



**Federal Aviation  
Administration**

# FAA Aerospace Forecast **Fiscal Years 2011-2031**



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



## ▶▶▶ MESSAGE FROM THE ADMINISTRATOR

The airlines have returned to profitability, and we expect that that will continue throughout the coming year. The good news is not limited to the United States alone. Indeed, the international market is recovering at an even faster rate.

Aviation's ability to bounce back is not without precedent. The terrorist attacks of 9/11, the specter of the severe acute respiratory syndrome, the spike in oil prices and the recession have slowed aviation's growth in recent years, but the return to profitability is proof once again that aviation finds a way.

Previously, we had projected that U.S. commercial carriers would serve a billion passengers by 2023. The activity of 2010 has pushed that milestone forward two years to 2021.

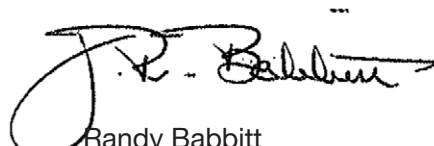
As the economy continues to recover, passenger and operations totals also will continue to climb. Just as was the case last year, we expect that international markets will again continue to grow faster than domestic markets. Large airports will continue to outpace their smaller counterparts. We continue to project that the numbers of larger regional jets flying will increase, while most of the smaller regional jets are retired from the fleet.

We project substantial growth in both demand and activity. 550 million more passengers will be on U.S. carriers by 2031 than in 2010. Traffic—revenue passenger miles—will more than double over the next 20 years.

On the general aviation front, the demand for products and services will continue to grow. With new business jets and products like light sport aircraft, we expect activity in this segment of the industry to continue to increase in the future.

The forecast is not without risk. Environmental constraints could lead to reductions in demand. The volatility of fuel prices and the continued presence of congestion continue to loom.

In any case, the FAA's pledge remains the same: to deliver the world's safest and most efficient aerospace system. We will continue to make good on that promise.



Randy Babbitt  
Administrator



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## ▶▶▶ FORECAST HIGHLIGHTS 2011-2031

Over the past decade the commercial air carrier industry has suffered several major shocks that have led to reduced demand for air travel. These shocks include the terror attacks of September 11, skyrocketing prices for fuel, and a global recession. To manage through this period of extreme volatility, air carriers fine-tuned their business models with the aim of minimizing financial losses. To lower operating costs, carriers eliminated unprofitable routes and grounded older, less fuel efficient aircraft. To increase operating revenues, carriers charged separately for services historically bundled in the price of ticket and initiated new services which customers were willing to purchase. The capacity discipline exhibited by the carriers and their focus on additional revenue streams bolstered the industry to profitability in 2010 (for the first time since 2007). Going into the next decade, there is cautious optimism that the industry has been transformed from one of a boom-to-bust cycle to one of sustainable profits.

As the economy recovers from the most serious economic downturn since the Great Depression, aviation will continue to grow over the long term. The 2011 FAA forecast now calls for one billion passengers to be flown in 2021, two years earlier than projected in last year's forecast. Growth over the next five years will average 3.7 percent per year, with average annual growth of 2.5 percent per year for the remainder of the forecast period. The level of activity and demand is expected to eclipse those published in last year's FAA forecast. One factor influencing the recovery beyond prior forecast levels is stronger than expected traffic results posted during the latter part of 2010. Another factor is the expectation of a more robust economic environment during the mid-years of the forecast than previously assumed. This takes the form of a more rapid and steeper decline in unemployment and stronger economic expansion.

System capacity in available seat miles (ASMs) – the overall yardstick for how busy aviation is both domestically and internationally – will increase 4.5 percent this year after posting a 0.5 percent decrease for 2010, and will then grow at an average annual rate of 3.6 percent through 2031. In the domestic market, capacity grows 2.9 percent in 2011, after declining for the third straight year in 2010 (down 0.4 percent), and then grows at an average annual rate of 3.0 percent for the remainder of the forecast period. Domestic mainline carrier capacity will increase for the first time in three years during 2011, up 2.8 percent from 2010. For the regional carriers, domestic capacity will grow 3.8 percent from 2010 levels – resuming growth for the second straight year after shrinking in 2009 for the first time since deregulation. Commercial air carrier domestic revenue passenger miles (RPMs) are forecast to grow 3.5 percent in 2011, and then grow at an average of 3.1 percent per year through 2031; domestic enplanements in 2011 will grow 3.0 percent, and then grow at an average annual rate of 2.5 percent for the remainder of the forecast.

The average size of domestic aircraft is expected to increase by 0.2 seats in FY 2011 to 122.0 seats. Average seats per aircraft for mainline carriers are projected to stay relatively flat as network carriers<sup>1</sup> continue to reconfigure their domestic fleets. While demand for 70-90 seat aircraft continues to increase, we expect the number of 50 seat regional jets in service to fall, increasing the average regional aircraft size in 2011 by 0.4 seats to 56.6 seats per mile. Passenger trip length in domestic markets will increase by 4.6 miles during the same period.

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<sup>1</sup> Alaska Airlines, American Airlines, Continental Airlines, Delta Airlines, Northwest Airlines, United Airlines, and US Airways (although Delta Airlines and Northwest Airlines merged, the carriers continued to report separate operating results until March of 2010).

The downturn in the economy has dampened the near-term prospects for the general aviation industry, but the long-term outlook remains favorable. We see growth in business aviation demand over the long term driven by a growing U.S. and world economy. As the fleet grows, the number of general aviation hours flown is projected to increase an average of 2.2 percent a year through 2031.

The global economy is growing again, reviving the demand for air travel. Profitability for the U.S. carriers will hinge on a stable environment for fuel prices, an increase in demand for corporate air travel, the ability to pass along fare increases to leisure travelers, and the generation of ancillary revenues. To navigate the volatile operating environment, mainline carriers will continue to drive down their costs by better matching flight frequencies and/or aircraft gauge with demand, delaying deliveries of newer aircraft and/or grounding older aircraft, and pressuring regional affiliates to accept lower fees for contract flying. Over the long term, we see a competitive and profitable industry characterized by increasing demand for air travel and airfares growing more slowly than inflation.



## ▶▶▶ REVIEW OF 2010

The grim operating environment faced by the carriers at the start of the global recession has revolutionized how they operate today. A view held by some industry professionals is that recent carrier initiatives will provide traction towards profitability, even during periods of uncertainty. One recent initiative by the passenger carriers is a shift in focus from increasing market share to one of boosting shareholder return on investment. Evidence of this initiative is three straight years of capacity reductions which have landed 2010<sup>2</sup> domestic capacity levels 6.4 percent lower than those posted one decade earlier. Another relatively new tactic by the carriers is generating revenue for services beyond the core purchase of an airplane seat. For example, air carriers are charging fees for services that used to be included in airfare (e.g. meal service), as well as for services that were not previously available (e.g. premium boarding and fare lock fees). The impact from these recent initiatives gives reason for optimism. After posting net losses for eight consecutive quarters, the industry (passenger and cargo carriers combined) posted profits in three out of four quarters of FY 2010.

Demand for air travel in 2010 grew slowly following a dismal 2009 that was marked by fading consumer confidence, tightening credit, surging unemployment, and eroding corporate travel budgets. In 2010 system revenue passenger miles (RPMs) increased 2.2 percent as enplanements increased 1.2 percent. Commercial air carrier domestic enplanements were up 0.7 percent while international enplanements were up 5.2 percent. The system-wide load factor pushed through the 80 percent barrier for the first time to 81.8 percent (up 2.1 points from 2009). Domestic enplanement market share continued to rise for low-cost and regional carriers in 2010 while network and “other” carrier share decreased. Enplanement market share for the network carriers shrank 1.8 points to 45.9 percent while market share for “other” carriers shrank 0.1 points to 1.3 percent. Low cost carrier<sup>3</sup> share rose 0.9 points to 27.4 percent and regional carrier market share rose 1.1 points to 25.4 percent.

Capacity restraint by the carriers as passenger demand returned helped system wide real yield to increase by 3.2 percent in 2010. Data for FY 2010 show that the reporting passenger carriers had a combined operating profit of \$7.4 billion (compared to a \$0.2 billion operating loss posted for FY 2009). The network carriers reported combined operating profits of \$5.0 billion and the low cost carriers reported combined operating profits of \$1.6 billion, with five out of the six network carriers and seven of the nine low cost carriers posting profits. Net profits for U.S. commercial air carriers (cargo and passenger) for the year totaled \$3.0 billion, with the network, cargo, low cost and “other” carrier groups each posting net profits of \$1.5, \$1.3, \$0.6, and \$0.2 billion, respectively. The only carrier group to post a net loss for 2010 was the regionals (\$0.6 billion).

The market for general aviation products and services declined sharply in the first three quarters of CY 2010. U.S. manufacturer shipments declined for the third year in a row, down an estimated 20.9 percent, while worldwide billings are estimated to have declined 5.4 percent compared to 2009. Piston and turbine aircraft shipments by U.S. manufacturers fell an estimated 6.7 percent and 35.4 percent, respectively. The decline in shipments and billings seen in the turbine fleet are a direct reflection of the downturn in the U.S.

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2 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.

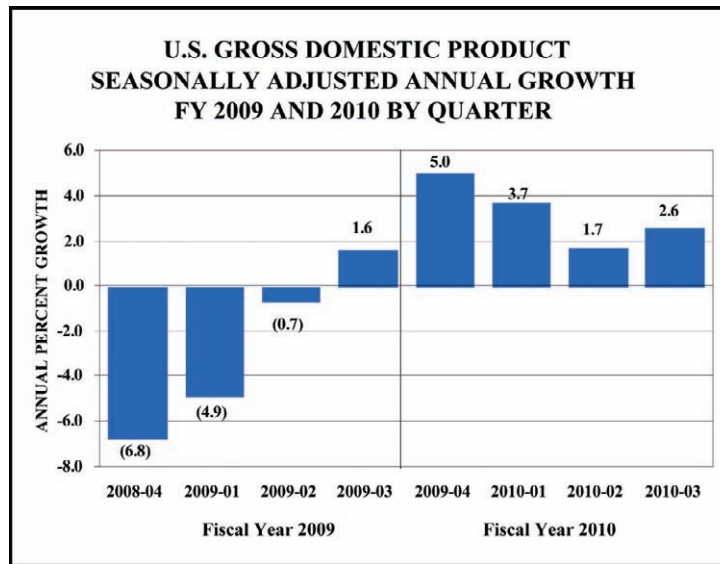
3 Allegiant Air, AirTran Airways, Frontier Airlines, JetBlue Airways, Southwest Airlines, Spirit Airlines, Sun Country Airlines, USA3000, and Virgin America Airlines.

and world economy. Along with the fall in shipments and billings, general aviation activity at FAA and contract tower airports fell 5.1 percent in 2010.

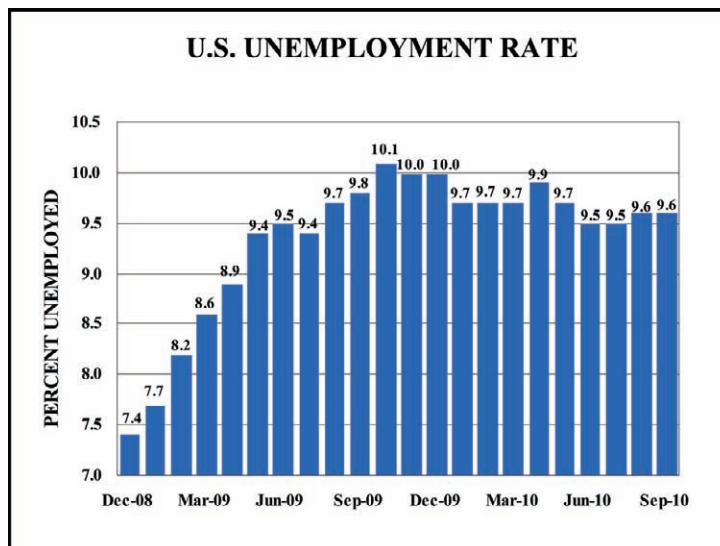
Total operations at FAA and contract towers fell 3.2 percent to their lowest levels since 1982 as activity declined in all user categories with the exception of military. Although the overall number of flights fell, FAA's workload didn't. As the fleet mix changes with increasing numbers of regional and business jets in the nation's skies, and as carriers consolidate operations in their large hubs, the complexity of activity in the airspace continues to grow, increasing our workload.

## U.S. ECONOMIC ACTIVITY

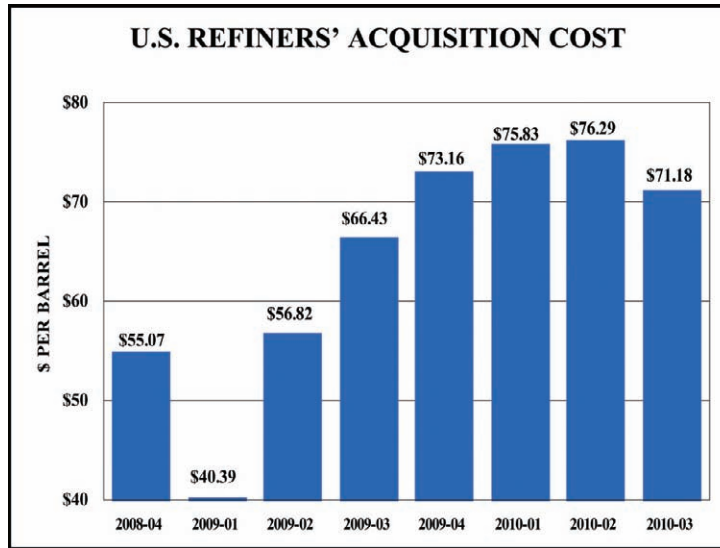
To help revive the economy from the worst recession in the post war era, lawmakers enacted the American Recovery and Reinvestment Act (ARRA) in February 2009. The bill included a combination of individual tax cuts, investment incentives, aid to people directly hurt by the recession, state fiscal relief, and direct government investment spending which was expected to have a total fiscal impact of \$817 billion between 2009 and 2019 (with half of the stimulus projected to occur during 2010). The results from enactment of this bill are encouraging. After four consecutive quarters of contraction, the economy grew for the first time during the fourth quarter of FY 2009 (up 1.6 percent) and 2.2 percent for all of FY 2010.



One repercussion to the economy resulting from the recession was to the nation's unemployment rate. When the recession began in December 2007 the unemployment rate was 5.0 percent. Unemployment climbed throughout 2008, intensified during 2009, and reached its pinnacle during the first month of FY 2010 (10.1 percent). The unemployment rate for all of FY 2010 averaged 9.7 percent. All told, from the beginning of the recession through the end of FY 2010 approximately 7.6 million jobs were lost.



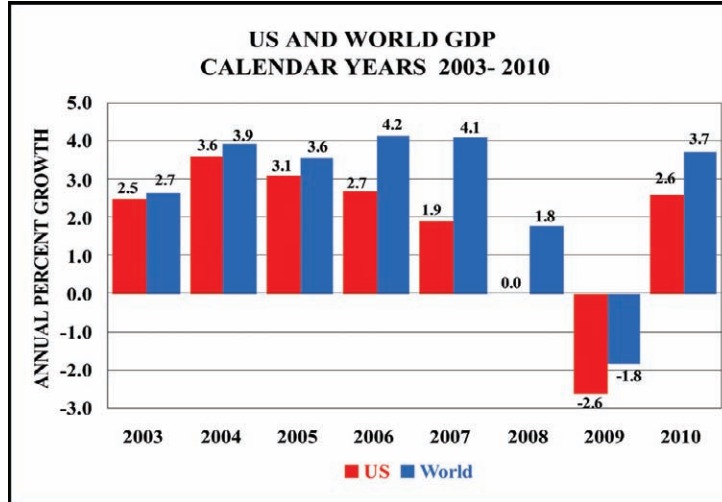
Oil prices, as measured by the U.S. Refiners' Acquisition Cost, increased 35.5 percent from FY 2009 to average \$74.11 in FY 2010. The fuel price volatility that plagued 2008 and 2009 diminished in 2010, with prices in 2010 falling within a narrower band (between \$72.08 and \$80.83 per barrel) versus prices in 2009 (between \$37.67 and \$74.22 per barrel).



After declining 0.3 percent in 2009 (the first decline since 1955), consumer prices increased in 2010. The combination of growing demand and higher energy prices drove the consumer price index (CPI) up a modest 1.7 percent in FY 2010.

## WORLD ECONOMIC ACTIVITY

In 2010, the U.S. and world economies grew 2.6 and 3.7 percent, respectively, after posting their worst performance since the Great Depression in 2009. The advanced economies (U.S., Western Europe, Japan, Australia, New Zealand, and Canada) expanded 2.4 percent. All world regions saw their economies grow, but data coming out at the end of the year suggest that the recovery in Europe is continuing to lag that of other world regions.



In CY 2010, GDP in Canada expanded at a faster pace (up 2.9 percent) than the U.S. (up 2.6 percent). The combined economies of the Asian and Far East nations grew 6.5 percent in 2010, up from 1.7 percent a year earlier. This region includes the world’s second largest economy, Japan (up 2.7 percent), and the world’s most vibrant economy, China (up 10.2 percent). The combined economies of Europe are rebounding more slowly, with Western Europe up 1.6 percent and the combined economies of Central Europe and the former Soviet Union up 3.4 percent. GDP in Latin America expanded by 4.7 percent with Brazil up 7.3 percent and Mexico up 4.8 percent.

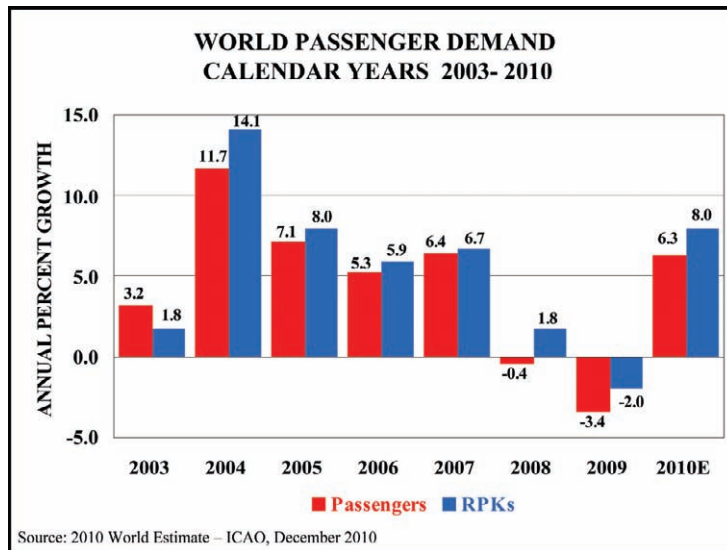
## COMMERCIAL AVIATION

Commercial aviation rebounded in 2010 despite rising jet fuel prices. Coming off of two years of losses, the U.S. industry posted a net profit in 2010, with a similar outcome predicted for foreign carriers. With none of the world regions in recession during the year, global industry net profits for calendar year 2010 are expected to be \$15.1 billion.<sup>4</sup> Profits are expected for all global regions as revenues rebound and airlines better manage their capacity.

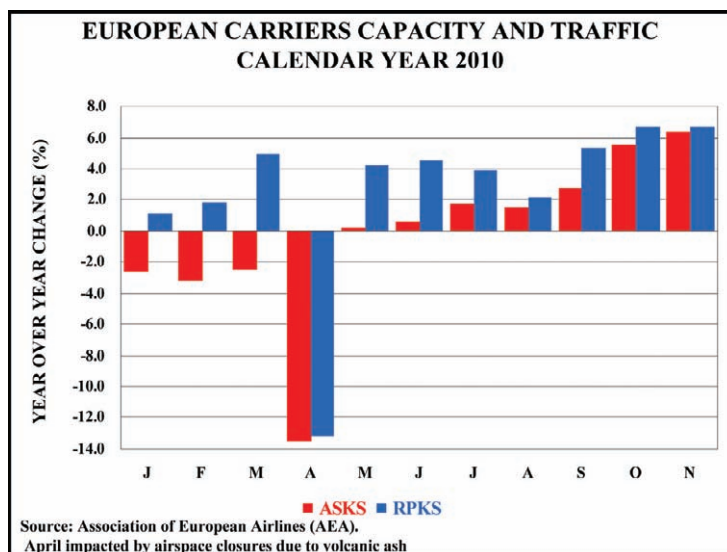
<sup>4</sup> IATA Financial Forecast, December 2010.

**World Travel Demand**

Based on data compiled by the International Civil Aviation Organization (ICAO), world air carriers are expected to post a strong performance in CY 2010 as demand for air travel picks up from the depressed levels recorded during 2009. Although traffic results are not available for full year 2010, ICAO forecasts that worldwide RPKs will increase 8.0 percent after a decline of 2.0 percent in 2009.<sup>5</sup>

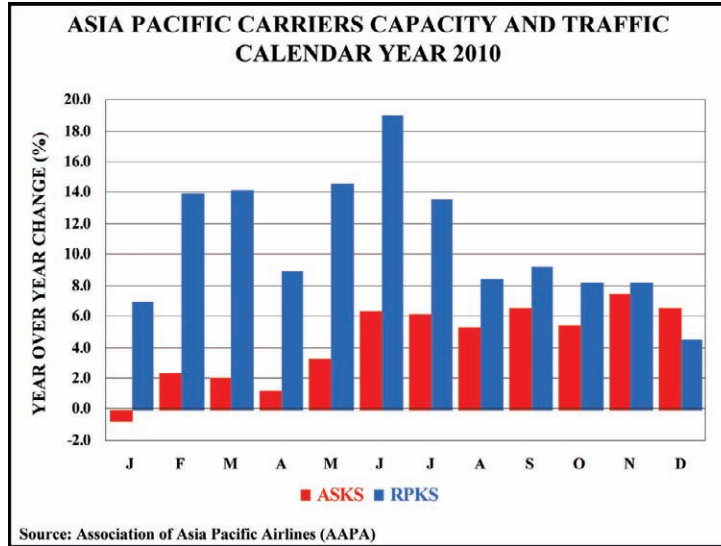


Statistics from the Association of European Airlines (AEA) available through November 2010 show passengers are up 2.8 percent over the same 2009 period. Data for the same eleven month period shows capacity, as measured by available seat kilometers (ASKs), to be down 0.2 percent and RPKs to be up 2.7 percent. Results for April 2010 were negatively impacted by airspace closures stemming from volcanic ash clouds.

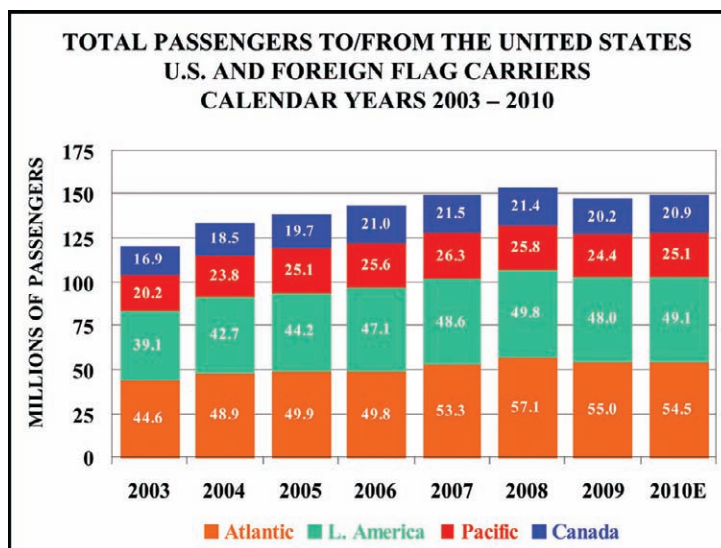


<sup>5</sup> ICAO press release dated December 23, 2010.

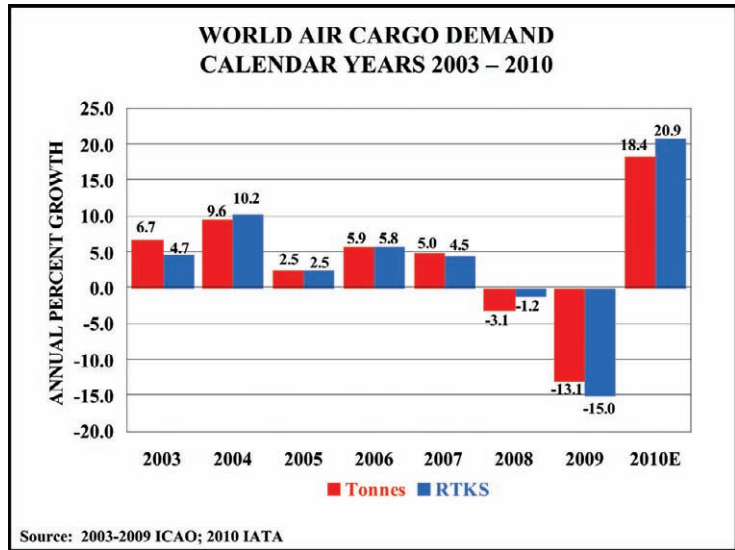
The Association of Asia Pacific Airlines (AAPA) reported an increase of 9.8 percent in international RPKs on a 4.1 percent increase in international ASKs for the calendar year of 2010. International passengers were up 13.0 percent during the same period.



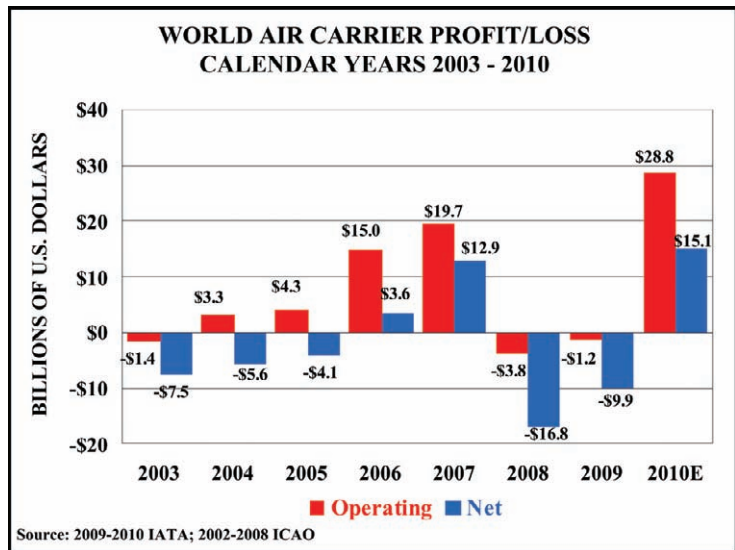
In CY 2010, U.S. and foreign flag carriers will transport an estimated 149.6 million passengers between the United States and the rest of the world, a 1.4 percent increase from 2009. Year-over-year growth increased in the Transborder, Pacific and Latin markets (up 3.4 percent, 2.9 percent and 2.3 percent, respectively). Passengers decreased in the Atlantic market (down 0.9 percent) due to repercussions from the debt crisis in Europe, which is slowing the recovery of that region’s economy, and from airspace closures during the Spring of 2010 stemming from the eruption of volcano Eyjafjallajökull.



Worldwide air cargo demand resumed in 2010 as world trade volumes picked up from the global economic downturn of 2009.<sup>6</sup> According to IATA, worldwide freight ton kilometers were up 21.9 percent for the first 11 months of 2010 compared to a 12.7 percent drop for the same period in 2009. AEA and AAPA member carriers FTK's were up 8.9 percent and 26.3 percent, respectively, for the eleven months ending November 2010.



The International Air Transport Association (IATA) reports world air carriers (including U.S. airlines) are expected to register an operating profit of \$28.8 billion for 2010. IATA estimates global airline industry net profits to be \$15.1 billion for the same period with all regions expected to be in the black. Based on financial data compiled by ICAO and IATA, between 2001 and 2009 world airlines produced cumulative operating profits of \$14.5 billion (with four years out of nine posting gains) and net losses of \$50.9 billion (with two years out of nine posting gains).<sup>7</sup>



<sup>6</sup> IATA News Release, November 2010.

<sup>7</sup> IATA Financial Forecast, December 2010.



## U.S. TRAVEL DEMAND

By year end FY 2010, the U.S. commercial aviation industry consisted of 16 scheduled mainline air carriers that use large passenger jets (over 90 seats), 64 scheduled regional carriers that use smaller piston, turboprop, and regional jet aircraft (up to 90 seats) to provide connecting passengers to the larger carriers, 14 nonscheduled passenger carriers, and 26 all cargo carriers. Mainline and regional carriers provide 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.

Shaping today's commercial air carrier industry are three distinct trends: (1) convergence of the network and low cost carrier business models; (2) industry consolidation and restructuring, and (3) the proliferation of ancillary revenues.

A sign that the business models for the low cost and network carriers groups are converging is the narrowing share of capacity flown between these two groups and the fares they charge. After losing market share in 2008, partially due to the cessation of operations by two low cost carriers in that year,<sup>8</sup> low cost carrier capacity share has been on the rise (up 0.9 points in 2009 and up 0.4 points in 2010). Since 2000, the share of capacity flown by the low cost carrier group has almost doubled, going from a 17.0 percent share in 2000 to a 31.6 percent share in 2010. Also narrowing is the gap in average domestic yield (a proxy for airfare) reported by the low cost and network carrier groups. In 2000, average domestic yield for the low cost carrier group was 12.4 cents versus 14.5 cents for the network carrier group. By 2010, low cost carrier yield had increased to 12.7 cents (up 2.4 percent from 2000) while network carrier yield dropped to 12.5 cents (down 13.8 percent from 2000).

Industry restructuring and consolidation continued in 2010. Operations at Northwest Airlines were folded into Delta Airlines, while operations at Midwest Airlines were folded into Frontier Airlines. For the regional carriers, Delta Airlines sold its subsidiaries, Compass and Mesaba, to Trans States and Pinnacle, respectively, and Arctic Circle Air merged with ERA Aviation. Announced during 2010 was the merger of Continental Airlines with United Airlines, the merger of Southwest Airlines with Air Tran, and the acquisition of ExpressJet by SkyWest Airlines. As a result of industry restructuring and consolidation, 53 fewer carriers reported traffic to the Bureau of Transportation Statistics in 2010 compared to 2000. Subsequently, 6.4 percent fewer domestic ASMs were flown and 1.0 percent fewer passengers were carried domestically in 2010 compared to ten years earlier.

The 6.4 percent reduction in domestic capacity since 2000 has not been shared equally between the mainline carriers and their regional counterparts. In 2010, the mainline carrier group provided 15.5 percent less capacity than it did in 2000 (and carried 16.1 percent fewer passengers). Conversely, capacity flown by the regional group increased 150 percent over the same ten year period (with passengers carried up 100 percent). The shift in capacity from the mainline carrier group to the regional carrier group emerged from several factors. One factor was the type of aircraft flown by the regional carriers, which has been transformed from one of predominantly turboprop and piston aircraft to that of 50-90 seat regional jets. The transformation of the fleet permitted the regional carriers to fly longer haul routes that were not previously accessible with smaller turboprop aircraft. Another factor leading to a shift in capacity was the external operating environment. As a result of the terror attacks of September 11 and the record breaking fuel prices of 2008 demand for air travel was reduced. To better match demand to capacity, the mainline carriers "shed" thin routes to their regional counterparts, which could provide lift at a lower cost.

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<sup>8</sup> American Trans Air and Skybus Airlines.

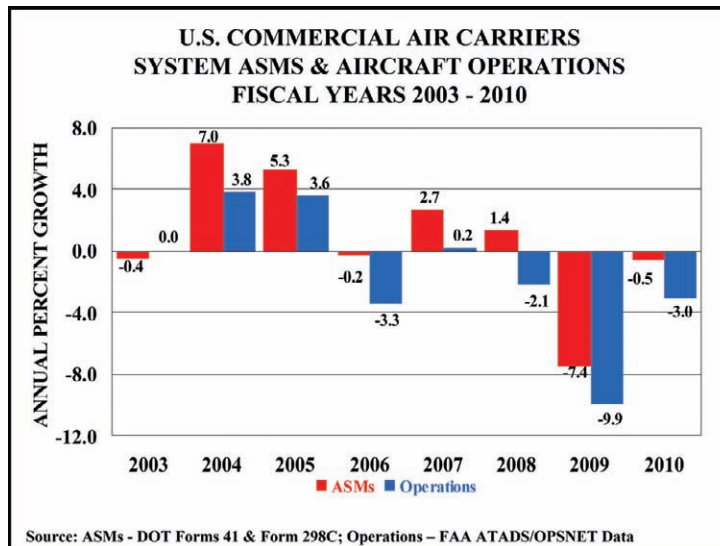
The most recent trend to take hold is that of ancillary revenues. Carriers generate ancillary revenues by selling products and services beyond that of an airplane ticket to customers. The industry will post a net profit for the first time since 2007, with ancillary revenues a contributing factor to the favorable outcome.

