

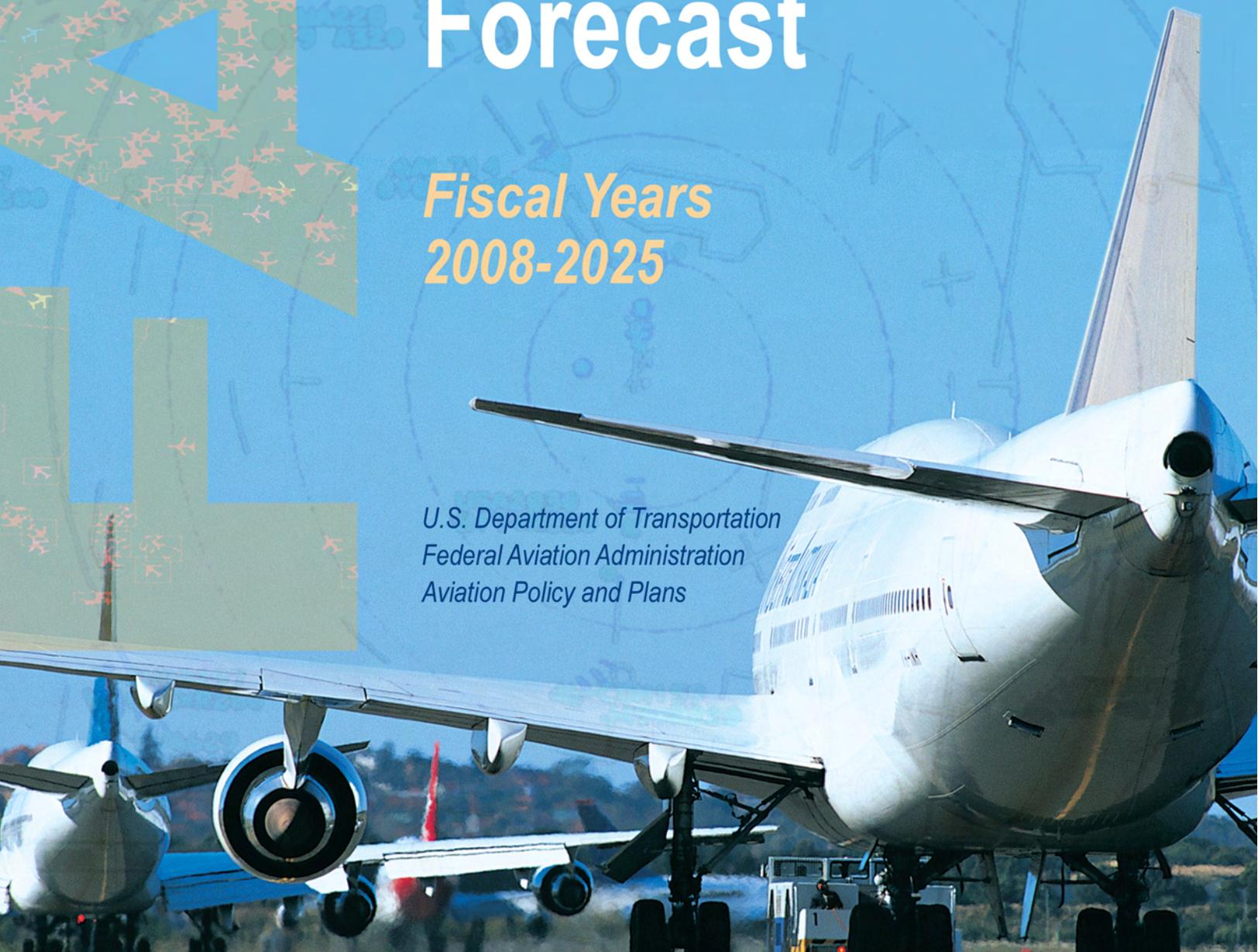


Federal Aviation  
Administration

# FAA Aerospace Forecast

*Fiscal Years  
2008-2025*

*U.S. Department of Transportation  
Federal Aviation Administration  
Aviation Policy and Plans*







## MESSAGE FROM THE ADMINISTRATOR



Aviation is the safest it's ever been. It's also an industry that has challenges headed its way.

As the market stands now, trends suggest an industry continuing to change over the next several years with international markets growing twice as fast as domestic markets. In addition, we expect the numbers of larger regional jets flying to increase while many smaller regional jets are retired. There will be increases in corporate jet flights, fractional ownership, and very light jets. Finally, airline operations are expected to return to traditional levels at most "hub-and-spoke" airports.

In 2008, we expect minimal gains in domestic capacity, with larger gains coming in international markets, especially in the Atlantic, as the US-EU open skies accord is implemented. The size of aircraft in domestic markets will fall slightly as airlines continue to adjust their operations to better match demand.

The business climate in which aviation finds itself in could not have been anticipated a decade ago. Record oil prices, congestion and the environment are changing and challenging the entire industry. Commercial aviation demand at FAA facilities is growing as the number of regional jet operations continues to expand. The demand for general aviation products and services is increasing, and with products like VLJs, it is expected to continue to increase in the future.

The FAA is constantly at work to make sure the system can keep pace with growth that continues to set records. We're taking new approaches to airspace, deploying new and better technology, and using advanced procedures to keep things moving. In short, we are taking the lessons of the summers of 2000 and 2007 to heart.

This year marks the FAA's 33rd annual Aviation Forecast Conference. Your continued participation will make it a success. I look forward to hearing from you.

Bobby Sturgell  
*Acting Administrator*



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# ▶▶▶ FORECAST HIGHLIGHTS 2008-2025

The 2008 forecast for commercial aviation calls for significant continued growth over time. System capacity in available seat miles (ASMs) – the overall yardstick for how busy aviation is both domestically and internationally – will increase 2.7 percent this year, following last year’s increase of 2.6 percent.

In domestic markets, capacity increases only 0.6 percent, with mainline carrier capacity up just 0.3 percent as low-cost carrier<sup>1</sup> growth slows and network carrier<sup>2</sup> capacity discipline continues. Regional carrier capacity, which depends in large part on feed from the network carriers, is forecast to increase 2.5 percent. Commercial carrier revenue passenger miles (RPMs) and enplanements are forecast to increase 0.6 and 1.0 percent, respectively.

The average size of domestic aircraft is expected to decline by 0.1 seats in FY 2008 to 120.3 seats. Mainline carrier average seats per aircraft is projected to fall by 0.7 seats as network carriers continue to reconfigure their domestic fleets and low-cost carriers with relatively smaller aircraft sizes are reigning in their growth. While demand for 70-90 seat aircraft continues to increase, we expect the number of 50 seat regional jets in service will fall, increasing the average regional aircraft size in 2008 by 0.9 seats to 50.5 seats per mile. Largely because of the impacts of capacity realignment, passenger trip length in domestic markets will decrease this year by 3.2 miles.

High fuel prices and concerns about the economy are dampening the near-term prospects for the general aviation industry, but the long-term outlook remains favorable. We see a strong growth in business aviation demand continuing driven by a growing U.S. and world economy, as well as a growing fleet of very light jets (VLJs). VLJs, with their relatively inexpensive operating costs, may redefine “on-demand” air taxi service. Next year, we project that 400 units will join the fleet, with that figure growing to 450-500 a year through 2025. Partly because of the influx of new VLJs, the number of general aviation hours flown is projected to increase an average of 3.0 percent a year through 2025.

The FAA continues to be optimistic about the future. Since 2000, U.S. airlines have dealt with the impacts of 9/11, heightened concerns about pandemics, the bankruptcy of four network carriers, and record high fuel prices. In spite of these challenges, the number of passengers traveling has grown, demonstrating the value of air transportation to the public. Last year, that number was a record 765 million. U.S. commercial aviation is on track to carry one billion passengers by 2016. In addition, international traffic is growing at much faster rates than domestic traffic.

For the first time since the 1990’s, the industry enjoyed consecutive years of profitability as rising load factors coupled with fare increases offset the impact from high fuel prices. In the long run, we see a healthy, competitive, and profitable industry buoyed by increasing demand for air travel coupled with inexpensive tickets. The combination of a competitive industry and inexpensive tickets should bode well for consumers.

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<sup>1</sup> Allegiant Air, American Trans Air, America West Airlines, AirTran Airways, Frontier Airlines, JetBlue Airways, Skybus Airlines, Southwest Airlines, Spirit Airlines, USA3000, and Virgin America Airlines.

<sup>2</sup> Alaska Airlines, American Airlines, Continental Airlines, Delta Air Lines, Northwest Airlines, United Airlines, and US Airways.



## REVIEW OF 2007

In 2007<sup>3</sup>, passenger demand growth on U.S. airlines rebounded from a weak year in 2006. System revenue passenger miles (RPMs) and enplanements grew 3.9 and 3.3 percent, respectively. Commercial air carrier domestic enplanements increased 3.1 percent while international enplanements grew 5.1 percent to a record 75.5 million. The system-wide load factor increased to an all-time high of just below 80 percent (79.9 percent) and coupled with a 2.3 percent increase in yield resulted in an industry-wide operating profit for the second year in a row.

For the first time since 1995, regional carrier domestic market share declined. The market share for low-cost carriers grew while their network carrier counterparts remained flat. In 2007 the domestic enplanement market share for the regional and low-cost carriers increased 1.4 points to 49.7 percent, up from a 30 percent share in 2000. Vigorous competition is spurring carriers to continue to cut costs and prices in an increasing number of markets. This is good news for the flying public.

Despite continued high fuel prices, the turnaround in airline industry finances continued, with the industry posting a \$5.8 billion net profit in 2007, the first since 2000. The performance of the network carriers was the most visible demonstration of the financial turnaround. Both Delta and Northwest came out from bankruptcy protection, and after losing \$3.2 billion in 2006, network carriers recorded their first annual net profit since 2000, earning \$4.4 billion in 2007. However continued high fuel prices and concerns about the economy are altering the carrier plans, as carriers have deferred deliveries of new aircraft and trimmed growth plans to sustain profitability. Cargo carriers continued to report strong results with net profits of \$1.4 billion.

The market for general aviation products and services showed mixed results in 2007. Although total shipments and billings were up 4.2 and 15.2 percent respectively compared to 2006, piston aircraft shipments by U.S. manufacturers were down 4.9 percent. The increase in shipments and billings seen in the jet fleet was stimulated by growth in the U.S. and world economy. Despite the higher shipments and billings, general aviation activity rose a scant 0.1 percent in 2007.

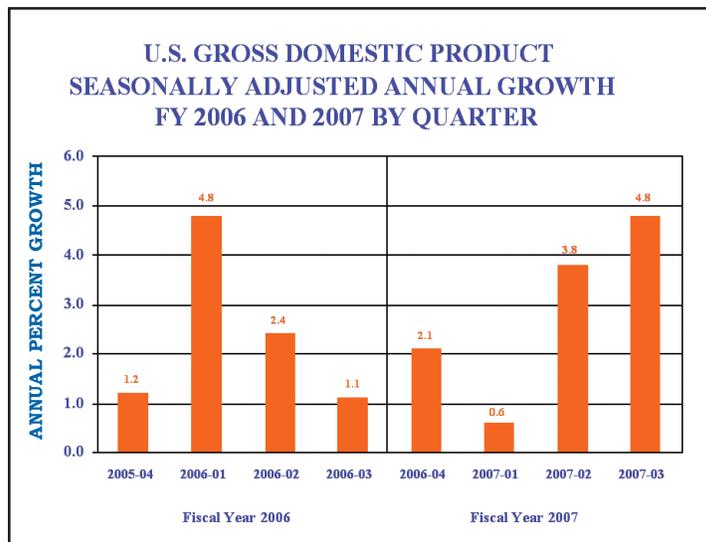
Total aviation activity remained flat as increases in air carrier operations were offset by declines in commuter/air taxi and military operations. Total operations at FAA and contract towers were unchanged from FY 2006 and remained at their lowest levels in 20 years. Although the number of flights remained steady, FAA's workload didn't. As the fleet mix changes with more regional and business jets in the nation's skies and carriers consolidate their operations in their large hubs, the complexity of the airspace continues to grow, increasing our workload.

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<sup>3</sup> All stated years and quarters for U.S. economic and U.S. air carrier traffic and financial data and forecasts are on a fiscal year (FY) basis (October 1 through September 30). All stated years and quarters for international economic and world traffic and financial data are on a calendar year (CY) basis, unless otherwise stated.

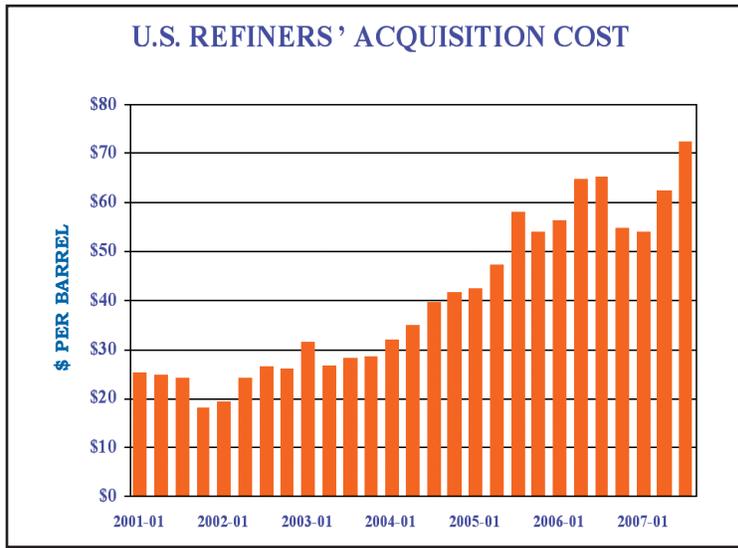
## U.S. ECONOMIC ACTIVITY

After a solid performance in fiscal years 2005 and 2006, growth in U.S. Gross Domestic Product (GDP) slowed in fiscal year 2007, up just 2.2 percent. In FY 2007, seasonally adjusted quarterly growth fluctuated between 0.6 percent (2Q) to 4.8 percent (4Q).



According to the consumer price index (CPI), prices rose 2.3 percent in FY 2007, 1.4 percentage points lower than in FY 2006, despite record high gasoline and oil prices.

Oil prices, as measured by the U.S. Refiners' Acquisition Cost, rose just 1.4 percent in FY 2007, following increases of 40.5 and 26.8 percent, respectively, in FY 2005 and 2006. Higher prices were spurred by strong global demand for oil and concerns about potential supply disruptions.



## WORLD ECONOMIC ACTIVITY

As the world's largest economy, the U.S continues to have a prominent role in world economic growth. In calendar year 2007, as has been the case since 2000, U.S. GDP growth lagged that of the rest of the world with U.S. and world economic growth reaching 2.2 and 3.6 percent, respectively. GDP growth in the rest of the world outside the U.S. was driven by the growth in Asian and Latin American markets.



On a calendar year basis, Canadian GDP growth surpassed the U.S. in 2007 after lagging in 2005 and 2006, with growth of 2.6 percent. The combined economies of the Asian and Far East nations grew by 5.1 percent in 2007, up from 5.0 percent a year earlier. This region includes the world's second largest economy, Japan (up 1.9 percent), and the world's most vibrant economy, China (up 11.5 percent). The

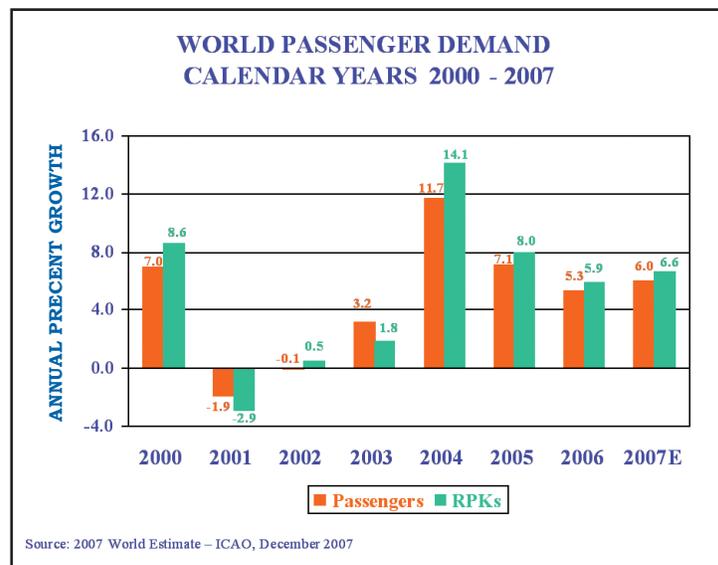
combined economies of the Europe/Middle East/Africa nations rose by 3.3 percent in 2007, as rapid growth in Eastern Europe (up 6.8 percent) offset the slower growth in Eurozone<sup>4</sup> countries (up 2.7 percent). GDP in Latin America and Mexico grew by 5.2 percent, down slightly from 5.5 percent in 2006.

## COMMERCIAL AVIATION

Commercial aviation was a study in contrasts in 2007. High jet fuel prices continued to plague carriers throughout the world but demand remained robust. The global industry, including the U.S., was able to record its first net profit since 2000. Airlines in the U.S. maintained capacity discipline in domestic markets, increased their international flying, and raised fares modestly. World airlines were not as affected by the high fuel prices because a relatively strong world economy and a weakening dollar allowed international carriers to pass on increased fuel costs to the traveling public through higher fares without dampening demand. In the U.S., higher load factors and modestly higher fares resulted in the first profit for the industry since 2000. Outside the U.S., the story was even better as world airlines made an estimated \$2.9 billion buoyed by strong demand.<sup>5</sup>

### World Travel Demand

Based on data compiled by the International Civil Aviation Organization (ICAO), world air carriers transported 2.1 billion passengers (up 5.3 percent) a total of 3.9 trillion revenue passenger kilometers (RPKs) (up 5.9 percent) in CY 2006. Although worldwide traffic results are not available for full year 2007, signs are the demand for world aviation services continued to grow in 2007. In December 2007, ICAO estimated that worldwide RPKs increased 6.6 percent and passengers increased about 6.0 percent in 2007.<sup>6</sup>

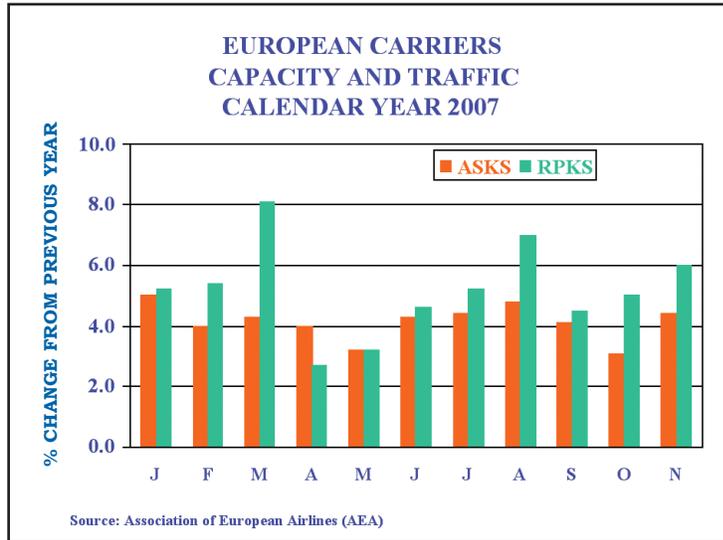


<sup>4</sup> Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, and Spain.

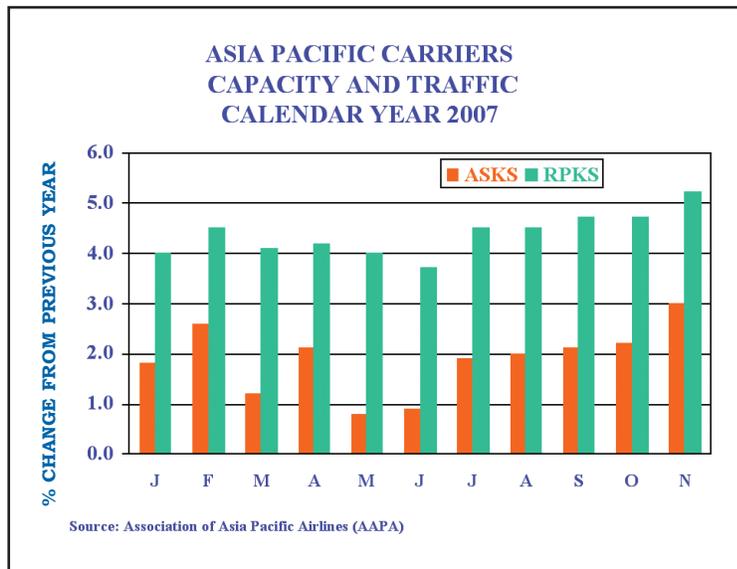
<sup>5</sup> IATA Financial Forecast, December 2007.

<sup>6</sup> ICAO News Release, December 21, 2007.

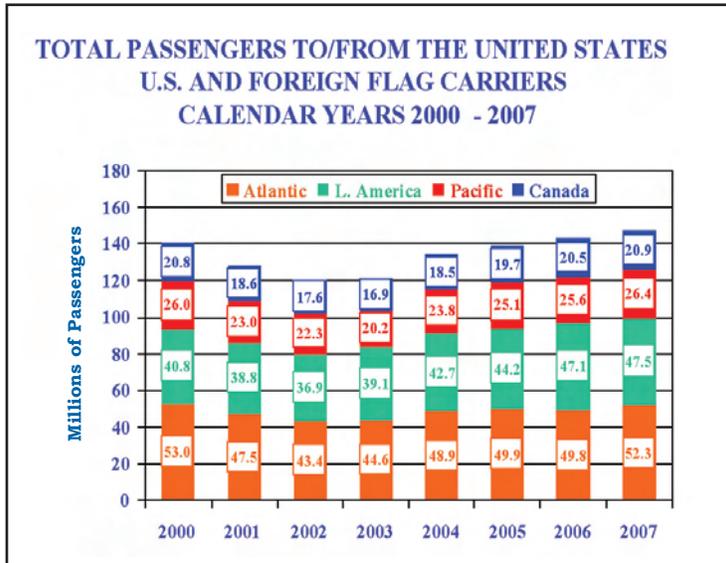
Statistics from the Association of European Airlines (AEA) show that passengers and RPKs increased 4.3 percent and 5.1 percent, respectively, during the first 11 months of 2007. Capacity, as measured by available seat kilometers (ASKs), was up 4.1 percent. With double-digit growth, AEA carrier traffic was strongest in the South Atlantic (12.0 percent) and Middle East regions (9.9 percent). The North Atlantic region posted modest results with a 4.3 percent increase in traffic.



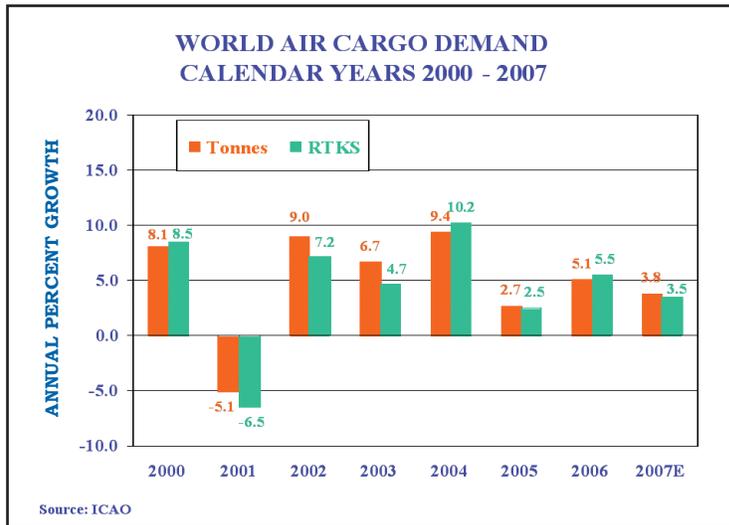
The Association of Asia Pacific Airlines (AAPA) reported increases of 4.8 percent in RPKs and 2.3 percent in ASKs for the first 11 months of 2007. Passengers increased 4.6 percent during the same period.



In CY 2007, U.S. and foreign flag carriers will transport an estimated 147.1 million passengers between the United States and the rest of the world, a 2.9 percent increase over 2006. The strongest growth occurred in the Atlantic market (up 5.1 percent) while growth in the Asia/Pacific markets (up 3.3 percent) and Canadian transborder market (up 2.2 percent) was more modest. Latin America markets had minimal growth (up 0.8 percent) following four years of strong growth. In 2007 passenger levels in the Asia/Pacific and Canadian transborder regions returned to pre-9/11 levels, leaving the Atlantic region as the only region that has yet to have passenger levels return to pre-9/11 levels.

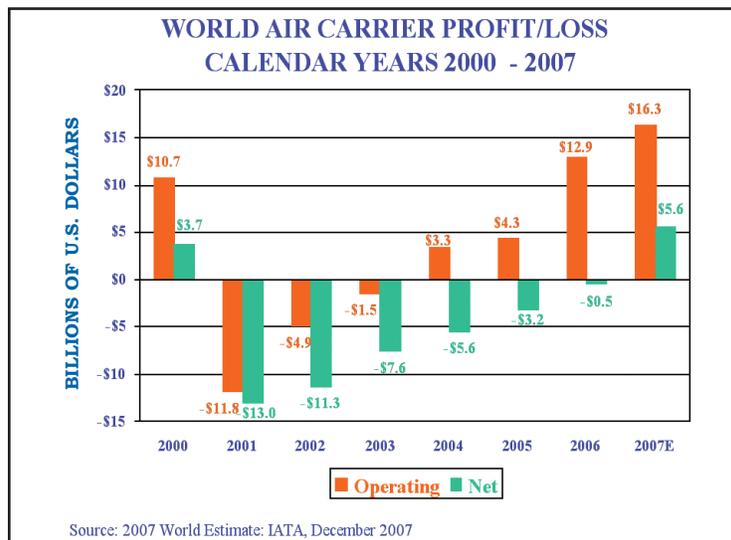


Worldwide air cargo demand rebounded in 2006 following slow growth in 2005. According to ICAO statistics, worldwide freight tonnes and freight ton kilometers (FTKs) were up 5.1 and 5.5 percent, respectively. Indications are that cargo demand growth in 2007 was slower than in 2006. AEA and AAPA statistics show that their member carriers' FTKs were up 2.7 and 3.1 percent, respectively, during the January to November 2007 time period. ICAO estimated that member cargo carrier traffic increased about 3.5 percent in 2007.<sup>7</sup>



<sup>7</sup> ICAO News Release, December 21, 2007.

Based on financial data compiled by ICAO, world air carriers (including U.S. airlines) reported an operating profit of \$12.9 billion but a net loss of \$0.5 billion in 2006. Between 2000 and 2006, world airlines produced cumulative operating profits of \$13 billion but net losses of \$37.5 billion. Continued demand growth, restrained capacity growth and modestly higher fares led to improved financial results in 2007 despite higher fuel prices. In December, the International Air Transport Association (IATA) estimated that global airline industry profits would be \$5.6 billion in 2007.<sup>8</sup>



## U.S. Travel Demand

The U.S. commercial aviation industry consists of 36 mainline air carriers that use large passenger jets (over 90 seats) and 84 regional carriers that use smaller piston, turboprop, and regional jet aircraft (up to 90 seats) to provide connecting passengers to the larger carriers. Mainline and regional carriers provide both domestic and international passenger service between the U.S. and foreign destinations, although regional carrier international service is confined to border markets in Canada, Mexico, and the Caribbean. An additional 27 all-cargo carriers provide domestic and/or international air cargo service.

Three distinct trends have occurred over the past several years that have helped shape today's U.S. commercial air carrier industry: (1) major restructuring and shrinking by the mainline network carriers; (2) rapid growth by low-cost carriers, particularly in nontraditional long-distance transcontinental markets; and (3) exceptional growth among regional carriers.

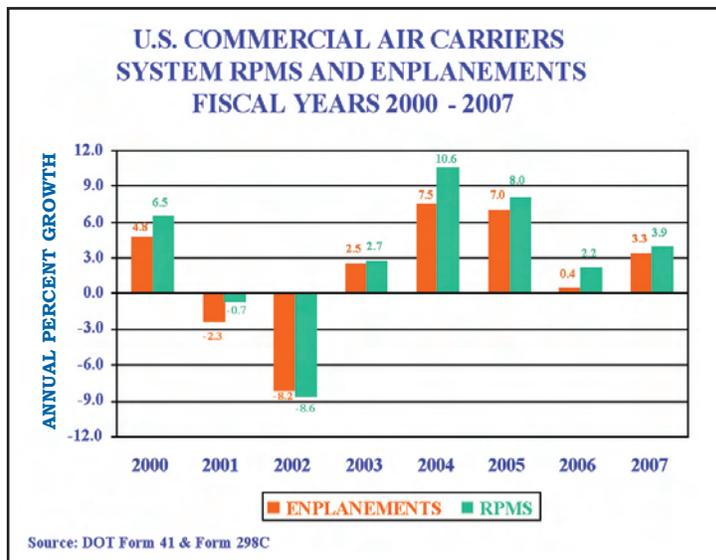
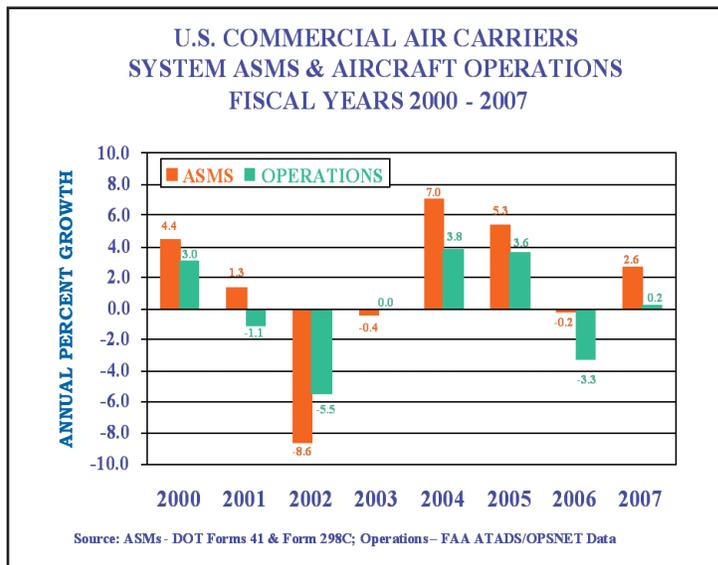
## Commercial Air Carriers—Passengers

After a pause in growth in 2006, U.S. commercial air carriers in 2007 posted modest gains in capacity and traffic. In 2007, system (the sum of domestic plus international) capacity rose by 2.6 percent to 1.03 trillion ASMs. Passenger demand, despite higher fares and growing concerns about the economy, grew modestly with enplanements up 3.3 percent to 764.7 million while RPMs increased 3.9 percent to

<sup>8</sup> IATA Financial Forecast, December 2007.

