

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 months¹¹ 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

¹¹ 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.

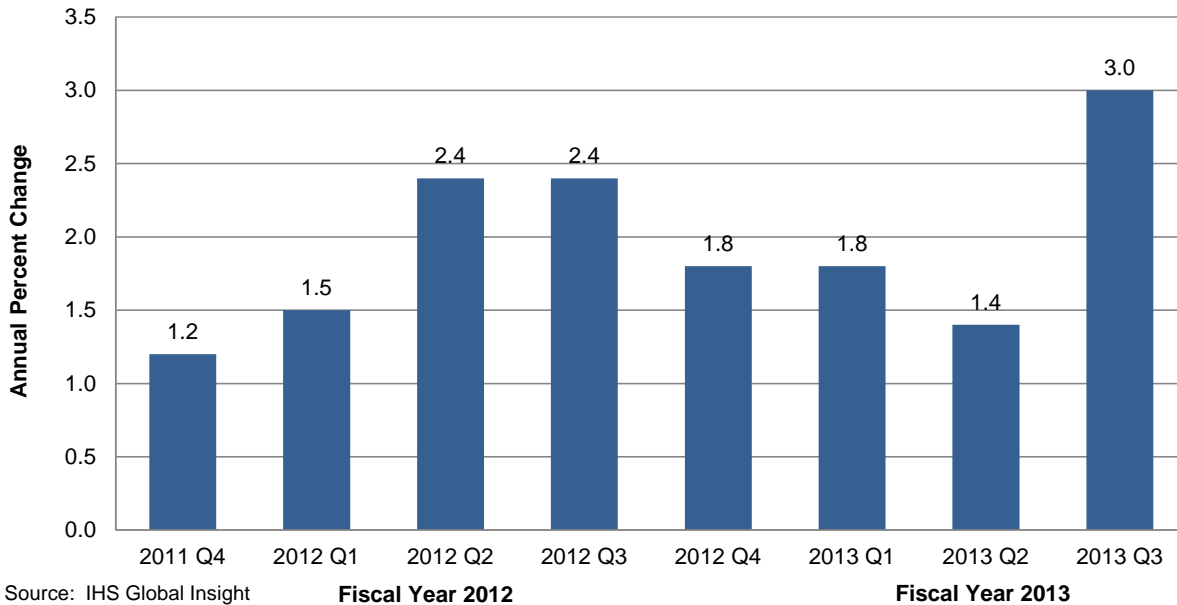
ECONOMIC FORECASTS

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.

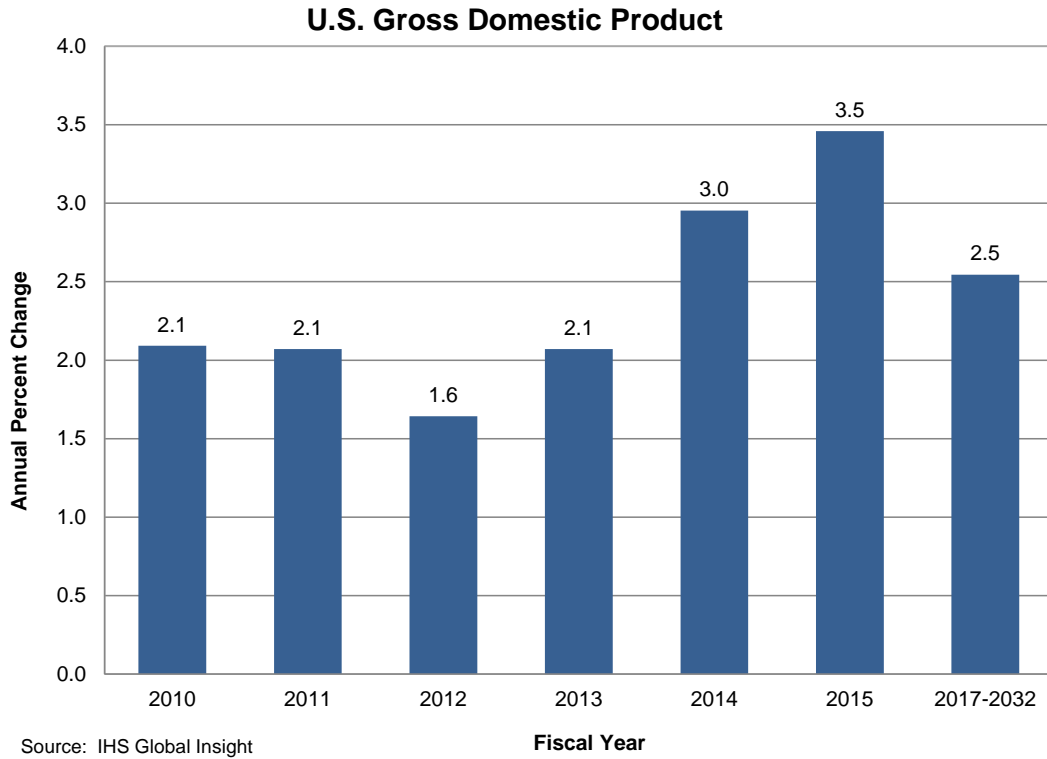
**U.S. Gross Domestic Product
Seasonally Adjusted Annual Growth
by Quarter**