**Commercial Air Carriers – Passengers**

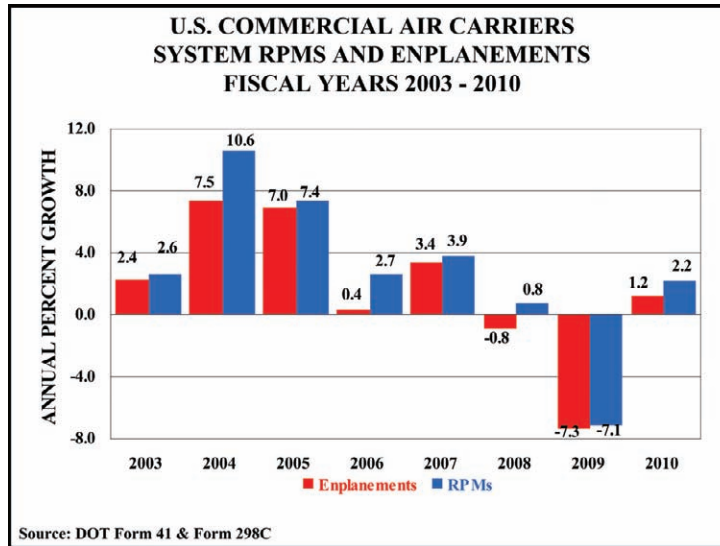
After a challenging 2009 which was impacted by the global economic meltdown and the H1N1 flu, U.S. commercial air carriers posted improvement to traffic results during 2010, with little change in capacity for the year. System (the sum of domestic plus international) capacity dropped 0.5 percent to 961.3 billion ASMs while RPMs increased 2.2 percent to 786.7 billion. During the same period system-wide passenger growth increased 1.2 percent. For the year, mainline carrier passenger growth was up 0.1 percent while passenger growth for the regional carriers was up 5.0 percent. In the domestic market mainline passengers fell for the seventh time in ten years during 2010 (down 0.7 percent) while mainline passengers in international markets posted strong growth (up 5.2 percent).

Even though the recession was officially over in June 2009,<sup>9</sup> carriers continued to face economic uncertainty in 2010 as corporate travel budgets remained strained and double-digit unemployment persisted. Capacity reductions instituted in 2009 to counter skyrocketing fuel prices and reduced demand for air travel continued into 2010. With fewer seats available to the travelling public, carriers were able to raise airfares as demand returned. Initially forecast to lose money for the year, U.S. carriers finished 2010 with a net profit.

System load factor and trip length climbed in 2010, as seats per aircraft mile fell. Load factor reached a record-breaking 81.8 percent, up 2.1 points from 2009. For the eighth consecutive year, trip length increased, up 11.0 miles to 1,104.0 miles. Seats per aircraft mile fell to 139.7 seats (down 0.3 seats per aircraft mile).

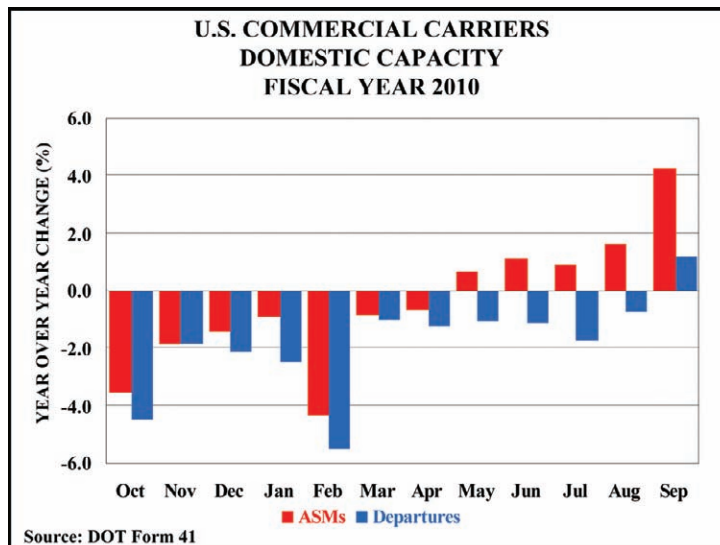


<sup>9</sup> National Bureau of Economic Research.



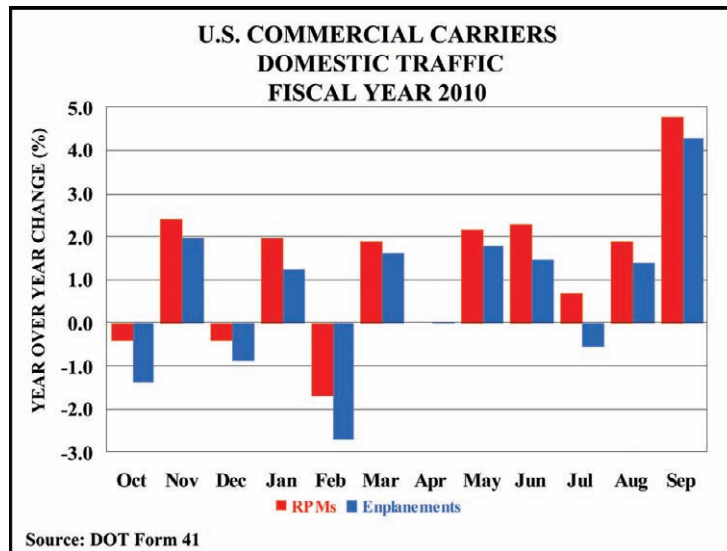
Domestic Passenger Markets

Domestic capacity (50 states, Puerto Rico, and the U.S. Virgin Islands) was down 0.4 percent in 2010 after coming off of a decline of 9.0 percent in 2009, the steepest decline recorded since deregulation of the industry in 1978. Departures decreased by 1.8 percent for the year after falling 8.6 percent in FY 2009. Year-over-year declines in capacity were posted for the first seven months of 2010 with the first quarter down 2.3 percent and the second quarter down 1.9 percent. Capacity grew 0.4 percent and 2.2 percent year-over-year in the third quarter and fourth quarter, respectively. Mainline carrier capacity was down 1.1 percent for the year, while regional carrier capacity was up 4.1 percent. At the end of 2010, domestic ASMs were 9.6 percent below pre-recession levels (2007) with departures 12.2 percent below.



Domestic passenger enplanements and RPMS grew at a faster rate than ASMs in 2010. Between the first and second quarter, passenger growth went from negative (down 0.1 percent) to positive (up 0.2 percent). During the last half of the year growth accelerated, up 1.1 percent in the third quarter and up 1.5 percent in the fourth quarter. On a year-over-year basis, mainline carrier enplanements were down 0.7 percent

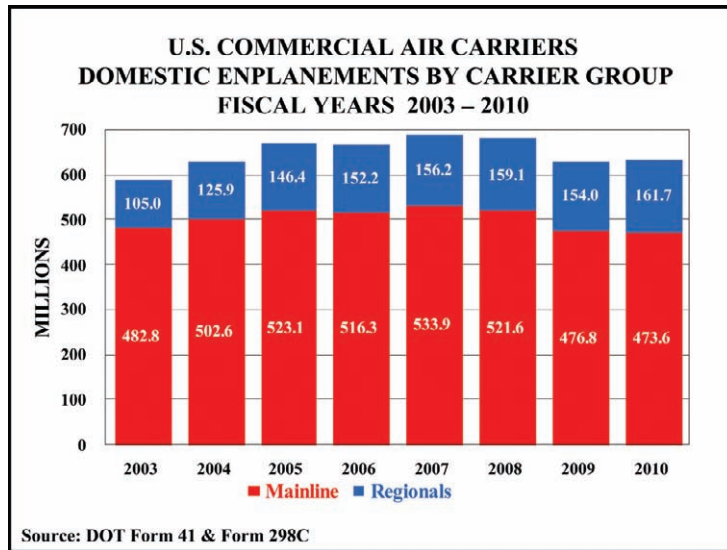
for the year while the regional carrier enplanements increased 5.0 percent (rebounding from its first post-deregulation era decline in 2009).



Similar to passengers, domestic RPMs grew faster than ASMs with domestic RPMs up 1.3 percent in 2010. Growth accelerated during the year with the first quarter up 0.4 percent, the second quarter up 0.8 percent, and the last half of the year up 1.9 percent (with September posting year-over-year growth of 4.8 percent). For the year, mainline carrier RPM growth was up 0.5 percent, while regional carrier growth was up 6.7 percent.

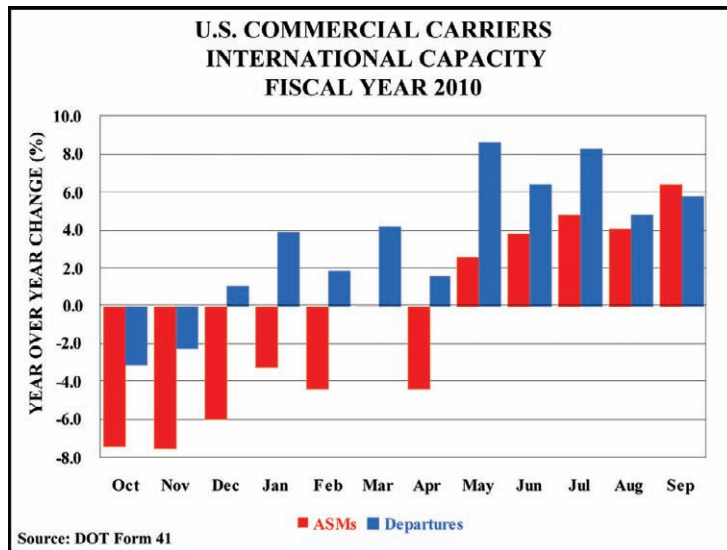
Domestic carrier load factor increased 1.3 points to 81.7 percent, with both the mainline and regional carriers groups posting record high loads. Mainline carrier load factor increased 1.3 points from 2009 to 82.7 percent, while regional carrier load factor increased 1.9 points to 76.2 percent.

Since 2000, total domestic capacity has decreased by 6.4 percent. Mainline carriers have reduced their domestic capacity by 15.5 percent with cutbacks by network carriers more than offsetting the growth of low-cost carriers. Making up some of the shortfall from network carrier capacity cuts during this time are the regional carriers. This segment of the industry has greatly expanded capacity (up 257 percent from 2000). During the same period, mainline carrier RPMs have decreased 1.9 percent, while enplanements have fallen 15.7 percent. In comparison, regional carrier RPMs and enplanements have increased 228.9 percent and 103.0 percent, respectively. As a result, mainline carrier domestic capacity share has fallen from 94.7 percent in 2000 to 85.5 percent in 2010, with their share of RPMs dropping from 95.6 percent to 86.5 percent during the same period. Regional carriers now fly 1 in every 4 passengers, up from 1 in every 8 in 2000.

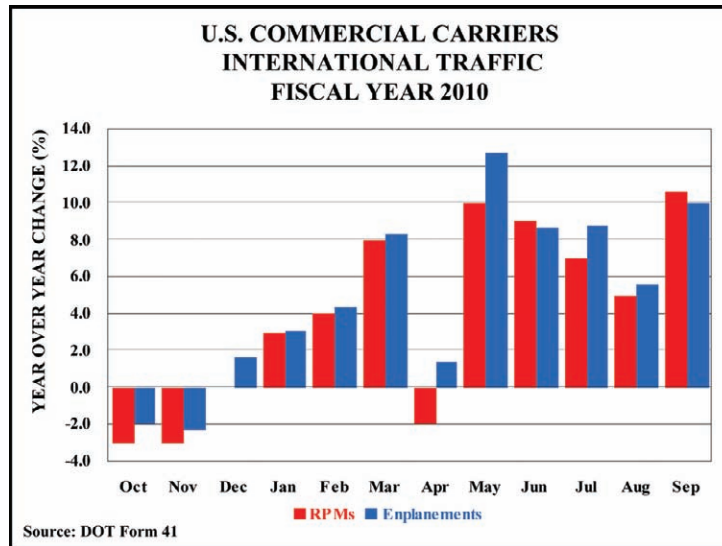


International Passenger Markets

U.S. carrier ASMs were down 0.7 percent but departures were up 3.6 percent in 2010 as Latin markets rebounded from a depressed 2009 due to H1N1. ASM growth in the first half of the year was down 4.7 percent year-over-year, but accelerated during the second half of the year to be up 2.9 percent. ASMs increased in the Latin and Pacific market, up 5.9 and 0.9 percent, respectively, but decreased 5.2 percent in the Atlantic market.



International RPMs were up 4.3 percent and passenger enplanements were up 5.2 percent in 2010, with the growth stronger in the latter half of the year (up 1.4 percent for the first half versus up 6.8 percent during the second half for RPMs; up 2.3 percent versus up 7.8 percent for enplanements). The Atlantic market posted a decline, with RPMs down 0.3 percent and enplanements down 1.0 percent. RPMs and enplanements increased 9.3 and 8.6 percent, respectively, in the Latin American market, while RPMs and enplanements increased 8.3 and 7.5 percent, respectively, in the Pacific market.



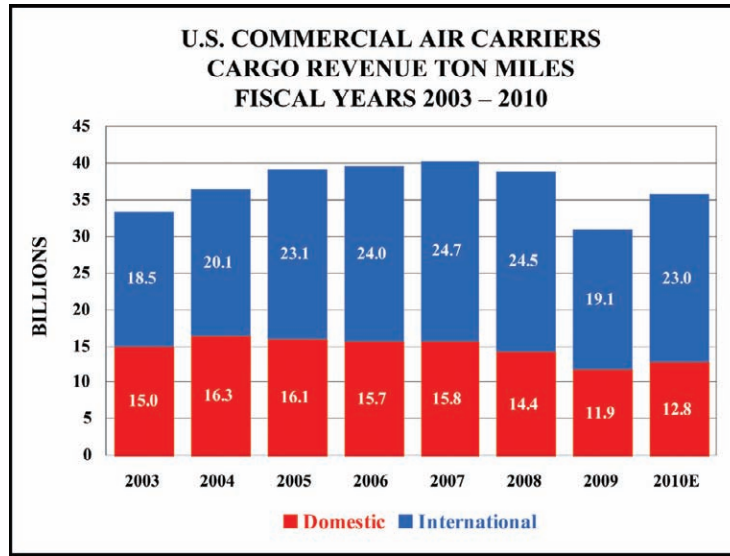
The international load factor surged 4.0 percentage points in 2010 to 82.1 percent, an all-time high. Load factor increased in all markets: in the Pacific market up 5.8 points to 84.1 percent; in the North Atlantic market up 4.1 points to a record high 82.9 percent; and in the Latin America market (up 2.5 points to 79.1 percent).

In 2010, 51.6 percent of the passengers flying abroad on U.S. flag carriers traveled to the Latin America market. The remaining 48.4 percent of international passengers was split between the Atlantic market (31.7 percent) and the Pacific market (16.7 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. Cargo carriers face price competition from alternative shipping modes such as trucks, container ships, and rail cars.

U.S. air carriers flew 35.9 billion revenue ton miles (RTMs) in 2010, up 15.7 percent from 2009, with domestic cargo RTMs increasing by 8.0 percent (12.8 billion) and international RTMs increasing by 20.6 percent (23.0 billion). The strong growth in domestic and international RTMs reflects a rebound from the recession and the global financial crisis, although RTMS are still 11.4 percent below levels posted in 2007.



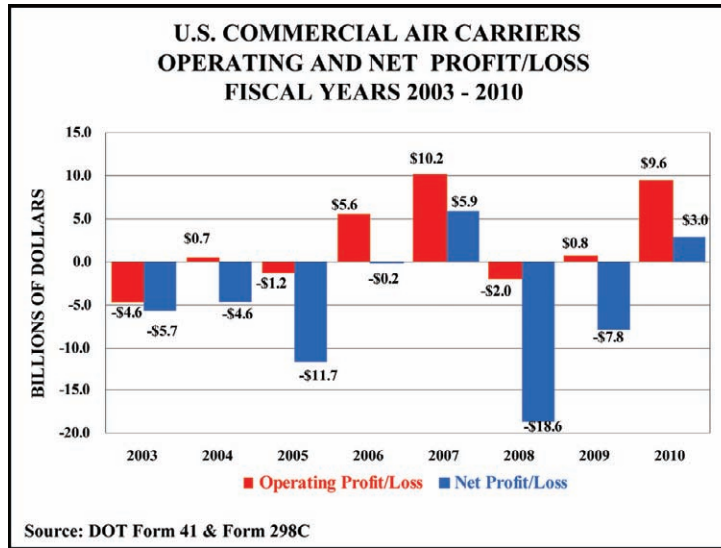
Air cargo RTMs flown by all-cargo carriers was 75.7 percent of total RTMs in 2010, with passenger carriers flying the rest, or 24.3 percent. Total RTMs flown by the all-cargo carriers increased 15.7 percent in 2010, from 23.5 billion to 27.1 billion. Total RTMs flown by passenger carriers were 8.7 billion in 2010, 16.0 percent higher than in 2009.

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. The legislation went into effect on August 1, 2010, and requires 100 percent inspection of cargo transported on passenger aircraft at the piece level. The legislation did not apply to cargo on U.S. bound passenger flights from overseas or on cargo-only aircraft. However, following the discovery of a bomb on an all-cargo plane bound for the U.S., the Air Cargo Security Act was introduced on November 16, 2010. The purpose of this Act is to expand the 100 percent cargo screening mandate of passenger aircraft to cargo only aircraft.

**U.S. COMMERCIAL AIR CARRIERS  
2010 FINANCIAL RESULTS**

U.S. commercial air carriers posted a net profit of \$3.0 billion during FY 2010 after reporting a net loss of \$7.8 billion one year earlier.

Operating revenues (passenger and cargo) for FY 2010 were up 7.0 percent from FY 2009. The increase in revenue underscored the ability of passenger carriers to push through fare increases and to offer value-added services that leisure and business passengers were willing to buy. The increase in revenues for cargo carriers followed a rebound from the global financial crisis which strengthened demand for air cargo services.



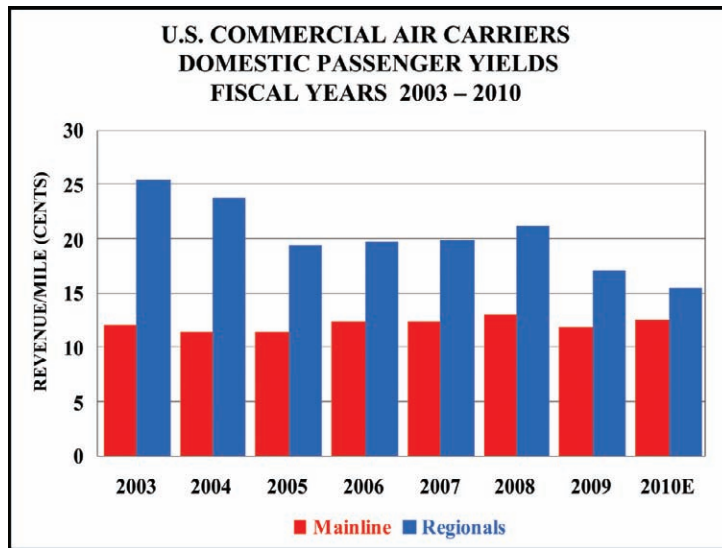
During the same period, operating expenses increased 1.6 percent. The slight increase in operating expenses during FY 2010 was driven by a 35.5 percent rise in the price of fuel for the year, as well as an increase in variables costs resulting from increased demand for passenger and cargo services.

In FY 2010, passenger carriers reported operating income of \$7.4 billion and net profits of \$1.7 billion, while air cargo carriers reported an operating profit of \$2.1 billion and a net income of \$1.3 billion. In the domestic market, passenger carriers generated an operating profit of \$4.4 billion and a net profit of \$0.06 billion. In the international market, this carrier group posted operating and net profits of \$3.0 billion and \$1.7 billion, respectively. Cargo carriers posted an operating profit of \$0.7 billion and a net income of \$0.4 billion in domestic markets. In international markets, the cargo carriers reported operating profits of \$1.4 billion and net income of \$0.9 billion.

The industry’s financial boost is largely due to a turnaround in the performance of the network carriers. After two consecutive years (FY 2008-2009) of net losses totaling \$27.3 billion, this carrier group finished FY 2010 with a net profit of \$1.5 billion (and operating profits of \$5.0). For the nine reporting low-cost carriers, operating profits totaled \$1.6 billion and net income totaled \$0.6 billion for the full year.

An upswing in leisure and business demand along with ongoing capacity discipline led to a rebound in mainline carrier passenger yield for the year. Domestic mainline carrier passenger yield increased 5.2 percent in 2010.





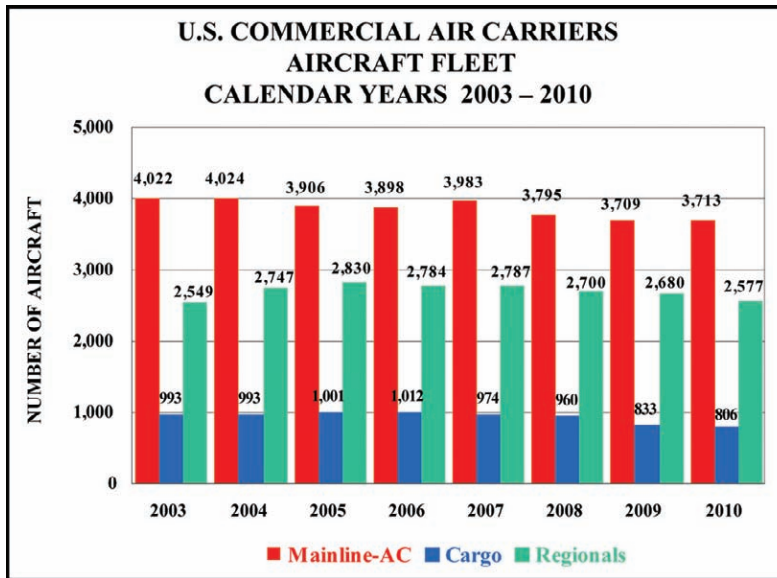
Of the reporting regional carriers, operating profits totaled \$0.6 billion and net losses totaled \$0.6 billion for FY 2010. During the same period, regional domestic yield fell 7.5 percent.<sup>10</sup> Reflecting the changing nature of the industry the network carriers are putting the squeeze on their regional partners by negotiating fee-for-departure contracts that shift more of the financial risk of contract flying to the regional carriers. Since 2000, regional yield is down 59.0 percent in real terms (compared to a drop of 29.7 percent in mainline yield for the same period). The drop in regional yield can be attributed to longer trip lengths (due to growing number of larger and faster regional jet aircraft entering the fleet) and rising load factors. All other things equal, an increase in either the trip length or the load factor results in drop in yield since passenger revenues are spread over a broader base of RPMs.

**U.S. COMMERCIAL AIR CARRIERS  
2010 AIRCRAFT FLEET**

The commercial passenger carrier fleet is undergoing transformation. The mainline carriers are retiring older, less fuel efficient aircraft (e.g. 737-300/400/500 and MD-80) and replacing them with more technologically advanced 737-700/800/900 aircraft. The regional carriers are growing their fleet of 70 to 90 seat regional jet aircraft and reducing their fleet of 50-seat jet aircraft.

The total number of aircraft in the U.S. commercial fleet (including regional carriers) is estimated at 7,096 for 2010, a decrease of 126 aircraft from 2009. This includes 3,713 mainline air carrier passenger aircraft (over 90 seats), 806 mainline air carrier cargo aircraft, and 2,577 regional carrier aircraft (jets, turboprops, and pistons).

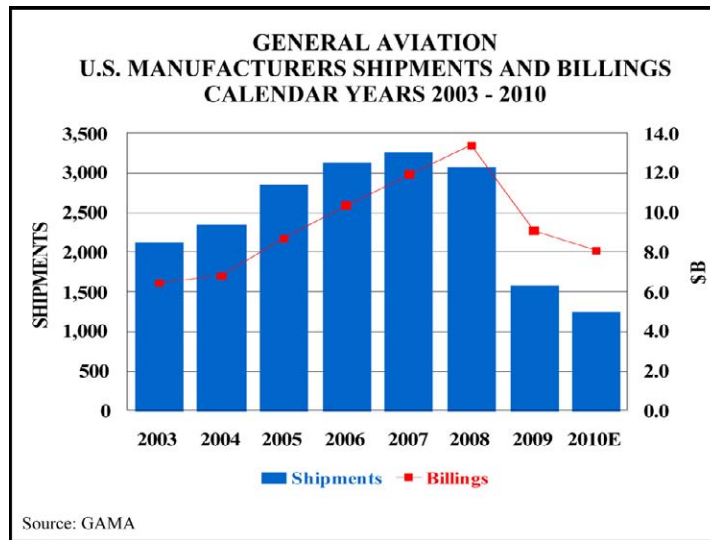
<sup>10</sup> Yield is defined as passenger revenues divided by RPMs. Passenger revenues include payments received by regionals from mainline partners for contractual flying.



The mainline carriers' passenger jet fleet increased by 4 aircraft in 2010, the first increase in the size of the fleet since 2007, as low cost carriers added to their narrow body fleet while network carriers added a modest number of wide body aircraft. Despite the rise in the fleet in 2010, the mainline carrier fleet stands at 17.3 percent below (775 aircraft) the level it was in 2000. Since reaching a peak of 2,830 aircraft in 2005, the regional fleet has shrunk by 253 aircraft.

## GENERAL AVIATION

Despite signs of economic recovery, the general aviation industry suffered through a difficult 2010. Based on figures released by the General Aviation Manufacturers Association (GAMA) through the 3rd quarter, U.S. manufacturers of general aviation aircraft delivered an estimated 1254 aircraft in CY 2010, 20.9 percent fewer than in CY 2009. This translates into a third consecutive year of decline in shipments. The turbine categories, turbojets and turboprops, were down an estimated 43.2 and 20.4 percent, respectively. Overall piston deliveries declined 6.7 percent, with single-engine down 10.7 percent while the much smaller multi-engine category rose 88.8 percent. Billings in CY 2010 are estimated to have totaled \$8.1 billion, down 11.2 percent compared with 2009.



General aviation activity at FAA air traffic facilities posted mixed results in 2010. Operations at combined FAA and contract towers declined 5.1 percent in 2010, continuing a decade long trend. General aviation activity at consolidated traffic facilities (FAA TRACONS) fell 1.9 percent, while the number of general aviation aircraft handled at FAA en route centers rose by 3.4 percent.

The FAA uses estimates of fleet size, hours flown and utilization from the General Aviation and Part 135 Activity 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 2009 Survey, the latest one available, are consistent with the results of past surveys since 2004. This reinforces our belief that 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 along with GAMA aircraft shipment statistics, the active general aviation fleet is estimated to have increased 0.1 percent in 2010, to 224,172. With the increase in the active fleet, general aviation flight hours are estimated to have increased 1.2 percent in 2010 to 24.1 million.

Student pilots are important to general aviation and the aviation industry as a whole. Student pilot numbers had been in decline for many years but in 2010, the FAA issued a rule that increased the duration of validity for student pilot certificates for pilots under the age of 40 from 36 months to 60 months. As a result, according to statistics compiled by the FAA’s Mike Monroney Aeronautical Center, the number of student pilots at the end of 2010 increased by 64.8 percent, or approximately 47,000 pilots, compared to calendar

year end 2009. The impact of the new rule on the long term trends in student pilots has yet to be fully determined. The average age of a U.S. pilot in 2010 was 44.2 years old.

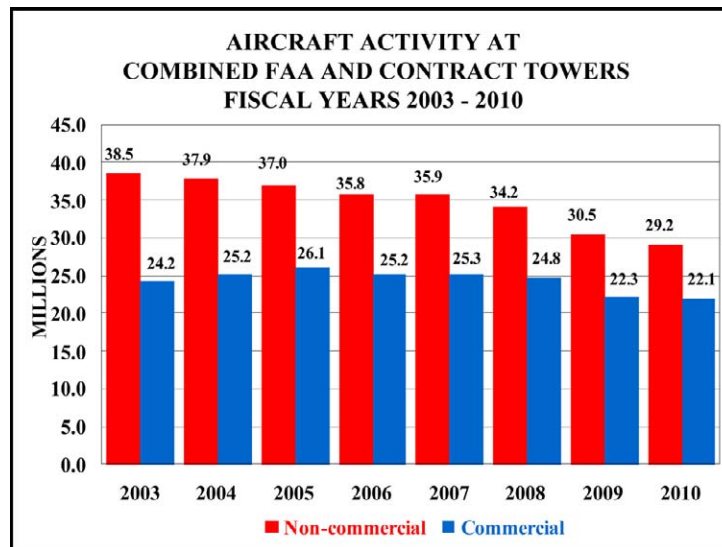
## FAA WORKLOAD

In 2010, FAA facilities experienced their third straight year of decline in activity. Commercial air traffic activity fell during the first seven months of the year as carriers restrained capacity in response to weakened demand. The decline in noncommercial activity is attributed to a lackluster economy and rising fuel prices.

Total activity at combined FAA and contract tower airports was 51.2 million operations in 2010, down 3.2 percent from 2009 and 25.4 percent below the peak activity level recorded in 2000. Commercial activity (the sum of air carrier and commuter/air taxi) at combined FAA and contract towers fell by 1.3 percent in 2010. Air carrier operations were down 1.4 percent while commuter/air taxi operations declined 1.1 percent. Commercial operations in 2010 were 15.4 percent lower than their peak in 2005.

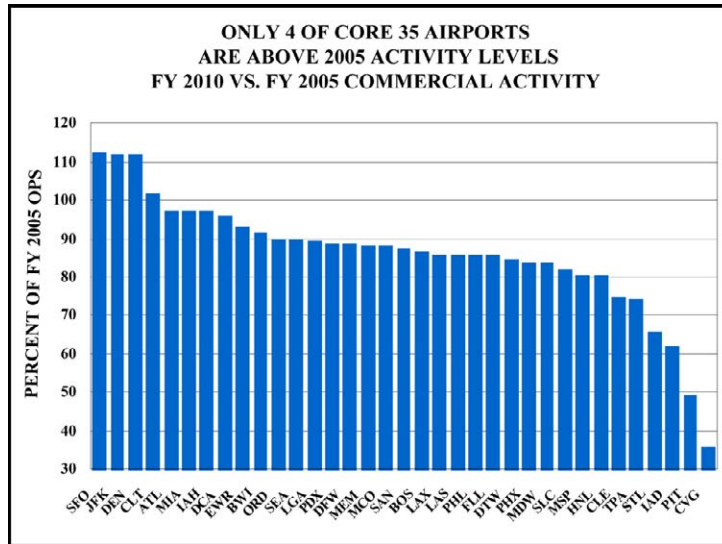
Non-commercial activity (the sum of general aviation and military) at combined FAA and contract towers fell by 4.6 percent in 2010, with general aviation activity (26.6 million) down 5.1 percent and military activity (2.6 million) up 0.9 percent. General aviation activity has declined in ten of the eleven years since 1999.

At the end of 2010, non-commercial aircraft activity was 31.8 percent below the activity in 2000.



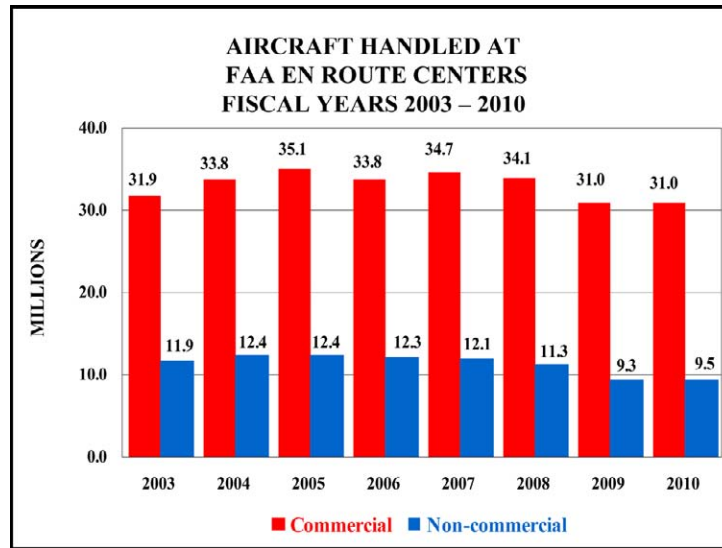
The FAA pays close attention to the trends occurring at the “Core 35” airports. These airports represent the top 35 airports in the country in terms of passenger activity (except PIT) and account for about 75 percent of commercial passengers. Commercial activity at the Core 35 airports peaked in 2005, but subsequent industry restructuring has resulted in a drop in combined commercial activity at these airports since. In 2010, commercial activity at the Core 35 airports fell by 1.0 percent from the previous year and was 12.9 percent below 2005 activity levels. Of the Core 35 airports, 21 recorded decreases in activity from 2009 with the largest declines occurring at Cincinnati (down 19.5 percent) and St. Louis (down 13.2 percent).

The largest increases in activity occurred at MIA (up 5.3 percent), and ORD (up 4.5 percent). Only 4 of the Core 35 airports exceeded 2005 peak activity levels during fiscal year 2010, unchanged from 2009, and down from 13 airports in 2008.



Since 2005 there has been a pronounced shift in demand which is reflected in the relative growth of commercial operations across the Core 35 airports. Commercial operations at San Francisco (up 12.5 percent), New York-Kennedy (up 12.2 percent), and Denver (up 12.1 percent), are up the greatest relative to their 2005 activity levels. Commercial operations at Cincinnati (down 64.1 percent), and Pittsburgh (down 50.5 percent) show the largest declines from 2005 levels. These activity level shifts reflect the impact of the restructuring of the airline industry. Delta’s bankruptcy and subsequent merger with Northwest resulted in a consolidation of operations away from its Cincinnati hub, while the merger of US Airways and America West has led to a dramatic shrinking of US Airways’ operations in Pittsburgh.