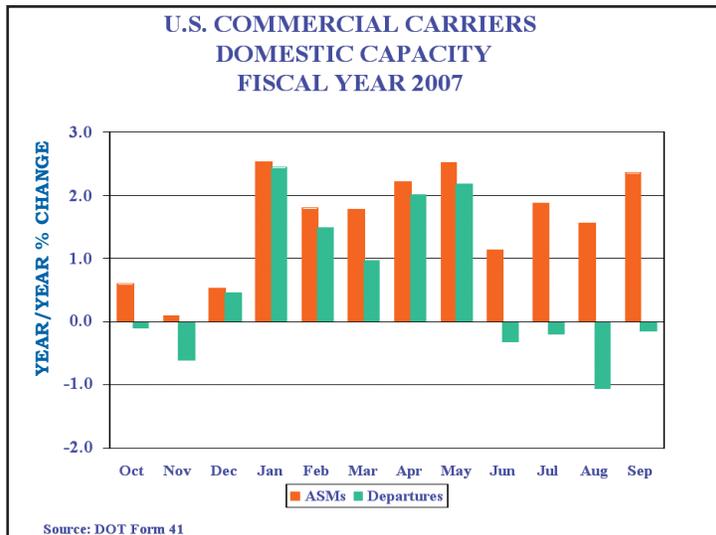
821.4 billion. Mainline carrier demand rebounded from the slowdown in 2006 but regional carrier demand growth slowed. Domestic demand grew in line with U.S. economic growth, while demand growth in international markets exceeded 5 percent for the fourth consecutive year.

System load factor and trip length climbed in 2007, while seats per aircraft mile increased for the second consecutive year. Load factor increased 0.9 points to 79.9 percent, an all-time high, and trip length grew 5.3 miles to 1,074.1 miles. For the second year in a row, seats per aircraft mile increased (0.8 seats) to 136.6 seats per aircraft mile. Legacy carriers continued to shift wide-body flying from domestic to international markets and regional carriers began to phase out some smaller regional jet (50 seats and below) operations.

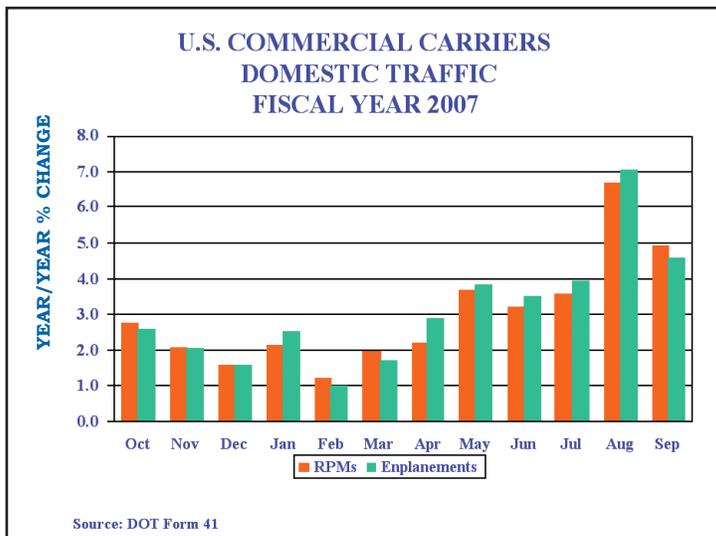


Domestic Passenger Markets

Domestic capacity (50 states, Puerto Rico, and the U.S. Virgin Islands) was up 1.6 percent in 2007 following a 2.0 percent decline in 2006, and departures increased by 0.6 percent. ASM growth was higher in the second half of the year (up 1.9 percent) compared with the first half of the year (up 1.2 percent). Mainline carrier capacity grew 1.8 percent while regional carrier capacity was up just 0.5 percent. At the end of 2007, domestic ASMs were 3.5 percent above pre-9/11 levels while departures remained 5 percent below.



Domestic passenger enplanements and RPMs grew at a faster rate than ASMs in 2007. Mainline carrier enplanements were up 3.4 percent while regional carrier enplanements were up 2.3 percent, the first time in twelve years that mainline enplanement growth exceeded that of the regional carriers. Enplanement growth was sharply higher in the second half of the year, up 4.3 percent, more than double the 1.9 percent rate recorded during the first half of the year.

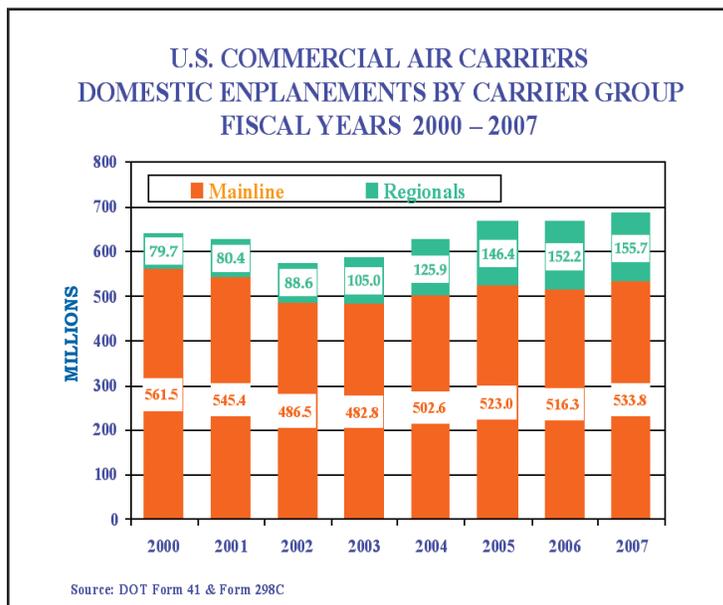


Similar to passengers, domestic RPMs grew faster than ASMs with domestic RPMs up 3.0 percent. After growing at a 2 percent rate during the first half of the year, traffic growth speeded up to 3 percent and 5 percent, respectively, during the 3rd and 4th quarters. Mainline carrier RPM growth (up 3.1 percent) outpaced regional carrier growth (up 2.4 percent) for the first time since 1995.

Domestic carrier load factor increased for the sixth consecutive year to reach an all-time high of 79.8 percent in 2007, 1.1 points above 2006. Mainline carrier load factor exceeded 80 percent for the first time and regional carrier load factor increased 1.5 points to 75.6 percent, an all-time high.

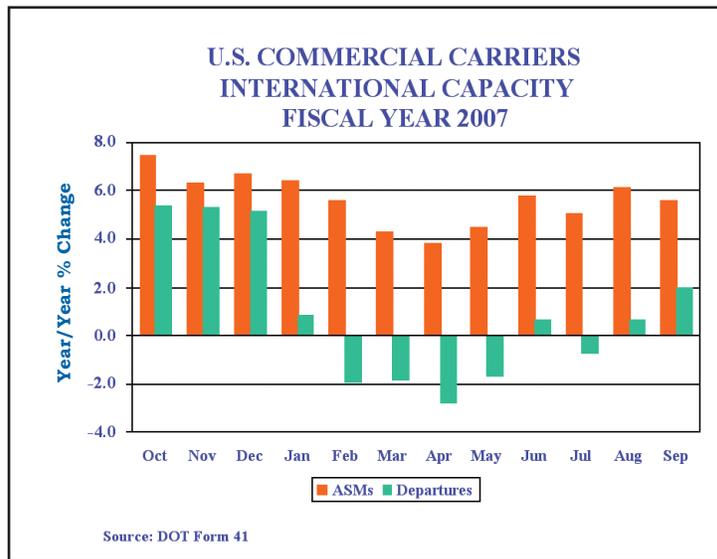
Since 2000, total domestic capacity has increased by only 3.5 percent. Mainline carriers have shrunk their domestic capacity by 4.2 percent with cutbacks by network carriers more than offsetting the growth of low-cost carriers. Making up the shortfall from cuts in network carrier capacity, regional carriers during this time have massively increased capacity (up 142.4 percent). Mainline carrier RPMs have increased by 8.2 percent despite cutting capacity although enplanements have declined by 4.9 percent

During this same time period, regional carrier RPMs and enplanements have increased 207.6 and 95.4 percent, respectively. As a result, mainline carriers’ share of domestic capacity has fallen from 94.7 percent in 2000 to 87.6 percent in 2007 while their share of RPMs has dropped from 95.5 to 88.3 percent. In 2007, regional carriers accounted for 22.6 percent of domestic commercial enplanements, up from 12.4 percent in 2000.

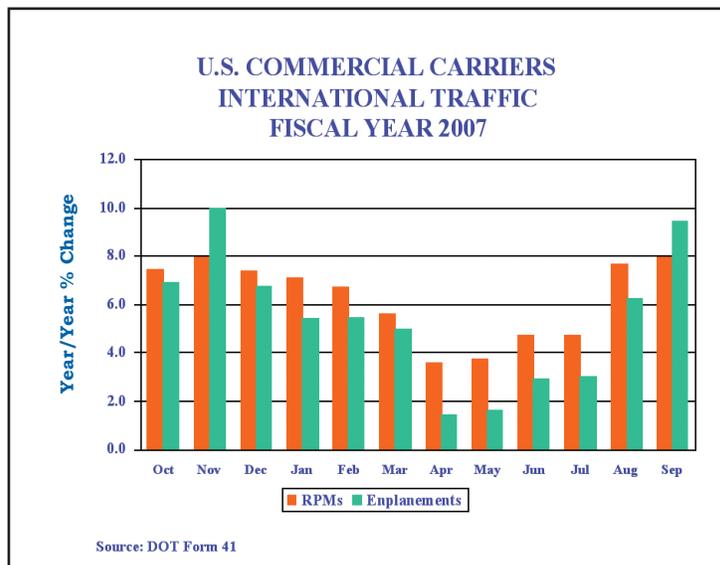


International Passenger Markets

U.S. carriers posted a fourth consecutive year of strong gains in international capacity and traffic in 2007. U.S. carrier ASMs and departures were up 5.6 and 0.7 percent, respectively, in 2007. ASM growth was higher in the first half of the year (up 6.1 percent) and then moderated a bit during the second half of the year (up 5.2 percent). ASMs increased in all world travel regions—up 9.4, 4.9, and 0.5 percent, respectively, in Atlantic, Latin American, and Asia/Pacific markets.



International RPMs and passenger enplanements were up 6.1 and 5.1 percent, respectively, in 2007 with faster growth recorded in the first half of the year. Atlantic markets posted the strongest gains, with RPMs up 8.8 percent and enplanements up 7 percent, respectively. RPMs and enplanements grew 7.7 and 6.8 percent, respectively, in Latin American markets while RPMs were up 0.6 percent as enplanements fell by 2.2 percent in Pacific markets.



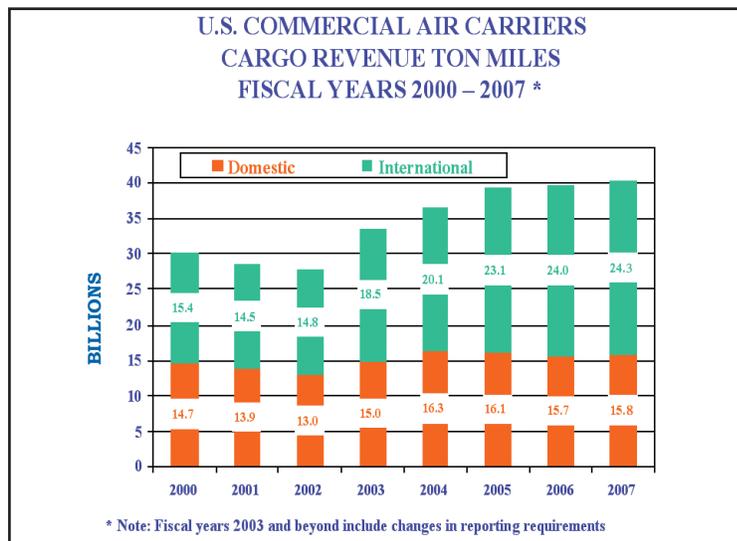
The international load factor climbed 0.4 percentage points over 2006 levels to an all-time high of 80.2 percent in 2007. Load factor increased in Latin American markets (up 1.9 points to 76.7 percent) and Pacific markets (up 0.1 points to 82.9 percent) but fell slightly in North Atlantic markets (down 0.4 points to 80.7 percent).

In 2007, 50 percent of the passengers flying abroad on U.S. flag carriers traveled to the Latin American markets. The remaining 50 percent of international passengers was split between the Atlantic markets (32 percent) and the Pacific markets (18 percent).

### Commercial Air Carriers—Cargo

Air cargo traffic contains both domestic and international revenue freight/express and mail. The demand for air cargo is a derived demand resulting from economic activity. Cargo moves in the bellies of passenger aircraft and in dedicated all-cargo aircraft, on both scheduled and nonscheduled service.

U.S. air carriers flew 40.1 billion revenue ton miles (RTMs) in 2007, up 1.0 percent from 2006, with domestic cargo RTMs (15.8 billion) increasing by 0.7 percent while international RTMs (24.3 billion) increased by 1.2 percent. The slow growth in both domestic RTMs and international RTMs reflects many factors including a sluggish U.S. economy, strong price competition from alternative shipping modes, and record high oil prices.

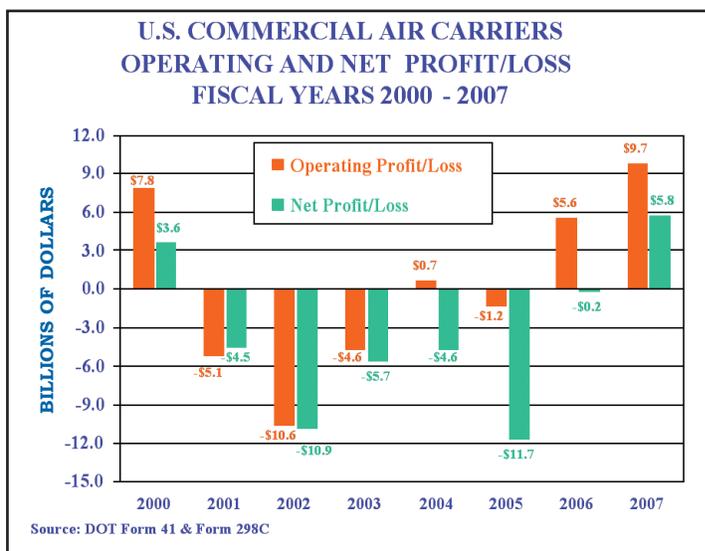


Air cargo RTMs flown by all-cargo carriers were 72.3 percent of total RTMs in 2007, with passenger carriers flying the rest, or 27.7 percent of the total. Total RTMs flown by all-cargo carriers increased 3.6 percent in 2007, from 28.0 billion to 29.0 billion. Total RTMs flown by passenger carriers were 11.1 billion in 2007 (down 5.1 percent).

On August 3, 2007, “Recommendations of the 9/11 Commission Act of 2007” was signed into law. Section 1602 of this Act states that air cargo placed on passenger aircraft will receive the same level of screening as passenger-checked baggage. To this end, the legislation calls for establishing a system within three years which requires 100 percent inspection of cargo transported on passenger aircraft. It is anticipated the law will lead to increased cost and time requirements for shipment of cargo on passenger air carriers.

## U.S. Commercial Air Carriers 2007 Financial Results

Financial results for the U.S. commercial airline industry (including regional carriers) continued to improve in 2007, despite record high oil prices. In FY 2007, U.S. commercial airlines reported an operating profit of \$9.7 billion and a net profit of \$5.8 billion, the first since 2000. Between 2001 and 2006, the industry posted cumulative operating and net losses of \$15.7 and \$37.7 billion, respectively.

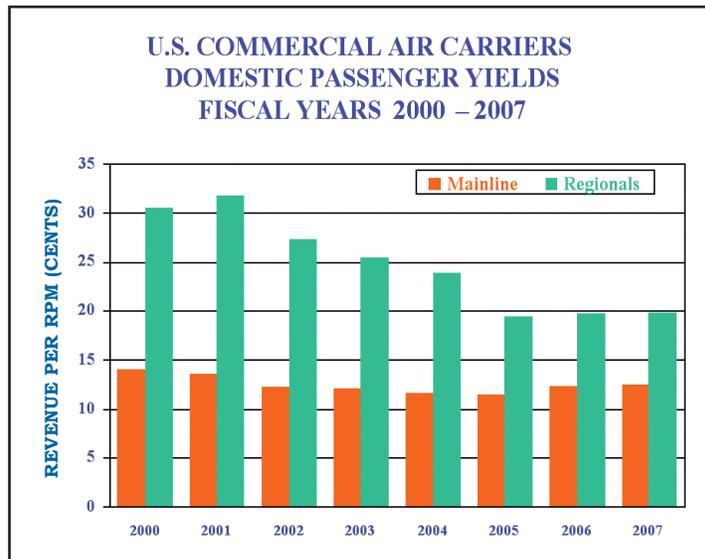


Operating revenues (passenger and cargo) were up 3.6 percent in 2007, reflecting higher fares and increased cargo demand. Operating expenses were up only 1.0 percent in 2007, as jet fuel prices fell 0.5 percent from \$1.98 to \$1.97 per gallon.

In 2007, passenger carriers reported operating profits of \$7.1 billion and net profits of \$4.3 billion, respectively, while air cargo carriers, reported operating and net profits of \$2.7 billion and \$1.4 billion, respectively. Passenger carriers generated an operating profit (\$3.6 billion) in domestic markets for the second consecutive year as international operations remained profitable (\$3.5 billion). For the first time since 2000, passenger carriers reported a net profit (\$990 million) in domestic markets, while posting a \$3.3 billion net profit in international markets. In international markets, air cargo carriers reported operating and net profits of \$1.5 billion and \$840.6 million. Domestic markets were profitable for cargo carriers who posted operating and net profits of \$1.2 billion and \$584.0 million, respectively.

The industry's financial improvement is largely because of the dramatic swing in network carrier financial performance. After losing \$3.2 billion in FY 2006, the seven network carriers reported a \$4.4 billion net profit in FY 2007, a swing of \$7.6 billion. Most of the improvement occurred in domestic markets. These seven carriers accounted for 57.5 percent of domestic capacity and transported 48.2 percent of all domestic passengers in 2007. Between 2000 and 2006, the domestic operations of the network carriers reported combined operating and net losses of \$27.9 and \$36.2 billion, respectively. In 2007,

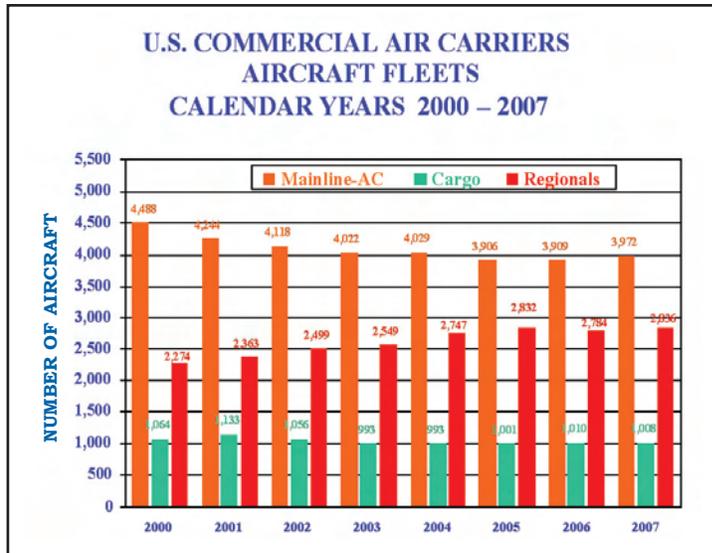
buoyed by record load factors and falling expenses, the network carriers' domestic operations reported operating and net profits of \$2.4 billion and \$1.1 billion, respectively. The eleven low-cost carriers reported combined operating and net profits of \$1.0 billion and \$510.8 million, respectively, in 2007. Strong competition from the network carriers and high fuel prices hurt many low-cost carriers' profits. Despite a drop in capacity by the network carriers, increases in mainline carrier passenger yield were modest. After increasing by 8.5 percent in 2006, mainline carrier passenger yield rose just 1.0 percent in 2007, reflecting fierce competition between network and low-cost carriers but also among the low-cost carriers themselves.



In 2007, regional carriers reported operating profits of \$326.9 million, but a net loss of \$517.6 million, largely because of losses at Comair and Atlantic Southeast Airlines. The future of regional carriers is closely tied to the fortunes of the larger network carriers for whom they provide feed at major air carrier airports. Similar to the mainline carrier yield, regional carrier domestic passenger yield increased a modest 0.5 percent in 2007, but reflecting the changing nature of the industry, is down 34.9 percent since 2000.

## U.S. Commercial Air Carriers 2007 Aircraft Fleets

The total number of aircraft in the U.S. commercial fleet (including regional carriers) is estimated at 7,816 for 2007, an increase of 113 aircraft from 2006. This includes 3,972 mainline air carrier passenger aircraft (over 90 seats), 1,008 mainline air carrier cargo aircraft, and 2,836 regional carrier aircraft (jets, turboprops, and pistons).

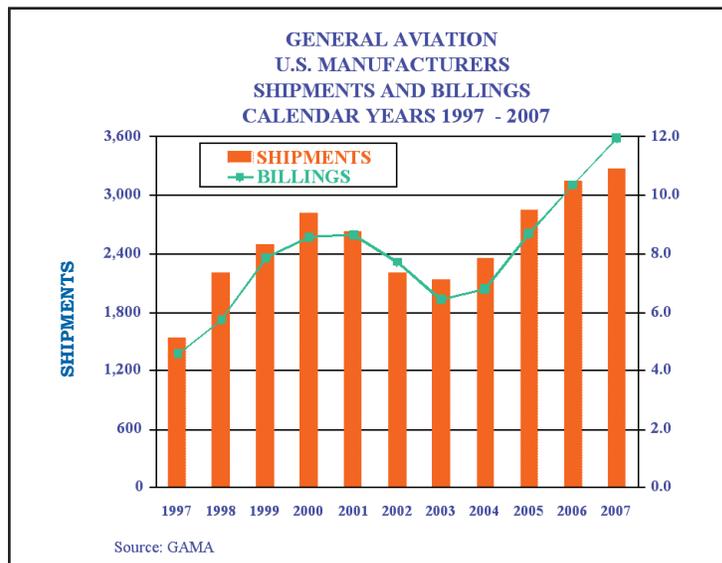


The mainline carriers' passenger jet fleet increased by 63 aircraft in 2007 as increases in low-cost carriers offset cuts in the network carrier fleet. Even with the increase in the fleet in 2007, the mainline carrier fleet remains 11.5 percent below (516 aircraft) the level it was in 2000.

The mainline carrier cargo fleet remained essentially flat in 2007, falling by just 2 aircraft to 1,008. After falling in 2006 the regional carrier fleet grew by 52 aircraft in 2007 as declines in turboprop and piston aircraft were offset by an increase in regional jets. Since 2000, a total of 1,233 regional jets have come into the regional carriers' fleet while the number of turboprops and pistons has declined by 671 aircraft.

## GENERAL AVIATION

According to numbers released by the General Aviation Manufacturers Association (GAMA), U.S. manufacturers of general aviation aircraft delivered 3,279 aircraft in CY 2007, 4.2 percent higher than in CY 2006. The 4.2 percent increase in shipments was the smallest increase in four years. The turbine categories, turbojets and turboprops, were up 34.9 and 13.3 percent, respectively. Both piston categories, single-engine and multi-engine, were down with single-engine down 5.0 percent and multi-engine down 2.5 percent. Billings in CY 2007 totaled \$11.9 billion, up 15.2 percent compared with 2006.



General aviation activity at FAA air traffic facilities was essentially unchanged in 2007. Operations at combined FAA and contract towers rose just 0.1 percent in 2007, the first increase since 1999, as increases in contract tower activity offset a decline in FAA tower activity. General aviation instrument activity (IFR) at combined FAA towers fell in 2007, down 1.5 percent, but the number of general aviation aircraft handled at FAA en route centers increased by 1.2 percent.

The FAA uses estimates of fleet size, hours flown and utilization from the General Aviation and Air Taxi Activity and Avionics Survey (GA Survey) as baseline figures upon which assumed growth rates can be applied. This survey has been conducted annually since 1977. Beginning with the CY 2004 Survey there were significant improvements to the survey methodology. These improvements included conducting 100 percent samples for turboprops and turbojets, all rotorcraft, all aircraft in Alaska and all aircraft operating on-demand under Part 135. In addition, the sample design was revised to stratify by aircraft type (19 categories), FAA region (9 categories), and whether the aircraft was owned by an entity certified to fly Part 135 operations (2 categories). Furthermore, a large fleet reporting form was incorporated to allow owners/operators of multiple aircraft to report aggregate data for their entire fleet on a single form. In 2005 an additional aircraft category (Light Sport Aircraft) was added. The result of these changes was the sample size nearly doubled. Between 2003 and 2005 large changes in both the number of aircraft (turbojets up by 22.8 percent, total rotorcraft up by 33.7 percent) and hours (single-engine piston down by 17.6 percent) in many categories occurred. The results of the 2006 Survey are consistent with the results of the 2004 and 2005 Surveys. This reinforces our belief the methodological improvements have resulted in superior estimates relative to those in the past and they are used as the basis for our forecast.

Based on the latest FAA assumptions about fleet attrition and aircraft utilization and GAMA aircraft shipment statistics, the active general aviation fleet is estimated to have increased 1.4 percent in 2007, to 225,007. General aviation flight hours are estimated to have increased 0.6 percent in 2007 to 27.7 million.

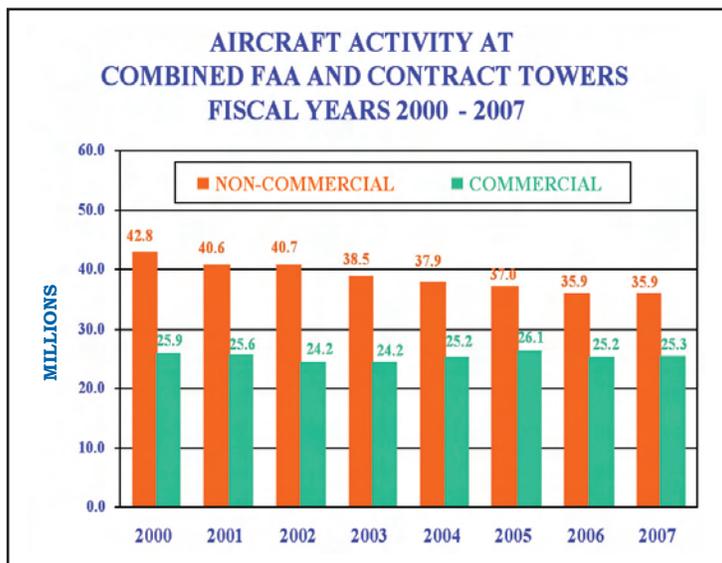
Student pilots are important to general aviation and the aviation industry as a whole. In 2007, according to statistics compiled by the FAA’s Mike Monroney Aeronautical Center, the number of student pilots decreased by 0.6 percent. This is the third consecutive year of decline in this important pilot category. The industry has, over the past several years, maintained several industry-wide programs designed to attract new pilots to general aviation. The industry is trying to stimulate interest in flying, but the data suggest that more may need to be done.

## FAA WORKLOAD

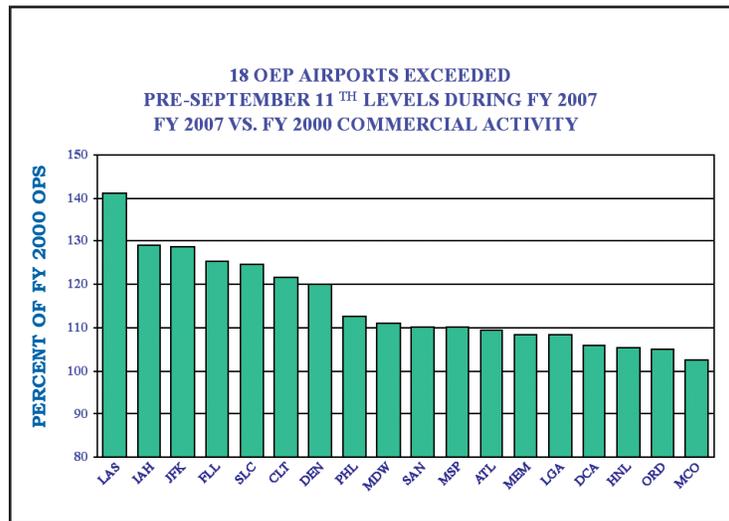
During the late 1990’s, the demand for both commercial and general aviation expanded significantly resulting in the delays that plagued many U.S. commercial airports in 2000 and 2001. Passenger demand and activity at FAA air traffic facilities declined significantly following the events of 9/11. However, passenger levels have recovered and the combination of the recovery in passenger demand plus the shift in activity from larger aircraft to smaller regional jets has resulted in increased activity and delays at some U.S. airports during 2007.

Total activity at combined FAA and contract tower airports totaled 61.1 million operations in 2007, unchanged from 2006 but 11.0 percent below the peak activity level recorded in 2000. Commercial activity (the sum of air carrier and commuter/air taxi) increased by just 0.2 percent in 2007. Air carrier operations increased by 2.7 percent, offsetting a decline in commuter/air taxi operations (down 2.5 percent). Commercial operations as a whole are lower than their peak in 2005.

