Federal Aviation Administration

FAA AEROSPACE FORECAST

2026 – 2046

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Forecast Overview (2026–2046)

The U.S. commercial airline industry remains volatile, grappling with the lingering effects of the pandemic alongside new challenges that emerged this year. In 2025, the environment continued to divide carriers between those with diversified product offerings and those with a narrower target market, specifically between network carriers and low-cost carriers (LCCs). Passengers still displayed preferences for premium and long-haul international travel, and carriers sought to capture that demand in multiple ways, from adding rows of extra legroom seats to installing lie-flat suites. Carriers countered the ongoing slump in domestic leisure demand, which continued well into 2025—largely by scaling back capacity. Other trends that could continue for several years include supply chain constraints that limit airframer deliveries and high labor costs as negative factors, balanced by the gradual recovery of business travel as a key positive driver for high-yield revenue. Beyond those trends, however, economic uncertainty emerged during the spring, dampening consumer confidence and willingness to spend. As a result, air travel suffered during the spring and early summer but picked up in the second half of the year. The government shutdown beginning in October strained carriers further, but the recovery was prompt – evidence of the market's resilience. In general, these conditions will result in business adjustments across the industry including relatively smaller but more productive headcounts, rationalized domestic route networks, and the use of suboptimal fleets, all of which impact the forecasts.

Recent hostilities in Iran have disrupted Gulf oil supplies and inflated jet fuel prices. As this conflict began after the preparation of this report, the resulting economic impacts are not included in the current forecast.

Regarding the near- and medium-term outlook of this year's forecast, unanticipated shifts in demand that previously surprised carriers remain front-of-mind, prompting airlines to adopt somewhat cautious strategies. Demand for domestic and Latin leisure trips, for example, has softened in recent years, leaving behind excess capacity that has restrained fares. Similarly, shifts in travel patterns – both by day-of-week and time-of-day – due to fewer business trips and the rise of hybrid business and leisure trips have slowly reverted from a few years ago but are unlikely to fully reset. Meanwhile, most carriers are investing in premium seats or cabins, anticipating that customers will continue paying for upgraded experiences; however, whether this willingness will be sustained is not certain. Furthermore, geopolitics continue to weigh on some international traffic, particularly to China where traffic remains a fraction of its 2019 level. These and other factors contribute to moderate medium-term growth forecasts. According to this 2026 FAA forecast, U.S. carrier system passenger growth in 2026 is expected to be 2.4 percent, somewhat below recent years and the average during the 2010s.

Long-term aviation demand is fundamentally driven by economic activity, a growing US economy measured by GDP and consumer spending, provides the foundation for this growth. The 2026

FAA forecast calls for U.S. carrier domestic passenger growth over the next 20 years to average 2.4 percent per year. Passenger growth is forecast to be slightly higher in the first 10 years of the forecast horizon compared to the last 10 years of the forecast, largely due to a long-term deceleration in economic growth. From 2026 through 2046, real GDP growth averages 1.7 percent per year – averages of 1.8 percent in the first decade and 1.6 percent in the second.

After spiking during the pandemic, oil prices have gradually returned to more moderate levels where they remain for a few years before climbing again through the end of the forecast. Oil was $69 per barrel in 2025 and is expected to drop in 2026 to $57 per barrel – its low over the forecast horizon – driven mainly by a surplus in supply. Thereafter, oil rises steadily, though slightly slower than the overall inflation rate, to $108 per barrel in 2046.

While domestic demand is driven by U.S. economic activity, international travel demand is driven by the interplay between U.S. and foreign economic activity. The forecast for global real GDP growth in 2026 is just a tenth of a percent lower than 2025 at 2.8 percent, still solid and supported by lower oil prices, lower inflation and lower interest rates. The U.S. and the Latin America region slow somewhat below that level, but Western Europe experiences much slower growth. The Asia region, however, supports the global figure with growth above 4.0 percent. Overall, global growth is near its long-term potential.

System traffic in revenue passenger miles (RPMs) is projected to increase by 2.6 percent a year between 2025 and 2046. Domestic RPMs are forecast to grow 2.7 percent per year while International RPMs are forecast to grow slightly slower at 2.6 percent a year. System capacity as measured by available seat miles (ASMs) is forecast to grow slightly slower than RPMs over the forecast horizon, contributing to higher load factors and yields.

In aggregate, U.S. carriers posted profits in FY2025, though not all carriers or quarters were profitable. FAA expects U.S. carriers in total to remain profitable over the next few years as rising demand and airfares more than offset higher costs for labor and fuel. As carriers continue to moderate capacity growth, pay down debt, innovate their products and maintain pricing power, consistent profitability should emerge. Over the long term, we see a competitive and profitable aviation industry characterized by increasing demand for air travel and airfares growing more slowly than overall inflation, reflecting growing U.S. and global economies. From 2025 to 2026, system yields are forecast to increase at an average annual rate of 1.7 percent.

The general aviation (GA) sector has experienced rapid growth over the last few years, as private aviation became an attractive alternative for wealthy individuals during the pandemic -- a trend that has largely persisted. Flight hours for single-engine piston aircraft, commonly used for training, reached record highs in 2021 and 2023, coinciding with record numbers of new pilot certifications across nearly all categories. Though this surge is beginning to soften, FAA expects turbine activity, which is primarily used for business and closely tracks economic growth, to remain robust in the long term, despite potential near-term fluctuations. Hence, the long-term

outlook for general aviation remains promising, as high-end growth offsets the ongoing retirement of traditional, low-end piston aircraft.

The active GA fleet is forecast to increase by 12.1 percent between 2026 and 2046. The turbine fleet -- including rotorcraft -- remained resilient between 2019 and 2024, growing by 4.9 percent in 2024 alone. It is projected to maintain an average annual growth rate of 2.1 percent through the forecast period. In contrast, the total piston fleet (comprising single- and multi-engine aircraft and piston rotorcraft) declined by 1.7 percent between 2019 and 2024 and is estimated to have shrunk by another 0.4 percent in 2025. Over the next 20 years, the piston fleet's average annual growth is forecast at -0.04 percent. However, when experimental aircraft are included, the majority of which are pistons, the growth rate of this combined fleet reaches 0.1 percent per year over the forecast period, with a total growth of 2.0 percent by 2046. While steady GDP and corporate profits growth support the turbine and rotorcraft sectors, the largest segment of the fleet, fixed-wing piston aircraft will contract slightly, by nearly 2,000 aircraft. This decline will be offset by the growing experimental aircraft fleet. Consequently, any net growth in the GA fleet is expected to stem from turbine aircraft. Despite modest fleet growth of 0.6 percent annually between 2024 and 2046, total GA hours flown are projected to rise by 25.5 percent during this period (1.0 percent annually) as increases in turbine, rotorcraft, and experimental activity will more than offset the decline in fixed-wing piston hours.

With robust air travel demand growth in 2026 and steady growth thereafter, FAA expects increased controller workload. Large and medium hubs will continue to see faster increases than small and non-hub airports, largely due to the commercial nature of their operations. Over the forecast period, operations at FAA and contract towers are forecast to grow 1.0 percent a year with commercial activity growing at 1.6 percent or over three times the rate of non-commercial (general aviation and military) activity at 0.5 percent.

Commercial space operations have grown consistently over the past five years, culminating in a record-breaking year of 204 launches and re-entries during FY2025 and representing 21 percent of all activity since 1989. FAA projections suggest activity will rise to between 209–214 operations in FY2026 and potentially reach 507 by 2036. This surge is fueled by an intensifying demand for cislunar and deep-space missions encompassing everything from in-orbit assembly to human settlements on the Moon and beyond.[1]

The Unmanned Aircraft Systems (UAS) segment has been experiencing healthy growth in the United States and around the world over the past decade. The last few years have been no

[1] Effective March 10, 2026, following a five-year transition period, FAA Part 450 became the exclusive mandatory framework for U.S. commercial space flights. By replacing rigid, vehicle-specific legacy regulations (Parts 415, 417, 431, and 435)—which narrowly restricted licenses to a single vehicle configuration and trajectory—Part 450 establishes a unified, performance-based framework. This shift allows operators to secure a single license for multi-mission portfolios, accelerating launch cadences through batch approvals and fostering innovation by regulating safety outcomes rather than specific engineering designs.

exception despite the profound impact of COVID-19 on the overall economy. The introduction of UAS in the National Airspace System (NAS) has opened numerous possibilities, especially from a commercial perspective. That introduction has also brought operational challenges including the safe and secure integration of UAS into the NAS. Despite these challenges, the UAS sector holds enormous promise; potential uses range from individuals flying solely for recreational purposes to individual businesses carrying out focused missions to large companies delivering commercial packages and medical supplies. Public service uses, such as conducting search and rescue support missions following natural disasters, are proving to be promising as well. FAA forecasts that the recreational small UAS fleet will (*i.e.*, base scenario) attain its peak over the next 5 years, from the present 1.55 million units to approximately 1.62 million units by 2030, thus attaining a cumulative annual growth rate of 0.9 percent between 2025 and 2030. Based on registration data, the size of the commercial UAS fleet (> 0.5 lbs. and up to 55 lbs.) totaled approximately 1.1 million aircraft at the end of 2025 and will grow to 1.5 million aircraft by the end of 2030.

Another sector showing promise is Advanced Air Mobility (AAM). It is still unclear when AAM entry into service (EIS) is likely to occur. Starting from limited services to initial launch cities, services will be experimental, slow, and likely gain a gradual trajectory of growth until 2030. It is expected that the initial five years after EIS will be required to resolve many outstanding issues including establishing solid AAM business cases. Depending upon the sector's resolution of the outstanding issues, the 2030-2040 timeframe will see a moderate growth trajectory. Beyond that period, FAA anticipates a sustainable, mature sector on a longer-term growth trajectory.

Review of 2025

As 2024 came to a close, the U.S. aviation industry was on a strengthening path. With much of the excess domestic capacity that suppressed yields having been withdrawn from the system, air carriers were optimistic for 2025. However, that optimism began to fade early in the year when demand pulled back amid emerging macroeconomic uncertainty, causing consumers to curb air travel spending, primarily in domestic markets. In addition, supply chain constraints continued to hamper aircraft deliveries, limiting fleet optimization. Meanwhile, international travel and premium products remained significant sources of strength for carriers with such offerings, a reflection of a K-shaped economy (i.e. when different segments of the economy recover at different rates and opposite directions) with resilient spending from high-income consumers. Significantly, low-cost carriers evolved to meet this demand, adding premium elements to better capture spending from the upper part of the 'K'. In the second half of the year, business travel, the slowest segment to recover from the pandemic, finally surpassed pre-pandemic levels, further benefiting mainline carriers. The government shutdown beginning in October created another headwind to industry demand, impacting carrier financial performance, though demand quickly rebounded in time for a Thanksgiving surge. Even as areas of stress remained at year-end, including soft domestic demand, carriers generally believed the environment had stabilized and become more predictable.

Air cargo activity grew only marginally as consumer spending eased due to macroeconomic and tariff uncertainty. The general aviation segment saw growth in aircraft deliveries, as well as in total flight hours. Unmanned Aircraft System(s) (UAS) activity grew solidly, and commercial space launches surged in 2025, both of which had expanded in 2024.

U.S. system passengers grew in 2025 to 6 percent above 2019 levels with domestic levels 5 percent higher and international 16 percent higher. Compared to 2024, however, system passengers declined by 0.4 percent, led by a similar decline in domestic markets while international passengers grew by less than 1 percent. Transportation Security Administration (TSA) checkpoint throughput was also essentially flat, edging up to 2.40 million average daily passengers in 2025 compared to 2.39 million in 2024. Like system passengers, throughput was about 7 percent higher than in 2019. International leisure traffic, mainly in the Atlantic and Pacific regions, drove much of the overall increase during the year, although it was aided by the business segment where activity increased markedly, finally surpassing 2019 levels.

Despite unusual variability in industry hiring reflecting the choppy economic environment, hiring showed considerable strength during 2025. According to the Bureau of Transportation Statistics (BTS), airline employment rose during the year with an average increase of about 2,500 jobs per month, well above the pre-pandemic rate in 2019 of 1,500 per month. Year-end employment was 30,000 higher than the year before and 96,000 above the December 2019 level. FAA has steadily increased its hiring goals for air traffic controllers, raising the goal from 1,800 in 2024 to 2,000 in

2025, both of which were slightly exceeded by actual hiring. In 2026, the target rose further to 2,200.

In FY2025, system traffic as measured by RPMs grew just 0.8 percent from the previous year while system enplanements eased 0.4 percent lower. Domestic RPMs were flat while enplanements were 0.4 percent lower. International RPMs increased by 3.0 percent, while enplanements rose a meager 0.1 percent – the relative difference due to the strength in long-haul Atlantic markets. Generating excess capacity, system ASM grew faster than RPM, up 1.9 percent with domestic ASM growing 1.8 percent and international up 2.2 percent. As a result, the system-wide load factor fell 0.9 percentage points to 82.4 percent.

System nominal yields rose slightly in 2025, up 0.6 percent after falling 3.0 percent in 2024. Firming business traffic offset tepid leisure demand in domestic markets, contributing to a modest increase in domestic yields. Solid demand in international markets continued to generate strong revenue even as yields edged down with some increased capacity.

Despite uneven activity during the year, aggregate financial results for the full year improved, driven mainly by the few largest carriers. Reporting passenger carriers posted a combined operating profit of $12.3 billion—a 9 percent increase over FY2024, yet still significantly trailing the average profit of $22.1 billion over the five years ending in FY2019. As with operations, profitability varied more than usual from one quarter to the next as combined profits were just $136 million during the March quarter. Conversely, strong activity during the June quarter generated profits of $5.0 billion, nearing pre-pandemic highs.

The general aviation industry continued its upward trajectory in CY2025, with deliveries of U.S.-manufactured aircraft increasing by 6.8 percent over the previous year -- a 30.8 percent rise above 2019 levels. Piston aircraft deliveries grew by 7.8 percent, while turbine deliveries rose by 5.6 percent, driven by a 13.1 percent surge in the business jet segment. Globally, billings reached $31.0 billion, a 16.1 percent year-over-year increase and 32.0 percent above 2019 benchmarks.

Total operations in 2025 at FAA and contract towers increased by 1.4 percent compared to 2024, the fifth consecutive year of growth. Air carrier activity increased by 2.2 percent, and air taxi operations rose by 3.8 percent. General aviation activity was up by 0.8 percent and military activity was down by 4.7 percent. Activity at large and medium hubs rose by 1.7 percent and 1.3 percent, respectively, while small and non-hub airport activity rose by 0.7 percent in 2025 compared to the prior year.

Glossary of Acronyms

Acronym	Term
AAM	Advanced Air Mobility
AMO	Airspace Modernization Office
ARP	FAA Office of Airports
ASMs	Available Seat Miles
AST	FAA Office of Commercial Space Transportation
ATC	Air Traffic Control
ATO	FAA Air Traffic Organization
ATP	Airline Transport Pilot
CAGR	Compound Annual Growth Rate
CFR	Code of Federal Regulations
CY	Calendar Year
EIS	Entry Into Service
eVTOL	Electric Vertical Take-off and Landing
FAA	Federal Aviation Administration
FRIA	FAA-Recognized Identification Areas
FY	Fiscal Year
GA	General Aviation
GAMA	General Aviation Manufacturers Association
GDP	Gross Domestic Product
IFR	Instrument Flight Rules
LCC	Low-Cost Carriers
LSA	Light Sport Aircraft
lUAS	Large Unmanned Aircraft System(s)
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
OEM	Original Equipment Manufacturer
PCE	Personal Consumption Expenditure
RP	Remote Pilot
RPMs	Revenue Passenger Miles
RTMs	Revenue Ton Miles
sUAS	Small Unmanned Aircraft System(s)
TRACON	Terminal Radar Approach Control
TSA	Transportation Security Administration
UAM	Urban Air Mobility
UAS	Unmanned Aircraft System(s)

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FAA Aerospace Forecasts
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Economic Environment

In 2025, global real GDP expanded but continued its gradual deceleration from the spike following the demand shock of 2020. GDP rose 2.9 percent in 2025, down from the 6.4 percent surge in 2021. Economies displayed overall resilience in 2025, performing at near-potential growth rates. Similar conditions are expected to continue in 2026 though with a slight slowdown due to the rebalancing of trade flows, which may be mitigated by lower interest rates and supportive fiscal policies. S&P Global expects GDP to edge down to 2.7 percent in 2026 before slowing a few tenths further over the next decade to approach its long-term trend rate.

In the U.S., real GDP slowed from 2.8 percent in 2024 to 2.2 percent in 2025 before slowing further to 1.9 percent in 2027. This scenario projected by S&P Global results from a combination of strong consumer spending supported by rising household wealth but partially offset by elevated inflation and a labor market that has downshifted and continues along in a low gear. Accompanying slowing growth, unemployment rises, with rates increasing from 3.9 percent in FY2024 to 4.2 percent in FY2025 and then 4.6 percent in the three subsequent years. This restrains demand but also inflation which allows the Federal Reserve to resume lowering interest rates and reaching its target in early FY2027. Dampened demand, however, shows up in restrained consumer spending which grows 2.9 percent in FY2024 and FY2025, but slows to 2.2 percent in FY2026. After FY2026 through the end of the forecast, GDP growth averages 1.7 percent per year and the unemployment rate stabilizes at 4.3 percent. As with other advanced economies, U.S. GDP growth is hindered by an aging population and slow labor force growth that contribute to the decline in the participation rate.

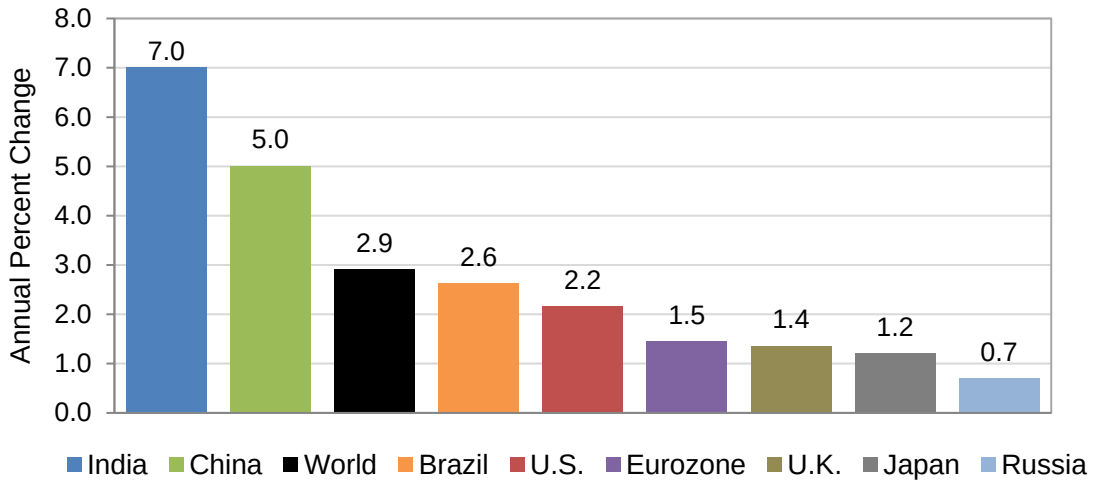
Compared to the U.S., real GDP growth in the European Union plus U.K. is weaker in 2025 at 1.6 percent, easing to 1.2 percent in 2026. From there, growth bumps up to 1.7 percent through the end of the decade before settling to its trend rate of about 1.3 percent. Strengthening domestic demand alongside increased investment and defense spending are somewhat offset by aggressive deficit reduction, high interest rates and slow population growth.

In Japan, stronger consumption and a weak year-ago outcome supported GDP in 2025, growing 1.2 percent before pulling back to 0.9 percent growth in 2026, restrained by drag from net exports. Trend growth rates of 0.8 percent resume in the following year as the country's longstanding problems of a shrinking labor force and aging population persist, though partially offset by some productivity increases.

Though China's GDP growth remains relatively strong, its long-term deceleration continued in 2025 with growth of 5.0 percent. The slowdown is expected to extend through the forecast horizon with a rate of 3.6 percent in 2036 and 2.8 percent in 2046. Contributing factors include a shrinking population, declining returns on infrastructure investments, excess supply in the housing market and sluggish domestic demand.

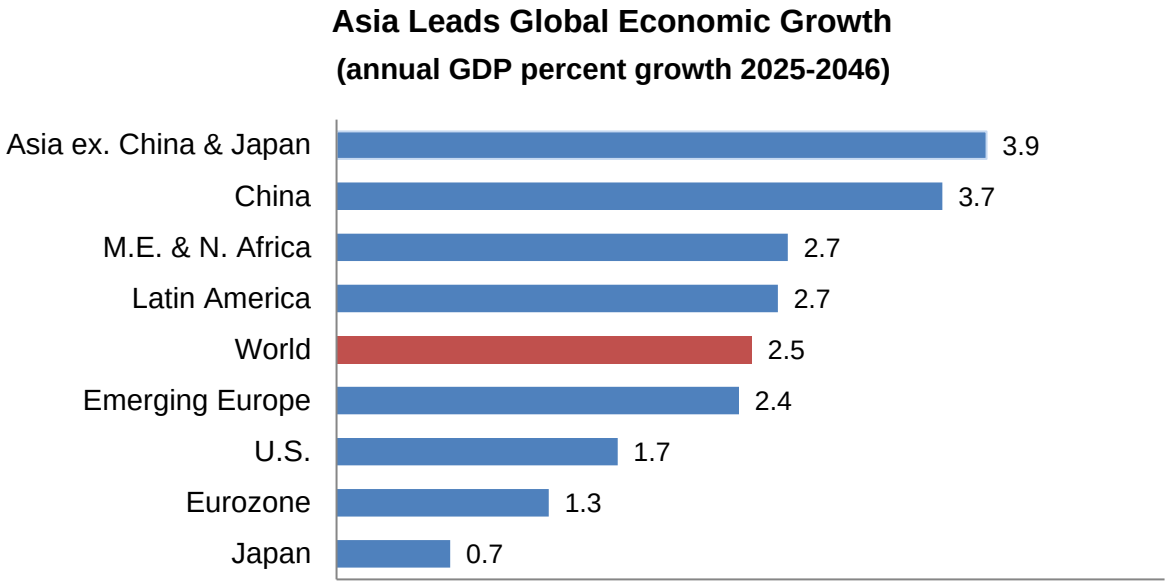
Among large emerging markets, Brazil's economy sees growth slow in 2026 to 1.8 percent but picks up to its trend rate of 3.0 percent in subsequent years. Growth in 2026 is limited by tight labor markets, strict lending standards, less favorable trade conditions and restrictive monetary policy. Longer term, these headwinds ease and Brazil's economy benefits from its large domestic market and abundant natural resources. Russian growth plummeted from 4.3 percent in 2024 to 0.7 percent in 2025 but is expected to rise to 1.0 percent in 2026 and then 2.0 percent in 2028, driven in the near-term by wartime government spending. Longer term, growth is restrained by downward demographic trends and productivity losses from the withdrawal of foreign companies and skilled labor. Finally, India's strong expansion peaked at 7.0 percent in 2025 and declines thereafter to 6.4 percent in 2026 and then to below 5.0 percent by the middle of the 2030s. Strong private consumption and public investment provide support from favorable demographics, the expansion of middle-income households and as-yet undeveloped natural resources.

