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

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

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

Given the current state of the global economy, there is much uncertainty as to the timing and strength of a recovery in aviation demand. Nevertheless, the FAA has developed a set of assumptions and forecasts consistent with the emerging trends and structural changes currently taking place within the aviation industry. The FAA is confident that these forecasts accurately predict future aviation demand, however due to the large uncertainty of the operating environment the variance around the forecasts is wider than in prior years.

The commercial aviation forecasts and assumptions are developed from econometric models that explain and incorporate emerging trends for the different segments of the industry. In addition the commercial aviation forecasts are considered unconstrained in that they assume there will be sufficient infrastructure to handle the projected levels of activity. These forecasts do not assume further contractions of the industry through bankruptcy, consolidation, or liquidation.

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

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

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

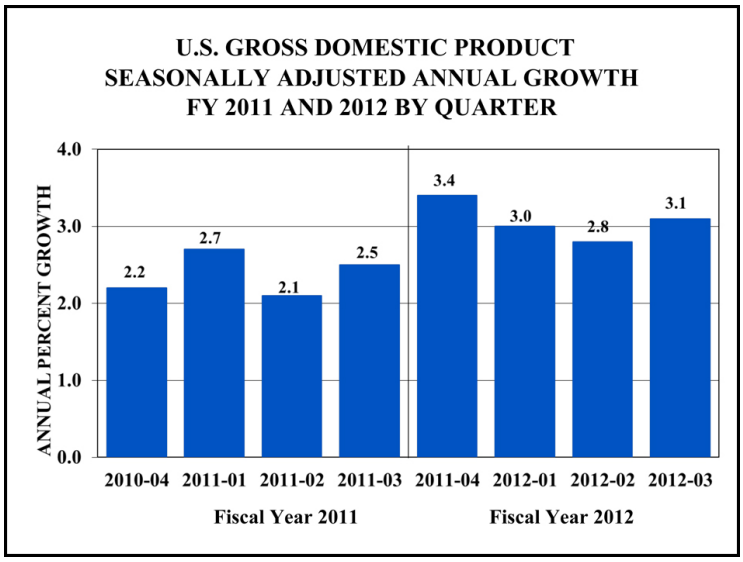
11 April 2008 through April 2010.

# ECONOMIC FORECASTS

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

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

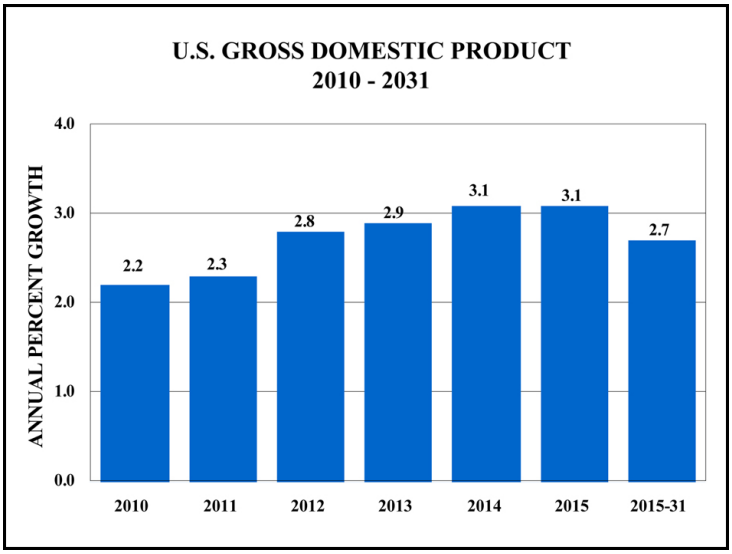
The boost to the economy from fiscal stimulus and inventory buildup are withering, leaving the economy to depend on underlying strength in private final demand. On a quarter-by-quarter basis for the next two years U.S. economic growth is projected to range from a low of 2.1 percent in 3Q FY 2011 to a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