In 2010, total activity at FAA en route centers (40.5 million) increased 0.5 percent from the previous year. Commercial activity was relatively flat (down 0.02 percent), with air carrier operations down 0.3 percent and commuter/air taxi operations up 0.7 percent. Non-commercial activity was up 3.4 percent for the year as general aviation activity increased 3.4 percent and military activity decreased 0.4 percent. In 2010, air carrier operations were 10.6 percent below their 2000 activity levels and air taxi/commuter operations were 6.4 percent above activity levels for 2000. Operations for the general aviation and military user groups were 25.1 and 28.9 percent below their 2000 activity levels, respectively.



## ▶▶▶ FAA AEROSPACE FORECAST FISCAL YEARS 2011 – 2031

Developing forecasts of aviation demand and activity levels continues to be challenging as the aviation industry evolves and prior relationships change. In times of amplified volatility, the process is filled with uncertainty, particularly in the short-term. Once again, the U.S. aviation industry has shown that the demand for air travel is resilient as it rebounds from its most recent downward spiral created by the Great Recession. With the start of 2011, lingering questions remain. Are the U.S. and global economies on firm ground? Is it plausible that evolving structural changes will revamp the industry from one of boom-to-bust to one of sustainable profits? Will industry consolidation continue?

After 25 consecutive months<sup>11</sup> of reductions in year-over-year domestic capacity, carriers posted capacity growth in each of the last five months of 2010. The restraint in capacity led to record high load factors and recovery in yield, despite lackluster passenger demand. Yield is expected to show continued strength in 2011 as carriers remain fervent in matching capacity to demand.

Given the current state of the global economy, there is much uncertainty as to the timing and strength of a recovery in aviation demand. 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 FAA is confident that these forecasts accurately predict future aviation demand, however due to the large uncertainty of the operating environment the variance around the forecasts is wider than in prior years.

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. These forecasts do not assume further contractions of the industry through bankruptcy, consolidation, or liquidation.

The commercial aviation forecast methodology is a blended one. The starting point for developing the commercial aviation forecasts (air carriers and regionals) is the future schedules published in the Official Airline Guide (OAG). To generate the short-term forecast (one year out) current monthly trends are used in conjunction with published monthly schedules to allow FAA forecasters to develop monthly capacity and demand forecasts for both mainline and regional carriers for fiscal and calendar years 2011. The medium to long-term forecasts (2012-2031) are based on results of econometric models.

The general aviation forecasts rely heavily on discussions with industry experts and the results of the 2009 General Aviation and Part 135 Activity Survey. The assumptions have been updated by FAA analysts to reflect more recent data and developing trends, as well as further information from industry experts.

The 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.

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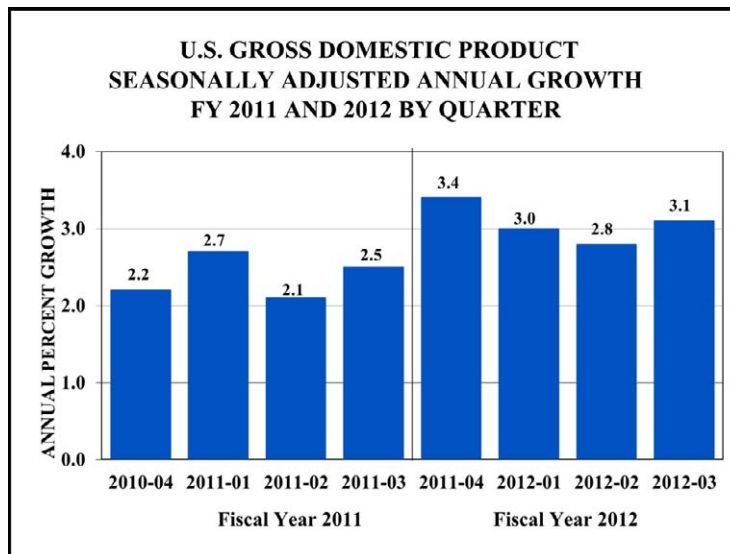
<sup>11</sup> April 2008 through April 2010.

## ECONOMIC FORECASTS

For this year’s Aerospace Forecast, the FAA is using economic forecasts developed by Global Insight, Inc. to project domestic aviation demand. Furthermore, the FAA uses 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. U.S. economic forecasts are presented on a U.S. government fiscal year (October through September) basis. International forecasts are presented on a calendar year basis.

Data suggest that unemployment hit its highest point in the first quarter of FY 2010 (up 10.0 percent) and will likely remain above 9.0 percent through 2012. Global Insight expects the recovery to be modest by historical standards with the economy plagued by continued levels of high debt, a weak housing market, and tight credit. How these issues are resolved will determine the future path of the recovery. On the bright side, prior fears of a double-dip recession are unlikely to be realized.

The boost to the economy from fiscal stimulus and inventory buildup are withering, leaving the economy to depend on underlying strength in private final demand. On a quarter-by-quarter basis for the next two years U.S. economic growth is projected to range from a low of 2.1 percent in 3Q FY 2011 to a high of 3.4 percent in 1Q FY 2012.

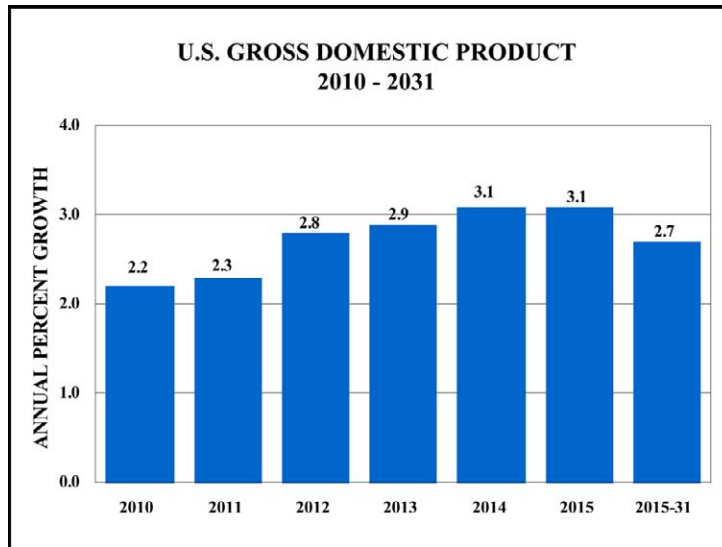


Consumer spending is by far the largest component of the U.S. economy. Burdened by high debt and rising unemployment, consumer spending increased only 1.3 percent in 2010. The recovery in consumer spending is projected to be modest with increases of 2.3 percent in both 2011 and 2012 as households continue their struggle to reduce debt burdens and rebuild retirement assets.

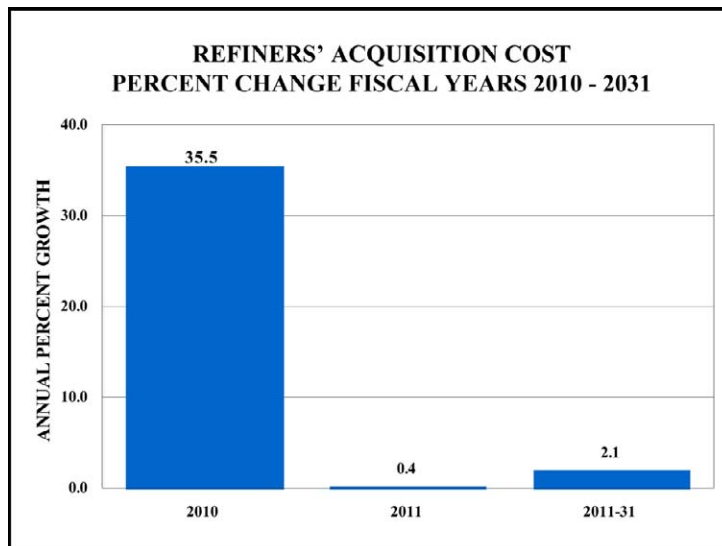
In the medium term, (the four year period between 2012 and 2016), U.S. economic growth is projected to average 3.0 percent per year with rates ranging between 2.9 and 3.1 percent. Consumption growth remains muted during the same period (up an average of 2.3 percent). For the balance of the forecast period, U.S. real GDP growth slows to around 2.7 percent annually and consumption increases to 2.5



percent annually. The long-term stability of U.S. economic growth is dependent continued growth in the workforce and capital stock, and improved productivity.



After increasing by 35.5 percent in 2010, Global Insight projects the price of oil as measured by the Refiners’ Acquisition Cost to be \$74.40 per barrel in 2011 (up 0.4 percent from 2010). Oil prices are forecast to rise to just over \$100 per barrel by 2018 and then gradually fall to just over \$95 per barrel by 2023. For the remainder of the forecast period oil prices are projected to grow faster than inflation, reaching \$113.09 per barrel by 2031.

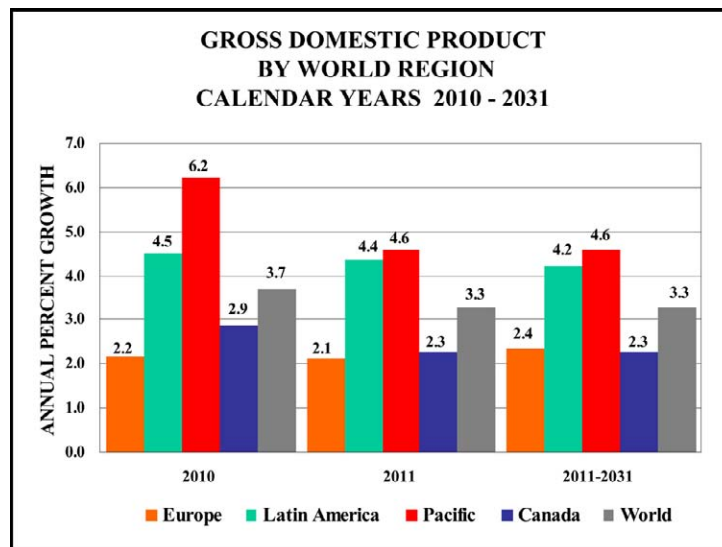


After rising 1.7 percent in FY 2010, spurred by continued economic growth, the inflation rate (as measured by the CPI) is expected to rise 1.1 percent in 2011 and 1.8 percent in 2012. After 2012, consumer price inflation is projected to grow between 1.8 and 2.1 percent per year for the balance of the forecast.

To reflect the uncertainty in the projection of economic growth, the FAA Aerospace Forecast uses high and low economic growth cases along with the base forecast. The high and low economic growth cases are based on optimistic and pessimistic scenarios from Global Insight’s 30-Year Focus (released third quarter 2010). The high economic growth case incorporates higher population growth, capital spending, and productivity relative to the base case. Due to the higher productivity, inflation is lower than in the base case. Real GDP growth in the high case averages 3.2 percent annually compared to real GDP growth of 2.7 percent annually that is contained in the base case. The low economic growth case incorporates lower population growth, capital spending, and productivity than the base case. In contrast, in the low economic case, inflation is higher than in the base case due to lower productivity growth. Real GDP growth in the low case averages 2.2 percent annually over the forecast horizon. Further details about the high and low scenarios can be found in Appendix A.

**WORLD ECONOMY**

After weathering the first contraction in global GDP since the Great Depression during 2009, worldwide economic activity is estimated by Global Insight to have expanded by 3.7 percent in 2010. The advanced economies (U.S., Canada, Europe, and Japan) posted growth in output ranging from 1.8 percent to 2.9 percent. The emerging market economies grew 6.6 percent, 5.0 points higher than in 2009 with the economy of China up 10.2 percent, India up 8.2 percent, Brazil up 7.3 percent, and Russia up 3.6 percent. In 2011, economic growth is projected to slow (up 3.3 percent) as weak household finances, sluggish employment growth, and constrained banking sectors of the advanced economies prevent global aggregate demand from growing fast enough to offset weakness from inventory accumulation and the decline of stimulus spending. Beyond 2011 through the balance of the forecast period world real GDP is projected to increase an average of 3.3 percent per year.



The Asia/Pacific and Latin America regions 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 4.6 and 4.2 percent a year, respectively, over the forecast period. In Asia, China, with a population of 1.3 billion, is forecast to grow 7.1 percent a year, becoming the world’s second largest economy by 2014 (surpassing Japan).

India, with a population of 1.2 billion, is projected to see its GDP quadruple in size, growing at an average rate of 6.8 percent a year during the forecast period. In contrast, Japan grows at just 0.8 percent a year over the forecast horizon as structural impediments and an aging population limit growth. Canadian and Western European GDP growth is anticipated to rise at more moderate rates of 2.3 and 1.7 percent a year, respectively, over the forecast period.

## AVIATION TRAFFIC AND ACTIVITY FORECASTS

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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.

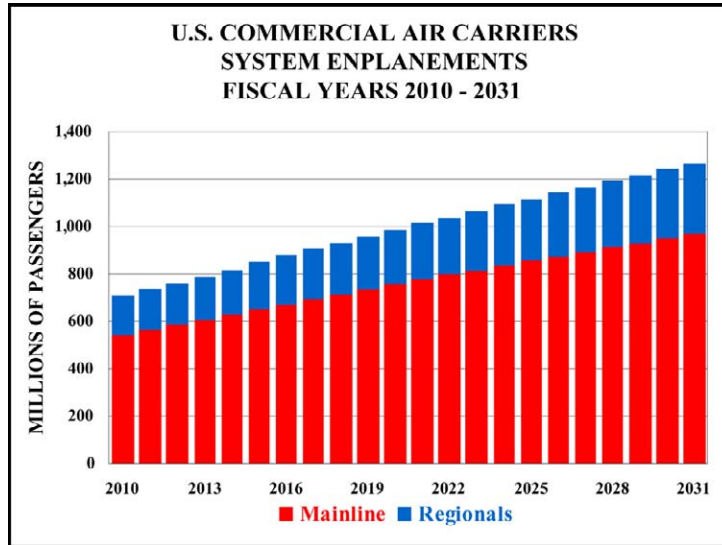
Tables 31 through 33 provide forecasts of aircraft activity at FAA and contract facilities.

### COMMERCIAL AVIATION FORECASTS

System capacity is projected to grow 4.5 percent in 2011. In the domestic market, mainline carrier capacity is forecast to grow for the first time in three years (up 2.8 percent) while capacity for the regional carriers grows at a faster pace (up 3.8 percent). In the international sector, capacity is forecast to increase in all markets — Atlantic, Latin, and Pacific. Mainline carrier system capacity grows 4.6 percent, while regional carrier capacity grows 3.8 percent.

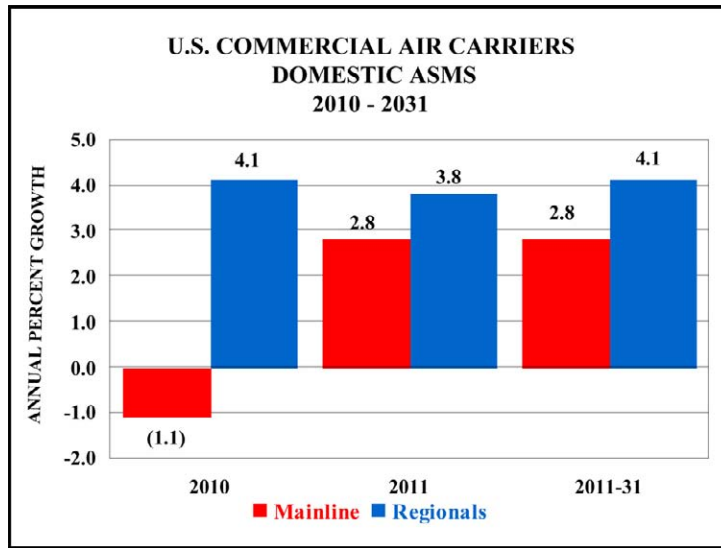
Passenger demand shows moderate to strong growth in 2011 with system RPMs forecast to grow 4.9 percent (up 5.0 percent for mainline carriers and up 4.3 percent for regional carriers) as passenger enplanements increase 3.5 percent (up 3.5 percent for mainline carriers and up 3.4 percent for regional carriers). Growth is projected to slow slightly in 2012 with system RPMs and passengers increasing 4.3 and 3.4 percent, respectively, on a capacity increase of 3.8 percent. For the overall forecast period, system capacity is projected to increase an average of 3.6 percent a year. Supported by a growing U.S. economy and falling real yields, system RPMs are projected to increase 3.8 percent a year, with regional carriers (4.2 percent a year) growing faster than mainline carriers (3.7 percent a year). System passengers are projected to increase an average of 2.8 percent a year, with regional carriers growing at the same rate as mainline carriers. By 2031, U.S. commercial air carriers are projected to fly 2.0 trillion ASMs and transport 1.3 billion enplaned passengers a total of 1.7 trillion passenger miles.

Planes will remain crowded, with load factor projected to grow moderately during the early years of the forecast period and then tapering during the mid to latter years to 83.7 percent in 2031 (up 2.9 points). Passenger trip length is forecast to increase by more than 235 miles over the forecast period to be 1,342.0 miles in 2031 (up 11.3 miles annually). The growth in passenger trip length reflects the faster growth in the relatively longer international and domestic trips as compared to shorter-haul flights.

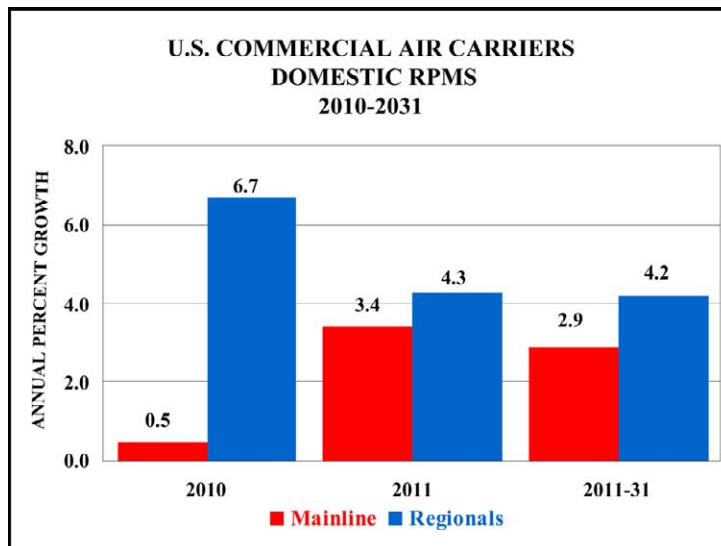


### Domestic Markets

After declining for three consecutive years, domestic capacity in FY 2011 is projected to grow (up 2.9 percent). Mainline carrier capacity is up 2.8 percent in FY 2011 with low-cost carriers expected to grow at a faster pace than their network counterparts. Regional carriers are slated to grow 3.8 percent in FY 2011, following growth of 4.1 percent in FY 2010. Domestic commercial carrier capacity picks up in 2012 (up 3.5 percent) with mainline carriers growing slower than regional carriers, 3.3 percent versus 4.9 percent, and then increases at an average annual rate of 3.0 percent for the balance of the forecast. For the entire forecast period, domestic capacity is projected to increase at an average annual rate of 3.0 percent, just slightly faster than economic growth, with mainline carriers growing slower (2.8 percent per year) than the regional carriers (4.1 percent per year).



The slow pace of the economic recovery in the U.S. moderates RPM growth during 2011, the first year of the forecast (up 3.5 percent). Traffic growth is projected to be stronger in the first half of the year as it rebounds from reduced levels posted in 2010 due to the sluggish economy. Mainline carrier RPMs are projected to increase 3.4 percent during 2011, while regional carrier RPMs grow 4.3 percent. By 2012, traffic growth improves with RPMs up 3.9 percent as the economic recovery gains momentum. Driven by economic growth and falling real yield, domestic RPMs grow 3.1 percent a year for the remainder of the forecast. For the overall forecast period domestic RPMs are projected to grow an average of 3.1 percent a year. Mainline carriers are projected to grow more slowly than the regional carriers throughout the forecast period (averaging 3.0 percent versus 4.2 percent a year, respectively).



Enplanements are forecast to grow 3.0 percent in 2011 following a 0.7 percent increase in 2010. Similar to RPMs, passenger volume is expected to pick up in 2012 (up 3.2 percent) in response to a strengthening economy, and then grow at an average rate of 2.5 percent per year for the period 2013-2031. Over the entire forecast period, domestic enplanements are projected to grow at an average annual rate of 2.6

percent with mainline carriers growing more slowly than regional carriers (2.4 versus 2.8 percent a year, respectively).

Reduced capacity combined with returning passenger demand ignited pricing power for the carriers during 2010, with nominal yield increasing 3.2 percent (up 1.4 percent in real terms). Temperate capacity growth combined with moderate demand will lift fares higher in 2011, for an increase in nominal yield of 3.1 percent (2.0 percent in real terms). For the entire forecast period, nominal yield is projected to increase at an average rate of 1.3 percent a year, while in real terms they are projected to decline at an average rate of 0.6 percent a year. The decline in real yields over the forecast period assumes technological improvements, competition between carriers, and convergence of cost structures between network carriers and their low-cost counterparts. The convergence in cost structures between the carrier groups arises from gains in productivity as network carriers retire fuel inefficient aircraft and hold the line on labor costs while low-cost carriers contend with aging fleets, maturing work forces, and unionization.

Domestic commercial carrier activity (departures) at FAA air traffic facilities is projected to grow more slowly than passenger traffic over the forecast period (2.1 percent per year for departures versus 3.1 percent for RPMs). This reflects increased carrier efficiencies in three operational measures—aircraft size, load factor, and trip length.

Even though aircraft size increased on an individual basis for both the mainline and regional carrier groups in 2010, average aircraft size remained relatively flat at 121.8 seats for the year, highlighting the decreasing share of capacity flown by the mainline carriers relative to their regional counterparts. Mainline carrier aircraft size increased 0.7 seats with the grounding of older, fuel inefficient aircraft (i.e. MD-80's and 737-300/400/500). Regional aircraft size increased by 1.0 seat with the retirement of 50-seat jet aircraft as larger 70-90 seat jet aircraft entered the fleet. Domestic seats per aircraft increases in 2011 (up 0.2 seats). Over the course of the forecast, domestic seats per aircraft are projected to gradually increase to 123.9 seats by 2031, an average of 0.1 seats per year.

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 near-term (through 2011), the forecast incorporates several assumptions: 1) mainline carriers 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); 4) the shifting of wide-body and larger narrow-body aircraft to international services, and 5) growing use of 70-90 seat regional jet aircraft.

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

Mainline carrier domestic aircraft size increased in 2010 by 0.7 seats to 151.9 seats, and is projected to increase by 0.1 seats in 2011. Domestic aircraft size for mainline carriers is projected to increase an additional 0.1 seats in 2012 to be 152.1 seats, and then gradually increase for the balance of the forecast. Overall, average aircraft size for the mainline group will increase by only 1.6 seats between 2010 and 2031, going from 151.9 to 153.5.

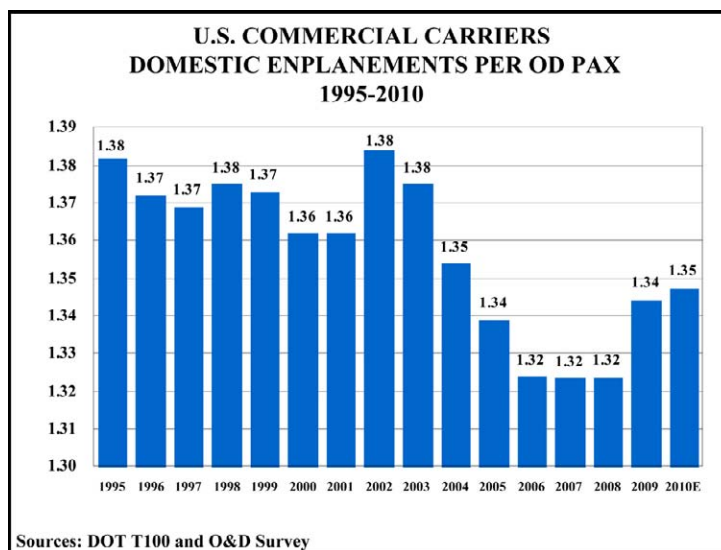
Regional carrier aircraft size flown domestically is projected to grow at a much faster pace than the mainline carriers. The faster growth in aircraft size for regional carriers is stimulated by the wave of 70-90 seat regional jet aircraft that are entering the fleet as well as reductions in the 50-seat and under jet fleet. Regional carriers are better equipped to support operations of their mainline partners by providing capacity that complements market demand. The greater number of the larger 70-90-seat regional jets in the fleet coupled with significant 50-seat jet retirements over the next few years increases the average seating capacity of the regional fleet from 56.2 seats in 2010 to 57.0 seats by 2012. Over the course of the forecast, average seats per aircraft for the regional carriers increases an average of 0.5 seats per year to 66.0 seats in 2031. 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 1.3 points during FY 2010 to an all-time high of 81.7 percent, with record load factors posted by the mainline and regional carrier groups. The mainline carrier group posted a load factor of 82.7 percent, up 1.3 percentage points from 2009. Load factor for the regional carriers increased 1.9 points to 76.2 percent. In 2011, domestic load factor is forecast to increase 0.4 points to 82.2 percent as mainline and regional carrier load factor each increase by 0.4 points. Thereafter, commercial carrier domestic load factor gradually rises to be 84.0 percent by 2031.

In 2010 domestic passenger trip length increased 5.2 miles to 874.9 miles, after decreasing 3.8 miles in 2009. Passenger trip length is forecast to increase by 4.6 miles in 2011 and by 6.0 miles in 2012 as carriers continue to restructure their networks and realign capacity. After 2012, trip length is projected to steadily increase for the balance of the forecast, reaching 987.0 miles by 2031. The increase in trip length reflects longer trips flown by the mainline and regional carrier group. Mainline carrier trip length increases as thinner, shorter haul markets are relinquished to regional partners and replaced with flying of longer domestic trips. Regional carrier trip length increases as flying in shorter haul markets is abandoned and/or reduced as more of the larger 70 and 90-seat regional jets penetrate thinner longer-haul markets previously accessible with only mainline equipment.

Another key factor in predicting aviation activity relative to passenger demand is the level of connecting versus non-stop (origin-destination) traffic. 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. After 2002, the ratio trailed downward until the end of 2008. The decline in the ratio during this six year period is characterized by a drop in connectivity by the network carriers and rising passenger share for the low-cost carriers. The uptick in the ratio started again in 2009 (1.34 enplanements for every O&D passenger) and continued into 2010 (1.35 enplanements for every O&D passenger), and highlights the retrenchment by carriers as fuel costs skyrocketed and demand for air travel plummeted. The FAA's forecast recognizes the changing pattern of domestic traffic connectivity and 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 149.6 million in CY 2010, 1.4 percent higher than in 2010. Passenger demand strengthens in 2011 (up 3.1 percent) and accelerates in 2012 (up 5.7 percent) as the world economic recovery solidifies. For the balance of the forecast period, stable worldwide economic growth leads international passengers to grow at an average rate of 4.5 percent a year, totaling 373.9 million in 2031.

In the Latin America region, sustained economic growth drives passenger growth to average 5.1 percent a year over the entire forecast period. The highest growth is projected for Brazil (average annual growth of 8.1 percent) while the largest market in the region, Mexico, grows at an average of 5.4 percent a year. The slowest rates of growth are projected to occur in the Bahamian and Jamaican markets (averaging growth of 0.2 and 2.8 percent a year, respectively).

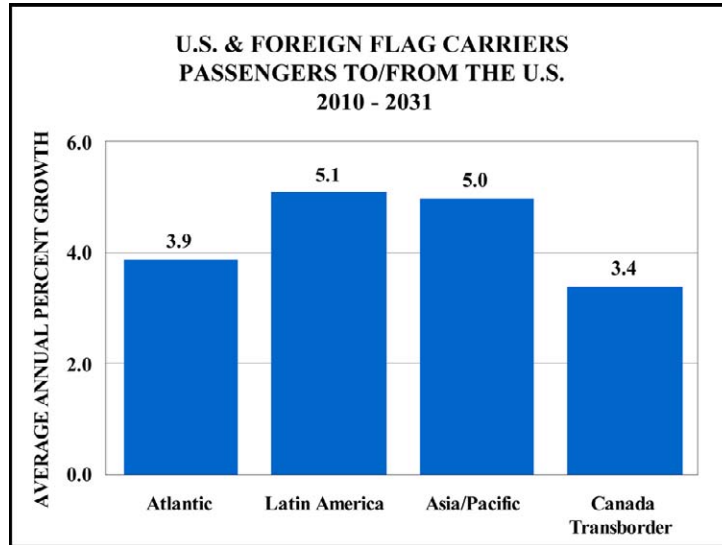
Emerging economies in the Asia-Pacific market boost passenger demand an average of 5.0 percent per year. India, Taiwan and China (passenger growth of 8.8, 7.8, and 7.4 percent a year, respectively) are forecast to be the fastest growing markets in the region. Growth in the Japan market (the largest and most established in the region) is projected to be well below the regional average at 2.3 percent a year.

In the mature Atlantic market, open skies between the European Union and the United States and competition between global airline alliances helps to fuel passenger growth of 3.9 percent a year over the



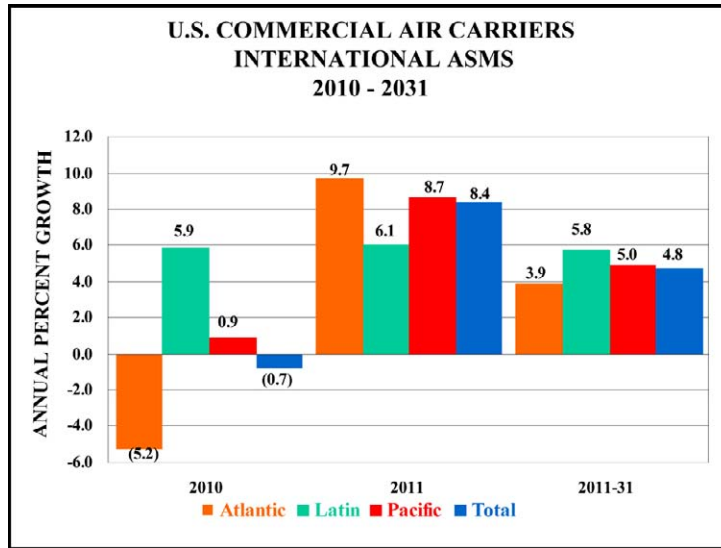
forecast period. Over the 21-year forecast horizon, average annual passenger growth in the top three Atlantic markets-- the United Kingdom, Germany, and France, is 4.2, 3.7, and 4.2 percent, respectively.

Growth in the Canadian transborder market is forecast to be higher than that of the domestic U.S. market (2.4 percent), averaging 3.4 percent a year over the forecast period.

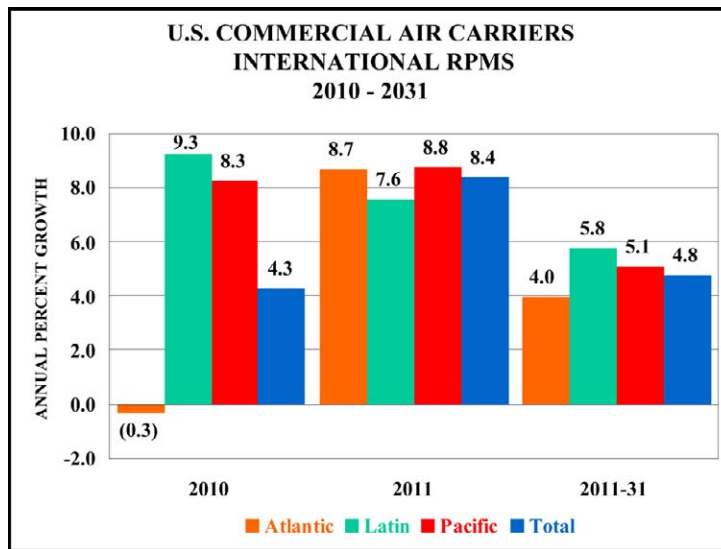


U.S. Flag Air Carriers

In 2010, international U.S. commercial air carrier capacity fell for the second consecutive year, down 0.7 percent from 2009. However, the overall decline in international capacity was heavily weighted by the performance of the Atlantic market (down 5.2 percent) versus the performance of the Latin market (up 5.9 percent—supported by a rebound from H1N1) and Pacific market (up 0.9 percent). The capacity reduction in the Atlantic region highlights the impact from airspace closures due to volcanic ash and the sluggish recovery of the U.S. and European economies compared to those of the Latin and Pacific regions. In 2011, strong demand and flourishing competition between global alliances boosts capacity 8.4 percent (up 9.7, 8.7 and 6.1 percent, respectively, in the Atlantic, Pacific and Latin markets). Capacity is projected to grow an additional 4.4 percent in 2012, fueled by stronger economic growth projected for all world regions, and averages 4.8 percent a year for the remainder of the forecast period. Strong growth over the forecast period reflects favorable U.S. and world economic activity.



