

CHAPTER VII

FAA WORKLOAD MEASURES

The FAA provides the aviation community with three distinct air traffic services: 1) air traffic control tower service at FAA and contract towered airports; 2) traffic surveillance and aircraft separation by air route traffic control centers (ARTCC); and 3) flight planning and pilot briefings at flight service stations (FSS). All four aviation system user groups--air carriers, commuter/air taxi, general aviation, and military--use these FAA operational services to enhance the flow and safety of aviation traffic.

Because the four aviation system user groups differ in the demands they impose on the air traffic system, multiple indicators are used to describe the total FAA operational workload. No single measure typifies past trends or future demand for the services provided by the FAA.

REVIEW OF 2004¹

During 2004 the number of FAA towered airports remained unchanged at 266, while the number of contract towered airports increased by five new towers to 223. Between 1990 and

¹ All specified years are fiscal years (October through September 30), unless designated otherwise.

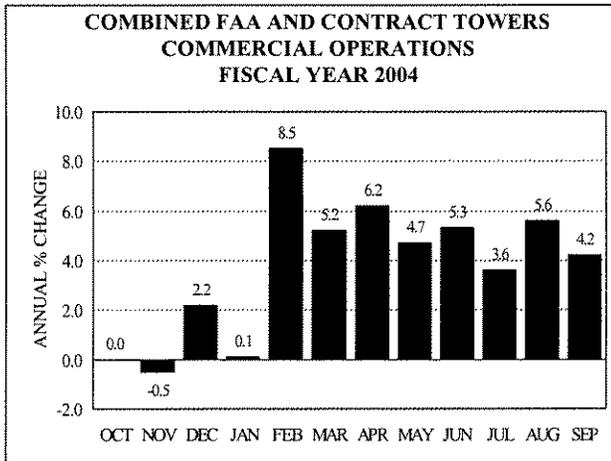
2000, the number of FAA towered airports declined by 136, and the number of contract towered airports increased by 214.

The addition and/or removal of airports to/from FAA air traffic counts make comparisons to previous year's activity levels difficult, if not impossible. To overcome these discontinuities, the FAA reports air traffic activity at FAA and contract tower facilities on both an individual as well as a combined basis. Activity at FAA air route traffic control centers is not affected by the number of towers.

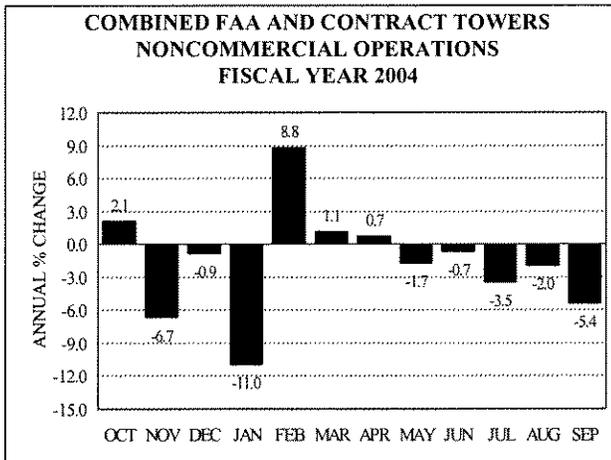
TOWER ACTIVITY

Combined FAA and Contract Towers

Aircraft activity at the 489 FAA and contract towered airports totaled 63.1 million operations, up 0.5 percent from 2003. In 2004, commercial activity was up 3.7 percent from 2003 as increases were recorded throughout the year. Air carrier operations were up 0.8 percent driven by increasing traffic and prior year schedule reductions following the beginning of the Iraq war and the outbreak of SARS.



Operations by commuter/air taxi continued to grow rapidly, up 7.0 percent in 2004, to 12.2 million. Much of the growth continued to be driven by the transfer of lower density, short-haul markets to commuters, especially the regional jet operators. In addition, growth in recent years has been stimulated by commuter code-sharing and schedule tie-in agreements with the larger commercial air carriers.



Noncommercial activity (the sum of general aviation and military operations) decreased 1.6 percent in 2004 with both general aviation and military activity falling. General aviation operations were down 1.6 percent with itinerant and local activity down 1.2 and 2.3 percent,

respectively. Military activity was down 1.1 percent with itinerant operations down 2.1 percent and local activity down 0.1 percent.

FAA Towers

On September 30, 2004, there were 266 FAA towered airports. Aircraft operations at these airports totaled 47.0 million, down 0.2 percent from 2003. Air carrier and commuter/air taxi operations increased during the year, up 0.8 and 7.7 percent, respectively. General aviation and military operations were down 3.8 and 4.4 percent, respectively.

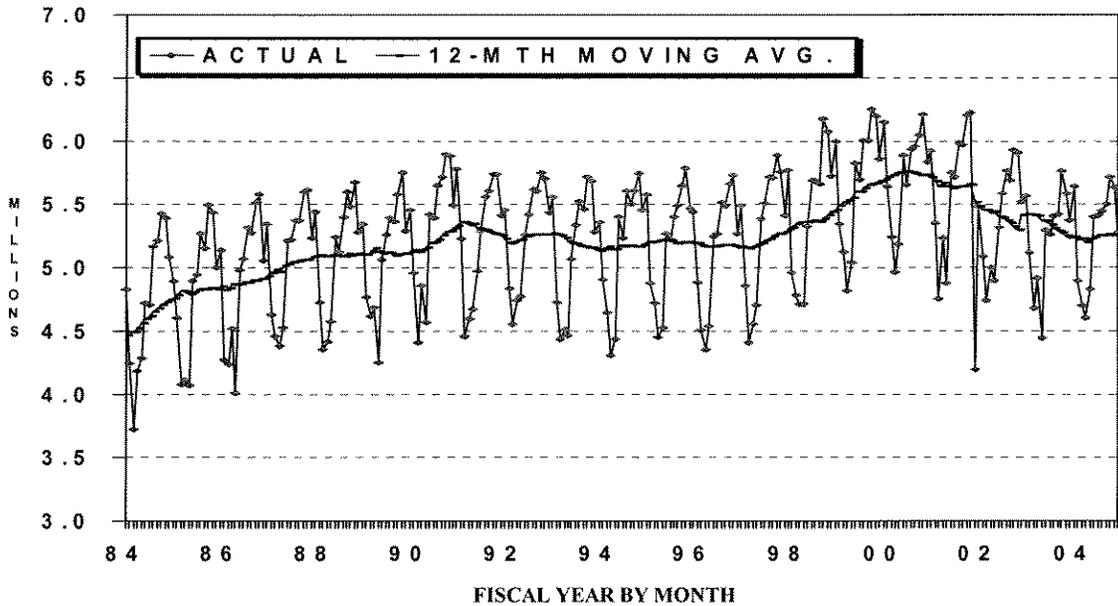
Contract Towers

On September 30, 2004, there were 223 contract towers funded either partially or fully by the FAA. Aircraft activity totaled 16.1 million operations, up 2.4 percent from 2003. Commercial activity increased 2.5 percent, while noncommercial activity rose 2.3 percent. In 2004 commuter/air taxi operations increased 2.7 percent while air carrier activity rose 1.1 percent. General aviation operations increased by 2.1 percent while military operations rose 4.8 percent. General aviation continues to dominate activity at FAA contract towers, accounting for 81.9 percent of total operations.

