



Federal Aviation  
Administration

# FAA Aerospace Forecast

## Fiscal Years 2012-2032



HC-121545

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



## Message from the Administrator

The aviation industry continued to show resilience last year despite tough economic times. The activity of U.S. carriers at home and abroad increased by 3.5 percent in 2011. Despite a slight pause in growth projected for 2012, we expect that over the long run, aviation will continue to experience steady, moderate growth.

U.S. airlines have returned to profitability in the last two years and we expect that trend will continue in 2012 as well.

This forecast looks at how many planes and how many people will fly on U.S. carriers in the future – from 2012 to 2032. We want to see a picture of air travel in the next 20 years, and we want to know what we at the FAA should strive to meet and accommodate.

The FAA sees a competitive and profitable industry continuing to grow over the long term despite the fact that we are operating in a climate of economic uncertainty and rising oil prices.

As the economy continues to recover, the total number of takeoffs and landings and the number of passengers who board U.S. airlines will continue to climb. This year, we expect that international markets for U.S. carriers will continue to grow faster than domestic markets, as they did last year.

The forecast calls for a slight decrease –less than one percent—in domestic capacity in 2012, as measured by available seat miles. This is after a 2 percent increase in 2011. Despite this pause in growth, the FAA projects continued growth between 2 percent and 3 percent per year over the next 20 years.

This year's forecast predicts that the industry will grow from 731 million passengers in 2011 to 1.2 billion in 2032.

Cumulatively, air traffic growth for U.S. carriers—measured by revenue passenger miles—is expected to rise by more than 90 percent in the next 20 years. It grew by 3.5 percent in 2011. Airport tower operations are expected to increase by 23 percent. Also, the number of aircraft handled at FAA en-route centers, which separate high altitude traffic, is expected to increase by 50 percent.

Over the next 20 years, large airports will continue to grow faster than their smaller counterparts in the United States. We are forecasting that the number of larger regional jets will increase, while most of the smaller regional jets will be retired from the fleet.

On the general aviation front, the demand for products and services will continue to grow, particularly in new business jets and light sport aircraft.

As our aviation system advances into the next century of flight, the solution for handling the demand for service is the Next Generation Air Transportation System, or NextGen. We are in

the process of transforming our national air space system from the ground-based radar of today, to the satellite-based system of tomorrow.

This is a fundamental change in the way the United States and the world will navigate and control air traffic. Precise, satellite-based navigation is already revolutionizing the way we do business today. Technology is helping us to become safer, quieter, cleaner and more efficient with our assets.

We are creating a new template for the way we manage air traffic, yet the FAA's core mission remains the same. We will continue to work every day to deliver the safest and most efficient aerospace system in the world.

A handwritten signature in black ink, appearing to read 'M. Huerta', with a circular flourish at the end.

Michael P. Huerta  
FAA Acting Administrator

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## FORECAST HIGHLIGHTS

### 2012-2032

Since the beginning of the century, the commercial air carrier industry has suffered several major shocks that have led to reduced demand for air travel. These shocks include the terror attacks of September 11, skyrocketing prices for fuel, debt restructuring in Europe and the United States (U.S.), and a global recession. To manage this period of extreme volatility, air carriers have fine-tuned their business models with the aim of minimizing financial losses by lowering operating costs, eliminating unprofitable routes and grounding older, less fuel efficient aircraft. To increase operating revenues, carriers have initiated new services that customers are willing to purchase. Carriers have also started charging separately for services that were historically bundled in the price of a ticket. The capacity discipline exhibited by carriers and their focus on additional revenue streams bolstered the industry to profitability in 2011 for the second consecutive year. Going into the next decade, there is cautious optimism that the industry has been transformed from that of a boom-to-bust cycle to one of sustainable profits.

As the economy recovers from the most serious economic downturn and slow recovery in recent history, aviation will continue to grow over the long run. The 2012 FAA forecast now calls for one billion passengers in 2024, three years later than projected last year. Growth over the next five years will be moderate, with a return to historic levels of growth only attainable in the long term. This delayed trajectory represents the downward adjustments of the overall economy, here in the U.S. and abroad, and the aviation sector's responses. One of the many factors influencing the delayed recovery is the uncertainty that surrounds the U.S. and European economies. The latter, primarily those belonging to the Euro area, have been hit hard by the pressure from bond markets for fiscal austerity. Combined with the slow pace of these economies, debt restructuring pulled the European economy into recession in early 2012. This has not helped the pace of U.S. economic growth given the importance of its trade with Europe. Despite this and the ambiguity surrounding its own fiscal imbalances, the U.S. economy has managed to avoid a double dip recession and trudges along the path of slow recovery.

System capacity in available seat miles (ASMs) – the overall yardstick for how busy aviation is both domestically and internationally – will remain flat this year after posting a 3.4 percent increase in 2011; it will then grow at an average annual rate of 3.1 percent through 2032. In the domestic market, capacity overall shrinks by 0.8 percent in 2012 after having registered an increase of 2.0 percent in 2011. Domestic capacity is projected to grow at an average annual rate of 2.5 percent for the remainder of the forecast period. Domestic mainline carrier capacity will decrease by 0.8 percent in 2012 after registering a one-year increase in 2011 of 2.3 percent following three years of decline. For the regional carriers, domestic capacity will shrink by 0.5 percent from 2011 levels thus registering another decline after shrinking in 2009 – the only two periods when the industry has shrunk since deregulation. Commercial air carrier domestic revenue passenger miles (RPMs) are forecast to shrink 0.2 percent in 2012, and then grow at an average of 2.8 percent per year through 2032; domestic enplanements in 2012 will decrease 0.1 percent, and then grow at an average annual rate of 2.4 percent for the remainder of the forecast.

The average size of domestic aircraft is expected to increase by 0.2 seats in FY 2012 to 122.8 seats. Average seats per aircraft for mainline carriers are projected to stay relatively flat as network carriers<sup>1</sup> continue to reconfigure their domestic fleets. While demand for 70-90 seat aircraft continues to increase, we expect the number of 50 seat regional jets in service to fall, increasing the average regional aircraft size in 2012 by 0.5 seats to 56.8 seats per mile. Passenger trip length in domestic markets will decrease by 1.3 miles during the same period.

Although the slow growth and expectations of a European recession has dampened the near term prospects for general aviation, the long-term outlook remains favorable. We see growth in business aviation demand over the long term driven by a growing U.S. and world economy especially in the turbo jet and turbine rotorcraft markets. As the fleet grows, the number of general aviation hours flown is projected to increase an average of 1.7 percent a year through 2032.

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

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<sup>1</sup> Alaska Airlines, American Airlines, United-Continental Airlines, Delta Airlines, and U.S. Airways.

## REVIEW OF 2011

Although the year 2011 began with a lot of hope for an economic recovery, it was primarily characterized as a year of full scale uncertainty. The grim operating environment faced by the carriers at the start of the global recession that revolutionized how they operate today also helped the industry cope with this uncertainty. Consequently, U.S. airlines made a profit for the second consecutive year. A view held by some industry professionals is that recent carrier initiatives will provide traction towards profitability, even during future periods of uncertainty, and this appears to have borne fruit in 2011. One recent initiative by the passenger carriers is a shift in focus from increasing market share to one of boosting shareholder return on investment. The U.S. airline industry has become more nimble; that is, adjusting capacity to seize opportunities or contracting in times of economic distress. As a result, it expanded its capacity by 2.0 percent in 2011 while positioning itself for a reduction of 0.8 percent this year in anticipation of the uncertain economic environment. Even during times of economic instability and distress, the industry has found ways to increase revenue. For example, air carriers are charging fees for services that used to be included in airfare (e.g. meal service), as well as for services that were not previously available (e.g. premium boarding and fare lock fees). The impact from these recent initiatives gives reason for optimism. After posting net losses for eight consecutive quarters, the industry (passenger and cargo carriers combined) posted profits in both 2010 and 2011.

Demand for air travel in 2011 grew slowly following a dismal 2010 that was marked by fading consumer confidence, tightening credit, surging unemployment, eroding corporate travel budgets, and the pressure of debt restructuring in Europe and the U.S. In 2011<sup>2</sup> system revenue passenger miles increased 3.5 percent as enplanements increased 2.5 percent. Commercial air carrier domestic enplanements were up 2.3 percent while international enplanements were up 4.4 percent. The system-wide load factor continued to rise to 82.0 percent (up 0.1 points from 2010). Domestic enplanement market share continued to rise for low-cost carriers in 2011 while network and “other” carrier and regional carrier share decreased. Domestic low cost carrier enplanement share increased by 1.1 points to 28.4 percent while the share of network and “other” carriers fell by 0.4 points to 46.8 percent and regional carrier share dropped by 0.6 points to 24.8 percent.

Capacity restraint by the carriers as passenger demand returned helped the system wide real yield to increase by 6.4 percent in 2011. Data for FY 2011 show that the reporting passenger carriers had a combined operating profit of \$5.8 billion (compared to a \$7.3 billion operating profit for FY 2010). The network carriers reported combined operating profits of \$4.23 billion while the low cost carriers reported combined operating profits of \$1.1 billion, with four out of the five network carriers and five of the nine low cost carriers posting profits.

The general aviation market continued its decline in calendar year (CY) 2011, although at a slower rate. U.S. manufacturer shipments declined for the fourth year in a row, down an

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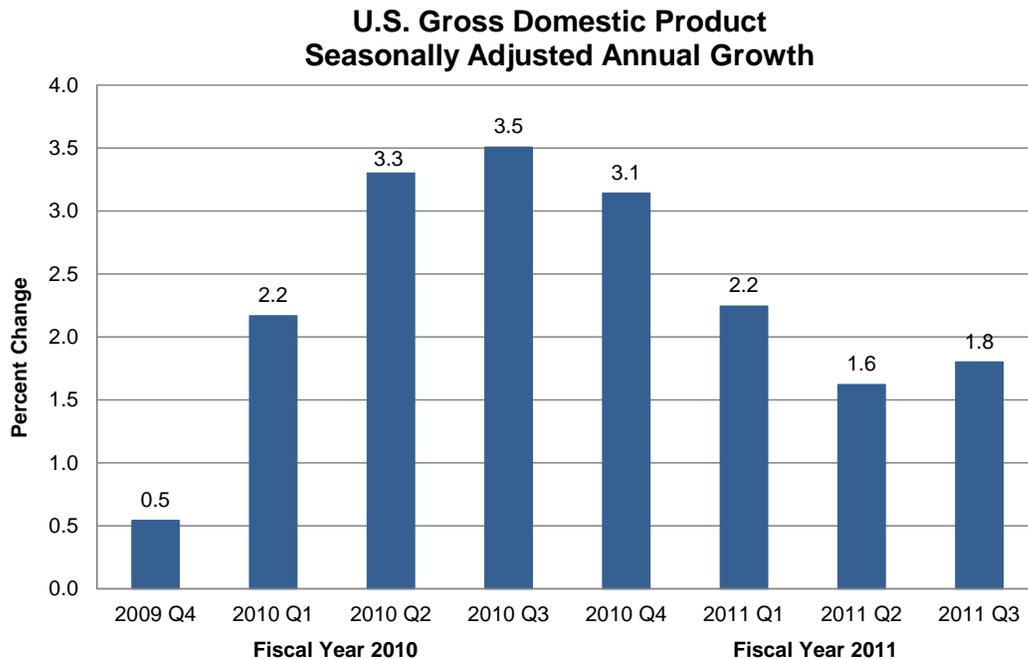
<sup>2</sup> All stated years and quarters for U.S. economic and U.S. air carrier traffic and financial data and forecasts are on a fiscal year (FY) basis (October 1 through September 30). All stated years and quarters for international economic and world traffic and financial data are on a calendar year (CY) basis, unless otherwise stated.

estimated 8.9 percent, even though U.S. billings are estimated to have increased 6.7 percent than their CY 2010 levels. Piston aircraft shipments by U.S. manufacturers fell an estimated 10.5 percent, and turbine aircraft shipments (turboprop and business jets) by U.S. manufacturers declined by 7.0 percent in CY 2011 compared to CY 2010. While continuing decreases in U.S. shipments reflected the fragile nature of the economic recovery, the pace of the decline has slowed. The 7.0 percent decrease for the turbines compared favorably to the 24.9 percent decline recorded in 2010 and 39.2 percent decline posted in 2009 in turbine aircraft shipments by U.S. manufacturers. The business jet segment showed even more reason for optimism as shipments fell by only 2.7 percent in CY 2011 versus decreases of 29.2 percent and 46.2 percent, respectively in CY 2010 and CY 2009. Along with the fall in shipments, general aviation activity at FAA and contract tower airports fell 2.3 percent in 2011.

Total operations at FAA and contract towers decreased for the 4<sup>th</sup> consecutive year, falling 1.0 percent, as activity declines in the air taxi and general aviation categories offset increases in air carrier and military activity. Although the overall number of flights fell, FAA's workload did not. As the fleet mix changes with increasing numbers of regional and business jets in the nation's skies, along with carriers consolidating operations in their large hubs, the complexity of activity in the airspace continues to grow, increasing controllers' workload.

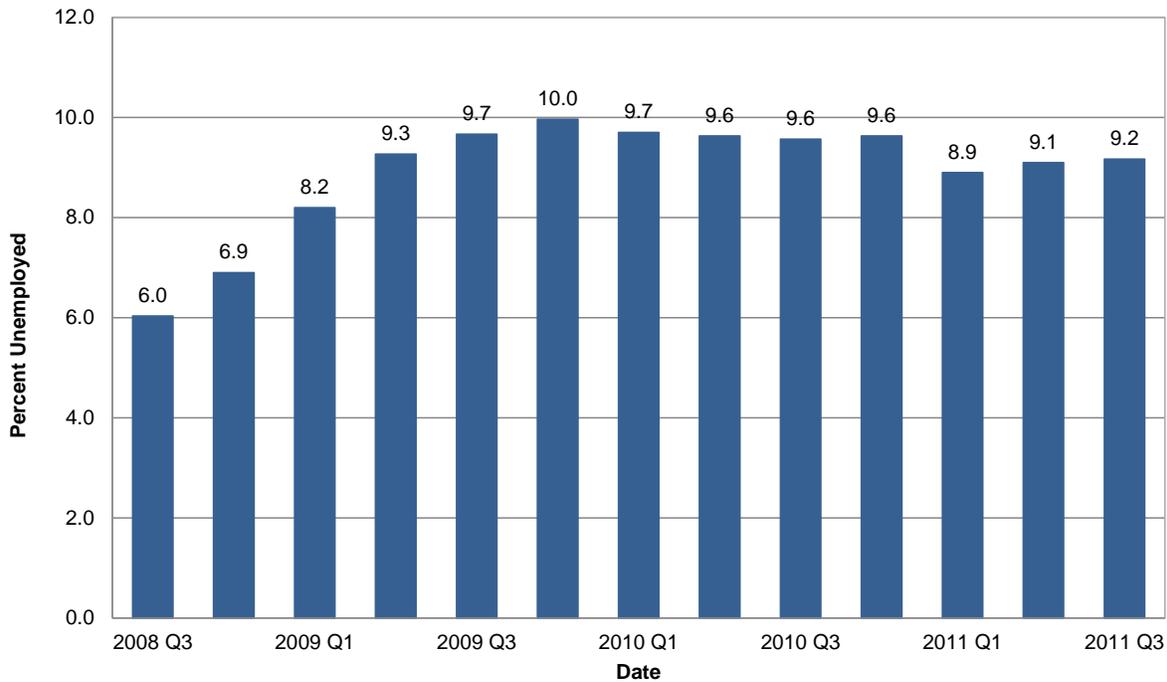
## U.S. ECONOMIC ACTIVITY

Following an unprecedented fiscal stimulus (i.e., American Recovery and Reinvestment Act or ARRA) of over \$800 billion that took place in 2009, with over half of it being spent during 2010, the U.S. economy was left to its own fundamentals in the latter part of 2010 and 2011. The economy grew at an average annual rate of 2.1 percent in fiscal year (FY) 2010 and 2.1 percent in FY 2011. Given the uncertainty that characterized 2011, the economic growth that occurred without a contraction or double-dip recession was reassuring. Towards the end of the fiscal year and beginning with FY 2012, there were signs of pent-up demand coming back as consumer spending continued to grow, the housing market appeared to be finally turning around and the labor market gained traction. Overall, business spending continues growing, perhaps partly influenced by tax incentives and a cautious environment that has kept inventories to a minimum.



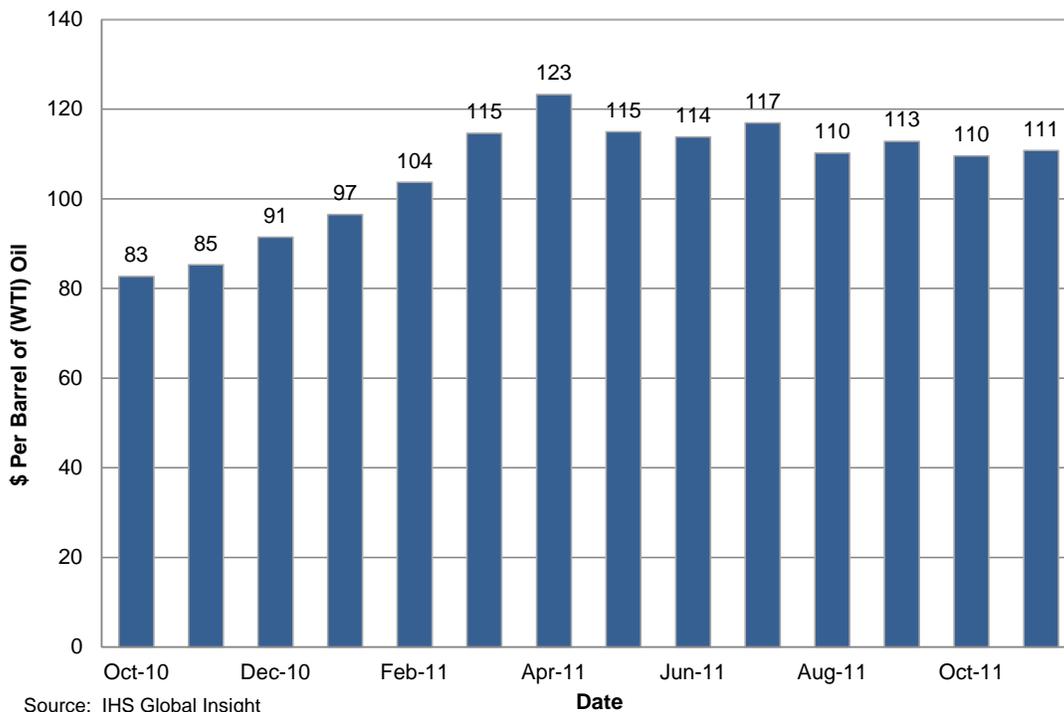
The nation's unemployment rate has been greatly affected by the recession. When the recession began in December 2007 the unemployment rate was 5.0 percent. Unemployment climbed throughout 2008, intensified during 2009, and reached its pinnacle during the first quarter of FY 2010 (10.0 percent). The unemployment rate is gradually falling, from an average of 9.7 percent in FY 2010 to 9.2 percent in FY 2011; this rate of decline is relatively slow compared to past recessions.

### U.S. Unemployment Rate



The price of oil, as measured by the U.S. Refiners' Acquisition Cost (for West Texas Intermediate, or WTI), was \$96.05 in FY 2011, an increase of 29 percent from FY 2010. This is on top of the last year's increase of 36 percent. The fuel price volatility that characterized 2008-2009 has diminished considerably but a rising trend appears to be settling in throughout the last two years.

### U.S. Refiners' Acquisition Cost

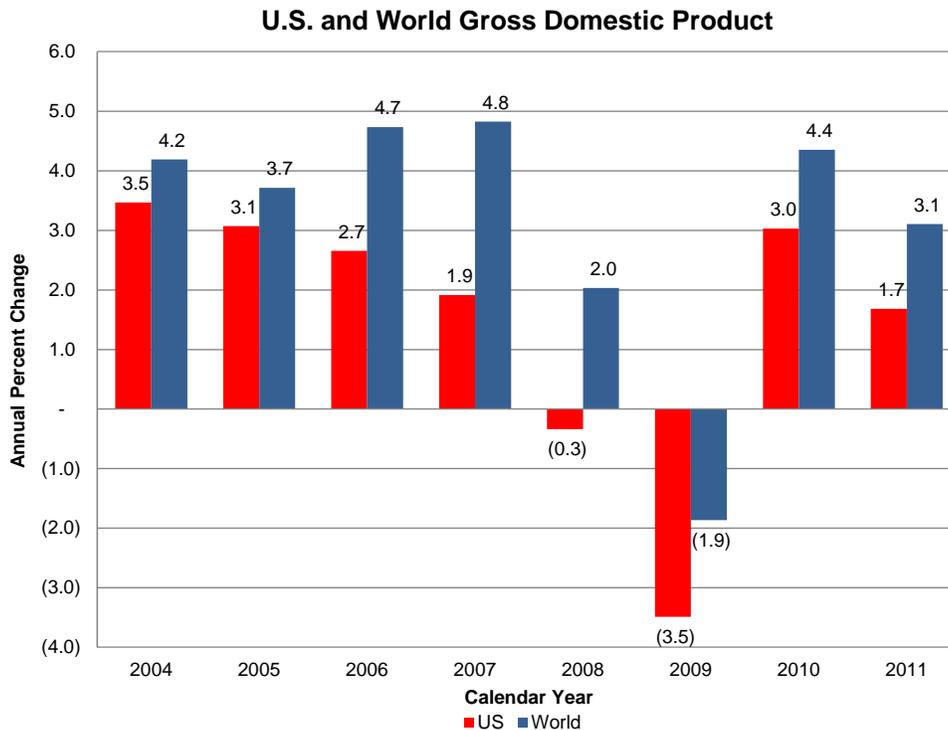


Source: IHS Global Insight

Finally, consumer prices continued to increase in 2011. Core inflation (excluding gas and food) was moderate (2.2 percent); while headline inflation was up a modest 2.6 percent due to an increase in oil and gasoline prices.

## WORLD ECONOMIC ACTIVITY

Based on preliminary figures, according to IHS Global Insight, the U.S. and rest of the world economies grew 1.7 and 3.1 percent, respectively, in 2011. The advanced economies (U.S., Western Europe, Japan, Australia, New Zealand, and Canada) expanded 1.3 percent overall. All world regions saw their economies grow, except Japan which was impacted by the devastation wrought by the March earthquake and tsunami. Data coming out at the year's end suggest that the recovery in Europe is continuing to lag that of other world regions.



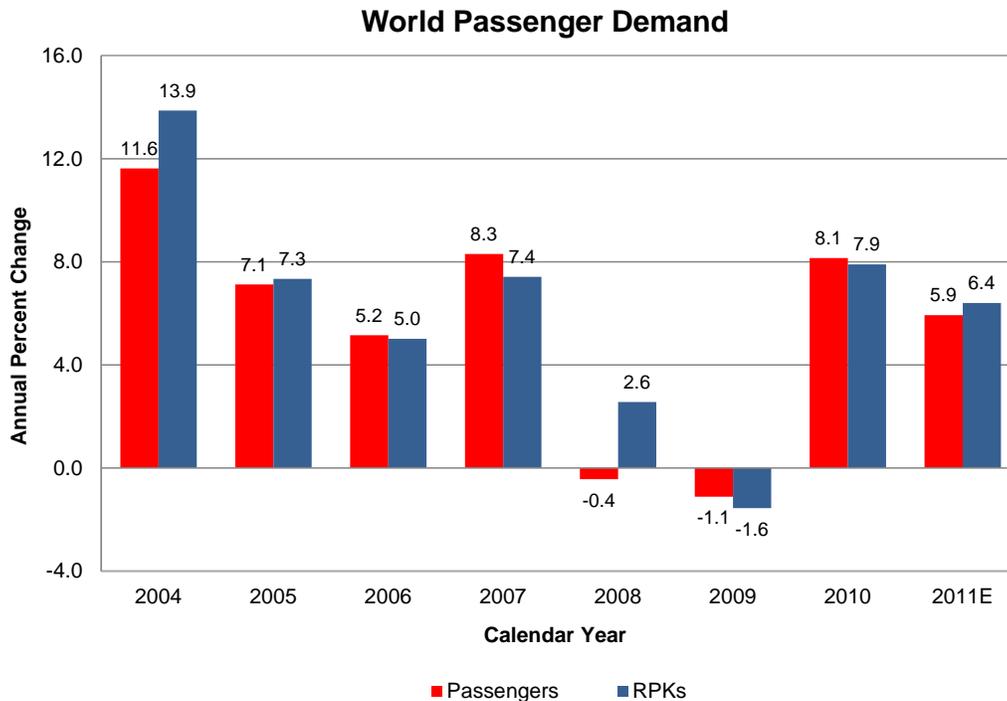
On a calendar year basis, gross domestic product (GDP) in Canada expanded at a faster pace (up 2.2 percent) than the U.S. in 2011 (up 1.7 percent). The combined economies of the Asian and Far East nations grew 4.2 percent in 2011, down from 6.8 percent a year earlier. This region includes the world's second largest economy, Japan (down 0.6 percent), and the world's most vibrant economy, China (up 9.3 percent). The combined economies of Europe rebounded more slowly, with Western Europe up 1.6 percent and the combined economies of Central Europe and the former Soviet Union up 4.4 percent. GDP in Latin America (including the Caribbean) expanded by 4.0 percent with Brazil up 3.6 percent and Mexico up 3.9 percent.

## COMMERCIAL AVIATION

Commercial aviation continued a slow recovery in 2011 despite rising jet fuel prices and a shaky global economy. The U.S. industry posted a net profit in 2011, with a similar outcome predicted for foreign carriers. After posting net profits of \$15.8 billion in 2010, global industry net profits for calendar year 2011 are expected to be \$6.9 billion.<sup>3</sup> All global regions are projected to see a drop in profits as fuel costs increased by \$40 billion worldwide.

### World Travel Demand

Based on data compiled by the International Civil Aviation Organization (ICAO), world air carriers are expected to post another solid performance in CY 2011 as demand for air travel continues to rebound from the depressed levels recorded during 2009. Although traffic results are not available for full year 2011 at the time of this printing, ICAO predicts that worldwide revenue passenger kilometers (RPKs) will increase 6.4 percent following an increase of 7.9 percent in 2010.<sup>4</sup>



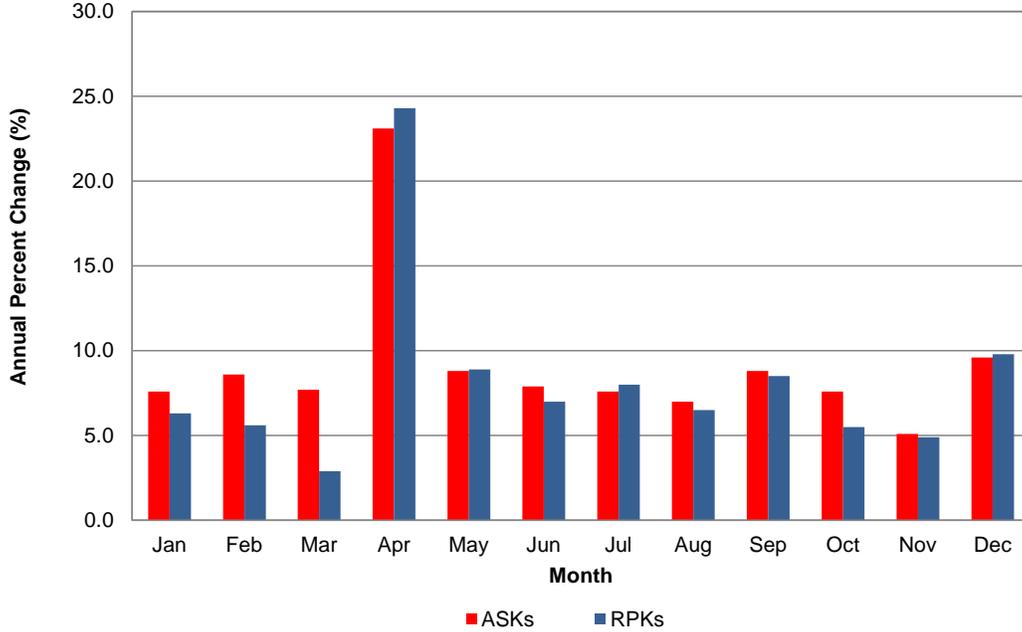
Statistics from the Association of European Airlines (AEA) available for calendar year 2011 show passengers are up 7.1 percent over calendar year 2010. Data for the same period shows capacity, as measured by available seat kilometers (ASKs), to be up 8.9 percent and

<sup>3</sup> IATA Financial Forecast, December 2011.

<sup>4</sup> ICAO press release dated January 6, 2012.

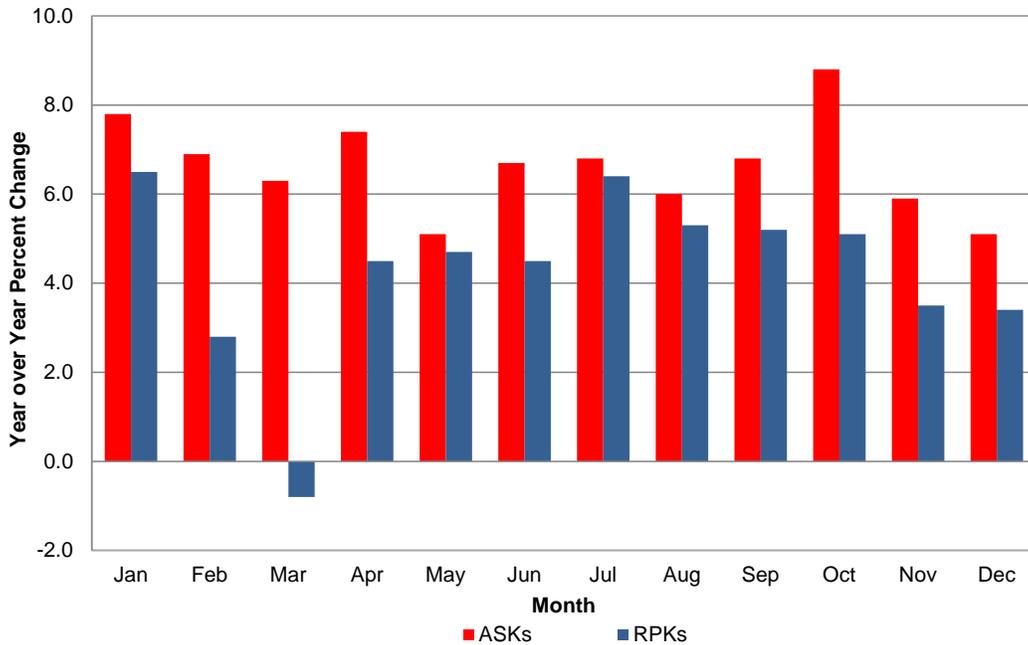
RPKs to be up 8.0 percent. Results for April 2011 show a resurgence of traffic followed by airspace closures stemming from volcanic ash clouds that took place in April, 2010.

### European Carriers Capacity and Traffic Calendar Year 2011



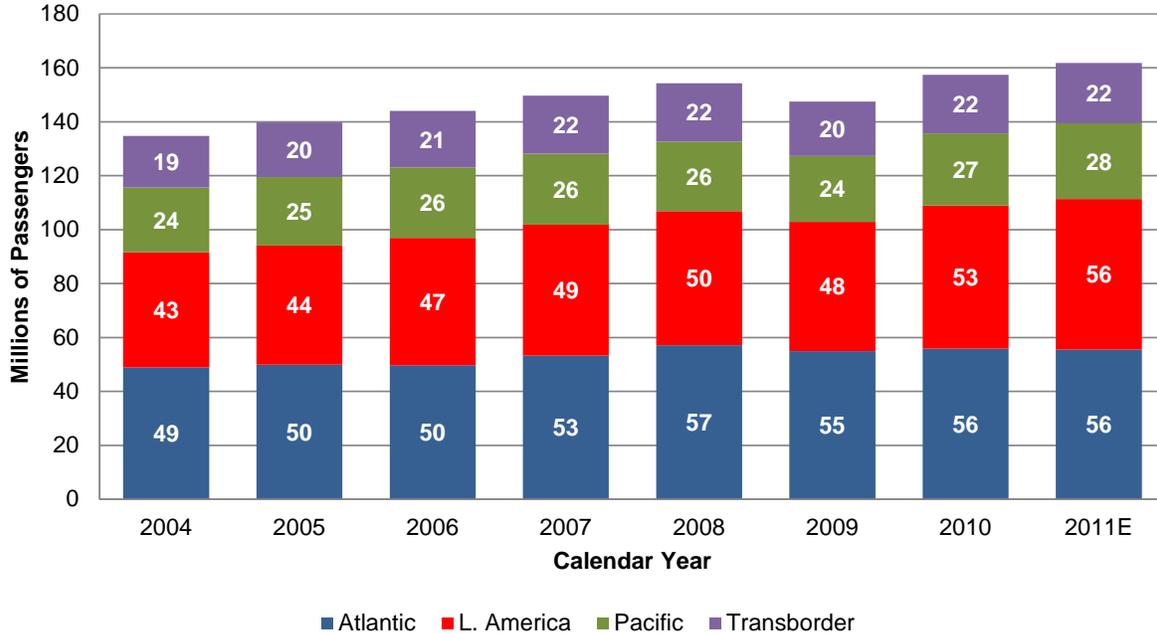
The Association of Asia Pacific Airlines (AAPA) reported an increase of 3.7 percent in international RPKs and a 6.3 percent increase in international ASKs; international passengers were up 3.5 percent during the same period.

### Asia Pacific Carriers Capacity and Traffic Calendar Year 2011



In CY 2011, U.S. and foreign flag carriers transported an estimated 161.8 million passengers between the United States and the rest of the world, a 2.8 percent increase from 2010. Year-over-year growth increased in the Transborder, Pacific and Latin markets (up 2.2 percent, 5.7 percent and 5.0 percent, respectively). Passengers decreased in the Atlantic market (down 0.6 percent) due to repercussions from the debt crisis in Europe, which is slowing the recovery of that region's economy, and from the worldwide economic slowdown.

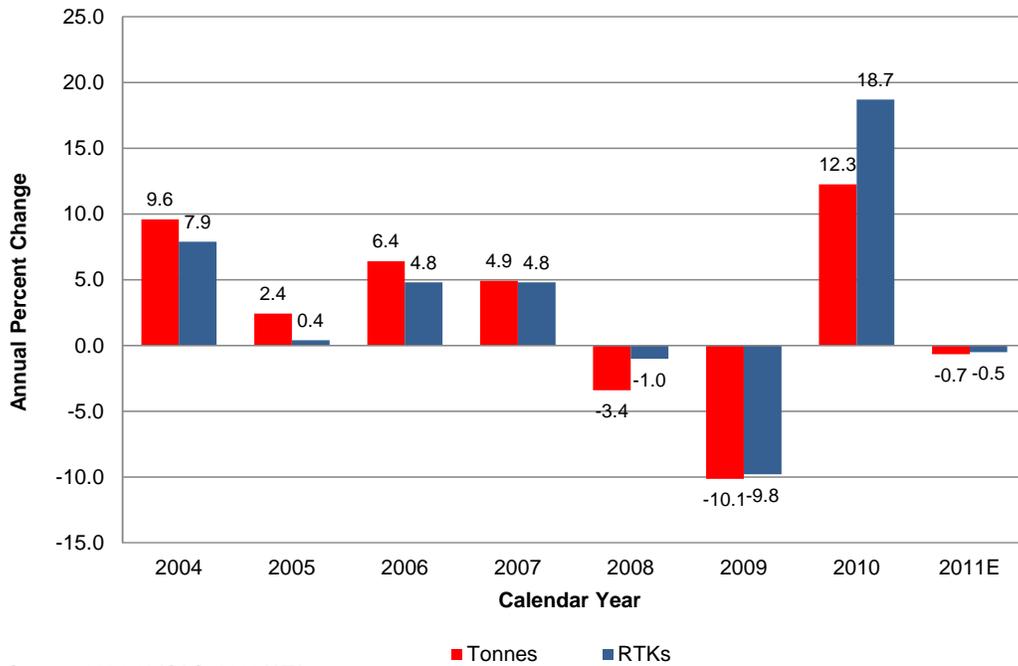
### Total Passengers To/From the U.S. U.S. and Foreign Flag Carriers



Worldwide air cargo demand contracted slightly in 2011 following a sharp rebound in 2010.<sup>5</sup> According to IATA, worldwide freight ton kilometers were estimated to decline 0.5 percent in calendar year 2011 compared to 2010. Freight ton kilometers (FTKs) of AEA member carriers were up 2.1 percent in calendar year 2011 whereas FTKs of AAPA member carriers fell 4.8 percent during the same period.

<sup>5</sup> IATA News Release, January 2012.

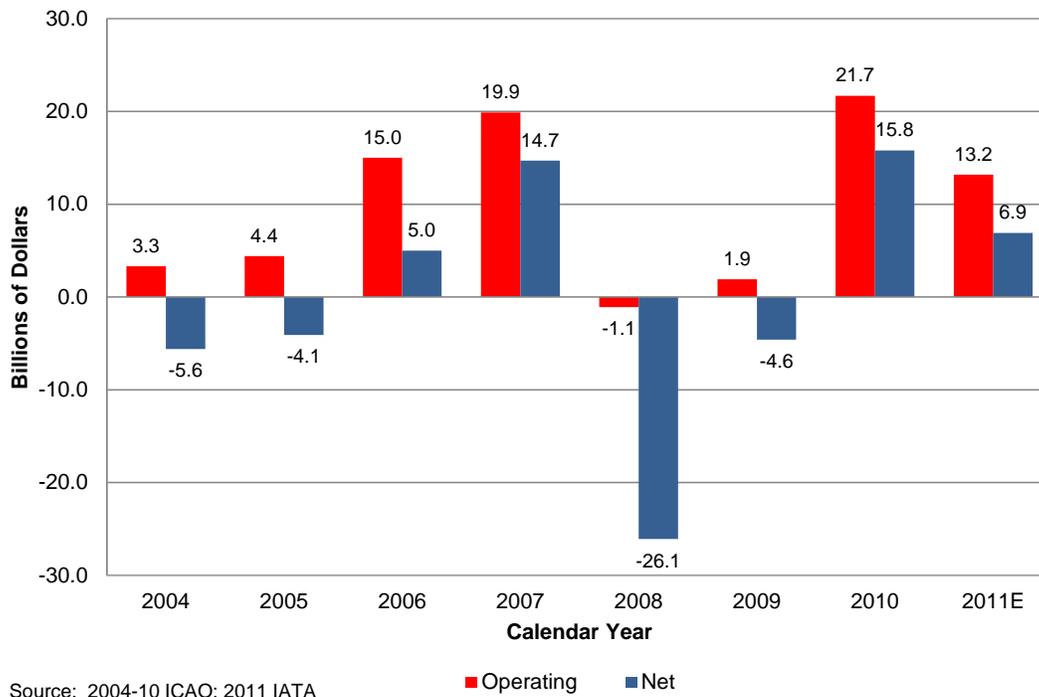
### World Air Cargo Demand



The International Air Transport Association (IATA) reports that world air carriers (including U.S. airlines) are expected to register an operating profit of \$13.2 billion for 2011. IATA estimates global airline industry net profits to be \$6.9 billion for the same period with all regions expected to be in the black. Based on financial data compiled by ICAO and IATA, between 2003 and 2011 world airlines produced cumulative operating profits of \$76.9 billion (with seven years out of nine posting gains) and net losses of \$5.5 billion (with four years out of nine posting gains).<sup>6</sup>

<sup>6</sup> IATA Financial Forecast, December 2011.