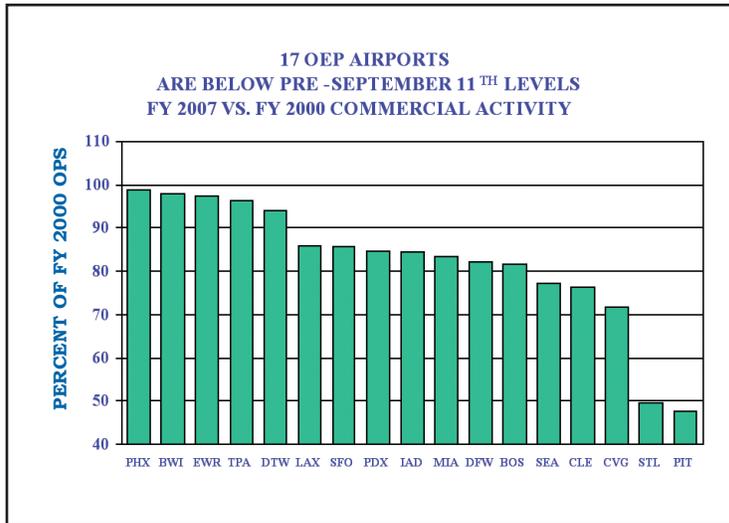
Non-commercial activity (the sum of general aviation and military) at combined FAA and contract towers fell by 0.1 percent in 2007, with general aviation activity (33.1 million) up 0.1 percent while military activity (2.7 million) fell 2.0 percent. The 0.1 percent increase in general aviation activity was the first increase since 1999. At the end of 2007, non-commercial aircraft activity was 16.1 percent below the activity in 2000, having declined each year since 2002.



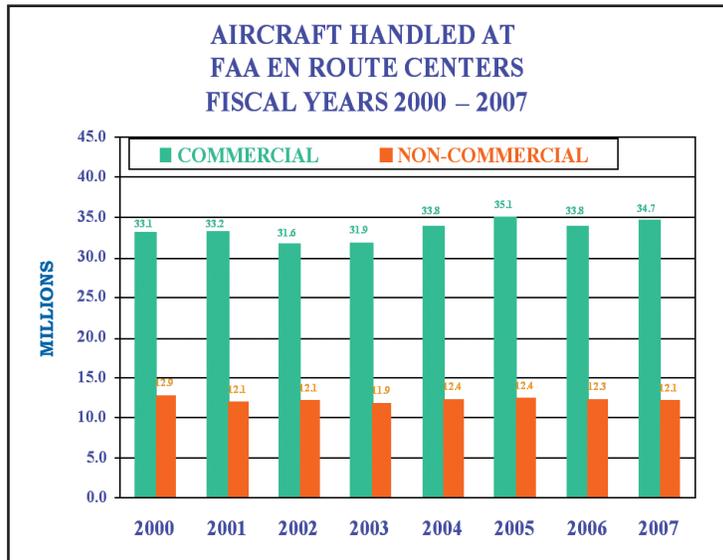
The FAA pays close attention to the trends occurring at the 35 Operational Evolution Partnership (OEP) airports. These airports are the top 35 airports in the country in terms of passenger activity and account for about 75 percent of commercial passengers. Although commercial activity at the OEP airports exceeded pre-9/11 peak activity levels in 2005, subsequent industry restructuring has resulted in a drop in combined commercial activity at these airports since. In 2007, commercial activity at the OEP airports rose by 0.3 percent but remains 2.2 percent below pre-9/11 activity levels. Increases were recorded at 20 of the 35 airports with the highest rates of growth at New York Kennedy (up 21.2 percent) and Chicago Midway (up 4.4 percent). The largest declines occurred at St. Louis (down 10.7 percent) and Cincinnati (down 9.8 percent). As a result, only eighteen airports exceeded 2000 peak activity levels during fiscal year 2007, unchanged from the previous year.



Reflecting the continuing shift in demand to low-cost and regional carriers, commercial operations at Las Vegas (up 41.3 percent), Houston (up 29.1 percent), and New York Kennedy (up 28.1 percent), are up the greatest relative to their pre-September 11th activity levels. Commercial operations at Pittsburgh (down 52.4 percent) and St. Louis (down 50.3 percent) show the largest declines from pre-9/11 levels. These activity level shifts reflect the impact of the restructuring of the airline industry. American’s acquisition of TWA resulted in a consolidation of operations away from TWA’s St. Louis hub, while the merger of US Airways and America West has led to a dramatic shrinking of US Airways’ operations in Pittsburgh.



During 2007, total activity at FAA en route centers (46.8 million) rose 1.2 percent from the previous year. Commercial activity was up 2.4 percent, with air carrier and commuter/air taxi aircraft handled up 2.5 and 2.3 percent, respectively. Non-commercial activity was down 2.0 percent in 2007 as an 8.3 percent fall in military activity more than offset a 1.2 percent increase in general aviation activity. In 2007, air carrier aircraft handled surpassed their 2000 activity levels while aircraft handled for the general aviation and military user groups were 5.1 and 9.3 percent below their 2000 activity levels, respectively.





# FAA AEROSPACE FORECASTS FISCAL YEARS 2008–2025

Developing forecasts of aviation demand and activity levels continues to be challenging as the aviation industry evolves and previous relationships are changing. Nevertheless, the FAA has developed a set of assumptions and forecasts consistent with the emerging trends and structural changes currently taking place within the aviation industry.

The main assumption in developing this year's forecasts is that there will not be a major disruption caused by terrorism against either U.S. or world aviation. Also, the forecasts do not assume further major contractions of the industry through bankruptcy, consolidation, or liquidation.

The commercial aviation forecasts and assumptions are developed from econometric models that explain and incorporate emerging trends for the different segments of the industry. In addition the commercial aviation forecasts are considered unconstrained in that they assume there will be sufficient infrastructure to handle the projected levels of activity.

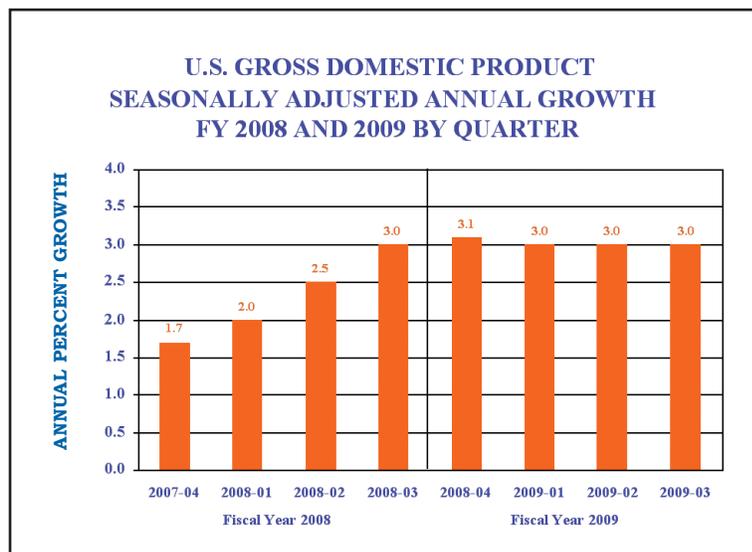
The commercial aviation forecast methodology is a blended methodology. It relies on published schedule information and current monthly trends to drive the short-term (one year out) forecasts and then bases the medium and long-term (2009-2025) forecasts on the results of econometric models. The starting point for developing the commercial aviation forecasts (air carriers and regionals) is the future schedules published in the Official Airline Guide (OAG). Using monthly schedules allows FAA forecasters to develop monthly capacity and demand forecasts for both mainline and regional carriers for fiscal and calendar year 2008.

The general aviation forecasts rely heavily on the discussions with industry experts that occurred at the October 2006 FAA/Transportation Research Board (TRB) Workshop on General Aviation. The assumptions have been updated by FAA analysts to reflect more recent data and developing trends, as well as further information from industry experts.

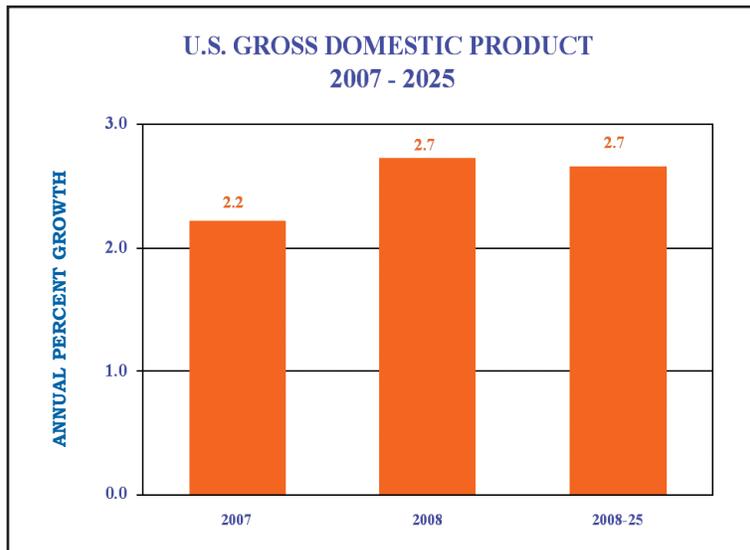
FAA also presents the forecasts and assumptions to industry staff and aviation associations, who are asked to comment on the reasonableness of the assumptions and forecasts. Their comments and/or suggestions have been incorporated into the forecasts as appropriate.

## ECONOMIC FORECASTS

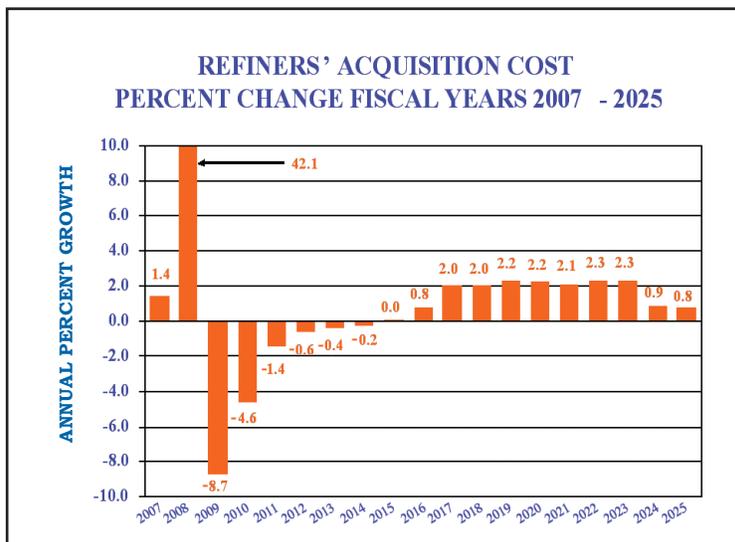
The FAA uses economic forecasts developed by the Executive Office of the President, Office of Management and Budget (OMB) to project domestic aviation demand. The FAA uses the world and individual country economic projections provided by Global Insight, Inc. to forecast the demand for international aviation services. Annual historical data and economic forecasts are presented in tabular form in Tables 1 through 4. OMB projections are presented on a U.S. government fiscal year (October through September) basis. International forecasts are presented on a calendar year basis. OMB forecasts a slowdown in U.S. economic growth in FY 2008 followed by a rebound to more historic rates for the balance of the forecast. On a quarter-by-quarter basis for the next two years OMB projects U.S. economic growth at 1.7 to 3.1 percent through FY 2009. The slowdown in 2008 could result in some difficulties for the U.S. commercial aviation industry, but the return to historic rates after that should allow the industry to continue its growth.



Over the forecast period 2008 through 2025, U.S. economic growth is expected to remain moderate with rates ranging between 2.7 and 3.0 percent through 2018 and then slowing to around 2.5 percent for the balance of the forecast period. According to Global Insight, Inc. the long-term stability of the U.S. economic growth is dependent on continued growth in the workforce, the capital stock, and improved productivity. A major risk to continued U.S. economic growth is the upward pressure on commodity prices, including the price of oil worldwide. These inflationary pressures, if unchecked, could force up inflation and bond yields and lessen domestic demand.



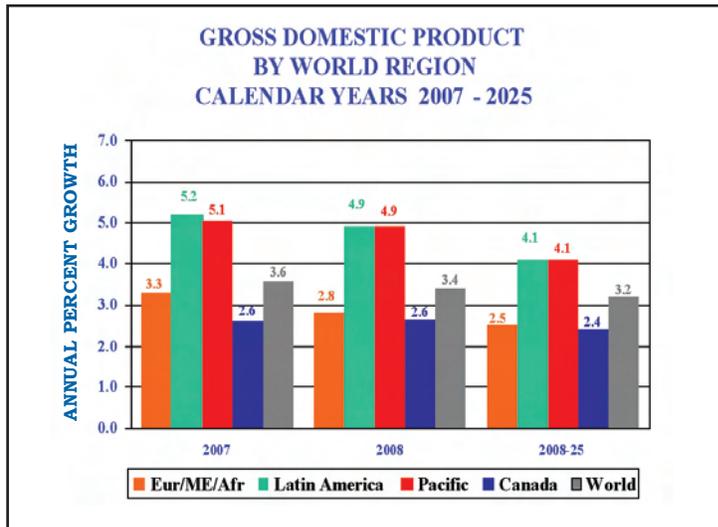
OMB projects the price of oil, as measured by Refiners' Acquisition Cost, to increase by 42.1 percent in 2008 after more than doubling over the past 3 years. Oil prices are then projected to decline steadily to 2014 and then increase slightly less than inflation for the balance of the forecast period.



The inflation rate (as measured by the CPI) is expected to be 3.1 percent in 2008, up substantially from the 2.3 percent rise in 2007. The increase in the rate of inflation in 2008 is mostly attributed to the expected rise of energy prices. Consumer price inflation is expected to rise in 2009 by 2.1 percent and then level off at 2.3 percent a year for the balance of the forecast.

## World Economy

Worldwide economic activity is predicted by Global Insight to expand by 3.4 and 3.6 percent in 2008 and 2009, respectively, and average 3.2 percent over the forecast period.



Latin America and the Asia/Pacific region will continue to have the world’s highest economic growth rates. These regions are expected to see their economic activity grow at annual rates of 4.1 percent over the forecast period. In Asia, China, with a population of 1.3 billion, is forecast to expand by 7.3 percent a year, becoming the world’s second largest economy. India, with a population of 1.1 billion, is projected to see its GDP triple in size, growing at an average rate of 6.8 percent a year during the forecast period. GDP growth in Canada and the Europe/Middle East/Africa nations is anticipated to rise at more moderate rates of 2.4 and 2.5 percent a year, respectively, over the forecast period.

## AVIATION TRAFFIC AND ACTIVITY FORECASTS

Total traffic and activity forecasts for commercial air carriers (the sum of mainline and regional carriers) are contained in Tables 5 through 9. These tables contain year-to-year historical data and forecasts.

Mainline air carrier traffic and activity forecasts and the forecast assumptions are contained in Tables 10 through 18, 20, and 22. These tables contain year-to-year historical data and forecasts.

Regional carrier forecasts and assumptions are found in Tables 23 through 26. These tables provide year-to-year historical and forecast data.

Table 19 provides year-to-year historical and forecast data for cargo activity. Table 21 provides year-to-year historical and forecast data for the cargo jet fleet.

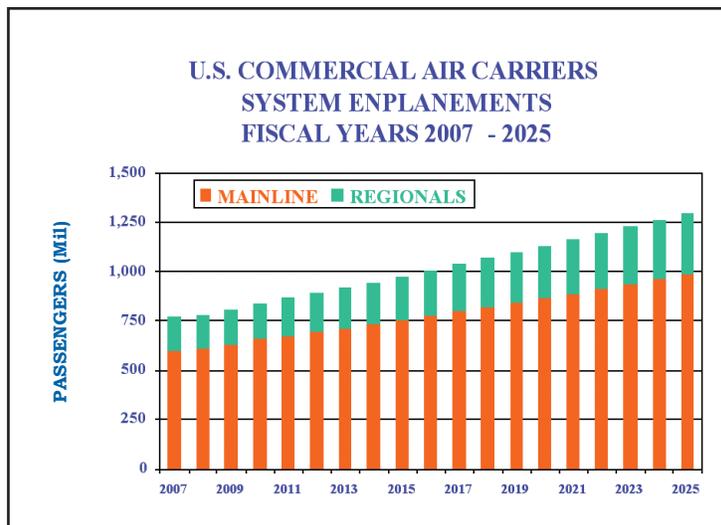
General aviation forecasts are found in Tables 27 through 30. These tables provide year-to-year historical data and forecasts.

Tables 31 through 33 provide forecasts of aircraft activity at FAA and contract facilities.

## Commercial Aviation Forecasts

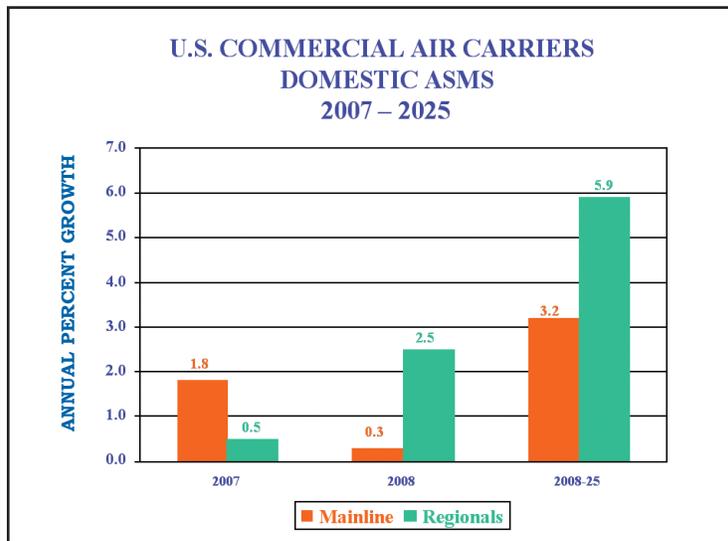
While capacity is forecast to grow in 2008 about the same rate as in 2007, demand growth in 2008 is forecast to be slower than 2007 rates. Capacity is projected to grow 2.7 percent as mainline carrier domestic market capacity increases slowly (0.3 percent) while regional carrier capacity growth remains modest. International markets continue to see healthy growth in capacity, especially the Atlantic, spurred on by the anticipation of the new U.S. – E.U. open skies treaty. Mainline carrier system capacity is projected to increase 2.7 percent while regional carrier capacity rises 2.5 percent.

Passenger demand growth slows in 2008 with system RPMs forecast to increase 2.9 percent (up 2.8 percent and 3.1 percent for mainline and regional carriers, respectively) while passenger enplanements rise 1.5 percent. Growth is projected to speed up in 2009 as system RPMs and passengers increase 4.7 and 3.8 percent, respectively, while capacity increases 4.6 percent. For the overall forecast period, system capacity is projected to increase an average of 4.1 percent a year. Supported by a growing U.S. economy and falling real yields, system RPMs are projected to increase 4.2 percent a year, with regional carriers (6.0 percent a year) growing faster than mainline carriers (4.0 percent a year). System passengers are projected to increase an average of 3.0 percent a year, with regional carriers growing faster than mainline carriers (3.8 vs. 2.8 percent a year). By 2025, U.S. commercial air carriers are projected to fly 2.1 trillion ASMs and transport 1.3 billion enplaned passengers a total of 1.7 trillion passenger miles. Planes will remain crowded, as load factor is projected to continue to increase to 81.7 percent by 2025. Passenger trip length is also forecast to increase by more than 250 miles over the forecast to 1,325.5 miles (up 14.0 miles annually). The growth in passenger trip length reflects the faster growth in the relatively longer international trips and longer domestic trips resulting from increased point-to-point service.



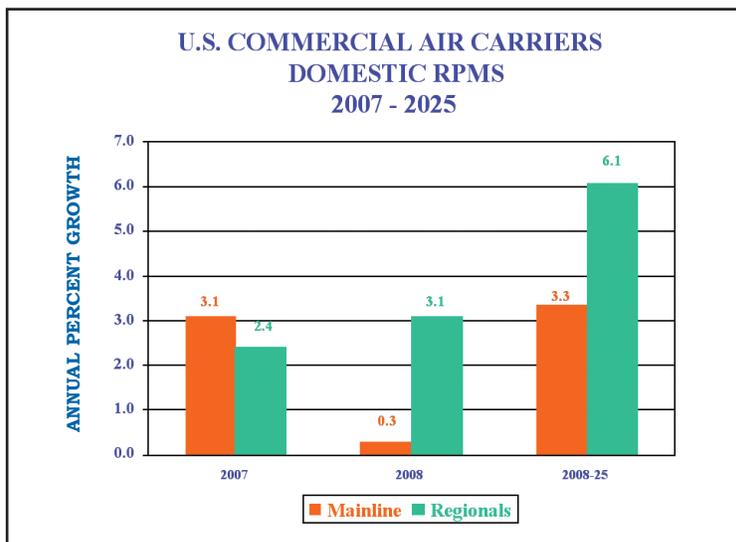
**Domestic Markets**

After a modest rebound in FY 2007, following the significant capacity decline of the prior year, domestic capacity growth in FY 2008 is projected to be 0.6 percent. Mainline carrier capacity is forecast to rise just 0.3 percent following the 1.8 percent increase in 2007 as network carriers continue to shrink and low-cost carriers temper their growth because of continuing record high fuel prices. Regional carrier capacity is forecast to grow 2.5 percent in FY 2008 as increasing numbers of 70 and 90-seat regional jets enter service, while the number of smaller regional jets (50 seats or less) shrinks. Domestic commercial carrier capacity growth quickens in 2009 to 3.3 percent as mainline carriers grow 2.7 percent while regional carriers grow 7.8 percent. For the entire forecast period (2008–2025), domestic capacity is projected to increase at an average annual rate of 3.6 percent, slightly faster than economic growth, with mainline carrier growth lower (3.2 percent) than the regional carriers (5.9 percent).



Sluggish economic growth and high energy prices restrain domestic RPM growth in 2008 (up 0.6 percent) as industry capacity and demand move more into balance. Mainline carrier RPM growth is projected to grow less than one percent (0.3 percent) for the second time in 3 years. As U.S. economic growth rebounds, traffic growth picks up in 2009 (3.4 percent) driven by higher incomes and spending. For the overall forecast period (2008-2025) domestic RPMs are projected to grow an average of 3.7 percent a year driven by continued economic growth and falling real yields. Mainline carriers throughout the forecast period are projected to grow more slowly than regional carriers (3.3 and 6.1 percent a year on average, respectively).

Following a 0.2 percent decline in 2006, passenger enplanement growth rebounded in 2007, up 3.1 percent. Similar to RPMs, passenger volume is expected to grow slowly in 2008 (up 1.0 percent) and speed up in 2009 (up 3.5 percent). During the entire forecast period, domestic enplanements are projected to grow at an average annual rate of 2.8 percent with mainline carriers growing slower than regional carriers (2.5 and 3.8 percent a year, respectively).



On the heels of an 8.5 percent increase (4.7 percent in real terms) in 2006, nominal mainline carrier domestic passenger yield rose just 1.0 percent (1.3 percent decline in real terms) in 2007. Demand weakness in the 2nd and 3rd quarters resulted in year-over-year declines in nominal yield. Demand firmed up during the 4th quarter and modest year-over-year increases in yield returned. Despite industry supply and demand more in balance and skyrocketing fuel prices, yield increases are expected to remain moderate. Newer entrant low-cost carriers (Skybus and Virgin America) will continue to put pressure on fares while the more established low-cost carriers resort to discounting in the face of slower demand. For FY 2008, nominal mainline carrier domestic passenger yield is projected to increase 3.6 percent (0.4 percent increase in real terms). For the entire forecast period, increases in nominal yields are projected to grow at a rate of 1.6 percent a year, while in real terms they are projected to decline an average of 0.7 percent a year. The decline in real yields over the forecast period assumes that increased competition from low-cost carriers will continue and exert pressure on the network carriers to match the lower fares on competitive routes. Competition in domestic markets will come from established low-cost carriers such as Southwest, AirTran, Frontier, and JetBlue, as well as newer entrant carriers.

Domestic commercial carrier activity (departures) at FAA air traffic facilities is projected to grow slower than passenger traffic growth over the forecast period (2.7 percent per year for departures versus 3.7 percent for RPMs). This reflects increased carrier efficiencies in three operational measures—aircraft size, load factor, and trip length.

For the first time since 1998, domestic aircraft size<sup>9</sup> increased in 2007 by 0.1 seats to 120.3 seats. The increase was driven by an 0.8 seat increase in network carrier aircraft size which offset declines in low-cost carrier and regional carrier aircraft size. Domestic aircraft size falls slightly in 2008 to 120.2 seats as mainline carrier aircraft size falls for the first time since 2001. Domestic aircraft size is projected to decrease through 2018 to 118.1 seats, then increase slowly through the balance of the forecast to 118.6 seats by 2025.

<sup>9</sup> Defined as seats per mile flown and computed by dividing ASMs by miles flown.

The FAA's projection of domestic carrier average aircraft size is greatly influenced by carrier fleet plans, publicly known aircraft order books and FAA's expectations of the changing domestic competitive landscape. In the short-term time frame (through 2011), the forecast incorporates several network carrier assumptions: 1) network carrier desire to constrain ASM capacity growth; 2) network carrier "own metal" service on longer-haul routes; 3) the retirement of older inefficient aircraft (many of which are narrow-body); and 4) the shifting of wide-body and larger narrow-body aircraft to international services.

In the longer-term, network carriers will replace their wide-body and larger narrow-body aircraft in their domestic route networks with smaller narrow-body aircraft. In addition, some carriers, such as JetBlue, are turning to smaller aircraft, like the 100-seat Embraer 190, to supplement their network structure. The use of smaller narrow-body aircraft allows mainline carriers to better serve their customers by boosting frequency, as well as improve profitability by more closely matching supply (the number of seats) with demand (the number of passengers).

Mainline carrier domestic aircraft size increased in 2007 by 0.3 seats to 150.6 seats, but is projected to fall in 2008 by 0.7 seats. The overall average for the mainline group will continue to decrease at a slow rate throughout the forecast period. By 2025, mainline carrier domestic aircraft size is forecast to be 147.7 seats as an increasing share of domestic capacity will be flown by aircraft with 160 or fewer seats.

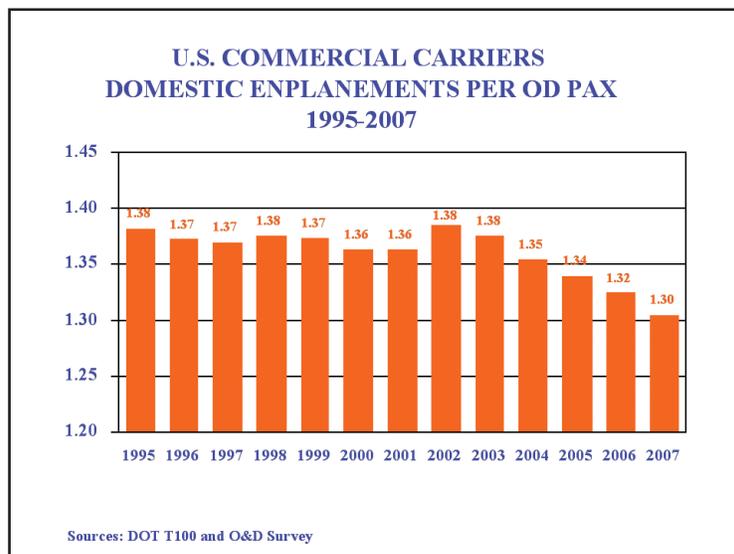
While mainline carriers have been reducing the size of aircraft flown domestically, regional carriers have been increasing the size of their aircraft. The most visible example of this trend is the wave of 70-90 seat regional jet aircraft that are entering the fleet. Regional carriers are better able to support operations of their mainline partners when they can provide capacity that complements market demand. The greater number of the larger 70 and 90-seat regional jets in the fleet coupled with 50-seat jet retirements increases the average seating capacity of the regional fleet – from 49.6 seats in 2007 to 50.5 seats in 2008 up to 63.0 seats in 2025. The changing aircraft fleet mix is narrowing the gap between the size and aircraft types operated by the mainline and regional carriers.

Commercial carrier domestic load factor increased 1.1 points in 2007 to 79.8 percent. The increase in load factor was heavily weighted by the results of the network carriers whose load factor grew 1.9 points to a record 82.5 percent. In 2008, domestic load factor is forecast to remain flat at 79.8 percent as mainline carriers remain essentially flat. After 2008 load factor is projected to increase between 0.1 to 0.2 points a year, reaching 81.6 percent by 2025.

Passenger trip length is forecast to decrease until 2009. In 2007 domestic passenger trip length fell by 0.9 miles to 870.5 miles, the first decline since 1994, as mainline carrier passenger trip length fell by 2.6 miles. Domestic passenger trip length is forecast to decline in 2008 and 2009 by 3.2 and 0.7 miles, respectively, as network carriers continue to restructure their networks and realign capacity. After 2009, trip length is projected to increase steadily for the balance of the forecast, reaching 1,007.8 miles by 2025. The increase in trip length reflects increases in both mainline carrier and regional carrier trip length. Mainline carrier trip lengths are increasing mainly because shorter length routes are continuing to be transferred to regional partner carriers and because of increased point-to-point service. Regional carrier trip lengths increase because the introduction and use of the larger 70 and 90-seat regional jets allow these carriers to service longer haul markets.

Another key factor in predicting aviation activity relative to passenger demand is the level of connecting versus non-stop (origin-destination) traffic. In total, it appears that the number of direct flights by carriers (both network and low-cost) is increasing. However, as the current cycle of U.S. airline industry restructuring unfolds and hub structures change, the impact on local communities and airport activity levels can vary significantly.

The FAA analyzes the ratio of passenger enplanements to origin-destination (O&D) passengers over time to identify changes in connecting versus non-stop traffic. This ratio is an indicator of the tendency of the average passenger to connect during a typical journey. The closer the ratio is to 1.0, the more passengers fly on a point-to-point routing. As the chart below shows, the overall ratio for the U.S. domestic industry varied within a narrow band between 1995 and 2002, but has been decreasing since then. Disaggregating the industry average into network and low-cost carrier segments reveals that while the network carrier trend has mirrored the national average, the low-cost carrier sector has reversed its trend in 2004, and has been increasing since. In FY 2007, the respective connectivity ratios of the network and low-cost carriers were the closest to each other since FY 1999. The FAA's forecast recognizes the changing pattern of domestic traffic connectivity and the relative mix of network versus low-cost carrier traffic volumes. These trends are captured in the forecast's passenger enplanement totals.