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

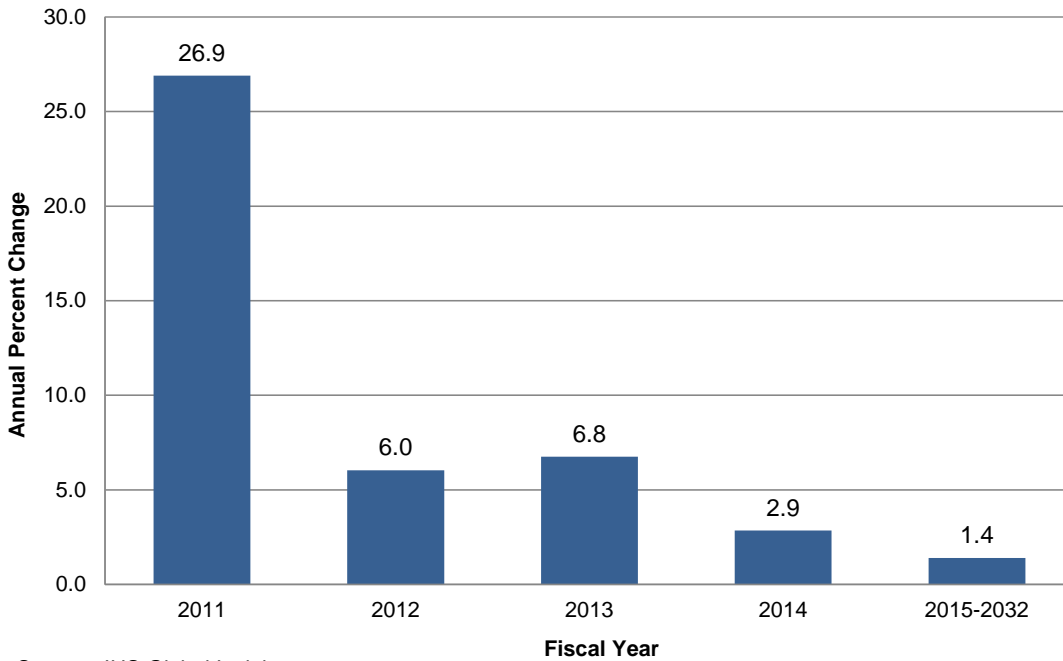
percent in 2012 and 1.8 percent in 2013 as households continue their struggle to reduce debt burdens and rebuild retirement assets.

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.

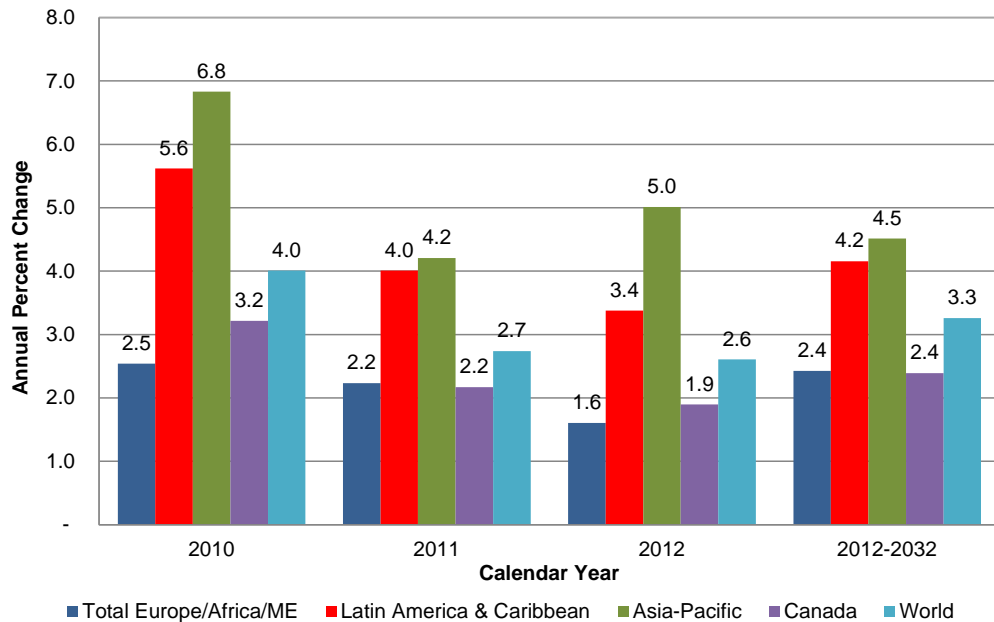
To reflect the uncertainty in the projection of economic growth, the FAA Aerospace Forecast uses high and low economic growth cases along with the base forecast. The high and low economic growth cases are based on optimistic and pessimistic scenarios from IHS Global Insight's 30-Year Focus (released 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

