



Federal Aviation  
Administration

# FAA Aerospace Forecast

Fiscal Years **2009 – 2025**

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





## ▶▶▶ MESSAGE FROM THE ADMINISTRATOR

The business of aviation has shown resiliency throughout its first hundred years. We expect that the next 15 years will be yet one more example of how our industry will meet the challenges of the current economic situation, and how it will adapt to circumstances and lands on its feet. While it is clear from our 2009-2025 forecast that this industry faces challenges, we are equally confident the future holds promise.

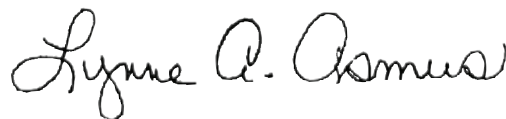
The downturn facing aviation mirrors the economic situation around the world. As the economy has dipped, so has the demand. But we expect that as economic growth returns, so too will passengers and operations. Trends suggest an industry continuing to change over the next several years, with international markets growing faster than domestic markets. In addition, we expect the numbers of larger regional jets flying to increase while most of the smaller regional jets are retired from the fleet.

In 2009, we expect sizeable declines in both domestic and international capacity as carriers respond to the impacts of the economic downturn. The size of aircraft in domestic markets will fall slightly as airlines continue to adjust their operations to better match demand.

Aviation finds itself in economic waters that no one would have predicted a decade ago. To be sure, the business climate is being influenced by several factors. Oil price volatility, economic uncertainty, congestion concerns and environmental issues are challenging the entire industry. In the long run, commercial aviation demand at FAA facilities is projected to grow as the economy recovers and air carrier operations continue to expand. Equally true in the longer term, the demand for general aviation products and services will be on the upswing. With new business jets and products like light sport aircraft, it is expected to continue to increase in the future.

With all of this as context, the FAA remains committed to make sure the system can keep pace with the long-term growth and activity that are coming our way. We're taking new approaches to airspace, deploying new and better technology, and using advanced procedures to keep things moving. Efficiency and environmental stewardship will shape aviation as we advance to NextGen. In short, we are taking the lessons of the summers of 2007 and 2008 to heart.

This year marks the FAA's 34th annual Aviation Forecast Conference. Your continued participation will make it a success.



Lynne Osmus  
Acting Administrator



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## ▶▶▶ FORECAST HIGHLIGHTS 2009-2025

The FAA continues to forecast long term aviation growth, despite global economic conditions. Since 2000, U.S. airlines have dealt with the impacts of 9/11, heightened concerns about pandemics, the bankruptcy of four network carriers, record high fuel prices, and the most serious economic downturn since the Great Depression. In spite of these challenges, the number of passengers traveling continues to grow over the long term, demonstrating the value of air transportation to the public. In last year's forecast the FAA predicted for the U.S. commercial aviation industry to carry one billion passengers by 2016. We now believe the industry will reach this mark in 2021.

The 2009 forecast for commercial aviation calls for a sharp decline in activity in the near term, with a return to growth over the long term. The level of activity and demand in the long term, however, is not expected to snap back to levels published in the previous FAA forecast. The most significant factor preventing recovery to prior forecast levels is the state of the economy, both domestic and worldwide. In the U.S., the National Bureau of Economic Research reports the U.S. economy has been in recession since December 2007, with economists speculating this may be the deepest recession since the end of World War II. Indications are the global economy is not fairing any better. With 8 of the world's top 10 economies<sup>1</sup> in recession as of January 2009, the global economy is poised to perform worse than any other period during the past 60 years.

System capacity in available seat miles (ASMs) – the overall yardstick for how busy aviation is both domestically and internationally – will drop 6.7 percent this year, after posting a 1.2 percent increase during 2008, and then grow at an average of 3.8 percent per year through 2025. In the domestic market, capacity drops 9.0 percent in 2009 to mark the largest percentage decline in available seat miles since deregulation of the industry in 1978. Mainline carrier capacity will decline 9.5 percent (in comparison, mainline carriers reduced capacity by 8.3 percent in the aftermath of 9/11) as both low-cost carriers<sup>2</sup> and network carriers<sup>3</sup> become smaller. For the regional carriers, domestic capacity will drop 5.5 percent from 2008 levels - a turnaround from recent periods of reduced air travel demand which saw regional capacity expand as mainline carriers transferred capacity to their lower-cost regional code-share partners. Commercial air carrier domestic revenue passenger miles (RPMs) are forecast to fall 8.9 percent in 2009, and then grow at an average of 3.4 percent per year through 2025; enplanements will fall 7.8 percent for the year, and then grow at an average annual rate of 2.7 percent for the remainder of the forecast.

Air traffic will not rise to prior forecast levels even when the economy recovers because of the absence of significant price cuts as measured by real yield<sup>4</sup> in the near term. Following previous downturns (e.g. the recessions in 1991 and 2001) carriers stimulated passenger demand by reducing fares sharply. The industry's response to the current economic downturn is to better match supply (seats) and demand (passengers) by modestly cutting fares and dramatically reducing capacity. With no evidence of pent up demand, we do not anticipate a return to previously forecasted passenger levels even when recovery takes hold.

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1 Ranked by Gross Domestic Product for Calendar Year 2008 (United States, Japan, Germany, United Kingdom, France, Italy, Spain, Canada).

2 Allegiant Air, American Trans Air, America West Airlines, AirTran Airways, Frontier Airlines, JetBlue Airways, Skybus Airlines, Southwest Airlines, Spirit Airlines, USA3000, and Virgin America Airlines.

3 Alaska Airlines, American Airlines, Continental Airlines, Delta Air Lines, Northwest Airlines, United Airlines, and US Airways.

4 Calculated by dividing passenger revenues by revenue passenger miles and adjusted for inflation using the Consumer Price Index. Yield is the revenue an airline receives for every passenger mile travelled and is often used as a proxy for airfare.

The average size of domestic aircraft is expected to decline by 0.7 seats in FY 2009 to 120.1 seats. Average seats per aircraft for mainline carriers are projected to fall by 0.8 seats as network carriers 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 2009 by 0.9 seats to 53.7 seats per mile. Passenger trip length in domestic markets will decrease by 10.5 miles this year, largely due to the impact of capacity realignment.

The downturn in the economy has also dampened the near-term prospects for the general aviation industry. Longer-term, we see growth in business aviation demand 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 1.8 percent a year through 2025.

The shaky global economy that took hold in the latter part of 2008 is expected to put a squeeze on air travel demand through 2009, although falling oil prices will offset some of the decline in demand, allowing U.S. carriers to be profitable in 2009. To navigate the volatile operating environment, carriers are attempting to increase revenues per customer (through increased fares and/or additional fees) while driving down their costs by implementing capacity cutbacks (by reducing flights and/or gauge of aircraft, delaying deliveries of newer aircraft, and/or grounding older aircraft). Over the long term, we see a competitive and profitable industry characterized by increasing demand for air travel and air fares growing more slowly than inflation.



## ▶▶▶ REVIEW OF 2008

Each passing month of 2008 saw the light on consumer confidence dim as energy prices spiked, housing foreclosures climbed, credit tightened, and unemployment surged. This chain of events resulted in less than expected growth in air travel demand for the year. In 2008<sup>5</sup> system revenue passenger miles (RPMs) grew 0.7 percent as enplanements fell 1.0 percent. Commercial air carrier domestic enplanements were down 1.5 percent while international enplanements grew 3.3 percent to a record 77.8 million. The system-wide load factor fell 0.4 points from its all-time high in 2007 to be 79.5 percent. Domestic enplanement market share for low-cost carriers shrank in 2008 while network and regional carrier share increased. The network carrier share of domestic enplanements grew 1.1 points to 49.2 percent while regional carrier market share rose 0.5 points to 23.1 percent. The decline in share for low-cost carriers is partially attributed to the cessation of operations by ATA and Skybus.

Systemwide real yield increased 1.6 percent during 2008, but decelerating demand coupled with accelerating costs led to operating losses for the commercial air carrier industry after two years of operating profitably. Industry operating losses mounted in the first part of the year due to costs from soaring fuel prices and totaled \$2.0 billion by year end, compared to a \$10.1 billion operating profit posted for 2007. The network carriers reported operating losses of \$5.1 billion, with six of the seven carriers reporting losses. The remaining passenger carriers reported operating profits of \$692.5 million, while the cargo carriers reported operating profits of \$2.4 billion. The net loss for U.S. commercial air carriers in 2008 is \$18.5 billion. Much of the loss stems from merger related charges at Delta Air Lines and Northwest Airlines. These two carriers recorded goodwill impairment charges totaling \$10.0 billion during the second quarter, accounting for over 50 percent of the net loss for the year. Cargo carriers continued to report strong results with net profits of \$1.3 billion.

The market for general aviation products and services showed mixed results in 2008. Worldwide shipments declined for the first time since 2002 (down 6.7 percent) but billings were up 14.4 percent compared to 2007. Piston aircraft shipments fell 20.7 percent while turbine aircraft shipments increased by 16.7 percent. The increase in shipments and billings seen in the jet fleet was stimulated by growth in the U.S. and world economy. Despite the higher shipments and billings, general aviation activity fell 5.6 percent in 2008.

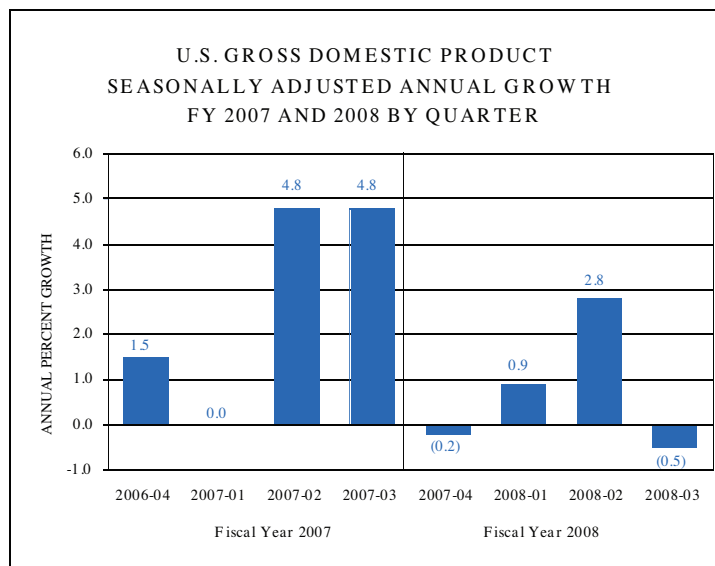
Total operations at FAA and contract tower airports fell 4.3 percent as increases in air carrier operations were offset by declines in other user categories and were at their lowest levels since 1985. Although the number of flights fell, the combination of fleet mix changes with more regional and business jets in the nation's skies and carriers consolidate their operations in their large hubs, resulting in increased workload due to the continued growth in the complexity of the airspace FAA must manage.

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<sup>5</sup> All stated years and quarters for U.S. economic and U.S. air carrier traffic and financial data and forecasts are on a fiscal year (FY) basis (October 1 through September 30). All stated years and quarters for international economic and world traffic and financial data are on a calendar year (CY) basis, unless otherwise stated.

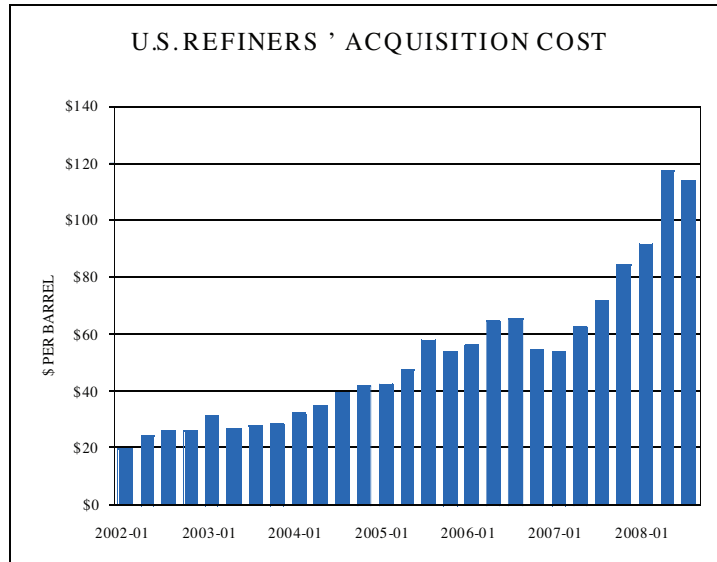
## U.S. ECONOMIC ACTIVITY

The U.S. economy slowed in FY 2008, in a year that was marked by large contrasts. After growing 2.1 percent in FY 2007, growth in U.S. Gross Domestic Product (GDP) was 1.9 percent in fiscal year 2008. However, there were wide variations in the seasonally adjusted quarterly growth rates as they ranged from a high of 2.8 percent in the third quarter to a low of -0.5 percent in the fourth quarter. The first part of the year was dominated by the unprecedented rise in the price of oil that led to dampened consumer spending. Partly due to the slowdown in consumer spending, growth in the economy was tepid in the early part of the year, prompting Congress to pass a stimulus plan that included individual tax rebates. The rebates and subsequent jump in spending by consumers was the primary cause of the 2.8 percent growth recorded in the third quarter. By the fourth quarter, the impact of the rebates had waned and consumers retrenched, leading to the fall in output.



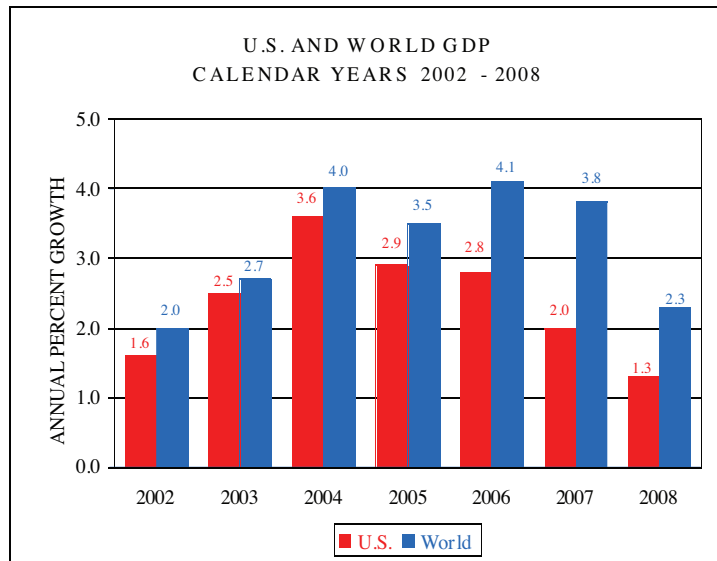
According to the consumer price index (CPI), prices rose 4.4 percent in FY 2008, as surging oil prices made all items in the economy more expensive. The 4.4 percent rise in the CPI in FY 2008 was the highest since 1991, and was 2.1 percentage points higher than in FY 2007.

Oil prices, as measured by the U.S. Refiners' Acquisition Cost, rose 67.6 percent in FY 2008 to \$101.53. Higher prices were spurred by strong global demand for oil, concerns about potential supply disruptions, and also the actions of speculators in the oil market. However, the rise in the average price for the year fails to tell the whole story. Oil prices, which averaged \$73.54 in September 2007, rose rapidly to peak at \$129.03 in July 2008, dropped to \$98.91 by September, and continued to fall through the first quarter of FY 2009 to \$39.82 in December.



## WORLD ECONOMIC ACTIVITY

As the world's largest economy, the U.S continues to have a prominent role in world economic growth. In recent years much had been written about the “decoupling” of the world economy from the U.S. economy. However, events in 2008 showed that the world and U.S. economies were very much linked together. What started out to be a U.S. slowdown in the beginning of 2008, turned into a full-fledged global slowdown by the end of the year. In calendar year 2008, as has been the case since 2000, U.S. GDP growth lagged that of the rest of the world, with U.S. and world economic growth reaching 1.3 and 2.3 percent, respectively. GDP growth in the rest of the world was driven by the growth in Asian and Latin American markets.



On a calendar year basis, Canadian GDP growth lagged that of the U.S. in 2008, with growth of 0.7 percent. The combined economies of the Asian and Far East nations grew by 3.6 percent in 2008, down from 5.9

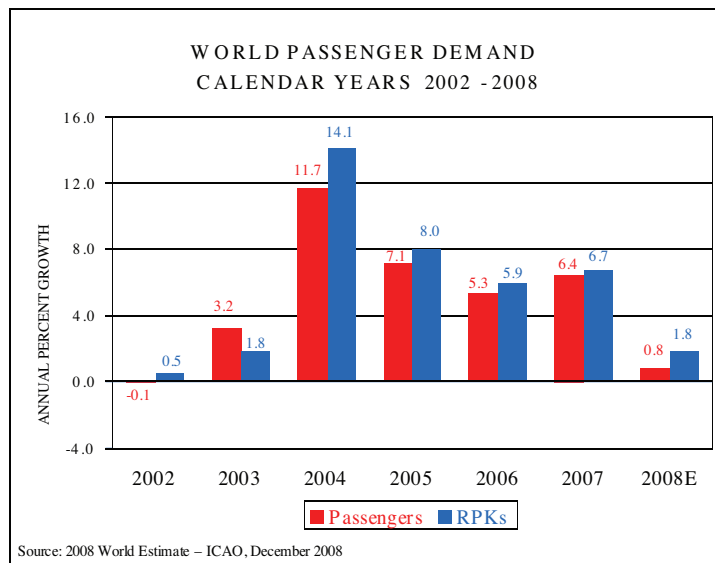
percent a year earlier. This region includes the world’s second largest economy, Japan (down 0.1 percent), and the world’s most vibrant economy, China (up 9.2 percent). The combined economies of the Europe/Middle East/Africa nations rose just 1.7 percent in 2008, as solid growth in Eastern Europe (up 4.7 percent) offset slow growth in Eurozone<sup>6</sup> countries (up 0.9 percent). GDP in Latin America grew by 3.7 percent with Brazil up 5.1 percent while Mexico grew only 1.3 percent as the U.S. economic slowdown resulted in slower economic growth in Mexico.

## COMMERCIAL AVIATION

Commercial aviation hit a slippery slope during 2008. Unpredictable jet fuel prices and a softening global economy hurt the industry. After posting its first net profit since the 9/11 terror attacks in 2007, the U.S. industry posted a net loss in 2008, with a similar outcome predicted for foreign carriers. With the U.S., Europe and Japan reportedly in a recession, global industry net losses for calendar year 2008 are expected to be \$5.0 billion, with a vast majority (\$3.9 billion, excluding “fresh-start” accounting items) absorbed by the U.S. carriers.<sup>7</sup> U.S. airlines were able to implement moderate fare increases during 2008 through successful capacity management despite increasing uncertainty in their operating environment, tempering the impact of the downturn.

### WORLD TRAVEL DEMAND

Based on data compiled by the International Civil Aviation Organization (ICAO), world air carriers transported 2.26 billion passengers (up 6.4 percent) a total of 4.2 trillion revenue passenger kilometers (RPKs) (up 6.7 percent) in CY 2007. Although worldwide traffic results are not available for full year 2008, ICAO estimates that worldwide RPKs and passengers increased 1.8 and 0.8 percent, respectively.<sup>8</sup>

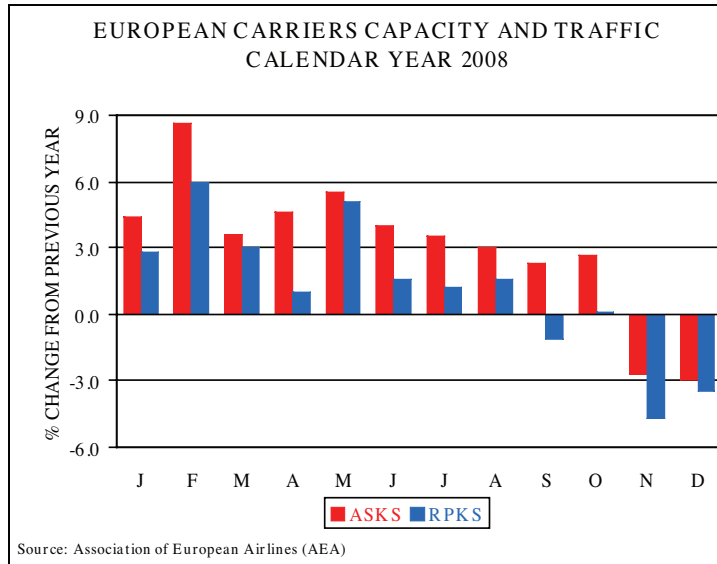


<sup>6</sup> Austria, Belgium, Cypress, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Spain, Slovakia, Slovenia

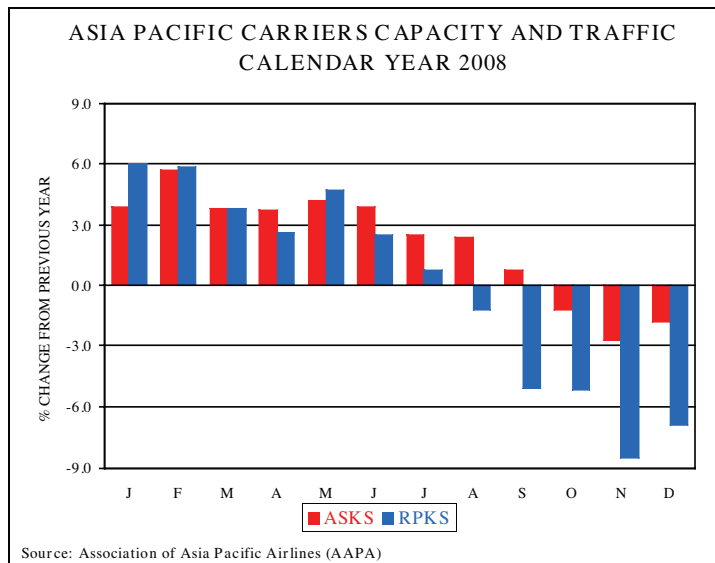
<sup>7</sup> IATA Financial Forecast, December 2008.

<sup>8</sup> ICAO News Release, December 18, 2008.

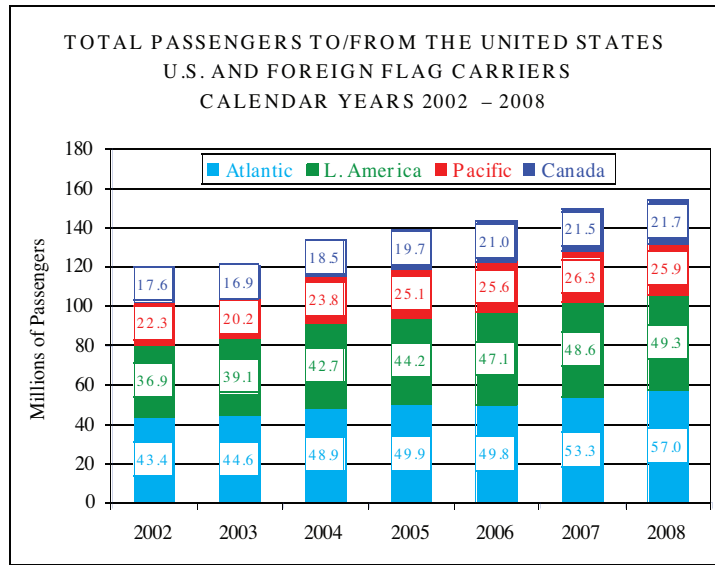
Statistics from the Association of European Airlines (AEA) show that passengers decreased 1.5 percent and RPKs increased 1.2 percent in CY 2008. Capacity, as measured by available seat kilometers (ASKs), was up 3.0 percent during the same time period. For the year, AEA carrier traffic was strongest in the Middle-East (8.2 percent), followed by the South Atlantic (7.5 percent), and North Africa regions (6.6 percent). Traffic growth in the North Atlantic region was minimal, up 0.2 percent.



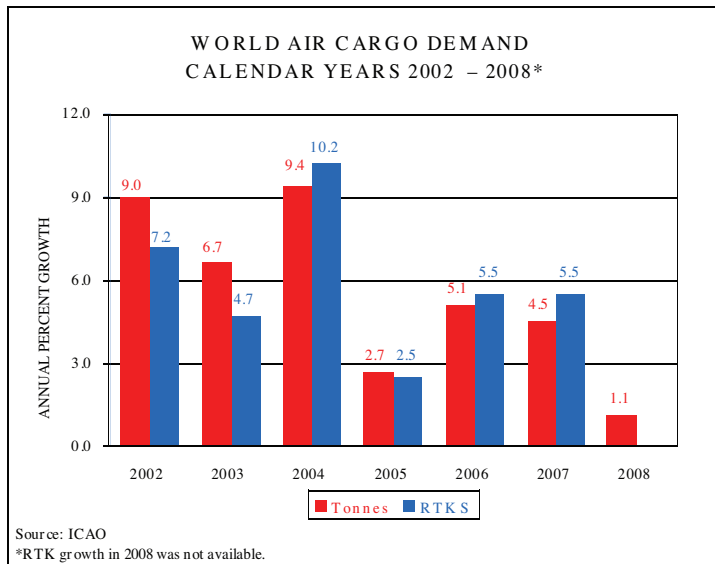
The Association of Asia Pacific Airlines (AAPA) reported a decrease of 1.0 percent in RPKs on a 1.7 percent increase in ASKs for 2008. Passengers were down 1.8 percent during the same period.



In CY 2008, U.S. and foreign flag carriers will transport an estimated 153.9 million passengers between the United States and the rest of the world, a 2.7 percent increase over 2007. Growth in the Atlantic market was solid (up 7.0 percent) and weak in both the Latin America market (up 1.4 percent) and the Canadian transborder market (up 0.7 percent). Passenger growth fell in the Asia/Pacific market (down 1.7 percent) as declines in Japan and Australia offset gains elsewhere.



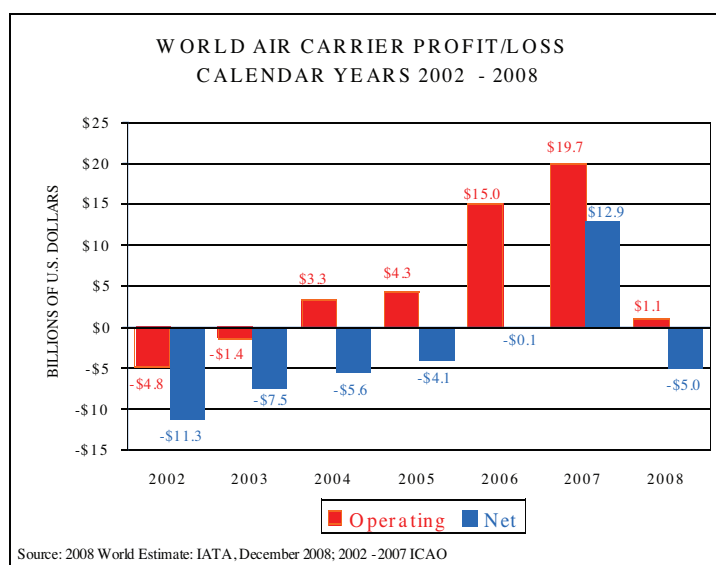
Worldwide air cargo demand was weak in 2008.<sup>9</sup> According to ICAO, worldwide freight tonnes increased about 1.1 percent in 2008 compared to growth of 4.5 percent in 2007. AEA member carriers FTKs were down 2.8 percent for the year while AAPA member carriers FTKs were down 6.1 percent for the same period.



The International Air Transport Association (IATA) reports world air carriers (including U.S. airlines) are expected to register an operating profit of \$1.1 billion for 2008. Escalating fuel prices and the collapse of the U.S. housing market and the resulting credit crunch led to deteriorating financial results in 2008, with IATA estimating global airline industry net losses to be \$5.0 billion for the year. Based on financial data compiled by ICAO, between 2000 and 2007 world airlines produced cumulative operating profits of \$53 billion and net losses of \$18 billion.<sup>10</sup>

<sup>9</sup> ICAO News Release, December 18, 2008.

<sup>10</sup> IATA Financial Forecast, December 2008.



## U.S. TRAVEL DEMAND

By year end FY 2008, the U.S. commercial aviation industry consisted of 19 scheduled mainline air carriers that use large passenger jets (over 90 seats) and 67 regional carriers that use smaller piston, turboprop, and regional jet aircraft (up to 90 seats) to provide connecting passengers to the larger carriers. Mainline and regional carriers provide 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. During 2008 two passenger carriers started scheduled operations (Air Choice One and Wings Air), while ten discontinued operations.<sup>11</sup> In addition, two carriers merged — Delta Air Lines and Northwest Airlines. Twenty-three all-cargo carriers were providing domestic and/or international air cargo service at the end 2008 — three cargo carriers ceased operations during the year (Focus Air Cargo, Gemini Air Cargo, Kitty Hawk Air Cargo) and two merged (Southern Air and Cargo 360).

Three distinct trends have occurred over the past several years that have helped shape today's U.S. commercial air carrier industry: (1) convergence of the network and low cost carrier business models; (2) rapid growth by network carriers into international markets; and (3) transformation of the domestic air carrier fleet.