## International Markets

### U.S. and Foreign Flag Carriers

FAA provides forecasts of total international passenger demand (the sum of U.S. and foreign flag carriers) for travel between the United States and three world travel areas--Atlantic, Latin America (including Mexico and the Caribbean), and Asia/Pacific--as well as for U.S./Canadian transborder traffic. These forecasts are based on historical passenger statistics from the United States Immigration and

Naturalization Services (INS) and Transport Canada, and on regional world historical data and economic projections from Global Insight, Inc.

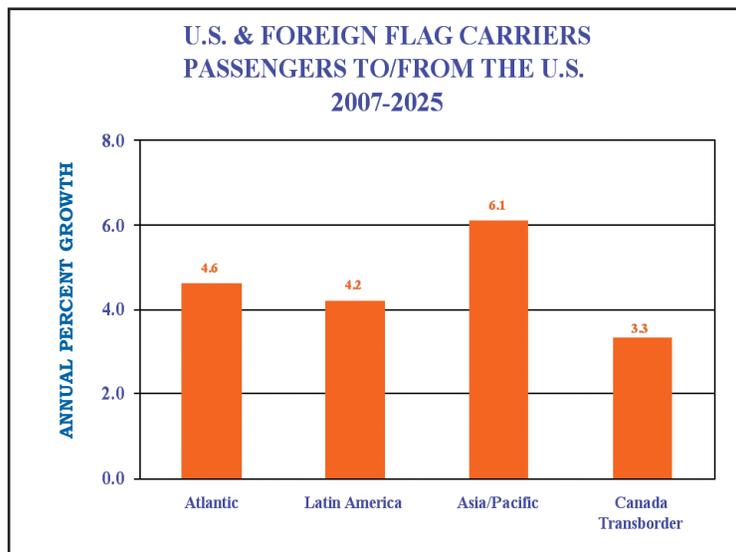
Total passenger traffic between the United States and the rest of the world is estimated to total 147.1 million in CY 2007, 2.9 percent higher than in 2006. Economic growth in both the U.S. and the rest of the world drives international passengers up 5.5 and 6.1 percent, respectively, in 2008 and 2009. For the balance of the forecast, average annual U.S. and world economic growth of 2.6 and 3.1 percent, respectively, leads to international passenger growth averaging 4.5 percent a year, and totaling 331.5 million in 2025.

Over the entire forecast period (2007-2025), high economic growth in the Asia-Pacific market drives passenger growth averaging 6.1 percent a year for this region. China, Taiwan, and India (passenger growth of 11.0, 8.5, and 8.4 percent a year, respectively) are forecast to be the fastest growing markets in the region. Growth in the Japan market (the largest and most mature in the region) is projected to be below the regional average at 4.3 percent a year.

In the Atlantic region, “open skies” between the European Union and the United States fuels passenger growth of 4.6 percent a year over the forecast period. The impact from “open skies” will be strongest during the first four years of the forecast, with passenger growth averaging 7.0 percent a year. After 2011, growth in the Atlantic market returns to a slower pace, averaging 3.9 percent a year. Growth is projected to be highest in Ireland (5.9 percent a year), the United Kingdom (5.2 percent a year), and the Netherlands (4.6 percent a year). The markets of Spain, France and Germany (averaging 4.0, 3.9, and 3.8 percent a year, respectively) are projected to grow slower than the region as a whole.

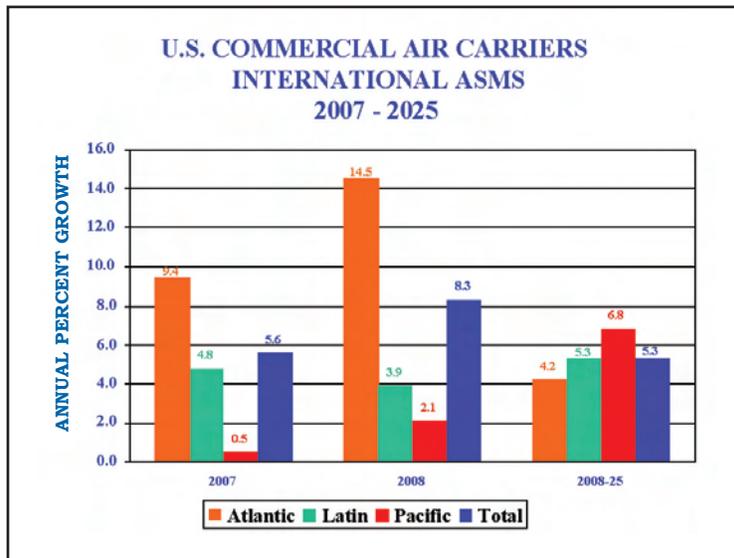
In the Latin America region, passenger growth between 2007 and 2025 is forecast to average 4.2 percent a year. The highest growth is projected for Brazil (average annual growth of 5.5 percent) while the largest market in the region, Mexico, grows at an average of 4.3 percent a year. The slowest rates of growth are projected to occur in the Bahamian, Dominican Republic, and Jamaica markets (averaging growth of 0.8, 2.3, and 2.0 percent a year, respectively).

Growth in the Canadian transborder market is forecast to be close to that of the domestic U.S. market, averaging 3.3 percent a year over the forecast period.

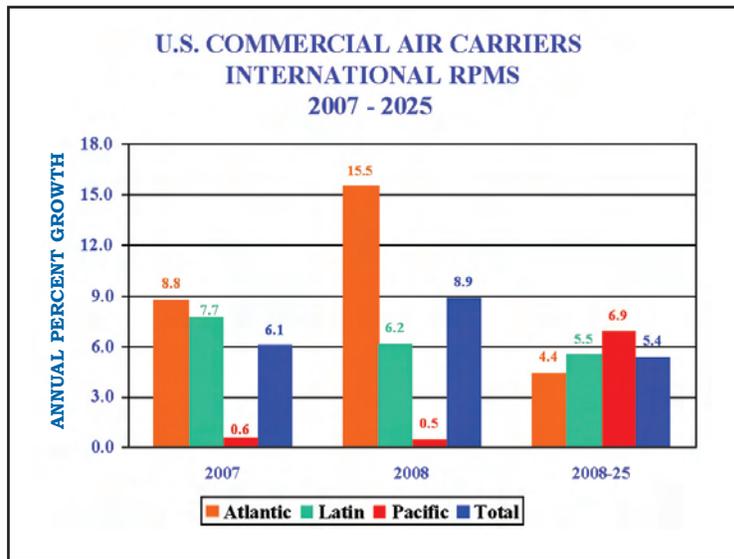


U.S. Flag Air Carriers

In 2007, U.S. commercial air carrier international capacity grew 5.6 percent. Capacity is forecast to increase 8.3 percent in 2008, buoyed by growth in the Atlantic markets of 14.5 percent because of “open skies.” Capacity growth remains robust at 7.7 percent in 2009, and averages 5.2 percent a year for the balance of the forecast. Strong growth throughout the forecast reflects favorable U.S. and world economic activity, the realization by U.S. mainline carriers that international markets are a source of profitable operations, and the implementation of “open skies.”



U.S. commercial air carrier international RPMs increased 6.1 percent in 2007 and enplanements increased 5.1 percent. RPM growth is projected to quicken in 2008 to 8.9 percent, reflecting in part the impact of “open skies.” In 2009, continued strong growth in the Pacific market results in total U.S. carrier international RPMs growing 7.8 percent. For the balance of the forecast, RPM growth is forecast to average 5.2 percent a year with the fastest growth in the Pacific region. A similar pattern is forecast for enplanement growth. International enplanement growth is projected to speed up in 2008, to 6.6 percent, and then drop to 6.0 percent in 2009. Over the balance of the forecast period, enplanements are forecast to increase an average of 4.6 percent a year with the fastest growth in Pacific markets.



The similar growth in U.S. carrier international passengers (4.7 percent a year) compared to total international passengers (4.9 percent a year) reflects stabilization in market share for U.S. airlines. Forecasts of international demand assume U.S. carriers will benefit from the favorable economic activity in both the United States and world markets.

International load factor for U.S. commercial carriers was 80.2 percent in 2007. Load factor is expected to rise to 80.6 percent in 2008 as capacity increases in the Atlantic and Latin markets are surpassed by the growth in traffic. International load factor is then projected to grow slightly to 80.8 percent in 2009, and then increase by just under 0.1 percentage points a year to 81.9 percent in 2025.

International passenger real yields for mainline carriers were up 4.2 percent in 2007. The largest increase was in the Pacific market (up 5.7 percent), and followed by the Atlantic (up 4.4 percent) and Latin markets (up 1.8 percent), reflecting strong demand for travel in the international regions. International yields are expected to increase by 6.4 percent in 2008 and increase an average 1.2 percent a year over the balance of the forecast. In real terms, international yields are forecast to increase 3.2 percent in 2008, and then decline at an annual rate of 1.0 percent over the forecast. The decline in real yields assumes competitive pressures will continue to exert pressure on carriers to hold the line on fare increases. In international markets, this takes the form of expanded open sky agreements and new and existing global alliances.

### **Air Cargo**

Historically, air cargo activity has moved in synch with GDP. Additional factors that have affected the growth in air cargo traffic include declining real yields, improved productivity, and globalization. Significant structural changes have occurred in the air cargo industry. Among these changes are the following: air cargo security regulations by the FAA and TSA; market maturation of the domestic express market; modal shift from air to other modes (especially truck); increases in fuel surcharges; growth in international trade from open skies agreements; use of all-cargo carriers (e.g., FedEx) by the U.S. Postal Service to transport mail; and increased use of mail substitutes (e.g., e-mail).

The forecasts of Revenue Ton Miles (RTMs) are based on several assumptions specific to the cargo industry. First, security restrictions on air cargo transportation will remain in place. Second, most of the shift from air to ground transportation has occurred. Finally, long-term cargo activity will be tied to economic growth.

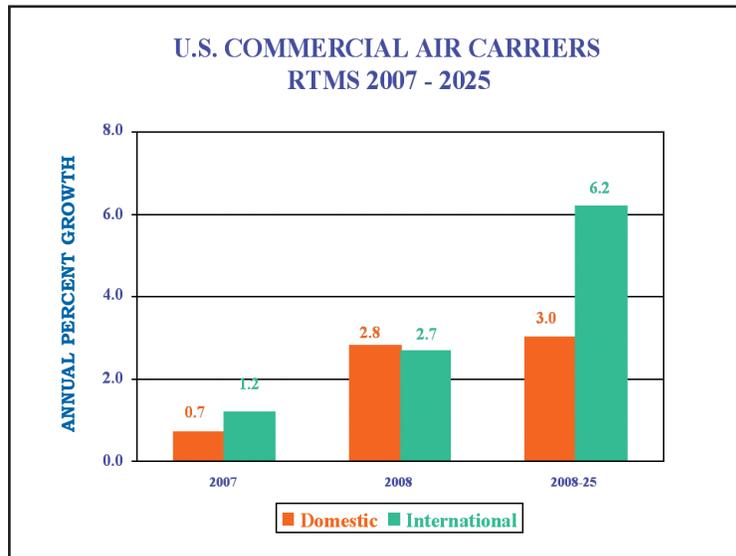
The forecasts of RTMs were based mainly on models that link cargo activity to GDP. Forecasts of domestic cargo RTMs were developed with real U.S. GDP as the primary driver. Projections of international cargo RTMs were based on growth in world GDP, adjusted for inflation. The distribution of RTMs between passenger carriers and all-cargo carriers was forecast based on an analysis of historic trends in shares; changes in industry structure and market assumptions.

Total RTMs are forecast to increase 2.8 percent in 2008 and 6.1 percent in 2009. For the balance of the forecast period, total RTMs are forecast to increase at an average annual rate of 5.1 percent, based mainly on economic growth. The forecast of 96.5 billion RTMs in 2025 represents an average annual increase of 5.0 percent over the entire forecast period.

Domestic cargo RTMs are forecast to increase 2.8 percent in 2008 and 4.4 percent in 2009 driven by growth in the U.S. economy. Between 2009 and 2025, domestic cargo RTMs are forecast to increase at an average annual rate of 2.9 percent, based on projected U.S. economic growth. The forecast of 26.7 billion RTMs in 2025 represents an average annual increase of 3.0 percent over the entire forecast period.

The freight/express segment of domestic air cargo is highly correlated with capital spending. Thus, the growth of this segment in the future will be tied to growth in the economy. The mail segment of domestic air cargo will be affected by overall mail volume.

The all-cargo carriers have increased their share of domestic cargo RTMs flown from 65.4 percent in 1997 to 80.9 percent in 2007. This is because of significant growth in express service by FedEx and United Parcel Service coupled with a lack of growth of domestic freight/express business for passenger carriers. There are several recent factors that account for the relative growth of the all-cargo sector. One was the October 2001 FAA security directive that strengthened security standards for transporting cargo on passenger flights. Another factor was the inclusion of Airborne Express into the cargo data reported to the Department of Transportation beginning in 2003. In addition, with passenger load factors at record levels, there is less space available for belly cargo. The all-cargo share is forecast to increase to 84.4 percent by 2025 based on increases in wide-body capacity for all-cargo carriers and security considerations.

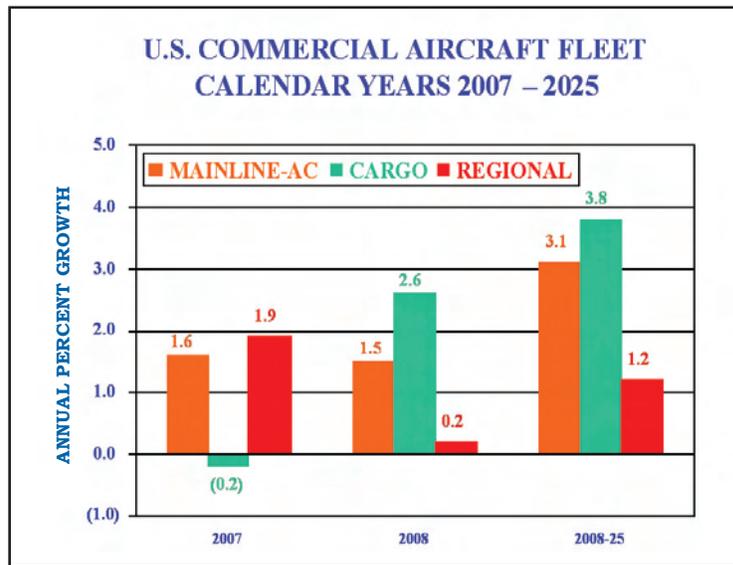


International cargo RTMs are forecast to increase 2.7 percent in 2008 and 7.3 percent in 2009 with growth of the world economy and expansion in trade with open skies agreements. For the balance of the forecast period, international cargo RTMs are forecast to increase an average of 6.2 percent a year based on projected growth in world GDP. The forecast 69.7 billion RTMs in 2025 represents an average annual increase of 6.0 percent over the entire forecast period.

All-cargo carriers increased their share of international cargo RTMs flown from 54.5 percent in 1997 to 66.7 percent in 2007. This increase has resulted from the demand for expedited service, activity from the war in Iraq, and the change in reporting of contract services. The all-cargo share is forecast to increase to 72.0 percent by 2025 based on increased capacity.

## Commercial Aircraft Fleet

The number of commercial aircraft is forecast to grow from 7,816 in 2007 to 12,202 in 2025, an average annual growth rate of 2.5 percent or 244 aircraft annually. The commercial fleet grows by a net 92 aircraft in 2008 and 80 aircraft in 2009; however, most of this growth occurs in low-cost carriers.



The number of passenger jets in the mainline carrier fleet increased by 63 aircraft in 2007 and is expected to increase by 60 aircraft in 2008 and 103 aircraft in 2009. The mainline air carrier passenger fleet increases by an average of 162 aircraft a year between 2008 and 2025, totaling 6,783 aircraft in 2025. The narrow-body fleet (including E-190's at JetBlue and US Airways) is projected to grow by 117 aircraft annually over the forecast period; the wide-body fleet grows by 40 aircraft a year as the Boeing 787 and Airbus A350's enter the fleet.

The regional carrier passenger fleet is forecast to increase by 6 aircraft in 2008. After 2008, the regional carrier fleet is expected to increase by an average of 37 aircraft (1.2 percent) over the remaining years of the forecast period, reaching 3,469 aircraft in 2025. The number of regional jets (90 seats or fewer) at regional carriers is projected to grow from 1,803 in 2007 to 3,114 in 2025, an average annual increase of 3.1 percent. All the growth in regional jets over the forecast period occurs in the larger 70 and 90-seat aircraft. During the forecast period, more than 1,000 regional jets of 50 or less seats are removed from the fleet, reflecting the relaxation of scope clauses. The turboprop/piston fleet is expected to decline from 1,033 in 2007 to 355 in 2025. Turboprop/piston aircraft are expected to account for just 10.2 percent of the regional fleet in 2025, down from a 36.4 percent share in 2007.

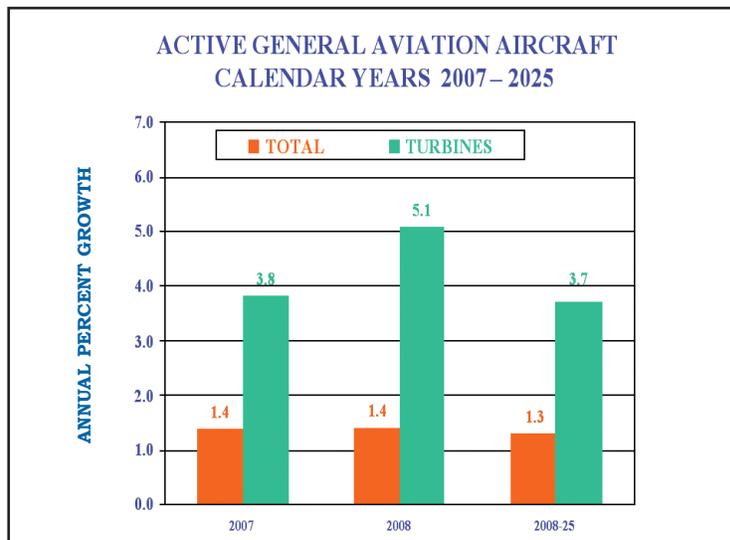
Cargo large jet aircraft are forecast to increase by 52 aircraft over the next 2 years (from 1,008 to 1,060 aircraft in 2009), and total 1,950 aircraft in 2025. The narrow-body jet fleet is projected to decline by 14 aircraft a year over the 17-year forecast period. The wide-body jet fleet is projected to increase by 40 aircraft yearly.

## General Aviation

The FAA forecasts the fleet and hours flown for single-engine piston aircraft, multi-engine piston, turbo-props, turbojets, rotorcraft (piston, turbine), sport, experiment and other (glider, balloon). The FAA forecasts “active aircraft,”<sup>10</sup> not total aircraft. The FAA uses estimates of fleet size, hours flown, and utilization from the General Aviation and Air Taxi Activity and Avionics Survey (GA Survey) as baseline figures upon which assumed growth rates can be applied. Beginning with the 2004 GA Survey there were significant improvements to the survey methodology. At the same time the survey methodology changed, large changes in both the number of aircraft and hours in many categories occurred. The results of the 2006 Survey are consistent with the results of the 2004 and 2005 Surveys reinforcing our belief that the methodological improvements have resulted in superior estimates relative to those in the past. Thus, they are used as the basis for our forecast. Because the Survey is on a calendar year basis, the 2006 statistics are the latest available. Figures for 2007 are estimated based on other activity indicators and the forecasts of activity begin in 2008 and continue through 2025.

As the demand for business jets has grown over the past several years, the current forecast assumes that business use of general aviation aircraft will expand at a more rapid pace than that for personal/sport use. The business/corporate side of general aviation should also continue to benefit from a growing market for new very light jets (VLJs). In addition, corporate safety/security concerns for corporate staff, combined with increasing flight delays at some U.S. airports have made fractional, corporate, and on-demand charter flights practical alternatives to travel on commercial flights.

The active general aviation fleet is projected to increase at an average annual rate of 1.3 percent over the 18-year forecast period, growing from an estimated 225,007 in 2007 to 286,500 aircraft by 2025. The more expensive and sophisticated turbine-powered fleet (including rotorcraft) is projected to grow at an average of 3.7 percent a year over the forecast period with the turbine jet fleet increasing at 5.6 percent a year.



<sup>10</sup> An active aircraft is one that flies at least one hour during the year.

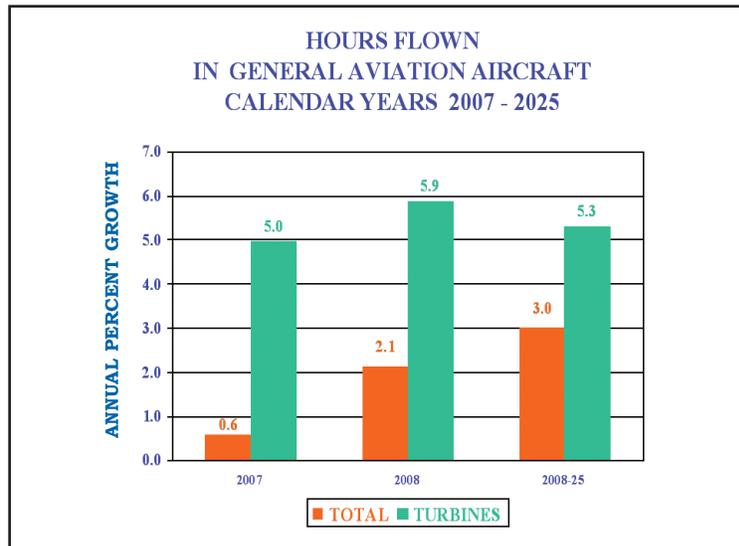
At the October 2006 TRB/FAA workshop, industry experts suggested the market for new VLJs could add 500 aircraft a year to the active fleet by 2010. The relatively inexpensive twin-engine VLJs (priced between \$1 and \$2 million) are believed by many to have the potential to redefine the business jet segment by expanding business jet flying and offering performance that could support a true on-demand air-taxi business service. The actual number of VLJ deliveries in 2007 fell short of our assumption in last years forecast (143 vs 350). However, the current forecast assumes that they will continue to enter the active fleet at a rate of 400 to 500 aircraft a year, reaching 8,145 aircraft by 2025.

The number of active piston-powered aircraft (including rotorcraft) is projected to decrease from the 2006 total of 167,008 through 2008 and then increase gradually to 181,345 by 2025. Over the forecast period, the average annual increase in piston-powered aircraft is 0.5 percent. Although piston rotorcraft are projected to increase rapidly (4.7 percent a year) they are a relatively small part of this segment of general aviation aircraft. Single-engine fixed-wing piston aircraft, which are much more numerous, are projected to grow at much slower rates (0.5 percent respectively) while multi-engine fixed wing piston aircraft are projected to decline 0.9 percent a year. In addition, it is assumed that relatively inexpensive VLJs and new light sport aircraft could erode the replacement market for traditional piston aircraft at the high and low ends of the market respectively.

Starting in 2005, a new category of aircraft (previously not included in the FAA's aircraft registry counts) was created: "light sport" aircraft. At the end of 2006 a total of 1,273 aircraft were estimated to be in this category. The forecast assumes registration of 5,600 aircraft over a 5-year period beginning in 2005 including both newly built aircraft and conversions from ultralight trainers. By 2025 a total of 14,700 light sport aircraft are projected to be in the fleet.

The number of general aviation hours flown is projected to increase by 3.0 percent yearly over the forecast period. Much of the increase reflects increased flying by business and corporate aircraft as well as steady if relatively small annual percentage increases in utilization rates for piston aircraft. Hours flown by turbine aircraft (including rotorcraft) are forecast to increase 5.3 percent yearly over the forecast period, compared with 1.1 percent for piston-powered aircraft. Jet aircraft are forecast to account for most of the increase, with hours flown expanding at an average annual rate of 7.7 percent over the forecast period. The large increases in jet hours result mainly from the introduction of VLJs, as well as increases in the fractional ownership fleet and its activity levels. Fractional ownership aircraft fly about 1,200 hours annually compared to approximately 350 hours for all business jets in all applications.

Very light jets (VLJs) are expected to be used much differently than traditional turbojets. Because of this, FAA has made separate assumptions for traditional turbojets and VLJs. The assumptions underlying the VLJ forecast are vital for both fleet and hours flown. Assumptions are made for the entire VLJ fleet and also for the distribution of that fleet among air taxi use, private use and shared ownership use. For the various uses, assumptions are made about utilization rates which, along with fleet sizes, determine hours flown. Utilization rates for VLJs will vary by mission. VLJ air taxis are expected to average approximately 1,500 hours per year, shared ownership users about 525 and private use 375. By 2025 the annual utilization rate for all VLJs is forecast to be 1,014 hours. Traditional (non-VLJ) turbojets are expected to average approximately 397 hours per year by 2025, as VLJs are expected to have a greater share of their use in on-demand air taxi than the traditional turbojets.



The number of active general aviation pilots (excluding air transport pilots) is projected to be 507,930 in 2025, an increase of almost 61,000 (up 0.7 percent yearly) over the forecast period. Commercial pilots are projected to increase from 115,127 in 2007 to 126,150 in 2025, an average annual increase of 0.5 percent. The number of student pilots is forecast to increase at an average annual rate of 1.0 percent over the forecast period, growing from 84,339 in 2007 to 100,200 in 2025. In addition, FAA is projecting that 20,600 new sport pilots will be certified during the forecast period. As of December 31, 2007, the number of sport pilot certificates issued was 2,031 reflecting a growing interest in this new “entry level” pilot certificate that was only created in 2005. The number of private pilots is projected to increase an average of 0.2 percent a year over the forecast period to total 220,550 in 2025.

## FAA Workload Forecasts

There were 499 towered airports at the end of September 2007--264 FAA towers and 235 contract towers. While the number of FAA towers is expected to remain constant at 264 in 2008, the number of FAA contract towered airports is forecast to increase by 9 to 244. In 2007, aircraft activity at these 9 airports totaled roughly 1.06 million operations, with general aviation accounting for 93.7 percent of the total activity.

### FAA and Contract Towers

Activity at the combined FAA and contract towers totaled 61.1 million operations in 2007, essentially the same as in 2006. Activity is projected to increase only 0.4 percent in 2008, as commercial operations remain flat. Growth in activity picks up in 2009 (2.3 percent) as commercial activity rises 2.6 percent. For the balance of the forecast activity growth varies between 1.8 and 1.9 percent per year, reaching 84.0 million operations in 2025.

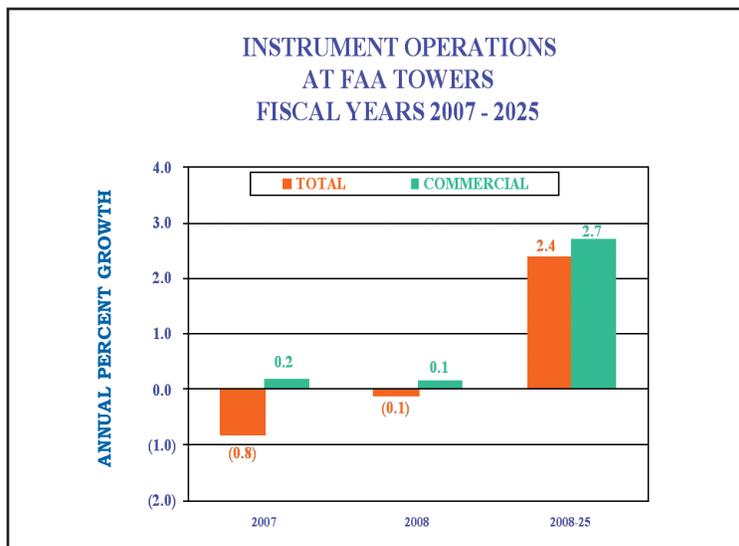
Most of the growth over the forecast period results from increased commercial aircraft activity (up 2.5 percent annually). Air carrier activity is projected to increase 1.1 percent in 2008 as carriers slowly add capacity in an environment of record high fuel prices and slowing economic growth. In 2009, air carrier

activity is projected to increase 2.6 percent as airline capacity increases, and rises an average of 2.3 percent a year over the forecast period. Commuter/air taxi operations are forecast to fall 1.4 percent in 2008 then rise 2.7 percent in 2009 as increased air taxi activity is expected to stimulate growth in this user category. Over the entire duration of the forecast, commuter/air taxi operations are projected to increase 2.7 percent a year.

In 2007 general aviation activity increased for the first time since 1999 (up 0.1 percent) and is forecast to increase 0.9 percent in 2008 and 2.3 percent in 2009. For the forecast period, general aviation activity at towered airports is projected to increase an average of 1.3 percent a year, to 41.9 million operations in 2025. Much of the total growth in 2008 and 2009 results from the extra activity at the 9 new contract towers that was not in the previous database. General aviation activity at combined FAA/contract towers grows in line with the modest increase forecast for general aviation piston hours already cited. Most operations at the smaller towers are piston in nature, while those at the largest airports tend to be turbine operations.

Military activity, which fell 2 percent in 2007, is forecast to fall 0.5 percent in 2008. We do not forecast military operations but instead assume a constant level of activity over the forecast period.

Instrument operations<sup>11</sup> at FAA towered airports (45.4 million) in 2007 fell (0.8 percent) for the third year in a row. They are projected to fall slightly (down 0.1 percent) in 2008 as increases in air carrier activity are offset by declines in commuter/air taxi and general aviation activity. Instrument activity is then forecast to rise 1.4 percent in 2009 as all non-military categories see an increase. For the entire forecast period, instrument operations grow an average of 2.3 percent a year, totaling 68.0 million in 2025.

