Service | 2 | 2 | --- | --- | --- | --- | --- | --- |
| Jet Executive International | 2 | 2 | --- | --- | --- | --- | --- | --- |
| Jet Fleet Corp. | 15 | 14 | --- | --- | 1 | --- | --- | --- |
| Jimstair Aviation Services, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |

TABLE 5.18 (Continued)
 AIRCRAFT IN OPERATION BY AIR TAXI OPERATORS*
 DECEMBER 31, 1978

| Name of Carrier | Total All Engines | Turbojet | | Turboprop | | Piston | | |
|---|----------------------|----------|----------|-----------|----------|----------|----------|----------|
| | | 2-engine | 3-engine | 4-engine | 2-engine | 4-engine | 2-engine | 1-engine |
| | | | | | | | | |
| Key Airlines, Inc. | 5 | --- | --- | --- | --- | --- | 5 | --- |
| Mackey International Airlines | 2 | --- | --- | --- | --- | 1 | 1 | --- |
| Mannion Air Charter, Inc. | 3 | --- | --- | --- | --- | --- | 3 | --- |
| Marco Island Airways, Inc. | 6 | --- | --- | --- | --- | --- | 6 | --- |
| Midwest Air Charter, Inc. | 7 | 6 | --- | 1 | --- | --- | --- | --- |
| Mountain West Charters, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Music City International Airways | 2 | --- | --- | --- | --- | --- | 2 | --- |
| Nation Jet Service, Inc. | 2 | --- | --- | --- | --- | --- | 2 | --- |
| Nevada Airlines, Inc. | 3 | --- | --- | --- | --- | --- | 3 | --- |
| Old South Air Service, Inc. | 4 | --- | --- | --- | --- | --- | 4 | --- |
| Pacific Aero, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Pinehurst Airlines, Inc. | 6 | --- | --- | --- | --- | --- | 6 | --- |
| Presidential Airways, Inc. | 2 | 2 | --- | --- | --- | --- | --- | --- |
| Professional Air Charter, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Provincetown-Boston Airline | 13 | --- | --- | --- | --- | --- | 13 | --- |
| Raleigh-Durham Aviation, Inc. | 1 | 1 | --- | --- | --- | --- | --- | --- |
| Ransome Airlines | 10 | --- | --- | --- | 10 | --- | --- | --- |
| Red Carpet Flying Service, Inc. | 5 | --- | --- | --- | --- | --- | 5 | --- |
| Rhoades International, Inc. | 1 | --- | --- | --- | --- | 1 | --- | --- |
| Rocky Mountain Airways | 1 | --- | --- | --- | 1 | --- | --- | --- |
| Royal Industries | 1 | 1 | --- | --- | --- | --- | --- | --- |
| Sedalia, Marshall, Boonville Stage Lines, Inc. | 9 | --- | --- | 3 | --- | --- | 6 | --- |
| Sierra Pacific Airlines, Inc. | 5 | --- | --- | --- | 5 | --- | --- | --- |
| Skyfreight | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Skyway Aviation, Inc. | 2 | --- | --- | --- | --- | --- | 2 | --- |

TABLE 5.18 (Continued)
 AIRCRAFT IN OPERATION BY AIR TAXI OPERATORS*
 DECEMBER 31, 1978

| Name of Carrier | Total All Engines | Turbojet | | Turboprop | | | Piston | |
|------------------------------|----------------------|----------|----------|-----------|----------|----------|----------|----------|
| | | 2-engine | 3-engine | 4-engine | 2-engine | 4-engine | 2-engine | 1-engine |
| | | | | | | | | |
| Southeast Airlines, Inc. | 1 | --- | --- | --- | 1 | --- | --- | --- |
| Southern Flyer, Inc. | 1 | --- | --- | --- | --- | 1 | --- | --- |
| Stevens Beechcraft, Inc. | 2 | 2 | --- | --- | --- | --- | --- | --- |
| Summit Airlines, Inc. | 4 | --- | --- | --- | 3 | --- | --- | --- |
| Swift Aire Lines, Inc. | 3 | --- | --- | --- | 3 | --- | --- | --- |
| Thunderbird Airways, Inc. | 4 | 4 | --- | --- | --- | --- | --- | --- |
| Trans Florida Airlines, Inc. | 2 | --- | --- | --- | --- | --- | 2 | --- |
| Transwest Air Express | 6 | --- | --- | --- | --- | --- | 6 | --- |
| Vero Mommouth Airlines, Inc. | 1 | --- | --- | --- | --- | --- | 1 | --- |
| Viking Int. Airlines, Inc. | 5 | --- | --- | --- | --- | --- | 5 | --- |
| Windstar Aviation Corp. | 1 | 1 | --- | --- | --- | --- | --- | --- |
| Zantop Airways, Inc. | 4 | --- | --- | --- | 4 | --- | --- | --- |

*Aircraft operated by air taxi operators who hold authority to operate aircraft over 12,500 pounds, or turbojet aircraft exempted under blanket authority.

TABLE 5.19

AIRCRAFT IN OPERATION BY AIR TAXI OPERATORS* BY MANUFACTURER AND MODEL
DECEMBER 31, 1977 and 1978

| Type of Aircraft, Number of Engines, and Model | 1977 | 1978 | Type of Aircraft, Number of Engines, and Model | 1977 | 1978 |
|--|------------|------------|--|------------|------------|
| Total aircraft | <u>261</u> | <u>339</u> | Piston--total | <u>154</u> | <u>185</u> |
| Fixed wing aircraft--total | <u>258</u> | <u>339</u> | 4-engine--total | <u>2</u> | <u>5</u> |
| Turbojet--total | <u>74</u> | <u>95</u> | Douglas DC4 | - | 2 |
| 3-engine--total | - | <u>9</u> | Douglas DC6 | 2 | 2 |
| Boeing B727 | - | 9 | 2-engine--total | <u>151</u> | <u>178</u> |
| 2-engine--total | <u>74</u> | <u>86</u> | Convair CV240 | - | 2 |
| Dassault MD20 | 45 | 45 | Convair CV340/440 | 13 | 22 |
| DeHavilland DH125 | 2 | 1 | Curtiss-Wright CW46 | 5 | 5 |
| Douglas DC9 | - | 1 | DeHavilland DHC4 | - | 1 |
| Grumman G1159 | 5 | 6 | Douglas DC3 | 121 | 130 |
| Hamburger/Flugzenbau HR320 | 3 | 6 | Martin M404 | 12 | 16 |
| Israel Aircraft WW23 | - | 1 | 1-engine--total | <u>1</u> | <u>2</u> |
| Learjet LR23 | 3 | 1 | Beech BE18 | 1 | 1 |
| Learjet LR25 | 11 | 13 | Cessna C210 | - | 1 |
| Learjet LR35 | 3 | 8 | Rotary-wind--total | <u>3</u> | - |
| Rockwell Int'l NA265 | 2 | 4 | Turbine--total | <u>3</u> | - |
| Turboprop--total | <u>30</u> | <u>59</u> | Sikorsky S61 | 3 | - |
| 4-engine--total | <u>1</u> | <u>14</u> | | | |
| Convair CV600 | - | 4 | | | |
| Lockheed L188 | 1 | 6 | | | |
| Short SD3 | - | 4 | | | |
| 2-engine--total | <u>29</u> | <u>45</u> | | | |
| Convair CV580 | 1 | 12 | | | |
| DeHavilland DH7 | - | 1 | | | |
| Grumman G159 | 6 | 7 | | | |
| Israel Aircraft WW24 | - | 1 | | | |
| Nord ND262 | 18 | 20 | | | |
| Short SD330 | 4 | 4 | | | |

*Aircraft operated by air taxi operators who hold authority to operate aircraft over 12,500 pounds or turbojet aircraft exempted under blanket authority.

TABLE 5.20

AIRCRAFT IN OPERATION BY AIR TRAVEL CLUBS:
DECEMBER 31, 1978

| Name of Carrier | Total Aircraft | Turbojet 4-Engine | Turboprop 4-Engine | Piston 2-Engine |
|---|----------------|----------------------|-----------------------|--------------------|
| Total | <u>19</u> | <u>7</u> | <u>3</u> | <u>9</u> |
| Ambassadair, Inc. | 2 | 2 | - | - |
| Atlanta Skylarks | 1 | 1 | - | - |
| Bird of the Sun Air Travel Club | 1 | - | - | 1 |
| Club Alaska Travel Club | 1 | 1 | - | - |
| Club U.S.A. International, Inc. | 1 | 1 | - | - |
| Emerald Shillelagh Chowder and Marching Society, Inc. | 1 | - | 1 | - |
| Great Valley Travel Club, Inc. | 1 | - | - | 1 |
| Jet Set Travel Club, Inc. | 1 | 1 | - | - |
| Nomads, Inc. | 2 | - | 1 | 1 |
| Pegasus Int'l Travel Club | 2 | 1 | - | 1 |
| Ports of Call Travel Club | 6 | - | 1 | 5 |

VI. U.S. CIVIL CARRIER OPERATING DATA

The air carrier data contained in this chapter were obtained from the following CAB sources:

- Financial Data--Air Carrier Financial Statistics, published quarterly.
- Traffic Data--Air Carrier Traffic Statistics, published monthly.
- Supplemental Carrier Data--Air Carrier Analytic Charts and Supplemental Carrier Statistics, published quarterly.

Starting with the year 1970, data contained herein for domestic operations are compiled on a 50-states basis.

TABLE 6.1

TRAFFIC DATA, SCHEDULED SERVICE OF CERTIFICATED ROUTE AIR CARRIERS: 1977 AND 1978

| Traffic Category | Total Scheduled Service | | Scheduled Domestic Service | | Scheduled International/Territorial Service | |
|-------------------------------------|-------------------------|-------------|----------------------------|-------------|---|------------|
| | 1977 | 1978 | 1977 | 1978 | 1977 | 1978 |
| Revenue pasenger-miles Flown (000)* | 193,218,819(r) | 226,781,368 | 155,609,249(r) | 182,669,424 | 36,609,570 | 44,111,944 |
| First Class | 27,995,576(r) | 32,562,376 | 25,440,633(r) | 29,665,369 | 2,554,943 | 2,897,007 |
| Coach and Economy | 165,223,244 | 194,218,991 | 131,168,617 | 153,004,055 | 34,054,627 | 41,214,936 |
| Available seat miles (000) | 345,565,901(r) | 368,750,530 | 280,618,915(r) | 299,541,652 | 64,946,986 | 69,208,878 |
| Revenue pasenger load factor (%)** | (55.9) | (61.5) | (55.8) | (61.0) | (56.4) | (63.7) |
| Revenue pasenger enplanements (000) | 240,326 | 274,719 | 222,283 | 253,960 | 18,043 | 20,759 |
| Revenue ton-miles Flown (000)* | 25,908,787(r) | 29,679,437 | 19,537,804(r) | 22,579,998 | 6,370,983 | 7,099,439 |
| Passenger | 19,321,853(r) | 22,678,179 | 15,660,895(r) | 18,266,957 | 3,660,958 | 4,411,222 |
| Freight | 5,385,129(r) | 5,763,249 | 3,084,177(r) | 3,449,764 | 2,300,952 | 2,313,485 |
| Express | 41,417 | 56,494 | 40,479 | 55,741 | 938 | 753 |
| U.S. Mail | 1,147,323(r) | 1,167,683 | 750,672(r) | 806,006 | 396,651 | 361,677 |
| Foreign Mail | 13,058 | 13,833 | 1,575 | 1,530 | 11,483 | 12,303 |
| Revenue Aircraft-miles Flown (000)* | 2,418,645(r) | 2,519,976 | 2,103,789(r) | 2,201,384 | 314,847 | 318,592 |
| All pasenger service | 2,322,837(r) | 2,421,859 | 2,048,523(r) | 2,138,398 | 274,314 | 283,461 |
| All cargo service | 95,813 | 98,117 | 55,278 | 62,988 | 40,535 | 35,129 |

(R)=Revised.

*Details may not add to total due to rounding.

**Percent revenue pasenger-miles flown of available seat-miles in revenue pasenger service. This represents the proportion of aircraft seating capacity that is actually sold and utilized.

SOURCE: Bureau of Accounts and Statistics, CAB.

TABLE 6.2

TRAFFIC DATA, NONSCHEDULED SERVICE OF CERTIFICATED ROUTE AIR CARRIERS: 1977 AND 1978

| Traffic Category | Total Nonscheduled Service (000) | | Nonscheduled Domestic Service (000) | | Nonscheduled International/Territorial Service (000) | |
|--------------------------------|----------------------------------|------------|-------------------------------------|-----------|--|-----------|
| | 1977(R) | 1978 | 1977(R) | 1978 | 1977(R) | 1978 |
| Revenue passenger-miles | 12,862,707 | 10,216,166 | 6,609,469 | 5,143,162 | 6,253,238 | 5,073,004 |
| Available seat miles | 15,605,649 | 12,362,888 | 8,576,687 | 6,658,889 | 7,028,962 | 5,703,999 |
| Revenue ton-miles flown* | 1,673,587 | 1,415,576 | 730,657 | 571,825 | 942,930 | 843,751 |
| Passenger | 1,286,275 | 1,021,623 | 660,951 | 514,324 | 625,325 | 507,299 |
| Freight | 387,310 | 393,951 | 69,705 | 57,501 | 317,605 | 336,450 |
| Available ton-miles | 2,504,761 | 2,104,441 | 1,193,925 | 924,501 | 1,310,836 | 1,179,940 |
| Revenue aircraft miles flown | 106,383 | 88,152 | 58,142 | 47,484 | 48,241 | 40,668 |
| Revenue passenger enplanements | 5,446 | 4,582 | 3,637 | 3,061 | 1,809 | 1,521 |

(R)=Revised.

*Details may not add to total due to rounding.

SOURCE: Bureau of Accounts and Statistics, CAB.

TABLE 6.3

REVENUE AIRCRAFT DEPARTURES, MILES AND HOURS FLOWN, AND AVERAGE SPEED IN SCHEDULED DOMESTIC SERVICE OF THE PASSENGER/CARGO CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978

| Year | Revenue Aircraft Departures | Revenue Aircraft Miles Flown (000) | Revenue Aircraft Hours Flown | Average Airborne Speed (Miles per Hour) |
|----------------|-----------------------------|------------------------------------|------------------------------|---|
| 1969 | 5,058,371 | 2,000,269 | 5,082,555 | 390 |
| 1970 | 4,776,584 | 2,013,484 | 5,746,058 | 350 |
| 1971 | 4,680,612 | 1,992,807 | 4,925,995 | 405 |
| 1972 | 4,726,047 | 1,986,758 | 4,917,997 | 404 |
| 1973 | 4,805,141 | 2,040,407 | 5,051,158 | 404 |
| 1974 | 4,433,705 | 1,883,265 | 4,693,521 | 401 |
| 1975 | 4,456,146 | 1,909,486 | 4,735,970 | 403 |
| 1976 | 4,598,152 | 2,001,387 | 4,929,240 | 406 |
| 1977 | 4,697,164(r) | 2,087,653(r) | 5,117,575() | 408 |
| 1978 | 4,772,426 | 2,176,205 | 5,324,537 | 409 |

(r)1978 revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.4

REVENUE AIRCRAFT DEPARTURES, MILES AND HOURS FLOWN, AND AVERAGE SPEED IN
SCHEDULED INTERNATIONAL/TERRITORIAL SERVICE OF THE PASSENGER/CARGO
CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978

| Year | Revenue Aircraft Departures | Revenue Aircraft Miles Flown (000) | Revenue Aircraft Hours Flown | Average Airborne Speed (Miles per Hour) |
|----------------|-----------------------------|------------------------------------|------------------------------|---|
| 1969 | 295,489 | 359,476 | 753,347 | 477 |
| 1970 | 299,529 | 369,870 | 767,440 | 482 |
| 1971 | 292,515 | 350,744 | 728,331 | 482 |
| 1972 | 292,995 | 350,112 | 729,613 | 480 |
| 1973 | 297,153 | 361,481 | 751,773 | 481 |
| 1974 | 260,932 | 330,248 | 686,704 | 481 |
| 1975 | 248,564 | 331,020 | 686,450 | 482 |
| 1976 | 234,512 | 318,610 | 658,536 | 484 |
| 1977 | 223,635(r) | 314,847 | 646,005 | 487 |
| 1978 | 217,873 | 318,592 | 651,405 | 489 |

(r)Revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.5
TOTAL TON-MILES AVAILABLE IN ALL SERVICES OF THE
UNITED STATES AIR CARRIERS: 1969 THROUGH 1978
(Thousands of Ton-Miles)

| Year | Total Available Ton-Miles | Certificated Route Air Carriers | | | Supplemental Air Carriers |
|----------------|---------------------------|---------------------------------|---------------------|--|---------------------------|
| | | Total | Domestic Operations | International and Territorial Operations | |
| 1969 | 45,246,411 | 42,770,192 | 32,020,042 | 10,750,150 | 2,476,219 |
| 1970 | 46,273,427 | 44,298,170 | 32,580,842 | 11,717,328 | 1,975,257 |
| 1971 | 49,584,516 | 47,255,550 | 33,994,418 | 13,261,132 | 2,328,966 |
| 1972 | 50,867,516 | 48,680,473 | 34,877,554 | 13,802,919 | 2,187,043 |
| 1973 | 53,966,736 | 51,443,758 | 37,371,558 | 14,072,200 | 2,522,978 |
| 1974 | 51,153,441 | 48,941,526 | 35,565,908 | 13,375,618 | 2,211,915 |
| 1975 | 51,215,945 | 49,288,695 | 36,511,214 | 12,777,481 | 1,927,250 |
| 1976 | 53,521,569 | 51,708,842 | 38,819,097 | 12,889,745 | 1,812,727 |
| 1977 | 56,775,493(r) | 54,789,077(r) | 41,412,289(r) | 13,376,788(r) | 1,986,416 |
| 1978 | 58,903,243 | 56,869,934 | 43,556,663 | 13,312,271 | 2,034,309 |

(r)Revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.6

REVENUE TON-MILES FLOWN IN ALL SERVICES BY CERTIFICATED ROUTE
AIR CARRIERS OF THE UNITED STATES: 1969 THROUGH 1978
(Thousands of Tons)

| Year | Certificated Route Air Carriers | | |
|----------------|---------------------------------|---------------------|--|
| | Total* | Domestic Operations | International and Territorial Operations |
| 1969 | 19,989,409 | 13,942,994 | 6,046,417 |
| 1970 | 20,185,500 | 13,876,803 | 6,308,694 |
| 1971 | 20,905,968 | 14,141,786 | 6,764,182 |
| 1972 | 22,805,371 | 15,584,558 | 7,220,813 |
| 1973 | 23,927,657 | 16,707,015 | 7,220,642 |
| 1974 | 23,900,208 | 16,999,202 | 6,901,006 |
| 1975 | 23,533,743 | 17,069,474 | 6,464,269 |
| 1976 | 25,709,152 | 18,801,891 | 6,907,261 |
| 1977 | 27,582,374(r) | 20,268,464(r) | 7,313,910(r) |
| 1978 | 31,095,008 | 23,131,819 | 7,943,189 |

*Categories may not add to total due to rounding.

(r)Revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.7

TOTAL TON-MILES AVAILABLE IN SCHEDULED SERVICE OF THE CERTIFICATED
ROUTE AIR CARRIERS: 1969 THROUGH 1978
(Thousands of Ton-Miles)

| Year | Total Available Ton-Miles | Domestic Operations | | | International/Territorial Operations | | |
|------|---------------------------|---------------------|-------------------------------|--------------------|--------------------------------------|-------------------------------|--------------------|
| | | Total | Passenger or Cargo Operations | All Cargo Carriers | Total | Passenger or Cargo Operations | All Cargo Carriers |
| 1969 | 38,663,697 | 30,544,280 | 30,125,957 | 418,323 | 8,119,417 | 7,534,997 | 584,420 |
| 1970 | 41,692,872 | 31,832,719 | 31,340,228 | 492,491 | 9,860,153 | 8,952,755 | 907,398 |
| 1971 | 44,138,742 | 33,210,930 | 32,688,215 | 522,715 | 10,927,812 | 9,934,594 | 993,218 |
| 1972 | 45,583,056 | 34,037,816 | 33,447,467 | 590,349 | 11,545,240 | 10,417,800 | 1,127,440 |
| 1973 | 49,019,300 | 36,622,737 | 35,796,002 | 826,735 | 12,396,563 | 11,148,088 | 1,248,475 |
| 1974 | 46,848,194 | 34,852,546 | 34,030,377 | 822,169 | 11,995,648 | 10,713,196 | 1,282,452 |
| 1975 | 47,254,436 | 35,694,516 | 34,978,118 | 716,398 | 11,559,920 | 10,149,968 | 1,409,952 |
| 1976 | 49,324,836 | 37,762,270 | 37,024,605 | 737,665 | 11,562,566 | 10,128,805 | 1,433,761 |
| 1977 | 52,284,321(r) | 40,218,368(r) | 39,435,896(r) | 782,472 | 12,065,953 | 10,672,803 | 1,393,150 |
| 1978 | 54,764,491 | 42,632,163 | 41,327,693 | 1,304,470 | 12,132,328 | 10,831,812 | 1,300,516 |

(r)Revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.8

REVENUE TON-MILES FLOWN IN SCHEDULED SERVICE OF THE CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978
(Thousands of Ton-Miles)

| Year | Total Revenue Ton-Miles Scheduled | Domestic Operations | | | International/Territorial Operations | | |
|------|---|---------------------|-----------------------------------|-----------------------|--------------------------------------|-----------------------------------|-----------------------|
| | | Total | Passenger/ Cargo Operations | All Cargo Carriers | Total | Passenger/ Cargo Operations | All Cargo Carriers |
| 1969 | 16,898,218 | 12,830,573 | 12,615,450 | 215,123 | 4,067,645 | 3,699,324 | 368,321 |
| 1970 | 18,165,661 | 13,345,048 | 13,086,322 | 258,726 | 4,820,613 | 4,247,362 | 573,251 |
| 1971 | 18,685,307 | 13,628,704 | 13,353,000 | 275,704 | 5,056,603 | 4,388,559 | 668,044 |
| 1972 | 20,746,190 | 15,065,840 | 14,729,594 | 336,246 | 5,680,350 | 4,912,784 | 767,566 |
| 1973 | 22,241,875 | 16,239,873 | 15,743,457 | 496,416 | 6,002,002 | 5,164,020 | 837,928 |
| 1974 | 22,425,208 | 16,553,354 | 16,062,715 | 490,639 | 5,871,854 | 5,005,447 | 866,407 |
| 1975 | 22,185,546 | 16,602,980 | 16,169,542 | 433,438 | 5,582,566 | 4,679,319 | 903,247 |
| 1976 | 24,120,934 | 18,154,965 | 17,709,697 | 445,268 | 5,965,969 | 5,043,985 | 921,984 |
| 1977 | 25,908,787(r) | 19,537,804(r) | 19,041,963(r) | 495,841 | 6,370,983 | 5,427,710 | 943,273 |
| 1978 | 29,679,437 | 22,579,998 | 21,736,679 | 843,319 | 7,099,439 | 6,181,751 | 917,688 |

(r)Revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.9
 REVENUE TON-MILES FLOWN IN SCHEDULED DOMESTIC PASSENGER/CARGO SERVICE OF
 THE CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978
 (Thousands of Ton-Miles)

| Year | Total | | Passenger | Mail | Express and Freight |
|----------------|---------------|---------------|---------------|------------|---------------------|
| | Number* | Load Factor** | | | |
| 1969 | 12,615,450 | 41.9 | 9,897,465 | 800,814 | 1,916,472 |
| 1970 | 13,086,332 | 41.8 | 10,414,764 | 705,666 | 1,965,904 |
| 1971 | 13,353,000 | 40.8 | 10,643,399 | 696,780 | 2,012,818 |
| 1972 | 14,729,594 | 44.0 | 11,813,493 | 676,062 | 2,240,039 |
| 1973 | 15,743,457 | 44.0 | 12,631,705 | 658,237 | 2,453,517 |
| 1974 | 16,062,715 | 47.2 | 12,973,216 | 667,577 | 2,421,926 |
| 1975 | 16,169,542 | 46.2 | 13,172,873 | 665,493 | 2,331,176 |
| 1976 | 17,709,697 | 47.8 | 14,527,134 | 707,657 | 2,474,902 |
| 1977 | 19,041,963(r) | 48.3 | 15,660,895(r) | 740,021(r) | 2,641,041(r) |
| 1978 | 21,736,679 | 52.6 | 18,266,957 | 779,053 | 2,690,668 |

*Categories may not add to total due to rounding.

