Forecast Uncertainties

The forecasts in this document are forecasts of aviation demand, driven by models built on forecasts of economic activity. There are many assumptions in both the economic forecasts and in the FAA models that could impact the degree to which these forecasts are realized. This year’s forecast is driven, at least in the short-term, by a number of factors including the strength of the U.S. and global economies. Shifting international dynamics and any impacts resulting from the new U.S. administration’s economic policies could drive further changes. Also, as numerous incidents in the past few years (like the downing of a Russian A321 in the Sinai in October 2015) remind us, terrorism remains among the greatest risks to aviation growth. Any terrorist incident aimed at aviation could have an immediate and significant impact on the demand for aviation services that could be greater than its impact on overall economic activity.

Although oil prices remained below $45 per barrel for most of 2016, the recent volatility reminds us there is still considerable uncertainty as to the future direction of oil prices. The FAA’s baseline forecast (derived from economic assumptions in IHS Global Insight’s January 2017 U.S. macro forecast and 30-Year Focus released during the fourth quarter of 2016) calls for an increase in oil prices in 2017 to $47 per barrel and rise steadily thereafter, exceeding $70 by 2021, $100 by 2026, reaching $131 per barrel by the end of the forecast period in 2037. Some forecasters are calling for a more gradual rebound in the price of oil. In January 2017, the World Bank released its latest commodity price forecast. The forecast calls for oil prices to rise to $55 per barrel in 2016, remaining below $65 until 2022, and reaching $80 per barrel by 2030. The International Monetary Fund (IMF) also sees oil price increasing at a more moderate rate than the FAA’s base forecast, as its October 2016 forecast called for oil prices increasing from $43 per barrel in 2016 to only $57.65 per barrel by 2021. Over the long run, lower oil prices give consumers an impetus for additional spending, including air travel, and should enhance industry profitability.

The baseline forecast assumes some level of tax cuts and additional infrastructure spending to the U.S. economy with the new administration. However there is considerable uncertainty as to the magnitude, timing, and nature of these programs which ultimately determines the impact on the future growth of the U.S. economy. In addition there is still much to be worked out on how the U.S. will engage with the rest of the global economy over the next several years. Under the right conditions, a period of sustained high and more inclusive growth along with increased financial stability could occur but there is also the possibility of an outcome that leads to greater global economic fragmentation, slower growth, and increased financial instability.

The baseline forecast assumes that global economic growth will accelerate after 2016, but weakness in certain areas may threaten the strength and sustainability of the expansion. The baseline forecast assumes that China and India will be growth engines for emerging economies as China successfully transitions the economy from reliance on heavy manufacturing and resource industries to one more oriented towards the services and technology sectors and India con-
tinues to implement reforms to make its economy more competitive. While economic growth appears to be accelerating in the U.S., there are concerns about the strength of demand in Japan and in the European Union as these areas continue to be constrained by structural economic problems (high debt, slow population growth, weak public finances for example) and in the case of Europe, political elections in 2017. Furthermore, the steps that were taken to stabilize the global economy during the Great Recession have resulted in additional distortions and imbalances. There are concerns that central banks may not raise interest rates in time to contain asset bubbles and inflationary expectations. In advanced economies, governments need to shore up their finances but it is unclear if policy makers will take the steps needed. Given the discomfort many policy makers feel about the measures adopted to combat the Great Recession and uncertainty about the advanced economies’ prospects, the possibility that authorities will either act prematurely or be excessively timid and late in taking necessary steps is not insignificant. The current forecasts assume strong passenger growth for travel between the United States and other world regions. Any slowing of worldwide economic activity could seriously inhibit the growth in global passenger demand.

With the merger of American Airlines and US Airways completed and the approval of the Alaska Airlines/Virgin America merger, the outlook for further consolidation via mergers and acquisitions (M&A) appears to be rather limited. Based on FY 2016 data, the top 6 (American, Delta, United, Southwest) plus Alaska/Virgin and JetBlue accounted for more than 85% of the U.S. airline industry capacity and traffic. Of the network carriers, only Alaska remains independent, although it does have code share agreements with both American and Delta. For many low cost carriers, the sheer size of merger transactions or the amount of risk associated with a merger makes further merger activity unlikely. For the network carriers, it is unclear how regulatory authorities will respond to any future proposed mergers.