U.S. commercial air carrier international RPMs and enplanements increased 4.3 percent and 5.2 percent, respectively, in 2010. The strong growth in RPMs and passengers relative to capacity underscores the commitment by carriers to restrain capacity as demand resumed. An increase in RPMs for the Latin market (up 9.3 percent) and Pacific market (up 8.3 percent) offset a modest decline in the Atlantic market (down 0.3 percent). In 2011, U.S. carrier international RPMs increase 8.4 percent led by growth in the Pacific market (up 8.8 percent) and followed by growth in the Atlantic (up 8.7 percent) and Latin markets (up 7.6 percent). For the balance of the forecast, RPMs increase an average 4.8 percent a year with the fastest growth in the Latin region. A similar pattern is forecast for enplanement growth. International enplanements are projected to increase 7.8 percent in 2011, and then grow 4.6 percent in 2012. Over the balance of the forecast period, enplanements are forecast to increase an average of 4.3 percent a year with the fastest growth in Pacific and Latin markets (up 4.9 and 4.7 percent a year, respectively).



Growth in U.S. carrier international passengers (4.5 percent a year) compared to total international passengers (4.6 percent a year excluding the US-Canada transborder market) reflects a small decline in market share for U.S. airlines over the forecast period. Forecasts of international demand assume U.S. and foreign flag 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 82.1 percent in 2010. Load factor is expected to remain flat in 2011 as stronger capacity growth relative to traffic growth in the Atlantic market is offset by stronger traffic growth relative to capacity growth in the Pacific and Latin markets. International load factor is projected to increase 0.5 points in 2012 as traffic growth exceeds capacity growth in all three world markets. Load factor rises slowly through the remainder of the forecast to be 83.2 percent in 2031.

International passenger real yields for mainline carriers were up 8.1 percent in 2010 as the rebound in passenger demand from the global recession outpaced capacity growth. The largest increase was in the Atlantic market (up 11.6 percent), followed by the Pacific (up 9.2 percent) and Latin market (up 1.3 percent). Buoyed by growing passenger demand, international real yields are projected to increase 5.0 percent in 2011 and then increase by 0.6 percent in 2012. For the remainder of the forecast period, real yield decreases an average of 1.0 percent a year. In nominal terms, international yields are forecast to increase 6.2 percent in 2011, and 2.4 percent in 2012 and then grow at an annual rate of 1.0 percent over the remainder of the forecast. The decline in real yields assumes competitive pressures and technological improvements will hold the line on fare increases.

### **Commercial Air Carriers – Air Cargo**

Historically, air cargo activity tracks with GDP. Additional factors that affect air cargo growth are fuel price volatility, movement of real yields, and globalization. Significant structural changes have occurred in the air cargo industry. Among these changes are air cargo security regulations by the FAA and TSA; maturation of the domestic express market; shift from air to other modes (especially truck); 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.

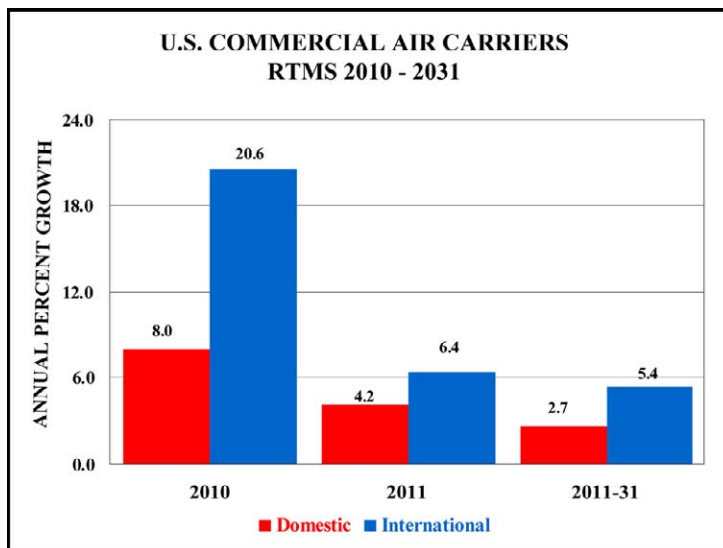
The forecasts of RTMs were based on models that link cargo activity to GDP. Forecasts of domestic cargo RTMs were developed with real U.S. GDP as the primary driver. Projections of international cargo RTMs were based on growth in world GDP, adjusted for inflation. The distribution of RTMs between passenger 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 grow 5.6 percent in 2011 and again in 2012 by 7.4 percent. For the balance of the forecast period, driven by steady economic growth, total RTMs are forecast to increase at an average annual rate of 4.5 percent. The forecast of 93.2 billion RTMs in 2031 represents an average annual increase of 4.7 percent over the entire forecast period.

Domestic cargo RTMs are forecast to grow 4.2 percent in 2011 and 6.1 percent in 2012, driven by a recovery in the U.S. economy. Between 2012 and 2031, domestic cargo RTMs are forecast to increase at an average annual rate of 2.5 percent. The forecast of 22.7 billion RTMs in 2031 represents an average annual increase of 2.8 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 price and substitution (electronic mail).

The all-cargo carriers have increased their share of domestic cargo RTMs flown from 70.0 percent in 2000 to 87.4 percent in 2010. 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. The all-cargo share is forecast to increase to 89.6 percent by 2031 based on increases in capacity for all-cargo carriers and security considerations.

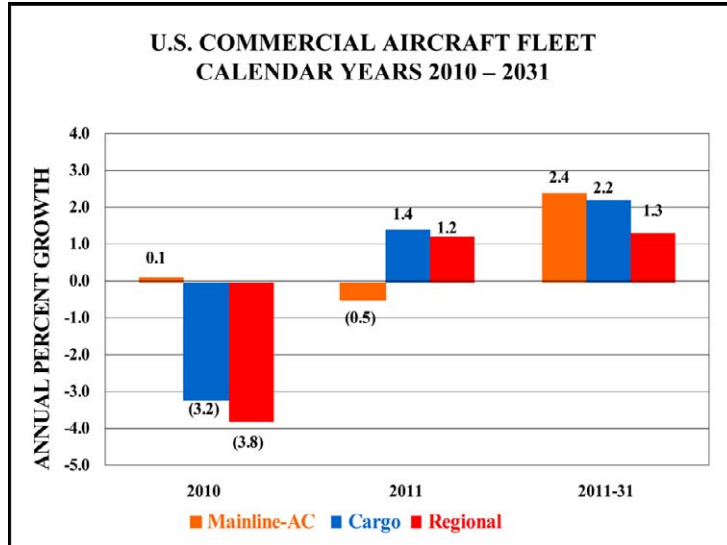


International cargo RTMs are forecasted to rise 6.4 percent in 2011 reflecting a recovery from the global economic downturn and grow 8.1 percent in 2012 as trade expands. For the balance of the forecast period, international cargo RTMs are forecast to increase an average of 5.3 percent a year based on projected growth in world GDP. The forecast 70.5 billion RTMs in 2031 represents an average annual increase of 5.5 percent over the entire forecast period.

The share of international cargo RTMs flown by all-cargo carriers increased from 49.3 percent in 2000 to 69.1 percent in 2010. Beyond 2010, the all-cargo share of RTMs flown is forecast to increase modestly to 75.2 percent by 2031.

**COMMERCIAL AIRCRAFT FLEET**

The number of commercial aircraft is forecast to grow from 7,096 in 2010 to 10,523 in 2031, an average annual growth rate of 1.9 percent or 163 aircraft annually. The commercial fleet is projected to increase by 23 aircraft in 2011 after shrinking by 126 aircraft in 2010 as the slow recovery in demand and rising fuel prices prompted carriers to prune their fleets. Since 2007, the US commercial airline fleet has contracted by 648 aircraft. In comparison, the US commercial fleet contracted by 262 aircraft between 2000 and 2003, the last downturn in aviation.



The number of passenger jets in the mainline carrier fleet increased by 4 aircraft in 2010 but is expected to fall another 19 aircraft in 2011 as network carriers continue to remove older, less fuel efficient narrow body aircraft. After 2011, the mainline air carrier passenger fleet increases an average of 110 aircraft a year over the remaining years of the forecast period, totaling 5,888 aircraft in 2031. The narrow-body fleet (including E-190’s at JetBlue and US Airways) is projected to grow by 69 aircraft annually over the period 2010-2031; the wide-body fleet grows by 34 aircraft a year as the Boeing 787 and Airbus A350’s enter the fleet.

The regional carrier passenger fleet is forecast to increase by 31 aircraft in 2011 as increases in larger regional jets offset reductions in 50 seat and smaller regional jets. After 2011, the regional carrier fleet is expected to increase by an average of 39 aircraft (1.3 percent) over the remaining years of the forecast period, totaling 3,384 aircraft in 2031. The number of regional jets (90 seats or fewer) at regional carriers is projected to grow from 1,771 in 2010 to 2,764 in 2031, an average annual increase of 2.0 percent. All the growth in regional jets over the forecast period occurs in the larger 70 and 90-seat aircraft. During the forecast period, all 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 shrink from 806 units in 2010 to 620 in 2031. Turboprop/piston aircraft are expected to account for just 18.3 percent of the regional carrier passenger fleet in 2031, down from a 31.3 percent share in 2010.

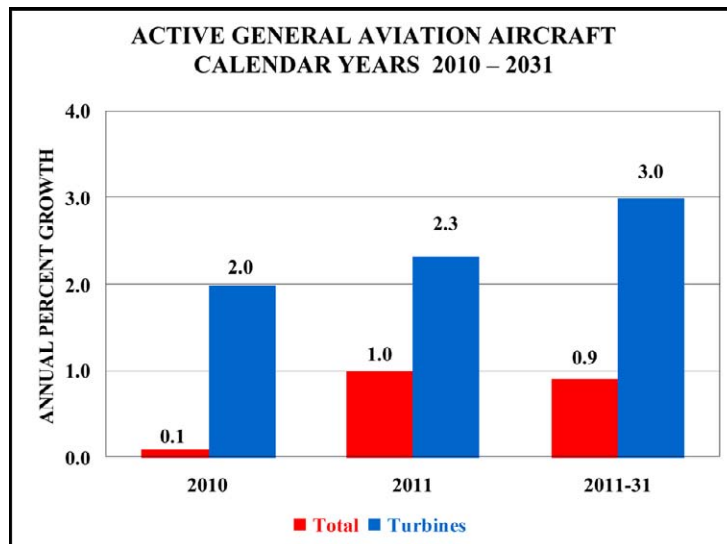
Cargo large jet aircraft are forecast to increase by 34 aircraft over the next 2 years (from 806 to 840 aircraft in 2012), and total 1,251 aircraft in 2031. The narrow-body jet fleet is projected to increase by 7 aircraft a year over the 21-year forecast period as older 757’s and 737’s are converted to cargo service. The wide-body jet fleet is projected to increase by 14 aircraft yearly.

**GENERAL AVIATION**

The FAA forecasts the fleet and hours flown for single-engine piston aircraft, multi-engine piston, turboprops, turbojets, piston and turbine powered rotorcraft, light sport, experimental and other (which consists of gliders and lighter than air vehicles). The FAA forecasts “active aircraft,”<sup>12</sup> not total aircraft. The FAA uses estimates of fleet size, hours flown, and utilization from the General Aviation and Part 135 Activity 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. Coinciding with the changed survey methodology, large changes in many categories were observed, both in the number of aircraft and hours flown. The results of the 2009 GA Survey are consistent with the results of surveys since 2004, 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 results from the GA Survey are not published until the following year, the 2009 statistics are the latest available. Figures for 2010 are estimated based on other activity indicators, and the forecasts of activity begin in 2011 and continue through 2031.

After growing rapidly for most of the past decade, the demand for business jet aircraft has slowed over the past few years. While new product offerings, the introduction of very light jets, and increasing foreign demand have helped to drive this growth in the earlier part of the decade, the past few years have seen the hard impact of the recession on the business jet market. Despite the impact of the recession felt in the business jet market, the forecast calls for robust growth in the long term outlook, driven by higher corporate profits and continued concerns about safety/security and flight delays, increasing the attractiveness of business aviation relative to commercial air travel and predicts business usage of general aviation aircraft will expand at a faster pace than that for personal/recreational use.

The active general aviation fleet is projected to increase at an average annual rate of 0.9 percent over the 21-year forecast period, growing from an estimated 224,172 in 2010 to 270,920 aircraft by 2031. The more expensive and sophisticated turbine-powered fleet (including rotorcraft) is projected to grow at an average of 3.0 percent a year over the forecast period, with the turbine jet portion increasing at 4.2 percent a year.

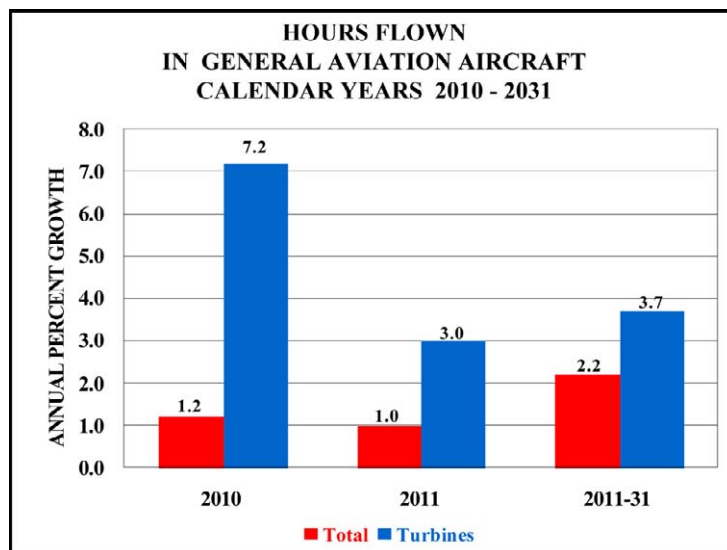


<sup>12</sup> An active aircraft is one that flies at least one hour during the year.

The number of active piston-powered aircraft (including rotorcraft) is projected to decrease from the 2009 total of 160,623 through 2018, with declines in both single and multi-engine fixed wing aircraft, but with the smaller category of piston-powered rotorcraft growing. Beyond 2018 active piston-powered aircraft are forecast to increase to 168,140 by 2031. Over the forecast period, the average annual increase in piston-powered aircraft is 0.2 percent. Although piston rotorcraft are projected to increase at a faster rate (2.9 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 a much slower rate (0.3 percent) while multi-engine fixed wing piston aircraft are projected to decline 0.9 percent a year. In addition, it is assumed that new light sport aircraft could impact the replacement market for traditional piston aircraft.

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 2009 a total of 6,547 active aircraft were estimated to be in this category. The forecast assumes the fleet will increase approximately 450 aircraft per year until 2013. Thereafter the rate of increase in the fleet tapers considerably to about 300 per year. By 2031 a total of 13,870 light sport aircraft are projected to be in the fleet.

The number of general aviation hours flown is projected to increase by 2.2 percent yearly over the forecast period. FAA is projecting that in 2012 and 2013 above average growth in hours will occur as utilization rates for certain aircraft types will rebound from low utilization rates experienced in 2009 and return to normal levels, particularly in the turbine jet category. As with previous forecasts, much of the long term increase in hours flown reflects strong growth in the rotorcraft and turbine jet category. Hours flown by turbine aircraft (including rotorcraft) are forecast to increase 3.7 percent yearly over the forecast period, compared with 0.8 percent for piston-powered aircraft. Jet aircraft are forecast to account for most of the increase, with hours flown increasing at an average annual rate of 5.3 percent over the forecast period. The large increases in jet hours result mainly from the increasing size of the business jet fleet, along with measured recovery in utilization rates from recession induced record lows. Rotorcraft hours, which were less impacted by the economic downturn when compared to other categories, are projected to grow by 2.9 percent yearly. The light sport aircraft category is expected to see increases in hours flown on average of 5.4 percent a year, which is primarily driven by growth in the fleet.



The number of active general aviation pilots (excluding air transport pilots) is projected to be 527,660 in 2031, an increase of over 42,000 (up 0.4 percent yearly) over the forecast period. Commercial pilots are projected to increase from 123,705 in 2010 to 136,300 in 2031, an average annual increase of 0.5 percent. The number of student pilots is forecast to increase at an average annual rate of 0.1 percent over the forecast period, increasing from 119,119 in 2010 to 120,600 in 2031. In addition, FAA is projecting that by the end of the forecast period a total of 12,850 sport pilots will be certified. As of December 31, 2009, the number of sport pilot certificates issued was 3,682 reflecting a steady increase in this new “entry level” pilot certificate that was only created in 2005. The number of private pilots is projected to grow at an average yearly rate of 0.3% over the forecast period to total 214,500 in 2031.

## **FAA WORKLOAD FORECASTS**

### **FAA and Contract Towers**

Activity at the 510 FAA (264) and contract towers (246) totaled 51.2 million operations in 2010, down 3.2 percent from 2009. Activity is projected to decrease 0.6 percent in 2011, as declines in non-commercial operations more than offset increases in commercial activity. Growth in total activity at FAA and contract towers resumes in 2012 (1.6 percent) and for the balance of the forecast, activity grows at an average rate of 1.6 percent per year, reaching 69.3 million operations in 2031.

Most of the growth over the forecast period results from increased commercial aircraft activity (up 2.1 percent annually). Air carrier activity is projected to increase 2.6 percent in 2011 as carriers begin to restore flights following the 2009 recession. Beyond 2011, air carrier activity is projected to increase an average of 2.3 percent per year over the forecast period. Commuter/air taxi operations are forecasted to rise 1.9 percent in 2011 then increase 1.6 percent a year for the balance of the forecast period.

General aviation activity fell 5.1 percent in 2010 with steep declines in both itinerant (down 4.5 percent) and local (down 5.9 percent) activity. Activity is projected to fall again in 2011 (down 3.1 percent) reflecting the continuing impact of the 2009 recession before rising modestly in 2012 (up 1.2 percent) as a growing economy promotes the growth of flight hours and operations despite higher oil prices. For the entire forecast period, general aviation activity at towered airports is projected to increase an average of 1.0 percent a year, to 32.9 million operations in 2031. General aviation activity at combined FAA/contract towers grows in line with the modest increase forecasted for general aviation piston hours already cited. Most operations at the smaller towers are in piston aircraft, while those at the largest airports tend to be turbine operations.

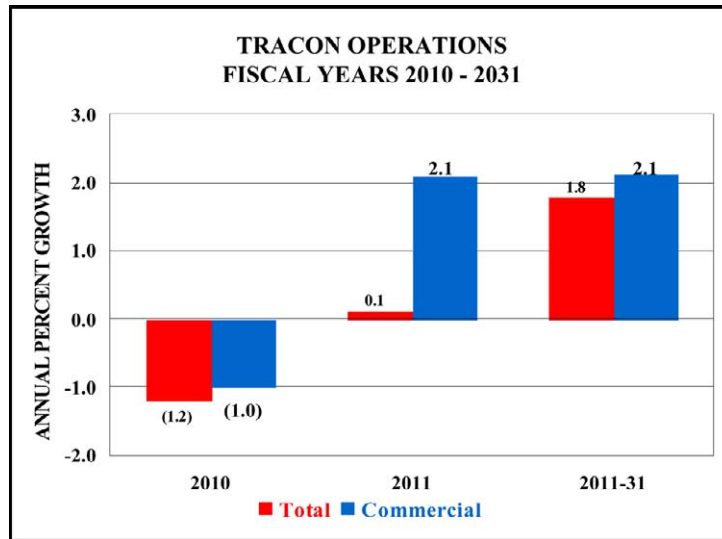
Military activity rose 0.9 percent in 2010 to 26 million operations and is projected to remain at that level throughout the forecast period.

Operations<sup>13</sup> at FAA TRACONs (Terminal Radar Approach Control) fell 1.2 percent in 2010, the sixth year in a row. They are projected to rise 0.1 percent in 2011 as increased commercial activity offsets continued declines in non-commercial activity. After 2011, TRACON operations are forecast to increase at an average annual rate of 1.8 percent for the balance of the forecast. For the entire forecast period, TRACON operations grow an average of 1.7 percent per year, totaling 55.3 million in 2031.

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<sup>13</sup> TRACON operations consist of itinerant IFR and VFR arrivals and departures at all airports in the domain of the TRACON as well as IFR and VFR overflights.

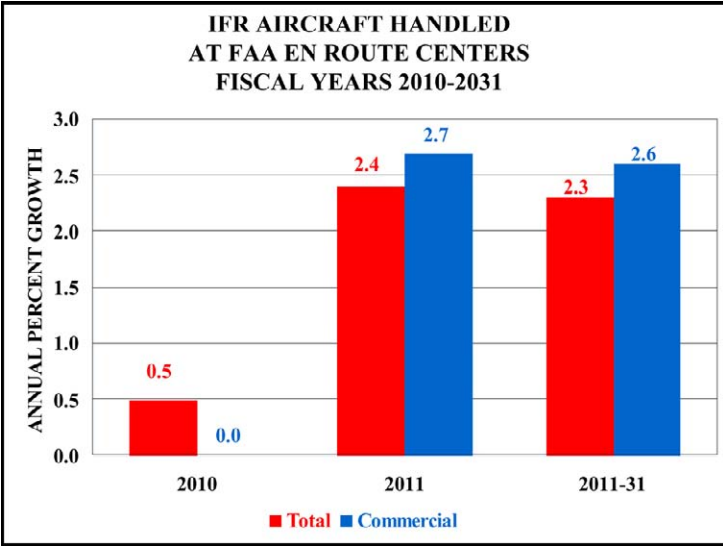




Over the forecast period, commercial aircraft operations at FAA TRACONs are forecast to increase at 2.1 percent per year with increases in air carrier activity surpassing commuter/air taxi activity. General aviation operations at FAA TRACONs are projected to grow 1.2 percent a year, reflecting the relatively slow growth in the general aviation fleet and hours. Military activity is expected to remain at its 2010 level (2.4 million) of activity throughout the forecast period.

### En Route Centers

The number of IFR aircraft handled at FAA en route traffic control centers increased 0.5 percent to 40.5 million in 2010, highlighted by a 3.4 percent increase in general aviation activity. En route center activity is forecast to increase by 2.4 percent in 2011 in the wake of increased commercial and general aviation activity. After 2011, through the balance of the forecast period, en route activity increases 2.3 percent annually, reaching 65.4 million aircraft handled in 2031. Over the entire forecast period, commercial activity is projected to increase at an average annual rate of 2.6 percent, reflecting increases in the commercial fleet and aircraft stage lengths. During the same period, general aviation activity is projected to grow 1.5 percent per year, reflecting growth in business aviation. Military activity is held constant at the 2010 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

## ▶▶▶ UNMANNED AIRCRAFT SYSTEMS

International industry development, growth, and investment over the past several years have allowed Unmanned Aircraft Systems (UAS) to evolve from remotely piloted vehicles with limited capabilities to semi and fully autonomous systems for commercial applications. There are some 100 U.S. companies, academic institutions, and government organizations developing over 300 UAS designs. Currently, the U.S. government uses unmanned aircraft for military combat, surveillance, and reconnaissance.

The UAS term is used because it includes the entire system (aircraft, data links, control station and other elements). UAS's also vary widely in size, shape, and capabilities. Some unmanned aircraft weigh 1,900 pounds and can remain aloft for 30 hours or more, because there is no need for them to land to change pilots. Some are 6 inches long. Others can perform dangerous missions without risking loss of life.

In its broadest context, there are three major market segments: military, civil government, and commercial. While market drivers and dynamics among these segments differ significantly, they share common objectives: to provide a service that cannot be accomplished by manned aircraft and/or to perform an existing manned operation at a lower cost. The investments and the technological advances in UAS's made by military organizations have generated a growing interest in their potential use for civil, government, scientific research, and commercial applications. Federal agencies are planning to increase their use of UAS's and state and local governments envision using UAS's to aid in law enforcement and firefighting.

The FAA has worked with the Aviation Rulemaking Committee (ARC) comprised of industry, associations, and other government agencies. The ARC delivered the recommendations to the FAA that would address the operation Unmanned Aircraft under 55 pounds within the National Airspace. The FAA is in the process of drafting regulations to facilitate: certification of pilots; registration of aircraft; approval of sUAS (small unmanned aircraft systems) operations when required; and define sUAS operational limits, best practices, and regulatory approach for all sUAS.

Once enabled, commercial markets will develop in markets such as real estate photography and aerial inspections. These sUAS could perform missions with less noise and fewer emissions than manned aircraft. Once the regulatory structure is in place and markets emerge within the regulatory framework, a viable fleet will develop.

Based upon the expected regulatory environment, FAA is projecting a fleet of 10,000 active sUAS in five years. In ten years, the fleet is projected to increase to 25,000 units and grows to 30,000 units by 2030. With the safe integration of sUAS into the National Airspace system, both civil and commercial applications will develop and UAS have the potential to become a major component of commercial aviation within the United States.

## ▶▶▶ COMMERCIAL SPACE TRANSPORTATION

The Federal Aviation Administration's (FAA) Office of Commercial Space Transportation (AST) 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. AST's mission is to license and regulate commercial launch and reentry operations and non-federal launch sites to protect public health and safety, the safety of property, and the national security and foreign policy interests of the United States.

### OVERVIEW

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Commercial space transportation primarily consists of commercial launch service providers launching satellites into orbit for either commercial or government customers. Commercial space transportation also includes suborbital launches, where a payload or a vehicle is launched on a trajectory that briefly enters space but returns to Earth without entering orbit. Finally, it includes the reentry of objects from space to Earth.

The FAA licenses several expendable vehicles used for commercial orbital launches. The most frequently used vehicles are:

- Atlas V, an intermediate- to heavy-class vehicle (depending on variant) built by United Launch Alliance (ULA), a joint venture between Boeing and Lockheed Martin, and marketed by Lockheed Martin Commercial Launch Services;
- Delta II, a medium-class vehicle, and the Delta IV, an intermediate- to heavy-class vehicle (depending on variant), both built by ULA and marketed by Boeing Launch Services (BLS);
- Falcon 1, a small launch vehicle, and the Falcon 9, an intermediate- to heavy-class vehicle (depending on variant), built and operated by Space Exploration Technologies Corporation (SpaceX);
- Pegasus and Taurus, two small-class vehicles built and operated by Orbital Sciences Corporation (Orbital); and,
- Zenit-3SL, a heavy-class vehicle built by the Ukrainian company KB Yuzhnoye for the multinational Sea Launch AG venture, which conducts launches from a floating launch platform, with Long Beach, CA as its home port.

The Falcon 9 vehicle by SpaceX accomplished a successful inaugural flight on June 4, 2010, and its first Commercial Orbital Transportation System (COTS) Dragon demonstration mission on December 8, 2010.

The medium-class Taurus II by Orbital is currently under development, its first launch planned for 2011.

From 1989 through the end of 2010, DOT/FAA has licensed 204 orbital and suborbital commercial launches.

FAA first granted Experimental Permits, for suborbital reusable vehicle development and test flights, in 2006 to Blue Origin and Armadillo Aerospace. Other permits have been granted for vehicles participating

in the Lunar Lander Challenge. This is 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.

Eight commercial spaceports, located in six states, Alaska, California (Vandenberg Air Force Base and Mojave Air and Space Port), Florida (Cape Canaveral and Cecil Field Spaceport), New Mexico, Oklahoma, and Virginia, currently have FAA launch site operator licenses. Several other commercial spaceports around the United States are under development.

## REVIEW OF 2010

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There were four FAA-licensed launches, all orbital, in 2010, down from five in 2009. BLS performed two launches, one Delta IV launch of meteorological GOES P satellite for NOAA and a Delta II launch of the Cosmo-Skymed 4 Earth observation satellite for the Government of Italy. SpaceX successfully performed the inaugural launch of Falcon 9 carrying Dragon demo payload in June and the first in a series of NASA COTS Dragon capsule demonstration launches in December.

FAA Licensed and Permitted Launches, 2009-2011			
	2009	2010	2011 Forecast
Licensed Launches	5	4	5-8
Permitted Launches	0	0	5-10

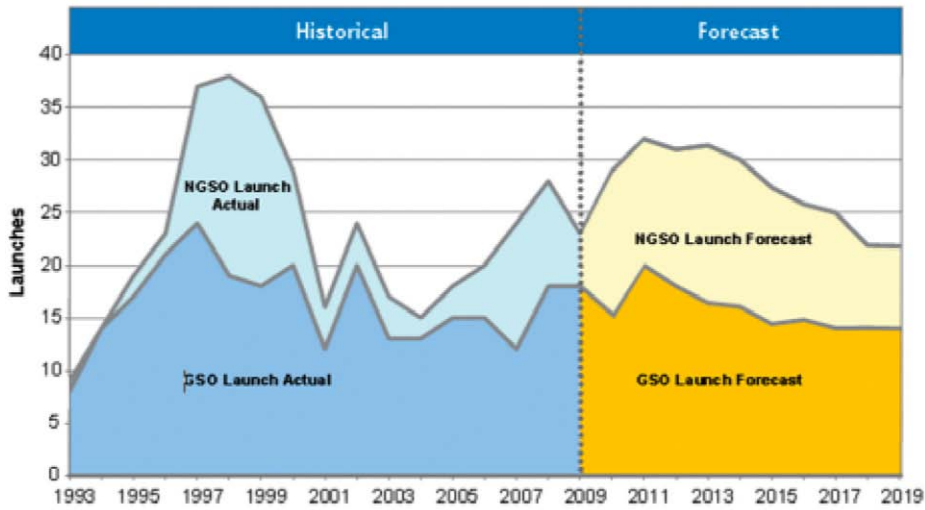
Worldwide there were 23 orbital commercial launches in 2010, compared to 24 in 2009. In addition to the four FAA-licensed launches, Europe performed six commercial launches of its Ariane 5, and Russia conducted thirteen commercial launches of various vehicles. There were 74 total worldwide commercial, civil, and military launches in 2010, with commercial launches representing approximately 31 percent of the total. For more details, see the Year in Review report available online 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 2010, the FAA and the Commercial Space Transportation Advisory Committee (COMSTAC) published their annual global forecast for commercial launch demand, the *2010 Commercial Space Transportation Forecasts*. The report forecasts an average of 27.6 commercial orbital launches per year of geosynchronous orbit (GSO) and non-geosynchronous orbit (NGSO) payloads through 2019. That annual average includes 15.7 launches of medium-to-heavy vehicles to deploy GSO satellites, 9.1 launches of medium-to-heavy vehicles to NGSO, and 2.8 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. There has been an increase in the number of GSO satellites that are larger and more complex; however, there is still a demand for smaller satellites. Demand for commercial NGSO launches spans a number of markets, including commercial remote sensing; science and technology demonstration; and replenishment and replacement of low Earth orbit communications satellite systems reaching the end of their lifespan. The majority of commercial NGSO launches for science and technology demonstration missions are for nations that do not have indigenous launch capability.

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

In the short term the FAA is confident that its current outlook for aviation demand and activity can be achieved. However, this year's forecast is driven by a number of factors including security, as well as the strength of the economic recovery. As numerous recent incidents (the attempted bombing of a Northwest airliner on Christmas Day 2009, the discovery of multiple devices on cargo flights out of Europe in October, 2010) remind us, terrorism remains among the greatest risks to achieving the forecast. 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.

While oil prices were considerably higher in 2010 than they were in 2009 (though lower than in 2008), there is still considerable uncertainty as to the level of oil prices once the economic recovery is on firmer ground. FAA's baseline forecast (derived from economic assumptions in Global Insight's 30-Year Focus released third quarter 2010) calls for steady increases in oil prices after 2010. The increases are relatively modest, with the price of oil approaching \$100/barrel by 2018 and remaining around that level through 2026, and then increasing gradually for the remainder of the forecast. Some forecasters are calling for a much sharper increase in the price of oil. The U.S. Energy Information Administration (EIA) in its 2011 Annual Energy Outlook is projecting oil prices to exceed \$100/barrel by 2015-2016 and continue rising over the next 20 years, reaching \$165-\$175 per barrel in 2030. While lower oil prices give consumers an impetus for additional spending, including air travel, and increases the chances for industry profitability, higher oil prices could lead to further shifts in consumer expenditures away from aviation, dampening a recovery in air transport demand. Furthermore, higher oil prices, especially in the near term, could wipe out any chance of industry profitability, continue to pressure airline costs, delay balance sheet improvement and discourage expansion plans or new orders for aircraft as carriers focus on maintaining and increasing cash balances.

Although the global economy has begun to grow again, data suggest that a two track recovery is emerging, with growth concentrated in a relatively few countries. As a result, the ensuing economic recovery may not be a balanced one and there is considerable doubt about the strength and sustainability of the expansion. The baseline forecast assumes that growth in China will be significantly higher than in the other large economies – U.S., Japan and the European Union. Doubts remain over the strength of demand in the U.S., Japan and in the European Union as these areas continue to be constrained by structural economic problems and institutional constraints. In addition, many countries in the European Union are beginning to implement contractionary policies, aimed at reducing the growth in government and personal debt, which could hamper the economic recovery in the region. Furthermore the steps that were taken to turn the global economy around may prove to be excessive, since the resulting surge in liquidity growth seems to be inflating asset bubbles and exacerbating existing global imbalances. Once the global economy recovers from the current downturn, there could be an increasing risk from asset bubbles and macroeconomic imbalances, which could end up in a deeper, more prolonged, and less manageable recession and financial crisis. 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.