### World Air Carrier Profit/Loss



### U.S. Travel Demand

By year end of FY 2011, the U.S. commercial aviation industry consisted of 16 scheduled mainline air carriers that used large passenger jets (over 90 seats) and 68 regional carriers that used smaller piston, turboprop, and regional jet aircraft (up to 90 seats) to provide connecting passengers to the larger carriers. Mainline and regional carriers offer domestic and international passenger service between the U.S. and foreign destinations, although regional carrier international service is confined to the border markets in Canada, Mexico, and the Caribbean. Twenty-six all-cargo carriers were providing domestic and/or international air cargo service at the end 2011.

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

A sign that the business models for the low cost and network carriers groups are converging is the narrowing share of capacity flown between these two groups and the fares they charge. After losing market share in 2008, partially due to the cessation of operations by two low cost carriers during that year,<sup>7</sup> low cost carrier capacity share has been on the rise (up 0.9 points in 2009, up 0.4 points in 2010, and up 1.6 points in 2011). Since 2000, the share of capacity flown by the low cost carrier group has almost doubled, going from a 17.0 percent market share in 2000 to over 32.0 percent share in 2011. Another narrowing gap is the average

<sup>7</sup> American Trans Air and Skybus Airlines.

domestic yield (a proxy for airfare) reported by the low cost and network carrier groups. In 2000, average domestic yield for the low cost carrier group was 12.4 cents versus 14.5 cents for the network carrier group. By 2011, they were virtually identical on average; however, this does not show the variations in market premiums that each airline may command due to its unique market position.

Industry restructuring and consolidation continued in 2011. Operations at Northwest Airlines were folded into Delta Airlines, while operations at Midwest Airlines were folded into Frontier Airlines. For the regional carriers, Delta Airlines sold its subsidiaries, Compass and Mesaba, to Trans States and Pinnacle, respectively, and Arctic Circle Air merged with ERA Aviation. Soon after FY 2011 ended, American Airlines declared bankruptcy at the end of November 2011. As a result of industry restructuring and consolidation, far fewer carriers now report traffic to the Bureau of Transportation Statistics when compared to 2001. Subsequently, 7.0 percent fewer domestic ASMs were flown but almost 3.0 percent more passengers were carried domestically in 2011 when compared to 2001. This has had clear implications on the size of the aircraft being used and the load factors, topics which will be discussed later in this document.

The 7.0 percent reduction in domestic capacity since 2001 has not been shared equally between the mainline carriers and their regional counterparts. In 2011, the mainline carrier group provided 16 percent less capacity than it did in 2001 (and carried 12 percent fewer passengers). Conversely, capacity flown by the regional group increased 153 percent over the same ten year period (with passengers carried up 113 percent).

The shift in capacity from the mainline carrier group to the regional carrier group emerged from several factors. One factor was the type of aircraft flown by the regional carriers, which has been transformed from one of predominantly turboprop and piston aircraft to that of 50-90 seat regional jets. This fleet transformation has permitted the regional carriers to fly longer haul routes that were not previously accessible with smaller turboprop aircraft. Another factor leading to the shift in capacity was the external operating environment. Air travel demand was reduced by the terror attacks of September 11, the record breaking fuel prices of 2008, and the global recession that followed. To better match demand to capacity, the mainline carriers contracted out "thin" routes to their regional counterparts because they could provide lift at a lower cost. Over the past few years, however, this trend has slowed down considerably.

The most recent trend to take hold is that of ancillary revenues. Carriers generate ancillary revenues by selling products and services beyond that of an airplane ticket to customers. As noted earlier, U.S. passenger carriers posted net profits for the second consecutive year in 2011 with ancillary revenues a contributing factor to the favorable outcome.

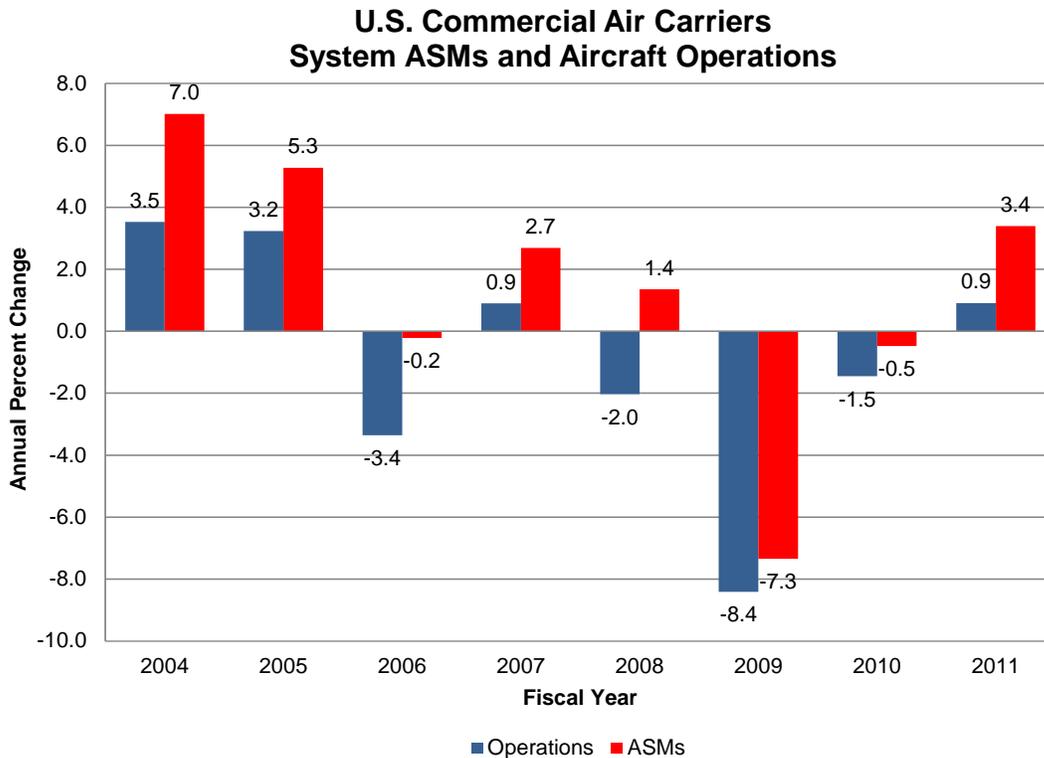
### ***Commercial Air Carriers – Passenger***

Coming off of a formidable 2010 brought on by the continuing global economic slowdown and debt restructuring issues plaguing the financial recovery, U.S. commercial air carriers' traffic and capacity results in 2011 showed a modest increase in both. System (the sum of domestic plus international) capacity increased 3.4 percent to 993.9 billion ASMs while RPMs increased 3.5 percent to 814.6 billion. During the same period system-wide passengers increased 2.5 percent to 730.7 million; U.S. mainline carrier passenger growth was 3.4 percent while

regional carrier passengers declined by 0.4 percent to 163.6 million. In the domestic market, mainline passengers saw an increase of 3.1 percent following a three year consecutive decline prior to 2011. Mainline passengers in international markets posted strong growth for the second year in a row (up 4.7 percent).

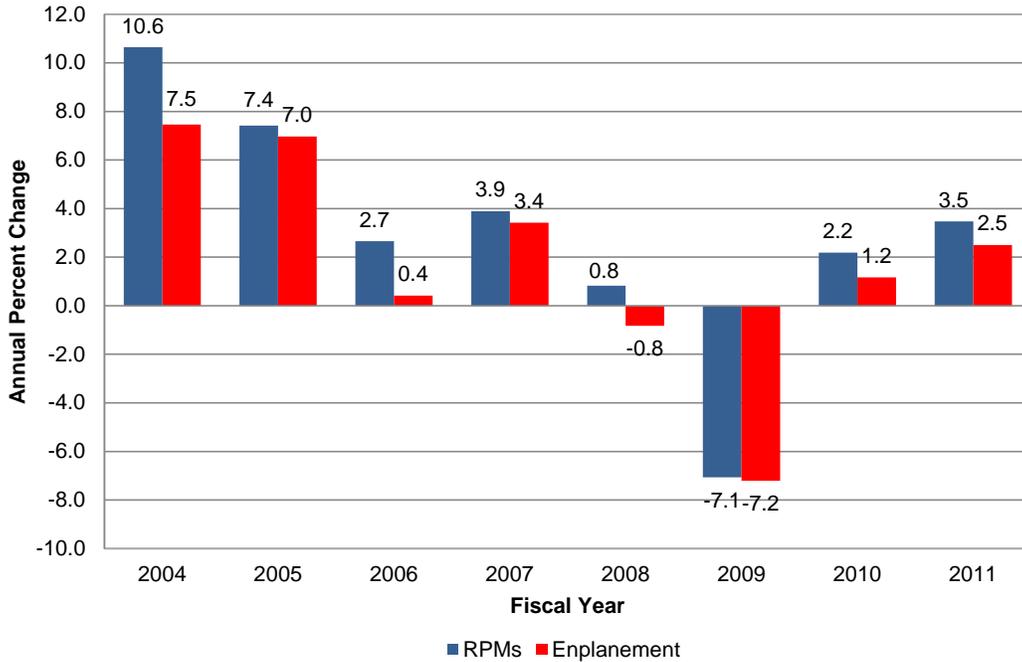
Even though the recession was officially over in June 2009,<sup>8</sup> carriers continued to face economic uncertainty in 2011 as corporate travel budgets remained strained and double-digit unemployment persisted accompanied by uncertainty surrounding debt restructuring and the payroll tax break. Despite this, the industry expanded capacity, after three consecutive years of capacity reductions that were instituted in the latter part of 2008 to counter skyrocketing fuel prices and reduced demand. Counter intuitively, with a slight increase in seats available to the travelling public, carriers were still able to raise airfares as demand returned. Combining this new found pricing power with ancillary revenues, U.S. carriers finished 2011 with a net profit.

System load factor and trip length climbed in 2011, as seats per aircraft mile increased. The average load factor reached a record-breaking 82.0 points, up 0.1 points from 2010. Trip length increased by 10.9 miles to 1,114.9 miles. This marks the ninth consecutive annual increase in trip length. Seats per aircraft mile increased to 141.0 seats (up 1.3 seats per aircraft mile).



<sup>8</sup> According to the National Bureau of Economic Research.

### U.S. Commercial Air Carriers System RPMs and Enplanements

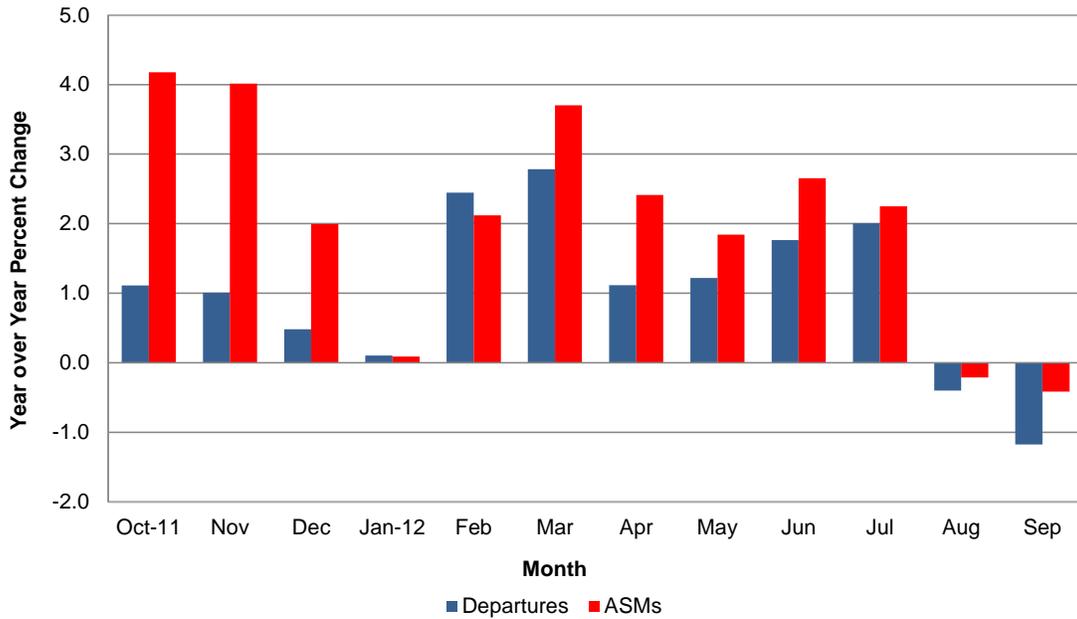


### Domestic Passenger Markets

Domestic capacity<sup>9</sup> was up 2.0 percent in 2011 after a decline of 0.4 percent in 2010. This was preceded by the steepest decline (in 2009 of 9.0 percent) ever recorded since deregulation of the industry in 1978. Departures were flat for the year after falling 1.8 percent in FY 2010. A year-over-year increase in capacity was posted for the first seven months of 2011 with the first quarter up 2.9 percent and the second and third quarters up by 2.2 and 1.9 percent, respectively. Capacity declined 0.3 percent year-over-year in the fourth quarter. Mainline carrier capacity was up 2.3 percent for the year, while regional carrier capacity was up 0.6 percent. Despite this increase, domestic ASMs were still 7.8 percent below pre-recession levels (2007) with departures down 12.1 percent at the end of 2011.

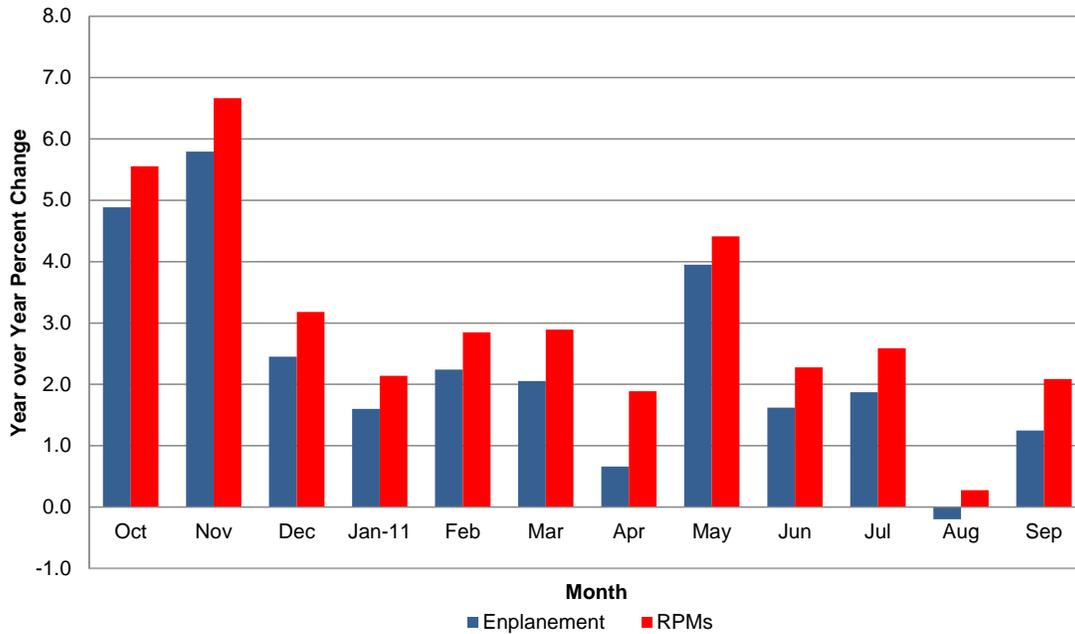
<sup>9</sup> The 50 states, Puerto Rico, and the U.S. Virgin Islands.

**U.S. Commercial Carriers  
 Domestic Capacity  
 Fiscal Year 2011**



Domestic passenger enplanements grew at a faster rate than ASMs in 2011 up 2.3 percent. In the first half of the year, domestic passengers were up 3.2 percent but growth slowed in the second half of the year with passengers up just 1.5 percent. On a year-over-year basis, mainline carrier enplanements were up 3.1 percent for the year while regional carrier enplanements fell 0.2 percent, posting the second decline in three years for this segment of the industry.

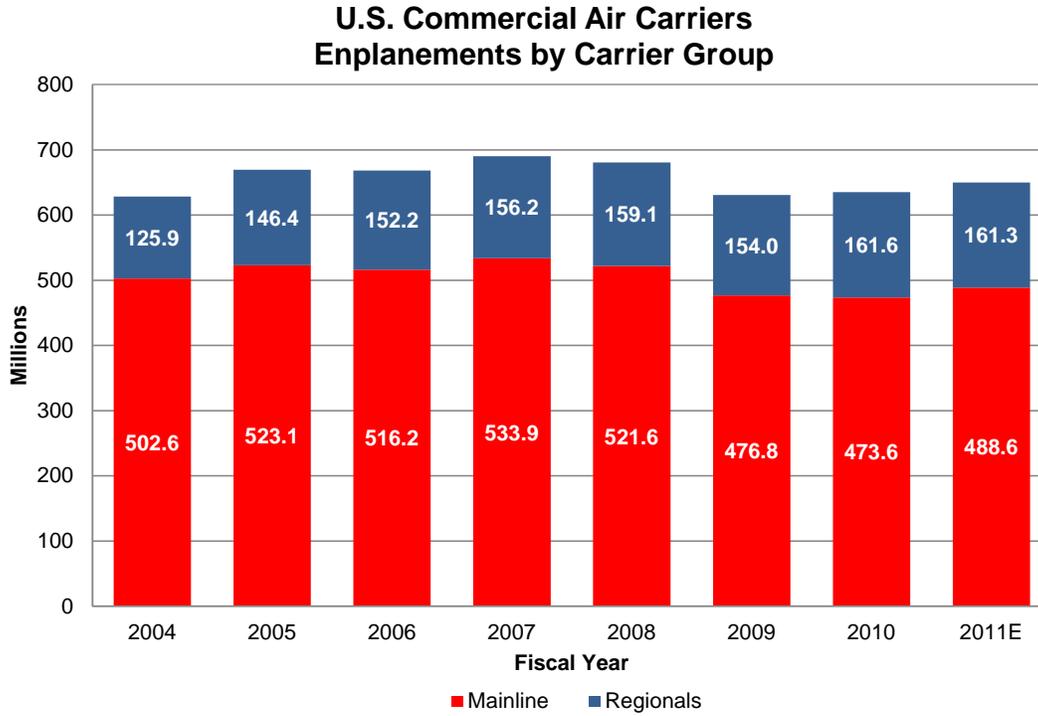
### U.S. Commercial Carriers Domestic Traffic Fiscal Year 2011



Similar to passenger counts, domestic RPMs grew faster than ASMs with domestic RPMs up 3.0 percent in FY 2011. Growth slowed during the year with the first quarter up 5.1 percent, the second quarter up 2.6 percent, and the last half of the year up 2.2 percent. For the year, mainline carrier RPM growth was 3.3 percent, while regional carrier growth was just 0.6 percent.

Domestic carrier load factor increased 0.8 points to 82.5 percent, with both the mainline and regional carriers groups posting record high loads. Mainline carrier load factor increased 0.9 points from FY 2010 to 83.6 percent, while regional carrier load factor remained constant at 76.2 percent.

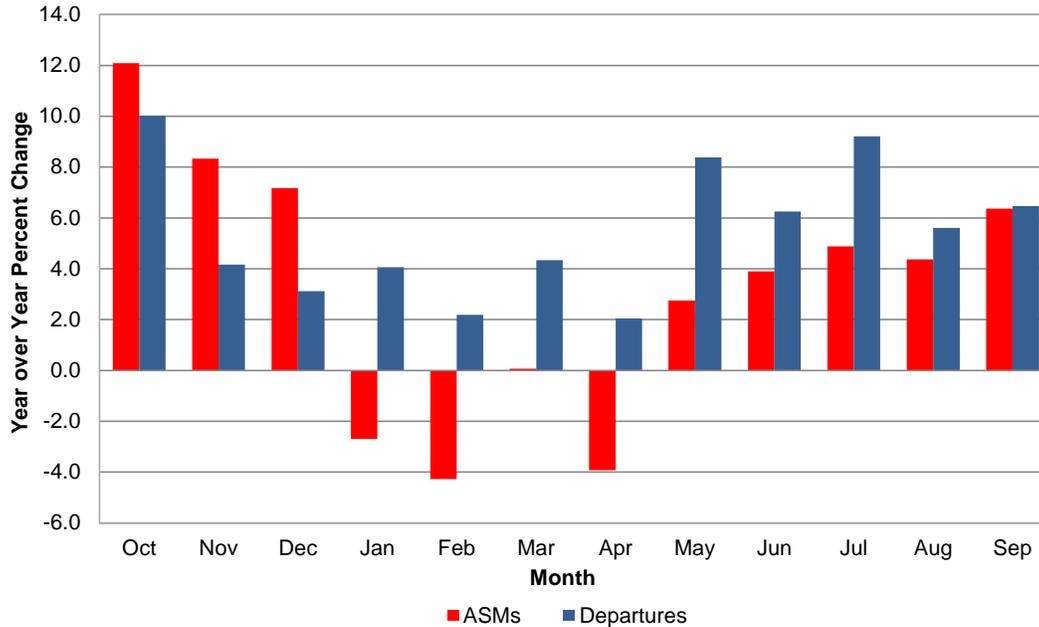
Since FY 2000, total domestic capacity has decreased by 4.5 percent. Mainline carriers have reduced their domestic capacity by 13.6 percent with cutbacks by network carriers more than offsetting the growth of low-cost carriers. Making up some of the shortfall from network carrier capacity cuts during this time are the regional carriers. This segment of the industry has greatly expanded capacity (up 158.4 percent from 2000). During the same period, mainline carrier RPMs have increased 1.4 percent, while enplanements have fallen 13.0 percent. In comparison, regional carrier RPMs and enplanements have increased 230.8 percent and 102.4 percent, respectively. As a result, mainline carrier domestic capacity share has fallen from 94.7 percent in 2000 to 85.7 percent in 2011, with the share of domestic RPMs flown by mainline carriers dropping from 95.5 percent to 86.8 percent during the same period. Regional carriers now fly one in every four passengers, up from one in eight in 2000.



### ***International Passenger Markets***

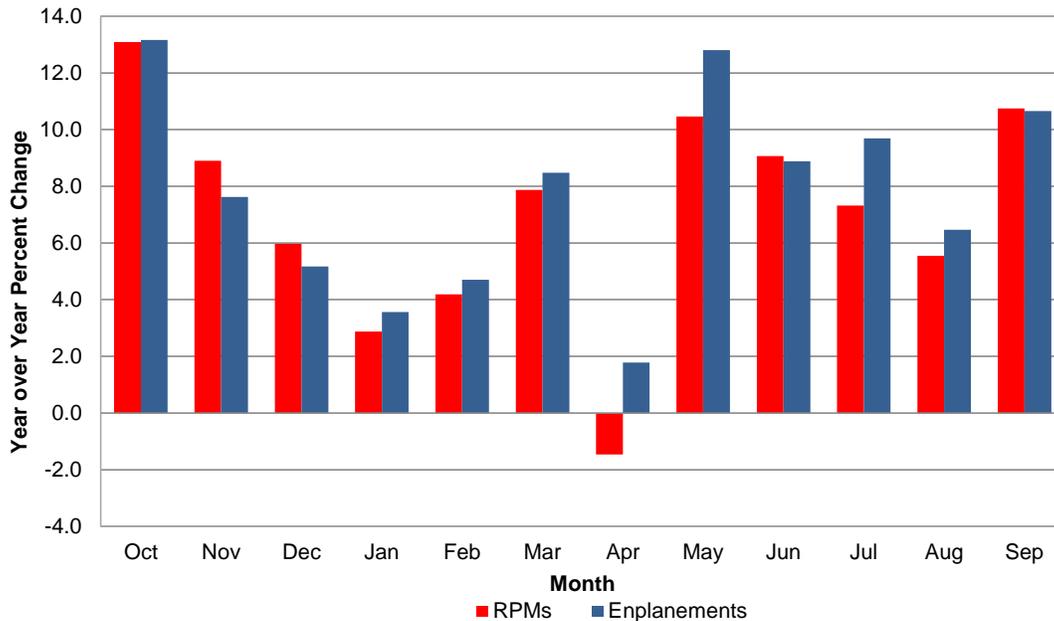
U.S. carrier ASMs were up 6.7 percent and departures were up 3.9 percent in 2011. ASMs increased in all three regions with the Atlantic, Latin, and Pacific markets, up 5.6, 5.3 and 10.4 percent, respectively.

**U.S. Commercial Carriers  
 International Capacity  
 Fiscal Year 2011**



International RPMs were up 4.8 percent and passenger enplanements were up 4.4 percent in 2011. The Atlantic market posted an increase, with RPMs up 2.8 percent and enplanements up 3.2 percent. RPMs and enplanements increased 5.9 and 4.9 percent, respectively, in the Latin American market, while RPMs and enplanements increased 7.4 and 4.7 percent, respectively, in the Pacific market.

### U.S. Commercial Carriers International Traffic Fiscal Year 2011



The international load factor dropped 1.4 percentage points overall in 2011 to 80.7 percent. Load factor decreased in all markets except Latin America: in the Pacific market load factor was down 3.0 points to 81.5 percent; in the North Atlantic market load factor was down 2.7 points to 80.7 percent; and in the Latin America market the load factor increased by 0.6 points to 79.7 percent.

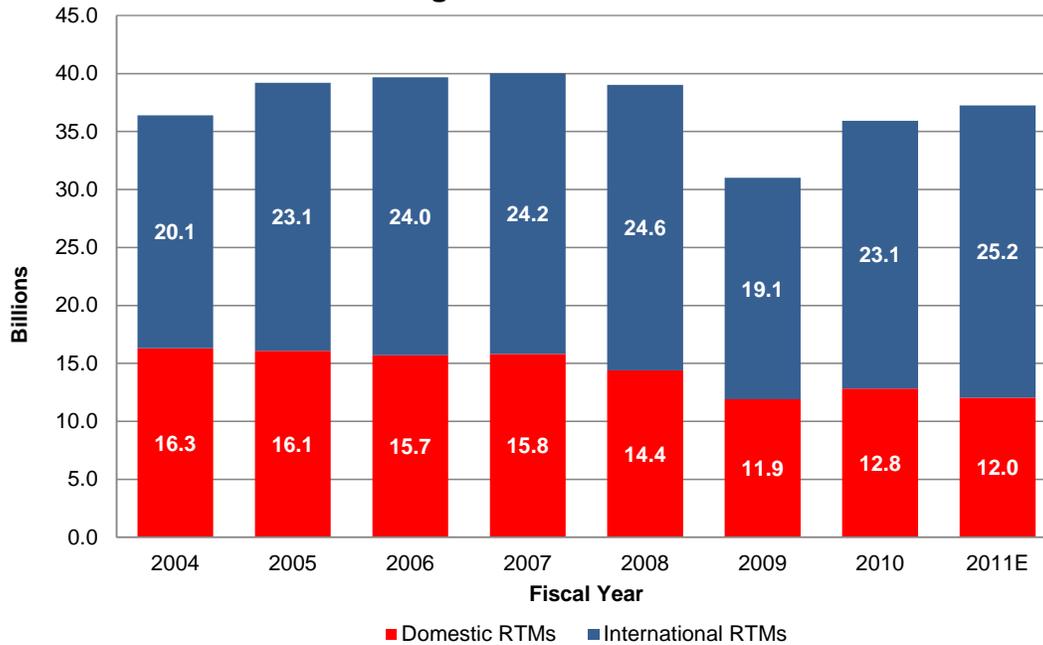
In 2011, 51.9 percent of the passengers flying abroad on U.S. flag carriers traveled to the Latin America market. The remaining 48.1 percent of international passengers was split between the Atlantic market (31.3 percent) and the Pacific market (16.7 percent).

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

Air cargo traffic contains both domestic and international freight/express and mail. The demand for air cargo is a derived demand resulting from economic activity. Cargo moves in the bellies of passenger aircraft and in dedicated all-cargo aircraft on both scheduled and nonscheduled service. Cargo carriers face price competition from alternative shipping modes such as trucks, container ships, and rail cars.

U.S. air carriers flew 37.3 billion revenue ton miles (RTMs) in 2011, up 3.7 percent from 2010. Domestic cargo revenue ton miles (RTMs) fell by 6.1 percent to 12.0 billion. However, international RTMs increased by 9.1 percent to 25.2 billion, more than offsetting the decline in domestic RTMs. The strong growth in international RTMs reflects a rebound from the recession and the global financial crisis, with international air cargo RTMs now exceeding the pre-crisis (FY 2007) levels by 4.1 percent.

### U.S. Commercial Air Carriers Cargo Revenue Ton Miles



Air cargo RTMs flown by all-cargo carriers were 75.1 percent of total RTMs in 2011, with passenger carriers flying the rest, or 24.9 percent. Total RTMs flown by the all-cargo carriers increased 3.0 percent in 2011 from 27.2 billion to 28.0 billion. Total RTMs flown by passenger carriers were 9.3 billion in 2011, 5.9 percent higher than in 2010.

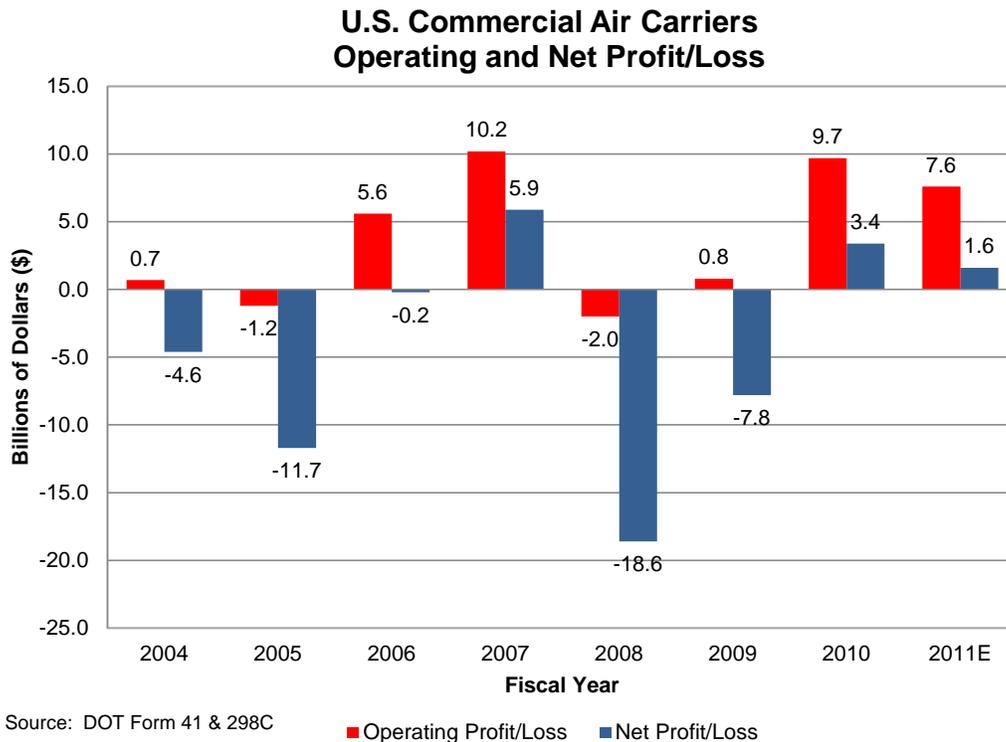
On August 3, 2007, “Recommendations of the 9/11 Commission Act of 2007” was signed into law. Section 1602 of this Act states that air cargo placed on passenger aircraft will receive the same level of screening as passenger-checked baggage. The legislation went into effect on August 1, 2010, and requires 100 percent inspection of cargo transported on passenger aircraft at the piece level. The legislation did not apply to cargo on U.S. bound passenger flights from overseas or on cargo-only aircraft. However, following the discovery of a bomb on an all-cargo plane bound for the U.S., the Air Cargo Security Act was introduced on November 16, 2010. The purpose of the Act is to expand the 100 percent cargo screening mandate of passenger aircraft to cargo only aircraft. The bill didn’t become a law and TSA is currently negotiating screening agreements with 20 countries where approximately 80 percent of U.S. bound international cargo originates.

### **International Air Cargo Revenue Ton Miles by Region**

International air cargo traffic can be divided into four components consisting of Atlantic, Latin, Pacific, and 'Other International.' While total international RTMs increased, not all regions experienced growth in 2011. Latin cargo fell from 1.9 billion RTMs to 1.8 billion RTMs, a 9.3 percent decline. However, Atlantic RTMs rose 5.4 percent, from 6.9 to 7.2 billion and the Pacific region enjoyed even more expansion, a 9.1 percent increase from 8.4 to 9.1 billion. The 'Other International' category experienced the most growth. RTMs in that 'region' expanded from 5.9 billion to 7.1 billion, growing by 20.4 percent.

### **U.S. Commercial Air Carriers 2011 Financial Results**

U.S. commercial air carriers posted a net profit of \$1.6 billion during FY 2011 after reporting a net profit of \$3.4 billion one year earlier.



Operating revenues (passenger and cargo) for FY 2011 were up 10.4 percent from FY 2010. The increase in revenue underscored the ability of passenger carriers to push through fare increases and to offer value-added services that leisure and business passengers were willing to buy. The increase in revenues for cargo carriers followed a rebound from the global financial crisis that strengthened demand for air cargo services.

During the same period, operating expenses increased 12.3 percent. The increase in operating expenses during FY 2011 was driven by a 24.6 percent rise in the price of fuel for the year, as

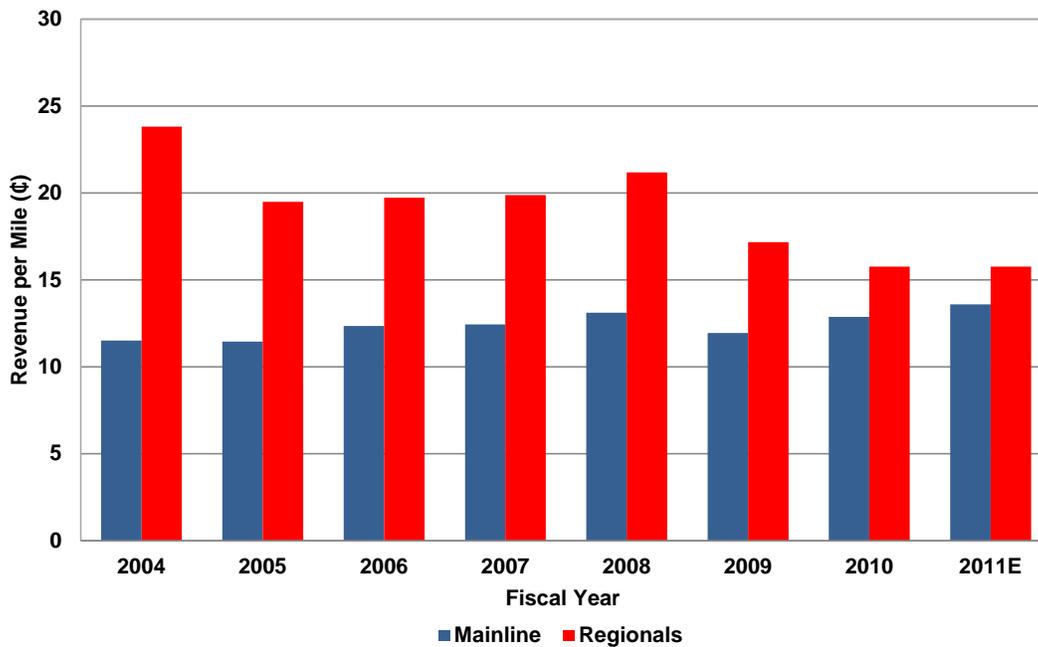
well as an increase in variable costs resulting from increased demand for passenger and cargo services.

In FY 2011, passenger carriers reported operating income of \$5.8 billion and net profits of \$540 million, while air cargo carriers reported an operating profit of \$1.9 billion and a net income of \$1.1 billion. In the domestic market, passenger carriers generated an operating profit of \$3.8 billion but posted a net loss of \$152 million. In the international market, this carrier group posted operating and net profits of \$1.9 billion and \$0.7 billion, respectively. Cargo carriers posted an operating profit of \$2.6 billion and a net income of \$1.5 billion in domestic markets. In international markets, the cargo carriers reported an operating loss of \$0.7 billion and net loss of \$0.5 billion.

The industry's financial boost is largely due to a turnaround in the performance of the network carriers. After two consecutive years (FY 2008-2009) of net losses totaling \$27.3 billion, this carrier group has now recorded back to back profitable years in FY 2010-2011. In FY 2011 the network carriers posted net profits of \$766 million and operating profits of \$4.2 billion. For the nine reporting low-cost carriers, operating profits totaled \$1.1 billion and net income totaled \$179 million for the full year.

An upswing in leisure and business demand along with ongoing capacity discipline led to a rebound in mainline carrier passenger yield for the year. Domestic mainline carrier passenger yield increased 5.6 percent in 2011.

**U.S. Commercial Air Carriers  
 Domestic Passenger Yield**



Of the reporting regional carriers, operating profits totaled \$0.5 billion and net losses totaled \$0.5 billion for FY 2011. During the same period, regional domestic yield was unchanged.<sup>10</sup> Reflecting the changing nature of the industry the network carriers are putting the squeeze on their regional partners by negotiating fee-for-departure contracts that shift more of the financial risk of contract flying to the regional carriers. Since 2000, regional carrier yield is down 59.8 percent in real terms (compared to a drop of 25.8 percent in mainline carrier yield for the same period). The drop in regional carrier yield can be attributed to longer trip lengths (due to a growing number of larger and faster regional jet aircraft entering the fleet) and rising load factors. All other things being equal, an increase in either the trip length or the load factor results in drop in yield since fee-for-departure revenues are spread over a broader base of RPMs.