World Economic Growth in 2025



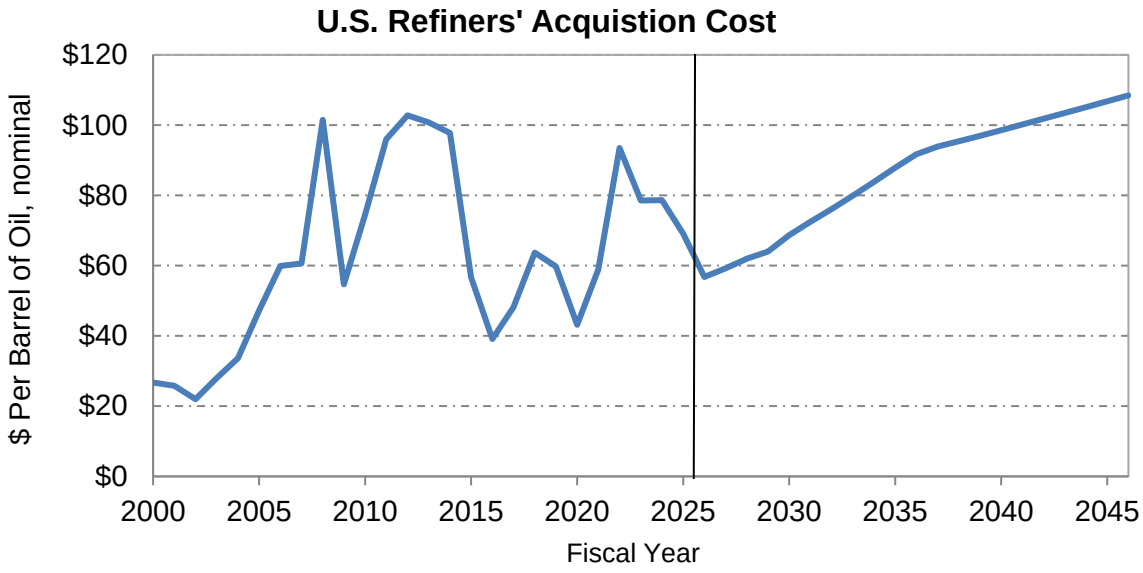
Source: S&P Global, Jan 2026 Comparative World Overview; APO-100 calculations

S&P Global forecasts world real GDP to grow at 2.5 percent a year between 2025 and 2046. Emerging markets, at 3.6 percent a year, are forecast to grow faster than the global average but at lower rates than in the early 2000's. Asia (excluding Japan), led by India and China, is projected to have the fastest growth followed by Latin America, the Middle East and North Africa, and Eastern Europe. Growth in the more mature economies (1.5 percent a year) will be lower than the global trend with the fastest rates in the U.S. followed by Europe. Growth in Japan is forecast to be very slow at 0.7 percent a year reflecting deep structural issues associated with a shrinking and aging population.



Source: S&P Global, Jan 2026 Comparative World Overview; APO-100 calculations

Oil declined to about $69 per barrel in 2025 and is expected to fall further in 2026 to $57 per barrel as sluggish global demand combines with increasing supply. Over the long run, S&P Global expects the price of oil to increase due to growing global demand and higher costs of extraction. S&P Global forecasts U.S. refiner's acquisition cost of crude to rise to $108 per barrel at the end of the forecast horizon.



Source: S&P Global; APO-100 calculations

U.S. Airlines

Domestic Market

Mainline and regional carriers[2] offer domestic and international passenger service between the U.S. and foreign destinations, though regional carrier international service is limited to the border markets in Canada, Mexico, and the Caribbean.

Even though the public health emergency caused by the pandemic officially ended in 2023 and most measures of aviation activity had returned to 2019's levels by 2024, impacts were still being felt by carriers and are expected to continue through the end of the decade.

On the supply side, materials shortages have slowed aircraft production. For example, in 2019 Boeing and Airbus delivered a combined 403 commercial widebody aircraft while in 2025, that number was just 233. As airframers are holding sizable order books, the delivery delays will take time to unwind, cascading out through the end of the decade. Besides constraining expansion plans of carriers, these delays will impact profitability as they hold on to older, less efficient aircraft and aircraft that are poorly sized for specific market needs.

Understaffing at some Air Traffic Control (ATC) facilities may, under certain circumstances, limit the number of aircraft that can be handled in those places, leading to further constraints on capacity production. This will be slow to correct though FAA is accelerating efforts. In 2023, 1,512 controllers were hired, that rose to 1,811 in 2024, and 2,028 in 2025. All these issues will be slow to reverse and weigh on the forecast of capacity production for the next three to five years, or possibly longer.

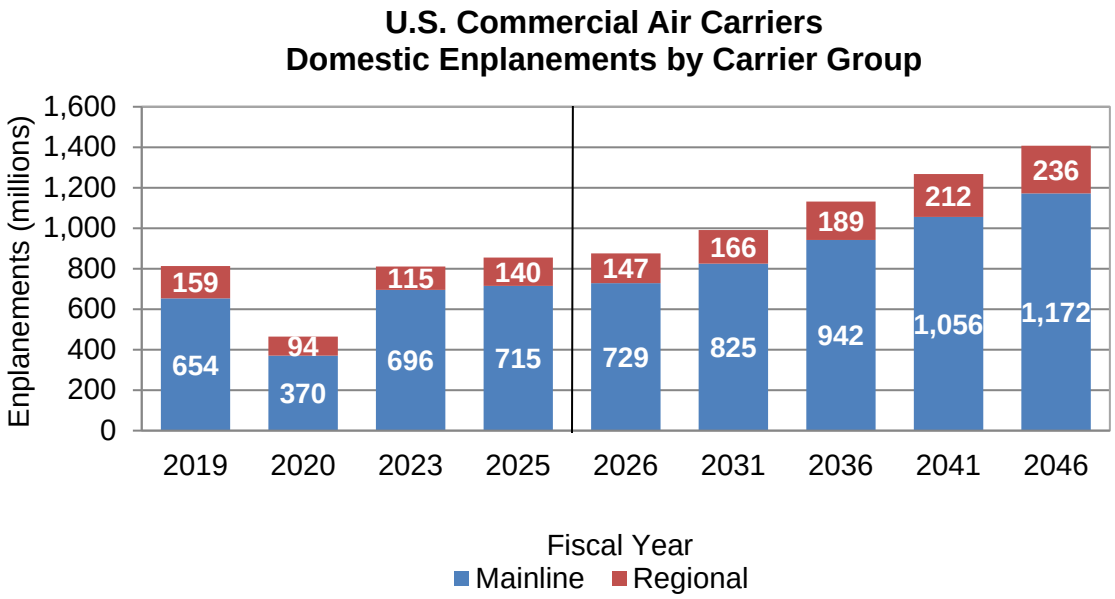
The pandemic altered the demand side as well, with many of those impacts still evolving. Leisure traveler demand surged after the pandemic and is expected to continue as the main driver, though travelers have shown a clear preference for premium offerings and carriers, including LCCs, are adapting cabins to claim more of these higher-yielding passengers. Whether this trend continues in coming years is something carriers will monitor closely. Unlike leisure trips, business travel had grown slowly until picking up in the second half of last year. Whether it plateaus or continues to grow is uncertain, especially since in-office work remains below pre-pandemic levels. This shift in traveler priorities directly paved the way for the bifurcation of carrier financial performance that has been evolving.

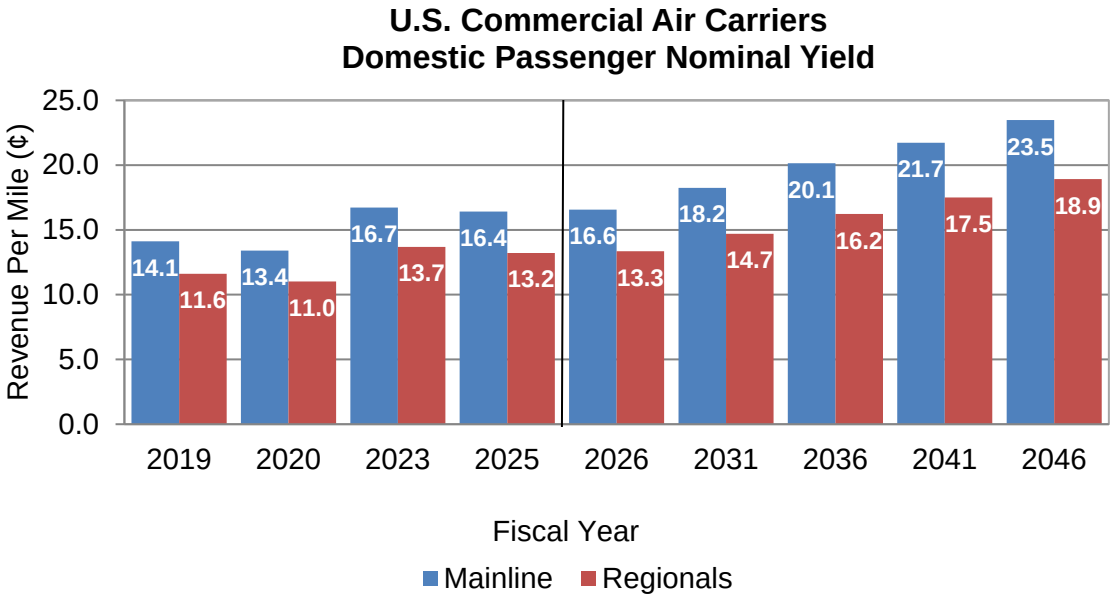
In 2025, the impacts of the K-shaped economy became more apparent as the financial performance among different types of carriers widened. Macroeconomic uncertainty seemed to weigh most

[2] Mainline carriers are defined as those providing service primarily via aircraft with 90 or more seats. Regionals are defined as those providing service primarily via aircraft with 89 or fewer seats and whose routes serve mainly as feeders to the mainline carriers.

heavily on domestic leisure travelers, the segment LCCs generally target, as they pulled back, substituting destinations or modes of transport, squeezing margins of those carriers. On the other hand, the income cohort that has seen strong wealth gains from equities and housing valuations were bolstered as they made long-haul international trips and travelled in premium cabins. The large network carriers that have segmented their markets more fully, benefited from this cohort in the upper arm of the 'K'. As noted above, LCCs are working to segment their products but doing so and overcoming entrenched "no-frills" perceptions will take time.

Regional carriers accounted for 8.2 percent of domestic capacity in 2025 — a slight recovery from the 7.2 percent low in 2023, yet still well below the 11.1 percent seen in 2019. This ongoing deficit stems from shifting demand patterns and persistent supply constraints, particularly as flight crews continue migrating to higher-paying mainline roles. Traffic followed a similar trajectory, with RPM rising to 8.0 percent in 2025 from a 2023 low of 6.9 percent, though still trailing the 10.4 percent pre-pandemic benchmark. These figures are expected to stabilize as domestic travel patterns and airline operations gradually return to historical norms.





A trend for regionals that was largely unaffected by the pandemic is the longstanding increase in the number of seats per aircraft. This measure rose by more than 55.0 percent over the decade from 1997 to 2007 and though it slowed more recently to an increase of 17.0 percent in the ten years ending in 2019, it is a trend that is expected to continue. A consequence of this drive to replace 50-seat regional jets with more fuel-efficient 70-seat jets is that capital costs have increased. The move to the larger aircraft will prove beneficial in coming years, however, since their unit costs are lower.

Mainline carriers have also been increasing seats per aircraft flown though, unlike that for the regionals, the trend had been accelerating up until 2019. From 2009-2019, the measure grew by an average of 0.9 percent per year. Then during the pandemic, seats per aircraft jumped around, ranging from an increase of 3.0 percent in 2021 to a 0.4 percent decrease in 2022 as carriers first flew some of their idle long-haul international aircraft on domestic routes and then reallocated them to more typical markets. That aircraft positioning seemed to normalize in 2024 when seats per aircraft grew 0.3 percent, about their 30-year average.

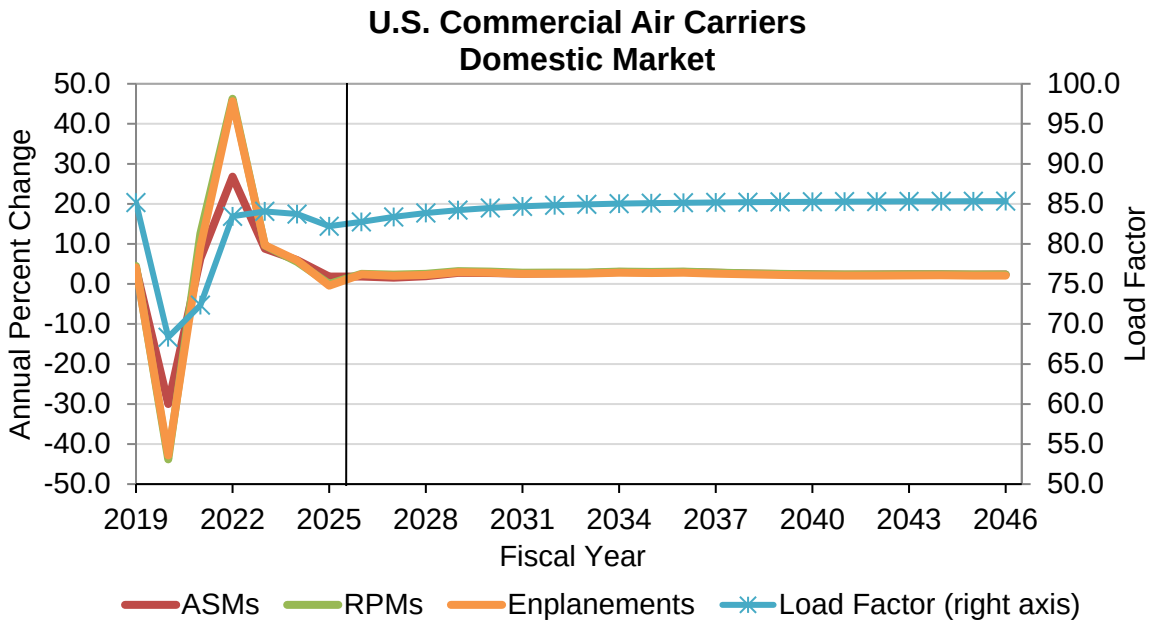
Besides the operational adjustments that carriers use to drive profitability, there are many less visible strategies that mainly revolve around passenger segmentation -- that is, categorizing passengers according to their willingness to pay differing amounts to travel between the same points. The primary tools to accomplish this are the revenue management systems that enable carriers to price fares optimally for each seat on each flight. Because they rely on historical data to make price and schedule predictions, the unprecedented nature of the collapse in 2020 meant they could provide little guidance in market, time-of-day or day-of-week pricing decisions. As demand stabilized, revenue management systems became relevant again. Going forward, the

application of artificial intelligence will make these systems more adaptive and pricing more dynamic, leading to even more nuanced segmentation of passengers.

Yet another continuing trend and method of passenger segmentation is product differentiation through ancillary sales. Carriers generate ancillary revenues by selling products and services beyond that of an airplane ticket to customers. This includes the un-bundling of services previously included in the ticket price such as checked bags, on-board meals, and seat selection, and adding new services such as boarding priority and internet access. After posting record net profits in 2015, U.S. passenger carrier profits declined subsequently on rising fuel and labor costs, and flat yields, but were supported by ancillary revenues. Even in 2020 when profits turned to staggering losses, this remained a meaningful source of revenue for carriers. Interestingly, while network carriers have unbundled their products to increase differentiation and target LCC segments, LCCs have now started to *bundle* some of their products by including certain benefits with the seat price, thereby also differentiating their offerings but with the opposite strategy.

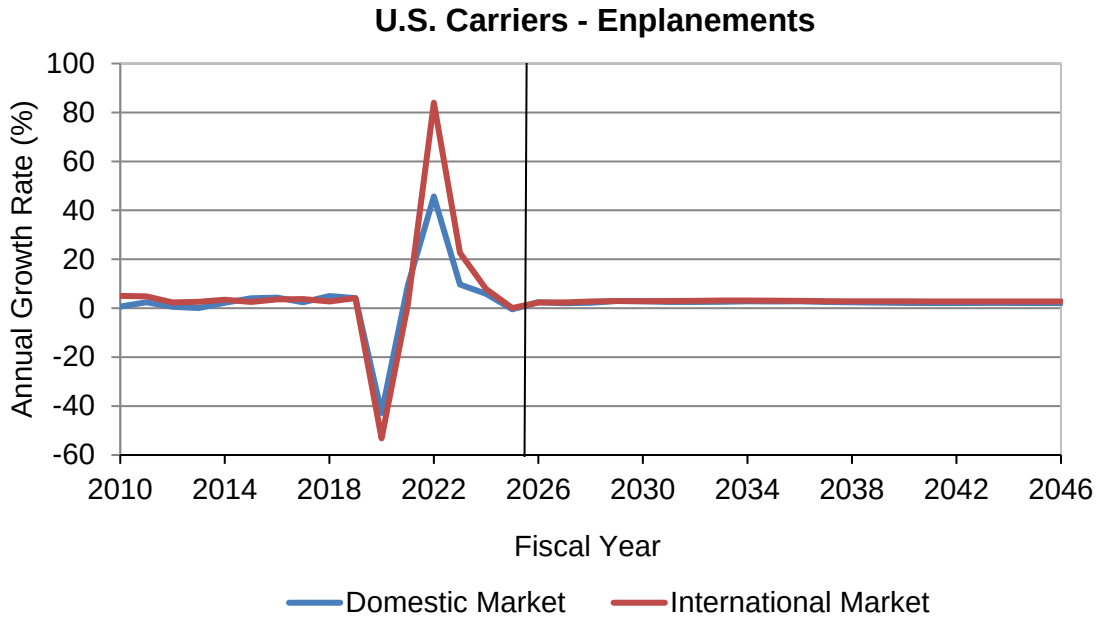
One source of ancillary revenue, change fees, was broadly scrapped in 2020. As traveler plans were forced to change due to COVID-19-related restrictions, airlines began dropping fees for itinerary changes in many ticket classes. As a share of total passenger revenue, cancellation fees dropped from about 2.0 percent in 2019 and prior years to under 0.6 percent in 2024. Most airlines have made the elimination of change fees a permanent move, though it applies only to tickets for the main cabin and above. Baggage fees remain a solid source of revenue at 4.0 percent of passenger revenue in 2025, about the same as in 2019.

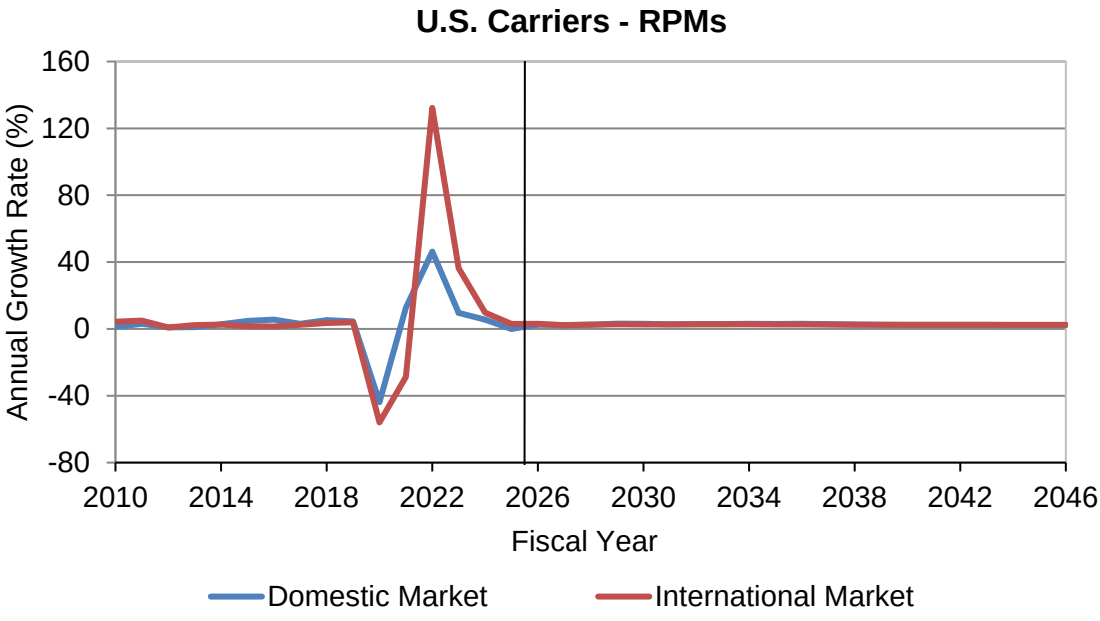
Other methods of segmenting passengers into more discrete cost categories based on comfort amenities like seat pitch, leg room, and power outlets were unaffected by the pandemic. The offering of Basic Economy fares has been part of an effort by network carriers to protect market share in response to the rapid growth LCCs have achieved in recent years. Just as mainline carriers had used Basic Economy fares to capture LCC customers, LCCs and ultra low-cost carriers (ULCCs) began to use premium offerings to capture network carrier customers. These carriers introduced or announced seats with more legroom, blocked middle seats, re-bundled of fares to include some ancillaries, and added more attractive loyalty programs. The growing preference for premium travel experiences over goods ensures that LCCs and ULCCs will continue to challenge network carriers for market share over the medium term.