The outlook for further consolidation via mergers and acquisition (M&A) is mixed. For network carriers, aside from American and USAirways, there is little scope for further consolidation. Much excitement has been generated in the low cost carrier sector with the announced merger between Southwest and

AirTran, and lots of material has been written about additional possible combinations involving other low cost carriers. But there are significant obstacles to further consolidation in the low cost carrier sector. In particular the financial condition of many low cost carriers limits the possibilities of additional merger activity. For many low cost carriers, the sheer size of a merger transaction or the amount of financial risk associated with a merger makes further merger activity unlikely, in our view. However, US airlines are exploring other options including global alliances. Many of the major carriers in the US are members of global alliances that operate with some measure of anti-trust immunity from the US DOT. While anti-trust immunity may provide flexibility to airline operators across borders, it may create an anti-competitive environment in the marketplace. These market consolidating vehicles, particularly the anti-trust immunity provisions, may invite increased regulatory scrutiny. If such oversights are launched in the future, this will complicate the evolving structure of the airline industry and may impact demand via new regulations.

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. As demand continues to slowly recover, increased financial pressures on regional operators have appeared. Furthermore, as consolidation has occurred among the network carriers, certain regional carriers have found themselves either saddled with excess capacity or lack of sufficient capacity, or lack of feed traffic. The experience of the Delta/Northwest combination and the impending United/Continental combination may see opportunities for regional flying substantially reduced.

After suffering through a significant downturn in 2009, business and corporate aviation saw a partial recovery in 2010. The pace of the recovery in business and corporate aviation are largely based upon the future prospects of economic growth and corporate profits. Future uncertainty in these leading indicators could pose a risk to the forecast, but the risk is not limited to these factors. Public perception of business and corporate aviation, potential environmental regulations and taxes, along with increased security measures placed on business jets, will place downward pressure on the forecast.

Other factors, such as new and more efficient product offerings and increased competition from new entrant manufacturers, serve to broaden the potential of the industry. Estimates show that a record number of new business jet deliveries are overseas and, with the potential easing of regulations on the use of airspace in foreign countries, the scenario for business jet manufacturers looks all the more promising. Raising the amount of security restrictions, and subsequent travel hassles placed on airline passengers, could make corporate jet travel increasingly appealing.

The mix of aircraft operating at most large hubs is also expected to become increasingly complex over the forecast period. The expected increases in the numbers of regional jets and business jets 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.

Although activity at most U.S. airports fell in 2010, delays remained at historically high levels at many U.S. airports. As demand recovers and workload increases, congestion and delays 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 and the FAA are examining a number of options to manage congestion, but the specific measures to be implemented, and therefore their impact, are unknown at this time.



There are concerns that aviation’s impact on the environment could potentially restrict the ability of the aviation sector 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. Concerns about the climate impacts of aviation emissions continue to grow. Although aviation currently accounts for 2 to 3 percent of climate change impacts, greenhouse emissions from the sector are expected to increase with the growth in operations unless aggressively mitigated with new technology, renewable fuels, operational improvements and market measures. Some market measures intended to control emissions, e.g., various emissions trading systems and charges being discussed, could add significant costs to the aviation sector that could effectively reduce available funds for needed investments in new technology. Energy concerns are also rising, driven by spikes in fuel prices, supply and security issues, and concerns about fossil fuel emissions contributing to global climate change. Lack of progress on improving the environmental and energy outlook for the future fleet can drive more restrictions via standards or operating limitations on the fleet in service--which in turn can depress growth. By contrast, breakthroughs in quieter, cleaner aircraft technologies and renewable fuels could reduce environmental and energy constraints on the forecast, and enable sustainable growth.

## ▶▶▶ APPENDIX A ALTERNATIVE FORECAST SCENARIOS

Uncertainty abounds in all industries, but especially in the commercial air travel industry. Increasingly, the FAA has been requested to provide alternative scenarios to their baseline forecasts. These requests come from policy makers, private industry, associations, and consultants. This year, the FAA has responded to its customers, fully understanding that more information, not less, will help stakeholders to better prepare for the future.

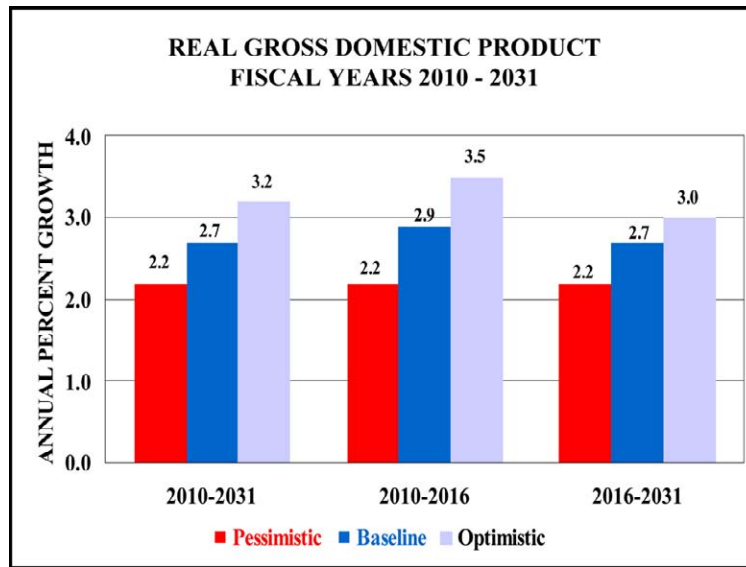
To create the baseline forecast, economic assumptions for both U.S. and international regions from Global Insight's 30-Year Focus (released third quarter 2010) were used to generate enplanements, mainline real yield and nominal yield. The baseline forecast of passenger trip length (an input variable used to forecast mainline real yield) was derived from recent historical trends and analyst judgment. To develop the alternative scenarios, assumptions from the optimistic and pessimistic scenarios contained in Global Insight's 30-Year Focus were used. Inputs from these scenarios were substituted for the baseline scenario inputs to create a "high" and "low" traffic, capacity, and yield forecast. The baseline forecast trip length was adjusted in the optimistic and pessimistic scenarios based on the movement of oil prices in Global Insight's alternative forecasts relative to the baseline forecast.

International passengers and traffic are primarily determined by GDP. Thus, the baseline forecast of GDP for both the U.S. and international regions is modified using the optimistic and pessimistic forecasts of GDP described above in order to create a high and low case.

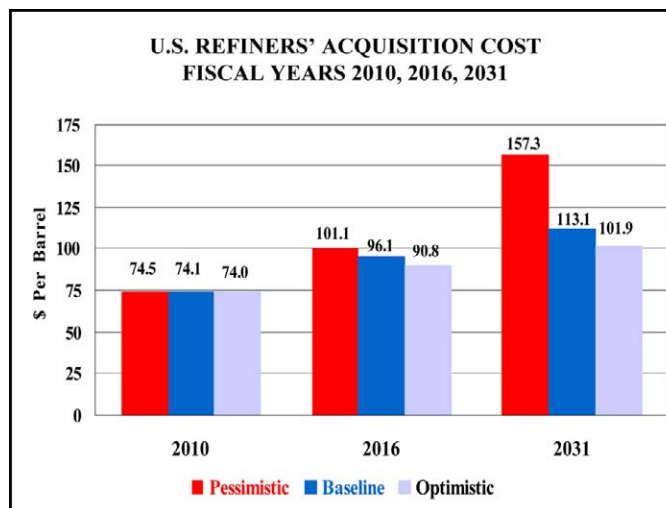
## SCENARIO ASSUMPTIONS

FAA's baseline forecast assumes that the economy recovers from the current downturn and suffers no major mishaps such as large oil price shocks, swings in macroeconomic policy, or financial meltdowns. In the alternative scenarios, the economy is postulated to proceed smoothly as well, however at a different pace than projected under the baseline forecast. Projections for economic growth in Global Insight's alternative scenarios are rooted in demographics. In Global Insight's optimistic forecast scenario, population grows more rapidly than in the baseline due to higher net immigration. The reverse is true for the pessimistic forecast; population grows more slowly than the baseline forecast due to slower net immigration.

FAA's high case forecast uses Global Insight's optimistic forecast. The optimistic forecast is characterized by lower inflation and faster growth in the labor force and capital stock than in the baseline forecast. In this scenario productivity growth is higher and potential output climbs more rapidly, with GDP growing about 0.5 percentage points quicker per year than the baseline forecast and unemployment averaging 0.4 points lower on an annual basis than the baseline (GDP and unemployment are used as an input variables to the FAA's base, high and low forecasts of enplanements). Conversely, FAA's low case forecast uses Global Insight's pessimistic scenario. The pessimistic forecast is characterized by higher inflation and slower growth in the labor force and capital stock than in the baseline forecast. In this scenario, the U.S. economy grows 0.5 percentage points slower per year than in the baseline due to slower productivity and lower potential output growth, and unemployment, on average, is 0.3 points higher on an annual basis than in the baseline.

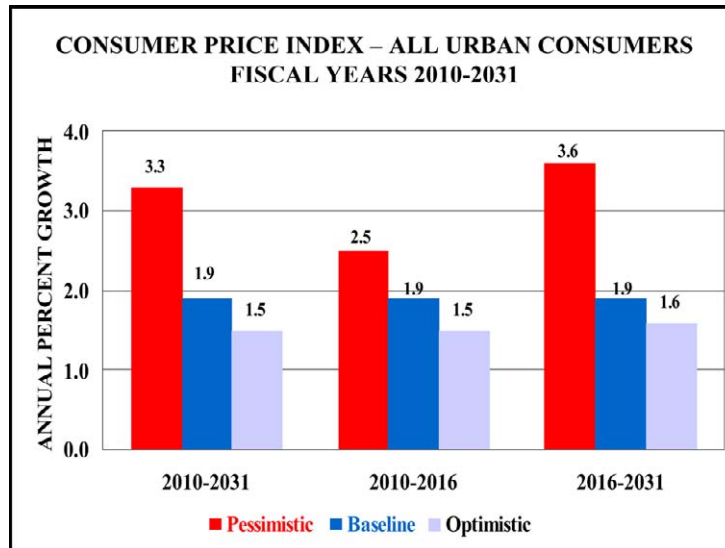


The level of oil prices are determinants in the supply of and demand for air travel and have a direct impact on the profitability of the industry. In all three forecast scenarios prices remain high by historical standards. In the baseline forecast, oil prices rise as the world economy recovers from the recession, but are kept in check as technological improvements act as a counterbalance to rising prices. In the baseline, the refiners acquisition cost (RAC) of oil increases 52.6 percent between 2010 and 2031, rising from \$74 to \$113 per barrel. In the high case, RAC increases at a slower pace landing at \$102 per barrel at the end of the forecast period. The high case is characterized by availability of energy and gains in technology which help to temper prices compared to the baseline. In the low case forecast, scarcity of oil and lower productivity gains create upward pressure in oil prices. In this scenario, RAC more doubles, rising to \$157 by 2031.



The price of energy is one of the critical drivers in the growth of consumer prices over the forecast period. In the high case forecast the consumer price index (CPI) grows at an average rate of 1.5 percent per year (compared to growth of 1.9 percent annually in the baseline) as energy prices, wages, and import prices grow more slowly than in the baseline. In the low case forecast the opposite assumptions hold with energy

prices, wages and import prices rising more rapidly compared to the baseline. In the low case, CPI grows an average of 3.3 percent annually over the forecast period.

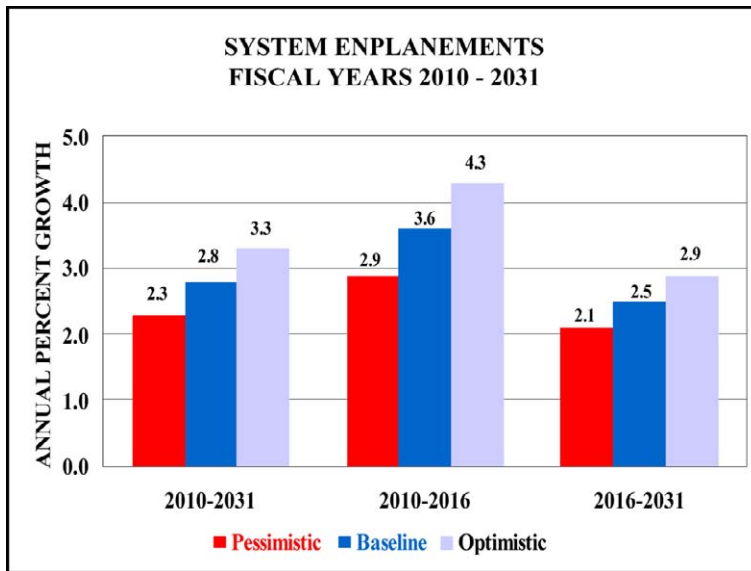


The baseline passenger trip length forecast is predicated upon analyst judgment and recent trip length trends. Carrier behavior as a result of volatile fuel prices during 2008 was the basis for adjusting trip length in the alternative forecasts. During 2008, high fuel costs made flying of some longer haul routes cost prohibitive (thus unprofitable), resulting in lower trip length compared to prior years. Since the FAA’s low case forecast is depicted by higher fuel prices relative to the baseline forecast, it is assumed that trip length rises at a slower pace than in the baseline forecast. In FAA’s high forecast, fuel prices are lower than projected in the baseline, pushing trip length up as lower fuel prices make flying longer-haul routes more affordable.

## ALTERNATIVE FORECASTS

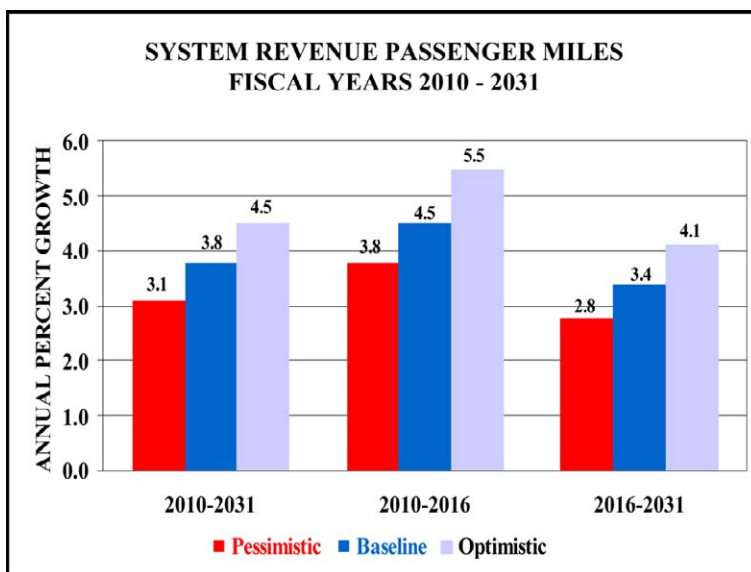
### Passengers

In the baseline forecast, system passengers are forecast to grow at an average annual rate of 2.8 percent per year over the forecast horizon (with domestic and international passengers up 2.6 and 4.5 percent, respectively), reaching one billion passengers in the year 2021. In the high case, passengers grow at a quicker pace, averaging 3.3 percent per year (up 3.0 percent domestically and 5.2 percent internationally). This scenario is marked by a more favorable business environment, lower inflation, and lower fuel prices which make the price of flying more affordable to business and leisure travelers. In the high case, one billion passengers are forecast for 2019, two years earlier than predicted in the baseline forecast. The low case is characterized by increased costs of capital resulting from higher interest rates, weakened consumer confidence brought on by persistent unemployment, and higher inflation. In this scenario passengers grow an average of 2.3 percent per year (domestic up 2.0 percent and international up 4.0 percent). In the low case, one billion passengers are reached in 2024, three years behind the baseline forecast.



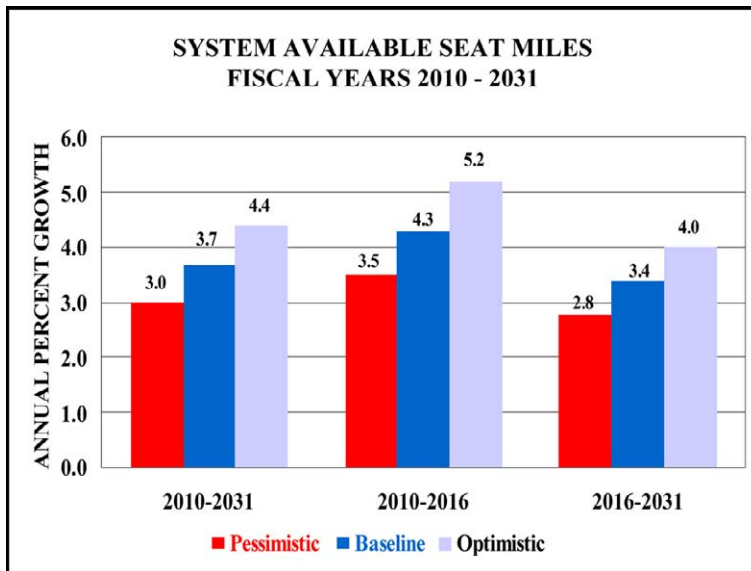
**Revenue Passenger Miles**

The forecast of RPMs is produced by multiplying assumptions for trip length in each forecast scenario by passengers from the same scenario. Thus, the assumptions used to create the trip length and passenger forecasts drive RPM growth. In the baseline forecast, system RPMs grow at an average annual rate of 3.8 percent per year, with domestic RPMs up 3.1 percent annually and international RPMs up 5.0 percent annually. In the high case, a more optimistic economic environment drives RPMs higher than the baseline, with growth averaging 4.5 percent per year (domestic and international RPMs up 3.8 and 5.8 percent, respectively). In the low case, a more pessimistic economic environment slows RPM growth to an average of 3.1 percent annually (up 2.4 percent domestically and up 4.5 percent internationally).



**Available Seat Miles**

In the base case, system capacity is forecast to increase an average of 3.7 percent annually over the 21-year forecast horizon (with average growth of 3.0 percent domestically and 4.9 percent internationally). In the high case, capacity grows at a faster clip than in the baseline forecast, averaging growth of 4.4 percent annually (up 3.7 percent domestically and up 5.7 percent internationally). Carriers increase capacity compared to the baseline forecast to accommodate increased travel demand brought about by a more favorable economic environment. In the low case, demand for air travel is lower than in the baseline, thus system capacity grows at a slower pace of 3.0 percent annually (domestic up 2.3 percent annually and international up 4.4 percent annually).



**Load Factor**

System load factors over the 21-year forecast period are relatively the same for all three forecast scenarios, rising from 81.8 percent in 2010 to 83.7 percent in 2031. In all three scenarios it is assumed that carriers will keep load factors on the high side by actively managing capacity (seats) to more precisely meet demand (passengers). The domestic load factor slowly grows from 81.7 percent to 84.0 percent over the forecast horizon, while the international load factor grows from 82.1 to just over 83.2 percent during the same period.

**Yield**

In the baseline forecast, nominal system yield increases 1.3 percent annually, going from 13.0 cents in 2010 to 16.9 cents in 2031. On a domestic basis, yield in the baseline forecast rises from 13.0 cents in 2010 to 17.1 cents in 2031, while international yield rises from 12.9 cents to 16.8 cents. System yield rises more slowly in the high case, up 0.7 percent annually to be 15.1 cents at the end of the forecast period (domestic and international yield increase to 14.8 cents and 15.6 cents, respectively). The slower growth in yield in the high case is due to advancements in technology, gains in productivity, more favorable fuel prices, and lower inflation. Increased competition is also assumed in this scenario. In the domestic market fares are driven lower than baseline levels due to increased market overlap between low cost and legacy carriers.

In the international market, increased competition from growing liberalization puts downward pressure on fares. In the low case, nominal yields rise more rapidly than in the baseline, growing an average of 2.9 percent annually, reaching 23.5 cents by 2031 (24.4 cents domestically and 22.1 cents internationally). This scenario reflects higher inflation than in the baseline, forcing carriers to increase fares in order to cover the higher costs of fuel, labor, and capital.

### **Passenger Trip Length**

Over the 21-year forecast horizon, baseline system passenger trip length is assumed to grow an average of 10.5 miles per year. In the high case, passenger trip length grows 1.0 mile faster per year than in the base case at 11.5 miles per year. In the high case, fuel prices are lower than in the baseline which allows carriers to operate longer-haul routes more profitably. Conversely, the low forecast is characterized by fuel prices that are higher than the baseline forecast. Higher fuel costs makes flying longer-haul routes less affordable to the carriers; hence passenger trip length trails the baseline forecast by 3.0 miles per year, growing an average of 7.5 miles per year.

**TABLE A-1**  
**FAA FORECAST ECONOMIC ASSUMPTIONS\***  
**FISCAL YEARS 2010-2031**

VARIABLE	SCENARIO	HISTORICAL				FORECAST					PERCENT AVERAGE ANNUAL GROWTH		
		2001	2011	2016	2021	2031	10-11	10-16	11-21	10-31			
<b>Economic Assumptions</b> Real Gross Domestic Product (BIL 05\$)	Pessimistic	13,150	13,317	14,972	16,681	20,875	1.3%	2.2%	2.3%	2.2%			
	Baseline	13,162	13,467	15,601	17,818	23,147	2.3%	2.9%	2.8%	2.7%			
	Optimistic	13,164	13,610	16,215	19,009	25,417	3.4%	3.5%	3.4%	3.2%			
Refiners Acquisition Cost - Average - \$ Per Barrel	Pessimistic	74.5	77.5	101.1	108.6	157.3	4.0%	5.2%	3.4%	3.6%			
	Baseline	74.1	74.4	96.1	96.8	113.1	0.4%	4.4%	2.7%	2.0%			
	Optimistic	74.0	71.9	90.8	89.6	101.9	-2.8%	3.5%	2.2%	1.5%			
Real Personal Consumption Expenditures - (BIL 05\$)	Pessimistic	9,241	9,370	10,205	11,288	14,040	1.4%	1.7%	1.9%	2.0%			
	Baseline	9,247	9,462	10,584	11,973	15,404	2.3%	2.3%	2.4%	2.5%			
	Optimistic	9,249	9,516	10,966	12,794	16,965	2.9%	2.9%	3.0%	2.9%			
Consumer Price Index All Urban, 1982-84 = 1.0	Pessimistic	2.18	2.21	2.53	2.99	4.29	1.4%	2.5%	3.1%	3.3%			
	Baseline	2.17	2.20	2.43	2.68	3.24	1.4%	1.9%	2.0%	1.9%			
	Optimistic	2.17	2.19	2.37	2.57	3.00	0.9%	1.5%	1.6%	1.6%			
Real Disposable Income (BIL 05\$)	Pessimistic	10,170	10,277	11,499	13,184	16,817	1.1%	2.1%	2.5%	2.4%			
	Baseline	10,177	10,366	11,758	13,560	17,501	1.9%	2.4%	2.7%	2.6%			
	Optimistic	10,179	10,427	12,068	14,251	18,663	2.4%	2.9%	3.2%	2.9%			
Civilian Unemployment Rate (%)	Pessimistic	9.9	10.2	7.0	5.3	5.2	0.3	-0.5	-0.5	-0.2			
	Baseline	9.7	9.6	6.6	5.0	5.0	-0.1	-0.5	-0.5	-0.2			
	Optimistic	9.7	9.2	6.2	4.7	4.6	-0.5	-0.6	-0.5	-0.2			

\* Source: Global Insight, 30-Year Focus, Third Quarter 2010



**TABLE A-2**  
**FAA FORECAST OF DOMESTIC AVIATION ACTIVITY**  
**FISCAL YEARS 2010-2031**

VARIABLE	SCENARIO	HISTORICAL				FORECAST						PERCENT AVERAGE ANNUAL GROWTH		
		2010	2011	2016	2021	2031	10-11	10-16	11-21	10-31				
<b>Domestic Aviation Activity</b> Available Seat Miles (BIL)	Pessimistic	680.1	682.3	799.4	908.5	1,092.6	0.3%	2.7%	2.9%	2.3%				
	Baseline	680.1	700.0	847.8	992.2	1,265.0	2.9%	3.7%	3.6%	3.0%				
	Optimistic	680.1	712.9	892.3	1,079.3	1,451.3	4.8%	4.6%	4.2%	3.7%				
Revenue Passenger Miles (BIL)	Pessimistic	555.8	560.3	665.0	759.7	917.2	0.8%	3.0%	3.1%	2.4%				
	Baseline	555.8	575.2	705.7	830.3	1,062.9	3.5%	4.1%	3.7%	3.1%				
	Optimistic	555.8	585.8	742.6	903.0	1,219.2	5.4%	4.9%	4.4%	3.8%				
Enplanements (MIL)	Pessimistic	635.3	637.3	740.7	830.5	970.9	0.3%	2.6%	2.7%	2.0%				
	Baseline	635.3	654.0	777.3	887.9	1,076.9	3.0%	3.4%	3.1%	2.5%				
	Optimistic	635.3	664.4	809.0	946.8	1,190.6	4.6%	4.1%	3.6%	3.0%				
Miles Flown (MIL)	Pessimistic	5,582.2	5,606.7	6,567.8	7,439.4	8,833.6	0.4%	2.7%	2.9%	2.2%				
	Baseline	5,582.2	5,739.3	6,950.2	8,109.2	10,213.0	2.8%	3.7%	3.5%	2.9%				
	Optimistic	5,582.2	5,850.7	7,322.2	8,829.2	11,727.9	4.8%	4.6%	4.2%	3.6%				
Departures (000s)	Pessimistic	8,911.7	8,879.9	10,036.5	11,009.3	12,402.0	-0.4%	2.0%	2.2%	1.6%				
	Baseline	8,911.7	9,094.5	10,500.9	11,724.1	13,679.1	2.1%	2.8%	2.6%	2.1%				
	Optimistic	8,911.7	9,237.4	10,918.5	12,480.1	15,073.0	3.7%	3.4%	3.1%	2.5%				
Nominal Passenger Yield (cents)	Pessimistic	13.02	13.49	15.39	17.82	24.37	3.6%	2.8%	2.8%	3.0%				
	Baseline	13.02	13.43	14.52	15.35	17.05	3.1%	1.8%	1.3%	1.3%				
	Optimistic	13.02	13.37	13.95	14.25	14.83	2.7%	1.2%	0.6%	0.6%				

**TABLE A-3**  
**FAA FORECAST OF INTERNATIONAL AVIATION ACTIVITY**  
**FISCAL YEARS 2010-2031**

VARIABLE	SCENARIO	HISTORICAL			FORECAST				PERCENT AVERAGE ANNUAL GROWTH		
		2010	2011	2016	2021	2031	10-11	10-16	11-21	10-31	
<b>International Aviation Activity</b> Available Seat Miles (BL)	Pessimistic	281.2	303.1	382.3	468.3	690.4	7.8%	5.3%	4.4%	4.4%	
	Baseline	281.2	304.9	388.3	491.5	774.0	8.4%	5.5%	4.9%	4.9%	
	Optimistic	281.2	307.0	410.4	540.5	898.3	9.2%	6.5%	5.8%	5.7%	
Revenue Passenger Miles (BL)	Pessimistic	230.9	248.6	316.4	388.4	574.6	7.7%	5.4%	4.6%	4.4%	
	Baseline	230.9	250.3	321.3	407.6	644.2	8.4%	5.7%	5.0%	5.0%	
	Optimistic	230.9	252.1	339.5	447.9	746.4	9.2%	6.6%	5.9%	5.7%	
Enplanements (MIL)	Pessimistic	77.4	82.9	103.0	123.7	175.4	7.1%	4.9%	4.1%	4.0%	
	Baseline	77.4	83.4	104.5	129.5	195.2	7.8%	5.1%	4.5%	4.5%	
	Optimistic	77.4	84.0	110.8	142.9	226.3	8.5%	6.2%	5.5%	5.2%	
Miles Flown (MIL)	Pessimistic	1,299.7	1,392.6	1,737.2	2,108.2	3,054.4	7.1%	5.0%	4.2%	4.2%	
	Baseline	1,299.7	1,401.6	1,765.2	2,213.2	3,423.3	7.8%	5.2%	4.7%	4.7%	
	Optimistic	1,299.7	1,411.5	1,865.2	2,432.9	3,971.0	8.6%	6.2%	5.6%	5.5%	
Departures (000s)	Pessimistic	568.0	582.3	698.5	816.3	1,104.8	2.5%	3.5%	3.4%	3.2%	
	Baseline	568.0	586.7	710.4	855.4	1,228.8	3.3%	3.8%	3.8%	3.7%	
	Optimistic	568.0	591.6	752.5	942.5	1,423.2	4.2%	4.8%	4.8%	4.5%	
Nominal Passenger Yield (cents)	Pessimistic	12.90	13.69	15.11	17.03	22.06	6.1%	2.7%	2.2%	2.6%	
	Baseline	12.90	13.69	14.61	15.32	16.76	6.1%	2.1%	1.1%	1.3%	
	Optimistic	12.90	13.69	14.36	14.78	15.63	6.1%	1.8%	0.8%	0.9%	

## ▶▶▶ APPENDIX B FAA 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 2006-2010 forecast period. Although this brief period has experienced industry upheaval, FAA’s forecast methodology remained consistent during this time. For this reason, 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 below contains the mean absolute percent errors for the projected values versus the actual 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 ASMs shows that the mean absolute percent error was 13.0 percent for ASM forecasts prepared 3 years in advance. For the period under examination, preparation of the forecasts for FY 2006, FY 2007, FY 2008, FY 2009 and FY 2010 occurred in FY 2004, FY 2005, FY 2006, and FY 2007, and FY 2008, respectively.<sup>14</sup>

### U.S. AIR CARRIERS DOMESTIC SCHEDULED PASSENGER ACTIVITY FORECAST EVALUATION

Forecast Variable	Mean Absolute Percent Error (Combined FY 2006 - FY 2010) (Forecast Variance from Actual) Forecast Performed Years Prior to Actual				
	1 Year	2 Years	3 Years	4 Years	5 Years
ASMs	0.7%	6.5%	13.0%	15.2%	18.8%
RPMs	0.9%	4.0%	8.4%	10.4%	10.6%
Pax Enplanements	0.7%	4.5%	9.3%	10.0%	11.3%
Mainline Pax Yield	3.6%	5.6%	6.7%	6.1%	8.3%
IFR Aircraft Handled*	3.3%	8.7%	13.2%	14.4%	15.5%

\*Total - scheduled and nonscheduled commercial plus noncommercial

<sup>14</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.

Presenting forecast variances from actual data in such a manner simplifies a review of longer-term trends. Typically, one would expect the variances to decrease as the forecast year is closer to the year the forecast is prepared. Presenting forecast variances in this way allows an examination of changes in the relative variances by time horizon, signaling when dramatic shifts in accuracy occur.

Examination of the forecast variances reveals several items. First, all the metrics examined show declining variances as the forecast time horizon decreases, as expected. The largest variances were found in the forecasts of ASMs and passengers, the two variables most directly affected by exogenous events. Second, the relative divergence in forecast variances between RPMs and ASMs suggests errors in forecasting load factor. Third, the ASM forecast variance being larger than the RPM 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, large variances in forecasts of load factor will lead to large variances in the long-term forecasts of aviation activity, as can be seen in the variances of the IFR aircraft handled forecasts.

## ▶▶▶ APPENDIX C ACKNOWLEDGEMENTS

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## FORECAST TABLES

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

ECONOMIC VARIABLE	FISCAL YEAR 2011				FISCAL YEAR 2012			
	1ST. QTR.	2ND QTR.	3RD QTR.	4TH QTR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.
<b>Real GDP</b> (Billions of 2005\$) Seasonally Adjusted Annual Rate	13,345.1 2.2%	13,432.9 2.7%	13,503.5 2.1%	13,585.8 2.5%	13,699.9 3.4%	13,800.6 3.0%	13,896.7 2.8%	14,002.8 3.1%
<b>Refiners' Acquisition Cost - Average</b> (Dollars) Seasonally Adjusted Annual Rate	70.10 -5.9%	74.00 24.2%	75.47 8.2%	78.04 14.3%	79.75 9.1%	81.65 9.9%	82.49 4.2%	83.34 4.2%
<b>Consumer Price Index<sup>1</sup></b> (1982-84 equals 100) Seasonally Adjusted Annual Rate	218.7 1.0%	219.6 1.6%	220.2 1.2%	221.2 1.7%	222.2 1.8%	223.3 2.1%	224.3 1.7%	225.4 2.0%

Source: Global Insight, 30-Year Focus, Third Quarter 2010.