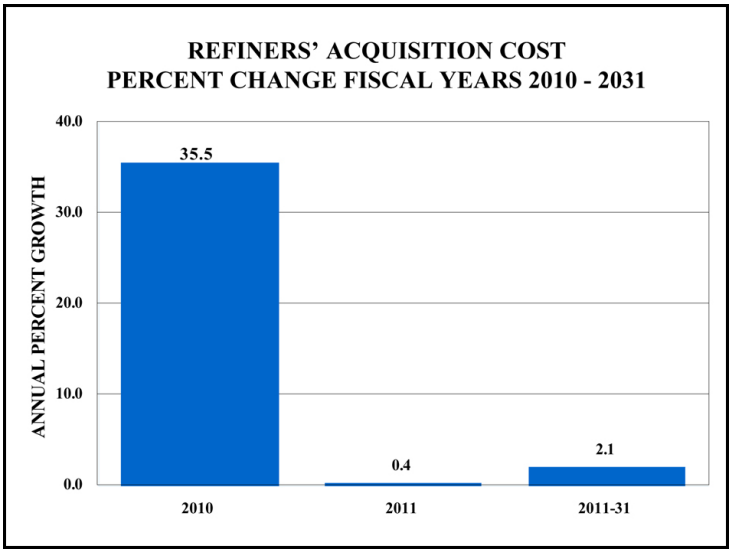

Consumer spending is by far the largest component of the U.S. economy. Burdened by high debt and rising unemployment, consumer spending increased only 1.3 percent in 2010. The recovery in consumer spending is projected to be modest with increases of 2.3 percent in both 2011 and 2012 as households continue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

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

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




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

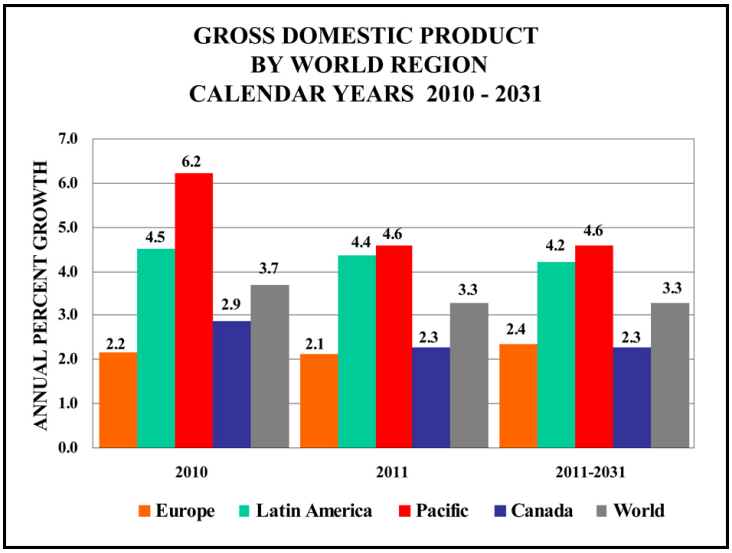



After rising 1.7 percent in FY 2010, spurred by continued economic growth, the inflation rate (as measured by the CPI) is expected to rise 1.1 percent in 2011 and 1.8 percent in 2012. After 2012, consumer price inflation is projected to grow between 1.8 and 2.1 percent per year for the balance of the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

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

## WORLD ECONOMY

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




The Asia/Pacific and Latin America regions will continue to have the world's highest economic growth rates. These regions are expected to see their economic activity grow at annual rates of 4.6 and 4.2 percent a year, respectively, over the forecast period. In Asia, China, with a population of 1.3 billion, is forecast to grow 7.1 percent a year, becoming the world's second largest economy by 2014 (surpassing Japan).