**Percent total revenue ton-miles flown of available ton-miles in revenue services.

(r)revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.10
 REVENUE TON-MILES FLOW IN SCHEDULED INTERNATIONAL/TERRITORIAL SERVICE OF
 THE PASSENGER/CARGO CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978
 (Thousands of Ton-Miles)

| Year | Total | | Passenger | Mail | Express and Freight |
|----------------|-----------|---------------|-----------|------------|---------------------|
| | Number* | Load Factor** | | | |
| 1969 | 3,699,324 | 49.1 | 2,299,767 | 463,009 | 936,554 |
| 1970 | 4,247,363 | 47.4 | 2,756,510 | 548,845 | 942,008 |
| 1971 | 4,388,559 | 44.2 | 2,922,094 | 456,683 | 1,009,785 |
| 1972 | 4,912,784 | 47.2 | 3,427,026 | 371,656 | 1,114,104 |
| 1973 | 5,164,020 | 46.3 | 3,563,995 | 361,440 | 1,238,584 |
| 1974 | 5,005,447 | 46.7 | 3,318,630 | 347,762 | 1,339,056 |
| 1975 | 4,679,319 | 46.1 | 3,108,173 | 311,707 | 1,259,439 |
| 1976 | 5,043,985 | 49.8 | 3,371,676 | 291,682 | 1,380,132 |
| 1977 | 5,427,710 | 50.9 | 3,660,958 | 298,970(r) | 1,467,782(r) |
| 1978 | 6,181,751 | 57.1 | 4,410,442 | 282,425 | 1,488,886 |

*Categories may not add to total due to rounding.

**Percent total revenue ton-miles flown of available ton-miles in revenue services.
 (r)revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.11
 REVENUE TON-MILES FLOWN IN SCHEDULED DOMESTIC SERVICE OF THE ALL-CARGO
 CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978
 (Thousands of Ton-Miles)

| Year | Total | | Freight | Express | Mail |
|----------------|---------|---------------|---------|---------|--------|
| | Number* | Load Factor** | | | |
| 1969 | 215,123 | 51.4 | 208,058 | 1,530 | 5,535 |
| 1970 | 258,726 | 52.5 | 247,877 | 1,713 | 9,136 |
| 1971 | 275,704 | 52.7 | 263,075 | 1,838 | 10,792 |
| 1972 | 336,246 | 57.0 | 324,666 | 2,056 | 9,526 |
| 1973 | 496,416 | 60.0 | 466,053 | 2,023 | 28,340 |
| 1974 | 490,639 | 59.7 | 464,584 | 1,650 | 24,405 |
| 1975 | 433,438 | 60.5 | 414,700 | 958 | 17,780 |
| 1976 | 445,268 | 60.4 | 434,307 | 66 | 10,895 |
| 1977 | 495,841 | 63.4 | 483,554 | 61 | 12,226 |
| 1978 | 843,319 | 64.6 | 813,561 | 1,276 | 28,483 |

*Details may not add to total due to rounding.

**Percent total revenue ton-miles flown of available ton-miles in revenue services.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.12

REVENUE TON-MILES FLOWN IN SCHEDULED INTERNATIONAL/TERRITORIAL SERVICE OF THE ALL-CARGO
CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978
(Thousands of Ton-Miles)

| Year | Total | | Freight | Express | Mail |
|----------------|---------|---------------|---------|---------|---------|
| | Number* | Load Factor** | | | |
| 1969 | 368,320 | 63.0 | 287,810 | 8 | 80,502 |
| 1970 | 573,251 | 63.2 | 356,502 | 62 | 216,687 |
| 1971 | 668,044 | 67.3 | 507,716 | 51 | 160,278 |
| 1972 | 767,566 | 68.1 | 623,981 | 28 | 143,557 |
| 1973 | 837,982 | 67.1 | 676,959 | 90 | 160,933 |
| 1974 | 866,407 | 67.6 | 743,420 | 235 | 122,754 |
| 1975 | 903,247 | 64.1 | 788,966 | 70 | 114,211 |
| 1976 | 921,984 | 64.3 | 806,296 | --- | 115,688 |
| 1977 | 943,273 | 67.7 | 834,108 | --- | 109,164 |
| 1978 | 917,688 | 70.6 | 825,352 | --- | 91,555 |

*Categories may not add to total due to rounding.

**Percent total revenue ton-miles flown of available ton-miles in revenue services.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.13

DOMESTIC FREIGHT REVENUE TON-MILES FLOWN, BY TYPE OF CARRIER: 1968 THROUGH 1977
(Thousands of Ton-Miles)

| Year | Total All Carriers* | Passenger/Cargo Carriers | | | All-Cargo Carriers | | Non-scheduled | Supplemental Carriers |
|------|---------------------|--------------------------|--------------|---------------|--------------------|-----------|---------------|-----------------------|
| | | Total* | Scheduled | Non-scheduled | Total* | Scheduled | | |
| 1969 | 2,519,811 | 2,097,201 | 1,916,472 | 180,729 | 394,112 | 209,588 | 184,524 | 256,202 |
| 1970 | 2,580,757 | 2,003,193 | 1,965,904 | 37,289 | 292,145 | 249,590 | 42,555 | 285,419 |
| 1971 | 2,747,227 | 2,141,650 | 2,012,818 | 128,832 | 299,972 | 264,913 | 35,059 | 305,605 |
| 1972 | 2,972,708 | 2,344,840 | 2,240,039 | 104,800 | 369,022 | 326,722 | 42,300 | 258,846 |
| 1973 | 3,267,003 | 2,470,232 | 2,453,517 | 16,717 | 505,187 | 468,076 | 37,111 | 291,584 |
| 1974 | 3,221,250 | 2,431,660 | 2,421,926 | 9,733 | 508,415 | 466,234 | 42,182 | 279,986 |
| 1975 | 3,020,247 | 2,312,235 | 2,303,388 | 8,847 | 445,251 | 414,700 | 30,551 | 262,761 |
| 1976 | 3,161,302 | 2,471,508 | 2,453,458 | 18,050 | 452,306 | 434,307 | 17,999 | 237,488 |
| 1977 | 3,389,599 | 2,646,878(r) | 2,600,623(r) | 46,254(r) | 507,005 | 483,554 | 23,451 | 235,497 |
| 1978 | 3,768,897 | 2,666,723 | 2,636,203 | 30,520 | 840,542 | 813,561 | 26,981 | 261,632 |

(r)Revised.

*Categories may not add to totals due to rounding.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.14

U.S. MAIL AND AIR CARGO REVENUE TON-MILES FLOWN IN SCHEDULED DOMESTIC
SERVICE OF THE PASSENGER/CARGO CERTIFICATED ROUTE AIR CARRIERS:
1969 THROUGH 1978
(Thousands of Ton-Miles)

| Year | U.S. Mail | Air Cargo | | |
|----------------|------------|--------------|-----------|---------|
| | Total | Total | Freight | Express |
| 1969 | 800,814 | 1,916,472 | 1,808,987 | 107,485 |
| 1970 | 705,241 | 1,965,904 | 1,861,610 | 104,294 |
| 1971 | 696,331 | 2,012,818 | 1,932,243 | 80,575 |
| 1972 | 675,524 | 2,240,039 | 2,155,432 | 84,607 |
| 1973 | 657,429 | 2,453,517 | 2,355,856 | 97,661 |
| 1974 | 666,663 | 2,421,926 | 2,343,823 | 78,103 |
| 1975 | 664,374 | 2,331,176 | 2,303,388 | 27,788 |
| 1976 | 706,479 | 2,474,884 | 2,453,440 | 21,444 |
| 1977 | 738,446(r) | 2,641,041(r) | 2,600,623 | 40,418 |
| 1978 | 777,523 | 2,690,668 | 2,636,203 | 54,465 |

(r)revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.15

U.S. AND FOREIGN MAIL AND AIR CARGO REVENUE TON-MILES FLOWN IN SCHEDULED
INTERNATIONAL/TERRITORIAL SERVICE OF THE PASSENGER/CARGO
CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978
(Thousands of Ton-Miles)

| Year | Mail | Air Cargo | | |
|----------------|---------|-----------|-----------|---------|
| | Total | Total | Freight | Express |
| 1969 | 463,099 | 936,554 | 936,110 | 444 |
| 1970 | 548,845 | 942,008 | 941,563 | 445 |
| 1971 | 456,683 | 1,009,785 | 1,099,254 | 531 |
| 1972 | 371,656 | 1,114,104 | 1,113,373 | 731 |
| 1973 | 361,440 | 1,238,584 | 1,237,861 | 723 |
| 1974 | 347,762 | 1,339,056 | 1,338,199 | 857 |
| 1975 | 311,707 | 1,259,439 | 1,259,065 | 374 |
| 1976 | 291,682 | 1,380,625 | 1,380,132 | 493 |
| 1977 | 298,970 | 1,467,782 | 1,466,844 | 938 |
| 1978 | 282,425 | 1,488,886 | 1,488,133 | 753 |

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.16

REVENUE PASSENGER ENPLANEMENTS IN SCHEDULED SERVICE OF THE CERTIFICATED
ROUTE AIR CARRIERS: 1974 THROUGH 1978
(Thousands of Enplanements)

| Type of Carrier | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|---------|---------|---------|---------|---------|
| Total | 207,458 | 205,062 | 223,318 | 240,326 | 274,719 |
| Domestic passenger/cargo | 189,733 | 188,746 | 206,274 | 222,283 | 253,960 |
| Trunk lines | 147,999 | 147,428 | 160,451 | 172,231 | 196,073 |
| Local service | 35,200 | 34,027 | 37,947 | 41,853 | 48,612 |
| Regional | N/A | 409 | 415 | 543 | 622 |
| Helicopter | 592 | 505 | 444 | 268 | 282 |
| Intra-Alaska | 1,100 | 1,442 | 1,562 | 1,452 | 1,574 |
| Intra-Hawaii | 4,675 | 4,767 | 5,262 | 5,724 | 6,488 |
| Other | 157 | 168 | 198 | 212 | 309 |
| International and territorial passenger/cargo | 17,725 | 16,316 | 17,039 | 18,043 | 20,759 |

N/A - Not available.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.17

PASSENGER OPERATIONS IN SCHEDULED DOMESTIC SERVICE OF
CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978

| Year | Revenue Passenger Enplanements (000) | Revenue Passenger Miles (000) | Available Seat-Miles (000) | Revenue Passenger Load Factor* | Average On-Line Passenger Trip-Length (Miles) | Average Passenger Revenue Per Passenger-Miles (Cents) |
|------|--------------------------------------|-------------------------------|----------------------------|--------------------------------|---|---|
| 1969 | 142,340 | 102,717,425 | 206,434,270 | 49.8 | 722 | 5.90 |
| 1970 | 153,662 | 104,155,983 | 212,943,866 | 48.9 | 678 | 6.00 |
| 1971 | 156,195 | 106,438,408 | 221,503,165 | 48.1 | 681 | 6.33 |
| 1972 | 172,452 | 118,137,978 | 226,614,145 | 52.1 | 685 | 6.40 |
| 1973 | 183,272 | 126,317,334 | 244,699,119 | 51.6 | 689 | 6.63 |
| 1974 | 189,733 | 129,732,395 | 233,880,101 | 55.5 | 684 | 7.52 |
| 1975 | 188,746 | 131,728,492 | 241,282,125 | 54.6 | 698 | 7.69 |
| 1976 | 206,279 | 143,271,283 | 261,247,796 | 54.8 | 704 | 8.16 |
| 1977 | 222,283 | 156,609,249(r) | 280,618,915(r) | 55.8 | 704 | 8.61 |
| 1978 | 253,960 | 182,669,424 | 299,541,652 | 61.0 | 719 | 8.49 |

(r)Revised

*Percent revenue passenger-miles of available seat-miles.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.18

PASSENGER OPERATIONS IN SCHEDULED INTERNATIONAL AND TERRITORIAL SERVICE OF
THE CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978

| Year | Revenue Passenger Enplanements (000) | Revenue Passenger Miles (000) | Available Seat-Miles (000) | Revenue Passenger Load Factor (Percent)* | Average On-Line Passenger Trip-Length (Miles) | Average Passenger Revenue Per Passenger-Miles (Cents) |
|----------|--------------------------------------|-------------------------------|----------------------------|--|---|---|
| 1969 . . | 18,603 | 22,702,695 | 44,411,659 | 51.1 | 1,220 | 4.95 |
| 1970 . . | 16,260 | 27,563,211 | 51,959,992 | 53.0 | 1,695 | 5.01 |
| 1971 . . | 17,474 | 29,219,294 | 58,320,186 | 50.1 | 1,672 | 5.08 |
| 1972 . . | 18,897 | 34,268,298 | 60,797,069 | 56.4 | 1,813 | 4.98 |
| 1973 . . | 18,936 | 35,639,973 | 65,897,988 | 54.1 | 1,882 | 5.32 |
| 1974 . . | 17,725 | 33,186,199 | 63,125,961 | 52.6 | 1,872 | 4.39 |
| 1975 . . | 16,316 | 31,081,668 | 61,724,118 | 50.4 | 1,905 | 7.17 |
| 1976 . . | 17,039 | 33,716,743 | 61,573,853 | 54.8 | 1,979 | 7.15 |
| 1977 . . | 18,043 | 36,609,570 | 64,946,986 | 56.4 | 2,029 | 7.61 |
| 1978 . . | 20,759 | 44,111,944 | 69,208,878 | 63.7 | 2,125 | 7.49 |

*Percent revenue passenger-miles of available seat-miles.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.19

COACH PLUS ECONOMY PASSENGER OPERATIONS IN SCHEDULED DOMESTIC SERVICE
OF THE PASSENGER/CARGO CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978

| Year | Revenue Passenger Miles (000) | Available Seat-Miles (000) | Revenue Passenger Load Factor (Percent)* | Coach Plus Economy Passenger-Miles as Percent of Total |
|----------------|-------------------------------|----------------------------|--|--|
| 1969 | 81,732,619 | 155,247,875 | 52.6 | 79.6 |
| 1970 | 84,349,480 | 160,354,405 | 52.6 | 81.0 |
| 1971 | 87,068,135 | 166,419,971 | 52.3 | 81.8 |
| 1972 | 96,181,995 | 171,712,976 | 56.0 | 81.4 |
| 1973 | 102,753,267 | 186,879,821 | 55.0 | 81.3 |
| 1974 | 104,245,352 | 177,011,547 | 58.9 | 80.4 |
| 1975 | 108,106,295 | 184,483,964 | 58.6 | 82.1 |
| 1976 | 120,871,281 | 203,749,632 | 59.3 | 83.2 |
| 1977 | 131,168,617 | 221,658,610 | 59.2 | 83.8 |
| 1978 | 153,004,055 | 239,788,601 | 63.8 | 83.8 |

*Percent revenue passenger-miles of available seat-miles.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.20

COACH PLUS ECONOMY PASSENGER OPERATIONS IN SCHEDULED INTERNATIONAL/TERRITORIAL SERVICE OF THE PASSENGER/CARGO CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978

| Year | Revenue Passenger Miles (000) | Available Seat-Miles (000) | Revenue Passenger Load Factor (Percent)* | Coach Plus Economy Passenger-Miles as Percent of Total |
|----------------|-------------------------------|----------------------------|--|--|
| 1969 | 20,202,474 | 37,897,380 | 53.3 | 89.0 |
| 1970 | 24,777,086 | 44,232,302 | 56.0 | 89.9 |
| 1971 | 26,582,499 | 50,225,661 | 52.9 | 91.0 |
| 1972 | 31,383,908 | 53,359,631 | 58.8 | 91.6 |
| 1973 | 32,758,604 | 58,223,313 | 56.3 | 91.9 |
| 1974 | 30,495,916 | 56,100,020 | 54.4 | 91.9 |
| 1975 | 28,756,207 | 55,034,477 | 52.3 | 92.5 |
| 1976 | 31,321,359 | 55,296,351 | 56.6 | 92.9 |
| 1977 | 34,054,627 | 58,560,002 | 58.2 | 93.0 |
| 1978 | 41,214,936 | 62,591,778 | 65.8 | 93.5 |

*Percent revenue passenger-miles of available seat-miles.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.21

REVENUE AIRCRAFT MILES FLOWN IN ALL SERVICES OF THE CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978
(Thousands of Aircraft Miles)

| Year | Scheduled Service | | | Non-Scheduled Service |
|----------------|-------------------|-----------------|-------------|-----------------------|
| | Total* | Passenger/Cargo | All Cargo** | |
| 1969 | 2,384,888 | 2,243,517 | 141,350 | 169,858 |
| 1970 | 2,418,169 | 2,265,955 | 152,214 | 124,095 |
| 1971 | 2,377,858 | 2,237,176 | 140,682 | 131,589 |
| 1972 | 2,375,878 | 2,236,065 | 139,813 | 124,000 |
| 1973 | 2,448,113 | 2,302,755 | 145,358 | 107,609 |
| 1974 | 2,258,188 | 2,126,417 | 131,768 | 92,680 |
| 1975 | 2,240,506 | 2,123,705 | 116,799 | 84,187 |
| 1976 | 2,319,967 | 2,215,054 | 104,913 | 99,192 |
| 1977 | 2,418,645(r) | 2,322,837(r) | 95,813(r) | 106,383(r) |
| 1978 | 2,519,976 | 2,421,859 | 98,117 | 88,152 |

*Details may not add to total due to rounding.

**Includes operations of the all-cargo carriers and all-cargo operations of the passenger/cargo carriers.

(r)Revised

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.22

REVENUE AIRCRAFT MILES FLOWN IN DOMESTIC OPERATIONS OF THE CERTIFICATED
ROUTE AIR CARRIERS: 1969 THROUGH 1978 (Thousands of Aircraft Miles)

| Year | Scheduled Service | | | Non- Scheduled Service |
|----------------|-------------------|---------------------|-------------|------------------------------|
| | Total* | Passenger/ Cargo | All Cargo** | |
| 1969 | 1,963,367 | 1,879,389 | 83,978 | 69,510 |
| 1970 | 2,019,417 | 1,930,611 | 88,806 | 40,059 |
| 1971 | 2,003,878 | 1,920,317 | 83,562 | 40,733 |
| 1972 | 1,999,530 | 1,917,471 | 82,059 | 42,224 |
| 1973 | 2,057,745 | 1,975,754 | 81,990 | 40,138 |
| 1974 | 1,900,584 | 1,831,034 | 69,549 | 37,457 |
| 1975 | 1,909,486 | 1,849,142 | 60,343 | 38,174 |
| 1976 | 2,001,357 | 1,947,397 | 53,960 | 50,125 |
| 1977 | 2,103,798(r) | 2,048,523(r) | 55,278(r) | 58,142(r) |
| 1978 | 2,201,384 | 2,138,398 | 62,988 | 47,484 |

*Details may not add to total due to rounding.

**Includes operations of the all-cargo carriers and all-cargo operations of the passenger/cargo carriers.

(r)Revised

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.23

REVENUE AIRCRAFT MILES FLOWN IN INTERNATIONAL/TERRITORIAL OPERATIONS BY CERTIFICATED
ROUTE AIR CARRIERS: 1969 THROUGH 1978 (Thousands of Aircraft Miles)

| Year | Scheduled Service | | | Non- Scheduled Service |
|----------------|-------------------|---------------------|-------------|------------------------------|
| | Total* | Passenger/ Cargo | All Cargo** | |
| 1969 | 421,500(r) | 364,128 | 57,372 | 100,348 |
| 1970 | 398,752(r) | 335,344 | 63,408 | 84,036 |
| 1971 | 373,980 | 316,859 | 57,120 | 90,856 |
| 1972 | 376,346 | 318,594 | 57,754 | 81,776 |
| 1973 | 390,369 | 327,001 | 63,368 | 67,471 |
| 1974 | 357,604 | 295,383 | 62,219 | 55,223 |
| 1975 | 331,020 | 274,563 | 56,456 | 46,013 |
| 1976 | 318,610 | 267,657 | 50,953 | 49,067 |
| 1977 | 314,847 | 274,314(r) | 40,535(r) | 48,241(r) |
| 1978 | 318,592 | 283,461 | 35,129 | 40,668 |

*Details may not add to total due to rounding.

**Includes operations of the all-cargo carriers and all-cargo operations of the passenger/cargo carriers.

(r)Revised

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.24
 REVENUE AIRCRAFT MILES FLOWN IN SCHEDULED DOMESTIC SERVICE OF THE CERTIFICATED
 ROUTE AIR CARRIERS BY TYPE OF CARRIER: 1969 THROUGH 1978
 (Thousands of Aircraft Miles)

| Year | Trunk | Local Service | Regional | Helicopter | Intra-Alaska | Intra-Hawaii | All-Cargo | Other |
|------|-----------|---------------|----------|------------|--------------|--------------|-----------|-------|
| 1969 | 1,747,185 | 227,603 | N/A | 1,910 | 7,438 | 8,697 | 10,456 | 7,436 |
| 1970 | 1,748,728 | 242,471 | N/A | 1,427 | 7,603 | 8,147 | 11,219 | 7,944 |
| 1971 | 1,727,414 | 241,911 | N/A | 1,048 | 7,823 | 7,276 | 11,071 | 7,335 |
| 1972 | 1,711,465 | 249,561 | N/A | 1,022 | 15,980 | 8,115 | 12,771 | 615 |
| 1973 | 1,743,427 | 270,677 | N/A | 1,085 | 15,487 | 8,965 | 17,338 | 766 |
| 1974 | 1,589,077 | 264,522 | N/A | 1,029 | 18,712 | 9,192 | 17,319 | 733 |
| 1975 | 1,599,008 | 257,800 | 5,007 | 873 | 22,678 | 9,154 | 14,128 | 838 |
| 1976 | 1,673,216 | 275,656 | 4,437 | 709 | 22,953 | 9,364 | 14,089 | 963 |
| 1977 | 1,755,550 | 292,743(r) | 6,323 | 468 | 21,909(r) | 9,624 | 16,145 | 1,036 |
| 1978 | 1,812,660 | 321,311 | 6,884 | 403 | 23,487 | 9,962 | 25,179 | 1,498 |

(r) Revised.
 Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.25

U.S. SUPPLEMENTAL AIR CARRIER OPERATIONS: 1976 THROUGH 1978

| Item | 1976 | 1977 | 1978 |
|--------------------------------------|-----------|------------|------------|
| Revenue aircraft miles (000) | 62,774 | 67,698(r) | 69,732 |
| Commercial | 38,306 | 45,690(r) | 46,231 |
| Military | 24,468 | 22,008(r) | 23,501 |
| Revenue passenger originations (000) | 2,192 | 2,794 | 2,951 |
| Revenue passenger miles (000) | 8,199,053 | 9,983,404 | 9,999,037 |
| Commercial | 6,647,466 | 8,352,086 | 8,297,453 |
| Military | 1,551,587 | 1,631,318 | 1,701,584 |
| Available seat-miles (000) | 9,264,160 | 11,537,720 | 11,324,351 |
| Revenue cargo ton-miles (000) | 384,133 | 329,919(r) | 372,447 |
| Commercial | 159,242 | 136,226(r) | 163,313 |
| Military | 224,891 | 193,693(r) | 209,134 |
| Available ton-miles | 1,812,727 | 1,986,416 | 2,034,309 |
| Operating revenue (\$000) | 417,480 | 516,158 | 529,802 |
| Transport | 398,656 | 474,640 | 506,407 |
| Contract and charter | | | |
| Commercial | 291,181 | 359,896 | 380,067 |
| Military | 107,237 | 114,140 | 123,437 |
| Other | 239 | 604 | 2,151 |
| Other than transport | 18,827 | 41,515 | 23,391 |
| Operating expenses (\$000) | 418,086 | 500,783 | 510,070 |
| Operating profit or loss (\$000) | -599 | 15,370 | 19,737 |
| Number of operators | 7 | 10 | 9 |

(r)Revised.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.26
 OPERATING REVENUE OF SCHEDULED DOMESTIC PASSENGER/CARGO OPERATORS,
 CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978
 (Thousands of Dollars)

| Year | Total Operating Revenues* | | Passenger | | U.S. Mail (Including Subsidy) | | Express and Freight | | Excess Baggage | | Other | |
|------|---------------------------|---------|---------------|---------|-------------------------------|---------|---------------------|---------|----------------|---------|------------|---------|
| | Amount | Percent | Amount | Percent | Amount | Percent | Amount | Percent | Amount | Percent | Amount | Percent |
| 1969 | 6,856,964 | 100.0 | 5,943,446 | 86.7 | 221,773 | 3.2 | 432,292 | 6.3 | 11,699 | 0.2 | 247,754 | 3.6 |
| 1970 | 7,130,716 | 100.0 | 6,246,426 | 87.6 | 204,639 | 2.9 | 460,714 | 6.5 | 12,134 | 0.1 | 206,801 | 2.9 |
| 1971 | 7,701,402 | 100.0 | 6,736,350 | 87.5 | 224,283 | 2.9 | 485,182 | 6.3 | 13,562 | 0.2 | 242,027 | 3.1 |
| 1972 | 8,587,996 | 100.0 | 7,564,841 | 88.1 | 228,031 | 2.7 | 541,346 | 6.3 | 12,842 | 0.1 | 240,936 | 2.8 |
| 1973 | 9,604,652 | 100.0 | 8,379,396 | 87.3 | 257,745 | 2.7 | 615,099 | 6.4 | 14,289 | 0.1 | 338,124 | 3.5 |
| 1974 | 11,448,289 | 100.0 | 9,757,503 | 85.2 | 259,419 | 2.3 | 672,957 | 5.9 | 16,581 | 0.1 | 741,829 | 6.5 |
| 1975 | 11,910,894 | 100.0 | 10,113,091 | 84.9 | 185,336 | 1.6 | 696,135 | 5.8 | 18,863 | 0.2 | 897,469 | 7.5 |
| 1976 | 13,789,178 | 100.0 | 11,855,266 | 86.0 | 214,125 | 1.6 | 830,051 | 6.0 | 22,014(r) | 0.2 | 867,722(r) | 6.3 |
| 1977 | 15,690,236(r) | 100.0 | 13,489,111(r) | 86.0 | 277,518(r) | 1.7 | 960,857(r) | 6.1 | 20,913(r) | 0.1 | 941,837 | 6.1 |
| 1978 | 17,937,861 | 100.0 | 15,506,693 | 86.5 | 263,134 | 1.5 | 1,092,341 | 6.1 | 22,893 | 0.1 | 1,052,800 | 6.0 |

(r) Revised.