### Commercial Air Carriers — Passengers

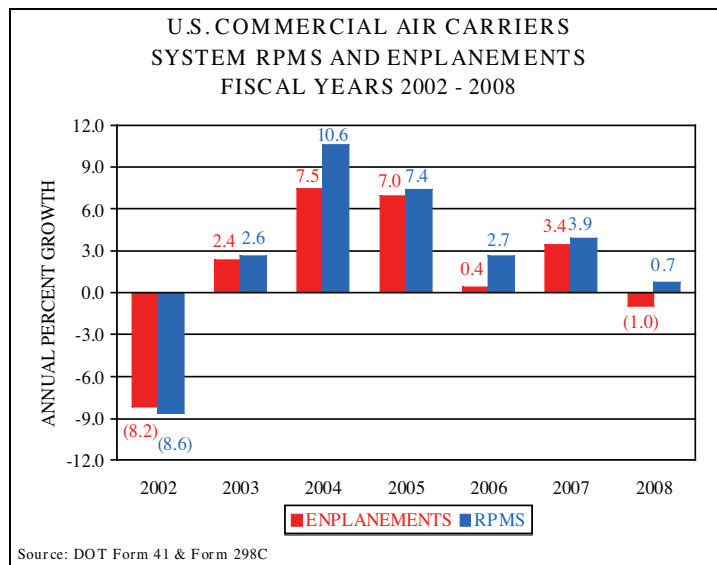
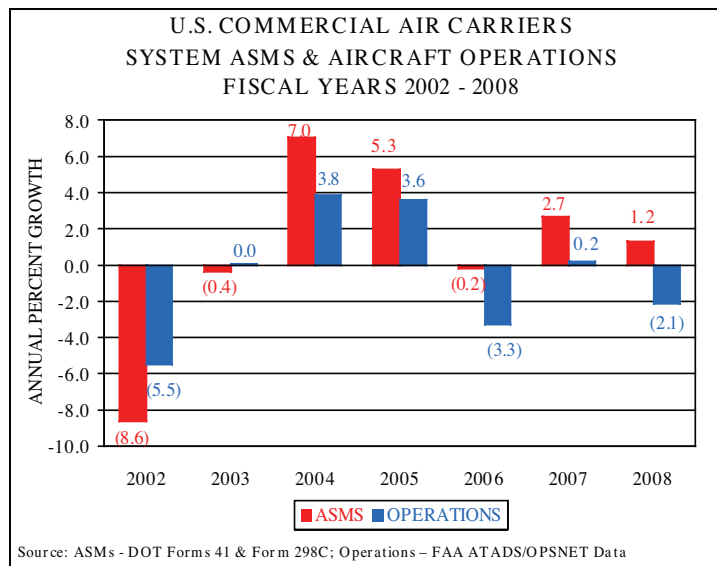
After moderate growth in 2007, U.S. commercial air carriers posted sluggish gains in capacity and traffic during 2008. System (the sum of domestic plus international) capacity rose 1.2 percent to 1.0 trillion ASMs while RPMs grew 0.7 percent to 827.4 billion. During the same period system-wide passenger growth declined 1.0 percent, the first year-over-year decline in passengers since 2002, and only the second decline since the 1991 recession.

The fall in passenger demand can be characterized as a one-two punch. The first punch came early in the year with an unprecedented rise in fuel prices. To recoup the increasing costs of fuel, carriers curtailed

<sup>11</sup> Carriers ceasing operations in 2008: Mainline – Aloha Airlines, ATA Airlines, EOS Airlines, Skybus Airlines; Regional – Air Midwest, Big Sky Airlines, Boston-Maine Airways, L.A.B. Flying Service, Skyway Airline, Vintage Props and Jets

capacity growth and raised fares, resulting in reduced passenger volume. The second blow came from a deepening recession and growing unemployment. As consumer confidence faded, demand for air services by business and leisure travelers alike weakened. For the year, mainline carrier passenger growth contracted 1.5 percent while regional carrier growth was 0.7 percent. In the domestic market mainline passengers fell 2.2 percent from 2007 levels while passenger growth in the international market was up for the sixth consecutive year (up 3.5 percent).

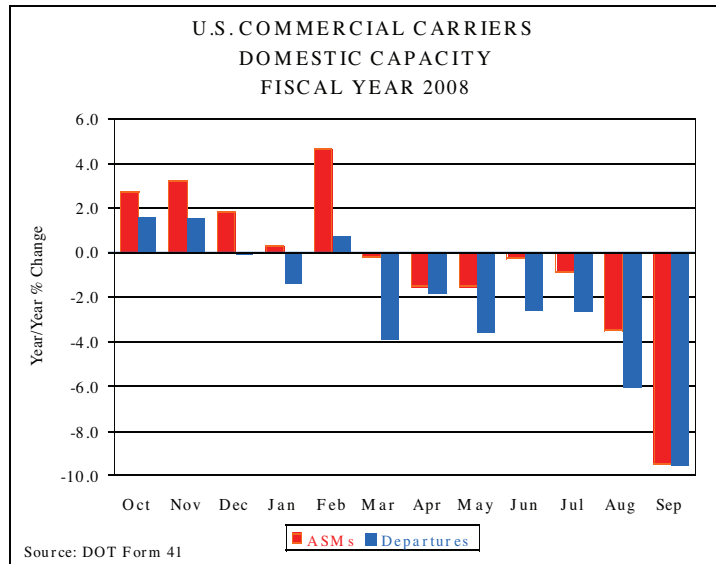
In 2008, system load factor declined for the first time since 2001 as trip length and seats per aircraft mile climbed. The load factor fell 0.4 points to 79.5 percent, down from the all-time high posted in 2007 (79.9 percent), and trip length grew 18.8 miles to 1,092.5 miles. For the third consecutive year, seats per aircraft mile increased (up 1.4 seats) to 138.0 seats per aircraft mile. Mainline carriers continued to shift wide-body flying from domestic to international routes while regional carriers phased out some smaller regional jet (50 seats and below) operations.



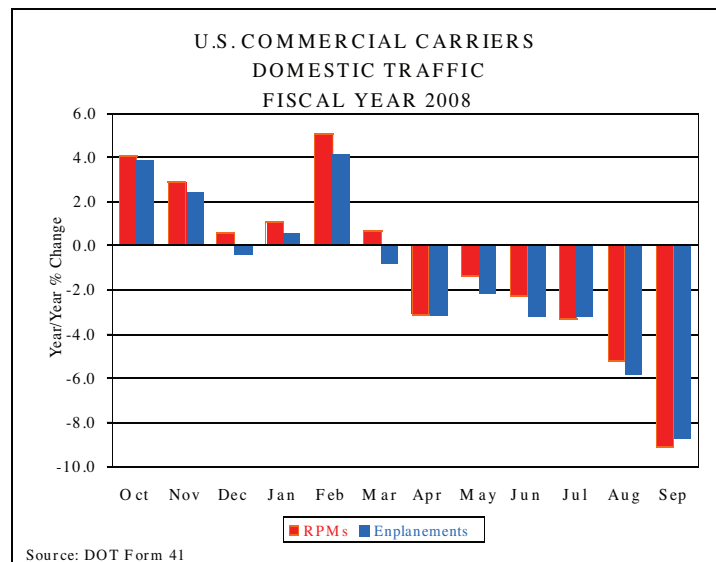


Domestic Passenger Markets

Domestic capacity (50 states, Puerto Rico, and the U.S. Virgin Islands) was down 0.4 percent in 2008 following a 1.7 percent increase in 2007, and departures decreased by 2.3 percent. After growing 2.0 percent in the first half of 2008, ASMs dropped 1.0 percent in the third quarter, and 4.5 percent in the final quarter. Mainline carrier capacity was down 1.2 percent for the year, while regional carrier capacity was up 5.3 percent. At the end of 2008, domestic ASMs were 3.1 percent above pre-9/11 levels while departures remained 6.8 percent below.



Domestic passenger enplanements and RPMs fell at a faster rate than ASMs in 2008. Mainline carrier enplanements were down 2.2 percent for the year while regional carrier enplanements were up 0.7 percent, marking the slowest rate of growth posted by regional carriers since 1995 (0.4 percent growth). Enplanement growth was moderate in the first half of the year, up 1.6 percent, before losing steam and dropping 2.8 and 4.8 percent in the third and fourth quarters, respectively.

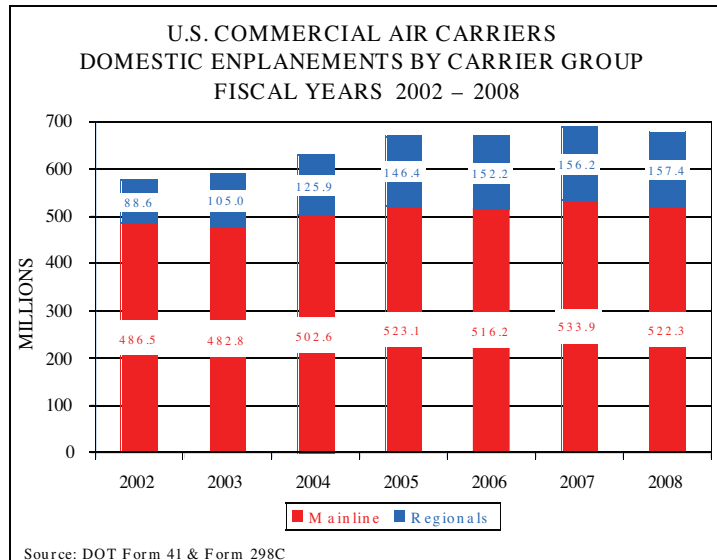


Similar to passengers, domestic RPMs dropped faster than ASMs with domestic RPMs down 1.0 percent in 2008. After growing at a moderate rate of 2.4 percent rate during the first half of the year, traffic fell 2.3 percent in the third quarter, and dropped dramatically for the final quarter of the year (down 5.7%). For the year, mainline carrier RPM growth was down 1.5 percent, while regional carrier growth was up 2.7 percent.

Domestic carrier load factor dropped for the first time in six years to be 79.3 percent, down from the all-time high of 79.8 percent in 2007. Mainline carrier load factor was 80.2 percent, 0.2 points lower than the previous year, while regional carrier load factor dropped 1.8 points to 73.6 percent.

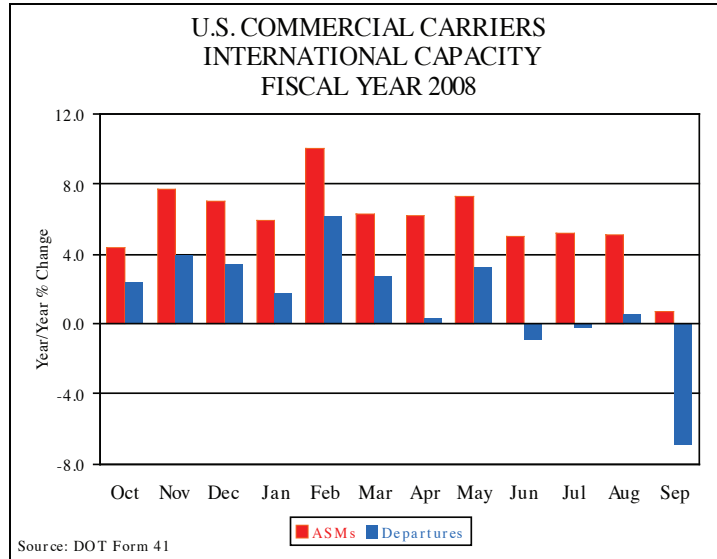
Since 2000, total domestic capacity has increased only 3.1 percent. Mainline carriers have shrunk their domestic capacity by 5.4 percent with cutbacks by network carriers more than offsetting the growth of low-cost carriers. Making up the shortfall from network carrier capacity cuts during this time are the regional carriers. This segment of the industry has greatly increased capacity since 2000 (up 156.6 percent). During the same period, mainline carrier RPMs have increased 6.5 percent, even with capacity reductions, while enplanements have declined by 7.0 percent. In comparison, regional carrier RPMs and enplanements have increased 217.4 and 97.4 percent, respectively. As a result, mainline carrier domestic capacity share has fallen from 94.7 percent in 2000 to 86.9 percent in 2008, while their share of RPMs has dropped from 95.5 percent to 87.8 percent during the same period. Regional carrier enplanement share almost doubled during the same period, going from 12.4 percent in 2000 to 23.2 percent in 2008.

Each year between 2000 and 2007, the percentage share of domestic mainline capacity operated between network and low cost carriers has narrowed, signaling a trend toward convergence of their respective business models. The trend paused in 2008 with the network portion of mainline capacity increasing 2.3 points, going from 65.7 percent to 68.0 percent, while low cost carrier share shrank. This turnabout is partially attributed to the cessation of operations by two low cost carriers during the year (American Trans Air and Skybus Airlines). Prior to 2008, low-cost carrier capacity share rose from 17.0 percent in 2000 to 31.8 percent in 2007.

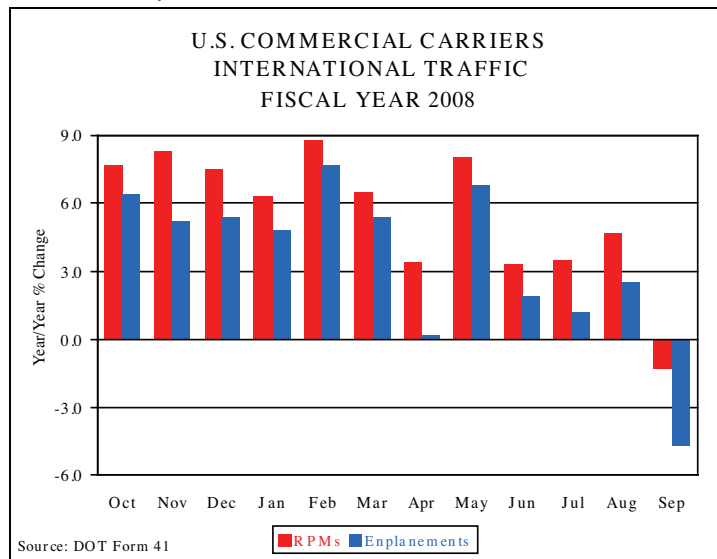


International Passenger Markets

Continuing the recent trend of rapid growth by network carriers into international markets, U.S. carriers posted a fourth consecutive year of gains in international capacity and traffic in 2008. U.S. carrier ASMs and departures were up 5.8 and 1.0 percent, respectively, in 2008. ASM growth was higher in the first half of the year (up 6.9 percent) and then moderated a bit during the second half of the year (up 4.8 percent). ASMs increased in all world travel regions—up 11.4, 0.9, and 1.1 percent, respectively, in Atlantic, Latin American, and Asia/Pacific markets. Strong growth in the Atlantic region was assisted by the European Union-United States Open Skies Agreement which became effective on March 30, 2008.



International RPMs were up 5.3 percent and passenger enplanements were up 3.3 percent in 2008 with faster growth recorded in the first half of the year (up 7.6 percent for the first half versus 3.5 percent during the second half for RPMs; up 6.1 percent versus 1.1 percent for enplanements). The Atlantic market posted the strongest gain, with RPMs up 10.4 percent and enplanements up 8.2 percent. RPMs and enplanements grew 4.0 and 2.7 percent, respectively, in the Latin American market, while RPMs dropped 1.7 percent as enplanements fell 3.2 percent in the Pacific market.



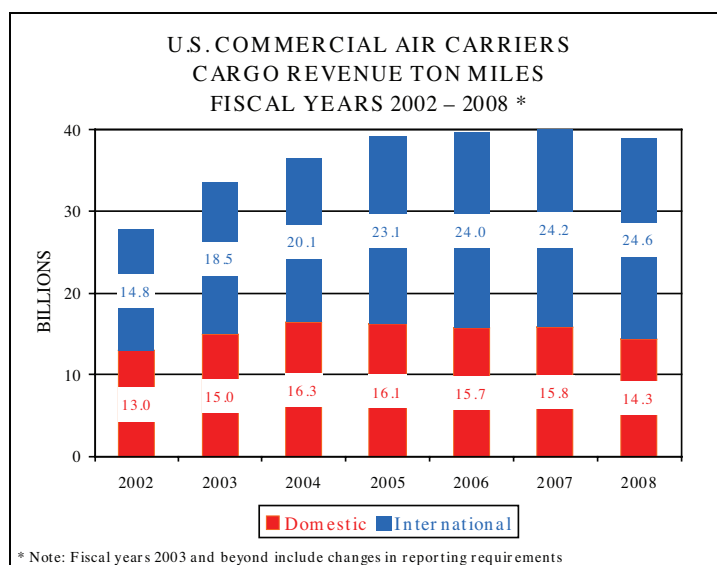
The international load factor dropped 0.3 percentage points to 79.9 percent from its all-time high of 80.2 percent in 2007. Load factor increased in the Latin America market (up 2.4 points to 79.3 percent) and fell in the Pacific market (down 2.3 points to 80.6 percent) and in the North Atlantic market (down 0.7 points to 80.0 percent).

In 2008, 50 percent of the passengers flying abroad on U.S. flag carriers traveled to the Latin America market. The remaining 50 percent of international passengers was split between the Atlantic market (33 percent) and the Pacific market (17 percent).

### Commercial Air Carriers—Cargo

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

U.S. air carriers flew 38.9 billion revenue ton miles (RTMs) in 2008, down 2.8 percent from 2007, with domestic cargo RTMs declining by 9.5 percent (14.3 billion) and international RTMs increasing by 1.7 percent (24.6 billion). The decline in domestic RTMs and the sluggish growth in international RTMs reflect many factors including the recession in the U.S. and other world regions, strong price competition from alternative shipping modes, and volatile oil prices.

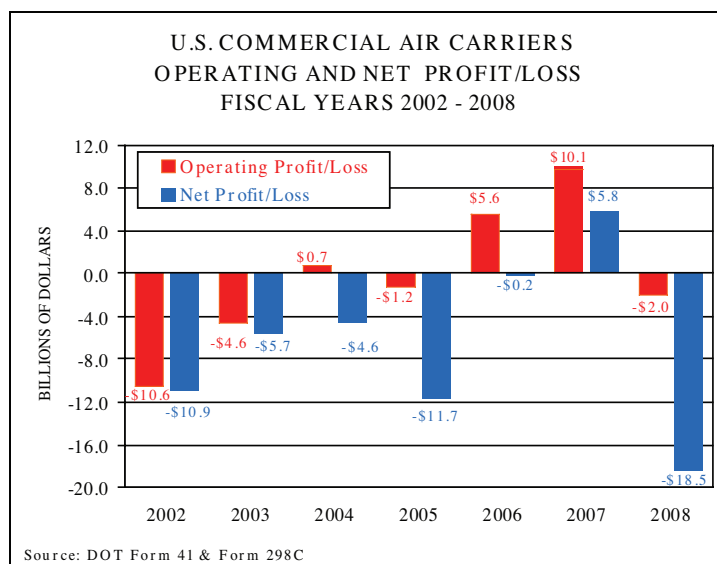


Air cargo RTMs flown by all-cargo carriers was 71.3 percent of total RTMs in 2008, with passenger carriers flying the rest, or 28.7 percent of the total. Total RTMs flown by all-cargo carriers declined 4.1 percent in 2008, from 29.0 billion to 27.8 billion. Total RTMs flown by passenger carriers were 11.2 billion in 2008 (up 0.9 percent).

On August 3, 2007, “Recommendations of the 9/11 Commission Act of 2007” was signed into law. Section 1602 of this Act states that air cargo placed on passenger aircraft will receive the same level of screening as passenger-checked baggage. The legislation calls for the establishment of a system by 2010 that will require 100 percent inspection of cargo transported on passenger aircraft. TSA is developing a system to physically screen 50 percent of air cargo originating in the United States carried on passenger aircraft by February 2009 and 100 percent by August 2010. It is anticipated the law will lead to increased cost and time requirements for shipment of cargo on passenger air carriers.

## U.S. COMMERCIAL AIR CARRIERS 2008 FINANCIAL RESULTS

After posting a net profit in 2007 (\$5.8 billion), financial results for the U.S. commercial airline industry (including regional carriers) turned downward in 2008 as record high oil prices and falling passenger demand took their toll on the industry. In FY 2008, U.S. commercial airlines reported an operating loss of \$2.0 billion and a record net loss of \$18.5 billion, primarily due to \$10.0 billion in losses at Delta and Northwest stemming from a reduction in the value of the airlines due to high fuel prices. Excluding these losses, the industry posted a net loss of \$8.5 billion.

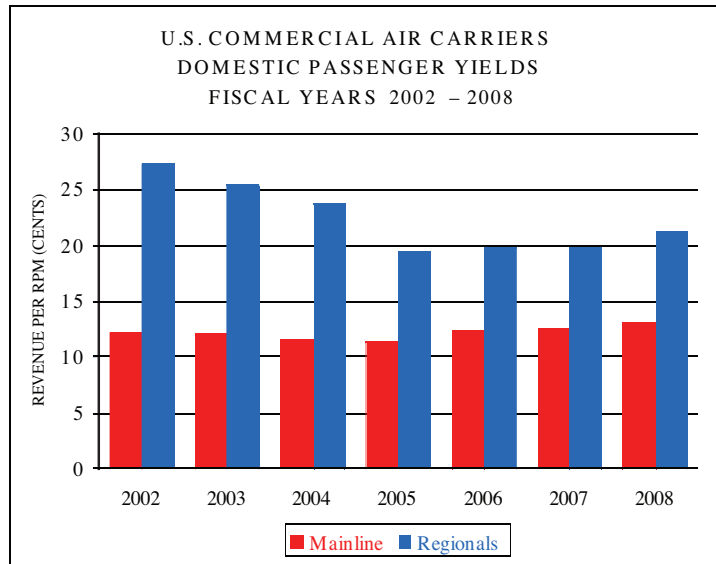


Operating revenues (passenger and cargo) were up 8.8 percent in 2008, reflecting higher fares and increased demand for higher yield cargo. Operating expenses were up 16.9 percent in 2008, as jet fuel prices increased 52.1 percent from \$1.97 to \$3.00 per gallon.

In 2008, passenger carriers reported operating losses of \$4.4 billion and net losses of \$19.8 billion, while air cargo carriers reported operating and net profits of \$2.4 billion and \$1.3 billion, respectively. Passenger carriers generated an operating loss (\$4.4 billion) in domestic markets for the first time in three years while international operations remained profitable (\$20.8 million). Net losses were reported for passenger carriers in both the domestic (\$15.5 billion) and international market (\$4.3 billion). Cargo carriers had stronger financial results than the passenger carriers. Domestically, cargo carriers posted operating and net profits of \$956.2 million and \$503.3 million, respectively. In international markets, these carriers reported operating profits of \$1.4 billion and net profits of \$790.8 million.

The industry's financial deterioration is largely due to the financial performance of the network carriers. After earning \$2.0 billion in FY 2007, the seven network carriers reported a \$14.9 billion net loss in FY 2008, a swing of \$16.9 billion. Most of the downturn occurred in domestic markets where the seven carriers accounted for 61.3 percent of capacity and 49.2 percent of passengers transported. Between 2000 and 2007, the domestic operations of these carriers reported combined operating and net losses of \$25.6 and \$37.3 billion, respectively. These losses widened in 2008, with the network carriers reporting operating losses of \$5.0 billion and net losses of \$10.5 billion. The nine reporting low-cost carriers reported operating profits of \$301.4 million and net losses of \$83.3 million in 2008. Strong competition from the network carriers, high fuel prices, and falling demand hurt many low-cost carriers' profits.

Strategic capacity cutbacks by the air carriers throughout 2008 coupled with fuel surcharges paid off in strong growth for mainline carrier passenger yield. After a modest increase of 2.4 percent in 2007, mainline carrier passenger yield rose 5.9 percent in 2008.

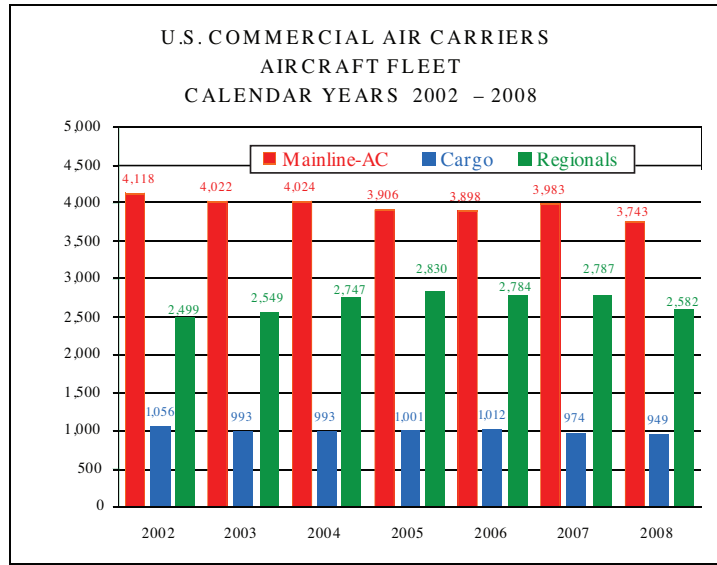


In 2008, regional carriers reported operating profits of \$494.5 million and net profits of \$138.8 million. The future of regional carriers is closely tied to the fortunes of the larger network carriers for whom they provide feed at mainline air carrier hub airports. Similar to the strong growth in mainline carrier yield, regional carrier passenger yield increased 6.7 percent in 2008. However, reflecting the changing nature of the industry, regional yield is down 43.4 percent in real terms since 2000 (compared to a drop of 19.7 percent since 2000 for mainline yield).

### U.S. COMMERCIAL AIR CARRIERS 2008 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 7,274 for 2008, a decrease of 470 aircraft from 2007. This includes 3,743 mainline air carrier passenger aircraft (over 90 seats), 949 mainline air carrier cargo aircraft, and 2,582 regional carrier aircraft (jets, turboprops, and pistons).

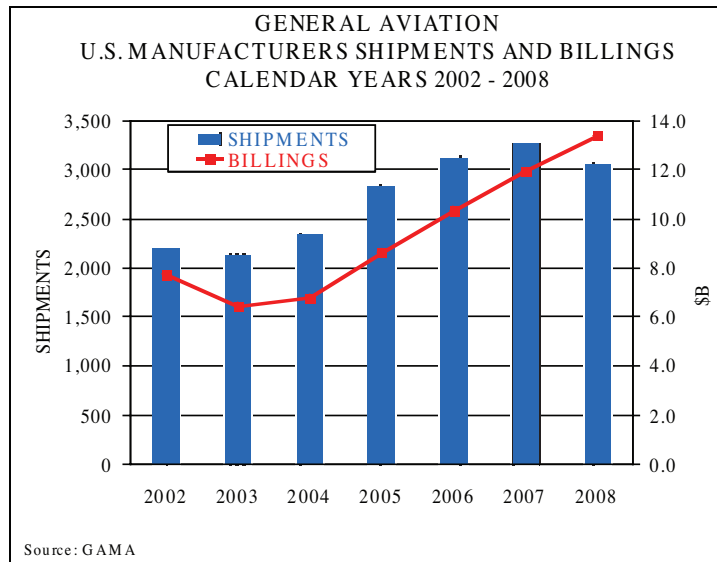


The mainline carriers’ passenger jet fleet decreased by 240 aircraft in 2008 as increases in low-cost carrier fleets were offset by large reductions in the network carrier fleet. With the cuts in the fleet in 2008, the mainline carrier fleet now stands at 16.6 percent below (745 aircraft) the level it was in 2000.

The mainline carrier cargo fleet shrank by 25 aircraft to 949. The regional carrier fleet fell by 205 units with declines in both turboprop aircraft and regional jets, the first time since their introduction that the regional jet fleet has declined in size. Despite the reduction in the regional jet fleet in 2008, since 2000, a total of 1,085 regional jets have been added to the regional carriers’ fleet while the number of turboprops and pistons has declined by 777 aircraft.

## GENERAL AVIATION

According to numbers released by the General Aviation Manufacturers Association (GAMA), U.S. manufacturers of general aviation aircraft delivered 3,079 aircraft in CY 2008, 6.1 percent lower than in CY 2007, the first decrease since 2003. The turbine categories, turbojets and turboprops, were up 17.2 and 14.8 percent, respectively. Overall piston deliveries declined 17.6 percent with single-engine down 18.9 percent and the much smaller multi-engine category up 18.2 percent. Billings in CY 2008 totaled \$13.4 billion, up 11.8 percent compared with 2007.



General aviation activity at FAA air traffic facilities fell sharply in 2008. Operations at combined FAA and contract towers declined 5.6 percent in 2008, the steepest decline in activity since 2003. General aviation activity at consolidated traffic facilities (FAA TRACONS) fell 6.3 percent, while the number of general aviation aircraft handled at FAA en route centers decreased by 7.6 percent.

The FAA uses estimates of fleet size, hours flown and utilization from the General Aviation and Air Taxi Activity and Avionics Survey (GA Survey) as baseline figures upon which assumed growth rates can be applied. This survey has been conducted annually since 1977. Beginning with the CY 2004 Survey there were significant improvements to the survey methodology. These improvements included conducting 100 percent samples for turboprops and turbojets, all rotorcraft, all aircraft in Alaska and all aircraft operating on-demand under Part 135. In addition, the sample design was revised to stratify by aircraft type (19 categories), FAA region (9 categories), and whether the aircraft was owned by an entity certified to fly Part 135 operations (2 categories). Furthermore, a large fleet reporting form was incorporated to allow owners/operators of multiple aircraft to report aggregate data for their entire fleet on a single form. In 2005 an additional aircraft category (Light Sport Aircraft) was added. The result of these changes was the sample size nearly doubled. Between 2003 and 2005 large changes in both the number of aircraft (turbojets up by 22.8 percent, total rotorcraft up by 33.7 percent) and hours (single-engine piston down by 17.6 percent) in many categories occurred. The results of the 2007 Survey are consistent with the results of the surveys since 2004. This reinforces our belief the methodological improvements have resulted in superior estimates relative to those in the past and they are used as the basis for our forecast.