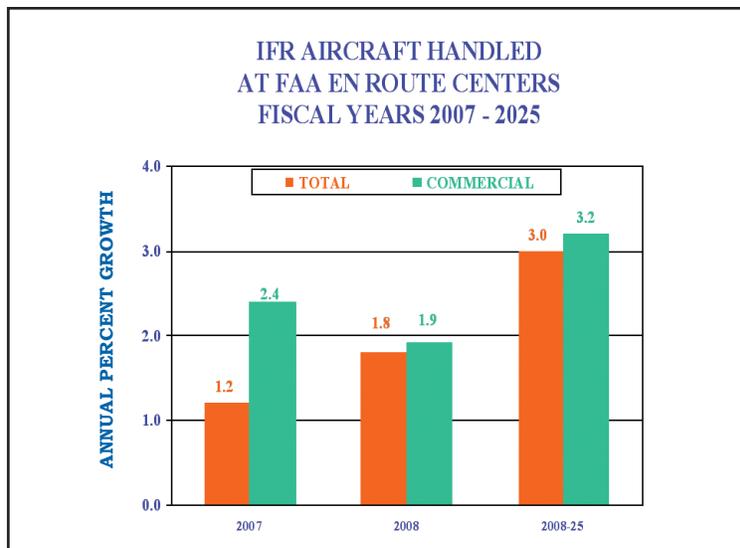


Over the forecast period, commercial aircraft instrument operations are forecast to increase at 2.5 percent per year with increases in commuter/air taxi activity surpassing air carrier activity. General aviation instrument operations are projected to grow 2.1 percent a year, reflecting in part the expected impact of the introduction of VLJs to the general aviation fleet. Military activity is expected to fall slightly in 2008 (down 0.8 percent) and remain at its 2008 level (2.5 million) of activity throughout the forecast period.

<sup>11</sup> Instrument operations are defined as arrivals or departures of an aircraft in accordance with an IFR flight plan or special VFR procedures or an operation where IFR separation between aircraft is provided by the terminal control facility.

**En Route Centers**

The number of IFR aircraft handled at FAA en route traffic control centers increased 1.2 percent to 46.8 million in 2007, as all user groups except military posted increases in activity. Activity at en route centers is forecast to increase by 1.8 percent in 2008 and 1.9 percent in 2009, respectively, with increases in air carrier and general aviation activity. After 2010 through the balance of the forecast period, en route activity increases by more than 3 percent annually, reaching 78.0 million aircraft handled in 2025. Over the entire forecast period, commercial activity is projected to increase at an average annual rate of 3.1 percent, reflecting increases in the commercial fleet and aircraft stage lengths. During the same period, general aviation activity is projected to grow almost as fast, 2.9 percent a year, reflecting the expected impact of VLJs and additional business aviation activity. Military activity is held constant at the 2007 activity level throughout the forecast period.



Activity at FAA en route centers is growing faster than at FAA towered airports because more of the activity in en route centers is from the faster growing commercial sector and high-end (mainly turbine) general aviation flying. Much of general aviation activity at FAA towered airports, which is growing more slowly, is local in nature, and does not impact the centers.

# COMMERCIAL SPACE TRANSPORTATION

The Federal Aviation Administration (FAA) licenses and regulates U.S. commercial space launch activity including launch vehicles and non-federal launch sites authorized by Executive Order 12465 and 49 US Code, Subtitle IX, Chapter 701 (formerly the *Commercial Space Launch Act*). Title 49 and the Executive Order also direct the Department of Transportation (carried out by the FAA) to encourage, facilitate, and promote commercial launches. The FAA works with its industry advisory committee, the Commercial Space Transportation Advisory Committee (COMSTAC) to project global commercial space launch demand.

## OVERVIEW

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Commercial space transportation generally consists of the launch of satellites into orbit for either commercial or government customers by private, non-government entities, called launch services providers. Commercial space transportation also covers suborbital launches, where a payload is launched on a trajectory that briefly goes into space but returns to Earth rather than going into orbit, as well as the reentry of objects from space to Earth.

The FAA licenses several expendable vehicles used for commercial orbital launches. These include the Pegasus and Taurus, two small vehicles built and operated by Orbital Sciences Corporation; the Delta IV, a heavy-class vehicle and the Delta II, a medium-class vehicle, both built by United Launch Alliance (ULA), a joint venture between Boeing and Lockheed Martin, and marketed by Boeing Launch Services (BLS); the Zenit-3SL, a heavy-class vehicle built by the Ukrainian company KB Yuzhnoye for the multi-national Sea Launch venture; and the Atlas 5, a heavy-class vehicle built by ULA and marketed by Lockheed Martin Commercial Launch Services. Commercial vehicles under development include the Falcon family of boosters by SpaceX. The FAA has also previously licensed small suborbital expendable vehicles. From 1989 through the end of 2007, DOT/FAA has licensed 184 orbital and suborbital commercial launches.

Experimental Permits, for suborbital reusable vehicle development and test flights, were first granted by FAA in 2006 to Blue Origin and Armadillo Aerospace. Some permits have been granted for vehicles participating in the Lunar Lander Challenge, a competition to demonstrate technologies potentially applicable to both future lunar spacecraft and commercial suborbital vehicles, with \$2 million in prizes offered by NASA's Centennial Challenges program. There were six permitted launches in 2006 and nine in 2007.

Six commercial spaceports, located in Alaska, California (Vandenberg Air Force Base and Mojave Airport), Florida, Oklahoma, and Virginia currently have FAA launch site operator licenses. Several other commercial spaceports are under active development, including sites in New Mexico and Texas.

## REVIEW OF 2007

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There were four FAA-licensed launches, all orbital, in 2007, down from seven in 2006. BLS carried out three Delta 2 launches from Vandenberg Air Force Base, carrying one commercial and two Italian government remote sensing satellites. Sea Launch conducted one Zenit-3SL launch, which failed because of a problem with the vehicle’s first-stage engine. The Zenit-3SL is expected to return to flight in early 2008. There were also nine suborbital permit flights during 2007.

**FAA Licensed Launches, 2006-2008**

	2006	2007	2008 Forecast
Licensed Launches	7	4	8-12

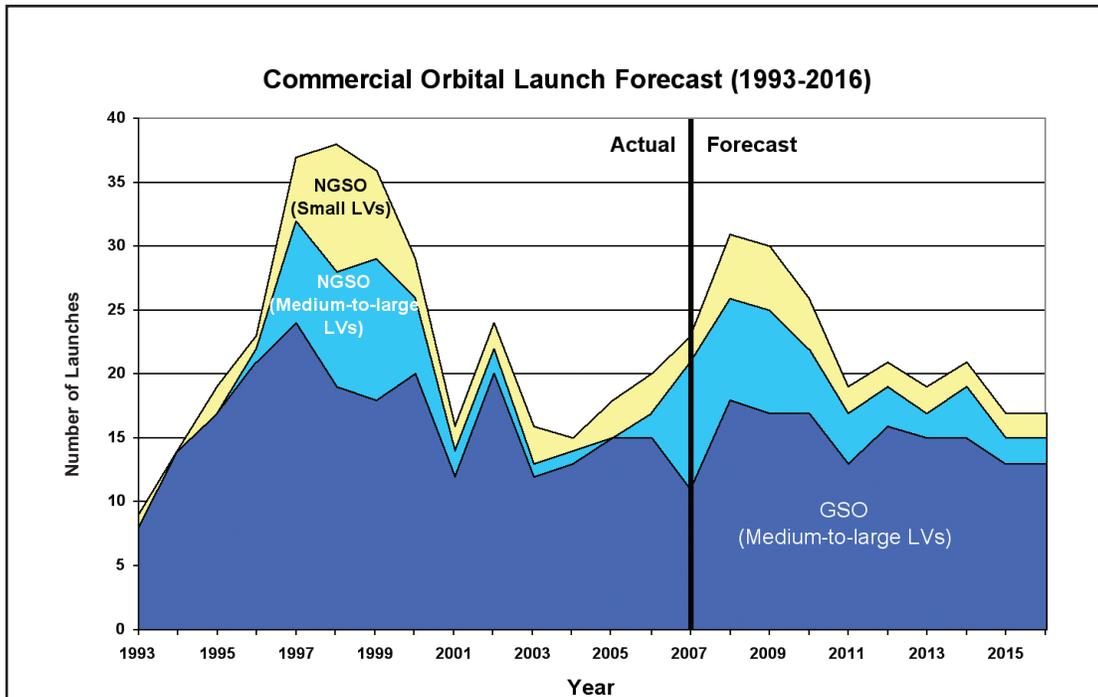
Worldwide there were 23 orbital commercial launches in 2007, compared to 21 in 2006. In addition to the four FAA-licensed launches, Europe performed six commercial launches of its Ariane 5, Russia conducted 12 launches of various vehicles, and India performed one commercial launch, its first ever, using its PSLV. There were 68 total worldwide commercial, civil, and military launches in 2007, with commercial launches representing about 34 percent of the total. For more details, see the Year in Review report available from the FAA website at:

[http://www.faa.gov/about/office\\_org/headquarters\\_offices/ast/reports\\_studies/year\\_review/](http://www.faa.gov/about/office_org/headquarters_offices/ast/reports_studies/year_review/).

## GLOBAL FORECAST

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In May 2007, the FAA and COMSTAC published their annual global forecast for commercial launch demand, the 2007 Commercial Space Transportation Forecasts. The report forecasts an average of 23.4 commercial orbital launches per year of geosynchronous orbit (GSO) and non-geosynchronous orbit (NGSO) payloads through 2016. That annual average includes 15.3 launches of medium-to-heavy vehicles to deploy GSO satellites, 4.9 launches of medium-to-heavy vehicles to NGSO, and 3.2 launches to NGSO by small vehicles.



Commercial GSO launches are used for communications satellites with masses ranging from 2,000 to over 6,000 kilograms; satellite masses have tended to grow over time although there is still interest in satellites at the low end of the mass spectrum. Demand for commercial NGSO launches spans a number of markets, including commercial remote sensing, science and technology demonstration missions (often for nations without an indigenous launch capability), and the replenishment and replacement of low Earth orbit communications satellite systems first launched in the late 1990s.

The GSO and NGSO forecasts are not a prediction of what will actually be launched but instead represent the expected demand for launch services, based on a variety of inputs. The complete forecast report is available at:

[http://www.faa.gov/about/office\\_org/headquarters\\_offices/ast/reports\\_studies/forecasts/](http://www.faa.gov/about/office_org/headquarters_offices/ast/reports_studies/forecasts/)



## RISKS TO THE FORECAST

The FAA is confident that its current outlook for aviation demand and activity can be achieved, as shown by the resiliency of the demand for air transportation in the face of challenges. As has been the case for the past several years, terrorism remains the greatest risk to achieving the forecasts. Tighter security measures have restored the public's confidence in the integrity of U.S. and world aviation security systems. However, because of aviation's high visibility and global reach, concerns remain about international terrorism. Any terrorist incident aimed at aviation would have an immediate and significant impact on the demand for aviation services. In addition, there has been much discussion about a world-wide pandemic such as influenza. Should such an event occur, it is likely that severe limits on aviation would be enacted and would have a significant impact on the demand for aviation services.

Terrorist and pandemic concerns notwithstanding, this year's forecast is driven, at least in the short-term, by the financial health of the commercial aviation industry, which, in turn, is tied to the price of jet fuel and the health of the U.S. economy.

During most of FY 2007 oil prices ranged between \$50 and \$65 per barrel and similar to the prior year, prices moved up after June, reaching \$78/barrel in mid-August. But prices didn't fall back as they had in the previous two years after the peak summer season, but instead kept on rising, breaking \$80/barrel in mid-September and \$90/barrel in late October. Oil prices in the spot market approached \$100/barrel in mid-November 2007 before falling back to around \$90/barrel at the end of December. However, in early January 2008, oil prices topped \$100/barrel for the first time before retreating. The dramatic increase in the price of oil has led many analysts to revise their long-term oil price projections upward. While last year's forecast had long-term oil prices in the \$55-\$65/barrel range, current projections now have oil prices in the \$70-\$80/barrel range over the next several years.

Although the fuel bill for U.S. commercial air carriers was essentially unchanged in FY 2007, the recent sharp increase in fuel prices threatens the continued profitability of the industry. Given FY 2007 consumption levels, a one-cent increase in the price of jet fuel costs the industry \$195 million annually. Thus, the \$15-\$20/barrel increase in the price of oil could add \$7 billion to \$9 billion to the industry's annual fuel bill, an amount equal to the FY 2007 operating profit of the 10 largest passenger carriers. This year's forecast assumes \$86/barrel oil in 2008, up from \$60/barrel in 2007, and then gradually falls back to \$73/barrel in 2015. Already, carriers have announced capacity reductions and service cutbacks because of high fuel prices which threaten to increase passenger inconvenience and reduce passenger demand and competition in many markets. Should oil prices reach \$100/barrel on a sustained basis, carriers have said that further restructuring, including consolidation and/or further contraction of carrier route structures, would be in order. Under this scenario, several large U.S. airports could lose their major service provider. Efforts to develop alternative aviation fuels may mitigate this risk by increasing supplies and availability and reliability; this benefit would be realized whether or not the fuels are targeted to aviation.

Although FAA uses economic projections from OMB to derive the forecasts of aviation demand, an important part of the FAA forecast process is to compare the OMB forecasts with other economic forecasts. FAA typically compares OMB economic forecasts to those of Global Insight, Inc., a leading economic consulting firm. Unlike prior forecasts, Global Insight's current U.S. GDP forecast is lower than OMB's. While OMB is projecting U.S. GDP growth to average 2.9 percent a year between 2007 and 2010, Global Insight is forecasting U.S. GDP growth to average 2.5 percent during the same period. In addition, Global Insight regularly provides alternative forecasts and assigns a likelihood of their occurrence; along with the likelihood of the baseline forecast occurring. In December 2007, Global Insight was assigning a 50 percent likelihood of their baseline forecast. An optimistic scenario—higher economic growth in the rest of the world, lower oil prices, and a continuation of the high worker productivity rates of the late 1990's—that results in higher U.S. economic growth was assigned only a 10 percent likelihood by Global Insight. Higher economic growth would lead to increased demand for aviation services and speed the industry's return to profitability.

However, Global Insight's pessimistic scenario—a weaker dollar, rising oil prices, higher inflation, a deeper housing downturn, and rising unemployment—that results in a recession in the U.S. was assigned a 40 percent likelihood. We used the pessimistic scenario as inputs to our domestic traffic industry model to quantify the impact of a recession on US airline industry traffic and capacity growth. The results were as expected but the magnitude was surprising. In 2008, domestic passengers in the pessimistic scenario would be 2.2 percent lower than in our base forecast with RPMs down even further. The difference between the base forecast and the pessimistic scenario widens over the next 2 years so that by 2010, domestic passenger enplanements would be 7.7 percent lower than in the base forecast and RPMs would be 9.5 percent lower. Industry passenger revenue was 6.9 percent lower, hampering the industry's drive for sustained profitability and balance sheet improvement.

Low-cost carriers are forecast to continue to increase their share of domestic traffic over the forecast period through a large increase in their fleet. However the 2007 financial performance of these carriers was, at best, mixed. There is a good deal of doubt about whether the low-cost carriers, with their present business models, can profitably use all of the aircraft they are scheduled to take in the next few years. Although most of the current low-cost carriers appear to have greater financial stability and access to funding than previous start-ups, continued high fuel prices, a prolonged slump in travel demand, and/or a prolonged fare war could cause these carriers to scale back planned growth and/or cease operations. In addition, low-cost carriers have a significantly smaller percentage of their future fuel needs hedged. If jet fuel prices go higher than are forecast, the cost gap between low-cost carriers and the network carriers should narrow, further reducing the competitive advantage that many of the low-cost carriers currently enjoy. Any loss of competition could lead to higher fares and a loss of passenger demand.

Also, the forecast assumes the addition of sizable numbers of regional jets into the fleet of regional carriers. However, the regional carriers' future is closely linked to those of the larger network carriers. Should one or more of these large carriers cease to exist (because of financial difficulties or merger), certain regional carriers could find themselves either saddled with excess capacity or lack of sufficient capacity, or lack of feed traffic. The recent experience of the Delta and Northwest bankruptcies saw opportunities for regional flying substantially reduced.

Despite last year's failed attempt by US Airways to acquire Delta, there is still considerable interest in consolidation within the industry. Some carriers, particularly United and US Airways, have made it clear that they believe consolidation is necessary for the long-term stability/profitability of the industry. Other carriers, who in the past have been less vocal in their views on consolidation, have recently admitted that they have been evaluating their options if a large merger is announced. While proponents of consolidation argue that consolidation can lead to more rational capacity decision making and enhance the financial stability of the industry, the reality is that in any consolidation scenario there would be fewer carriers and less domestic competition. Less competition could lead to higher fares for the flying public and thus reduce travel demand.

Some weakness began to appear in global economic performance in 2007, although many regions recorded strong gains. While the current forecast calls for continuing high growth rates throughout the forecast period, there are many downside risks inherent in these forecasts. In the near term, the largest risk is the global credit crunch. Although the credit crunch in the U.S. and in Europe has not severely impacted Asia, should U.S. consumer spending falter as a result, Asian exporters and Asian economic growth could suffer. In addition, sustained high (\$95 - \$100/barrel) oil prices pose a risk to economic growth in oil importing nations (namely the U.S., Eurozone, and Japan). Many regions are counting on strong export growth to the United States as a major contributor to their future economic growth. If economic growth in the U.S. slows as a result of sustained high oil prices, strong U.S. import growth is unlikely to occur, diminishing global economic growth prospects.

Furthermore, much of the growth that is currently occurring is concentrated in a relatively few countries such as China and India. Because so much of the current growth is concentrated in a few countries, the risk that a local event could quickly have widespread effects increases. One scenario is that China suffers a "hard landing" in which economic growth slows dramatically from current levels. Global Insight assigns about a 30-35% probability of such a scenario occurring. In such a scenario, Global Insight estimates that global economic growth would be reduced by 1 percent. In addition, there are potential geopolitical risks that could slow global economic growth, i.e., the uncertain political situations in several major oil exporting countries. Doubts remain over the strength of demand in both Japan and the Eurozone as these areas continue to be constrained by structural economic problems, institutional constraints, and the authorities' reluctance to take decisive action. The current forecasts assume strong passenger growth for travel between the United States and other world regions. Any slowing of global economic activity could seriously inhibit the growth in world passenger demand.

On the other hand, loosening of international regulatory constraints could drive growth higher than what is projected. Historically, international markets have been subject to a series of bilateral agreements that have, for the most part, severely restricted competition. It remains to be seen if the "open skies" agreement between the U.S. and the European Union will prove to be a catalyst for reaching other agreements throughout the world, especially in large markets like China and Japan. If it does, more U.S. carriers could gain access to new markets throughout the world and introduce new competition. Greater competition could lead to lower fares and higher growth in these markets.

The demand for general aviation products and services, especially business jets, appears to be expanding. While the high end of the industry (business and corporate jets) is growing, the lower end of the business (piston aircraft) is showing signs of a slowdown. How long the industry expansion continues depends, in large part, on the strength of the market for business jets and VLJs. The market for business jets is largely dependent upon the growth in the economy and corporate profits and it is unknown how well this market will fare as the U.S. economy and corporate profit growth slows. The current fore-

cast assumes that 400-500 VLJs will enter the fleet a year, with the U.S. market growing to 8,145 by 2025. This is in the middle of a fairly wide range of industry estimates. The key driver of the VLJ market is the on-demand air taxi industry. Those who believe the time has come for the air taxi industry tend to have higher fleet forecasts. Those who are less sanguine about the prospects for the on-demand air taxi industry tend to have more conservative fleet forecasts. If the on-demand air taxi industry does gain widespread acceptance, it will spur the demand for VLJs and the general aviation active jet fleet and hours flown could be higher than forecast.

The mix of aircraft operating at most large hubs is also expected to become increasingly complex over the forecast period. The expected large increases in the numbers of regional jets and VLJs will increase the complexities of the national airspace system and make the FAA's job more challenging. The increased complexity of the mix of aircraft serves to compound the increases in workload strictly due to the increasing demand for aviation services projected over the forecast period.

High levels of delays occurred at many U.S. airports in 2007 and could become a critical limit to growth over the forecast period. FAA's forecasts of both demand and workload are unconstrained in that they assume that there will be sufficient infrastructure to handle the projected levels of activity. Should the infrastructure be inadequate and result in even more congestion and delays, it is likely that the forecasts of both demand and workload would not be achieved. The Department of Transportation is considering the use of market-based measures to manage congestion. New market forces from these measures could have an impact on the aviation industry, but the specific measures to be implemented and therefore their impact are unknown at this time. In addition, should industry consolidation become a reality, the impacts on congestion are unclear. Some current hubs would likely be downsized in the event of consolidation resulting in less congestion, but other hubs might experience greater levels of activity that could lead to rising congestion at those specific airports.

Environmental concerns also pose a risk to the forecast. Concerns about aviation's impact on the environment, which have accompanied its growth, could potentially restrict the ability of the aviation system to grow to meet national economic and mobility needs. Airport expansion or new construction is often a contentious issue because of noise, air quality, and water quality concerns. Although aviation only currently contributes 2 to 3 percent of anthropogenic greenhouse gases, emissions from the sector are expected to grow in absolute terms, and concerns about the climate impacts of these emissions are also growing. All of these concerns could have a negative impact on the ability of the aviation system to meet the mobility needs of the traveling public in the future unless systematically addressed as laid out in the Next Generation Air Transportation Plan.

# ▶▶▶ APPENDIX I FORECAST ACCURACY

Forecasts, by their nature, have a degree of uncertainty incorporated in them. They involve not only statistical analyses and various scientific methods, but also judgment, and reliance on industry knowledge and the forecaster’s experience to incorporate industry trends not yet reflected in recent results. The FAA’s annual Aerospace Forecast is no exception. Given the volatile nature of the U.S. airline industry, it is not surprising that each year’s forecast would contain a certain degree of forecast variance. Therefore, FAA forecasters have tried to build forecast models that give a consistent and predictable pattern of results. Analysts relying on the forecasts produced by the models would then be able to adjust for the predictable variance from actual results.

The table below presents an analysis of the variance from historical results for five key forecast metrics during the FY 2003–FY 2007 forecast period. Although this brief period has experienced industry upheaval, FAA’s forecast methodology remained consistent during this time. For these reasons, inclusion of prior periods in an analysis of forecast variance might lead to inconclusive, or inaccurate, implications about the accuracy of FAA’s current forecast methodology.

The table contains the weighted average forecast errors expressed in percentage terms of the projected values versus the eventual results for U.S. carriers’ domestic operations. Each metric has five values showing the relative forecast variance by the number of years in advance the preparation of the forecast took place. For example, the 3 Years column for ASM shows the average forecast error was 6.0 percent for ASM forecasts prepared 3 years in advance. For the period under examination, preparation of the forecasts for FY 2005, FY 2006 and FY 2007 occurred in FY 2003, FY 2004 and FY 2005, respectively.<sup>1</sup>

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<sup>1</sup> *It should be noted that the first forecasted year for each respective fiscal year is that very same year. Therefore, FY 2003’s first forecasted year is FY 2003, and the third forecasted year is FY 2005. This also means that the 5 Years column in the table above consists of only one observation point, while the 4 Years column is based upon two observations.*

<b>U.S. AIR CARRIERS DOMESTIC SCHEDULED PASSENGER OPERATIONS FORECAST EVALUATION</b>					
Forecast Variable	Forecast Percent Error (Combined FY 2003 - FY 2007) (Forecast Greater/Less than Actual) Forecast Performed Years Prior to Actual				
	1 Year	2 Years	3 Years	4 Years	5 Years
ASM	0.2%	2.9%	6.0%	7.8%	6.1%
RPM	-1.5%	-1.5%	-1.5%	-2.0%	-4.7%
Pax Enplanement	-0.4%	0.5%	1.5%	3.1%	1.7%
Mainline Pax Yield	0.2%	1.5%	2.5%	4.5%	8.4%
IFR Aircraft Handled	-0.1%	1.1%	2.4%	3.2%	2.7%

Presenting forecast variances in such a manner simplifies a review of longer-term trends. Typically, one would expect the variances to decline as the forecast year draws closer to the year the forecast is prepared. In addition, presenting forecast variance in this way allows an examination of changes in the relative variances by time horizon, signaling when dramatic shifts in accuracy occur. Finally, it also shows whether forecast values are greater or lower than actual results.

Examination of the forecast variance reveals several noteworthy items. First, all the metrics examined show declining variances as the forecast time horizon decreases, as expected. For both Yield and ASMs there are steady declines in variance from Year 4 through Year 1. The largest decreases come in the Year 3 and Year 1 periods for Yield, and in the Year 2 and Year 1 periods for ASMs. Second, the FAA's forecast model produces relatively small variances for both of the passenger traffic metrics, Enplanements and RPMs, as well as IFR aircraft handled (less than 3.5 percent for any forecast time horizon examined except for the 5-Year time horizon for RPMs).

Third, there is no improvement in forecast accuracy for RPMs within the Year 3 time horizon. Fourth, the relative divergence in forecast variances between RPM and Enplanements, and between RPMs and ASMs, suggests errors in forecasting both passenger trip lengths and load factor.

The examination of the forecast variances over time suggests three primary implications. First, added focus on passenger trip length in the forecasting process – as passenger trip length is the linchpin between RPM and Enplanements – might help improve the forecast model's robustness. Specifically, by directly incorporating trip length estimation into its forecast model FAA believes a reduction in the divergence in annual variations between RPM and Enplanements can occur.

Second, additional focus on load factor might improve the model. Currently, load factor is calculated by dividing the forecast RPMs by forecast ASMs. The large difference between the RPM forecast variance and ASM forecast variance indicates a consistent underestimation of load factor, one of the critical elements in converting passenger demand into aviation activity. All other things being equal, a consistent underestimation of load factor will lead to long-term forecasts of aviation activity that are too high.

Furthermore, ASMs are becoming increasingly difficult to forecast beyond a relatively short time horizon, as carriers often react to changing market conditions. The consistent overestimation of ASMs suggests that carriers have reacted by pulling down capacity. Such capacity reductions can be identified in the short term by using advance schedule information. However, FAA's longer-term forecasts rely on anticipated aircraft deliveries and retirements as well as historic relationships between economic activity and capacity deployed. Given the volatile nature of many of the factors that may influence longer term ASM forecasts, a simpler approach, such as RPMs divided by load factor, may improve the long run accuracy of the ASM forecasts.



## APPENDIX II ACKNOWLEDGEMENTS

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# FORECAST TABLES

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**TABLE 1**  
**U.S. SHORT-TERM ECONOMIC FORECASTS**

ECONOMIC VARIABLE	FISCAL YEAR 2008				FISCAL YEAR 2009			
	1ST. QTR.	2ND. QTR.	3RD. QTR.	4TH. QTR.	1ST. QTR.	2ND. QTR.	3RD. QTR.	4TH. QTR.
<b>Real GDP</b> (Billions of 2000\$) Seasonally Adjusted Annual Rate	11,705.3 1.7%	11,763.9 2.0%	11,837.4 2.5%	11,925.8 3.0%	12,018.3 3.1%	12,108.3 3.0%	12,199.0 3.0%	12,290.4 3.0%
<b>Refiners' Acquisition Cost - Average</b> (Dollars) Seasonally Adjusted Annual Rate	87.44 116.1%	88.40 4.5%	86.11 -10.0%	83.45 -11.8%	81.15 -10.6%	79.51 -7.8%	78.02 -7.3%	76.78 -6.2%
<b>Consumer Price Index</b> (1982-84 equals 100) Seasonally Adjusted Annual Rate	210.0 3.9%	211.2 2.3%	212.3 2.0%	213.3 2.0%	214.4 2.0%	215.4 2.0%	216.7 2.3%	217.9 2.3%

Source: Office of Management and Budget, November 2007.

**TABLE 2**  
**U.S. LONG-TERM ECONOMIC FORECASTS**

FISCAL YEAR	GROSS DOMESTIC PRODUCT (Billions 2000\$)	CONSUMER PRICE INDEX (1982-84=100)	REFINERS' ACQUISITION COST AVERAGE (Dollars)
Historical			
2000	9,762.8	170.75	26.70
2001	9,885.1	176.25	25.79
2002	10,002.4	178.88	21.98
2003	10,208.3	183.10	28.01
2004	10,593.4	187.32	33.65
2005	10,925.8	193.45	47.21
2006	11,247.3	200.60	59.95
2007E	11,496.0	205.30	60.78
Forecast			
2008	11,808.1	211.70	86.35
2009	12,154.0	216.10	78.86
2010	12,522.5	221.00	75.26
2011	12,889.9	226.10	74.22
2012	13,258.4	231.30	73.80
2013	13,632.2	236.60	73.51
2014	14,012.1	242.10	73.34
2015	14,393.0	247.60	73.36
2016	14,782.2	253.30	73.93
2017	15,184.5	259.20	75.41
2018	15,600.6	265.10	76.92
2019	15,990.6	271.20	78.65
2020	16,390.3	277.43	80.36
2021	16,767.4	283.82	82.04
2022	17,169.9	290.34	83.91
2023	17,581.9	297.02	85.83
2024	18,003.9	303.85	86.56
2025	18,453.4	310.84	87.22
Avg Annual Growth:			
2000-07	2.4%	2.7%	12.5%
2007-10	2.9%	2.5%	7.4%
2010-20	2.7%	2.3%	0.7%
2007-25	2.7%	2.3%	2.0%

Source: 2007-2018; Office of Management and Budget, November 2007. Extrapolated to 2025.

**TABLE 3**  
**INTERNATIONAL GDP FORECASTS BY TRAVEL REGION**

CALENDAR YEAR	GROSS DOMESTIC PRODUCT (In Billions of 2000 U.S. Dollars)					WORLD
	CANADA	EUROPE/ AFRICA/ MIDDLE EAST	LATIN AMERICA/ MEXICO	JAPAN/PACIFIC BASIN/CHINA/OTHER ASIA/AUSTRALIA/ N. ZEALAND		
Historical						
2000	724.8	10,360.2	1,871.9	8,386.2	31,911.3	
2001	737.7	10,556.3	1,875.2	8,550.5	32,397.9	
2002	759.3	10,711.8	1,861.9	8,801.3	33,004.3	
2003	773.6	10,899.6	1,899.8	9,137.8	33,880.3	
2004	797.3	11,227.5	2,020.9	9,595.9	35,242.8	
2005	821.8	11,508.7	2,113.8	10,030.7	36,458.9	
2006	844.4	11,909.7	2,229.0	10,533.7	37,883.4	
2007E	866.6	12,299.7	2,344.6	11,065.8	39,238.0	
Forecast						
2008	889.4	12,645.7	2,459.3	11,610.5	40,571.9	
2009	914.3	12,998.2	2,571.2	12,181.9	42,049.2	
2010	939.8	13,349.9	2,687.3	12,735.3	43,506.1	
2011	965.2	13,696.7	2,802.7	13,281.7	44,958.1	
2012	990.5	14,052.5	2,919.4	13,834.7	46,412.7	
2013	1,012.9	14,407.8	3,038.4	14,390.8	47,851.3	
2014	1,036.3	14,770.0	3,160.9	14,973.3	49,338.6	
2015	1,059.7	15,137.7	3,287.1	15,592.9	50,884.5	
2016	1,084.0	15,517.3	3,419.3	16,264.8	52,510.9	
2017	1,108.7	15,903.6	3,557.4	16,953.6	54,190.0	
2018	1,134.6	16,286.4	3,699.7	17,640.7	55,887.0	
2019	1,159.8	16,690.7	3,846.5	18,330.3	57,618.3	
2020	1,185.4	17,104.5	3,998.0	19,032.6	59,380.6	
2021	1,211.8	17,522.2	4,154.5	19,745.2	61,157.8	
2022	1,238.7	17,940.9	4,316.0	20,488.4	62,990.4	
2023	1,265.7	18,367.7	4,482.3	21,267.2	64,884.3	
2024	1,292.8	18,808.9	4,654.0	22,086.0	66,857.5	
2025	1,320.8	19,259.1	4,830.8	22,948.2	68,913.4	
Avg Annual Growth:						
2000-07	2.6%	2.5%	3.3%	4.0%	3.0%	
2007-10	2.7%	2.8%	4.7%	4.8%	3.5%	
2010-20	2.3%	2.5%	4.1%	4.1%	3.2%	
2007-25	2.4%	2.5%	4.1%	4.1%	3.2%	

Source: Global Insight, October 2007.