## **U.S. Commercial Air Carriers 2011 Aircraft Fleets**

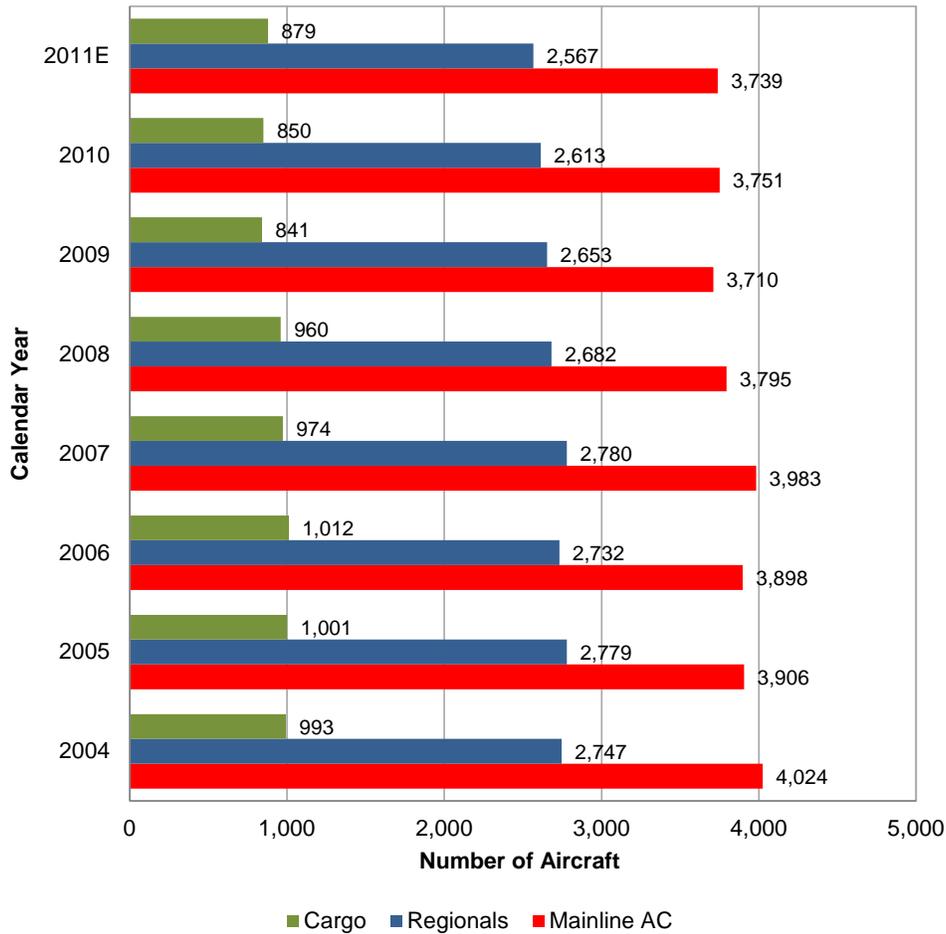
The commercial passenger carrier fleet is undergoing transformation. The mainline carriers are retiring older, less fuel efficient aircraft (e.g. 737-300/400/500 and MD-80) and replacing them with more technologically advanced A320 and 737-700/800/900 aircraft. The regional carriers are growing their 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 7,185 for 2011, a decrease of 29 aircraft from 2010. This includes 3,739 mainline air carrier passenger aircraft (over 90 seats), 879 mainline air carrier cargo aircraft, and 2,567 regional carrier aircraft (jets, turboprops, and pistons).

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<sup>10</sup> Passenger revenues include payments received by regionals from mainline partners for contractual flying.

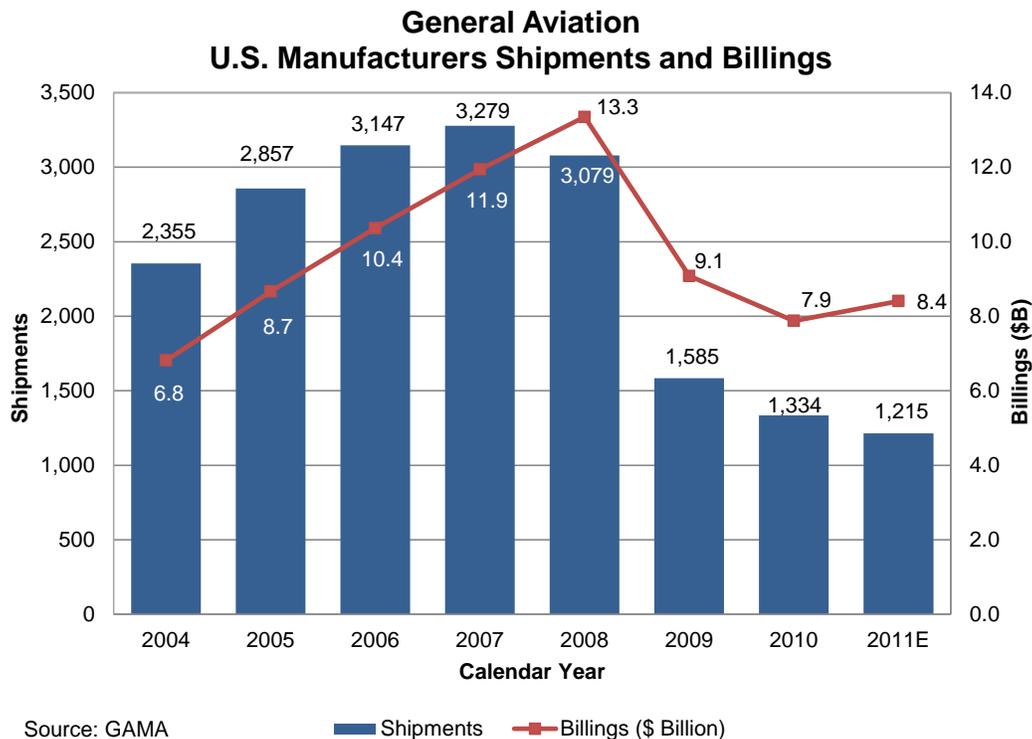
### U.S. Commercial Air Carriers Aircraft Fleet



The mainline carriers' passenger jet fleet shrunk by 12 aircraft in 2011, following a 41 unit increase in 2010. The decrease was driven by a 61 unit decrease by the remaining network carriers as they continued to prune their fleets in the face of uncertain economic growth and rising fuel prices. With the decline of the fleet in 2011, the mainline carrier fleet now stands at 16.7 percent below (749 aircraft) the level it was in 2000. The regional carrier fleet was also reduced in 2011, falling by 46 units, and now stands at its lowest level since 2003. Regional carriers continue to retire 50 seat and smaller regional jets as the operating economics of these aircraft get worse as fuel prices continue to climb.

## GENERAL AVIATION

While the signs of a slow economic recovery have been observed, difficulties in the general aviation industry continued in 2011. Based on figures released by the General Aviation Manufacturers Association (GAMA), U.S. manufacturers of general aviation aircraft delivered an estimated 1,215 aircraft in CY 2011, 8.9 percent fewer than CY 2010. This translates into a fourth consecutive year of decline in shipments, although at a slower rate. Overall piston deliveries declined 10.5 percent, with single-engine deliveries down 9.1 percent and the much smaller multi-engine category down 23.9 percent. In the turbine categories, turbojet deliveries were only slightly lower than that of last year, by 2.7 percent, while turboprops were down an estimated 13.8 percent. U.S. billings in CY 2011 are estimated to have totaled \$8.4 billion, up 6.7 percent compared with 2010.



General aviation activity at FAA air traffic facilities posted mixed results in 2011. Operations at combined FAA and contract towers declined 2.3 percent in 2011, continuing a decade long trend. General aviation activity at consolidated traffic facilities (FAA TRACONs) fell 2.6 percent, while the number of general aviation aircraft handled at FAA en-route centers was essentially flat, up a scant 0.1 percent.

The FAA uses estimates of fleet size, hours flown and utilization from the General Aviation and Part 135 Activity Survey (GA Survey) as baseline figures upon which assumed growth rates are 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 aggregated 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 2010 Survey, the latest one available, are consistent with the results of past surveys since 2004. This reinforces our belief that methodological improvements have resulted in superior estimates relative to those in the past and these are used as the basis for our forecast.

Based on the latest FAA assumptions about fleet attrition and aircraft utilization along with General Aircraft Manufacturer's Association (GAMA) aircraft shipment statistics, the active general aviation fleet is estimated to have decreased 0.4 percent in 2011 to 222,520. With the decrease in the active fleet, general aviation flight hours are estimated to have decreased 1.6 percent in 2011 to 24.4 million.

Student pilots are important to general aviation and the aviation industry as a whole. Student pilot numbers had been in decline for many years but in 2010 the FAA issued a rule that increased the duration of validity for student pilot certificates for pilots under the age of 40 from 36 months to 60 months. As a result, according to statistics compiled by the FAA's Mike Monroney Aeronautical Center, the number of student pilots at the end of 2010 increased by 64.8 percent, or approximately 47,000 pilots, compared to calendar year end 2009. While the impact of the new rule on the long term trend in student pilots has yet to be fully determined, by the end of 2011, the number of student pilots decreased by 0.4 percent from its 2010 level to 118,657. The average age of a U.S. pilot in 2011 was 44.4 years old.

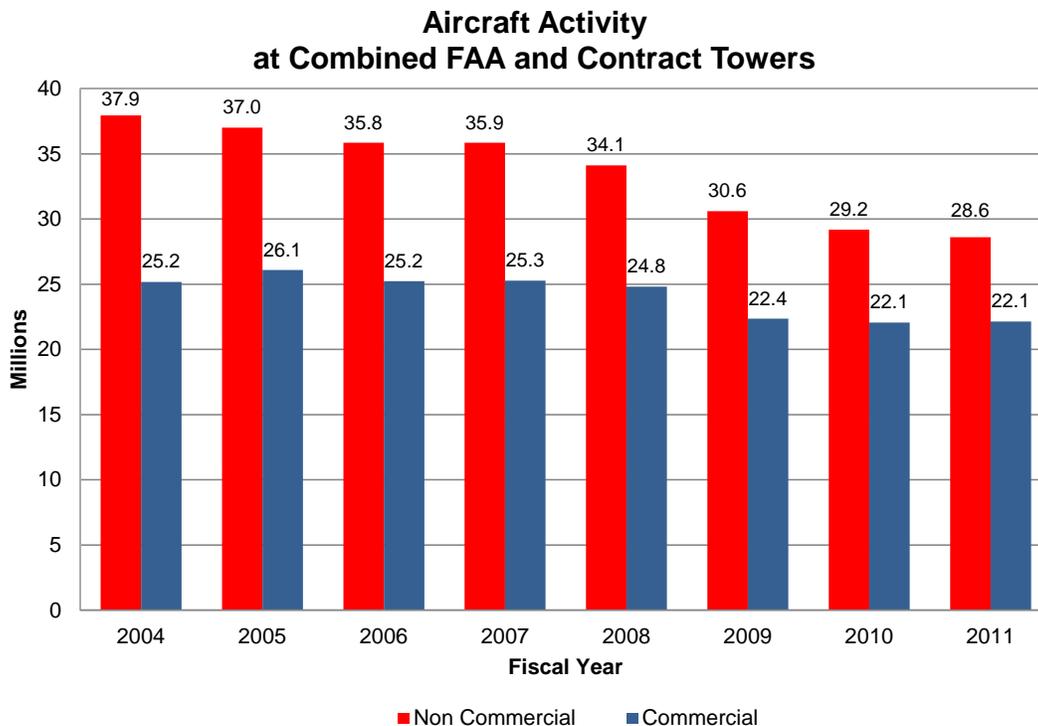
## FAA WORKLOAD

In 2011, FAA facilities experienced their fourth year of decline in activity. Commercial air traffic activity increased for the first time since 2007 as increases in air carrier activity offset declines in air taxi activity. Growth was higher during the first half of the year as carriers increased capacity in response to strengthening demand. The decline in noncommercial activity is attributed to a lackluster economy and rising fuel prices.

Total activity at combined FAA and contract tower airports was 50.7 million operations in 2011, down 1.0 percent from 2010 and 26.1 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 rose by 0.3 percent in 2011. Air carrier operations were up 1.6 percent while commuter/air taxi operations declined 1.4 percent. Commercial operations in 2011 were 15.1 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 2.0 percent in 2011, the smallest decrease in four years. General aviation activity (26.0 million) was down 2.3 percent while military activity (2.6 million) was up 0.9 percent. Since 1999, general aviation activity has increased only once (2007).

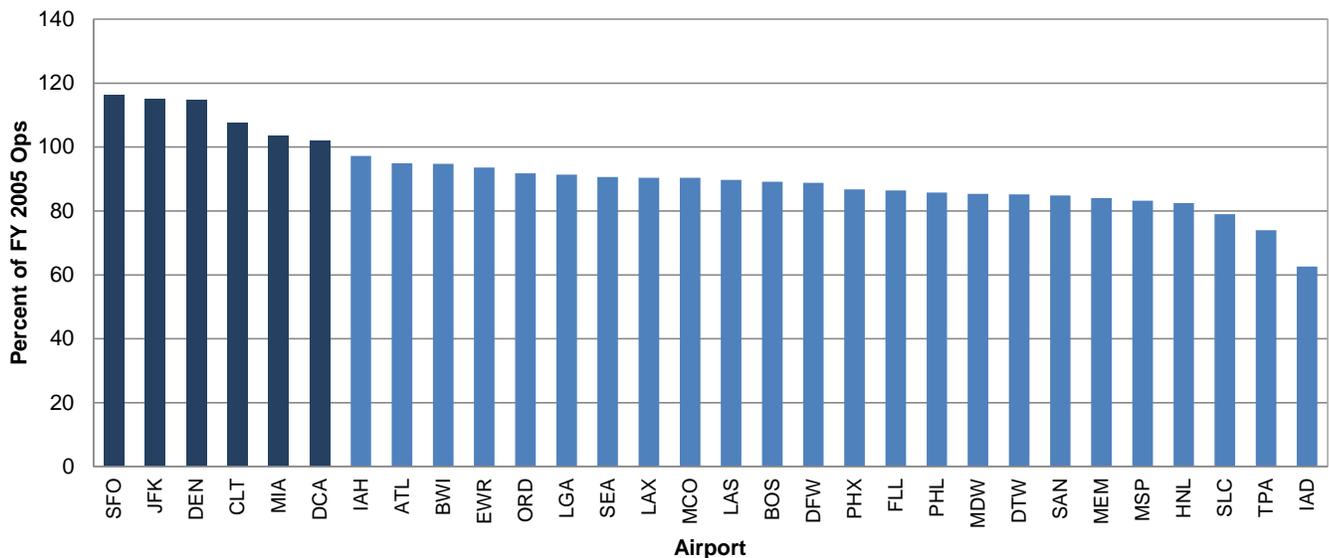
At the end of 2011, non-commercial aircraft activity was 33.1 percent below the activity in 2000.



The FAA pays close attention to the trends occurring at the “Core 30” airports. These airports represent the top 30 airports in the country in terms of passenger activity (except Memphis which

is a major freight hub) and account for about 70 percent of commercial passengers. Commercial activity at the Core 30 airports peaked in 2005, but subsequent industry restructuring has resulted in a drop in combined commercial activity at these airports since then. In 2011, commercial activity at the Core 30 airports rose by 1.5 percent from the previous year but was 8.3 percent below 2005 activity levels. Of the Core 30 airports, 23 recorded increases in activity from 2010 with the largest increases occurring at Miami (up 6.3 percent) and Reagan National in Washington, DC (up 6.1 percent). The largest decreases in activity occurred at Memphis (down 4.9 percent), and Salt Lake City (down 3.9 percent). Only six of the Core 30 airports exceeded 2005 peak activity levels during fiscal year 2011, up from four airports in both 2009 and 2010.

**Only Six of Core 30 Airports  
 are above 2005 Activity Levels  
 FY 2011 VS. FY 2005 Commercial Activity**

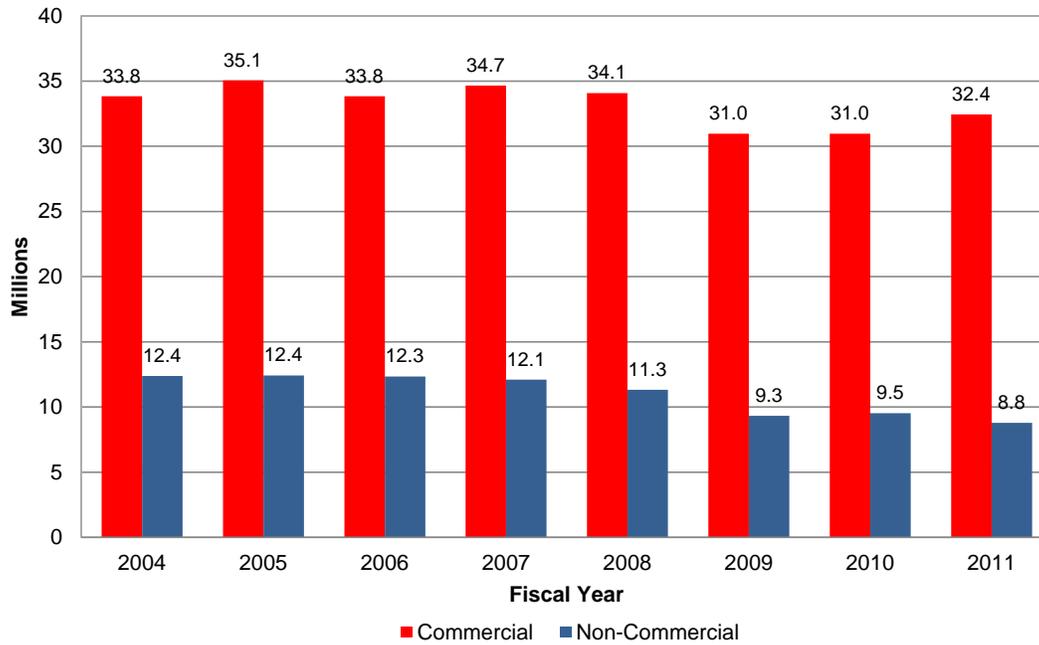


Since 2005 there has been a pronounced shift in demand which is reflected in the relative growth of commercial operations across the Core 30 airports. Commercial operations at San Francisco (up 16.2 percent), New York-Kennedy (up 14.9 percent), and Denver (up 14.9 percent) have increased the most relative to their 2005 activity levels. Commercial operations at Dulles (down 37.4 percent), and Tampa (down 26.0 percent) show the largest declines from 2005 levels. These activity level shifts reflect the impact of airline industry restructuring. The demise of Indy Air and United's continuing restructuring of its network resulted in a dramatic reduction of operations at Dulles, while the bankruptcy of Delta and its subsequent merger with Northwest along with Continental's continuing restructuring of its network has led to a dramatic shrinking of operations in Tampa.

In 2011, total activity at FAA en-route centers (41.2 million) increased 1.8 percent from the previous year, the fastest growth since 2005. Commercial activity was up sharply (4.8 percent) with air carrier operations up 4.9 percent and commuter/air taxi operations up 4.5 percent. Non-commercial activity was down 7.8 percent for the year as general aviation activity was flat (up only 0.1 percent) while military activity decreased 25.3 percent. In 2011, air carrier operations were 6.2 percent below their 2000 activity levels and air taxi/commuter operations were 11.2

percent above activity levels for 2000. Operations for the general aviation and military user groups were 25.0 and 46.9 percent below their 2000 activity levels, respectively.

### Aircraft Handled at FAA En Route Centers



## FAA AEROSPACE FORECASTS FISCAL YEARS 2012 – 2032

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

After 15 consecutive months<sup>11</sup> of modest increases in year-over-year domestic capacity, carriers reversed course and posted capacity declines in each of the last two months of 2011. The restraint in capacity coupled with strengthening demand led to record high load factors and recovery in yield. Yield is expected to show continued strength in 2012 as the capacity reductions at the end of FY 2011 accelerate into FY 2012.

Given the current instability in the global economy, there is much uncertainty as to the timing and strength of a recovery in aviation demand. Nevertheless, the FAA has developed a set of assumptions and forecasts consistent with the emerging trends and structural changes currently taking place within the aviation industry. The FAA is confident that these forecasts accurately predict future aviation demand; however, due to the large uncertainty of the operating environment, the variance around the forecasts is wider than it was 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 by Innovata. To generate the short-term forecast (i.e., two years out) current monthly trends are used in conjunction with published monthly schedules to allow FAA forecasters to develop monthly capacity and demand forecasts for both mainline and regional carriers for fiscal and calendar years 2012-13. The medium to long-term forecasts (2014-2032) are based on the results of econometric models.

The general aviation forecasts rely heavily on discussions with industry experts conducted at a workshop co-hosted by FAA and the Transportation Research Board (TRB) in July 2011 along

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<sup>11</sup> May 2010 through July 2011.

with the results of the 2010 General Aviation and Part 135 Activity Survey. The assumptions have been updated by FAA analysts to reflect more recent data and developing trends, as well as further information from industry experts.

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

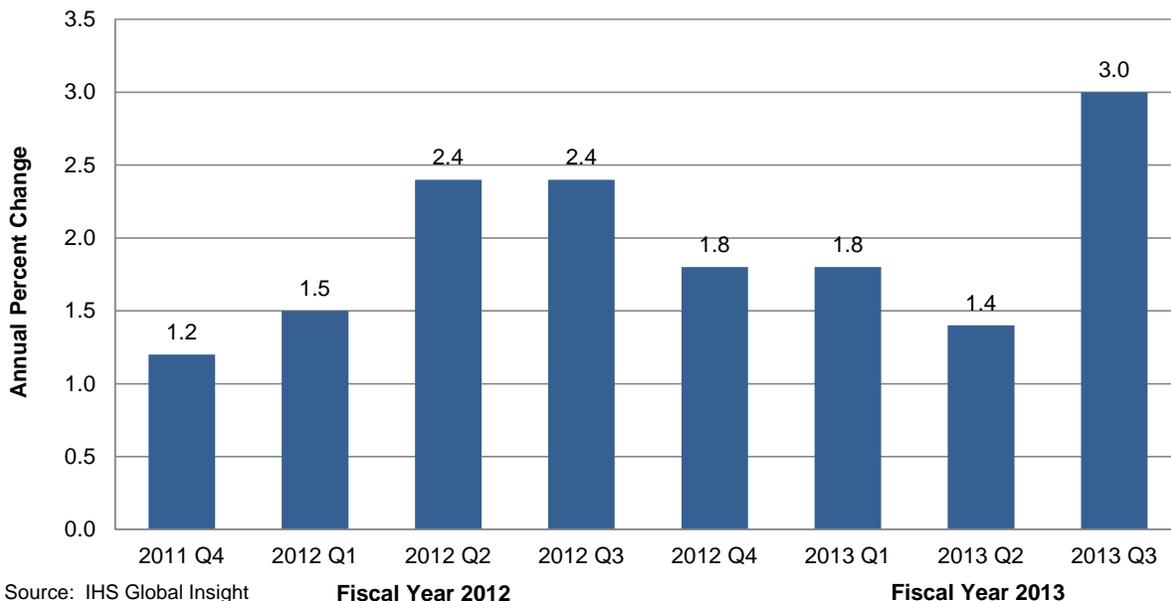
## ECONOMIC FORECASTS

For this year's Aerospace Forecast, the FAA is using economic forecasts developed by IHS Global Insight, Inc. to project domestic aviation demand. Furthermore, the FAA uses world and individual country economic projections provided by IHS Global Insight, Inc. to forecast the demand for international aviation services. Annual historical data and economic forecasts are presented in Tables 1 through 4. U.S. economic forecasts are presented on a U.S. government fiscal year (October through September) basis, whereas international forecasts are presented on a calendar year basis.

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

The boost to the economy from fiscal stimulus and inventory buildup is fading, leaving the economy to depend on underlying strength in private demand. On a quarter-by-quarter basis U.S. economic growth is projected to range between 1.4 to 3.0 percent for the next two years.

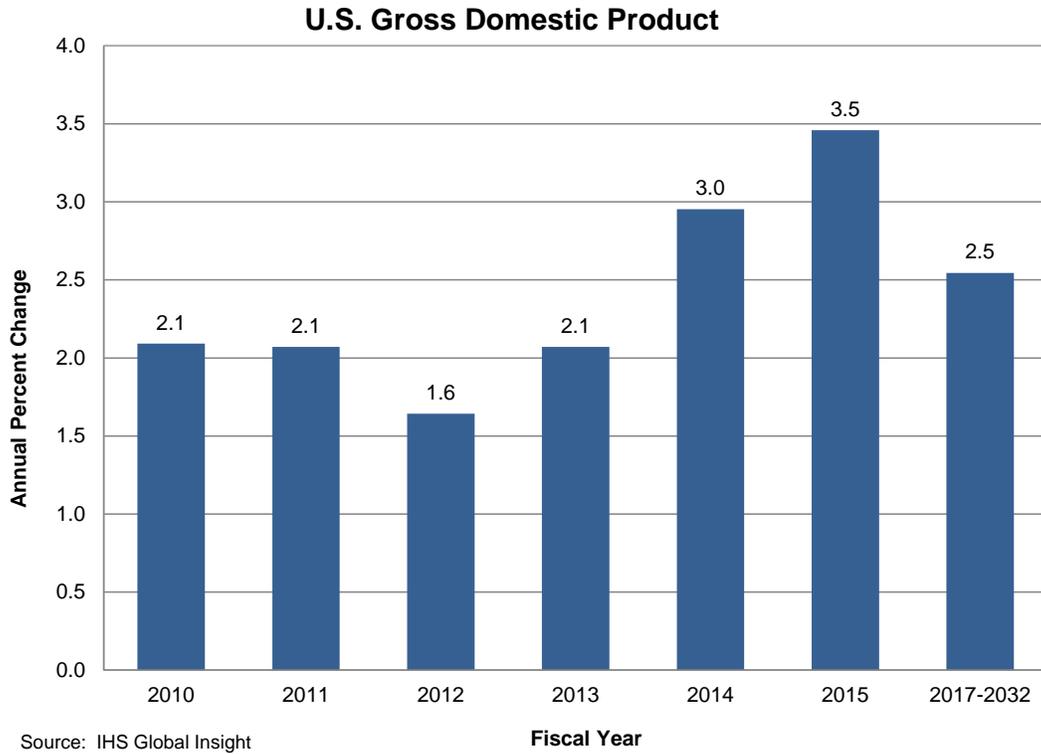
**U.S. Gross Domestic Product  
 Seasonally Adjusted Annual Growth  
 by Quarter**



Consumer spending is by far the largest component of the U.S. economy. Burdened by high household debt and rising unemployment, consumer spending increased only 2.0 percent in 2011. The recovery in consumer spending is projected to continue with increases of 1.9

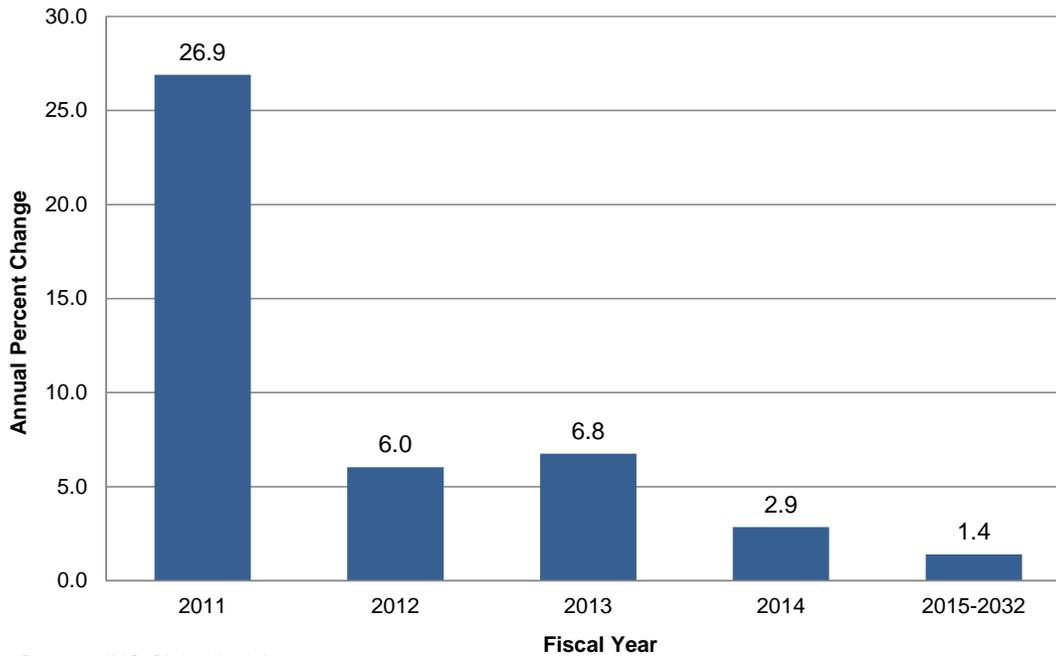
percent in 2012 and 1.8 percent in 2013 as households continue their struggle to reduce debt burdens and rebuild retirement assets.

In the medium term, (the four year period between 2013 and 2017), U.S. economic growth is projected to average 3.1 percent per year with rates ranging between 2.1 and 3.5 percent. Consumption growth remains muted during the same period (up an average of 2.1 percent). For the balance of the forecast period, U.S. real GDP growth slows to around 2.5 percent annually while consumption growth increases to 2.3 percent annually. The long-term stability of U.S. economic growth depends on sustained growth in the workforce and capital stock along with improved productivity and competitiveness.



After the price of oil increased by 29 percent in 2011, IHS Global Insight projects the price, as measured by the Refiners' Acquisition Cost, to be \$100 per barrel in 2012 (up 6.0 percent from 2011). Oil prices are now forecast to rise to over \$115 per barrel by 2020 and then gradually increase to over \$118 per barrel by 2025. For the remainder of the forecast period, oil prices are projected to grow faster than inflation, reaching \$138 per barrel by 2032.

### Refiners' Acquisition Cost



Spurred by continued economic growth, the inflation rate (as measured by the CPI), rose 2.6 percent in FY 2011 and is expected to rise 1.9 percent and 1.8 percent in 2012 and 2013, respectively. After 2012, consumer price inflation is projected to grow between 1.8 and 2.2 percent per year for the balance of the forecast.

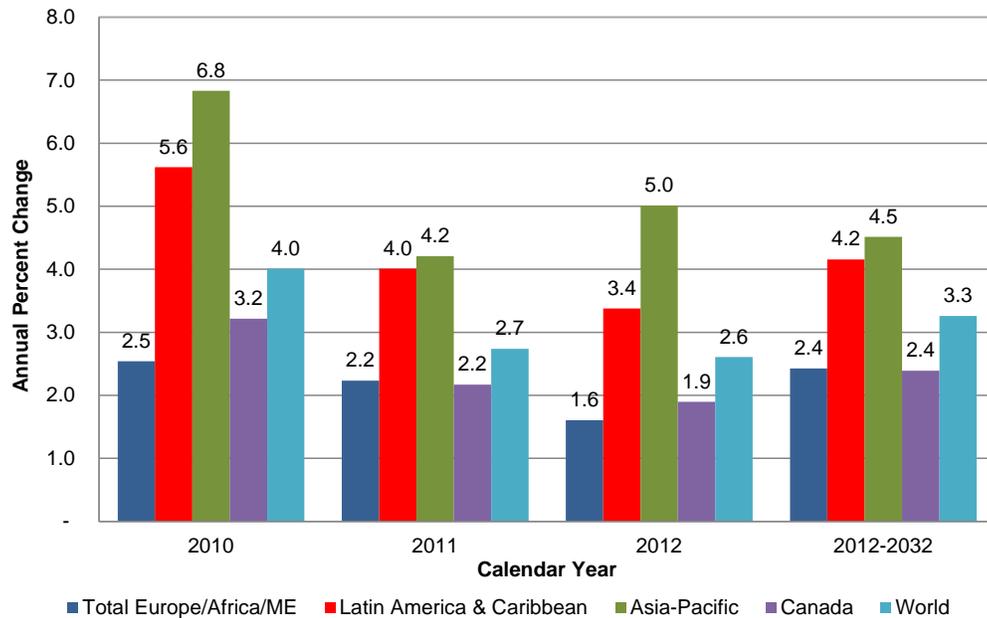
To reflect the uncertainty in the projection of economic growth, the FAA Aerospace Forecast uses high and low economic growth cases along with the base forecast. The high and low economic growth cases are based on optimistic and pessimistic scenarios from IHS Global Insight's 30-Year Focus (released third quarter 2011). The high economic growth case incorporates higher population growth, capital spending, and productivity relative to the base case. Due to the higher productivity, inflation is lower than in the base case. Real GDP growth in the high case averages 3.0 percent annually compared to 2.6 percent in the base case. The low economic growth case incorporates lower population growth, capital spending, and productivity than does the base case. By contrast, in the low economic case, inflation is higher than in the base case due to lower productivity growth. Real GDP growth in the low case averages 2.0 percent annually over the forecast horizon. Further details about the high and low scenarios can be found in Appendix A.

### World Economy

After weathering the first contraction in global GDP since the Great Depression and a deepening recession in Europe, worldwide economic activity is estimated by IHS Global Insight to have expanded by 2.7 percent in 2011. The advanced economies (U.S., Canada, Europe, and Japan) posted growth in output ranging from a low of -0.6 percent to a high of 2.2 percent.

The emerging market economies grew 6.2 percent, 1.2 points lower than in 2010 with the economy of China up 9.3 percent, India up 7.5 percent, Brazil up 3.6 percent, and Russia up 4.1 percent. In 2012, economic growth is projected to slow (up 2.6 percent) as weak household finances, sluggish employment growth, and constrained banking sectors of the advanced economies prevent global aggregate demand from growing fast enough to offset weakness from inventory accumulation, the recession in Europe, and the decline of stimulus spending. Beyond 2012 the balance of the forecast period world real GDP is projected to increase an average of 3.3 percent per year.

### Real Gross Domestic Product by World Region



Source: IHS Global Insight

The Asia/Pacific and Latin America/Caribbean 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 4.5 and 4.2 percent a year, respectively, over the forecast period (2012-2032). China, with a population of approximately 1.3 billion, is forecast to grow 6.5 percent a year, becoming the world's second largest economy by 2013 (surpassing Japan). India, with a population of approximately 1.2 billion, is projected to see its GDP more than quadruple in size, growing at an average rate of 7.3 percent a year during the forecast period. In contrast, Japan grows at just 0.7 percent a year over the forecast horizon as structural impediments, the effects of the 2011 earthquakes and tsunami, and an aging population continues to limit growth. The GDP of the Canadian, Western European, and Middle Eastern/North Africa regions are anticipated to rise at more moderate rates of 2.4, 1.7, and 3.8 percent a year, respectively, over the forecast period.

## AVIATION TRAFFIC AND ACTIVITY FORECASTS

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Total traffic and activity forecasts for commercial air carriers (the sum of mainline and regional carriers) are presented 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 displayed in Tables 10 through 18, 21, and 23. These tables contain year-to-year historical data and forecasts.

Regional carrier forecasts and assumptions are found in Tables 24 through 27. These tables provide year-to-year historical and forecast data.

Tables 19 and 20 provide year-to-year historical and forecast data for cargo activity. Table 22 provides year-to-year historical and forecast data for the cargo jet fleet.

General aviation forecasts are found in Tables 28 through 31. These tables provide year-to-year historical data and forecasts.

Tables 32 through 34 provide forecasts of aircraft activity at FAA and contract facilities.

### Commercial Aviation Forecasts

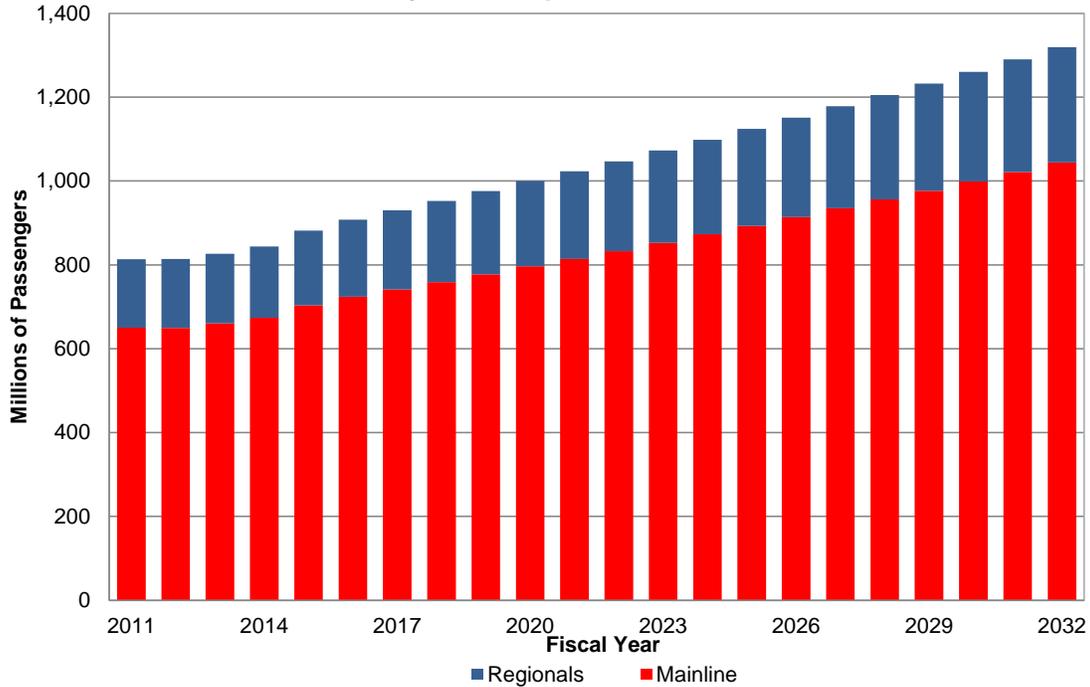
System capacity is projected to remain flat in 2012. In the domestic market, mainline carrier capacity expanded slightly (2.2 percent) in 2011 but now is projected to contract by 0.8 percent while capacity for the regional carriers is projected to also decline in FY 2012 (down 0.5 percent). In the international sector, capacity is forecast to increase in all markets -- Atlantic, Latin, and Pacific -- resulting in overall international capacity growth of 2.0 percent.

Passenger demand shows very little growth in 2012 with system RPMs forecast to grow 0.5 percent and all of this increase projected to come from international markets. An upturn is projected in 2013 with system RPMs and passengers increasing 2.6 and 1.9 percent, respectively, on a capacity increase of 2.1 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, with real yields increasing in the near term (2012-2013), and then falling, system RPMs are projected to increase 3.2 percent a year, with regional carriers (up 3.5 percent a year) growing faster than mainline carriers (up 3.2 percent a year). System passengers are projected to increase an average of 2.5 percent a year, with regional carriers growing at slightly higher rate (up 2.5 percent a year) than their mainline counterparts (up 2.5 percent). By 2032, U.S. commercial air carriers are projected to fly 1.9 trillion ASMs and transport 1.23 billion enplaned passengers a total of 1.57 trillion passenger miles.

Planes will remain crowded, with load factors projected to grow moderately during the early years of the forecast period then tapering during the mid to latter years to 83.4 percent in 2032

(up 1.1 points compared to the beginning of the forecast period in 2012). Passenger trip length is forecast to increase by more than 157 miles over the forecast period to 1,276 miles in 2032 (up 8 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.