*Details may not add to total due to rounding.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.27
 OPERATING EXPENSES OF SCHEDULED DOMESTIC PASSENGER/CARGO OPERATORS,
 CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978
 (Thousands of Dollars)

| Year | Total Operating Expenses* | | Aircraft Operating Expenses | | | | | | | | Ground and Indirect Expense | | Net Operating Income or Loss Amount |
|------|---------------------------|---------|-----------------------------|---------|------------------------------|---------|--|---------|--------------|---------|-----------------------------|---------|-------------------------------------|
| | Amount | Percent | Flight Operations | | Maintenance Flight Equipment | | Depreciation and Amortization Flight Equipment and Other | | Amount | Percent | Amount | Percent | |
| | | | Amount | Percent | Amount | Percent | Amount | Percent | | | | | |
| 1969 | 6,553,214 | 100.0 | 1,917,591 | 29.4 | 1,041,497 | 15.9 | 688,091 | 10.5 | 2,886,035 | 44.2 | 323,749 | | |
| 1970 | 7,127,747 | 100.0 | 2,098,250 | 29.4 | 1,127,161 | 15.8 | 745,279 | 10.5 | 3,157,056 | 44.3 | 2,970 | | |
| 1971 | 7,443,222 | 100.0 | 2,235,004 | 30.0 | 1,124,526 | 15.2 | 749,077 | 10.1 | 3,334,614 | 44.7 | 238,181 | | |
| 1972 | 8,096,695 | 100.0 | 2,324,560 | 28.7 | 1,239,456 | 15.3 | 773,823 | 9.6 | 3,758,854 | 46.4 | 491,300 | | |
| 1973 | 9,116,173 | 100.0 | 2,605,723 | 28.6 | 1,397,007 | 15.3 | 834,607 | 9.2 | 4,278,836 | 46.9 | 488,479 | | |
| 1974 | 10,648,991 | 100.0 | 3,297,164 | 31.0 | 1,499,920 | 14.1 | 865,229 | 8.1 | 4,986,680 | 46.8 | 799,289 | | |
| 1975 | 11,781,406 | 100.0 | 3,869,405 | 32.8 | 1,595,358 | 13.6 | 882,569 | 7.5 | 5,434,073 | 46.1 | 129,488 | | |
| 1976 | 13,231,448 | 100.0 | 4,401,280 | 33.3 | 1,802,164 | 13.6 | 920,144 | 7.0 | 6,089,859 | 46.1 | 575,730 | | |
| 1977 | 15,036,431(r) | 100.0 | 5,229,115(r) | 34.8 | 1,986,460(r) | 13.2 | 959,707(r) | 6.4 | 6,861,149(r) | 45.6 | 653,805(r) | | |
| 1978 | 16,932,475 | 100.0 | 5,574,351 | 32.9 | 2,125,038 | 12.6 | 1,212,284 | 7.1 | 8,020,802 | 47.4 | 1,005,386 | | |

(r) Revised.

*Details may not add to total due to rounding.

Source: Bureau of Accounts and Statistics, CAB.

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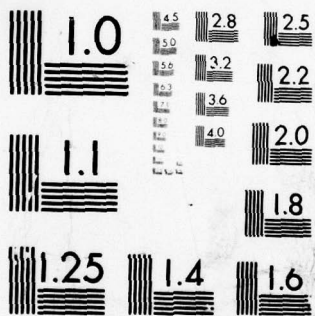
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MICROCOPY RESOLUTION TEST CHART
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TABLE 6. 28

OPERATING REVENUE OF SCHEDULED INTERNATIONAL/TERRITORIAL PASSENGER/CARGO OPERATORS,
CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978
(Thousands of Dollars)

| Year | Total Operating Revenues* | | Passenger | | U.S. Mail (Including Subsidy) | | Express and Freight | | Excess Baggage | | Other | |
|------|---------------------------|---------|-----------|---------|-------------------------------|---------|---------------------|---------|----------------|---------|---------|---------|
| | Amount | Percent | Amount | Percent | Amount | Percent | Amount | Percent | Amount | Percent | Amount | Percent |
| 1969 | 1,689,397 | 100.0 | 1,176,349 | 69.6 | 91,769 | 5.4 | 185,502 | 11.0 | 14,232 | 0.9 | 221,536 | 13.1 |
| 1970 | 1,913,592 | 100.0 | 1,380,388 | 72.1 | 103,303 | 5.4 | 197,031 | 10.3 | 15,109 | 0.8 | 217,760 | 11.4 |
| 1971 | 2,080,262 | 100.0 | 1,483,973 | 71.4 | 90,188 | 4.3 | 220,553 | 10.6 | 15,672 | 0.8 | 269,874 | 12.9 |
| 1972 | 2,284,300 | 100.0 | 1,706,512 | 74.7 | 77,378 | 3.4 | 242,354 | 10.6 | 14,459 | 0.6 | 243,599 | 10.7 |
| 1973 | 2,526,878 | 100.0 | 1,894,914 | 75.0 | 71,366 | 2.8 | 268,055 | 10.6 | 15,231 | 0.6 | 277,314 | 11.0 |
| 1974 | 2,921,607 | 100.0 | 2,121,651 | 72.6 | 83,595 | 2.9 | 335,704 | 11.5 | 20,965 | 0.7 | 359,693 | 12.3 |
| 1975 | 3,063,399 | 100.0 | 2,230,081 | 72.9 | 89,793 | 2.9 | 355,805 | 11.6 | 25,476 | 0.8 | 362,245 | 11.8 |
| 1976 | 3,316,136 | 100.0 | 2,410,987 | 72.9 | 77,620 | 2.3 | 382,053 | 11.5 | 27,259 | 0.8 | 418,217 | 12.6 |
| 1977 | 3,774,262 | 100.0 | 2,785,706 | 73.8 | 79,582 | 2.1 | 425,296 | 11.3 | 20,797 | 0.6 | 462,882 | 12.3 |
| 1978 | 4,332,323 | 100.0 | 3,305,529 | 76.3 | 82,439 | 1.9 | 443,894 | 10.3 | 20,019 | 0.5 | 480,442 | 11.1 |

*Details may not add to total due to rounding.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 6.29
 OPERATING EXPENSES OF SCHEDULED INTERNATIONAL/TERRITORIAL PASSENGER/CARGO OPERATORS,
 CERTIFICATED ROUTE AIR CARRIERS: 1969 THROUGH 1978
 (Thousands of Dollars)

| Year | Total Operating Expenses* | | Aircraft Operating Expenses | | | | | | | | Ground and Indirect Expense | | Net Operating Income or Loss Amount |
|------|---------------------------|---------|-----------------------------|---------|------------------------------|---------|--|---------|-----------|---------|-----------------------------|---------|-------------------------------------|
| | Amount | Percent | Flight Operations | | Maintenance Flight Equipment | | Depreciation and Amortization Flight Equipment and Other | | Amount | Percent | Amount | Percent | |
| | | | Amount | Percent | Amount | Percent | Amount | Percent | | | | | |
| 1969 | 1,638,275 | 100.0 | 456,431 | 27.9 | 219,053 | 13.4 | 157,019 | 9.6 | 805,770 | 49.2 | 51,113 | | |
| 1970 | 1,894,398 | 100.0 | 515,182 | 27.2 | 241,077 | 12.7 | 187,889 | 10.0 | 950,241 | 50.2 | 19,202 | | |
| 1971 | 2,050,095 | 100.0 | 573,008 | 28.2 | 269,031 | 12.7 | 190,220 | 9.6 | 1,017,834 | 50.0 | 30,167 | | |
| 1972 | 2,233,879 | 100.0 | 595,859 | 26.7 | 300,476 | 13.4 | 211,908 | 9.5 | 1,125,635 | 50.4 | 50,421 | | |
| 1973 | 2,458,971 | 100.0 | 680,521 | 27.6 | 316,597 | 12.9 | 213,772 | 8.8 | 1,248,081 | 50.7 | 67,907 | | |
| 1974 | 2,994,713 | 100.0 | 1,037,441 | 34.6 | 356,187 | 12.0 | 213,966 | 7.1 | 1,387,119 | 46.3 | -73,104 | | |
| 1975 | 3,059,348 | 100.0 | 1,050,250 | 34.3 | 363,869 | 11.9 | 212,456 | 7.0 | 1,432,774 | 46.8 | 4,051 | | |
| 1976 | 3,182,236 | 100.0 | 1,089,387 | 34.2 | 368,190 | 11.6 | 192,879 | 6.1 | 1,531,780 | 48.1 | 133,900 | | |
| 1977 | 3,552,189 | 100.0 | 1,170,021 | 32.9 | 414,486 | 11.7 | 238,009 | 6.7 | 1,729,672 | 48.7 | 222,072 | | |
| 1978 | 4,009,295 | 100.0 | 1,210,269 | 30.2 | 457,763 | 11.4 | 303,404 | 7.6 | 2,037,858 | 50.8 | 323,029 | | |

*Details may not add to total due to rounding.

Source: Bureau of Accounts and Statistics, CAB.

TABLE 7.1

ACTIVE AIRMEN CERTIFICATES HELD: DECEMBER 31, 1969-1978

| Category | 1969 | 1970 | 1971 | 1972 | 1973 3/ | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Pilot--total | 720,028 | 732,729 | 741,009 | 750,869 | 714,607 | 733,728 | 728,187 | 744,246 | 783,932 | 798,833 |
| Student | 203,520 | 195,861 | 186,428 | 181,477 | 181,905 | 180,795 | 176,978 | 188,801 | 203,510 | 204,874 |
| Private | 299,491 | 303,779 | 312,656 | 321,413 | 298,921 | 305,848 | 305,863 | 309,005 | 327,424 | 337,644 |
| Commercial | 176,585 | 186,821 | 192,409 | 196,228 | 182,444 | 192,425 | 189,342 | 187,801 | 188,763 | 185,833 |
| Airline transport | 31,442 | 34,430 | 35,949 | 37,714 | 38,139 | 41,002 | 42,592 | 45,072 | 50,149 | 55,881 |
| Helicopter (only) | 4,286 | 6,677 | 7,992 | 7,987 | 5,968 | 5,647 | 4,932 | 4,804 | 4,819 | 4,874 |
| Glider (only) * | 2,627 | 3,114 | 3,571 | 4,080 | 4,288 | 4,824 | 5,348 | 5,789 | 6,208 | 6,541 |
| Lighter-than-air * | 2,077 | 2,047 | 2,004 | 1,970 | 2,942 | 3,187 | 3,132 | 2,974 | 3,059 | 3,186 |
| Nonpilot--total. | 269,775 | 289,681 | 307,057 | 315,348 | 304,747 | 314,394 | 323,934 | 334,681 | 348,584 | 362,350 |
| Mechanic 1/ | 170,716 | 184,647 | 193,295 | 201,700 | 193,337 | 198,863 | 205,436 | 212,303 | 220,768 | 228,743 |
| Parachute rigger 1/ | 6,070 | 6,424 | 6,839 | 7,287 | 6,941 | 7,900 | 8,327 | 8,718 | 8,994 | 9,200 |
| Ground instructor 1/ | 41,234 | 44,176 | 46,145 | 48,450 | 46,827 | 49,249 | 51,365 | 53,464 | 55,717 | 57,738 |
| Dispatcher 1/ | 5,026 | 5,293 | 5,480 | 5,637 | 5,527 | 5,576 | 5,741 | 5,838 | 5,972 | 6,161 |
| Control tower operator | 19,851 | 21,032 | 26,450 | 23,353 | 23,250 | 23,342 | 23,956 | 24,584 | 25,107 | 25,388 |
| Flight navigator | 3,011 | 2,950 | 3,052 | 2,957 | 2,636 | 2,509 | 2,321 | 2,214 | 2,155 | 2,092 |
| Flight engineer | 23,867 | 25,159 | 25,796 | 25,964 | 26,229 | 26,955 | 26,788 | 27,560 | 29,871 | 33,028 |
| Flight instructor cer- tificates | 33,992 | 37,822 | 37,760 | 37,858 | 36,795 | 42,418 | 44,777 | 46,236 | 49,362 | 52,201 |
| Instrument ratings 2/ | 155,879 | 169,848 | 179,261 | 187,909 | 185,969 | 199,323 | 203,954 | 211,364 | 226,334 | 236,312 |

* Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above represent pilots who received a medical examination.

1/ Numbers represent all certificates on record. No medical examination required.

2/ Special ratings shown on pilot certificates, i.e., do not indicate additional certificates.

3/ The decrease in the number of airmen resulted from a purging of the airmen certification files. During this process approximately 26 thousand duplicates or faulty records were eliminated.

r/ Revised.

TABLE 7.2

WOMEN ACTIVELY ENGAGED IN AVIATION: DECEMBER 31, 1969-1978

| Category of Certificates Held | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Pilot--total | 29,419 | 29,472 | 31,216 | 33,001 | 34,356 | 36,943 | 37,934 | 41,643 | 47,294 | 49,874 |
| Student | 16,055 | 15,787 | 16,417 | 17,053 | 18,593 | 19,298 | 19,600 | 22,254 | 25,705 | 26,354 |
| Private | 11,174 | 11,409 | 12,332 | 13,391 | 13,232 | 14,465 | 14,952 | 15,838 | 17,702 | 19,267 |
| Commercial | 1,824 | 1,897 | 2,032 | 2,196 | 2,083 | 2,596 | 2,733 | 2,857 | 3,090 | 3,306 |
| Airline transport | 76 | 79 | 88 | 101 | 95 | 116 | 137 | 160 | 193 | 270 |
| Helicopter (only) | 14 | 6 | 9 | 10 | 7 | 5 | 11 | 17 | 18 | 17 |
| Glider (only) * | 111 | 141 | 169 | 201 | 216 | 271 | 301 | 352 | 391 | 433 |
| Lighter-than-air * | 165 | 153 | 169 | 49 | 130 | 192 | 200 | 165 | 195 | 227 |
| Nonpilot--total | 2,912 | 3,078 | 3,413 | 3,594 | 3,074 | 3,471 | 3,809 | 4,252 | 4,716 | 5,135 |
| Mechanical <u>1/</u> | 269 | 302 | 322 | 349 | 284 | 315 | 360 | 422 | 505 | 600 |
| Parachute rigger <u>1/</u> | 449 | 461 | 470 | 483 | 336 | 495 | 504 | 516 | 535 | 544 |
| Ground instructor <u>1/</u> | 1,917 | 2,006 | 2,081 | 2,166 | 1,960 | 2,139 | 2,249 | 2,369 | 2,525 | 2,682 |
| Dispatcher <u>1/</u> | 36 | 38 | 39 | 40 | 39 | 42 | 50 | 55 | 65 | 76 |
| Control tower operator | 222 | 271 | 501 | 556 | 453 | 473 | 638 | 874 | 1,044 | 1,151 |
| Flight engineer | 18 | 0 | 0 | 0 | 2 | 7 | 8 | 16 | 42 | 82 |
| Flight navigator | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Flight instructor | 560 | 589 | 646 | 664 | 618 | 834 | 945 | 1,054 | 1,238 | 1,458 |

NOTE: Instrument ratings not reported.

* Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above represent pilots who received a medical examination.

1/ No medical examination required.

TABLE 7.3

AIRMEN CERTIFICATES ISSUED, BY CATEGORY: CALENDAR YEARS 1974-1978

| Category of Certificate | 1974 | | 1975 | | 1976 | | 1977 | | 1978 | |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | Original Issuances | Additional Ratings | Original Issuances | Additional Ratings | Original Issuances | Additional Ratings | Original Issuances | Additional Ratings | Original Issuances | Additional Ratings |
| Pilot--total | 185,914 | 38,700 | 193,888 | 35,395 | 204,489 | 39,112 | 212,331 | 44,708 | 208,563 | 39,959 |
| Student | 113,997 | 0 | 127,424 | 0 | 129,280 | 0 | 138,816 | 0 | 129,488 | 0 |
| Private | 48,501 | 9,866 | 49,733 | 9,734 | 55,583 | 12,618 | 54,657 | 15,104 | 58,064 | 16,048 |
| Commercial | 17,693 | 24,638 | 12,620 | 21,860 | 13,577 | 22,059 | 11,121 | 22,806 | 11,789 | 17,501 |
| Airline transport | 3,219 | 3,557 | 2,765 | 3,370 | 3,869 | 3,901 | 5,697 | 6,229 | 6,912 | 5,921 |
| Helicopter (only) | 1,298 | 387 | 866 | 251 | 1,064 | 276 | 944 | 328 | 1,122 | 287 |
| Glider (only) | 832 | 244 | 230 | 158 | 848 | 238 | 792 | 220 | 759 | 188 |
| Lighter-than-air | 374 | 8 | 250 | 22 | 268 | 20 | 304 | 21 | 429 | 14 |
| Nonpilot--total | 12,210 | 7,837 | 12,491 | 7,137 | 15,069 | 7,751 | 16,066 | 7,267 | 16,418 | 6,679 |
| Mechanic | 6,618 | 2,748 | 6,930 | 2,606 | 8,501 | 3,149 | 9,121 | 3,307 | 8,791 | 3,269 |
| Parachute rigger | 468 | 83 | 414 | 62 | 454 | 76 | 304 | 36 | 235 | 50 |
| Ground instructor | 2,416 | 852 | 2,193 | 714 | 2,390 | 707 | 2,404 | 729 | 2,193 | 574 |
| Dispatcher | 152 | 0 | 140 | 1 | 106 | 0 | 161 | 0 | 193 | 0 |
| Control tower operator | 1,733 | 3,979 | 2,164 | 3,657 | 2,382 | 3,686 | 1,645 | 3,008 | 1,391 | 2,540 |
| Flight navigator | 7 | 1 | 4 | 0 | 2 | 0 | 16 | 0 | 8 | 1 |
| Flight engineer | 816 | 174 | 646 | 97 | 1,234 | 133 | 2,415 | 187 | 3,607 | 245 |
| Flight instructor certificates 1/ | 6,312 | 3,399 | 5,233 | 3,427 | 6,137 | 4,718 | 6,352 | 6,397 | 5,930 | 5,375 |
| Instrument ratings* | 0 | 19,012 | 0 | 16,495 | 0 | 18,155 | 0 | 18,764 | 0 | 16,265 |

NOTE: Additional ratings are entered on current airman certificates as follows:

Private, commercial, and airline transport pilot--aircraft category, class, and type instrument rating.

Helicopter pilot--instrument and type ratings.

Flight instructor--ratings for each aircraft category in which the holder is qualified, and for instrument flying instruction.

Mechanic--airframe and powerplant ratings.

Parachute rigger--senior or master rigger ratings.

Ground instructor--ratings for each subject in which the holder is qualified to give instruction.

Air traffic control tower operator--junior/senior ratings for airports where holder may control air traffic.

*Special ratings shown on pilot certificates represented above; not to be added to total.

1/Not included in total.