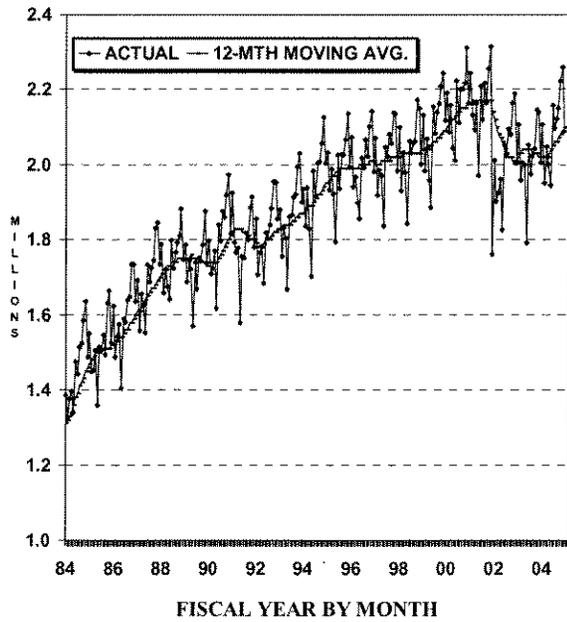
Monthly operation counts for the 266 FAA towered airports and the 223 contract towers, by user group, can be found on the internet at: <http://www.apo.data.faa.gov/>.

COMBINED FAA AND CONTRACT TOWERS: AIRPORT OPERATIONS

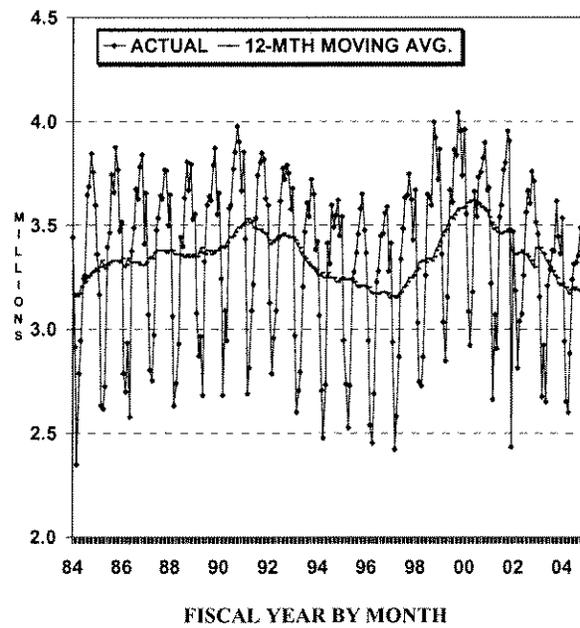
TOTAL OPERATIONS



COMMERCIAL OPERATIONS



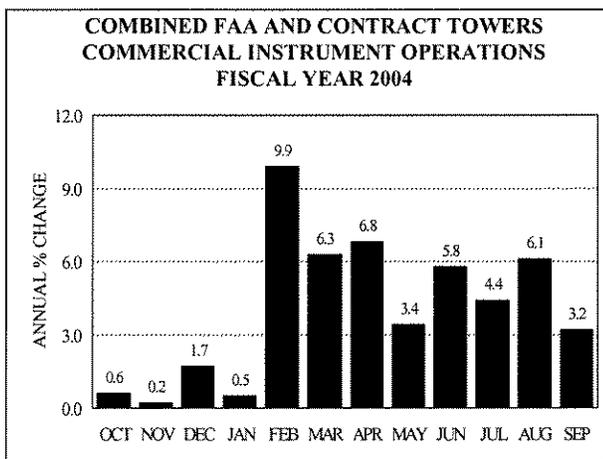
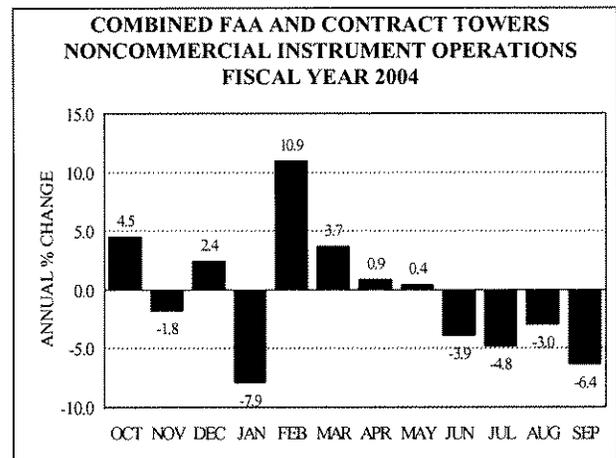
NONCOMMERCIAL OPERATIONS



INSTRUMENT OPERATIONS

Combined FAA and Contract Towers

Instrument operations handled at combined FAA and contract towers totaled 49.1 million, up 1.9 percent from the 2003 activity level. In 2004, FAA towers accounted for 98.3 percent of combined total instrument operations.



FAA Towers

Instrument operations at the 266 FAA towered airports totaled 48.3 million, an increase of 1.9 percent. Commercial activity was up 4.1 percent with commuter/air tax activity increasing 7.2 percent while air carrier operations were up 1.3 percent. Noncommercial operations fell 0.8 percent as general aviation, and military instrument operations decreased 0.3 and 3.7 percent, respectively.

Commercial instrument operations increased 4.0 percent over 2003 levels to 27.4 million. Increases were recorded in every month of the year. Air carrier activity was up 1.3 percent for the year, while commuter/air taxi instrument operations increased 7.1 percent.

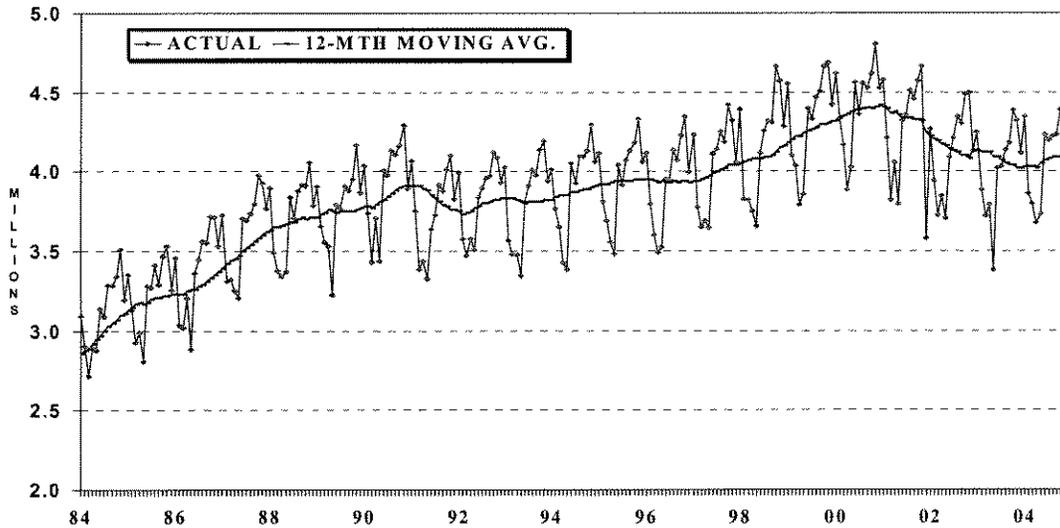
Noncommercial instrument operations fell 0.7 percent to 21.8 million. Year over year decreases in activity were recorded in each of the last 4 months of the year. General aviation operations were down 0.2 percent for the year, but still accounted for 37.8 percent of total instrument operations. Military operations fell 3.6 percent, and accounted for only 6.5 percent of the total.

Contract Towers

Instrument operations at FAA contract towered airports totaled 845,100, up 3.9 percent from 2003. Both commercial and noncommercial activity increased, up 2.5 and 5.9 percent, respectively. In 2004, air carrier instrument operations at FAA contract towers recorded the only decrease in activity, down 0.2 percent. Commuter/air taxi operations increased 3.3 percent while general aviation and military instrument operations increased 5.7 and 6.8 percent, respectively.