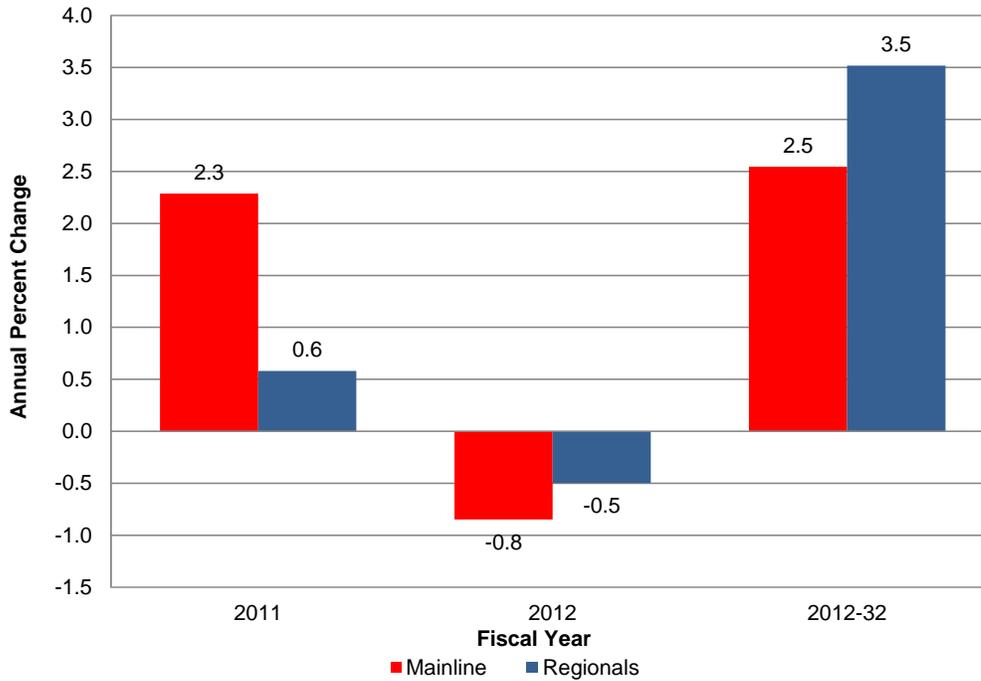
### U.S. Commercial Air Carriers System Enplanements



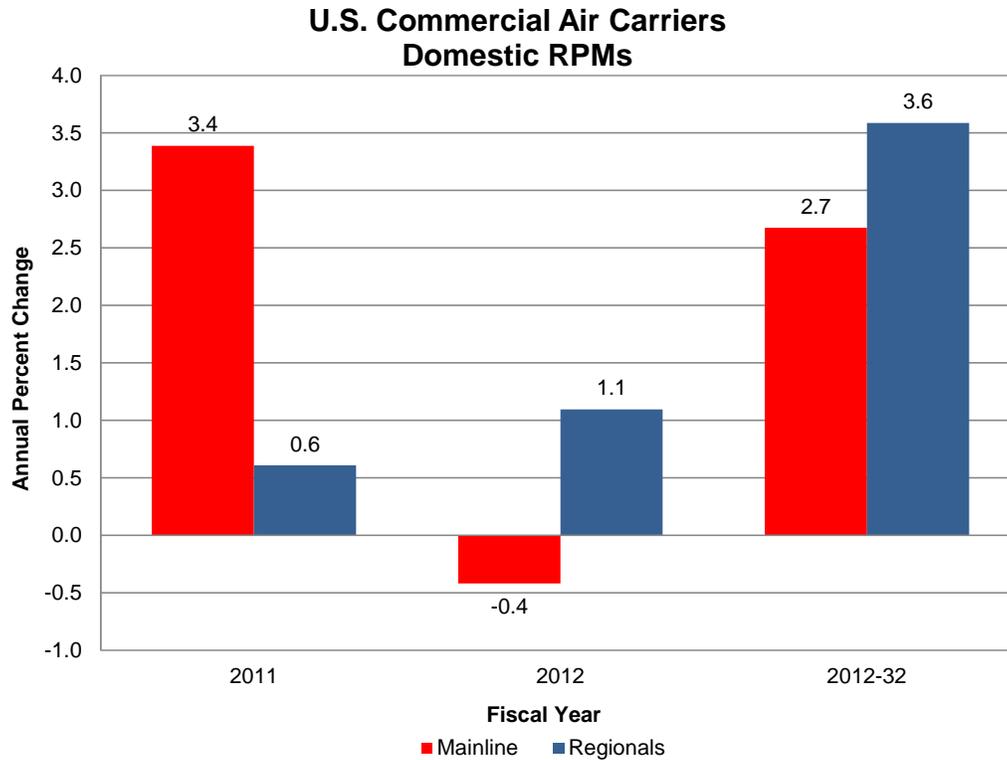
### **Domestic Markets**

After declining for three consecutive years, domestic capacity expanded in FY 2011 but is projected to fall again in 2012 (down 0.8 percent). The contraction will be similar for both mainline and regional carriers; mainline carrier capacity is forecast to decline 0.8 percent in FY 2012 while that of regional carriers is expected to fall by 0.5 percent. Domestic commercial carrier capacity picks up in 2013 (up 1.5 percent) with mainline carriers growing faster than regional carriers, 1.6 percent versus 0.8 percent. For the entire forecast period (2012-2032), overall domestic capacity is projected to increase at an average annual rate of 2.7 percent, slightly faster than economic growth. Mainline carriers are projected to grow at an annual rate of 2.5 percent while regional carriers are projected to grow a percentage point higher.

**U.S. Commercial Air Carriers  
 Domestic ASMs**



The slow pace of the economic recovery in the U.S. will dampen RPM growth during 2012, the first year of the forecast (down 0.2 percent). Traffic growth is projected to be sluggish in the first half of the year as fiscal uncertainty continues to surround the U.S. economy. Mainline carrier RPMs are projected to decline by 0.4 percent during 2012, while regional carrier RPMs are projected to increase by 1.1 percent. By 2013, traffic growth improves with RPMs up 2.1 percent as the economic recovery gains some footing. Driven by economic growth and falling real yield, domestic RPMs grow 2.8 percent a year for the remainder of the forecast (2013-2032). For the overall forecast period (2012-2032), domestic RPMs are projected to grow an average of 2.8 percent a year. Mainline carriers are projected to grow more slowly than the regional carriers throughout the forecast period (averaging 2.7 percent versus 3.6 percent a year, respectively).



Enplanements are forecast to decline slightly (down 0.1 percent) in 2012 following a 2.3 percent increase in 2011. Similar to RPMs, passenger volume is expected to pick up in 2013 (up 1.7 percent) in response to a slowly growing economy and then grow at an average rate of 2.4 percent per year for the period 2013-2032. Over the entire forecast period, domestic enplanements are projected to grow at an average annual rate of 2.4 percent with mainline carriers growing more slowly than regional carriers (2.3 versus 2.6 percent a year, respectively).

Reduced capacity combined with a modest recovery in passenger demand provided pricing power for the carriers during 2011, with nominal yield increasing 4.6 percent (up 2.0 percent in real terms). In spite of slow demand, shrinking capacity will further lift fares higher in 2012, for an increase in nominal yield of 3.1 percent (1.3 percent in real terms). For the entire forecast period, nominal yield is projected to increase at an average rate of 1.2 percent a year, while in real terms it is projected to decline at an average rate of 0.8 percent a year. The decline in real yield over the forecast period assumes technological improvements, competition between carriers, and the convergence of cost structures between network carriers and their low-cost counterparts. The convergence in cost structures between the carrier groups arises from gains in productivity as network carriers retire fuel inefficient aircraft and hold the line on labor costs while low-cost carriers contend with aging fleets, maturing work forces, and unionization.

Domestic commercial carrier activity (departures) at FAA air traffic facilities is projected to grow more slowly than passenger traffic over the forecast period (1.8 percent per year for departures versus 2.8 percent for RPMs). This reflects increased carrier efficiencies in three operational measures: aircraft size, load factor, and trip length.

Aircraft size increased on an individual basis for both the mainline and regional carrier groups in 2011, resulting in a 0.8 seat increase in overall domestic average aircraft size to 122.6 seats. Mainline carrier aircraft size increased 0.4 seats with the grounding of older, fuel inefficient aircraft (i.e. MD-80's and 737-300/400/500). Regional aircraft size increased by 0.3 seats with the retirement of 50-seat jet aircraft as larger 70-90 seat jet aircraft entered the fleet. Domestic seats per aircraft are forecast to increase in 2012 (up 0.2 seats). Over the balance of the forecast (2013-2032), domestic seats per aircraft are projected to gradually increase to 126.0 seats by 2032, an average of 0.1 seats per year.

The FAA's projection of domestic carrier average aircraft size is greatly influenced by carrier fleet plans, publicly known aircraft order books, and the FAA's expectations of the changing domestic competitive landscape. In the near-term (through 2013), the forecast incorporates several assumptions: 1) mainline carriers desire to constrain ASM capacity growth; 2) the retirement of older inefficient aircraft (many of which are narrow-body); 3) the shifting of wide-body and larger narrow-body aircraft to international services, and 4) growing use of 70-90 seat regional jet aircraft.

In the longer-term, network carriers will replace their older narrow-body aircraft (A320's/B757-200/300) larger narrow-body aircraft in their domestic route networks with next generation, narrow-body aircraft like the A320 Neo and the 737 Max. The use of smaller aircraft, like the 100-seat Embraer 190, to supplement carrier route structures will be limited. The use of the next generation, narrow-body aircraft will allow mainline carriers to better serve their customers by more closely matching supply (the number of seats) with demand (the number of passengers), and improve profitability through lower operating costs.

Mainline carrier domestic aircraft size increased in 2011 by 0.4 seats to 152.3 seats, and is projected to increase by 0.1 seats in 2012. Domestic aircraft size for mainline carriers is projected to remain unchanged in 2013 and then gradually increase for the balance of the forecast. Overall, average aircraft size for the mainline group will increase by only 1.6 seats between 2011 and 2032, going from 152.3 to 153.9.

Regional carrier aircraft size flown domestically is projected to grow at a much faster pace than that of the mainline carriers. The faster growth in aircraft size for regional carriers is stimulated by the wave of 70 to 90 seat regional jet aircraft that are entering the fleet as well as reductions in the 50-seat and under jet fleet. Regional carriers are better equipped to support operations of their mainline partners by providing capacity that complements market demand. The larger share of 70 to 90-seat regional jets in the fleet coupled with significant 50-seat jet and small turboprop retirements over the next few years increases the average seating capacity of the regional fleet from 56.4 seats in 2011 to 56.9 seats by 2012. Over the course of the forecast, seats per aircraft for the regional carriers increases an average of 0.5 seats per year to 66.4 seats in 2032. The changing aircraft fleet mix is narrowing the gap between the size and aircraft types operated by the mainline and regional carriers.

The commercial carrier domestic load factor increased 0.8 points during FY 2011 to an all-time high of 82.5 percent, with record load factors posted by the mainline and regional carrier groups. The mainline carrier group posted a load factor of 83.6 percent, up 0.9 percentage points from 2010. The load factor for the regional carriers remained flat at 76.2 percent. In 2012, the domestic load factor is forecast to increase 0.5 points to 83.0 percent as mainline

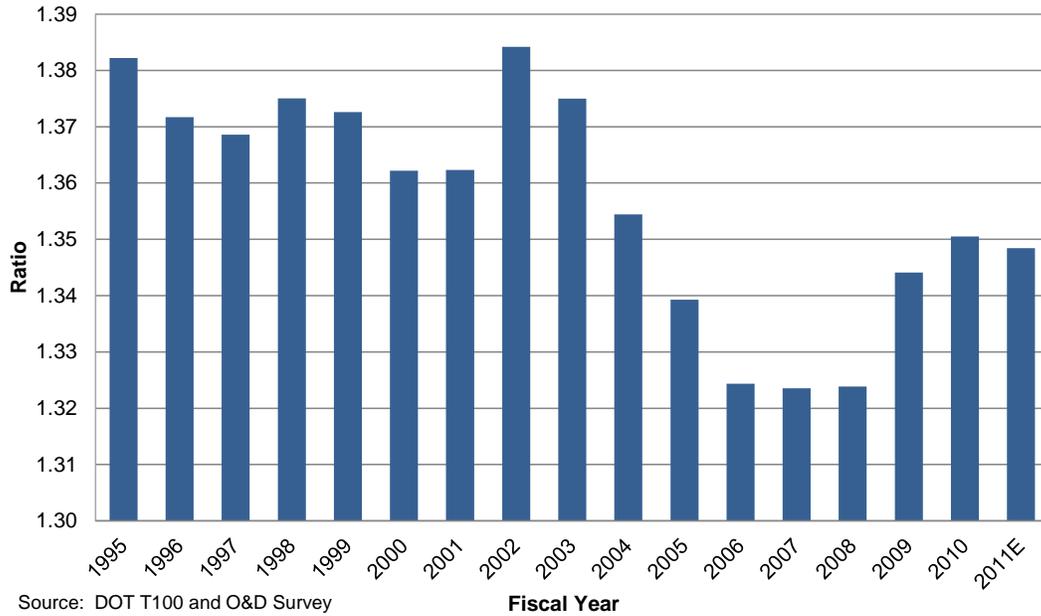
carriers increase by 0.4 percentage point and regional carriers further boost their load factor by 1.2 points. Thereafter, the commercial carrier domestic load factor gradually rises to 84.8 percent by 2032.

In 2011 the average domestic passenger trip length increased by 6 miles to 881 miles in total, after increasing by 5.3 miles in 2010. Passenger trip length is forecast to decline by 1.3 miles in 2012 and then increase by 3.4 miles in 2013 as carriers continue to restructure their networks and realign capacity. After 2013, trip length is projected to remain stable for a number of years before steadily increasing from 2018 onwards, reaching 951.6 miles by 2032. The increase in trip length reflects longer trips flown by the mainline and regional carrier group. Mainline carrier trip length increases as thinner, shorter haul markets are relinquished to regional partners and replaced with longer domestic trips. Regional carrier trip length increases as flying in shorter haul markets is abandoned and/or reduced as more of the larger 70 and 90-seat regional jets penetrate thinner longer-haul markets previously accessible with only mainline equipment.

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

The FAA analyzes the ratio of passenger enplanements to origin-destination (O&D) passengers over time to identify changes in connecting versus non-stop traffic. This ratio is an indicator of the tendency of the average passenger to connect during a typical journey. The closer the ratio is to 1.0, the more passengers fly on a point-to-point routing. As the chart below shows, the overall ratio for the U.S. domestic industry varied within a narrow band between 1995 and 2002. After 2002, the ratio trailed downward to its lowest level (1.32 enplanements for every O&D passenger) by 2008. The decline in the ratio during this six year period is characterized by a drop in connectivity by the network carriers and a rising passenger share for the low-cost carriers. A slight uptick in the ratio started again in 2009 (1.34 enplanements for every O&D passenger) and continued into 2011 (1.35 enplanements for every O&D passenger); this highlights the retrenchment by carriers as fuel costs skyrocketed and demand for air travel plummeted. The FAA's forecast recognizes the changing pattern of domestic traffic connectivity and these trends are captured in the forecast's passenger enplanement totals.

### U.S. Commercial Carriers Domestic Enplanements per Origin-Destination Passenger



## ***International Markets***

### **U.S. and Foreign Flag Carriers**

The FAA provides forecasts of total international passenger demand<sup>12</sup> 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 provided by 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 161.8 million in CY 2011, 2.8 percent higher than in 2010. Passenger demand remains consistent in 2012 (up 2.6 percent) and accelerates in 2013 (up 4.0 percent) as the world economic recovery solidifies. For the balance of the forecast period, stable worldwide economic growth leads international passengers to grow at an average rate of 4.1 percent a year, totaling 376.1 million in 2032.

In the Latin America region, sustained economic growth drives passenger growth to an average of 4.7 percent a year over the entire forecast period (2011-2032). The highest growth is projected for Brazil (average annual growth of 6.2 percent) while the largest market in the region, Mexico, grows at an average of 4.9 percent a year. The slowest rates of growth are

<sup>12</sup> The sum of U.S. and foreign flag carriers.

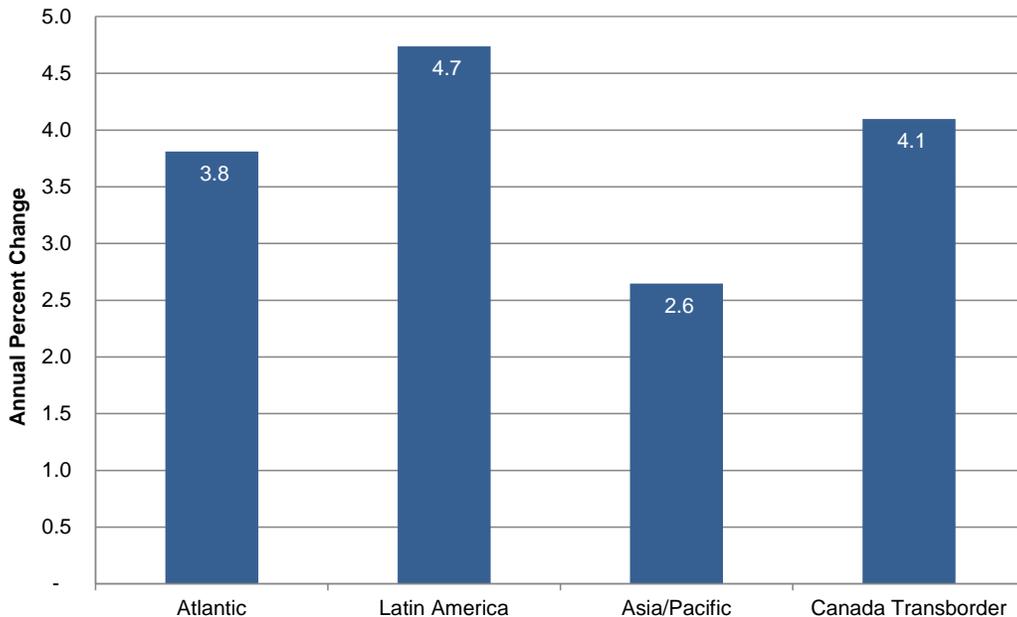
projected to occur in the Bahamian and Jamaican markets (averaging growth of 0.2 and 2.6 percent a year, respectively).

Emerging economies in the Asia-Pacific market boost passenger demand an average of 4.1 percent per year. India, Taiwan and China (passenger growth of 6.3, 5.0 and 6.9 percent a year, respectively) are forecast to be the fastest growing markets in the region. Growth in the Japan market (the largest and most established in the region) is projected to be well below the regional average at 2.4 percent a year.

In the mature Atlantic market, the Open Skies agreement between the European Union and the United States along with competition between global airline alliances helps fuel passenger growth of 3.8 percent a year over the forecast period. Over the 21-year forecast horizon, average annual passenger growth in the top four Atlantic markets (Ireland, Netherlands, Germany, and the United Kingdom) is 5.1, 4.1, 3.7, and 3.6 percent, respectively.

Growth in the Canadian transborder market is forecast to be higher than that of the domestic U.S. market (2.3 percent), averaging 3.0 percent a year over the forecast period.

**U.S. and Foreign Flag Carriers  
 Passengers to/from U.S.  
 Calendar Years 2011-2032**

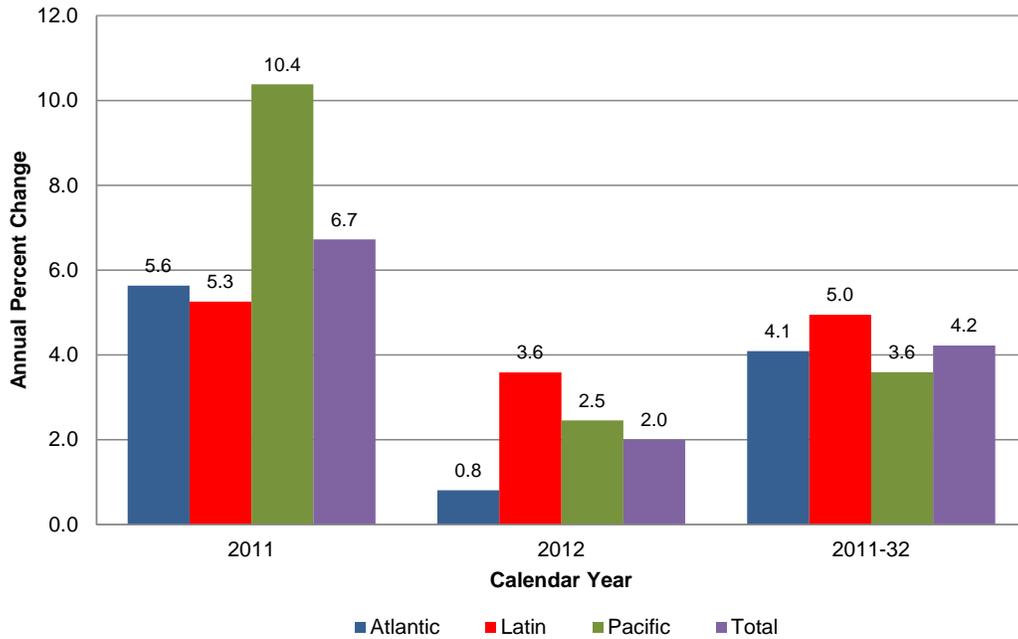


**U.S. Flag Air Carriers**

International U.S. commercial air carrier capacity grew substantially in 2011, up 6.7 percent from 2010. The Pacific and Atlantic markets both made strong recoveries in 2011 (up 10.4 and 5.6 percent, respectively) whereas Latin America’s capacity was slightly sluggish at 5.3 percent. In 2012, moderate demand and increasing competition between global alliances is expected to boost capacity by 2.0 percent (up 2.5, 0.8 and 3.6 percent, respectively in the Pacific, Atlantic, and Latin markets). Capacity is projected to grow an additional 3.5 percent in

2013, fueled by stronger economic growth projected for all world regions, and is projected to average 4.4 percent a year for the remainder of the forecast period. Moderate growth over the forecast period reflects favorable U.S. and world economic activity as it recovers from the global contraction.

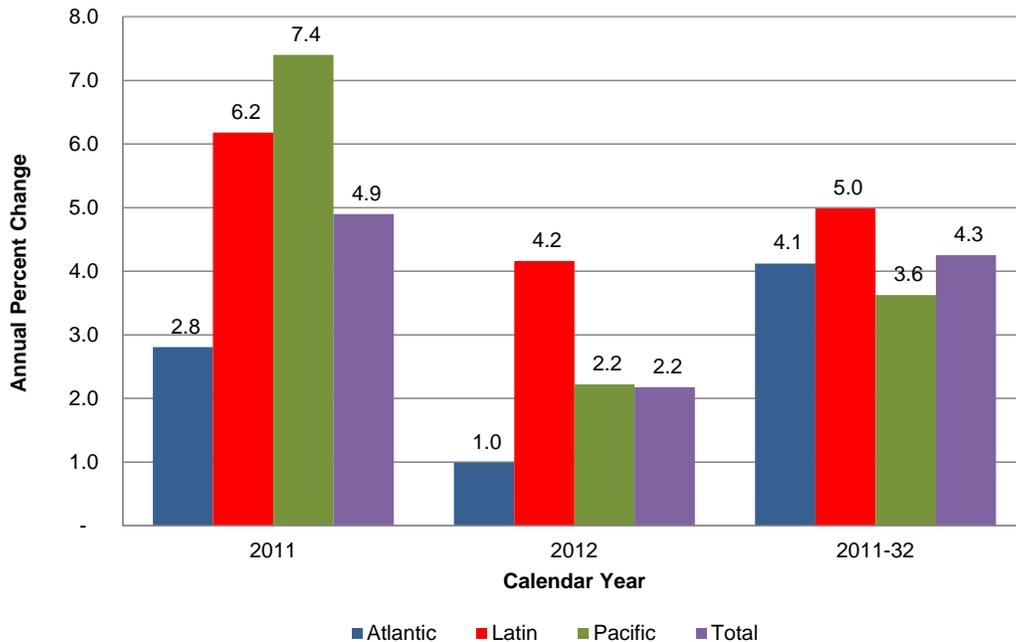
### U.S. Commercial Air Carriers International ASMs



U.S. commercial air carrier international RPMs and enplanements increased 4.8 percent and 4.4 percent, respectively, in 2011. The strong growth in capacity relative to RPMs and passengers highlights a significant change from last year when carriers actively restrained capacity as demand resumed. An increase in RPMs for the Latin market (up 5.9 percent) and Pacific market (up 7.4 percent) helped offset a more modest increase in the Atlantic market (up 2.8 percent). In 2012, U.S. carrier international RPMs are expected to increase only 2.2 percent while being led by growth in the Latin American market (up 4.7 percent) and followed by growth in the Pacific (up 1.6 percent) and the Atlantic market (up 1.0 percent). For the balance of the forecast, RPMs increase an average of 4.4 percent a year with the fastest growth showing in the Latin region (5.0 percent).

International enplanement growth for 2012 shows very flat demand (1.9 percent); however, enplanements are projected rebound at 3.0 percent in 2013. Over the balance of the forecast period (2014-2032), enplanements are forecast to increase an average of 4.3 percent a year with the fastest growth in Latin and Pacific markets (up 4.7 and 4.2 percent a year, respectively).

### U.S. Commercial Air Carriers International RPMs



The growth in U.S. carrier international passengers over the period 2011-2032 (4.1 percent a year) compares favorably to the growth in overall international passengers (also 4.1 percent a year, including the U.S.-Canada transborder market). Forecasts of international demand assume U.S. and foreign flag carriers will benefit from improving economic activity in both the United States and world markets.

International load factor for U.S. commercial carriers was 80.7 percent in 2011, a decrease of 1.7 percent from 2010. Load factor is expected to remain flat in 2012 as stronger capacity growth relative to traffic growth in the Atlantic market is offset by stronger traffic growth relative to capacity growth in the Pacific and Latin markets. International load factor is projected to increase 0.2 points in 2013 as traffic growth exceeds capacity growth in all three world markets. Load factor rises quite slowly through the remainder of the forecast to be 81.2 percent in 2032.

International passenger real yields for U.S. mainline carriers were up 7.2 percent in 2011 as the rebound in passenger demand from the global recession outpaced capacity growth. The largest increase was in the Latin America market (up 11.4 percent), followed by the Pacific (up 9.8 percent) and the Atlantic market (up 3.3 percent). Buoyed by growing passenger demand, international real yields are projected to increase by 3.9 and 1.3 percent in 2012 and 2013, respectively. For the remainder of the forecast period, real yield decreases an average of 1.0 percent a year. In nominal terms, international yields are forecast to increase 5.9 percent in 2012, and 3.1 percent in 2013 and then grow at an annual rate of 1.0 percent over the remainder of the forecast. The decline in real yields assumes competitive pressures and technological improvements will hold the line on fare increases.

## Commercial Air Carriers – Air Cargo

During 2009, world industrial production fell 9.0 percent, producing the worst decline in freight transport in 80 years.<sup>13</sup> Historically, air cargo activity tracks with GDP. Additional factors that affect air cargo growth are fuel price volatility, movement of real yields, and globalization. Significant structural changes have occurred in the air cargo industry; among these are air cargo security regulations by the FAA and TSA, maturation of the domestic express market, a shift from air to other modes (especially truck), use of all-cargo carriers (e.g., FedEx) by the U.S. Postal Service to transport mail, and the increased use of mail substitutes (e.g., faxes, e-mail).

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

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

Total RTMs grew by 3.7 percent in 2011 and are forecast to grow again in 2012 by 4.5 percent. Driven by steady economic growth, total RTMs are projected to increase at an average annual rate of 4.9 percent for the balance of the forecast period.

Domestic cargo RTMs contracted by 6.1 percent in 2011 and are forecast to decline by 2.7 percent in 2012. Between 2012 and 2032, domestic cargo RTMs are forecast to increase at an average annual rate of 1.8 percent.

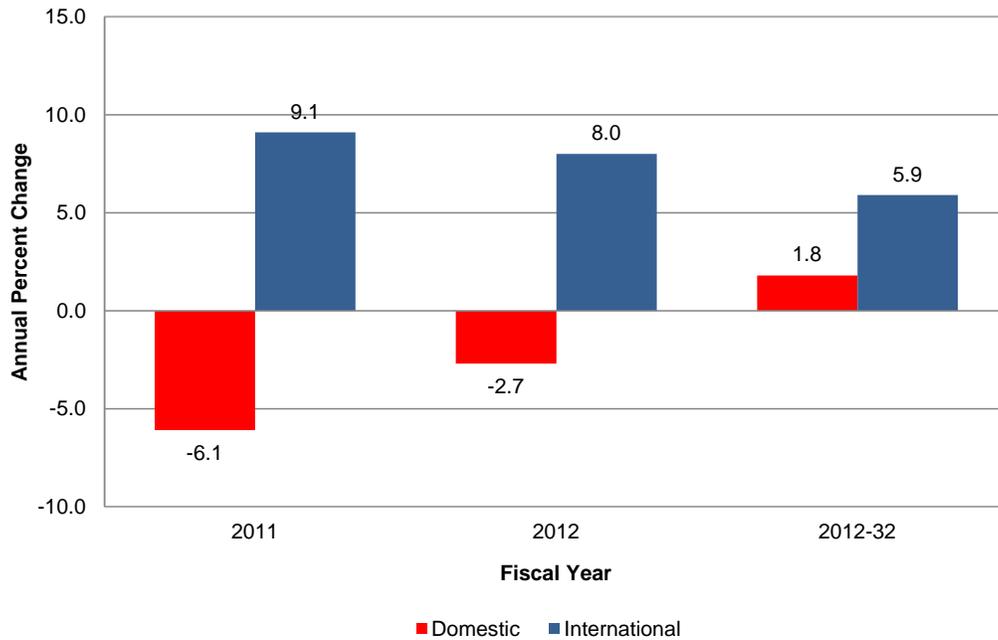
The freight/express segment of domestic air cargo is highly correlated with capital spending. Thus, this segment's growth will be tied to growth in the economy. The mail segment of domestic air cargo will be affected by price and substitution (e.g. e-mail).

The all-cargo carriers have increased their share of domestic cargo RTMs flown from 70.0 percent in 2000 to 87.6 percent in 2011. This is because of the shrinkage of the domestic freight/express business for passenger carriers as they have responded to the substantial shocks to the aviation system during this time. Shrinking networks, elimination of unprofitable flying, and consolidation have reduced opportunities for growth in their freight/express business. The all-cargo share is forecast to grow to 89.7 percent by 2032 based on increases in capacity for all-cargo carriers and security considerations.

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<sup>13</sup> Boeing World Air Cargo Forecast 2010-2011, released November 2010.

### U.S. Commercial Air Carriers RTMs



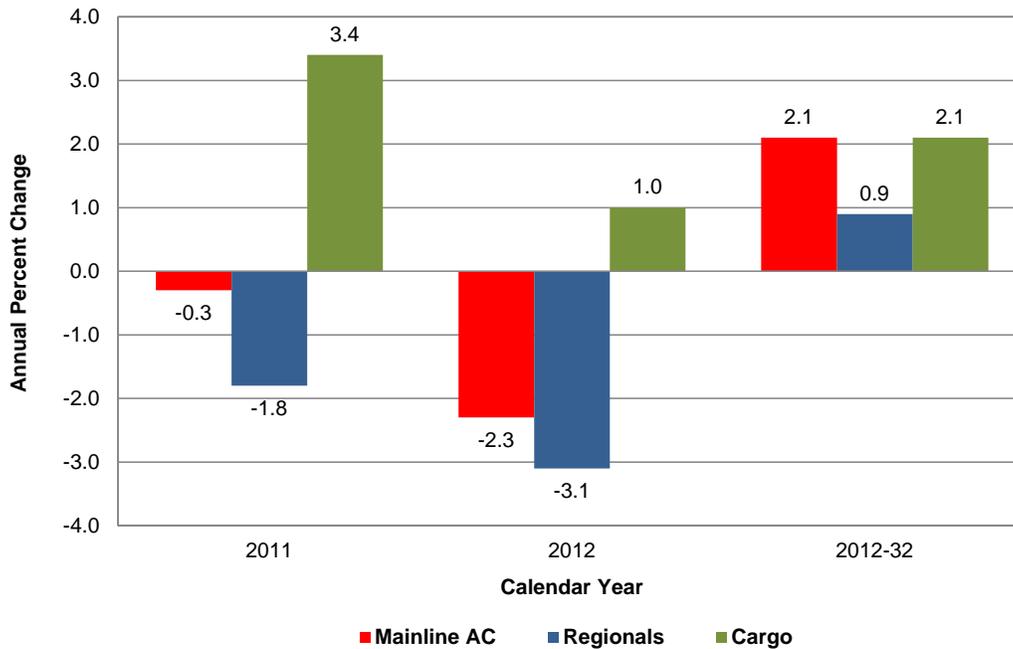
International cargo RTMs rose 9.1 percent in 2011 reflecting a continuing recovery from the global economic downturn of 2009. They are projected to grow 8.0 percent in 2012 as trade continues to expand. For the balance of the forecast period, international cargo RTMs are forecast to increase an average of 5.7 percent a year based on projected growth in world GDP.

The share of international cargo RTMs flown by all-cargo carriers increased from 49.3 percent in 2000 to 69.2 percent in 2011. Beyond 2011, the all-cargo share of RTMs flown is forecast to increase modestly to 75.5 percent by 2032.

### Commercial Aircraft Fleet

The number of commercial aircraft is forecast to grow from 7,185 in 2011 to 9,853 in 2032, an average annual growth rate of 1.5 percent or 127 aircraft annually. The commercial fleet is projected to decrease by 97 aircraft in 2012 after shrinking by 29 aircraft in 2011 as the slow recovery in demand and rising fuel prices prompted carriers to prune their fleets. Since 2007, the U.S. commercial airline fleet has contracted by 552 aircraft. In comparison, the U.S. commercial fleet contracted by 262 aircraft between 2000 and 2003, the last downturn in aviation.

### U.S. Commercial Aircraft Fleet Calendar Years 2011-2032



The number of passenger jets in the U.S. mainline carrier fleet fell by 12 aircraft in 2011 and is expected to fall another 87 aircraft in 2012 as network carriers continue to remove older, less fuel efficient narrow body aircraft. After 2012, the mainline air carrier passenger fleet increases an average of 97 aircraft a year over the remaining years of the forecast period, totaling 5,528 aircraft in 2032. The narrow-body fleet (including E-190's at JetBlue and U.S. Airways) is projected to grow by 57 aircraft annually over the period 2011-2032; the wide-body fleet grows by 28 aircraft a year as the Boeing 787 and Airbus A350's enter the fleet.

The regional carrier passenger fleet is forecast to decrease by 19 aircraft in 2012 as increases in larger regional jets are more than offset by reductions in 50 seat and smaller regional jets and turboprops. After 2012, the regional carrier fleet is expected to increase by an average of 23 aircraft (0.8 percent) over the remaining years of the forecast period, totaling 2,980 aircraft in 2032. The number of regional jets (90 seats or fewer) at regional carriers is projected to grow from 1,707 in 2011 to 2,416 in 2032, an average annual increase of 1.7 percent. All of the growth in regional jets over the forecast period occurs in the larger 70 to 90-seat aircraft. During the forecast period, all regional jets of 50 or less seats are removed from the fleet, reflecting the relaxation of scope clauses. The turboprop/piston fleet is expected to shrink from 860 units in 2011 to 564 in 2032. Turboprop/piston aircraft are expected to account for just 18.9 percent of the regional carrier passenger fleet in 2032, down from a 33.5 percent share in 2011.

Cargo large jet aircraft are forecast to increase by 15 aircraft over the next two years (from 879 to 894 aircraft in 2013), and total 1,345 aircraft in 2032. The narrow-body jet fleet is projected to increase by 6 aircraft a year over the 21-year forecast period as older 757's and 737's are converted to cargo service. The wide-body jet fleet is projected to increase by 16 aircraft yearly.

## General Aviation

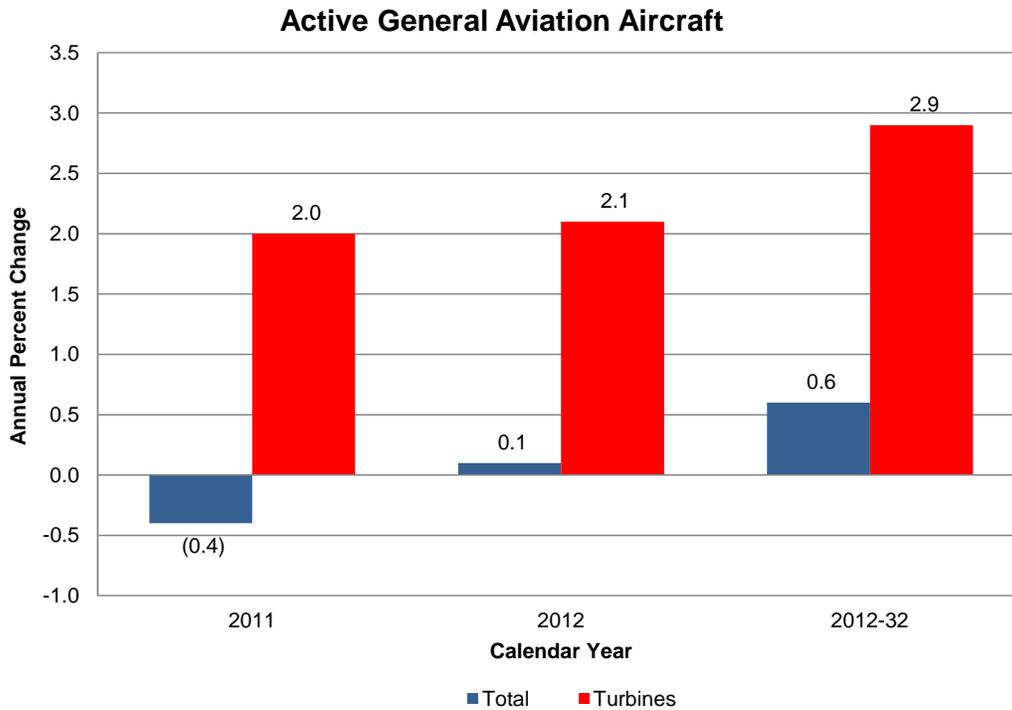
The FAA forecasts the fleet and hours flown for single-engine piston aircraft, multi-engine piston, turboprops, turbojets, piston and turbine powered rotorcraft, light sport, experimental and “other” (which consists of gliders and lighter than air vehicles). The FAA forecasts “active aircraft,”<sup>14</sup> not total aircraft. The FAA uses estimates of fleet size, hours flown, and utilization from the General Aviation and Part 135 Activity Survey (GA Survey) as baseline figures upon which assumed growth rates can be applied. Beginning with the 2004 GA Survey, there were significant improvements to the survey methodology. Coinciding with the changed survey methodology, large changes in many categories were observed, both in the number of aircraft and hours flown. The results of the 2010 GA Survey are consistent with the results of surveys conducted since 2004, reinforcing our belief that the methodological improvements have resulted in superior estimates relative to those of the past. Thus, they are used as the basis for our forecast. Because results from the GA Survey are not published until the following year, the 2010 statistics are the latest available. Figures for 2011 are estimated based on other activity indicators. Activity forecasts begin in 2012 and continue through 2032.

After growing rapidly for most of the past decade, and having slowed over the past few years, the most recent shipment activity indicates cautiously optimistic results that the hard impact of the recession on the business jet market may have come to an end and demand for business jet aircraft is beginning to recover. The forecast calls for robust growth in the long term outlook, driven by higher corporate profits and the growth of worldwide GDP. Additionally, continued concerns about safety, security, and flight delays keep business aviation attractive relative to commercial air travel. As the industry experts report a significant portion of piston aircraft hours are also used for business purposes, we predict business usage of general aviation aircraft will expand at a faster pace than that for personal and recreational use.