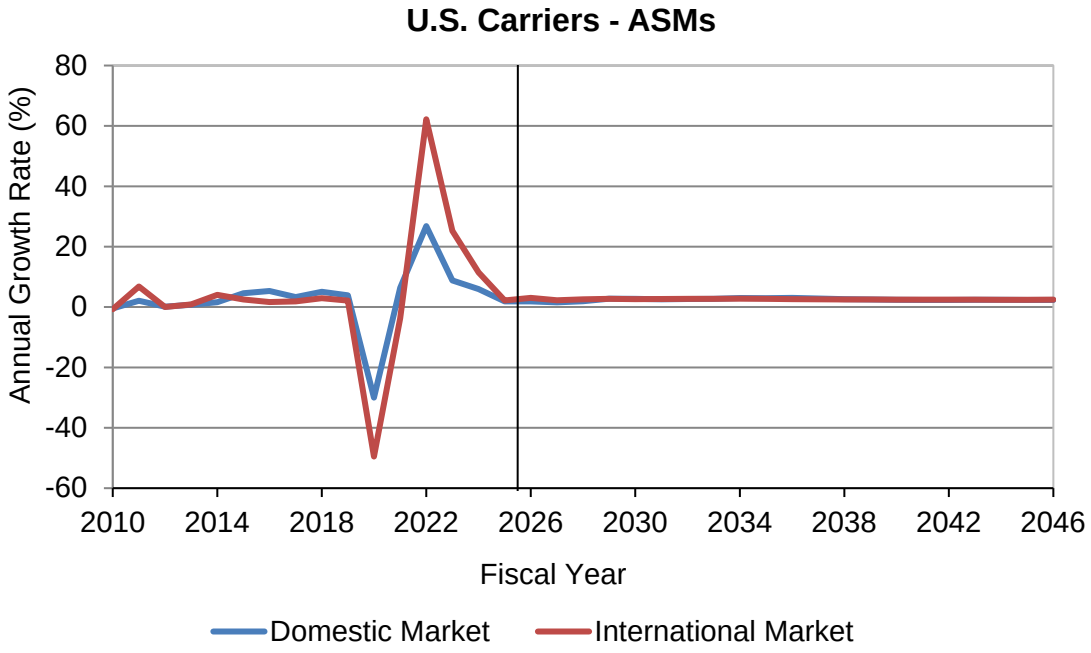


International Market

Over most of the past decade, the international market has been the growth segment for U.S. carriers when compared to the mature and much larger U.S. domestic market. For the ten years ending in 2025, international enplanements grew by 33.0 percent while domestic enplanements grew 23.0 percent. However, during the downturn in 2020 and the first years of the recovery, domestic activity fell less and recovered faster. But by 2025, domestic enplanements had grown only 5.0 percent above 2019's level, while international enplanements showed much stronger improvement, exceeding 2019 levels by 16.0 percent. International travel had been particularly impacted by border closings, quarantine requirements and other travel restrictions, as well as the uncertainty of when requirements might change. However, as restrictions were lifted, activity rebounded sharply, supported in recent years by demand from higher-income cohorts. On the domestic side, the fall in business travel contributed to the decline and slower recovery, even as leisure travel surged initially. International travel is expected to show further gains in 2026, supported by continuing increased preferences for overseas trips.


U.S. Carriers - Enplanements
Annual Growth Rate (%)
100
80
60
40
20
0
-20
-40
-60
2010
2014
2018
2022
2026
2030
2034
2038
2042
2046
Fiscal Year
Domestic Market
International Market

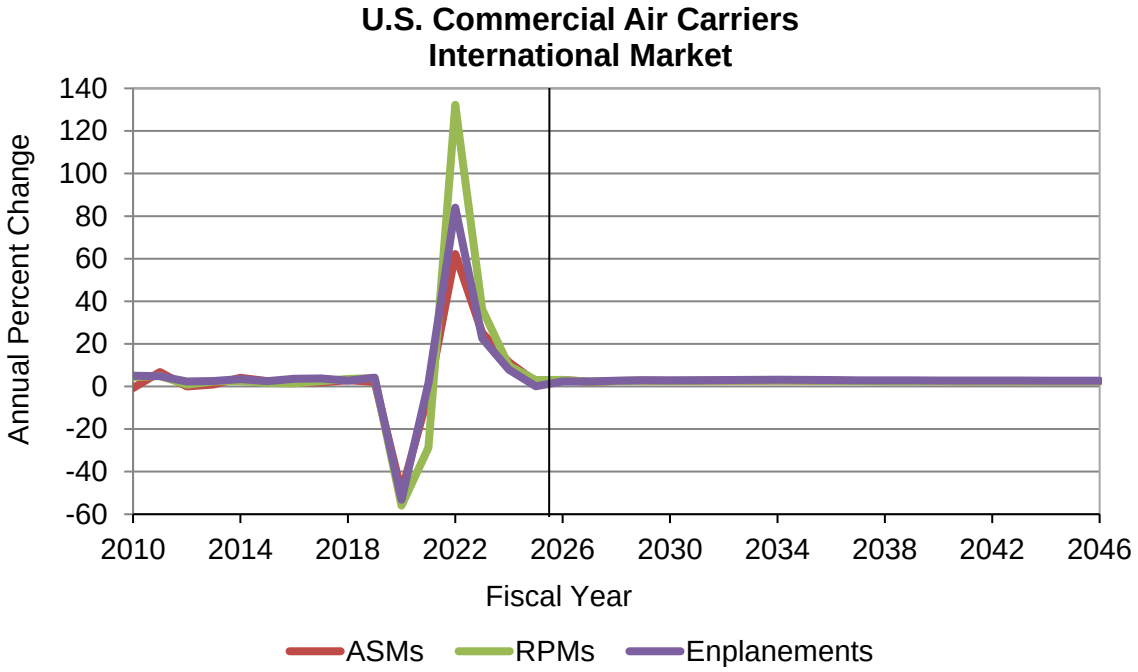

U.S. Carriers - RPMs
Annual Growth Rate (%)
160
120
80
40
0
-40
-80
2010
2014
2018
2022
2026
2030
2034
2038
2042
2046
Fiscal Year
Domestic Market
International Market



International capacity and demand will see another year of solid growth in 2026 as traveler preferences are little changed and carriers work to stimulate demand by introducing new overseas destinations and more direct routes. For FY2026 the annual growth rates for international ASM and RPM are forecast at 3.1 percent each, and enplanements at 2.3 percent as aggregate trip lengths continue to grow due to increasing Atlantic and Pacific activity. From FY2026-2046, annual growth of ASMs and RPMs are forecast at 2.6 percent each, while enplanements will grow at a rate of 2.8 percent.

Load factors rose sharply again in 2023, exceeding 83.0 percent, more than 6.0 points above the previous year. However, some overcapacity in 2024 led to a decline and load factors dropped back to 82.0 percent. Carriers were more cautious in adding capacity and quicker to remove it in 2025, pushing load factors up close to 83.0 percent. Load factors are believed to be close to their maximum and projected to rise only slightly throughout the remainder of the decade and through the end of the forecast.

In the long-run, growth of major global economies will slow from the above-trend rates of recent, pre-pandemic years. Several moderating factors are at work, including high inflation and interest rates, reduced global trade, and political stresses. The European and Japanese economies are generally seeing slow growth, in part due to weak trade with Asia, mainly China. Overall, global conditions appear set to return to a stable path once the economic environment improves with looser financial conditions, diminished risk of recession, and improved government fiscal positions. Rising oil prices, however, will create some drag on this otherwise supportive environment for air travel demand.



For U.S. carriers, the Latin region remains the largest international destination with more than twice the enplanements of the Atlantic region in 2025, due to its proximity to the U.S., strong trade ties, and popular leisure destinations. In 2025, Latin region enplanements declined by 3.0 percent and RPMs eased by 1.0 percent as the region suffered from the same factors that inhibited domestic leisure travel, including macroeconomic uncertainty and some retrenching by lower income cohorts. Those constraints are expected to improve in 2026, resulting in RPM growth of 2.0 percent and enplanement growth of 1.0 percent, and strengthening further in subsequent years. Over the twenty-year period of 2026-2046, Latin region RPM is forecast to increase at an average rate of 3.4 percent a year while enplanements grow 3.6 percent a year.

The Pacific region is the smallest in terms of enplanements, which do not yet reflect the region's emerging markets' economic growth and potential for air travel. The region also saw the sharpest decline in activity during the pandemic and has been the slowest to recover, remaining about 13.0 percent below 2019's levels in 2025, even after posting 13.0 percent year-over-year growth. From FY2026 through the end of the forecast, Pacific enplanements and RPMs are forecast to grow at average rates of 2.0 percent each. Though the region is forecast to have the strongest economic growth of any region over the next 20 years, led by China and India, enplanements and RPMs over the period are restrained in part because of generally low incomes and relatively small middle classes. Consequently, demand centers on smaller but wealthier countries such as Japan and Korea, rather than the large, faster growing economies.

The Atlantic region ranks in size between the Latin and Pacific regions, with pre-pandemic enplanements roughly twice those in the Pacific region and half those in the Latin region. In 2020, like the other regions, Atlantic enplanements tumbled and bottomed out in 2021 but subsequently saw large percentage gains, returning enplanements above 2019 levels in 2023. Though Western Europe is a mature area with moderate economic growth, the economically smaller Middle East and Africa areas are expanding rapidly with GDP growth rates more than twice that of Europe. As a result, a growing share of the forecast aviation demand in the Atlantic region is linked to those two areas, particularly in the second half of the forecast period. Over the forecast horizon from 2026 to 2046, enplanements and RPMs in the Atlantic region are expected to grow at average annual rates of 1.8 percent and 1.9 percent, respectively.

Total Passengers to/from the United States on U.S. Flag and Foreign Flag Carriers[3]

Actual Results

Calendar year 2025 international passenger traffic between the United States and the Atlantic, Latin, Pacific and Canada/Transborder regions remained nearly unchanged, growing by only 0.4 percent over prior year levels to total 268.0 million. The slowdown in growth was influenced by a combination of factors including geopolitical tensions, airspace restrictions, more stringent visa policies, and supply chain bottlenecks. Inbound demand softened as international traveler sentiment was impacted by an evolving domestic political landscape.

Regional Performance Breakdown[4]

Atlantic Region - Following strong growth of 7.5 percent in CY2024, passenger volume in the Atlantic region slowed significantly in CY2025, increasing by just 2.0 percent. The modest overall gain was fueled by a 5.1 percent surge in international travel by U.S. citizens which was largely offset by a 2.1 percent decline in foreign travelers visiting the U.S. The decline in visitors to the U.S is attributed to a combination of administrative and policy barriers regarding entry, shifting traveler sentiment towards the U.S., and the relatively high cost of visiting the United States compared to other global destinations.

[3] International passenger forecasts are based on the Department of Commerce International Air Travel Statistics. Since July 2010, this data has been sourced from the Department of Homeland Security/Customs and Border Protection Advance Passenger Information System (APIS), replacing the previous I-92 paper form system. Now collected electronically from all U.S. and foreign flag carriers—including Canadian flights as of 2011—the APIS-based I-92 system tracks passenger volumes by country, airport, flight type (scheduled or chartered), carrier flag, and citizenship status.

[4] For purposes of this analysis the Atlantic Region includes Europe, Africa, and the Middle East; the Latin Region includes Mexico, Central and South America, and the Caribbean; the Pacific Region includes Asia and Oceania.

- **Top Performers:** Italy (up 9.5 percent) and Ireland (up 6.5 percent).
- **Slowest Growth:** Qatar (down 6.2 percent) and the United Kingdom (down 1.8 percent).

Latin Region - Following 7.7 percent growth in passenger volume for CY2024, the Latin region experienced a marginal 0.3 percent contraction in CY2025. This downturn was driven by a cooling of outbound U.S. demand (0.5 percent), as American travelers pivoted toward domestic trips or alternative international markets. Simultaneously, inbound travel to the U.S. was stifled by a combination of tariff concerns, currency instability, and more rigorous immigration enforcement and visa hurdles (down 1.6 percent).

- **Top Performers:** Panama (up 8.1 percent) and Brazil (up 7.0 percent).
- **Slowest Growth:** Jamaica (down 7.7 percent) and The Bahamas (down 3.0 percent).[5]

Pacific Region – CY2025 international passengers increased 5.4 percent over the prior year, though this region is still 16.5 percent below pre-pandemic levels. Two countries within the region have exceeded their pre-pandemic benchmarks -- India and Taiwan -- while Australia, China, Hong Kong, Japan, and South Korea have not yet reached full recovery.[6] In 2025, the region saw a sharp contrast in traveler demographics. U.S. Citizens traveling between the U.S. and the Pacific region surged by 11.4 percent while foreign nationals' growth was nearly flat, increasing by only 0.6 percent.

- **Structural Barriers:** Recovery is hampered by restricted capacity between the U.S. and mainland China due to diplomatic friction and strict bilateral agreements.
- **Operational Hurdles:** The closure of Russian airspace since 2022 has added significant time and fuel costs for Western carriers. In addition, supply chain issues have delayed the delivery of new widebody aircraft intended to replace less efficient models retired during the pandemic.
- **Growth Leaders:** Despite a slow overall recovery, China (up 15.7 percent) and Hong Kong (up 30.3 percent) posted the strongest year-over-year growth as they continue to climb from a low base. Japan also posted strong growth (up 9.4 percent).

Canada/Transborder: Recovery of the Canada/Transborder market has stalled. Despite forecasts predicting a return to pre-pandemic levels during CY2025, the region saw a significant 7.4 percent

[5] In October 2025, Jamaica was struck by the historic Hurricane Melissa, which marked the first time a Category 5 storm made landfall on the island. The unprecedented severity of the hurricane prompted the government to officially declare the entire island a disaster area.

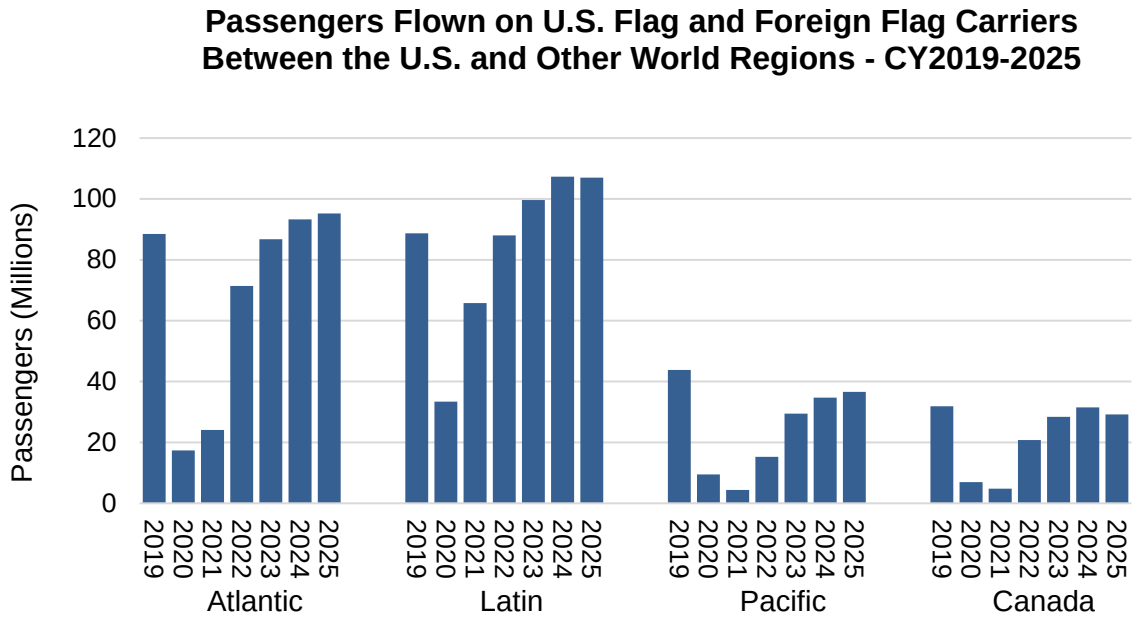
[6] Despite Taiwan functioning as a de facto independent state, it lacks widespread formal diplomatic recognition due to the "One China" principle maintained by the People's Republic of China. Similarly, Hong Kong is classified as a Special Administrative Region of China. For this analysis, Taiwan and Hong Kong are forecasted individually to align with the granularity of the International Air Travel Statistics Program, which collects data at this level of detail. https://www.trade.gov/us-international-air-travel-statistics-i-92-data (Accessed April 24, 2026).

decline from CY2024, marking its lowest passenger volume since CY2017. While travel by Americans to and from Canada decreased 1.9 percent, the number of foreign nationals traveling between the two countries saw a much sharper contraction, falling 10.3 percent below 2024 levels.

- **Driving Factors:** The contraction in inbound travel to the U.S. was primarily caused by a sharp decline in public sentiment following the 2025 presidential transition, coupled with the economic friction of trade tariffs. In addition, a disadvantageous exchange rate further suppressed demand for inbound travel to the U.S.

- **Case Study:** Foreign national arrivals from Canada to Las Vegas and from Canada to Orlando dropped 24.9 percent and 9.6 percent, respectively, year-over-year (CY2025/CY2024). In contrast, arrivals to Las Vegas and Orlando from all other global regions rose by 7.0 percent and 11.9 percent, respectively.

The first chart below shows total passengers flown on U.S. Flag and Foreign Flag Carriers by World Region for the period CY2019-CY2025. The second chart shows the pace of recovery to pre-COVID passenger levels indexed to CY2019.

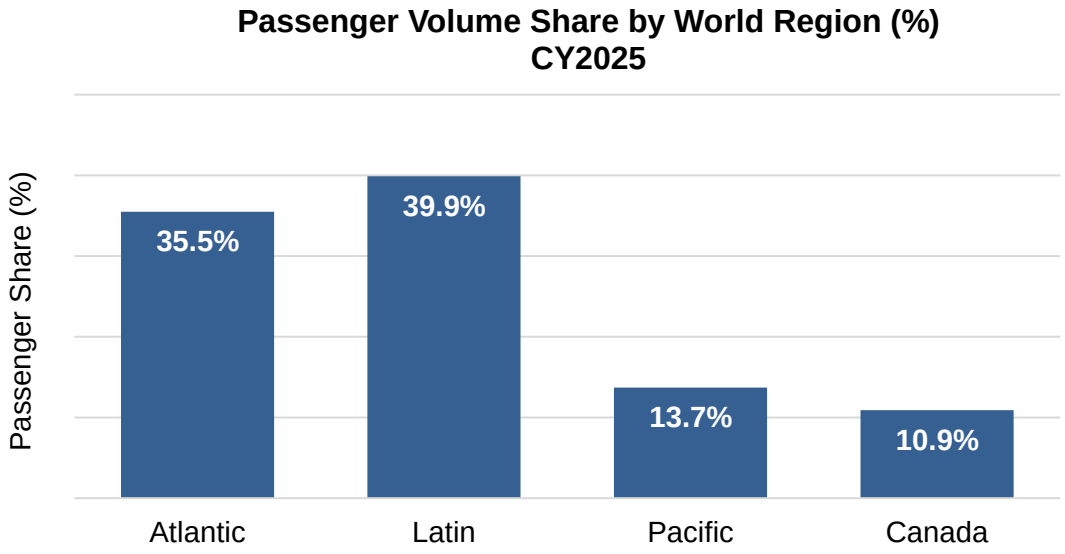


Pace of Recovery to Pre-COVID Passenger Levels
Indexed to 2019

Region	2019	2020	2021	2022	2023	2024	2025
Atlantic	100	19.6	27.2	80.7	98.0	105.4	107.5
Latin	100	37.7	74.1	99.2	112.3	121.0	120.6
Pacific	100	21.6	10.0	34.8	67.2	79.2	83.5
Canada	100	21.9	15.1	65.3	89.1	99.0	91.6
Total	100	26.6	39.2	77.3	96.6	105.5	106.0

Market Share and Citizenship Trends

In CY2025, passengers between the U.S. and the other world regions totaled 268.0 million. The Latin region held the largest share of total passengers at 39.9 percent (107.0 million), followed by the Atlantic region at 35.5 percent (95.2 million). The Pacific and Canada/Transborder regions accounted for 13.7 percent (36.6 million) and 10.9 percent (29.2 million), respectively.



Passenger Share by Citizenry:

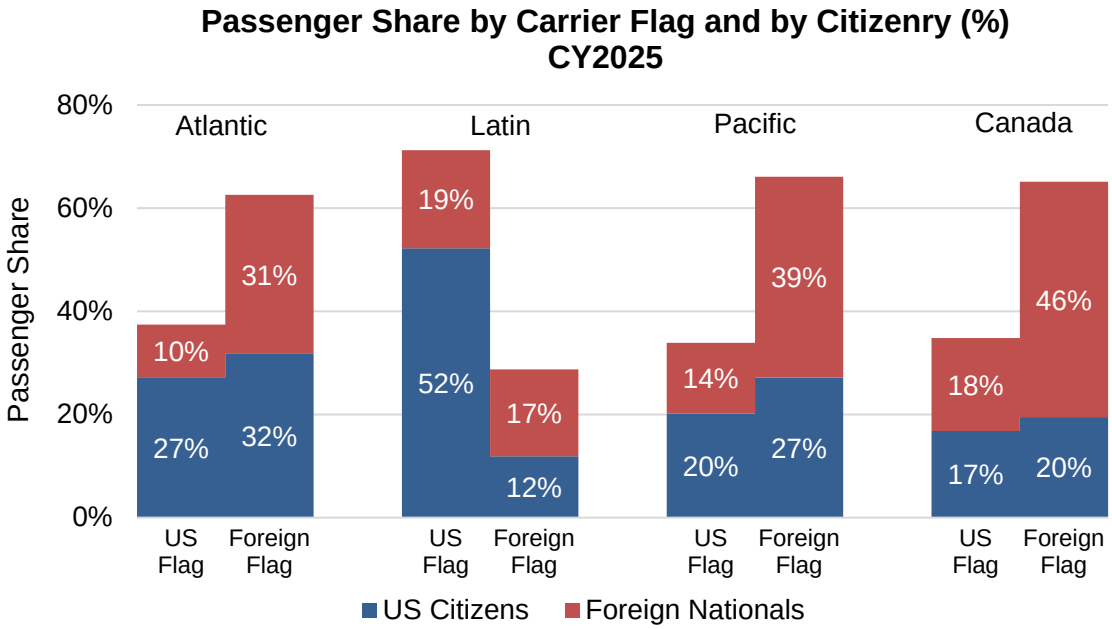
Between 2019 and 2025, the share of U.S. citizens among total international passengers rose by 8.3 percentage points to 56.9 percent. Results on a regional basis are presented below:

- **Pacific:** U.S. citizen share jumped from 34.9 percent to 47.3 percent (up 12.4 points).
- **Atlantic:** U.S. citizen share rose from 50.8 percent to 59.0 percent (up 8.2 points).
- **Latin:** U.S. citizen share increased from 58.6 percent to 64.1 percent (up 5.5 points).
- **Canada:** U.S. citizen share increased from 34.5 percent to 36.3 percent (up 1.9 points).

The chart below illustrates the distribution of passengers traveling between the U.S. and the other world regions, categorized by both citizenry (U.S. citizen vs. foreign national) and carrier flag (U.S. Flag vs. Foreign Flag). For context, 2025 data for the Atlantic region shows that only 37.0 percent of passengers utilized U.S. Flag carriers, while 63.0 percent traveled on foreign flag

carriers. During the same period, U.S. citizens accounted for 59.0 percent of the total passenger volume, compared to 41.0 percent for foreign nationals.[7]

This data highlights a significant trend: over half of the U.S. citizens traveling internationally do so on foreign flag carriers when flying to the Atlantic, Pacific, and Canada regions. Key drivers for this choice may include enhanced onboard service standards, better connectivity to secondary regional airports, and the ability to maintain loyalty program benefits through international airline partnerships.



Forecast Results

Short-Term Outlook (CY2026)

Aggregate passenger volume across the four world regions is projected to grow 2.4 percent in CY2026, reaching a total of 274.3 million.

- **The Pacific Region** is expected to lead this growth, growing at a rate of 4.0 percent for CY2026.
- **The Atlantic and Latin Regions** follow with more moderate growth forecasts of 2.4 percent and 2.3 percent, respectively for CY 2026.
- **Canada/Transborder** is projected to grow the slowest, at just 0.3 percent during CY2026.