TABLE 7.4

INSTRUMENT RATINGS ISSUED: 1978 AND 1977

| Class of Certificate | 1978 | 1977 | Percent Change 1977-1978 |
|---|--------------|--------------|--------------------------|
| Total--all groups | 16,899 | 18,764 | -10 |
| Private pilots--total | <u>9,690</u> | <u>8,986</u> | <u>+8</u> |
| Private airplane (only) | 9,032 | 8,415 | +7 |
| Private airplane, private glider | 127 | 127 | 0 |
| Private airplane, commercial glider | 6 | 4 | +50 |
| Private airplane, private helicopter | 27 | 26 | +4 |
| Private airplane, commercial helicopter | 225 | 180 | +25 |
| Private airplane, private glider, private helicopter | 1 | 0 | + |
| Private airplane, other | 272 | 234 | +16 |
| Commercial pilots--total | <u>6,575</u> | <u>9,232</u> | <u>-29</u> |
| Commercial airplane (only) | 5,588 | 8,036 | -30 |
| Commercial airplane, private glider | 85 | 97 | -12 |
| Commercial airplane, commercial glider | 82 | 88 | -7 |
| Commercial airplane, private helicopter | 6 | 12 | -50 |
| Commercial airplane, commercial helicopter | 796 | 975 | -18 |
| Commercial airplane, private glider, commercial helicopter | 1 | 3 | -67 |
| Commercial airplane, commercial glider, commercial helicopter | 13 | 17 | -24 |
| Commercial airplane, other | 4 | 4 | 0 |
| Rotorcraft pilots--total | <u>634</u> | <u>546</u> | <u>+16</u> |
| Commercial helicopter | 620 | 540 | +15 |
| Airline transport helicopter | 11 | 5 | +120 |
| Commercial helicopter, private glider | 1 | 1 | 0 |
| Commercial helicopter, commercial glider | 1 | 0 | + |
| Commercial helicopter, other | 1 | 0 | + |

TABLE 7.5

INSTRUMENT RATINGS HELD, BY CLASS OF CERTIFICATE: DECEMBER 31, 1977 AND 1978

| Class of Certificate | 1978 | 1977 | Percent Change 1977-1978 |
|---|----------------|----------------|-----------------------------|
| Total--all groups | 236,312 | 226,334 | + 4 |
| Private pilots--total | <u>32,470</u> | <u>29,367</u> | <u>+11</u> |
| Private airplane (only) | 30,090 | 27,243 | +10 |
| Private airplane, private glider | 730 | 674 | + 8 |
| Private airplane, commercial glider | 57 | 56 | + 2 |
| Private airplane, private helicopter | 211 | 180 | +17 |
| Private airplane, private glider, private helicopter | 10 | 9 | +11 |
| Private airplane, commercial helicopter | 1,354 | 1,188 | +14 |
| Private airplane, private gyroplane | 2 | 3 | -33 |
| Private airplane, private glider, commercial helicopter | 10 | 8 | +25 |
| Private airplane, commercial glider, commercial helicopter | 5 | 5 | 0 |
| Private airplane, other | 1 | 1 | 0 |
| Commercial pilots--total | <u>145,268</u> | <u>144,248</u> | <u>+ 1</u> |
| Commercial airplane (only) | 123,301 | 122,426 | + 1 |
| Commercial airplane, private glider | 1,672 | 1,580 | + 6 |
| Commercial airplane, commercial glider | 3,371 | 3,280 | + 3 |
| Commercial airplane, private helicopter | 128 | 119 | + 8 |
| Commercial airplane, commercial helicopter | 16,055 | 16,103 | - 1 |
| Commercial airplane, private glider, commercial helicopter | 127 | 117 | + 9 |
| Commercial airplane, commercial glider, commercial helicopter | 540 | 552 | - 2 |
| Commercial airplane, commercial gyroplane | 23 | 22 | + 5 |
| Commercial airplane, commercial helicopter, commercial gyroplane | 26 | 25 | + 4 |
| Commercial airplane, commercial gyroplane, commercial glider | 2 | 2 | 0 |
| Commercial airplane, commercial glider, private helicopter | 8 | 6 | +33 |
| Commercial airplane, commercial gyroplane, commercial helicopter, commercial glider | 15 | 16 | - 6 |
| Airline transport pilots--total | <u>55,881</u> | <u>50,149</u> | <u>+11</u> |
| Airline transport airplane | 55,331 | 49,698 | +11 |
| Airline transport airplane, airline transport helicopter | 550 | 451 | +22 |
| Rotorcraft pilots--total | <u>2,693</u> | <u>2,570</u> | <u>+ 5</u> |
| Commercial helicopter | 2,653 | 2,535 | + 5 |
| Airline transport helicopter | 30 | 25 | +20 |
| Rotorcraft, other | 10 | 10 | 0 |

TABLE 7.6
ACTIVE HELICOPTER PILOTS BY CLASS OF CERTIFICATE:
DECEMBER 31, 1978

| Class of Certificate | Number of Certificates Held |
|---|-----------------------------|
| Total | 28,890 |
| Private helicopter | 290 |
| Private gyroplane, private airplane | 37 |
| Private helicopter, private airplane | 924 |
| Private helicopter, private airplane, private glider | 30 |
| Commercial airplane, private helicopter | 177 |
| Commercial airplane, commercial gyroplane, commercial glider, commercial helicopter | 15 |
| Commercial airplane, commercial glider, private helicopter | 9 |
| Private gyroplane | 5 |
| Private airplane, commercial glider, commercial helicopter | 11 |
| Commercial helicopter | 4,454 |
| Private airplane, commercial helicopter | 2,557 |
| Commercial airplane, commercial helicopter | 18,866 |
| Private airplane, private glider, commercial helicopter | 14 |
| Commercial airplane, private glider, commercial helicopter | 147 |
| Commercial airplane, commercial glider, commercial helicopter | 606 |
| Commercial helicopter, private glider | 3 |
| Commercial helicopter, commercial glider | 7 |
| Commercial gyroplane, commercial airplane | 36 |
| Commercial airplane, commercial gyroplane, commercial glider | 4 |
| Commercial airplane, commercial gyroplane, commercial helicopter | 32 |
| Commercial gyroplane, commercial helicopter, private airplane | 1 |
| Commercial helicopter, commercial gyroplane | 2 |
| Airline transport helicopter | 113 |
| Airline transport airplane, airline transport helicopter | 550 |

TABLE 7.7

ACTIVE GLIDER PILOTS BY CLASS OF CERTIFICATE

DECEMBER 31, 1978

| Class of Certificate | Number of Certificates Held |
|--|-----------------------------|
| Total | 18,610 |
| Private glider | 5,474 |
| Private airplane, private glider | 4,113 |
| Private airplane, private glider, private helicopter | 30 |
| Private airplane, private glider, commercial helicopter | 14 |
| Commercial airplane, private glider | 2,103 |
| Commercial airplane, private glider, commercial helicopter | 147 |
| Commercial helicopter, private glider | 3 |
| Private airplane, commercial glider | 564 |
| Private airplane, commercial glider, commercial helicopter | 11 |
| Commercial glider | 1,067 |
| Commercial airplane, commercial glider | 4,443 |
| Commercial airplane, commercial glider, private helicopter | 9 |
| Commercial airplane, commercial glider, commercial helicopter | 606 |
| Commercial helicopter, commercial glider | 7 |
| Commercial airplane, commercial gyroplane, commercial glider and commercial helicopter | 15 |
| Commercial airplane, commercial gyroplane, commercial glider | 4 |

TABLE 7.8

ACTIVE HELICOPTER AND GLIDER PILOTS:

DECEMBER 31, 1974-78

| Calendar year | Total Helicopter Pilots ^{1/} | | Total Glider Pilots ^{2/} | |
|---------------|---------------------------------------|----------------|-----------------------------------|----------------|
| | Number | Percent Change | Number | Percent Change |
| 1978 . . . | 28,890 | +1 | 18,610 | +4 |
| 1977 . . . | 28,566 | +3 | 17,933 | +6 |
| 1976 . . . | 27,816 | -1 | 16,866 | +6 |
| 1975 . . . | 27,872 | -3 | 15,962 | +6 |
| 1974 . . . | 28,618 | +18 | 15,013 | +40 |

^{1/} Includes pilots with ratings to fly helicopters only.

^{2/} Includes pilots with ratings to fly gliders only.

TABLE 7.9

TOTAL AND INSTRUMENT RATED PILOTS:

DECEMBER 31, 1974-1978

| Calendar Year | Total Pilots ^{1/} | Instrument rated Pilots | |
|---------------|----------------------------|-------------------------|------------------|
| | | Number | Percent of total |
| 1978 | 593,959 | 236,312 | 40 |
| 1977 | 580,422 | 226,334 | 39 |
| 1976 | 555,625 | 211,364 | 38 |
| 1975 | 551,209 | 203,954 | 37 |
| 1974 | 552,933 | 199,323 | 36 |

^{1/} Excludes Student pilots.

TABLE 7.11

ACTIVE NONPILOT CERTIFICATES HELD, BY CATEGORY
AND AGE GROUP OF HOLDER: 1978 AND 1977

| Age Group | Type of Certificate | | | | | | | |
|-------------|----------------------|---------|------------------------|---------|----------------------------|-------|-----------------------------|--------|
| | Total Non-pilots | | Mechanic <u>1/</u> | | Parachute Rigger <u>1/</u> | | Ground Instructor <u>1/</u> | |
| | 1978 | 1977 | 1978 | 1977 | 1978 | 1977 | 1978 | 1977 |
| Total . . . | 362,350 | 348,584 | 228,743 | 220,768 | 9,200 | 8,994 | 57,738 | 55,717 |
| 14-15 . . . | 19 | 13 | 4 | 4 | 0 | 0 | 15 | 9 |
| 16-19 . . . | 687 | 617 | 573 | 514 | 4 | 2 | 70 | 55 |
| 20-24 . . . | 15,390 | 14,730 | 9,556 | 8,632 | 291 | 362 | 2,142 | 2,088 |
| 25-29 . . . | 30,766 | 31,270 | 17,334 | 18,020 | 1,191 | 1,325 | 4,562 | 4,517 |
| 30-34 . . . | 49,590 | 47,977 | 28,288 | 28,001 | 1,526 | 1,458 | 7,289 | 7,375 |
| 35-39 . . . | 46,266 | 43,896 | 24,986 | 23,331 | 1,350 | 1,297 | 6,870 | 6,119 |
| 40-44 . . . | 40,905 | 39,857 | 22,932 | 23,067 | 1,370 | 1,347 | 4,539 | 4,107 |
| 45-49 . . . | 38,732 | 36,876 | 26,107 | 25,450 | 996 | 874 | 3,831 | 3,832 |
| 50-54 . . . | 36,261 | 38,387 | 26,649 | 28,027 | 725 | 735 | 5,133 | 5,791 |
| 55-59 . . . | 45,362 | 43,526 | 32,534 | 31,008 | 678 | 614 | 8,303 | 8,217 |
| 60 and over | 58,372 | 51,435 | 39,780 | 34,714 | 1,069 | 980 | 14,984 | 13,607 |
| Total . . . | Dispatcher <u>1/</u> | | Control Tower Operator | | Flight Navigator | | Flight Engineer | |
| | 1978 | 1977 | 1978 | 1977 | 1978 | 1977 | 1978 | 1977 |
| | 6,161 | 5,972 | 25,388 | 25,107 | 2,092 | 2,155 | 33,028 | 29,871 |
| 14-15 . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16-19 . . . | 0 | 0 | 40 | 46 | 0 | 0 | 0 | 0 |
| 20-24 . . . | 40 | 30 | 2,925 | 3,309 | 0 | 0 | 436 | 309 |
| 25-29 . . . | 233 | 225 | 5,289 | 5,561 | 1 | 1 | 2,156 | 1,621 |
| 30-34 . . . | 551 | 576 | 6,055 | 5,490 | 13 | 31 | 5,868 | 5,046 |
| 35-39 . . . | 736 | 691 | 3,362 | 3,290 | 304 | 401 | 8,658 | 8,767 |
| 40-44 . . . | 669 | 677 | 3,316 | 3,351 | 575 | 561 | 7,504 | 6,747 |
| 45-49 . . . | 667 | 650 | 2,576 | 2,272 | 353 | 317 | 4,202 | 3,481 |
| 50-54 . . . | 722 | 750 | 816 | 815 | 280 | 303 | 1,936 | 1,966 |
| 55-59 . . . | 936 | 962 | 763 | 757 | 385 | 406 | 1,763 | 1,562 |
| 60 and over | 1,607 | 1,411 | 246 | 216 | 181 | 135 | 505 | 372 |

1/ Numbers represent all certificates on record. No medical examination required.

TABLE 7.12
ACTIVE PILOTS AND FLIGHT INSTRUCTORS BY FAA REGION AND STATE:
DECEMBER 31, 1978

| FAA Region and States | Total Pilots | Student | Private | Commercial | Airline Transport | Miscellaneous ^{1/} | Flight Instructor ^{2/} |
|---------------------------------|----------------|----------------|----------------|----------------|-------------------|-----------------------------|---------------------------------|
| Total | <u>798,833</u> | <u>204,874</u> | <u>337,644</u> | <u>185,833</u> | <u>55,881</u> | <u>14,601</u> | <u>52,201</u> |
| United States--total | <u>785,581</u> | <u>201,244</u> | <u>335,020</u> | <u>181,903</u> | <u>53,144</u> | <u>14,270</u> | <u>51,624</u> |
| New England--total | <u>34,209</u> | <u>9,359</u> | <u>13,483</u> | <u>7,436</u> | <u>3,225</u> | <u>706</u> | <u>2,181</u> |
| Connecticut | 9,780 | 2,403 | 3,509 | 2,148 | 1,506 | 214 | 703 |
| Maine | 3,980 | 1,160 | 1,675 | 960 | 133 | 52 | 196 |
| Massachusetts | 12,976 | 3,879 | 5,429 | 2,577 | 792 | 299 | 818 |
| New Hampshire | 4,118 | 977 | 1,412 | 1,026 | 621 | 82 | 234 |
| Rhode Island | 1,723 | 523 | 719 | 370 | 86 | 25 | 125 |
| Vermont | 1,632 | 417 | 739 | 355 | 87 | 34 | 105 |
| Eastern--total | <u>104,146</u> | <u>28,153</u> | <u>42,359</u> | <u>24,287</u> | <u>6,981</u> | <u>2,366</u> | <u>7,412</u> |
| Delaware | 1,893 | 407 | 809 | 469 | 179 | 29 | 159 |
| District of Columbia | 836 | 238 | 328 | 206 | 26 | 38 | 47 |
| Maryland | 10,405 | 2,664 | 4,489 | 2,506 | 545 | 201 | 702 |
| New Jersey | 16,997 | 4,410 | 6,718 | 3,824 | 1,671 | 374 | 1,300 |
| New York | 31,652 | 9,252 | 13,091 | 6,682 | 1,742 | 885 | 2,207 |
| Pennsylvania | 23,203 | 6,403 | 10,029 | 4,813 | 1,477 | 481 | 1,757 |
| Virginia | 16,159 | 3,847 | 5,631 | 5,171 | 1,203 | 307 | 1,038 |
| West Virginia | 3,001 | 932 | 1,264 | 616 | 138 | 51 | 202 |
| Great Lakes--total | <u>138,415</u> | <u>36,834</u> | <u>65,729</u> | <u>27,059</u> | <u>6,838</u> | <u>1,955</u> | <u>8,914</u> |
| Illinois | 34,411 | 8,786 | 15,792 | 6,883 | 2,349 | 601 | 2,300 |
| Indiana | 15,654 | 4,385 | 7,565 | 3,034 | 500 | 170 | 1,031 |
| Michigan | 25,631 | 7,137 | 12,441 | 4,596 | 1,057 | 400 | 1,661 |
| Minnesota | 18,423 | 4,576 | 8,779 | 3,743 | 1,150 | 175 | 1,000 |
| Ohio | 30,083 | 8,049 | 14,109 | 6,238 | 1,220 | 467 | 2,101 |
| Wisconsin | 14,213 | 3,901 | 7,043 | 2,565 | 562 | 142 | 821 |
| Central--total | <u>51,678</u> | <u>13,048</u> | <u>25,276</u> | <u>10,581</u> | <u>2,221</u> | <u>552</u> | <u>3,099</u> |
| Iowa | 12,333 | 3,279 | 6,537 | 2,135 | 265 | 117 | 669 |
| Kansas | 14,792 | 3,642 | 7,266 | 3,075 | 656 | 153 | 837 |
| Missouri | 16,139 | 3,903 | 7,347 | 3,543 | 1,111 | 235 | 1,112 |
| Nebraska | 8,414 | 2,224 | 4,126 | 1,828 | 189 | 47 | 481 |
| Southern--total | <u>119,237</u> | <u>30,439</u> | <u>46,200</u> | <u>30,962</u> | <u>9,434</u> | <u>2,202</u> | <u>7,845</u> |
| Alabama | 9,905 | 2,407 | 3,955 | 2,895 | 342 | 306 | 802 |
| Florida | 46,608 | 11,038 | 17,910 | 12,413 | 4,550 | 697 | 3,111 |
| Georgia | 17,205 | 4,199 | 5,909 | 4,522 | 2,259 | 316 | 1,050 |
| Kentucky | 6,615 | 1,991 | 2,811 | 1,401 | 222 | 190 | 400 |
| Mississippi | 6,102 | 1,665 | 2,373 | 1,787 | 212 | 65 | 387 |
| North Carolina | 13,914 | 3,956 | 5,657 | 3,407 | 627 | 267 | 837 |
| South Carolina | 7,073 | 2,047 | 2,745 | 1,872 | 324 | 85 | 450 |
| Tennessee | 11,815 | 3,136 | 4,840 | 2,665 | 898 | 276 | 808 |
| Southwest--total | <u>97,637</u> | <u>24,102</u> | <u>38,977</u> | <u>25,666</u> | <u>7,199</u> | <u>1,693</u> | <u>6,883</u> |
| Arkansas | 7,366 | 2,025 | 3,036 | 1,995 | 251 | 59 | 476 |
| Louisiana | 10,784 | 2,879 | 3,954 | 3,121 | 568 | 262 | 719 |
| New Mexico | 6,617 | 1,652 | 2,902 | 1,643 | 254 | 166 | 428 |
| Oklahoma | 14,682 | 3,665 | 6,810 | 3,409 | 631 | 167 | 993 |
| Texas | 58,188 | 13,881 | 22,275 | 15,498 | 5,495 | 1,039 | 4,267 |
| Rocky Mountain--total | <u>41,388</u> | <u>11,215</u> | <u>17,478</u> | <u>9,230</u> | <u>2,489</u> | <u>976</u> | <u>2,640</u> |
| Colorado | 18,572 | 4,810 | 6,900 | 4,326 | 1,804 | 732 | 1,346 |
| Montana | 5,851 | 1,559 | 2,846 | 1,252 | 153 | 41 | 323 |
| North Dakota | 4,099 | 1,158 | 1,854 | 1,014 | 54 | 19 | 227 |
| South Dakota | 3,755 | 1,072 | 1,770 | 807 | 63 | 43 | 212 |
| Utah | 5,907 | 1,601 | 2,677 | 1,217 | 298 | 114 | 344 |
| Wyoming | 3,204 | 1,015 | 1,431 | 614 | 117 | 27 | 188 |
| Western--total | <u>138,584</u> | <u>32,638</u> | <u>59,857</u> | <u>32,175</u> | <u>11,016</u> | <u>2,898</u> | <u>8,675</u> |
| Arizona | 15,491 | 3,921 | 6,463 | 3,818 | 905 | 384 | 986 |
| California | 117,038 | 27,312 | 51,008 | 26,913 | 9,365 | 2,440 | 7,204 |
| Nevada | 6,055 | 1,405 | 2,386 | 1,444 | 746 | 74 | 425 |
| Northwest--total | <u>45,787</u> | <u>11,948</u> | <u>19,901</u> | <u>10,637</u> | <u>2,635</u> | <u>666</u> | <u>3,031</u> |
| Idaho | 5,976 | 1,639 | 2,730 | 1,336 | 211 | 60 | 373 |
| Oregon | 14,934 | 4,353 | 7,085 | 2,941 | 393 | 162 | 896 |
| Washington | 24,877 | 5,956 | 10,086 | 6,360 | 2,031 | 444 | 1,762 |
| Alaskan region--total | <u>10,914</u> | <u>2,703</u> | <u>4,712</u> | <u>2,730</u> | <u>667</u> | <u>102</u> | <u>688</u> |
| Pacific region--total | <u>3,586</u> | <u>805</u> | <u>1,048</u> | <u>1,140</u> | <u>439</u> | <u>154</u> | <u>256</u> |
| Outside U.S.--total | <u>13,252</u> | <u>3,630</u> | <u>2,624</u> | <u>3,930</u> | <u>2,737</u> | <u>331</u> | <u>577</u> |

NOTE: Puerto Rico and Virgin Islands are included in Outside U.S. total

^{1/} Includes glider helicopter, and lighter-than-air.

^{2/} Not included in total.

TABLE 7.13

ACTIVE NONPILOT AIRMEN CERTIFICATES HELD, BY FAA REGION AND STATE:
DECEMBER 31, 1978 ^{1/}

| FAA Region and States | Total Nonpilot Airmen | Mechanic | Parachute Rigger | Ground Instructor | Dispatcher | Control Tower Operator | Flight Navigator | Flight Engineer |
|---------------------------------|-----------------------------|----------------|---------------------|----------------------|--------------|------------------------------|---------------------|--------------------|
| Total | <u>362,350</u> | <u>228,743</u> | <u>9,200</u> | <u>57,738</u> | <u>6,161</u> | <u>25,388</u> | <u>2,092</u> | <u>33,028</u> |
| United States--total | <u>350,896</u> | <u>221,396</u> | <u>9,076</u> | <u>56,806</u> | <u>4,877</u> | <u>24,971</u> | <u>1,977</u> | <u>31,793</u> |
| New England--total | <u>18,054</u> | <u>11,573</u> | <u>393</u> | <u>2,725</u> | <u>134</u> | <u>999</u> | <u>227</u> | <u>2,003</u> |
| Connecticut | 5,051 | 2,882 | 84 | 737 | 38 | 191 | 162 | 957 |
| Maine | 1,154 | 661 | 42 | 241 | 12 | 127 | 6 | 65 |
| Massachusetts | 8,661 | 6,496 | 178 | 1,144 | 65 | 345 | 23 | 410 |
| New Hampshire | 1,742 | 676 | 29 | 281 | 12 | 225 | 29 | 490 |
| Rhode Island | 926 | 579 | 48 | 189 | 4 | 51 | 4 | 51 |
| Vermont | 520 | 279 | 12 | 133 | 3 | 60 | 3 | 30 |
| Eastern--total | <u>61,802</u> | <u>41,907</u> | <u>1,516</u> | <u>8,991</u> | <u>1,392</u> | <u>3,790</u> | <u>401</u> | <u>3,805</u> |
| Delaware | 965 | 612 | 22 | 148 | 5 | 88 | 7 | 83 |
| District of Columbia | 568 | 375 | 26 | 127 | 16 | 15 | 0 | 9 |
| Maryland | 3,185 | 1,817 | 133 | 666 | 18 | 247 | 14 | 290 |
| New Jersey | 10,421 | 6,974 | 232 | 1,483 | 84 | 370 | 122 | 1,156 |
| New York | 26,624 | 19,024 | 368 | 3,341 | 1,073 | 1,616 | 152 | 1,050 |
| Pennsylvania | 13,563 | 10,006 | 320 | 2,018 | 87 | 573 | 61 | 498 |
| Virginia | 5,487 | 2,534 | 369 | 983 | 106 | 758 | 44 | 693 |
| West Virginia | 989 | 565 | 46 | 225 | 3 | 123 | 1 | 26 |
| Great Lakes--total | <u>46,154</u> | <u>28,144</u> | <u>1,203</u> | <u>9,121</u> | <u>440</u> | <u>3,226</u> | <u>67</u> | <u>3,953</u> |
| Illinois | 14,103 | 8,430 | 272 | 2,558 | 229 | 793 | 24 | 1,797 |
| Indiana | 4,581 | 2,797 | 191 | 912 | 21 | 452 | 7 | 201 |
| Michigan | 7,361 | 4,623 | 196 | 1,665 | 38 | 579 | 10 | 250 |
| Minnesota | 7,483 | 4,615 | 137 | 1,188 | 98 | 358 | 9 | 1,078 |
| Ohio | 9,198 | 5,693 | 281 | 1,989 | 41 | 786 | 13 | 395 |
| Wisconsin | 3,428 | 1,986 | 126 | 809 | 13 | 258 | 4 | 232 |
| Central--total | <u>19,495</u> | <u>13,207</u> | <u>428</u> | <u>3,627</u> | <u>133</u> | <u>1,138</u> | <u>12</u> | <u>950</u> |
| Iowa | 2,726 | 1,719 | 89 | 658 | 8 | 178 | 0 | 74 |
| Kansas | 5,738 | 3,934 | 109 | 1,017 | 35 | 328 | 1 | 314 |
| Missouri | 9,252 | 6,506 | 168 | 1,519 | 86 | 453 | 7 | 513 |
| Nebraska | 1,779 | 1,048 | 62 | 433 | 4 | 179 | 4 | 49 |
| Southern--total | <u>56,162</u> | <u>32,740</u> | <u>1,652</u> | <u>8,806</u> | <u>1,005</u> | <u>5,657</u> | <u>294</u> | <u>6,008</u> |
| Alabama | 5,527 | 3,651 | 131 | 859 | 100 | 698 | 6 | 82 |
| Florida | 26,463 | 16,245 | 439 | 3,941 | 618 | 1,955 | 227 | 3,038 |
| Georgia | 10,891 | 6,158 | 283 | 1,249 | 190 | 803 | 22 | 2,186 |
| Kentucky | 1,683 | 864 | 168 | 347 | 6 | 245 | 4 | 49 |
| Mississippi | 1,707 | 817 | 43 | 395 | 3 | 385 | 3 | 61 |
| North Carolina | 4,192 | 2,197 | 341 | 809 | 41 | 630 | 12 | 162 |
| South Carolina | 1,996 | 890 | 86 | 452 | 7 | 420 | 6 | 135 |
| Tennessee | 3,703 | 1,918 | 161 | 754 | 40 | 521 | 14 | 295 |
| Southwest--total | <u>43,665</u> | <u>27,177</u> | <u>1,030</u> | <u>7,573</u> | <u>315</u> | <u>3,633</u> | <u>90</u> | <u>3,847</u> |
| Arkansas | 1,853 | 1,012 | 65 | 453 | 11 | 236 | 3 | 73 |
| Louisiana | 3,758 | 2,294 | 104 | 657 | 22 | 420 | 2 | 259 |
| New Mexico | 1,849 | 948 | 80 | 433 | 12 | 316 | 6 | 54 |
| Oklahoma | 10,169 | 7,603 | 186 | 1,571 | 19 | 575 | 11 | 204 |
| Texas | 26,036 | 15,320 | 595 | 4,459 | 251 | 2,086 | 68 | 3,257 |
| Rocky Mountain--total | <u>13,297</u> | <u>7,186</u> | <u>567</u> | <u>2,792</u> | <u>150</u> | <u>1,056</u> | <u>48</u> | <u>1,498</u> |
| Colorado | 7,318 | 3,816 | 153 | 1,466 | 127 | 451 | 36 | 1,269 |
| Montana | 1,706 | 881 | 255 | 398 | 3 | 120 | 4 | 45 |
| North Dakota | 847 | 493 | 22 | 181 | 2 | 132 | 0 | 17 |
| South Dakota | 879 | 493 | 28 | 228 | 1 | 108 | 0 | 21 |
| Utah | 1,721 | 965 | 81 | 340 | 12 | 203 | 5 | 115 |
| Wyoming | 826 | 538 | 28 | 179 | 5 | 42 | 3 | 31 |
| Western--total | <u>70,361</u> | <u>46,052</u> | <u>1,424</u> | <u>9,857</u> | <u>918</u> | <u>3,790</u> | <u>673</u> | <u>7,647</u> |
| Arizona | 5,818 | 3,783 | 168 | 1,051 | 28 | 489 | 22 | 277 |
| California | 62,590 | 41,428 | 1,205 | 8,426 | 872 | 3,067 | 572 | 7,020 |
| Nevada | 1,953 | 841 | 51 | 380 | 18 | 234 | 79 | 350 |
| Northwest--total | <u>15,660</u> | <u>9,323</u> | <u>693</u> | <u>2,473</u> | <u>174</u> | <u>1,070</u> | <u>137</u> | <u>1,790</u> |
| Idaho | 1,529 | 883 | 137 | 285 | 5 | 151 | 8 | 60 |
| Oregon | 3,211 | 1,989 | 222 | 601 | 19 | 187 | 32 | 161 |
| Washington | 10,920 | 6,451 | 334 | 1,587 | 150 | 732 | 97 | 1,569 |
| Alaskan region--total | <u>3,449</u> | <u>2,157</u> | <u>118</u> | <u>591</u> | <u>109</u> | <u>315</u> | <u>8</u> | <u>151</u> |
| Pacific region--total | <u>2,797</u> | <u>1,930</u> | <u>52</u> | <u>250</u> | <u>107</u> | <u>297</u> | <u>20</u> | <u>141</u> |
| Outside U.S.--total | <u>11,454</u> | <u>7,347</u> | <u>124</u> | <u>932</u> | <u>1,284</u> | <u>417</u> | <u>115</u> | <u>1,235</u> |

NOTE: Puerto Rico and Virgin Islands are included in Outside of U.S. total.