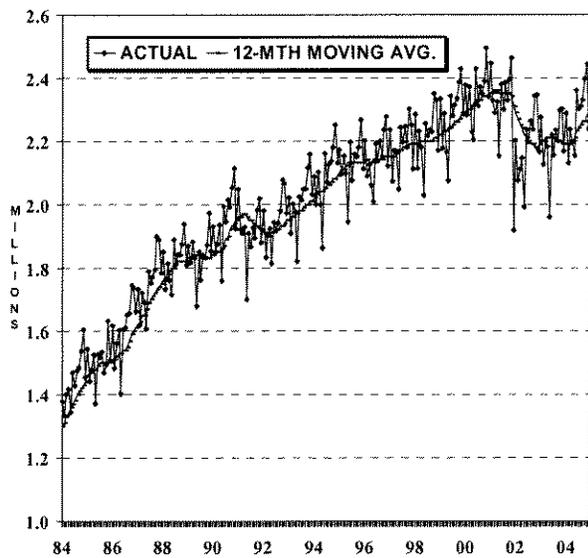
COMBINED FAA AND CONTRACT TOWERS: INSTRUMENT OPERATIONS

TOTAL OPERATIONS



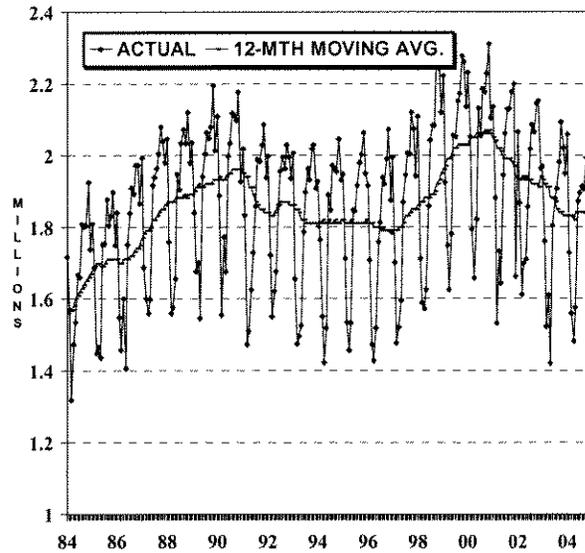
FISCAL YEAR BY MONTH

COMMERCIAL OPERATIONS



FISCAL YEAR BY MONTH

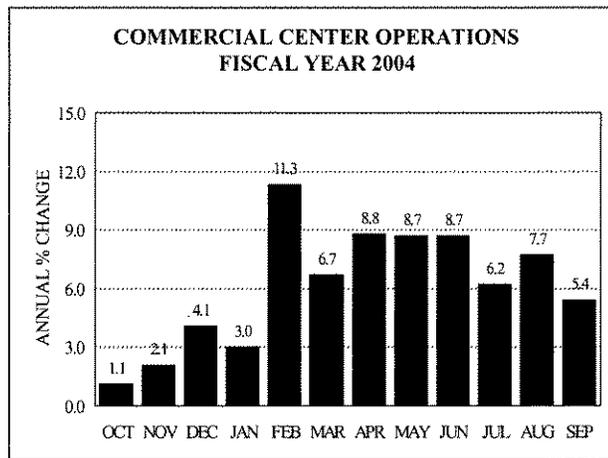
NONCOMMERCIAL OPERATIONS



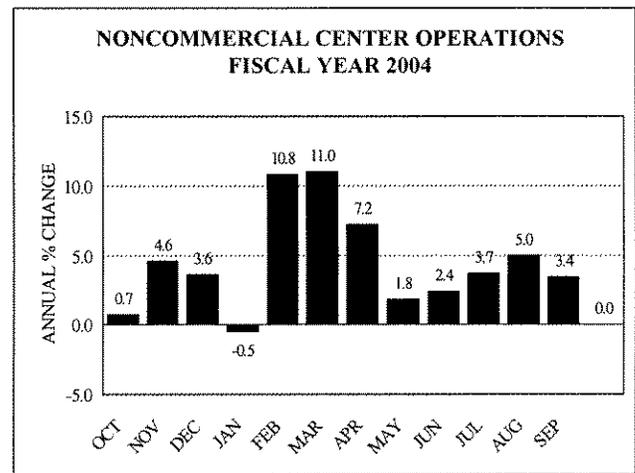
FISCAL YEAR BY MONTH

CENTER ACTIVITY

In 2004, the number of aircraft flying under Instrument Flight Rules (IFR) handled by FAA ARTCCs totaled 46.2 million, up 5.6 percent from the 2003 activity counts. The number of commercial aircraft handled at the Centers (33.8 million) rose 6.1 percent in 2003 with year over year increases occurring in every month of the year. The number of air carrier aircraft handled totaled 23.9 million (up 4.9 percent), while the number of commuter/air taxi aircraft handled totaled 10.0 million (up 9.1 percent).



The number of noncommercial aircraft handled (12.4 million) rose 4.4 percent. Year-over-year increases were posted in every month except January. The number of general aviation aircraft handled totaled 8.4 million (up 4.4 percent), while military activity totaled 4.0 million (up 4.5 percent).



FLIGHT SERVICE STATION ACTIVITY

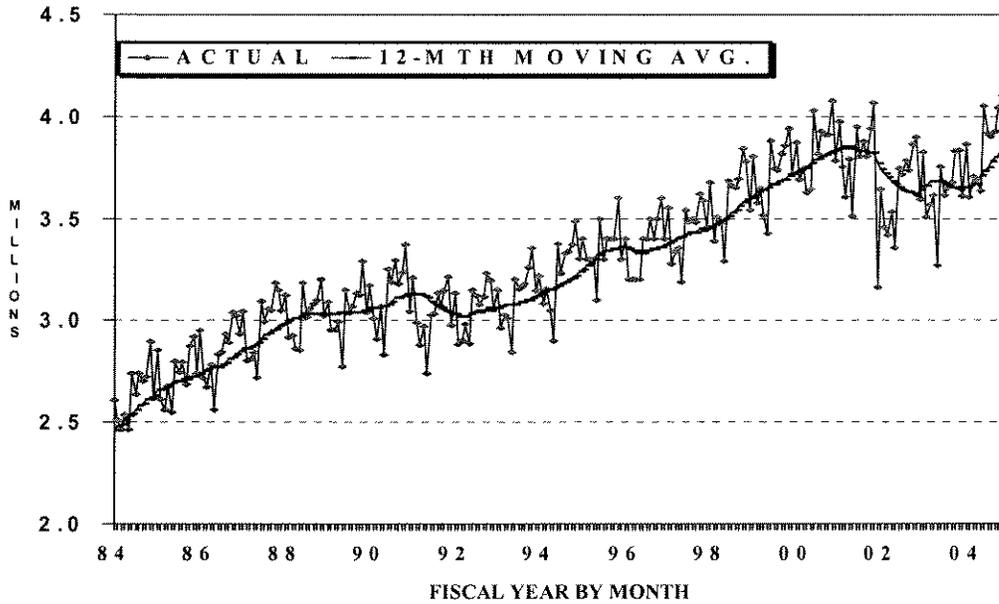
Total flight services, encompassing pilot briefings, flight plans filed, and aircraft contacts recorded by FAA Flight Service Stations (FSS) totaled 27.1 million in 2004, down 2.2 percent from 2003 activity levels. In 2004, the number of aircraft contacted fell 4.7 percent to 2.68 million, the number of pilot briefings declined by 3 percent to 6.80 million, and the number of flight plans originated decreased 0.5 percent to 5.39 million.

The FAA also provides automated flight services, which supplement FSS activity. The Direct User Access Terminal System (DUATS) provides an alternative to the FSS for obtaining pilot briefing information and filing flight plans. Use of this service was introduced in February 1990.