The active general aviation fleet is projected to increase at an average annual rate of 0.6 percent over the 21-year forecast period, growing from an estimated 222,520 in 2011 to 253,205 aircraft by 2032. The more expensive and sophisticated turbine-powered fleet (including rotorcraft) is projected to grow at an average of 2.9 percent a year over the forecast period, with the turbine jet portion increasing at 4.0 percent a year.

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<sup>14</sup> An active aircraft is one that flies at least one hour during the year.

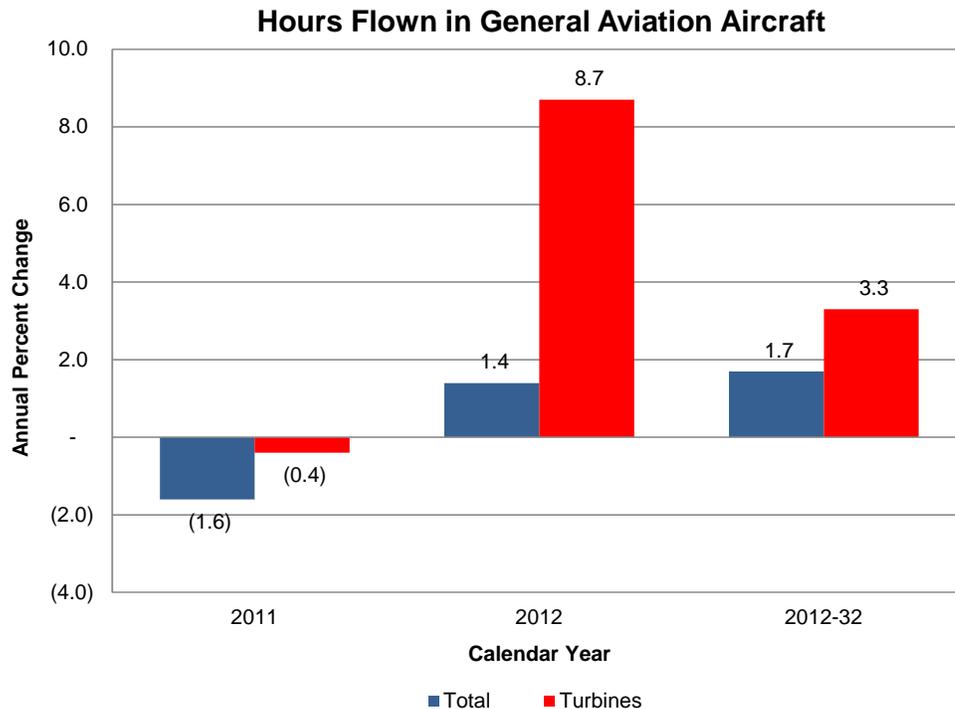


The number of active piston-powered aircraft (including rotorcraft) is projected to decrease from the 2010 total of 159,007 to 151,685 through 2023, with declines in both single and multi-engine fixed wing aircraft, but with the smaller category of piston-powered rotorcraft growing. Beyond 2023, active piston-powered aircraft are forecast to increase to 155,395 by 2032. Over the forecast period, piston-powered aircraft is projected to decrease by an average annual rate of 0.1 percent. Although piston rotorcraft are forecast to increase by 2.1 percent a year, they are a relatively small part of this segment of general aviation aircraft and therefore have little effect on the overall trend. Single-engine fixed-wing piston aircraft, which are much more numerous, are projected to decline at a rate of 0.1 percent, while multi-engine fixed wing piston aircraft are projected to decline by 0.5 percent a year.

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 2010, a total of 6,528 active aircraft were estimated to be in this category. The forecast assumes about 4 percent annual growth of the fleet until 2013. Thereafter the rate of increase in the fleet slows to about 2 percent per year. By 2032, a total of 10,195 light sport aircraft are projected to be in the fleet.

The number of general aviation hours flown is projected to increase by 1.7 percent yearly over the forecast period. The FAA projects above average growth in hours will occur after 2023 with increases in the fixed wing turbine aircraft fleet, as well as a rebounding single engine piston fleet and increasing utilization of single engine piston aircraft as the aging of this fleet starts to slow down. In the medium term, much of the increase in hours flown reflects strong growth in the rotorcraft and turbine jet fleets. Hours flown by turbine aircraft (including rotorcraft) are forecast to increase 3.6 percent yearly over the forecast period, compared with essentially no growth (0.03 percent) for piston-powered aircraft. Jet aircraft are forecast to account for most of the increase, with hours flown increasing at an average annual rate of 5.3 percent over the forecast period. The large increases in jet hours result mainly from the increasing size of the

business jet fleet, along with a measured recovery in utilization rates from recession induced record lows. Rotorcraft hours, which were less impacted by the economic downturn when compared to other categories and rebounded earlier, are projected to grow by 2.6 percent yearly. An expected decline in utilization rates of turbine rotorcraft is due to the assumption that recently improved affordability at the lower end of the turbine market will sustain the recent market share shift toward turbines; however, as turbine powered rotorcraft replaces the pistons, and since most of their functions will remain unchanged, utilization rates of some of the new turbines will be closer to those of the pistons. Lastly, the light sport aircraft category is expected to see an increase in hours flown of 3.5 percent a year; this is primarily driven by growth in the fleet.



The number of active general aviation pilots (excluding air transport pilots) is projected to be 510,295 in 2032, an increase of over 35,000 (up 0.3 percent yearly) over the forecast period. Commercial pilots are projected to increase from 120,865 in 2011 to 130,100 in 2032, an average annual increase of 0.4 percent. The number of student pilots is forecast to decrease at an average annual rate of 0.1 percent over the forecast period, declining from 118,657 in 2011 to 116,720 in 2032. In addition, the FAA is projecting that by the end of the forecast period a total of 13,900 sport pilots will be certified. As of December 31, 2011, the number of sport pilot certificates issued was 4,066 reflecting a steady increase in this new “entry level” pilot certificate that was only created in 2005. The number of private pilots is projected to grow at an average yearly rate of 0.1 percent over the forecast period to a total of 199,300 in 2032 from 194,441 in 2011.

## FAA Workload Forecasts

### ***FAA and Contract Towers***

Activity at the 512 FAA (264) and contract towers (248) totaled 50.7 million operations in 2011, down 1.0 percent from 2010. Activity is projected to decrease 1.2 percent in 2012, as declines in non-commercial operations more than offset increases in commercial activity. Growth in total activity at FAA and contract towers resumes in 2013 (1.1 percent) and for the balance of the forecast, activity grows at an average rate of 1.1 percent per year, reaching 62.6 million operations in 2032.

Most of the growth over the forecast period results from increased commercial aircraft activity (up 1.8 percent annually). Air carrier activity is projected to increase slightly (0.2) percent in 2012 as carriers keep capacity under control given the uncertain economic environment. Beyond 2012, air carrier activity is projected to increase an average of 2.1 percent per year over the forecast period. Commuter/air taxi operations are forecast to fall 0.7 percent in 2012 then increase 1.6 percent a year for the balance of the forecast period.

General aviation activity fell 2.3 percent in 2011 with declines in both itinerant (down 2.3 percent) and local (down 2.4 percent) activity. Activity is projected to fall again in 2012 (down 2.2 percent) reflecting the continuing impact of the 2009 recession before beginning to rise modestly in 2013 (up 0.4 percent) as a growing economy promotes the growth of flight hours and operations despite higher oil prices. For the entire forecast period, general aviation activity at towered airports is projected to increase an average of 0.4 percent a year, to 27.8 million operations in 2032. 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 in piston aircraft, while those at the largest airports tend to be turbine operations.

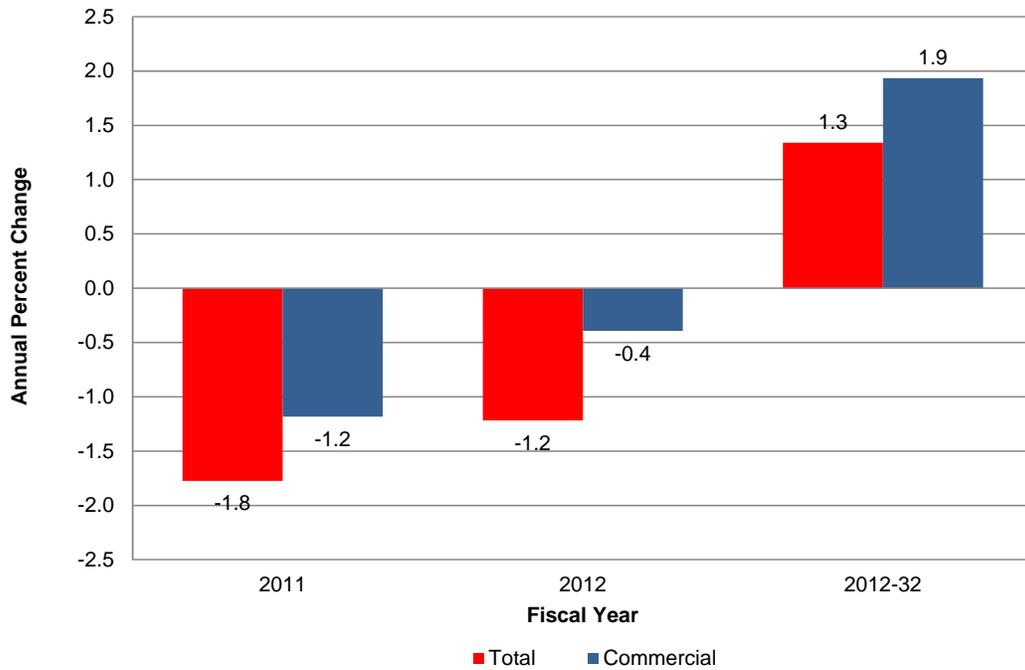
Military activity rose 0.9 percent in 2011 and is assumed to remain at 2011 levels throughout the balance of the forecast period.

Operations<sup>15</sup> at FAA TRACONs (Terminal Radar Approach Control) fell 1.8 percent in 2011, the seventh year in a row. They are projected to fall an additional 1.2 percent in 2012 as both commercial and non-commercial activity decline. After 2012, TRACON operations are forecast to increase at an average annual rate of 1.3 percent for the balance of the forecast. For the entire forecast period, TRACON operations grow an average of 1.2 percent per year, totaling 49.4 million in 2032.

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<sup>15</sup> TRACON operations consist of itinerant Instrument Flight Rules (IFR) and Visual Flight Rules (VFR) arrivals and departures at all airports in the domain of the TRACON as well as IFR and VFR overflights.

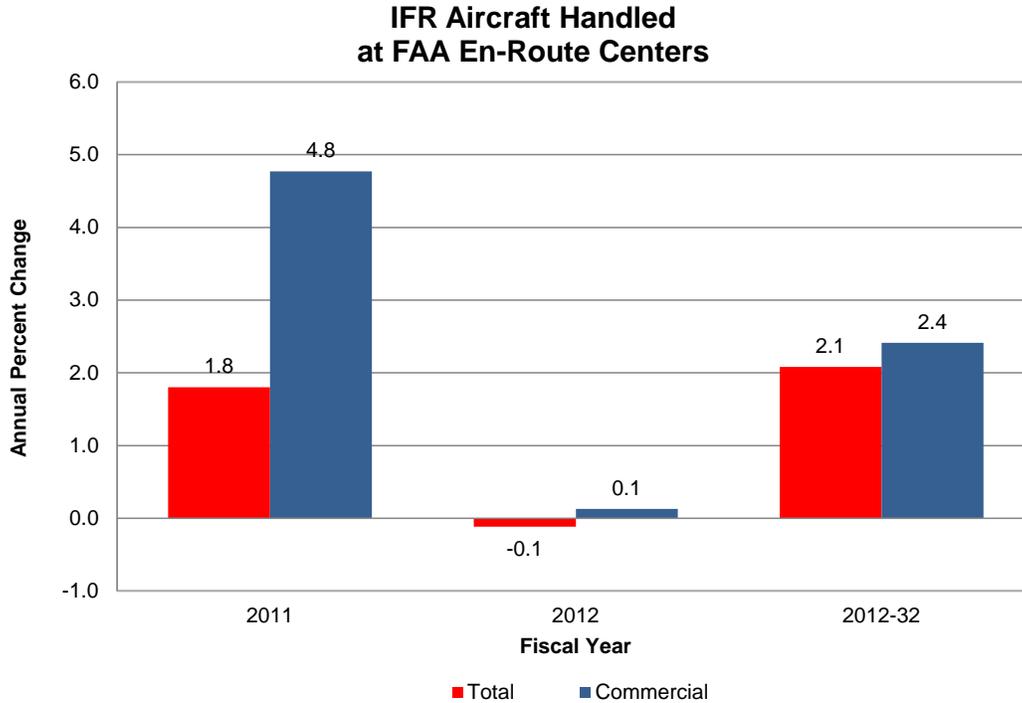
### Tracon Operations



Over the forecast period, commercial aircraft operations at FAA TRACONS are forecast to increase at 1.8 percent per year with increases in air carrier activity surpassing commuter/air taxi activity. General aviation operations at FAA TRACONS are projected to grow 0.3 percent a year, reflecting the slow growth in the general aviation fleet and hours. Military activity is expected to remain at its 2011 level (2.4 million) of activity throughout the forecast period.

### ***En-route Centers***

The number of IFR aircraft handled at FAA en-route traffic control centers increased 1.8 percent to 41.2 million in 2011, highlighted by a 4.8 percent increase in commercial aviation activity. However given the projected declines in airline activity and general aviation hours, en-route center activity is forecast to decrease by 0.1 percent in 2012. After 2012, through the balance of the forecast period, en-route activity increases 2.1 percent annually, reaching 61.2 million aircraft handled in 2032. Over the entire forecast period, commercial activity is projected to increase at an average annual rate of 2.4 percent, reflecting increases in the commercial fleet and aircraft stage lengths. During the same period, general aviation activity is projected to grow 0.9 percent per year, reflecting growth in business aviation. Military activity is held constant at the 2011 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 at 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

Unmanned Aircraft Systems (UASs) come in a variety of shapes and sizes, and serve many purposes. Some have wingspans as large as a Boeing 737 and some are smaller than a radio-controlled model airplane. UAS have changed from remotely piloted vehicles with limited capabilities to semi and fully autonomous vehicles with expanded potential commercial applications. In the United States alone, over 50 companies, universities, and government organizations are developing and producing some 155 unmanned aircraft designs. Market Research Media projects an annual growth of 12 percent for UAS military market. The Teal Group forecasts over \$94 billion in total UAS spending over the next ten years.

To address the increasing civil market and the desire by civilian operators to fly UASs, the FAA is developing new policies, procedures, and approval processes. The FAA is working closely with stakeholders in the UAS community to define operational and certification requirements.

It is critical to develop and validate appropriate operational procedures, regulatory standards and policies for routine UAS access to the NAS. To facilitate this, the FAA created the Unmanned Aircraft Program Office (UAPO). The FAA has asked RTCA – a group that frequently advises the agency on technical issues – to work with the industry and develop UAS standards. The FAA chartered an Aviation Rulemaking Committee (ARC) to examine these operational and safety issues and make recommendations on how to proceed with regulating small UASs. The FAA is in the process of proposing a regulation based on the recommendations received from the ARC.

Once enabled, commercial UAS markets will develop. There are many potential ways for a company to generate revenue from UAS applications, whether from new markets or more efficient applications in established markets. Based upon the expected regulatory environment, FAA predicts roughly 10,000 active commercial UASs in five years.

With the safe integration into the airspace, UAS has the potential to be a significant component in commercial aviation.

## 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 U.S. Code, Subtitle IX, Chapter 701 (formerly the Commercial Space Launch Act). Title 49 and the Executive Order also direct the Department of Transportation (carried out by the FAA) to encourage, facilitate, and promote commercial launches. AST's mission is to license and regulate commercial launch and reentry operations and non-federal launch sites to protect public health and safety, the safety of property, and the national security and foreign policy interests of the United States.

### Overview

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

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

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

The medium-class Antares by Orbital is currently under development and its first launch is planned for 2012.

From 1989 through the end of 2011, DOT/FAA has licensed 205 orbital and suborbital commercial launches.

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

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

## Review of 2011

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There was one FAA-licensed orbital launch in 2011, down from four in 2010. Sea Launch performed one Zenit 3SL launch of the communications Atlantic Bird 7 satellite for Eutelsat.

**FAA Licensed and Permitted Launches, 2010-2011**

	2010	2011	2012 Forecast
Licensed Launches	4	1	6-9
Permitted Launches	0	2	10-25

Worldwide there were 18 orbital commercial launches in 2011, compared to 23 in 2010. In addition to the one FAA-licensed launch, Europe performed four commercial launches, all on the Ariane 5 vehicle. Russian conducted 11 commercial launches of various vehicles, and China conduct two commercial launches on the Long March 3B vehicle. There were 84 total worldwide commercial, civil, and military launches in 2011, with commercial launches representing approximately 23 percent of the total. For more details, see the Year in Review report available online at:

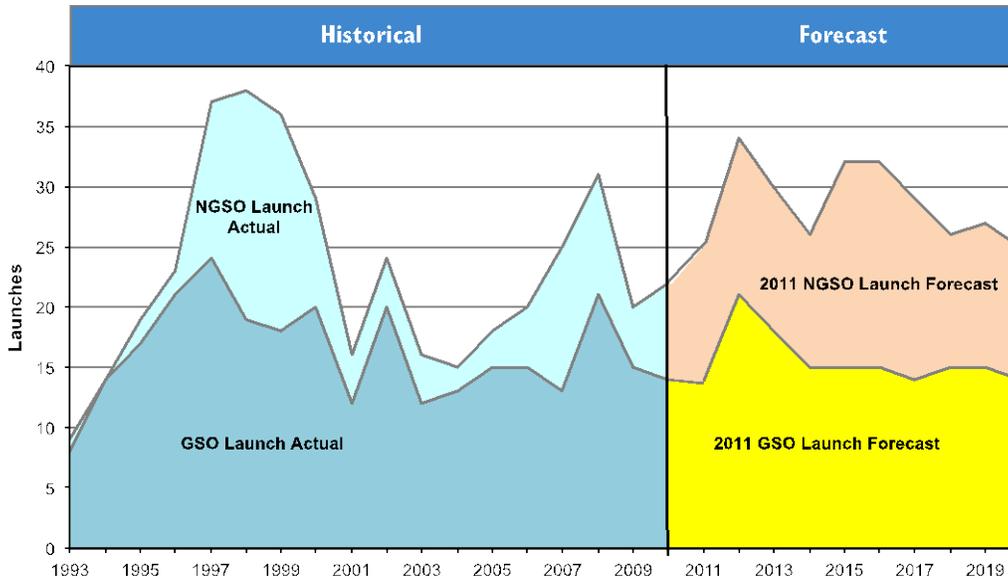
[http://www.faa.gov/about/office\\_org/headquarters\\_offices/ast/reports\\_studies/year\\_review/](http://www.faa.gov/about/office_org/headquarters_offices/ast/reports_studies/year_review/).

## Global Forecast

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In May 2011, the FAA and the Commercial Space Transportation Advisory Committee (COMSTAC) published their annual global forecast for commercial launch demand, the *2011 Commercial Space Transportation Forecasts*. The report forecasts an average of 28.6 commercial orbital launches per year of geosynchronous orbit (GSO) and non-geosynchronous orbit (NGSO) payloads through 2020. That annual average includes 15.6 launches of medium-to-heavy vehicles to deploy GSO satellites, 11.1 launches of medium-to-heavy vehicles to NGSO, and 1.9 launches to NGSO by small vehicles.

FAA Aerospace Forecast Fiscal Years 2012-2032



Commercial GSO launches are used for communications satellites with masses ranging from 2,000 to over 6,000 kilograms. There has been an increase in the number of GSO satellites that are larger and more complex; however, there is still a demand for smaller satellites. Demand for commercial NGSO launches spans a number of markets, including commercial remote sensing; science and technology demonstration; and replenishment and replacement of low Earth orbit communications satellite systems reaching the end of their lifespan. The majority of commercial NGSO launches for science and technology demonstration missions are for nations that do not have indigenous launch capability.

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

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

## RISKS TO THE FORECASTS

The FAA is confident that its current outlook for aviation demand and activity can be achieved. However, this year's forecast is driven, at least in the short-term, by a number of factors including security, as well as the strength of the economic recovery. As numerous recent incidents (the attempted bombing of a Northwest airliner on Christmas Day 2009, the discovery on multiple devices on cargo flights out of Europe in October 2010) remind us, terrorism remains among the greatest risks to achieving the forecast. Because of aviation's high visibility and global reach, concerns remain about international terrorism. Any terrorist incident aimed at aviation would have an immediate and significant impact on the demand for aviation services.

Although oil prices remained high in 2011, there is still considerable uncertainty as to the level of oil prices once the economic recovery is on firmer ground. The FAA's baseline forecast (derived from economic assumptions in IHS Global Insight's 30-Year Focus released during the third quarter of 2011) calls for steady increases in oil prices after 2011. The increases are relatively modest, with the price of oil approaching \$110/barrel by 2015 and then remaining around that level until 2024. Thereafter, prices begin to escalate gradually, approaching \$140/barrel by the end of the forecast period in 2032. Some forecasters are calling for a much sharper increase in the price of oil. The U.S. Energy Information Administration (EIA) in its 2012 Annual Energy Outlook projects oil prices exceeding \$120/barrel by 2015-2016 and continuing to rise over the next 20 years, reaching \$195-\$210 per barrel in 2032. While lower oil prices give consumers an impetus for additional spending, including air travel, and increases the chances for industry profitability, higher oil prices could lead to further shifts in consumer expenditures away from aviation, dampening a recovery in air transport demand. Furthermore, higher oil prices, especially in the near term, could wipe out industry profitability, put increasing pressure on airline costs, delay balance sheet improvements and discourage expansion plans or orders for new aircraft as carriers focus on maintaining and increasing cash balances.

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

crisis. The current forecasts assume strong passenger growth for travel between the United States and other world regions. Any slowing of worldwide economic activity could seriously inhibit the growth in global passenger demand.

The outlook for further consolidation via mergers and acquisitions (M&A) is mixed. For network carriers, the bankruptcy filing of American Airlines in November 2011 has led to much speculation of possible combinations with either U.S. Airways or Delta. In the low cost carrier sector, the merger between Southwest and AirTran is progressing at a steady pace with the issuance of a single operating certificate expected in early 2012. Aside from Southwest and AirTran, there appears to be little scope for further consolidation as there are significant obstacles. In particular the financial situation of many low cost carriers limits the possibilities of additional merger activity. For many low cost carriers, the sheer size of merger transactions or the amount of financial risk associated with a merger makes further merger activity unlikely. However, U.S. airlines are exploring other options including global alliances. Many of the major carriers in the U.S. are members of global alliances that operate with some measure of anti-trust immunity from the U.S. DOT. While anti-trust immunity may provide flexibility for airline operators across borders, it may create an anti-competitive environment in the marketplace. These market consolidating vehicles, particularly the anti-trust immunity provisions, may invite increased regulatory scrutiny. If such oversights are launched in the future, this will complicate the evolving structure of the airline industry and may impact demand via new regulations.

The forecast assumes the addition of sizable numbers of large regional jets (70 to 90 seats) into the fleet of regional carriers. However, the regional carriers' future is closely linked to those of the larger network carriers. As demand continues to slowly recover, increased financial pressures on regional operators have appeared. Furthermore, as consolidation has occurred among the network carriers, certain regional carriers have found themselves either saddled with excess capacity or lack of sufficient capacity, or lack of feed traffic. Unlike the period after the terror attacks of September 11, 2001, when network carriers also reduced the size and breadth of their networks, regional carriers have not necessarily seen opportunities for increased flying to backfill the loss of the mainline service. The Delta/Northwest combination and the impending United/Continental combination may reduce opportunities for regional flying substantially.

After suffering through a significant downturn in 2009, business and corporate aviation saw a partial recovery in 2010-11. The pace of the recovery in business and corporate aviation is largely based upon the future prospects of economic growth and corporate profits. Future uncertainty in these leading indicators could pose a risk to the forecast, but the risk is not limited to these factors. Public perception of business and corporate aviation, potential environmental regulations and taxes, along with increased security measures placed on business jets, will place downward pressure on the forecast.

Other factors, such as new and more efficient product offerings and increased competition from new entrant manufacturers, serve to broaden the potential of the industry. Estimates show that a record number of new business jets are delivered overseas and, with the potential easing of regulations on the use of airspace in foreign countries, the scenario for business jet manufacturers looks all the more promising. Raising the level of security restrictions, and the

subsequent travel hassles placed on airline passengers, could make corporate jet travel look increasingly appealing.

Not only is the volume of aircraft operating at most large hubs expected to increase over the next 20 years, the mix of aircraft operating at most large hubs is also expected to become increasingly complex over the forecast period. The expected increases in the numbers of regional jets and business jets will increase the complexity of the national airspace system and make the FAA's job more challenging. The increased complexity of the mix of aircraft serves to compound the increases in workload strictly due to the increasing demand for aviation services projected over the forecast period.

Although overall activity at FAA and contract towers fell in 2011, activity at the largest airports increased in 2011 and delays remained at historically high levels at many U.S. airports. As demand recovers and workload increases, congestion and delays could become a critical limit to growth over the forecast period. FAA's forecasts of both demand and workload are unconstrained in that they assume that there will be sufficient infrastructure to handle the projected levels of activity. Should the infrastructure be inadequate and result in even more congestion and delays, it is likely that the forecasts of both demand and workload would not be achieved. The Department of Transportation and the FAA are examining a number of options to manage congestion but the specific measures have yet to be implemented; therefore, their impacts are unknown at this time.

There are concerns that aviation's impact on the environment could potentially restrict the ability of the aviation sector to grow to meet national economic and mobility needs. Airport expansion or new construction is often a contentious issue because of noise, air quality, and water quality concerns. Concerns about the climate impacts of aviation emissions continue to grow. Although aviation currently accounts for 2 to 3 percent of global carbon emissions, this is expected to increase with the growth in operations unless mitigated with new technology, renewable fuels, operational improvements and market based measures. Market based measures could lead to increased operating costs. For example, if international objections to inclusion of aviation in the European Emissions Trading System (EU ETS) are not resolved, implementation of EU ETS has the potential to increase costs to the aviation sector. The increase in costs would not only raise the price of aviation to consumers but could also reduce available funds for needed investments in new technology that could reduce emissions. The increased costs could also conceivably hasten the adoption of more fuel efficient technologies. Energy concerns are also rising, driven by spikes in fuel prices, supply and security issues, and concerns about fossil fuel emissions contributing to global climate change. Lack of progress in improving the environmental and energy outlook for the future fleet may result in more restrictions via standards or operating limitations on the fleet in service which in turn may depress growth. By contrast, breakthroughs in quieter, cleaner aircraft technologies and renewable fuels could reduce environmental and energy constraints on the forecast, and enable sustainable growth.

## APPENDIX A: ALTERNATIVE FORECAST SCENARIOS

Uncertainty exists in all industries, but especially in the commercial air travel industry. As volatility in the global environment has increased, the importance of scenarios for planning purposes has increased. In order to help stakeholders better prepare for the future, the FAA has begun to provide alternative scenarios to our baseline forecasts of airline traffic and capacity.

To create the baseline forecast, economic assumptions for both U.S. and international regions from IHS Global Insight's 30-Year Focus (released third quarter 2011) were used to generate enplanements, mainline real yield and nominal yield. The baseline forecast of passenger trip length (an input variable used to forecast mainline real yield) was derived from recent historical trends and analyst judgment. To develop the alternative scenarios, assumptions from the optimistic and pessimistic scenarios contained in IHS Global Insight's 30-Year Focus were used. Inputs from these scenarios were substituted for the baseline scenario inputs to create a "high" and "low" traffic, capacity, and yield forecast. The baseline forecast trip length was adjusted in the optimistic and pessimistic scenarios based on the movement of oil prices in Global Insight's alternative forecasts relative to the baseline forecast.

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

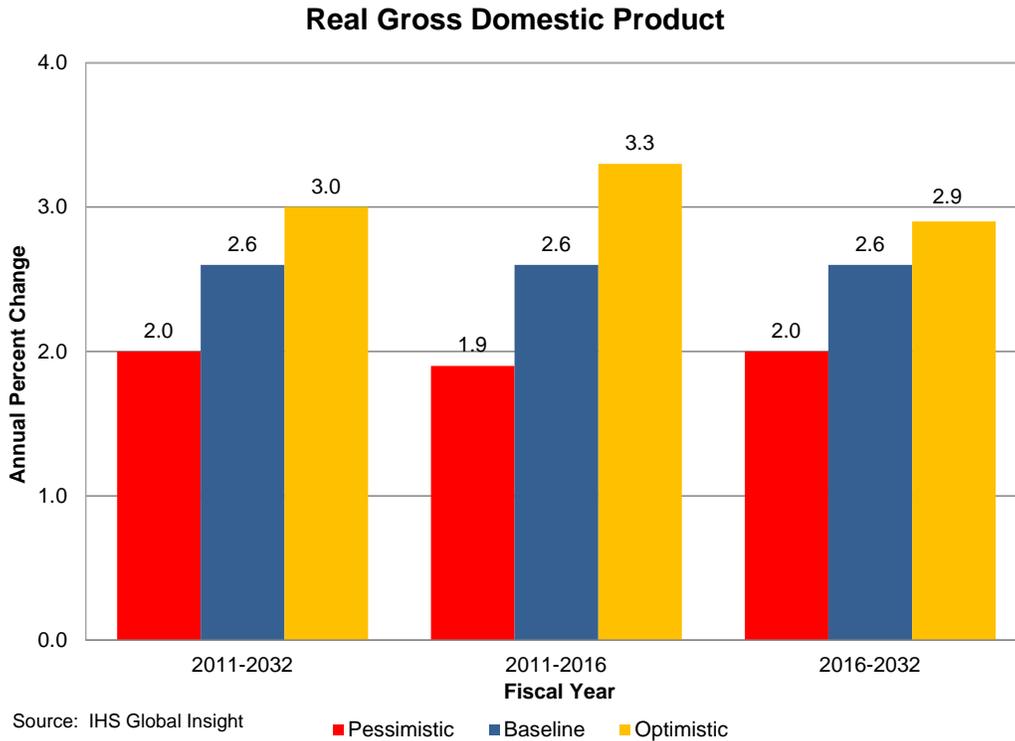
### Scenario Assumptions

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

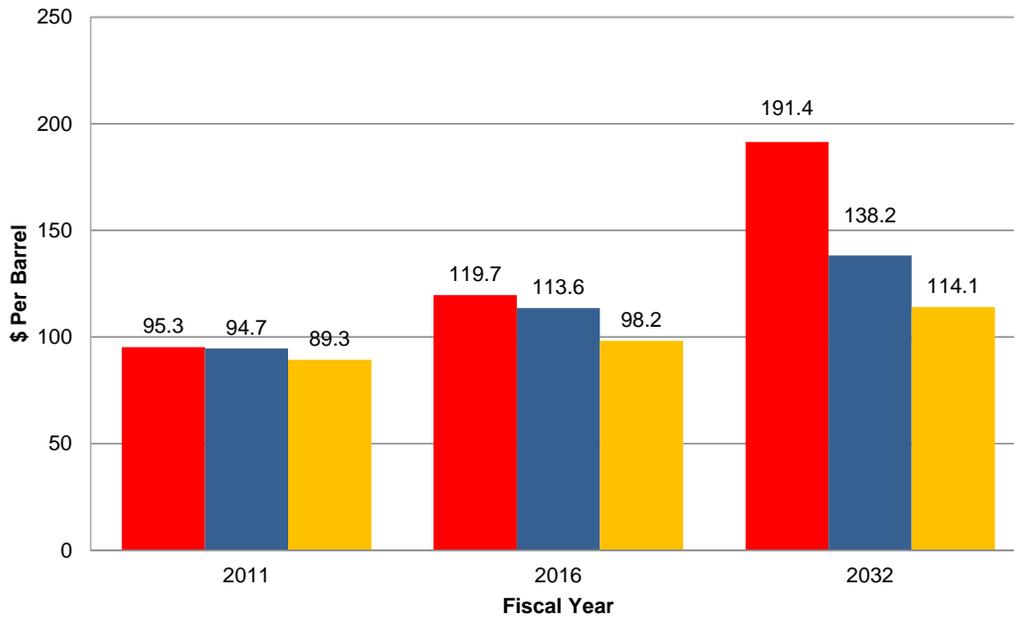
The FAA's high case forecast uses IHS Global Insight's optimistic forecast. The optimistic forecast is characterized by lower inflation and faster growth in the labor force and capital stock than in the baseline forecast. In this scenario productivity growth is higher and potential output climbs more rapidly, with GDP growing about 0.4 percentage points faster per year than the baseline forecast and unemployment averaging 0.4 points lower on an annual basis than the baseline (GDP and unemployment are used as an input variables to the FAA's base, high and

low forecasts of enplanements). Conversely, FAA’s low case forecast uses IHS Global Insight’s pessimistic scenario. The pessimistic forecast is characterized by higher inflation and slower growth in the labor force and capital stock than in the baseline forecast. In this scenario, the U.S. economy grows 0.6 percentage points slower per year than in the baseline due to slower productivity and lower potential output growth, and unemployment, on average, is 0.3 points higher on an annual basis than in the baseline.



Oil prices affect the supply of and demand for air travel and have a direct impact on the profitability of the industry. In all three forecast scenarios prices remain high by historical standards. In the baseline forecast, oil prices rise as the world economy recovers from the recession, but are kept in check as technological improvements act as a counterbalance to rising prices. In the baseline, the refiners acquisition cost (RAC) of oil increases 46 percent between 2011 and 2032, rising from \$95 to \$138 per barrel. In the high case, the RAC increases at a slower pace than in the baseline forecast resulting in a price of \$114 per barrel at the end of the forecast period. The high case is characterized by availability of energy and gains in technology which help to temper prices compared to the baseline. In the low case forecast, scarcity of oil and lower productivity gains create upward pressure in oil prices. In this scenario, the RAC doubles, rising to \$191 by 2032.

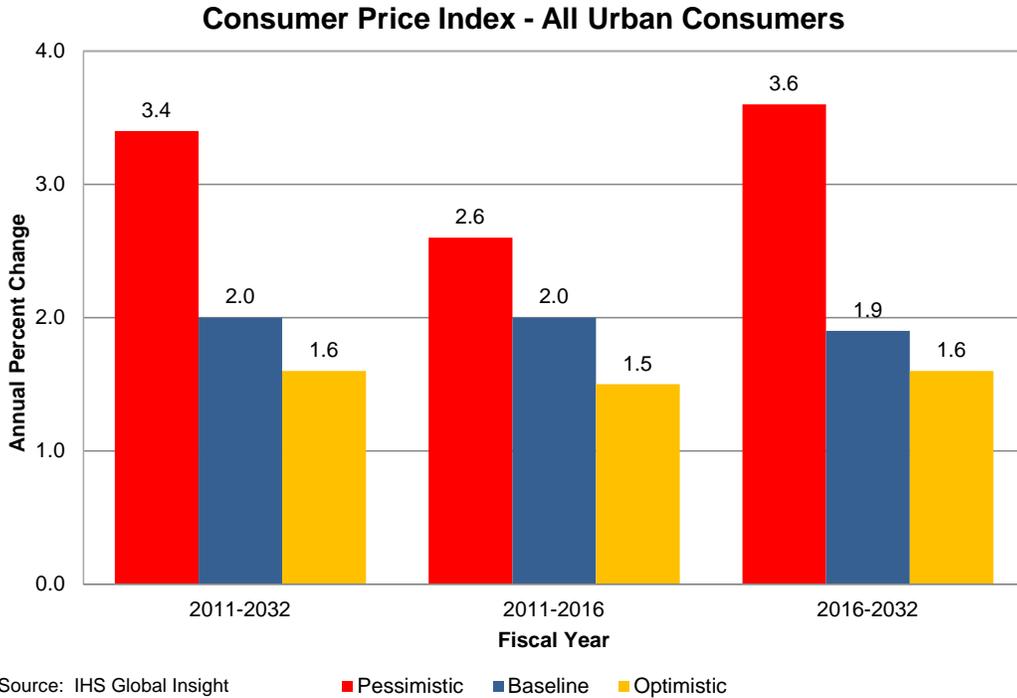
### U.S. Refiners' Acquisition Cost



Source: IHS Global Insight

■ Pessimistic   ■ Baseline   ■ Optimistic

The price of energy is one of the critical drivers in the growth of consumer prices over the forecast period. In the high case the consumer price index (CPI) grows at an average rate of 1.6 percent per year (compared to growth of 2.0 percent annually in the baseline) as energy prices, wages, and import prices grow more slowly than in the baseline. In the low case forecast the opposite assumptions hold with energy prices, wages and import prices rising more rapidly compared to the baseline. As a result, in the low case, CPI grows an average of 3.4 percent annually over the forecast period as the growth accelerates to almost 4 percent per year by the end of the forecast.

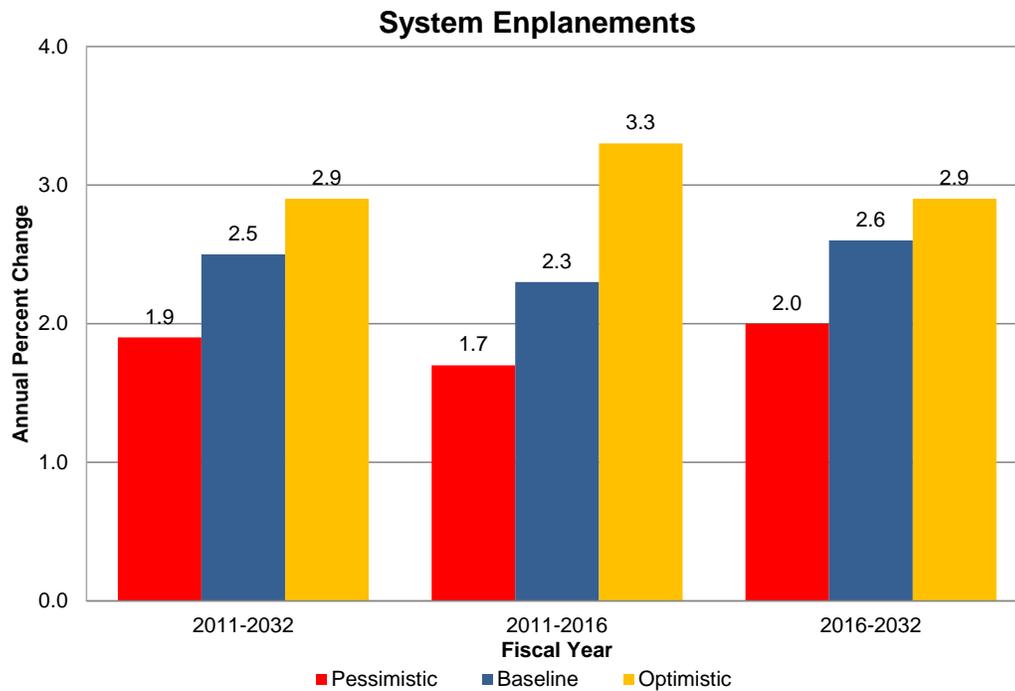


The baseline passenger trip length forecast is predicated upon analyst judgment and recent trip length trends. Carrier behavior as a result of volatile fuel prices during 2008–2011 provided the basis for adjusting trip length in the alternative forecasts. During 2008–2011, high fuel costs made flying on some longer haul routes cost prohibitive (thus unprofitable), resulting in lower trip length compared to prior years. Since the FAA’s low case forecast is characterized by higher fuel prices relative to the baseline forecast, it is assumed that trip length rises at a slower pace than in the baseline forecast. In FAA’s high forecast, fuel prices are lower than projected in the baseline, pushing trip length up as lower fuel prices make flying longer-haul routes more affordable.