^{1/}Data for control tower operators, flight engineers, and flight navigators represent total active ratings held; i.e., certificate holders also hold a current medical certificate. Data for dispatchers, mechanics, parachute riggers, and ground instructors, represent total ratings issued to date. No medical certificate is required.

VIII. GENERAL AVIATION AIRCRAFT

Beginning in 1977, General Aviation Aircraft Activity information was obtained using the General Aviation Activity and Avionics Survey. Heretofore, the activity data were collected from each owner of a registered aircraft using the Aircraft Registration, Eligibility, Identification, and Activity report. Like the old form the survey collects data relative to flight hours, airframe hours and the avionics equipment on board the aircraft. In addition, the survey collects information about the number of hours flown under Instrument Flight Rules, fuel consumption rates, and the state where the aircraft is based.

The sample of 30,643 aircraft was selected from approximately 213,000 registered general aviation aircraft. The sample is a scientifically designed random sample which represents all general aviation aircraft registered in the United States.

Because the estimates are derived from a sample--not the total population of aircraft--a certain amount of sampling error is introduced. The user must consider this error along with the estimate itself when making an inference or drawing any conclusions about the aircraft population. Although the exact value of the sample error is unknown, a quantity known as the standard error is used to approximate it. Using the standard error one can develop an interval within which the true population estimate will lie with a known probability. The probability that the true value lies within the interval depends on the width of the interval, i.e., the estimate

plus or minus 1, 2, or 3 times the standard error. The table below shows selected interval widths and their corresponding confidence.

| <u>Width of Interval</u> | <u>Approximate Confidence That Interval Includes True Value</u> |
|--------------------------|---|
| 1 standard error | 68% |
| 2 standard errors | 95% |
| 3 standard errors | 99% |

If, for example, the estimate for the total number of active piston powered rotorcraft were 2,658 and the standard error were 176, then the 95% confidence interval would be $2,658 \pm 2(176)$ or (2306, 3010). One would say that there is a 95% chance that the number of active piston powered rotorcraft lies between 2306 and 3010.

In some tables the standard error is expressed as a percent. To calculate the standard error multiply the estimate by the percentage. To derive the 95% confidence interval proceed as before. For example, total hours flown is shown as 35,792 thousand hours and the percentage standard error is 3.0%. The 95% confidence interval is:

$$\begin{aligned}
 &35,792 \pm (2 \times 3\% \times 35,792) = \\
 &35,792 \pm 2148 = \\
 &(33,644; 37,940)
 \end{aligned}$$

The standard error, percent standard error, or a code for the standard error is shown for each estimate made from the sample in this chapter.

More detailed estimates and a more detailed discussion of the survey and its methodology are available in 1977 General Aviation Activity and Avionics Survey.

TABLE 8.1

GENERAL AVIATION ACTIVE AIRCRAFT BY PRIMARY USE BY AIRCRAFT TYPE
(Standard Error is shown in Parenthesis)

| | 1977 | | | | | | | | | | |
|--------------------|--------------------|----------------|-------------------|-------------------|--------------------|-------------------|----------------|----------------|------------------|----------------|---------------|
| | Total Active | Executive | Business | Personal | Aerial Application | Instructional | Air Taxi | Industrial | Rental | Other | Inactive |
| Fixed-Wing--total | 175,951 (1,016) | 8,432 (A) | 40,723 (A) | 85,172 (A) | 6,462 (A) | 15,396 (B) | 5,874 (A) | 978 (C) | 8,366 (B) | 3,854 (B) | 26,055 (A) |
| Piston--total | 170,783 (1,015) | 5,017 (A) | 40,129 (A) | 85,118 (A) | 6,456 (A) | 15,312 (B) | 5,222 (A) | 955 (C) | 8,273 (B) | 3,624 (B) | 25,739 (A) |
| One Engine | 149,300 (1,002) | 1,159 (C) | 31,533 (A) | 81,737 (A) | 6,154 (A) | 14,543 (A) | 2,009 (B) | 870 (C) | 7,731 (B) | 2,929 (B) | 23,977 (A) |
| Two Engine | 21,301 (165) | 3,856 (A) | 8,587 (A) | 3,378 (B) | 235 (D) | 766 (C) | 3,165 (B) | 85 (D) | 509 (C) | 677 (B) | 1,588 (B) |
| Other Piston | 182 (11) | 1 (D) | 8 (D) | 3 (D) | 66 (B) | 0 (A) | 47 (A) | 0 (A) | 32 (C) | 17 (C) | 174 (A) |
| Turboprop--total | 2,890 (20) | 1,824 (A) | 419 (B) | 38 (D) | 0 (A) | 15 (D) | 434 (B) | 4 (D) | 63 (D) | 88 (D) | 84 (C) |
| Two Engine | 2,825 (20) | 1,814 (A) | 411 (B) | 38 (D) | 0 (A) | 13 (D) | 431 (B) | 4 (D) | 47 (D) | 63 (D) | 52 (D) |
| Other Turboprop | 64 (4) | 9 (C) | 8 (C) | 0 (A) | 0 (A) | 1 (D) | 3 (A) | 0 (A) | 16 (C) | 25 (B) | 31 (B) |
| Turbojet--total | 2,277 (22) | 1,589 (A) | 174 (C) | 15 (D) | 6 (D) | 68 (D) | 217 (B) | 18 (D) | 29 (B) | 142 (C) | 231 (A) |
| Two Engine | 1,959 (19) | 1,477 (A) | 99 (A) | 10 (D) | 6 (D) | 62 (D) | 208 (B) | 18 (D) | 0 (A) | 75 (D) | 35 (D) |
| Other Turbojet | 318 (10) | 111 (B) | 74 (C) | 5 (D) | 0 (A) | 5 (D) | 9 (C) | 0 (A) | 29 (B) | 66 (C) | 195 (A) |
| Rotorcraft--total | 4,726 (179) | 344 (D) | 489 (C) | 550 (B) | 929 (B) | 310 (D) | 961 (B) | 361 (C) | 30 (D) | 715 (C) | 2,152 (A) |
| Piston | 2,658 (176) | 53 (D) | 353 (D) | 539 (B) | 869 (C) | 139 (D) | 86 (D) | 195 (D) | 6 (D) | 382 (C) | 2,025 (A) |
| Turbine | 2,067 (27) | 290 (D) | 135 (D) | 10 (D) | 59 (C) | 170 (D) | 875 (B) | 166 (D) | 24 (D) | 332 (C) | 127 (C) |
| Other--total | 3,616 (69) | 5 (D) | 183 (B) | 2,569 (A) | 0 (A) | 389 (B) | 2 (D) | 1 (D) | 221 (C) | 229 (B) | 831 (A) |
| Total All Aircraft | 184,294 (1,034) | 8,782 (450) | 41,396 (1,902) | 88,292 (2,416) | 7,392 (303) | 16,096 (1,690) | 6,838 (502) | 1,342 (239) | 8,619 (1,310) | 4,799 (535) | 28,304 (A) |

Note: Row and Column summations may differ from printed totals due to estimation procedures.

Standard Error

| | | |
|--------------|-----------------------|------|
| Greater Than | Less Than or Equal To | Code |
| 0% | 10% | A |
| 10% | 20% | B |
| 20% | 30% | C |
| 30% | | D |

TABLE 8.2

GENERAL AVIATION ACTIVE AIRCRAFT BY AIRCRAFT TYPE
1973-1977

| | 1977 (Standard Error) | 1976 (R) | 1975 (R) | 1974 (R) | 1973 (R) |
|--------------------|---------------------------|----------------|----------------|----------------|----------------|
| Fixed-Wing--total | <u>175,951</u> (1,061) | <u>170,393</u> | <u>161,183</u> | <u>154,911</u> | <u>147,995</u> |
| Piston--total | <u>170,783</u> (1,015) | <u>166,059</u> | <u>156,936</u> | <u>151,255</u> | <u>144,766</u> |
| One Engine | 149,300 (1,002) | 144,752 | 136,639 | 131,512 | 126,074 |
| Two Engine | 21,301 (165) | 21,111 | 20,119 | 19,553 | 18,502 |
| Other Piston | 182 (11) | 196 | 178 | 190 | 190 |
| Turboprop--total | <u>2,890</u> (20) | <u>2,453</u> | <u>2,504</u> | <u>2,095</u> | <u>1,849</u> |
| Two Engine | 2,825 (20) | 2,396 | 2,440 | 2,020 | 1,777 |
| Other Turboprop | 64 (4) | 57 | 64 | 75 | 72 |
| Turbojet--total | <u>2,277</u> (22) | <u>1,881</u> | <u>1,743</u> | <u>1,561</u> | <u>1,380</u> |
| Two Engine | 1,959 (19) | 1,692 | 1,547 | 1,385 | 1,196 |
| Other Turbojet | 318 (10) | 189 | 196 | 176 | 184 |
| Rotorcraft--total | <u>4,726</u> (179) | <u>4,425</u> | <u>4,054</u> | <u>3,597</u> | <u>3,115</u> |
| Piston | 2,658 (176) | 2,701 | 2,498 | 2,315 | 2,122 |
| Turbine | 2,067 (27) | 1,724 | 1,556 | 1,282 | 993 |
| Other--total | <u>3,616</u> (69) | <u>3,146</u> | <u>2,812</u> | <u>2,525</u> | <u>2,201</u> |
| Total All Aircraft | <u>184,294</u> (1,034) | <u>177,964</u> | <u>168,049</u> | <u>161,033</u> | <u>153,311</u> |

Note: Columns may not add to totals due to rounding and estimation procedures.

(R): FAA revised data as of December, 1978.

TABLE 8.3

GENERAL AVIATION TOTAL HOURS FLOWN BY PRIMARY USE BY AIRCRAFT TYPE
(Percent Standard Error is shown in Parenthesis)

1977

| Aircraft Type | Total | Executive | Business | Personal | Aerial Application | Instructional | Air Taxi | Industrial | Rental | Other |
|--------------------|----------------------|---------------------|---------------------|---------------------|---------------------|----------------------|---------------------|--------------------|----------------------|--------------------|
| Fixed-Wing--total | 33,679,153 (3.2%) | 3,367,276 (6.4%) | 6,650,506 (8.6%) | 8,300,328 (4.8%) | 1,858,171 (6.6%) | 6,269,739 (13.4%) | 3,430,334 (9.2%) | 287,680 (24.3%) | 2,751,781 (18.1%) | 579,057 (15.1%) |
| Piston--total | 30,964,739 (3.4) | 1,849,398 (10.7) | 6,484,257 (8.8) | 8,292,140 (4.8) | 1,855,904 (6.6) | 6,202,866 (13.5) | 2,767,812 (10.4) | 282,268 (24.9) | 2,644,155 (18.4) | 492,070 (16.4) |
| One Engine | 24,916,438 (4.2) | 436,426 (34.5) | 4,686,882 (11.4) | 7,811,563 (5.0) | 1,802,225 (6.8) | 5,965,167 (14.1) | 1,044,376 (20.3) | 258,898 (27.0) | 2,468,896 (19.6) | 350,709 (20.4) |
| Two Engine | 5,951,828 (3.8) | 1,413,259 (9.4) | 1,793,041 (9.2) | 480,389 (13.2) | 46,699 (35.0) | 239,101 (30.0) | 1,654,938 (11.4) | 23,292 (39.8) | 160,186 (28.8) | 139,335 (19.3) |
| Other Piston | 96,473 (5.1) | 460 (89.7) | 2,453 (36.3) | 32 (43.4) | 8,103 (17.2) | 0 (0.0) | 68,556 (7.2) | 0 (0.0) | 15,059 (25.7) | 916 (40.5) |
| Turboprop--total | 1,549,184 (4.6) | 804,048 (5.9) | 112,371 (18.0) | 6,145 (54.6) | 0 (0.0) | 7,222 (70.0) | 453,730 (15.6) | 1,747 (154.6) | 92,979 (40.3) | 17,326 (37.4) |
| Two Engine | 1,517,361 (4.6) | 800,989 (5.9) | 106,380 (18.5) | 6,145 (54.6) | 0 (0.0) | 7,159 (78.3) | 451,958 (15.7) | 1,747 (154.6) | 77,975 (53.2) | 11,326 (53.1) |
| Other Turboprop | 31,823 (4.3) | 3,055 (32.8) | 5,877 (37.7) | 0 (0.0) | 0 (0.0) | 91 (62.7) | 1,898 (0.0) | 0 (0.0) | 14,259 (31.0) | 6,033 (19.8) |
| Turbojet--total | 1,165,228 (4.3) | 711,950 (5.6) | 53,019 (22.7) | 2,000 (45.6) | 2,263 (69.7) | 59,530 (46.8) | 222,002 (18.0) | 3,661 (56.4) | 14,745 (19.4) | 73,467 (27.4) |
| Two Engine | 1,043,204 (4.7) | 661,165 (5.8) | 33,292 (30.3) | 1,838 (63.9) | 2,263 (69.7) | 55,326 (50.4) | 213,883 (18.8) | 3,661 (56.4) | 0 (0.0) | 53,477 (45.8) |
| Other Turbojet | 122,024 (9.3) | 50,793 (21.1) | 19,727 (35.6) | 163 (47.8) | 0 (0.0) | 3,864 (89.9) | 8,137 (30.0) | 0 (0.0) | 14,745 (19.4) | 19,357 (32.3) |
| Rotorcraft--total | 1,867,644 (6.9) | 120,263 (33.4) | 157,814 (28.3) | 23,986 (20.6) | 201,385 (33.2) | 207,682 (34.4) | 697,539 (16.9) | 165,092 (30.1) | 11,487 (66.6) | 275,050 (23.2) |
| Piston | 608,603 (14.7) | 7,869 (86.1) | 99,647 (34.6) | 23,212 (20.9) | 174,670 (37.2) | 36,768 (44.8) | 38,093 (56.9) | 71,882 (41.7) | 2,705 (145.2) | 150,114 (34.4) |
| Turbine | 1,259,041 (7.4) | 112,439 (35.8) | 58,306 (47.8) | 779 (111.1) | 27,075 (24.7) | 171,555 (52.3) | 659,611 (17.6) | 93,509 (43.5) | 8,786 (74.6) | 124,937 (30.0) |
| Other--total | 244,761 (6.7) | 202 (101.0) | 11,656 (17.4) | 130,150 (6.8) | 0 (0.0) | 51,076 (16.8) | 105 (125.7) | 13 (108.6) | 30,198 (24.2) | 211,105 (48.1) |
| Total All Aircraft | 35,791,558 (3.0) | 3,487,388 (4.5) | 6,821,792 (7.2) | 8,453,116 (3.9) | 2,057,547 (6.0) | 6,529,100 (7.8) | 4,130,267 (4.4) | 453,399 (9.6) | 2,792,799 (9.8) | 879,118 (10.6) |

Note: Row and Column summations may differ from printed totals due to estimation procedures.

TABLE 8.4

GENERAL AVIATION TOTAL HOURS FLOWN BY AIRCRAFT TYPE
1973-1977

(Hours in Thousands)

| | 1977 (Standard Error) | 1976 (R) | 1975 (R) | 1974 (R) | 1973 (R) |
|--------------------|--------------------------|---------------|---------------|---------------|---------------|
| Fixed-Wing--total | <u>33,679</u> (1,064) | <u>31,950</u> | <u>30,298</u> | <u>29,758</u> | <u>28,599</u> |
| Piston--total | <u>30,965</u> (1,061) | <u>29,713</u> | <u>28,165</u> | <u>27,760</u> | <u>26,798</u> |
| One Engine | 24,916 (1,036) | 24,328 | 22,914 | 22,430 | 21,747 |
| Two Engine | 5,951 (227) | 5,301 | 5,167 | 5,235 | 4,967 |
| Other Piston | 96 (5) | 84 | 84 | 95 | 84 |
| Turboprop--total | <u>1,549</u> (71) | <u>1,326</u> | <u>1,307</u> | <u>1,245</u> | <u>1,117</u> |
| Two Engine | 1,517 (70) | 1,306 | 1,271 | 1,203 | 1,080 |
| Other Turboprop | 32 (5) | 20 | 36 | 42 | 37 |
| Turbojet--total | <u>1,165</u> (50) | <u>911</u> | <u>826</u> | <u>753</u> | <u>684</u> |
| Two Engine | 1,043 (49) | 844 | 755 | 690 | 595 |
| Other Turbojet | 122 (11) | 67 | 71 | 63 | 89 |
| Rotorcraft--total | <u>1,868</u> (129) | <u>1,703</u> | <u>1,482</u> | <u>1,426</u> | <u>1,169</u> |
| Piston | 609 (90) | 753 | 686 | 729 | 654 |
| Turbine | 1,259 (93) | 950 | 796 | 697 | 515 |
| Other--total | 245 (16) | <u>270</u> | <u>244</u> | <u>227</u> | <u>207</u> |
| Total All Aircraft | 35,791 (1,073) | 33,922 | 32,024 | 31,413 | 29,974 |

Note: Columns may not add to totals due to rounding and estimation procedures.

(R): FAA revised data as of December, 1978.

TABLE 8.5

GENERAL AVIATION ACTIVE AIRCRAFT AVERAGE FLIGHT HOURS BY AIRCRAFT TYPE
1973-1977

| | 1977 (Standard Error) | 1976 | 1975 | 1974 | 1973 |
|--------------------|--------------------------|--------------|--------------|--------------|--------------|
| Fixed-Wing--total | <u>191.3</u> (5.9) | <u>187.5</u> | <u>188.0</u> | <u>192.1</u> | <u>193.2</u> |
| Piston--total | <u>181.3</u> (6.1) | <u>178.9</u> | <u>179.5</u> | <u>183.5</u> | <u>185.1</u> |
| One Engine | 166.5 (6.8) | 168.1 | 167.7 | 170.6 | 172.5 |
| Two Engine | 280.4 (10.4) | 251.1 | 256.8 | 267.7 | 268.5 |
| Other Piston | 528.8 (21.3) | 428.6 | 471.9 | 500.0 | 442.1 |
| Turboprop--total | <u>533.4</u> (23.5) | <u>540.6</u> | <u>522.0</u> | <u>594.3</u> | <u>604.1</u> |
| Two Engine | 534.5 (24) | 545.1 | 520.9 | 595.5 | 607.8 |
| Other Turboprop | 481.9 (8.5) | 350.9 | 562.5 | 560.0 | 513.9 |
| Turbojet--total | <u>509.0</u> (20.2) | <u>484.3</u> | <u>473.9</u> | <u>482.4</u> | <u>495.7</u> |
| Two Engine | 527.7 (22.4) | 498.8 | 488.0 | 498.2 | 497.5 |
| Other Turbojet | 385.0 (42.2) | 354.5 | 362.2 | 358.0 | 483.7 |
| Rotorcraft--total | <u>396.3</u> (25.5) | <u>384.9</u> | <u>365.6</u> | <u>396.4</u> | <u>375.3</u> |
| Piston | 230.5 (29.6) | 278.8 | 274.6 | 314.9 | 308.2 |
| Turbine | 608.3 (44.1) | 551.0 | 511.6 | 543.7 | 518.6 |
| Other--total | <u>67.8</u> (4.2) | <u>85.8</u> | <u>86.8</u> | <u>89.9</u> | <u>94.0</u> |
| Total All Aircraft | 194.2 (5.7) | 190.6 | 190.6 | 195.1 | 195.5 |

Note: Columns may not add to totals due to rounding and estimation procedures.

TABLE 8.6

GENERAL AVIATION ACTIVE AIRCRAFT AND HOURS FLOWN
BY FAA REGION AND STATE OF BASED AIRCRAFT
1977

| FAA Region and State | Active Aircraft | | Hours Flown | |
|------------------------|-----------------|----------------|---------------|----------------------|
| | Aircraft | Standard Error | Hours (000) | Standard Error (000) |
| Total | <u>184,294</u> | <u>1,034</u> | <u>35,792</u> | <u>1,073</u> |
| New England--total | 6,633 | 856 | 1,316 | 213 |
| Connecticut | 1,444 | 398 | 375 | 153 |
| Maine | 1,050 | 343 | 164 | 67 |
| Massachusetts | 2,463 | 546 | 460 | 126 |
| New Hampshire | 993 | 332 | 160 | 77 |
| Rhode Island | 299 | 183 | 65 | 48 |
| Vermont | 386 | 204 | 74 | 43 |
| Eastern--total(p) | <u>21,940</u> | <u>1,406</u> | <u>4,089</u> | <u>398</u> |
| Delaware | 608 | 230 | 109 | 65 |
| District of Columbia | 119 | 51 | 51 | 26 |
| Maryland | 2,464 | 539 | 420 | 127 |
| New Jersey | 4,060 | 730 | 832 | 217 |
| New York(p) | 6,092 | 488 | 1,183 | 124 |
| Pennsylvania | 5,310 | 832 | 949 | 266 |
| Virginia | 2,296 | 523 | 384 | 108 |
| West Virginia | 965 | 324 | 145 | 50 |
| Great Lakes--total(p) | <u>33,337</u> | <u>1,697</u> | <u>5,907</u> | <u>718</u> |
| Illinois(p) | 7,716 | 768 | 1,607 | 379 |
| Indiana(p) | 4,183 | 651 | 812 | 149 |
| Michigan | 6,818 | 940 | 1,197 | 352 |
| Minnesota | 4,122 | 696 | 509 | 125 |
| Ohio | 6,978 | 879 | 1,174 | 262 |
| Wisconsin | 3,519 | 636 | 562 | 169 |
| Central--total | <u>13,666</u> | <u>1,206</u> | <u>2,393</u> | <u>412</u> |
| Iowa | 3,524 | 635 | 473 | 113 |
| Kansas | 3,894 | 692 | 671 | 171 |
| Missouri | 3,905 | 707 | 754 | 304 |
| Nebraska | 2,341 | 442 | 482 | 151 |
| Southern--total(p) | <u>27,085</u> | <u>1,490</u> | <u>5,238</u> | <u>393</u> |
| Alabama | 2,385 | 580 | 524 | 225 |
| Florida(p) | 9,246 | 639 | 1,796 | 187 |
| Georgia | 3,750 | 636 | 575 | 110 |
| Kentucky | 1,385 | 404 | 248 | 77 |
| Mississippi | 1,895 | 442 | 419 | 103 |
| North Carolina | 3,717 | 673 | 591 | 127 |
| Puerto Rico | 404 | 219 | 133 | 49 |
| South Carolina | 1,485 | 421 | 293 | 87 |
| Tennessee | 2,607 | 563 | 561 | 158 |
| Southwest--total(p) | <u>25,880</u> | <u>1,234</u> | <u>5,840</u> | <u>599</u> |
| Arkansas | 2,597 | 507 | 622 | 159 |
| Louisiana | 3,350 | 510 | 1,164 | 201 |
| New Mexico | 1,747 | 364 | 199 | 45 |
| Oklahoma | 3,827 | 643 | 666 | 137 |
| Texas(p) | 14,355 | 776 | 3,108 | 413 |
| Rocky Mountain--total | <u>11,118</u> | <u>1,005</u> | <u>2,122</u> | <u>255</u> |
| Colorado | 3,497 | 583 | 617 | 145 |
| Montana | 2,230 | 428 | 393 | 103 |
| North Dakota | 1,508 | 385 | 266 | 126 |
| South Dakota | 1,298 | 361 | 244 | 90 |
| Utah | 1,406 | 423 | 301 | 103 |
| Wyoming | 1,176 | 306 | 267 | 97 |
| Western--total(p) | <u>28,536</u> | <u>1,256</u> | <u>5,660</u> | <u>496</u> |
| Arizona | 3,700 | 647 | 741 | 195 |
| California(p) | 23,344 | 1,035 | 4,533 | 339 |
| Nevada | 1,491 | 389 | 302 | 109 |
| Northwest--total | <u>11,372</u> | <u>986</u> | <u>2,012</u> | <u>420</u> |
| Idaho | 2,080 | 495 | 501 | 241 |
| Oregon | 4,284 | 669 | 829 | 247 |
| Washington | 4,995 | 560 | 653 | 146 |
| Alaskan--total | <u>5,130</u> | <u>359</u> | <u>933</u> | <u>113</u> |
| Pacific--total | 573 | 259 | 191 | 92 |
| Hawaii | 541 | 255 | 182 | 92 |
| Other U.S. Territories | <u>137</u> | <u>113</u> | <u>58</u> | <u>55</u> |
| Foreign--total(1) | <u>234</u> | <u>150</u> | <u>40</u> | <u>32</u> |

NOTE: Column totals may differ from printed totals due to estimation procedures.