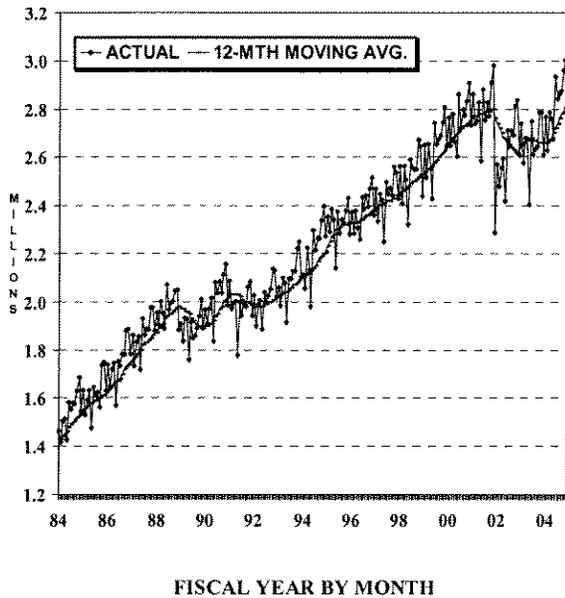
In 2004, total DUATS transactions (including flight plans) totaled 19.8 million, an increase of 13.0 percent over 2003. The number of flight plans filed through DUATS rose 18.3 percent to 1.5 million. The number of DUAT transactions (excluding flight plans) increased 12.1 percent in 2004, from 7.5 million in 2003 to 8.4 million.

FAA AIR ROUTE TRAFFIC CONTROL CENTERS: IFR AIRCRAFT HANDLED

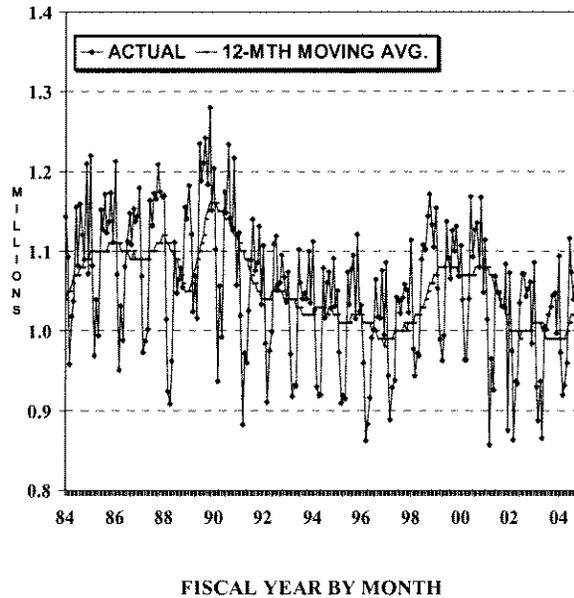
TOTAL AIRCRAFT HANDLED

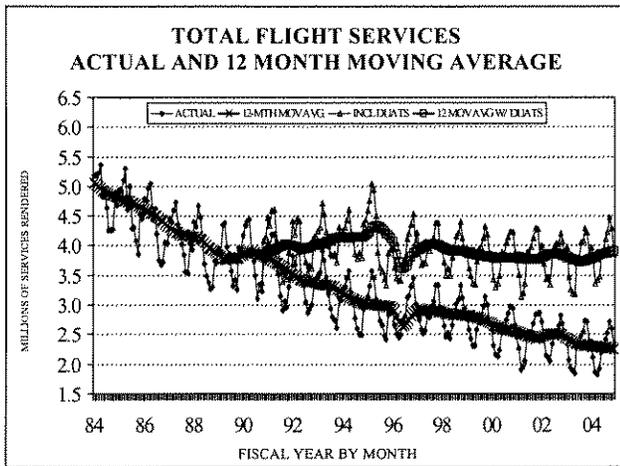


COMMERCIAL OPERATIONS



NONCOMMERCIAL OPERATIONS





When these DUAT services are included with traditional FSS services, total flight services rose from 45.2 million in 2003 to 46.8 million in 2004, an increase of 3.7 percent.

FORECAST ASSUMPTIONS

Forecast growth in FAA workload measures includes not only the demand imposed on the existing National Airspace System, but also aviation activity at new locations not previously provided with FAA services. Workload forecasts are presented for combined FAA and contract towers, and separately for FAA facilities and contract towers.

NUMBER OF FAA FACILITIES

There were 266 FAA towered airports on September 30, 2004. There are 148 radar service areas--47 terminal radar service areas, 15 class B (terminal control areas), and 86 class C (airport radar service areas). The number of FSSs and AFSSs totaled 75 on September 30, 2004: 61 AFSSs and 14 Alaskan rotational FSSs.

In 2005, the number of contract tower airports will increase from 223 to 234 with the addition of eleven new towers and are assumed to remain at that level over the remainder of the forecast period.

COMMERCIAL AVIATION: RISKS AND UNCERTAINTIES

Although growth in demand for commercial aviation services is based upon continued growth in the U. S. economy, lower industry operating costs, lower fares, lower fuel costs, and financial stability, there is uncertainty associated with these forecasts. A number of events could alter the short and long-term environment, and cause demand to differ substantially from the projections presented in this report. Also, structural changes in the industry could change the mix of operations at FAA facilities.

The events of September 11th have had a significant impact on the demand for aviation services. A rebound from the lows in 2003 began in 2004 and is forecast to continue in 2005. A return to long-term growth trends is assumed to begin in 2006. Increased demand is initially met by utilizing the existing fleet more intensively and by achieving higher load factors. Ultimately the increase in demand leads to increases in aviation activity.

The growth of state-of-the-art jet aircraft in the regional/commuter fleet coupled with the financial aftermath of September 11th is significantly altering the route system of the industry. These new aircraft are greatly expanding the number of markets that regional/commuters can serve. Should the number of route transfers or new markets greatly

exceed current expectations, commuter/air tax operations at FAA facilities could be higher than currently forecast. Conversely, air carrier operations would be lower.

WORKLOAD FORECASTS

METHODOLOGY

The workload measures for airports with air traffic control towers are the number aircraft operations (sum of landings and takeoffs) and instrument operations (arrivals and departures at primary and secondary airports, and overflights). The workload measure for ARTCCs is the number of aircraft handled (sum of departures, landings, and overflights for aircraft operating under instrument flight rules). For flight service stations, the workload measures are flight plans filed, pilot briefings, and aircraft contacts. The workload measures are developed by user category for all three components of the air traffic control system.

Projections of total operations for commercial air carriers and commuter/air taxis at airports with air traffic control towers are based upon forecasts of Available Seat Miles (ASMs), and assumptions regarding average seats per aircraft, and aircraft stage length. Specifically, if the average number of seats per aircraft is divided into the forecast of ASMs, an estimate of the number of aircraft miles in the system is derived. The average aircraft stage length is then divided into the forecast of aircraft miles in order to derive an estimate for departures. For both air carriers and cargo operators, estimates are made for both international and domestic departures. An estimate of total operations for the air carrier and commuter/air taxi is derived by doubling the number of departures.

Forecasts of general aviation airport operations are developed from projections of general aviation hours flown and the general aviation fleet.

Forecasts of instrument operations for airports with air traffic control towers, and the workload measures for ARTCCs and flight service stations are derived from the forecasts of airport operations by user category. With the exception of service at the 11 new contract towers, military operations are assumed to remain at current levels throughout the forecast period.