**TABLE 4**  
**INTERNATIONAL GDP FORECASTS--SELECTED AREAS/COUNTRIES**

CALENDAR YEAR	GROSS DOMESTIC PRODUCT (in Billions of 2000 U.S. Dollars)				
	NORTH AMERICA (NAFTA)	EUROZONE	UNITED KINGDOM	JAPAN	CHINA
Historical					
2000	11,123.1	6,215.9	1,451.8	4,669.1	1,198.5
2001	11,208.8	6,331.9	1,486.3	4,676.6	1,297.9
2002	11,393.4	6,388.1	1,516.8	4,688.7	1,416.1
2003	11,667.8	6,439.0	1,558.8	4,757.3	1,557.7
2004	12,091.0	6,554.2	1,609.6	4,886.7	1,715.0
2005	12,460.6	6,652.3	1,639.2	4,978.1	1,893.3
2006	12,829.5	6,839.4	1,685.8	5,087.0	2,103.5
2007E	13,094.1	7,016.4	1,736.4	5,183.2	2,346.0
Forecast					
2008	13,373.4	7,163.2	1,769.6	5,272.0	2,596.2
2009	13,767.2	7,305.7	1,813.5	5,370.2	2,851.2
2010	14,161.5	7,444.9	1,864.5	5,448.6	3,102.4
2011	14,563.0	7,579.9	1,910.6	5,532.3	3,336.9
2012	14,950.8	7,720.6	1,958.3	5,613.8	3,581.7
2013	15,316.0	7,858.7	2,006.9	5,687.4	3,833.9
2014	15,692.3	7,996.0	2,055.5	5,756.2	4,111.5
2015	16,081.4	8,135.3	2,104.0	5,819.7	4,423.9
2016	16,480.8	8,277.3	2,153.6	5,878.4	4,786.2
2017	16,903.8	8,421.9	2,203.8	5,930.8	5,169.8
2018	17,345.2	8,563.4	2,255.2	5,977.4	5,553.8
2019	17,789.6	8,710.8	2,307.5	6,020.4	5,943.2
2020	18,238.8	8,859.5	2,359.6	6,059.8	6,341.2
2021	18,681.2	9,008.9	2,411.8	6,096.5	6,746.0
2022	19,140.7	9,156.7	2,462.7	6,132.3	7,174.3
2023	19,610.1	9,307.2	2,513.4	6,168.1	7,629.9
2024	20,097.2	9,462.2	2,564.7	6,204.4	8,114.4
2025	20,608.9	9,621.1	2,616.0	6,241.5	8,629.7
Avg Annual Growth:					
2000-07	2.4%	1.7%	2.6%	1.5%	10.1%
2007-10	2.6%	2.0%	2.4%	1.7%	9.8%
2010-20	2.6%	1.8%	2.4%	1.1%	7.4%
2007-25	2.6%	1.8%	2.3%	1.0%	7.5%

Source: Global Insight, October 2007.

**TABLE 5**  
**U.S. COMMERCIAL AIR CARRIERS 1/**  
**TOTAL SCHEDULED U.S. PASSENGER TRAFFIC**

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS (Millions)		REVENUE PASSENGER MILES (Billions)	
	DOMESTIC	INTERNATIONAL	DOMESTIC	INTERNATIONAL
Historical*				
2000	641.2	56.4	697.6	181.8
2001	625.8	56.7	682.5	183.3
2002	575.1	51.2	626.3	158.2
2003	587.8	53.3	641.2	155.6
2004	628.5	60.5	689.0	177.0
2005	669.4	67.4	736.9	197.2
2006	668.4	71.6	740.0	208.5
2007E	689.4	75.3	764.7	221.2
Forecast				
2008	696.2	80.2	776.5	241.0
2009	720.6	85.0	805.7	259.9
2010	746.2	89.8	836.0	278.0
2011	767.0	94.7	861.7	296.2
2012	789.4	99.3	888.7	312.6
2013	812.6	104.0	916.6	329.6
2014	834.6	109.0	943.6	347.4
2015	859.0	114.1	973.1	365.9
2016	882.4	119.4	1,001.8	385.2
2017	907.8	125.0	1,032.8	405.5
2018	933.5	130.9	1,064.4	426.5
2019	958.6	136.6	1,095.2	447.2
2020	984.0	142.5	1,126.5	468.7
2021	1,008.9	148.2	1,157.2	489.6
2022	1,035.0	154.4	1,189.4	512.3
2023	1,061.8	160.8	1,222.6	535.9
2024	1,089.3	167.5	1,256.8	560.4
2025	1,118.2	174.7	1,292.9	586.8
Avg Annual Growth:				
2000-07	1.0%	4.2%	1.3%	2.8%
2007-10	2.7%	6.1%	3.0%	7.9%
2010-20	2.8%	4.7%	3.0%	5.4%
2007-25	2.7%	4.8%	3.0%	5.6%

\* Source: Forms 41 and 298-C, U.S. Department of Transportation.  
1/ Sum of U.S. Mainline and Regional Air Carriers.

**TABLE 6**  
**U.S. COMMERCIAL AIR CARRIERS 1/**  
**SCHEDULED PASSENGER CAPACITY, TRAFFIC, AND LOAD FACTORS**

FISCAL YEAR	DOMESTIC			INTERNATIONAL			SYSTEM		
	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR
Historical*									
2000	726.6	512.8	70.6	239.3	181.8	76.0	965.9	694.6	71.9
2001	732.1	507.9	69.4	246.6	183.3	74.3	978.7	691.1	70.6
2002	681.8	473.4	69.4	212.3	158.2	74.5	894.1	631.6	70.6
2003	684.2	492.7	72.0	206.5	155.6	75.3	890.8	648.3	72.8
2004	730.2	540.2	74.0	223.0	177.0	79.4	953.3	717.2	75.2
2005	755.2	576.9	76.4	248.5	197.2	79.4	1,003.7	774.2	77.1
2006	740.2	582.4	78.7	261.3	208.5	79.8	1,001.5	790.9	79.0
2007E	752.0	600.1	79.8	275.9	221.2	80.2	1,027.9	821.4	79.9
Forecast									
2008	756.4	603.8	79.8	298.8	241.0	80.6	1,055.2	844.8	80.1
2009	781.6	624.5	79.9	321.8	259.9	80.8	1,103.4	884.4	80.2
2010	809.1	650.2	80.4	343.9	278.0	80.9	1,153.0	928.3	80.5
2011	837.2	671.7	80.2	365.9	296.2	80.9	1,203.1	967.9	80.4
2012	866.4	696.6	80.4	385.9	312.6	81.0	1,252.3	1,009.2	80.6
2013	897.1	722.8	80.6	406.5	329.6	81.1	1,303.6	1,052.4	80.7
2014	929.3	747.3	80.4	428.0	347.4	81.2	1,357.3	1,094.7	80.7
2015	963.0	776.2	80.6	450.4	365.9	81.2	1,413.4	1,142.1	80.8
2016	998.5	803.8	80.5	473.7	385.2	81.3	1,472.2	1,189.0	80.8
2017	1,035.6	835.6	80.7	498.3	405.5	81.4	1,533.8	1,241.1	80.9
2018	1,074.8	867.4	80.7	523.7	426.5	81.4	1,598.4	1,293.9	80.9
2019	1,114.6	900.8	80.8	548.5	447.2	81.5	1,663.1	1,347.9	81.0
2020	1,155.4	935.2	80.9	574.4	468.7	81.6	1,729.8	1,403.8	81.2
2021	1,197.3	969.6	81.0	599.6	489.6	81.7	1,796.8	1,459.2	81.2
2022	1,240.5	1,006.3	81.1	626.8	512.3	81.7	1,867.4	1,518.6	81.3
2023	1,285.4	1,044.6	81.3	655.2	535.9	81.8	1,940.6	1,580.5	81.4
2024	1,331.9	1,084.7	81.4	684.6	560.4	81.9	2,016.5	1,645.1	81.6
2025	1,380.4	1,126.9	81.6	716.3	586.8	81.9	2,096.6	1,713.7	81.7
Avg Annual Growth:									
2000-07	0.5%	2.3%	2.1%	2.1%	2.8%	2.8%	0.9%	2.4%	2.4%
2007-10	2.5%	2.7%	7.6%	7.6%	7.9%	7.9%	3.9%	4.2%	4.2%
2010-20	3.6%	3.7%	5.3%	5.3%	5.4%	5.4%	4.1%	4.2%	4.2%
2007-25	3.4%	3.6%	5.4%	5.4%	5.6%	5.6%	4.0%	4.2%	4.2%

\* Source: Forms 41 and 298-C, U.S. Department of Transportation.  
1/ Sum of U.S. Mainline and Regional Air Carriers.

**TABLE 7**  
**U.S. COMMERCIAL AIR CARRIERS 1/**  
**TOTAL SCHEDULED U.S. INTERNATIONAL PASSENGER TRAFFIC**

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS				REVENUE PASSENGER MILES			
	ATLANTIC (Mil)	LATIN AMERICA (Mil)	PACIFIC (Mil)	TOTAL INTERNATIONAL (Mil)	ATLANTIC (Bil)	LATIN AMERICA (Bil)	PACIFIC (Bil)	TOTAL INTERNATIONAL (Bil)
Historical*								
2000	20.9	24.3	11.2	56.4	87.1	36.3	58.4	181.8
2001	20.5	24.8	11.4	56.7	86.2	37.6	59.4	183.3
2002	18.0	23.6	9.6	51.2	74.7	34.5	49.0	158.2
2003	17.8	25.1	10.5	53.3	73.2	36.2	46.2	155.6
2004	19.9	28.3	12.3	60.5	82.1	41.4	53.5	177.0
2005	21.6	32.5	13.2	67.4	89.5	48.6	59.2	197.2
2006	22.5	35.2	13.9	71.6	93.9	53.6	61.1	208.5
2007E	24.1	37.6	13.6	75.3	102.2	57.7	61.4	221.2
Forecast								
2008	27.3	39.5	13.4	80.2	118.0	61.3	61.7	241.0
2009	29.3	40.7	15.0	85.0	126.7	63.5	69.6	259.9
2010	31.0	42.5	16.4	89.8	134.5	66.7	76.9	278.0
2011	32.7	44.4	17.7	94.7	142.3	70.3	83.6	296.2
2012	33.9	46.5	18.9	99.3	148.2	74.3	90.1	312.6
2013	35.3	48.7	20.0	104.0	154.5	78.7	96.5	329.6
2014	36.6	51.1	21.2	109.0	160.9	83.3	103.1	347.4
2015	38.0	53.6	22.5	114.1	167.5	88.2	110.2	365.9
2016	39.5	56.1	23.8	119.4	174.4	93.3	117.4	385.2
2017	41.0	58.9	25.2	125.0	181.7	98.8	124.9	405.5
2018	42.6	61.8	26.5	130.9	189.4	104.7	132.4	426.5
2019	44.1	64.6	27.9	136.6	196.6	110.5	140.1	447.2
2020	45.7	67.5	29.3	142.5	204.0	116.5	148.1	468.7
2021	47.2	70.3	30.7	148.2	211.2	122.3	156.1	489.6
2022	48.8	73.3	32.2	154.4	219.0	128.8	164.5	512.3
2023	50.5	76.5	33.8	160.8	227.1	135.6	173.3	535.9
2024	52.2	79.8	35.4	167.5	235.3	142.7	182.4	560.4
2025	54.1	83.4	37.2	174.7	244.2	150.5	192.1	586.8
Avg Annual Growth:								
2000-07	2.0%	6.4%	2.8%	4.2%	2.3%	6.8%	0.7%	2.8%
2007-10	8.8%	4.1%	6.4%	6.1%	9.6%	5.0%	7.8%	7.9%
2010-20	4.0%	4.7%	6.0%	4.7%	4.3%	5.7%	6.8%	5.4%
2007-25	4.6%	4.5%	5.7%	4.8%	5.0%	5.5%	6.5%	5.6%

\* Source: Forms 41 and 298-C, U.S. Department of Transportation.  
1/ Sum of U.S. Mainline and Regional Air Carriers.

**TABLE 8**  
**U.S. AND FOREIGN FLAG CARRIERS**  
**TOTAL PASSENGER TRAFFIC TO/FROM THE UNITED STATES**

CALENDAR YEAR	TOTAL PASSENGERS BY WORLD TRAVEL AREA (Millions)				TOTAL
	ATLANTIC	LATIN AMERICA	PACIFIC	U.S./CANADA TRANSBORDER	
Historical*					
2000	53.0	40.8	26.0	20.8	140.6
2001	47.5	38.8	23.0	18.6	127.9
2002	43.4	36.9	22.3	17.6	120.1
2003	44.6	39.1	20.2	16.9	120.8
2004	48.9	42.7	23.8	18.5	133.9
2005	49.9	44.2	25.1	19.7	139.0
2006	49.8	47.1	25.6	20.5	143.0
2007E	52.3	47.5	26.4	20.9	147.1
Forecast					
2008	57.3	47.9	28.4	21.6	155.2
2009	61.5	50.3	30.5	22.3	164.7
2010	65.1	52.8	32.7	23.1	173.8
2011	68.6	55.3	35.0	24.0	182.9
2012	71.8	57.9	37.2	24.8	191.7
2013	75.0	60.6	39.5	25.6	200.7
2014	78.2	63.3	42.0	26.4	209.9
2015	81.5	66.2	44.5	27.3	219.4
2016	84.9	69.1	47.2	28.1	229.3
2017	88.3	72.2	50.1	29.0	239.7
2018	91.8	75.5	53.0	30.0	250.3
2019	95.3	78.7	56.0	30.9	260.9
2020	98.8	82.0	59.1	31.9	271.9
2021	102.2	85.4	62.2	33.0	282.7
2022	105.8	88.9	65.5	34.0	294.2
2023	109.4	92.5	69.0	35.1	306.1
2024	113.1	96.3	72.7	36.2	318.4
2025	117.0	100.4	76.8	37.4	331.5
Avg Annual Growth:					
2000-07	-0.2%	2.2%	0.3%	0.1%	0.6%
2007-10	7.6%	3.6%	7.4%	3.4%	5.7%
2010-20	4.3%	4.5%	6.1%	3.3%	4.6%
2007-25	4.6%	4.2%	6.1%	3.3%	4.6%

\* Sources: Atlantic, Pacific, and Latin America, INS Form I-92, U.S. Department of Commerce; U.S./Canada Transborder, Transport Canada.

**TABLE 9**  
**U.S. COMMERCIAL AIR CARRIERS' FORECAST ASSUMPTIONS 1/**  
**SEATS PER AIRCRAFT AND PASSENGER TRIP LENGTH**

FISCAL YEAR	AVERAGE SEATS PER AIRCRAFT			AVERAGE PASSENGER TRIP LENGTH		
	DOMESTIC (Seats)	INT'L. (Seats)	SYSTEM (Seats)	DOMESTIC (Miles)	INT'L. (Miles)	SYSTEM (Miles)
Historical*						
2000	129.3	230.6	145.0	799.8	3,223.2	995.7
2001	127.6	226.9	143.5	811.6	3,233.9	1,012.7
2002	125.9	221.5	140.3	823.2	3,088.8	1,008.5
2003	123.0	220.2	137.0	838.1	2,917.6	1,011.1
2004	121.7	218.7	135.8	859.6	2,927.3	1,041.0
2005	120.4	217.1	135.3	861.8	2,924.6	1,050.6
2006	120.2	215.0	135.8	871.4	2,911.5	1,068.8
2007E	120.3	216.1	136.6	870.5	2,939.0	1,074.1
Forecast						
2008	120.2	217.0	137.5	867.3	3,004.3	1,088.1
2009	119.4	218.8	137.7	866.6	3,056.3	1,097.7
2010	119.1	220.1	138.0	871.4	3,094.9	1,110.4
2011	119.0	221.1	138.5	875.8	3,128.0	1,123.3
2012	118.9	222.0	138.7	882.4	3,149.2	1,135.6
2013	118.7	222.7	139.0	889.5	3,169.6	1,148.2
2014	118.5	223.5	139.1	895.4	3,188.4	1,160.1
2015	118.4	224.2	139.3	903.6	3,208.0	1,173.7
2016	118.3	224.9	139.5	911.0	3,226.2	1,186.9
2017	118.1	225.5	139.8	920.5	3,242.9	1,201.7
2018	118.1	226.1	140.0	929.2	3,258.5	1,215.7
2019	118.1	226.7	140.2	939.7	3,273.2	1,230.8
2020	118.1	227.4	140.5	950.4	3,288.6	1,246.2
2021	118.2	228.0	140.8	961.1	3,302.6	1,261.0
2022	118.3	228.6	141.1	972.3	3,318.0	1,276.8
2023	118.4	229.2	141.4	983.8	3,333.2	1,292.7
2024	118.5	229.8	141.8	995.7	3,346.6	1,309.0
2025	118.6	230.4	142.2	1,007.8	3,359.6	1,325.5

\* Source: Forms 41 and 298-C, U.S. Department of Transportation.  
1/ Sum of U.S. Mainline and Regional Air Carriers.

**TABLE 10**  
**U. S. MAINLINE AIR CARRIERS**  
**SCHEDULED PASSENGER TRAFFIC**

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS (Millions)			REVENUE PASSENGER MILES (Billions)		
	DOMESTIC	INTERNATIONAL	SYSTEM	DOMESTIC	INTERNATIONAL	SYSTEM
Historical*						
2000	561.5	53.3	614.8	490.0	181.0	670.9
2001	545.4	53.5	598.9	483.6	182.3	665.9
2002	486.5	48.4	534.8	443.6	157.3	600.9
2003	482.8	50.6	533.4	453.4	154.8	608.2
2004	502.6	57.3	559.9	488.5	175.9	664.4
2005	523.0	64.2	587.2	513.3	195.8	709.1
2006	516.3	68.1	584.4	513.9	206.8	720.7
2007E	533.8	71.9	605.6	529.9	219.5	749.4
Forecast						
2008	537.3	76.7	614.0	531.5	239.2	770.6
2009	553.1	81.4	634.5	546.2	257.9	804.1
2010	571.7	86.0	657.7	566.5	276.0	842.5
2011	586.3	90.7	677.1	582.9	294.0	876.9
2012	602.4	95.2	697.5	602.3	310.4	912.7
2013	618.8	99.7	718.5	622.7	327.3	950.0
2014	633.6	104.5	738.2	641.1	344.9	986.0
2015	650.5	109.5	760.0	663.5	363.3	1,026.8
2016	665.9	114.6	780.5	684.1	382.5	1,066.7
2017	682.8	120.1	802.9	708.5	402.7	1,111.2
2018	699.4	125.8	825.1	732.3	423.6	1,155.9
2019	715.8	131.3	847.1	757.8	444.1	1,201.8
2020	732.6	137.0	869.6	784.0	465.4	1,249.4
2021	748.8	142.5	891.3	810.0	486.2	1,296.3
2022	765.9	148.5	914.4	838.0	508.8	1,346.7
2023	783.4	154.7	938.0	867.0	532.2	1,399.2
2024	801.3	161.1	962.5	897.5	556.6	1,454.1
2025	820.3	168.1	988.4	929.6	582.8	1,512.5
Avg Annual Growth:						
2000-07	-0.7%	4.4%	-0.2%	1.1%	2.8%	1.6%
2007-10	2.3%	6.2%	2.8%	2.3%	7.9%	4.0%
2010-20	2.5%	4.8%	2.8%	3.3%	5.4%	4.0%
2007-25	2.4%	4.8%	2.8%	3.2%	5.6%	4.0%

\* Source: Form 41, U.S. Department of Transportation.

**TABLE 11**  
**U.S. MAINLINE AIR CARRIERS**  
**SCHEDULED PASSENGER CAPACITY, TRAFFIC, AND LOAD FACTORS**

FISCAL YEAR	DOMESTIC			INTERNATIONAL			SYSTEM		
	ASMs (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMS (BIL)	% LOAD FACTOR
Historical*									
2000	688.3	490.0	71.2	238.0	181.0	76.0	926.2	670.9	72.4
2001	690.7	483.6	70.0	244.9	182.3	74.4	935.7	665.9	71.2
2002	633.1	443.6	70.1	210.8	157.3	74.6	844.0	600.9	71.2
2003	623.7	453.4	72.7	205.1	154.8	75.5	828.8	608.2	73.4
2004	654.2	488.5	74.7	221.3	175.9	79.5	875.5	664.4	75.9
2005	664.1	513.3	77.3	246.3	195.8	79.5	910.4	709.1	77.9
2006	647.7	513.9	79.3	258.9	206.8	79.9	906.6	720.7	79.5
2007E	659.0	529.9	80.4	273.4	219.5	80.3	932.4	749.4	80.4
Forecast									
2008	661.2	531.5	80.4	296.2	239.2	80.7	957.4	770.6	80.5
2009	678.9	546.2	80.5	319.1	257.9	80.8	997.9	804.1	80.6
2010	699.6	566.5	81.0	341.0	276.0	80.9	1,040.6	842.5	81.0
2011	721.3	582.9	80.8	362.9	294.0	81.0	1,084.2	876.9	80.9
2012	743.7	602.3	81.0	382.8	310.4	81.1	1,126.5	912.7	81.0
2013	767.1	622.7	81.2	403.3	327.3	81.2	1,170.4	950.0	81.2
2014	791.6	641.1	81.0	424.7	344.9	81.2	1,216.2	986.0	81.1
2015	817.2	663.5	81.2	446.9	363.3	81.3	1,264.1	1,026.8	81.2
2016	843.9	684.1	81.1	470.1	382.5	81.4	1,314.0	1,066.7	81.2
2017	871.7	708.5	81.3	494.5	402.7	81.4	1,366.2	1,111.2	81.3
2018	900.8	732.3	81.3	519.8	423.6	81.5	1,420.6	1,155.9	81.4
2019	930.7	757.8	81.4	544.5	444.1	81.6	1,475.1	1,201.8	81.5
2020	961.2	784.0	81.6	570.2	465.4	81.6	1,531.4	1,249.4	81.6
2021	992.5	810.0	81.6	595.2	486.2	81.7	1,587.7	1,296.3	81.6
2022	1,024.8	838.0	81.8	622.3	508.8	81.8	1,647.1	1,346.7	81.8
2023	1,058.1	867.0	81.9	650.5	532.2	81.8	1,708.6	1,399.2	81.9
2024	1,092.6	897.5	82.1	679.7	556.6	81.9	1,772.3	1,454.1	82.0
2025	1,128.4	929.6	82.4	711.2	582.8	82.0	1,839.6	1,512.5	82.2
Avg Annual Growth:									
2000-07	-0.6%	1.1%		2.0%	2.8%		0.1%	1.6%	
2007-10	2.0%	2.3%		7.6%	7.9%		3.7%	4.0%	
2010-20	3.2%	3.3%		5.3%	5.4%		3.9%	4.0%	
2007-25	3.0%	3.2%		5.5%	5.6%		3.8%	4.0%	

\* Source: Form 41, U.S. Department of Transportation.

**TABLE 12**  
**U.S. MAINLINE AIR CARRIERS**  
**SCHEDULED INTERNATIONAL PASSENGER ENPLANEMENTS**

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS (MIL)			TOTAL
	ATLANTIC	LATIN AMERICA	PACIFIC	
Historical*				
2000	20.9	21.2	11.2	53.3
2001	20.5	21.7	11.4	53.5
2002	18.0	20.7	9.6	48.4
2003	17.8	22.3	10.5	50.6
2004	19.9	25.2	12.3	57.3
2005	21.6	29.3	13.2	64.2
2006	22.5	31.7	13.9	68.1
2007E	24.1	34.2	13.6	71.9
Forecast				
2008	27.3	36.0	13.4	76.7
2009	29.3	37.1	15.0	81.4
2010	31.0	38.6	16.4	86.0
2011	32.7	40.4	17.7	90.7
2012	33.9	42.4	18.9	95.2
2013	35.3	44.5	20.0	99.7
2014	36.6	46.7	21.2	104.5
2015	38.0	49.0	22.5	109.5
2016	39.5	51.4	23.8	114.6
2017	41.0	53.9	25.2	120.1
2018	42.6	56.6	26.5	125.8
2019	44.1	59.2	27.9	131.3
2020	45.7	62.0	29.3	137.0
2021	47.2	64.6	30.7	142.5
2022	48.8	67.4	32.2	148.5
2023	50.5	70.4	33.8	154.7
2024	52.2	73.5	35.4	161.1
2025	54.1	76.8	37.2	168.1
Avg Annual Growth:				
2000-07	2.0%	7.1%	2.8%	4.4%
2007-10	8.8%	4.1%	6.4%	6.2%
2010-20	4.0%	4.8%	6.0%	4.8%
2007-25	4.6%	4.6%	5.7%	4.8%

\* Source: Form 41, U.S. Department of Transportation.  
Note: Detail may not add to total because of rounding.

**TABLE 13**  
**U.S. MAINLINE AIR CARRIERS**  
**SCHEDULED PASSENGER CAPACITY, TRAFFIC, AND LOAD FACTORS**  
**BY INTERNATIONAL TRAVEL REGIONS**

FISCAL YEAR	ATLANTIC			LATIN AMERICA			PACIFIC			INTERNATIONAL		
	ASMS (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMS (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMS (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMS (BIL)	RPMS (BIL)	% LOAD FACTOR
Historical*												
2000	109.9	87.1	79.2	51.4	35.5	69.0	76.6	58.4	76.2	238.0	181.0	76.0
2001	112.9	86.2	76.4	53.0	36.6	69.2	79.1	59.4	75.2	244.9	182.3	74.4
2002	97.0	74.7	77.0	50.6	33.6	66.5	63.2	49.0	77.5	210.8	157.3	74.6
2003	93.7	73.2	78.1	51.1	35.4	69.3	60.3	46.2	76.6	205.1	154.8	75.5
2004	100.5	82.1	81.7	57.2	40.3	70.4	63.6	53.5	84.2	221.3	175.9	79.5
2005	108.6	89.5	82.4	65.4	47.2	72.2	72.3	59.2	81.8	246.3	195.8	79.5
2006	115.8	93.9	81.1	69.4	51.9	74.9	73.7	61.1	82.8	258.9	206.8	79.9
2007E	126.6	102.2	80.7	72.7	55.9	76.9	74.1	61.4	82.9	273.4	219.5	80.3
Forecast												
2008	145.0	118.0	81.4	75.6	59.4	78.6	75.6	61.7	81.6	296.2	239.2	80.7
2009	155.5	126.7	81.5	78.3	61.6	78.7	85.3	69.6	81.7	319.1	257.9	80.8
2010	164.8	134.5	81.6	82.1	64.6	78.7	94.1	76.9	81.7	341.0	276.0	80.9
2011	174.2	142.3	81.7	86.6	68.2	78.8	102.2	83.6	81.8	362.9	294.0	81.0
2012	181.3	148.2	81.8	91.5	72.1	78.8	110.1	90.1	81.8	382.8	310.4	81.1
2013	188.6	154.5	81.9	96.8	76.3	78.9	117.8	96.5	81.9	403.3	327.3	81.2
2014	196.3	160.9	82.0	102.5	80.8	78.9	125.9	103.1	81.9	424.7	344.9	81.2
2015	204.1	167.5	82.1	108.4	85.6	79.0	134.4	110.2	82.0	446.9	363.3	81.3
2016	212.2	174.4	82.2	114.8	90.7	79.0	143.1	117.4	82.0	470.1	382.5	81.4
2017	220.9	181.7	82.3	121.4	96.0	79.1	152.2	124.9	82.1	494.5	402.7	81.4
2018	229.9	189.4	82.4	128.7	101.8	79.1	161.2	132.4	82.1	519.8	423.6	81.5
2019	238.3	196.6	82.5	135.6	107.4	79.2	170.5	140.1	82.2	544.5	444.1	81.6
2020	247.1	204.0	82.6	143.0	113.3	79.2	180.1	148.1	82.2	570.2	465.4	81.6
2021	255.4	211.2	82.7	150.1	119.0	79.3	189.7	156.1	82.3	595.2	486.2	81.7
2022	264.5	219.0	82.8	157.9	125.3	79.3	199.8	164.5	82.3	622.3	508.8	81.8
2023	274.0	227.1	82.9	166.2	131.9	79.4	210.3	173.3	82.4	650.5	532.2	81.8
2024	283.5	235.3	83.0	174.9	138.9	79.4	221.3	182.4	82.4	679.7	556.6	81.9
2025	293.9	244.2	83.1	184.4	146.5	79.5	232.9	192.1	82.5	711.2	582.8	82.0
Avg Annual Growth:												
2000-07	2.0%	2.3%		5.1%	6.7%		-0.5%	0.7%		2.0%	2.8%	
2007-10	9.2%	9.6%		4.2%	5.0%		8.3%	7.8%		7.6%	7.9%	
2010-20	4.1%	4.3%		5.7%	5.8%		6.7%	6.8%		5.3%	5.4%	
2007-25	4.8%	5.0%		5.3%	5.5%		6.6%	6.5%		5.5%	5.6%	

\* Source: Form 41, U.S. Department of Transportation.