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

## AVIATION TRAFFIC AND ACTIVITY FORECASTS

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

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

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

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

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

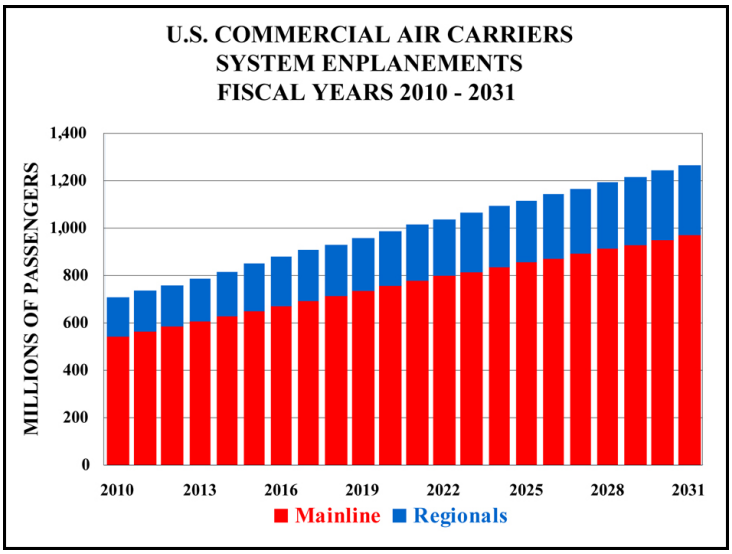
Tables 31 through 33 provide forecasts of aircraft activity at FAA and contract facilities.

### COMMERCIAL AVIATION FORECASTS

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

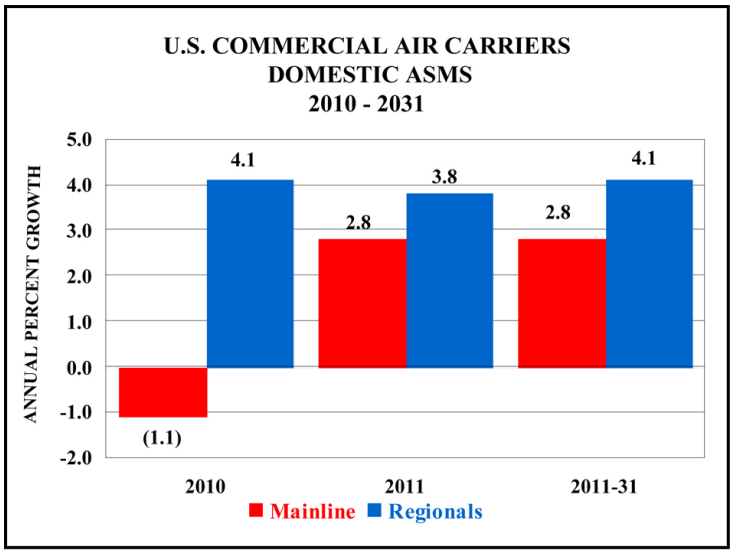
Passenger demand shows moderate to strong growth in 2011 with system RPMs forecast to grow 4.9 percent (up 5.0 percent for mainline carriers and up 4.3 percent for regional carriers) as passenger enplanements increase 3.5 percent (up 3.5 percent for mainline carriers and up 3.4 percent for regional carriers).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

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

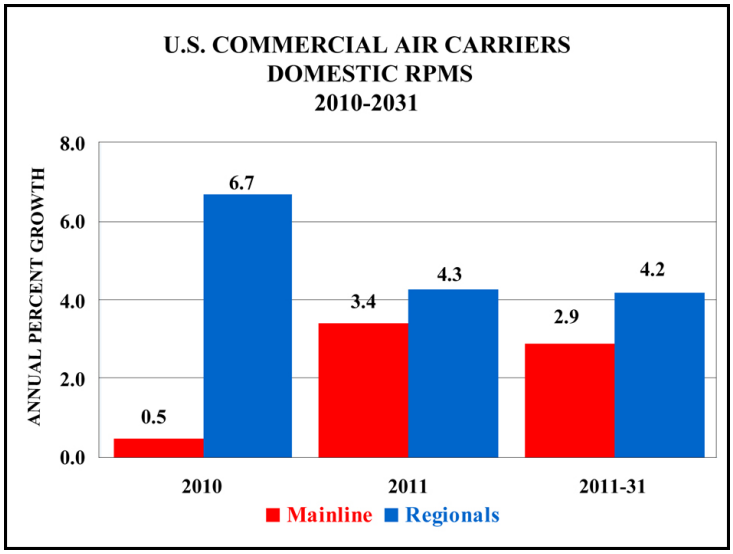



**Domestic Markets**

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




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




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

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

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

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

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

The FAA's projection of domestic carrier average aircraft size is greatly influenced by carrier fleet plans, publicly known aircraft order books and FAA's expectations of the changing domestic competitive landscape. In the near-term (through 2011), the forecast incorporates several assumptions: 1) mainline carriers desire to constrain ASM capacity growth; 2) network carrier "own metal" service on longer-haul routes; 3) the retirement of older inefficient aircraft (many of which are narrow-body); 4) the shifting of wide-body and larger narrow-body aircraft to international services, and 5) growing use of 70-90 seat regional jet aircraft.