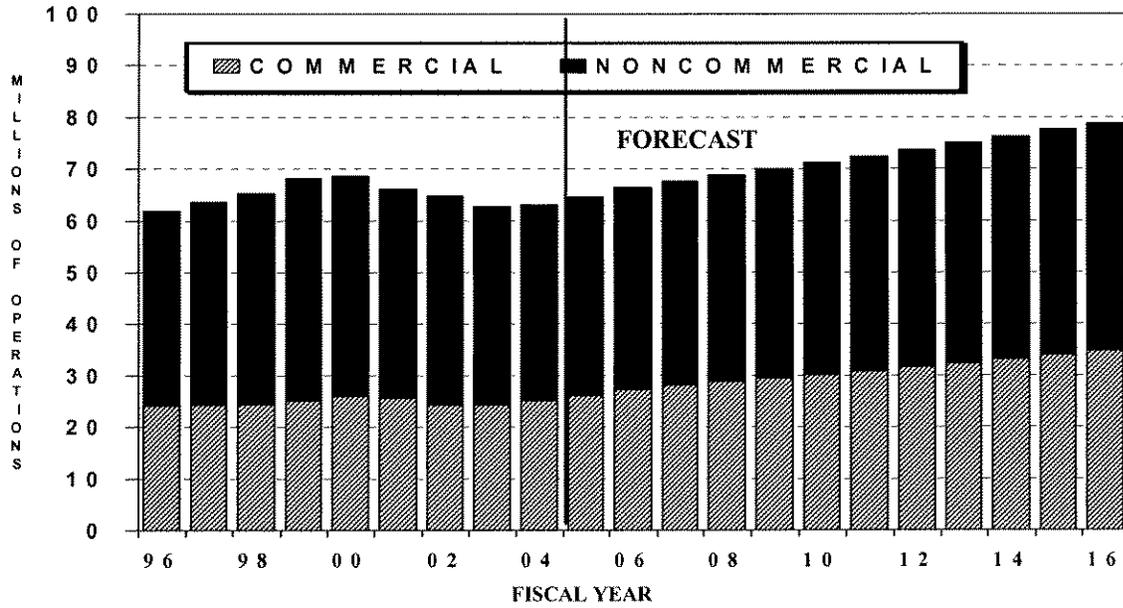
In February 2005 the FAA announced that Lockheed Martin had been selected to provide flight services as a result of an A-76 competitive sourcing competition. Lockheed's plan is to consolidate the number of non-Alaska flight service stations from the current 58 to 20 within 3 years. However, it is anticipated that the consolidation of stations will not impact the level of flight service activity in the current forecast.

TOWER ACTIVITY

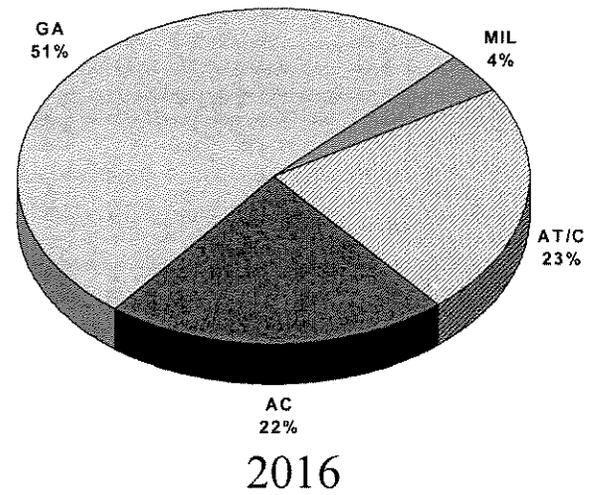
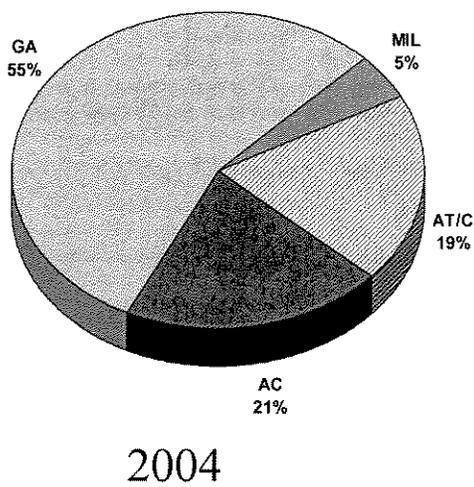
It is assumed that the number of FAA control towers will remain constant at 266 in 2005. The number of contract towers is expected to increase by 11² to 234 in 2005 and remain at that level for the duration of the forecast. It is assumed that the 11 new towers will be phased in throughout 2005. As such, the addition of the new towers will impact contract tower operations in both 2005 and 2006.

² The eleven new contract towers are as follows: Arlington Municipal (TX), Cape Girardeau Regional (MO), Chippewa Valley Regional (WI), Ellington Field (TX), Georgetown Municipal (TX), Leesburg Regional (FL), Olive Branch (MS), Provo Municipal (UT), Rogers Municipal-Carter Field (AR), Scholes International at Galveston (TX), and Trent Lott International (MS).

AIRCRAFT OPERATIONS AT AIRPORTS WITH FAA AND CONTRACT TRAFFIC CONTROL SERVICE



DISTRIBUTION OF WORKLOAD BY USER GROUP



Combined FAA and Contract Towers

During the 12-year forecast period, operations at FAA and contract towered airports grow to 78.9 million by 2016, increasing 1.9 percent annually on average. Growth in tower activity in 2005 is projected to increase 2.6 percent with increases in all activity categories. As the demand for aviation services grows so does the level of activity. For the balance of the forecast from 2006 to 2016, tower activity is projected to increase an average of 1.7 percent per year. Commercial activity is forecast to grow at relatively faster rates than general aviation. Air carrier operations share of the combined towered airport activity increases 1.1 points from 20.5 percent in 2004 to 21.6 percent in 2016 while the commuter/air taxi share increases 3.2 points from 19.4 percent in 2004 to 22.6 percent. The general aviation share of activity declines from 55.4 percent in 2004 to 51.9 percent by 2016. Commuter/air taxi activity is projected to grow at rates faster than that forecast for the larger commercial air carriers during the early years of the forecast, with accelerating route transfers and increased use of regional jets the primary drivers.

In 2004, air carrier operations increased from 12.8 to 12.9 million operations, a 0.8 percent increase. In 2005, air carrier operations are projected to grow 0.9 percent as capacity reductions by legacy carriers are offset by increased low-cost carrier operations. For the balance of the forecast, air carrier operations are forecast to grow an average of 2.5 percent per year. However, air carrier operations do not return to the 2000 level of activity until 2012. For the entire 12-year forecast period, air carrier operations increase at a rate of 2.3 percent annually.

Commuter/air taxi activity grows an average of 6.7 percent per year in 2005 and 2006 and then increases at a 2.5 percent annual rate over the

remainder of the forecast. Over the 12-year forecast period, commuter/air taxi operations grow an average of 3.2 percent annually, increasing from 12.2 to 17.8 million operations. General aviation activity increases 1.8 percent in both 2005 and 2006. For the remainder of the forecast, general aviation operations increase at a rate of 1.2 percent per year. For the entire forecast period, general aviation operations increase from 34.9 to 40.9 million operations (1.3 percent annual growth). Itinerant and local general aviation operations are forecast to increase 18.7 and 15.1 percent, respectively, over the period. Total military operations are projected to increase to 3.0 million by 2005 then remain at that level throughout the balance of the forecast period.

Commercial aircraft activity (air carrier plus commuter/air taxi) at combined towered airports is projected to increase 3.8 percent in 2005, with an increase of 6.9 percent in commuter/air taxi activity. By 2005, commercial aircraft activity returns to the level of activity flown in 2000.

However, the mix of traffic will be significantly different than existed in 2000. In 2000, air carrier operations accounted for 58.5 percent of total commercial operations. By 2005, it is expected that the air carrier share of commercial operations will decline to 50.0 percent. The surge in regional jet activity adds to the complexity of the FAA workload. In contrast to the turboprops they have replaced, regional jets use the same runways as the large jets operated by the air carriers, and they fly at the same altitudes as do larger jets, increasing congestion at the higher altitudes. For the period 2006 to 2016, commercial activity increases at an average rate of 2.5 percent per year. Commercial activity growth averages 2.8 percent annually during the 12-year forecast period, increasing from 25.2 to 34.9 million. Noncommercial activity increases at an average of 1.2 percent annually, from 37.9 million in 2004 to 44.0 million in 2016.