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

FISCAL YEAR	GROSS DOMESTIC PRODUCT (Billions 2005\$)	CONSUMER PRICE INDEX (1982-84=100)	REFINERS' ACQUISITION COST AVERAGE (Dollars per barrel)
<u>Historical</u>			
2000	11,145.9	170.74	26.70
2005	12,553.8	193.48	47.20
2006	12,898.3	200.58	59.94
2007	13,153.2	205.31	60.62
2008	13,321.3	214.43	101.52
2009	12,874.3	213.77	54.68
2010E	13,161.5	217.45	74.11
<u>Forecast</u>			
2011	13,466.8	219.91	74.40
2012	13,850.0	223.81	81.81
2013	14,254.5	228.34	85.74
2014	14,694.7	233.11	88.82
2015	15,155.3	237.96	92.34
2016	15,600.8	242.73	96.08
2017	16,038.7	247.61	98.19
2018	16,460.3	252.74	99.76
2019	16,891.5	257.82	99.36
2020	17,346.7	262.79	97.61
2021	17,818.3	267.73	96.76
2022	18,328.5	272.54	96.17
2023	18,846.4	277.42	95.30
2024	19,356.9	282.66	96.36
2025	19,898.9	288.07	98.33
2026	20,433.7	293.62	100.31
2027	20,957.3	299.33	102.38
2028	21,482.0	305.34	105.13
2029	22,006.0	311.47	108.19
2030	22,569.7	317.66	110.89
2031	23,146.8	323.70	113.09
<u>Avg Annual Growth</u>			
2000-10	1.7%	2.4%	10.8%
2010-11	2.3%	1.1%	0.4%
2010-20	2.8%	1.9%	2.8%
2010-31	2.7%	1.9%	2.0%

Source: Global Insight, 30-Year Focus, Third Quarter 2010.

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

CALENDAR YEAR	GROSS DOMESTIC PRODUCT (In Billions of 2005 U.S. Dollars)					WORLD
	CANADA	EUROPE/ AFRICA/ MIDDLE EAST	LATIN AMERICA/ MEXICO	JAPAN/PACIFIC BASIN/CHINA/OTHER ASIA/AUSTRALIA/ N. ZEALAND		
<u>Historical</u>						
2000	1,000.2	15,335.9	2,459.2	9,056.4	39,799.3	
2005	1,134.1	17,113.9	2,810.2	11,060.2	45,750.1	
2006	1,166.1	17,769.4	2,962.8	11,688.1	47,639.3	
2007	1,191.8	18,376.9	3,120.6	12,447.4	49,533.3	
2008	1,197.9	18,584.7	3,240.9	12,823.0	50,308.2	
2009	1,168.4	17,961.1	3,173.7	12,960.6	49,290.5	
2010E	1,202.4	18,350.4	3,317.5	13,768.1	51,043.3	
<u>Forecast</u>						
2011	1,229.8	18,744.6	3,462.1	14,404.2	52,583.7	
2012	1,265.9	19,195.5	3,617.7	15,131.1	54,425.2	
2013	1,301.3	19,688.2	3,780.2	15,928.4	56,375.4	
2014	1,335.1	20,215.1	3,952.9	16,783.5	58,478.5	
2015	1,368.0	20,772.4	4,122.9	17,658.4	60,608.8	
2016	1,400.5	21,304.0	4,305.3	18,552.0	62,748.4	
2017	1,432.1	21,829.5	4,490.2	19,450.3	64,878.4	
2018	1,464.3	22,355.4	4,681.7	20,373.3	67,026.1	
2019	1,496.8	22,890.0	4,881.1	21,323.9	69,234.8	
2020	1,528.0	23,433.6	5,085.7	22,301.4	71,497.3	
2021	1,559.8	23,986.2	5,298.8	23,308.7	73,832.3	
2022	1,591.8	24,540.0	5,518.9	24,342.2	76,239.8	
2023	1,625.0	25,099.2	5,746.8	25,408.4	78,691.3	
2024	1,658.0	25,665.2	5,982.7	26,521.8	81,208.7	
2025	1,691.8	26,239.3	6,227.8	27,681.1	83,826.5	
2026	1,727.8	26,823.1	6,482.6	28,869.2	86,478.4	
2027	1,764.8	27,417.2	6,746.2	30,108.6	89,199.5	
2028	1,803.8	28,021.4	7,018.3	31,374.7	91,967.3	
2029	1,844.6	28,631.9	7,302.0	32,672.8	94,797.4	
2030	1,887.1	29,255.4	7,595.7	34,006.2	97,730.1	
2031	1,928.6	29,891.2	7,899.9	35,381.4	100,732.4	
<u>Avg Annual Growth</u>						
2000-10	1.9%	1.8%	3.0%	4.3%	2.5%	
2010-11	2.3%	2.1%	4.4%	4.6%	3.0%	
2010-20	2.4%	2.5%	4.4%	4.9%	3.4%	
2010-31	2.3%	2.4%	4.2%	4.6%	3.3%	

Source: Global Insight, World Overview, Third Quarter 2010.

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

CALENDAR YEAR	GROSS DOMESTIC PRODUCT (In Billions of 2005 U.S. Dollars)				
	NORTH AMERICA (NAFTA)	EUROZONE	UNITED KINGDOM	JAPAN	CHINA
Historical					
2000	12,993.6	9,394.5	2,014.8	4,271.9	1,417.2
2005	14,621.3	10,121.2	2,279.3	4,557.3	2,257.1
2006	15,033.0	10,439.3	2,342.8	4,650.4	2,543.7
2007	15,341.1	10,734.0	2,405.7	4,758.2	2,904.9
2008	15,361.4	10,770.6	2,404.2	4,701.1	3,183.7
2009	14,922.6	10,333.8	2,286.4	4,454.6	3,474.1
2010E	15,332.8	10,492.1	2,324.3	4,575.3	3,829.1
Forecast					
2011	15,683.3	10,626.0	2,362.3	4,617.9	4,158.4
2012	16,176.0	10,789.5	2,413.2	4,701.3	4,496.2
2013	16,660.5	10,975.0	2,474.3	4,800.9	4,884.8
2014	17,198.1	11,184.3	2,537.6	4,901.5	5,316.7
2015	17,716.7	11,408.2	2,609.3	4,984.4	5,768.4
2016	18,242.4	11,619.7	2,674.0	5,051.8	6,240.8
2017	18,759.8	11,825.8	2,737.6	5,096.7	6,728.5
2018	19,266.0	12,028.6	2,801.7	5,130.4	7,241.8
2019	19,791.1	12,234.3	2,866.7	5,159.1	7,778.5
2020	20,329.8	12,439.8	2,932.9	5,183.8	8,338.3
2021	20,898.0	12,649.2	2,998.9	5,204.1	8,931.9
2022	21,501.0	12,856.3	3,063.1	5,222.6	9,540.6
2023	22,102.9	13,064.0	3,128.0	5,240.6	10,176.1
2024	22,710.8	13,274.9	3,193.1	5,258.5	10,845.7
2025	23,349.7	13,486.8	3,258.8	5,276.0	11,544.7
2026	23,975.7	13,701.7	3,326.0	5,293.6	12,259.8
2027	24,600.9	13,919.1	3,396.5	5,312.0	13,008.6
2028	25,226.4	14,138.9	3,467.5	5,330.7	13,766.9
2029	25,866.3	14,357.5	3,538.5	5,348.1	14,541.5
2030	26,550.7	14,578.2	3,612.1	5,364.4	15,336.5
2031	27,242.1	14,803.3	3,688.0	5,380.8	16,161.5
Avg Annual Growth					
2000-10	1.7%	1.1%	1.4%	0.7%	10.5%
2010-11	2.3%	1.3%	1.6%	0.9%	8.6%
2010-20	2.9%	1.7%	2.4%	1.3%	8.1%
2010-31	2.8%	1.7%	2.2%	0.8%	7.1%

Source: Global Insight, World Overview, Third Quarter 2010.

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

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS (Millions)			REVENUE PASSENGER MILES (Billions)		
	DOMESTIC	INTERNATIONAL	SYSTEM	DOMESTIC	INTERNATIONAL	SYSTEM
<u>Historical*</u>						
2000	641.2	56.4	697.6	512.8	181.8	694.6
2005	669.5	67.4	737.0	573.2	197.2	770.4
2006	668.4	71.6	740.0	582.4	208.5	790.9
2007	690.1	75.3	765.3	600.5	221.2	821.7
2008	680.7	78.3	759.1	594.6	233.8	828.5
2009	630.8	73.6	704.4	548.6	221.3	769.9
2010E	635.3	77.4	712.6	555.8	230.9	786.7
<u>Forecast</u>						
2011	654.0	83.4	737.4	575.2	250.3	825.6
2012	675.0	87.2	762.2	597.7	263.0	860.7
2013	700.3	91.1	791.4	624.0	275.9	899.9
2014	726.2	95.4	821.6	651.2	290.3	941.6
2015	752.5	99.9	852.5	679.1	305.6	984.7
2016	777.3	104.5	881.8	705.7	321.3	1,027.0
2017	800.9	109.3	910.2	731.4	337.5	1,069.0
2018	822.2	114.1	936.3	755.5	354.0	1,109.5
2019	843.5	119.0	962.5	779.6	371.1	1,150.8
2020	866.3	124.2	990.5	805.6	388.9	1,194.5
2021	887.9	129.5	1,017.4	830.3	407.6	1,237.9
2022	908.1	135.2	1,043.3	854.0	427.4	1,281.4
2023	928.1	141.0	1,069.1	877.7	447.8	1,325.6
2024	947.0	147.0	1,094.0	900.6	469.2	1,369.8
2025	966.0	153.4	1,119.3	923.9	491.7	1,415.6
2026	984.6	159.9	1,144.4	946.6	514.9	1,461.5
2027	1,003.0	166.5	1,169.6	969.4	539.0	1,508.4
2028	1,021.3	173.3	1,194.7	992.3	563.8	1,556.1
2029	1,039.1	180.3	1,219.4	1,014.9	589.4	1,604.3
2030	1,057.7	187.7	1,245.4	1,038.5	616.3	1,654.9
2031	1,076.9	195.2	1,272.1	1,062.9	644.2	1,707.2
<u>Avg Annual Growth</u>						
2000-10	-0.1%	3.2%	0.2%	0.8%	2.4%	1.3%
2010-11	3.0%	7.8%	3.5%	3.5%	8.4%	4.9%
2010-20	3.2%	4.8%	3.3%	3.8%	5.4%	4.3%
2010-31	2.5%	4.5%	2.8%	3.1%	5.0%	3.8%

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

<sup>1</sup> Sum of U.S. Mainline and Regional Air Carriers.

**TABLE 6**  
**U.S. COMMERCIAL AIR CARRIERS<sup>1</sup>**  
**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
<u>Historical*</u>									
2000	726.6	512.8	70.6	239.3	181.8	76.0	965.9	694.6	71.9
2005	755.2	573.2	75.9	248.5	197.2	79.4	1,003.6	770.4	76.8
2006	740.2	582.4	78.7	261.3	208.5	79.8	1,001.5	790.9	79.0
2007	752.5	600.5	79.8	275.9	221.2	80.2	1,028.4	821.7	79.9
2008	749.6	594.6	79.3	292.7	233.8	79.9	1,042.4	828.5	79.5
2009	682.5	548.6	80.4	283.3	221.3	78.1	965.8	769.9	79.7
2010E	680.1	555.8	81.7	281.2	230.9	82.1	961.3	786.7	81.8
<u>Forecast</u>									
2011	700.0	575.2	82.2	304.9	250.3	82.1	1,005.0	825.6	82.1
2012	724.8	597.7	82.5	318.4	263.0	82.6	1,043.1	860.7	82.5
2013	754.4	624.0	82.7	333.9	275.9	82.6	1,088.2	899.9	82.7
2014	785.3	651.2	82.9	351.1	290.3	82.7	1,136.5	941.6	82.9
2015	817.3	679.1	83.1	369.4	305.6	82.7	1,186.7	984.7	83.0
2016	847.8	705.7	83.2	388.3	321.3	82.8	1,236.0	1,027.0	83.1
2017	877.4	731.4	83.4	407.6	337.5	82.8	1,285.1	1,069.0	83.2
2018	905.2	755.5	83.5	427.4	354.0	82.8	1,332.5	1,109.5	83.3
2019	933.2	779.6	83.5	447.8	371.1	82.9	1,381.0	1,150.8	83.3
2020	963.4	805.6	83.6	469.1	388.9	82.9	1,432.5	1,194.5	83.4
2021	992.2	830.3	83.7	491.5	407.6	82.9	1,483.7	1,237.9	83.4
2022	1,019.8	854.0	83.7	515.1	427.4	83.0	1,534.9	1,281.4	83.5
2023	1,047.5	877.7	83.8	539.6	447.8	83.0	1,587.1	1,325.6	83.5
2024	1,074.4	900.6	83.8	565.1	469.2	83.0	1,639.4	1,369.8	83.6
2025	1,101.6	923.9	83.9	591.9	491.7	83.1	1,693.6	1,415.6	83.6
2026	1,128.3	946.6	83.9	619.7	514.9	83.1	1,748.0	1,461.5	83.6
2027	1,155.1	969.4	83.9	648.4	539.0	83.1	1,803.5	1,508.4	83.6
2028	1,181.9	992.3	84.0	678.0	563.8	83.1	1,859.9	1,556.1	83.7
2029	1,208.5	1,014.9	84.0	708.6	589.4	83.2	1,917.0	1,604.3	83.7
2030	1,236.3	1,038.5	84.0	740.8	616.3	83.2	1,977.1	1,654.9	83.7
2031	1,265.0	1,062.9	84.0	774.0	644.2	83.2	2,039.1	1,707.2	83.7
<u>Avg Annual Growth</u>									
2000-10	-0.7%	0.8%		1.6%	2.4%		0.0%	1.3%	
2010-11	2.9%	3.5%		8.4%	8.4%		4.5%	4.9%	
2010-20	3.5%	3.8%		5.3%	5.4%		4.1%	4.3%	
2010-31	3.0%	3.1%		4.9%	5.0%		3.6%	3.8%	

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

<sup>1</sup> Sum of U.S. Mainline and Regional Air Carriers.

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

FISCAL YEAR	REVENUE PASSENGER ENPLACEMENTS				REVENUE PASSENGER MILES			
	ATLANTIC	LATIN AMERICA	PACIFIC	TOTAL INTERNATIONAL	ATLANTIC	LATIN AMERICA	PACIFIC	TOTAL INTERNATIONAL
	(Mil)	(Mil)	(Mil)	(Mil)	(Bil)	(Bil)	(Bil)	(Bil)
<u>Historical*</u>								
2000	20.9	24.3	11.2	56.4	87.1	36.3	58.4	181.8
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
2007	24.1	37.6	13.6	75.3	102.2	57.7	61.4	221.2
2008	26.0	39.1	13.2	78.3	112.7	60.7	60.4	233.8
2009	24.7	36.8	12.0	73.6	108.9	57.7	54.7	221.3
2010E	24.5	40.0	12.9	77.4	108.6	63.1	59.2	230.9
<u>Forecast</u>								
2011	26.6	42.9	13.9	83.4	118.0	67.9	64.4	250.3
2012	27.8	44.8	14.6	87.2	123.9	71.3	67.8	263.0
2013	28.8	47.0	15.3	91.1	129.1	75.4	71.4	275.9
2014	30.0	49.3	16.1	95.4	135.0	80.1	75.3	290.3
2015	31.1	51.7	17.0	99.9	141.0	85.0	79.6	305.6
2016	32.3	54.3	18.0	104.5	147.0	90.4	84.0	321.3
2017	33.4	57.0	18.9	109.3	152.9	95.9	88.6	337.5
2018	34.5	59.7	19.9	114.1	158.9	101.8	93.4	354.0
2019	35.7	62.4	20.9	119.0	165.1	107.8	98.3	371.1
2020	36.9	65.3	21.9	124.2	171.5	114.2	103.3	388.9
2021	38.2	68.4	23.0	129.5	178.2	120.9	108.5	407.6
2022	39.5	71.6	24.1	135.2	185.4	128.0	113.9	427.4
2023	40.9	74.9	25.2	141.0	192.7	135.6	119.6	447.8
2024	42.3	78.4	26.4	147.0	200.1	143.6	125.5	469.2
2025	43.7	82.0	27.7	153.4	207.9	152.1	131.6	491.7
2026	45.1	85.7	29.0	159.9	215.8	161.0	138.1	514.9
2027	46.6	89.6	30.4	166.5	223.8	170.2	145.0	539.0
2028	48.0	93.5	31.8	173.3	231.9	179.8	152.1	563.8
2029	49.5	97.5	33.3	180.3	240.2	189.7	159.5	589.4
2030	51.1	101.8	34.8	187.7	249.1	200.2	167.1	616.3
2031	52.8	106.1	36.3	195.2	258.2	211.1	174.9	644.2
<u>Avg Annual Growth</u>								
2000-10	1.6%	5.1%	1.5%	3.2%	2.2%	5.7%	0.1%	2.4%
2010-11	8.7%	7.2%	7.7%	7.8%	8.7%	7.6%	8.8%	8.4%
2010-20	4.2%	5.0%	5.4%	4.8%	4.7%	6.1%	5.7%	5.4%
2010-31	3.7%	4.8%	5.0%	4.5%	4.2%	5.9%	5.3%	5.0%

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

<sup>1</sup> 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		
<u>Historical*</u>						
2000	53.0	40.8	26.0	20.8		140.6
2005	49.9	44.2	25.1	19.7		139.0
2006	49.8	47.1	25.6	21.0		143.5
2007	53.3	48.6	26.3	21.5		149.7
2008	57.1	49.8	25.8	21.7		154.4
2009	55.0	48.0	24.4	20.2		147.5
2010E	54.5	49.1	25.1	20.9		149.6
<u>Forecast</u>						
2011	55.2	51.3	26.2	21.5		154.2
2012	58.5	54.0	28.3	22.3		163.1
2013	61.6	56.8	30.2	23.2		171.8
2014	64.9	59.8	32.2	24.1		181.1
2015	68.2	62.9	34.2	25.0		190.3
2016	71.3	66.2	36.1	25.9		199.5
2017	74.3	69.6	37.9	26.8		208.6
2018	77.3	73.1	39.7	27.7		217.8
2019	80.3	76.8	41.6	28.6		227.3
2020	83.4	80.7	43.5	29.5		237.2
2021	86.7	84.9	45.6	30.5		247.6
2022	90.0	89.2	47.7	31.5		258.5
2023	93.4	93.8	49.8	32.6		269.6
2024	96.9	98.6	52.1	33.6		281.1
2025	100.4	103.6	54.4	34.8		293.3
2026	104.0	108.9	56.8	35.9		305.6
2027	107.6	114.3	59.3	37.0		318.3
2028	111.2	120.0	61.9	38.2		331.3
2029	114.9	125.9	64.5	39.4		344.8
2030	118.9	132.3	67.3	40.7		359.1
2031	122.8	138.9	70.2	41.9		373.9
<u>Avg Annual Growth</u>						
2000-10	0.3%	1.9%	-0.3%	0.0%		0.6%
2010-11	1.3%	4.5%	4.6%	2.8%		3.1%
2010-20	4.3%	5.1%	5.7%	3.5%		4.7%
2010-31	3.9%	5.1%	5.0%	3.4%		4.5%

\* 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<sup>1</sup>**  
**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)
<u>Historical*</u>						
2000	129.3	230.6	145.0	799.8	3,223.2	995.7
2005	120.4	217.1	135.3	856.2	2,924.6	1,045.4
2006	120.1	215.0	135.7	871.4	2,911.5	1,068.8
2007	120.4	216.1	136.6	870.2	2,939.0	1,073.7
2008	120.8	218.6	138.2	873.5	2,985.2	1,091.4
2009	121.8	219.0	140.0	869.7	3,008.1	1,093.1
2010E	121.8	216.4	139.7	874.9	2,983.8	1,104.0
<u>Forecast</u>						
2011	122.0	217.5	140.7	879.5	3,001.3	1,119.5
2012	122.0	218.2	140.9	885.5	3,014.4	1,129.1
2013	121.9	218.6	141.1	891.1	3,028.1	1,137.1
2014	121.9	219.1	141.3	896.7	3,043.0	1,146.0
2015	121.9	219.5	141.5	902.5	3,058.6	1,155.2
2016	122.0	220.0	141.8	907.9	3,073.7	1,164.6
2017	122.0	220.4	142.2	913.3	3,088.8	1,174.5
2018	122.1	220.8	142.5	918.8	3,102.9	1,184.9
2019	122.2	221.2	142.9	924.3	3,117.5	1,195.6
2020	122.2	221.7	143.3	929.9	3,132.1	1,206.0
2021	122.4	222.1	143.7	935.2	3,146.9	1,216.7
2022	122.5	222.5	144.2	940.4	3,161.6	1,228.2
2023	122.6	222.9	144.7	945.7	3,176.3	1,239.9
2024	122.7	223.3	145.3	951.1	3,191.1	1,252.1
2025	122.8	223.7	145.8	956.4	3,206.1	1,264.7
2026	123.0	224.1	146.4	961.5	3,221.2	1,277.1
2027	123.2	224.5	147.0	966.5	3,236.6	1,289.7
2028	123.3	224.9	147.6	971.6	3,252.3	1,302.5
2029	123.5	225.3	148.3	976.7	3,268.1	1,315.8
2030	123.7	225.7	148.9	981.8	3,284.0	1,328.8
2031	123.9	226.1	149.5	987.0	3,299.8	1,342.0

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

<sup>1</sup> 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
<u>Historical*</u>						
2000	561.5	53.3	614.8	490.0	181.0	670.9
2005	523.1	64.2	587.3	509.6	195.8	705.4
2006	516.2	68.1	584.4	513.9	206.8	720.7
2007	533.9	71.9	605.7	529.9	219.5	749.4
2008	521.6	74.8	596.5	521.3	231.9	753.3
2009	476.8	71.0	547.8	478.2	220.0	698.2
2010E	473.6	74.7	548.3	480.8	229.6	710.3
<u>Forecast</u>						
2011	486.8	80.6	567.4	496.9	248.9	745.9
2012	502.5	84.4	586.8	515.5	261.5	777.0
2013	520.8	88.1	608.9	537.0	274.4	811.3
2014	539.7	92.3	632.0	559.3	288.7	848.0
2015	558.9	96.7	655.6	582.0	303.9	885.9
2016	576.8	101.2	678.0	603.7	319.6	923.3
2017	593.8	105.9	699.7	624.6	335.7	960.2
2018	609.1	110.6	719.7	643.9	352.1	995.9
2019	624.3	115.4	739.7	663.2	369.1	1,032.3
2020	640.6	120.4	761.0	683.9	386.9	1,070.8
2021	655.9	125.7	781.5	703.7	405.5	1,109.2
2022	670.1	131.2	801.3	722.6	425.1	1,147.7
2023	684.1	137.0	821.0	741.4	445.5	1,186.9
2024	697.2	142.9	840.1	759.4	466.8	1,226.2
2025	710.3	149.1	859.4	777.5	489.2	1,266.7
2026	723.1	155.5	878.6	795.5	512.4	1,307.9
2027	735.7	162.1	897.8	813.4	536.4	1,349.8
2028	748.2	168.8	917.0	831.3	561.1	1,392.4
2029	760.2	175.7	935.9	848.9	586.6	1,435.6
2030	772.9	183.0	955.8	867.4	613.5	1,480.9
2031	785.8	190.4	976.2	886.3	641.3	1,527.6
<u>Avg Annual Growth</u>						
2000-10	-1.7%	3.4%	-1.1%	-0.2%	2.4%	0.6%
2010-11	2.8%	7.9%	3.5%	3.4%	8.4%	5.0%
2010-20	3.1%	4.9%	3.3%	3.6%	5.4%	4.2%
2010-31	2.4%	4.6%	2.8%	3.0%	5.0%	3.7%

\* 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
<u>Historical*</u>									
2000	688.3	490.0	71.2	238.0	181.0	76.0	926.2	670.9	72.4
2005	665.1	509.6	76.6	246.3	195.8	79.5	911.4	705.4	77.4
2006	648.7	513.9	79.2	258.9	206.8	79.9	907.6	720.7	79.4
2007	659.0	529.9	80.4	273.4	219.5	80.3	932.4	749.4	80.4
2008	650.2	521.3	80.2	290.1	231.9	80.0	940.3	753.3	80.1
2009	587.8	478.2	81.4	281.5	220.0	78.2	869.3	698.2	80.3
2010E	581.6	480.8	82.7	279.3	229.6	82.2	860.9	710.3	82.5
<u>Forecast</u>									
2011	597.9	496.9	83.1	303.0	248.9	82.2	900.8	745.9	82.8
2012	617.5	515.5	83.5	316.4	261.5	82.6	933.9	777.0	83.2
2013	640.9	537.0	83.8	331.8	274.4	82.7	972.7	811.3	83.4
2014	665.5	559.3	84.0	349.0	288.7	82.7	1,014.5	848.0	83.6
2015	690.9	582.0	84.2	367.1	303.9	82.8	1,058.1	885.9	83.7
2016	715.1	603.7	84.4	385.9	319.6	82.8	1,101.0	923.3	83.9
2017	738.5	624.6	84.6	405.2	335.7	82.8	1,143.7	960.2	84.0
2018	760.1	643.9	84.7	424.9	352.1	82.9	1,185.0	995.9	84.0
2019	781.9	663.2	84.8	445.3	369.1	82.9	1,227.2	1,032.3	84.1
2020	805.5	683.9	84.9	466.5	386.9	82.9	1,271.9	1,070.8	84.2
2021	827.9	703.7	85.0	488.8	405.5	83.0	1,316.7	1,109.2	84.2
2022	849.3	722.6	85.1	512.3	425.1	83.0	1,361.6	1,147.7	84.3
2023	870.7	741.4	85.1	536.7	445.5	83.0	1,407.4	1,186.9	84.3
2024	891.3	759.4	85.2	562.1	466.8	83.0	1,453.3	1,226.2	84.4
2025	912.0	777.5	85.3	588.9	489.2	83.1	1,500.9	1,266.7	84.4
2026	932.5	795.5	85.3	616.6	512.4	83.1	1,549.1	1,307.9	84.4
2027	953.0	813.4	85.4	645.2	536.4	83.1	1,598.2	1,349.8	84.5
2028	973.6	831.3	85.4	674.7	561.1	83.2	1,648.3	1,392.4	84.5
2029	993.7	848.9	85.4	705.2	586.6	83.2	1,698.9	1,435.6	84.5
2030	1,014.9	867.4	85.5	737.3	613.5	83.2	1,752.1	1,480.9	84.5
2031	1,036.7	886.3	85.5	770.4	641.3	83.2	1,807.1	1,527.6	84.5
<u>Avg Annual Growth</u>									
2000-10	-1.7%	-0.2%		1.6%	2.4%		-0.7%	0.6%	
2010-11	2.8%	3.4%		8.5%	8.4%		4.6%	5.0%	
2010-20	3.3%	3.6%		5.3%	5.4%		4.0%	4.2%	
2010-31	2.8%	3.0%		4.9%	5.0%		3.6%	3.7%	

\* 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	
<u>Historical*</u>				
2000	20.9	21.2	11.2	53.3
2005	21.6	29.3	13.2	64.2
2006	22.5	31.7	13.9	68.1
2007	24.1	34.2	13.6	71.9
2008	26.0	35.6	13.2	74.8
2009	24.7	34.3	12.0	71.0
2010E	24.5	37.3	12.9	74.7
<u>Forecast</u>				
2011	26.6	40.1	13.9	80.6
2012	27.8	42.0	14.6	84.4
2013	28.8	44.0	15.3	88.1
2014	30.0	46.2	16.1	92.3
2015	31.1	48.5	17.0	96.7
2016	32.3	51.0	18.0	101.2
2017	33.4	53.5	18.9	105.9
2018	34.5	56.1	19.9	110.6
2019	35.7	58.8	20.9	115.4
2020	36.9	61.6	21.9	120.4
2021	38.2	64.5	23.0	125.7
2022	39.5	67.6	24.1	131.2
2023	40.9	70.8	25.2	137.0
2024	42.3	74.2	26.4	142.9
2025	43.7	77.8	27.7	149.1
2026	45.1	81.4	29.0	155.5
2027	46.6	85.2	30.4	162.1
2028	48.0	89.0	31.8	168.8
2029	49.5	92.9	33.3	175.7
2030	51.1	97.0	34.8	183.0
2031	52.8	101.3	36.3	190.4
<u>Avg Annual Growth</u>				
2000-10	1.6%	5.8%	1.5%	3.4%
2010-11	8.7%	7.5%	7.7%	7.9%
2010-20	4.2%	5.1%	5.4%	4.9%
2010-31	3.7%	4.9%	5.0%	4.6%

\* 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
<u>Historical*</u>												
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
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
2007	126.6	102.2	80.7	72.7	55.9	76.9	74.1	61.4	82.9	273.4	219.5	80.3
2008	141.0	112.7	80.0	74.2	58.8	79.3	74.9	60.4	80.6	290.1	231.9	80.0
2009	138.2	108.9	78.9	73.5	56.4	76.8	69.9	54.7	78.3	281.5	220.0	78.2
2010E	130.9	108.6	82.9	77.9	61.7	79.2	70.5	59.2	84.1	279.3	229.6	82.2
<u>Forecast</u>												
2011	143.7	118.0	82.2	82.7	66.5	80.4	76.6	64.4	84.1	303.0	248.9	82.2
2012	150.1	123.9	82.5	86.3	69.9	81.0	80.0	67.8	84.7	316.4	261.5	82.6
2013	156.4	129.1	82.6	91.2	73.9	81.0	84.2	71.4	84.8	331.8	274.4	82.7
2014	163.4	135.0	82.6	96.8	78.4	81.0	88.8	75.3	84.8	349.0	288.7	82.7
2015	170.6	141.0	82.7	102.8	83.3	81.0	93.7	79.6	84.9	367.1	303.9	82.8
2016	177.7	147.0	82.7	109.3	88.6	81.0	98.9	84.0	84.9	385.9	319.6	82.8
2017	184.8	152.9	82.8	116.1	94.1	81.0	104.3	88.6	85.0	405.2	335.7	82.8
2018	191.9	158.9	82.8	123.2	99.8	81.0	109.8	93.4	85.0	424.9	352.1	82.9
2019	199.2	165.1	82.9	130.6	105.8	81.0	115.5	98.3	85.1	445.3	369.1	82.9
2020	206.8	171.5	82.9	138.3	112.1	81.0	121.4	103.3	85.1	466.5	386.9	82.9
2021	214.9	178.2	83.0	146.5	118.7	81.0	127.4	108.5	85.2	488.8	405.5	83.0
2022	223.4	185.4	83.0	155.2	125.8	81.0	133.7	113.9	85.2	512.3	425.1	83.0
2023	232.0	192.7	83.1	164.5	133.3	81.0	140.2	119.6	85.3	536.7	445.5	83.0
2024	240.8	200.1	83.1	174.3	141.2	81.0	147.0	125.5	85.3	562.1	466.8	83.0
2025	250.1	207.9	83.2	184.6	149.6	81.0	154.2	131.6	85.4	588.9	489.2	83.1
2026	259.4	215.8	83.2	195.5	158.4	81.0	161.7	138.1	85.4	616.6	512.4	83.1
2027	268.8	223.8	83.3	206.8	167.6	81.0	169.6	145.0	85.5	645.2	536.4	83.1
2028	278.4	231.9	83.3	218.5	177.1	81.0	177.8	152.1	85.5	674.7	561.1	83.2
2029	288.2	240.2	83.4	230.7	187.0	81.0	186.3	159.5	85.6	705.2	586.6	83.2
2030	298.6	249.1	83.4	243.5	197.3	81.0	195.2	167.1	85.6	737.3	613.5	83.2
2031	309.4	258.2	83.5	256.9	208.2	81.0	204.2	174.9	85.7	770.4	641.3	83.2
<u>Avg. Annual Growth</u>												
2000-10	1.8%	2.2%		4.2%	5.7%		-0.8%	0.1%		1.6%	2.4%	
2010-11	9.7%	8.7%		6.2%	7.7%		8.7%	8.8%		8.5%	8.4%	
2010-20	4.7%	4.7%		5.9%	6.1%		5.6%	5.7%		5.3%	5.4%	
2010-31	4.2%	4.2%		5.8%	6.0%		5.2%	5.3%		4.9%	5.0%	

\* 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)			
<u>Historical*</u>							
2000	148.8	233.7	179.5	307.8	236.6	164.5	
2005	150.4	230.8	175.5	278.7	223.4	165.0	
2006	150.5	229.4	175.2	274.4	221.4	165.7	
2007	150.6	229.2	176.2	279.6	222.3	166.3	
2008	150.3	229.2	177.3	292.3	224.9	167.5	
2009	151.2	230.0	175.8	291.3	223.7	168.9	
2010E	151.9	231.7	171.5	287.2	220.9	169.0	
<u>Forecast</u>							
2011	152.0	232.2	172.0	288.0	221.9	170.0	
2012	152.1	232.7	172.5	288.7	222.4	170.3	
2013	152.1	233.2	173.0	289.5	222.9	170.6	
2014	152.2	233.7	173.5	290.2	223.3	170.9	
2015	152.3	234.2	174.0	291.0	223.7	171.2	
2016	152.4	234.7	174.5	291.7	224.0	171.6	
2017	152.4	235.2	175.0	292.5	224.4	172.0	
2018	152.5	235.7	175.5	293.2	224.7	172.4	
2019	152.6	236.2	176.0	294.0	225.1	172.8	
2020	152.7	236.7	176.5	294.7	225.4	173.2	
2021	152.7	237.2	177.0	295.5	225.8	173.6	
2022	152.8	237.7	177.5	296.2	226.1	174.0	
2023	152.9	238.2	178.0	297.0	226.4	174.5	
2024	153.0	238.7	178.5	297.7	226.7	175.0	
2025	153.0	239.2	179.0	298.5	227.1	175.5	
2026	153.1	239.7	179.5	299.2	227.4	176.0	
2027	153.2	240.2	180.0	300.0	227.7	176.5	
2028	153.3	240.7	180.5	300.7	228.1	177.0	
2029	153.3	241.2	181.0	301.5	228.4	177.6	
2030	153.4	241.7	181.5	302.2	228.8	178.1	
2031	153.5	242.2	182.0	303.0	229.1	178.6	