Based on the latest FAA assumptions about fleet attrition and aircraft utilization and GAMA aircraft shipment statistics, the active general aviation fleet is estimated to have increased 1.0 percent in 2008, to 234,015. Despite the increase in the active fleet, general aviation flight hours are estimated to have decreased 0.2 percent in 2008 to 27.8 million.

Student pilots are important to general aviation and the aviation industry as a whole. In 2008, according to statistics compiled by the FAA's Mike Monroney Aeronautical Center, the number of student pilots decreased by 4.0 percent. This is the fourth consecutive year of decline in this important pilot category. The industry has, over the past several years, maintained several industry-wide programs designed to attract new pilots to general aviation. The industry is trying to stimulate interest in flying, but the data suggest that more needs to be done.



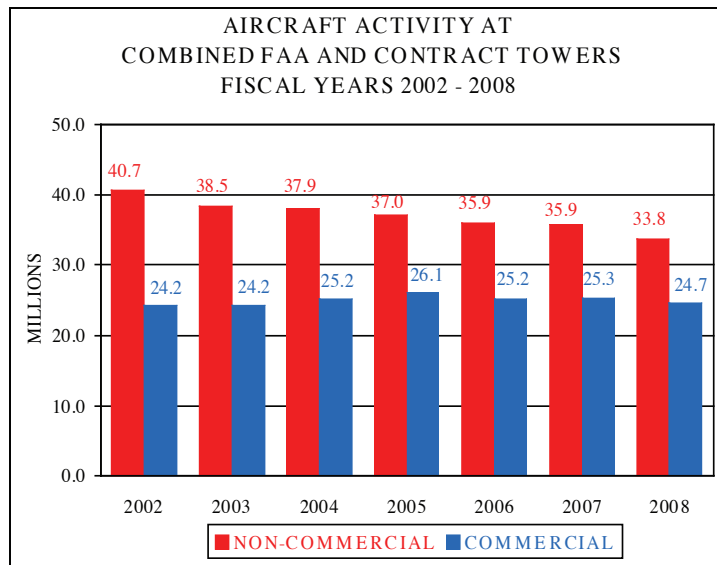
## FAA WORKLOAD

The combination of the extreme rise in fuel prices followed by a deteriorating economic environment resulted in a fall in activity at FAA facilities in 2008. This continues a trend that began in 2001 with the last economic downturn and the events of 9/11.

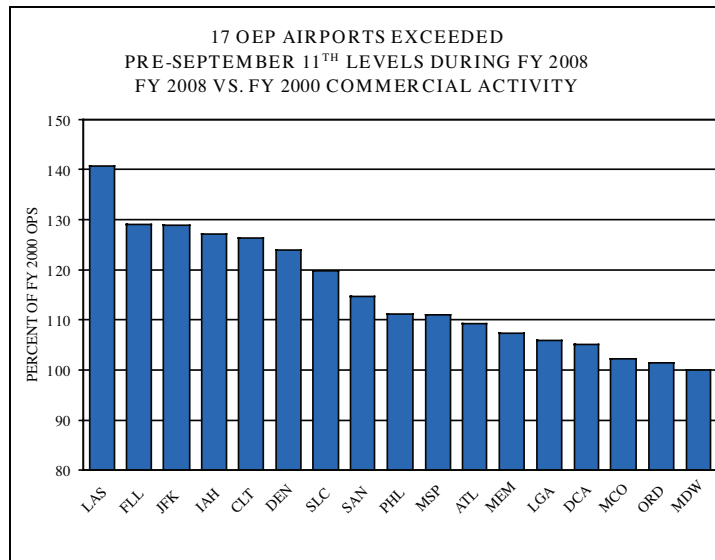
Total activity at combined FAA and contract tower airports totaled 58.5 million operations in 2008, down 4.3 percent from 2007 and 14.8 percent below the peak activity level recorded in 2000. Commercial activity (the sum of air carrier and commuter/air taxi) at combined FAA and contract towers declined by 2.1 percent in 2008. Air carrier operations were up 1.1 percent, but were offset by a 5.9 percent decline in commuter/air taxi operations. Commercial operations are 5.2 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 5.8 percent in 2008, with general aviation activity (31.3 million) down 5.6 percent and military activity (2.5 million) down 8.4 percent. General aviation activity has declined eight of the past nine years since 1999.

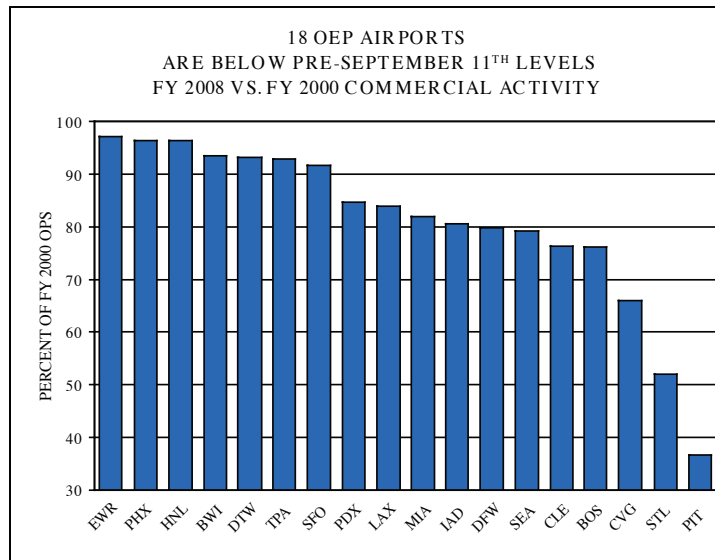
At the end of 2008, non-commercial aircraft activity was 21.0 percent below the activity in 2000, having declined each year since 2002.



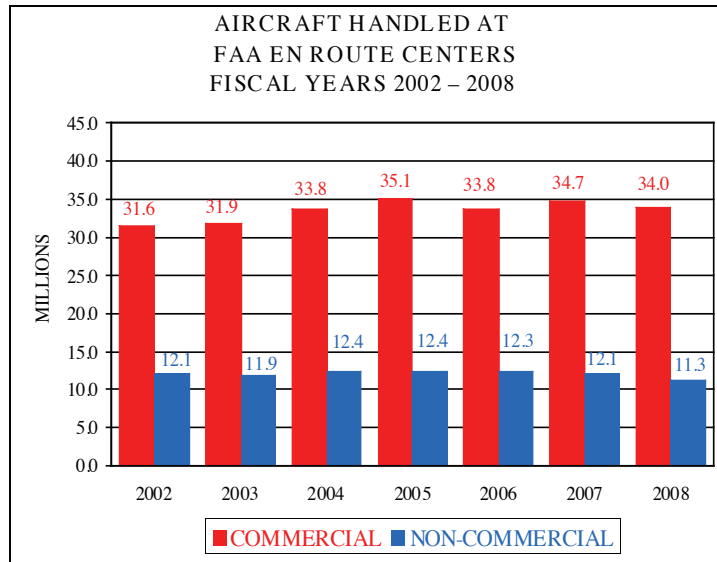
The FAA pays close attention to the trends occurring at the 35 Operational Evolution Partnership (OEP) airports. These airports are the top 35 airports in the country in terms of passenger activity (except MEM and PIT) and account for about 75 percent of commercial passengers. Although commercial activity at the OEP airports exceeded pre-9/11 peak activity levels in 2005, subsequent industry restructuring has resulted in a drop in combined commercial activity at these airports since. In 2008, commercial activity at the OEP airports fell by 1.8 percent and is 4.6 percent below pre-9/11 activity levels. Increases were recorded at only 8 of the 35 airports with the highest rates of growth at San Francisco (up 7.1 percent) and St. Louis (up 5.2 percent). The largest declines occurred at Pittsburgh (down 22.8 percent) and Chicago-Midway (down 9.8 percent). As a result, only 17 airports exceeded 2000 peak activity levels during fiscal year 2008, down from 18 in the previous year.



Reflecting the shift in demand to low-cost and regional carriers, commercial operations at Las Vegas (up 40.7 percent), Fort Lauderdale (up 29.0 percent), and New York Kennedy (up 28.9 percent), are up the greatest relative to their pre-September 11<sup>th</sup> activity levels. Commercial operations at Pittsburgh (down 63.2 percent) and St. Louis (down 47.7 percent) show the largest declines from pre-9/11 levels. These activity level shifts reflect the impact of the restructuring of the airline industry. American’s acquisition of TWA resulted in a consolidation of operations away from TWA’s St. Louis hub, while the merger of US Airways and America West has led to a dramatic shrinking of US Airways’ operations in Pittsburgh.



During 2008, total activity at FAA en route centers (45.3 million) fell 3.1 percent from the previous year. Commercial activity declined 1.9 percent, with air carrier operations down 4.7 percent while commuter/air taxi operations increased 5.4 percent. Non-commercial activity was down 6.5 percent in 2008 as general aviation and military activity fell 7.6 and 4.1 percent, respectively. In 2008, air carrier operations fell back below their 2000 activity levels while operations for the general aviation and military user groups were 12.4 and 13 percent below their 2000 activity levels, respectively.



## ▶▶▶ FAA AEROSPACE FORECAST FISCAL YEARS 2009 – 2025

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. Even though the highly cyclical U.S. aviation industry moved strongly downward at the end of 2008, history has shown the demand for air travel is resilient and growth will return. With the start of 2009, the lingering questions are 1) how much economic recovery will be required to jumpstart the industry back to a period of growth, and 2) when will the recovery occur?

Carriers responded proactively to two major events in 2008. During the first part of the year, carrier costs rose as fuel prices reached record levels, peaking at \$3.83 a gallon during the summer. To combat rising costs, carriers implemented schedule cutbacks, pared international growth plans, and raised fares. By the latter half of the year, the demand for air travel dropped as economic uncertainty accelerated. Carriers countered the drop in air travel demand with additional schedule cuts. By the start of 2009, carriers had executed the largest reductions in capacity during the period of post-deregulation (1978).

Given the current instability in the global economy, there is much uncertainty as to the timing and strength of a recovery in aviation demand. While there remains large uncertainty in the operating environment, 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 believes 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 year 2009. The medium to long-term forecasts (2010-2025) are based on results of econometric models.

The general aviation forecasts rely heavily on the results of the 2007 General Aviation and Part 135 Activity Survey and discussions with industry experts. 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.

## ECONOMIC FORECASTS

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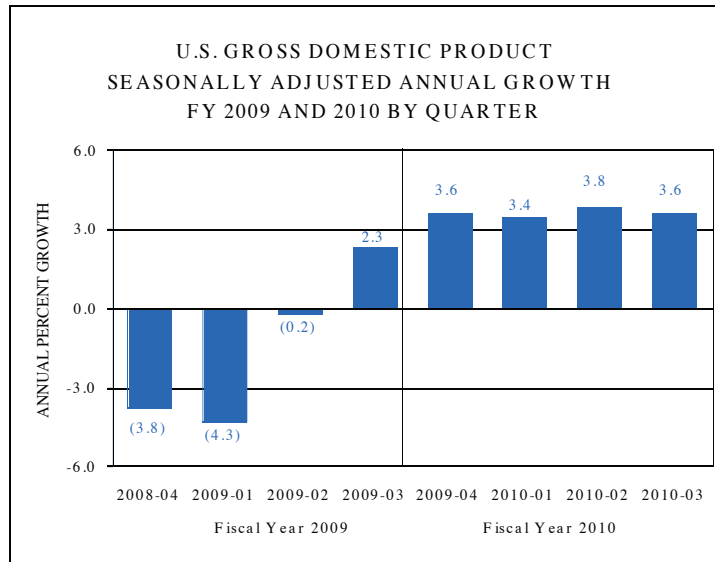
The FAA uses the most recent Administration economic forecasts to project domestic aviation demand. The FAA uses the world and individual country economic projections provided by Global Insight, Inc. to forecast the demand for international aviation services. Annual historical data and economic forecasts are presented in tabular form in Tables 1 through 4. Projections for the U.S. economy are presented on a U.S. government fiscal year (October through September) basis. International forecasts are presented on a calendar year basis.

Recently, the National Bureau of Economic Research ([www.nber.org](http://www.nber.org)), the official arbiter of business cycle dating, announced that the US economy entered into recession in December 2007. As the number of unemployed workers rose, there was little doubt that the US economy entered into recession together with partner economies from the other side of the Atlantic and around the world. Further confirmation was provided when the Bureau of Economic Analysis ([www.bea.gov](http://www.bea.gov)) reported that U.S. real gross domestic product (GDP) fell at an annual rate of 3.8% in the fourth quarter of CY 2008, the second consecutive quarterly decline in real GDP.

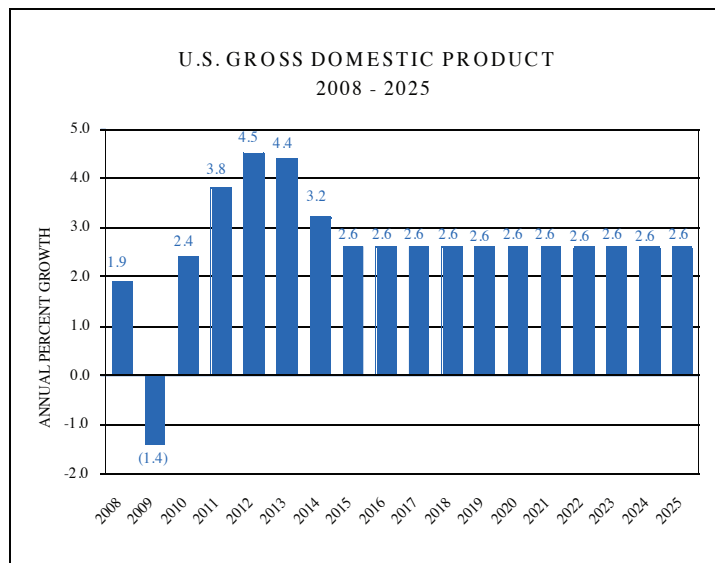
The question now is how long the recession will continue. While history may be a guide, every recession has its own character. On average, the recessions since the end of World War II averaged 10 months in duration. Unlike the recession of 1981-82 the US economy is not facing an inflationary environment and high interest rates. In comparison to recession of 1973-74, today, the economy does not face a high energy cost environment either. The job losses from the beginning of the recession in December 2007 to January 2009 have totaled 3.8 million. Furthermore, job losses have accelerated in the last three months. With a further contraction of the economy projected this year, unemployment is expected to rise above 8 percent, a 3 point increase over the long-term trend. As it stands now, this recession is one of the most severe downturns since the end of World War II.

Against this backdrop, there is great deal of uncertainty as to the future direction of the US and the global economy. Although, the US economy is undergoing significant structural changes, particularly in the housing and banking sectors as the true prices of assets are being revealed, the combination of the nearly \$800 billion fiscal stimulus package and the aggressive monetary policies that have been undertaken, and are expected to continue, is projected to lead the economy out of the recession in the second half of 2009.

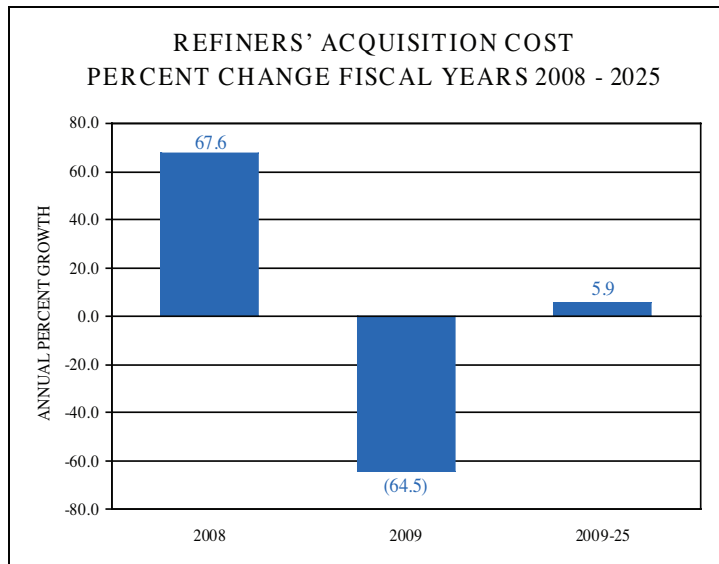
The latest set of economic forecasts from the Administration calls for the U.S. recession to end by the 3Q in FY 2009 followed by a relatively modest recovery over the next six quarters. On a quarter-by-quarter basis U.S. economic growth is projected over the next two years to range from a low of -4.3 percent in 2Q FY 2009 to a high of 3.8 percent in 3Q FY 2010.



Between 2010 and 2013, U.S. economic growth is projected to be above trend (3.8 percent) with rates ranging between 2.4 and 4.5 percent. Beyond 2013 through the balance of the forecast period, U.S. economic growth is projected to slow to around 2.6 percent per year. The major risk is that the financial crisis worsens resulting in further reductions in lending, leading to reduced consumer spending, weaker business investment, and slower worldwide economic growth.



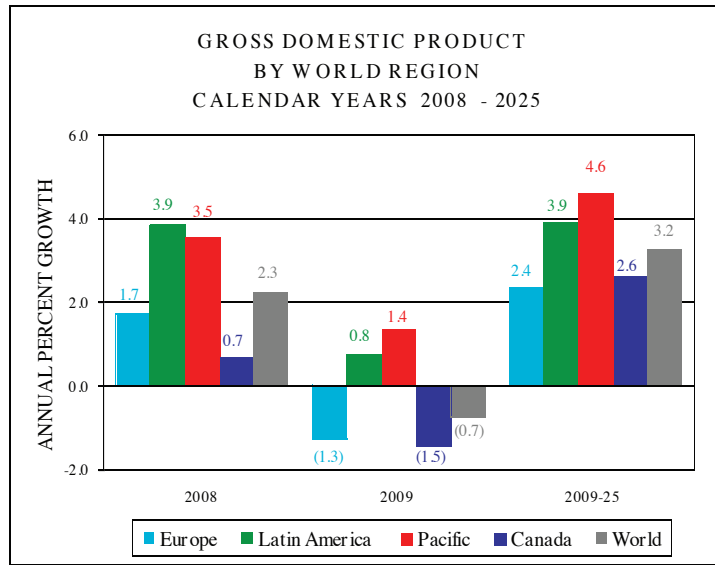
Oil prices, as measured by Refiners' Acquisition Cost, are projected by Global Insight (January 2009 US Economic Outlook) to fall almost 65 percent in 2009 after more than tripling since 2004. Oil prices are then projected to increase steadily to 2014 before falling gradually to 2018 as increased supplies come on line. After 2018 oil prices are assumed increase at the rate of inflation for the balance of the forecast period.



The inflation rate (as measured by the CPI) is expected to fall 0.4 percent in 2009, after rising 4.4 percent in 2008. The fall in the CPI in 2009 is mostly attributed to the decline in energy prices. As the economy recovers and growth resumes, consumer price inflation is expected to rise slowly until 2012 and then level off at 2.1 percent a year for the balance of the forecast.

**WORLD ECONOMY**

Worldwide economic activity is predicted by Global Insight to shrink by 0.7 percent in 2009, marking the first contraction in global GDP since the Great Depression. The advanced economies (U.S., Canada, Europe, and Japan) are all projected to post declines in output ranging from -1.5 percent to -2.9 percent. The emerging market economies are projected to grow 2.8 percent, 3.0 points below what they grew in 2008. Many emerging market economies will post declines in real GDP including Mexico, Singapore, Taiwan, Hong Kong, Israel, Turkey, and Ukraine. In 2010, growth is projected to resume (2.4 percent) as stimulus plans in the U.S. and in China provide the basis for recovery. Recovery in Europe is projected to be more gradual than in the U.S. as the housing market corrections have come later and policy actions are more cautious. Beyond 2010 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 4.4 and 3.7 percent a year, respectively, over the forecast period. In Asia, China, with a population of 1.3 billion, is forecast to grow 7.7 percent a year, becoming the world’s second largest economy. India, with a population of 1.2 billion, is projected to see its GDP triple in size, growing at an average rate of 6.6 percent a year during the forecast period. Canadian and European GDP growth is anticipated to rise at more moderate rates of 2.4 and 1.8 percent a year, respectively, over the forecast period.

## AVIATION TRAFFIC AND ACTIVITY FORECASTS

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

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

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

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

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

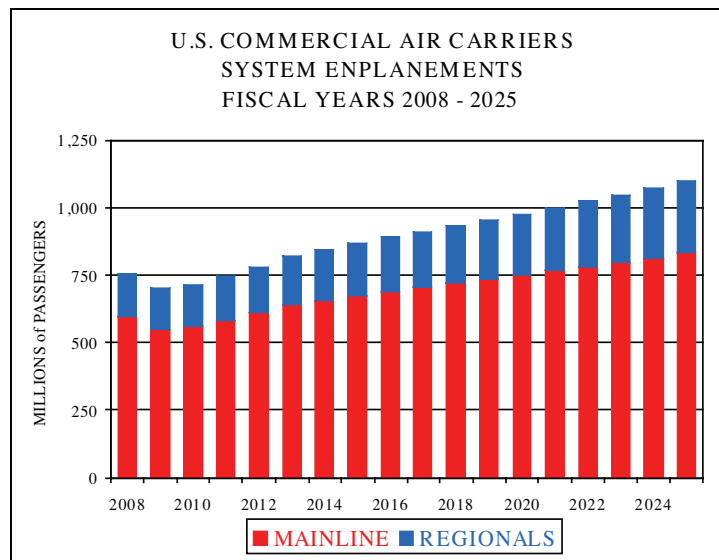
Tables 31 through 33 provide forecasts of aircraft activity at FAA and contract facilities.



**COMMERCIAL AVIATION FORECASTS**

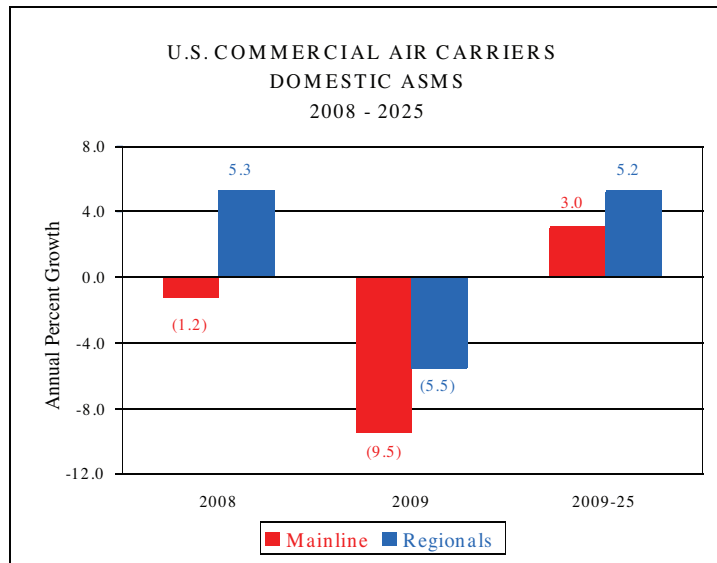
Mainline and regional carrier capacity and demand are forecast to fall sharply in 2009. System capacity is projected to shrink 6.7 percent in 2009, with mainline carrier domestic market capacity declining 9.5 percent, signaling the largest reduction in domestic mainline capacity since deregulation of the industry in 1978. Also shrinking (after a decade of average annual capacity growth in the double digits, but only averaging 3.0 percent growth for the last three years), are the regional carriers. Capacity for this group of carriers falls considerably from 2008 levels, down 5.5 percent domestically. In the international sector, slow to moderate capacity growth is forecast in the Atlantic and Latin market, as growth in the Pacific market shrinks. Mainline carrier system capacity drops 1.0 percent, while regional carrier capacity falls 4.3 percent.

Passenger demand contracts in 2009 with system RPMs forecast to decline 7.1 percent (down 7.2 percent and 5.9 percent for mainline and regional carriers, respectively) as passenger enplanements drop 7.3 percent (down 8.0 percent for mainline carriers and 4.5 percent for regional carriers). Growth is projected to return in 2010 with system RPMs and passengers increasing 2.8 and 2.0 percent, respectively, on a capacity increase of 2.6 percent. For the overall forecast period, system capacity is projected to increase an average of 3.1 percent a year. Supported by a growing U.S. economy and falling real yields, system RPMs are projected to increase 3.1 percent a year, with regional carriers (4.8 percent a year) growing faster than mainline carriers (3.0 percent a year). System passengers are projected to increase an average of 2.2 percent a year, with regional carriers growing faster than mainline carriers (3.2 versus 2.0 percent a year). By 2025, U.S. commercial air carriers are projected to fly 1.7 trillion ASMs and transport 1.1 billion enplaned passengers a total of 1.4 trillion passenger miles. Planes will remain crowded, with load factor projected to peak at 81.1 by 2016, and slowly fall thereafter to land at 79.9 percent in 2025. Passenger trip length is also forecast to increase by more than 180 miles over the forecast to 1,272.7 miles (up 10.6 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.



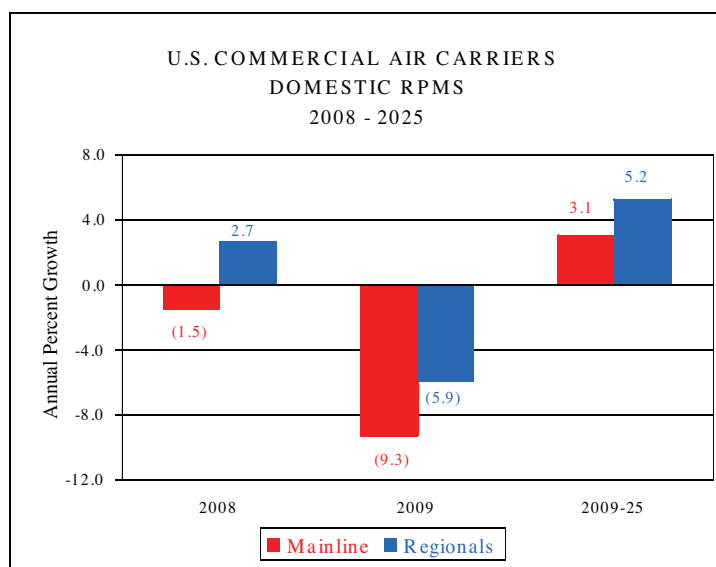
**Domestic Markets**

After a minimal decline in domestic capacity during FY 2008, capacity in FY 2009 is projected to fall dramatically, down 9.0 percent. Mainline carrier capacity drops 9.5 percent following a decline of 1.2 percent in 2008, as these carriers continue to optimize operations in an environment of uncertainty. An indicator of the harshness of the operating environment for FY 2009 is the 5.5 percent drop in capacity forecast for the regional carriers. FY 2009 marks the first year in the post-9/11 era that regional carriers have cut capacity (in comparison, the mainline carriers have cut capacity four years between 2001 and 2008). Domestic commercial carrier capacity recovers modestly in 2010 (up 2.5 percent) with mainline carriers growing slower than regional carriers, 2.2 percent versus 4.2 percent, respectively, and then increases at an average annual rate of 3.4 percent for the balance of the forecast (2010-2025). For the entire forecast period (2008–2025), domestic capacity is projected to increase at an average annual rate of 2.6 percent, just slightly slower than economic growth, with mainline carriers growing slower (2.2 percent per year) than the regional carriers (4.6 percent per year).



The recession in the U.S. inhibits RPM growth during the first year of the forecast (down 8.9 percent), with the deepest declines in traffic projected to occur in the first half of the year. Mainline carrier RPMs are projected to contract 9.3 percent during 2009, while regional carrier RPMs fall 5.9 percent. By 2010, as the U.S. economy begins to recover, traffic growth returns with RPMs growing 2.7 percent. Driven by continued economic growth and falling real yields, domestic RPM growth for the remainder of the forecast (2010-2025), averages 3.4 percent per year. For the overall forecast period (2008-2025) domestic RPMs are projected to grow an average of 2.6 percent a year, Mainline carriers throughout the forecast period are projected to grow slower than the regional carriers (averaging 2.3 versus 4.6 percent a year, respectively).

Enplanements are forecast to drop 7.8 percent in 2009, following a 1.5 percent decline in 2008. Similar to RPMs, passenger volume is expected to grow in 2010 (up 2.0 percent) with the rebounding economy, and then grow at an average rate of 2.7 percent per year for the period 2010-2025. Over the entire forecast period, domestic enplanements are projected to grow at an average annual rate of 2.0 percent with mainline carriers growing slower than regional carriers (1.7 versus 3.0 percent a year, respectively).



On the heels of a 0.7 percent increase (down 1.6 percent in real terms) in 2007, nominal mainline carrier domestic passenger yield rose 5.2 percent (0.7 percent increase in real terms) in 2008. Decisive capacity cutbacks in the face of rising fuel prices coupled with rapid and widespread incorporation of fuel surcharges helped carriers maintain pricing power during 2008 despite weakening demand. Despite the significant capacity reductions, the decline in demand will spur carriers to lower prices in 2009, resulting in a nominal yield decrease of 1.6 percent (1.4 percent in real terms). For the entire forecast period, increases in nominal yields are projected to grow at a rate of 0.6 percent a year, while in real terms they are projected to decline an average of 1.2 percent a year. The decline in real yields over the forecast period assumes competition between carriers and convergence of cost structures between network carriers and their low-cost counterparts. The convergence arises from gains in productivity as network carriers retire fuel inefficient aircraft and reduce 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 slower than passenger traffic over the forecast period (1.4 percent per year for departures versus 2.6 percent for RPMs). This reflects increased carrier efficiencies in three operational measures—aircraft size, load factor, and trip length.