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

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

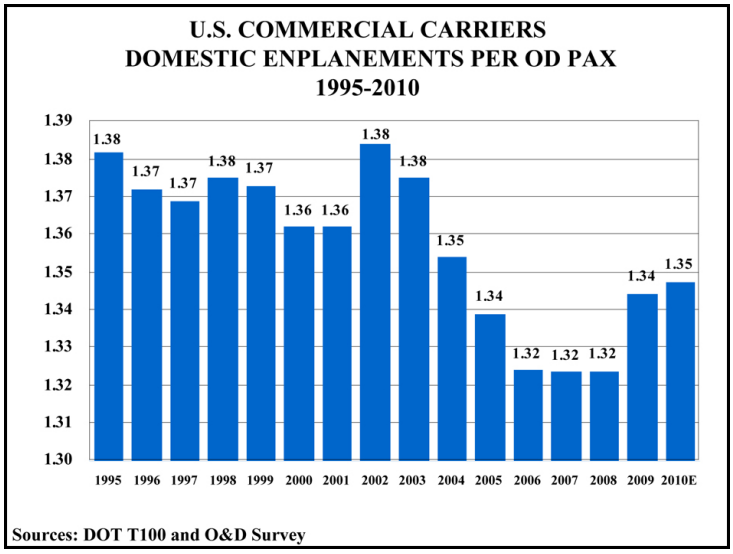
Regional carrier aircraft size flown domestically is projected to grow at a much faster pace than the mainline carriers. The faster growth in aircraft size for regional carriers is stimulated by the wave of 70-90 seat regional jet aircraft that are entering the fleet as well as reductions in the 50-seat and under jet fleet. Regional carriers are better equipped to support operations of their mainline partners by providing capacity that complements market demand. The greater number of the larger 70-90-seat regional jets in the fleet coupled with significant 50-seat jet retirements over the next few years increases the average seating capacity of the regional fleet from 56.2 seats in 2010 to 57.0 seats by 2012. Over the course of the forecast, average seats per aircraft for the regional carriers increases an average of 0.5 seats per year to 66.0 seats in 2031. The changing aircraft fleet mix is narrowing the gap between the size and aircraft types operated by the mainline and regional carriers.

Commercial carrier domestic load factor increased 1.3 points during FY 2010 to an all-time high of 81.7 percent, with record load factors posted by the mainline and regional carrier groups. The mainline carrier group posted a load factor of 82.7 percent, up 1.3 percentage points from 2009. Load factor for the regional carriers increased 1.9 points to 76.2 percent. In 2011, domestic load factor is forecast to increase 0.4 points to 82.2 percent as mainline and regional carrier load factor each increase by 0.4 points. Thereafter, commercial carrier domestic load factor gradually rises to be 84.0 percent by 2031.

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

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

The FAA analyzes the ratio of passenger enplanements to origin-destination (O&D) passengers over time to identify changes in connecting versus non-stop traffic. This ratio is an indicator of the tendency of the average passenger to connect during a typical journey. The closer the ratio is to 1.0, the more passengers fly on a point-to-point routing. As the chart below shows, the overall ratio for the U.S. domestic industry varied within a narrow band between 1995 and 2002. After 2002, the ratio trailed downward until the end of 2008. The decline in the ratio during this six year period is characterized by a drop in connectivity by the network carriers and rising passenger share for the low-cost carriers. The uptick in the ratio started again in 2009 (1.34 enplanements for every O&D passenger) and continued into 2010 (1.35 enplanements for every O&D passenger), and highlights the retrenchment by carriers as fuel costs skyrocketed and demand for air travel plummeted. The FAA's forecast recognizes the changing pattern of domestic traffic connectivity and these trends are captured in the forecast's passenger enplanement totals.