## Alternative Forecasts

### Passengers

In the baseline forecast, system passengers are forecast to grow at an average annual rate of 2.5 percent a year over the forecast horizon (with domestic and international passengers up 2.3 and 4.1 percent, respectively). In the high case, passengers grow at a quicker pace, averaging 2.9 percent per year (up 2.7 percent domestically and 4.7 percent internationally). This scenario is marked by a more favorable business environment, lower inflation, and lower fuel prices which make the price of flying more affordable to business and leisure travelers. In the high case, one billion passengers are forecast for 2022, two years earlier than predicted in the baseline forecast. The low case is characterized by increased costs of capital resulting from higher interest rates, weakened consumer confidence brought on by persistent unemployment, and higher inflation. In this scenario passengers grow an average of 1.9 percent per year (domestic up 1.7 percent and international up 3.1 percent). In the low case, one billion passengers are reached in 2028, four years later than in the baseline forecast.

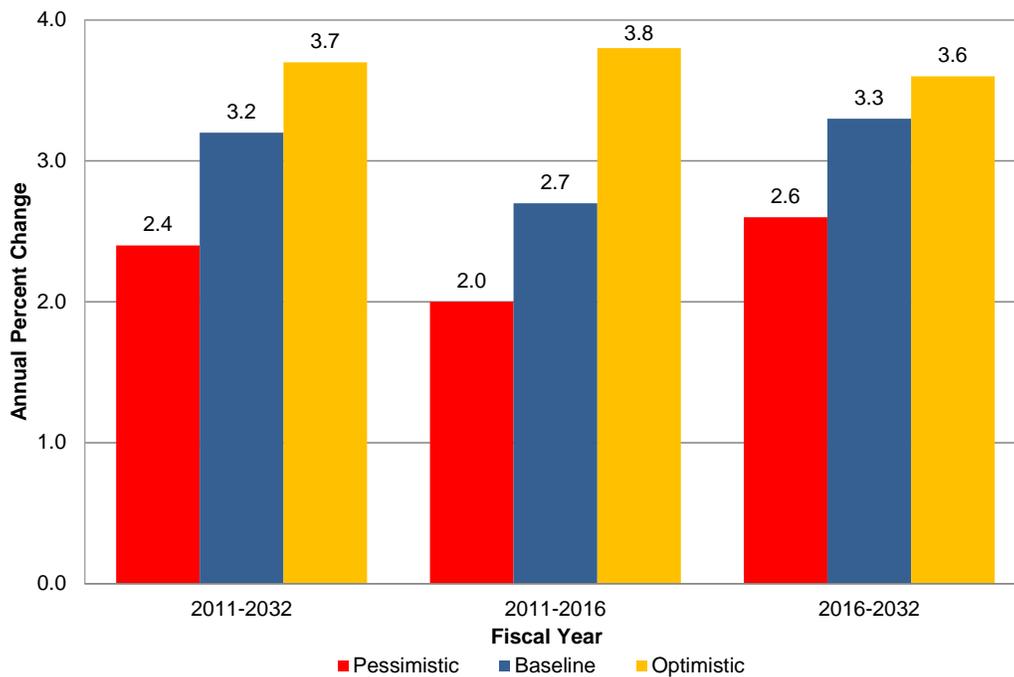


### Revenue Passenger Miles

The forecast of RPMs is produced by multiplying assumptions for trip length in each forecast scenario by passengers from the same scenario. Thus, the assumptions used to create the trip length and passenger forecasts drive RPM growth. In the baseline forecast, system RPMs grow at an average annual rate of 3.2 percent a year, with domestic RPMs increasing 2.7

percent annually and international RPMs growing 4.2 percent annually. In the high case, the faster growing economy coupled with lower energy prices drives RPMs higher than the baseline, with growth averaging 3.7 percent per year (domestic and international RPMs up 3.1 and 4.7 percent, respectively). In the low case, the combination of a slower growing economy and higher energy prices result in RPM growth averaging 2.4 percent annually with domestic markets growing 2.0 percent a year while international traffic grows 3.3 percent annually.

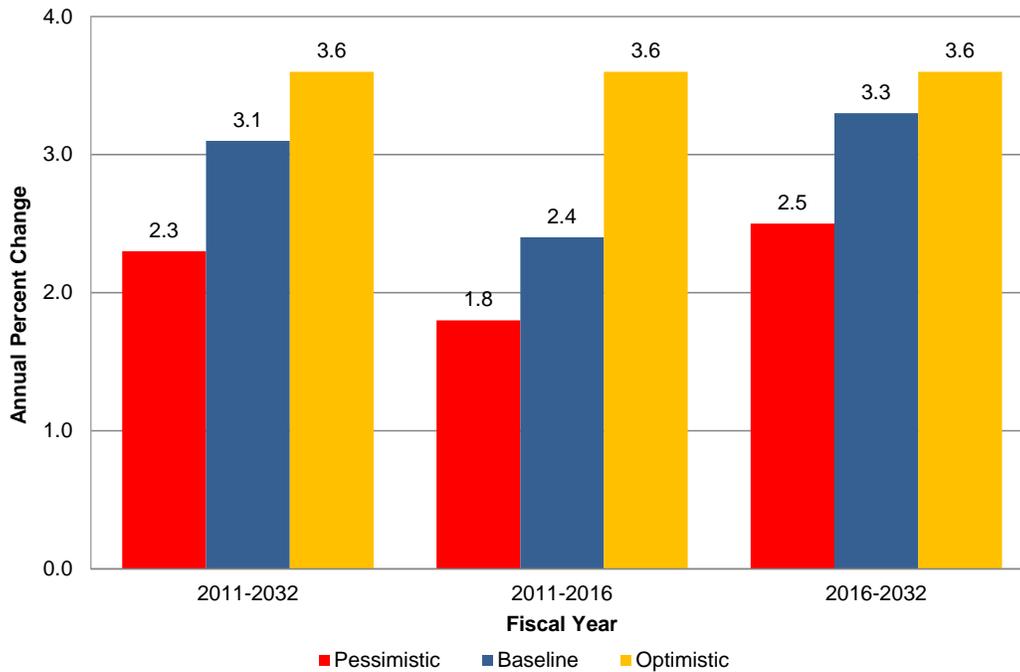
### System Revenue Passenger Miles



### Available Seat Miles

In the base case, system capacity is forecast to increase an average of 3.1 percent annually over the forecast horizon (with growth averaging 2.5 percent annually in domestic markets and 4.2 percent a year in international markets). In the high case, capacity grows at a faster clip than in the baseline forecast, averaging growth of 3.6 percent annually (up 3.0 percent domestically and up 4.7 percent internationally). Carriers increase capacity compared to the baseline forecast to accommodate increased travel demand brought about by a more favorable economic environment. In the low case, demand for air travel is lower than in the baseline, thus system capacity grows at a slower pace of 2.3 percent annually (domestic up 1.9 percent annually and international up 3.2 percent annually).

### System Available Seat Miles



### Load Factor

System load factors over the 20-year forecast period are relatively similar for all three forecast scenarios. In the base case, system load factor rises from 82.0 percent in 2011 to 83.4 percent in 2032. In both the optimistic and pessimistic scenarios, system load factor increases from 82.0 percent in 2011 to 83.3 percent in 2032. In all three scenarios it is assumed that carriers will keep load factors on the high side by actively managing capacity (seats) to more precisely meet demand (passengers). The domestic load factor increases over the forecast horizon from 82.5 percent to 84.8 percent in the base case, and to 84.3 percent and 84.4 percent, respectively, in the pessimistic and optimistic scenarios. The international load factor grows from 80.7 percent to 81.2 percent in the base case and 81.6 and 81.7 percent, respectively, in the optimistic and pessimistic scenarios.

### Yield

In the baseline forecast, nominal system yield increases 1.2 percent annually, going from 13.95 cents in 2011 to 18.08 cents in 2032. In domestic markets, yield in the baseline forecast rises from 13.9 cents in 2011 to 17.8 cents in 2032, while international yield rises from 14.1 cents to 18.5 cents. System yield rises more slowly in the high case, up 1.0 percent annually to be 17.4 cents at the end of the forecast period. Domestic yield increases to 17.4 cents while international yield increases to 17.3 cents. The slower growth in yield in the high case is due to advancements in technology, gains in productivity, more favorable fuel prices, and lower inflation. Increased competition is also assumed in this scenario. In the domestic market fares are driven lower than baseline levels due to increased market overlap between low cost and

legacy carriers. In the international market, increased competition from growing liberalization puts downward pressure on fares. In the low case, nominal yields rise more rapidly than in the baseline, growing an average of 2.9 percent annually, reaching 25.3 cents by 2032 (25.7 cents domestically and 24.4 cents internationally). This scenario reflects higher general inflation and higher energy prices than in the baseline, forcing carriers to increase fares in order to cover the higher costs of fuel, labor, and capital.

## **Passenger Trip Length**

Over the 21-year forecast horizon, baseline system passenger trip length is assumed to grow an average of 7.7 miles per year. In the high case, passenger trip length grows 8.3 miles per year, 0.6 miles per year faster than in the base case. In the high case, fuel prices are lower than in the baseline which allows carriers to operate longer-haul routes more profitably. Conversely, the low forecast is characterized by fuel prices that are higher than the baseline forecast. Higher fuel costs makes flying longer-haul routes less affordable to the carriers; hence passenger trip length trails the baseline forecast by 1.8 miles per year, growing an average of 5.9 miles per year.

**TABLE A-1**  
**FAA FORECAST ECONOMIC ASSUMPTIONS**

**FISCAL YEARS 2011-2032**

Variable	Scenario	Historical						FORECAST						PERCENT AVERAGE ANNUAL GROWTH			
		2011	2012	2017	2022	2032	11-12	11-17	12-22	11-32							
<b>Economic Assumptions</b>																	
Real Gross Domestic Product (BIL 05\$)	Pessimistic	13,246	13,385	14,857	16,281	19,993	1.0%	1.9%	2.0%	2.0%	2.0%						
	Baseline	13,256	13,474	15,511	17,542	22,614	1.6%	2.7%	2.7%	2.7%	2.6%						
	Optimistic	13,262	13,642	16,081	18,582	24,801	2.9%	3.3%	3.1%	3.0%	3.0%						
Refiners Acquisition Cost - Average - \$ Per Barrel	Pessimistic	95.3	102.7	122.9	132.3	191.4	7.8%	4.3%	2.6%	3.4%	3.4%						
	Baseline	94.7	100.4	115.9	115.4	138.2	6.0%	3.4%	1.4%	1.8%	1.8%						
	Optimistic	89.3	75.3	101.5	106.2	114.1	-15.7%	2.1%	3.5%	1.2%	1.2%						
Consumer Price Index All Urban, 1982-84 = 1.0	Pessimistic	2.23	2.28	2.63	3.10	4.46	2.2%	2.8%	3.1%	3.4%	3.4%						
	Baseline	2.23	2.27	2.51	2.76	3.35	1.9%	2.0%	2.0%	2.0%	2.0%						
	Optimistic	2.22	2.24	2.44	2.64	3.09	0.8%	1.6%	1.7%	1.6%	1.6%						
Civilian Unemployment Rate (%)	Pessimistic	9.3	9.8	7.0	6.0	5.6	0.5	-0.4	-0.4	-0.2	-0.2						
	Baseline	9.2	9.2	6.5	5.7	5.4	0.0	-0.5	-0.4	-0.2	-0.2						
	Optimistic	9.2	8.8	6.2	5.3	4.9	-0.4	-0.5	-0.4	-0.2	-0.2						

Source: IHS Global Insight, 30-Year Focus, Third Quarter 2011

**TABLE A-2**  
**FAA FORECAST OF AVIATION ACTIVITY**  
**FISCAL YEARS 2011-2032**

Variable	Scenario	Historical		FORECAST					PERCENT AVERAGE ANNUAL GROWTH					
		2011	2012	2017	2022	2032	11-12	11-17	12-22	11-32				
<b>System</b>														
<b>Aviation Activity</b>														
Available Seat Miles (BL)	Pessimistic	993.9	988.6	1,110.1	1,251.1	1,612.6								
	Baseline	993.9	994.3	1,155.6	1,356.2	1,885.5								
	Optimistic	993.9	1,046.8	1,222.9	1,445.7	2,080.1								
Revenue Passenger Miles (BL)	Pessimistic	814.6	812.8	919.9	1,040.1	1,343.9								
	Baseline	814.6	818.6	960.4	1,130.2	1,573.4								
	Optimistic	814.6	861.1	1,013.4	1,201.7	1,733.0								
Enplanements (ML)	Pessimistic	730.7	726.8	811.2	894.0	1,085.7								
	Baseline	730.7	731.8	841.6	956.3	1,233.0								
	Optimistic	730.7	765.5	881.5	1,010.7	1,345.0								
Psgt Carrier Miles Flown (ML)	Pessimistic	7,047.5	6,966.1	7,720.3	8,581.5	10,758.8								
	Baseline	7,047.5	7,014.3	8,013.0	9,246.5	12,469.3								
	Optimistic	7,047.5	7,400.5	8,477.8	9,854.0	13,758.0								
Psgt Carrier Departures (000s)	Pessimistic	9,505.5	9,367.8	10,221.0	10,910.0	12,505.9								
	Baseline	9,505.5	9,425.6	10,491.4	11,496.3	13,867.8								
	Optimistic	9,505.5	9,725.6	11,001.4	12,199.1	15,089.4								
Nominal Passenger Yield (cents)	Pessimistic	13.95	14.58	17.15	19.02	25.25								
	Baseline	13.95	14.50	15.96	16.62	18.08								
	Optimistic	13.95	14.58	16.21	16.83	17.37								

**TABLE A-3**  
**FAA FORECAST OF DOMESTIC AVIATION ACTIVITY**  
**FISCAL YEARS 2011-2032**

Variable	Scenario	Historical		FORECAST					PERCENT AVERAGE ANNUAL GROWTH					
		2011	2012	2017	2022	2032	11-12	11-17	12-22	11-32				
<b>Domestic Aviation Activity</b>														
Available Seat Miles (BIL)	Pessimistic	693.9	686.9	755.0	834.8	1,028.2	-1.0%	1.4%	2.0%	1.9%	2.0%	1.9%		
	Baseline	693.9	688.4	778.2	887.8	1,171.4	-0.8%	1.9%	2.6%	1.9%	2.6%	2.5%		
	Optimistic	693.9	737.9	825.7	946.8	1,294.5	6.3%	2.9%	2.5%	2.9%	2.5%	3.0%		
Revenue Passenger Miles (BIL)	Pessimistic	572.5	568.9	631.8	701.6	866.6	-0.6%	1.7%	2.1%	1.7%	2.1%	2.0%		
	Baseline	572.5	571.3	654.9	750.6	993.6	-0.2%	2.3%	2.8%	2.3%	2.8%	2.7%		
	Optimistic	572.5	611.3	691.2	796.1	1,092.0	6.8%	3.2%	2.7%	3.2%	2.7%	3.1%		
Enplanements (MIL)	Pessimistic	649.9	646.2	717.8	785.3	933.1	-0.6%	1.7%	2.0%	1.7%	2.0%	1.7%		
	Baseline	649.9	649.4	741.4	832.6	1,044.1	-0.1%	2.2%	2.5%	2.2%	2.5%	2.3%		
	Optimistic	649.9	682.4	775.9	878.3	1,134.7	5.0%	3.0%	2.6%	3.0%	2.6%	2.7%		
Psg'r Carrier Miles Flown (MIL)	Pessimistic	5,661.8	5,582.7	6,119.1	6,727.4	8,205.0	-1.4%	1.3%	1.9%	1.3%	1.9%	1.8%		
	Baseline	5,661.8	5,604.0	6,293.8	7,133.9	9,297.2	-1.0%	1.8%	2.4%	1.8%	2.4%	2.4%		
	Optimistic	5,661.8	5,978.8	6,678.4	7,612.6	10,270.3	5.6%	2.8%	2.4%	2.8%	2.4%	2.9%		
Psg'r Carrier Departures (000s)	Pessimistic	8,915.3	8,799.7	9,584.2	10,190.7	11,541.9	-1.3%	1.2%	1.5%	1.2%	1.5%	1.2%		
	Baseline	8,915.3	8,828.4	9,785.1	10,648.1	12,623.9	-1.0%	1.6%	1.9%	1.6%	1.9%	1.7%		
	Optimistic	8,915.3	9,136.5	10,280.4	11,319.7	13,747.0	2.5%	2.4%	2.2%	2.4%	2.2%	2.1%		
Nominal Passenger Yield (cents)	Pessimistic	13.88	14.42	16.79	19.15	25.70	3.9%	3.2%	2.9%	3.2%	2.9%	3.0%		
	Baseline	13.88	14.31	15.90	16.53	17.83	3.1%	2.3%	1.5%	2.3%	1.5%	1.2%		
	Optimistic	13.88	14.43	16.39	17.10	17.41	4.0%	2.8%	1.7%	2.8%	1.7%	1.1%		

**TABLE A-4**  
**FAA FORECAST OF INTERNATIONAL AVIATION ACTIVITY\***  
**FISCAL YEARS 2011-2032**

Variable	Scenario	Historical	FORECAST					PERCENT AVERAGE ANNUAL GROWTH						
		2011	2012	2017	2022	2032	11-12	11-17	12-22	11-32				
<b>International Aviation Activity</b>														
Available Seat Miles (BIL)	Pessimistic	300.0	301.7	355.0	416.3	584.4	0.6%	2.8%	3.3%	3.2%				
	Baseline	300.0	305.9	377.4	468.4	714.1	2.0%	3.9%	4.4%	4.2%				
	Optimistic	300.0	308.9	397.2	498.9	785.6	3.0%	4.8%	4.9%	4.7%				
Revenue Passenger Miles (BIL)	Pessimistic	242.1	244.0	288.0	338.6	477.3	0.8%	2.9%	3.3%	3.3%				
	Baseline	242.1	247.4	305.5	379.6	579.8	2.2%	4.0%	4.4%	4.2%				
	Optimistic	242.1	249.8	322.2	405.5	641.0	3.2%	4.9%	5.0%	4.7%				
Enplanements (MIL)	Pessimistic	80.8	80.6	93.4	108.7	152.6	-0.3%	2.5%	3.0%	3.1%				
	Baseline	80.8	82.3	100.2	123.7	188.8	1.9%	3.7%	4.2%	4.1%				
	Optimistic	80.8	83.1	105.6	132.4	210.3	2.9%	4.6%	4.8%	4.7%				
Psg Carrier Miles Flown (MIL)	Pessimistic	1,385.7	1,383.4	1,601.2	1,854.1	2,553.8	-0.2%	2.4%	3.0%	3.0%				
	Baseline	1,385.7	1,410.2	1,719.1	2,112.6	3,172.1	1.8%	3.7%	4.1%	4.0%				
	Optimistic	1,385.7	1,421.7	1,799.4	2,241.4	3,487.7	2.6%	4.5%	4.7%	4.5%				
Psg Carrier Departures (000s)	Pessimistic	590.2	568.1	636.8	719.3	964.0	-3.7%	1.3%	2.4%	2.4%				
	Baseline	590.2	597.2	706.3	848.2	1,243.9	1.2%	3.0%	3.6%	3.6%				
	Optimistic	590.2	589.1	721.0	879.4	1,342.4	-0.2%	3.4%	4.1%	4.0%				
Nominal Passenger Yield (cents)	Pessimistic	14.12	14.94	16.68	18.75	24.43	5.8%	2.8%	2.3%	2.6%				
	Baseline	14.12	14.95	16.09	16.80	18.50	5.9%	2.2%	1.2%	1.3%				
	Optimistic	14.12	14.95	15.83	16.31	17.32	5.9%	1.9%	0.9%	1.0%				

\*Includes mainline and regional carriers.

## APPENDIX B: FAA FORECAST ACCURACY

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

The table below presents an analysis of the variance from historical results for five key forecast metrics during the FY 2006-2011 forecast period. Although this brief period has experienced industry upheaval, the FAA's forecast methodology remained consistent during this time. For this reason, inclusion of prior periods in an analysis of forecast variance might lead to inconclusive or inaccurate implications about the accuracy of FAA's current forecast methodology.

The table below contains the mean absolute percent errors for the projected values versus the actual results for U.S. carriers' domestic operations. Each metric has five values showing the relative forecast variance by the number of years in advance the preparation of the forecast took place. For example, the "3 Years" column for ASMs shows that the mean absolute percent error was 11.6 percent for ASM forecasts prepared 3 years in advance. For the period under examination, preparation of the forecasts for FY 2006 through FY 2011 occurred in FY 2005, FY 2006, FY 2007, FY 2008, FY 2009, and FY 2010, respectively.<sup>16</sup>

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<sup>16</sup> It should be noted that the first forecasted year for each respective fiscal year is that very same year. Therefore, FY 2003's first forecasted year is FY 2003, and the third forecasted year is FY 2005.

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

Forecast Variable	Mean Absolute Percent Error (Combined FY 2006 - FY 2011) (Forecast Variance from Actual) Forecast Performed Years Prior to Actual				
	1 Year	2 Years	3 Years	4 Years	5 Years
	ASMs	0.7%	5.6%	11.6%	16.1%
RPMs	0.9%	3.7%	7.4%	11.5%	12.2%
Passenger Enplanements	0.7%	3.8%	8.1%	11.3%	12.8%
Mainline Yield	4.2%	5.4%	5.9%	4.8%	8.0%
IFR Aircraft Handled*	2.9%	7.8%	12.4%	15.9%	17.5%

\*Total - scheduled and nonscheduled commercial plus noncommercial

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

Examination of the forecast variances reveals several items. First, all the metrics examined show declining variances as the forecast time horizon decreases, as expected. The largest variances were found in the forecasts of ASMs the variable most directly affected by exogenous events. Second, the relative divergence in forecast variances between RPMs and ASMs suggests errors in forecasting load factors. Third, the ASM forecast variance being larger than the RPM forecast variance indicates a consistent underestimation of load factors, one of the critical elements in converting passenger demand into aviation activity. All other things being equal, large variances in forecasts of load factor will lead to large variances in the long-term forecasts of aviation activity, as can be seen in the variances of the IFR aircraft handled forecasts.

Furthermore, ASMs and aircraft handled 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 these forecasts suggest that carriers have been permanently removing capacity by reducing flights and by changing the mix of aircraft to satisfy demand. In the short term, such capacity reductions can be identified by using advance schedule information. However, the 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 and aircraft handled forecasts, a simpler approach to projecting ASMs, such as RPMs divided by load factors, may improve the long run accuracy of the ASM and aircraft handled

forecasts. It should also be noted that the low variance of the mainline passenger yield relative to the other metrics is due in large part to the inclusion of FY 2011 in the sample period.

## APPENDIX C: ACKNOWLEDGEMENTS

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## **APPENDIX D: FORECAST TABLES**

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

ECONOMIC VARIABLE	FISCAL YEAR 2011				FISCAL YEAR 2012				FISCAL YEAR 2013			
	1ST. QTR.	2ND. QTR.	3RD QTR.	4TH. QTR.	1ST. QTR.	2ND. QTR.	3RD QTR.	4TH. QTR.	1ST. QTR.	2ND. QTR.	3RD QTR.	4TH. QTR.
<b>Real GDP</b> (Billions of 2005\$) Seasonally Adjusted Annual Rate	13,216.1	13,227.9 0.4%	13,270.1 1.3%	13,309.1 1.2%	13,357.4 1.5%	13,438.4 2.4%	13,519.0 2.4%	13,580.6 1.8%	13,642.9 1.8%	13,690.6 1.4%	13,791.1 3.0%	13,887.4 2.8%
<b>Refiners' Acquisition Cost - Average</b> (Dollars) Seasonally Adjusted Annual Rate	81.52	93.85 75.7%	107.78 73.9%	95.54 -38.2%	96.81 5.4%	99.63 12.2%	101.58 8.1%	103.52 7.9%	105.47 7.7%	106.04 2.2%	107.68 6.3%	109.48 6.9%
<b>Consumer Price Index</b> (1982-84 equals 100) Seasonally Adjusted Annual Rate	219.5	222.3 5.2%	224.5 4.1%	225.7 2.0%	226.1 0.8%	226.9 1.4%	227.4 0.9%	228.6 2.1%	229.6 1.8%	230.7 1.9%	231.8 2.0%	233.1 2.1%

Source: IHS Global Insight, 30-Year Focus, Third Quarter 2011

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

FISCAL YEAR	GROSS DOMESTIC PRODUCT (Billions 2005\$)	CONSUMER PRICE INDEX (1982-84=100)	REFINERS' ACQUISITION COST AVERAGE (Dollars per barrel)
<u>Historical</u>			
2000	11,136.4	170.74	26.70
2005	12,535.9	193.48	47.20
2006	12,882.8	200.58	59.94
2007	13,134.5	205.31	60.62
2008	13,272.6	214.43	101.52
2009	12,720.6	213.77	54.68
2010	12,987.3	217.43	74.61
2011E	13,255.8	222.98	94.67
<u>Forecast</u>			
2012	13,473.8	227.24	100.38
2013	13,753.0	231.29	107.17
2014	14,158.7	236.09	110.22
2015	14,649.2	240.92	109.83
2016	15,099.7	246.22	113.58
2017	15,511.1	251.36	115.92
2018	15,899.2	256.39	117.29
2019	16,302.1	261.27	117.52
2020	16,723.4	265.89	115.34
2021	17,127.0	270.73	115.34
2022	17,541.9	275.73	115.44
2023	18,001.3	280.67	114.56
2024	18,476.7	285.89	116.34
2025	18,961.5	291.34	118.43
2026	19,451.4	297.01	120.60
2027	19,946.5	302.81	122.90
2028	20,444.9	308.78	126.04
2029	20,955.5	315.00	129.21
2030	21,498.7	321.41	132.39
2031	22,066.2	328.04	135.27
2032	22,614.2	334.89	138.18
Avg Annual Growth			
2000-11	1.6%	2.5%	12.2%
2011-12	1.6%	1.9%	6.0%
2011-21	2.6%	2.0%	2.0%
2011-32	2.6%	2.0%	1.8%

Source: IHS Global Insight, 30-Year Focus, Third Quarter 2011

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

CALENDAR YEAR	GROSS DOMESTIC PRODUCT (In Billions of 2005 U.S. Dollars)					WORLD
	CANADA	EUROPE/ AFRICA/ MIDDLE EAST	LATIN AMERICA/ MEXICO	JAPAN/PACIFIC BASIN/CHINA/OTHER ASIA/AUSTRALIA/ N. ZEALAND		
<u>Historical*</u>						
2000	1,000.2	16,058.1	2,483.8	9,046.4	39,805.0	
2005	1,134.1	18,144.3	2,815.0	11,054.2	45,770.6	
2006	1,166.1	18,901.6	2,968.6	11,679.9	47,674.6	
2007	1,191.8	19,635.9	3,126.8	12,437.7	49,598.5	
2008	1,200.0	19,872.2	3,246.6	12,813.9	50,294.6	
2009	1,166.7	19,162.5	3,178.1	12,932.5	49,143.0	
2010	1,204.2	19,649.1	3,356.7	13,816.2	51,114.2	
2011E	1,230.4	20,087.7	3,491.3	14,397.3	52,514.8	
<u>Forecast</u>						
2012	1,253.7	20,410.2	3,609.3	15,118.8	53,883.5	
2013	1,286.3	20,910.5	3,767.3	15,958.2	55,732.4	
2014	1,322.4	21,496.9	3,949.4	16,837.6	57,904.5	
2015	1,358.8	22,108.1	4,119.3	17,723.9	60,088.9	
2016	1,394.4	22,702.3	4,302.5	18,627.9	62,227.3	
2017	1,429.5	23,287.9	4,484.5	19,534.9	64,322.8	
2018	1,465.8	23,870.6	4,673.8	20,465.1	66,426.0	
2019	1,500.9	24,463.6	4,871.9	21,425.0	68,606.2	
2020	1,534.4	25,071.4	5,075.2	22,416.9	70,867.5	
2021	1,569.6	25,687.0	5,286.5	23,440.5	73,155.1	
2022	1,605.5	26,302.8	5,503.0	24,480.8	75,493.3	
2023	1,642.6	26,928.3	5,726.4	25,532.0	77,891.4	
2024	1,679.6	27,558.2	5,957.9	26,608.1	80,343.2	
2025	1,717.5	28,196.9	6,199.2	27,731.5	82,868.4	
2026	1,755.9	28,843.1	6,450.2	28,885.2	85,448.0	
2027	1,795.1	29,502.8	6,709.1	30,082.7	88,097.7	
2028	1,835.6	30,171.8	6,976.2	31,309.8	90,800.2	
2029	1,877.2	30,848.2	7,254.8	32,576.2	93,577.5	
2030	1,920.1	31,539.1	7,543.3	33,874.3	96,447.7	
2031	1,964.8	32,245.4	7,841.9	35,209.2	99,388.4	
2032	2,011.8	32,961.4	8,150.8	36,570.0	102,375.5	
Avg Annual Growth						
2000-11	1.9%	2.1%	3.1%	4.3%	2.6%	
2011-12	1.9%	1.6%	3.4%	5.0%	2.6%	
2011-21	2.5%	2.5%	4.2%	5.0%	3.4%	
2011-32	2.4%	2.4%	4.1%	4.5%	3.2%	

\*Source: IHS Global Insight website, GDP Components Tables (Interim Forecast, Monthly), Release date 14 OCT 2011.

**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	13,003.4	9,382.9	1,978.6	4,268.6	1,417.2
2005	14,605.5	10,106.0	2,279.7	4,553.8	2,257.1
2006	15,016.6	10,432.1	2,339.1	4,646.5	2,543.7
2007	15,319.2	10,743.3	2,420.2	4,753.5	2,904.9
2008	15,294.5	10,772.8	2,393.5	4,698.0	3,183.7
2009	14,745.3	10,319.4	2,288.8	4,401.6	3,477.0
2010	15,214.8	10,500.1	2,329.2	4,578.4	3,836.0
2011E	15,496.9	10,672.3	2,349.7	4,551.2	4,192.2
<u>Forecast</u>					
2012	15,728.0	10,707.9	2,374.2	4,672.4	4,532.9
2013	16,114.3	10,860.5	2,424.0	4,802.4	4,921.5
2014	16,685.0	11,065.2	2,484.5	4,901.3	5,341.8
2015	17,243.2	11,288.3	2,551.5	4,977.2	5,779.7
2016	17,743.9	11,495.3	2,615.8	5,037.0	6,235.7
2017	18,207.4	11,696.0	2,677.8	5,075.5	6,704.3
2018	18,652.4	11,893.8	2,739.4	5,103.0	7,195.6
2019	19,127.5	12,094.6	2,801.3	5,129.5	7,707.4
2020	19,632.2	12,295.0	2,865.8	5,154.3	8,238.9
2021	20,118.5	12,497.7	2,930.5	5,174.7	8,800.6
2022	20,633.2	12,699.9	2,993.8	5,193.4	9,374.0
2023	21,180.9	12,903.0	3,057.9	5,211.6	9,951.5
2024	21,746.9	13,109.3	3,121.8	5,229.9	10,536.7
2025	22,322.5	13,315.8	3,186.1	5,247.7	11,152.6
2026	22,906.7	13,525.5	3,252.1	5,265.4	11,787.6
2027	23,496.6	13,738.8	3,321.3	5,283.9	12,448.7
2028	24,092.4	13,953.1	3,391.4	5,302.8	13,124.5
2029	24,708.6	14,166.4	3,461.3	5,320.4	13,823.6
2030	25,362.8	14,381.7	3,534.0	5,336.9	14,537.9
2031	26,027.1	14,602.5	3,608.5	5,353.5	15,276.3
2032	26,692.8	14,824.9	3,684.3	5,369.8	16,024.3
Avg Annual Growth					
2000-11	1.6%	1.2%	1.6%	0.6%	10.4%
2011-12	1.5%	0.3%	1.0%	2.7%	8.1%
2011-21	2.6%	1.6%	2.2%	1.3%	7.7%
2011-32	2.6%	1.6%	2.2%	0.8%	6.6%

Source: IHS Global Insight

**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	DOMESTIC	INTERNATIONAL
<u>Historical*</u>				
2000	641.2	56.4	697.6	181.8
2005	669.5	67.4	737.0	197.2
2006	668.4	71.6	740.0	208.5
2007	690.1	75.3	765.3	221.2
2008	680.7	78.3	759.1	233.8
2009	630.8	73.6	704.4	221.3
2010	635.2	77.4	712.6	230.9
2011E	649.9	80.8	730.7	242.1
<u>Forecast</u>				
2012	649.4	82.3	731.8	247.4
2013	660.8	84.8	745.6	256.1
2014	673.7	88.4	762.2	267.6
2015	703.6	92.1	795.7	279.1
2016	723.9	96.1	820.0	292.1
2017	741.4	100.2	841.6	305.5
2018	759.1	104.4	863.5	319.1
2019	777.1	108.9	886.1	333.3
2020	796.4	113.7	910.1	348.1
2021	814.3	118.5	932.9	363.4
2022	832.6	123.7	956.3	379.6
2023	852.8	129.2	981.9	396.4
2024	872.9	135.0	1,007.9	414.1
2025	892.9	141.0	1,033.9	432.6
2026	913.7	147.2	1,060.9	451.9
2027	934.9	153.6	1,088.5	471.5
2028	955.9	160.1	1,116.0	491.7
2029	976.9	166.9	1,143.8	512.5
2030	998.8	174.0	1,172.9	534.4
2031	1,021.5	181.3	1,202.8	556.7
2032	1,044.1	188.8	1,233.0	579.8
Avg Annual Growth				
2000-11	0.1%	3.3%	0.4%	2.6%
2011-12	-0.1%	1.9%	0.2%	2.2%
2011-21	2.3%	3.9%	2.5%	4.1%
2011-32	2.3%	4.1%	2.5%	4.2%

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

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

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

FISCAL YEAR	DOMESTIC			INTERNATIONAL			SYSTEM		
	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR
<u>Historical*</u>									
2000	726.6	512.8	70.6	239.3	181.8	76.0	965.9	694.6	71.9
2005	755.2	573.2	75.9	248.5	197.2	79.4	1,003.6	770.4	76.8
2006	740.2	582.4	78.7	261.3	208.5	79.8	1,001.5	790.9	79.0
2007	752.5	600.5	79.8	275.9	221.2	80.2	1,028.4	821.7	79.9
2008	749.6	594.6	79.3	292.7	233.8	79.9	1,042.4	828.5	79.5
2009	682.5	548.6	80.4	283.3	221.3	78.1	965.8	769.9	79.7
2010	680.0	555.8	81.7	281.2	230.9	82.1	961.3	786.7	81.8
2011E	693.9	572.5	82.5	300.0	242.1	80.7	993.9	814.6	82.0
<u>Forecast</u>									
2012	688.4	571.3	83.0	305.9	247.4	80.8	994.3	818.6	82.3
2013	698.7	583.5	83.5	316.5	256.1	80.9	1,015.1	839.7	82.7
2014	710.0	594.5	83.7	330.8	267.6	80.9	1,040.8	862.1	82.8
2015	739.2	620.2	83.9	344.9	279.1	80.9	1,084.1	899.3	83.0
2016	759.6	638.4	84.0	360.9	292.1	80.9	1,120.5	930.5	83.0
2017	778.2	654.9	84.2	377.4	305.5	81.0	1,155.6	960.4	83.1
2018	799.2	673.4	84.3	394.0	319.1	81.0	1,193.2	992.5	83.2
2019	820.1	691.8	84.3	411.4	333.3	81.0	1,231.6	1,025.0	83.2
2020	842.8	711.5	84.4	429.7	348.1	81.0	1,272.5	1,059.7	83.3
2021	865.0	730.8	84.5	448.5	363.4	81.0	1,313.5	1,094.3	83.3
2022	887.8	750.6	84.5	468.4	379.6	81.1	1,356.2	1,130.2	83.3
2023	913.0	772.3	84.6	488.9	396.4	81.1	1,401.9	1,168.6	83.4
2024	938.3	794.1	84.6	510.7	414.1	81.1	1,449.0	1,208.2	83.4
2025	963.8	816.0	84.7	533.5	432.6	81.1	1,497.2	1,248.6	83.4
2026	991.4	839.7	84.7	557.1	451.9	81.1	1,548.5	1,291.6	83.4
2027	1,020.1	864.3	84.7	581.2	471.5	81.1	1,601.3	1,335.8	83.4
2028	1,048.9	888.9	84.7	605.9	491.7	81.1	1,654.8	1,380.6	83.4
2029	1,078.0	913.8	84.8	631.5	512.5	81.2	1,709.5	1,426.4	83.4
2030	1,108.3	939.7	84.8	658.3	534.4	81.2	1,766.6	1,474.1	83.4
2031	1,139.6	966.5	84.8	685.8	556.7	81.2	1,825.4	1,523.2	83.4
2032	1,171.4	993.6	84.8	714.1	579.8	81.2	1,885.5	1,573.4	83.4
Avg Annual Growth									
2000-11	-0.4%	1.0%	1.4%	2.1%	2.6%	0.6%	0.3%	1.5%	1.2%
2011-12	-0.8%	-0.2%	0.6%	2.0%	2.2%	0.2%	0.0%	0.5%	0.4%
2011-21	2.2%	2.5%	0.2%	4.1%	4.1%	0.0%	2.8%	3.0%	0.2%
2011-32	2.5%	2.7%	0.1%	4.2%	4.2%	0.0%	3.1%	3.2%	0.1%