(p)Preliminary result.

(1)Includes European region.

TABLE 8.7
GENERAL AVIATION REGISTERED AIRCRAFT: AVIONICS EQUIPMENT BY AIRCRAFT TYPE
1977

| | VHF Communications | | Transponder Equipment | | ILS Receiving Equipment | | | No ILS | | | | |
|--------------------|-------------------------------|-------------------------------|-----------------------|-------------------|-------------------------|---------------|-------------|------------|------------|------------|---------|-------------|
| | 360 Channels or Less | 720 Channels or More | 4096 Code | Altitude Encoding | Localizer | Marker Beacon | Glide Slope | | | | | |
| | No More Than One Comm. System | No More Than One Comm. System | No Transponder | No Transponder | MLS | MLS | MLS | MLS | | | | |
| Fixed-Wing--total | 122,223 (A) | 52,094 (A) | 94,773 (A) | 33,195 (A) | 106,403 (A) | 42,374 (A) | 94,911 (A) | 98,555 (A) | 85,972 (A) | 67,705 (A) | 687 (D) | 97,426 (A) |
| Piston--total | 120,939 (A) | 47,841 (A) | 89,753 (A) | 33,115 (A) | 101,063 (A) | 37,292 (A) | 94,786 (A) | 93,278 (A) | 80,722 (A) | 62,460 (A) | 631 (D) | 97,240 (A) |
| One Engine | 108,846 (A) | 36,408 (A) | 69,202 (A) | 32,527 (A) | 79,307 (A) | 20,884 (A) | 93,338 (A) | 71,571 (A) | 59,215 (A) | 41,539 (A) | 419 (D) | 96,064 (A) |
| Two Engine | 11,870 (A) | 11,330 (A) | 20,306 (A) | 549 (B) | 21,520 (A) | 16,333 (A) | 1,330 (B) | 21,471 (A) | 21,262 (A) | 20,891 (A) | 212 (D) | 1,079 (B) |
| Other Piston | 222 (A) | 102 (A) | 244 (A) | 38 (B) | 235 (A) | 74 (B) | 117 (B) | 235 (A) | 244 (A) | 230 (A) | 0 (D) | 97 (B) |
| Turboprop--total | 726 (B) | 2,310 (A) | 2,778 (A) | 2 (D) | 2,960 (A) | 2,785 (A) | 11 (D) | 2,919 (A) | 2,909 (A) | 2,902 (A) | 24 (D) | 52 (D) |
| Two Engine | 671 (B) | 2,268 (A) | 2,698 (A) | 1 (D) | 2,871 (A) | 2,720 (A) | 5 (D) | 2,833 (A) | 2,825 (A) | 2,819 (A) | 24 (D) | 42 (D) |
| Other Turboprop | 54 (A) | 41 (B) | 79 (A) | 1 (A) | 89 (A) | 65 (A) | 6 (C) | 86 (A) | 83 (A) | 83 (A) | 0 (D) | 9 (C) |
| Turbojet--total | 557 (A) | 1,942 (A) | 2,240 (A) | 78 (C) | 2,379 (A) | 2,295 (A) | 113 (B) | 2,357 (A) | 2,340 (A) | 2,342 (A) | 30 (D) | 134 (B) |
| Two Engine | 412 (B) | 1,644 (A) | 1,861 (A) | 15 (C) | 1,978 (A) | 1,945 (A) | 15 (D) | 1,974 (A) | 1,972 (A) | 1,971 (A) | 16 (D) | 19 (D) |
| Other Turbojet | 145 (A) | 298 (A) | 378 (A) | 62 (B) | 401 (A) | 349 (A) | 97 (B) | 382 (A) | 367 (A) | 370 (A) | 14 (D) | 114 (A) |
| Rotorcraft--total | 2,854 (A) | 2,123 (A) | 1,338 (B) | 2,109 (A) | 1,732 (B) | 206 (D) | 5,112 (A) | 773 (B) | 395 (C) | 305 (D) | 1 (D) | 6,054 (A) |
| Piston | 1,952 (A) | 745 (A) | 389 (B) | 1,960 (A) | 579 (C) | 30 (D) | 4,072 (A) | 92 (D) | 22 (D) | 15 (D) | 1 (D) | 4,551 (A) |
| Turbine | 901 (B) | 1,378 (A) | 948 (B) | 149 (D) | 1,153 (B) | 175 (D) | 1,039 (B) | 681 (B) | 373 (C) | 289 (D) | 0 (D) | 1,502 (A) |
| Other--total | 1,941 (A) | 65 (D) | 14 (D) | 2,430 (A) | 52 (D) | 16 (D) | 4,382 (A) | 6 (D) | 4 (D) | 0 (A) | 0 (A) | 4,428 (A) |
| Total All Aircraft | 127,019 (A) | 54,283 (A) | 96,125 (A) | 37,735 (A) | 108,189 (A) | 42,597 (A) | 104,405 (A) | 99,335 (A) | 86,372 (A) | 68,011 (A) | 688 (D) | 107,909 (A) |

Note: Column summations may differ from printed totals due to estimation procedures.

Standard Error
Less Than or Equal To
Greater Than
Code
A
B
C
D
0%
10
20
30
30

TABLE 8.7 (Cont.)

GENERAL AVIATION REGISTERED AIRCRAFT: AVIONICS EQUIPMENT BY AIRCRAFT TYPE
1977
Navigational Equipment

| | 100 Channels | VOR 200 Channels | More Than One Receiver | Automatic Direction Finder | Distance Measuring Equipment | Area Navigation Equipment | Long Range Navigation Equipment | Automatic Pilot | Radar Altimeter | Weather Radar | No Navigation Equipment |
|--------------------|--------------|------------------|------------------------|----------------------------|------------------------------|---------------------------|---------------------------------|-----------------|-----------------|---------------|-------------------------|
| Fixed-Wing--total | 85,812 (A) | 81,425 (A) | 96,521 (A) | 92,248 (A) | 46,201 (A) | 10,286 (A) | 1,743 (B) | 57,370 (A) | 9,738 (A) | 12,007 (A) | 39,497 (A) |
| Piston--total | 84,927 (A) | 76,910 (A) | 91,306 (A) | 86,973 (A) | 41,053 (A) | 8,407 (A) | 727 (C) | 52,543 (A) | 5,656 (B) | 7,222 (A) | 39,369 (A) |
| One Engine | 76,216 (A) | 62,411 (A) | 70,273 (A) | 65,395 (A) | 22,308 (A) | 4,270 (B) | 462 (D) | 34,072 (A) | 1,603 (C) | 371 (D) | 38,676 (A) |
| Two Engine | 8,560 (A) | 14,338 (A) | 20,802 (A) | 21,301 (A) | 18,620 (A) | 4,130 (A) | 238 (C) | 18,384 (A) | 4,008 (A) | 6,736 (A) | 656 (B) |
| Other Piston | 151 (A) | 160 (A) | 230 (A) | 276 (A) | 124 (A) | 6 (D) | 25 (C) | 85 (A) | 43 (B) | 114 (A) | 37 (C) |
| Turboprop--total | 573 (B) | 2,403 (A) | 2,919 (A) | 2,928 (A) | 2,831 (A) | 1,376 (A) | 185 (C) | 2,529 (A) | 2,083 (A) | 2,544 (A) | 18 (D) |
| Two Engine | 543 (B) | 2,340 (A) | 2,835 (A) | 2,835 (A) | 2,747 (A) | 1,365 (A) | 165 (C) | 2,477 (A) | 2,034 (A) | 2,476 (A) | 14 (D) |
| Other Turboprop | 29 (B) | 62 (A) | 84 (A) | 92 (A) | 83 (A) | 11 (D) | 20 (C) | 51 (A) | 49 (B) | 68 (A) | 3 (D) |
| Turbojet--total | 311 (B) | 2,111 (A) | 2,295 (A) | 2,346 (A) | 2,316 (A) | 501 (B) | 830 (A) | 2,298 (A) | 1,998 (A) | 2,240 (A) | 108 (B) |
| Two Engine | 219 (B) | 1,801 (A) | 1,954 (A) | 1,974 (A) | 1,962 (A) | 454 (B) | 611 (A) | 1,971 (A) | 1,728 (A) | 1,944 (A) | 15 (D) |
| Other Turbojet | 92 (B) | 310 (A) | 340 (A) | 371 (A) | 353 (A) | 47 (C) | 218 (A) | 326 (A) | 269 (A) | 296 (A) | 93 (B) |
| Rotorcraft--total | 709 (B) | 1,025 (A) | 497 (C) | 1,530 (A) | 396 (C) | 136 (D) | 62 (D) | 40 (D) | 140 (D) | 42 (D) | 4,512 (A) |
| Piston | 323 (C) | 150 (D) | 16 (D) | 169 (D) | 25 (D) | 14 (D) | 12 (D) | 2 (D) | 16 (D) | 13 (D) | 4,071 (A) |
| Turbine | 386 (C) | 874 (B) | 481 (C) | 1,360 (A) | 371 (C) | 122 (D) | 49 (C) | 38 (D) | 123 (D) | 28 (D) | 440 (A) |
| Other--total | 35 (D) | 8 (D) | 4 (D) | 4 (D) | 0 (A) | 1 (D) | 0 (A) | 22 (D) | 0 (A) | 4 (D) | 4,366 (A) |
| Total All Aircraft | 86,556 (A) | 82,459 (A) | 97,024 (A) | 93,782 (A) | 46,597 (A) | 10,424 (A) | 1,805 (B) | 57,434 (A) | 9,878 (A) | 12,054 (A) | 48,376 (A) |

Note: Column summations may differ from printed totals due to estimation procedures.

Standard Error

| Greater Than | Less Than or Equal To | Code |
|--------------|-----------------------|------|
| 0% | 10% | A |
| 10 | 20 | B |
| 20 | 30 | C |
| 30 | -- | D |

IX. AERONAUTICAL PRODUCTION AND EXPORTS

The aircraft production information presented in this chapter was obtained from the Bureau of Census, Form M37G: Complete Aircraft Plant Report and from production reports prepared by the General Aviation Manufacturers Association. The data shows the number of civil aircraft shipped by the United States manufacturers and includes both aircraft shipped within the United States and those exported.

Employment and earnings information was obtained from the Bureau of Labor Statistics publication Employment and Earnings.

Export data was obtained from the Current Industrial Reports: Complete Aircraft and Aircraft Engines published by the Bureau of Census.

TABLE 9.1

TOTAL CIVIL AIRCRAFT PRODUCTION, WEIGHT, AND COST
CALENDAR YEARS 1969-1978

| Calendar Year | Number of Aircraft | Airframe Weight (000 lbs.) | Value Complete Units (\$000) | Average Unit Cost |
|---------------|--------------------|----------------------------|------------------------------|-------------------|
| 1969 | 13,600 | 61,226 | 3,624,096 | 266,478 |
| 1970 | 8,190 | 60,406 | 3,607,592 | 440,487 |
| 1971 | 8,143 | 49,256 | 2,921,751 | 358,805 |
| 1972 | 11,435 | 47,905 | 3,270,185 | 285,980 |
| 1973 | 14,748 | 64,183 | 4,629,662 | 313,918 |
| 1974 | 15,117 | 64,285 | 4,967,752 | 328,620 |
| 1975 | 15,196 | 60,393 | 3,745,153 | 246,457 |
| 1976 | 16,446 | 52,110 | 3,486,841 | 212,018 |
| 1977 | 17,605 | 45,398 | 4,666,245 | 265,052 |
| 1978 | 17,397 | 52,060 | 8,208,728 | 471,847 |

TABLE 9.2
TOTAL CIVIL AIRCRAFT PRODUCTION CALENDAR YEARS 1969-1978

| Type | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|------------------|---------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Total | <u>13,600</u> | <u>8,190</u> | <u>8,143</u> | <u>10,523</u> | <u>14,748</u> | <u>15,117</u> | <u>15,196</u> | <u>16,446</u> | <u>17,605</u> | <u>17,397</u> |
| Fixed-wing | <u>13,090</u> | <u>7,695</u> | <u>7,680</u> | <u>9,995</u> | <u>13,966</u> | <u>14,289</u> | <u>14,357</u> | <u>15,886</u> | <u>16,804</u> | <u>16,681</u> |
| Transports | <u>509</u> | <u>311</u> | <u>230</u> | <u>230</u> | <u>295</u> | <u>263</u> | <u>314</u> | <u>238</u> | <u>180</u> | <u>225</u> |
| General aviation | <u>12,581</u> | <u>7,384</u> | <u>7,450</u> | <u>9,765</u> | <u>13,671</u> | <u>14,026</u> | <u>14,043</u> | <u>15,648</u> | <u>16,624</u> | <u>16,456</u> |
| 1-engine | <u>4,447</u> | <u>1,981</u> | <u>1,948</u> | <u>2,398</u> | <u>3,137</u> | <u>3,346</u> | <u>3,047</u> | <u>3,175</u> | <u>3,379</u> | <u>5,355</u> |
| 1- to 3-place | <u>5,746</u> | <u>4,049</u> | <u>4,329</u> | <u>5,500</u> | <u>7,681</u> | <u>8,124</u> | <u>8,460</u> | <u>9,854</u> | <u>10,478</u> | <u>8,688</u> |
| 4-place and over | <u>2,388</u> | <u>1,354</u> | <u>1,173</u> | <u>1,867</u> | <u>2,853</u> | <u>2,556</u> | <u>2,536</u> | <u>2,619</u> | <u>2,767</u> | <u>2,413</u> |
| Multiengine | <u>510</u> | <u>495</u> | <u>463</u> | <u>528</u> | <u>782</u> | <u>828</u> | <u>839</u> | <u>560</u> | <u>801</u> | <u>716</u> |
| Rotocraft | <u>21</u> | <u>13</u> | <u>20</u> | <u>19</u> | <u>8</u> | <u>20</u> | <u>21</u> | <u>22</u> | <u>36</u> | <u>30</u> |
| Transports | <u>489</u> | <u>482</u> | <u>443</u> | <u>509</u> | <u>774</u> | <u>808</u> | <u>818</u> | <u>538</u> | <u>765</u> | <u>686</u> |
| General Aviation | | | | | | | | | | |

TABLE 9.3

TOTAL CIVIL AIRCRAFT PRODUCTION BY TYPE
CALENDAR YEARS 1969-1978

| Calendar Year | Fixed-Wing | | | | | | Roto- craft |
|---------------|-------------------|--------|----------|----------|----------|----------|----------------|
| | Total Aircraft | Total | 1-Engine | 2-Engine | 3-Engine | 4-Engine | |
| 1969 | 13,541 | 13,031 | 10,134 | 2,608 | 115 | 174 | 510 |
| 1970 | 8,190 | 7,695 | 6,030 | 1,440 | 54 | 171 | 495 |
| 1971 | 8,143 | 7,680 | 6,277 | 1,170 | 33 | 200 | 463 |
| 1972 | 11,435 | 10,907 | 8,815 | 1,900 | 51 | 141 | 528 |
| 1973 | 14,748 | 13,966 | 10,818 | 2,887 | 188 | 73 | 782 |
| 1974 | 15,117 | 14,289 | 11,470 | 2,647 | 107 | 65 | 828 |
| 1975 | 15,196 | 14,357 | 11,507 | 2,622 | 159 | 69 | 839 |
| 1976 | 16,446 | 15,886 | 13,029 | 2,616 | 96 | 57 | 560 |
| 1977 | 17,605 | 16,804 | 13,857 | 2,790 | 87 | 70 | 801 |
| 1978 | 17,397 | 16,681 | 14,043 | 2,462 | 128 | 48 | 716 |

TABLE 9.4

TOTAL CIVIL ROTOCRAFT PRODUCTION, WEIGHT AND COST
CALENDAR YEARS 1969-1978

| Calendar Year | Number of Rotocraft | Airframe Weight (000 lbs.) | Average Unit Weight | Value of Complete Units (\$000) | Average Unit Cost |
|---------------|---------------------------|----------------------------------|---------------------------|---------------------------------------|-------------------------|
| 1969 | 510 | 879 | 1,724 | 74,040 | 145,176 |
| 1970 | 495 | 643 | 1,299 | 54,294 | 109,685 |
| 1971 | 463 | 833 | 1,799 | 78,775 | 170,140 |
| 1972 | 528 | 941 | 1,784 | 87,921 | 166,517 |
| 1973 | 782 | 1,122 | 1,435 | 123,830 | 158,350 |
| 1974 | 828 | 1,358 | 1,640 | 196,932 | 237,841 |
| 1975 | 839 | 2,732 | 3,256 | 316,528 | 377,268 |
| 1976 | 560 | 2,066 | 3,689 | 574,301 | 1,025,538 |
| 1977 | 801 | 1,505 | 1,879 | 502,784 | 627,695 |
| 1978 | 716 | 1,479 | 2,066 | 321,586 | 449,142 |

TABLE 9.5

FIXED-WING GENERAL AVIATION AIRCRAFT PRODUCTION,
WEIGHT AND COST
CALENDAR YEARS 1969-1978

| Calendar Year | Number of Aircraft | Airframe Weight (000 lbs.) | Average Unit Weight | Value of Complete Units (\$000) | Average Unit Cost |
|---------------|--------------------|----------------------------|---------------------|---------------------------------|-------------------|
| 1969 | 12,581 | 16,036 | 1,275 | 581,807 | 46,245 |
| 1970 | 7,384 | 9,408 | 1,274 | 339,887 | 46,030 |
| 1971 | 7,450 | 8,998 | 1,208 | 309,426 | 41,534 |
| 1972 | 10,677 | 12,750 | 1,194 | 536,783 | 50,275 |
| 1973 | 13,671 | 18,291 | 1,338 | 810,534 | 59,288 |
| 1974 | 14,026 | 18,497 | 1,319 | 884,166 | 63,038 |
| 1975 | 14,043 | 21,322 | 1,518 | 991,509 | 70,605 |
| 1976 | 15,648 | 22,413 | 1,432 | 1,412,675 | 90,278 |
| 1977 | 16,624 | 25,516 | 1,535 | 1,390,939 | 83,671 |
| 1978 | 16,456 | 25,930 | 1,576 | 3,219,880 | 195,660 |

TABLE 9.6

TOTAL GENERAL AVIATION AIRCRAFT PRODUCTION AND WEIGHT
CALENDAR YEAR 1978

| Aircraft Category | Units Produced | | Airframe Weight | | Average Unit Weight |
|-------------------------------|----------------|------------------|-----------------|------------------|---------------------|
| | Number | Percent of Total | (000 lbs.) | Percent of Total | |
| Total | <u>17,142</u> | <u>100.0</u> | <u>29,423</u> | <u>100.0</u> | <u>1,732</u> |
| Piston engine--total | <u>16,112</u> | <u>94.0</u> | <u>24,055</u> | <u>81.8</u> | <u>1,493</u> |
| 1-engine, 1-3 place | 5,355 | 31.2 | 5,139 | 17.5 | 960 |
| 1-engine, 4 place and over | 8,589 | 50.1 | 11,622 | 39.5 | 1,353 |
| Multiengine, 4 place and over | 1,938 | 11.3 | 7,090 | 24.1 | 3,658 |
| Rotocraft | 230 | 1.3 | 204 | 0.7 | 887 |
| Turbine engine--total | <u>1,030</u> | <u>6.0</u> | <u>5,368</u> | <u>18.2</u> | <u>5,365</u> |
| 1-engine, 4 place and over | 99 | 0.6 | 1,650 | 5.6 | 16,667 |
| Multiengine, 4 place and over | 475 | 2.8 | 2,763 | 9.4 | 5,817 |
| Rotocraft | 456 | 2.6 | 955 | 3.2 | 2,094 |

TABLE 9.7

FIXED-WING TRANSPORT-TYPE AIRCRAFT PRODUCTION,
WEIGHT AND COST
CALENDAR YEARS 1969-1978

| Calendar Year | Number of Aircraft | Airframe Weight (000 lbs.) | Average Unit Weight | Value of Complete Units (\$000) | Average Unit Cost |
|---------------|--------------------|----------------------------|---------------------|---------------------------------|-------------------|
| 1969 | 509 | 44,310 | 87,053 | 2,978,249 | 5,851,177 |
| 1970 | 311 | 50,355 | 161,913 | 3,213,411 | 10,332,511 |
| 1971 | 230 | 39,425 | 171,413 | 2,582,611 | 11,228,743 |
| 1972 | 230 | 34,214 | 148,757 | 2,645,481 | 11,502,091 |
| 1973 | 295 | 44,770 | 151,763 | 3,695,298 | 12,526,434 |
| 1974 | 263 | 44,430 | 168,935 | 3,886,654 | 14,778,152 |
| 1975 | 314 | 36,339 | 115,279 | 2,437,153 | 7,776,634 |
| 1976 | 238 | 27,632 | 116,101 | 1,499,865 | 6,301,954 |
| 1977 | 180 | 18,377 | 102,094 | 2,772,522 | 15,402,900 |
| 1978 | 225 | 24,651 | 109,561 | 4,667,262 | 20,743,386 |

TABLE 9.8

TOTAL TRANSPORT-TYPE AIRCRAFT PRODUCTION
BY TYPE AND WEIGHT
CALENDAR YEAR 1978

| Aircraft Category | Units Produced | | Airframe Weight | | Average Unit Weight |
|-------------------|----------------|------------------|-----------------|------------------|---------------------|
| | Number | Percent of Total | (000 lbs.) | Percent of Total | |
| Total | <u>255</u> | <u>100.0</u> | <u>24,971</u> | <u>100.0</u> | <u>97,925</u> |
| Fixed-wing--total | <u>225</u> | <u>88.2</u> | <u>24,651</u> | <u>98.7</u> | <u>109,560</u> |
| Turbojet | 114 | 44.7 | 16,269 | 65.2 | 142,710 |
| Turboprop | 111 | 43.5 | 8,382 | 33.5 | 75,514 |
| Rotocraft--total | <u>30</u> | <u>11.8</u> | <u>320</u> | <u>1.3</u> | <u>10,667</u> |
| Piston | --- | --- | --- | --- | --- |
| Turbine | 30 | 11.8 | 320 | 1.3 | 10,667 |

TABLE 9.9

VALUE OF BACKLOG ORDERS, NET NEW ORDERS, AND NET SALES
OF COMPLETE AIRCRAFT, AIRCRAFT ENGINES, AND PROPELLERS:
CALENDAR YEARS 1969 THROUGH 1978

(Millions of Dollars)

| Year | Net New Orders During Year* | Net Sales During Year | Backlog December 31 |
|------|--------------------------------|--------------------------|------------------------|
| 1969 | 22,005 | 24,648 | 28,297 |
| 1970 | 21,161 | 24,752 | 24,705 |
| 1971 | 21,553 | 21,679 | 24,579 |
| 1972 | 23,570 | 21,289 | 26,860 |
| 1973 | 27,044 | 24,305 | 29,661 |
| 1974 | 32,879 | 26,768 | 35,770 |
| 1975 | 28,815 | 29,205 | 35,126 |
| 1976 | 35,991 | 30,363 | 37,682 |
| 1977 | 38,922 | 33,315 | 45,309 |
| 1978 | 49,937 | 37,471 | 57,775 |

*New order received during the year less terminations during the year.