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

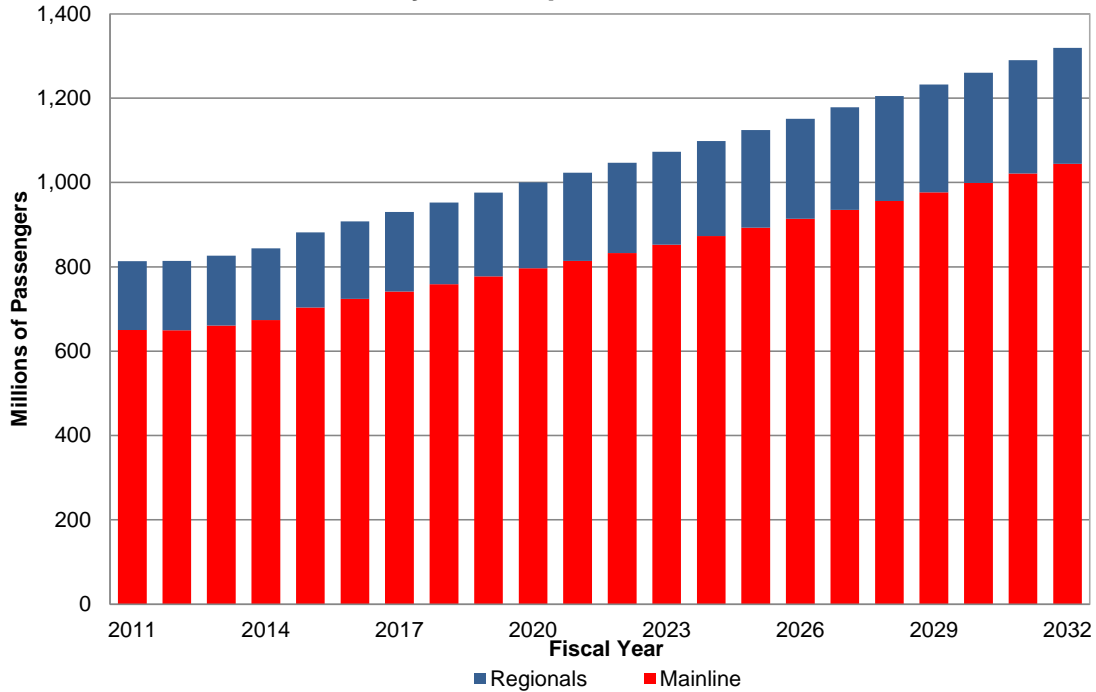
System capacity is projected to remain flat in 2012. In the domestic market, mainline carrier capacity expanded slightly (2.2 percent) in 2011 but now is projected to contract by 0.8 percent while capacity for the regional carriers is projected to also decline in FY 2012 (down 0.5 percent). In the international 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

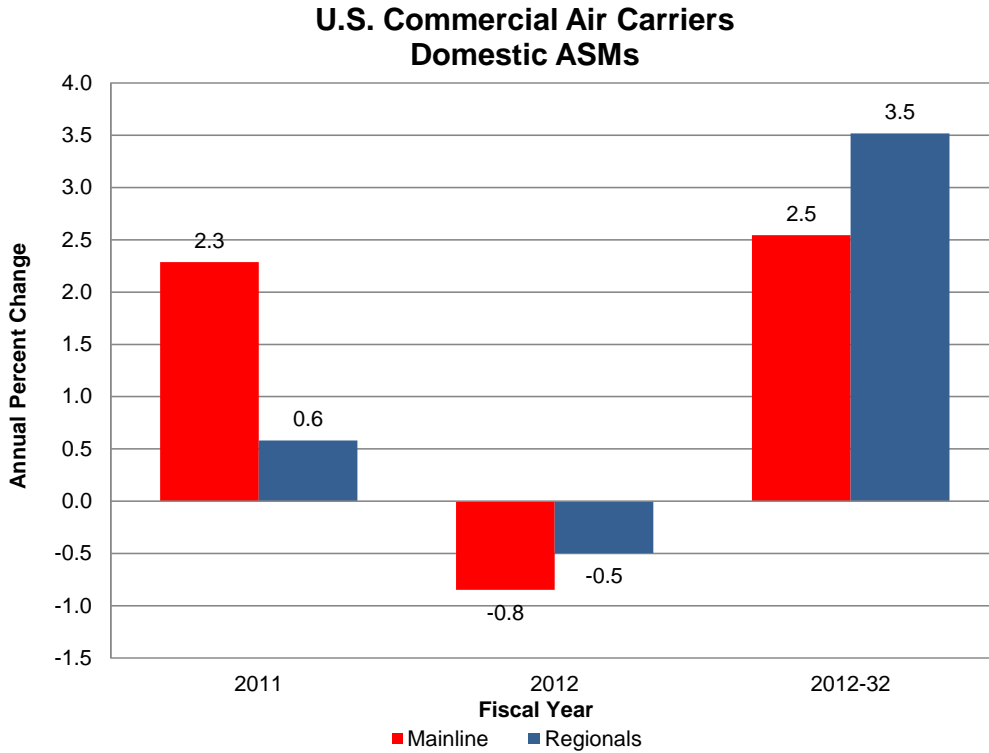
(up 1.1 points compared to the beginning of the forecast period in 2012). Passenger trip length is forecast to increase by more than 157 miles over the forecast period to 1,276 miles in 2032 (up 8 miles annually). The growth in passenger trip length reflects the faster growth in the relatively longer international and domestic trips as compared to shorter-haul flights.