[7] The percentage share of passengers flown by carrier flag is the sum of the percentages within a column. Thus, for the Atlantic region, 37 percent of passengers traveled on U.S. flag carriers and 63 percent traveled on foreign flag carriers. For calculating the share of U.S. citizens versus foreign nationals for the Atlantic region sum same-colored cells from both the 'US Flag' and 'Foreign Flag' columns.

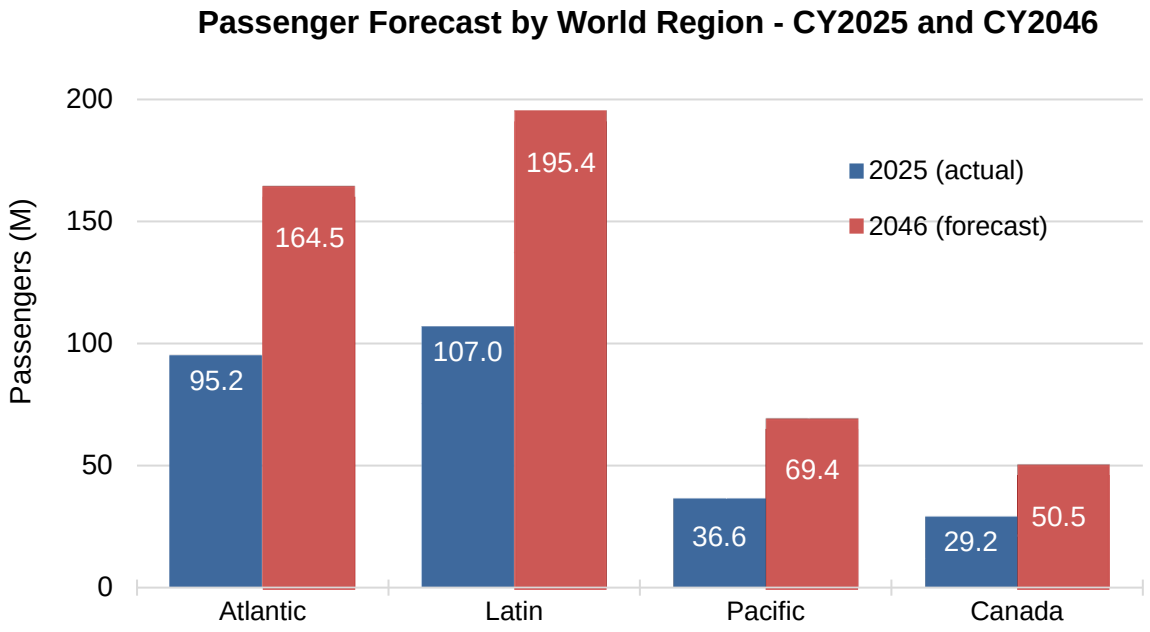
Long-Term 20-Year Forecast (CY2026 – CY2046)

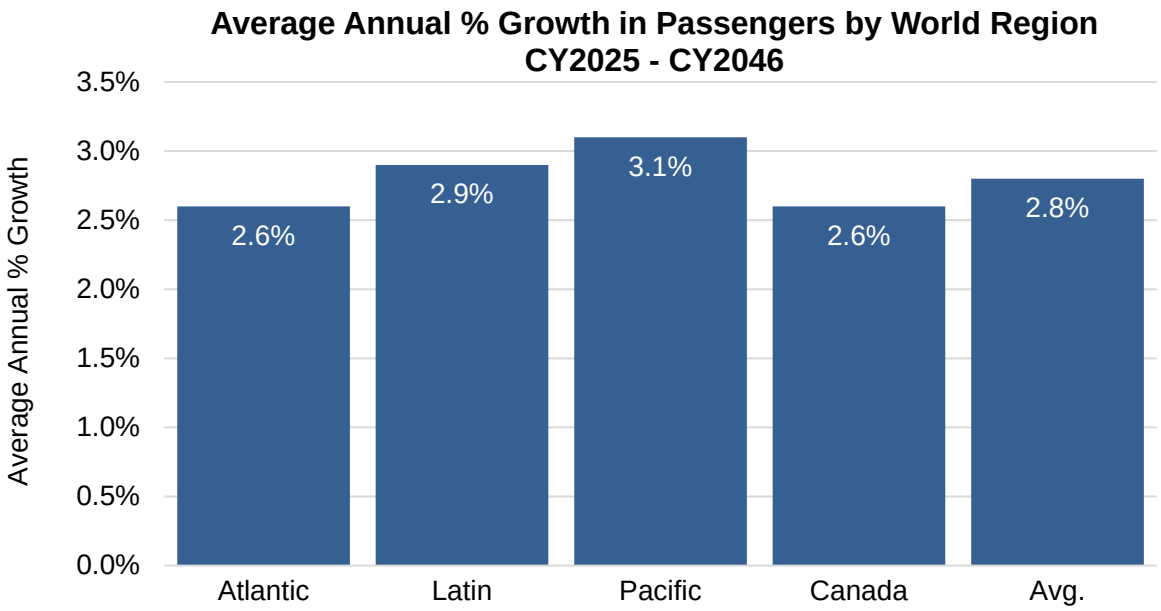
Over the forecast horizon, total passenger traffic is expected to grow at an average annual rate of 2.8 percent, going from 268.0 million at the end of CY2025 to 479.8 million in CY2046. Growth is anticipated to be front-loaded, averaging 3.0 percent during the first decade before tapering to 2.6 percent in the latter half of the period.

Future growth remains subject to several variables including shifting demographics, fluctuating travel costs, technological innovation, consumer behavior, and the ongoing impacts of globalization, supply chain stability, and geopolitics.

Regional Growth Trajectories

- **Pacific Region:** Forecasted as the fastest-growing market with a 3.1 percent average annual growth rate, reaching 69.4 million passengers by CY2046. This accelerated pace is partially a result of the region's prolonged recovery from pandemic era lows.
- **Latin Region:** This region is projected to grow at 2.9 percent annually, totaling 195.4 million passengers by the end of the period.
- **Atlantic & Canada/Transborder:** Both regions are expected to grow at a more modest rate of 2.6 percent annually. By CY2046, Atlantic volumes are forecast at 164.5 million, while Canada/Transborder is expected to reach 50.5 million.



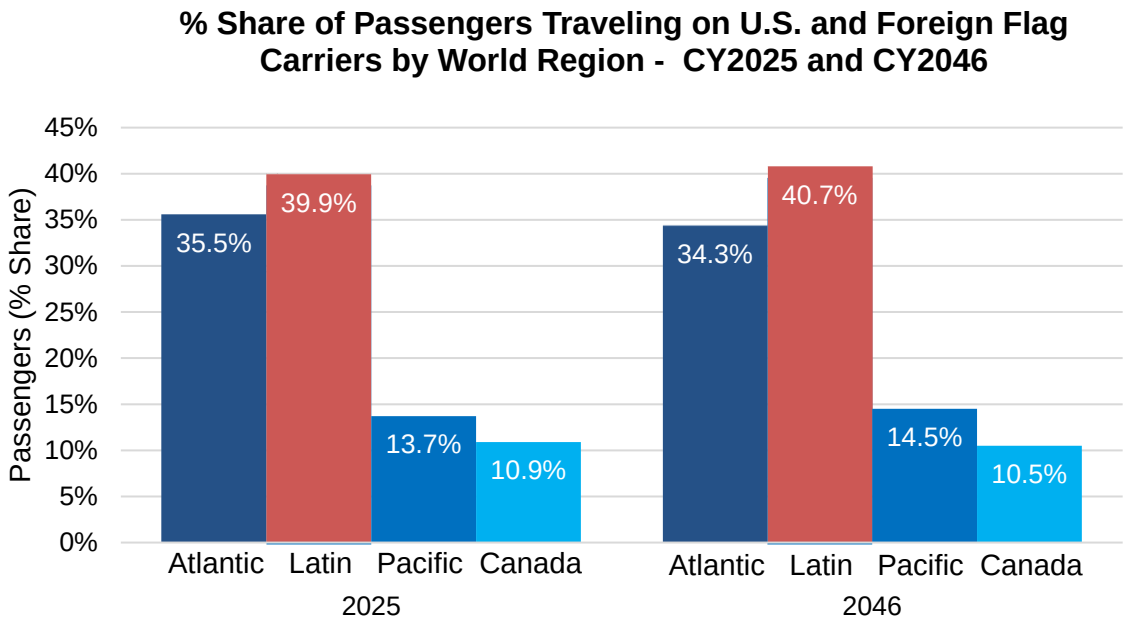


Regional Market Share and Rankings

The relative ranking of the four regions by passenger share is expected to remain stable through CY2046 with the Latin region having the greatest share followed by Atlantic, Pacific and Canada regions. The percentage share between the four regions will shift slightly:

- **Market Gainers:** The Latin and Pacific regions are forecast to increase their market share by 0.8 percentage points each.
- **Market Decliners:** The Atlantic and Canada/Transborder regions are projected to lose 1.2 points and 0.4 points of share, respectively.

By 2046, the Latin and Atlantic regions will continue to dominate the market, collectively accounting for 75.0 percent of all international traffic.



Individual Country Analysis

Top Global Performers

In CY2025, Mexico (40.7M), Canada (29.2M), and the United Kingdom (20.9M) were the top three individual markets and accounted for 34.0 percent of all passengers. These three countries are expected to retain their rankings through CY2046, though becoming a smaller share of all international passengers, dropping to a 26.4 percent share.

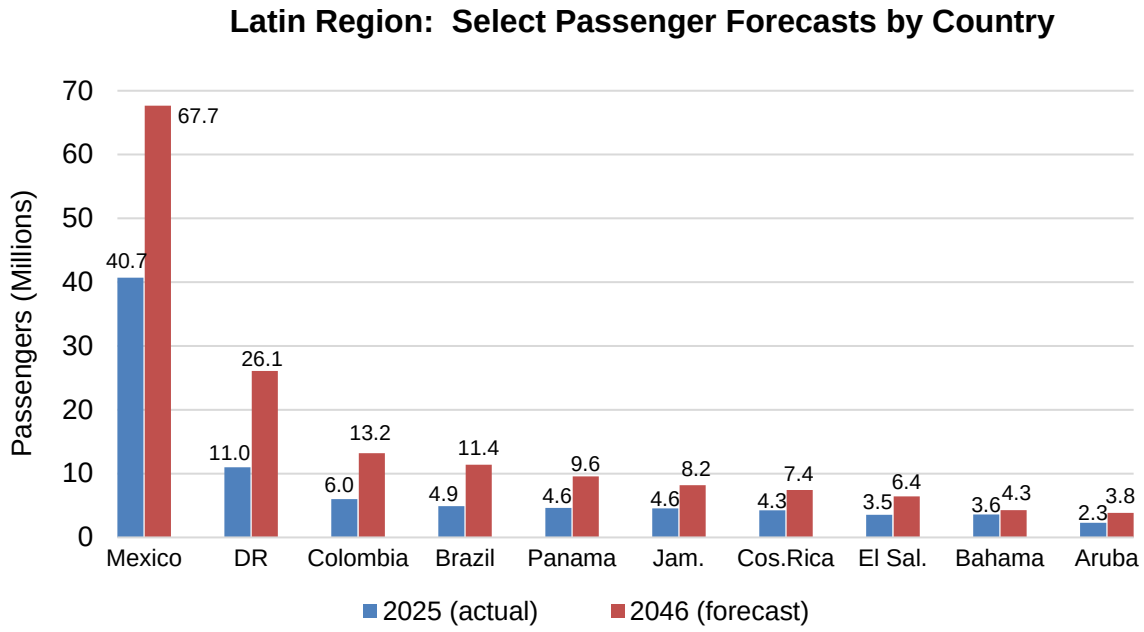
Shifts are expected in the mid-tier rankings:

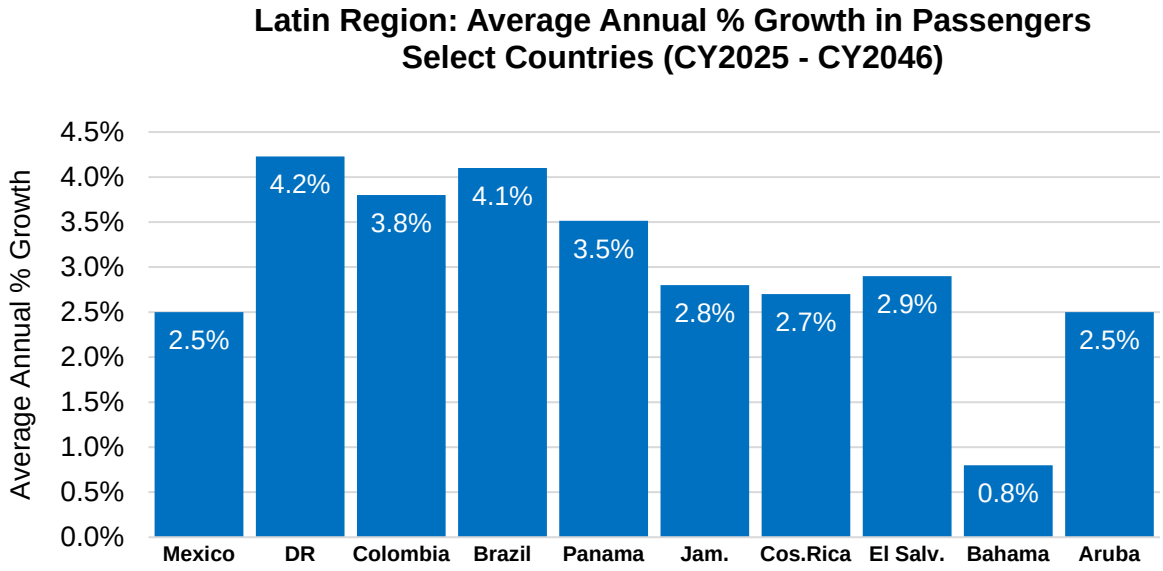
- Dominican Republic is forecast to climb to the 4th spot (26.1M passengers in CY2046), swapping positions with Germany (18.3M).
- France (15.8M) is projected to overtake Japan (14.0M) to secure the 6th position.

Latin Region Highlights

Mexico, the Dominican Republic, and Colombia will remain the primary drivers of the Latin region, representing 54.7 percent of the region's total traffic by CY2046.

- Fastest Growing: Dominican Republic (4.2 percent), Brazil (4.1 percent), and Colombia (3.8 percent).

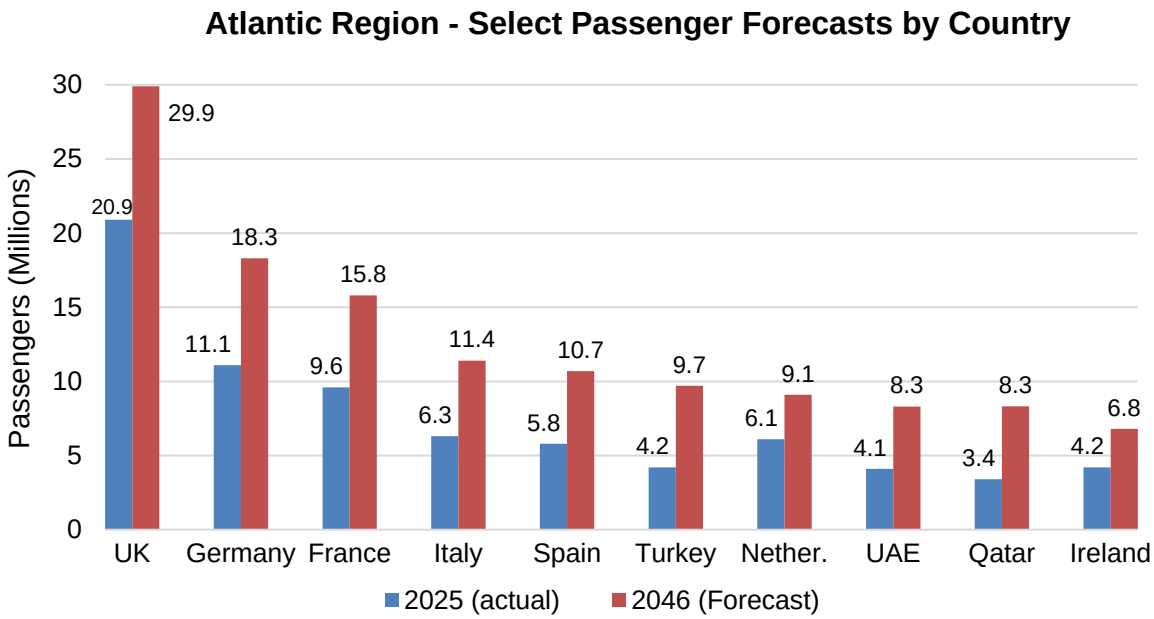


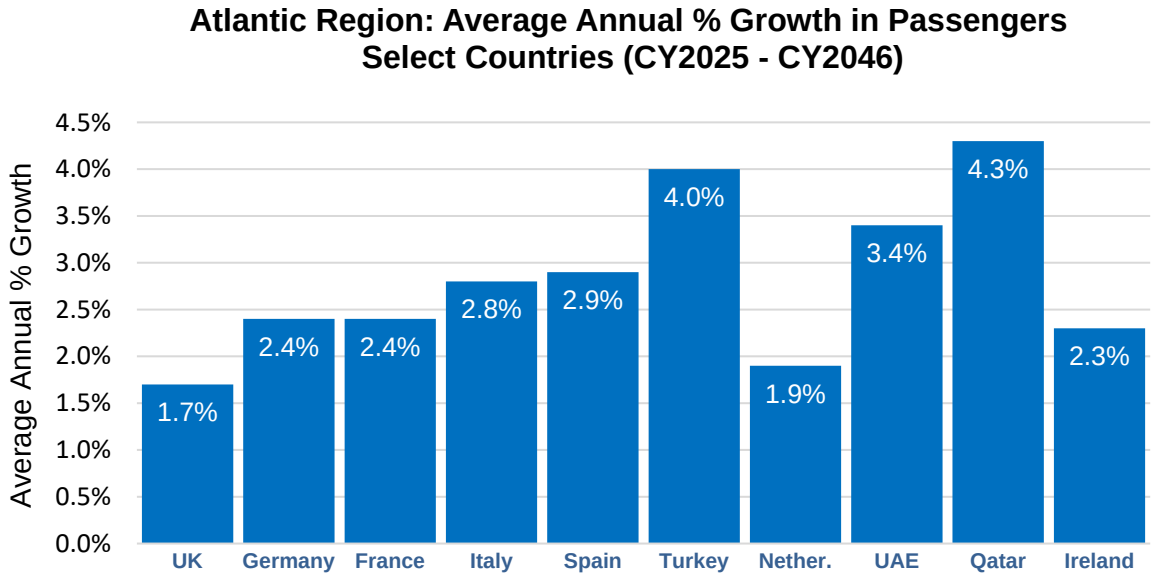


Atlantic Region Highlights

The United Kingdom, Germany, and France will maintain their status as the top three Atlantic markets, capturing a 38.8 percent regional share in CY2046, down from a 43.6 percent regional share in CY2025.

- Fastest Growing: Qatar (4.3 percent), Turkey (4.0 percent), and the United Arab Emirates (3.4 percent).

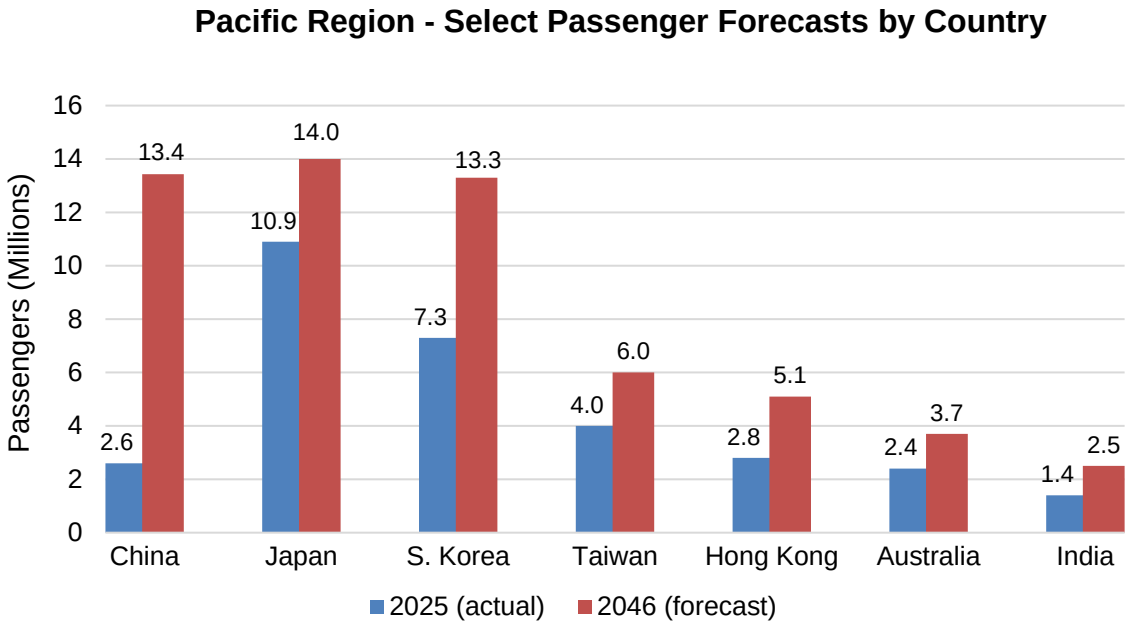

Atlantic Region - Select Passenger Forecasts by Country
Passengers (Millions)
30
25
20
15
10
5
0
20.9
29.9
11.1
18.3
9.6
15.8
6.3
11.4
5.8
10.7
4.2
9.7
6.1
9.1
4.1
8.3
3.4
8.3
4.2
6.8
UK
Germany
France
Italy
Spain
Turkey
Nether.
UAE
Qatar
Ireland
2025 (actual)
2046 (Forecast)


Atlantic Region: Average Annual % Growth in Passengers
Select Countries (CY2025 - CY2046)
Average Annual % Growth
4.5%
4.0%
3.5%
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
1.7%
2.4%
2.4%
2.8%
2.9%
4.0%
1.9%
3.4%
4.3%
2.3%
UK
Germany
France
Italy
Spain
Turkey
Nether.
UAE
Qatar
Ireland