Source: Current Industrial Reports: Backlog of Orders for Aerospace Companies.

TABLE 9.10

AVERAGE EMPLOYMENT AND EARNINGS IN U.S. AIRCRAFT INDUSTRY: CALENDAR YEARS 1971 THROUGH 1978

| Industry | 1978 | 1977 | 1976 | 1975 | 1974 | 1973 | 1972 | 1971 |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <u>Average monthly employees (000)</u> | | | | | | | | |
| Aircraft and parts | 529.3 | 476.9 | 484.5 | 514.4 | 532.1 | 514.0 | 501.1 | 538.1 |
| Aircraft | <u>304.4</u> | <u>243.8</u> | <u>262.0</u> | <u>275.0</u> | <u>289.3</u> | <u>274.6</u> | <u>272.2</u> | <u>290.7</u> |
| Engines and parts | 130.9 | 137.6 | 131.9 | 139.6 | 146.2 | 144.8 | 138.5 | 153.4 |
| Other aircraft parts and equipment | 94.0 | 95.5 | 90.6 | 99.8 | 96.5 | 94.5 | 90.5 | 93.9 |
| <u>Average weekly hours</u> | | | | | | | | |
| Aircraft and parts | 42.2 | 42.8 | 41.7 | 41.1 | 40.5 | 41.5 | 41.6 | 40.7 |
| Aircraft | <u>42.1</u> | <u>42.7</u> | <u>41.6</u> | <u>40.4</u> | <u>39.4</u> | <u>41.1</u> | <u>41.7</u> | <u>41.0</u> |
| Engines and parts | 41.7 | 42.0 | 41.0 | 41.4 | 41.2 | 41.8 | 41.1 | 39.8 |
| Other aircraft parts and equipment | 43.1 | 44.1 | 42.7 | 41.9 | 42.1 | 42.1 | 41.9 | 41.2 |
| <u>Average weekly earnings</u> | | | | | | | | |
| Aircraft and parts | 318.19 | 307.73 | 278.56 | 246.19 | 218.70 | 207.50 | 193.44 | 175.82 |
| Aircraft | <u>324.17</u> | <u>310.43</u> | <u>283.30</u> | <u>250.48</u> | <u>219.46</u> | <u>210.84</u> | <u>197.66</u> | <u>178.76</u> |
| Engines and parts | 325.26 | 315.00 | 281.26 | 249.64 | 223.72 | 211.09 | 193.17 | 173.53 |
| Other aircraft parts and equipment | 295.24 | 295.03 | 263.89 | 213.29 | 210.92 | 196.19 | 183.10 | 171.80 |
| <u>Average hourly earnings</u> | | | | | | | | |
| Aircraft and parts | 7.54 | 7.19 | 6.68 | 5.99 | 5.40 | 5.00 | 4.65 | 4.32 |
| Aircraft | <u>7.70</u> | <u>7.27</u> | <u>6.81</u> | <u>6.20</u> | <u>5.57</u> | <u>5.13</u> | <u>4.74</u> | <u>4.36</u> |
| Engines and parts | 7.80 | 7.50 | 6.86 | 6.03 | 5.43 | 5.05 | 4.70 | 4.36 |
| Other aircraft parts and equipment | 6.85 | 6.69 | 6.18 | 5.52 | 5.01 | 4.66 | 4.37 | 4.17 |

TABLE 9.11

UNITED STATES EXPORTS OF AERONAUTICAL PRODUCTS
CALENDAR YEAR 1978

| Item | Number | Value (\$000) |
|---|--------------|------------------|
| Aircraft, parts, and accessories--total | N/A | <u>9,746,630</u> |
| Commercial and civilian aircraft--total | <u>4,401</u> | <u>3,616,077</u> |
| Multiple engines, new: | | |
| Less than 4,400 pounds* | 455 | 62,184 |
| 4,400 to 10,000 pounds* | 339 | 239,800 |
| 10,000 to 33,000 pounds* | 39 | 90,793 |
| 33,000 pounds and over:* | | |
| Passenger transports | 99 | 2,102,110 |
| Cargo transports | 3 | 142,376 |
| Other, including passenger/cargo | 8 | 304,972 |
| Single engine, new | 2,640 | 102,583 |
| Rotary wing, new* | | |
| Under 2,200 pounds* | 243 | 41,480 |
| 2,200 pounds and over* | 125 | 114,244 |
| Aircraft, used, rebuilt, modified or converted, including aircraft changed from military to non-military type | 449 | 388,469 |
| Aircraft, new, not elsewhere classified | -- | 27,066 |
| Internal combustion aircraft engines, new--total | | <u>30,039</u> |
| Under 500 horsepower | 2,148 | 16,488 |
| 500 horsepower and over | 157 | 13,551 |
| Aircraft engines, used | 1,388 | <u>16,359</u> |
| Aircraft components, parts, accessories--total | N/A | <u>6,084,155</u> |
| Electronic navigational aids | N/A | 280,935 |
| Aircraft flight and other instruments | N/A | 85,597 |
| Other aircraft components, parts and accessories | N/A | 5,717,623 |

N/A - not applicable.

*Empty aircraft weight.

X. AIRCRAFT ACCIDENTS

The data presented in this chapter were obtained from the following sources:

Accidents: National Transportation Safety Board.

Air Carrier Miles Flown: National Transportation Safety Board.

Estimated General Aviation Hours and Miles Flown: Federal Aviation Administration.

As defined by the National Transportation Safety Board, an aircraft accident is: "an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, and in which any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached thereto, or in which the aircraft receives substantial damage."

Fatal injury means any injury which results in death within 7 days of the accident.

Operator means any person who causes or authorizes the operation of an aircraft, such as the owner, lessee, or bailee of an aircraft.

Serious injury means any injury which (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) involves lacerations which cause severe hemorrhages, nerve, muscle, or tendon damage; (4) involves injury to any internal organ; or (5) involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

Substantial damage:

(1) Except as provided in subparagraph (2) of this paragraph, substantial damage means damage or structural failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component.

(2) Engine failure, damage limited to an engine, bent fairings or cowling, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, damage to landing gear, wheels, tires, flaps, engine accessories, brakes or wingtips are not considered substantial damage for the purpose of this part.

Commencing in 1968, general aviation accidents cannot be compared with earlier years because of an amendment to the definition of substantial damage.

Prior to January 1, 1968, the definition of substantial damage was:

(1) Except as provided in subparagraph (ii) of this paragraph:

(i) Substantial damage in aircraft of 12,500 pounds maximum certified takeoff weight or less means damage or structural failure reasonable estimated to cost \$300 or more to repair.

(ii) Substantial damage in aircraft of more than 12,500 pounds maximum certified takeoff weight means damage or structural failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repairs or replacement of the affected component.

(2) Engine failure, damage limited to an engine, bent fairings, or cowling, dented skin, small puncture holes in the skin or fabric, taxiing damage to propeller blades, damage to tires, engine accessories, brakes or wingtips are not considered substantial damage for the purpose of this part.

More detailed accident data may be obtained from the National Transportation Safety Board, Bureau of Technology.

TABLE 10.1

AIRCRAFT ACCIDENTS, FATALITIES AND FATALITY RATE --
U.S. AIR CARRIER OPERATIONS: 1978

| Air Carrier and Operation | Number of Accidents | | Number of Fatalities |
|--|---------------------|----------|----------------------|
| | Total | Fatal | |
| Total | <u>25</u> | <u>6</u> | <u>163</u> |
| Certificated Route Air Carriers--all operations | 22 | 5 | 19 |
| Supplemental Air Carriers--all operations | 2 | --- | --- |
| Commercial--all operations | 1 | 1 | 144 |
| Passenger Operations | 22 | 5 | 160 |
| Certificated Route Air Carriers scheduled | | | |
| Passenger Service | 20 | 4 | 16 |
| Domestic Passenger service | 18 | 4 | 16 |
| International/territorial passenger service | 2 | --- | --- |
| Supplemental air carrier passenger service, civil and military | 1 | --- | --- |
| Commercial | 1 | 1 | 144 |

NOTE: Beginning in 1975, accidents involving commercial operators of large aircraft are included. Nonrevenue miles of the supplemental air carriers are not reported.

SOURCE: National Transportation Safety Board.

TABLE 10.2
 FATAL ACCIDENTS, FATALITIES -- U. S. AIR CARRIER ALL OPERATIONS: 1977 AND 1978

| Location | Operator | Date | Service | Aircraft | Fatalities | | | Total Aboard | Reported Type of Accident |
|---|-------------------------------|----------|---------|------------|------------|------------|-----------|--------------|---|
| | | | | | Total | Passenger | Crew | | |
| Total | | | | | <u>163</u> | <u>141</u> | <u>12</u> | <u>10</u> | <u>767</u> |
| Certificated Route Air Carriers--total | | | | | <u>19</u> | <u>13</u> | <u>5</u> | <u>1</u> | <u>630</u> |
| Pueblo, CO | Frontier Airlines | 1/18/78 | Trng | DHC-6 | 3 | 0 | 3 | 0 | Crashed during Initial Climb |
| Los Angeles, CA | Continental Airlines | 3/1/78 | Psg | DC-10 | 2 | 2 | 0 | 0 | Crashed during Rejected Takeoff |
| Pensacola, FL | National Airlines | 5/8/78 | Psg | B-727 | 3 | 3 | 0 | 0 | Crashed during Final Approach |
| Atlanta, GA | Delta Airlines | 6/11/78 | Psg | L-1011 | 1 | 0 | 0 | 1 | Ground Crewman Fatally Injured |
| Portland, OR | United Airlines | 12/28/78 | Psg | DC-8 | 10 | 8 | 2 | 0 | Crashed during Landing |
| Commercial Operators of Large Aircraft--total | | | | | <u>144</u> | <u>128</u> | <u>7</u> | <u>9</u> | <u>137</u> |
| San Diego, CA | Pacific Southwest Airlines | 9/25/78 | Psg | B-727 | 142 | 128 | 7 | 7 | Midair Collision |
| | | | | Cessna 172 | 2 | --- | --- | 2 | |
| Total | | | | | <u>656</u> | <u>382</u> | <u>17</u> | <u>257</u> | <u>760</u> |
| Certificated Route Air Carrier--total | | | | | <u>653</u> | <u>382</u> | <u>14</u> | <u>257</u> | <u>757</u> |
| San Francisco, CA | Pan American World Airways | | Psg | B-747 | 327 | 318 | 9 | --- | 396 |
| Canary Islands | Royal Dutch Airlines | 3/27/77 | Psg | B-747 | 248 | --- | --- | 248 | Ground Collision, Pan Am taxiing and KLM takeoff run. |
| New Hope, GA | Southern Airways | 4/4/77 | Psg | DC-9 | 70 | 60 | 2 | 8 | Crashed Enroute |
| New York, NY | New York Airways | 5/16/77 | Psg | S-61 | 5 | 4 | --- | 1 | Roll over while idling rotors |
| Kayesville, UT | United Airlines | 12/18/77 | Crsg | DC-8 | 3 | --- | 3 | --- | Collided with mountain |
| Commercial Operators of Large Aircraft--total | | | | | <u>3</u> | <u>---</u> | <u>3</u> | <u>---</u> | <u>3</u> |
| St. Louis, Mo | Fleming International Airways | 7/6/77 | Crsg | L-188 | 3 | --- | 3 | --- | Crashed during takeoff |

TABLE 10.3
AIRCRAFT ACCIDENTS, ACCIDENT RATES, AND FATALITIES
U.S. AIR CARRIER OPERATIONS: 1969-1978*

| Year | Number of Accidents | | Aircraft Miles Flown (000)(a) | Accident Rate Per Million Aircraft Miles Flown | | Fatalities | | |
|---------|---------------------|-------|-------------------------------|--|-----------------|------------|------------|-----------------|
| | Total | Fatal | | Total Accidents | Fatal Accidents | Total | Passengers | Crew and Others |
| 1969 | 63 | 10(b) | 2,736,596 | 0.023 | 0.003 | 158 | 132 | 26 |
| 1970 | 55 | 8 | 2,684,552 | 0.020 | 0.003 | 146 | 118 | 28 |
| 1971 | 48 | 8(b) | 2,660,731 | 0.018 | 0.002 | 203 | 174 | 29 |
| 1972 | 50 | 8 | 2,619,043 | 0.019 | 0.003 | 190 | 160 | 30 |
| 1973 | 43 | 9 | 2,646,669 | 0.016 | 0.003 | 227 | 200 | 27 |
| 1974 | 47 | 9 | 2,464,295 | 0.019 | 0.003 | 467 | 421 | 46 |
| 1975(c) | 45 | 3 | 2,477,764 | 0.018 | 0.001 | 124 | 113 | 11 |
| 1976 | 28 | 4 | 2,568,113 | 0.011 | 0.002 | 45 | 39 | 6 |
| 1977 | 26 | 5 | 2,684,072 | 0.010 | 0.002 | 656 | 382 | 274 |
| 1978p | 25 | 6 | 2,797,000 | 0.009 | 0.002 | 163 | 141 | 22 |

* Includes Certificated Route, Supplemental, and Commercial Operators of Large Aircraft.

(a) Nonrevenue miles of the supplemental air carriers are not reported.

(b) Includes midair collision accidents nonfatal to air carrier occupants. Number of accidents excluded from fatal accident rates (1969-1, 1971-2).

(c) Beginning in 1975, figures include accidents involving commercial operators of large aircraft.

NOTE: Sabotage accident (9/8/74) is included in all computations except rates. In 1977, Fatalities (Other) includes 248 on aircraft of foreign registry.

SOURCE: National Transportation Safety Board.

p - preliminary.

TABLE 10.4
 AIRCRAFT ACCIDENTS, ACCIDENT RATES, AND FATALITIES
 U.S. CERTIFICATED ROUTE AIR CARRIERS: 1969-1978

| Year | Number of Accidents | | Aircraft Miles Flown (000) | Accident Rate Per Million Aircraft Miles Flown | | Fatalities | | |
|-------|---------------------|-------|----------------------------|--|-----------------|------------|------------|-----------------|
| | Total | Fatal | | Total Accidents | Fatal Accidents | Total | Passengers | Crew and Others |
| 1969 | 61 | 10(a) | 2,620,803 | 0.023 | 0.003 | 158 | 132 | 26 |
| 1970 | 49 | 5 | 2,591,706 | 0.019 | 0.002 | 85 | 72 | 13 |
| 1971 | 47 | 8(a) | 2,557,968 | 0.018 | 0.002 | 203 | 174 | 29 |
| 1972 | 48 | 8 | 2,526,021 | 0.019 | 0.003 | 190 | 160 | 30 |
| 1973 | 40 | 8 | 2,555,732 | 0.016 | 0.003 | 221 | 197 | 24 |
| 1974 | 45 | 8 | 2,384,933 | 0.018 | 0.003 | 463 | 420 | 43 |
| 1975 | 36 | 2 | 2,357,425 | 0.015 | 0.001 | 122 | 113 | 9 |
| 1976 | 25 | 3 | 2,448,413 | 0.010 | 0.001 | 42 | 39 | 3 |
| 1977 | 21 | 4 | 2,556,080 | 0.008 | 0.002 | 396 | 382 | 14 |
| 1978p | 22 | 5 | 2,625,000 | 0.008 | 0.002 | 19 | 13 | 6 |

(a) Includes midair collision accidents nonfatal to air carrier occupants. Number of accidents excluded from fatal accident rates (1969-1, 1971-2).

NOTE: Sabotage accident (9/8/74) is included in all computations except rates. In 1977, Fatalities (Other) includes 248 on aircraft of foreign registry.

SOURCE: National Transportation Safety Board.

p - preliminary.

TABLE 10.5
 AIRCRAFT ACCIDENTS, FATALITIES, AND FATALITY RATE--U.S. CERTIFICATED ROUTE AIR CARRIER
 SCHEDULED DOMESTIC AND INTERNATIONAL PASSENGER SERVICE: 1969-1978

| Year | Aircraft Accidents | | Fatalities | | Passengers Carried | Passenger-Miles Flown (000) | Passenger Fatality Rate Per 100 Million Passenger-Miles |
|-------|--------------------|-------|------------|-----------|--------------------|-----------------------------|---|
| | Total | Fatal | Total | Passenger | | | |
| 1969 | 48 | 7 | 152 | 132 | 159,213,414 | 132,161,593 | 0.100 |
| 1970 | 39 | 2 | 3 | 2 | 171,697,097 | 139,157,806 | 0.001 |
| 1971 | 41 | 6(a) | 194 | 174 | 173,664,737 | 145,678,876 | 0.119 |
| 1972 | 43 | 7 | 186 | 160 | 188,938,932 | 159,722,015 | 0.100 |
| 1973 | 32 | 6 | 217 | 197 | 202,207,000 | 171,436,549 | 0.115 |
| 1974 | 42 | 7 | 460 | 420 | 207,449,006 | 173,349,894 | 0.197 |
| 1975 | 28 | 2 | 122 | 113 | 205,059,571 | 174,173,138 | 0.065 |
| 1976 | 21 | 2 | 38 | 36 | 223,313,131 | 190,915,721 | 0.019 |
| 1977 | 17 | 2 | 75 | 64 | 240,326,516 | 206,205,410 | 0.031 |
| 1978p | 20 | 4 | 16 | 13 | 268,000,000 | 232,900,000 | 0.006 |

(a) Includes 2 midair collisions that were nonfatal to air carrier occupants.

NOTE: Passenger deaths occurring in sabotage accidents are included in the passenger fatality column, but are excluded in the computation of fatality rates (1974-79 passengers).

SOURCE: National Transportation Safety Board.

p - preliminary.

TABLE 10.6
 AIRCRAFT ACCIDENTS, FATALITIES AND FATALITY RATE--U.S. CERTIFICATED ROUTE AIR CARRIER
 SCHEDULED DOMESTIC PASSENGER SERVICE: 1969-1978

| Year | Aircraft Accidents | | Fatalities | | | Passengers Carried | Passenger-Miles Flown (000) | Passenger Fatality Rate Per 100 Million Passenger-Miles |
|-------|--------------------|-------|------------|-----------|----------------|--------------------|-----------------------------|---|
| | Total | Fatal | Total | Passenger | Crew and Other | | | |
| 1969 | 36 | 7 | 152 | 132 | 20 | 142,364,035 | 100,815,837 | 0.131 |
| 1970 | 32 | 1 | 1 | --- | 1 | 155,097,644 | 109,183,837 | --- |
| 1971 | 33 | 6(a) | 194 | 174 | 20 | 156,097,403 | 113,240,603 | 0.154 |
| 1972 | 37 | 6 | 185 | 160 | 25 | 169,931,415 | 123,775,960 | 0.129 |
| 1973 | 27 | 4 | 138 | 128 | 10 | 183,271,000 | 133,733,181 | 0.096 |
| 1974 | 31 | 3 | 168 | 158 | 10 | 189,723,697 | 137,657,951 | 0.115 |
| 1975 | 21 | 2 | 122 | 113 | 9 | 188,743,983 | 140,299,953 | 0.081 |
| 1976 | 17 | 1 | 1 | 1 | --- | 206,274,060 | 154,322,683 | 0.001 |
| 1977 | 15 | 2 | 75 | 64 | 11 | 222,283,516 | 166,424,934 | 0.038 |
| 1978p | 18 | 4 | 16 | 13 | 3 | 248,000,000 | 188,000,000 | 0.007 |

(a) Includes 2 midair collisions that were nonfatal to air carrier occupants.

SOURCE: National Transportation Safety Board.

p - preliminary.

TABLE 10.7
 ACCIDENTS, FATALITIES AND FATALITY RATE--U.S. CERTIFICATED ROUTE AIR CARRIER
 SCHEDULED INTERNATIONAL PASSENGER SERVICE: 1969-1978

| Year | Accidents | | Total | Fatalities | | Passengers Carried | Passenger-Miles Flown (000) | Passenger Fatality Rate Per 100 Million Passenger-Miles |
|-------|-----------|-------|-------|------------|----------------|--------------------|-----------------------------|---|
| | Total | Fatal | | Passenger | Crew and Other | | | |
| 1969 | 12 | --- | --- | --- | --- | 16,849,379 | 31,345,756 | --- |
| 1970 | 7 | 1 | 2 | 2 | --- | 16,599,453 | 29,973,969 | 0.007 |
| 1971 | 8 | --- | --- | --- | --- | 17,567,334 | 32,438,273 | --- |
| 1972 | 6 | 1 | 1 | --- | 1 | 19,007,517 | 35,946,055 | --- |
| 1973 | 5 | 2 | 79 | 69 | 10 | 18,936,000 | 37,703,368 | 0.183 |
| 1974 | 12 | 4 | 292 | 262 | 30 | 17,725,309 | 35,691,093 | 0.513 |
| 1975 | 7 | --- | --- | --- | --- | 16,315,588 | 33,873,185 | --- |
| 1976 | 4 | 1 | 37 | 35 | 2 | 17,039,131 | 36,593,038 | 0.096 |
| 1977 | 3 | --- | --- | --- | --- | 18,043,000 | 39,780,476 | --- |
| 1978p | 2 | --- | --- | --- | --- | 20,000,000 | 44,900,000 | --- |

NOTE: Passenger deaths occurring in sabotage accidents are included in passenger fatality column but excluded in the computation of passenger fatality rates (1974-79 passengers).

SOURCE: National Transportation Safety Board.

p - preliminary.

TABLE 10.8
 ACCIDENTS, ACCIDENT RATES, AND FATALITIES--U.S. SUPPLEMENTAL AIR CARRIERS
 ALL OPERATIONS: 1969-1978

| Year | Number of Accidents | | Aircraft Miles Flown (000)(a) | Accident Rate Per Million Aircraft Miles Flown | | Fatalities | | |
|-------|---------------------|-------|-------------------------------|--|-----------------|------------|------------|-----------------|
| | Total | Fatal | | Total Accidents | Fatal Accidents | Total | Passengers | Crew and Others |
| 1969 | 2 | -- | 115,793 | 0.017 | -- | -- | -- | -- |
| 1970 | 6 | 3 | 92,846 | 0.065 | 0.032 | 61 | 46 | 15 |
| 1971 | 1 | -- | 102,763 | 0.010 | -- | -- | -- | -- |
| 1972 | 2 | -- | 93,022 | 0.022 | -- | -- | -- | -- |
| 1973 | 3 | 1 | 90,937 | 0.033 | 0.011 | 6 | 3 | 3 |
| 1974 | 2 | 1 | 79,363 | 0.025 | 0.013 | 4 | 1 | 3 |
| 1975 | 2 | -- | 65,476 | 0.031 | -- | -- | -- | -- |
| 1976 | 1 | -- | 62,640 | 0.016 | -- | -- | -- | -- |
| 1977 | 2 | -- | 67,699 | 0.030 | -- | -- | -- | -- |
| 1978p | 2 | -- | 79,500 | 0.025 | -- | -- | -- | -- |

(a) Nonrevenue miles not reported.

SOURCE: National Transportation Safety Board.

p - preliminary.