U.S. Commercial Air Carriers System Enplanements

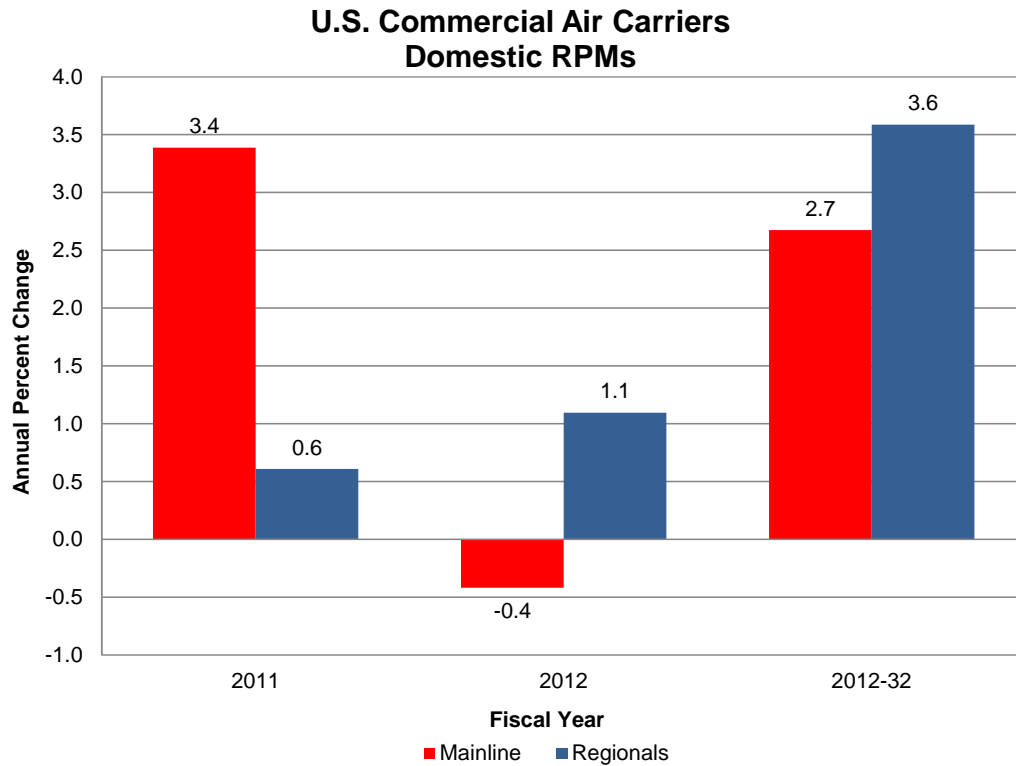


Domestic Markets

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.



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

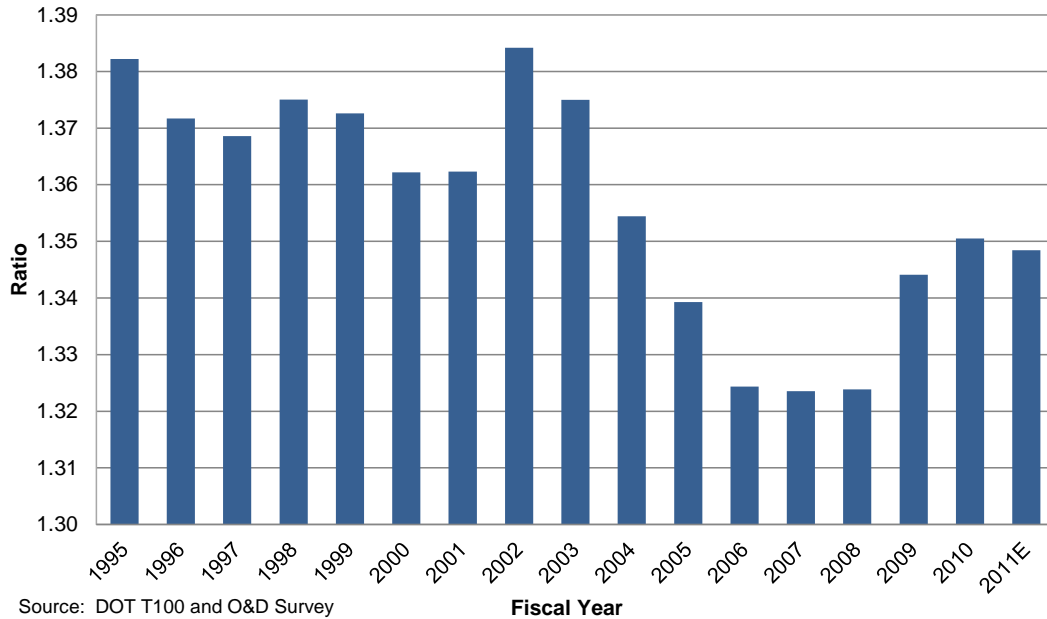
carriers increase by 0.4 percentage point and regional carriers further boost their load factor by 1.2 points. Thereafter, the commercial carrier domestic load factor gradually rises to 84.8 percent by 2032.

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 demand¹² 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

¹² The sum of U.S. and foreign flag carriers.