The forecast assumes the addition of sizable numbers of large regional jets (70 to 90 seats) into the fleet of regional carriers. However, network carrier consolidation and new rules on pilot training have left regional carriers saddled with either excess capacity or a lack of pilots. Although air travel demand continues to recover, the bankruptcy filing of Republic Airlines in February 2016 is a reminder that financial pressures on regional operators have not abated. Network carriers continue to make adjustments to the size and breadth of their networks, without providing opportunities for regional carriers to backfill the loss of the mainline service. Delta is well along in its plans to reduce its small (read 50 seat) regional jet fleet and plans to retire another 50 to bring its total to just 125 by 2018, down from almost 500 at the end of 2009. United has reduced the number of small regional jets flown by its partners from an estimated 380 in 2012 to 242 by the end of 2015 with a target of 100 by 2019. It is adding 85 Embraer 175’s to its partners’ regional fleet to partially replace the reduction in small jet flying. Meanwhile American has trimmed its small regional jet fleet by 60 aircraft since the beginning of 2015 and is planning to remove another 55 from service in 2017. At the same time the carrier plans to add 31 larger regional jets to its fleet in 2017, on top of the 83 that have been added in the
past two years. While these actions may provide some opportunities for well positioned regional carriers, the overall impact of consolidation so far has been to reduce opportunities for regional flying substantially.

After suffering through a significant downturn in 2009, business and corporate aviation have seen a partial recovery during the past six years. The pace of the recovery in business and corporate aviation is largely based upon the future prospects of economic growth and corporate profits. Future uncertainty in these leading indicators could pose a risk to the forecast, but the risk is not limited to these factors. Other influences, such as potential environmental regulations and taxes do not seem to be as much of a concern in the short term, but over the long term, uncertainties about the direction of these influences may place downward pressure on the forecast. On the other hand, there could be a pent-up demand for business jets in the near term that could push the forecast higher. While corporate profits have been high for several years, perceived economic and political uncertainties have caused companies to postpone their purchase of new business aircraft. With the new administration’s emphasis on policies designed to stimulate economic growth and limit regulation, companies are feeling more optimistic about their future prospects that can translate into additional business jet sales. The impact of fuel price movements on business aircraft demand is also uncertain. Demand is increased due to the positive effect of declining fuel prices on corporate profits. However, business aircraft demand from energy related industries will be negatively impacted by low fuel prices.

Other factors, such as new and more efficient product offerings and increased competition from new entrant manufacturers, serve to broaden the potential of the industry. Raising the level of security restrictions, and the subsequent travel hassles placed on airline passengers, could make corporate jet travel look increasingly appealing.

Not only is the volume of aircraft operating at most large hubs expected to increase over the next 20 years, but the mix of aircraft is changing for this same period. The expected increases in the numbers of regional jets and business jets as well as the anticipated widespread deployment UAS into the national airspace system will make the FAA’s job more challenging. This change in the mix of aircraft will impact workload strictly due to the increasing demand for aviation services projected over the forecast period.

While overall activity at FAA and contract towers increased 0.5 percent in 2016, activity at large and medium hub airports (61 in total) increased 1.9 percent in 2016 and delays remained at historically high levels at many U.S. airports. FAA forecasts operations at these airports to grow substantially faster than the overall national trend. As demand continues to grow and workload increases, congestion and delays could become a critical limit to growth over the forecast period. FAA’s forecasts of both demand and operations are unconstrained in that they assume that there will be sufficient infrastructure to handle the projected levels of activity. Should the infrastructure be inadequate and result in even more congestion and delays, it is likely that the forecasts of both demand and operations would not be achieved.

Community concerns about aviation related impacts could potentially limit or delay the ability of the aviation sector to grow to meet
national economic and mobility needs. Airport expansion or new construction is often a contentious issue because of noise, air quality, and water quality concerns. Concerns about aviation noise have led to increasing levels of public debate, political interest, and even litigation. Without effective measures to mitigate and abate aviation noise, the infrastructure projects that are needed to achieve aviation growth may be constrained. In addition to local community concerns outlined previously, the climate impacts of aviation also present global challenges. Aviation currently accounts for two to three percent of global carbon dioxide (CO₂) emissions and without action this percentage is expected to increase with the growth in operations. The international aviation community is focused on implementing ICAO’s comprehensive approach achieving carbon neutral growth through a ‘basket of measures’ comprising of technical, operational, and infrastructure enhancements, sustainable alternative fuels, and the implementation of a global market-based measure as a gap-filler. In addition to providing economic benefits, technologies to improve aircraft fuel efficiency also provide benefits in terms of reduced CO₂ emissions. The use of alternative fuels can also mitigate CO₂ emissions while also providing economic benefits in areas where the fuel is being produced while also mitigating jet fuel price volatility. A global market-based measure for international CO₂ emissions will impose an additional cost to international airlines; however this is economically preferable to a patchwork of State or Regional-level regulations around the world. Continued improvements in fuel efficiency, noise reduction and alternative fuels are required to ensure that access restrictions or operating limitations are not imposed on the fleet in service which in turn may depress growth.