Domestic aircraft size<sup>12</sup> increased in 2008 by 0.4 seats to 120.8 seats. The increase was partly driven by an unprecedented jump in aircraft size by the regional carriers (up 2.9 seats) and the grounding of older, fuel inefficient aircraft (i.e. MD-80's and 737-300/400/500) by the mainline carriers. The increase in regional aircraft size was caused by the retirement of 50-seat jet aircraft as larger 70-90 seat jet aircraft entered the fleet. Domestic seats per aircraft falls in 2009 (down 0.7 seats) as mainline carriers shrink capacity faster than their regional counterparts and then gradually increases over the balance of the forecast to 122.1 seats by 2025. For the entire forecast period, domestic seats increase an average 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 2012), the forecast incorporates several carrier assumptions:

<sup>12</sup> Defined as seats per mile flown and computed by dividing ASMs by miles flown.

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, such as JetBlue and US Airways, 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 boosting frequency, as well as improve profitability by more closely matching supply (the number of seats) with demand (the number of passengers).

Mainline carrier domestic aircraft size decreased in 2008 by 0.6 seats to 150.0 seats, and is projected to fall an additional 0.8 seats in 2009. Domestic aircraft size for mainline carriers is projected to fall to 148.4 seats by 2014 and then gradually increase thereafter for the balance of the forecast. Overall, average aircraft size for the mainline group will increase by only one seat between 2008 and 2025, going from 150.0 to 151.0 seats.

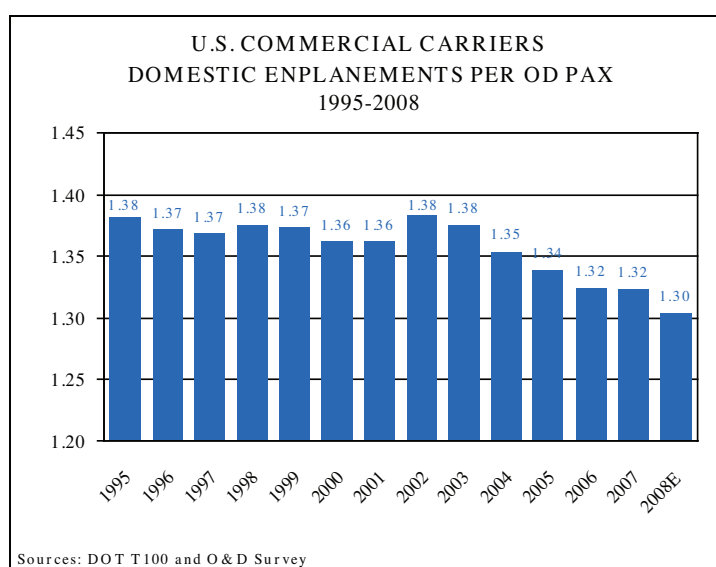
While mainline carriers have been reducing the size of aircraft flown domestically, regional carriers have been increasing their aircraft size. The most visible example of this trend is the wave of 70-90 seat regional jet aircraft that are entering the fleet. Regional carriers are better equipped to support operations of their mainline partners by providing capacity that complements market demand. The greater number of the larger 70- and 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 52.8 seats in 2008 to 54.6 seats by 2010. Over the course of the forecast, average seats per aircraft for the regional carriers increases by 0.8 seats per year to 65.6 seats in 2025. The changing aircraft fleet mix is narrowing the gap between the size and aircraft types operated by the mainline and regional carriers.

Commercial carrier domestic load factor fell 0.5 points from the all-time high posted in 2007 to 79.3 percent in 2008. The load factor for mainline and regional carriers fell 0.2 and 1.8 points, respectively. In 2009, domestic load factor is forecast to increase 0.1 points to 79.4 percent as mainline load factor rises 0.1 points and regional load factor falls 0.3 points. Thereafter, domestic load factor rises, peaking in 2017 at 81.7 percent, and then declines gradually for the remainder of the forecast to 80.1 percent in 2025.

In 2008 domestic passenger trip length increased 4.4 miles to 874.6 miles, after falling 1.2 miles in 2007. Domestic passenger trip length is forecast to decline in 2009 by 10.5 miles as carriers continue to restructure their networks and realign capacity. After 2009, trip length is projected to steadily increase for the balance of the forecast, reaching 970.2 miles by 2025. The increase in trip length reflects increases in both mainline and regional carrier trip length. Mainline carrier trip length increases due to the transfer of shorter haul routes to regional partners and increased flying of longer domestic trips. Regional carrier trip length increases with the larger 70 and 90-seat regional jets allowing these carriers to service longer haul markets.

Another key factor in predicting aviation activity relative to passenger demand is the level of connecting versus non-stop (origin-destination) traffic. However, as the current cycle of U.S. airline industry restructuring unfolds and hub structures change, the impact on local communities and airport activity levels can vary significantly.

The FAA analyzes the ratio of passenger enplanements to origin-destination (O&D) passengers over time to identify changes in connecting versus non-stop traffic. This ratio is an indicator of the tendency of the average passenger to connect during a typical journey. The closer the ratio is to 1.0, the more passengers fly on a point-to-point routing. As the chart below shows, the overall ratio for the U.S. domestic industry varied within a narrow band between 1995 and 2002, but has been decreasing since then. The decline in the ratio since 2002 has been due to a decline in the network carrier connectivity coupled with the increasing passenger share of the low-cost carriers during this time. In general, the low cost carriers have lower connectivity ratios than do the network carriers, however since 2004 the low-cost carrier connectivity ratio has been increasing. In FY 2008, the respective connectivity ratios of the network and low-cost carriers were the closest to each other since FY 1999. The FAA’s forecast recognizes the changing pattern of domestic traffic connectivity and the relative mix of network versus low-cost carrier traffic volumes. These trends are captured in the forecast’s passenger enplanement totals.



## International Markets

### U.S. and Foreign Flag Carriers

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

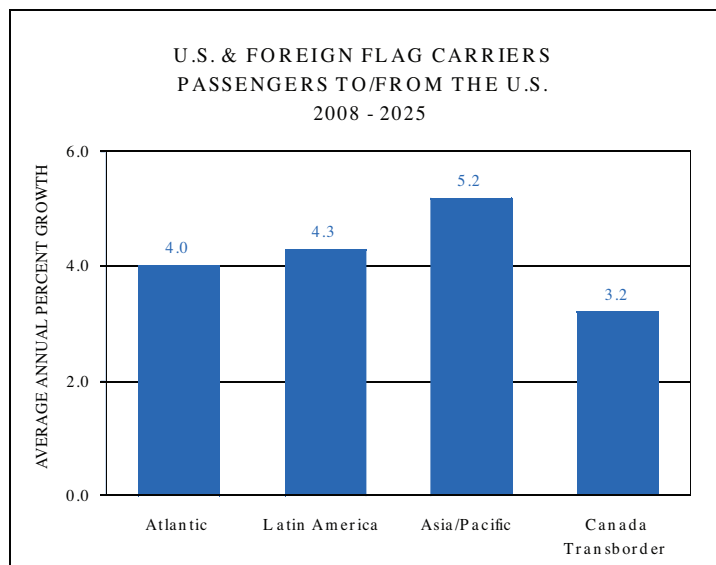
Total passenger traffic between the United States and the rest of the world is estimated to total 153.9 million in CY 2008, 2.8 percent higher than in 2007. The worldwide recession drives international passengers down 0.9 percent in 2009 but a rebound in economic growth leads to a 4.2 percent growth in passengers in 2010. For the balance of the forecast period, stable worldwide economic growth leads to international passenger growth averaging 4.6 percent a year, and totaling 310.0 million in 2025.

Over the entire forecast period (2008-2025), high economic growth in the Asia-Pacific market drives passenger growth averaging 5.2 percent a year for this region. China, India, and Taiwan (passenger growth of 11.8, 7.9, and 7.6 percent a year, respectively) are forecast to be the fastest growing markets in the region. Growth in the Japan market (the largest and most mature in the region) is projected to be well below the regional average at 2.0 percent a year.

In the Atlantic region, open skies between the European Union and the United States and increasing non-stop service to Africa and the Middle East helps to fuel passenger growth of 4.0 percent a year over the forecast period, however the global recession tempers growth during the early years of the forecast period. Over the 17-year forecast horizon, average annual passenger growth in the top three Atlantic markets, the United Kingdom, Germany, and France, is 3.7, 3.1, and 3.7 percent, respectively.

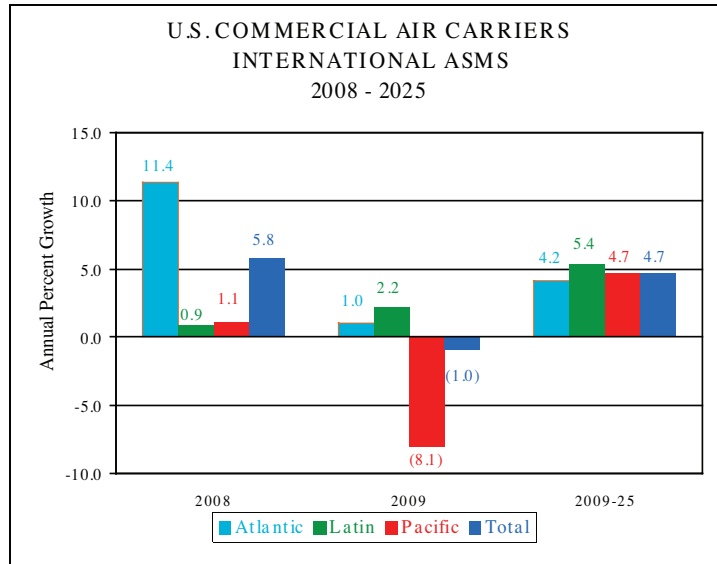
In the Latin America region, passenger growth between 2008 and 2025 is forecast to average 4.3 percent a year. The highest growth is projected for Brazil (average annual growth of 5.5 percent) while the largest market in the region, Mexico, grows at an average of 4.3 percent a year. The slowest rates of growth are projected to occur in the Bahamian and Jamaica markets (averaging growth of 0.1 and 2.3 percent a year, respectively).

Growth in the Canadian transborder market is forecast to be higher than that of the domestic U.S. market (2.0 percent), averaging 3.2 percent a year over the forecast period.

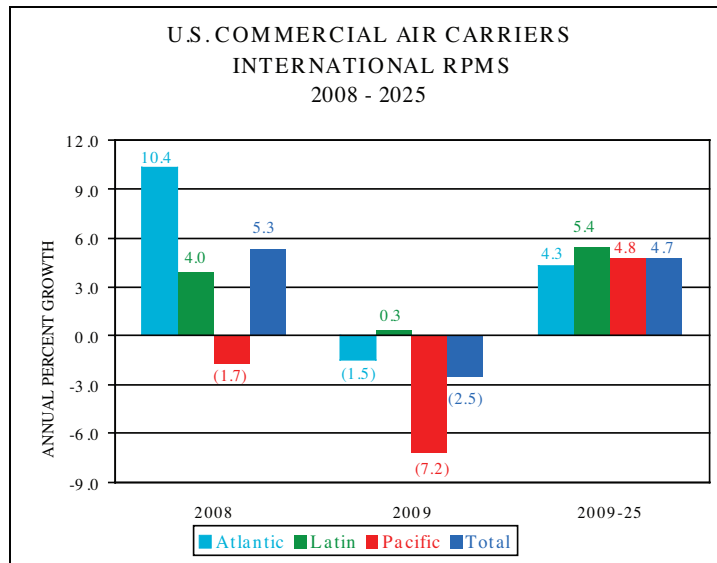


### U.S. Flag Air Carriers

In 2008, international U.S. commercial air carrier capacity grew 5.8 percent. In 2009, capacity contracts (down 1.0 percent) as the global economic slowdown enters its second year. Despite the first full year of “open skies” between the United States and the European Union, capacity in the Atlantic market increases only 1.0 percent, due to the recessions in the U.S. and Europe. During the same period, capacity in the Latin region grows 2.4 percent, while declining 8.1 percent in the Pacific region. With a slow recovery in the global economies expected during 2010, international capacity grows modestly at 2.9 percent, and averages 4.8 percent a year for the remainder of the forecast period. Strong growth in the medium to long-term portion of the forecast reflects favorable U.S. and world economic activity.



U.S. commercial air carrier international RPMs increased 5.3 percent in 2008 and enplanements increased 3.3 percent. RPMs are projected to shrink in 2009 (down 2.5 percent), reflecting the slow down in the global economy. In 2010, U.S. carrier international RPMs increase 3.0 percent led by growth in the Atlantic (up 5.0 percent) and Latin markets (up 1.9 percent). For the balance of the forecast, RPMs increase an average 4.9 percent a year with the fastest growth in the Latin region. A similar pattern is forecast for enplanement growth. International enplanements are projected to drop 2.5 percent in 2009, and then grow 2.4 percent in 2010. Over the balance of the forecast period, enplanements are forecast to increase an average of 4.4 percent a year with the fastest growth in Pacific and Latin markets (up 4.9 and 4.6 percent a year, respectively).



The slower growth in U.S. carrier international passengers over the period 2008-2025 (3.9 percent a year) compared to total international passengers (4.2 percent a year) 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 79.9 percent in 2008. Load factor is expected to fall to 78.7 percent in 2009 as capacity growth exceeds growth of traffic in the Atlantic and Latin markets. International load factor is projected to be flat in 2010, and then slowly rise for the remainder of the forecast to be 79.7 percent in 2025.

International passenger real yields for mainline carriers were up 2.8 percent in 2008. The largest increase was in the Pacific market (up 5.0 percent), and followed by the Atlantic (up 2.1 percent) and Latin market (up 1.6 percent), reflecting pricing power U.S. carriers command for travel in the international region. International real yields are projected to decline by 0.9 percent in 2009 and decrease an average 1.0 percent a year over the balance of the forecast. In nominal terms, international yields are forecast to decrease 1.1 percent in 2009, and then increase at an annual rate of 1.1 percent over the forecast. The decline in real yields assumes competitive pressures will continue to exert pressure on carriers to hold the line on fare increases. In international markets, this takes the form of expanded open sky agreements and new and existing global alliances.

### **Commercial Air Carriers — Air Cargo**

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

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

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

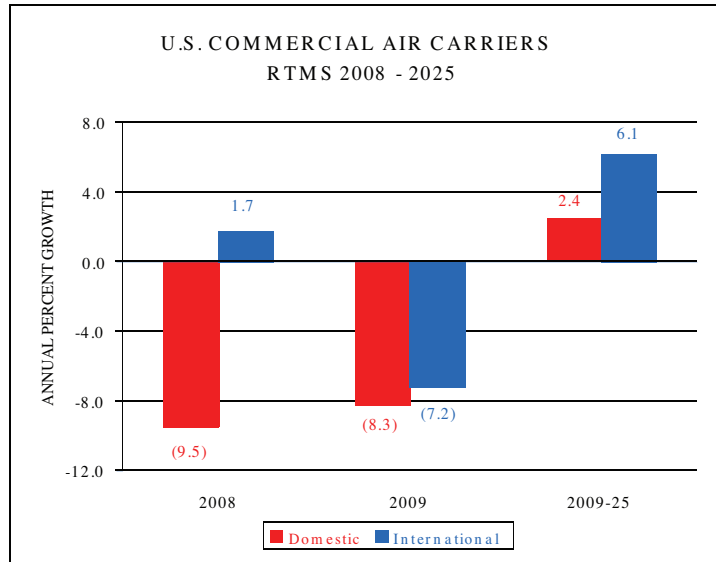
Total RTMs are forecast to go down 7.6 percent in 2009 and grow 4.1 percent in 2010. For the balance of the forecast period, driven by steady economic growth, total RTMs are forecast to increase at an average annual rate of 5.1 percent. The forecast of 78.6 billion RTMs in 2025 represents an average annual increase of 4.2 percent over the entire forecast period.

Domestic cargo RTMs are forecast to drop 8.3 percent in 2009 and then grow slowly in 2010, 2.5 percent, driven by growth in the U.S. economy. Between 2010 and 2025, domestic cargo RTMs are forecast to increase at an average annual rate of 2.4 percent. The forecast of 19.3 billion RTMs in 2025 represents an average annual increase of 1.8 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 65.4 percent in 1997 to 85.0 percent in 2008. 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 88.4 percent by 2025 based on increases in wide-body capacity for all-cargo carriers and security considerations.

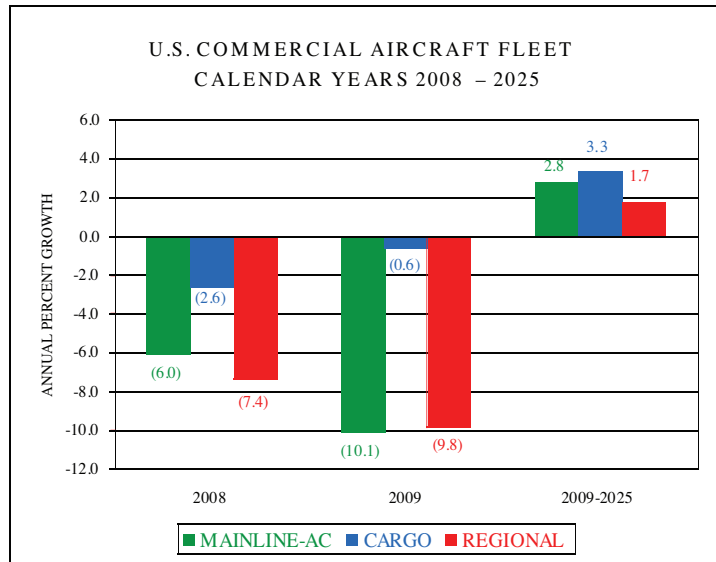


International cargo RTMs are forecast to fall 7.2 percent in 2009 reflecting the impact of the global economic downturn and grow 5.0 percent in 2010 as world economic growth rebounds and trade expands. For the balance of the forecast period, international cargo RTMs are forecast to increase an average of 6.2 percent a year based on projected growth in world GDP. The forecast 59.3 billion RTMs in 2025 represents an average annual increase of 5.3 percent over the entire forecast period.

All-cargo carriers share of international cargo RTMs flown decreased from 66.8 percent in 2007 to 63.3 percent in 2008. The decrease is due to the reduction in capacity resulting from the bankruptcy of three all-cargo carriers. Beyond 2009, the all-cargo share of RTMs flown is forecast to increase to 68.4 percent by 2025.

### COMMERCIAL AIRCRAFT FLEET

The number of commercial aircraft is forecast to grow from 7,274 in 2008 to 9,840 in 2025, an average annual growth rate of 1.8 percent or 151 aircraft annually. The commercial fleet is projected to shrink by a net 637 aircraft in 2009 after shrinking by 470 aircraft in 2008 as record high fuel prices compelled carriers to prune their fleets. In comparison, the US commercial fleet shrank by 262 aircraft between 2000 and 2003 during the last downturn in aviation.



The number of passenger jets in the mainline carrier fleet decreased by 240 aircraft in 2008 and is expected to fall another 378 aircraft in 2009 before increasing in 2010 by 222 aircraft. For the period 2009-2025, the mainline air carrier passenger fleet increases an average of 116 aircraft a year, totaling 5,223 aircraft in 2025. The narrow-body fleet (including E-190’s at JetBlue and US Airways) is projected to grow by 86 aircraft annually over the period 2009-2025; the wide-body fleet grows by 30 aircraft a year as the Boeing 787 and Airbus A350’s enter the fleet.

The regional carrier passenger fleet is forecast to decrease by 253 aircraft in 2009. After 2009, the regional carrier fleet is expected to increase by an average of 44 aircraft (1.7 percent) over the remaining years of the forecast period, totaling 3,033 aircraft in 2025. The number of regional jets (90 seats or fewer) at regional carriers is projected to grow from 1,655 in 2008 to 2,249 in 2025, an average annual increase of 1.8 percent. All the growth in regional jets over the forecast period occurs in the larger 70 and 90-seat aircraft. During the forecast period, 1,160 regional jets of 50 or less seats are removed from the fleet, reflecting the relaxation of scope clauses. The turboprop/piston fleet is expected to decline from 927 in 2008 to 784 in 2025. Turboprop/piston aircraft are expected to account for just 25.8 percent of the regional fleet in 2025, down from a 35.9 percent share in 2008.

Cargo large jet aircraft are forecast to increase by just 6 aircraft over the next 2 years (from 949 to 955 aircraft in 2010), and total 1,584 aircraft in 2025. The narrow-body jet fleet is projected to increase by 11 aircraft a year over the 16-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 29 aircraft yearly.

**GENERAL AVIATION**

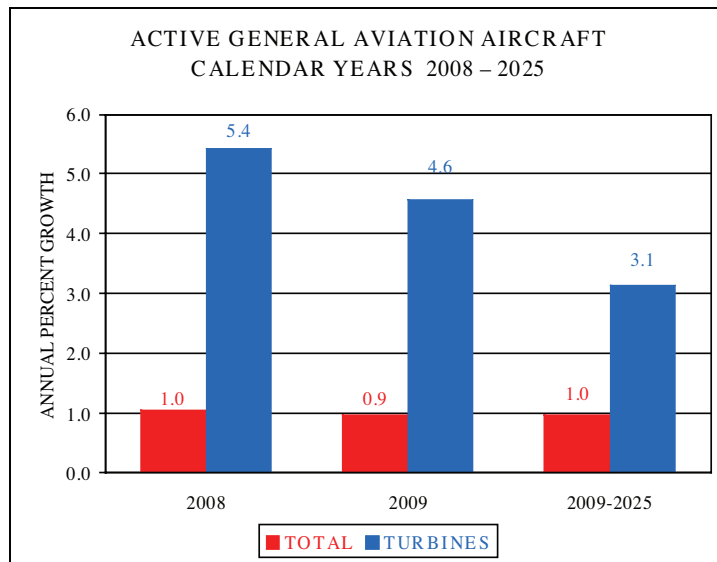
The FAA forecasts the fleet and hours flown for single-engine piston aircraft, multi-engine piston, turboprops, turbojets, rotorcraft (piston, turbine), sport, experiment and other (glider, balloon). The FAA forecasts “active aircraft,”<sup>13</sup> not total aircraft. The FAA uses estimates of fleet size, hours flown, and utilization from the General Aviation and Air Taxi Activity and Avionics Survey (GA Survey) as baseline

13 An active aircraft is one that flies at least one hour during the year.

figures upon which assumed growth rates can be applied. Beginning with the 2004 GA Survey there were significant improvements to the survey methodology. At the same time the survey methodology changed, large changes in both the number of aircraft and hours in many categories occurred. The results of the 2007 Survey are consistent with the results of the 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 the Survey is on a calendar year basis, the 2007 statistics are the latest available. Figures for 2008 are estimated based on other activity indicators and the forecasts of activity begin in 2009 and continue through 2025.

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

The active general aviation fleet is projected to increase at an average annual rate of 1.0 percent over the 17-year forecast period, growing from an estimated 234,015 in 2008 to 275,230 aircraft by 2025. The more expensive and sophisticated turbine-powered fleet (including rotorcraft) is projected to grow at an average of 3.2 percent a year over the forecast period with the turbine jet fleet increasing at 4.8 percent a year.



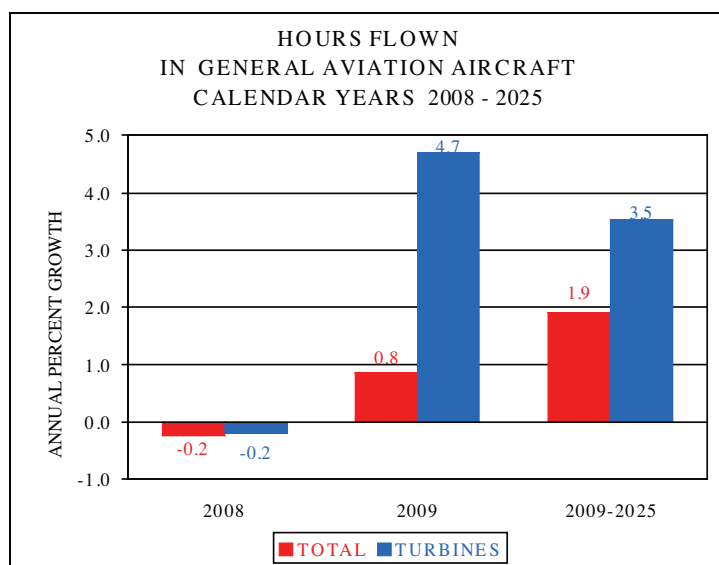
As recently as 2007, industry experts suggested the market for new Very Light Jets (VLJs) could add 500 aircraft a year to the active fleet by 2010. The relatively inexpensive twin-engine VLJs (priced between \$1 and \$2 million) were believed by many to have the potential to redefine the business jet segment by expanding business jet flying and offering performance that could support a true on-demand air-taxi business service. However events since that time have dampened expectations for a rapid penetration of VLJs into the market, most notably the bankruptcy of Eclipse and the demise of DayJet. In 2008, VLJ deliveries fell short of our assumption (262 vs. 400). Despite the challenging economy and the uncertainty surrounding the future of Eclipse, the forecast assumes that about 200 VLJs will enter the active fleet in U.S. over the next 2 years and then increase to a rate of 270 to 300 aircraft a year for the balance of the forecast, totaling 4,875 aircraft by 2025.

The number of active piston-powered aircraft (including rotorcraft) is projected to decrease from the 2007 total of 169,675 through 2013 as declines in both single and multi-engine aircraft are forecast. Beyond 2013 active piston-powered aircraft are forecast to increase gradually to 170,475 by 2025. Over the forecast period, the average annual increase in piston-powered aircraft is 0.1 percent. Although piston rotorcraft are projected to increase rapidly (3.9 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 much slower rates (0.1 percent respectively) while multi-engine fixed wing piston aircraft are projected to decline 1.0 percent a year. In addition, it is assumed that VLJs and new light sport aircraft could erode the replacement market for traditional piston aircraft at the high and low ends of the market respectively.

Starting in 2005, a new category of aircraft (previously not included in the FAA's aircraft registry counts) was created: "light sport" aircraft. At the end of 2007 a total of 6,066 aircraft were estimated to be in this category. The forecast assumes the fleet will increase approximately 930 aircraft per year until 2013 including both newly built aircraft and conversions from ultralight trainers. Thereafter the rate of increase in the fleet tapers considerably to about 300 per year. By 2025 a total of 15,865 light sport aircraft are projected to be in the fleet.

The number of general aviation hours flown is projected to increase by 1.8 percent yearly over the forecast period. Much of the increase reflects increased flying by business and corporate aircraft as well as steady if relatively small annual percentage increases in utilization rates for piston aircraft. Hours flown by turbine aircraft (including rotorcraft) are forecast to increase 3.6 percent yearly over the forecast period, compared with 0.4 percent for piston-powered aircraft. Jet aircraft are forecast to account for most of the increase, with hours flown expanding at an average annual rate of 5.2 percent over the forecast period. The large increases in jet hours result mainly from the increasing size of the business jet fleet, including increases in the fractional ownership fleet and its activity levels. Fractional ownership aircraft fly about 800 hours annually compared to approximately 380 hours for all business jets in all applications.

Previous forecasts of very light jets (VLJs) activity had assumed that a thriving on demand air taxi industry would occur over the course of the forecast. Because it was expected that VLJs would be used much differently than traditional turbojets, the FAA made separate assumptions for traditional turbojets and VLJs. In light of the events of the past year for VLJs and the on-demand air taxi market (bankruptcy of Eclipse and DayJet), FAA has revised its expectations downward about the size and scope of an on-demand air taxi industry using VLJs. VLJ aircraft that are used in an air taxi or shared ownership are expected to average approximately 470 hours per year while private use operators will average approximately 385. By 2025 the annual utilization rate for all VLJs is forecast to be 432 hours. Traditional (non-VLJ) turbojets are expected to average approximately 368 hours per year by 2025, as VLJs are expected to have a greater share of their use in on-demand air taxi and shared ownership than the traditional turbojets.



The number of active general aviation pilots (excluding air transport pilots) is projected to be 509,900 in 2025, an increase of almost 42,000 (up 0.5 percent yearly) over the forecast period. Commercial pilots are projected to increase from 124,746 in 2008 to 138,700 in 2025, an average annual increase of 0.6 percent. The number of student pilots is forecast to increase at an average annual rate of 0.4 percent over the forecast period, growing from 80,989 in 2008 to 86,600 in 2025. In addition, FAA is projecting that by the end of the forecast period a total of 20,600 sport pilots will be certified. As of December 31, 2008, the number of sport pilot certificates issued was 2,623 reflecting a growing interest in this new “entry level” pilot certificate that was only created in 2005. The number of private pilots is projected to remain steady over the forecast period to total 223,400 in 2025.

## FAA WORKLOAD FORECASTS

### FAA and Contract Towers

Activity at the 264 FAA and 239 contract tower airports (a total of 503) totaled 58.5 million operations in 2008, down 4.3 percent from 2007. Activity is projected to decrease 5.7 percent in 2009, with declines in both commercial and non-commercial operations. Growth in activity returns in 2010 (0.9 percent) as commercial activity rises 2.2 percent. For the balance of the forecast activity growth varies between 1.3 and 1.9 percent per year, reaching 69.6 million operations in 2025.