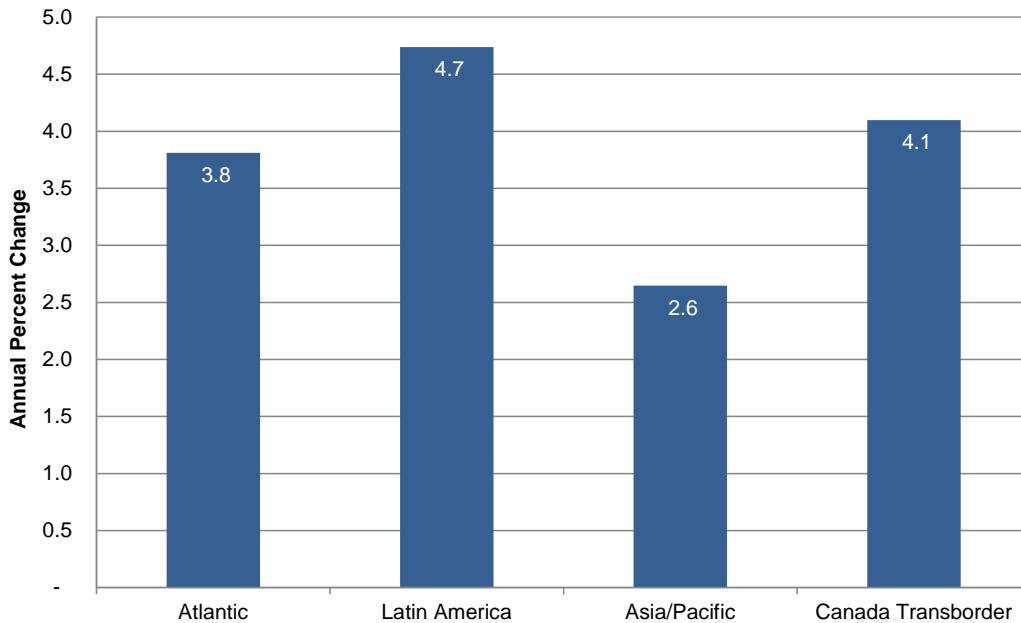
projected to occur in the Bahamian and Jamaican markets (averaging growth of 0.2 and 2.6 percent a year, respectively).

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**

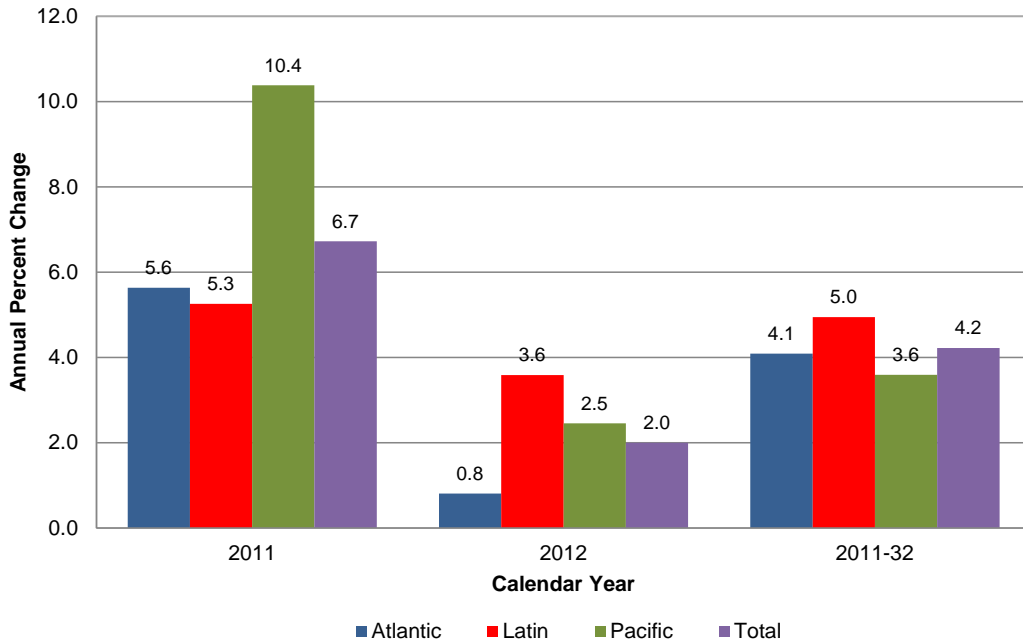


U.S. Flag Air Carriers

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.

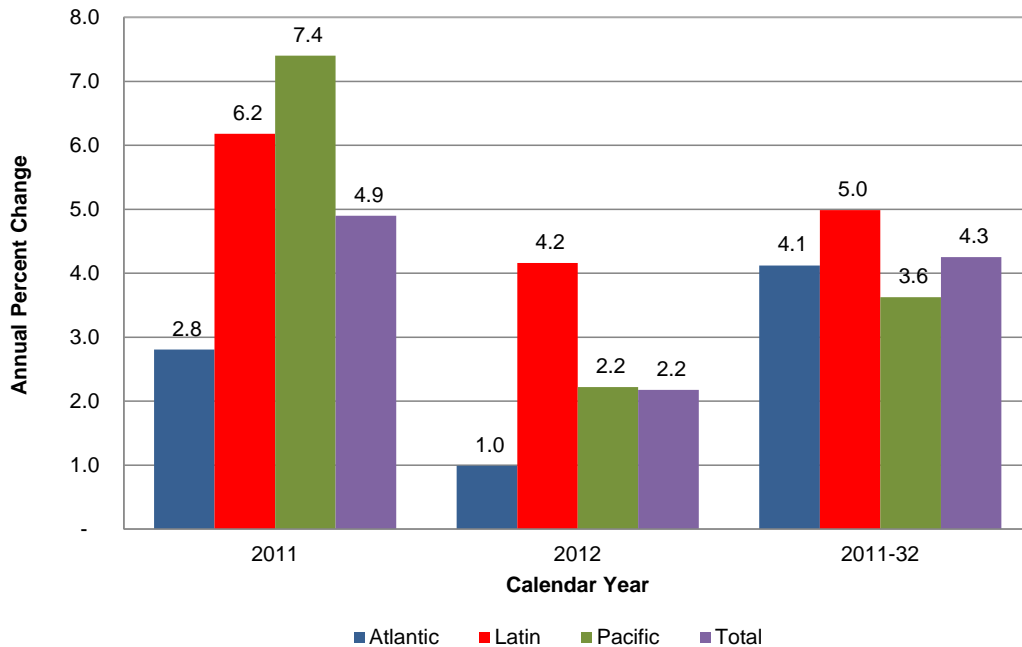
**U.S. Commercial Air Carriers
International ASMs**



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.¹³ 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.