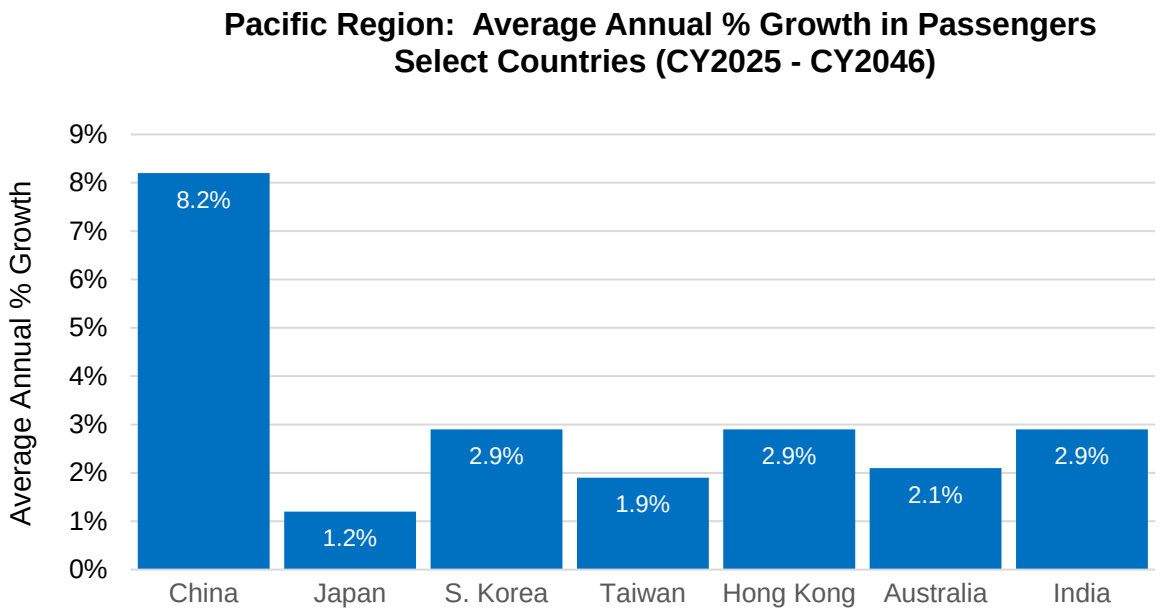
Pacific Region Highlights

Even as Japan, South Korea, and Taiwan led the region in in terms of passengers during CY2025, the CY2046 rankings will see China (13.4M) rise to the 2nd spot, behind Japan (14.0M) and just ahead of South Korea (13.3M).[8]

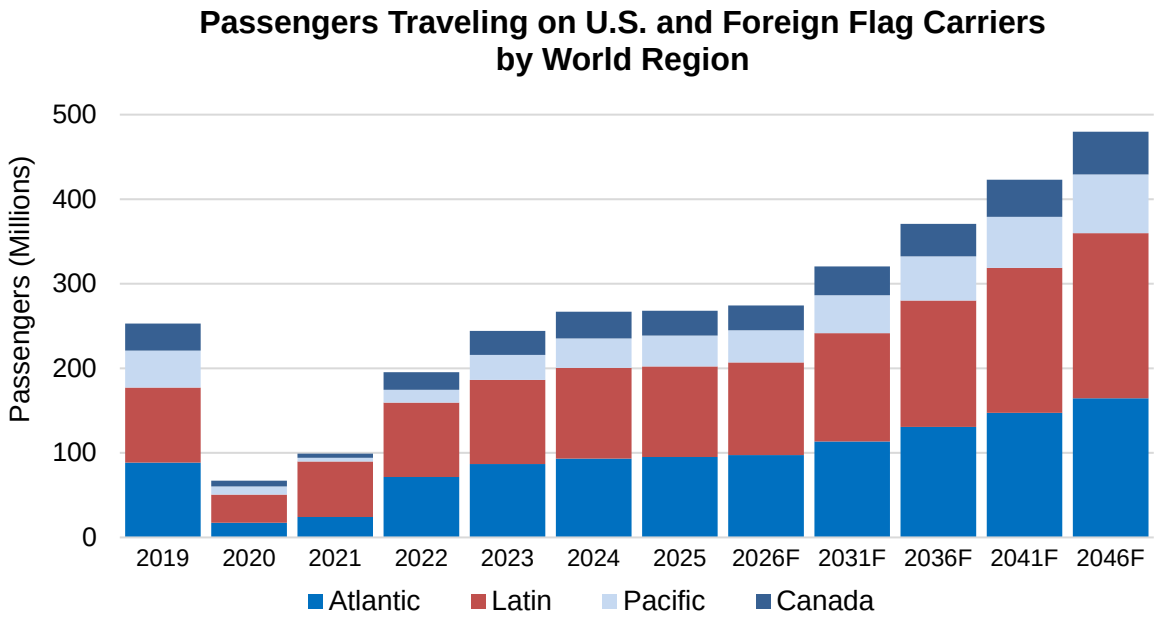
- Fastest Growing: China (8.2 percent). Hong Kong, India, and the Republic of South Korea each grow at 2.9 percent. Notably, China's high growth rate reflects a rebound from its severely depressed post-pandemic base.



[8] Despite Taiwan functioning as a de facto independent state, it lacks widespread formal diplomatic recognition due to the "One China" principle maintained by the People's Republic of China. Similarly, Hong Kong is classified as a Special Administrative Region of China. For this analysis, Taiwan and Hong Kong are forecasted individually to align with the granularity of the International Air Travel Statistics Program, which collects data at this level of detail. https://www.trade.gov/us-international-air-travel-statistics-i-92-data (Accessed April 24, 2026).



The chart below presents actual results and select forecast years for passengers traveling between the U.S. and the four world regions on U.S. and foreign flag carriers.



Cargo

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

Historically, air cargo activity tracks with GDP. Other factors that affect air cargo growth are fuel price volatility, movement of real yields, globalization, and trade. The forecasts of revenue ton miles (RTMs) rely 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 depends heavily on economic growth.

The forecasts of RTMs derive from models that link cargo activity to GDP. Forecasts of domestic cargo RTMs use real U.S. GDP as the primary driver of activity. Projections of international cargo RTMs depend on growth in world and regional GDP, adjusted for inflation. FAA forecasts the distribution of RTMs between passenger and all-cargo carriers based on an analysis of historic trends in shares, changes in industry structure, and market assumptions. U.S. carrier international air cargo traffic spans four regions consisting of Atlantic, Latin, Pacific, and 'Other International.'

U.S. air carriers flew 48.1 billion RTMs in 2025, only slightly more than 48.0 billion in 2024 as uncertainty over tariffs weighed on consumer purchases. Domestic cargo RTMs fell 1.4 percent to 17.9 billion in 2025 while international RTMs grew 1.3 percent to 30.2 billion. After spiking during the pandemic with the reduction in passenger flights, the share of RTMs flown by all-cargo carriers pulled back to 83.0 percent in 2025, closer to the average prior to the pandemic. Total RTMs flown by the all-cargo carriers fell 0.8 percent in 2025 while total RTMs flown by passenger carriers rose by 5.5 percent.

After rising by 0.3 percent in 2025, total RTMs are expected to rebound, growing 4.8 percent in 2026 as tariffs stabilize and air cargo is again governed by economic activity. Buoyed by moderate U.S. and world economic growth in the long term, FAA projects total RTMs to increase at an average annual rate of 2.8 percent over the forecast period (from 2026 to 2046).

Domestic cargo RTMs from 2026 to 2046 are forecast to increase at an average annual rate of 2.1 percent. In 2025, all-cargo carriers carried 93.3 percent of domestic cargo RTMs. The all-cargo share is forecast to grow very slowly throughout the forecast as both all-cargo and passenger cargo growth decelerates. In the long term, the all-cargo share rises to 94.6 percent by 2046 based on slightly faster increases in capacity for all-cargo carriers.

International cargo RTMs rose moderately in 2025, up 1.3 percent, restrained in part by tariff uncertainty. International RTMs on passenger aircraft increased 7.0 percent in 2025 after an outsized 19.0 percent increase in 2024. The deceleration continues in 2026 as growth drops to 4.5 percent and further to 3.5 percent in 2027. Having contracted after the pandemic, all-cargo international RTMs have been accelerating, rising from a decline of 0.4 percent in 2025 to an increase of 6.0 percent in 2026. The share of international cargo RTMs flown by all-cargo carriers fell to 78.0 percent in 2024 and further to 77.0 percent in 2025 but begins expanding in the medium term and reaches 82.0 percent in 2046.

For the forecast period (2026-2046), international cargo RTMs are expected to increase an average of 3.2 percent a year based on projected growth in world GDP. Pacific region will grow by 3.5 percent, Atlantic 2.5 percent, and Latin America region 1.1 percent. The other international regions combined will have a growth rate of 3.7 percent.

General Aviation

FAA uses estimates of fleet size, hours flown, and utilization rates[9] from the General Aviation and Part 135 Activity Survey (GA Survey) as the baseline to forecast GA fleet and activity. Since the survey collects data on a calendar year (CY) basis, the resulting GA forecasts are also produced by CY. Forecasts of new aircraft deliveries, using data from General Aviation Manufacturers Association (GAMA), combined with assumptions of retirement rates, generate growth rates of the fleet by aircraft categories, which are applied to the GA Survey fleet estimates. The forecasts are carried out for "active aircraft,[10]" rather than the total population. FAA's general aviation forecasts also rely on discussions with industry experts conducted at industry meetings and through webinars.

The results of the 2024 GA Survey, the latest available, indicate that the active GA fleet totaled an estimated 213,756 aircraft in 2024, down 0.2 percent from the previous year. This decline was driven by single-engine and multi-engine pistons, and experimental aircraft – the latter of which saw a 7.5 percent drop -- corresponding to 2,266 aircraft. Single-engine and multi-engine piston fleets declined slightly by 0.2 percent. Conversely, growth occurred in all other categories: turboprops (+8.9 percent – 973 net increase), turbine rotorcraft (+6.1 percent), piston rotorcraft (+3.1 percent), turbojets (+1.8 percent), light-sport aircraft (LSA) (+2.7 percent), and other aircraft (including gliders and the lighter than air/hot air balloon categories) (+6.3 percent).

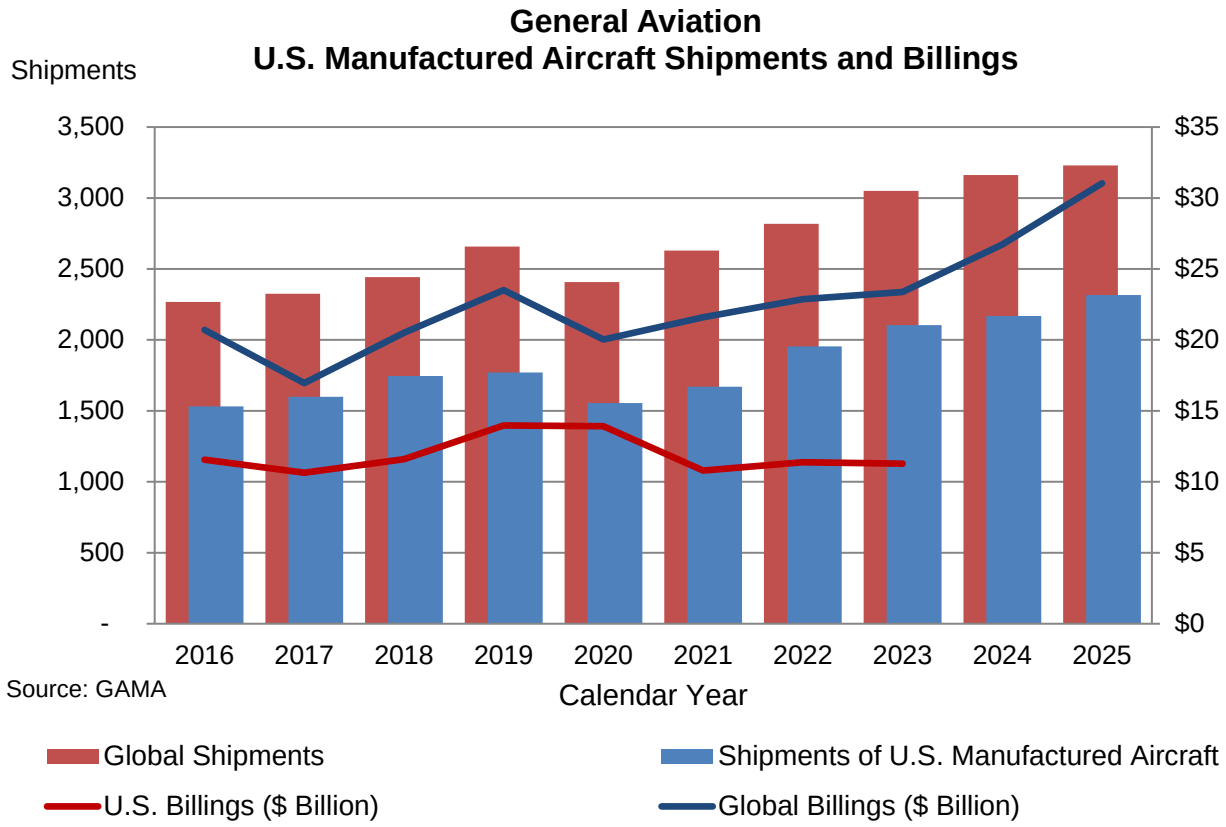
Total hours flown reached an estimated 29.0 million in 2024, a 1.5 percent increase from the previous year, and the highest level recorded since 2000. This represents a significant 13.5 percent rise above 2019 levels. Growth was driven by several categories, most notably by turbojets at 12.8 percent (590 thousand hours), piston rotorcraft (2.7 percent), multi-engine piston (2.6 percent), single-engine piston (0.1 percent), other aircraft (gliders and lighter than air aircraft: 17.7 percent – 23 thousand hours), and LSA (23.6 percent – 84 thousand hours) categories. On the contrary, experimental aircraft hours fell by 17.9 percent (285 thousand hours), while turbine rotorcraft and turboprops experienced small declines of 1.5 and 0.3 percent, respectively.

U.S.-manufactured general aviation aircraft deliveries rose to 2,316 units in 2025, a 6.8 percent increase over 2024 and nearly 31 percent above 2019 level. Fixed-wing piston deliveries grew by 7.8 percent, driven by a 7.6 percent rise in single-engine piston aircraft, and a sharp 14.3 percent jump in the much smaller segment of multi-engine pistons. In the turbine sector, business jet deliveries surged 13.1 percent; however, a 2.8 percent decline in turboprop shipments tempered

[9] In this context, flight hours refer to the total hours flown by a certain type of aircraft (*i.e.*, single-engine piston, turboprop, experimental) during the survey year as inferred by the responses to the survey for the total of active GA aircraft; utilization rate is average hours flown by an aircraft of a certain type.

[10] An active aircraft is one that flies at least one hour during the survey year.

overall fixed wing turbine shipment growth to 5.6 percent. Globally, GAMA reported that factory net billings for airplanes climbed 16.1 percent to $31.0 billion in 2025.



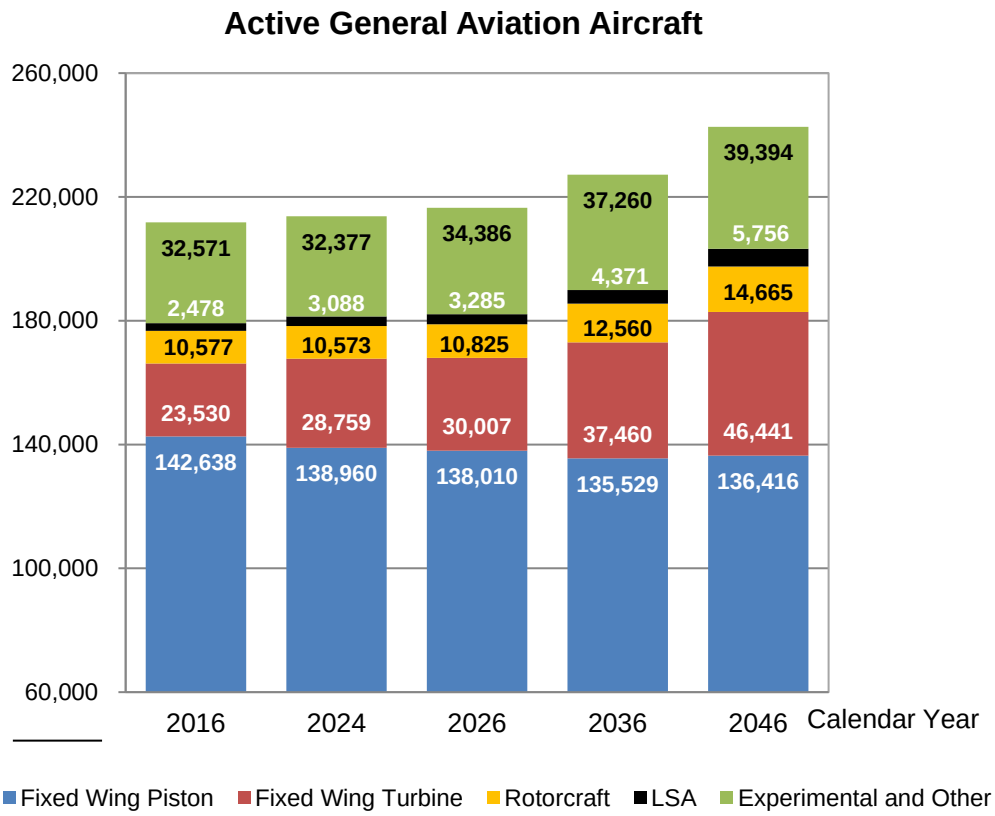
GAMA also reported a global decline in rotorcraft deliveries for 2025. Both the piston and turbine segments saw decreases of 1.9 percent and 11.3 percent, respectively, leading to an overall volume drop of 9.4 percent. This trend was mirrored in global rotorcraft billings, which fell 9.1 percent to $4.7 billion.

These conditions indicate continuing growth across the GA sector, despite declines in specific segments. Driven by turbine aircraft activity, the long-term outlook for general aviation remains stable. Notwithstanding a marginal 0.2 percent decline (fewer than 500 aircraft) in the active GA fleet between 2023 and 2024, it is forecast to grow from 213,756 units in 2024 to 242,722 by 2046. This reflects an average annual growth rate of 0.6 percent, as projected increases in fixed-wing turbine, rotorcraft, experimental, and light sport aircraft fleets more than offset the decline of 2,544 aircraft among fixed-wing pistons.

The more expensive and sophisticated turbine-powered fleet, including rotorcraft, is projected to grow by 21,345 aircraft between 2024 and 2046, reaching a total of 57,676. This represents an average annual growth rate of 2.1 percent, with the turbojet segment specifically increasing by an average of 3.0 percent annually. Overall, the turbine-powered fleet is expected to see a cumulative growth of 58.7 percent from 2024 to 2046. The growth in U.S. GDP and corporate profits remain the primary catalysts for this expansion.

The largest segment of the fleet, fixed-wing piston aircraft, is projected to shrink by 2,544 units between 2024 and 2046, representing an average annual decline of 0.1 percent. This total contraction of 1.8 percent is driven by unfavorable pilot demographics, rising ownership costs, and the availability of lower-cost recreational alternatives. Furthermore, new aircraft deliveries are not keeping pace with the retirement of the aging fleet.

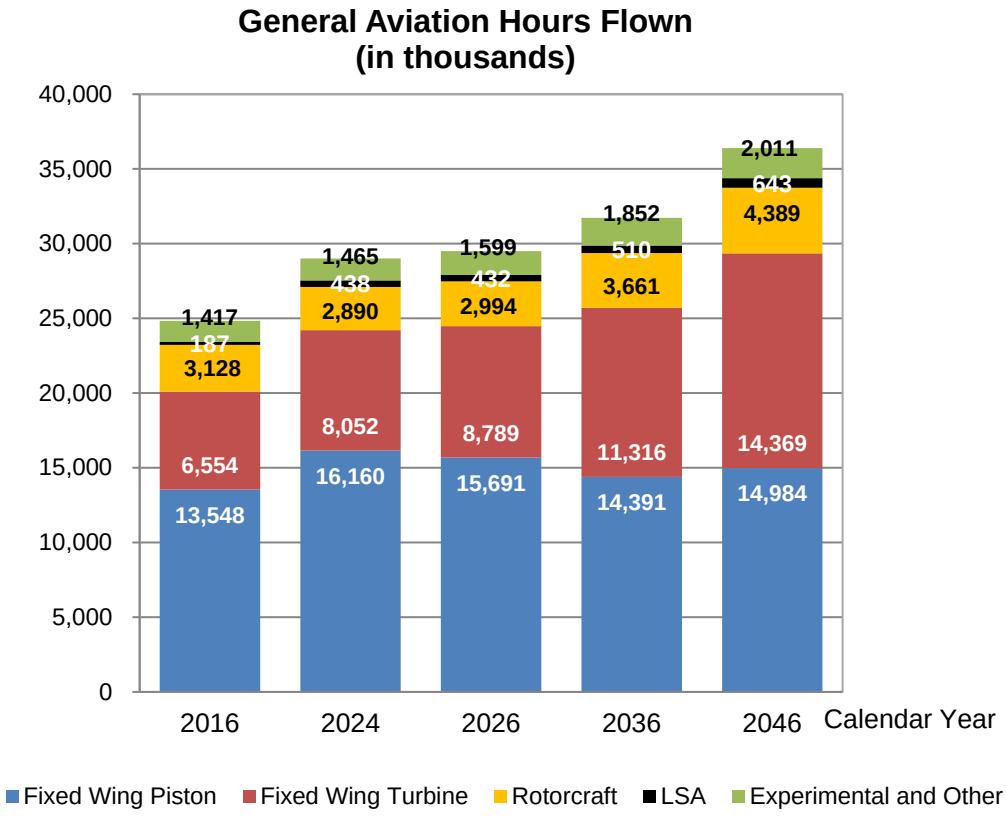
On the other hand, the smallest category, light-sport-aircraft (created in 2005), is forecast to grow by 2.9 percent annually. By 2046, this segment is expected to add approximately 2,600 new aircraft, nearly doubling its 2024 fleet size of 3,088.



The growth in general aviation hours flown is projected to outpace fleet growth, rising by an average of 1.0 percent annually through 2046, compared to a 0.6 percent annual increase in the active fleet. The growth in hours over the forecast period totals 25.5 percent, from 29.0 million in 2024

to 36.4 million by 2046, as the newer aircraft have higher annual utilization. Fixed wing piston hours are forecast to decline by 0.3 percent per year, a slightly faster rate than the fleet itself. This trend is largely driven by an aging fleet: in 2024, 27.2 percent of fixed-wing piston aircraft were at least 60 years old; FAA expects this figure to exceed 50.0 percent during the forecast period.

Countering this decline, hours flown by turbine aircraft (including rotorcraft) are forecast to increase by 2.6 percent annually between 2024 and 2046. Jet aircraft will account for most of the growth, with flight hours increasing at an average annual rate of 3.2 percent, primarily due to the expanding business jet fleet.



Rotorcraft activity, boosted by replacement and expansion needs within Emergency Medical Services, firefighting, law enforcement, and search and rescue operations, contributed to a strong rotorcraft demand in 2025. Even though increasing military demand shifted resources away from the civil sector; the new delivery backlogs led some operators to the pre-owned market; and tariffs impacted prices and buyer behavior, deliveries into the U.S. market faced only a marginal decline. Among potential competitors, Advanced Air Mobility (AAM) -- including electric vertical take-off and landing (eVTOL) aircraft and UAS -- is an emerging sector with expanding utility especially in oil exploration and extraction operations. However, their long-term impacts remain too uncertain for inclusion in the current GA forecast. Industry experts are divided: some view AAM as a complement to traditional rotorcraft, while others argue that the size of new AAM

vehicles competing against rotorcrafts will require significant infrastructure investment before large-scale adoption is possible. Economic factors also play a critical role in rotorcraft activity. Despite recent supply disruptions, experts anticipate a softening of oil prices in the near term. This trend is expected to reduce offshore oil exploration -- a primary driver for rotorcraft use -- leading to a slowdown in demand. Consequently, the active rotorcraft fleet is projected to grow at a slightly moderated average rate of 1.5 percent annually, reaching 14,665 units by 2046 (piston and turbine together) from 10,573 units in 2024. Flight hours, however, are projected to grow faster at 1.9 percent per year as the fleet shifts toward higher-utilization turbine models.