\* 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)			
<u>Historical*</u>							
2000	872.6	4,168.1	1,675.2	5,219.9	3,397.3	1,091.4	
2005	974.1	4,133.1	1,611.1	4,466.1	3,051.2	1,201.1	
2006	995.5	4,175.4	1,637.0	4,390.4	3,037.0	1,233.4	
2007	992.7	4,247.8	1,634.3	4,515.1	3,054.2	1,237.3	
2008	999.4	4,332.7	1,651.6	4,583.5	3,100.1	1,262.9	
2009	1,003.0	4,402.4	1,645.6	4,549.9	3,097.6	1,274.6	
2010E	1,015.1	4,433.0	1,654.8	4,586.6	3,072.8	1,295.5	
<u>Forecast</u>							
2011	1,020.8	4,433.8	1,657.8	4,625.3	3,087.0	1,314.5	
2012	1,025.9	4,450.7	1,664.7	4,648.1	3,099.1	1,324.0	
2013	1,031.0	4,477.2	1,680.3	4,656.4	3,112.8	1,332.4	
2014	1,036.2	4,501.4	1,698.1	4,664.3	3,127.3	1,341.7	
2015	1,041.4	4,526.8	1,717.4	4,672.2	3,142.5	1,351.3	
2016	1,046.6	4,551.8	1,737.5	4,680.1	3,157.0	1,361.7	
2017	1,051.8	4,575.8	1,757.9	4,688.2	3,170.9	1,372.4	
2018	1,057.1	4,598.9	1,778.7	4,696.4	3,184.6	1,383.9	
2019	1,062.4	4,621.3	1,799.2	4,704.9	3,198.4	1,395.6	
2020	1,067.7	4,643.8	1,819.7	4,713.4	3,212.2	1,407.1	
2021	1,073.0	4,666.6	1,840.2	4,722.1	3,226.0	1,419.3	
2022	1,078.4	4,689.8	1,860.7	4,730.9	3,239.7	1,432.3	
2023	1,083.8	4,713.3	1,881.6	4,739.8	3,253.3	1,445.7	
2024	1,089.2	4,736.4	1,902.9	4,748.7	3,266.9	1,459.6	
2025	1,094.6	4,759.5	1,924.3	4,757.6	3,280.7	1,473.9	
2026	1,100.1	4,782.6	1,946.1	4,766.6	3,294.7	1,488.6	
2027	1,105.6	4,805.2	1,968.0	4,775.5	3,309.0	1,503.4	
2028	1,111.1	4,827.5	1,990.0	4,784.5	3,323.5	1,518.4	
2029	1,116.7	4,849.4	2,011.8	4,793.6	3,338.3	1,533.8	
2030	1,122.3	4,871.4	2,033.4	4,802.8	3,353.2	1,549.3	
2031	1,127.9	4,893.9	2,055.2	4,812.2	3,368.0	1,564.8	

\* 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 2010 \$ (Cents)	CURRENT \$ (Cents)	FY 2010 \$ (Cents)	CURRENT \$ (Cents)	FY 2010 \$ (Cents)	CURRENT \$ (Cents)	FY 2010 \$ (Cents)	
<u>Historical*</u>									
2000	14.03	17.87	10.46	13.32	13.06	16.64			
2005	11.45	12.87	10.87	12.22	11.29	12.69			
2006	12.36	13.40	11.63	12.61	12.15	13.17			
2007	12.45	13.18	12.45	13.19	12.45	13.18			
2008	13.11	13.30	13.37	13.56	13.19	13.38			
2009	11.95	12.16	11.70	11.90	11.87	12.08			
2010E	12.57	12.57	12.86	12.86	12.67	12.67			
<u>Forecast</u>									
2011	12.96	12.82	13.66	13.51	13.20	13.05			
2012	13.37	12.99	13.99	13.59	13.58	13.19			
2013	13.52	12.87	14.13	13.46	13.72	13.07			
2014	13.68	12.76	14.28	13.32	13.88	12.95			
2015	13.84	12.65	14.43	13.19	14.04	12.83			
2016	13.99	12.53	14.58	13.06	14.19	12.71			
2017	14.15	12.42	14.72	12.93	14.35	12.60			
2018	14.31	12.31	14.88	12.80	14.51	12.49			
2019	14.47	12.20	15.02	12.67	14.67	12.37			
2020	14.62	12.10	15.16	12.55	14.81	12.26			
2021	14.76	11.99	15.29	12.42	14.96	12.15			
2022	14.89	11.88	15.41	12.30	15.09	12.04			
2023	15.03	11.78	15.53	12.18	15.22	11.93			
2024	15.17	11.67	15.67	12.05	15.36	11.82			
2025	15.33	11.57	15.81	11.94	15.51	11.71			
2026	15.49	11.47	15.96	11.82	15.67	11.60			
2027	15.65	11.37	16.10	11.70	15.83	11.50			
2028	15.82	11.27	16.26	11.58	16.00	11.39			
2029	15.99	11.17	16.43	11.47	16.17	11.29			
2030	16.17	11.07	16.59	11.35	16.34	11.19			
2031	16.33	10.97	16.73	11.24	16.50	11.08			
<u>Avg Annual Growth</u>									
2000-10	-1.1%	-3.5%	2.1%	-0.3%	-0.3%	-2.7%			
2010-11	3.1%	2.0%	6.2%	5.0%	4.2%	3.0%			
2010-20	1.5%	-0.4%	1.7%	-0.3%	1.6%	-0.3%			
2010-31	1.3%	-0.6%	1.3%	-0.6%	1.3%	-0.6%			

\* 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 2010 \$ (Cents)	CURRENT \$ (Cents)	FY 2010 \$ (Cents)	CURRENT \$ (Cents)	FY 2010 \$ (Cents)	CURRENT \$ (Cents)	FY 2010 \$ (Cents)	CURRENT \$ (Cents)	FY 2010 \$ (Cents)	CURRENT \$ (Cents)	FY 2010 \$ (Cents)	
<u>Historical*</u>													
2000	9.73	12.39	13.00	16.56	9.99	12.72	10.46	13.32					
2005	10.75	12.08	12.16	13.66	10.04	11.28	10.87	12.22					
2006	11.64	12.62	12.68	13.75	10.73	11.63	11.63	12.61					
2007	12.46	13.20	13.37	14.16	11.61	12.30	12.45	13.19					
2008	13.29	13.48	14.19	14.39	12.73	12.91	13.37	13.56					
2009	11.25	11.44	13.05	13.27	11.20	11.39	11.70	11.90					
2010E	12.77	12.77	13.44	13.44	12.44	12.44	12.86	12.86					
<u>Forecast</u>													
2011	13.62	13.47	14.12	13.96	13.26	13.11	13.66	13.51					
2012	13.97	13.58	14.33	13.92	13.66	13.27	13.99	13.59					
2013	14.12	13.44	14.47	13.78	13.80	13.14	14.13	13.46					
2014	14.27	13.31	14.63	13.64	13.94	13.01	14.28	13.32					
2015	14.42	13.17	14.78	13.51	14.09	12.88	14.43	13.19					
2016	14.56	13.04	14.93	13.37	14.23	12.75	14.58	13.06					
2017	14.70	12.91	15.08	13.24	14.37	12.62	14.72	12.93					
2018	14.86	12.78	15.23	13.11	14.52	12.50	14.88	12.80					
2019	15.00	12.66	15.38	12.98	14.67	12.37	15.02	12.67					
2020	15.14	12.53	15.52	12.85	14.80	12.25	15.16	12.55					
2021	15.27	12.40	15.66	12.72	14.93	12.12	15.29	12.42					
2022	15.39	12.28	15.78	12.59	15.04	12.00	15.41	12.30					
2023	15.51	12.16	15.90	12.46	15.16	11.88	15.53	12.18					
2024	15.64	12.04	16.04	12.34	15.29	11.76	15.67	12.05					
2025	15.78	11.92	16.18	12.22	15.43	11.65	15.81	11.94					
2026	15.93	11.80	16.33	12.09	15.57	11.53	15.96	11.82					
2027	16.08	11.68	16.48	11.97	15.71	11.41	16.10	11.70					
2028	16.23	11.56	16.64	11.85	15.87	11.30	16.26	11.58					
2029	16.39	11.45	16.81	11.74	16.03	11.19	16.43	11.47					
2030	16.55	11.33	16.97	11.62	16.18	11.08	16.59	11.35					
2031	16.70	11.22	17.12	11.50	16.32	10.97	16.73	11.24					
<u>Avg Annual Growth</u>													
2000-10	2.8%	0.3%	0.3%	-2.1%	2.2%	-0.2%	2.1%	-0.3%					
2010-11	6.7%	5.5%	5.0%	3.8%	6.6%	5.4%	6.2%	5.0%					
2010-20	1.7%	-0.2%	1.4%	-0.5%	1.8%	-0.2%	1.7%	-0.3%					
2010-31	1.3%	-0.6%	1.2%	-0.7%	1.3%	-0.6%	1.3%	-0.6%					

\* 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 2010 \$	CURRENT \$	CURRENT \$	FY 2010 \$	CURRENT \$	CURRENT \$	FY 2010 \$	
	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	
<u>Historical*</u>									
2000	71.49	91.05	79.35	101.06	73.57	93.70			
2005	149.39	167.90	157.26	176.74	151.58	170.36			
2006	194.69	211.07	204.69	221.91	197.72	214.35			
2007	194.17	205.66	203.31	215.34	196.90	208.55			
2008	292.56	296.69	314.57	319.01	299.74	303.97			
2009	202.31	205.80	208.41	212.00	204.35	207.87			
2010E	218.55	218.55	220.03	220.03	219.06	219.06			
<u>Forecast</u>									
2011	222.08	219.60	223.58	221.09	222.60	220.12			
2012	240.85	234.02	242.48	235.60	241.41	234.56			
2013	253.75	241.66	255.47	243.29	254.34	242.22			
2014	263.54	245.85	265.33	247.51	264.16	246.42			
2015	273.87	250.27	275.72	251.96	274.51	250.85			
2016	284.83	255.17	286.76	256.89	285.50	255.76			
2017	291.92	256.37	293.90	258.10	292.60	256.97			
2018	297.01	255.54	299.02	257.27	297.71	256.14			
2019	296.92	250.43	298.93	252.13	297.61	251.02			
2020	292.59	242.11	294.57	243.75	293.27	242.68			
2021	289.76	235.35	291.72	236.94	290.44	235.90			
2022	287.83	229.65	289.78	231.21	288.50	230.19			
2023	285.36	223.68	287.29	225.19	286.03	224.20			
2024	287.52	221.20	289.47	222.70	288.20	221.71			
2025	292.72	220.97	294.70	222.46	293.40	221.48			
2026	298.50	221.06	300.52	222.56	299.19	221.58			
2027	304.58	221.27	306.64	222.77	305.29	221.78			
2028	312.38	222.47	314.49	223.97	313.11	222.99			
2029	321.22	224.26	323.39	225.78	321.97	224.78			
2030	329.39	225.48	331.62	227.01	330.15	226.01			
2031	336.19	225.85	338.47	227.38	336.98	226.38			
<u>Avg. Annual Growth</u>									
2000-10	11.8%	9.2%	10.7%	8.1%	11.5%	8.9%			
2010-11	1.6%	0.5%	1.6%	0.5%	1.6%	0.5%			
2010-20	3.0%	1.0%	3.0%	1.0%	3.0%	1.0%			
2010-31	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<sup>1, 2, 3</sup>**

FISCAL YEAR	ALL-CARGO CARRIER RTMS (Millions)		PASSENGER CARRIER RTMS (Millions)		TOTAL RTMS (Millions)	
	DOMESTIC	INT'L	DOMESTIC	INT'L	DOMESTIC	INT'L
Historical*						
2000	10,283.5	7,573.1	4,415.2	7,784.6	14,698.7	15,357.8
2005	13,007.9	14,581.2	3,081.7	8,547.7	16,089.6	23,128.9
2006	12,481.2	15,475.2	3,229.4	8,483.5	15,710.5	23,958.7
2007	12,795.2	16,164.4	3,022.8	8,050.0	15,818.0	24,214.4
2008	12,257.7	15,587.4	2,152.9	9,027.0	14,410.5	24,614.4
2009	10,266.1	13,206.4	1,633.9	5,898.6	11,900.0	19,105.0
2010E	11,225.3	15,924.5	1,622.7	7,112.6	12,848.0	23,037.1
Forecast						
2011	11,721.5	16,960.2	1,663.8	7,557.5	13,385.3	24,517.7
2012	12,450.0	18,411.7	1,751.0	8,089.4	14,201.1	26,501.1
2013	13,026.3	19,811.1	1,815.2	8,581.6	14,841.5	28,392.7
2014	13,526.6	21,254.3	1,867.3	9,076.3	15,393.9	30,330.6
2015	13,979.6	22,703.6	1,911.8	9,557.1	15,891.4	32,260.7
2016	14,383.9	24,168.4	1,980.8	10,028.0	16,332.4	34,196.4
2017	14,759.7	25,645.1	1,980.4	10,487.3	16,740.1	36,132.4
2018	15,109.9	27,158.9	2,008.0	10,945.3	17,117.9	38,104.1
2019	15,459.1	28,733.9	2,034.6	11,411.1	17,493.7	40,145.0
2020	15,821.5	30,368.0	2,062.0	11,882.9	17,883.5	42,250.9
2021	16,193.5	32,071.3	2,089.8	12,363.9	18,283.3	44,435.2
2022	16,592.7	33,841.0	2,120.2	12,852.1	18,713.0	46,693.1
2023	16,997.4	35,667.6	2,150.3	13,342.9	19,147.7	49,010.5
2024	17,396.7	37,567.7	2,178.8	13,841.8	19,575.5	51,409.6
2025	17,819.7	39,561.3	2,209.3	14,355.0	20,029.0	53,916.3
2026	18,238.1	41,608.7	2,238.1	14,867.0	20,476.3	56,475.7
2027	18,648.8	43,737.4	2,265.0	15,386.8	20,913.9	59,124.2
2028	19,061.2	45,926.6	2,291.2	15,906.3	21,352.4	61,832.9
2029	19,473.8	48,187.4	2,316.4	16,428.3	21,790.1	64,615.7
2030	19,916.9	50,540.2	2,344.2	16,958.9	22,261.1	67,499.0
2031	20,370.9	52,975.6	2,372.2	17,493.7	22,743.1	70,469.3
Avg. Annual Growth						
2000-10	0.9%	7.7%	-9.5%	-0.9%	-3.3%	4.1%
2010-11	4.4%	6.5%	2.5%	6.3%	4.2%	6.4%
2010-20	3.5%	6.7%	2.4%	5.3%	3.4%	6.3%
2010-31	2.9%	5.9%	1.8%	4.4%	2.8%	5.5%

\* 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 2002 exclude Airborne Express, Inc.; international figures for 2003 and beyond include new reporting of contract service by U.S. carriers for foreign flag carriers.

3 Domestic figures from 2003 and beyond include Airborne Express, Inc.

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

CALENDAR YEAR	LARGE NARROWBODY				TOTAL	LARGE WIDEBODY				TOTAL	LARGE JETS	REGIONAL JETS	TOTAL JETS
	2 ENGINE	3 ENGINE	4 ENGINE	TOTAL		2 ENGINE	3 ENGINE	4 ENGINE	TOTAL				
<u>Historical</u>													
2000	3,364	385	0	3,749	424	169	120	713	4,462	26	4,488		
2005	3,308	37	0	3,345	466	29	54	549	3,894	12	3,906		
2006	3,302	26	0	3,328	463	19	49	531	3,859	39	3,898		
2007	3,354	29	0	3,383	477	12	47	536	3,919	64	3,983		
2008	3,170	10	1	3,181	470	9	44	523	3,704	91	3,795		
2009	3,109	9	2	3,120	447	9	42	498	3,618	100	3,718		
2010E	3,097	8	3	3,108	464	9	41	514	3,622	91	3,713		
<u>Forecast</u>													
2011	3,062	8	3	3,073	468	9	41	518	3,591	103	3,694		
2012	3,075	8	3	3,086	505	7	41	553	3,639	109	3,748		
2013	3,199	8	3	3,210	523	5	41	569	3,779	116	3,895		
2014	3,273	7	3	3,283	560	3	41	604	3,887	123	4,010		
2015	3,383	6	3	3,392	585	1	41	627	4,019	127	4,146		
2016	3,450	5	3	3,458	626	0	38	664	4,122	131	4,253		
2017	3,523	5	3	3,531	649	0	32	681	4,212	135	4,347		
2018	3,596	5	3	3,604	691	0	26	717	4,321	139	4,460		
2019	3,668	5	3	3,676	719	0	17	736	4,412	141	4,553		
2020	3,732	0	2	3,734	763	0	9	772	4,506	145	4,651		
2021	3,833	0	2	3,835	794	0	0	794	4,629	149	4,778		
2022	3,889	0	2	3,891	833	0	0	833	4,724	153	4,877		
2023	3,957	0	2	3,959	860	0	0	860	4,819	157	4,976		
2024	4,008	0	2	4,010	900	0	0	900	4,910	161	5,071		
2025	4,058	0	2	4,060	941	0	0	941	5,001	164	5,165		
2026	4,123	0	2	4,125	988	0	0	988	5,113	167	5,280		
2027	4,179	0	2	4,181	1,033	0	0	1,033	5,214	170	5,384		
2028	4,246	0	2	4,248	1,081	0	0	1,081	5,329	173	5,502		
2029	4,307	0	2	4,309	1,135	0	0	1,135	5,444	176	5,620		
2030	4,388	0	2	4,390	1,183	0	0	1,183	5,573	179	5,752		
2031	4,469	0	2	4,471	1,235	0	0	1,235	5,706	182	5,888		
<u>Avg. Annual Growth</u>													
2000-10	-0.8%	-32.1%	N/A	-1.9%	0.9%	-25.4%	-10.2%	-3.2%	-2.1%	13.3%	-1.9%		
2010-11	-1.1%	0.0%	0.0%	-1.1%	0.9%	0.0%	0.0%	0.8%	-0.9%	13.2%	-0.5%		
2010-20	1.9%	-100.0%	-4.0%	2.2%	5.4%	-100.0%	-100.0%	4.4%	2.6%	3.8%	2.6%		
2010-31	1.8%	-100.0%	-1.9%	1.7%	4.8%	-100.0%	-100.0%	4.3%	2.2%	3.4%	2.2%		

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

CALENDAR YEAR	LARGE NARROWBODY				TOTAL	LARGE WIDEBODY				TOTAL
	2 ENGINE	3 ENGINE	4 ENGINE	TOTAL		2 ENGINE	3 ENGINE	4 ENGINE	TOTAL	
<u>Historical</u>										
2000	166	332	176	674	164	158	68	390	1,064	
2005	164	233	90	487	246	193	75	514	1,001	
2006	162	220	78	460	264	208	80	552	1,012	
2007	162	162	75	399	276	213	86	575	974	
2008	161	143	68	372	276	215	97	588	960	
2009	160	104	33	297	253	201	82	536	833	
2010E	140	99	28	267	258	194	87	539	806	
<u>Forecast</u>										
2011	143	91	28	262	273	195	87	555	817	
2012	159	80	28	267	288	196	89	573	840	
2013	177	69	26	272	294	196	94	584	856	
2014	191	56	25	272	300	196	94	590	862	
2015	211	44	24	279	314	189	94	597	876	
2016	237	29	23	289	329	181	95	605	894	
2017	264	13	22	299	343	173	94	610	909	
2018	282	7	21	310	355	166	96	617	927	
2019	299	2	15	316	374	157	98	629	945	
2020	314	0	8	322	395	150	98	643	965	
2021	324	0	5	329	418	146	95	659	988	
2022	334	0	2	336	441	141	93	675	1,011	
2023	344	0	0	344	460	136	94	690	1,034	
2024	353	0	0	353	476	132	96	704	1,057	
2025	362	0	0	362	495	127	98	720	1,082	
2026	372	0	0	372	511	127	99	737	1,109	
2027	381	0	0	381	529	128	100	757	1,138	
2028	390	0	0	390	545	128	104	777	1,167	
2029	400	0	0	400	563	128	106	797	1,197	
2030	409	0	0	409	579	128	109	816	1,225	
2031	418	0	0	418	594	128	111	833	1,251	
<u>Avg Annual Growth</u>										
2000-10	-1.7%	-11.4%	-16.8%	-8.8%	4.6%	2.1%	2.5%	3.3%	-2.7%	
2010-11	2.1%	-8.1%	0.0%	-1.9%	5.8%	0.5%	0.0%	3.0%	1.4%	
2010-20	8.4%	-100.0%	-11.8%	1.9%	4.4%	-2.5%	1.2%	1.8%	1.8%	
2010-31	5.3%	-100.0%	-100.0%	2.2%	4.1%	-2.0%	1.2%	2.1%	2.1%	

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

FISCAL YEAR	JET FUEL			AVIATION GASOLINE				TOTAL FUEL CONSUMED
	U.S. AIR CARRIERS <sup>1</sup>		TOTAL	GENERAL AVIATION	AIR CARRIER	GENERAL AVIATION	TOTAL	
	DOMESTIC	INT'L.						
<u>Historical*</u>								
2000	14,746	5,297	20,043	972	21,015	333	335	21,350
2005	13,978	5,378	19,356	1,527	20,883	295	297	21,180
2006	13,461	5,851	19,313	1,643	20,955	283	285	21,241
2007	13,538	6,045	19,583	1,486	21,069	274	276	21,344
2008	13,179	6,289	19,468	1,706	21,174	248	250	21,424
2009	11,478	5,767	17,244	1,447	18,691	227	229	18,921
2010E	11,202	5,869	17,071	1,432	18,503	220	222	18,726
<u>Forecast</u>								
2011	11,360	6,270	17,630	1,472	19,103	220	222	19,325
2012	11,587	6,451	18,038	1,671	19,709	219	221	19,929
2013	11,882	6,665	18,547	1,834	20,381	218	220	20,601
2014	12,187	6,905	19,092	1,898	20,991	215	217	21,208
2015	12,496	7,157	19,653	1,962	21,615	213	215	21,830
2016	12,770	7,412	20,182	2,029	22,211	211	213	22,424
2017	13,022	7,666	20,688	2,093	22,781	211	213	22,994
2018	13,235	7,918	21,153	2,153	23,306	210	212	23,518
2019	13,443	8,175	21,618	2,215	23,833	210	212	24,045
2020	13,673	8,438	22,110	2,283	24,393	211	213	24,606
2021	13,873	8,709	22,583	2,349	24,931	212	214	25,146
2022	14,049	8,992	23,041	2,413	25,454	214	216	25,670
2023	14,218	9,280	23,498	2,483	25,981	217	219	26,199
2024	14,366	9,575	23,941	2,555	26,497	220	222	26,719
2025	14,513	9,883	24,395	2,630	27,026	224	226	27,251
2026	14,644	10,193	24,838	2,706	27,544	227	229	27,773
2027	14,771	10,508	25,279	2,784	28,062	231	233	28,296
2028	14,891	10,825	25,716	2,863	28,578	235	237	28,816
2029	15,000	11,146	26,146	2,946	29,092	239	241	29,333
2030	15,119	11,480	26,599	3,032	29,631	243	245	29,876
2031	15,242	11,818	27,060	3,118	30,178	247	249	30,427
<u>Avg Annual Growth</u>								
2000-10	-2.7%	1.0%	-1.6%	4.0%	-1.3%	-4.0%	-4.0%	-1.3%
2010-11	1.4%	6.8%	3.3%	2.8%	3.2%	0.0%	0.0%	3.2%
2010-20	2.0%	3.7%	2.6%	4.8%	2.8%	-0.4%	-0.4%	2.8%
2010-31	1.5%	3.4%	2.2%	3.8%	2.4%	0.5%	0.5%	2.3%

\* Source: Air carrier jet fuel, Form 41, U.S. Department of Transportation; all others, FAA APO estimates.

<sup>1</sup> 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)	SYSTEM (Seats/Mile)	DOMESTIC (Miles)	INT'L. (Miles)	SYSTEM (Miles)	CURRENT \$ (Cents)	2010\$ (Cents)
<u>Historical*</u>								
2000	38.4	41.8	38.5	286.5	260.0	285.5	30.28	38.57
2005	48.6	52.4	48.7	434.7	434.2	434.7	19.67	22.10
2006	49.3	52.2	49.4	450.4	467.2	450.7	19.88	21.55
2007	49.9	54.0	50.0	451.5	518.1	452.9	19.91	21.09
2008	52.9	53.4	53.0	460.8	532.7	462.3	21.25	21.55
2009	55.2	52.8	55.1	456.9	512.3	457.8	17.27	17.57
2010E	56.2	53.2	56.1	464.3	502.9	464.9	15.95	15.95
<u>Forecast</u>								
2011	56.6	53.5	56.5	468.2	507.9	468.9	16.43	16.25
2012	57.0	53.8	57.0	476.6	512.9	477.2	16.94	16.46
2013	57.5	54.1	57.4	484.9	517.9	485.5	17.13	16.31
2014	57.9	54.4	57.8	493.1	522.9	493.6	17.33	16.17
2015	58.3	54.7	58.3	501.5	527.9	501.9	17.53	16.02
2016	58.8	55.0	58.7	508.7	532.9	509.1	17.72	15.88
2017	59.2	55.3	59.2	516.1	537.9	516.5	17.92	15.74
2018	59.7	55.6	59.6	523.6	542.9	523.9	18.13	15.60
2019	60.2	55.9	60.1	531.2	547.9	531.5	18.33	15.46
2020	60.6	56.2	60.5	539.0	552.9	539.2	18.52	15.32
2021	61.1	56.5	61.0	545.5	557.9	545.7	18.70	15.19
2022	61.6	56.8	61.5	552.1	562.9	552.3	18.87	15.05
2023	62.0	57.1	62.0	558.8	567.9	559.0	19.04	14.92
2024	62.5	57.4	62.4	565.6	572.9	565.7	19.22	14.79
2025	63.0	57.7	62.9	572.5	577.9	572.6	19.42	14.66
2026	63.5	58.0	63.4	578.0	582.9	578.1	19.62	14.53
2027	64.0	58.3	63.9	583.7	587.9	583.7	19.82	14.40
2028	64.5	58.6	64.4	589.3	592.9	589.4	20.04	14.27
2029	65.0	58.9	64.9	595.1	597.9	595.1	20.26	14.14
2030	65.5	59.2	65.4	600.9	602.9	600.9	20.48	14.02
2031	66.0	59.5	65.9	606.7	607.9	606.7	20.68	13.89
<u>Avg Annual Growth</u>								
2000-10							-6.2%	-8.4%
2010-11							3.0%	1.9%
2010-20							1.5%	-0.4%
2010-31							1.2%	-0.7%

\* 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	SYSTEM	DOMESTIC	INTERNATIONAL	SYSTEM
<u>Historical*</u>						
2000	79.7	3.1	82.8	22,825	814	23,639
2005	146.4	3.3	149.7	63,654	1,417	65,071
2006	152.2	3.5	155.7	68,532	1,634	70,166
2007	156.2	3.4	159.6	70,528	1,772	72,300
2008	159.1	3.5	162.6	73,305	1,867	75,172
2009	154.0	2.5	156.6	70,374	1,304	71,678
2010E	161.7	2.7	164.3	75,058	1,347	76,404
<u>Forecast</u>						
2011	167.2	2.8	170.0	78,297	1,407	79,703
2012	172.6	2.9	175.4	82,230	1,466	83,696
2013	179.5	3.0	182.4	87,031	1,540	88,570
2014	186.5	3.1	189.6	91,973	1,615	93,589
2015	193.6	3.2	196.8	97,102	1,693	98,795
2016	200.5	3.3	203.8	101,995	1,770	103,765
2017	207.1	3.4	210.5	106,877	1,845	108,722
2018	213.1	3.5	216.7	111,601	1,917	113,517
2019	219.2	3.6	222.8	116,441	1,989	118,430
2020	225.7	3.7	229.4	121,650	2,067	123,717
2021	232.0	3.8	235.9	126,575	2,144	128,719
2022	238.0	3.9	242.0	131,428	2,219	133,648
2023	244.0	4.0	248.1	136,365	2,295	138,660
2024	249.8	4.1	253.9	141,274	2,370	143,644
2025	255.7	4.2	259.9	146,361	2,447	148,808
2026	261.5	4.3	265.8	151,150	2,525	153,675
2027	267.3	4.4	271.7	156,023	2,603	158,626
2028	273.1	4.5	277.7	160,970	2,682	163,652
2029	278.9	4.6	283.5	165,942	2,762	168,703
2030	284.9	4.7	289.6	171,167	2,845	174,012
2031	291.0	4.8	295.9	176,577	2,931	179,508
<u>Avg Annual Growth</u>						
2000-10	7.3%	-1.5%	7.1%	12.6%	5.2%	12.4%
2010-11	3.4%	3.4%	3.4%	4.3%	4.5%	4.3%
2010-20	3.4%	3.4%	3.4%	4.9%	4.4%	4.9%
2010-31	2.8%	2.8%	2.8%	4.2%	3.8%	4.2%

\* 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
<u>Historical*</u>									
2000	38,332	22,825	59.5	1,338	814	60.8	39,670	23,639	59.6
2005	90,028	63,654	70.7	2,213	1,417	64.0	92,240	65,071	70.5
2006	91,458	68,532	74.9	2,387	1,634	68.5	93,845	70,166	74.8
2007	93,452	70,528	75.5	2,550	1,772	69.5	96,002	72,300	75.3
2008	99,469	73,305	73.7	2,632	1,867	70.9	102,101	75,172	73.6
2009	94,664	70,374	74.3	1,859	1,304	70.2	96,523	71,678	74.3
2010E	98,498	75,058	76.2	1,857	1,347	72.5	100,355	76,404	76.1
<u>Forecast</u>									
2011	102,199	78,297	76.6	1,927	1,407	73.0	104,125	79,703	76.5
2012	107,248	82,230	76.7	1,994	1,466	73.5	109,242	83,696	76.6
2013	113,425	87,031	76.7	2,080	1,540	74.0	115,505	88,570	76.7
2014	119,785	91,973	76.8	2,168	1,615	74.5	121,953	93,589	76.7
2015	126,384	97,102	76.8	2,257	1,693	75.0	128,641	98,795	76.8
2016	132,674	101,995	76.9	2,343	1,770	75.5	135,018	103,765	76.9
2017	138,947	106,877	76.9	2,427	1,845	76.0	141,374	108,722	76.9
2018	145,013	111,601	77.0	2,505	1,917	76.5	147,518	113,517	77.0
2019	151,229	116,441	77.0	2,583	1,989	77.0	153,811	118,430	77.0
2020	157,921	121,650	77.0	2,666	2,067	77.5	160,587	123,717	77.0
2021	164,243	126,575	77.1	2,748	2,144	78.0	166,991	128,719	77.1
2022	170,471	131,428	77.1	2,827	2,219	78.5	173,298	133,648	77.1
2023	176,805	136,365	77.1	2,905	2,295	79.0	179,710	138,660	77.2
2024	183,103	141,274	77.2	2,981	2,370	79.5	186,084	143,644	77.2
2025	189,630	146,361	77.2	3,058	2,447	80.0	192,688	148,808	77.2
2026	195,771	151,150	77.2	3,145	2,525	80.3	198,916	153,675	77.3
2027	202,018	156,023	77.2	3,233	2,603	80.5	205,251	158,626	77.3
2028	208,361	160,970	77.3	3,321	2,682	80.8	211,682	163,652	77.3
2029	214,735	165,942	77.3	3,409	2,762	81.0	218,144	168,703	77.3
2030	221,437	171,167	77.3	3,507	2,845	81.1	224,944	174,012	77.4
2031	228,376	176,577	77.3	3,608	2,931	81.2	231,984	179,508	77.4
<u>Avg Annual Growth</u>									
2000-10	9.9%	12.6%		3.3%	5.2%		9.7%	12.4%	
2010-11	3.8%	4.3%		3.7%	4.5%		3.8%	4.3%	
2010-20	4.8%	4.9%		3.7%	4.4%		4.8%	4.9%	
2010-31	4.1%	4.2%		3.2%	3.8%		4.1%	4.2%	