**International Markets**

*U.S. and Foreign Flag Carriers*

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

Total passenger traffic between the United States and the rest of the world is estimated to total 149.6 million in CY 2010, 1.4 percent higher than in 2010. Passenger demand strengthens in 2011 (up 3.1 percent) and accelerates in 2012 (up 5.7 percent) as the world economic recovery solidifies. For the balance of the forecast period, stable worldwide economic growth leads international passengers to grow at an average rate of 4.5 percent a year, totaling 373.9 million in 2031.

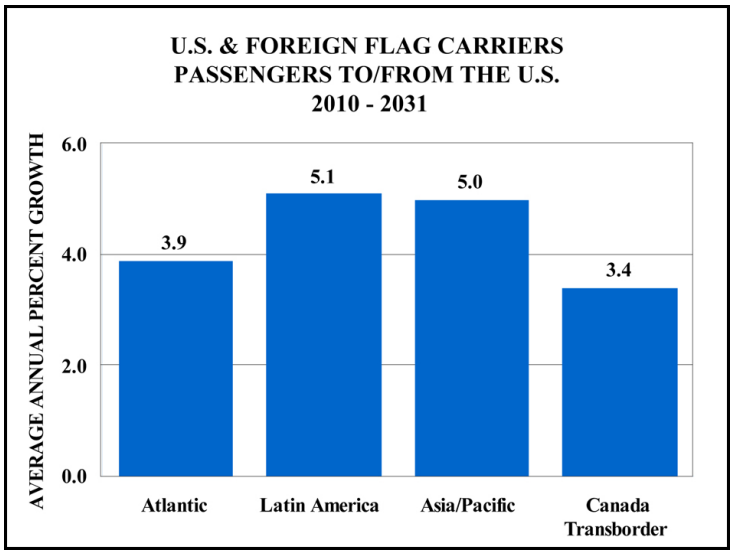
In the Latin America region, sustained economic growth drives passenger growth to average 5.1 percent a year over the entire forecast period. The highest growth is projected for Brazil (average annual growth of 8.1 percent) while the largest market in the region, Mexico, grows at an average of 5.4 percent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

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

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

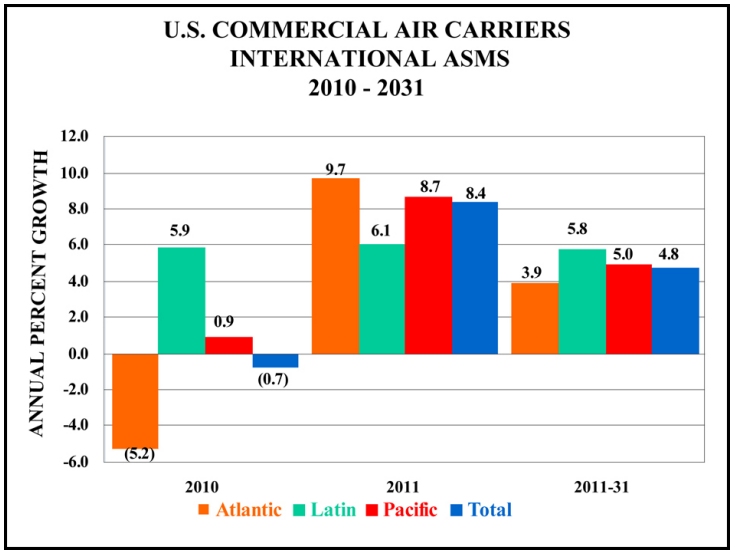
forecast period. Over the 21-year forecast horizon, average annual passenger growth in the top three Atlantic markets-- the United Kingdom, Germany, and France, is 4.2, 3.7, and 4.2 percent, respectively.