In certain large hubs, such as Chicago O'Hare, the change in the mix of commercial operations is expected to be even greater than the national average. Forecasts for individual airports are contained in the FAA's Terminal Area Forecast and are available at the following website: <http://www.apo.data.faa.gov/>.

FAA Towers

In 2004, operations at the 266 FAA towered airports totaled 47.0 million, down 0.2 percent from 2003. For the 12-year forecast period, operations at FAA towered airports increase 1.9 percent a year. In absolute numbers, towered operations total 58.9 million in 2016.

Commercial aircraft activity at FAA towered airports is projected to grow 2.7 percent annually during the 12-year forecast period, from 23.4 to 32.2 million, exceeding the level of activity that occurred in 2000 by 2005. Noncommercial activity increases from its current level of 23.6 million to 26.7 million in 2016 (1.0 percent annually), and does not exceed the 2000 level of activity during the forecast period.

Contract Towers

In 2004, operations at the 223 contract towered airports totaled 16.1 million, a 2.4 percent increase from 2003. The forecast assumes that 11 new contract towers are added in 2005. The vast majority of the increased activity at these towers is general aviation and military activity. During the 12-year forecast period, operations at contract towered airports increase at an annual rate of 1.8 percent, totaling 20.0 million in 2016. The additional activity of the new towers provides for significant growth in contract tower operations in both 2005 (4.6 percent) and 2006

(4.1 percent). Thereafter growth in contract tower activity will moderate.

Commercial aircraft activity at contract-towered airports grows an average of 3.4 percent annually during the 12-year forecast period, increasing from 1.8 million to 2.7 million. Noncommercial activity grows slower, averaging 1.6 percent annually, increasing from 14.3 million in 2004 to 17.3 million in 2016.

INSTRUMENT OPERATIONS³

Combined FAA and Contract Towers

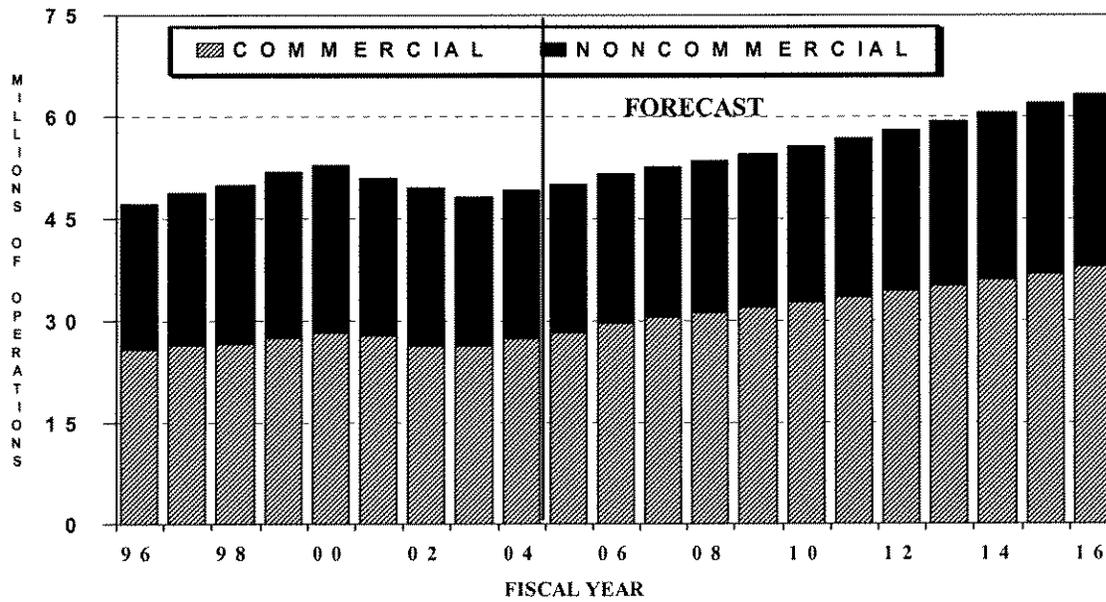
During the forecast period, combined instrument operations increase from 49.1 million operations in 2004 to 63.4 million operations in 2016, averaging 2.1 percent annually. In 2016, FAA towers will account for about 98.3 percent of combined instrument operations.

The mix of instrument operations is expected to change during the forecast period. The air commuter/air taxi share of total instrument operations increase significantly share over the forecast period (from 26.9 to 30.2 percent) while the air carrier share increases but at a slower rate (from 28.9 to 29.5 percent). General aviation's share declines from 37.8 percent to 35.3 percent over the 12-year forecast period.

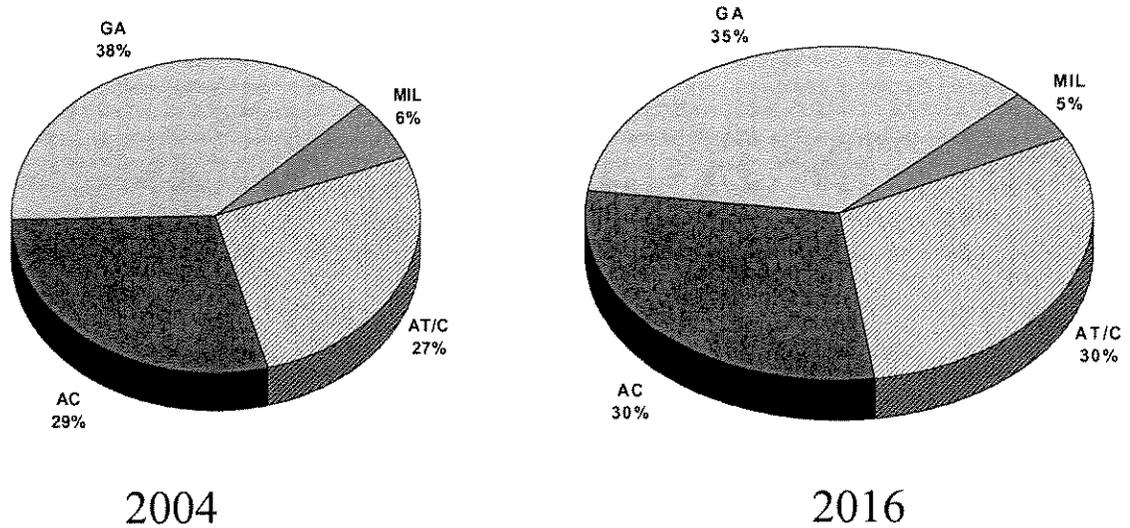
Air carrier instrument operations are forecast to increase 0.3 percent in 2005, then increase 2.8 percent in 2006, and 2.5 percent annually thereafter. During the entire 12-year forecast period, air carrier instrument operations increase 2.3 percent annually from 14.2 million to

³ Instrument operations include arrivals and departures at both primary and secondary airports as well as overflights. Thus instrument operations totals at FAA towers are generally higher than aircraft operation counts at the same towers.

INSTRUMENT OPERATIONS AT AIRPORTS WITH FAA AND CONTRACT TRAFFIC CONTROL SERVICE



DISTRIBUTION OF WORKLOAD BY USER GROUP



18.7 million by 2016. Commuter/air taxi operations increase 6.4 percent per year through 2006, then grow 2.5 percent per year thereafter. For the 12-year forecast period, commuter/air taxi operations grow 3.1 percent annually, increasing from 13.2 million to 19.1 million.

General aviation operations rise 0.5 percent in 2005 and increase steadily thereafter and grow an average of 1.5 percent annually during the forecast period, increasing from 18.6 million to 22.3 million operations. Military activity decreased 3.6 percent in 2004 to 3.2 million, and remains at that level for the balance of the forecast.