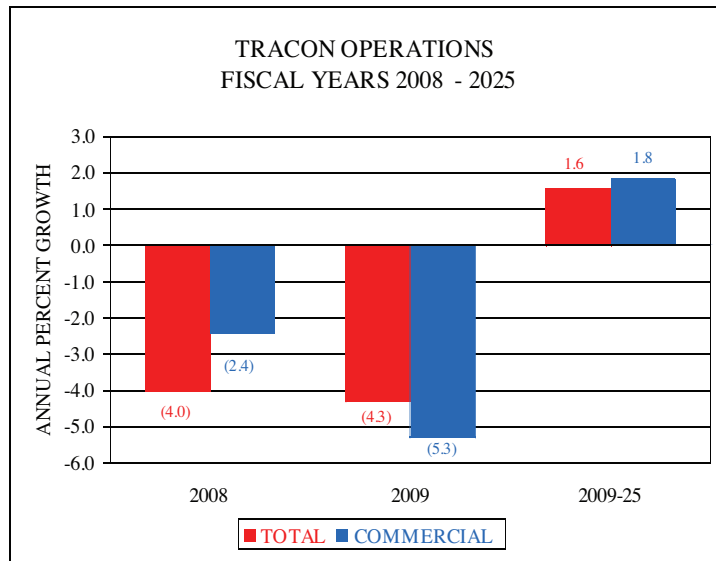
Most of the growth over the forecast period results from increased commercial aircraft activity (up 1.6 percent annually). Air carrier activity is projected to shrink 5.0 percent in 2009 as carriers cut capacity in a recessionary environment. In 2010, air carrier activity is projected to increase 3.3 percent as airline capacity increases, and grows an average of 2.1 percent a year over the forecast period. Commuter/air taxi operations are forecast to fall 6.4 percent in 2009 then grow slowly in 2010 (up 0.7 percent). For the balance of the forecast period, commuter/air taxi operations are projected increase 1.4 percent a year.

General aviation activity fell 5.6 percent in 2008 with steep declines in both itinerant (down 6.5 percent) and local (down 4.4 percent) activity. Activity is projected to fall again in 2009 (down 6.2 percent) reflecting the impact of the poor economy and then rise slightly in 2010 (up 0.1 percent) and 2011 (up 0.6 percent) as rising oil prices cut into the growth of flight hours and operations. For the entire forecast period, general

aviation activity at towered airports is projected to increase an average of 0.6 percent a year, to 34.6 million operations in 2025. General aviation activity at combined FAA/contract towers grows in line with the modest increase forecast for general aviation piston hours already cited. Most operations at the smaller towers are piston in nature, while those at the largest airports tend to be turbine operations.

Military activity, which fell 8.4 percent in 2008, is forecast to fall 0.8 percent in 2009. We do not forecast military operations but instead assume a constant level of activity over the forecast period.

Operations<sup>14</sup> at FAA TRACONs (Terminal Radar Approach Control) fell 4.0 percent in 2008, the fourth year in a row. They are projected to decline again in 2009 (down 4.3 percent) as the recession leads to decreases in both commercial and non-commercial activity. TRACON operations are forecast to rise slightly (up 0.1 percent) in 2010 before increasing at an average annual rate of 1.7 percent for the balance of the forecast. For the entire forecast period, TRACON operations grow an average of 1.2 percent a year, totaling 53.4 million in 2025.



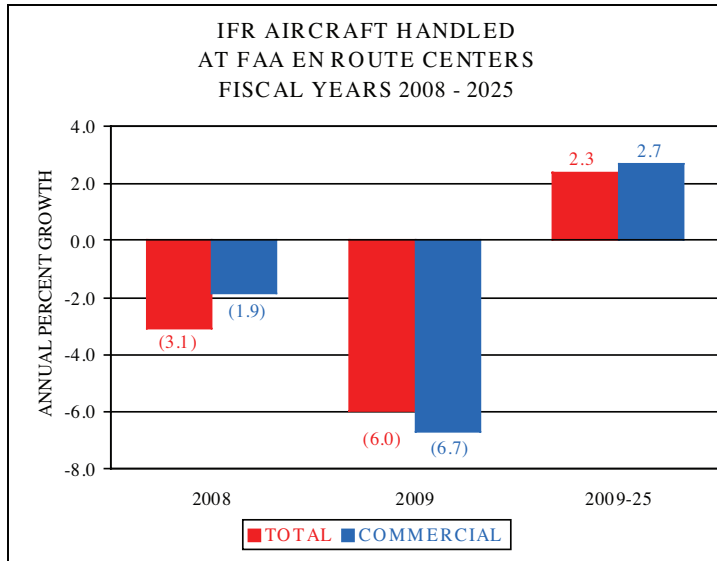
Over the forecast period, commercial aircraft operations at FAA TRACONs are forecast to increase at 1.4 percent per year with increases in air carrier activity surpassing commuter/air taxi activity. General aviation operations at FAA TRACONs are projected to grow 1.0 percent a year, reflecting the relatively slow growth in the general aviation fleet and hours. Military activity is expected to remain at its 2008 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 decreased 3.1 percent to 45.3 million in 2008, as all user groups except commuter/air taxi posted declines in activity. Activity at en route centers is forecast to decrease by 6.0 percent in 2009 mirroring the downturn in commercial and general aviation activity. Growth in en-route activity resumes in 2010 (up 2.1 percent) led by increases in air carrier activity. After 2010 through the balance of the forecast period, en route activity increases 2.4 percent

<sup>14</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.

annually, reaching 61.8 million aircraft handled in 2025. Over the entire forecast period, commercial activity is projected to increase at an average annual rate of 2.1 percent, reflecting increases in the commercial fleet and aircraft stage lengths. During the same period, general aviation activity is projected to grow 1.3 percent a year, reflecting the expected impact of additional business aviation activity. Military activity is held constant at the 2008 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. Because of increased interest and activity, UAS have the potential to become a major part of the commercial aerospace industry within the United States.

Working with industry, the FAA is starting to create regulations for small UAS's to fly in the airspace. To this end, an Aviation Rulemaking Committee (ARC) comprised of industry, associations, and other government agencies has been formed. This ARC will recommend defining and developing necessary interim policy guidance with corresponding training material for operating a small size category UAS within the National Airspace System.

Federal agencies are planning to increase their use of UAS's. State and local governments envision using UAS's to aid in law enforcement and firefighting. Potential commercial uses are also possible, for example, in real estate photography or pipeline inspection. UAS's could perform some manned aircraft missions with less noise and fewer emissions.

The new UAS technologies under development today may have a profound impact on all aviation. The investments and the technological advances made by military organizations have generated a growing interest in their potential use for civil government, scientific research, and commercial applications. Once the regulatory framework is in place and developers can safely test and evaluate their products within the NAS, we expect significant growth in the civil and commercial UAS market.



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

The FAA licenses several expendable vehicles used for commercial orbital launches. The most active include the Pegasus and Taurus, two small vehicles built and operated by Orbital Sciences Corporation (OSC); the Delta IV, a heavy-class vehicle and the Delta II, a medium-class vehicle, both built by United Launch Alliance (ULA), a joint venture between Boeing and Lockheed Martin, and marketed by Boeing Launch Services (BLS); the Zenit-3SL, a heavy-class vehicle built by the Ukrainian company KB Yuzhnoye for the multinational Sea Launch venture; the Atlas 5, a heavy-class vehicle built by ULA and marketed by Lockheed Martin Commercial Launch Services (LMCLS), and the Falcon 1, a small launch vehicle built and operated by SpaceX. Commercial vehicles under development include the heavy-class Falcon 9 vehicle by SpaceX and the medium-class Taurus II by OSC. From 1989 through the end of 2008, DOT/FAA has licensed 195 orbital and suborbital commercial launches.

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

Six commercial spaceports, located in Alaska, California (Vandenberg Air Force Base and Mojave Air and Space Port), 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 2008

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There were 11 FAA-licensed launches, all orbital, in 2008, up from 4 in 2007. BLS performed two Delta II launches, carrying one commercial and one Italian government remote sensing satellites. Sea Launch conducted five Zenit-3SL launches of commercial communications satellites. There were two Falcon

1 launches, including a successful demonstration launch. LMCLS performed one Atlas V launch of a commercial communications satellite. OSC performed one Pegasus XL launch of a military satellite under an FAA license. There were also five suborbital permit flights during 2008. .

FAA Licensed and Permitted Launches, 2007-2009			
	2007	2008	2009 Forecast
Licensed Launches	4	11	8-10
Permitted Launches	9	5	5-10

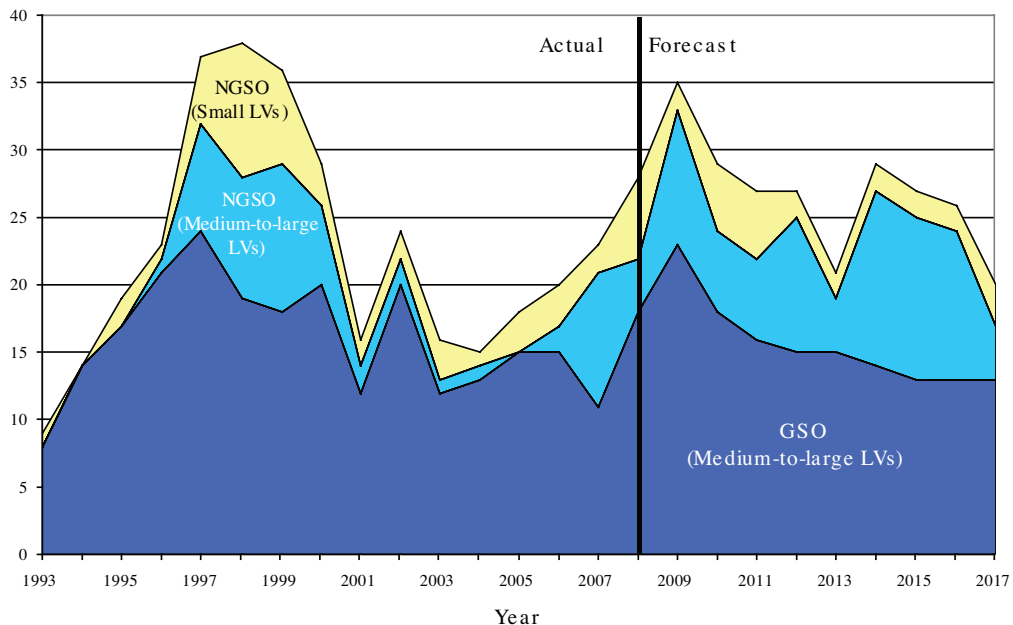
Worldwide there were 28 orbital commercial launches in 2008, compared to 23 in 2007. In addition to the 11 FAA-licensed launches, Europe performed five commercial launches of its Ariane 5, Russia conducted 11 launches of various vehicles, and Land Launch, a joint venture of Sea Launch and Space International Services, performed the inaugural launch of the Zenit-3SLB. There were 69 total worldwide commercial, civil, and military launches in 2008, with commercial launches representing about 41 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

In May 2008, the FAA and the Commercial Space Transportation Advisory Committee (COMSTAC) published their annual global forecast for commercial launch demand, the 2008 Commercial Space Transportation Forecasts. The report forecasts an average of 27.4 commercial orbital launches per year of geosynchronous orbit (GSO) and non-geosynchronous orbit (NGSO) payloads through 2017. That annual average includes 16.2 launches of medium-to-heavy vehicles to deploy GSO satellites, 8.1 launches of medium-to-heavy vehicles to NGSO, and 3.1 launches to NGSO by small vehicles.

Commercial Orbital Launch Forecast (1993-2017)



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

The GSO and NGSO forecasts are not a prediction of what will actually be launched but instead represent the expected demand for launch services, based on a variety of inputs. The complete forecast report is available at: [http://www.faa.gov/about/office\\_org/headquarters\\_offices/ast/reports\\_studies/forecasts/](http://www.faa.gov/about/office_org/headquarters_offices/ast/reports_studies/forecasts/).

## ▷▷▷ RISKS TO THE FORECAST

While the demand for air transportation has proven to be resilient over time in the face of numerous challenges, there is a greater degree of uncertainty around the FAA's current forecast of aviation demand than in the past. This is due in part, because never in the recent past have so many negative factors come together at once. The previous downturn in aviation demand was caused by the recession of 2001 and was exacerbated by the terrorist attacks of 9/11. Economic growth returned by 2002 but air transportation demand rebounded more slowly and didn't recover until 2004. The present recession downturn has been the result of numerous factors beginning with housing downturn that spread to clog credit markets and overall functioning of the global financial infrastructure. The impacts soon spread across the real sector of the economy in the US and the world. The extent and magnitude of these effects and their linkages to air transportation demand are not completely evident yet. While the FAA believes its current outlook for aviation demand and activity is attainable, future aviation activities in the near to mid-term will depend critically on how the broader economy evolves. Although commercial aviation has demonstrated tremendous flexibility by aggressively rationalizing supply and overall resilience of demand for air transportation still persists, risk and uncertainties are abundant. Added to past risks, the economic slowdown and constrained financial markets now sit at the center of the ability of aviation to rebound.

A number of risk factors were highlighted in last year's forecast. The most notable was the risk of a deeper downturn and rising unemployment. The housing downturn in the U.S. deepened along with the financial crisis that has become global in scope. The US economy's output and services, i.e., real GDP, contracted at an annual rate of 0.5 percent in the third quarter of 2008 followed by a steep decline of 3.8 percent in the fourth quarter. For the entire calendar year, US real GDP increased only 1.3 percent. Many forecasters now predict that the economy will not recover until the end of 2009 or not before 2010. The consensus market forecast (Wall Street Journal) in February 2009 indicates that the US economy will contract 1 percent in 2009. Moreover, global economic growth has stalled and the International Monetary Fund (IMF) now predicts world growth to fall to 0.5 percent in 2009, its lowest rate since World War II. As a result, advanced economies including the US, Europe and Japan are expected to register declines in output ranging between 1 and 4 percent. The financial strains remain acute despite numerous policy actions led primarily by the US, Europe, and China. The real economy is not expected to return to some functional normalcy without financial recovery accompanied by free-flowing credit markets. The overall improvement in the economy will depend importantly on the turnaround in real estate market and improvement in balance sheets, financial institutions and households alike.

Not surprisingly, a broad range of uncertainties prevail at the present time. To begin with, uncertainty surrounding the housing market continues to dominate the real sector of the economy. Faced with an almost 25 percent decline in housing prices (S&P Case-Shiller Index), a large inventory of housing stocks persist. According to National Association of Realtors, housing inventory in 2008 had climbed to over 4 million; a 34 percent increase from the peak of the market. The large inventory of homes on the market continues to create downward pressure on housing prices across the country leading to increasing possibilities of additional mortgage defaults. A deteriorating mortgage profile continues to downgrade banks and investors' real estate portfolio alike. Any improvement in banks' balance sheet is intricately linked to improvement in the real estate market. Likewise, a deteriorating real estate market and the decline in the overall asset market have resulted in a severe loss of wealth. Without a floor on prices, the overall trend in the housing market creates a downward spiral that is unsustainable for long run growth prospects in the US and global economies. The overall turnaround in the demand situation thus depends on the turnaround in real estate market and improvement in balance sheets, financial institutions and households alike.

Despite the rapid decline in oil prices during the later half of 2008, there is considerable uncertainty as to the level of oil prices once economic growth resumes. Although the oil price forecast the FAA is using calls for a steady increase after 2009, the increase is relatively modest, with prices remaining well below \$100/barrel throughout the forecast period. Some forecasters are calling for a much sharper increase in the price of oil. In a January 2009 research note, CIBC analysts predicted that oil prices will reach \$100/barrel by 2010 (CIBC, 1/23/09). The U.S. Energy Information Administration (EIA) in its 2009 Annual Energy Outlook is projecting oil prices to exceed \$100/barrel by 2013. While falling 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 increasing cash balances.

One of the major lessons of the present recession is the renewed acknowledgement that the global economies are inherently coupled with the US economy. The linkages of the global economies to the US economy proved to be far stronger than was thought previously during the time of steady expansion. The sustained decline of personal consumption expenditures that beset the present US recession also brought down economies that depend critically on exporting to the US, the largest being the economies of Europe, China, Korea, Japan, Singapore, and Canada. Faced with declining US imports, the trade links between these other countries are proving not to be substantial enough to pull the world economy out of recession. As US trade volumes (both import and export) declined with the onset of the recession, so did the economic growth in the rest of the world. This has been further accelerated by the financial contagion now spreading across the globe. If there are defaults on debt payments by some of the emerging economies, this may further complicate balance sheets of those banks which are exposed to emerging markets.

Although FAA uses the latest administration economic projections to derive the forecasts of aviation demand, an important part of the FAA forecast process is to compare the administration forecasts with other economic forecasts. FAA typically compares administration economic forecasts to those of Global Insight, Inc., a leading economic consulting firm. Unlike prior forecasts, Global Insight's current U.S. GDP forecast is much lower than the latest administration projections. While the administration is projecting U.S. GDP growth to average 3.8 percent a year between 2009 and 2013, Global Insight is forecasting U.S. GDP growth to average 2.4 percent a year during the same period. In addition, Global Insight regularly provides alternative forecasts and assigns a likelihood of their occurrence along with the likelihood of the baseline forecast occurring. In January 2009, Global Insight assigned the likelihood of their baseline forecast at 60 percent. An "optimistic scenario"—faster economic growth in the rest of the world, impacts of the stimulus package occurring sooner, and a continuation of the high worker productivity rates—that results in lower unemployment and a faster recovery in the U.S. was assigned a 20 percent likelihood by Global Insight. A faster recovery with higher economic growth would lead to increased demand for aviation services and boosts the industry's profitability further

Global Insight also constructed a pessimistic scenario which was assigned a 20 percent likelihood. In this pessimistic scenario, the financial crisis worsens resulting in lower consumer spending, weaker business investment, slower world economic growth and weak productivity growth. The current recession becomes the worst downturn since the Great Depression and the recovery coming out of recession is slower than their baseline forecast. We used the pessimistic scenario as inputs to our domestic traffic industry model to quantify the impact of a deeper recession on US airline industry traffic and capacity growth. In 2009, domestic passengers in the pessimistic scenario are only 0.7 percent lower than in our base forecast with RPMs 1.0 percent lower. However, the difference between the base forecast and the pessimistic scenario

widens dramatically over the next 4 years so that by 2013, domestic passenger enplanements would be 14.0 percent lower than in the base forecast and RPMs would be 15.4 percent lower. Domestic load factor was 5.3 points lower while yield was higher, driven by higher oil prices and slower low-cost carrier growth. Industry passenger revenue was 8.2 percent lower, hampering the industry's drive for sustained profitability and balance sheet improvement.

One positive outcome from all the turmoil in 2008 was that U.S. airlines had already taken significant steps to rationalize domestic capacity before the downturn in demand. As noted earlier in this document, we anticipate a large decline in capacity (roughly 10 percent) in FY2009 as the industry took the lead in adjusting supply that is often necessary in the middle of a recession. The rationalized supply has given the industry fare flexibility and positioned itself to recover ahead of other sectors in the economy when economic growth returns. Furthermore, the reduction in capacity provides a rare look at the core network structure of air transportation in the US. With the cuts in capacity that are in place, airlines appear to be focusing their services in markets that are profitable. The resulting network structure should be more robust, even under such severe market pressure, and provide the foundation around which any long term investments can be made.

At present, the outlook for further consolidation via mergers and acquisition (M&A) appears to be rather limited. With the recent mergers of US Airways and America West and Delta's consolidation with Northwest, there appears to be little scope for further mergers in the US airline industry. The tightening of the credit markets that may continue over the near term has reduced the ability of the industry to finance additional mergers. 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.

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

Despite a 16 percent increase in business jet shipments in 2008, events during that last quarter of 2008 have dampened the prospects in this sector for the next few years. First, the decision by Eclipse to enter into bankruptcy protection in November has tempered expectations about further growth in the VLJ market. The decision by Eclipse to enter into bankruptcy was driven primarily by a lack of additional credit due in part to the global credit crisis as well as the decision by DayJet, a leading operator of VLJs, to cease operations in November. These two events accelerated Eclipse's decision to enter into bankruptcy protection. Given the developments in the last year, our forecast for this segment is significantly lower than last year's forecast. How long the industry slowdown continues depends, in large part, on the recovery of the market for business jets. The market for business jets is largely dependent upon the growth in the economy and corporate profits and it is unknown how well this market will fare as corporate profits fall in the current environment. The current forecast assumes that 200-300 VLJs will enter the fleet a year, with the U.S. market growing to 4,875 by 2025. A key driver of the VLJ market is the on-demand air taxi

industry. With the demise of the DayJet, the sector is much smaller now. The segment is now served by much smaller providers, such as Linear Air and North American Jet. Those who believe that the business model underlying DayJet was ill-suited for the time but that the VLJ is a sound aircraft (both operationally and economically) still tend to have relatively higher fleet forecasts. Those who are less sanguine about the prospects for the mass on-demand air taxi industry tend to have more conservative fleet forecasts. Given the uncertainty around the economic environment, the FAA leans on the conservative side of the forecast.

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 VLJs will increase the complexities of the national airspace system and make the FAA's job more challenging. The increased complexity of the mix of aircraft serves to compound the increases in workload strictly due to the increasing demand for aviation services projected over the forecast period.

High levels of delays occurred at many U.S. airports in 2008 and could become a critical limit to growth over the forecast period. FAA's forecasts of both demand and workload are unconstrained in that they assume that there will be sufficient infrastructure to handle the projected levels of activity. Should the infrastructure be inadequate and result in even more congestion and delays, it is likely that the forecasts of both demand and workload would not be achieved. The Department of Transportation 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.

Environmental and related energy concerns also pose a risk to the forecast. Concerns about aviation's impact on the environment, which have accompanied its growth, could potentially restrict the ability of the aviation 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 are also growing. Although aviation currently accounts for 2 to 3 percent of climate change impacts, greenhouse emissions from the sector are expected to grow unless aggressively mitigated with new technology, renewable fuels, operational improvements and market measures. Market measures intended to control emissions, e.g., various emissions trading systems and charges being discussed, would add significant costs to the aviation sector that could both reduce demand and available funds for needed investments in new technology. Energy concerns are also rising, driven by spikes in fuel prices, supply and security issues, and the concerns about fossil fuel contributions to global climate change. All of these concerns could have a negative impact on the ability of the aviation system to meet the mobility needs of the traveling public in the future unless the technology, operational, and alternative fuel initiatives in the Next Generation Air Transportation System Plan are funded and implemented. Lack of progress on improving the environmental and energy outlook for the future fleet through breakthroughs in quieter, cleaner aircraft technologies and renewable fuels can drive more restrictions via standards or operating limitations on the fleet in service, which in turn may depress growth over the forecast period.





## ▶▶▶ APPENDIX I FORECAST ACCURACY

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

The table below presents an analysis of the variance from historical results for five key forecast metrics during the FY 2003–FY 2008 forecast period. Although this brief period has experienced industry upheaval, FAA’s forecast methodology remained consistent during this time. For these reasons, inclusion of prior periods in an analysis of forecast variance might lead to inconclusive, or inaccurate, implications about the accuracy of FAA’s current forecast methodology.

The table contains the mean absolute percent errors for the projected values versus the eventual results for U.S. carriers’ domestic operations. Each metric has five values showing the relative forecast variance by the number of years in advance the preparation of the forecast took place. For example, the 3 Years column for ASM shows the mean absolute percent error was 6.5 percent for ASM forecasts prepared 3 years in advance. For the period under examination, preparation of the forecasts for FY 2005, FY 2006, FY 2007 and FY 2008 occurred in FY 2003, FY 2004, FY 2005, and FY 2006, respectively.

<b>U.S. AIR CARRIERS DOMESTIC SCHEDULED PASSENGER OPERATIONS FORECAST EVALUATION</b>					
Forecast Variable	Mean Absolute Percent Error (Combined FY 2003 - FY 2008) (Forecast Variance from Actual)				
	Forecast Performed Years Prior to Actual				
	1 Year	2 Years	3 Years	4 Years	5 Years
ASMs	0.7%	4.1%	7.2%	9.9%	10.9%
RPMs	1.5%	2.9%	4.1%	4.7%	5.4%
Pax Enplanement	1.1%	1.7%	3.7%	4.6%	5.9%
Mainline Pax Yield	2.8%	7.2%	8.6%	7.4%	5.9%
IFR Aircraft Handled	2.0%	4.1%	5.8%	6.1%	6.4%

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, although the variances in yield increase somewhat between Year 3 and Year 5. The largest variances were found in the forecasts of ASMs and Yield, the two variables most directly affected by carrier business decisions. However, for both of these variables the largest declines in variance occur between Year 3 and Year 1. Second, the FAA's forecast model produces relatively small variances for both of the passenger traffic metrics, Enplanements and RPMs, with none of the forecast variances exceeding 6.0 percent for any forecast time horizon examined. Third, the relative divergence in forecast variances between RPMs and ASMs suggests errors in forecasting load factor.

The examination of the forecast variances over time suggests two primary implications. First, added focus on load factor might improve the model. Currently, load factor is calculated by dividing the forecast RPMs by forecast ASMs. The large difference between the RPM forecast variance and ASM forecast variance beyond Year 2, indicates a relatively large variance in the forecast of load factor, one of the critical elements in converting passenger demand into aviation activity. However, the difference between the RPM forecast variance and ASM forecast variance narrows as the time horizon shortens, suggesting that that the near term load factor forecasts are coming closer to the mark. 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.

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

## ▶▶▶ APPENDIX II ACKNOWLEDGEMENTS

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## FORECAST TABLES

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

ECONOMIC VARIABLE	FISCAL YEAR 2009				FISCAL YEAR 2010			
	1ST. QTR.	2ND QTR.	3RD QTR.	4TH QTR.	1ST QTR.	2ND QTR.	3RD QTR.	4TH QTR.
<b>Real GDP<sup>1</sup></b> (Billions of 2000\$) Seasonally Adjusted Annual Rate	11,599.5 -3.8%	11,472.9 -4.3%	11,467.0 -0.2%	11,532.2 2.3%	11,635.7 3.6%	11,733.8 3.4%	11,844.3 3.8%	11,949.1 3.6%
<b>Refiners' Acquisition Cost - Average<sup>2</sup></b> (Dollars) Seasonally Adjusted Annual Rate	54.50 -94.8%	29.98 -90.8%	27.47 -29.5%	32.16 87.7%	36.22 60.9%	41.59 73.9%	45.34 41.2%	48.15 27.1%
<b>Consumer Price Index<sup>1</sup></b> (1982-84 equals 100) Seasonally Adjusted Annual Rate	213.8 -8.8%	212.1 -3.1%	213.6 2.9%	214.9 2.3%	215.5 1.1%	216.2 1.3%	217.0 1.6%	217.9 1.6%

<sup>1</sup> Source: Office of Management and Budget, February 2009.

<sup>2</sup> Source: Global Insight, US Economic Outlook, January 2009.

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

FISCAL YEAR	GROSS DOMESTIC PRODUCT <sup>1</sup> (Billions 2000\$)	CONSUMER PRICE INDEX <sup>1</sup> (1982-84=100)	REFINERS' ACQUISITION COST AVERAGE <sup>2</sup> (Dollars per barrel)
<u>Historical</u>			
2000	9,762.8	170.75	26.70
2001	9,885.1	176.25	25.79
2002	10,002.4	178.88	21.98
2003	10,208.3	183.10	28.01
2004	10,593.4	187.32	33.65
2005	10,917.1	193.45	47.21
2006	11,227.3	200.60	59.95
2007	11,457.8	205.31	60.78
2008E	11,676.6	214.43	101.53
<u>Forecast</u>			
2009	11,517.9	213.59	36.03
2010	11,790.7	216.63	42.82
2011	12,238.9	220.27	66.33
2012	12,792.6	224.60	79.28
2013	13,350.4	229.31	85.01
2014	13,780.6	234.13	87.16
2015	14,139.6	239.05	81.81
2016	14,507.8	244.06	79.27
2017	14,885.5	249.19	79.31
2018	15,272.8	254.42	79.34
2019	15,670.4	259.77	80.06
2020	16,077.8	265.22	81.74
2021	16,495.9	270.79	83.45
2022	16,924.7	276.48	85.21
2023	17,364.8	282.28	86.99
2024	17,816.3	288.21	88.82
2025	18,279.5	294.26	90.69
Avg Annual Growth			
2000-08	2.3%	2.9%	18.2%
2008-10	0.5%	0.5%	-35.1%
2010-20	3.1%	2.0%	6.7%
2008-25	2.7%	1.9%	-0.7%

<sup>1</sup> Source: 2008-2019; Office of Management and Budget, February 2009. Extrapolated to 2025.

<sup>2</sup> Source: 2008-2019; Global Insight, US Economic Outlook, January 2009. Extrapolated to 2025.