\* 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	31 TO 40 SEATS			OVER 40 SEATS			TOTAL FLEET																
				PROP	JET	TOTAL	PROP	JET**	TOTAL	NON JET	JET	TOTAL														
<u>Historical*</u>																										
2000	470	343	262	474	74	548	155	496	651	1,704	570	2,274														
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														
2007	453	172	79	228	98	326	101	1,656	1,757	1,033	1,754	2,787														
2008	451	107	68	180	43	223	121	1,730	1,851	927	1,773	2,700														
2009	466	103	65	153	31	184	115	1,747	1,862	902	1,778	2,680														
2010E	406	96	64	124	3	127	116	1,768	1,884	806	1,771	2,577														
<u>Forecast</u>																										
2011	396	93	62	122	0	122	125	1,810	1,935	798	1,810	2,608														
2012	383	91	60	117	0	117	136	1,858	1,994	787	1,858	2,645														
2013	373	88	59	114	0	114	145	1,919	2,064	779	1,919	2,698														
2014	362	86	57	110	0	110	155	1,962	2,117	770	1,962	2,732														
2015	355	84	56	108	0	108	164	1,990	2,154	767	1,990	2,757														
2016	343	81	54	105	0	105	173	2,004	2,177	756	2,004	2,760														
2017	333	79	52	102	0	102	182	2,011	2,193	748	2,011	2,759														
2018	323	76	51	99	0	99	191	2,017	2,208	740	2,017	2,757														
2019	315	74	50	96	0	96	201	2,030	2,231	736	2,030	2,766														
2020	305	72	48	93	0	93	210	2,057	2,267	728	2,057	2,785														
2021	294	70	46	90	0	90	219	2,094	2,313	719	2,094	2,813														
2022	284	67	45	87	0	87	229	2,136	2,365	712	2,136	2,848														
2023	273	65	43	83	0	83	238	2,188	2,426	702	2,188	2,890														
2024	263	62	42	80	0	80	247	2,245	2,492	694	2,245	2,939														
2025	253	60	40	77	0	77	256	2,310	2,566	686	2,310	2,996														
2026	243	58	38	74	0	74	265	2,382	2,647	678	2,382	3,060														
2027	232	55	36	71	0	71	273	2,455	2,728	667	2,455	3,122														
2028	220	52	35	67	0	67	283	2,531	2,814	657	2,531	3,188														
2029	209	49	33	64	0	64	291	2,607	2,898	646	2,607	3,253														
2030	196	46	31	60	0	60	300	2,689	2,989	633	2,689	3,322														
2031	183	43	29	56	0	56	309	2,764	3,073	620	2,764	3,384														
<u>Avg Annual Growth</u>																										
2000-10	-1.5%	-12.0%	-13.1%	-12.5%	-27.4%	-13.6%	-2.9%	13.6%	11.2%	-7.2%	12.0%	1.3%														
2010-11	-2.5%	-3.1%	-3.1%	-1.6%	-100.0%	-3.9%	7.8%	2.4%	2.7%	-1.0%	2.2%	1.2%														
2010-20	-2.8%	-2.8%	-2.8%	-2.8%	N/A	-3.1%	6.1%	1.5%	1.9%	-1.0%	1.5%	0.8%														
2010-31	-3.7%	-3.8%	-3.7%	-3.7%	-100.0%	-3.8%	4.8%	2.2%	2.4%	-1.2%	2.1%	1.3%														

\*Source: The Velocity Group for the Regional Airline Association through 2004.  
 \*\*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										ROTORCRAFT			TOTAL GENERAL AVIATION FLEET	OTHER	TOTAL PISTONS	TOTAL TURBINES
	PISTON			TURBINE			TOTAL	PISTON	TURBINE	TOTAL	EXPERI- MENTAL	SPORT AIRCRAFT					
	SINGLE ENGINE	MULTI- ENGINE	TOTAL	TURBO PROP	TURBO JET	TOTAL											
													TURBO PROP				
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		
2005	148,102	19,504	167,606	7,942	9,823	17,765	3,039	5,689	8,728	23,627	170	6,454	224,350	170,645	23,454		
2006	145,033	18,708	163,741	8,063	10,379	18,442	3,264	5,895	9,159	23,047	1,273	6,277	221,939	167,005	24,337		
2007	147,571	19,335	166,906	9,514	10,385	19,899	2,769	6,798	9,567	23,228	6,066	5,940	231,606	169,675	26,697		
2008	145,497	17,519	163,016	8,907	11,042	19,949	3,498	6,378	9,876	23,364	6,811	5,652	228,668	166,514	26,327		
2009	140,649	16,475	157,124	9,098	11,268	20,366	3,499	6,485	9,984	24,419	6,547	5,480	223,920	160,623	26,851		
2010E	139,818	16,322	156,140	9,225	11,568	20,793	3,580	6,585	10,165	24,591	6,996	5,487	224,172	159,720	27,378		
Forecast																	
2011	139,010	16,170	155,180	9,340	11,925	21,265	3,685	6,735	10,420	24,685	7,430	5,495	224,475	158,865	28,000		
2012	138,245	16,015	154,260	9,440	12,405	21,845	3,795	6,885	10,680	25,070	7,955	5,490	225,300	158,055	28,730		
2013	137,590	15,870	153,460	9,560	12,945	22,505	3,910	7,045	10,955	25,630	8,405	5,485	226,440	157,370	29,550		
2014	137,105	15,740	152,845	9,685	13,510	23,195	4,030	7,215	11,245	26,185	8,745	5,480	227,695	156,875	30,410		
2015	136,760	15,595	152,355	9,820	14,110	23,930	4,165	7,405	11,570	26,740	9,070	5,475	229,140	156,520	31,335		
2016	136,535	15,455	151,990	9,955	14,740	24,695	4,305	7,605	11,910	27,215	9,370	5,470	230,650	156,295	32,300		
2017	136,425	15,305	151,730	10,090	15,390	25,480	4,450	7,810	12,260	27,600	9,670	5,465	232,205	156,180	33,290		
2018	136,415	15,165	151,580	10,230	16,065	26,295	4,595	8,015	12,610	27,985	9,970	5,460	233,900	156,175	34,310		
2019	136,540	15,030	151,570	10,365	16,755	27,120	4,740	8,220	12,960	28,375	10,270	5,455	235,750	156,310	35,340		
2020	136,830	14,895	151,725	10,505	17,465	27,970	4,890	8,430	13,320	28,760	10,570	5,450	237,795	156,615	36,400		
2021	137,305	14,755	152,060	10,650	18,195	28,845	5,040	8,640	13,680	29,145	10,870	5,445	240,045	157,100	37,485		
2022	137,850	14,630	152,480	10,800	18,950	29,750	5,195	8,855	14,050	29,530	11,170	5,445	242,425	157,675	38,605		
2023	138,490	14,505	152,995	10,950	19,745	30,695	5,350	9,070	14,420	29,920	11,470	5,440	244,940	158,345	39,765		
2024	139,285	14,385	153,670	11,105	20,575	31,680	5,505	9,285	14,790	30,305	11,770	5,435	247,650	159,175	40,965		
2025	140,240	14,265	154,505	11,260	21,445	32,705	5,660	9,500	15,160	30,690	12,070	5,430	250,560	160,165	42,205		
2026	141,160	14,150	155,310	11,425	22,350	33,775	5,815	9,720	15,535	31,075	12,370	5,425	253,490	161,125	43,495		
2027	142,225	14,035	156,260	11,590	23,295	34,885	5,970	9,940	15,910	31,465	12,670	5,420	256,610	162,230	44,825		
2028	143,435	13,920	157,355	11,760	24,270	36,030	6,125	10,160	16,285	31,850	12,970	5,415	259,905	163,480	46,190		
2029	144,780	13,810	158,590	11,930	25,285	37,215	6,280	10,380	16,660	32,235	13,270	5,415	263,385	164,870	47,595		
2030	146,290	13,700	159,990	12,100	26,325	38,425	6,435	10,600	17,035	32,625	13,570	5,410	267,055	166,425	49,025		
2031	147,960	13,590	161,550	12,280	27,395	39,675	6,590	10,820	17,410	33,010	13,870	5,405	270,920	168,140	50,495		
Avg Annual Growth																	
2000-10	-0.7%	-2.5%	-0.9%	4.8%	5.2%	5.0%	2.9%	4.0%	3.6%	1.9%	N/A	-2.0%	0.3%	-0.8%	4.7%		
2010-11	-0.6%	-0.9%	-0.6%	1.2%	3.1%	2.3%	2.9%	2.3%	2.5%	0.4%	6.2%	0.1%	0.1%	-0.5%	2.3%		
2010-20	-0.2%	-0.9%	-0.3%	1.3%	4.2%	3.0%	3.2%	2.5%	2.7%	1.6%	4.2%	-0.1%	0.6%	-0.2%	2.9%		
2010-31	0.3%	-0.9%	0.2%	1.4%	4.2%	3.1%	2.9%	2.4%	2.6%	1.4%	3.3%	-0.1%	0.9%	0.2%	3.0%		

\* Source: 2000-2009, 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 28**  
**ACTIVE GENERAL AVIATION AND AIR TAXI HOURS FLOWN**  
(In Thousands)

CALENDAR YEAR	FIXED WING						ROTORCRAFT			EXPERIMENTAL	SPORT AIRCRAFT	OTHER	TOTAL GENERAL AVIATION HOURS	TOTAL PISTONS	TOTAL TURBINES
	PISTON		TURBINE		TOTAL	PISTON	TURBINE	TOTAL							
	SINGLE ENGINE	MULTI-ENGINE	TURBO PROP	TURBO JET											
Historical*															
2000	18,089	3,400	1,986	2,755	21,489	530	1,661	2,191	1,307	NA	374	30,102	22,019	6,402	
2005	13,739	2,677	2,160	3,767	16,416	678	2,438	3,116	1,340	9	271	27,078	17,094	8,365	
2006	13,976	2,550	2,162	4,077	16,525	918	2,528	3,446	1,218	66	211	27,705	17,443	8,767	
2007	13,571	2,686	2,661	3,938	16,257	704	2,541	3,245	1,275	260	215	27,852	16,962	9,141	
2008	12,746	2,328	2,457	3,600	15,074	751	2,470	3,222	1,155	293	209	26,009	15,825	8,527	
2009	11,732	1,904	2,225	3,161	13,636	755	2,248	3,003	1,286	282	178	23,771	14,391	7,634	
2010E	11,474	1,904	2,493	3,455	13,378	757	2,237	2,994	1,252	301	177	24,051	14,135	8,185	
Forecast															
2011	11,449	1,845	2,538	3,595	13,294	781	2,300	3,081	1,289	326	178	24,301	14,075	8,433	
2012	11,362	1,821	2,576	4,233	13,183	807	2,363	3,169	1,374	356	179	25,071	13,989	9,172	
2013	11,248	1,821	2,609	4,780	13,069	833	2,430	3,263	1,489	384	180	25,772	13,902	9,818	
2014	11,084	1,783	2,651	5,012	12,867	861	2,501	3,361	1,605	407	181	26,084	13,727	10,164	
2015	10,936	1,728	2,680	5,250	12,664	892	2,579	3,471	1,721	431	181	26,398	13,556	10,509	
2016	10,827	1,690	2,695	5,512	12,517	924	2,662	3,586	1,786	454	182	26,732	13,441	10,869	
2017	10,796	1,664	2,712	5,763	12,460	958	2,748	3,705	1,830	478	183	27,130	13,417	11,222	
2018	10,797	1,640	2,740	6,001	12,437	991	2,834	3,825	1,874	502	184	27,563	13,428	11,575	
2019	10,835	1,618	2,767	6,258	12,453	1,025	2,921	3,946	1,910	528	184	28,046	13,478	11,946	
2020	10,919	1,608	2,800	6,530	12,527	1,060	3,011	4,071	1,945	554	185	28,614	13,587	12,342	
2021	11,036	1,592	2,827	6,803	12,628	1,095	3,101	4,196	1,981	581	186	29,203	13,724	12,731	
2022	11,192	1,587	2,865	7,077	12,779	1,132	3,194	4,326	2,017	609	187	29,861	13,911	13,136	
2023	11,388	1,589	2,907	7,369	12,977	1,169	3,288	4,457	2,054	638	188	30,589	14,146	13,564	
2024	11,642	1,593	2,945	7,677	13,236	1,206	3,383	4,588	2,091	668	188	31,393	14,441	14,005	
2025	11,942	1,603	2,983	7,997	13,544	1,243	3,478	4,721	2,128	699	189	32,261	14,787	14,458	
2026	12,235	1,617	3,027	8,326	13,853	1,280	3,577	4,856	2,166	730	190	33,148	15,133	14,929	
2027	12,533	1,631	3,071	8,666	14,164	1,317	3,676	4,993	2,204	763	191	34,052	15,482	15,413	
2028	12,815	1,650	3,112	9,017	14,465	1,355	3,776	5,131	2,242	797	192	34,955	15,819	15,906	
2029	13,090	1,671	3,154	9,391	14,762	1,392	3,877	5,270	2,280	832	192	35,881	16,154	16,423	
2030	13,405	1,683	3,199	9,781	15,088	1,430	3,979	5,410	2,319	867	193	36,858	16,518	16,960	
2031	13,699	1,693	3,250	10,178	15,392	1,469	4,082	5,551	2,359	904	194	37,828	16,861	17,510	
Avg Annual Growth															
2000-10	-4.5%	-5.6%	2.3%	2.3%	-4.6%	3.6%	3.0%	3.2%	-0.4%	N/A	-7.2%	-2.2%	-4.3%	2.5%	
2010-11	-0.2%	-3.1%	1.8%	4.1%	-0.6%	3.2%	2.8%	2.9%	2.9%	8.3%	0.6%	1.0%	-0.4%	3.0%	
2010-20	-0.5%	-1.7%	1.2%	6.6%	-0.7%	3.4%	3.0%	3.1%	4.5%	6.3%	0.4%	1.8%	-0.4%	4.2%	
2010-31	0.8%	-0.6%	1.3%	5.3%	0.7%	3.2%	2.9%	3.0%	3.1%	5.4%	0.4%	2.2%	0.8%	3.7%	

\* Source: 2000-2009, FAA General Aviation and Air Taxi Surveys.

1 Estimates have been revised to reflect changes in edit and estimation procedures, and may not be comparable to estimates prior to 1995.

Note: An active aircraft is one that has a current registration and was flown at least one hour during the previous 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 <sup>2</sup>	TOTAL PILOTS	TOTAL LESS AT PILOTS	INSTRUMENT RATED PILOTS <sup>1</sup>
<u>Historical*</u>											
2000	93,064	340	NA	251,561	121,858	141,596	7,775	9,387	625,581	483,985	311,944
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	141,935	10,690	21,597	597,109	455,174	309,333
2007	84,339	239	2,031	211,096	115,127	143,953	12,290	21,274	590,349	446,396	309,865
2008	80,989	252	2,623	222,596	124,746	146,838	14,647	21,055	613,746	466,908	325,247
2009	72,280	234	3,248	211,619	125,738	144,600	15,298	21,268	594,285	449,685	323,495
2010E	119,119 <sup>3</sup>	212	3,682	202,020	123,705	142,198	15,377	21,275	627,588	485,390	318,001
Forecast											
2011	115,000	210	4,350	195,650	123,900	142,650	15,540	21,360	618,660	476,010	315,700
2012	111,700	210	5,050	190,600	122,350	143,550	15,850	21,400	610,710	467,160	317,300
2013	110,750	210	5,350	189,550	122,100	144,950	16,410	21,440	610,760	465,810	318,900
2014	109,700	210	5,650	188,350	121,800	146,000	16,960	21,470	610,140	462,490	320,500
2015	109,450	210	5,950	188,500	120,950	147,100	17,470	21,510	611,140	460,190	322,200
2016	109,250	210	6,250	188,750	120,500	147,950	18,000	21,540	612,450	464,500	323,900
2017	109,300	210	6,600	189,400	121,000	148,650	18,530	21,580	615,270	466,620	325,600
2018	109,450	210	6,950	190,250	121,250	149,450	18,960	21,610	618,130	468,680	328,100
2019	109,650	210	7,300	191,150	121,750	150,200	19,300	21,650	621,210	471,010	330,600
2020	110,050	210	7,700	192,400	122,300	151,050	19,450	21,680	624,840	473,790	333,100
2021	110,550	210	8,050	193,600	123,000	152,100	19,430	21,710	628,650	476,550	335,600
2022	111,150	210	8,450	194,950	123,750	153,000	19,400	21,770	632,680	479,680	338,200
2023	111,800	210	8,850	196,400	124,650	153,950	19,340	21,800	637,000	483,050	340,800
2024	112,550	210	9,250	198,000	125,700	154,900	19,270	21,840	641,720	486,820	343,400
2025	113,500	210	9,700	200,000	126,900	155,900	19,330	21,870	647,410	491,510	346,000
2026	114,350	210	10,150	201,800	128,200	157,050	19,490	21,910	653,160	496,110	348,600
2027	115,350	210	10,650	203,900	129,600	158,150	19,710	21,940	659,510	501,360	351,300
2028	116,500	210	11,150	206,250	131,150	159,350	19,980	21,970	666,560	507,210	354,000
2029	117,750	210	11,700	208,800	132,800	160,550	20,320	22,030	674,160	513,610	356,700
2030	119,100	210	12,250	211,500	134,450	161,850	20,710	22,060	682,130	520,280	359,400
2031	120,600	210	12,850	214,500	136,300	163,150	21,100	22,100	690,810	527,660	362,100
Avg Annual Growth											
2000-10	2.5%	-4.6%	N/A	-2.2%	0.2%	0.0%	7.1%	8.5%	0.0%	0.0%	0.2%
2010-11	-3.5%	-0.9%	18.1%	-3.2%	0.2%	0.3%	1.1%	0.4%	-1.4%	-1.9%	-0.7%
2010-20	-0.8%	-0.1%	7.7%	-0.5%	-0.1%	0.6%	2.4%	0.2%	0.0%	-0.2%	0.5%
2010-31	0.1%	0.0%	6.1%	0.3%	0.5%	0.7%	1.5%	0.2%	0.5%	0.4%	0.6%

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

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

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

<sup>3</sup> In July 2010, the FAA issued a rule that increased the duration of validity for student pilot certificates for pilots under the age of 40 from 36 to 60 months. This resulted in the increase in active student pilots to 119,119 from 72,280 at the end of 2009.

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

**TABLE 30**  
**GENERAL AVIATION AIRCRAFT FUEL CONSUMPTION**  
 (In Millions of Gallons)

CALENDAR YEAR	FIXED WING						ROTORCRAFT		EXPERIMENTAL/OTHER	SPORT	TOTAL FUEL CONSUMED		
	PISTON		TURBINE		TURBO-PROP	TURBO-JET	PISTON	TURBINE			AVGAS	JET FUEL	TOTAL
	SINGLE ENGINE	MULTI-ENGINE	SINGLE ENGINE	MULTI-ENGINE									
<u>Historical</u>													
2000	200.8	108.4	176.3	736.7	8.4	59.0	15.2	NA	332.8	972.0	1,304.8		
2005	173.1	89.7	196.1	1,181.3	14.6	149.2	17.7	0.0	295.0	1,526.7	1,821.7		
2006	164.9	79.9	190.1	1,303.9	16.7	148.6	21.6	0.3	283.4	1,642.6	1,926.0		
2007	157.6	83.0	205.2	1,148.0	9.3	132.4	22.6	1.2	273.6	1,485.6	1,759.2		
2008	143.0	69.5	230.4	1,313.2	10.7	162.1	23.3	1.5	248.1	1,705.7	1,953.8		
2009	132.3	57.1	208.7	1,104.6	10.7	133.6	25.8	1.4	227.4	1,447.0	1,674.4		
2010E	130.0	57.4	192.7	1,131.4	11.1	108.3	20.5	1.3	220.4	1,432.4	1,652.9		
<u>Forecast</u>													
2011	130.4	55.9	196.2	1,165.5	11.5	110.7	21.1	1.4	220.4	1,472.5	1,692.8		
2012	128.1	54.6	199.2	1,358.8	11.8	113.2	22.4	1.6	218.5	1,671.1	1,889.6		
2013	125.6	54.1	199.7	1,518.9	12.2	115.8	24.3	1.6	217.8	1,834.4	2,052.1		
2014	122.5	52.4	202.9	1,576.6	12.6	118.6	26.2	1.8	215.4	1,898.2	2,113.6		
2015	119.6	50.3	205.1	1,635.1	13.0	121.8	27.9	1.9	212.7	1,961.9	2,174.6		
2016	117.9	49.0	204.2	1,699.4	13.4	125.0	29.0	2.0	211.2	2,028.6	2,239.9		
2017	116.9	47.9	205.5	1,759.0	13.9	128.4	29.7	2.1	210.6	2,092.9	2,303.5		
2018	116.4	47.0	207.6	1,813.6	14.4	131.8	30.3	2.2	210.2	2,153.0	2,363.1		
2019	116.2	46.2	207.5	1,872.4	14.8	135.1	30.8	2.2	210.3	2,215.1	2,425.3		
2020	116.5	45.7	210.0	1,934.2	15.4	138.6	31.4	2.3	211.3	2,282.9	2,494.1		
2021	117.2	45.0	212.0	1,994.9	15.9	142.0	32.0	2.4	212.4	2,348.9	2,561.4		
2022	118.2	44.6	212.8	2,054.4	16.3	145.6	32.4	2.5	214.1	2,412.7	2,626.8		
2023	119.7	44.4	215.8	2,117.8	16.8	149.1	33.0	2.6	216.6	2,482.7	2,699.3		
2024	121.8	44.3	218.7	2,184.1	17.4	152.6	33.6	2.7	219.8	2,555.4	2,775.2		
2025	124.3	44.4	221.5	2,252.4	17.9	156.2	34.2	2.9	223.6	2,630.1	2,853.7		
2026	126.7	44.5	224.8	2,321.6	18.4	159.8	34.8	3.0	227.5	2,706.2	2,933.6		
2027	129.1	44.7	228.0	2,392.5	19.0	163.4	35.4	3.1	231.3	2,783.9	3,015.3		
2028	131.4	45.0	231.1	2,464.4	19.5	167.0	36.0	3.3	235.2	2,862.5	3,097.7		
2029	133.5	45.3	234.2	2,541.0	20.1	170.6	36.7	3.4	239.0	2,945.8	3,184.8		
2030	136.0	45.4	237.6	2,620.0	20.6	174.2	37.3	3.6	242.9	3,031.8	3,274.7		
2031	138.3	45.5	241.4	2,699.1	21.2	177.8	37.9	3.7	246.6	3,118.3	3,364.9		
<u>Avg Annual Growth</u>													
2000-10	-4.3%	-6.2%	0.9%	4.4%	2.9%	6.3%	3.1%	N/A	-4.0%	4.0%	2.4%		
2010-11	0.3%	-2.6%	1.8%	3.0%	3.2%	2.3%	2.9%	8.3%	0.0%	2.8%	2.4%		
2010-20	-1.1%	-2.3%	0.9%	5.5%	3.3%	2.5%	4.3%	5.8%	-0.4%	4.8%	4.2%		
2010-31	0.3%	-1.1%	1.1%	4.2%	3.1%	2.4%	3.0%	5.0%	0.5%	3.8%	3.4%		

Source: FAA APO Estimates.

Note: Detail may not add to total because of independent rounding.

**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			MILITARY			NUMBER OF TOWERS	
			ITINERANT	LOCAL	TOTAL	ITINERANT	LOCAL	TOTAL	FAA	CONTRACT
<b>Historical*</b>										
2000	15,158.7	10,760.5	22,844.1	22,844.1	39,878.5	1,439.8	1,448.2	2,888.0	266	192
2005	13,533.6	12,550.5	19,303.2	19,303.2	34,146.8	1,414.5	1,449.1	2,863.6	264	229
2006	13,256.3	11,967.6	18,707.1	18,707.1	33,072.5	1,358.4	1,417.4	2,775.8	263	231
2007	13,611.2	11,667.3	18,575.2	18,575.2	33,132.0	1,313.9	1,405.7	2,719.6	264	235
2008	13,780.1	11,032.1	17,492.7	17,492.7	31,573.8	1,285.0	1,245.6	2,530.6	264	239
2009	12,833.2	9,515.6	15,558.4	15,558.4	27,999.6	1,304.2	1,279.7	2,584.0	264	244
2010E	12,657.0	9,408.8	14,859.9	14,859.9	26,571.4	1,308.8	1,297.7	2,606.4	264	246
<b>Forecast</b>										
2011	12,990.0	9,585.0	14,351.4	14,351.4	25,749.5	1,308.6	1,297.3	2,605.8	264	246
2012	13,340.6	9,744.9	14,527.7	14,527.7	26,059.3	1,308.5	1,297.3	2,605.8	264	246
2013	13,679.7	9,915.7	14,706.7	14,706.7	26,373.9	1,308.5	1,297.3	2,605.8	264	246
2014	14,038.2	10,100.5	14,888.2	14,888.2	26,693.0	1,308.5	1,297.3	2,605.8	264	246
2015	14,397.2	10,276.2	15,070.9	15,070.9	27,015.0	1,308.5	1,297.3	2,605.8	264	246
2016	14,722.9	10,434.9	15,256.4	15,256.4	27,341.9	1,308.5	1,297.3	2,605.8	264	246
2017	15,056.7	10,596.8	15,444.9	15,444.9	27,674.1	1,308.5	1,297.3	2,605.7	264	246
2018	15,398.6	10,762.0	15,635.8	15,635.8	28,010.8	1,308.4	1,297.3	2,605.7	264	246
2019	15,748.8	10,930.4	15,829.6	15,829.6	28,352.6	1,308.4	1,297.3	2,605.7	264	246
2020	16,107.5	11,102.2	16,026.2	16,026.2	28,699.5	1,308.4	1,297.3	2,605.7	264	246
2021	16,470.7	11,277.6	16,225.8	16,225.8	29,051.8	1,308.4	1,297.3	2,605.7	264	246
2022	16,843.2	11,456.7	16,428.6	16,428.6	29,409.7	1,308.4	1,297.3	2,605.7	264	246
2023	17,225.3	11,639.4	16,634.2	16,634.2	29,772.6	1,308.4	1,297.3	2,605.6	264	246
2024	17,617.3	11,825.8	16,842.8	16,842.8	30,141.1	1,308.4	1,297.3	2,605.6	264	246
2025	18,019.5	12,016.2	17,054.5	17,054.5	30,515.1	1,308.3	1,297.3	2,605.6	264	246
2026	18,432.2	12,210.6	17,269.5	17,269.5	30,895.0	1,308.3	1,297.3	2,605.6	264	246
2027	18,855.5	12,409.0	17,487.7	17,487.7	31,280.6	1,308.3	1,297.3	2,605.6	264	246
2028	19,290.1	12,611.8	17,709.5	17,709.5	31,672.6	1,308.3	1,297.3	2,605.6	264	246
2029	19,735.9	12,818.7	17,934.3	17,934.3	32,070.1	1,308.3	1,297.3	2,605.6	264	246
2030	20,193.4	13,030.1	18,161.8	18,161.8	32,473.1	1,308.3	1,297.3	2,605.6	264	246
2031	20,661.5	13,245.0	18,392.3	18,392.3	32,881.3	1,308.3	1,297.3	2,605.5	264	246
<b>Avg Annual Growth</b>										
2000-10	-1.8%	-1.3%	-4.2%	-4.2%	-4.0%	-0.9%	-1.1%	-1.0%	-2.9%	
2010-11	2.6%	1.9%	-3.4%	-3.4%	-3.1%	0.0%	0.0%	0.0%	-0.6%	
2010-20	2.4%	1.7%	0.8%	0.8%	0.8%	0.0%	0.0%	0.0%	1.3%	
2010-31	2.4%	1.6%	1.0%	1.0%	1.0%	0.0%	0.0%	0.0%	1.5%	

\* Source: FAA Air Traffic Activity.

**TABLE 32**  
**TOTAL TRACON OPERATIONS**  
(In Thousands)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	TOTAL
<u>Historical*</u>					
2000	16,395.0	11,197.7	20,799.2	3,466.9	51,858.8
2005	14,123.4	12,751.1	17,388.9	2,798.7	47,062.1
2006	13,963.3	12,035.7	17,005.3	2,669.9	45,674.2
2007	14,366.0	11,675.8	16,747.4	2,498.7	45,288.0
2008	14,438.8	11,043.1	15,756.5	2,398.8	43,637.2
2009	13,298.3	9,609.8	14,126.9	2,394.9	39,429.9
2010E	13,173.4	9,508.4	13,853.6	2,436.3	38,971.7
<u>Forecast</u>					
2011	13,503.1	9,662.8	13,401.2	2,436.1	39,003.2
2012	13,864.8	9,833.6	13,598.9	2,436.1	39,733.3
2013	14,215.0	10,015.9	13,798.7	2,436.0	40,465.6
2014	14,585.2	10,213.1	14,004.0	2,436.0	41,238.3
2015	14,955.9	10,400.5	14,208.4	2,436.0	42,000.8
2016	15,292.6	10,568.3	14,409.9	2,435.9	42,706.6
2017	15,637.4	10,739.6	14,615.3	2,435.9	43,428.0
2018	15,990.7	10,914.3	14,823.6	2,435.8	44,164.4
2019	16,352.6	11,092.7	15,035.5	2,435.8	44,916.6
2020	16,723.3	11,274.9	15,250.9	2,435.7	45,684.9
2021	17,098.7	11,460.9	15,469.6	2,435.7	46,464.8
2022	17,483.7	11,651.0	15,692.6	2,435.6	47,262.8
2023	17,878.5	11,845.0	15,918.8	2,435.6	48,077.9
2024	18,283.5	12,043.3	16,149.0	2,435.5	48,911.4
2025	18,699.1	12,245.8	16,383.2	2,435.5	49,763.6
2026	19,125.5	12,452.8	16,621.5	2,435.4	50,635.2
2027	19,562.9	12,664.3	16,863.9	2,435.4	51,526.5
2028	20,011.8	12,880.7	17,111.2	2,435.3	52,438.9
2029	20,472.3	13,101.7	17,362.2	2,435.3	53,371.4
2030	20,944.9	13,327.6	17,617.5	2,435.3	54,325.2
2031	21,428.4	13,557.4	17,876.6	2,435.2	55,297.6
<u>Avg Annual Growth</u>					
2000-10	-2.2%	-1.6%	-4.0%	-3.5%	-2.8%
2010-11	2.5%	1.6%	-3.3%	0.0%	0.1%
2010-20	2.4%	1.7%	1.0%	0.0%	1.6%
2010-31	2.3%	1.7%	1.2%	0.0%	1.7%

\* 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		
<u>Historical*</u>						
2000	24,987.0	8,100.9	8,744.3	4,192.5		46,024.8
2005	25,004.6	10,053.9	8,367.7	4,052.0		47,478.1
2006	24,394.5	9,436.7	8,197.0	4,149.7		46,177.8
2007	25,006.2	9,652.9	8,294.3	3,803.3		46,756.7
2008	23,895.3	10,179.0	7,670.7	3,649.2		45,394.1
2009	22,405.1	8,561.6	6,331.6	2,993.0		40,291.3
2010E	22,338.7	8,622.8	6,549.5	2,981.8		40,492.7
<u>Forecast</u>						
2011	23,013.5	8,788.3	6,689.3	2,981.8		41,472.9
2012	23,700.2	8,953.4	6,805.5	2,981.8		42,441.0
2013	24,406.0	9,119.0	6,911.0	2,981.8		43,417.8
2014	25,179.0	9,300.5	7,022.9	2,981.8		44,484.2
2015	25,959.9	9,482.4	7,128.2	2,981.8		45,552.3
2016	26,682.7	9,653.1	7,220.4	2,981.8		46,538.0
2017	27,425.1	9,831.9	7,311.3	2,981.8		47,550.2
2018	28,192.0	10,015.2	7,403.7	2,981.8		48,592.7
2019	28,982.6	10,205.0	7,498.3	2,981.8		49,667.8
2020	29,794.4	10,404.6	7,595.3	2,981.8		50,776.2
2021	30,615.5	10,614.4	7,692.0	2,981.8		51,903.7
2022	31,464.1	10,829.9	7,791.7	2,981.8		53,067.5
2023	32,340.7	11,050.9	7,894.7	2,981.8		54,268.2
2024	33,246.7	11,277.8	8,001.6	2,981.8		55,507.9
2025	34,179.9	11,513.8	8,112.5	2,981.8		56,788.0
2026	35,144.4	11,756.1	8,227.9	2,981.8		58,110.2
2027	36,141.2	12,004.9	8,348.0	2,981.8		59,475.9
2028	37,165.8	12,266.6	8,473.2	2,981.8		60,887.4
2029	38,224.6	12,535.5	8,603.6	2,981.8		62,345.5
2030	39,319.3	12,811.8	8,739.7	2,981.8		63,852.6
2031	40,445.7	13,094.5	8,878.0	2,981.8		65,400.0
<u>Avg Annual Growth</u>						
2000-10	-1.2%	0.6%	-2.9%	-3.4%		-1.3%
2010-11	3.0%	1.9%	2.1%	0.0%		2.4%
2010-20	2.9%	1.9%	1.5%	0.0%		2.3%
2010-31	2.9%	2.0%	1.5%	0.0%		2.3%

\* Source: FAA Air Traffic Activity.