**TABLE 14**  
**U.S. MAINLINE AIR CARRIER FORECAST ASSUMPTIONS**  
**SEATS PER AIRCRAFT MILE**

FISCAL YEAR	DOMESTIC (Seats)	INTERNATIONAL			TOTAL (Seats)	SYSTEM (Seats)
		ATLANTIC (Seats)	LATIN AMERICA (Seats)	PACIFIC (Seats)		
Historical*						
2000	148.8	233.7	179.5	307.8	236.6	164.5
2001	146.6	232.6	174.7	304.1	233.6	162.4
2002	148.0	233.8	172.5	295.2	228.6	162.3
2003	148.5	231.5	171.7	287.6	224.9	162.2
2004	149.7	231.6	174.4	281.8	224.1	163.4
2005	150.2	230.8	175.5	278.7	223.4	164.8
2006	150.3	229.4	175.2	274.4	221.4	165.5
2007E	150.6	229.2	176.2	279.6	222.3	166.3
Forecast						
2008	149.9	229.7	176.7	280.3	222.9	166.8
2009	149.6	230.2	177.2	281.1	224.6	167.5
2010	149.5	230.7	177.7	281.8	225.8	168.1
2011	149.5	231.2	178.2	282.6	226.7	168.7
2012	149.3	231.7	178.7	283.3	227.5	169.0
2013	149.1	232.2	179.2	284.1	228.2	169.3
2014	148.8	232.7	179.7	284.8	228.8	169.5
2015	148.6	233.2	180.2	285.6	229.5	169.8
2016	148.4	233.7	180.7	286.3	230.1	170.0
2017	148.3	234.2	181.2	287.1	230.7	170.3
2018	148.2	234.7	181.7	287.8	231.3	170.6
2019	148.1	235.2	182.2	288.6	231.8	170.9
2020	148.0	235.7	182.7	289.3	232.4	171.1
2021	147.9	236.2	183.2	290.1	233.0	171.4
2022	147.9	236.7	183.7	290.8	233.6	171.7
2023	147.8	237.2	184.2	291.6	234.1	172.0
2024	147.8	237.7	184.7	292.3	234.7	172.2
2025	147.7	238.2	185.2	293.1	235.2	172.5

\* Source: Form 41, U.S. Department of Transportation.

**TABLE 15**  
**U.S. MAINLINE AIR CARRIER FORECAST ASSUMPTIONS**  
**AVERAGE PASSENGER TRIP LENGTH**

FISCAL YEAR	DOMESTIC (Miles)	INTERNATIONAL				TOTAL (Miles)	SYSTEM (Miles)
		ATLANTIC (Miles)	LATIN AMERICA (Miles)	PACIFIC (Miles)			
Historical*							
2000	872.6	4,168.1	1,675.2	5,219.9	3,397.3	1,091.4	
2001	886.7	4,211.8	1,688.3	5,228.8	3,405.0	1,111.9	
2002	911.8	4,147.5	1,622.5	5,077.6	3,251.5	1,123.5	
2003	939.1	4,105.4	1,588.3	4,419.6	3,061.0	1,140.2	
2004	972.0	4,125.7	1,599.7	4,365.7	3,068.3	1,186.6	
2005	981.5	4,133.1	1,611.1	4,466.1	3,051.2	1,207.7	
2006	995.4	4,175.4	1,637.0	4,390.4	3,037.0	1,233.4	
2007E	992.8	4,247.8	1,634.3	4,515.1	3,054.2	1,237.4	
Forecast							
2008	989.1	4,322.7	1,651.3	4,594.8	3,117.3	1,255.1	
2009	987.4	4,326.7	1,661.0	4,644.2	3,170.6	1,267.3	
2010	991.0	4,339.0	1,673.7	4,690.9	3,209.0	1,281.0	
2011	994.1	4,355.5	1,688.1	4,734.5	3,241.2	1,295.2	
2012	999.9	4,368.0	1,701.0	4,778.8	3,261.7	1,308.5	
2013	1,006.4	4,380.7	1,717.2	4,819.3	3,281.5	1,322.3	
2014	1,011.8	4,393.3	1,731.9	4,860.2	3,299.6	1,335.8	
2015	1,019.9	4,406.0	1,748.4	4,901.5	3,318.9	1,351.1	
2016	1,027.4	4,418.7	1,765.1	4,933.9	3,336.6	1,366.6	
2017	1,037.6	4,431.5	1,780.2	4,966.6	3,352.9	1,384.0	
2018	1,047.1	4,444.3	1,797.2	4,994.9	3,368.3	1,400.9	
2019	1,058.6	4,452.9	1,812.6	5,023.4	3,382.7	1,418.7	
2020	1,070.1	4,461.5	1,828.2	5,056.9	3,397.7	1,436.8	
2021	1,081.8	4,470.1	1,842.3	5,081.0	3,411.4	1,454.3	
2022	1,094.1	4,483.1	1,858.2	5,105.2	3,426.5	1,472.9	
2023	1,106.7	4,496.1	1,874.2	5,129.5	3,441.4	1,491.6	
2024	1,119.9	4,504.8	1,890.3	5,149.1	3,454.3	1,510.8	
2025	1,133.2	4,513.5	1,906.6	5,168.7	3,466.7	1,530.2	

\* Source: Form 41, U.S. Department of Transportation.

**TABLE 16**  
**U.S. MAINLINE AIR CARRIER FORECAST ASSUMPTIONS**  
**PASSENGER YIELDS**

FISCAL YEAR	REVENUE PER PASSENGER MILE							
	DOMESTIC		INTERNATIONAL		SYSTEM			
	CURRENT \$ (Cents)	FY 2007 \$ (Cents)	CURRENT \$ (Cents)	FY 2007 \$ (Cents)	CURRENT \$ (Cents)	FY 2007 \$ (Cents)	CURRENT \$ (Cents)	FY 2007 \$ (Cents)
Historical*								
2000	14.03	16.87	10.46	12.57	13.06	15.71	13.06	15.71
2001	13.53	15.76	10.34	12.05	12.66	14.74	12.66	14.74
2002	12.12	13.91	9.78	11.22	11.51	13.20	11.51	13.20
2003	12.08	13.54	9.92	11.12	11.53	12.93	11.53	12.93
2004	11.52	12.62	10.47	11.48	11.24	12.32	11.24	12.32
2005	11.37	12.06	10.87	11.54	11.23	11.92	11.23	11.92
2006	12.33	12.62	11.63	11.90	12.13	12.42	12.13	12.42
2007E	12.45	12.45	12.40	12.40	12.44	12.44	12.44	12.44
Forecast								
2008	12.90	12.51	13.20	12.80	12.99	12.60	12.99	12.60
2009	13.08	12.43	13.32	12.66	13.16	12.50	13.16	12.50
2010	13.26	12.32	13.48	12.52	13.33	12.39	13.33	12.39
2011	13.48	12.24	13.65	12.39	13.54	12.29	13.54	12.29
2012	13.69	12.15	13.82	12.26	13.73	12.19	13.73	12.19
2013	13.90	12.06	13.99	12.14	13.93	12.09	13.93	12.09
2014	14.13	11.98	14.17	12.01	14.14	11.99	14.14	11.99
2015	14.35	11.90	14.34	11.89	14.35	11.89	14.35	11.89
2016	14.58	11.82	14.52	11.77	14.56	11.80	14.56	11.80
2017	14.81	11.73	14.71	11.65	14.78	11.70	14.78	11.70
2018	15.05	11.66	14.89	11.53	14.99	11.61	14.99	11.61
2019	15.29	11.58	15.08	11.42	15.21	11.52	15.21	11.52
2020	15.54	11.50	15.27	11.30	15.44	11.42	15.44	11.42
2021	15.79	11.42	15.46	11.18	15.67	11.33	15.67	11.33
2022	16.05	11.35	15.65	11.07	15.90	11.24	15.90	11.24
2023	16.31	11.27	15.85	10.95	16.13	11.15	16.13	11.15
2024	16.58	11.20	16.04	10.84	16.37	11.06	16.37	11.06
2025	16.84	11.12	16.24	10.73	16.61	10.97	16.61	10.97
Avg Annual Growth:								
2000-07	-1.7%	-4.2%	2.5%	-0.2%	-0.7%	-3.3%	-0.7%	-3.3%
2007-10	2.1%	-0.4%	2.8%	0.3%	2.3%	-0.1%	2.3%	-0.1%
2010-20	1.6%	-0.7%	1.3%	-1.0%	1.5%	-0.8%	1.5%	-0.8%
2007-25	1.7%	-0.6%	1.5%	-0.8%	1.6%	-0.7%	1.6%	-0.7%

\* Source: Form 41, U.S. Department of Transportation.

TABLE 17  
**U.S. MAINLINE AIR CARRIER FORECAST ASSUMPTIONS**  
**INTERNATIONAL PASSENGER YIELDS BY REGION**

FISCAL YEAR	REVENUE PER PASSENGER MILE											
	ATLANTIC			LATIN AMERICA			PACIFIC			TOTAL INTERNATIONAL		
	CURRENT \$ (Cents)	FY 2007 \$ (Cents)	CURRENT \$ (Cents)	FY 2007 \$ (Cents)	CURRENT \$ (Cents)	FY 2007 \$ (Cents)	CURRENT \$ (Cents)	FY 2007 \$ (Cents)	CURRENT \$ (Cents)	FY 2007 \$ (Cents)	CURRENT \$ (Cents)	FY 2007 \$ (Cents)
Historical*												
2000	9.73	11.69	13.00	15.63	9.99	12.00	10.46	12.57				
2001	9.71	11.31	13.38	15.58	9.38	10.93	10.34	12.05				
2002	9.29	10.66	12.49	14.34	8.67	9.95	9.78	11.22				
2003	9.60	10.76	12.40	13.90	8.53	9.57	9.92	11.12				
2004	10.15	11.12	12.28	13.45	9.61	10.53	10.47	11.48				
2005	10.75	11.40	12.16	12.90	10.04	10.65	10.87	11.54				
2006	11.64	11.91	12.68	12.98	10.73	10.98	11.63	11.90				
2007E	12.43	12.43	13.22	13.22	11.61	11.61	12.40	12.40				
Forecast												
2008	13.25	12.85	13.77	13.35	12.53	12.15	13.20	12.80				
2009	13.39	12.72	13.91	13.22	12.67	12.03	13.32	12.66				
2010	13.56	12.60	14.09	13.09	12.82	11.91	13.48	12.52				
2011	13.73	12.47	14.27	12.95	12.99	11.79	13.65	12.39				
2012	13.91	12.35	14.45	12.83	13.15	11.68	13.82	12.26				
2013	14.09	12.22	14.63	12.70	13.32	11.56	13.99	12.14				
2014	14.27	12.10	14.82	12.57	13.49	11.44	14.17	12.01				
2015	14.45	11.98	15.01	12.44	13.66	11.33	14.34	11.89				
2016	14.63	11.86	15.20	12.32	13.84	11.22	14.52	11.77				
2017	14.82	11.74	15.40	12.20	14.02	11.10	14.71	11.65				
2018	15.01	11.62	15.59	12.07	14.19	10.99	14.89	11.53				
2019	15.20	11.51	15.79	11.95	14.37	10.88	15.08	11.42				
2020	15.39	11.39	15.98	11.83	14.55	10.77	15.27	11.30				
2021	15.58	11.28	16.19	11.72	14.73	10.67	15.46	11.18				
2022	15.78	11.17	16.39	11.60	14.92	10.56	15.65	11.07				
2023	15.97	11.05	16.59	11.48	15.11	10.45	15.85	10.95				
2024	16.17	10.94	16.80	11.37	15.30	10.35	16.04	10.84				
2025	16.38	10.83	17.01	11.25	15.49	10.25	16.24	10.73				
Avg Annual Growth:												
2000-07	3.6%	0.9%	0.2%	-2.4%	2.2%	-0.5%	2.5%	-0.2%				
2007-10	2.9%	0.4%	2.1%	-0.3%	3.4%	0.9%	2.8%	0.3%				
2010-20	1.3%	-1.0%	1.3%	-1.0%	1.3%	-1.0%	1.3%	-1.0%				
2007-25	1.5%	-0.8%	1.4%	-0.9%	1.6%	-0.7%	1.5%	-0.8%				

\* Source: Form 41, U.S. Department of Transportation.

**TABLE 18**  
**U.S. MAINLINE AIR CARRIER FORECAST ASSUMPTIONS**  
**JET FUEL PRICES**

FISCAL YEAR	DOMESTIC		INTERNATIONAL		SYSTEM	
	CURRENT \$	FY 2007 \$	CURRENT \$	FY 2007 \$	CURRENT \$	FY 2007 \$
	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)
Historical*						
2000	71.49	85.91	79.35	95.36	73.57	88.41
2001	82.35	95.93	86.10	100.30	83.37	97.12
2002	66.97	76.87	71.71	82.31	68.28	78.37
2003	82.22	92.18	86.01	96.44	83.28	93.37
2004	100.75	110.41	105.76	115.90	102.07	111.86
2005	149.39	158.52	157.26	166.87	151.58	160.84
2006	194.69	199.25	204.69	209.49	197.72	202.36
2007E	193.89	193.89	203.16	203.16	196.75	196.75
Forecast						
2008	263.71	255.73	276.32	267.96	267.60	259.51
2009	253.01	240.37	265.11	251.86	256.75	243.92
2010	241.67	224.50	253.22	235.23	245.23	227.81
2011	237.23	215.41	248.58	225.71	240.73	218.59
2012	235.46	208.99	246.72	218.99	238.94	212.08
2013	234.42	203.41	245.63	213.14	237.88	206.41
2014	233.81	198.27	244.99	207.75	237.26	201.20
2015	233.78	193.84	244.96	203.11	237.23	196.70
2016	235.33	190.74	246.59	199.86	238.81	193.55
2017	239.60	189.78	251.06	198.85	243.14	192.58
2018	244.33	189.21	256.01	198.26	247.93	192.01
2019	249.20	188.69	261.11	197.71	252.87	191.47
2020	254.17	188.17	266.32	197.17	257.92	190.95
2021	259.25	187.66	271.64	196.63	263.07	190.43
2022	264.42	187.14	277.07	196.09	268.32	189.91
2023	269.70	186.63	282.60	195.56	273.68	189.39
2024	275.09	186.12	288.24	195.02	279.15	188.87
2025	280.58	185.62	294.00	194.49	284.72	188.35
Avg Annual Growth:						
2000-07	15.3%	12.3%	14.4%	11.4%	15.1%	12.1%
2007-10	7.6%	5.0%	7.6%	5.0%	7.6%	5.0%
2010-20	0.5%	-1.7%	0.5%	-1.7%	0.5%	-1.7%
2007-25	2.1%	-0.2%	2.1%	-0.2%	2.1%	-0.2%

\* Source: Form 41, U.S. Department of Transportation.

**TABLE 19**  
**U.S. COMMERCIAL AIR CARRIERS**  
**AIR CARGO REVENUE TON MILES 1/**

FISCAL YEAR	ALL-CARGO CARRIER RTMS (Millions)			PASSENGER CARRIER RTMS (Millions)			TOTAL RTMS (Millions)		
	DOMESTIC	INT'L.	TOTAL	DOMESTIC	INT'L.	TOTAL	DOMESTIC	INT'L.	TOTAL
Historical*									
2000	10,283.5	7,573.1	17,856.6	4,415.2	7,784.6	12,199.9	14,698.7	15,357.8	30,056.5
2001	9,992.3	7,380.0	17,372.4	3,945.6	7,166.9	11,112.5	13,937.9	14,547.0	28,484.9
2002 2/	9,629.9	8,202.1	17,832.0	3,337.4	6,594.0	9,931.4	12,967.4	14,796.1	27,763.4
2003 3/	11,153.4	11,766.8	22,920.2	3,819.1	6,775.1	10,594.2	14,972.4	18,541.9	33,514.4
2004	13,040.8	12,748.3	25,789.1	3,300.1	7,373.4	10,673.5	16,340.9	20,121.7	36,462.6
2005	13,007.9	14,581.2	27,589.0	3,081.7	8,547.7	11,629.5	16,089.6	23,128.9	39,218.5
2006	12,481.2	15,475.2	27,956.4	3,229.4	8,483.5	11,712.8	15,710.5	23,958.7	39,669.2
2007E	12,792.7	16,163.1	28,955.9	3,028.6	8,087.5	11,116.2	15,821.4	24,250.7	40,072.0
Forecast									
2008	13,173.7	16,667.2	29,840.9	3,090.1	8,246.4	11,336.5	16,263.8	24,913.6	41,177.4
2009	13,782.5	17,965.5	31,747.9	3,191.0	8,768.9	11,959.9	16,973.5	26,734.3	43,707.8
2010	14,357.3	19,285.8	33,643.2	3,280.7	9,285.8	12,566.4	17,638.0	28,571.6	46,209.6
2011	14,896.1	20,564.7	35,460.8	3,358.9	9,766.7	13,125.6	18,255.0	30,331.4	48,586.4
2012	15,416.8	21,930.7	37,347.5	3,430.1	10,273.0	13,703.1	18,847.0	32,203.6	51,050.6
2013	15,933.8	23,361.3	39,295.1	3,497.7	10,792.6	14,290.3	19,431.5	34,153.9	53,585.5
2014	16,453.4	24,902.3	41,355.6	3,562.9	11,345.6	14,908.5	20,016.3	36,247.8	56,264.1
2015	16,972.2	26,561.4	43,533.6	3,625.1	11,933.4	15,558.5	20,597.4	38,494.8	59,092.1
2016	17,501.2	28,365.8	45,867.0	3,686.7	12,566.1	16,252.8	21,187.9	40,931.9	62,119.8
2017	18,047.5	30,296.4	48,343.9	3,749.0	13,232.9	16,981.9	21,796.5	43,529.3	65,325.7
2018	18,612.6	32,321.1	50,933.7	3,812.2	13,917.9	17,730.2	22,424.8	46,239.0	68,663.9
2019	19,147.0	34,450.4	53,597.5	3,866.2	14,624.3	18,490.5	23,013.3	49,074.7	72,088.0
2020	19,695.9	36,702.9	56,398.7	3,920.3	15,357.9	19,278.2	23,616.1	52,060.8	75,676.9
2021	20,218.2	39,063.1	59,281.2	3,966.2	16,110.7	20,077.0	24,184.4	55,173.8	79,358.2
2022	20,774.8	41,574.7	62,349.4	4,016.1	16,898.8	20,915.0	24,790.9	58,473.5	83,264.4
2023	21,346.0	44,248.6	65,594.5	4,065.9	17,724.2	21,790.1	25,411.9	61,972.8	87,384.7
2024	21,932.1	47,121.4	69,053.5	4,115.5	18,598.8	22,714.3	26,047.6	65,720.2	91,767.8
2025	22,556.6	50,207.6	72,764.2	4,169.2	19,525.2	23,694.4	26,725.8	69,732.8	96,458.7
Avg Annual Growth:									
2000-07	3.2%	11.4%	7.1%	-5.2%	0.5%	-1.3%	1.1%	6.7%	4.2%
2007-10	3.9%	6.1%	5.1%	2.7%	4.7%	4.2%	3.7%	5.6%	4.9%
2010-20	3.2%	6.6%	5.3%	1.8%	5.2%	4.4%	3.0%	6.2%	5.1%
2007-25	3.2%	6.5%	5.3%	1.8%	5.0%	4.3%	3.0%	6.0%	5.0%

\* Source: Form 41, U.S. Department of Transportation.  
 1/ Includes freight/express and mail revenue ton miles on mainline air carriers and regionals/commuters.  
 2/ Domestic figures from 2000 through this line exclude Airborne Express, Inc.  
 3/ Domestic figures from this line and beyond include Airborne Express, Inc.; international figures for 2003 and beyond include new reporting of contract service by U.S. carriers for foreign flag carriers.

**TABLE 20**  
**U.S. MAINLINE AIR CARRIERS**  
**PASSENGER JET AIRCRAFT**

CALENDAR YEAR	LARGE NARROWBODY		LARGE WIDEBODY		TOTAL	LARGE JETS	REGIONAL JETS	TOTAL JETS
	2 ENGINE	3 ENGINE	2 ENGINE	3 ENGINE				
Historical								
2000	3,364	385	424	169	120	713	26	4,488
2001	3,412	187	451	89	85	625	20	4,244
2002	3,386	107	472	69	81	622	3	4,118
2003	3,378	70	464	37	67	568	6	4,022
2004	3,405	57	475	34	53	562	5	4,029
2005	3,302	43	466	29	54	549	12	3,906
2006	3,299	31	463	19	49	531	48	3,909
2007E	3,309	32	479	18	47	544	87	3,972
Forecast								
2008	3,280	31	520	23	46	589	132	4,032
2009	3,293	31	569	25	46	640	171	4,135
2010	3,343	31	608	27	46	681	192	4,247
2011	3,397	31	673	25	46	744	206	4,378
2012	3,489	31	686	19	46	751	216	4,487
2013	3,573	31	726	15	46	787	228	4,619
2014	3,653	31	770	14	46	830	240	4,754
2015	3,742	30	804	14	46	864	249	4,885
2016	3,827	30	838	14	46	898	262	5,017
2017	3,924	30	873	14	46	933	272	5,159
2018	4,031	30	918	14	46	978	282	5,321
2019	4,139	30	958	12	46	1,016	292	5,477
2020	4,265	30	1,004	10	46	1,060	302	5,657
2021	4,415	30	1,051	8	46	1,105	312	5,862
2022	4,576	30	1,100	6	46	1,152	322	6,080
2023	4,744	30	1,148	4	46	1,198	332	6,304
2024	4,899	30	1,213	2	46	1,261	342	6,532
2025	5,089	30	1,266	0	46	1,312	352	6,783
Avg Annual Growth:								
2000-07	-0.2%	-29.9%	1.8%	-27.4%	-12.5%	-3.8%	18.8%	-1.7%
2007-10	0.3%	-1.1%	8.3%	14.5%	-0.7%	7.8%	30.2%	2.3%
2010-20	2.5%	-0.3%	5.1%	-9.5%	0.0%	4.5%	4.6%	2.9%
2007-25	2.4%	-0.4%	5.5%	N/A	-0.1%	5.0%	8.1%	3.0%

**TABLE 21**  
**U.S. MAINLINE AIR CARRIERS**  
**CARGO JET AIRCRAFT**

CALENDAR YEAR	LARGE NARROWBODY			LARGE WIDEBODY			TOTAL
	2 ENGINE	3 ENGINE	4 ENGINE	2 ENGINE	3 ENGINE	4 ENGINE	
Historical							
2000	166	332	176	164	158	68	390
2001	180	343	143	190	192	85	467
2002	175	315	114	214	165	73	452
2003	175	277	104	203	165	69	437
2004	174	277	102	202	163	75	440
2005	164	233	90	246	193	75	514
2006	162	218	78	264	208	80	552
2007E	167	186	79	274	212	90	576
Forecast							
2008	176	176	76	297	218	91	606
2009	188	165	66	326	223	92	641
2010	206	153	60	352	229	95	676
2011	226	146	52	375	235	99	709
2012	248	139	46	398	240	105	743
2013	276	132	39	423	245	113	781
2014	305	123	33	448	251	119	818
2015	333	116	26	475	255	130	860
2016	359	109	20	499	258	140	897
2017	388	102	16	525	261	152	938
2018	417	97	13	551	263	162	976
2019	446	92	6	577	263	173	1,013
2020	475	86	2	613	263	183	1,059
2021	500	80	0	654	263	195	1,112
2022	526	75	0	695	258	205	1,158
2023	551	70	0	736	248	216	1,200
2024	582	65	0	777	238	226	1,241
2025	606	60	0	818	228	238	1,284
Avg Annual Growth:							
2000-07	0.1%	-7.9%	-10.8%	7.6%	4.3%	4.1%	5.7%
2007-10	7.2%	-6.3%	-8.8%	8.7%	2.6%	1.8%	5.5%
2010-20	8.7%	-5.6%	-28.8%	5.7%	1.4%	6.8%	4.6%
2007-25	7.4%	-6.1%	N/A	6.3%	0.4%	5.6%	4.6%
TOTAL							
Historical							
2000							1,064
2001							1,133
2002							1,056
2003							993
2004							993
2005							1,001
2006							1,010
2007E							1,008
Forecast							
2008							1,034
2009							1,060
2010							1,095
2011							1,133
2012							1,176
2013							1,228
2014							1,279
2015							1,335
2016							1,385
2017							1,444
2018							1,503
2019							1,557
2020							1,622
2021							1,692
2022							1,759
2023							1,821
2024							1,888
2025							1,950

**TABLE 22**  
**TOTAL JET FUEL AND AVIATION GASOLINE FUEL CONSUMPTION**  
**U.S. CIVIL AVIATION AIRCRAFT**  
 (Millions of Gallons)

FISCAL YEAR	JET FUEL				GENERAL AVIATION			AVIATION GASOLINE			TOTAL FUEL CONSUMED
	U.S. AIR CARRIERS 1/		TOTAL	GENERAL AVIATION	TOTAL	AIR CARRIER	GENERAL AVIATION	TOTAL			
	DOMESTIC	INT'L.									
Historical*											
2000	14,746	5,297	20,043	972	21,015	2	333	335	21,350		
2001	14,469	5,395	19,864	918	20,782	2	279	281	21,064		
2002	12,653	4,844	17,497	938	18,435	2	277	279	18,714		
2003	12,886	4,990	17,876	932	18,808	2	272	274	19,083		
2004	13,502	4,835	18,337	1,231	19,568	2	273	275	19,843		
2005	13,978	5,378	19,356	1,449	20,805	2	363	365	21,170		
2006	13,461	5,851	19,313	1,569	20,881	2	352	354	21,235		
2007E	13,538	6,045	19,583	1,650	21,233	2	348	350	21,583		
Forecast											
2008	13,720	6,482	20,202	1,769	21,971	2	349	351	22,322		
2009	14,103	6,949	21,053	1,958	23,011	2	350	352	23,363		
2010	14,525	7,391	21,915	2,162	24,078	2	353	355	24,433		
2011	14,952	7,827	22,778	2,387	25,165	2	355	357	25,522		
2012	15,394	8,215	23,609	2,610	26,219	2	352	354	26,573		
2013	15,857	8,611	24,468	2,823	27,291	2	349	351	27,642		
2014	16,341	9,024	25,364	3,028	28,392	2	346	348	28,741		
2015	16,848	9,450	26,298	3,217	29,515	2	345	347	29,862		
2016	17,377	9,894	27,271	3,388	30,659	2	346	348	31,007		
2017	17,930	10,357	28,287	3,553	31,840	2	349	351	32,192		
2018	18,513	10,833	29,346	3,715	33,061	2	353	355	33,416		
2019	19,099	11,324	30,424	3,868	34,292	2	358	360	34,652		
2020	19,697	11,833	31,530	4,019	35,549	2	362	364	35,913		
2021	20,305	12,355	32,660	4,162	36,822	2	365	367	37,189		
2022	20,930	12,900	33,830	4,299	38,129	2	369	371	38,500		
2023	21,577	13,464	35,040	4,435	39,475	2	375	377	39,852		
2024	22,243	14,054	36,297	4,566	40,863	2	381	383	41,246		
2025	22,933	14,673	37,605	4,692	42,298	2	388	390	42,687		
Avg Annual Growth:											
2000-07	-1.2%	1.9%	-0.3%	7.9%	0.1%	0.0%	0.6%	0.6%	0.2%		
2007-10	2.4%	6.9%	3.8%	9.4%	4.3%	0.0%	0.5%	0.5%	4.2%		
2010-20	3.1%	4.8%	3.7%	6.4%	4.0%	0.0%	0.2%	0.2%	3.9%		
2007-25	3.0%	5.0%	3.7%	6.0%	3.9%	0.0%	0.6%	0.6%	3.9%		

\* Source: Air carrier jet fuel, Form 41, U.S. Department of Transportation; all others, FAA APO estimates.  
 1/ Includes both passenger (mainline and regional air carrier) and cargo carriers.

**TABLE 23**  
**U.S. REGIONAL CARRIER FORECAST ASSUMPTIONS**

FISCAL YEAR	AVERAGE SEATS PER AIRCRAFT MILE		AVERAGE PASSENGER TRIP LENGTH		REVENUE PER PASSENGER MILE**	
	DOMESTIC (Seats/Mile)	INT'L. (Seats/Mile)	DOMESTIC (Miles)	INT'L. (Miles)	CURRENT \$ (Cents)	2007\$ (Cents)
<b>Historical*</b>						
2000	38.4	41.8	286.5	260.0	30.28	36.41
2001	40.5	43.0	302.1	302.9	31.65	36.87
2002	42.8	41.0	336.3	320.4	27.49	31.55
2003	44.3	55.8	373.9	302.0	25.74	28.86
2004	46.6	53.9	410.9	352.9	23.98	26.28
2005	49.2	52.4	434.7	434.2	19.67	20.87
2006	50.0	52.2	450.4	467.2	19.88	20.34
2007E	49.6	54.0	450.9	518.1	20.12	20.12
<b>Forecast</b>						
2008	50.5	54.3	455.3	523.1	21.00	20.37
2009	51.2	54.6	467.5	528.1	20.92	19.87
2010	51.9	54.9	479.7	533.1	20.87	19.39
2011	52.5	55.2	491.8	538.1	20.86	18.94
2012	53.2	55.5	504.0	543.1	20.85	18.51
2013	53.9	55.8	516.2	548.1	20.85	18.09
2014	54.6	56.1	528.4	553.1	20.87	17.70
2015	55.3	56.4	540.5	558.1	20.89	17.32
2016	56.1	56.7	552.7	563.1	20.93	16.96
2017	56.8	57.0	564.9	568.1	20.98	16.61
2018	57.5	57.3	577.0	573.1	21.03	16.28
2019	58.3	57.6	589.2	578.1	21.09	15.96
2020	59.0	57.9	601.4	583.1	21.16	15.66
2021	59.8	58.2	613.5	588.1	21.24	15.36
2022	60.6	58.5	625.7	593.1	21.32	15.08
2023	61.4	58.8	637.9	598.1	21.42	14.80
2024	62.2	59.1	650.1	603.1	21.52	14.54
2025	63.0	59.4	662.2	608.1	21.63	14.28
<b>Avg Annual Growth:</b>						
2000-07	3.7%	3.7%	6.7%	10.4%	-5.7%	-8.1%
2007-10	1.5%	0.6%	2.1%	1.0%	1.2%	-1.2%
2010-20	1.3%	0.5%	2.3%	0.9%	0.1%	-2.1%
2007-25	1.3%	0.5%	2.2%	0.9%	0.4%	-1.9%

\* Source: Form 41 and 298C, U.S. Department of Transportation.