**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	1,000.7	15,291.8	2,161.0	8,786.7	39,531.8	
2001	1,018.6	15,587.4	2,173.7	8,987.2	40,200.7	
2002	1,048.4	15,832.9	2,179.9	9,288.6	41,016.4	
2003	1,068.1	16,118.3	2,216.3	9,673.3	42,109.9	
2004	1,101.4	16,602.6	2,348.4	10,184.5	43,790.0	
2005	1,133.1	17,050.6	2,452.4	10,680.1	45,318.1	
2006	1,168.3	17,682.8	2,583.6	11,260.2	47,162.4	
2007	1,200.0	18,264.9	2,722.4	11,916.9	48,958.5	
2008E	1,208.2	18,580.9	2,827.4	12,338.5	50,060.4	
<u>Forecast</u>						
2009	1,190.7	18,348.1	2,849.2	12,508.3	49,693.8	
2010	1,220.7	18,499.7	2,948.0	13,079.6	50,897.0	
2011	1,268.8	18,922.3	3,065.2	13,839.8	52,756.2	
2012	1,312.6	19,437.5	3,188.7	14,595.5	54,675.3	
2013	1,354.8	19,954.3	3,316.5	15,342.5	56,550.7	
2014	1,391.9	20,469.7	3,450.5	16,098.2	58,458.8	
2015	1,424.6	20,992.6	3,589.9	16,874.4	60,439.3	
2016	1,459.7	21,517.2	3,733.1	17,664.9	62,467.1	
2017	1,495.1	22,058.6	3,880.9	18,479.8	64,567.4	
2018	1,532.1	22,612.6	4,033.5	19,309.4	66,735.1	
2019	1,567.5	23,178.6	4,191.5	20,156.9	68,884.5	
2020	1,603.2	23,749.2	4,353.3	21,025.2	71,075.5	
2021	1,641.4	24,328.6	4,521.0	21,917.4	73,272.9	
2022	1,681.4	24,911.4	4,694.6	22,835.7	75,527.9	
2023	1,720.8	25,505.5	4,873.3	23,794.2	77,850.7	
2024	1,763.2	26,110.2	5,057.2	24,795.9	80,257.0	
2025	1,804.9	26,727.0	5,248.1	25,838.4	82,758.0	
<u>Avg Annual Growth</u>						
2000-08	2.4%	2.5%	3.4%	4.3%	3.0%	
2008-10	0.5%	-0.2%	2.1%	3.0%	0.8%	
2010-20	2.8%	2.5%	4.0%	4.9%	3.4%	
2008-25	2.4%	2.2%	3.7%	4.4%	3.0%	

Source: Global Insight, February 2009.



**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
<u>Historical</u>					
2000	12,871.4	9,383.7	2,018.2	4,272.4	1,415.5
2001	12,971.2	9,566.8	2,067.8	4,279.2	1,532.9
2002	13,186.2	9,664.8	2,111.2	4,290.8	1,672.4
2003	13,501.7	9,746.3	2,170.7	4,353.4	1,839.7
2004	13,990.0	9,935.7	2,230.6	4,471.7	2,025.5
2005	14,402.1	10,117.3	2,276.5	4,557.5	2,236.1
2006	14,824.1	10,420.8	2,341.1	4,650.6	2,495.5
2007	15,143.2	10,698.3	2,412.4	4,760.3	2,792.5
2008E	15,314.6	10,799.5	2,431.6	4,753.9	3,050.3
<u>Forecast</u>					
2009	14,944.5	10,596.0	2,360.1	4,647.4	3,243.5
2010	15,280.8	10,615.4	2,360.5	4,741.7	3,512.4
2011	15,773.3	10,783.2	2,406.3	4,891.1	3,848.0
2012	16,233.6	10,996.6	2,475.9	4,987.4	4,226.5
2013	16,656.3	11,209.2	2,539.5	5,062.4	4,612.9
2014	17,106.4	11,416.0	2,601.2	5,135.3	5,011.5
2015	17,594.7	11,625.8	2,663.4	5,202.5	5,422.3
2016	18,108.4	11,834.3	2,727.0	5,257.5	5,855.5
2017	18,647.1	12,050.4	2,791.4	5,301.6	6,319.0
2018	19,230.2	12,270.3	2,857.3	5,338.0	6,807.3
2019	19,757.9	12,496.6	2,924.1	5,369.3	7,311.9
2020	20,299.5	12,718.6	2,990.5	5,396.4	7,838.1
2021	20,811.2	12,943.6	3,057.2	5,418.9	8,382.1
2022	21,342.6	13,167.1	3,122.3	5,439.5	8,940.4
2023	21,878.2	13,392.3	3,187.3	5,459.4	9,524.1
2024	22,438.0	13,621.0	3,252.9	5,479.1	10,139.8
2025	23,033.5	13,853.6	3,318.6	5,498.2	10,783.1
<u>Avg Annual Growth</u>					
2000-08	2.2%	1.8%	2.4%	1.3%	10.1%
2008-10	-0.1%	-0.9%	-1.5%	-0.1%	7.3%
2010-20	2.9%	1.8%	2.4%	1.3%	8.4%
2008-25	2.4%	1.5%	1.8%	0.9%	7.7%

Source: Global Insight, February 2009.

**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
2001	625.8	56.7	682.5	507.9	183.3	691.1
2002	575.1	51.2	626.3	473.4	158.2	631.6
2003	587.8	53.3	641.2	492.7	155.6	648.3
2004	628.5	60.5	689.0	540.2	177.0	717.2
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
2008E	679.6	77.8	757.4	594.4	233.1	827.5
<u>Forecast</u>						
2009	626.5	75.8	702.3	541.4	227.2	768.6
2010	638.9	77.7	716.5	555.8	234.0	789.8
2011	665.6	81.1	746.6	584.8	245.6	830.4
2012	698.6	85.0	783.6	620.4	258.5	878.9
2013	732.1	89.0	821.1	656.8	271.3	928.1
2014	752.4	93.1	845.5	680.1	284.9	964.9
2015	770.0	97.3	867.3	700.7	299.1	999.8
2016	789.1	101.6	890.7	723.2	314.0	1,037.2
2017	807.3	106.1	913.4	745.0	329.5	1,074.5
2018	823.9	110.7	934.6	765.1	345.6	1,110.7
2019	840.3	115.5	955.8	785.3	362.4	1,147.8
2020	857.8	120.5	978.3	806.7	380.0	1,186.7
2021	875.7	125.7	1,001.3	828.7	397.9	1,226.6
2022	894.0	130.9	1,024.9	851.4	416.2	1,267.6
2023	912.9	136.3	1,049.2	874.8	435.2	1,310.0
2024	932.2	142.0	1,074.2	898.9	455.2	1,354.1
2025	952.1	147.9	1,100.0	923.7	476.2	1,399.9
<b>Avg Annual Growth:</b>						
2000-08	0.7%	4.1%	1.0%	1.9%	3.2%	2.2%
2008-10	-3.0%	-0.1%	-2.7%	-3.3%	0.2%	-2.3%
2010-20	3.0%	4.5%	3.2%	3.8%	5.0%	4.2%
2008-25	2.0%	3.9%	2.2%	2.6%	4.3%	3.1%

\* 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
2001	732.1	507.9	69.4	246.6	183.3	74.3	978.7	691.1	70.6
2002	681.8	473.4	69.4	212.3	158.2	74.5	894.1	631.6	70.6
2003	684.2	492.7	72.0	206.5	155.6	75.3	890.8	648.3	72.8
2004	730.2	540.2	74.0	223.0	177.0	79.4	953.3	717.2	75.2
2005	755.2	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
2008E	749.3	594.4	79.3	291.9	233.1	79.9	1,041.2	827.5	79.5
<u>Forecast</u>									
2009	682.1	541.4	79.4	288.9	227.2	78.7	971.0	768.6	79.2
2010	699.2	555.8	79.5	297.2	234.0	78.7	996.5	789.8	79.3
2011	726.5	584.8	80.5	311.8	245.6	78.8	1,038.3	830.4	80.0
2012	764.2	620.4	81.2	327.8	258.5	78.9	1,092.0	878.9	80.5
2013	804.6	656.8	81.6	343.7	271.3	78.9	1,148.3	928.1	80.8
2014	833.1	680.1	81.6	360.6	284.9	79.0	1,193.7	964.9	80.8
2015	859.6	700.7	81.5	378.3	299.1	79.1	1,237.9	999.8	80.8
2016	885.7	723.2	81.7	396.8	314.0	79.1	1,282.5	1,037.2	80.9
2017	912.1	745.0	81.7	416.0	329.5	79.2	1,328.1	1,074.5	80.9
2018	939.2	765.1	81.5	436.0	345.6	79.3	1,375.1	1,110.7	80.8
2019	967.0	785.3	81.2	456.8	362.4	79.3	1,423.9	1,147.8	80.6
2020	995.8	806.7	81.0	478.6	380.0	79.4	1,474.4	1,186.7	80.5
2021	1,025.4	828.7	80.8	500.7	397.9	79.5	1,526.1	1,226.6	80.4
2022	1,056.0	851.4	80.6	523.3	416.2	79.5	1,579.3	1,267.6	80.3
2023	1,087.6	874.8	80.4	546.9	435.2	79.6	1,634.5	1,310.0	80.2
2024	1,120.2	898.9	80.2	571.5	455.2	79.6	1,691.7	1,354.1	80.0
2025	1,153.9	923.7	80.1	597.5	476.2	79.7	1,751.3	1,399.9	79.9
<u>Avg Annual Growth:</u>									
2000-08	0.4%	1.9%	80.8	2.5%	3.2%	79.5	0.9%	2.2%	80.4
2008-10	-3.4%	-3.3%	80.6	0.9%	0.2%	79.5	-2.2%	-2.3%	80.3
2010-20	3.6%	3.8%	80.4	4.9%	5.0%	79.6	4.0%	4.2%	80.2
2008-25	2.6%	2.6%	80.2	4.3%	4.3%	79.6	3.1%	3.1%	80.0

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

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

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

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS				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
2001	20.5	24.8	11.4	56.7	86.2	37.6	59.4	183.3
2002	18.0	23.6	9.6	51.2	74.7	34.5	49.0	158.2
2003	17.8	25.1	10.5	53.3	73.2	36.2	46.2	155.6
2004	19.9	28.3	12.3	60.5	82.1	41.4	53.5	177.0
2005	21.6	32.5	13.2	67.4	89.5	48.6	59.2	197.2
2006	22.5	35.2	13.9	71.6	93.9	53.6	61.1	208.5
2007	24.1	37.6	13.6	75.3	102.2	57.7	61.4	221.2
2008E	26.0	38.6	13.2	77.8	112.7	60.0	60.4	233.1
<u>Forecast</u>								
2009	25.5	38.0	12.3	75.8	111.1	60.2	56.0	227.2
2010	26.6	38.7	12.3	77.7	116.6	61.3	56.0	234.0
2011	28.2	40.2	12.7	81.1	124.0	63.7	58.0	245.6
2012	29.5	42.2	13.3	85.0	130.8	67.1	60.7	258.5
2013	30.7	44.4	13.9	89.0	136.4	71.2	63.7	271.3
2014	31.8	46.7	14.6	93.1	142.1	75.7	67.1	284.9
2015	33.0	48.9	15.4	97.3	148.1	80.3	70.7	299.1
2016	34.2	51.2	16.2	101.6	154.3	85.1	74.6	314.0
2017	35.5	53.6	17.1	106.1	160.8	90.1	78.6	329.5
2018	36.8	56.0	18.0	110.7	167.4	95.4	82.8	345.6
2019	38.1	58.5	18.9	115.5	174.3	100.9	87.3	362.4
2020	39.6	61.1	19.9	120.5	181.4	106.7	91.9	380.0
2021	40.9	63.8	20.9	125.7	188.5	112.7	96.7	397.9
2022	42.3	66.7	21.9	130.9	195.4	119.1	101.7	416.2
2023	43.7	69.7	23.0	136.3	202.7	125.8	106.7	435.2
2024	45.1	72.8	24.1	142.0	210.2	132.9	112.1	455.2
2025	46.6	76.0	25.3	147.9	218.0	140.5	117.8	476.2
<b>Avg Annual Growth:</b>								
2000-08	2.8%	5.9%	2.1%	4.1%	3.3%	6.5%	0.4%	3.2%
2008-10	1.2%	0.2%	-3.4%	-0.1%	1.7%	1.1%	-3.6%	0.2%
2010-20	4.0%	4.7%	4.9%	4.5%	4.5%	5.7%	5.1%	5.0%
2008-25	3.5%	4.1%	3.9%	3.9%	4.0%	5.1%	4.0%	4.3%

\* 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
2001	47.5	38.8	23.0	18.6	127.9
2002	43.4	36.9	22.3	17.6	120.1
2003	44.6	39.1	20.2	16.9	120.8
2004	48.9	42.7	23.8	18.5	133.9
2005	49.9	44.2	25.1	19.7	139.0
2006	49.8	47.1	25.6	21.0	143.5
2007	53.3	48.6	26.3	21.5	149.7
2008E	57.0	49.3	25.9	21.7	153.9
<u>Forecast</u>					
2009	56.4	48.9	25.8	21.3	152.5
2010	58.4	51.1	27.3	22.1	159.0
2011	61.8	54.0	29.1	23.2	168.1
2012	65.9	57.3	31.1	24.4	178.6
2013	69.8	60.6	33.1	25.5	189.0
2014	73.1	63.4	34.9	26.4	197.8
2015	76.2	66.2	36.7	27.2	206.3
2016	79.3	69.1	38.6	28.1	215.1
2017	82.6	72.1	40.6	28.9	224.2
2018	85.9	75.2	42.7	29.8	233.6
2019	89.3	78.4	44.9	30.7	243.4
2020	92.7	81.8	47.2	31.6	253.4
2021	96.3	85.3	49.7	32.6	263.9
2022	99.8	89.0	52.4	33.6	274.8
2023	103.5	92.8	55.1	34.6	286.0
2024	107.3	96.7	58.1	35.7	297.8
2025	111.1	100.8	61.3	36.8	310.0
Avg Annual Growth:					
2000-08	0.9%	2.4%	0.0%	0.5%	1.1%
2008-10	1.2%	1.9%	2.7%	1.0%	1.7%
2010-20	4.7%	4.8%	5.6%	3.6%	4.8%
2008-25	4.0%	4.3%	5.2%	3.2%	4.2%

\* 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)
<i>Historical*</i>						
2000	129.3	230.6	145.0	799.8	3,223.2	995.7
2001	127.6	226.9	143.5	811.6	3,233.9	1,012.7
2002	125.9	221.5	140.3	823.2	3,088.8	1,008.5
2003	123.0	220.2	137.0	838.1	2,917.6	1,011.1
2004	121.7	218.7	135.8	859.6	2,927.3	1,041.0
2005	120.4	217.1	135.3	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	215.9	136.6	870.2	2,939.3	1,073.7
2008E	120.8	217.5	138.0	874.6	2,996.4	1,092.5
<i>Forecast</i>						
2009	120.1	217.0	138.5	864.1	2,996.1	1,094.3
2010	120.6	217.5	139.1	870.0	3,012.8	1,102.2
2011	120.8	218.1	139.5	878.6	3,029.7	1,112.2
2012	120.8	218.6	139.5	888.0	3,042.0	1,121.6
2013	120.5	219.0	139.3	897.1	3,048.2	1,130.3
2014	120.2	219.4	139.2	903.8	3,059.3	1,141.2
2015	120.3	219.8	139.6	910.1	3,074.2	1,152.9
2016	120.5	220.4	140.2	916.6		
2017	120.8	220.9	140.8	922.8	3,090.0	1,164.5
2018	121.0	221.4	141.3	928.7	3,105.8	1,176.4
2019	121.1	221.9	141.8	934.6	3,121.8	1,188.5
2020	121.3	222.4	142.3	940.5	3,137.5	1,200.8
2021	121.5	222.9	142.8	946.4	3,152.7	1,213.0
2022	121.6	223.3	143.2	952.4	3,166.5	1,225.0
2023	121.8	223.8	143.7	958.3	3,179.9	1,236.8
2024	121.9	224.2	144.1	964.3	3,192.6	1,248.6
2025	122.1	224.7	144.6	970.2	3,204.9	1,260.5
					3,219.6	1,272.7

\* 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
2001	545.4	53.5	598.9	483.6	182.3	665.9
2002	486.5	48.4	534.8	443.6	157.3	600.9
2003	482.8	50.6	533.4	453.4	154.8	608.2
2004	502.6	57.3	559.9	488.5	175.9	664.4
2005	523.1	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
2008E	522.3	74.3	596.6	522.0	231.3	753.2
<u>Forecast</u>						
2009	476.2	72.6	548.8	473.2	225.5	698.7
2010	485.1	74.3	559.4	484.7	232.2	716.9
2011	505.0	77.6	582.6	509.2	243.7	753.0
2012	530.5	81.3	611.8	539.8	256.5	796.3
2013	555.9	85.1	641.0	570.9	269.2	840.1
2014	569.0	89.1	658.1	589.1	282.7	871.8
2015	580.2	93.1	673.3	605.0	296.8	901.8
2016	593.1	97.3	690.4	622.7	311.6	934.3
2017	605.0	101.7	706.7	639.5	327.0	966.5
2018	615.1	106.1	721.2	654.5	343.0	997.5
2019	624.8	110.8	735.6	669.3	359.7	1,029.0
2020	635.3	115.7	750.9	685.1	377.2	1,062.2
2021	645.9	120.6	766.5	701.2	394.9	1,096.1
2022	656.7	125.7	782.4	717.6	413.1	1,130.8
2023	667.7	131.0	798.6	734.5	432.0	1,166.5
2024	678.8	136.5	815.3	751.8	451.9	1,203.6
2025	690.2	142.2	832.4	769.4	472.7	1,242.2
<b>Avg Annual Growth:</b>						
2000-08	-0.9%	4.3%	-0.4%	0.8%	3.1%	1.5%
2008-10	-3.6%	0.0%	-3.2%	-3.6%	0.2%	-2.4%
2010-20	2.7%	4.5%	3.0%	3.5%	5.0%	4.0%
2008-25	1.7%	3.9%	2.0%	2.3%	4.3%	3.0%

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

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

FISCAL YEAR	DOMESTIC				INTERNATIONAL				SYSTEM			
	ASMs (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMS (BIL)	% LOAD FACTOR	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			
2001	690.7	483.6	70.0	244.9	182.3	74.4	935.7	665.9	71.2			
2002	633.1	443.6	70.1	210.8	157.3	74.6	844.0	600.9	71.2			
2003	623.7	453.4	72.7	205.1	154.8	75.5	828.8	608.2	73.4			
2004	654.2	488.5	74.7	221.3	175.9	79.5	875.5	664.4	75.9			
2005	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			
2008E	651.0	522.0	80.2	289.3	231.3	79.9	940.3	753.2	80.1			
<u>Forecast</u>												
2009	589.1	473.2	80.3	286.5	225.5	78.7	875.6	698.7	79.8			
2010	602.4	484.7	80.5	294.7	232.2	78.8	897.1	716.9	79.9			
2011	623.6	509.2	81.7	309.1	243.7	78.8	932.7	753.0	80.7			
2012	654.5	539.8	82.5	325.0	256.5	78.9	979.5	796.3	81.3			
2013	687.6	570.9	83.0	340.8	269.2	79.0	1,028.4	840.1	81.7			
2014	709.2	589.1	83.1	357.6	282.7	79.1	1,066.8	871.8	81.7			
2015	729.3	605.0	83.0	375.2	296.8	79.1	1,104.4	901.8	81.7			
2016	748.9	622.7	83.2	393.5	311.6	79.2	1,142.4	934.3	81.8			
2017	768.5	639.5	83.2	412.6	327.0	79.2	1,181.2	966.5	81.8			
2018	788.6	654.5	83.0	432.5	343.0	79.3	1,221.1	997.5	81.7			
2019	809.1	669.3	82.7	453.2	359.7	79.4	1,262.4	1,029.0	81.5			
2020	830.2	685.1	82.5	474.9	377.2	79.4	1,305.1	1,062.2	81.4			
2021	851.8	701.2	82.3	496.9	394.9	79.5	1,348.7	1,096.1	81.3			
2022	874.0	717.6	82.1	519.3	413.1	79.5	1,393.3	1,130.8	81.2			
2023	896.7	734.5	81.9	542.7	432.0	79.6	1,439.4	1,166.5	81.0			
2024	920.1	751.8	81.7	567.2	451.9	79.7	1,487.3	1,203.6	80.9			
2025	944.0	769.4	81.5	593.0	472.7	79.7	1,537.0	1,242.2	80.8			
Avg Annual Growth:												
2000-08	-0.7%	0.8%		2.5%	3.1%		0.2%	1.5%				
2008-10	-3.8%	-3.6%		0.9%	0.2%		-2.3%	-2.4%				
2010-20	3.3%	3.5%		4.9%	5.0%		3.8%	4.0%				
2008-25	2.2%	2.3%		4.3%	4.3%		2.9%	3.0%				

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



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

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS (MIL)			TOTAL
	ATLANTIC	LATIN AMERICA	PACIFIC	
<u>Historical*</u>				
2000	20.9	21.2	11.2	53.3
2001	20.5	21.7	11.4	53.5
2002	18.0	20.7	9.6	48.4
2003	17.8	22.3	10.5	50.6
2004	19.9	25.2	12.3	57.3
2005	21.6	29.3	13.2	64.2
2006	22.5	31.7	13.9	68.1
2007	24.1	34.2	13.6	71.9
2008E	26.0	35.1	13.2	74.3
<u>Forecast</u>				
2009	25.5	34.7	12.3	72.6
2010	26.6	35.3	12.3	74.3
2011	28.2	36.7	12.7	77.6
2012	29.5	38.5	13.3	81.3
2013	30.7	40.6	13.9	85.1
2014	31.8	42.7	14.6	89.1
2015	33.0	44.8	15.4	93.1
2016	34.2	46.9	16.2	97.3
2017	35.5	49.1	17.1	101.7
2018	36.8	51.4	18.0	106.1
2019	38.1	53.7	18.9	110.8
2020	39.6	56.2	19.9	115.7
2021	40.9	58.8	20.9	120.6
2022	42.3	61.5	21.9	125.7
2023	43.7	64.3	23.0	131.0
2024	45.1	67.2	24.1	136.5
2025	46.6	70.3	25.3	142.2
<b>Avg Annual Growth:</b>				
2000-08	2.8%	6.5%	2.1%	4.3%
2008-10	1.2%	0.3%	-3.4%	0.0%
2010-20	4.0%	4.7%	4.9%	4.5%
2008-25	3.5%	4.2%	3.9%	3.9%

\* 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
2001	112.9	86.2	76.4	53.0	36.6	69.2	79.1	59.4	75.2	244.9	182.3	74.4
2002	97.0	74.7	77.0	50.6	33.6	66.5	63.2	49.0	77.5	210.8	157.3	74.6
2003	93.7	73.2	78.1	51.1	35.4	69.3	60.3	46.2	76.6	205.1	154.8	75.5
2004	100.5	82.1	81.7	57.2	40.3	70.4	63.6	53.5	84.2	221.3	175.9	79.5
2005	108.6	89.5	82.4	65.4	47.2	72.2	72.3	59.2	81.8	246.3	195.8	79.5
2006	115.8	93.9	81.1	69.4	51.9	74.9	73.7	61.1	82.8	258.9	206.8	79.9
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
2008E	141.0	112.7	80.0	73.4	58.2	79.3	74.9	60.4	80.6	289.3	231.3	79.9
<u>Forecast</u>												
2009	142.5	111.1	78.0	75.1	58.4	77.8	68.9	56.0	81.4	286.5	225.5	78.7
2010	149.4	116.6	78.1	76.5	59.5	77.8	68.8	56.0	81.4	294.7	232.2	78.8
2011	158.6	124.0	78.2	79.4	61.8	77.9	71.2	58.0	81.5	309.1	243.7	78.8
2012	167.1	130.8	78.3	83.5	65.1	77.9	74.4	60.7	81.5	325.0	256.5	78.9
2013	174.1	136.4	78.4	88.7	69.1	78.0	78.1	63.7	81.6	340.8	269.2	79.0
2014	181.2	142.1	78.5	94.2	73.5	78.0	82.2	67.1	81.6	357.6	282.7	79.1
2015	188.5	148.1	78.6	100.1	78.0	78.0	86.6	70.7	81.7	375.2	296.8	79.1
2016	196.2	154.3	78.7	106.1	82.7	78.0	91.3	74.6	81.7	393.5	311.6	79.2
2017	204.2	160.8	78.8	112.4	87.6	78.0	96.1	78.6	81.8	412.6	327.0	79.2
2018	212.3	167.4	78.9	119.0	92.8	78.0	101.3	82.8	81.8	432.5	343.0	79.3
2019	220.7	174.3	79.0	125.9	98.1	78.0	106.7	87.3	81.9	453.2	359.7	79.4
2020	229.5	181.4	79.1	133.2	103.8	78.0	112.2	91.9	81.9	474.9	377.2	79.4
2021	238.1	188.5	79.2	140.8	109.7	78.0	118.0	96.7	82.0	496.9	394.9	79.5
2022	246.6	195.4	79.3	148.8	116.0	78.0	123.9	101.7	82.0	519.3	413.1	79.5
2023	255.4	202.7	79.4	157.3	122.6	78.0	130.1	106.7	82.1	542.7	432.0	79.6
2024	264.5	210.2	79.5	166.2	129.6	78.0	136.5	112.1	82.1	567.2	451.9	79.7
2025	274.0	218.0	79.6	175.7	137.0	78.0	143.4	117.8	82.2	593.0	472.7	79.7
Avg Annual Growth:												
2000-08	3.2%	3.3%		4.5%	6.4%		-0.3%	0.4%		2.5%	3.1%	
2008-10	2.9%	1.7%		2.1%	1.2%		-4.2%	-3.6%		0.9%	0.2%	
2010-20	4.4%	4.5%		5.7%	5.7%		5.0%	5.1%		4.9%	5.0%	
2008-25	4.0%	4.0%		5.3%	5.2%		3.9%	4.0%		4.3%	4.3%	

\* 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	
2001	146.6	232.6	174.7	304.1	233.6	162.4	
2002	148.0	233.8	172.5	295.2	228.6	162.3	
2003	148.5	231.5	171.7	287.6	224.9	162.2	
2004	149.7	231.6	174.4	281.8	224.1	163.4	
2005	150.4	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	222.1	166.3	
2008E	150.0	229.2	177.8	280.6	223.4	166.9	
<u>Forecast</u>							
2009	149.2	229.7	178.3	281.4	222.7	167.3	
2010	149.7	230.2	178.8	282.1	223.1	167.9	
2011	150.0	230.7	179.3	282.9	223.7	168.4	
2012	149.5	231.2	179.8	283.6	224.2	168.1	
2013	148.9	231.7	180.3	284.4	224.6	167.6	
2014	148.4	232.2	180.8	285.1	224.9	167.5	
2015	148.5	232.7	181.3	285.9	225.3	168.0	
2016	148.9	233.2	181.8	286.6	225.8	168.7	
2017	149.3	233.7	182.3	287.4	226.2	169.5	
2018	149.5	234.2	182.8	288.1	226.6	170.0	
2019	149.7	234.7	183.3	288.9	227.0	170.6	
2020	150.0	235.2	183.8	289.6	227.5	171.2	
2021	150.2	235.7	184.3	290.4	227.9	171.8	
2022	150.4	236.2	184.8	291.1	228.3	172.3	
2023	150.6	236.7	185.3	291.9	228.7	172.9	
2024	150.8	237.2	185.8	292.6	229.1	173.4	
2025	151.0	237.7	186.3	293.4	229.5	173.9	

\* 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	
2001	886.7	4,211.8	1,688.3	5,228.8	3,405.0	1,111.9	
2002	911.8	4,147.5	1,622.5	5,077.6	3,251.5	1,123.5	
2003	939.1	4,105.4	1,588.3	4,419.6	3,061.0	1,140.2	
2004	972.0	4,125.7	1,599.7	4,365.7	3,068.3	1,186.6	
2005	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	3,054.5	1,237.3	
2008E	999.4	4,332.7	1,654.8	4,583.5	3,111.0	1,262.5	
<u>Forecast</u>							
2009	993.6	4,354.9	1,682.8	4,542.5	3,108.0	1,273.2	
2010	999.3	4,375.7	1,684.4	4,556.7	3,125.1	1,281.7	
2011	1,008.3	4,400.5	1,684.4	4,565.5	3,142.6	1,292.5	
2012	1,017.6	4,425.7	1,690.9	4,574.2	3,155.1	1,301.7	
2013	1,027.0	4,447.0	1,703.7	4,578.6	3,161.5	1,310.5	
2014	1,035.3	4,468.5	1,721.5	4,587.3	3,172.3	1,324.6	
2015	1,042.8	4,490.0	1,742.8	4,591.7	3,186.4	1,339.3	
2016	1,050.0	4,511.6	1,762.8	4,600.4	3,201.4	1,353.2	
2017	1,057.0	4,533.4	1,783.0	4,604.8	3,216.4	1,367.7	
2018	1,064.1	4,550.9	1,805.2	4,609.1	3,231.5	1,383.1	
2019	1,071.2	4,568.4	1,825.9	4,617.9	3,246.5	1,398.8	
2020	1,078.4	4,586.1	1,846.8	4,622.3	3,260.9	1,414.5	
2021	1,085.6	4,603.8	1,866.2	4,631.1	3,274.0	1,430.0	
2022	1,092.8	4,621.6	1,886.6	4,639.9	3,286.8	1,445.3	
2023	1,100.1	4,639.5	1,907.2	4,644.3	3,299.0	1,460.7	
2024	1,107.4	4,657.5	1,927.2	4,648.8	3,310.7	1,476.3	
2025	1,114.8	4,675.5	1,949.4	4,657.6	3,324.9	1,492.4	