During the 12-year forecast period, commercial activity increases 2.7 percent annually, from 27.4 million to 37.8 million. Noncommercial activity is forecast to increase 1.3 percent annually, from 21.7 million in 2004 to 25.5 million in 2016.

FAA Towers

Instrument operations at FAA towered airports are projected to increase 1.8 percent in 2005 with increases in all categories except military activity. For the 12-year forecast period, instrument operations at FAA towered airports increase at an average annual rate of 2.1 percent. In absolute numbers, FAA towered instrument operations reach 62.3 million in 2016.

Commercial instrument operations at FAA towered airports increase 3.3 percent in 2005 and 4.5 percent in 2006. During the period 2006 to 2016, commercial instrument operations at FAA towered airports grow 2.5 percent annually. For the entire 12-year forecast period, commercial instrument operations increase from 26.9 million to 37.2 million, a rate of

2.7 percent annually. Noncommercial activity expands 1.3 percent annually, from 21.4 million in 2004 to 25.1 million in 2016.

Contract Towers

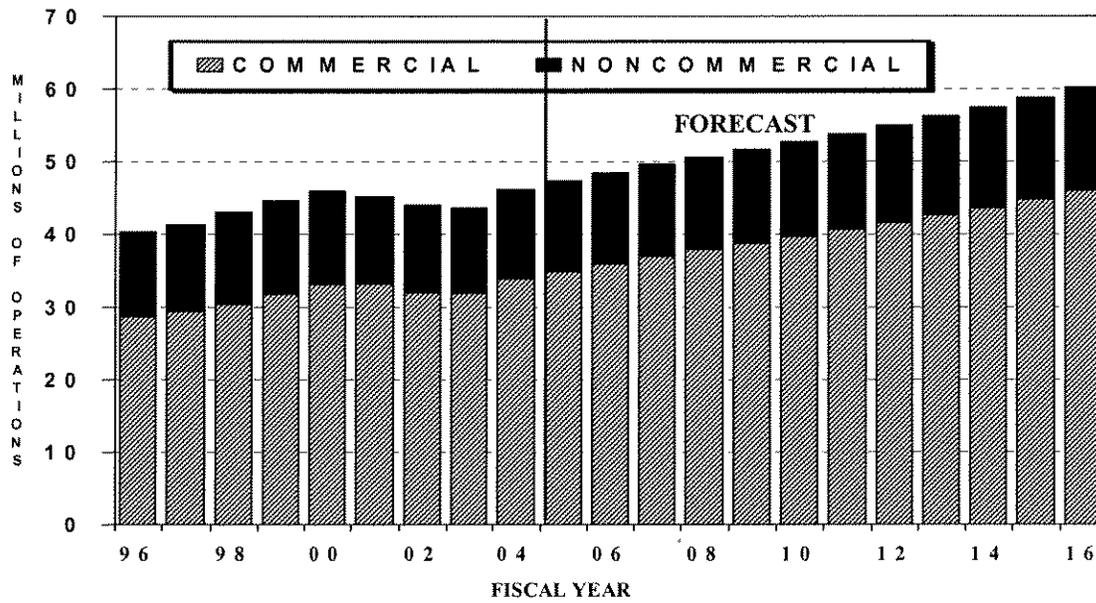
For the 12-year forecast period, instrument operations at contract-towered airports increase 2.2 percent a year, totaling 1.1 million in 2016. Commercial instrument operations at contract-towered airports grow at an average annual rate of 3.0 percent during the 12-year forecast period, increasing from 482,700 to 684,700. Noncommercial activity is forecast to increase from 362,400 in 2004 to 413,400 in 2016, growing at an average annual rate of 1.1 percent.

CENTER ACTIVITY

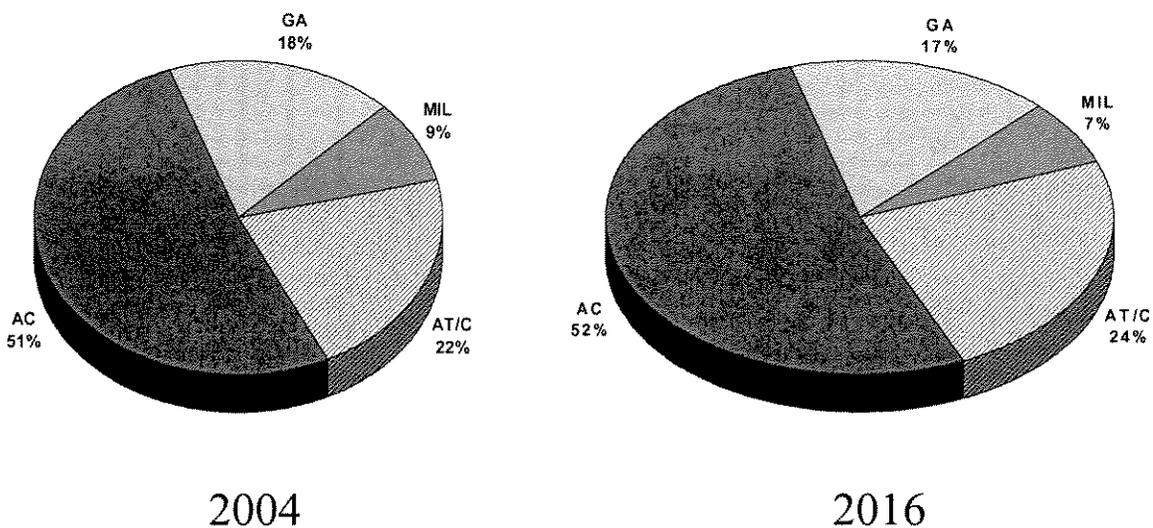
During the 12-year forecast period, the number of aircraft handled at centers increases 2.2 percent annually, expanding from 46.2 million aircraft handled in 2004 to 60.2 million in 2016. Aircraft handled rise 2.5 percent in both 2005 and 2006 with the largest increases occurring in commuter/air taxi and general aviation activity. Thereafter, growth in aircraft handled averages 2.2 percent during the period 2006 to 2016.

The number of air carrier aircraft handled at centers is forecast to increase from 23.9 million in 2004 to 31.5 million in 2016, a 2.3 percent annual growth rate. Air carrier aircraft handled increase 1.5 percent in 2005, 1.6 percent in 2006, and then grow at an average rate of 2.5 percent per year between 2006 and 2016.

IFR AIRCRAFT HANDLED AT FAA AIR ROUTE TRAFFIC CONTROL CENTERS



DISTRIBUTION OF WORKLOAD BY USER GROUP



Commuter/air taxi aircraft handled are expected to increase by 6.4 percent per year through 2006 and grow 3.1 percent annually for the 12-year forecast period, increasing from 10.0 million to 14.5 million. The relatively strong growth during the first three years of the forecast period reflects increases in the commuter stage length during this period.

General aviation aircraft handled increase 1.7 percent in 2005 and continue to increase steadily to total 10.2 million in 2016 (1.7 percent annual growth). Military activity increased 4.4 percent in 2004 to 4.0 million and remains at that level throughout the forecast period.

Commercial activity grows at an average annual rate of 2.6 percent during the forecast period, increasing from 33.8 million to 45.9 million. Noncommercial activity increases 1.2 percent annually, increasing from 12.4 million in 2004 to 14.3 million in 2016.

The commercial aircraft activities' share of center workload is forecast to increase from 73.2 percent in 2004 to 76.3 percent in 2016. Between 2004 and the year 2016, the air carrier share is forecast to increase from 51.6 to 52.3 percent, while the commuter/air taxi share increases from 21.6 to 24.0 percent.