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

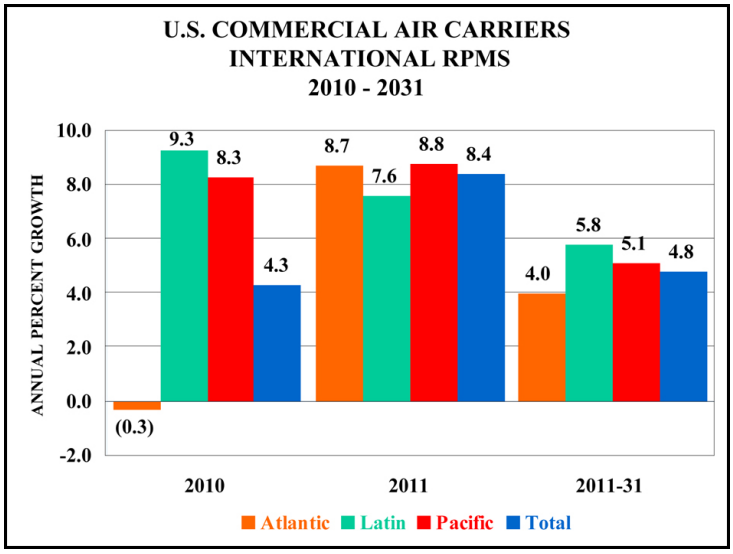



U.S. Flag Air Carriers

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




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



Growth in U.S. carrier international passengers (4.5 percent a year) compared to total international passengers (4.6 percent a year excluding the US-Canada transborder market) reflects a small decline in market share for U.S. airlines over the forecast period. Forecasts of international demand assume U.S. and foreign flag carriers will benefit from the favorable economic activity in both the United States and world markets.

International load factor for U.S. commercial carriers was 82.1 percent in 2010. Load factor is expected to remain flat in 2011 as stronger capacity growth relative to traffic growth in the Atlantic market is offset by stronger traffic growth relative to capacity growth in the Pacific and Latin markets. International load factor is projected to increase 0.5 points in 2012 as traffic growth exceeds capacity growth in all three world markets. Load factor rises slowly through the remainder of the forecast to be 83.2 percent in 2031.

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

**Commercial Air Carriers — Air Cargo**

Historically, air cargo activity tracks with GDP. Additional factors that affect air cargo growth are fuel price volatility, movement of real yields, and globalization. Significant structural changes have occurred in the air cargo industry. Among these changes are air cargo security regulations by the FAA and TSA; maturation of the domestic express market; shift from air to other modes (especially truck); use of all-cargo carriers (e.g., FedEx) by the U.S. Postal Service to transport mail; and increased use of mail substitutes (e.g., e-mail).

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

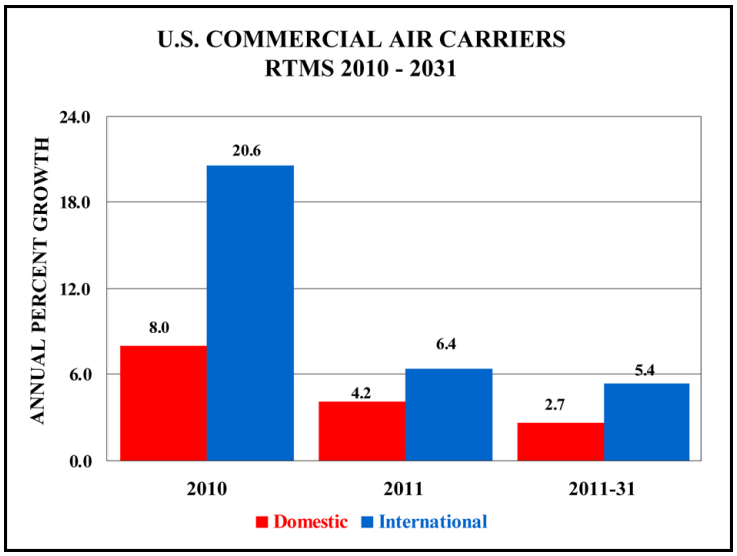
The forecasts of RTMs were based on models that link cargo activity to GDP. Forecasts of domestic cargo RTMs were developed with real U.S. GDP as the primary driver. Projections of international cargo RTMs were based on growth in world GDP, adjusted for inflation. The distribution of RTMs between passenger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

Total RTMs are forecast to grow 5.6 percent in 2011 and again in 2012 by 7.4 percent. For the balance of the forecast period, driven by steady economic growth, total RTMs are forecast to increase at an average annual rate of 4.5 percent. The forecast of 93.2 billion RTMs in 2031 represents an average annual increase of 4.7 percent over the entire forecast period.