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

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

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

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS				REVENUE PASSENGER MILES				
	LATIN AMERICA		PACIFIC		ATLANTIC		LATIN AMERICA		TOTAL INTERNATIONAL
	(Mil)	(Mil)	(Mil)	(Mil)	(Bil)	(Bil)	(Bil)	(Bil)	
2000	20.9	24.3	11.2	56.4	87.1	36.3	58.4	181.8	
2005	21.6	32.5	13.2	67.4	89.5	48.6	59.2	197.2	
2006	22.5	35.2	13.9	71.6	93.9	53.6	61.1	208.5	
2007	24.1	37.6	13.6	75.3	102.2	57.7	61.4	221.2	
2008	26.0	39.1	13.2	78.3	112.7	60.7	60.4	233.8	
2009	24.7	36.8	12.0	73.6	108.9	57.7	54.7	221.3	
2010	24.5	40.0	12.9	77.4	108.6	63.1	59.2	230.9	
2011E	25.3	42.0	13.5	80.8	111.7	66.8	63.6	242.1	
<b>Forecast</b>									
2012	25.5	43.3	13.6	82.3	112.8	69.9	64.6	247.4	
2013	26.2	44.9	13.7	84.8	116.5	73.2	66.4	256.1	
2014	27.1	46.9	14.4	88.4	121.0	76.4	70.1	267.6	
2015	27.9	49.0	15.2	92.1	125.4	80.2	73.5	279.1	
2016	29.0	51.2	16.0	96.1	131.3	84.0	76.8	292.1	
2017	30.1	53.3	16.8	100.2	137.6	87.9	79.9	305.5	
2018	31.2	55.7	17.6	104.4	143.9	92.1	83.1	319.1	
2019	32.3	58.2	18.3	108.9	150.2	96.8	86.3	333.3	
2020	33.5	61.0	19.2	113.7	156.6	101.8	89.7	348.1	
2021	34.7	63.8	20.0	118.5	163.5	106.9	93.0	363.4	
2022	36.0	66.9	20.8	123.7	170.8	112.3	96.4	379.6	
2023	37.2	70.2	21.7	129.2	178.2	118.3	99.9	396.4	
2024	38.6	73.8	22.6	135.0	185.9	124.7	103.4	414.1	
2025	40.0	77.5	23.5	141.0	194.1	131.4	107.1	432.6	
2026	41.4	81.4	24.4	147.2	202.8	138.3	110.8	451.9	
2027	42.9	85.2	25.4	153.6	211.8	145.2	114.5	471.5	
2028	44.5	89.2	26.4	160.1	221.0	152.4	118.4	491.7	
2029	46.0	93.4	27.4	166.9	230.4	159.9	122.3	512.5	
2030	47.6	98.0	28.4	174.0	240.0	168.0	126.3	534.4	
2031	49.2	102.6	29.5	181.3	250.1	176.3	130.3	556.7	
2032	51.0	107.3	30.5	188.8	260.7	184.7	134.4	579.8	
<b>Avg Annual Growth</b>									
2000-11	1.8%	5.1%	1.7%	3.3%	2.3%	5.7%	0.8%	2.6%	
2011-12	0.7%	3.2%	0.3%	1.9%	1.0%	4.7%	1.6%	2.2%	
2011-21	3.2%	4.3%	4.0%	3.9%	3.9%	4.8%	3.9%	4.1%	
2011-32	3.4%	4.6%	4.0%	4.1%	4.1%	5.0%	3.6%	4.2%	

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

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

CALENDAR YEAR	TOTAL PASSENGERS BY WORLD TRAVEL AREA (Millions)					TOTAL
	ATLANTIC	LATIN AMERICA	PACIFIC	U.S./CANADA TRANSBORDER		
<u>Historical*</u>						
2000	53.0	40.8	26.0	20.8		140.6
2005	49.9	44.2	25.1	19.7		139.0
2006	49.8	47.1	25.6	21.0		143.5
2007	53.3	48.6	26.3	21.5		149.7
2008	57.1	49.8	25.8	21.7		154.4
2009	55.0	48.0	24.4	20.2		147.5
2010	55.9	53.1	26.7	21.8		157.5
2011E	55.6	55.7	28.2	22.3		161.8
<u>Forecast</u>						
2012	56.5	57.5	29.3	22.7		166.0
2013	58.2	60.2	31.0	23.4		172.7
2014	61.2	63.6	32.8	24.3		181.9
2015	64.5	67.0	34.5	25.2		191.1
2016	67.4	70.4	36.1	26.1		199.9
2017	70.2	73.8	37.6	26.9		208.4
2018	72.9	77.3	39.1	27.7		217.0
2019	75.8	81.1	40.7	28.5		226.0
2020	78.9	85.0	42.3	29.4		235.5
2021	81.9	89.0	43.9	30.2		245.0
2022	85.0	93.2	45.6	31.1		254.9
2023	88.3	97.7	47.3	32.0		265.3
2024	91.7	102.3	49.1	33.0		276.0
2025	95.1	107.1	50.9	34.0		287.2
2026	98.6	112.2	52.7	35.0		298.6
2027	102.3	117.5	54.7	36.1		310.4
2028	105.9	122.9	56.6	37.1		322.6
2029	109.7	128.6	58.6	38.2		335.2
2030	113.7	134.6	60.7	39.4		348.4
2031	117.8	140.9	62.8	40.6		362.1
2032	122.0	147.3	64.9	41.8		376.1
Avg Annual Growth						
2000-11	0.4%	2.9%	0.8%	0.6%		1.3%
2011-12	1.7%	3.1%	4.1%	1.9%		2.6%
2011-21	3.9%	4.8%	4.5%	3.1%		4.2%
2011-32	3.8%	4.7%	4.1%	3.0%		4.1%

\*Source: INS Immigration Service

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

FISCAL YEAR	AVERAGE SEATS PER AIRCRAFT MILE			AVERAGE PASSENGER TRIP LENGTH		
	DOMESTIC (Seats/Mile)	INTL. (Seats/Mile)	SYSTEM (Seats/Mile)	DOMESTIC (Miles)	INTL. (Miles)	SYSTEM (Miles)
<u>Historical*</u>						
2000	129.3	230.6	145.0	799.8	3,223.2	995.7
2005	120.4	217.1	135.3	856.2	2,924.6	1,045.4
2006	120.1	215.0	135.7	871.4	2,911.5	1,068.8
2007	120.4	216.1	136.6	870.2	2,939.0	1,073.7
2008	120.8	218.6	138.2	873.5	2,985.2	1,091.4
2009	121.8	219.0	140.0	869.7	3,008.1	1,093.1
2010	121.8	216.4	139.7	875.0	2,983.8	1,104.0
2011E	122.6	216.5	141.0	881.0	2,997.4	1,114.9
<u>Forecast</u>						
2012	122.8	217.0	141.8	879.7	3,004.8	1,118.7
2013	123.3	217.3	142.6	883.1	3,020.7	1,126.2
2014	123.4	218.0	143.1	882.4	3,026.3	1,131.1
2015	123.5	218.4	143.3	881.4	3,028.9	1,130.1
2016	123.5	219.0	143.7	881.9	3,038.6	1,134.7
2017	123.6	219.5	144.2	883.4	3,048.2	1,141.2
2018	123.8	220.0	144.7	887.1	3,055.5	1,149.3
2019	124.0	220.5	145.2	890.1	3,059.7	1,156.8
2020	124.1	220.9	145.7	893.4	3,061.9	1,164.3
2021	124.3	221.3	146.2	897.5	3,066.0	1,173.0
2022	124.5	221.7	146.7	901.5	3,068.8	1,181.9
2023	124.6	222.0	147.1	905.6	3,069.0	1,190.2
2024	124.8	222.4	147.6	909.7	3,068.4	1,198.7
2025	124.9	222.7	148.1	913.8	3,068.2	1,207.6
2026	125.1	223.0	148.5	919.0	3,068.8	1,217.4
2027	125.2	223.4	149.0	924.4	3,070.2	1,227.2
2028	125.4	223.8	149.4	929.9	3,071.4	1,237.1
2029	125.5	224.1	149.9	935.4	3,071.6	1,247.1
2030	125.7	224.4	150.3	940.8	3,070.5	1,256.8
2031	125.8	224.8	150.8	946.2	3,070.0	1,266.4
2032	126.0	225.1	151.2	951.6	3,071.0	1,276.2

\*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 ENPLANEMENTS (Billions)		SYSTEM
	DOMESTIC	INTERNATIONAL	DOMESTIC	INTERNATIONAL	
<u>Historical*</u>					
2000	561.5	53.3	614.8	181.0	670.9
2005	523.1	64.2	587.3	195.8	705.4
2006	516.2	68.1	584.4	206.8	720.7
2007	533.9	71.9	605.7	219.5	749.4
2008	521.6	74.8	596.5	231.9	753.3
2009	476.8	71.0	547.8	220.0	698.2
2010	473.6	74.7	548.3	229.6	710.3
2011E	488.6	78.3	566.9	240.3	737.4
<u>Forecast</u>					
2012	487.0	79.9	566.9	246.1	741.0
2013	497.3	82.4	579.7	254.8	760.9
2014	506.3	86.0	592.3	266.2	781.0
2015	528.1	89.5	617.6	277.6	813.9
2016	542.6	93.5	636.1	290.6	841.6
2017	555.4	97.5	652.9	304.0	868.5
2018	568.3	101.6	669.9	317.5	897.4
2019	581.4	106.0	687.4	331.6	926.7
2020	595.4	110.7	706.2	346.4	957.7
2021	608.4	115.5	723.9	361.7	988.8
2022	621.5	120.6	742.1	377.8	1,021.0
2023	636.1	126.0	762.1	394.5	1,055.4
2024	650.7	131.7	782.3	412.1	1,090.9
2025	665.0	137.7	802.7	430.6	1,127.1
2026	679.9	143.8	823.7	449.8	1,165.5
2027	695.2	150.0	845.2	469.4	1,204.9
2028	710.2	156.5	866.7	489.5	1,244.9
2029	725.2	163.1	888.3	510.2	1,285.7
2030	740.9	170.2	911.1	532.0	1,328.1
2031	757.0	177.4	934.4	554.3	1,371.8
2032	773.1	184.8	957.9	577.3	1,416.5
<b>Avg Annual Growth</b>					
2000-11	-1.3%	3.6%	-0.7%	2.6%	0.9%
2011-12	-0.3%	2.1%	0.0%	2.4%	0.5%
2011-21	2.2%	4.0%	2.5%	2.4%	3.0%
2011-32	2.2%	4.2%	2.5%	2.5%	3.2%

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

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

FISCAL YEAR	DOMESTIC			INTERNATIONAL			SYSTEM		
	ASMS (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMS (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMS (BIL)	RPMS (BIL)	% LOAD FACTOR
<u>Historical*</u>									
2000	688.3	490.0	71.2	238.0	181.0	76.0	926.2	670.9	72.4
2005	665.1	509.6	76.6	246.3	195.8	79.5	911.4	705.4	77.4
2006	648.7	513.9	79.2	258.9	206.8	79.9	907.6	720.7	79.4
2007	659.0	529.9	80.4	273.4	219.5	80.3	932.4	749.4	80.4
2008	650.2	521.3	80.2	290.1	231.9	80.0	940.3	753.3	80.1
2009	587.8	478.2	81.4	281.5	220.0	78.2	869.3	698.2	80.3
2010	581.5	480.7	82.7	279.4	229.6	82.2	860.9	710.3	82.5
2011E	594.8	497.0	83.6	298.2	240.3	80.6	893.0	737.4	82.6
<u>Forecast</u>									
2012	589.8	494.9	83.9	304.1	246.1	80.9	893.9	741.0	82.9
2013	599.3	506.0	84.4	314.6	254.8	81.0	913.9	760.9	83.3
2014	607.9	514.8	84.7	328.9	266.2	81.0	936.8	781.0	83.4
2015	631.7	536.2	84.9	342.9	277.6	81.0	974.5	813.9	83.5
2016	647.7	551.0	85.1	358.9	290.6	81.0	1,006.6	841.6	83.6
2017	662.5	564.5	85.2	375.3	304.0	81.0	1,037.8	868.5	83.7
2018	679.6	579.9	85.3	391.9	317.5	81.0	1,071.5	897.4	83.8
2019	696.5	595.1	85.4	409.2	331.6	81.0	1,105.7	926.7	83.8
2020	714.7	611.3	85.5	427.4	346.4	81.1	1,142.1	957.7	83.9
2021	732.5	627.1	85.6	446.1	361.7	81.1	1,178.6	988.8	83.9
2022	750.7	643.2	85.7	465.9	377.8	81.1	1,216.6	1,021.0	83.9
2023	770.8	660.9	85.7	486.5	394.5	81.1	1,257.3	1,055.4	83.9
2024	791.1	678.7	85.8	508.1	412.1	81.1	1,299.2	1,090.9	84.0
2025	811.3	696.5	85.9	530.8	430.6	81.1	1,342.1	1,127.1	84.0
2026	833.2	715.7	85.9	554.4	449.8	81.1	1,387.6	1,165.5	84.0
2027	855.9	735.5	85.9	578.4	469.4	81.1	1,434.3	1,204.9	84.0
2028	878.6	755.4	86.0	603.1	489.5	81.2	1,481.7	1,244.9	84.0
2029	901.6	775.4	86.0	628.6	510.2	81.2	1,530.1	1,285.7	84.0
2030	925.3	796.1	86.0	655.3	532.0	81.2	1,580.5	1,328.1	84.0
2031	949.8	817.6	86.1	682.6	554.3	81.2	1,632.5	1,371.8	84.0
2032	974.6	839.2	86.1	710.9	577.3	81.2	1,685.5	1,416.5	84.0
<b>Avg Annual Growth</b>									
2000-11	-1.3%	0.1%	1.5%	2.1%	2.6%	0.5%	-0.3%	0.9%	1.2%
2011-12	-0.8%	-0.4%	0.4%	2.0%	2.4%	0.4%	0.1%	0.5%	0.4%
2011-21	2.1%	2.4%	0.2%	4.1%	4.2%	0.1%	2.8%	3.0%	0.2%
2011-32	2.4%	2.5%	0.1%	4.2%	4.3%	0.0%	3.1%	3.2%	0.1%

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

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

FISCAL YEAR	REVENUE PASSENGER ENPLANEMENTS (MIL)				TOTAL
	ATLANTIC	LATIN AMERICA	PACIFIC		
<u>Historical*</u>					
2000	20.9	21.2	11.2		53.3
2005	21.6	29.3	13.2		64.2
2006	22.5	31.7	13.9		68.1
2007	24.1	34.2	13.6		71.9
2008	26.0	35.6	13.2		74.8
2009	24.7	34.3	12.0		71.0
2010	24.5	37.3	12.9		74.7
2011E	25.3	39.6	13.4		78.3
<u>Forecast</u>					
2012	25.5	40.9	13.6		79.9
2013	26.2	42.5	13.7		82.4
2014	27.1	44.4	14.4		86.0
2015	27.9	46.4	15.2		89.5
2016	29.0	48.5	16.0		93.5
2017	30.1	50.6	16.8		97.5
2018	31.2	52.8	17.6		101.6
2019	32.3	55.3	18.3		106.0
2020	33.5	58.1	19.2		110.7
2021	34.7	60.8	20.0		115.5
2022	36.0	63.8	20.8		120.6
2023	37.2	67.0	21.7		126.0
2024	38.6	70.5	22.6		131.7
2025	40.0	74.2	23.5		137.7
2026	41.4	77.9	24.4		143.8
2027	42.9	81.7	25.4		150.0
2028	44.5	85.6	26.4		156.5
2029	46.0	89.7	27.4		163.1
2030	47.6	94.2	28.4		170.2
2031	49.2	98.7	29.5		177.4
2032	51.0	103.3	30.5		184.8
<u>Avg Annual Growth</u>					
2000-11	1.7%	5.8%	1.7%		3.6%
2011-12	0.7%	3.4%	1.1%		2.1%
2011-21	3.2%	4.4%	4.1%		4.0%
2011-32	3.4%	4.7%	4.0%		4.2%

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

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

FISCAL YEAR	ATLANTIC			LATIN AMERICA			PACIFIC			INTERNATIONAL		
	ASMs (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMS (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMS (BIL)	% LOAD FACTOR
<u>Historical*</u>												
2000	109.9	87.1	79.2	51.4	35.5	69.0	76.6	58.4	76.2	238.0	181.0	76.0
2005	108.6	89.5	82.4	65.4	47.2	72.2	72.3	59.2	81.8	246.3	195.8	79.5
2006	115.8	93.9	81.1	69.4	51.9	74.9	73.7	61.1	82.8	258.9	206.8	79.9
2007	126.6	102.2	80.7	72.7	55.9	76.9	74.1	61.4	82.9	273.4	219.5	80.3
2008	141.0	112.7	80.0	74.2	58.8	79.3	74.9	60.4	80.6	290.1	231.9	80.0
2009	138.2	108.9	78.9	73.5	56.4	76.8	69.9	54.7	78.3	281.5	220.0	78.2
2010	130.9	108.6	82.9	77.9	61.7	79.2	70.5	59.2	84.1	279.4	229.6	82.2
2011E	138.3	111.7	80.7	82.0	65.5	79.9	77.8	63.6	81.8	298.2	240.8	80.8
<u>Forecast</u>												
2012	139.4	112.8	80.9	85.0	68.3	80.4	79.7	65.0	81.6	304.1	246.1	80.9
2013	143.9	116.5	81.0	88.9	71.5	80.4	81.9	66.8	81.6	314.6	254.8	81.0
2014	149.4	121.0	81.0	93.3	75.1	80.5	86.2	70.1	81.4	328.9	266.2	81.0
2015	154.8	125.4	81.0	97.8	78.7	80.5	90.3	73.5	81.4	342.9	277.6	81.0
2016	162.1	131.3	81.0	102.5	82.5	80.5	94.2	76.8	81.5	358.9	290.6	81.0
2017	169.9	137.6	81.0	107.4	86.4	80.5	98.1	79.9	81.5	375.3	304.0	81.0
2018	177.5	143.9	81.0	112.5	90.5	80.5	101.9	83.1	81.6	391.9	317.5	81.0
2019	185.3	150.2	81.0	118.2	95.1	80.5	105.8	86.3	81.6	409.2	331.6	81.0
2020	193.2	156.6	81.1	124.4	100.1	80.5	109.8	89.7	81.7	427.4	346.4	81.1
2021	201.8	163.5	81.1	130.6	105.1	80.5	113.8	93.0	81.7	446.1	361.7	81.1
2022	210.7	170.8	81.1	137.3	110.5	80.5	117.9	96.4	81.8	465.9	377.8	81.1
2023	219.8	178.2	81.1	144.6	116.4	80.5	122.1	99.9	81.8	486.5	394.5	81.1
2024	229.3	185.9	81.1	152.5	122.8	80.5	126.3	103.4	81.9	508.1	412.1	81.1
2025	239.4	194.1	81.1	160.8	129.4	80.5	130.7	107.1	81.9	530.8	430.6	81.1
2026	250.0	202.8	81.1	169.2	136.2	80.5	135.1	110.8	82.0	554.4	449.8	81.1
2027	261.1	211.8	81.1	177.7	143.0	80.5	139.6	114.5	82.0	578.4	469.4	81.1
2028	272.4	221.0	81.1	186.5	150.1	80.5	144.2	118.4	82.1	603.1	489.5	81.2
2029	283.9	230.4	81.1	195.8	157.6	80.5	148.9	122.3	82.1	628.6	510.2	81.2
2030	295.8	240.0	81.2	205.8	165.7	80.5	153.6	126.3	82.2	655.3	532.0	81.2
2031	308.1	250.1	81.2	216.0	173.9	80.5	158.5	130.3	82.2	682.6	554.3	81.2
2032	321.2	260.7	81.2	226.3	182.1	80.5	163.4	134.4	82.3	710.9	577.3	81.2
<b>Avg Annual Growth</b>												
2000-11	2.1%	2.3%	0.2%	4.3%	5.7%	1.3%	0.1%	0.8%	0.6%	2.1%	2.6%	0.6%
2011-12	0.8%	1.0%	0.2%	3.6%	4.2%	0.6%	2.5%	2.2%	-0.2%	2.0%	2.2%	0.2%
2011-21	3.8%	3.9%	0.0%	4.8%	4.8%	0.1%	3.9%	3.9%	0.0%	4.1%	4.2%	0.0%
2011-32	4.1%	4.1%	0.0%	5.0%	5.0%	0.0%	3.6%	3.6%	0.0%	4.2%	4.3%	0.0%

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

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

FISCAL YEAR	DOMESTIC (Seats/Mile)	INTERNATIONAL				TOTAL (Seats/Mile)	SYSTEM (Seats/Mile)
		ATLANTIC (Seats/Mile)	LATIN AMERICA (Seats/Mile)	PACIFIC (Seats/Mile)			
<u>Historical*</u>							
2000	148.8	233.7	179.5	307.8	236.6	164.5	
2005	150.4	230.8	175.5	278.7	223.4	165.0	
2006	150.5	229.4	175.2	274.4	221.4	165.7	
2007	150.6	229.2	176.2	279.6	222.3	166.3	
2008	150.3	229.2	177.3	292.3	224.9	167.5	
2009	151.2	230.0	175.8	291.3	223.7	168.9	
2010	151.9	231.7	171.5	287.2	220.9	169.0	
2011E	152.3	230.5	172.3	282.9	220.7	169.9	
<u>Forecast</u>							
2012	152.4	231.0	172.8	283.7	221.0	170.4	
2013	152.4	231.5	173.3	284.4	221.2	170.7	
2014	152.5	232.0	173.8	285.2	221.8	171.3	
2015	152.6	232.5	174.3	285.9	222.2	171.5	
2016	152.7	233.0	174.8	286.7	222.8	172.0	
2017	152.7	233.5	175.3	287.4	223.2	172.4	
2018	152.8	234.0	175.8	288.2	223.7	172.8	
2019	152.9	234.5	176.3	288.9	224.0	173.3	
2020	153.0	235.0	176.8	289.7	224.4	173.6	
2021	153.0	235.5	177.3	290.4	224.7	174.1	
2022	153.1	236.0	177.8	291.2	225.1	174.5	
2023	153.2	236.5	178.3	291.9	225.4	174.9	
2024	153.3	237.0	178.8	292.7	225.6	175.2	
2025	153.3	237.5	179.3	293.4	225.9	175.7	
2026	153.4	238.0	179.8	294.2	226.2	176.0	
2027	153.5	238.5	180.3	294.9	226.5	176.4	
2028	153.6	239.0	180.8	295.7	226.8	176.8	
2029	153.6	239.5	181.3	296.4	227.1	177.2	
2030	153.7	240.0	181.8	297.2	227.4	177.6	
2031	153.8	240.5	182.3	297.9	227.7	177.9	
2032	153.9	241.0	182.8	298.7	228.0	178.3	

\* 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)	TOTAL (Miles)		
<u>Historical*</u>							
2000	872.6	4,168.1	1,675.2	5,219.9	3,397.3	1,091.4	
2005	981.5	4,133.1	1,611.1	4,466.1	3,051.2	1,201.1	
2006	995.4	4,175.4	1,637.0	4,390.4	3,037.0	1,233.4	
2007	992.8	4,247.8	1,634.3	4,515.1	3,054.2	1,237.2	
2008	999.4	4,332.7	1,651.6	4,583.5	3,100.1	1,262.9	
2009	1,003.0	4,402.4	1,645.6	4,549.9	3,097.6	1,274.6	
2010	1,015.1	4,433.0	1,654.7	4,586.6	3,072.6	1,295.5	
2011E	1,017.9	4,414.7	1,655.9	4,706.9	3,072.2	1,301.7	
<u>Forecast</u>							
2012	1,016.3	4,427.4	1,669.2	4,797.1	3,078.8	1,307.1	
2013	1,017.6	4,440.3	1,682.7	4,893.3	3,093.2	1,312.6	
2014	1,016.7	4,470.7	1,689.2	4,856.6	3,097.5	1,318.7	
2015	1,015.4	4,499.9	1,695.7	4,822.3	3,100.5	1,317.7	
2016	1,015.4	4,536.0	1,701.8	4,790.5	3,109.6	1,323.1	
2017	1,016.4	4,572.7	1,707.7	4,761.4	3,118.2	1,330.3	
2018	1,020.5	4,608.1	1,713.2	4,733.6	3,124.4	1,339.6	
2019	1,023.6	4,642.8	1,718.5	4,706.2	3,127.4	1,348.1	
2020	1,026.6	4,677.5	1,723.6	4,679.3	3,128.4	1,356.2	
2021	1,030.7	4,713.0	1,728.3	4,653.5	3,131.3	1,365.9	
2022	1,034.9	4,749.1	1,732.7	4,628.3	3,132.8	1,375.8	
2023	1,039.0	4,784.4	1,736.9	4,603.6	3,131.8	1,384.9	
2024	1,043.1	4,820.3	1,740.8	4,579.4	3,129.9	1,394.4	
2025	1,047.3	4,856.9	1,744.5	4,555.4	3,128.4	1,404.2	
2026	1,052.6	4,894.1	1,747.8	4,532.1	3,127.8	1,414.8	
2027	1,058.0	4,931.3	1,750.9	4,509.3	3,128.2	1,425.5	
2028	1,063.6	4,968.2	1,753.7	4,487.0	3,128.2	1,436.4	
2029	1,069.3	5,004.9	1,756.3	4,465.0	3,127.4	1,447.3	
2030	1,074.6	5,041.5	1,758.8	4,443.3	3,125.1	1,457.7	
2031	1,080.0	5,078.3	1,761.0	4,422.1	3,123.6	1,468.1	
2032	1,085.4	5,115.8	1,763.1	4,401.5	3,123.6	1,478.6	

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



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

FISCAL YEAR	REVENUE PER PASSENGER MILE												
	ATLANTIC			LATIN AMERICA			PACIFIC			TOTAL INTERNATIONAL			
	CURRENT \$ (Cents)	FY 2011 \$ (Cents)	CURRENT \$ (Cents)	FY 2011 \$ (Cents)	CURRENT \$ (Cents)	FY 2011 \$ (Cents)	CURRENT \$ (Cents)	FY 2011 \$ (Cents)	CURRENT \$ (Cents)	FY 2011 \$ (Cents)	CURRENT \$ (Cents)	FY 2011 \$ (Cents)	
<u>Historical*</u>													
2000	9.73	12.71	13.00	16.98	9.99	13.04	10.46	13.65					
2005	10.75	12.38	12.16	14.01	10.04	11.57	10.87	12.53					
2006	11.64	12.94	12.68	14.10	10.73	11.93	11.63	12.93					
2007	12.46	13.53	13.37	14.52	11.61	12.61	12.45	13.53					
2008	13.29	13.82	14.19	14.76	12.73	13.24	13.37	13.91					
2009	11.25	11.73	12.99	13.55	11.20	11.68	11.68	12.18					
2010	12.73	13.05	13.43	13.77	12.50	12.82	12.86	13.19					
2011E	13.48	13.48	15.34	15.34	14.07	14.07	14.14	14.14					
<u>Forecast</u>													
2012	14.20	13.93	16.36	16.05	14.88	14.60	14.98	14.70					
2013	14.47	13.95	16.97	16.36	15.49	14.93	15.44	14.88					
2014	14.62	13.81	17.14	16.19	15.65	14.78	15.60	14.74					
2015	14.77	13.67	17.32	16.03	15.81	14.63	15.77	14.60					
2016	14.95	13.53	17.52	15.87	16.00	14.49	15.96	14.45					
2017	15.10	13.40	17.71	15.71	16.17	14.34	16.13	14.30					
2018	15.25	13.26	17.88	15.55	16.33	14.20	16.28	14.16					
2019	15.39	13.13	18.04	15.40	16.47	14.06	16.43	14.02					
2020	15.50	13.00	18.18	15.24	16.60	13.92	16.56	13.89					
2021	15.63	12.87	18.32	15.09	16.73	13.78	16.69	13.75					
2022	15.76	12.74	18.48	14.94	16.87	13.64	16.84	13.61					
2023	15.88	12.61	18.62	14.79	17.00	13.50	16.97	13.48					
2024	16.01	12.49	18.78	14.64	17.14	13.37	17.12	13.35					
2025	16.15	12.36	18.94	14.50	17.29	13.24	17.27	13.22					
2026	16.30	12.24	19.12	14.35	17.45	13.10	17.44	13.09					
2027	16.46	12.12	19.30	14.21	17.62	12.97	17.60	12.96					
2028	16.61	12.00	19.48	14.07	17.78	12.84	17.78	12.84					
2029	16.78	11.88	19.67	13.93	17.96	12.71	17.96	12.71					
2030	16.95	11.76	19.87	13.79	18.14	12.59	18.14	12.59					
2031	17.12	11.64	20.08	13.65	18.33	12.46	18.34	12.46					
2032	17.31	11.52	20.29	13.51	18.53	12.34	18.53	12.34					
Avg Annual Growth													
2000-11	3.0%	0.5%	1.5%	-0.9%	3.2%	0.7%	2.8%	0.3%					
2011-12	5.3%	3.3%	6.6%	4.6%	5.8%	3.8%	5.9%	3.9%					
2011-21	1.5%	-0.5%	1.8%	-0.2%	1.7%	-0.2%	1.7%	-0.3%					
2011-32	1.2%	-0.7%	1.3%	-0.6%	1.3%	-0.6%	1.3%	-0.6%					

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

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

FISCAL YEAR	DOMESTIC		INTERNATIONAL		SYSTEM	
	CURRENT \$ (Cents)	FY 2011 \$ (Cents)	CURRENT \$ (Cents)	FY 2011 \$ (Cents)	CURRENT \$ (Cents)	FY 2011 \$ (Cents)
<u>Historical*</u>						
2000	71.49	93.36	79.35	103.63	73.57	96.08
2005	149.39	172.14	157.26	181.21	151.58	174.66
2006	194.69	216.43	204.69	227.54	197.72	219.80
2007	194.01	210.88	203.31	220.81	196.90	213.85
2008	292.64	304.22	314.57	327.11	299.74	311.69
2009	202.31	211.02	208.41	217.38	204.35	213.15
2010	219.19	224.79	220.06	225.70	219.49	225.09
2011E	274.41	274.41	271.77	271.77	273.44	273.44
<u>Forecast</u>						
2012	299.72	294.10	296.84	291.27	298.66	293.06
2013	321.27	309.71	318.18	306.73	320.13	308.62
2014	333.12	314.62	329.91	311.59	331.94	313.51
2015	334.68	309.75	331.46	306.77	333.50	308.65
2016	343.96	311.48	340.65	308.49	342.74	310.38
2017	351.50	311.81	348.12	308.81	350.26	310.70
2018	356.37	309.92	352.94	306.94	355.11	308.83
2019	357.96	305.50	354.52	302.56	356.70	304.42
2020	353.09	296.10	349.70	293.25	351.85	295.06
2021	352.07	289.97	348.68	287.18	350.82	288.94
2022	352.07	284.72	348.69	281.98	350.83	283.71
2023	349.99	278.05	346.62	275.37	348.75	277.06
2024	353.79	275.93	350.39	273.28	352.54	274.96
2025	359.58	275.21	356.12	272.56	358.31	274.24
2026	365.99	274.76	362.47	272.12	364.70	273.79
2027	372.84	274.55	369.25	271.90	371.52	273.57
2028	381.76	275.68	378.09	273.02	380.41	274.70
2029	391.21	276.93	387.45	274.26	389.83	275.95
2030	400.80	278.05	396.94	275.38	399.38	277.07
2031	409.71	278.49	405.77	275.81	408.26	277.51
2032	418.54	278.67	414.51	275.99	417.06	277.68
<u>Avg Annual Growth</u>						
2000-11	13.0%	10.3%	11.8%	9.2%	12.7%	10.0%
2011-12	9.2%	7.2%	9.2%	7.2%	9.2%	7.2%
2011-21	2.5%	0.6%	2.5%	0.6%	2.5%	0.6%
2011-32	2.0%	0.1%	2.0%	0.1%	2.0%	0.1%

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

**TABLE 19**  
**U.S. COMMERCIAL AIR CARRIERS**  
**AIR CARGO REVENUE TON MILES<sup>1, 2, 3</sup>**

FISCAL YEAR	ALL-CARGO CARRIER RTMS (Millions)			PASSENGER CARRIER RTMS (Millions)			TOTAL RTMS (Millions)		
	DOMESTIC	INTL.	TOTAL	DOMESTIC	INTL.	TOTAL	DOMESTIC	INTL.	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
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	12,795.2	16,164.4	28,959.6	3,022.8	8,050.0	11,072.8	15,818.0	24,214.4	40,032.4
2008	12,257.7	15,587.4	27,845.1	2,152.9	9,027.0	11,179.9	14,410.5	24,614.4	39,025.0
2009	10,266.1	13,206.4	23,472.5	1,633.9	5,898.6	7,532.5	11,900.0	19,105.0	31,005.0
2010	11,212.3	15,966.6	27,179.0	1,620.9	7,128.0	8,748.9	12,833.2	23,094.6	35,927.9
2011E	10,550.7	17,437.1	27,987.8	1,497.7	7,766.2	9,263.9	12,048.4	25,203.3	37,251.7
<u>Forecast</u>									
2012	10,277.3	18,906.4	29,183.6	1,445.4	8,302.7	9,748.1	11,722.7	27,209.0	38,931.7
2013	10,377.0	20,556.4	30,933.3	1,446.0	8,900.1	10,346.1	11,822.9	29,456.5	41,279.4
2014	10,931.5	22,425.9	33,357.4	1,509.1	9,571.9	11,081.0	12,440.6	31,987.8	44,438.4
2015	11,443.3	24,352.4	35,795.7	1,564.9	10,246.1	11,811.1	13,008.3	34,598.5	47,606.8
2016	11,761.1	26,236.6	37,997.7	1,593.2	10,880.7	12,473.9	13,354.3	37,117.3	50,471.6
2017	11,951.6	28,069.3	40,021.0	1,603.6	11,472.9	13,076.6	13,555.3	39,542.3	53,097.5
2018	12,058.0	29,912.9	41,970.8	1,602.4	12,049.1	13,651.5	13,660.4	41,962.0	55,622.4
2019	12,222.8	31,830.5	44,053.3	1,608.6	12,634.4	14,243.0	13,831.5	44,464.9	58,296.4
2020	12,448.3	33,818.5	46,266.8	1,622.4	13,226.4	14,848.8	14,070.7	47,044.9	61,115.6
2021	12,584.9	35,832.5	48,417.4	1,624.1	13,806.9	15,431.0	14,209.1	49,639.3	63,848.4
2022	12,771.9	37,933.2	50,705.2	1,632.0	14,398.8	16,030.8	14,403.9	52,332.1	66,736.0
2023	13,016.1	40,123.3	53,139.4	1,646.7	15,002.0	16,648.7	14,662.8	55,125.3	69,788.1
2024	13,277.0	42,394.6	55,671.6	1,662.8	15,612.1	17,275.0	14,939.8	58,006.7	72,946.6
2025	13,526.7	44,759.0	58,285.7	1,677.0	16,232.5	17,909.5	15,203.8	60,991.5	76,195.3
2026	13,765.5	47,206.8	60,972.4	1,689.3	16,858.3	18,547.6	15,454.8	64,065.2	79,520.0
2027	13,985.6	49,750.0	63,735.6	1,698.7	17,492.8	19,191.4	15,684.3	67,242.7	82,927.0
2028	14,188.6	52,377.8	66,566.4	1,705.5	18,130.8	19,836.3	15,894.0	70,508.6	86,402.7
2029	14,402.3	55,118.3	69,520.6	1,713.1	18,781.0	20,494.2	16,115.4	73,899.4	90,014.7
2030	14,676.1	58,006.1	72,682.2	1,727.3	19,453.5	21,180.8	16,403.4	77,459.6	93,863.0
2031	14,935.1	61,004.8	75,940.0	1,739.2	20,134.1	21,873.3	16,674.3	81,139.0	97,813.3
2032	15,158.5	64,087.6	79,246.1	1,746.3	20,812.8	22,559.1	16,904.8	84,900.4	101,805.2
Avg Annual Growth									
2000-11	0.2%	7.9%	4.2%	-9.4%	0.0%	-2.5%	-1.8%	4.6%	2.0%
2011-12	-2.6%	8.4%	4.3%	-3.5%	6.9%	5.2%	-2.7%	8.0%	4.5%
2011-21	1.8%	7.5%	5.6%	0.8%	5.9%	5.2%	1.7%	7.0%	5.5%
2011-32	1.7%	6.4%	5.1%	0.7%	4.8%	4.3%	1.6%	6.0%	4.9%

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

<sup>3</sup>Domestic figures from 2003 and beyond include Airborne Express, Inc.

**TABLE 20**  
**U.S. COMMERCIAL AIR CARRIERS**  
**INTERNATIONAL AIR CARGO REVENUE TON MILES BY REGION<sup>1, 2</sup>**

FISCAL YEAR	ATLANTIC (MILLIONS)	LATIN AMERICA (MILLIONS)	PACIFIC (MILLIONS)	OTHER INTERNATIONAL (MILLIONS)	TOTAL (MILLIONS)
<u>Historical*</u>					
2000	5,416.8	1,791.2	7,543.8	1,088.7	15,840.5
2005	6,006.7	1,884.1	9,059.1	6,180.2	23,130.0
2006	6,084.1	2,004.9	9,564.2	6,555.6	24,208.9
2007	6,124.7	2,304.2	9,497.3	6,763.5	24,689.7
2008	6,415.4	2,336.3	9,050.0	6,619.8	24,421.5
2009	5,740.1	1,793.4	6,855.4	4,711.2	19,100.2
2010	6,865.3	1,990.6	8,348.4	5,860.3	23,064.5
2011E	7,235.5	1,805.8	9,105.4	7,056.5	25,203.3
<u>Forecast</u>					
2012	7,605.8	1,990.7	9,919.9	7,692.6	27,209.0
2013	8,041.8	2,176.1	10,758.4	8,480.2	29,456.5
2014	8,564.1	2,386.1	11,661.5	9,386.1	31,997.8
2015	9,111.9	2,596.5	12,577.5	10,312.6	34,598.5
2016	9,636.5	2,794.7	13,461.3	11,224.7	37,117.3
2017	10,142.7	2,978.0	14,306.9	12,114.7	39,542.3
2018	10,647.6	3,155.7	15,149.6	13,009.0	41,962.0
2019	11,174.9	3,338.5	16,021.2	13,930.2	44,464.9
2020	11,724.5	3,524.3	16,919.9	14,876.1	47,044.9
2021	12,279.0	3,705.7	17,821.8	15,832.8	49,639.3
2022	12,861.9	3,897.8	18,761.1	16,811.3	52,332.1
2023	13,478.7	4,101.8	19,731.2	17,813.6	55,125.3
2024	14,120.7	4,314.9	20,733.3	18,837.8	58,006.7
2025	14,785.8	4,535.4	21,778.7	19,891.6	60,991.5
2026	15,474.0	4,763.9	22,859.9	20,967.5	64,065.2
2027	16,187.4	4,999.3	23,984.5	22,071.5	67,242.7
2028	16,925.4	5,242.4	25,143.7	23,197.2	70,508.6
2029	17,693.5	5,498.1	26,354.8	24,353.0	73,899.4
2030	18,509.3	5,772.9	27,630.6	25,546.8	77,459.6
2031	19,356.7	6,058.1	28,955.4	26,768.7	81,139.0
2032	20,228.1	6,351.4	30,311.9	28,009.0	84,900.4
<b>Avg. Annual Growth</b>					
2000-11	2.7%	0.1%	1.7%	18.5%	4.3%
2011-12	5.1%	10.2%	8.9%	9.0%	8.0%
2011-21	5.4%	7.5%	6.9%	8.4%	7.0%
2011-32	5.0%	6.2%	5.9%	6.8%	6.0%

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

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

<sup>2</sup>Figures for 2003 and beyond include new reporting of contract service by U.S. carriers for foreign flag carriers.