TABLE 10.9
 AIRCRAFT ACCIDENTS, FATALITIES AND FATALITY RATE--U.S. SUPPLEMENTAL AIR CARRIER
 CIVIL AND MILITARY OPERATIONS: 1969-1978

| Year | Accidents | | Total | Fatalities | | Passengers Carried | Passenger-Miles Flown (000) | Passenger Fatality Rate Per 100 Million Passenger-Miles |
|---------|-----------|-------|-------|------------|-----------|--------------------|-----------------------------|---|
| | Total | Fatal | | Total | Passenger | | | |
| 1969 | -- | -- | -- | -- | -- | 3,705,975 | 11,134,706 | -- |
| 1970 | 2 | 1 | 47 | 46 | 1 | 2,950,224 | 10,288,728 | 0.447 |
| 1971 | -- | -- | -- | -- | -- | 3,295,803 | 10,573,646 | -- |
| 1972 | -- | -- | -- | -- | -- | 3,473,599 | 10,049,683 | -- |
| 1973 | 1 | -- | -- | -- | -- | 3,569,912 | 11,790,513 | -- |
| 1974 | 1 | -- | -- | -- | -- | 3,194,463 | 10,862,449 | -- |
| 1975 | 1 | -- | -- | -- | -- | 2,352,423 | 8,759,279 | -- |
| 1976 | 1 | -- | -- | -- | -- | 2,191,661 | 8,199,053 | -- |
| 1977 | 2 | -- | -- | -- | -- | 2,793,761 | 9,983,404 | -- |
| 1978(p) | 1 | -- | -- | -- | -- | 3,100,000 | 10,400,000 | -- |

SOURCE: National Transportation Safety Board.

(p) - preliminary.

TABLE 10.10

**AIRCRAFT ACCIDENTS, FATALITIES AND ACCIDENT RATES--
U.S. GENERAL AVIATION FLYING: 1969-1978**

| Year | Accidents | | Fatalities | Aircraft Hours Flown (000) | Accident Rates 100,000 Aircraft Hours | |
|-------------------|-----------|--------|------------|----------------------------------|--|-------|
| | Total | Fatal | | | Total | Fatal |
| 1969 | 4,767 | 647 | 1,495(b) | 25,351 | 18.8 | 2.55 |
| 1970 | 4,712 | 641(a) | 1,310 | 26,030 | 18.1 | 2.46 |
| 1971 | 4,648 | 661 | 1,355 | 25,512 | 18.2 | 2.59 |
| 1972 | 4,256 | 695(a) | 1,426(b) | 26,974 | 15.8 | 2.57 |
| 1973 | 4,255 | 723(a) | 1,412 | 29,974 | 14.2 | 2.41 |
| 1974 | 4,425 | 729(a) | 1,438 | 31,413 | 14.1 | 2.31 |
| 1975 | 4,237 | 675(a) | 1,345 | 32,024 | 13.2 | 2.10 |
| 1976 | 4,193 | 695 | 1,320 | 33,922 | 12.3 | 2.04 |
| 1977 | 4,286 | 702 | 1,436 | 35,792 | 12.0 | 1.96 |
| 1978 _p | 4,609 | 795 | 1,690(b) | 36,600 | 12.6 | 2.17 |

(a) Suicide/sabotage accidents are included in all computations except for rates (1970-1, 1972-3, 1973-2, 1974-2, 1975-2, 1976-4, 1977-1).

(b) Includes air carrier fatalities (1969-82, 1972-5, 1978-142) when in collision with general aviation aircraft.

SOURCE: National Transportation Safety Board.

p - preliminary.

TABLE 10.11

COMPARATIVE ACCIDENT DATA: 1969 THROUGH 1978
(PASSENGER FATALITIES PER 100 MILLION PASSENGER-MILES)

| | Passenger Automobiles and Taxis | Buses | Railroad Passenger Trains | Domestic Scheduled Air Transport Planes |
|----------------|---------------------------------------|--------|---------------------------------|--|
| 1969 | 2.30 | .19 | .07 | .13 |
| 1970 | 2.10 | .19 | .09 | .00 |
| 1971 | 1.90 | .19 | .24 | .15 |
| 1972 | 1.90 | .19 | .53 | .13 |
| 1973 | 1.70 | .24(r) | .07 | .10 |
| 1974 | 1.50(r) | .21 | .07 | .12 |
| 1975 | 1.40 | .15 | .08 | .08 |
| 1976 | 1.34(r) | .17(r) | .05 | .003 |
| 1977 | 1.33 | .13 | .05 | .04 |
| 1978 | 1.30 | .17 | .13 | .01 |

Source: Motor vehicle (automobiles, taxis, and buses) and railroad passenger train data from the National Safety Council. Domestic scheduled air transport data from the National Transportation Safety Board.

(r): Revised

TABLE 10.12

AIRCRAFT ACCIDENTS, FATALITIES AND ACCIDENT RATES--
 U.S. AIR TAXI: 1969 THROUGH 1978
 ALL OPERATIONS

| Year | Accidents | | Fatalities | Aircraft Hours Flown* | Accident Rates per 100,000 Aircraft Hours Flown | |
|---------|-----------|-------|------------|-----------------------|---|-------|
| | Total | Fatal | | | Total | Fatal |
| | 1969 | 207 | | | 29 | 142 |
| 1970 | 190 | 38 | 100 | 2,481,000 | 7.66 | 1.53 |
| 1971 | 148 | 33 | 109 | 2,225,000 | 6.65 | 1.48 |
| 1972 | 147 | 42 | 121 | 2,555,000 | 5.75 | 1.64 |
| 1973 | 165 | 44 | 113 | 3,066,000 | 5.38 | 1.44 |
| 1974 | 191 | 40 | 111 | 3,640,000 | 5.25 | 1.10 |
| 1975 | 203 | 37 | 98 | 3,688,000 | 5.50 | 1.00 |
| 1976 | 188 | 47 | 133 | 3,947,000 | 4.76 | 1.19 |
| 1977 | 217 | 44 | 155 | 4,207,000 | 5.16 | 1.05 |
| 1978(p) | 248 | 54 | 165 | 4,417,000(a) | 5.61 | 1.22 |

*Aircraft hours estimated by FAA.

(a)Aircraft hours estimated by NTSB.

SOURCE: National Transportation Safety Board.

(p)preliminary.

GLOSSARY

Active Aircraft--All legally registered civil aircraft which flew one or more hours.

ADF--Automatic Direction Finder.

Aerial Application--See Primary Use.

Air Carriers--The commercial system of air transportation, consisting of the certificated route air carriers, air taxis (including commuters), supplemental air carriers, commercial operators of large aircraft, and air travel clubs.

- Certificated route air carrier--An air carrier holding a Certificate of Public Convenience and Necessity issued by the Civil Aeronautics Board authorizing the performance of scheduled service over specified routes, and a limited amount of nonscheduled service.
- Air taxi--A classification of air carriers which directly engage in the air transportation of persons, property, mail, or in any combination of such transportation and which do not directly or indirectly utilize large aircraft (over 30 seats or a maximum payload capacity of more than 71,500 pounds) and do not hold a Certificate of Public Convenience and Necessity or economic authority issued by the Civil Aeronautics Board.
- Commuter air carrier--an air taxi operator which performs at least five round trips per week between two or more points and publishes flight schedules which specify the times, days of the weeks and plans between which such flights are performed.
- Supplemental air carrier--One of a class of air carriers now holding Certificates of Public Convenience and Necessity issued by the Civil Aeronautics Board, authorizing them to perform passenger and cargo charter services supplementing the scheduled service of the certificated route air carriers. Both international and domestic charter operations are for a temporary period. The authority of supplemental air carriers to engage in military charters is of an indefinite period. In addition, they can perform on an emergency basis, as may be authorized by the Civil Aeronautics Board, scheduled operations including the transportation of individually ticketed passengers and individually waybilled cargo.
- Commercial operator--a person who for compensation or hire engages in the carriage of aircraft in air commerce of persons or property other than as an air carrier or foreign air carrier.
- Commercial operator of large aircraft--commercial operator operating aircraft of more than 12,500 pounds maximum certificated takeoff weight.
- Air Travel Club--a person who engages in the carriage by airplanes of persons who are required to qualify for that carriage by payment of an assessment, dues, membership fee, or other similar types of remittance.

Aircraft Contacted--Aircraft with which the flight service station (FSS) have established radio communications contact. On count is made for each en route, landing, or departing aircraft contacted by a FSS regardless of the number of contacts made with an individual aircraft during the same flight. A flight contacting five FSS's would be counted as five aircraft contacted.

Aircraft Handled--See IFR Aircraft Handled.

Aircraft Operation--The airborne movement of aircraft in controlled or noncontrolled airport terminal areas and about given en route fixes or at other points where counts can be made. There are two types of operations--local and itinerant.

- Local operations are performed by aircraft which:
 - (a) Operate in the local traffic pattern or within sight of the airport.
 - (b) Are known to be departing for, or arriving from, flight in local practice areas within a 20-mile radius of the airport.
 - (c) Execute simulated instrument approaches or low passes at the airport.
- Itinerant operations are all aircraft operations other than local operations.

Aircraft Type--A term used in this publication in grouping aircraft by basic configuration--fixed-wing, rotorcraft, glider, dirigible, and balloon.

Air Defense Identification Zone--The area of airspace over land or water within which the ready identification, the location, and the control of aircraft are required in the interest of national security.

Airline Transport Pilot--See Pilot.

Airman--A pilot, mechanic, or other licensed aviation technician.

Airman Certificate--A document issued by the Administrator of the Federal Aviation Administration certifying that the holder complies with the regulations governing the capacity in which the certificate authorizes the holder to act as an airman in connection with aircraft.

Airport--An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

Airport Advisory Service (AAS)--A service provided by flight service stations at airports not served by a control tower. This service consists of providing information to landing and departing aircraft concerning wind direction and velocity, favored runway, altimeter setting, pertinent known traffic, pertinent known field conditions, airport taxi routes and traffic patterns, and authorized instrument approach procedures.

Airport Surveillance Radar (ASR)--Radar providing position of aircraft by azimuth and range data. It does not provide elevation data. It is designed for range coverage up to 60 nautical miles and is used by terminal area air traffic control.

Airport Traffic--Aircraft operating in the air or on an airport surface exclusive of loading ramps and parking areas.

Airport Traffic Control Service--Air traffic control service provided by an airport traffic control tower for aircraft operating on the movement area, and in the vicinity of an airport.

Airport Traffic Control Tower (ATCT)--A central operations facility in the terminal air traffic control system, consisting of a tower cab structure, including an associated IFR room if radar equipped, using air/ground communications and/or radar, visual signaling and other devices, to provide safe and expeditious movement of terminal air traffic.

Air Route Traffic Control Center (ARTCC)--A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace, and principally during the en route phase of flight.

Air Taxi--See Air Carrier and Primary Use.

Air Traffic Control (ATC)--A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Air Traffic Control Facility--A facility in the U.S., its possessions and territories, and in foreign countries especially established by international agreement, that has the capability to provide air traffic control services to the aeronautical public.

Air Traffic Hub--Air traffic hubs are not airports; they are the cities and Standard Metropolitan Statistical Areas requiring aviation services. Communities fall into four classes as determined by each community's percentage of the total enplaned passengers in scheduled service of the fixed-wing operations of the domestic certificated route air carriers in the 50 States, the District of Columbia, and other U.S. areas designated by the Federal Aviation Administration.

- Large air traffic hub--a community enplaning 1.00 percent or more of the total enplaned passengers.
- Medium air traffic hub--a community enplaning from 0.25 to 0.99 percent of the total enplaned passengers.
- Small air traffic hub--a community enplaning from 0.05 to 0.24 percent of the total enplaned passengers.
- Nonhub--a community enplaning less than 0.05 percent of the total enplaned passengers.

Air Travel Club--See Air Carrier.

Alaskan Carrier--A subset of the certificated route air carriers which includes Alaska Airlines, Kodiak-Western Alaska Airlines, Munz Northern Airlines, Kodiak-Aleutian Airways, and Wien Air Alaska.

All-Cargo Carrier--One of a class of air carriers holding temporary Certificates of Public Convenience and Necessity, issued by the Civil Aeronautics Board, authorizing the performance of scheduled air freight, express, and mail transportation over specified routes, as well as the conduct of nonscheduled operations, which may include passengers. All cargo carriers include Airlift International, Flying Tiger Line and Seaboard World Airways.

Altitude Encoding (Automatic Altitude Reporting)--An aircraft altitude transmitted via the Mode C transponder feature that is visually displayed in 100 foot increments on the ground radar scope having readout capability.

American Flag Carrier--See U.S. Flag Carrier.

Approach Control Facility--A terminal area traffic control facility providing approach control service.

Approach Control Service--Air traffic control service provided by an approach control facility for arriving and departing aircraft and, on occasion, tower en route control service.

Area Navigation (RNAV)--A method of navigation that permits aircraft operations on any desired course within the coverage of station-referenced navigation signals or within the limits of self-contained system capability.

ARSR--Air Route Surveillance Radar.

ASR--See Airport Surveillance Radar.

ARTCC--Air Route Traffic Control Center.

Automatic Direction Finder (ADF)--An aircraft radio navigation system which senses and indicates the direction to a nondirectional radio beacon ground transmitter. Direction is indicated to the pilot as a magnetic bearing or as a relative bearing to the longitudinal axis of the aircraft.

Automatic Pilot--An aircraft can be controlled about the roll, pitch, and yaw axis by use of an automatic pilot. Information from VOR, ILS, MLS, and other navigation aids can be coupled to the automatic pilot for en route and approach flights.

Business Transportation--See Primary Use.

CAB--Civil Aeronautics Board.

Certificated Route Air Carrier--See Air Carrier.

Combined Station Tower--A combined facility (see Airport Traffic Control Tower and Flight Service Station).

Commercial Operator--See Air Carrier.

Commercial Pilot--See Pilot.

Commuter Air Carrier--See Air Carrier.

Controlled Airspace--Airspace control area designated as a continental control area, control zone, terminal control area, or transition area, within which some or all aircraft may be subject to air traffic control.

CS/T--Combined Station/Tower.

Defense Visual Flight Rules (DVFR)--A flight within an Air Defense Identification Zone conducted under the visual flight rules in Federal Aviation Regulation, Part 99.

Distance Measuring Equipment (DME)--Airborne and ground equipment used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid.

DME--Distance Measuring Equipment.

Domestic Operations--In general, operations within and between the 50 States, and the District of Columbia. Includes domestic operations of the certificated trunk carriers, and the local service, regional helicopter, Alaskan, Hawaiian, domestic all-cargo, and other carriers.

DVFR--Defense Visual Flight Rules.

Executive Transportation--See Primary Use.

Express (Air)--Property transported by air under published air express tariffs filed with the Civil Aeronautics Board.

FAR--Federal Aviation Regulation.

Flight Advisory Service--Advice and information provided by a facility to assist pilots in the safe conduct of flight and aircraft movement.

Flight Plan--Specified information, relating to the intended flight of an aircraft, that is filed orally or in writing with air traffic control.

Flight Service Station (FSS)--A central operations facility in the national flight advisory system utilizing data interchange facilities for the collection and dissemination of Notices to Airmen, weather, administrative data; and providing preflight and inflight advisory service, and other services to pilots, via air/ground communications facilities.

Foreign Flag Air Carrier--An air carrier other than a U.S. flag air carrier engaged in international air transportation (see also U.S. Flag Carrier).

Foreign Mail--Mail transported outside the United States by U.S. flag carriers for a foreign government.

FSS--Flight Service Station.

General Aviation--That portion of civil aviation which encompasses all facets of aviation except air carriers holding a Certificate of Convenience and Necessity from the Civil Aeronautics Board, and commercial operators of large aircraft.

Glide Slope--See Instrument Landing System.

Hawaiian Carrier--A subset of the certificated route air carriers which includes Aloha Airlines and Hawaiian Airlines.

Heliport--An area of land, water, or any structure used or intended to be used for the landing and takeoff of helicopters.

Hub--See Air Traffic Hub.

ICAO--International Civil Aviation Organization (Montreal, Canada).

IFR--Instrument Flight Rules.

IFR Aircraft Handled--The number of IFR departures multiplied by two plus the number of IFR overs. This definition assumes that the number of departures (acceptances, extensions, and originations of IFR flight plans) is equal to the number of landings (IFR flight plans closed).

IFR Departure--An IFR departure includes IFR flights:

1. Originating in a center's area;
2. Accepted by the center under SOLE EN ROUTE clearance procedures;
3. Extended by the center.

IFR Over--An IFR flight that originates outside the ARTCC area and passes through the area without landing.

IFSS--International Flight Service Station.

ILS--Instrument Landing System.

Inactive Aircraft--All legally registered civil aircraft which flew zero hours.

Industrial/Special--See Primary Use.

Instructional Flying--See Primary Use.

Instrument Approach--An approach to an airport, with intent to land, by an aircraft flying in accordance with an IFR flight plan, when the visibility is less than 3 miles and/or when the ceiling is at or below the minimum initial altitude.

Instrument Flight Rules (IFR)--Rules governing the procedures for conducting instrument flight. Also a term used by pilots and controllers to indicate type of flight plan.

Instrument Landing System (ILS)--A precision instrument approach system which normally consists of the following electronic and visual aids:

- Localizer--Provides course guidance to the runway.
- Glide Slope--Provides vertical guidance during approach.
- Marker Beacon--Beacon ground facility which transmits a vertical cone shaped signal. Pilots have aural and visual indications when passing over a marker station, indicating distance to the end of the runway and that aircraft is in approach path.

Instrument Operation--An aircraft operation in accordance with an IFR flight plan or an operation where IFR separation between aircraft is provided by a terminal control facility or air route traffic control center.

International Flight Service Station (IFSS)--A central operations facility in the flight advisory system, staffed and equipped to control aeronautical point-to-point telecommunications, and air/ground telecommunications with pilots operating over international territory or waters, providing flight plan following, weather information, search and rescue action, and other flight assistance operations.

International Operations--In general, operations outside the territory of the U.S., including operations between the U.S. and foreign countries, and the U.S. and its territories or possessions. Includes both the combination passenger/cargo carrier and the all-cargo carriers engaged in international and territorial operations.

Itinerant Operation--See Aircraft Operation.

Jet Routes--A route designed to serve aircraft operations from 18,000 feet to 45,000 feet.

Large Air Traffic Hub--See Air Traffic Hub.

Localizer--See Instrument Landing System.

Local Operation--See Aircraft Operation.

Local Service Carriers--A subset of the certificated route air carriers which includes Allegheny Airlines, Frontier Airlines, Hughes Airwest, North Central Airlines, Ozark Air Lines, Piedmont Aviation, Southern Airways, and Texas International Airlines.

Long Range Navigation--A method of navigation that permits navigation over long distances. This is in contrast to the relatively short range navigation provided using the VOR system.

Marker--See Instrument Landing System.

Medium Air Traffic Hub--See Air Traffic Hub.

Microwave Landing System (MLS)--An instrument landing system operating in the microwave spectrum which provides lateral and vertical guidance to aircraft having compatible avionics equipment.

MLS--Microwave Landing System.

Mode C--See Altitude Encoding.

Nondirectional Radio Beacon--A radio beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can with direction finding equipment determine headings to or from the radio beacon and "home" on a track to or from the station.

Nonhub--See Air Traffic Hub.

NOTAMS--Notice to Airmen.

Notice to Airmen--A notice containing information concerning the establishment, condition or change in any component of, or hazard in the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.

Over--See IFR Over.

Passenger/Cargo Air Carrier--One of a class of air carriers holding Certificates of Public Convenience and Necessity issued by the Civil Aeronautics Board, authorizing the performance of scheduled air transportation of passengers and property over specified routes.

Personal Flying--See Primary Use.

Pilot--

- Student Pilot--A student pilot may not operate an aircraft that is carrying a passenger or that is carrying property for compensation or hire.
- Private Pilot--A private pilot may not act as a pilot-in-command of an aircraft that is carrying passengers for compensation or hire nor may a private pilot act as pilot-in-command for compensation or hire.
- Commercial Pilot--A commercial pilot may act as pilot-in-command of an aircraft carrying passengers for compensation or hire and act as pilot-in-command of an aircraft for compensation or hire.
- Airline Transport Pilot--An airline transport pilot may act as a pilot-in-command of an aircraft engaged in air carrier service.

Pilot Briefing--Information furnished a pilot to assist in flight planning. Principal items are weather conditions, notices to airmen, routes, and preparation and handling of the flight plan.

Positive Control--Control of all air traffic, within designated airspace, by air traffic control.

Primary Use--The use category in which an aircraft flew the most hours.

The nine use categories are defined below:

- Aerial Application--Any use of an aircraft for work purposes which concerns the production of foods, fibers, and health control in which the aircraft is used in lieu of farm implements or ground vehicles for the particular task accomplished. This includes the distribution of chemicals or seeds in agriculture, reforestation, or insect control; it excludes firefighting operations.
- Air Taxi--Use of an aircraft operating under Federal Aviation Regulations, Part 135. See also Air Carrier-Air Taxi.
- Business Transportation--Use of an aircraft not for compensation or hire by individuals for the purposes of transportation required by business in which they are engaged.
- Executive Transportation--Any use of an aircraft by a corporation, company, or other organization for the purposes of transporting its employees and/or property not for compensation or hire, and employing professional pilots for the operation of the aircraft.
- Industrial/Specialist--Any use of an aircraft for specialized work allied with industrial activity; excluding transportation and aerial application. (Examples: pipeline patrol; survey; advertising; photography; helicopter hoist; etc.).

- Instructional Flying--Any use of an aircraft for the purpose of formal instruction with the flying instructor abroad, or with the maneuvers on the particular flight(s) specified by the flight instructor.
- Personal Flying--Any use of an aircraft for personal purposes not associated with a business or profession, and not for hire. This includes maintenance of a pilot proficiency.
- Rental Aircraft--Aircraft owned for the purpose of renting out.
- Other--Any other use of an aircraft not included above.

Private Pilot--See Pilot.

Private-Use Airport--An airport which is not open for the use of the general public.

Privately-Owned Airport--An airport which is owned by a private individual or corporation.

Publicly-Owned Airport--An airport which is publicly-owned and under control of a public agency.

Public-Use Airport--An airport open to the public without prior permission, and without restrictions within the physical capacities of available facilities. May or may not be publicly owned.

Radar Altimeter--Aircraft instrument that makes use of the reflection of radio waves from the ground to determine the height of the aircraft above the surface.

Regional Carriers--A subset of the certificated route air carrier which includes Air Midwest and Air New England.

Registered Aircraft--Aircraft registered with the Federal Aviation Administration.

Rental Aircraft--See Primary Use.

RNAV--See Area Navigation.

Small Air Traffic Hub--See Air Traffic Hub.

Stolport--An airport specifically designed for STOL (Short Take-off and Landing) aircraft, separate from conventional airport facilities.

Student Pilot--See Pilot.

Supplemental Air Carrier--See Air Carrier.

Terminal Area--A general term used to describe airspace in which approach control service or airport traffic control service is provided.

Tower--See Airport Traffic Control Tower.

Transponder--The airborne radar beacon receiver/transmitter portion of the Air Traffic Control Beacon System that automatically receives radio signals from interrogators on the ground and selectively replies with specific reply pulse-on-pulse group, only to those interrogations being received on the mode to which it is set to respond. Each aircraft transponder is capable of replying to 4,096 codes as selected by the pilot. Provides the air traffic controller positive location and, in some cases, altitude information.

Trunk Carrier--A subset of the certificated route air carriers which includes American Airlines, Braniff Airways, Continental Air Lines, Delta Air Lines, Eastern Air Lines, National Airlines, Pan American World Airways, Trans World Airlines, United Air Lines, and Western Air Lines.

U.S. Flag Carrier or American Flag Carrier--One of a class of air carriers holding a Certificate of Public Convenience and Necessity issued by the Civil Aeronautics Board, approved by the President, authorizing scheduled operations over specified routes between the United States (and/or its territories) and one or more foreign countries. (See also Foreign Flag Air Carrier.)

VFR--Visual Flight Rules.

VFR Flight--Flight conducted in accordance with Visual Flight Rules.

VHF--Very high frequency.

VHF Communications--Provides radio voice communications between aircraft and ground stations, also between aircraft. Very High Frequency (VHF) is limited in range (line of sight) and usually used for air traffic communications.

VOR--Very high frequency omnidirectional radio range. Used as the basis for navigation in the National Airspace System.

VORTAC--A navigation aid providing azimuth and distance measuring equipment at one site.

Weather Radar--Provides the flight crew with visual display of weather that could contain turbulence. The system's primary function is to assist in turbulence avoidance, however, most airborne radar systems are also capable of terrain mapping.