Finally, the light-sport aircraft category is forecast to see a 1.8 percent annual increase in flight hours, a growth primarily fueled by the expansion of the active fleet.

FAA also forecasts pilot populations by certification category, utilizing data from the Administration's Mike Monroney Aeronautical Center. At the end of 2025, there were 887,519 active FAA-certificated pilots. Growth was observed across nearly all categories, except for recreational pilot certificates, which are now held by only 54 individuals.

Notably, FAA has suspended its student pilot forecast since 2018. This is due to a 2016 regulatory change that removed expiration dates from new student pilot certificates, leading to a cumulative increase in certificate holders rather than a reflection of active training. Consequently, the number of student pilots surged from 128,501 in 2016 to 370,286 by the end of 2025. This policy shift has effectively broken the traditional statistical link between student pilot numbers and the attainment of advanced certifications, such as private pilot or higher.

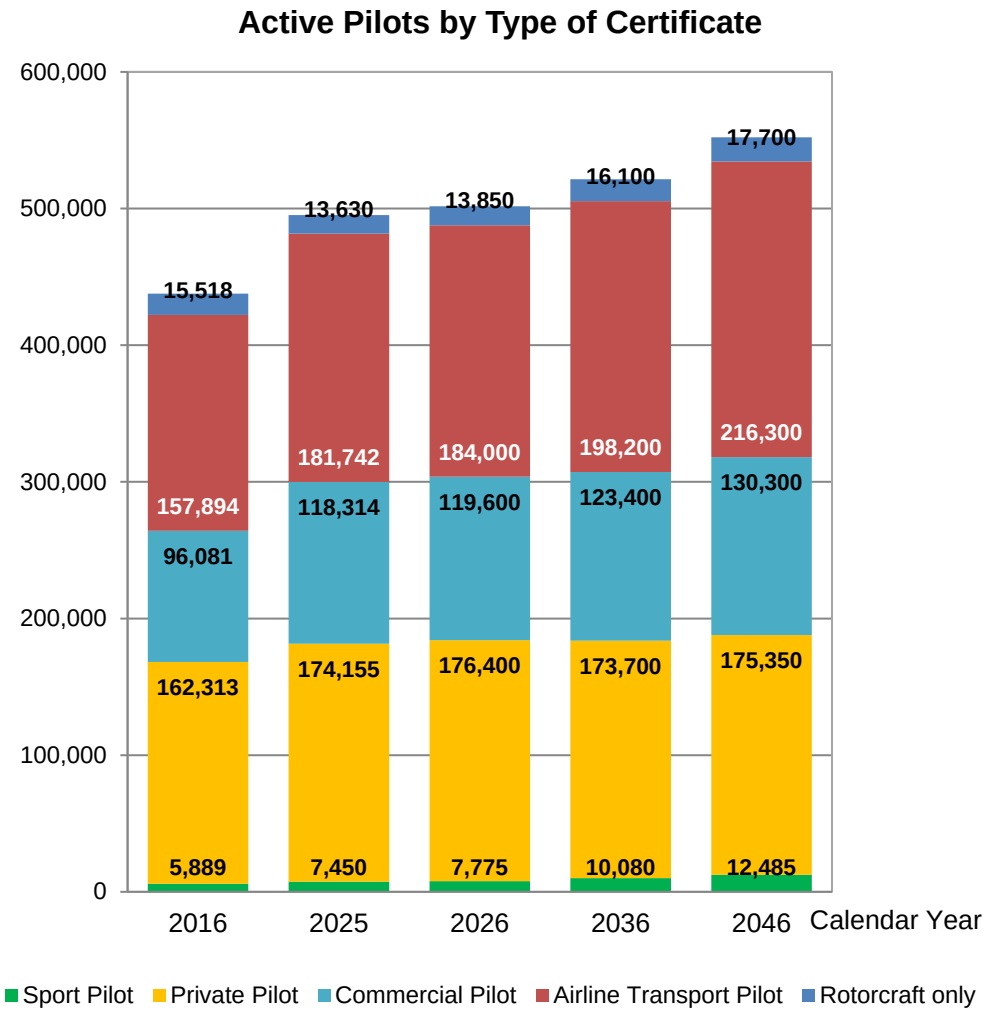
Commercial and Airline Transport Pilot (ATP) certificates have also been significantly shaped by legislative action. The Airline Safety and Federal Aviation Administration Extension Act of 2010 mandated that all Part 121 (scheduled airline) flight crew members hold an ATP certificate. By 2013, this rule effectively ended the practice of commercial pilot certificate holders serving as Second in Command at regional airlines. Initially, FAA data reflected a sharp decline in commercial pilot numbers alongside a rapid increase in ATP certifications. However, the commercial pilot population began to recover in 2017, reaching 118,314 by the end of 2025 -- a 7.8 percent increase over 2024. Similarly, the number of ATP certificate holders grew steadily from 2010 through 2019. Though the pandemic caused marginal declines of less than 0.5 percent in 2020 and 2021, a strong rebound in 2022 quickly offset these losses. This upward trend has persisted, with ATP certificates totaling 181,742 in 2025, a 1.4 percent increase over the previous year.

The long-term decline in private pilot certifications flattened after 2016 and began to reverse in 2022. By the end of 2025, the number of private pilots reached 174,155 with a 1.3 percent growth from 2024. However, this growth is expected to level off by 2029 as less costly recreational alternatives and sport pilot certificates become more attractive for hobbyists. Despite this, the private pilot certificate will remain a critical steppingstone for those pursuing instrument ratings

or professional career paths via commercial and ATP certifications.

Consequently, higher growth rates are projected for commercial pilot and ATP categories. Sport pilot certificates, created in 2005, have maintained steady growth since their inception, reaching 7,450 by the end of 2025. Similarly, rotorcraft pilot certificates increased to 13,630 in 2025, up from 13,429 in 2024.

Over the 2025–2046 forecast period, the number of active general aviation pilots (excluding students and ATPs) is projected to grow marginally from 335,491 to 359,735, an average annual increase of 0.3 percent. The ATP category is forecast to add 34,560 pilots (0.8 percent annually), while the smaller sport pilot segment is predicted to grow by 2.5 percent per year. Private pilot certifications are expected to see a negligible annual growth of 0.03 percent, even as commercial pilot certificates are projected to rise at an average annual rate of 0.5 percent.



FAA Operations

In fiscal year 2025, the 529 FAA towered airports accounted for over 24 million commercial operations or 90.4 percent of all commercial operations at U.S. airports.[11] Remaining airports account for 2.5 million operations. Towered airports enplaned 970.2 million people or 99.4 percent of total enplanements at U.S. airports in 2025. The near-term growth in 2025 was moderated by airline capacity pullbacks. The forecast anticipates a rebound in 2026–2027 and sustained long-term growth thereafter.

In the long run, economic growth in air travel demand and the business aviation fleet will drive long-term growth in operations at FAA facilities over the forecast period. Activity at FAA towers and contract towers is projected to increase at an average rate of 1.0 percent per year through 2046 from 58.6 million in 2026 to 71.3 million in 2046. The 1.0 percent annual growth rate is slightly less than the 1.1 per-cent growth rate in the previous year's forecast. Commercial operations at these facilities are forecast to increase 1.6 percent per year, or approximately three times faster than non-commercial operations, increasing at 0.5 percent over the 2026-2046 forecast period. The growth in commercial operations is less than the growth in U.S. airline passengers (1.6 percent versus 2.15 percent) over the forecast period due primarily to larger aircraft (seats per aircraft mile) and higher load factors. Both trends allow U.S. airlines to accommodate more passengers without increasing the number of flights.

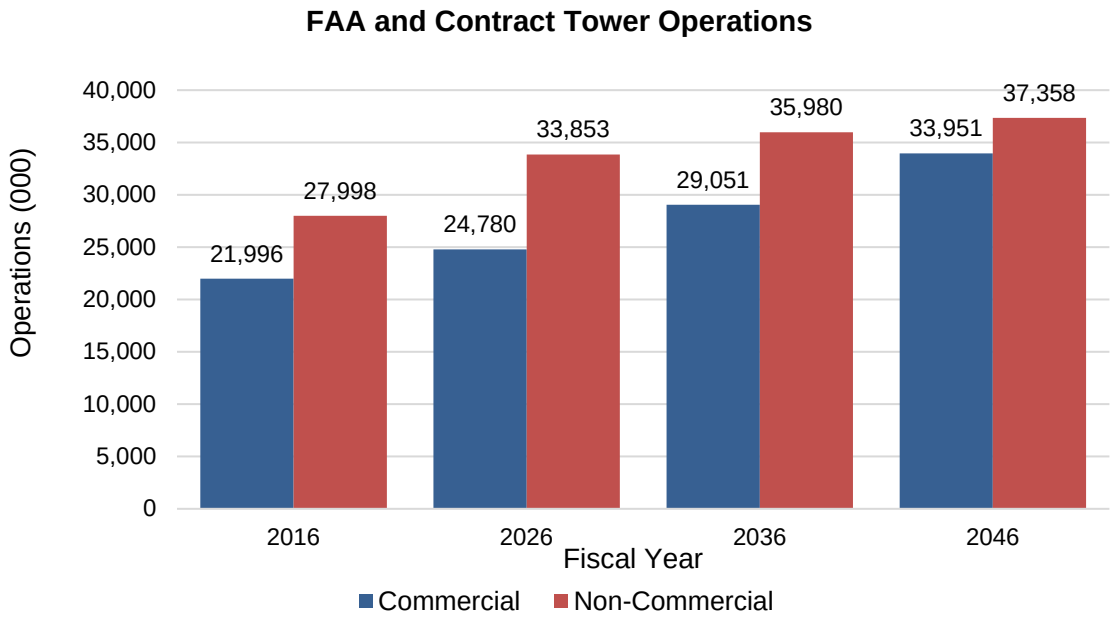
General aviation operations are forecast to increase an average of 0.5 percent a year as increases in turbine powered activity more than offset declines in piston activity. General aviation operations accounted for 54.4 percent of total operations in 2025.

The growth in operations at towered airports is not uniform. Most of the activity at large and medium hubs is commercial in nature, as these are the airports where the vast majority (about 88 percent in 2025) of the passenger enplanements in the U.S. occur.

Given the growth in airline demand that is forecast and with most of that demand at large and medium hubs (together 1.7 percent), activity at those hubs is expected to grow substantially faster than smaller airports, including small hub and non-hub facilities. The forecasted annual growth in operations is 1.8 percent at large hubs, 1.5 percent at medium hubs, 0.8 percent at small hubs and 0.5 percent non-hubs, respectively, between 2026 and 2046.

Among the 30 large hubs, the airports with the fastest long-term annual growth forecast are mostly located along the coastal sections of the country where most large cities are located, in addition to a few other airports in the southeast. Large cities have historically generated robust economic activity, which in turn drives up passenger demand.

[11] Of 529 towers, 264 are FAA tower and 265 are contract tower airports,



FAA TRACON (Terminal Radar Approach Control) Operations are forecast to grow slightly faster than at towered facilities over the forecast period at 1.2 percent compared to towers at 1.0 percent. This is in part a reflection of the different mix of activities at TRACONs. TRACON operations are forecast to increase an average of 1.2 percent a year between 2026 and 2046. Commercial operations accounted for approximately 58.5 percent of TRACON operations in 2025 and are projected to grow 1.6 percent over the forecast period. General aviation activity at these facilities is projected to grow only 0.5 percent a year over the forecast period.

The number of IFR aircraft handled is the measure of FAA En-Route Center (ARTCC) activity. Growth in airline traffic is expected to lead to increases in activity at En-Route centers. Over the forecast period, aircraft handled at En-Route centers are forecast to increase at an average rate of 1.7 percent a year from 2026 to 2046, with commercial activity growing at the rate of 1.9 percent annually. Activity at En-Route centers is forecast to grow faster than activity at towered airports and FAA TRACONs because more of the activity at En-Route centers is from the faster growing commercial sector and high-end (mainly turbine) general aviation flying. In 2025, the share of commercial IFR aircraft handled at FAA En-Route centers is about 82.8 percent, which is greater than the 58.5 percent share at TRACONs or the 42.5 percent share at FAA and Contract Towers.

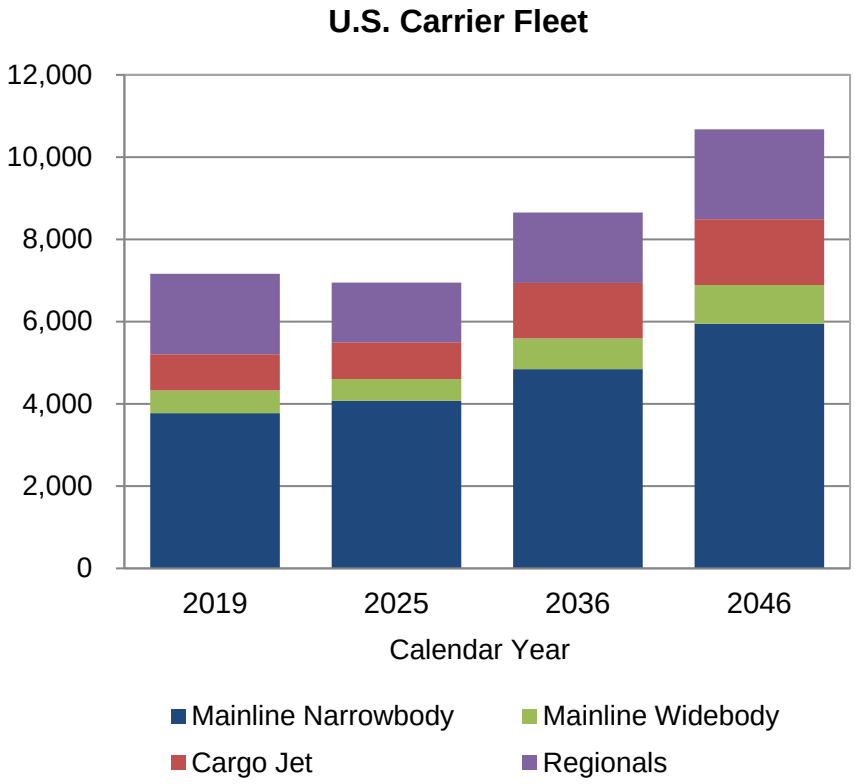
U.S. Commercial Aircraft Fleet

Restrained by retirements and groundings due to maintenance work, the number of active aircraft in the U.S. commercial fleet contracted again in 2024 (a decrease of 135 aircraft). The total number of commercial aircraft is forecast to increase from 6,949 in 2025 to 10,677 in 2046, an average annual growth rate of 2.1 percent a year. Long-term increases in demand for air travel and growth in air cargo is expected to fuel increases in both the passenger and cargo fleets.

Between 2025 and 2046 the number of jets in the U.S. mainline passenger carrier fleet (including regional jets) is forecast to grow from 4,626 to 6,890, a net average of 108 aircraft a year as carriers continue to remove older, less fuel-efficient narrowbody aircraft. Increasing utilization rates, production issues and continuing supply chain constraints are all suppressing near-term growth. These factors result in declines in the narrowbody fleet (including E-series aircraft as well as A220- series at JetBlue and A220-series at Delta) through 2028. After 2030, the narrowbody passenger fleet sees solid increases averaging 126 aircraft per year as carriers replace older technology 737 and A320 family aircraft with more efficient MAX and Neo families over the entire forecast period. The widebody passenger fleet grows by an average of 20 aircraft a year as carriers add 777-8/9, 787s, A350s to the fleet while retiring 767-300/400, A330-200/300 and 777-200 aircraft. In total the U.S. passenger carrier widebody fleet increases by 2.8 percent a year over the forecast period.

The regional carrier fleet is forecast to increase from 1,429 aircraft in 2025 to 2,189 in 2046 as the fleet expands by 2.1 percent (36 aircraft) a year over that period. Carriers remove 50-seat regional jets and retire older small turboprop and piston aircraft, while adding 70-90 seat jets, especially the ERJ-175s and CRJ550s. By 2046, the number of jets in the regional carrier fleet totals 2,182, up from 1,407 in 2025. The turboprop fleet with at least 31 seats is forecast to shrink from 22 in 2025 to just 7 in 2026 and remain at that level through the end of the forecast.

The cargo carrier large jet aircraft fleet is forecast to increase from 894 aircraft in 2025 to 1,598 aircraft in 2046 driven by the growth in freight RTMs. The narrowbody cargo jet fleet is projected to remain roughly flat as B757 conversions first add to fleets but then are supplanted by slower growing additions of MAX aircraft. The widebody cargo fleet is forecast to increase 33 aircraft a year as new 777-8 and converted 767-300 aircraft are added to the fleet, replacing older MD-11, A300, and 747-400 freighters as well as additional capacity for growing demand.


U.S. Carrier Fleet
12,000
10,000
8,000
6,000
4,000
2,000
0
2019
2025
2036
2046
Calendar Year
Mainline Narrowbody
Mainline Widebody
Cargo Jet
Regionals

Commercial Space

FAA's Office of Commercial Space Transportation (AST) licenses and regulates U.S. commercial space launch activities including launch and reentry of vehicles and operation of non-federal launch and reentry sites authorized by Executive Order 12465 and Title 51 U.S. Code, Subtitle V, Chapter 509 (formerly the Commercial Space Launch Act). Title 51 and the Executive Order also direct the U.S. Department of Transportation to encourage, facilitate, and promote U.S. commercial launches. FAA's mission is to license and regulate commercial launch and reentry operations and non-federal launch sites to protect public health and safety, the safety of property, and the national security and foreign policy interests of the United States.

FAA licenses launches or reentries carried out inside the U.S. and by U.S. persons (which includes U.S. corporations) inside or outside the United States. FAA does not license launches or reentries the U.S. Government carries out for the Government (such as those owned and operated by National Aeronautics and Space Administration (NASA) or the Department of Defense). Amateur-class rockets do not require an FAA license or permit.[12]

To accomplish its mission, FAA performs the following major functions:

- Maintains an effective regulatory framework for commercial space transportation activities,
- Provides guidance to prospective commercial operators on how to comply with regulatory requirements for obtaining an authorization and operating safely,
- Evaluates applications for licenses, experimental permits, and safety element approvals for launch and reentry operations and related commercial space transportation activities,
- Evaluates applications for licenses for launch and reentry site operations,
- Monitors and enforces regulatory compliance through safety inspections of launches, reentries, sites, and other regulated commercial space activities,
- Provides U.S. Government oversight of investigations associated with the mishap of an FAA authorized launch or reentry,
- Facilitates the integration of commercial space launch and reentry operations into other modes of transportation including the National Airspace System (NAS) by establishing appropriate hazard areas and limits to ensure the protection of the public,
- Coordinates research into the safety and operational implications of new technologies and the evolving commercial space transportation industry,

[12] Per 14 CFR Chapter 1, Part 1, section 1.1: Amateur rocket means an unmanned rocket that is propelled by a motor or motors having a combined total impulse of 889,600 Newton-seconds (200,000 pound-seconds) or less; and cannot reach an altitude greater than 150 kilometers above the earth's surface.

- Conducts outreach to the commercial space industry by hosting working groups and speaking at conferences,
- Collaborates with Government partners, such as the Department of Defense and NASA to assure consistent approaches to regulations, policy, and standards, and
- Conducts outreach to international counterparts to promote the U.S. regulatory framework across the world.

In addition to AST headquarters offices in Washington, D.C., AST maintains staff with assigned duty locations near active launch ranges to facilitate communication with space launch operators and to implement FAA's regulatory responsibilities more efficiently. AST personnel are currently assigned to duty locations near Kennedy Space Center and Cape Canaveral Space Force Station in Florida; Johnson Space Center in Texas; Wallops Flight Facility in Virginia; FAA's Western-Pacific Regional Office; Vandenberg Space Force Base, and the Mojave Air and Space Port in California. FAA also directly supports NASA's commercial space initiatives by providing on-site staff at both the Johnson Space Center and Kennedy Space Center to coordinate FAA's regulatory and compliance activities with NASA's development and operational requirements for commercial space.

FAA Regulatory Safety Oversight Activities

FAA supports commercial space oversight and operations throughout the regulatory process. There are many activities performed by FAA during this process. The most notable activities are described here.

Pre-Application Consultation for Licenses, Experimental Permits, and Safety Element Approvals

Prospective applicants seeking commercial space transportation licenses, experimental permits, or safety element approvals are required by regulation to consult with FAA before submitting their applications. During this period, FAA assists them in identifying potential obstacles to authorization issuance and determining potential approaches to regulatory compliance. In addition, many new operators are seeking to incorporate new technologies, vehicle types, or operational models creating opportunities for FAA to assist in determining the applicable regulations or approach to regulatory compliance.

Licenses, Permits, and Safety Element Approvals

FAA authorizes commercial space transportation activities via the issuance of licenses, permits, and safety element approval. Typically, FAA issues a license with a narrow scope to a single vehicle configuration and mission trajectory. With the dynamic commercial space industry, these

licenses are required to be modified to add additional vehicle configurations and mission profiles. FAA's new regulatory regime under Part 450 intends to allow flexibility by allowing authorization to conduct launch or reentry activities for various vehicle configurations and trajectories from multiple sites.

Within safety and oversight is the requirement to conduct both policy and payload reviews. When conducting a policy review, FAA determines whether the proposed launch, reentry, or site operation presents any issues that would adversely affect U.S. national security or foreign policy interests or be inconsistent with international obligations of the United States. If not otherwise exempt from review, FAA reviews a payload proposed for launch or reentry to determine whether the payload would jeopardize public health and safety, the safety of property, U.S. national security or foreign policy interests, or the international obligations of the United States. The policy and payload determination becomes part of the licensing record on which FAA's licensing determination is based.

FAA issues launch and reentry site operator licenses and license renewals. FAA coordinates with Federal, state, and local governments and with the commercial range operators or users for commercial space licenses and operations. As part of the evaluation of applications for launch licenses, reentry licenses, and site operator licenses, FAA also conducts environmental reviews consistent with its responsibilities under the National Environmental Policy Act.

FAA anticipates issuing a growing number of safety element approvals for space launch systems equipment, processes, technicians, training, and other supporting activities. FAA reviews, evaluates, and issues safety approvals to support the continued introduction of new safety systems, safety operations applications, and safety element approval renewal applications.

Safety Analyses

FAA conducts flight safety, system safety, maximum probable loss, and explosive safety analyses to support the evaluation and issuance of licenses and permits. FAA also evaluates and analyzes the performance of a vehicle operator's safety systems including safety-critical systems and any associated crew involved in the function of the safety system to determine how they affect public safety risk.