\*\* Reporting carriers.

**TABLE 24**  
**U.S. REGIONAL CARRIERS**  
**SCHEDULED PASSENGER TRAFFIC**  
 (In Millions)

FISCAL YEAR	REVENUE PASSENGERS		REVENUE PASSENGER MILES	
	DOMESTIC	INTERNATIONAL	DOMESTIC	INTERNATIONAL
Historical*				
2000	79.7	3.1	22,825	814
2001	80.4	3.1	24,299	947
2002	88.6	2.8	29,807	911
2003	105.0	2.8	39,259	837
2004	125.9	3.1	51,737	1,108
2005	146.4	3.3	63,654	1,417
2006	152.2	3.5	68,532	1,634
2007E	155.7	3.4	70,202	1,772
Forecast				
2008	159.0	3.5	72,377	1,827
2009	167.5	3.7	78,296	1,943
2010	174.5	3.8	83,689	2,043
2011	180.6	4.0	88,841	2,135
2012	187.0	4.1	94,264	2,231
2013	193.8	4.3	100,043	2,334
2014	201.0	4.4	106,187	2,442
2015	208.5	4.6	112,713	2,556
2016	216.5	4.8	119,656	2,678
2017	225.0	4.9	127,083	2,808
2018	234.1	5.1	135,085	2,947
2019	242.7	5.3	143,014	3,082
2020	251.4	5.5	151,183	3,220
2021	260.1	5.7	159,584	3,360
2022	269.1	5.9	168,383	3,506
2023	278.4	6.1	177,616	3,658
2024	288.0	6.3	187,216	3,816
2025	297.9	6.5	197,289	3,980
Avg Annual Growth:				
2000-07	10.0%	1.3%	17.4%	11.8%
2007-10	3.9%	3.9%	6.0%	4.9%
2010-20	3.7%	3.7%	6.1%	4.7%
2007-25	3.7%	3.7%	5.9%	4.6%
				SYSTEM
				23,639
				25,246
				30,718
				40,096
				52,845
				65,071
				70,166
				71,974
				74,204
				80,238
				85,733
				90,976
				96,495
				102,376
				108,629
				115,270
				122,334
				129,890
				138,032
				146,096
				154,403
				162,944
				171,889
				181,274
				191,032
				201,269
				82.8
				83.6
				91.5
				107.8
				129.1
				149.7
				155.7
				159.1
				162.4
				171.2
				178.3
				184.6
				191.1
				198.1
				205.4
				213.1
				221.2
				229.9
				239.2
				248.1
				256.9
				265.8
				275.0
				284.6
				294.3
				304.5
				9.8%
				3.9%
				3.7%
				3.7%

\* Source: Form 41 and 298C, U.S. Department of Transportation.

**TABLE 25**  
**U.S. REGIONAL CARRIERS**  
**SCHEDULED PASSENGER CAPACITY, TRAFFIC, AND LOAD FACTORS**

FISCAL YEAR	DOMESTIC			INTERNATIONAL			SYSTEM		
	ASMs (MIL)	RPMS (MIL)	% LOAD FACTOR	ASMs (MIL)	RPMS (MIL)	% LOAD FACTOR	ASMs (MIL)	RPMS (MIL)	% LOAD FACTOR
Historical*									
2000	38,332	22,825	59.5	1,338	814	60.8	39,670	23,639	59.6
2001	41,418	24,299	58.7	1,633	947	58.0	43,051	25,246	58.6
2002	48,660	29,807	61.3	1,492	911	61.1	50,152	30,718	61.3
2003	60,491	39,259	64.9	1,447	837	57.8	61,938	40,096	64.7
2004	76,015	51,737	68.1	1,748	1,108	63.4	77,763	52,845	68.0
2005	91,091	63,654	69.9	2,213	1,417	64.0	93,303	65,071	69.7
2006	92,485	68,532	74.1	2,387	1,634	68.5	94,872	70,166	74.0
2007E	92,911	70,202	75.6	2,550	1,772	69.5	95,461	71,974	75.4
Forecast									
2008	95,234	72,377	76.0	2,610	1,827	70.0	97,844	74,204	75.8
2009	102,706	78,296	76.2	2,757	1,943	70.5	105,463	80,238	76.1
2010	109,477	83,689	76.4	2,879	2,043	71.0	112,355	85,733	76.3
2011	115,920	88,841	76.6	2,987	2,135	71.5	118,907	90,976	76.5
2012	122,709	94,264	76.8	3,100	2,231	72.0	125,809	96,495	76.7
2013	129,952	100,043	77.0	3,220	2,334	72.5	133,172	102,376	76.9
2014	137,661	106,187	77.1	3,346	2,442	73.0	141,007	108,629	77.0
2015	145,852	112,713	77.3	3,479	2,556	73.5	149,331	115,270	77.2
2016	154,572	119,656	77.4	3,620	2,678	74.0	158,192	122,334	77.3
2017	163,904	127,083	77.5	3,770	2,808	74.5	167,673	129,890	77.5
2018	173,965	135,085	77.7	3,931	2,947	75.0	177,896	138,032	77.6
2019	183,920	143,014	77.8	4,084	3,082	75.5	188,004	146,096	77.7
2020	194,172	151,183	77.9	4,238	3,220	76.0	198,410	154,403	77.8
2021	204,709	159,584	78.0	4,394	3,360	76.5	209,103	162,944	77.9
2022	215,747	168,383	78.0	4,555	3,506	77.0	220,301	171,889	78.0
2023	227,329	177,616	78.1	4,722	3,658	77.5	232,050	181,274	78.1
2024	239,369	187,216	78.2	4,893	3,816	78.0	244,262	191,032	78.2
2025	252,001	197,289	78.3	5,071	3,980	78.5	257,072	201,269	78.3
Avg Annual Growth:									
2000-07	13.5%	17.4%		9.7%	11.8%		13.4%	17.2%	
2007-10	5.6%	6.0%		4.1%	4.9%		5.6%	6.0%	
2010-20	5.9%	6.1%		3.9%	4.7%		5.9%	6.1%	
2007-25	5.7%	5.9%		3.9%	4.6%		5.7%	5.9%	

\* Source: Form 41 and 298C, U.S. Department of Transportation.

**TABLE 26**  
**U.S. REGIONAL CARRIERS**  
**PASSENGER AIRCRAFT**

AS OF JANUARY 1	REGIONAL AIRCRAFT														
	LESS THAN 9 SEATS		10 TO 19 SEATS		20 TO 30 SEATS		TO 40 SEATS		OVER 40 SEATS		TOTAL FLEET		TOTAL		
Historical*															
2000	470	343	262	474	74	548	155	496	651	1,704	570	2,274			
2001	490	250	248	445	110	555	148	672	820	1,581	782	2,363			
2002	490	253	194	396	118	514	128	920	1,048	1,461	1,038	2,499			
2003	447	246	137	280	116	396	106	1,217	1,323	1,216	1,333	2,549			
2004	451	237	108	280	96	376	89	1,486	1,575	1,165	1,582	2,747			
2005	449	220	99	253	98	351	81	1,630	1,711	1,102	1,728	2,830			
2006	453	204	88	224	96	320	87	1,632	1,719	1,056	1,728	2,784			
2007E	453	172	79	228	98	326	101	1,705	1,806	1,033	1,803	2,836			
Forecast															
2008	430	163	75	214	98	312	118	1,744	1,862	1,000	1,842	2,842			
2009	358	136	62	194	98	292	135	1,810	1,945	885	1,908	2,793			
2010	294	112	51	176	89	265	146	1,894	2,040	779	1,983	2,762			
2011	231	88	40	150	69	219	159	1,964	2,123	668	2,033	2,701			
2012	174	66	30	128	47	175	165	2,030	2,195	563	2,077	2,640			
2013	163	62	28	116	22	138	170	2,102	2,272	539	2,124	2,663			
2014	149	57	26	105	17	122	175	2,181	2,356	512	2,198	2,710			
2015	131	50	23	89	12	101	181	2,246	2,427	474	2,258	2,732			
2016	118	45	21	73	12	85	184	2,316	2,500	441	2,328	2,769			
2017	100	38	17	59	12	71	184	2,387	2,571	398	2,399	2,797			
2018	86	33	15	48	12	60	189	2,459	2,648	371	2,471	2,842			
2019	77	29	13	41	12	53	189	2,542	2,731	349	2,554	2,903			
2020	72	28	13	34	12	46	196	2,626	2,822	343	2,638	2,981			
2021	68	26	12	32	12	44	202	2,711	2,913	340	2,723	3,063			
2022	63	24	11	30	12	42	210	2,795	3,005	338	2,807	3,145			
2023	63	24	11	27	12	39	220	2,895	3,115	345	2,907	3,252			
2024	63	24	11	27	12	39	226	3,000	3,226	351	3,012	3,363			
2025	63	24	11	25	12	37	232	3,102	3,334	355	3,114	3,469			
Avg Annual Growth:															
2000-07	-0.5%	-9.4%	-15.7%	-9.9%	4.1%	-7.2%	-5.9%	19.3%	15.7%	-6.9%	17.9%	3.2%			
2007-10	-13.4%	-13.3%	-13.6%	-8.3%	-3.2%	-6.7%	13.1%	3.6%	4.1%	-9.0%	3.2%	-0.9%			
2010-20	-13.1%	-12.9%	-12.8%	-15.2%	-18.2%	-16.1%	3.0%	3.3%	3.3%	-7.9%	2.9%	0.8%			
2007-25	-10.4%	-10.4%	-10.4%	-11.6%	-11.0%	-11.4%	4.7%	3.4%	3.5%	-5.8%	3.1%	1.1%			

\*Source: The Velocity Group and BACK Aviation Solutions.

\*\*Independence Air A319 aircraft are included in Table 20 - U.S. Mainline Air Carriers Passenger Jet Aircraft.

TABLE 27  
ACTIVE GENERAL AVIATION AND AIR TAXI AIRCRAFT

AS OF DEC. 31	FIXED WING										EXPERI- MENTAL	SPORT AIRCRAFT	OTHER	TOTAL GENERAL AVIATION FLEET	TOTAL PISTONS	TOTAL TURBINES			
	PISTON					TURBINE											ROTORCRAFT		
	SINGLE ENGINE	MULTI- ENGINE	TOTAL	TURBO PROP	TURBO JET	TOTAL	PISTON	TURBINE	TOTAL	PISTON							TURBINE	TOTAL	
Historical*																			
2000	149,422	21,091	170,513	5,762	7,001	12,763	2,680	4,470	7,150	20,407	NA	6,700	217,533	173,193	17,233				
2001	145,034	18,192	163,226	6,596	7,787	14,383	2,292	4,491	6,783	20,421	NA	6,633	211,446	165,518	18,874				
2002	143,503	17,483	160,986	6,841	8,355	15,196	2,351	4,297	6,648	21,936	NA	6,478	211,244	163,337	19,493				
2003	143,265	17,491	160,756	7,689	7,997	15,686	2,123	4,403	6,526	20,550	NA	6,088	209,606	162,879	20,089				
2004	146,613	18,469	165,082	8,379	9,298	17,677	2,315	5,506	7,821	22,800	NA	5,939	219,319	167,397	23,183				
2005	148,101	19,412	167,513	7,942	9,823	17,765	3,039	5,689	8,728	23,627	170	6,459	224,262	170,552	23,454				
2006	145,036	18,708	163,744	8,063	10,379	18,442	3,264	5,895	9,159	23,047	1,273	6,277	221,942	167,008	24,337				
2007E	144,580	18,555	163,135	8,190	10,997	19,187	3,610	6,075	9,685	23,920	2,700	6,380	225,007	166,745	25,262				
Forecast																			
2008	144,220	18,385	162,605	8,300	12,000	20,300	3,970	6,245	10,215	24,785	3,800	6,450	228,155	166,575	26,545				
2009	144,030	18,225	162,255	8,425	13,055	21,480	4,345	6,415	10,760	25,540	4,700	6,490	231,225	166,600	27,895				
2010	144,015	18,055	162,070	8,565	14,220	22,785	4,725	6,575	11,300	26,285	5,600	6,510	234,550	166,795	28,360				
2011	144,115	17,895	162,010	8,710	15,410	24,120	5,075	6,730	11,805	27,025	6,600	6,515	238,075	167,085	30,850				
2012	144,325	17,725	162,050	8,855	16,590	25,445	5,395	6,875	12,270	27,755	7,600	6,505	241,625	167,445	32,320				
2013	144,645	17,565	162,210	9,005	17,740	26,745	5,695	7,020	12,715	28,430	8,500	6,490	245,090	167,905	33,765				
2014	145,075	17,410	162,485	9,155	18,805	27,960	5,995	7,155	13,150	29,100	9,500	6,475	248,670	168,480	35,115				
2015	145,620	17,245	162,865	9,310	19,845	29,155	6,255	7,290	13,545	29,760	10,500	6,460	252,285	169,120	36,445				
2016	146,280	17,085	163,365	9,470	20,870	30,340	6,495	7,415	13,910	30,365	11,500	6,445	255,925	169,860	37,755				
2017	147,045	16,935	163,980	9,635	21,895	31,530	6,710	7,540	14,250	30,965	12,000	6,435	259,160	170,690	39,070				
2018	147,925	16,775	164,700	9,795	22,910	32,705	6,905	7,665	14,570	31,560	12,500	6,425	262,460	171,605	40,370				
2019	148,925	16,620	165,545	9,955	23,910	33,865	7,100	7,790	14,890	32,095	12,900	6,415	265,710	172,645	41,655				
2020	150,035	16,465	166,490	10,110	24,900	35,010	7,295	7,915	15,210	32,625	13,200	6,405	268,940	173,785	42,925				
2021	151,270	16,295	167,565	10,260	25,840	36,100	7,495	8,040	15,535	33,150	13,500	6,395	272,245	175,060	44,140				
2022	152,620	16,130	168,750	10,405	26,775	37,180	7,695	8,170	15,865	33,670	13,800	6,385	275,650	176,445	45,350				
2023	154,090	15,970	170,060	10,545	27,695	38,240	7,895	8,300	16,195	34,185	14,100	6,375	279,155	177,955	46,540				
2024	155,685	15,815	171,500	10,685	28,610	39,295	8,095	8,430	16,525	34,695	14,400	6,365	282,780	179,595	47,725				
2025	157,400	15,650	173,050	10,820	29,515	40,335	8,295	8,560	16,855	35,200	14,700	6,360	286,500	181,345	48,895				
Avg Annual Growth:																			
2000-07	-0.5%	-1.8%	-0.6%	5.2%	6.7%	6.0%	4.3%	4.5%	4.4%	2.3%	27.5%	-0.7%	0.5%	-0.5%	5.6%				
2007-10	-0.1%	-0.9%	-0.2%	1.5%	8.9%	5.9%	9.4%	2.7%	5.3%	3.2%	9.0%	0.7%	1.4%	0.0%	5.1%				
2010-20	0.4%	-0.9%	0.3%	1.7%	5.8%	4.4%	4.4%	1.9%	3.0%	2.2%	9.9%	-0.2%	1.4%	0.4%	3.9%				
2007-25	0.5%	-0.9%	0.3%	1.6%	5.6%	4.2%	4.7%	1.9%	3.1%	2.2%	9.9%	0.0%	1.4%	0.5%	3.7%				

\* Source: 2000-2006, FAA General Aviation and Air Taxi Activity (and Avionics) Surveys.  
Note: An active aircraft is one that has a current registration and was flown at least one hour during the calendar year.



**TABLE 29**  
**ACTIVE PILOTS BY TYPE OF CERTIFICATE**

AS OF DEC. 31	STUDENTS	RECREATIONAL	SPORT PILOT	PRIVATE	COMMERCIAL	AIRLINE TRANSPORT	ROTOR-CRAFT ONLY	GLIDER ONLY	TOTAL PILOTS	TOTAL LESS AT PILOTS	INSTRUMENT RATED PILOTS 1/
Historical*											
2000	99,110	340	NA	251,561	121,858	141,598	7,775	9,387	631,629	490,031	315,100
2001	94,420	316	NA	243,823	120,502	144,702	7,727	8,473	619,963	475,261	315,276
2002	85,991	317	NA	245,230	125,920	144,708	7,770	21,826 2/	609,936	465,228	317,389
2003	87,296	310	NA	241,045	123,990	143,504	7,916	20,950	625,011	481,507	315,413
2004	87,910	291	NA	235,994	122,592	142,160	8,586	21,100	618,633	476,473	313,545
2005	87,213	278	134	228,619	120,614	141,992	9,518	21,369	609,737	467,745	311,500
2006	84,866	239	939	219,233	117,610	141,992	10,690	21,597	597,109	455,174	309,333
2007E	84,339	239	2,031	211,096	115,127	143,953	12,290	21,274	590,349	446,396	309,865
Forecast											
2008	83,900	240	4,200	205,050	116,200	144,550	14,250	21,580	589,970	445,420	310,500
2009	83,600	240	6,500	201,400	116,200	145,250	15,130	21,780	590,100	444,850	310,900
2010	83,450	240	8,500	199,100	114,900	145,950	15,510	21,910	589,560	443,610	311,100
2011	84,300	240	10,200	197,700	115,100	146,600	15,700	21,990	591,830	445,230	311,300
2012	85,150	240	11,000	196,900	115,400	147,150	15,800	22,020	593,660	446,510	312,900
2013	86,050	240	11,550	196,500	115,800	147,750	15,850	22,040	595,780	448,030	314,500
2014	87,150	240	12,150	196,400	116,250	148,350	15,870	22,050	598,460	450,110	316,100
2015	88,250	240	12,800	196,750	116,800	148,900	15,890	22,060	601,690	452,790	317,700
2016	89,400	240	13,450	197,450	117,400	149,450	15,930	22,080	605,400	455,950	319,300
2017	90,550	240	14,150	198,550	118,100	150,050	16,040	22,110	609,790	459,740	321,700
2018	91,700	240	14,900	200,000	118,850	150,650	16,200	22,140	614,680	464,030	324,200
2019	92,850	240	15,650	201,850	119,700	151,200	16,390	22,170	620,050	468,850	326,700
2020	94,050	240	16,450	204,100	120,600	151,850	16,600	22,200	626,090	474,240	329,200
2021	95,250	240	17,200	206,650	121,550	152,500	16,820	22,220	632,430	479,930	332,500
2022	96,450	240	18,000	209,600	122,600	153,150	17,060	22,250	639,350	486,200	335,900
2023	97,700	240	18,850	212,900	123,700	153,800	17,310	22,280	646,780	492,980	339,300
2024	98,950	240	19,700	216,550	124,900	154,500	17,570	22,310	654,720	500,220	342,700
2025	100,200	240	20,600	220,550	126,150	155,200	17,830	22,360	663,130	507,930	346,200
Avg Annual Growth:											
2000-07	-2.3%	-4.9%		-2.5%	-0.8%	0.2%	6.8%	12.4%	-1.0%	-1.3%	-0.2%
2007-10	-0.4%	0.1%	61.2%	-1.9%	-0.1%	0.5%	8.1%	1.0%	0.0%	-0.2%	0.1%
2010-20	1.2%	0.0%	6.8%	0.2%	0.5%	0.4%	0.7%	0.1%	0.6%	0.7%	0.6%
2007-25	1.0%	0.0%	13.7%	0.2%	0.5%	0.4%	2.1%	0.3%	0.6%	0.7%	0.6%

\* Source: FAA U.S. Civil Airmen Statistics.

1/ Instrument rated pilots should not be added to other categories in deriving total.

2/ In March 2001, the FAA Registry changed the definition of this pilot category. It added approximately 13,000 to this pilot category.

Note: An active pilot is a person with a pilot certificate and a valid medical certificate.



**TABLE 31**  
**TOTAL COMBINED AIRCRAFT OPERATIONS AT AIRPORTS**  
**WITH FAA AND CONTRACT TRAFFIC CONTROL SERVICE**  
 (In Thousands)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION			ITINERANT	MILITARY		TOTAL	NUMBER OF TOWERS	
			ITINERANT	LOCAL	TOTAL		LOCAL	TOTAL		FAA	CONTRACT
Historical*											
2000	15,158.7	10,760.6	22,844.1	17,034.4	39,878.5	1,422.0	1,448.2	2,870.2	68,668.0	266	192
2001	14,762.8	10,882.1	21,433.3	16,193.7	37,627.0	1,493.0	1,437.6	2,930.6	66,202.5	266	206
2002	13,209.7	11,029.4	21,450.5	16,172.8	37,623.2	1,552.5	1,511.0	3,063.5	64,925.9	266	216
2003	12,823.9	11,426.0	20,231.3	15,292.7	35,524.0	1,528.7	1,480.5	3,009.2	62,783.0	266	218
2004	12,934.0	12,243.9	20,007.2	14,960.4	34,967.6	1,498.8	1,480.5	2,979.3	63,124.8	266	224
2005	13,532.3	12,551.7	19,315.1	14,845.9	34,161.0	1,414.8	1,449.1	2,863.9	63,108.8	264	229
2006	13,256.3	11,967.6	18,741.1	14,378.9	33,120.0	1,358.4	1,417.4	2,775.8	61,119.6	263	231
2007E	13,611.5	11,666.7	18,577.2	14,557.3	33,134.5	1,313.8	1,405.7	2,719.5	61,132.2	264	235
Forecast											
2008	13,763.1	11,505.2	18,636.9	14,781.7	33,418.6	1,312.6	1,393.0	2,705.6	61,392.6	264	244
2009	14,121.0	11,814.5	19,018.1	15,167.4	34,185.4	1,312.6	1,393.0	2,705.6	62,826.6	264	244
2010	14,483.3	12,200.3	19,297.9	15,217.4	34,515.2	1,312.6	1,393.0	2,705.6	63,904.5	264	244
2011	14,856.7	12,631.4	19,605.0	15,230.2	34,835.2	1,312.6	1,393.0	2,705.6	65,028.9	264	244
2012	15,231.9	13,080.1	19,935.4	15,241.7	35,177.1	1,312.6	1,393.0	2,705.6	66,194.7	264	244
2013	15,615.1	13,536.8	20,264.5	15,252.4	35,516.9	1,312.6	1,393.0	2,705.6	67,374.4	264	244
2014	16,026.5	13,998.3	20,587.7	15,272.9	35,860.6	1,312.6	1,393.0	2,705.6	68,591.1	264	244
2015	16,430.1	14,453.0	20,927.8	15,330.1	36,258.0	1,312.6	1,393.0	2,705.6	69,846.7	264	244
2016	16,850.9	14,893.8	21,263.6	15,402.2	36,665.8	1,312.6	1,393.0	2,705.6	71,116.2	264	244
2017	17,256.8	15,333.2	21,643.0	15,511.0	37,153.9	1,312.6	1,393.0	2,705.6	72,449.6	264	244
2018	17,682.1	15,784.6	22,042.0	15,649.9	37,691.9	1,312.6	1,393.0	2,705.6	73,864.3	264	244
2019	18,095.4	16,228.1	22,443.5	15,803.8	38,247.4	1,312.6	1,393.0	2,705.6	75,276.5	264	244
2020	18,511.7	16,664.2	22,839.0	15,963.5	38,802.5	1,312.6	1,393.0	2,705.6	76,684.0	264	244
2021	18,931.2	17,092.8	23,215.4	16,118.6	39,334.0	1,312.6	1,393.0	2,705.6	78,063.6	264	244
2022	19,351.8	17,518.6	23,603.5	16,284.3	39,887.8	1,312.6	1,393.0	2,705.6	79,463.8	264	244
2023	19,779.8	17,944.6	24,013.7	16,469.3	40,483.0	1,312.6	1,393.0	2,705.6	80,913.0	264	244
2024	20,212.2	18,370.0	24,461.7	16,670.7	41,132.4	1,312.6	1,393.0	2,705.6	82,420.3	264	244
2025	20,655.2	18,796.4	24,951.5	16,900.9	41,852.5	1,312.6	1,393.0	2,705.6	84,009.6	264	244
Avg Annual Growth:											
2000-07	-1.5%	1.2%	-2.9%	-2.2%	-2.6%	-1.1%	-0.4%	-0.8%	-1.6%	264	244
2007-10	2.1%	1.5%	1.3%	1.5%	1.4%	0.0%	-0.3%	-0.2%	1.5%	264	244
2010-20	2.5%	3.2%	1.7%	0.5%	1.2%	0.0%	0.0%	0.0%	1.8%	264	244
2007-25	2.3%	2.7%	1.7%	0.8%	1.3%	0.0%	-0.1%	0.0%	1.8%	264	244

\* Source: FAA Air Traffic Activity.

**TABLE 32**  
**TOTAL INSTRUMENT OPERATIONS**  
**AT AIRPORTS WITH FAA TRAFFIC CONTROL SERVICE**  
(In Thousands)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL
Historical*					
2000	16,395.0	11,197.7	20,799.2	3,466.9	51,858.8
2001	15,894.0	11,326.5	19,274.9	3,465.7	49,961.0
2002	14,243.0	11,540.0	19,212.5	3,523.4	48,518.9
2003	13,650.2	11,814.5	18,094.2	3,202.3	46,761.1
2004	13,680.5	12,599.0	18,006.8	3,021.5	47,307.8
2005	14,161.8	12,803.1	17,394.1	2,801.0	47,159.9
2006	14,015.6	12,081.4	17,010.7	2,670.4	45,778.1
2007E	14,417.2	11,725.8	16,751.7	2,499.4	45,394.1
Forecast					
2008	14,569.0	11,612.7	16,697.0	2,479.0	45,357.7
2009	14,968.1	11,773.7	16,765.6	2,479.0	45,986.3
2010	15,352.5	12,040.3	16,971.6	2,479.0	46,843.3
2011	15,759.7	12,371.6	17,273.5	2,479.0	47,883.8
2012	16,162.2	12,743.9	17,645.2	2,479.0	49,030.3
2013	16,574.1	13,146.6	18,057.2	2,479.0	50,256.8
2014	17,024.7	13,573.9	18,489.7	2,479.0	51,567.3
2015	17,459.8	14,017.3	18,944.0	2,479.0	52,900.1
2016	17,918.8	14,471.5	19,408.6	2,479.0	54,277.9
2017	18,355.3	14,942.2	19,904.7	2,479.0	55,681.2
2018	18,818.9	15,436.8	20,430.7	2,479.0	57,165.5
2019	19,265.9	15,938.5	20,975.9	2,479.0	58,659.3
2020	19,718.6	16,443.6	21,528.9	2,479.0	60,170.0
2021	20,177.3	16,949.3	22,075.5	2,479.0	61,681.0
2022	20,638.1	17,457.7	22,625.0	2,479.0	63,199.7
2023	21,109.5	17,970.8	23,189.0	2,479.0	64,748.3
2024	21,587.4	18,488.0	23,783.6	2,479.0	66,337.9
2025	22,079.9	19,010.9	24,420.6	2,479.0	67,990.4
Avg Annual Growth:					
2000-07	-1.8%	0.7%	-3.0%	-4.6%	-1.9%
2007-10	2.1%	0.9%	0.4%	-0.3%	1.1%
2010-20	2.5%	3.2%	2.4%	0.0%	2.5%
2007-25	2.4%	2.7%	2.1%	0.0%	2.3%

\* Source: FAA Air Traffic Activity.

**TABLE 33**  
**IFR AIRCRAFT HANDLED**  
**AT FAA AIR ROUTE TRAFFIC CONTROL CENTERS**  
(In Thousands)

FISCAL YEAR	IFR AIRCRAFT HANDLED					TOTAL
	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY		
Historical*						
2000	24,987.1	8,100.9	8,744.4	4,192.5		46,024.9
2001	24,865.5	8,303.3	8,024.6	4,038.6		45,232.0
2002	22,819.3	8,809.4	8,180.8	3,920.7		43,730.2
2003	22,743.4	9,149.0	7,999.8	3,855.3		43,747.4
2004	23,856.9	9,981.5	8,350.4	4,027.7		46,216.5
2005	25,005.1	10,054.0	8,367.8	4,052.0		47,478.9
2006	24,395.1	9,436.6	8,197.0	4,149.7		46,178.4
2007E	25,004.4	9,652.6	8,294.2	3,803.6		46,754.8
Forecast						
2008	25,602.1	9,709.5	8,463.7	3,803.6		47,578.9
2009	26,161.1	9,897.8	8,638.3	3,803.6		48,500.8
2010	26,775.2	10,204.4	8,847.5	3,803.6		49,630.6
2011	27,480.7	10,595.6	9,088.9	3,803.6		50,968.8
2012	28,257.8	11,044.2	9,357.8	3,803.6		52,463.4
2013	29,072.7	11,533.1	9,638.7	3,803.6		54,048.1
2014	29,915.9	12,052.8	9,929.4	3,803.6		55,701.7
2015	30,820.8	12,594.2	10,232.4	3,803.6		57,450.9
2016	31,748.2	13,150.7	10,542.6	3,803.6		59,245.2
2017	32,725.9	13,724.1	10,871.9	3,803.6		61,125.5
2018	33,729.5	14,320.6	11,220.3	3,803.6		63,074.0
2019	34,771.9	14,931.0	11,582.5	3,803.6		65,089.1
2020	35,834.4	15,549.4	11,952.7	3,803.6		67,140.1
2021	36,915.4	16,171.0	12,323.3	3,803.6		69,213.3
2022	38,028.9	16,795.8	12,699.2	3,803.6		71,327.4
2023	39,176.9	17,424.9	13,086.9	3,803.6		73,492.2
2024	40,364.1	18,058.6	13,495.4	3,803.6		75,721.8
2025	41,590.9	18,698.3	13,931.9	3,803.6		78,024.7
Avg Annual Growth:						
2000-07	0.0%	2.5%	-0.8%	-1.4%		0.2%
2007-10	2.3%	1.9%	2.2%	0.0%		2.0%
2010-20	3.0%	4.3%	3.1%	0.0%		3.1%
2007-25	2.9%	3.7%	2.9%	0.0%		2.9%

\* Source: FAA Air Traffic Activity.