FLIGHT SERVICE STATION ACTIVITY

The introduction of new technology for flight service applications has significantly changed the operating environment of the flight service system. Viewed in the larger context of the total National Airspace System, the declining trend in non-automated flight services does not necessarily indicate declining demand for total flight planning services. More likely, the fall in non-automated services suggests that demand is

being met through increased use of automation and new system capabilities resulting in increased efficiency and productivity.

Non-Automated Service

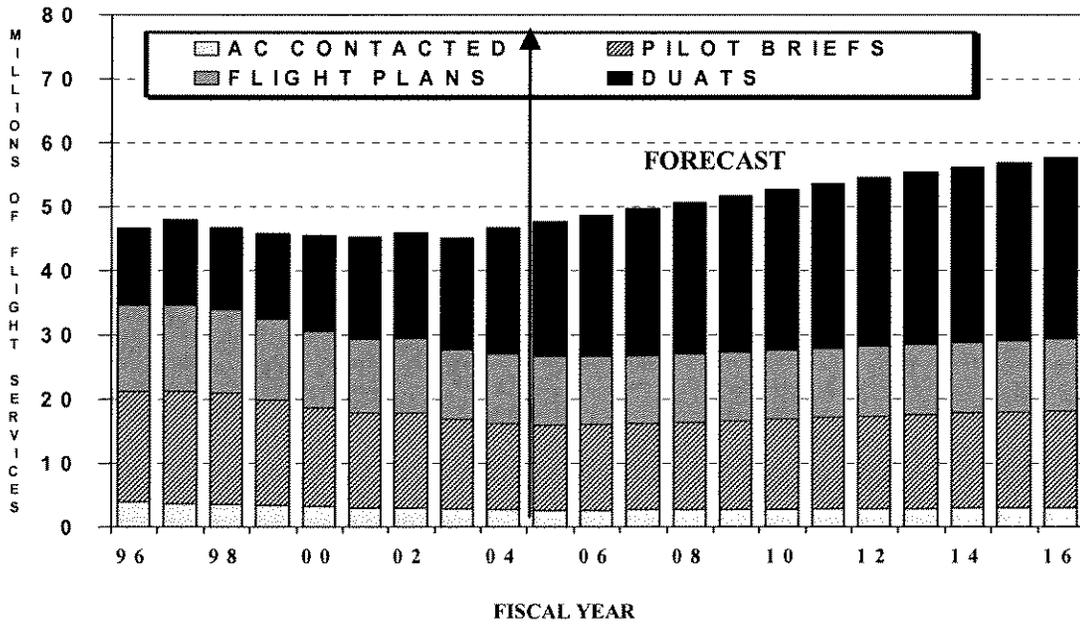
Total traditional (non-automated) flight services originating at FAA flight service stations are projected to post a decrease in 2005. In absolute numbers, the number of total flight services is expected to fall to 26.6 million in 2005. For the balance of the forecast period FSS activity is projected to increase at modest rates. By the end of the forecast period, total flight services provided by the FAA flight service stations are projected to total 29.3 million.

The number of pilot briefings is projected to decrease 2.1 percent to 6.7 million in 2005, but then increase slowly throughout the remainder of the forecast period. Over all, pilot briefs are projected to increase from 6.8 million in 2004 to 7.6 million in 2016, an average annual rate of 0.9 percent.

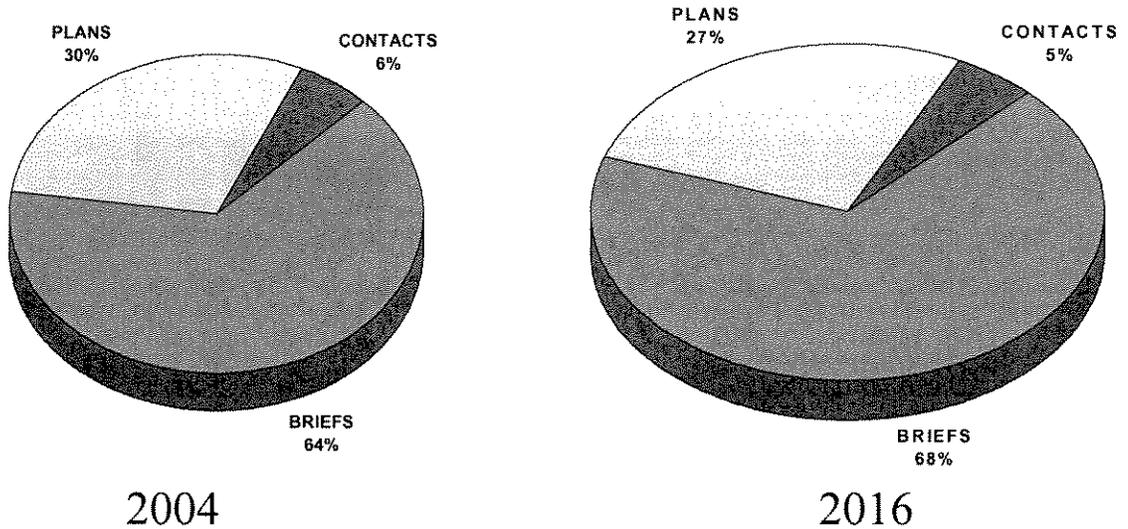
FSS flight plans originated at flight service stations are projected to decline 1.2 percent in 2005 and 0.6 percent in 2006. For the balance of the forecast, total flight plans originated are projected to grow 0.6 percent per year to total 5.6 million by the year 2016.

The number of aircraft contacted is forecast to decline 2.3 percent in 2005 and then increase moderately for the balance of the forecast. By 2016, aircraft contacted total 3.0 million, up from 2.7 million in 2004, increasing an average of 0.9 percent per year.

FLIGHT SERVICES ORIGINATED AT FAA FLIGHT SERVICE STATIONS



DISTRIBUTION OF WORKLOAD BY USER GROUP



Automated Service

Several factors resulting from automation will tend to dampen the growth in traditional FSS workload measures, as currently defined. First, pilots can now obtain weather briefings through the Telephone Information Briefing System (TIBS), which does not require contact with a flight service specialist, and is not, therefore, included in the FSS pilot briefings count.

Second, private weather briefing vendors, participating in memorandums of agreement with the FAA, can also provide weather briefings and file flight plans for their customers without going through an FSS. Third, starting February 1990, DUATS became operational. Using DUATS, pilots with access to a computer, modem, and telephone can directly access a national weather data base for weather briefings and flight plan filing without ever going through an FSS.

This automated access may be through the pilot's own computer or through those of fixed-based operators offering the service to their customers. None of the flight planning services provided through the above sources are included in the FSS workload measures.

During 2004 there were a total of 8.35 million DUATS transactions. If each transaction involves a weather briefing, this represents 8.35 million pilot briefs. In addition, approximately 1.5 million flight plans were filed through the DUATS system. Using the

weighted total flight services formula (two times the sum of pilot briefs and flight plans filed), this translates into approximately 19.8 million total flight services that are not included in the FAA flight service station workload measure.

DUATS transactions are projected to increase from 8.35 million in 2004 to 8.8 million in 2005 (up 5.0 percent). During the period 2004 through 2016, DUATS transactions are forecast to increase at an average annual rate of 3.1 percent, reaching 12.0 million in 2016.

For the entire forecast period, flight plans filed through DUATS are expected to increase from approximately 1.5 million to 2.2 million in 2016, a 3.0 percent average annual increase. By the year 2016, total services provided through DUATS are projected to account for 28.4 million flight services, or 49.2 percent of total system services.

Total Flight Services

The decline in activity at FAA flight service stations since the mid 1980s is the result of the process of FSS consolidation, and the growing acceptance and utilization of DUATS services.

Total flight services, including non-automated and automated services, are projected to increase 1.8 percent in 2005 to 47.7 million. By 2016 total flight services are forecast to reach 57.7 million, an average annual increase of 1.8 percent over the 12-year forecast period.