\* 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 2008 \$ (Cents)	CURRENT \$ (Cents)	FY 2008 \$ (Cents)	CURRENT \$ (Cents)	FY 2008 \$ (Cents)	CURRENT \$ (Cents)	FY 2008 \$ (Cents)			
<u>Historical*</u>											
2000	14.03	17.62	10.46	13.12	13.06	16.41	13.06	16.41			
2001	13.53	16.46	10.34	12.58	12.66	15.40	12.66	15.40			
2002	12.12	14.53	9.78	11.72	11.51	13.79	11.51	13.79			
2003	12.08	14.14	9.92	11.62	11.53	13.50	11.53	13.50			
2004	11.52	13.18	10.47	11.99	11.24	12.87	11.24	12.87			
2005	11.45	12.69	10.87	12.05	11.29	12.51	11.29	12.51			
2006	12.36	13.21	11.63	12.43	12.15	12.99	12.15	12.99			
2007	12.45	13.00	12.45	13.01	12.45	13.00	12.45	13.00			
2008E	13.09	13.09	13.37	13.37	13.18	13.18	13.18	13.18			
<u>Forecast</u>											
2009	12.89	12.91	13.23	13.25	13.00	13.02	13.00	13.02			
2010	12.91	12.78	13.28	13.15	13.03	12.90	13.03	12.90			
2011	12.94	12.59	13.37	13.02	13.08	12.73	13.08	12.73			
2012	12.99	12.40	13.50	12.89	13.16	12.56	13.16	12.56			
2013	13.06	12.21	13.65	12.76	13.25	12.39	13.25	12.39			
2014	13.16	12.05	13.80	12.64	13.36	12.24	13.36	12.24			
2015	13.27	11.90	13.95	12.51	13.49	12.10	13.49	12.10			
2016	13.39	11.76	14.10	12.39	13.63	11.97	13.63	11.97			
2017	13.51	11.63	14.26	12.27	13.76	11.85	13.76	11.85			
2018	13.64	11.49	14.42	12.15	13.91	11.72	13.91	11.72			
2019	13.77	11.36	14.57	12.03	14.05	11.60	14.05	11.60			
2020	13.89	11.23	14.73	11.91	14.19	11.48	14.19	11.48			
2021	14.02	11.11	14.90	11.80	14.34	11.35	14.34	11.35			
2022	14.16	10.98	15.06	11.68	14.49	11.24	14.49	11.24			
2023	14.29	10.85	15.23	11.57	14.64	11.12	14.64	11.12			
2024	14.42	10.73	15.40	11.45	14.79	11.00	14.79	11.00			
2025	14.56	10.61	15.57	11.34	14.94	10.89	14.94	10.89			
Avg Annual Growth:											
2000-08	-0.9%	-3.6%	3.1%	0.2%	0.1%	-2.7%	0.1%	-2.7%			
2008-10	-0.7%	-1.2%	-0.3%	-0.8%	-0.6%	-1.1%	-0.6%	-1.1%			
2010-20	0.7%	-1.3%	1.0%	-1.0%	0.9%	-1.2%	0.9%	-1.2%			
2008-25	0.6%	-1.2%	0.9%	-1.0%	0.7%	-1.1%	0.7%	-1.1%			

\* 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 <sup>1</sup>		PACIFIC		TOTAL INTERNATIONAL			
	CURRENT \$ (Cents)	FY 2008 \$ (Cents)	CURRENT \$ (Cents)	FY 2008 \$ (Cents)	CURRENT \$ (Cents)	FY 2008 \$ (Cents)	CURRENT \$ (Cents)	FY 2008 \$ (Cents)	CURRENT \$ (Cents)	FY 2008 \$ (Cents)
<u>Historical*</u>										
2000	9.73	12.21	13.00	16.32	9.99	12.54	10.46	13.12	10.46	13.12
2001	9.71	11.82	13.38	16.28	9.38	11.41	10.34	12.58	10.34	12.58
2002	9.29	11.13	12.49	14.98	8.67	10.39	9.78	11.72	9.78	11.72
2003	9.60	11.24	12.40	14.52	8.53	9.99	9.92	11.62	9.92	11.62
2004	10.15	11.62	12.28	14.05	9.61	11.00	10.47	11.99	10.47	11.99
2005	10.75	11.91	12.16	13.48	10.04	11.12	10.87	12.05	10.87	12.05
2006	11.64	12.44	12.68	13.56	10.73	11.47	11.63	12.43	11.63	12.43
2007	12.46	13.01	13.37	13.96	11.61	12.13	12.45	13.01	12.45	13.01
2008E	13.29	13.29	14.19	14.19	12.73	12.73	13.37	13.37	13.37	13.37
<u>Forecast</u>										
2009	13.01	13.02	14.40	14.42	12.46	12.48	13.23	13.25	13.23	13.25
2010	13.09	12.96	14.42	14.27	12.48	12.35	13.28	13.15	13.28	13.15
2011	13.18	12.83	14.51	14.13	12.56	12.23	13.37	13.02	13.37	13.02
2012	13.30	12.70	14.65	13.99	12.68	12.10	13.50	12.89	13.50	12.89
2013	13.45	12.57	14.81	13.85	12.82	11.98	13.65	12.76	13.65	12.76
2014	13.59	12.45	14.97	13.71	12.95	11.86	13.80	12.64	13.80	12.64
2015	13.74	12.32	15.13	13.57	13.09	11.75	13.95	12.51	13.95	12.51
2016	13.89	12.20	15.29	13.44	13.23	11.63	14.10	12.39	14.10	12.39
2017	14.04	12.08	15.46	13.30	13.38	11.51	14.26	12.27	14.26	12.27
2018	14.19	11.96	15.63	13.17	13.52	11.40	14.42	12.15	14.42	12.15
2019	14.34	11.84	15.79	13.04	13.67	11.28	14.57	12.03	14.57	12.03
2020	14.50	11.72	15.97	12.91	13.82	11.17	14.73	11.91	14.73	11.91
2021	14.65	11.60	16.14	12.78	13.96	11.06	14.90	11.80	14.90	11.80
2022	14.81	11.49	16.31	12.65	14.12	10.95	15.06	11.68	15.06	11.68
2023	14.97	11.37	16.49	12.52	14.27	10.84	15.23	11.57	15.23	11.57
2024	15.13	11.26	16.67	12.40	14.42	10.73	15.40	11.45	15.40	11.45
2025	15.30	11.15	16.85	12.28	14.58	10.62	15.57	11.34	15.57	11.34
Avg Annual Growth:										
2000-08	4.0%	1.1%	1.1%	-1.7%	3.1%	0.2%	3.1%	0.2%	3.1%	0.2%
2008-10	-0.7%	-1.3%	0.8%	0.3%	-1.0%	-1.5%	-0.3%	-0.8%	-0.3%	-0.8%
2010-20	1.0%	-1.0%	1.0%	-1.0%	1.0%	-1.0%	1.0%	-1.0%	1.0%	-1.0%
2008-25	0.8%	-1.0%	1.0%	-0.8%	0.8%	-1.1%	0.9%	-1.0%	0.9%	-1.0%

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

<sup>1</sup> Mainline Air Carrier Only

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

FISCAL YEAR	DOMESTIC		INTERNATIONAL		SYSTEM	
	CURRENT \$	FY 2008 \$	CURRENT \$	FY 2008 \$	CURRENT \$	FY 2008 \$
	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)	(Cents)
<u>Historical*</u>						
2000	71.49	89.73	79.35	99.60	73.57	92.34
2001	82.35	100.20	86.10	104.76	83.37	101.44
2002	66.97	80.29	71.71	85.97	68.28	81.86
2003	82.22	96.29	86.01	100.73	83.28	97.53
2004	100.75	115.32	105.76	121.05	102.07	116.83
2005	149.39	165.57	157.26	174.29	151.58	167.99
2006	194.69	208.12	204.69	218.81	197.72	211.36
2007	194.01	202.64	203.29	212.33	196.90	205.66
2008E	291.13	291.13	314.43	314.43	298.78	298.78
<u>Forecast</u>						
2009	178.82	179.05	193.13	193.39	183.52	183.76
2010	175.56	173.78	189.61	187.68	180.17	178.34
2011	188.43	183.44	203.51	198.12	193.38	188.26
2012	197.32	188.40	213.12	203.47	202.51	193.35
2013	203.63	190.42	219.92	205.66	208.98	195.42
2014	209.04	191.46	225.77	206.78	214.53	196.49
2015	213.90	191.88	231.02	207.23	219.52	196.92
2016	218.28	191.78	235.74	207.12	224.01	196.82
2017	221.92	190.96	239.68	206.25	227.75	195.98
2018	225.38	189.95	243.41	205.16	231.30	194.94
2019	229.33	189.31	247.68	204.46	235.36	194.28
2020	232.44	187.93	251.05	202.97	238.55	192.87
2021	235.94	186.83	254.82	201.78	242.14	191.74
2022	239.57	185.81	258.74	200.68	245.87	190.69
2023	243.23	184.76	262.70	199.55	249.62	189.62
2024	246.97	183.74	266.73	198.45	253.46	188.57
2025	250.77	182.74	270.84	197.36	257.36	187.54
Avg Annual Growth:						
2000-08	19.2%	15.8%	18.8%	15.5%	19.1%	15.8%
2008-10	-22.3%	-22.7%	-22.3%	-22.7%	-22.3%	-22.7%
2010-20	2.8%	0.8%	2.8%	0.8%	2.8%	0.8%
2008-25	-0.9%	-2.7%	-0.9%	-2.7%	-0.9%	-2.7%

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

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

FISCAL YEAR	ALL-CARGO CARRIER RTMS (Millions)			PASSENGER CARRIER RTMS (Millions)			TOTAL RTMS (Millions)		
	DOMESTIC	INT'L.	TOTAL	DOMESTIC	INT'L.	TOTAL	DOMESTIC	INT'L.	TOTAL
<u>Historical*</u>									
2000	10,283.5	7,573.1	17,856.6	4,415.2	7,784.6	12,199.9	14,698.7	15,357.8	30,056.5
2001	9,992.3	7,380.0	17,372.4	3,945.6	7,166.9	11,112.5	13,937.9	14,547.0	28,484.9
2002	9,629.9	8,202.1	17,832.0	3,337.4	6,594.0	9,931.4	12,967.4	14,796.1	27,763.4
2003	11,153.4	11,766.8	22,920.2	3,819.1	6,775.1	10,594.2	14,972.4	18,541.9	33,514.4
2004	13,040.8	12,748.3	25,789.1	3,300.1	7,373.4	10,673.5	16,340.9	20,121.7	36,462.6
2005	13,007.9	14,581.2	27,589.0	3,081.7	8,547.7	11,629.5	16,089.6	23,128.9	39,218.5
2006	12,481.2	15,475.2	27,956.4	3,229.4	8,483.5	11,712.8	15,710.5	23,958.7	39,669.2
2007	12,792.7	16,163.1	28,955.9	3,025.3	8,051.3	11,076.6	15,818.0	24,214.4	40,032.4
2008E	12,160.4	15,595.4	27,755.8	2,148.0	9,026.3	11,174.3	14,308.4	24,621.7	38,930.0
<u>Forecast</u>									
2009	11,172.9	14,539.5	25,712.4	1,942.7	8,307.0	10,249.7	13,115.6	22,846.6	35,962.1
2010	11,478.6	15,336.2	26,814.8	1,964.3	8,649.1	10,613.4	13,442.9	23,985.3	37,428.1
2011	11,918.1	16,444.9	28,363.0	2,006.9	9,154.2	11,161.1	13,925.0	25,599.1	39,524.1
2012	12,327.3	17,674.8	30,002.1	2,042.2	9,711.0	11,753.2	14,369.5	27,385.8	41,755.3
2013	12,736.3	18,937.6	31,673.9	2,075.4	10,269.0	12,344.5	14,811.7	29,206.6	44,018.3
2014	13,065.1	20,255.6	33,320.7	2,093.7	10,839.9	12,933.6	15,158.9	31,095.5	46,254.3
2015	13,377.4	21,682.8	35,060.2	2,107.8	11,451.1	13,558.9	15,485.2	33,133.9	48,619.1
2016	13,698.2	23,183.4	36,881.6	2,121.8	12,081.9	14,203.7	15,820.0	35,265.2	51,085.3
2017	14,028.0	24,754.8	38,782.8	2,135.5	12,729.8	14,865.3	16,163.5	37,484.6	53,648.1
2018	14,366.8	26,419.6	40,786.4	2,149.0	13,405.0	15,554.0	16,515.8	39,824.6	56,340.4
2019	14,715.2	28,162.3	42,877.5	2,162.3	14,098.1	16,260.4	16,877.5	42,260.4	59,137.9
2020	15,073.1	29,979.9	45,053.0	2,175.4	14,806.3	16,981.7	17,248.5	44,786.2	62,034.7
2021	15,441.0	31,855.1	47,296.1	2,188.1	15,520.1	17,708.3	17,629.1	47,375.2	65,004.3
2022	15,819.1	33,843.1	49,662.2	2,200.6	16,265.1	18,465.7	18,019.6	50,108.3	68,127.9
2023	16,207.6	35,948.6	52,156.3	2,212.6	17,041.7	19,254.3	18,420.3	52,990.3	71,410.6
2024	16,607.0	38,198.0	54,805.0	2,224.4	17,860.1	20,084.5	18,831.4	56,058.1	74,889.5
2025	17,017.5	40,617.2	57,634.7	2,235.7	18,730.0	20,965.7	19,253.2	59,347.2	78,600.4
<b>Avg Annual Growth:</b>									
2000-08	2.1%	9.4%	5.7%	-8.6%	1.9%	-1.1%	-0.3%	6.1%	3.3%
2008-10	-2.8%	-0.8%	-1.7%	-4.4%	-2.1%	-2.5%	-3.1%	-1.3%	-1.9%
2010-20	2.8%	6.9%	5.3%	1.0%	5.5%	4.8%	2.5%	6.4%	5.2%
2008-25	2.0%	5.8%	4.4%	0.2%	4.4%	3.8%	1.8%	5.3%	4.2%

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

<sup>1</sup> Includes freight/express and mail revenue ton miles on mainline air carriers and regionals/commuters.

<sup>2</sup> Domestic figures from 2000 through this line exclude Airborne Express, Inc.; international figures for 2003 and beyond include new reporting of contract service by U.S. carriers for foreign flag carriers.

<sup>3</sup> Domestic figures from this line and beyond include Airborne Express, Inc.



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

CALENDAR YEAR	LARGE NARROWBODY				LARGE WIDEBODY				TOTAL	LARGE JETS	REGIONAL JETS	TOTAL JETS
	2 ENGINE	3 ENGINE	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	
2001	3,412	187	0	3,599	451	89	85	625	4,224	20	4,244	
2002	3,386	107	0	3,493	472	69	81	622	4,115	3	4,118	
2003	3,378	70	0	3,448	464	37	67	568	4,016	6	4,022	
2004	3,402	57	0	3,459	473	34	53	560	4,019	5	4,024	
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	
2008E	3,137	13	1	3,151	455	9	41	505	3,656	87	3,743	
<u>Forecast</u>												
2009	2,760	13	1	2,774	437	9	38	484	3,258	107	3,365	
2010	2,940	13	1	2,954	463	7	38	508	3,462	125	3,587	
2011	3,040	11	0	3,051	487	5	38	530	3,581	135	3,716	
2012	3,108	8	0	3,116	521	3	38	562	3,678	145	3,823	
2013	3,131	2	0	3,133	551	1	38	590	3,723	147	3,870	
2014	3,188	1	0	3,189	567	0	38	605	3,794	159	3,953	
2015	3,246	1	0	3,247	594	0	34	628	3,875	168	4,043	
2016	3,300	0	0	3,300	624	0	29	653	3,953	178	4,131	
2017	3,364	0	0	3,364	656	0	24	680	4,044	185	4,229	
2018	3,490	0	0	3,490	687	0	18	705	4,195	195	4,390	
2019	3,564	0	0	3,564	720	0	12	732	4,296	205	4,501	
2020	3,614	0	0	3,614	764	0	6	770	4,384	220	4,604	
2021	3,653	0	0	3,653	801	0	0	801	4,454	230	4,684	
2022	3,733	0	0	3,733	842	0	0	842	4,575	240	4,815	
2023	3,814	0	0	3,814	875	0	0	875	4,689	250	4,939	
2024	3,901	0	0	3,901	913	0	0	913	4,814	260	5,074	
2025	3,993	0	0	3,993	960	0	0	960	4,953	270	5,223	
<b>Avg Annual Growth:</b>												
2000-08	-0.9%	-34.5%	NA	-2.1%	0.9%	-30.7%	-12.6%	-4.2%	-2.5%	16.3%	-2.2%	
2008-10	-3.2%	0.0%	0.0%	-3.2%	0.9%	-11.8%	-3.7%	0.3%	-2.7%	19.9%	-2.1%	
2010-20	2.1%	NA	NA	2.0%	5.1%	NA	-16.9%	4.2%	2.4%	5.8%	2.5%	
2008-25	1.4%	NA	NA	1.4%	4.5%	NA	NA	3.9%	1.8%	6.9%	2.0%	

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

CALENDAR YEAR	LARGE NARROWBODY				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
2001	180	343	143	666	190	192	85	467	1,133
2002	175	315	114	604	214	165	73	452	1,056
2003	175	277	104	556	203	165	69	437	993
2004	174	277	102	553	202	163	75	440	993
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
2008E	162	149	63	374	272	212	91	575	949
<u>Forecast</u>									
2009	163	144	57	364	280	214	85	579	943
2010	168	134	49	351	299	221	84	604	955
2011	195	107	41	343	323	228	87	638	981
2012	239	79	29	347	340	233	89	662	1,009
2013	277	47	19	343	358	237	89	684	1,027
2014	315	20	9	344	381	241	100	722	1,066
2015	351	0	1	352	405	247	113	765	1,117
2016	373	0	0	373	420	248	124	792	1,165
2017	395	0	0	395	436	245	137	818	1,213
2018	413	0	0	413	453	242	150	845	1,258
2019	430	0	0	430	473	241	158	872	1,302
2020	448	0	0	448	491	241	166	898	1,346
2021	466	0	0	466	509	241	173	923	1,389
2022	485	0	0	485	533	241	181	955	1,440
2023	503	0	0	503	555	241	188	984	1,487
2024	522	0	0	522	577	241	196	1,014	1,536
2025	540	0	0	540	600	241	203	1,044	1,584
<b>Avg Annual Growth:</b>									
2000-08	-0.3%	-9.5%	-12.1%	-7.1%	6.5%	3.7%	3.7%	5.0%	-1.4%
2008-10	1.8%	-5.2%	-11.8%	-3.1%	4.8%	2.1%	-3.9%	2.5%	0.3%
2010-20	10.3%	NA	-100.0%	2.5%	5.1%	0.9%	7.0%	4.0%	3.5%
2008-25	7.3%	NA	NA	2.2%	4.8%	0.8%	4.8%	3.6%	3.1%

**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	TOTAL	AIR CARRIER	GENERAL AVIATION	TOTAL	
	DOMESTIC	INT'L.							
<u>Historical*</u>									
2000	14,746	5,297	20,043	972	21,015	2	333	335	21,350
2001	14,469	5,395	19,864	918	20,782	2	279	281	21,064
2002	12,653	4,844	17,497	938	18,435	2	277	279	18,714
2003	12,886	4,990	17,876	932	18,808	2	272	274	19,083
2004	13,502	4,835	18,337	1,231	19,568	2	273	275	19,843
2005	13,978	5,378	19,356	1,449	20,805	2	363	365	21,170
2006	13,461	5,851	19,313	1,569	20,881	2	352	354	21,235
2007	13,538	6,045	19,583	1,543	21,127	2	351	353	21,479
2008E	13,060	6,279	19,339	1,550	20,889	2	349	351	21,240
<u>Forecast</u>									
2009	11,322	6,375	17,696	1,656	19,353	2	345	347	19,700
2010	11,435	6,462	17,897	1,742	19,638	2	344	346	19,985
2011	11,706	6,678	18,383	1,823	20,206	2	342	344	20,550
2012	12,131	6,917	19,048	1,901	20,949	2	336	338	21,287
2013	12,584	7,145	19,729	1,982	21,711	2	331	333	22,045
2014	12,837	7,386	20,222	2,065	22,287	2	328	330	22,617
2015	13,050	7,634	20,683	2,142	22,825	2	326	328	23,153
2016	13,247	7,889	21,136	2,214	23,349	2	326	328	23,677
2017	13,440	8,149	21,589	2,286	23,875	2	327	329	24,204
2018	13,634	8,414	22,048	2,358	24,406	2	328	330	24,736
2019	13,831	8,685	22,517	2,426	24,943	2	329	331	25,274
2020	14,032	8,965	22,997	2,499	25,496	2	329	331	25,827
2021	14,236	9,241	23,477	2,573	26,050	2	329	331	26,381
2022	14,444	9,515	23,959	2,646	26,605	2	331	333	26,937
2023	14,656	9,796	24,453	2,720	27,173	2	335	337	27,510
2024	14,873	10,087	24,959	2,795	27,755	2	340	342	28,096
2025	15,093	10,388	25,482	2,868	28,350	2	346	348	28,697
Avg Annual Growth:									
2000-08	-1.5%	2.1%	-0.4%	6.0%	-0.1%	0.0%	0.6%	0.6%	-0.1%
2008-10	-6.4%	1.4%	-3.8%	6.0%	-3.0%	0.0%	-0.6%	-0.6%	-3.0%
2010-20	2.1%	3.3%	2.5%	3.7%	2.6%	0.0%	-0.5%	-0.4%	2.6%
2008-25	0.9%	3.0%	1.6%	3.7%	1.8%	0.0%	-0.1%	-0.1%	1.8%

\* 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)	2008\$ (Cents)
<b>Historical*</b>								
2000	38.4	41.8	38.5	286.5	260.0	285.5	30.28	38.03
2001	40.5	43.0	40.6	302.1	302.9	302.1	31.65	38.51
2002	42.8	41.0	42.8	336.3	320.4	335.8	27.49	32.96
2003	44.3	55.8	44.5	373.9	302.0	372.1	25.74	30.14
2004	46.6	53.9	46.8	410.9	352.9	409.4	23.98	27.45
2005	48.6	52.4	48.7	434.7	434.2	434.7	19.67	21.80
2006	49.3	52.2	49.4	450.4	467.2	450.7	19.88	21.25
2007	49.9	54.0	50.0	451.5	518.1	452.9	20.18	21.07
2008E	52.8	54.3	52.8	460.4	523.1	461.7	21.52	21.52
<b>Forecast</b>								
2009	53.7	54.6	53.7	453.6	528.1	455.2	21.98	22.01
2010	54.6	54.9	54.7	462.0	533.1	463.6	21.27	21.05
2011	55.4	55.2	55.4	470.5	538.1	472.0	21.26	20.69
2012	56.2	55.5	56.2	479.0	543.1	480.4	21.28	20.32
2013	56.8	55.8	56.8	487.5	548.1	488.8	21.34	19.95
2014	57.6	56.1	57.5	495.9	553.1	497.2	21.42	19.62
2015	58.3	56.4	58.2	504.4	558.1	505.6	21.54	19.32
2016	59.0	56.7	58.9	512.9	563.1	513.9	21.67	19.04
2017	59.7	57.0	59.7	521.3	568.1	522.3	21.80	18.76
2018	60.5	57.3	60.4	529.8	573.1	530.7	21.94	18.49
2019	61.2	57.6	61.1	538.3	578.1	539.1	22.08	18.22
2020	62.0	57.9	61.9	546.8	583.1	547.5	22.21	17.96
2021	62.7	58.2	62.6	555.2	588.1	555.9	22.35	17.70
2022	63.4	58.5	63.3	563.7	593.1	564.3	22.49	17.44
2023	64.1	58.8	64.0	572.2	598.1	572.7	22.63	17.19
2024	64.8	59.1	64.7	580.6	603.1	581.1	22.77	16.94
2025	65.6	59.4	65.4	589.1	608.1	589.5	22.91	16.70
<b>Avg Annual Growth:</b>								
2000-08	4.0%	3.3%	4.0%	6.1%	9.1%	6.2%	-4.2%	-6.9%
2008-10	1.7%	0.6%	1.7%	0.2%	1.0%	0.2%	-0.6%	-1.1%
2010-20	1.3%	0.5%	1.2%	1.7%	0.9%	1.7%	0.4%	-1.6%
2008-25	1.3%	0.5%	1.3%	1.5%	0.9%	1.4%	0.4%	-1.5%

\* 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
2001	80.4	3.1	83.6	24,299	947	25,246
2002	88.6	2.8	91.5	29,807	911	30,718
2003	105.0	2.8	107.8	39,259	837	40,096
2004	125.9	3.1	129.1	51,737	1,108	52,845
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
2008E	157.4	3.4	160.8	72,442	1,802	74,244
<u>Forecast</u>						
2009	150.3	3.3	153.5	68,150	1,737	69,887
2010	153.8	3.4	157.2	71,056	1,795	72,851
2011	160.6	3.5	164.1	75,545	1,892	77,437
2012	168.1	3.7	171.8	80,534	1,999	82,533
2013	176.3	3.9	180.1	85,917	2,115	88,032
2014	183.4	4.0	187.4	90,940	2,221	93,161
2015	189.8	4.2	193.9	95,719	2,319	98,038
2016	196.0	4.3	200.3	100,511	2,416	102,927
2017	202.3	4.4	206.7	105,450	2,516	107,966
2018	208.8	4.6	213.3	110,600	2,619	113,219
2019	215.5	4.7	220.2	115,992	2,727	118,719
2020	222.5	4.9	227.4	121,642	2,840	124,483
2021	229.8	5.0	234.8	127,565	2,958	130,524
2022	237.3	5.2	242.5	133,775	3,082	136,857
2023	245.2	5.4	250.6	140,287	3,211	143,497
2024	253.4	5.5	258.9	147,114	3,345	150,460
2025	261.9	5.7	267.6	154,273	3,487	157,759
Avg Annual Growth:						
2000-08	8.9%	1.2%	8.7%	15.5%	10.4%	15.4%
2008-10	-1.1%	-1.1%	-1.1%	-1.0%	-0.2%	-0.9%
2010-20	3.8%	3.8%	3.8%	5.5%	4.7%	5.5%
2008-25	3.0%	3.0%	3.0%	4.5%	4.0%	4.5%

\* 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
2001	41,418	24,299	58.7	1,633	947	58.0	43,051	25,246	58.6
2002	48,660	29,807	61.3	1,492	911	61.1	50,152	30,718	61.3
2003	60,491	39,259	64.9	1,447	837	57.8	61,938	40,096	64.7
2004	76,015	51,737	68.1	1,748	1,108	63.4	77,763	52,845	68.0
2005	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
2008E	98,368	72,442	73.6	2,575	1,802	70.0	100,943	74,244	73.6
<u>Forecast</u>									
2009	92,909	68,150	73.4	2,465	1,737	70.5	95,374	69,887	73.3
2010	96,849	71,056	73.4	2,529	1,795	71.0	99,378	72,851	73.3
2011	102,948	75,545	73.4	2,646	1,892	71.5	105,594	77,437	73.3
2012	109,725	80,534	73.4	2,777	1,999	72.0	112,502	82,533	73.4
2013	117,039	85,917	73.4	2,918	2,115	72.5	119,957	88,032	73.4
2014	123,862	90,940	73.4	3,043	2,221	73.0	126,905	93,161	73.4
2015	130,351	95,719	73.4	3,156	2,319	73.5	133,507	98,038	73.4
2016	136,859	100,511	73.4	3,266	2,416	74.0	140,125	102,927	73.5
2017	143,565	105,450	73.5	3,378	2,516	74.5	146,942	107,966	73.5
2018	150,558	110,600	73.5	3,493	2,619	75.0	154,051	113,219	73.5
2019	157,880	115,992	73.5	3,613	2,727	75.5	161,494	118,719	73.5
2020	165,553	121,642	73.5	3,738	2,840	76.0	169,292	124,483	73.5
2021	173,597	127,565	73.5	3,868	2,958	76.5	177,465	130,524	73.5
2022	182,031	133,775	73.5	4,003	3,082	77.0	186,034	136,857	73.6
2023	190,874	140,287	73.5	4,144	3,211	77.5	195,018	143,497	73.6
2024	200,147	147,114	73.5	4,290	3,345	78.0	204,437	150,460	73.6
2025	209,869	154,273	73.5	4,443	3,487	78.5	214,312	157,759	73.6
<b>Avg Annual Growth:</b>									
2000–08	12.5%	15.5%		8.5%	10.4%		12.4%	15.4%	
2008–10	-0.8%	-1.0%		-0.9%	-0.2%		-0.8%	-0.9%	
2010–20	5.5%	5.5%		4.0%	4.7%		5.5%	5.5%	
2008–25	4.6%	4.5%		3.3%	4.0%		4.5%	4.5%	