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

CALENDAR YEAR	LARGE NARROWBODY				LARGE WIDEBODY				TOTAL	REGIONAL JETS	TOTAL JETS
	2 ENGINE	3 ENGINE	4 ENGINE	TOTAL	2 ENGINE	3 ENGINE	4 ENGINE	TOTAL			
<u>Historical</u>											
2000	3,364	385	0	3,749	424	169	120	713	4,462	26	4,488
2005	3,308	37	0	3,345	466	29	54	549	3,894	12	3,906
2006	3,302	26	0	3,328	463	19	49	531	3,859	39	3,898
2007	3,354	29	0	3,383	477	12	47	536	3,919	64	3,983
2008	3,170	10	1	3,181	470	9	44	523	3,704	91	3,795
2009	3,109	9	2	3,120	447	9	42	498	3,618	92	3,710
2010	3,127	10	1	3,138	471	9	43	523	3,661	90	3,751
2011E	3,112	9	1	3,122	476	7	41	524	3,646	93	3,739
<u>Forecast</u>											
2012	3,004	9	1	3,014	495	5	41	541	3,555	97	3,652
2013	3,011	9	1	3,021	515	3	41	559	3,580	102	3,682
2014	3,034	9	1	3,044	533	1	41	575	3,619	110	3,729
2015	3,088	9	1	3,098	555	0	41	596	3,694	117	3,811
2016	3,139	9	1	3,149	594	0	37	631	3,780	125	3,905
2017	3,171	6	1	3,178	617	0	20	637	3,815	133	3,948
2018	3,226	6	1	3,233	649	0	13	662	3,895	137	4,032
2019	3,297	5	1	3,303	681	0	11	692	3,995	127	4,122
2020	3,351	4	1	3,356	708	0	9	717	4,073	127	4,200
2021	3,419	4	0	3,423	737	0	7	744	4,167	127	4,294
2022	3,482	3	0	3,485	763	0	5	768	4,253	127	4,380
2023	3,569	1	0	3,570	795	0	2	797	4,367	128	4,495
2024	3,639	1	0	3,640	821	0	0	821	4,461	128	4,589
2025	3,724	0	0	3,724	853	0	0	853	4,577	128	4,705
2026	3,795	0	0	3,795	878	0	0	878	4,673	125	4,798
2027	3,870	0	0	3,870	914	0	0	914	4,784	120	4,904
2028	3,989	0	0	3,989	939	0	0	939	4,928	115	5,043
2029	4,060	0	0	4,060	983	0	0	983	5,043	110	5,153
2030	4,145	0	0	4,145	1,026	0	0	1,026	5,171	105	5,276
2031	4,240	0	0	4,240	1,064	0	0	1,064	5,304	100	5,404
2032	4,325	0	0	4,325	1,103	0	0	1,103	5,428	100	5,528
Avg Annual Growth											
2000-11	-0.7%	-28.9%	N/A	-1.7%	1.1%	-25.1%	-9.8%	-2.8%	-1.8%	12.3%	-1.6%
2011-12	-3.5%	0.0%	0.0%	-3.5%	4.0%	-28.6%	0.0%	3.2%	-2.5%	4.3%	-2.3%
2011-21	0.9%	-7.8%	-100.0%	0.9%	4.5%	-100.0%	-16.2%	3.6%	1.3%	3.2%	1.4%
2011-32	1.6%	-100.0%	-100.0%	1.6%	4.1%	-100.0%	-100.0%	3.6%	1.9%	0.3%	1.9%

**TABLE 22**  
**U.S. MAINLINE AIR CARRIERS**  
**CARGO JET AIRCRAFT**

CALENDAR YEAR	LARGE NARROWBODY				TOTAL	LARGE WIDEBODY				TOTAL
	2 ENGINE	3 ENGINE	4 ENGINE	4 ENGINE		2 ENGINE	3 ENGINE	4 ENGINE	4 ENGINE	
<u>Historical</u>										
2000	166	332	176		674	164	158	68		390
2005	164	233	90		487	246	193	75		514
2006	162	220	78		460	264	208	80		552
2007	162	162	75		399	276	213	86		575
2008	161	143	68		372	276	215	97		588
2009	160	104	33		297	253	209	82		544
2010	153	104	31		288	265	200	97		562
2011E	175	94	27		296	281	204	98		583
<u>Forecast</u>										
2012	178	91	27		296	290	204	98		592
2013	188	79	23		290	297	207	100		604
2014	198	67	18		283	310	207	101		618
2015	209	56	14		279	339	205	103		647
2016	221	43	12		276	356	199	102		657
2017	231	26	10		267	373	194	104		671
2018	246	13	8		267	392	188	104		684
2019	266	7	5		278	411	185	105		701
2020	281	5	3		289	430	180	105		715
2021	294	3	1		298	449	176	107		732
2022	308	2	0		310	464	171	106		741
2023	321	0	0		321	482	168	109		759
2024	335	0	0		335	502	159	112		773
2025	345	0	0		345	523	152	115		790
2026	357	0	0		357	541	145	118		804
2027	369	0	0		369	556	147	118		821
2028	381	0	0		381	568	147	121		836
2029	391	0	0		391	582	149	125		856
2030	404	0	0		404	596	150	128		874
2031	415	0	0		415	614	152	132		898
2032	427	0	0		427	631	152	135		918
<b>Avg Annual Growth</b>										
2000-11	0.5%	-10.8%	-15.7%		-7.2%	5.0%	2.4%	3.4%		3.7%
2011-12	1.7%	-3.2%	0.0%		0.0%	3.2%	0.0%	0.0%		1.5%
2011-21	5.3%	-29.1%	-28.1%		0.1%	4.8%	-1.5%	0.9%		2.3%
2011-32	4.3%	-100.0%	-100.0%		1.8%	3.9%	-1.4%	1.5%		2.2%

**TABLE 23**  
**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>		GENERAL AVIATION	AIR CARRIER	GENERAL AVIATION	TOTAL			
	DOMESTIC	INTL.					TOTAL		
Historical*									
2000	15,030	5,484	20,513	972	21,485	2	333	335	21,350
2005	14,221	6,059	20,281	1,527	21,807	2	295	297	22,104
2006	13,775	6,186	19,961	1,643	21,603	2	283	285	21,889
2007	13,882	6,309	20,191	1,486	21,676	2	274	276	21,952
2008	13,397	6,499	19,896	1,706	21,602	2	248	250	21,852
2009	11,896	6,033	17,929	1,447	19,376	2	227	229	19,606
2010	11,973	6,290	18,263	1,435	19,698	2	221	223	19,921
2011E	12,036	6,547	18,583	1,433	20,017	2	215	217	20,233
Forecast <sup>2</sup>									
2012	11,764	6,579	18,343	1,651	19,994	2	210	212	20,207
2013	11,763	6,705	18,468	1,747	20,215	2	208	210	20,425
2014	11,778	6,904	18,682	1,836	20,518	2	207	209	20,727
2015	12,081	7,092	19,173	1,918	21,091	2	205	207	21,298
2016	12,230	7,312	19,543	1,992	21,534	2	203	205	21,739
2017	12,344	7,533	19,877	2,058	21,936	2	203	205	22,141
2018	12,491	7,749	20,240	2,132	22,371	2	203	205	22,576
2019	12,628	7,972	20,600	2,198	22,798	2	203	205	23,003
2020	12,786	8,203	20,989	2,268	23,257	2	203	205	23,462
2021	12,929	8,435	21,364	2,327	23,691	2	202	204	23,894
2022	13,074	8,678	21,752	2,395	24,147	2	203	205	24,351
2023	13,245	8,926	22,171	2,468	24,638	2	204	206	24,844
2024	13,412	9,185	22,597	2,543	25,140	2	206	208	25,348
2025	13,572	9,453	23,025	2,624	25,649	2	207	209	25,858
2026	13,755	9,725	23,480	2,696	26,176	2	209	211	26,386
2027	13,944	9,996	23,940	2,770	26,710	2	211	213	26,923
2028	14,125	10,268	24,393	2,850	27,244	2	214	216	27,459
2029	14,303	10,543	24,846	2,940	27,787	2	216	218	28,004
2030	14,487	10,828	25,315	3,034	28,349	2	218	220	28,569
2031	14,677	11,113	25,790	3,130	28,920	2	220	222	29,142
2032	14,863	11,401	26,265	3,230	29,495	2	223	225	29,720
Avg Annual Growth									
2000-11	-2.0%	1.6%	-0.9%	3.6%	-0.6%	0.0%	-3.9%	-3.9%	-0.5%
2011-12	-2.3%	0.5%	-1.3%	15.2%	-0.1%	0.0%	-2.0%	-2.0%	-0.1%
2011-21	0.7%	2.6%	1.4%	5.0%	1.7%	0.0%	-0.6%	-0.6%	1.7%
2011-32	1.0%	2.7%	1.7%	3.9%	1.9%	0.0%	0.2%	0.2%	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.

<sup>2</sup>Forecast assumes 1.5% annual improvement in ASMs/Gallon for U.S. Commercial Air Carrier

**TABLE 24**  
**U.S. REGIONAL CARRIER FORECAST ASSUMPTIONS**

FISCAL YEAR	AVERAGE SEATS PER AIRCRAFT MILE			AVERAGE PASSENGER TRIP LENGTH			REVENUE PER PASSENGER MILE**	
	DOMESTIC (Seats/Mile)	INTL. (Seats/Mile)	SYSTEM (Seats/Mile)	DOMESTIC (Miles)	INTL. (Miles)	SYSTEM (Miles)	CURRENT \$ (Cents)	2011 \$ (Cents)
<u>Historical*</u>								
2000	38.4	41.8	38.5	286.5	260.0	285.5	30.28	39.00
2005	48.6	52.4	48.7	434.7	434.2	434.7	19.70	22.70
2006	49.3	52.2	49.4	450.4	467.2	450.7	19.84	22.06
2007	49.9	54.0	50.0	451.5	518.1	452.9	19.95	21.67
2008	52.9	53.4	53.0	460.8	532.7	462.3	21.04	21.88
2009	55.2	52.8	55.1	456.9	512.3	457.8	17.04	17.78
2010	56.1	53.2	56.1	464.3	502.9	465.0	15.64	16.04
2011E	56.4	53.5	56.3	468.3	530.2	469.2	15.68	15.68
<u>Forecast</u>								
2012	56.9	53.8	56.8	470.0	535.2	470.9	16.14	15.83
2013	57.3	54.1	57.3	474.0	540.2	475.0	16.44	15.85
2014	57.8	54.4	57.7	476.1	545.2	477.1	16.83	15.89
2015	58.2	54.7	58.2	478.4	550.2	479.4	17.19	15.91
2016	58.7	55.0	58.6	482.2	555.2	483.3	17.58	15.92
2017	59.1	55.3	59.1	486.1	560.2	487.1	17.91	15.89
2018	59.6	55.6	59.5	490.0	565.2	491.0	18.07	15.71
2019	60.1	55.9	60.0	493.9	570.2	495.0	18.24	15.57
2020	60.5	56.2	60.4	498.8	575.2	499.9	18.36	15.40
2021	61.0	56.5	60.9	503.8	580.2	504.9	18.48	15.22
2022	61.5	56.8	61.4	508.8	585.2	509.9	18.60	15.04
2023	61.9	57.1	61.9	513.9	590.2	515.0	18.70	14.85
2024	62.4	57.4	62.3	519.1	595.2	520.2	18.85	14.70
2025	62.9	57.7	62.8	524.3	600.2	525.4	19.02	14.56
2026	63.4	58.0	63.3	530.5	605.2	531.6	19.15	14.37
2027	63.9	58.3	63.8	536.9	610.2	538.0	19.27	14.19
2028	64.4	58.6	64.3	543.4	615.2	544.4	19.40	14.01
2029	64.9	58.9	64.8	549.9	620.2	550.9	19.54	13.83
2030	65.4	59.2	65.3	556.5	625.2	557.5	19.70	13.67
2031	65.9	59.5	65.8	563.2	630.2	564.1	19.87	13.50
2032	66.4	59.8	66.3	569.9	635.2	570.9	20.04	13.34
Avg Annual Growth								
2000-11	3.5%	2.3%	3.5%	4.6%	6.7%	4.6%	-5.8%	-8.0%
2011-12	0.9%	0.6%	0.9%	0.4%	0.9%	0.4%	2.9%	1.0%
2011-21	0.8%	0.5%	0.8%	0.7%	0.9%	0.7%	1.7%	-0.3%
2011-32	0.8%	0.5%	0.8%	0.9%	0.9%	0.9%	1.2%	-0.8%

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

\*\* Reporting carriers.

**TABLE 25**  
**U.S. REGIONAL CARRIERS**  
**SCHEDULED PASSENGER TRAFFIC**  
 (In Millions)

FISCAL YEAR	REVENUE PASSENGERS		REVENUE PASSENGER MILES	
	DOMESTIC	INTERNATIONAL	DOMESTIC	INTERNATIONAL
<u>Historical*</u>				
2000	79.7	3.1	82.8	814
2005	146.4	3.3	149.7	1,417
2006	152.2	3.5	155.7	1,634
2007	156.2	3.4	159.6	1,772
2008	159.1	3.5	162.6	1,867
2009	154.0	2.5	156.6	1,304
2010	161.6	2.7	164.3	1,347
2011E	161.3	2.4	163.6	1,260
<u>Forecast</u>				
2012	162.4	2.4	164.8	1,281
2013	163.5	2.4	165.9	1,301
2014	167.4	2.5	169.9	1,345
2015	175.5	2.6	178.1	1,423
2016	181.3	2.7	183.9	1,483
2017	186.0	2.7	188.7	1,535
2018	190.8	2.8	193.6	1,589
2019	195.7	2.9	198.6	1,645
2020	201.0	3.0	204.0	1,704
2021	205.9	3.0	209.0	1,760
2022	211.0	3.1	214.1	1,820
2023	216.6	3.2	219.8	1,884
2024	222.3	3.3	225.5	1,949
2025	227.9	3.4	231.3	2,016
2026	233.7	3.4	237.2	2,085
2027	239.8	3.5	243.3	2,156
2028	245.7	3.6	249.3	2,227
2029	251.7	3.7	255.4	2,300
2030	258.0	3.8	261.8	2,377
2031	264.5	3.9	268.4	2,456
2032	271.0	4.0	275.0	2,537
Avg Annual Growth				
2000-11	6.6%	-2.5%	6.4%	4.1%
2011-12	0.7%	0.7%	0.7%	1.7%
2011-21	2.5%	2.5%	2.5%	3.4%
2011-32	2.5%	2.5%	2.5%	3.4%

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

**TABLE 26**  
**U.S. REGIONAL CARRIERS**  
**SCHEDULED PASSENGER CAPACITY, TRAFFIC, AND LOAD FACTORS**

FISCAL YEAR	DOMESTIC			INTERNATIONAL			SYSTEM		
	ASMs (MIL)	RPMs (MIL)	% LOAD FACTOR	ASMs (MIL)	RPMs (MIL)	% LOAD FACTOR	ASMs (MIL)	RPMs (MIL)	% LOAD FACTOR
<u>Historical*</u>									
2000	38,332	22,825	59.5	1,338	814	60.8	39,670	23,639	59.6
2005	90,028	63,654	70.7	2,213	1,417	64.0	92,240	65,071	70.5
2006	91,458	68,532	74.9	2,387	1,634	68.5	93,845	70,166	74.8
2007	93,452	70,528	75.5	2,550	1,772	69.5	96,002	72,300	75.3
2008	99,469	73,305	73.7	2,632	1,867	70.9	102,101	75,172	73.6
2009	94,664	70,374	74.3	1,859	1,304	70.2	96,523	71,678	74.3
2010	98,489	75,053	76.2	1,857	1,347	72.5	100,346	76,400	76.1
2011E	99,062	75,510	76.2	1,802	1,260	69.9	100,864	76,770	76.1
<u>Forecast</u>									
2012	98,571	76,337	77.4	1,819	1,281	70.4	100,391	77,618	77.3
2013	99,353	77,491	78.0	1,835	1,301	70.9	101,189	78,792	77.9
2014	102,159	79,722	78.0	1,884	1,345	71.4	104,043	81,068	77.9
2015	107,552	83,973	78.1	1,979	1,423	71.9	109,531	85,396	78.0
2016	111,895	87,405	78.1	2,048	1,483	72.4	113,943	88,888	78.0
2017	115,688	90,408	78.1	2,106	1,535	72.9	117,794	91,943	78.1
2018	119,587	93,494	78.2	2,165	1,589	73.4	121,752	95,083	78.1
2019	123,599	96,668	78.2	2,225	1,645	73.9	125,825	98,312	78.1
2020	128,140	100,256	78.2	2,289	1,704	74.4	130,429	101,959	78.2
2021	132,549	103,741	78.3	2,350	1,760	74.9	134,899	105,502	78.2
2022	137,142	107,371	78.3	2,413	1,820	75.4	139,555	109,191	78.2
2023	142,159	111,333	78.3	2,482	1,884	75.9	144,641	113,217	78.3
2024	147,277	115,375	78.3	2,551	1,949	76.4	149,828	117,324	78.3
2025	152,469	119,476	78.4	2,621	2,016	76.9	155,090	121,491	78.3
2026	158,220	124,014	78.4	2,702	2,085	77.2	160,921	126,099	78.4
2027	164,191	128,727	78.4	2,785	2,156	77.4	166,976	130,882	78.4
2028	170,253	133,511	78.4	2,868	2,227	77.7	173,122	135,739	78.4
2029	176,461	138,411	78.4	2,953	2,300	77.9	179,414	140,712	78.4
2030	182,991	143,564	78.5	3,047	2,377	78.0	186,038	145,941	78.4
2031	189,805	148,941	78.5	3,144	2,456	78.1	192,950	151,397	78.5
2032	196,789	154,452	78.5	3,243	2,537	78.2	200,033	156,988	78.5
Avg Annual Growth									
2000-11	9.0%	11.5%	2.3%	2.7%	4.1%	1.3%	8.9%	11.3%	2.3%
2011-12	-0.5%	1.1%	1.6%	1.0%	1.7%	0.7%	-0.5%	1.1%	1.6%
2011-21	3.0%	3.2%	0.3%	2.7%	3.4%	0.7%	3.0%	3.2%	0.3%
2011-32	3.3%	3.5%	0.1%	2.8%	3.4%	0.5%	3.3%	3.5%	0.1%

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



**TABLE 28**  
**ACTIVE GENERAL AVIATION AND AIR TAXI AIRCRAFT**

AS OF DEC. 31	FIXED WING														TOTAL GENERAL AVIATION FLEET	TOTAL PISTONS	TOTAL TURBINES	
	PISTON				TURBINE				ROTORCRAFT			EXPERI- MENTAL	SPORT AIRCRAFT	OTHER				
	SINGLE ENGINE	MULTI- ENGINE	TOTAL	TURBO PROP	TURBO JET	TOTAL	PISTON	TURBINE	TOTAL									
										TOTAL	PISTON							TURBINE
Historical*																		
2000	149,422	21,091	170,513	5,762	7,001	12,763	2,680	4,470	7,150	20,407	NA	6,700	217,533	173,193	17,233			
2005	148,101	19,412	167,513	7,942	9,823	17,765	3,039	5,689	8,728	23,627	170	6,454	224,257	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			
2008	145,497	17,515	163,012	8,907	11,042	19,949	3,498	6,378	9,876	23,364	6,811	5,652	228,664	166,510	26,327			
2009	140,649	16,474	157,123	9,055	11,268	20,323	3,499	6,485	9,984	24,419	6,547	5,480	223,876	160,622	26,808			
2010	139,519	15,900	155,419	9,369	11,484	20,853	3,588	6,514	10,102	24,784	6,528	5,684	223,370	159,007	27,367			
2011E	138,560	15,810	154,370	9,430	11,760	21,190	3,685	6,725	10,410	24,225	6,645	5,680	222,520	158,055	27,915			
Forecast																		
2012	137,600	15,735	153,335	9,505	12,050	21,555	3,780	6,940	10,720	24,480	6,930	5,670	222,690	157,115	28,495			
2013	136,650	15,660	152,310	9,570	12,410	21,980	3,875	7,165	11,040	24,810	7,180	5,665	222,985	156,185	29,145			
2014	135,790	15,615	151,405	9,645	12,835	22,480	3,975	7,415	11,390	25,170	7,365	5,655	223,465	155,380	29,895			
2015	135,010	15,570	150,580	9,720	13,340	23,060	4,075	7,675	11,750	25,500	7,530	5,650	224,070	154,655	30,735			
2016	134,285	15,500	149,785	9,795	13,880	23,675	4,165	7,930	12,095	25,835	7,690	5,640	224,720	153,950	31,605			
2017	133,650	15,425	149,075	9,870	14,470	24,340	4,250	8,180	12,430	26,165	7,845	5,635	225,490	153,325	32,520			
2018	133,090	15,340	148,430	9,950	15,060	25,010	4,335	8,435	12,770	26,500	8,000	5,630	226,340	152,765	33,445			
2019	132,645	15,260	147,905	10,030	15,650	25,680	4,420	8,685	13,105	26,830	8,160	5,625	227,305	152,325	34,365			
2020	132,335	15,175	147,510	10,120	16,265	26,385	4,505	8,940	13,445	27,160	8,315	5,615	228,430	152,015	35,325			
2021	132,125	15,090	147,215	10,205	16,915	27,120	4,590	9,200	13,790	27,490	8,470	5,610	229,695	151,805	36,320			
2022	132,010	15,010	147,020	10,300	17,620	27,920	4,680	9,465	14,145	27,825	8,630	5,605	231,145	151,700	37,385			
2023	131,975	14,935	146,910	10,400	18,370	28,770	4,775	9,745	14,520	28,155	8,785	5,600	232,740	151,685	38,515			
2024	132,015	14,875	146,890	10,515	19,170	29,685	4,875	10,040	14,915	28,490	8,940	5,590	234,510	151,765	39,725			
2025	132,150	14,815	146,965	10,625	20,020	30,645	4,975	10,345	15,320	28,820	9,100	5,585	236,435	151,940	40,990			
2026	132,370	14,745	147,115	10,740	20,865	31,605	5,075	10,650	15,725	29,150	9,255	5,580	238,430	152,190	42,255			
2027	132,660	14,680	147,340	10,860	21,760	32,620	5,180	10,965	16,145	29,480	9,410	5,575	240,570	152,520	43,585			
2028	133,020	14,610	147,630	10,975	22,700	33,675	5,285	11,275	16,560	29,815	9,570	5,570	242,820	152,915	44,950			
2029	133,470	14,540	148,010	11,090	23,690	34,780	5,390	11,590	16,980	30,145	9,725	5,560	245,200	153,400	46,370			
2030	134,000	14,470	148,470	11,205	24,730	35,935	5,495	11,905	17,400	30,480	9,880	5,555	247,720	153,965	47,840			
2031	134,625	14,405	149,030	11,320	25,805	37,125	5,600	12,225	17,825	30,810	10,040	5,550	250,380	154,630	49,350			
2032	135,340	14,350	149,690	11,445	26,935	38,380	5,705	12,550	18,255	31,140	10,195	5,545	253,205	155,395	50,930			
Avg Annual Growth																		
2000-11	-0.7%	-2.6%	-0.9%	4.6%	4.8%	4.7%	2.9%	3.8%	3.5%	1.6%	NA	-1.5%	0.2%	-0.8%	4.5%			
2011-12	-0.7%	-0.5%	-0.7%	0.8%	2.5%	1.7%	2.6%	3.2%	3.0%	1.1%	4.3%	-0.2%	0.1%	-0.6%	2.1%			
2011-21	-0.5%	-0.5%	-0.5%	0.8%	3.7%	2.5%	2.2%	3.2%	2.9%	1.3%	2.5%	-0.1%	0.3%	-0.4%	2.7%			
2011-32	-0.1%	-0.5%	-0.1%	0.9%	4.0%	2.9%	2.1%	3.0%	2.7%	1.2%	2.1%	-0.1%	0.6%	-0.1%	2.9%			

\* Source: 2000-2010, 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 30**  
**ACTIVE PILOTS BY TYPE OF CERTIFICATE**

AS OF DEC. 31	STUDENTS	RECREA- TIONAL	SPORT PILOT	PRIVATE	COMMERCIAL	AIRLINE TRANSPORT	ROTOR- CRAFT ONLY	GLIDER ONLY	TOTAL PILOTS	TOTAL LESS AT PILOTS	INSTRUMENT RATED PILOTS <sup>1</sup>
Historical*											
2000	93,064	340	N/A	251,561	121,858	141,596	7,775	9,387	625,581	483,985	311,944
2005	87,213	278	134	228,619	120,614	141,992	9,518	21,369	609,737	467,745	311,500
2006	84,866	239	939	219,233	117,610	141,935	10,690	21,597	597,109	455,174	309,333
2007	84,339	239	2,031	211,096	115,127	143,953	12,290	21,274	590,349	446,396	309,865
2008	80,989	252	2,623	222,596	124,746	146,838	14,647	21,055	613,746	466,908	325,247
2009	72,280	234	3,248	211,619	125,738	144,600	15,298	21,268	594,285	449,685	323,495
2010	119,119 <sup>2</sup>	212	3,682	202,020	123,705	142,198	15,377	21,275	627,588	485,390	318,001
2011	118,657	227	4,066	194,441	120,865	142,511	15,220	21,141	617,128	474,617	314,122
Forecast											
2012	117,340	230	4,800	193,000	119,200	142,500	15,225	21,165	613,460	470,960	312,550
2013	116,140	230	5,550	192,200	114,250	143,100	15,365	21,200	608,035	464,935	312,100
2014	115,050	230	5,850	191,300	118,600	143,700	15,630	21,220	611,580	467,880	312,300
2015	114,115	230	6,150	190,550	118,950	144,500	16,000	21,260	611,755	467,255	312,950
2016	113,335	230	6,500	189,800	119,000	145,200	16,445	21,275	611,785	466,585	313,850
2017	112,765	230	6,850	189,250	119,050	145,900	16,955	21,315	612,315	466,415	314,900
2018	112,370	230	7,200	188,850	119,200	146,600	17,550	21,350	613,350	466,750	316,050
2019	112,105	230	7,600	188,750	119,450	147,400	18,150	21,390	615,075	467,675	317,250
2020	111,950	230	8,000	188,800	119,750	148,100	18,800	21,405	617,035	468,935	318,500
2021	111,820	225	8,400	189,100	120,150	148,900	19,450	21,450	619,490	470,590	319,750
2022	111,860	225	8,800	189,600	120,650	149,800	20,100	21,480	622,515	472,715	321,150
2023	111,960	225	9,200	190,300	121,250	150,700	20,800	21,520	625,955	475,255	322,650
2024	112,225	225	9,650	191,250	122,000	151,600	21,550	21,535	630,035	478,435	324,200
2025	112,685	225	10,100	192,250	122,750	152,600	22,300	21,570	634,480	481,880	325,850
2026	113,230	220	10,600	193,250	123,550	153,600	23,100	21,610	639,160	485,560	327,600
2027	113,830	220	11,100	194,300	124,450	154,700	23,900	21,645	644,145	489,445	329,400
2028	114,430	220	11,600	195,400	125,450	155,700	24,750	21,680	649,230	493,530	331,250
2029	114,965	220	12,150	196,300	126,500	156,800	25,600	21,700	654,235	497,435	333,200
2030	115,520	220	12,700	197,350	127,600	158,000	26,450	21,735	659,575	501,575	335,300
2031	116,100	220	13,300	198,250	128,800	159,100	27,350	21,770	664,890	505,790	337,450
2032	116,720	220	13,900	199,300	130,100	160,300	28,250	21,805	670,595	510,295	339,700
Avg Annual Growth											
2000-11	2.2%	-3.6%	NA	-2.3%	-0.1%	0.1%	6.3%	7.7%	-0.1%	-0.2%	0.1%
2011-12	-1.1%	1.3%	18.1%	-0.7%	-1.4%	0.0%	0.0%	0.1%	-0.6%	-0.8%	-0.5%
2011-21	-0.6%	-0.1%	7.5%	-0.3%	-0.1%	0.4%	2.5%	0.1%	0.0%	-0.1%	0.2%
2011-32	-0.1%	-0.1%	6.0%	0.1%	0.4%	0.6%	3.0%	0.1%	0.4%	0.3%	0.4%

\* 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 July 2010, the FAA issued a rule that increased the duration of validity for student pilot certificates for pilots under the age of 40 from 36 to 60 months.

This resulted in the increase in active student pilots to 119,119 from 72,280 at the end of 2009.

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



**TABLE 32**  
**TOTAL COMBINED AIRCRAFT OPERATIONS AT AIRPORTS**  
**WITH FAA AND CONTRACT TRAFFIC CONTROL SERVICE**  
 (In Thousands)

FISCAL YEAR	AIR CARRIER	AIR TAXI/COMMUTER	GENERAL AVIATION			ITINERANT	MILITARY		TOTAL	NUMBER OF TOWERS	
			ITINERANT	LOCAL	TOTAL		LOCAL	TOTAL		FAA	CONTRACT
<u>Historical*</u>											
2000	15,158.7	10,760.5	22,844.1	17,034.4	39,878.5	1,439.8	1,448.2	2,888.0	68,685.7	266	192
2005	13,533.6	12,550.5	19,303.2	14,843.6	34,146.8	1,414.5	1,449.2	2,863.7	63,094.6	264	229
2006	13,256.3	11,967.6	18,707.1	14,365.4	33,072.5	1,358.4	1,417.3	2,775.7	61,072.1	263	231
2007	13,611.2	11,667.3	18,575.2	14,556.8	33,132.0	1,313.9	1,405.7	2,719.5	61,130.0	264	235
2008	13,780.1	11,032.1	17,492.7	14,081.2	31,573.8	1,285.0	1,245.6	2,530.6	58,916.6	264	239
2009	12,836.4	9,520.8	15,571.1	12,448.0	28,019.0	1,305.2	1,280.4	2,585.5	52,961.7	264	244
2010	12,657.6	9,410.4	14,863.9	11,716.3	26,580.1	1,309.0	1,297.9	2,606.9	51,255.0	264	244
2011E	12,866.0	9,278.5	14,527.9	11,437.0	25,964.9	1,319.0	1,311.3	2,630.3	50,739.8	264	248
<u>Forecast</u>											
2012	12,887.3	9,217.2	14,235.6	11,155.6	25,391.2	1,319.0	1,311.3	2,630.3	50,126.0	264	248
2013	13,180.5	9,349.2	14,290.8	11,208.9	25,499.7	1,319.0	1,311.3	2,630.3	50,659.6	264	248
2014	13,547.8	9,549.9	14,347.6	11,262.6	25,610.2	1,318.9	1,311.3	2,630.2	51,338.1	264	248
2015	13,924.2	9,745.6	14,403.9	11,316.8	25,720.7	1,318.9	1,311.3	2,630.2	52,020.7	264	248
2016	14,286.7	9,935.1	14,460.7	11,371.4	25,832.1	1,318.9	1,311.3	2,630.2	52,684.1	264	248
2017	14,565.3	10,087.1	14,518.0	11,426.5	25,944.5	1,318.9	1,311.3	2,630.2	53,227.0	264	248
2018	14,849.6	10,242.4	14,575.8	11,482.2	26,068.0	1,318.9	1,311.3	2,630.1	53,780.1	264	248
2019	15,137.8	10,397.6	14,634.2	11,538.5	26,172.7	1,318.8	1,311.2	2,630.1	54,338.2	264	248
2020	15,432.3	10,556.1	14,693.1	11,595.2	26,288.3	1,318.8	1,311.2	2,630.1	54,906.7	264	248
2021	15,733.3	10,717.9	14,752.5	11,652.5	26,405.0	1,318.8	1,311.2	2,630.0	55,486.3	264	248
2022	16,037.1	10,883.1	14,812.5	11,710.4	26,522.9	1,318.8	1,311.2	2,630.0	56,073.1	264	248
2023	16,347.8	11,051.8	14,873.0	11,768.9	26,641.9	1,318.8	1,311.2	2,630.0	56,671.4	264	248
2024	16,665.6	11,224.1	14,934.0	11,827.9	26,761.9	1,318.8	1,311.2	2,630.0	57,281.6	264	248
2025	16,990.8	11,400.0	14,995.7	11,887.5	26,883.2	1,318.7	1,311.2	2,629.9	57,903.9	264	248
2026	17,323.5	11,579.7	15,057.9	11,947.6	27,005.5	1,318.7	1,311.2	2,629.9	58,538.6	264	248
2027	17,663.9	11,763.3	15,120.7	12,008.4	27,129.1	1,318.7	1,311.2	2,629.9	59,186.1	264	248
2028	18,012.2	11,950.8	15,184.1	12,069.8	27,253.9	1,318.7	1,311.2	2,629.9	59,846.8	264	248
2029	18,368.7	12,142.3	15,248.2	12,131.8	27,380.0	1,318.7	1,311.2	2,629.8	60,520.8	264	248
2030	18,733.6	12,338.0	15,312.8	12,194.4	27,507.2	1,318.6	1,311.2	2,629.8	61,208.6	264	248
2031	19,107.1	12,538.0	15,378.0	12,257.6	27,635.6	1,318.6	1,311.2	2,629.8	61,910.5	264	248
2032	19,489.7	12,742.3	15,443.9	12,321.5	27,765.4	1,318.6	1,311.1	2,629.8	62,627.2	264	248
Avg Annual Growth											
2000-11	-1.5%	-1.3%	-4.0%	-3.6%	-3.8%	-0.8%	-0.9%	-0.8%	-2.7%		
2011-12	0.2%	-0.7%	-2.0%	-2.5%	-2.2%	0.0%	0.0%	0.0%	-1.2%		
2011-21	2.0%	1.5%	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.9%		
2011-32	2.0%	1.5%	0.3%	0.4%	0.3%	0.0%	0.0%	0.0%	1.0%		

\* Source: FAA Air Traffic Activity.

**TABLE 33**  
**TOTAL TRACON OPERATIONS**  
 (In Thousands)

FISCAL YEAR	AIR CARRIER	AIR TAXI/COMMUTER	GENERAL AVIATION	MILITARY	TOTAL
<u>Historical*</u>					
2000	16,395.0	11,197.7	20,799.2	3,466.9	51,858.8
2005	14,123.4	12,751.1	17,388.9	2,798.7	47,062.1
2006	13,963.3	12,035.7	17,005.3	2,669.9	45,674.2
2007	14,366.0	11,675.8	16,747.4	2,498.7	45,288.0
2008	14,443.0	11,048.3	15,763.0	2,399.5	43,653.8
2009	13,302.3	9,622.8	14,151.1	2,398.8	39,474.9
2010	13,174.3	9,511.3	13,863.6	2,437.5	38,986.7
2011E	13,068.0	9,349.4	13,503.1	2,374.6	38,295.2
<u>Forecast</u>					
2012	13,088.0	9,241.5	13,128.7	2,370.3	37,828.5
2013	13,387.7	9,373.8	13,182.7	2,370.2	38,314.4
2014	13,763.2	9,584.5	13,236.4	2,370.2	38,954.2
2015	14,148.0	9,791.2	13,288.7	2,370.1	39,598.0
2016	14,518.4	9,991.0	13,341.4	2,370.1	40,220.8
2017	14,802.9	10,150.0	13,394.5	2,370.0	40,717.5
2018	15,093.3	10,312.7	13,448.0	2,370.0	41,224.0
2019	15,387.7	10,474.7	13,502.0	2,369.9	41,734.3
2020	15,688.5	10,640.1	13,556.4	2,369.9	42,254.9
2021	15,996.0	10,809.1	13,611.3	2,369.8	42,786.2
2022	16,306.2	10,981.7	13,666.6	2,369.8	43,324.2
2023	16,623.3	11,158.0	13,722.4	2,369.7	43,873.4
2024	16,947.7	11,338.1	13,778.6	2,369.7	44,434.1
2025	17,279.5	11,522.2	13,835.3	2,369.6	45,006.6
2026	17,619.0	11,710.3	13,892.5	2,369.5	45,591.3
2027	17,966.1	11,902.5	13,950.1	2,369.5	46,188.1
2028	18,321.2	12,098.9	14,008.2	2,369.4	46,797.7
2029	18,684.4	12,299.7	14,066.8	2,369.4	47,420.3
2030	19,055.9	12,504.9	14,125.9	2,369.3	48,056.0
2031	19,435.9	12,714.7	14,185.5	2,369.3	48,705.4
2032	19,824.9	12,929.1	14,245.7	2,369.2	49,368.9
Avg Annual Growth					
2000-11	-2.0%	-1.6%	-3.9%	-3.4%	-2.7%
2011-12	0.2%	-1.2%	-2.8%	-0.2%	-1.2%
2011-21	2.0%	1.5%	0.1%	0.0%	1.1%
2011-32	2.0%	1.6%	0.3%	0.0%	1.2%

\* Source: FAA Air Traffic Activity.

**TABLE 34**

**IFR AIRCRAFT HANDLED  
 AT FAA ENROUTE TRAFFIC CONTROL CENTERS**  
 (In Thousands)

FISCAL YEAR	IFR AIRCRAFT HANDLED					TOTAL
	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY		
<u>Historical*</u>						
2000	24,987.0	8,100.9	8,744.3	4,192.5		46,024.8
2005	25,004.6	10,053.9	8,367.7	4,052.0		47,478.1
2006	24,394.5	9,436.7	8,197.0	4,149.7		46,177.8
2007	25,006.2	9,652.9	8,294.3	3,803.3		46,756.7
2008	23,895.3	10,179.0	7,670.7	3,649.2		45,394.1
2009	22,406.8	8,561.8	6,331.8	2,993.0		40,293.5
2010	22,341.5	8,623.8	6,550.3	2,982.2		40,497.8
2011E	23,431.7	9,010.4	6,557.3	2,227.6		41,227.1
<u>Forecast</u>						
2012	23,539.4	8,944.8	6,468.3	2,227.6		41,180.0
2013	24,218.4	9,108.6	6,483.0	2,227.6		42,037.6
2014	24,970.5	9,298.9	6,542.4	2,227.6		43,039.3
2015	25,815.1	9,509.8	6,611.1	2,227.6		44,163.6
2016	26,610.7	9,731.9	6,685.6	2,227.6		45,255.8
2017	27,281.6	9,906.1	6,727.8	2,227.6		46,143.1
2018	27,949.6	10,075.0	6,772.3	2,227.6		47,024.6
2019	28,636.0	10,247.0	6,816.4	2,227.6		47,927.0
2020	29,329.3	10,424.6	6,863.4	2,227.6		48,844.8
2021	30,042.4	10,616.6	6,914.2	2,227.6		49,800.8
2022	30,765.2	10,808.8	6,965.9	2,227.6		50,767.5
2023	31,510.0	11,005.8	7,020.8	2,227.6		51,764.3
2024	32,275.0	11,206.9	7,079.3	2,227.6		52,788.8
2025	33,060.2	11,415.5	7,141.5	2,227.6		53,844.7
2026	33,867.8	11,628.8	7,207.5	2,227.6		54,931.7
2027	34,699.2	11,847.2	7,277.7	2,227.6		56,051.8
2028	35,548.8	12,077.0	7,352.1	2,227.6		57,205.5
2029	36,423.5	12,312.4	7,430.9	2,227.6		58,394.5
2030	37,324.0	12,553.7	7,514.3	2,227.6		59,619.6
2031	38,251.3	12,801.0	7,602.5	2,227.6		60,882.5
2032	39,206.3	13,054.7	7,695.7	2,227.6		62,184.3
Avg Annual Growth						
2000-11	-0.6%	1.0%	-2.6%	-5.6%		-1.0%
2011-12	0.5%	-0.7%	-1.4%	0.0%		-0.1%
2011-21	2.5%	1.7%	0.5%	0.0%		1.9%
2011-32	2.5%	1.8%	0.8%	0.0%		2.0%

\* Source: FAA Air Traffic Activity.