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

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

The all-cargo carriers have increased their share of domestic cargo RTMs flown from 70.0 percent in 2000 to 87.4 percent in 2010. This is because of significant growth in express service by FedEx and United Parcel Service coupled with a lack of growth of domestic freight/express business for passenger carriers. The all-cargo share is forecast to increase to 89.6 percent by 2031 based on increases in capacity for all-cargo carriers and security considerations.

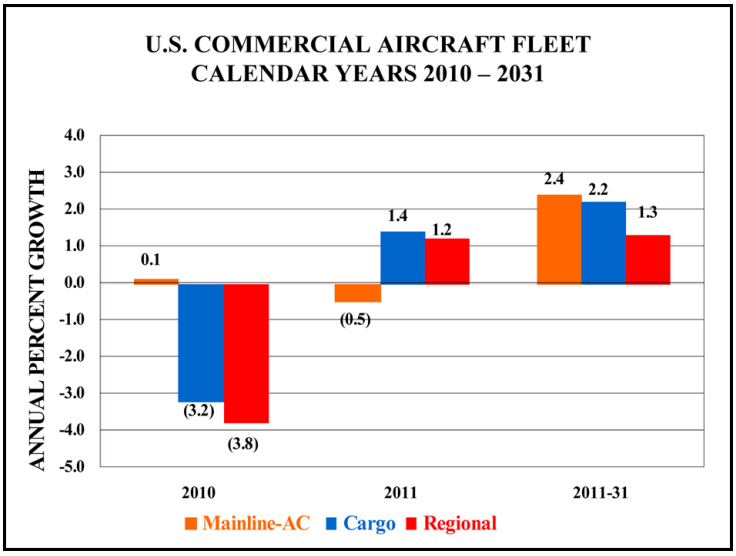



International cargo RTMs are forecasted to rise 6.4 percent in 2011 reflecting a recovery from the global economic downturn and grow 8.1 percent in 2012 as trade expands. For the balance of the forecast period, international cargo RTMs are forecast to increase an average of 5.3 percent a year based on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

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

## COMMERCIAL AIRCRAFT FLEET

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




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

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

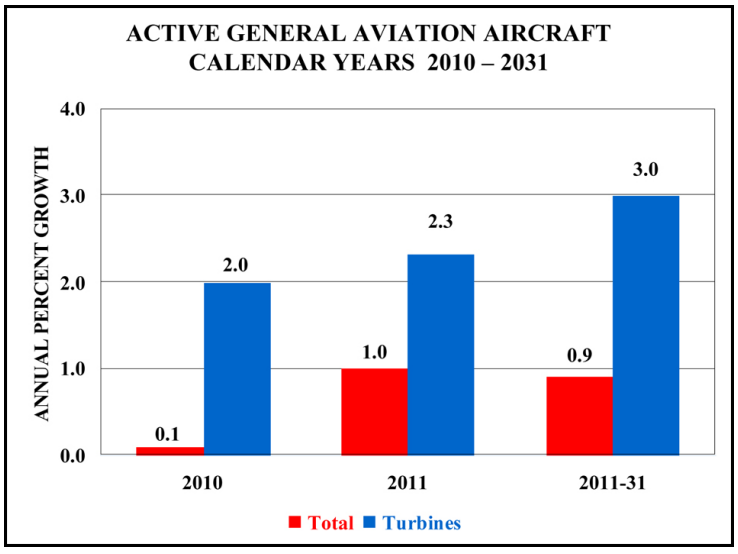
Cargo large jet aircraft are forecast to increase by 34 aircraft over the next 2 years (from 806 to 840 aircraft in 2012), and total 1,251 aircraft in 2031. The narrow-body jet fleet is projected to increase by 7 aircraft a year over the 21-year forecast period as older 757's and 737's are converted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

## GENERAL AVIATION

The FAA forecasts the fleet and hours flown for single-engine piston aircraft, multi-engine piston, turboprops, turbojets, piston and turbine powered rotorcraft, light sport, experimental and other (which consists of gliders and lighter than air vehicles). The FAA forecasts "active aircraft,"[12] not total aircraft. The FAA uses estimates of fleet size, hours flown, and utilization from the General Aviation and Part 135 Activity Survey (GA Survey) as baseline figures upon which assumed growth rates can be applied. Beginning with the 2004 GA Survey there were significant improvements to the survey methodology. Coinciding with the changed survey methodology, large changes in many categories were observed, both in the number of aircraft and hours flown. The results of the 2009 GA Survey are consistent with the results of surveys since 2004, reinforcing our belief that the methodological improvements have resulted in superior estimates relative to those in the past. Thus, they are used as the basis for our forecast. Because results from the GA Survey are not published until the following year, the 2009 statistics are the latest available. Figures for 2010 are estimated based on other activity indicators, and the forecasts of activity begin in 2011 and continue through 2031.