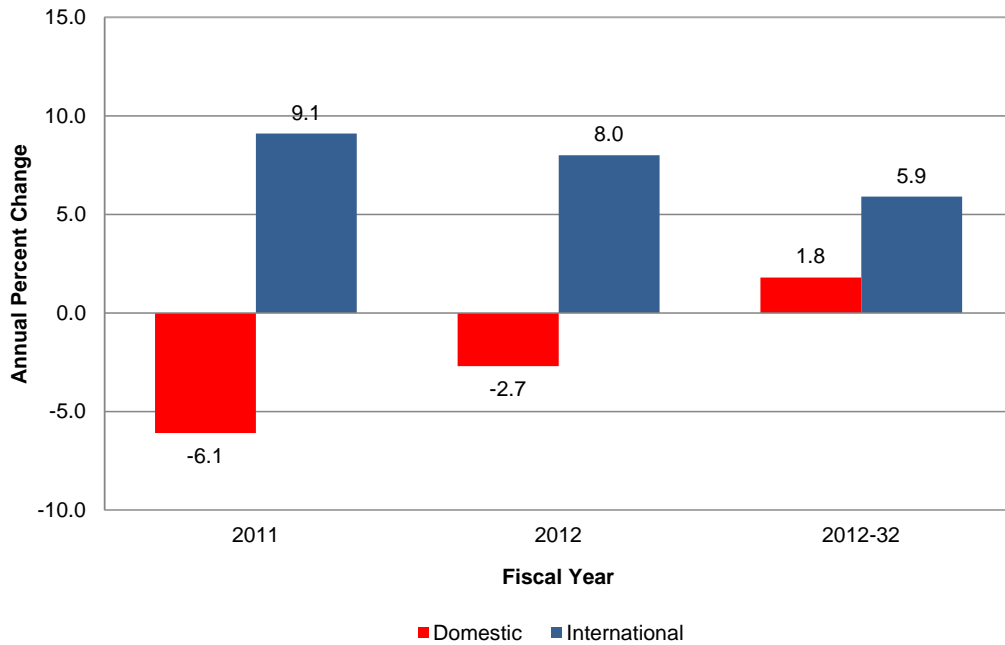
Domestic cargo RTMs contracted by 6.1 percent in 2011 and are forecast to decline by 2.7 percent in 2012. Between 2012 and 2032, domestic cargo RTMs are forecast to increase at an average annual rate of 1.8 percent.

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.

¹³ Boeing World Air Cargo Forecast 2010-2011, released November 2010.

U.S. Commercial Air Carriers RTMs

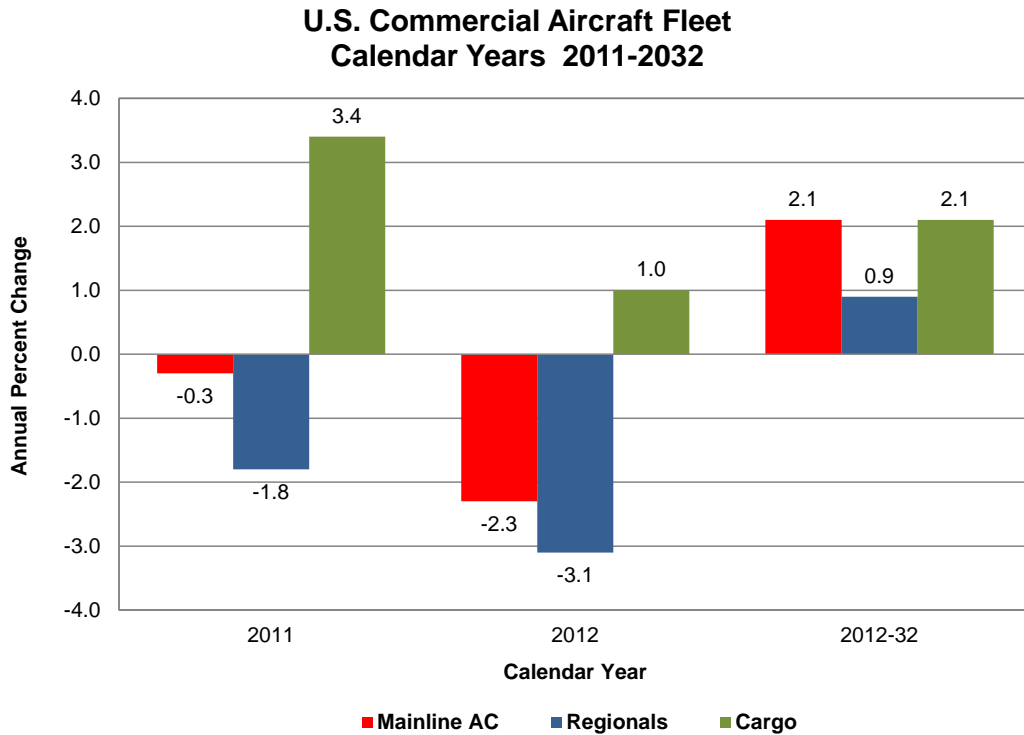


International cargo RTMs rose 9.1 percent in 2011 reflecting a continuing recovery from the global economic downturn of 2009. They are projected to grow 8.0 percent in 2012 as trade continues to expand. For the balance of the forecast period, international cargo RTMs are forecast to increase an average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



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.