\* 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
2001	490	250	248	445	110	555	148	672	820	1,581	782	2,363
2002	490	253	194	396	118	514	128	920	1048	1,461	1,038	2,499
2003	447	246	137	280	116	396	106	1,217	1323	1,216	1,333	2,549
2004	451	237	108	280	96	376	89	1,486	1,575	1,165	1,582	2,747
2005	449	220	99	253	98	351	81	1,630	1,711	1,102	1,728	2,830
2006	453	204	88	224	96	320	87	1,632	1,719	1,056	1,728	2,784
2007	453	172	79	228	98	326	101	1,656	1,757	1,033	1,754	2,787
2008E	451	107	68	180	38	218	121	1,617	1,738	927	1,655	2,582
<u>Forecast</u>												
2009	428	102	65	175	24	199	135	1,400	1,535	905	1,424	2,329
2010	410	97	62	169	9	178	150	1,529	1,679	888	1,538	2,426
2011	388	92	58	164	4	168	164	1,581	1,745	866	1,585	2,451
2012	370	88	56	157	4	161	180	1,658	1,838	851	1,662	2,513
2013	347	82	52	151	0	151	192	1,728	1,920	824	1,728	2,552
2014	329	78	50	146	0	146	206	1,791	1,997	809	1,791	2,600
2015	307	73	46	140	0	140	221	1,789	2,010	787	1,789	2,576
2016	284	67	43	135	0	135	234	1,781	2,015	763	1,781	2,544
2017	266	63	40	130	0	130	246	1,785	2,031	745	1,785	2,530
2018	244	58	37	124	0	124	260	1,753	2,013	723	1,753	2,476
2019	244	58	37	119	0	119	278	1,777	2,055	736	1,777	2,513
2020	239	57	36	113	0	113	295	1,831	2,126	740	1,831	2,571
2021	239	57	36	108	0	108	313	1,898	2,211	753	1,898	2,651
2022	235	56	35	103	0	103	332	1,977	2,309	761	1,977	2,738
2023	235	56	35	97	0	97	348	2,065	2,413	771	2,065	2,836
2024	230	55	35	94	0	94	362	2,156	2,518	776	2,156	2,932
2025	226	54	34	90	0	90	380	2,249	2,629	784	2,249	3,033
Avg Annual Growth:												
2000-08	-0.5%	-13.6%	-15.5%	-11.4%	-8.0%	-10.9%	-3.0%	15.9%	13.1%	-7.3%	14.3%	1.6%
2008-10	-4.7%	-4.8%	-4.5%	-3.1%	-51.3%	-9.6%	11.3%	-2.8%	-1.7%	-2.1%	-3.6%	-3.1%
2010-20	-5.3%	-5.2%	-5.3%	-3.9%	-100.0%	-4.4%	7.0%	1.8%	2.4%	-1.8%	1.8%	0.6%
2008-25	-4.0%	-3.9%	-4.0%	-4.0%	-100.0%	-5.1%	7.0%	2.0%	2.5%	-1.0%	1.8%	1.0%

\*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			EXPERI- MENTAL	SPORT AIRCRAFT	OTHER	TOTAL GENERAL AVIATION FLEET	TOTAL PISTONS	TOTAL TURBINES
	PISTON			TURBINE			TOTAL	PISTON	TURBINE	TOTAL									
	SINGLE ENGINE	MULTI- ENGINE	TOTAL	TURBO PROP	TURBO JET	TOTAL													
											TOTAL								
<u>Historical*</u>																			
2000	149,422	21,091	170,513	5,762	7,001	12,763	2,680	4,470	7,150	20,407	NA	6,700	217,533	173,193	17,233				
2001	145,034	18,192	163,226	6,596	7,787	14,383	2,292	4,491	6,783	20,421	NA	6,633	211,446	165,518	18,874				
2002	143,503	17,483	160,986	6,841	8,355	15,196	2,351	4,297	6,648	21,936	NA	6,478	211,244	163,337	19,493				
2003	143,265	17,491	160,756	7,689	7,997	15,686	2,123	4,403	6,526	20,550	NA	6,088	209,606	162,879	20,089				
2004	146,613	18,469	165,082	8,379	9,298	17,677	2,315	5,506	7,821	22,800	NA	5,939	219,319	167,397	23,183				
2005	148,101	19,412	167,513	7,942	9,823	17,765	3,039	5,689	8,728	23,627	170	6,459	224,262	170,552	23,454				
2006	145,036	18,708	163,744	8,063	10,379	18,442	3,264	5,895	9,159	23,047	1,273	6,277	221,942	167,008	24,337				
2007	147,569	19,337	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				
2008E	146,590	19,130	165,720	9,600	11,400	21,000	3,070	7,145	10,215	24,100	6,965	6,015	234,015	168,790	28,145				
<u>Forecast</u>																			
2009	145,735	18,965	164,700	9,665	12,325	21,990	3,320	7,440	10,760	24,860	7,865	6,060	236,235	168,020	29,430				
2010	144,960	18,795	163,755	9,740	13,155	22,895	3,565	7,735	11,300	25,615	8,765	6,085	238,415	167,320	30,630				
2011	144,250	18,630	162,880	9,860	13,945	23,805	3,790	8,010	11,800	26,360	9,765	6,095	240,705	166,670	31,815				
2012	143,775	18,455	162,230	10,015	14,710	24,725	3,995	8,265	12,260	27,100	10,765	6,090	243,170	166,225	32,990				
2013	143,510	18,275	161,785	10,180	15,530	25,710	4,190	8,510	12,700	27,780	11,665	6,080	245,720	165,975	34,220				
2014	143,505	18,095	161,600	10,360	16,325	26,685	4,380	8,750	13,130	28,455	12,165	6,070	248,105	165,980	35,435				
2015	143,530	17,910	161,440	10,540	17,100	27,640	4,550	8,970	13,520	29,125	12,665	6,060	250,450	165,990	36,610				
2016	143,575	17,720	161,295	10,740	17,870	28,610	4,705	9,175	13,880	29,735	13,065	6,050	252,635	166,000	37,785				
2017	143,720	17,540	161,260	10,935	18,635	29,570	4,850	9,370	14,220	30,340	13,465	6,040	254,895	166,110	38,940				
2018	144,030	17,345	161,375	11,125	19,390	30,515	4,985	9,550	14,535	30,940	13,765	6,030	257,160	166,360	40,065				
2019	144,440	17,155	161,595	11,310	20,150	31,460	5,115	9,735	14,850	31,485	14,065	6,020	259,475	166,710	41,195				
2020	144,880	16,965	161,845	11,480	20,945	32,425	5,250	9,920	15,170	32,025	14,365	6,010	261,840	167,095	42,345				
2021	145,415	16,770	162,185	11,650	21,765	33,415	5,385	10,110	15,495	32,555	14,665	6,005	264,320	167,570	43,525				
2022	146,050	16,585	162,635	11,810	22,610	34,420	5,520	10,300	15,820	33,080	14,965	6,000	266,920	168,155	44,720				
2023	146,780	16,395	163,175	11,965	23,455	35,420	5,655	10,490	16,145	33,600	15,265	5,995	269,600	168,850	45,910				
2024	147,610	16,205	163,815	12,110	24,310	36,420	5,790	10,680	16,470	34,115	15,565	5,990	272,375	169,605	47,100				
2025	148,545	16,005	164,550	12,245	25,165	37,410	5,925	10,870	16,795	34,625	15,865	5,985	275,230	170,475	48,280				
Avg Annual Growth:																			
2000-08	-0.2%	-1.2%	-0.4%	6.6%	6.3%	6.4%	1.7%	6.0%	4.6%	2.1%	12.2%	-1.3%	0.9%	-0.3%	6.3%				
2008-10	-0.6%	-0.9%	-0.6%	0.7%	7.4%	4.4%	7.8%	4.0%	5.2%	3.1%	5.1%	0.6%	0.9%	-0.4%	4.3%				
2010-20	0.0%	-1.0%	-0.1%	1.7%	4.8%	3.5%	3.9%	2.5%	3.0%	2.3%	5.0%	-0.1%	0.9%	0.0%	3.3%				
2008-25	0.1%	-1.0%	0.0%	1.4%	4.8%	3.5%	3.9%	2.5%	3.0%	2.2%	5.0%	0.0%	1.0%	0.1%	3.2%				

\* Source: 2000-2007, 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			SPORT AIRCRAFT	OTHER	TOTAL GENERAL AVIATION HOURS	TOTAL PISTONS	TOTAL TURBINES
	PISTON			TURBINE			TOTAL	PISTON	TURBINE	TOTAL	EXPERIMENTAL							
	SINGLE ENGINE	MULTI-ENGINE	TOTAL	TURBO PROP	TURBO JET	TOTAL												
<i>Historical*</i>																		
2000	18,089	3,400	21,489	1,986	2,755	4,741	530	1,661	2,191	1,307	NA	374	30,102	22,019	6,402			
2001	16,549	2,644	19,193	1,773	2,654	4,427	474	1,478	1,952	1,157	NA	287	27,016	19,667	5,905			
2002	16,325	2,566	18,891	1,850	2,745	4,595	453	1,422	1,875	1,345	NA	333	27,039	19,344	6,017			
2003	16,680	2,317	18,997	1,922	2,704	4,626	448	1,687	2,135	1,293	NA	264	27,315	19,445	6,313			
2004	15,363	2,763	18,126	2,161	3,719	5,880	514	2,020	2,534	1,322	NA	249	28,111	18,640	7,900			
2005	13,739	2,677	16,416	2,160	3,767	5,927	678	2,438	3,116	1,340	9	271	27,078	17,094	8,365			
2006	13,976	2,550	16,525	2,162	4,077	6,240	918	2,528	3,446	1,218	66	211	27,705	17,443	8,767			
2007	13,571	2,686	16,257	2,661	3,938	6,599	704	2,541	3,245	1,275	260	215	27,852	16,961	9,141			
2008E	13,530	2,591	16,121	2,594	4,043	6,637	703	2,484	3,187	1,316	305	219	27,784	16,824	9,121			
<i>Forecast</i>																		
2009	13,289	2,529	15,818	2,614	4,427	7,041	730	2,509	3,238	1,351	351	222	28,020	16,548	9,549			
2010	13,150	2,479	15,629	2,640	4,745	7,384	785	2,615	3,400	1,385	399	224	28,420	16,414	9,999			
2011	12,973	2,394	15,367	2,688	5,040	7,728	837	2,714	3,552	1,432	453	225	28,757	16,204	10,443			
2012	12,866	2,323	15,189	2,737	5,333	8,070	885	2,808	3,692	1,480	509	226	29,166	16,074	10,877			
2013	12,804	2,262	15,067	2,775	5,651	8,426	930	2,898	3,828	1,524	563	227	29,635	15,997	11,324			
2014	12,791	2,203	14,994	2,814	5,973	8,786	975	2,988	3,962	1,569	599	227	30,138	15,969	11,774			
2015	12,867	2,161	15,028	2,849	6,283	9,132	1,015	3,070	4,085	1,614	636	228	30,723	16,043	12,202			
2016	12,935	2,126	15,061	2,877	6,590	9,468	1,052	3,148	4,201	1,656	669	229	31,283	16,113	12,616			
2017	13,071	2,111	15,182	2,911	6,898	9,809	1,087	3,223	4,311	1,698	704	230	31,934	16,270	13,033			
2018	13,210	2,080	15,290	2,956	7,204	10,160	1,121	3,293	4,414	1,741	734	231	32,569	16,411	13,453			
2019	13,353	2,046	15,400	3,004	7,512	10,515	1,153	3,366	4,518	1,780	765	231	33,209	16,552	13,881			
2020	13,498	2,011	15,509	3,041	7,835	10,875	1,186	3,438	4,624	1,820	796	232	33,856	16,695	14,313			
2021	13,617	1,960	15,577	3,068	8,168	11,237	1,220	3,513	4,732	1,859	829	233	34,467	16,796	14,750			
2022	13,800	1,939	15,739	3,110	8,513	11,623	1,253	3,588	4,841	1,898	863	234	35,199	16,992	15,211			
2023	14,044	1,962	16,006	3,153	8,860	12,013	1,287	3,663	4,950	1,938	898	235	36,040	17,293	15,676			
2024	14,312	1,985	16,297	3,190	9,214	12,404	1,321	3,739	5,060	1,977	934	236	36,908	17,618	16,143			
2025	14,643	2,019	16,663	3,219	9,569	12,788	1,355	3,815	5,170	2,017	971	237	37,846	18,018	16,602			
<b>Avg Annual Growth:</b>																		
2000-08	-3.6%	-3.3%	-3.5%	3.4%	4.9%	4.3%	3.6%	5.2%	4.8%	0.1%	-6.5%	-1.0%	-1.0%	-3.3%	4.5%			
2008-10	-1.4%	-2.2%	-1.5%	0.9%	8.3%	5.5%	5.7%	2.6%	3.3%	2.6%	14.4%	1.1%	1.1%	-1.2%	4.7%			
2010-20	0.3%	-2.1%	-0.1%	1.4%	5.1%	3.9%	4.2%	2.8%	3.1%	2.8%	7.2%	1.8%	1.8%	0.2%	3.7%			
2008-25	0.5%	-1.5%	0.2%	1.3%	5.2%	3.9%	3.9%	2.6%	2.9%	2.5%	7.1%	1.8%	1.8%	0.4%	3.6%			

\* Source: 2000-2007, 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	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
2001	94,420	316	NA	243,823	120,502	144,702	7,727	8,473	619,963	475,276	315,276
2002	85,991	317	NA	245,230	125,920	144,708	7,770	21,826.2/	609,936	465,228	317,389
2003	87,296	310	NA	241,045	123,990	143,504	7,916	20,950	625,011	481,507	315,413
2004	87,910	291	NA	235,994	122,592	142,160	8,586	21,100	618,633	476,473	313,545
2005	87,213	278	134	228,619	120,614	141,992	9,518	21,369	609,737	467,745	311,500
2006	84,866	239	939	219,233	117,610	141,935	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
2008E	80,989	252	2,623	222,596	124,746	146,838	14,647	21,055	613,746	466,908	325,247
<u>Forecast</u>											
2009	76,300	250	6,500	226,650	125,400	147,650	15,390	21,830	619,970	472,320	323,500
2010	72,050	250	8,500	224,400	124,450	148,400	15,680	21,980	615,710	467,310	321,800
2011	72,800	250	10,200	218,050	125,050	149,100	15,810	22,080	613,340	464,240	320,100
2012	73,550	250	11,000	212,500	123,100	149,700	15,870	22,120	608,090	458,390	321,800
2013	74,300	250	11,550	210,250	120,000	150,300	15,890	22,150	604,690	454,390	323,500
2014	75,250	250	12,150	209,850	117,300	150,850	15,900	22,170	603,720	452,870	325,200
2015	76,200	250	12,800	210,250	119,050	151,350	15,910	22,190	608,000	456,650	326,900
2016	77,200	250	13,450	211,100	120,800	151,800	15,940	22,220	612,760	460,960	328,600
2017	78,200	250	14,150	212,200	122,550	152,250	16,050	22,240	617,890	465,640	331,100
2018	79,200	250	14,900	213,450	124,450	152,700	16,200	22,260	623,410	470,710	333,600
2019	80,200	250	15,650	214,750	126,350	153,150	16,390	22,290	629,030	475,880	336,200
2020	81,250	250	16,450	216,100	128,350	153,600	16,600	22,310	634,910	481,310	338,800
2021	82,300	250	17,200	217,500	130,400	154,050	16,820	22,350	640,870	486,820	342,200
2022	83,350	250	18,000	218,950	132,450	154,450	17,060	22,390	646,900	492,450	345,700
2023	84,400	250	18,850	220,400	134,500	154,850	17,310	22,440	653,000	498,150	349,200
2024	85,500	250	19,700	221,900	136,600	155,250	17,570	22,480	659,250	504,000	352,700
2025	86,600	250	20,600	223,400	138,700	155,650	17,830	22,520	665,550	509,900	356,300
<u>Avg Annual Growth:</u>											
2000-08	-1.7%	-3.7%		-1.5%	0.3%	0.5%	8.2%	10.6%	-0.2%	-0.4%	0.5%
2008-10	-5.7%	-0.4%	80.0%	0.4%	-0.1%	0.5%	3.5%	2.2%	0.2%	0.0%	-0.5%
2010-20	1.2%	0.0%	6.8%	-0.4%	0.3%	0.3%	0.6%	0.1%	0.3%	0.3%	0.5%
2008-25	0.4%	0.0%	12.9%	0.0%	0.6%	0.3%	1.2%	0.4%	0.5%	0.5%	0.5%

\* 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.

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	TURBO-PROP	TURBO-JET									
<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		
2001	180.4	76.4	149.1	726.7	7.2	42.6	15.3	NA	279.2	918.4	1,197.6		
2002	177.9	74.2	152.3	745.5	6.9	40.5	17.8	NA	276.7	938.3	1,215.0		
2003	181.8	66.7	154.5	729.0	6.8	48.8	17.1	NA	272.4	932.3	1,204.7		
2004	167.5	80.1	167.0	1,004.9	7.9	59.0	17.5	NA	272.9	1,230.9	1,503.8		
2005	218.4	111.9	196.1	1,181.3	13.3	71.7	17.7	0.0	361.3	1,449.2	1,810.4		
2006	208.2	104.8	190.1	1,303.9	16.7	74.8	21.6	0.3	351.6	1,568.8	1,920.4		
2007	203.2	110.9	233.9	1,234.3	12.8	75.2	22.6	1.4	350.9	1,543.5	1,894.4		
2008E	203.6	107.6	228.0	1,248.1	12.8	73.5	23.3	1.6	348.9	1,549.7	1,898.5		
<u>Forecast</u>													
2009	201.0	105.5	229.7	1,353.0	13.2	73.8	23.8	1.9	345.4	1,656.5	2,001.8		
2010	199.9	103.9	229.7	1,435.5	14.2	76.3	24.4	2.1	344.5	1,741.6	2,086.1		
2011	198.2	100.9	234.0	1,509.6	15.2	79.0	25.2	2.4	341.8	1,822.5	2,164.3		
2012	194.6	96.9	238.2	1,581.3	15.9	81.4	25.9	2.6	336.0	1,900.9	2,236.9		
2013	191.7	93.4	239.1	1,658.9	16.8	83.8	26.7	2.9	331.5	1,981.8	2,313.3		
2014	189.6	90.1	242.4	1,735.8	17.6	86.3	27.5	3.1	327.8	2,064.6	2,392.4		
2015	188.8	87.5	245.4	1,807.9	18.2	88.7	28.1	3.2	325.9	2,142.0	2,467.9		
2016	188.9	85.6	245.4	1,877.2	18.9	91.0	28.9	3.4	325.6	2,213.6	2,539.3		
2017	189.9	84.6	248.3	1,945.3	19.5	92.8	29.6	3.6	327.2	2,286.4	2,613.6		
2018	191.0	82.9	252.1	2,011.2	20.0	94.8	30.2	3.7	327.8	2,358.2	2,686.0		
2019	192.1	81.2	253.6	2,076.2	20.6	96.6	30.9	3.8	328.5	2,426.4	2,754.9		
2020	193.2	79.4	256.7	2,143.8	21.2	98.7	31.6	4.0	329.3	2,499.2	2,828.4		
2021	193.9	77.0	259.1	2,212.8	21.8	100.8	32.3	4.1	329.0	2,572.7	2,901.7		
2022	195.5	75.8	260.0	2,283.1	22.8	102.5	32.8	4.2	330.5	2,645.5	2,976.1		
2023	198.0	76.3	263.5	2,352.3	22.8	104.6	33.5	4.4	335.0	2,720.5	3,055.5		
2024	200.8	76.8	266.7	2,421.9	23.4	106.8	34.1	4.6	339.7	2,795.3	3,135.0		
2025	204.4	77.7	269.1	2,490.0	24.1	108.9	34.8	4.8	345.8	2,868.0	3,213.8		
Avg Annual Growth:													
2000-08	0.2%	-0.1%	3.3%	6.8%	5.4%	2.8%	5.5%		0.6%	6.0%	4.8%		
2008-10	-0.9%	-1.7%	0.4%	7.2%	5.5%	1.9%	2.3%	13.3%	-0.6%	6.0%	4.8%		
2010-20	-0.3%	-2.7%	1.1%	4.1%	4.0%	2.6%	2.6%	6.7%	-0.5%	3.7%	3.1%		
2008-25	0.0%	-1.9%	1.0%	4.1%	3.8%	2.3%	2.4%	6.6%	-0.1%	3.7%	3.1%		

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			TOTAL	NUMBER OF TOWERS	
			ITINERANT	LOCAL	TOTAL	ITINERANT	LOCAL	TOTAL		FAA	CONTRACT
<u>Historical*</u>											
2000	15,158.7	10,760.6	22,844.1	17,034.4	39,878.5	1,422.0	1,448.2	2,870.2	68,668.0	266	192
2001	14,762.8	10,882.1	21,433.3	16,193.7	37,627.0	1,493.0	1,437.6	2,930.6	66,202.5	266	206
2002	13,209.7	11,029.4	21,450.5	16,172.8	37,623.2	1,552.5	1,511.0	3,063.5	64,925.9	266	216
2003	12,823.9	11,426.0	20,231.3	15,292.7	35,524.0	1,528.7	1,480.5	3,009.2	62,783.0	266	218
2004	12,934.0	12,243.9	20,007.2	14,960.4	34,967.6	1,498.8	1,480.5	2,979.3	63,124.8	266	224
2005	13,532.3	12,551.7	19,315.1	14,845.9	34,161.0	1,414.8	1,449.1	2,863.9	63,108.8	264	229
2006	13,256.3	11,967.6	18,741.1	14,378.9	33,120.0	1,358.4	1,417.4	2,775.8	61,119.6	263	231
2007	13,611.5	11,666.7	18,577.2	14,557.3	33,134.5	1,313.8	1,405.7	2,719.5	61,132.2	264	235
2008E	13,762.0	10,977.7	17,367.9	13,921.4	31,289.4	1,274.2	1,217.7	2,491.9	58,520.9	264	239
<u>Forecast</u>											
2009	13,069.7	10,270.8	16,160.1	13,184.9	29,345.0	1,266.5	1,204.3	2,470.8	55,156.3	264	239
2010	13,500.4	10,342.2	16,163.2	13,198.1	29,361.3	1,266.5	1,204.3	2,470.8	55,674.7	264	239
2011	14,052.8	10,508.2	16,311.7	13,212.2	29,523.9	1,266.5	1,204.3	2,470.8	56,555.7	264	239
2012	14,663.9	10,712.4	16,541.1	13,232.6	29,773.6	1,266.5	1,204.3	2,470.8	57,620.7	264	239
2013	15,256.8	10,952.0	16,785.0	13,249.5	30,034.5	1,266.5	1,204.3	2,470.8	58,714.1	264	239
2014	15,770.9	11,132.8	17,059.0	13,273.2	30,332.1	1,266.5	1,204.3	2,470.8	59,706.7	264	239
2015	16,169.4	11,282.0	17,326.1	13,310.7	30,636.8	1,266.5	1,204.3	2,470.8	60,559.1	264	239
2016	16,510.5	11,419.1	17,599.1	13,338.4	30,937.5	1,266.5	1,204.3	2,470.8	61,337.9	264	239
2017	16,841.5	11,554.8	17,864.1	13,409.9	31,274.0	1,266.5	1,204.3	2,470.8	62,141.1	264	239
2018	17,196.6	11,694.4	18,136.9	13,469.8	31,606.6	1,266.5	1,204.3	2,470.8	62,968.5	264	239
2019	17,545.8	11,837.9	18,416.9	13,531.7	31,948.6	1,266.5	1,204.3	2,470.8	63,803.1	264	239
2020	17,889.7	11,985.1	18,699.1	13,593.3	32,292.4	1,266.5	1,204.3	2,470.8	64,638.0	264	239
2021	18,254.8	12,134.2	18,962.6	13,636.3	32,598.9	1,266.5	1,204.3	2,470.8	65,458.7	264	239
2022	18,616.4	12,294.6	19,263.3	13,723.8	32,987.1	1,266.5	1,204.3	2,470.8	66,368.9	264	239
2023	18,983.6	12,462.7	19,616.6	13,854.1	33,470.7	1,266.5	1,204.3	2,470.8	67,387.8	264	239
2024	19,357.1	12,630.9	20,007.3	13,999.4	34,006.7	1,266.5	1,204.3	2,470.8	68,465.4	264	239
2025	19,746.4	12,799.1	20,442.6	14,178.5	34,621.1	1,266.5	1,204.3	2,470.8	69,637.4	264	239
Avg Annual Growth:											
2000-08	-1.2%	0.3%	-3.4%	-2.5%	-3.0%	-1.4%	-2.1%	-1.8%	-2.0%		
2008-10	-1.0%	-2.9%	-3.5%	-2.6%	-3.1%	-0.3%	-0.5%	-0.4%	-2.5%		
2010-20	2.9%	1.5%	1.5%	0.3%	1.0%	0.0%	0.0%	0.0%	1.5%		
2008-25	2.1%	0.9%	1.0%	0.1%	0.6%	0.0%	-0.1%	0.0%	1.0%		

\* 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
2001	15,894.0	11,326.5	19,274.9	3,465.7	49,961.0
2002	14,243.0	11,540.0	19,212.5	3,523.4	48,518.9
2003	13,650.2	11,814.5	18,094.2	3,202.3	46,761.1
2004	13,680.5	12,599.0	18,006.8	3,021.5	47,307.8
2005	14,161.8	12,803.1	17,394.1	2,801.0	47,159.9
2006	14,015.6	12,081.4	17,010.7	2,670.4	45,778.1
2007	14,417.2	11,725.8	16,751.7	2,499.4	45,394.1
2008E	14,451.0	11,055.4	15,697.2	2,387.2	43,590.9
<u>Forecast</u>					
2009	13,742.4	10,411.5	15,167.6	2,387.2	41,708.7
2010	14,120.8	10,169.2	15,075.7	2,387.2	41,752.9
2011	14,597.9	10,088.0	15,102.4	2,387.2	42,175.5
2012	15,131.6	10,116.5	15,206.5	2,387.2	42,841.9
2013	15,653.8	10,211.3	15,362.6	2,387.2	43,614.9
2014	16,107.1	10,354.5	15,545.8	2,387.2	44,394.7
2015	16,455.9	10,526.3	15,769.9	2,387.2	45,139.3
2016	16,757.9	10,706.4	15,992.2	2,387.2	45,843.7
2017	17,058.9	10,890.3	16,246.5	2,387.2	46,583.0
2018	17,391.0	11,071.7	16,508.2	2,387.2	47,358.1
2019	17,722.5	11,258.8	16,776.8	2,387.2	48,145.4
2020	18,052.8	11,446.1	17,047.6	2,387.2	48,933.7
2021	18,407.2	11,633.6	17,300.4	2,387.2	49,728.4
2022	18,760.3	11,826.9	17,588.8	2,387.2	50,563.2
2023	19,120.6	12,022.7	17,927.8	2,387.2	51,458.3
2024	19,488.2	12,224.8	18,302.7	2,387.2	52,402.9
2025	19,872.3	12,429.8	18,720.3	2,387.2	53,409.6
Avg Annual Growth:					
2000-08	-1.6%	-0.2%	-3.5%	-4.6%	-2.1%
2008-10	-1.1%	-4.1%	-2.0%	0.0%	-2.1%
2010-20	2.5%	1.2%	1.2%	0.0%	1.6%
2008-25	1.9%	0.7%	1.0%	0.0%	1.2%

\* 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	24,987.1	8,100.9	8,744.4	4,192.5	46,024.9	
2001	24,865.5	8,303.3	8,024.6	4,038.6	45,232.0	
2002	22,819.3	8,809.4	8,180.8	3,920.7	43,730.2	
2003	22,743.4	9,149.0	7,999.8	3,855.3	43,747.4	
2004	23,856.9	9,981.5	8,350.4	4,027.7	46,216.5	
2005	25,004.5	10,053.9	8,367.7	4,052.0	47,478.0	
2006	24,394.4	9,436.7	8,197.0	4,149.7	46,177.7	
2007	25,006.2	9,652.9	8,294.3	3,803.3	46,756.7	
2008E	23,838.5	10,172.3	7,662.7	3,648.2	45,321.6	
<u>Forecast</u>						
2009	22,478.5	9,239.0	7,242.8	3,648.2	42,608.5	
2010	23,388.0	9,172.3	7,311.0	3,648.2	43,519.4	
2011	24,426.8	9,213.3	7,447.7	3,648.2	44,736.0	
2012	25,547.7	9,327.8	7,610.4	3,648.2	46,134.0	
2013	26,651.9	9,486.7	7,759.8	3,648.2	47,546.5	
2014	27,640.4	9,678.3	7,868.3	3,648.2	48,835.1	
2015	28,451.0	9,889.0	7,990.3	3,648.2	49,978.5	
2016	29,177.4	10,105.7	8,112.4	3,648.2	51,043.7	
2017	29,896.9	10,325.1	8,247.3	3,648.2	52,117.3	
2018	30,666.0	10,543.0	8,385.7	3,648.2	53,242.8	
2019	31,436.3	10,765.0	8,527.5	3,648.2	54,377.0	
2020	32,209.1	10,987.3	8,671.1	3,648.2	55,515.6	
2021	33,027.4	11,210.1	8,808.9	3,648.2	56,694.5	
2022	33,850.6	11,436.9	8,960.8	3,648.2	57,896.5	
2023	34,693.5	11,665.7	9,132.6	3,648.2	59,140.1	
2024	35,556.9	11,898.9	9,318.9	3,648.2	60,422.9	
2025	36,457.2	12,134.3	9,522.2	3,648.2	61,761.8	
Avg Annual Growth:						
2000-08	-0.6%	2.9%	-1.6%	-1.7%	-0.2%	
2008-10	-0.9%	-5.0%	-2.3%	0.0%	-2.0%	
2010-20	3.3%	1.8%	1.7%	0.0%	2.5%	
2008-25	2.5%	1.0%	1.3%	0.0%	1.8%	

\* Source: FAA Air Traffic Activity.