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

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

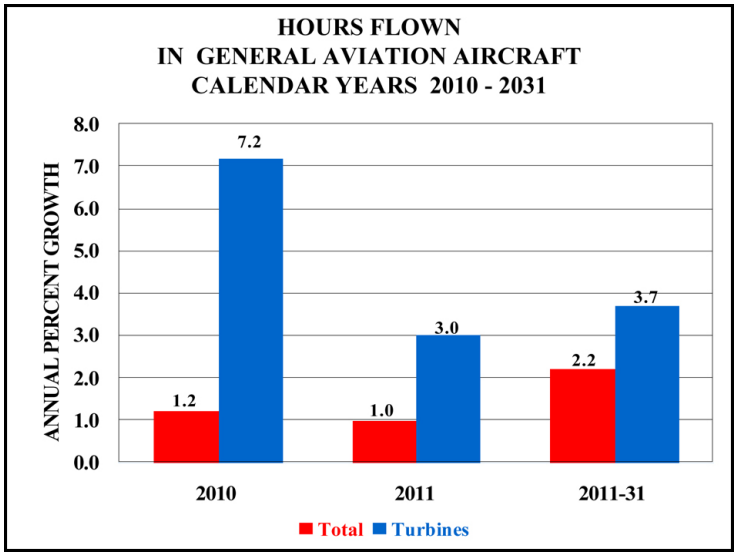



12 An active aircraft is one that flies at least one hour during the year.

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

Starting in 2005, a new category of aircraft (previously not included in the FAA's aircraft registry counts) was created: "light sport" aircraft. At the end of 2009 a total of 6,547 active aircraft were estimated to be in this category. The forecast assumes the fleet will increase approximately 450 aircraft per year until 2013. Thereafter the rate of increase in the fleet tapers considerably to about 300 per year. By 2031 a total of 13,870 light sport aircraft are projected to be in the fleet.

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



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

## FAA WORKLOAD FORECASTS

### FAA and Contract Towers

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

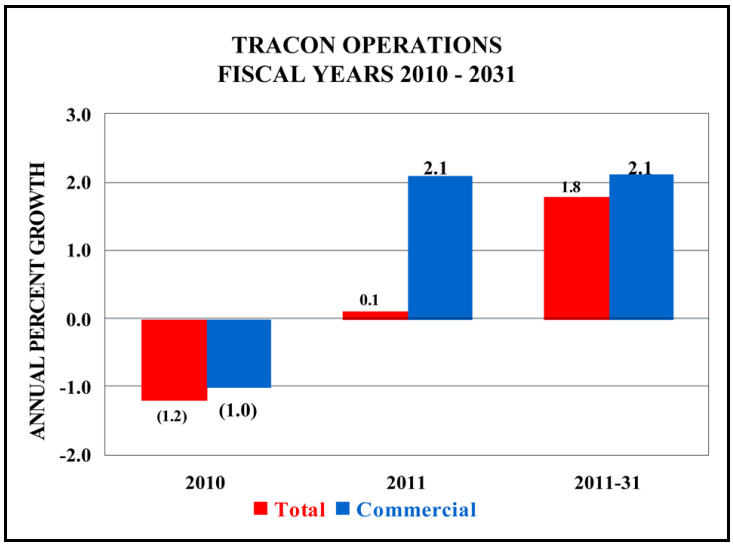
Most of the growth over the forecast period results from increased commercial aircraft activity (up 2.1 percent annually). Air carrier activity is projected to increase 2.6 percent in 2011 as carriers begin to restore flights following the 2009 recession. Beyond 2011, air carrier activity is projected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

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

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

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

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




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

### En Route Centers

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