Inspections and Enforcement

FAA currently conducts as many as 750 pre-flight/reentry, flight/reentry, and post-flight/reentry safety inspections per year. Inspections often occur simultaneously at any of the 14 licensed commercial space launch sites, as well as at 4 Federal launch ranges and 3 exclusive use launch sites. The establishment of non-federal launch sites requires additional inspections in areas such as ground safety that have traditionally been overseen by the U.S. Air Force (now the U.S. Space

Force) at Federal ranges. At spaceports and launch sites with high launch rates (e.g., Cape Canaveral Space Force Station, Kennedy Space Center, and Vandenberg Air Force Base), at least 70 percent of inspections are typically conducted by locally based field inspectors. Currently, FAA intends to leverage a risk-based approach to respond to a dynamic operational tempo, minimize costs, and increase efficiency.

Mishap Investigations

Mishap events have demonstrated that FAA needs to have the capacity to oversee the investigation of at least two space launch or reentry mishaps or accidents simultaneously anywhere in the world, and to lead/oversee as many as nine investigations during a single year. FAA anticipates an increase in mishaps with new operators coming online. FAA reviews all applicant mishap plans and accident investigation procedures as part of the license and permit evaluation process.

NAS Integration

AST works in partnership with all FAA offices, notably the Air Traffic Organization (ATO) and Office of Airports (ARP), to support the safe and efficient integration of commercial launch and reentry operations through the NAS and its system of airports and air traffic managed by the ATO. Further, AST works with the ATO and the Airspace Modernization Office (AMO) as FAA develops technologies to facilitate safe and efficient integration of commercial launch and reentry operations through the NAS, including technologies to improve the integration of launch and reentry data into FAA air traffic control systems and technologies to improve the timely and accurate development and distribution of notices of aircraft hazard areas.

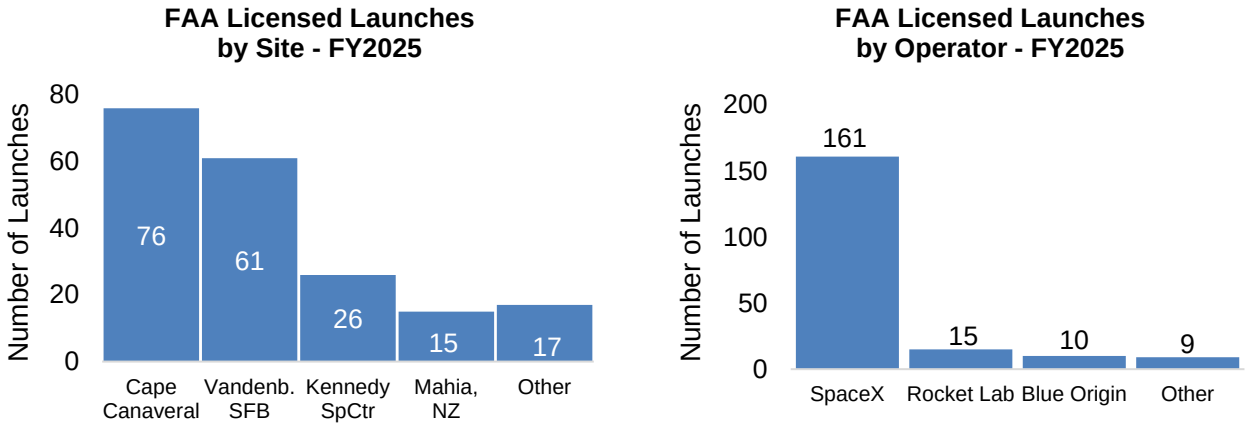
FY 2025 Results

Between 1989 and 2025, FAA licensed a total of 982 launches and reentries. Most of this activity has taken place in the past five years (2021–2025). During this period, FAA authorized 603 space operations, representing approximately 61.0 percent of all activity since 1989. In FY2025, launch and reentry operations reached 204, the highest annual total in U.S. history.

Most licensed launches occurred at a small number of sites. Of the 195 licensed launches in FY2025, 163 took place at one of four primary locations—three located in the United States and one international site. The leading U.S. launch sites were Cape Canaveral, Florida (76 launches); Vandenberg Space Force Base, California (61 launches); and Kennedy Space Center, Florida (26 launches). An additional 15 U.S.-licensed launches occurred at Mahia, New Zealand. The remaining 17 launches were distributed across three other sites. [13]

[13] Boca Chica, Texas; Van Horn, Texas; Mojave Air & Space Port, California.

The 195 licensed launches were conducted by six operators with Space Exploration Technologies Corporation (SpaceX) accounting for 83.0 percent of the total with 161 launches. The remaining 17 percent were carried out by Rocket Lab (15 launches), Blue Origin (10 launches), United Launch Alliance (4 launches), Stratolaunch (4 launches), and Firefly Aerospace (1 launch).



A total of nine licensed reentries occurred during FY2025. Four took place in the Pacific Ocean, three in the Gulf of America, and two at the Koonibba Test Range in South Australia. Seven of the nine reentries were conducted by SpaceX, while the remaining two were conducted by Varda Space Industries. Six of the nine reentries involved human spaceflight.

Launches supported a wide range of missions, with more than 68.0 percent of all missions involving deployment of satellite constellations. Other activities included space tourism, International Space Station crew and cargo transportation, lunar surface payload delivery, scientific research, and Earth observation.

In FY2025, eight licensed operations resulted in a mishap. The Federal Aviation Administration helps prevent commercial space launch mishaps by regulating public safety through licensing, oversight, and enforcement. Before issuing a launch license, FAA requires operators to perform detailed hazard analyses, demonstrate acceptable public risk levels, and implement approved flight safety systems. The agency reviews operational procedures, safety-critical systems, and trajectory analyses to ensure risks to people and property are minimized. If a mishap occurs, FAA can suspend operations and require corrective actions before allowing a return to flight, helping prevent repeat incidents.

Forecast

FAA's launch and reentry forecast is based on data provided by licensed operators and prospective applicants, linking projected activity directly to anticipated operations by commercial space transportation companies known to the agency.

To support government and industry planning — and to account for uncertainty in the pace of future activity — the forecast is presented as a range, including both low-case and high-case scenarios. These scenarios reflect potential variability in the timing and frequency of launches and reentries. The forecast encompasses all FAA-authorized commercial space operations, regardless of where the activities occur.

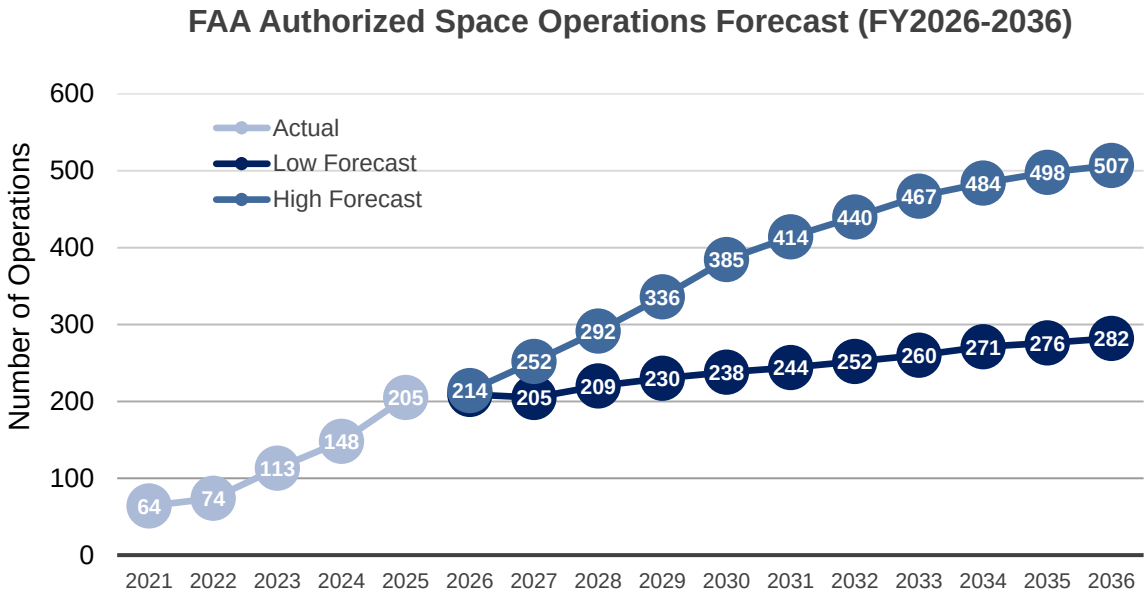
Outlook for FAA Authorized Space Operations

Under the high-case scenario, FAA projects 4,288 operations over the forecast period, rising from 214 operations in FY2026 to 507 in FY2036. The low case scenario has operations increasing from 209 to 282 over the same period, for a total of 2,687 operations over the forecast period. The projected growth reflects anticipated demand for cislunar missions such as satellite deployment and refurbishment, crew and cargo transportation, in-orbit servicing, assembly, and manufacturing (ISAM), development of lunar outposts, space tourism, and Mars settlement efforts. [14]

A comparison of the high-case scenario for the period FY2026–2034 from last year's forecast to the current outlook shows a net reduction of 545 operations. The reduction mainly reflects slower Mars colonization, a launch provider's shift toward missile defense, and a temporary pause in Blue Origin New Shepard operations until at least 2028.

By contrast, a comparison of the low-case scenarios from the prior forecast to the current forecast shows a net increase of 234 operations. This upward adjustment signals growing confidence in the commercial space sector, driven by routine rocket landings, sustained mission success, declining launch costs, expanding public-private partnerships, and the development of more defined revenue models.

[14] ISAM (In-orbit servicing, assembly, and manufacturing) is an emerging field within the aerospace industry that involves the use of robotic technology to perform tasks in space, such as repairing and maintaining satellites. Cislunar operations are those that would extend up to the Moon's orbit and may include commercial activities such as resource mining, placing satellites to enhance global communications networks, and providing lunar habitats as a base for scientific research and tourism.



Uncertainties in Forecasting Commercial Space Operations

The commercial space transportation industry is evolving rapidly. Growth driven by technological innovation and the emergence of new markets introduces increased complexity in forecasting launch and reentry operations. Several factors make predicting the number of launches and reentries in any given year particularly challenging. These factors include:

- a dynamic and changing list of companies conducting or planning launches,
- ongoing development and introduction of new technologies,
- variable launch rates for reusable launch vehicles,
- commercial spaceflight activities involving both government astronauts and private citizens,
- the evolving nature of flight test programs within an industry that has yet to scale operations,
- changes in regulatory requirements, whether loosening or tightening, and
- operational mishaps or anomalies.[15]

Together, these factors contribute to significant uncertainty in projecting commercial space transportation activity.

[15] New technologies [*e.g.*, reusable launch vehicles] allow a faster operational tempo, and at the same time, early use of these technologies can increase the probability of a mishap. The time between mishap investigations and subsequent "return to flight" for impacted entities can take months, drastically impacting launch plans.

Satellite Deployment

Many missions in the launch forecast involve initial satellite deployment and subsequent replacement as satellites reach the end of their operational life. Deployment timing can significantly affect forecast accuracy. For example, the FY2024 forecast included the launch of Boeing's V-Band constellation. Boeing surrendered their license for this constellation during that year, stating that surrendering their license was a business decision regarding spectrum allocation.[16]

The current forecast includes (but is not limited to) Amazon's Kuiper and SpaceX's Starlink. Kuiper deployment began in 2025, with full deployment expected by 2031 and replenishment starting in 2032. Starlink's LEO network reached full deployment at the end of 2025, with replenishment operations commencing the same year.

Changes to the List of Firms Intending to Launch

There is potential for additional launch service providers not currently included in this forecast to enter the market and begin operations. Conversely, one or more existing providers may exit the market during the forecast period. The roster of firms intending to launch remains dynamic, particularly as smaller providers face challenges in an increasingly competitive environment. New entrants encounter significant barriers to entry, including high development costs and strong competition from established providers offering reliable, frequent, and cost-efficient launch services.

Recent market developments highlight the sector's volatility. In 2023, Virgin Orbit filed for bankruptcy protection, ceased operations, and sold its assets to other aerospace firms. In November 2024, ABL Space Systems announced its withdrawal from the commercial launch market to concentrate on missile defense programs for the Pentagon. In January 2026, Blue Origin announced a pause in operations of its New Shepard vehicle to redirect resources toward its New Glenn rocket and human lander programs. Additional market realignments and operational shifts may emerge over the forecast period.

Move to Larger Launch Vehicles

Larger launch vehicles possess several key attributes that will enable operators to lower costs on a per launch basis. A brief description of these attributes as they pertain to Starship, New Glenn, and Terran R are provided below.

SpaceX is continuing development of its 398-foot rocket, Starship. Starship's first launch occurred in April 2023 and since then has conducted nine additional launches (as of September 2025).

[16] Klotz, Irene. "Boeing Relinquishes License For LEO Broadband Constellation." *Aviation Week Network*, October 30, 2023. https://aviationweek.com/space/commercial-space/boeing-relinquishes-license-leo-broadband-constellation.

Blue Origin's 320-foot New Glenn rocket successfully launched to orbit during its first test flight in January 2025, however the goal of recovering the reusable first stage booster during reentry was not achieved. The New Glenn was launched again in November 2025, and this launch was fully successful with the landing of the reusable first-stage booster on a recovery ship in the Atlantic Ocean.

Relativity Space is developing Terran R, a 216-foot rocket. The Terran R is not expected to be launched until late 2026.

Increased Payload Mass: Next generation launch vehicles such as the Terran R, New Glenn, and Starship are designed to significantly increase payload capacity to low Earth orbit (LEO). In reusable configurations, these vehicles are expected to deliver approximately 24, 45, and 150 metric tons, respectively, to LEO[17]

For comparison purposes, the Atlas V, an expendable launch vehicle, can carry up to 18.9 metric tons to LEO.[18] The newer systems therefore represent a substantial increase in lift capability.

***Increased Payload Volume*:** Heavy-lift vehicles are likely to lower overall mission costs on a per-kilogram basis by reducing the number of launches required to place a given payload into space. Larger launch vehicles provide greater payload volume, enabling the deployment of larger and more complex cargo in a single mission including satellites, spacecraft, telescopes, and other mission-critical hardware.

Achieving the same orbital capability with smaller rockets would typically require multiple launches, increasing operational complexity and expense.

Reusability of Launch Vehicles: Reusability of launch vehicles allows high-cost components to be flown multiple times, spreading fixed production costs across numerous launches and improving economic efficiency and is a key design feature of next-generation systems:

- **Starship** is intended to be a fully reusable launch vehicle, with projections of up to 100 flights before retirement. [19]
- **New Glenn** is designed with a reusable first stage with plans for a reusable second stage. The company is targeting at least 25 missions per vehicle, with a long-term goal of up to 100 missions. [20]

[17] Relativity Space. "Terran R." Accessed April 13, 2026.https://www.blueorigin.com/new-glenn; Accessed April 13, 2026; SpaceX. "Starship." Accessed April 13, 2026.

[18] Atlas V." Wikipedia. Accessed April 13, 2026. https://en.wikipedia.org/wiki/Atlas_V.

[19] Passant Rabie, "Buckle Up: SpaceX Aims for Rapid-Fire Starship Launches in 2025," *Gizmodo*, November 14, 2024.

[20] https://www.blueorigin.com/new-glenn; Accessed April 13, 2026 .

- **Terran R** will feature a fully reusable first stage, while its second stage will initially be expendable. The vehicle is expected to be capable of approximately 20 reuses in its initial design.[21]

***Increased Launch Frequency*:** Higher launch frequency enables faster payload deployment and supports a more rapid expansion of space-based infrastructure. By 2026, Starship is expected to support 25 launches per year versus New Glenn which is projected to reach 24 launches per year. Terran R has a goal of achieving 24 launches per year by 2028.[22]

Commercial Space Transportation Enters a New Era

The commercial space transportation sector is evolving at a rapid pace. In contrast to the past—when space activity was dominated by government agencies such as NASA and the former Soviet Union's space program—private companies are now driving growth in the global space marketplace.[23] Space data, products, and services provide tangible benefits and economic opportunities to people worldwide.[24]

SpaceX continues to lead the world with its launch cadence. During FY2025, SpaceX conducted 161 missions--45 missions over the previous year's total of 116--and is on track to surpass that total again. Since beginning operational launches in 2019, SpaceX has deployed approximately 10,000 satellites for its broadband constellation, Starlink.

In January 2025, Blue Origin launched the maiden flight of its heavy-lift, reusable, orbital launch vehicle, New Glenn. The inaugural mission reached orbit successfully, albeit the first-stage booster was lost after telemetry failed and it crashed into the ocean. A second launch in November 2025 successfully landed the booster on a barge in the Atlantic Ocean. New Glenn's third launch is scheduled for late February 2026.

Blue Origin reached a notable milestone in April 2025 when its fully reusable suborbital vehicle, New Shepard, carried an all-female crew of six on a mission to suborbital space. This mission was

[21] Relativity Space, "Relativity Space Shares Updated Go-to-Market Approach for Terran R, Taking Aim at Medium to Heavy Payload Category with Next-Generation Rocket," April 12, 2023. Accessed April 13, 2026.

[22] Space Launch Delta 45, https://www.patrick.spaceforce.mil/Resources/Environmental-Information/FileId/125061/. Using the pull-down menu under the heading "Completed NEPA Documents" select "2024 CCSFS Environmental Assessment for Relativity Terran R Launch Program.pdf." See Page 23. Accessed April 13, 2026.

[23] "The Future of Space: Economic Opportunities and Challenges | New Space Economy" Accessed April 13, 2026.

[24] NTD Newsroom, "Free Starlink Service Coming to Los Angeles Areas Hit by Wildfires, Musk Says," *NTD*, January 9, 2025, https://www.ntd.com/free-starlink-service-coming-to-los-angeles-areas-hit-by-wildfires-musk-says_1039603.html. Accessed April 13, 2026.

the vehicle's 11th crewed flight and 31st overall. Prior to announcing a pause in operations New Shepard completed 38 suborbital launches, 17 of which carried crew.

In March 2025, Firefly Aerospace became the first commercial company to achieve a successful Moon landing. Its Blue Ghost lander operated on the lunar surface for more than 14 days, the longest commercial lunar surface mission to date, before its solar-powered batteries were depleted.[25] During that time, the lander transmitted scientific data to Earth, deployed payload instruments, and conducted experiments.

Expanding Markets and Emerging Capabilities

The commercial space economy continues to broaden. In the near term, Vast Space aims to become the first private company to operate a commercial space station in low Earth orbit. Its planned station, Haven-1, is expected to launch by 2027 aboard a Falcon 9 rocket. Haven-1 will support research in life sciences, materials science, plant biology, biotechnology, and pharmaceutical development. .[26]

Over the near to mid-term, U.S. launch providers are investing in technologies to increase launch frequency and efficiency. Economies of scale and continuous operational improvements are driving down costs and improving reliability. These advancements are strengthening U.S. competitiveness while accelerating growth in space exploration, tourism, satellite deployment, and in-orbit servicing, assembly, and manufacturing (ISAM).

Looking further ahead—beyond the next decade—U.S. companies are planning crewed missions to Mars with the long-term objective of establishing a self-sustaining human presence. SpaceX's fully reusable launch system is designed to enable in-orbit refueling and transport both cargo and passengers to the Red Planet. Initial efforts would focus on building foundational infrastructure to support a commercial or mixed-use settlement. Realizing this vision, however, will require overcoming substantial technical, physiological, economic, regulatory, and logistical challenges, including launch safety, life-support systems, infrastructure development, and the high cost of interplanetary travel.

Taken together, these developments underscore that commercial space transportation has entered a fundamentally new era. What was once an experimental, government-dominated domain is now a dynamic, capital-intensive marketplace characterized by rapid innovation, aggressive competition, consolidation, and strategic realignment. Launch providers are scaling cadence, pursuing

[25] Firefly Aerospace, "Blue Ghost Mission 1," Firefly Aerospace, accessed April 13, 2026, https://https://www.google.com/search?q=fireflyspace.com/missions/blue-ghost-mission-1/.

[26] Vast, "Vast Announces Three Additional Payload Partners for the Haven-1 Lab: JAMSS, Interstellar Lab, and Exobiosphere," Vast Space, April 8, 2025, https://www.vastspace.com/updates/vast-announces-three-additional-payload-partners-for-the-haven-1-lab-jamss-interstellar-lab-and-exobiosphere.

reusability, and diversifying into defense, constellation deployment, and emerging in-space services, while weaker entrants exit or pivot in response to market pressures.

U.S. Position in Global Space Activity

The global space economy has expanded into a more than $500 billion annual industry, driven by the growing contributions of both government programs and private-sector enterprises in space exploration, satellite deployment, and related technologies. [27] According to *Global Space Industry by Country*, the United States accounts for approximately $130 billion of that total through its commercial space sector. The report highlights the United States' leadership across key indicators—including government investment, commercial activity, company participation, and launch frequency—surpassing the combined output of the next five largest space actors (China, Europe, Japan, India, and Russia) whose total contributions exceed $55 billion collectively.

U.S. leadership is particularly evident in the satellite sector. In 2024, the industry was valued at $293 billion, according to the Satellite Industry Association. [28] American companies produced roughly 83.0 percent of commercial satellites launched worldwide and captured 69.0 percent of global satellite manufacturing revenue. Of the 2,695 satellites deployed that year, the United States accounted for a 65.0 percent market share.

Together, these figures underscore the nation's continued dominance in satellite manufacturing, launch services, and supporting technologies, reinforcing its central role in shaping the global space market and sustaining its competitive advantage in the years ahead.

[27] New Space Tracker. "Global Space Industry by Country: Market Analysis 2025." Last modified January 23, 2025. https://newspacetracker.com/articles/global-space-industry-by-country. Accessed April 13, 2026

[28] Satellite Industry Association, *SIA President's Report - SIA News & Filings for May 2025*, (May 2025), https://sia.org/wp-content/uploads/2025/05/Presidents-Rep25-SIA-News-Page-May-FINAL-.pdf. Accessed April 13, 2026.

Emerging Aviation Entrants: Unmanned Aircraft Systems and Advanced Air Mobility

New Entrants: Analysis and Forecasts

Unmanned aircraft systems (UAS or drones) are relatively new entrants into the national airspace system (NAS) and are experiencing rapid diversification, both in terms of operations and aircraft. UAS have been experiencing healthy growth in the United States and around the world over the past decade. A UAS consists of a remotely-piloted aircraft and its associated elements, including the ground control station and the associated communication links, that are required for safe and efficient operation in the NAS. The introduction of UAS has opened numerous possibilities as well as operational challenges including safe and secure integration of UASs into the NAS. Despite the challenges, the unmanned aircraft systems sector has enormous promise in terms of recreation, commercial, and public safety activity.