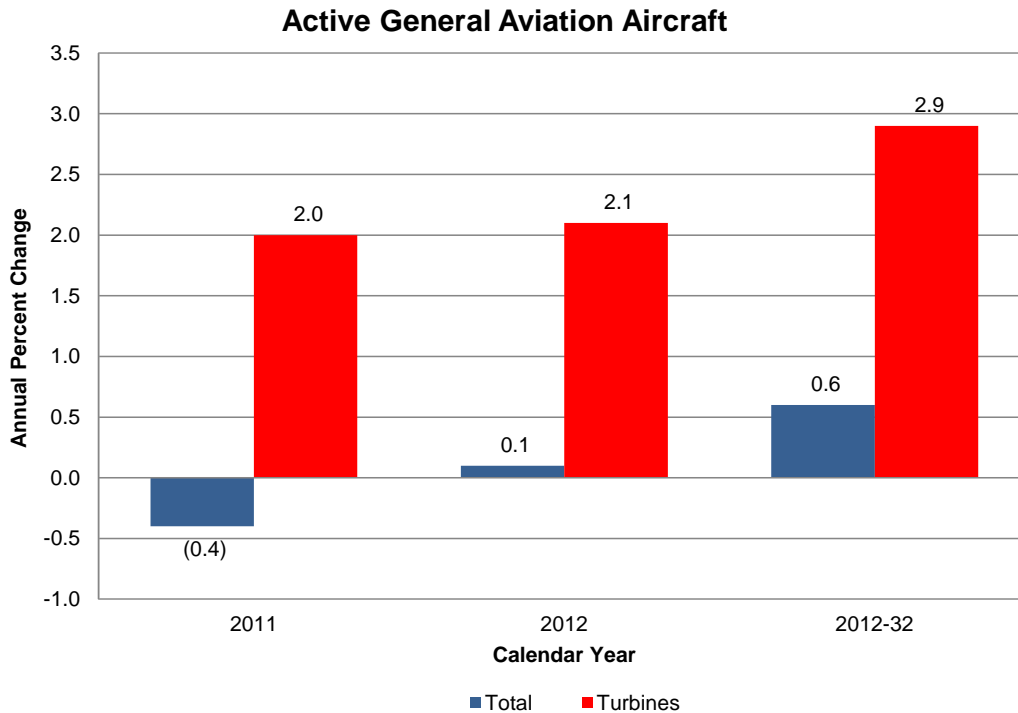
General Aviation

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,”¹⁴ 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.

¹⁴ An active aircraft is one that flies at least one hour during the year.

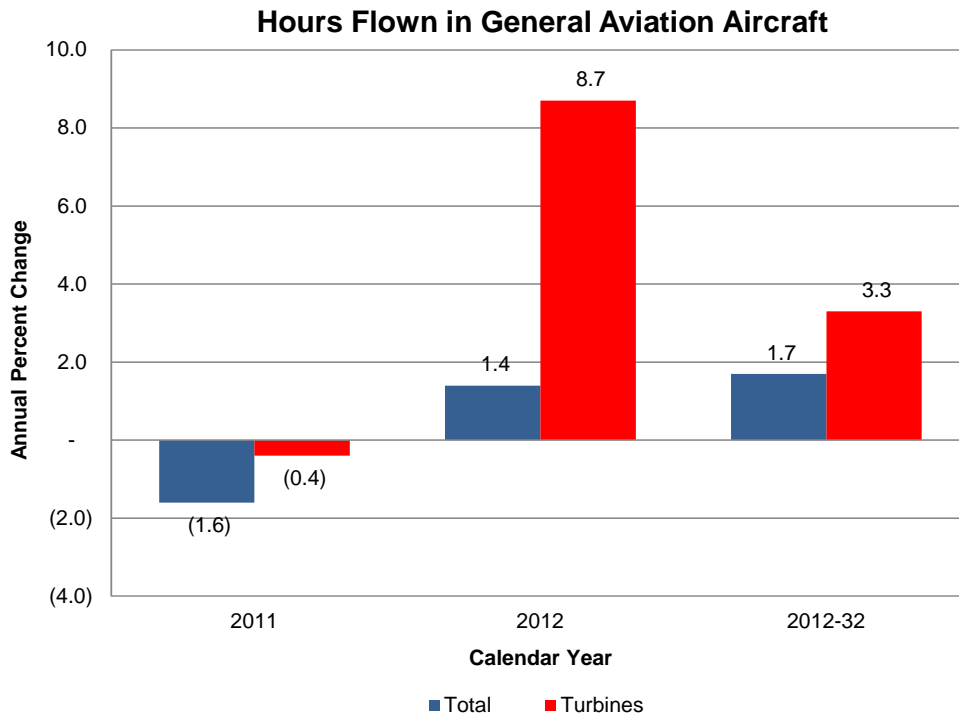


The number of active piston-powered aircraft (including rotorcraft) is projected to decrease from the 2010 total of 159,007 to 151,685 through 2023, with declines in both single and multi-engine fixed wing aircraft, but with the smaller category of piston-powered rotorcraft growing. Beyond 2023, active 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.

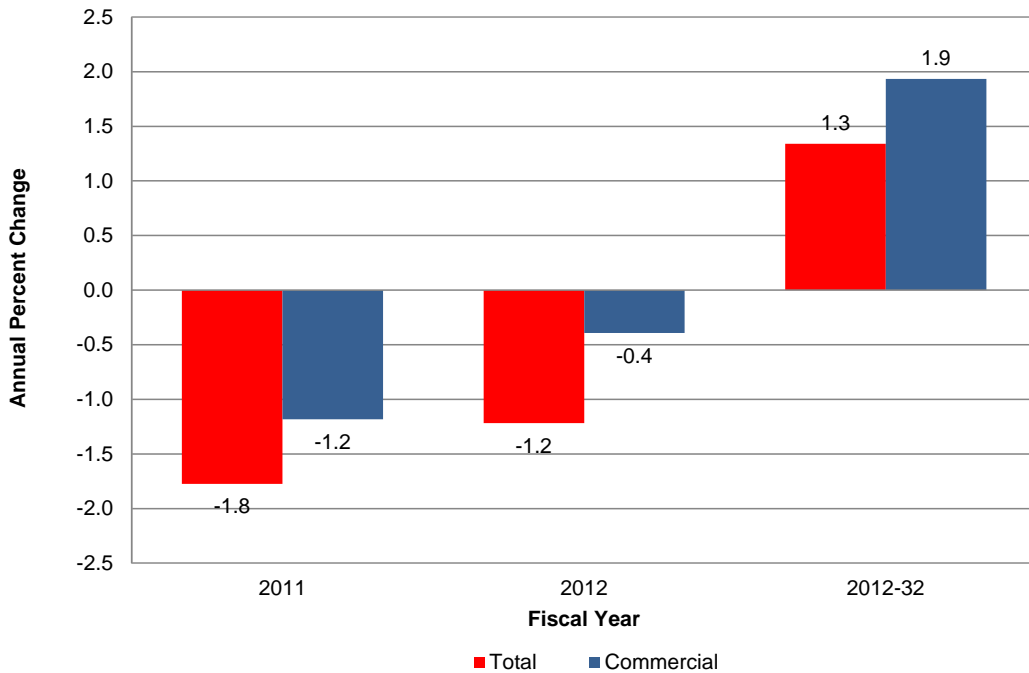
General aviation activity fell 2.3 percent in 2011 with declines in both itinerant (down 2.3 percent) and local (down 2.4 percent) activity. Activity is projected to fall again in 2012 (down 2.2 percent) reflecting the continuing impact of the 2009 recession before beginning to rise modestly in 2013 (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.

Operations¹⁵ 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.

¹⁵ 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.

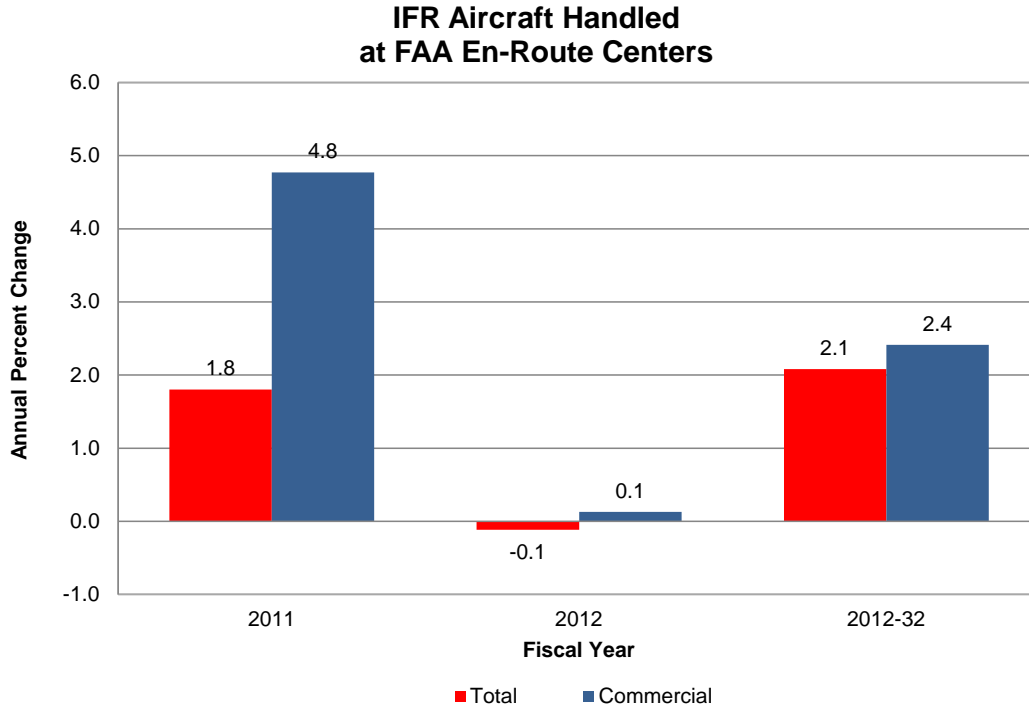
Tracon Operations



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.