A newer emerging entrant, Advanced Air Mobility (AAM), has seen continued development of innovative aircraft, and operations that are expected to begin in the new future. AAM is an umbrella term for aircraft weighing more than 1,320 pounds and implementing advanced technologies such as distributed propulsion, vertical takeoff and landing, powered lift, non-traditional power systems, or autonomous technologies, for transport of passengers or cargo between two locations.[29] AAM is split into two sub-categories: Urban Air Mobility (UAM) and Regional Air Mobility (RAM). UAM is focused on operations between or within urban environments while RAM is focused on operations outside of urban environments, such as between hub airports and rural communities.

This section provides a broad overview covering recreational and commercial unmanned aircraft[30] and their recent trends as gathered from registrations, surveys, tracking the overall market, and operational information. Using these trends, FAA produces several forecasts. Forecasts reported in the following sections are driven primarily by assumptions of the continuing evolution of the regulatory environment, the commercial ingenuity of manufacturers and operators, persistent rec-

[29] Federal Aviation Administration Reauthorization Act of 2024, sec. 951.

[30] These are also called, interchangeably, hobby or model and nonrecreational UAS, respectively. On October 5, 2018, the President signed FAA Reauthorization Act of 2018 (Pub. L. 115-254). Section 349 of that Act repealed the Special Rule for Model Aircraft (section 336 of Pub. L. 112-95; Feb. 14, 2012) and replaced it with new conditions to operate recreational sUAS without requirements for FAA certification or operating authority. The Exception for Limited Recreational Operations of Unmanned Aircraft established by section 349 is codified at 49 U.S.C. 44809 [see https://www.federalregister.gov/documents/2019/05/17/2019-10169/exception-for-limited-recreational-operations-of-unmanned-aircraft for more details]. Recreational flyers, under Section 349, are referred to as "recreational flyers or modeler community-based organizations" [see https://www.faa.gov/uas/recreational_flyers]. In previous notes including other documents of the Agency, these terms are often interchanged.

reational uses, and underlying demand for unmanned aircraft services. However, we do not include the effects of proposed rules or introduced legislation until they are published or enacted, respectively. The forecasts for UAS and AAM are supported by analyses of recent survey findings, data on imported equipment, remote pilots, and waivers and exemptions of UAS. The section also provides analysis and forecasts of large UAS. Finally, an analysis of AAM is provided together with some initial projections drawn from FAA-sponsored and other research including government and industry reports.

Trends in Recreational/Model Aircraft

FAA's online registration system for recreational/model small unmanned aircraft systems (sUAS) went into effect on December 21, 2015 and requires all recreational operators of UAS weighing between 0.55 pounds (or 250 grams) and 55 pounds (or 25 kilograms) to be registered using the online system or the existing (paper-driven) aircraft registry.[31] Initially, only operators were required to register regardless of the number of sUAS operated. However, the Remote ID rule (fully enforced as of March 16, 2024), requires most recreational/model aircraft weighing over 0.55 lbs. to broadcast identification and location information, effectively requiring registration of these aircraft. Recreational operators can still fly their sUAS without registering the aircraft if they operate in an FAA-Recognized Identification Area (FRIA) with an operator's registration.

With the continuing operator's registration, over 1.66 million (new) recreational sUAS operators had already registered cumulatively with FAA by end of December of 2025.[32] On average, new owner registrations were 4,782 per month for CY2025 with some expected peaks during the holiday seasons and summer. In comparison, CY2024 and CY2023 new owner registrations averaged approximately 5,810 per month and 6,053 per month, respectively, and thus signifying a downward trend in registrations.

The decline in year-over-year new operator registrations is accompanied by a decreasing number of registrants cancelling their registrations or allowing their registrations to expire without renewal. Cancellations and expirations peaked at 16,348 per month in CY2023 and have declined over the last two years: 7,750 per month in 2024 and over 7,689 per month in 2025. Although the cancellations and expirations have been declining, they still exceed the number of new registrants. The total number of registrations was reduced by 2,133 per month in CY2024 and 2,907 per month in

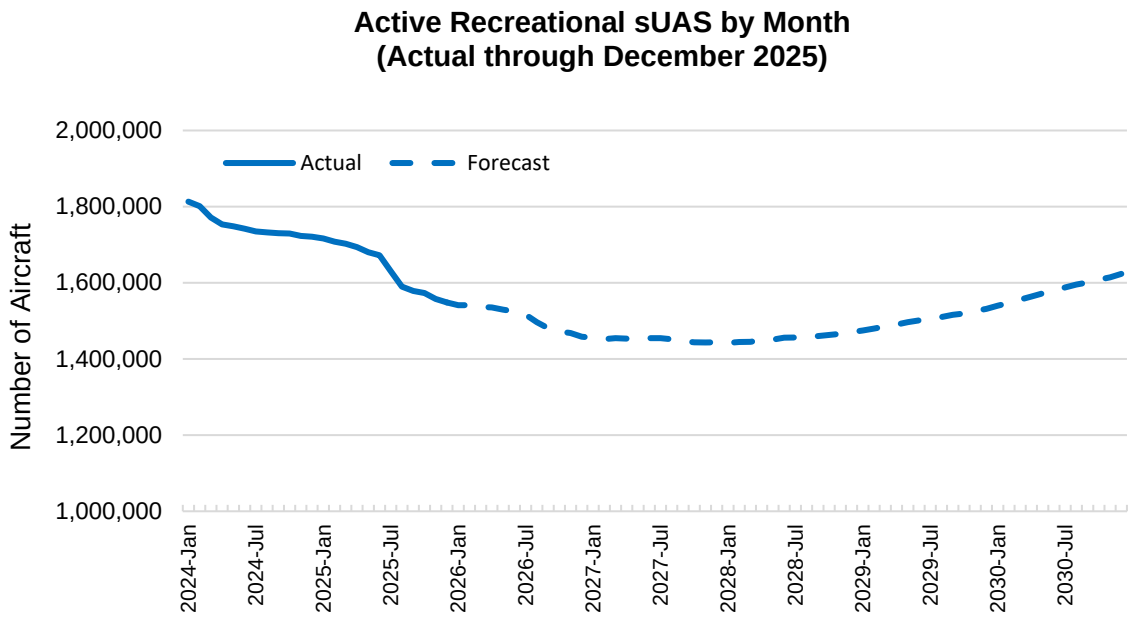
[31] Federal Aviation Administration, "Register Your Drone," FAA.gov, accessed April 21, 2026, https://www.faa.gov/uas/getting_started/register_drone.

[32] For our estimate and projections using the registration database, applied to recreational, commercial/Part 107 and remote pilots, we use only those who are registered in the U.S. and its territories for the period January – December 2024. Furthermore, we draw a clear distinction between new registrations, cancellations, and renewals in this document.

CY2025. These trends suggest that the operation of sUAS for recreational purposes may be on the decline.

Though recreational operator's registrations are declining, the recreational aircraft registry and the Survey of UAS Operators indicate an increase in number of aircraft per operator. In 2024, the average number of registered aircraft per operator was 0.97. In 2025, this number increased nearly 30.0 percent to 1.26 registered aircraft per operator. Similarly, a tally of recreational operator responses to The Survey of UAS Operators shows an average of 3.8 registered aircraft per operator in CY2024 versus 4.9 aircraft in CY2025 for a 29.0 percent year-over-year increase. This suggests that the fleet operated by registered operators has likely grown even as the total number of registered operators has decreased.

In past forecasts, FAA has reported the total number of possible sUAS in circulation. However, this definition differs from the definition of an active fleet in other sections of this report. To conform the definitions of the sUAS section with other sections, we define the recreational sUAS fleet as an active fleet, which means the aircraft must have operated within the reported year. Similar to previous years, a high, base, and low fleet size estimate is prepared to account for estimation uncertainty. The high estimate could be interpreted as all aircraft in circulation regardless of whether it has been used while the low estimate assumes only one operational aircraft per registered recreational operator. The base estimate uses several sources to produce our best estimate of the total number of active recreational aircraft within the United States.



Even though we do not have direct reports of the active fleet of UAS operators, survey responses provides an estimate of the average number of aircraft operated. In 2025, Part 48 recreational registrants with two or fewer aircraft operated 3.3 aircraft on average while registrants with 3 or

more aircraft operated 5.8 aircraft. Roughly 0.8 of those aircraft are less than 0.5lb or greater than 55lb for each type of registrant. Thus, the average number of aircraft operated per registrant in 2025 was 2.8 and 5.0, respectively. In 2025, there were roughly 296,277 registrants with two or fewer aircraft registered in the Part 48 recreational registry and 26,802 registrants with more than two aircraft registered. Applying the average number of sUAS operated in 2025 to the number of registrants by type, we estimate that 1.59 million active aircraft in 2025. Using a similar methodology, we estimate that the 392,359 Part 48 recreational registrants operated 1.79 million aircraft in 2024. As such, the active fleet has dropped by 11.0 percent between 2024 and 2025.

Given the downward trend in both operator registrations and active aircraft, we expect the active fleet of sUAS to decrease into the coming years before rebounding over the five-year forecast horizon. By 2030, we expect roughly 373 thousand recreational operators to have an active fleet of 1.63 million sUAS. This equates to a 1.0 percent compound annual growth rate (CAGR) over the five years, even though the active fleet is predicted to bottom in 2027.

	Total Recreational/Model Fleet			
	(Million sUAS units)			
	Calendar Year	Low*	Base**	High***
Historical	2025	0.41	1.55	1.93
Forecast	2026	0.39	1.46	1.97
	2027	0.39	1.44	2.00
	2028	0.40	1.47	2.01
	2029	0.41	1.53	2.03
	2030	0.43	1.62	2.04
*': effective counts of operators combined with previous forecast's multiplicity of craft ownership				
**': effective counts of operators combined with active aircraft reported in Survey of UAS Operators				
***': new registration counts combined with previous forecast's multiplicity of craft ownership				

However, given the possible sources of error from the Survey of UAS Operators, it is possible that the true active fleet is much larger or much smaller than our baseline forecast. As such, we bracket our forecast with high and low estimates. The high estimate is calculated using the cumulative sum of new Part 48, recreational registrants with the assumption from our previous forecasts that each registrant owns 1.16 aircraft on average. In this case, the number of possible active aircraft is 1.93 million in 2025, a CAGR of 1.1 percent. We estimated it could grow to as much a 2.04 million by 2030. The main assumption in the high estimate is that registrants never quit flying sUAS recreationally. As such, it is a reasonable upper limit for the total number of active aircraft.

Similarly, the low estimate is calculated by finding the active Part 48, recreational registrants and applying the assumption of 1.16 aircraft per registrant. In this case, there were 0.41 million active

aircraft in 2025. We estimate this to grow to 0.43 million by 2030, a CAGR of 0.8 percent. The low forecast is constrained by the 1.16 active aircraft per registrant and is lower than the 1.26 ratio of registered Part 48 recreational aircraft to active registrant. As such, this provides a reasonable lower limit to the number of active sUAS.

Notice the eventual saturation point in the high and the return to the saturation point in both the baseline and the low scenarios, which reflected a transitional period before return to the market limit. However, the continued drop in new registrations combined with higher expirations and cancellations could be the market returning to pre-pandemic levels by shedding the less enthusiastic recreational operators.[33] If this is the case, we should expect the new operator registrations to be above the expirations and cancellations by 2027, but the new registrations continue to fall. As such, next year's forecast should provide additional information for which direction the recreational/model sUAS market is heading.

Trends in Commercial/Nonrecreational Aircraft

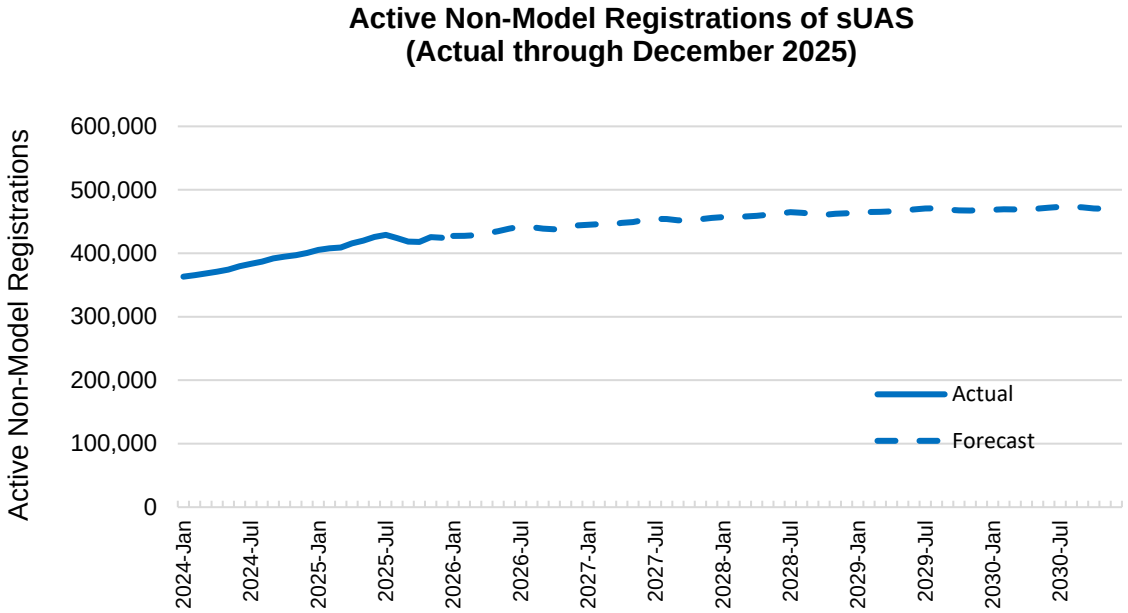
Online registration for commercial/nonrecreational sUAS went into effect on April 1, 2016. Unlike recreational/model ownership, rules for commercial registration require owners to register each unmanned aircraft, thus creating a one-to-one correspondence between registration and aircraft. Over a million aircraft have been registered in the Part 107 registry since it opened, consisting of a wide variety of manufactures, sizes, and models.

During the period of January – December 2025, more than 126,000 commercial operators registered new equipment. In comparison, during the period of January – December 2024, more than 135,000 commercial operators registered their new equipment. The pace of monthly new registration in 2025, at around 10,500, is lower than monthly registrations of 11,300 during 2024 which was higher than those observed during 2023 at 10,409. This suggests that new registrations peaked in 2024 and are now trending downward into the future.

Though new registrations seemed to have peaked in 2024, expirations and cancellations of current registrations are growing. Expirations and cancellations grew from an average of 8,110 per month in 2024 to 8,510 per month in 2025, a 5.0 percent increase. This increase trend continues from 2023, which had only 6,670 expirations and cancellations per month and was the trough for this data series. However, the growth in expirations and cancellations is likely to reflect the total number of aircraft registered in the Part 107 registry. The portion of the registry which was cancelled or expired was 22.1, 24.3, and 24.1 percent for 2023, 2024 and 2025, respectively. As such, the increase in expirations and cancellations is likely to be due to the increase in the aircraft in the Part 107 registry more than operators exiting the market.

[33] It is quite likely that many users were buying and experimenting with recreational sUAS given the COVID-19 public health emergency and the substantial portion of individuals working from home. This trend may have momentarily increased demand for recreational sUAS operations above the long-run demand.

Although new registrations are trending downward while expirations and cancellations are growing, on net the Part 107 registry is growing. In 2025, the registry grew by almost two thousand aircraft per month. However, this was down compared to 2023 and 2024, which grew by 3,740 and 3,160 per month, respectively. This downward trend seems to be driven primarily by the fall in new aircraft registrations, given that the expirations and cancellations seem to be a function of the active registrations. As such, the Part 107 registry had roughly 424 thousand active registered aircraft at the end of 2025, an increase of 24 thousand aircraft from 2024.



Like the recreational sUAS, there is uncertainty over which aircraft are actively operated, and we provide a high, base, and low forecast for the non-recreational aircraft. The high forecast assumes that no registered aircraft is removed from operations and is calculated as the cumulative sum of all new registrations. As such, the high forecast provides a reasonable overestimation of the true active aircraft. Conversely, the low forecast assumes continuing growth in expirations and cancellations along with a decline in the new registrations creates saturation in the market. This provides a reasonable low limit of the active flight. In the base forecast, we assume a portion of the expirations will return to the registry over time, increasing the growth of the baseline relative to the Low forecast.

	Nonrecreational Active Fleet			
	(sUAS units)			
	Calendar Year	Low*	Base**	High***
Historical	2025	424,516	424,516	1,074,451
Forecast	2026	443,860	457,437	1,170,593
	2027	455,680	484,154	1,258,383
	2028	463,127	506,644	1,340,109
	2029	468,229	525,422	1,417,922
	2030	470,039	540,845	1,491,153
***': effective/active fleet based on growth of expirations and cancellations**				
****': effective/active fleet based on expirations and cancellations are a portion of total fleet**				
*****': cumulative new registration counts**				

In the base forecast, we expect the Part 107 registry to grow from 424 thousand aircraft in 2025 to 540 thousand by the end of 2030, a 5.0 percent CAGR. In this forecast, falling new registrations begin to flatten out by 2030 while proportional expirations and cancellation remain steady, allowing continuing growth but at a slower pace. Greater than expected growth in new registrations compared to last year's forecast has increased the trajectory of the forecast to improve the fit to the data. As such, we expect the cumulative new registrations to grow from 1.07 million registrations in 2025 to 1.49 million registrations by the end of 2030, a 6.8 percent CAGR. For the low forecast, the active fleet grows from 424 thousand aircraft in 2025 to 470 thousand in 2030, a 3.0 percent CAGR. However, by 2030, the growth rate falls to near zero (0.3 percent) as expirations and cancellations overtake the new registrations.

In this year's forecast FAA aligns the base forecast to the definition of active fleet. Thus, the base forecast has shifted more toward the low forecast to account for this change. As such, uncertainty to the upside of the active fleet is much larger than last year's forecast, reflecting that the actual nonrecreational active fleet could be much higher than the active registrations in the Part 107 registry. Survey of UAS Operators results support this conclusion with most Part 107 operators with a registered aircraft operating at least one aircraft in 2025.

Another point of uncertainty in this forecast is that new rules could be published between the publication of the report and the next Aerospace Forecast. The current forecasts assume no change to the current rules for sUAS. However, new rules regarding sUAS could have dramatic effects on the Part 107 registry. New categories of operations or new registries could change where new and existing registrants choose to register or the benefits from operating this type of aircraft. As such, the Part 107 registry could grow or shrink over the next year in ways that are unexpected.

2025 UAS Operator Survey Preliminary Results

FAA requires a comprehensive understanding of Unmanned Aircraft System (UAS) fleet characteristics, flight profiles, and operations within the National Airspace System (NAS). Unlike commercial aviation, which is subject to statutory reporting, UAS primarily operate outside of airport environments and often within uncontrolled airspace without mandatory activity reporting. Consequently, reliable operational data is limited, which can hinder efforts to effectively integrate these systems into the NAS. Data presented in this report are preliminary and subject to later adjustment; full detail and analysis are available in the Compendium to FAA Aerospace Forecast FY 2026-2046 Emerging Aviation Entrants: Unmanned Aircraft Systems and Advanced Air Mobility published in late 2026.[34]

FAA conducts an annual survey of UAS operators to gain insight into UAS activities within the NAS.[35] To improve estimation accuracy, two sampling procedures were adjusted in the 2025 survey. First, registered UAS operators were sampled based on the number of registered aircraft (two or fewer or greater than two). Second, all operators with foreign addresses were segregated and sampled independently as a foreign population.

The survey frame was constructed from the recreational and Part 107 registries, with a total of 321,696 invitations distributed. The overall response rate was 22 percent with just under 70,000 total respondents. Response rates varied by registry, with 23 percent of recreational registrants responding, 21 percent of Part 107 registrants, and 14 percent of registrants with a foreign address. Respondents represented 101 countries, 58 states or state equivalents, and 2,193 counties.

All respondents were asked to report their total number of flights conducted in 2025, with a flight defined as a takeoff and a subsequent landing. Recreational respondents were partitioned by three primary groups. First, the stratum of registered aircraft (n=34,270) with 48 percent of respondents with two or fewer registered aircraft, and 52 percent with greater than two registered aircraft. Second, for those reporting annual flights greater than zero (n=28,815), 74 percent were classified as operating "outside flying sites" and 26 percent were classified as operating "within flying sites." Third, of those who provided self-identification (n=25,473), 71 percent identified exclusively as drone and not model aircraft operators, 17 percent as model aircraft operators and not drone operators, and 10 percent as both model aircraft and drone operators. Respondents were classified as either “inside flying site” when 50 percent or greater of their reported annual flights were within flying sites or “outside flying site” when less than 50 percent of their reported annual flights were within flying sites. Two types of flying sites designations exist; first, FAA-Recognized Identification Areas (FRIAs)[36] that numbered 2,655 by the end of 2025, and second, Recreational Flyer Fixed Sites[37]

[34] See www.faa.gov/data_research/aviation/aerospace_forecasts accessed 15 April 2026.

[35] See the Small Unmanned Aircraft Systems Survey Report 2025 for details of the survey design.

[36] See www.faa.gov/uas/getting_started/remote_id/fria accessed 15 April 2026.

[37] udds-faa.opendata.arcgis.com/datasets/faa::recreational-flyer-fixed-sites/about accessed 15 April 2026.

that numbered 2,172 by the end of 2025. A single physical location can be granted both site designations. Approximately 1,660 sites have both designations, approximately 1,000 sites have only the FRIA designation, and approximately 500 sites have only the Recreational Flyer Fixed Site designation, this results in approximately 3,180 unique flying site locations.

The data indicates that model aircraft operators represent a distinct group with unique fleet and flight characteristics. These respondents typically own and operate more aircraft, conduct more annual flights, operate for shorter durations, and utilize heavier, fixed-wing aircraft compared to those who identify as drone and not model aircraft operators. The added stratum aided differentiation as well. It is important to note that aircraft registration rules do not perfectly align with the broader survey questions regarding aircraft ownership, though a correlation exists.

Mean Aircraft Owned and Operated by Recreational Operator Groups

Recreational Partition	Aircraft Owned (M)	Aircraft Operated (M)
Aircraft =< 2	3.6	3.3
Aircraft > 2	6.1	5.8
Inside Flying Site	12.8	10.7
Outside Flying Site	2.8	2.5
Drone and Model	11.1	9.8
Drone Not Model	1.8	1.8
Model Not Drone	13.5	11.5

Mean Flights, Flight Time, and Operating Altitude by Recreational Operator Groups

Recreational Partition	Total Annual Flights (M)	Flying Site Flights (M)	Minutes per Flight (M)	Operating Altitude in Feet (M)
Aircraft =< 2	44	19	18	197
Aircraft > 2	66	36	16	204
Inside Flying Site	133	126	12	235
Outside Flying Site	43	1	18	189
Drone and Model	97	56	12	192
Drone Not Model	25	3	18	187
Model Not Drone	141	119	9	239

Part 107 respondents were asked to report both nonrecreational and recreational flights. Historical trends continue to show that a significant portion of Part 107 operators conduct exclusively recreational flights. In 2025, 65.5 percent of operators, referred to as "core Part 107", reported at least one nonrecreational flight, while 26.7 percent reported exclusively recreational flights and 7.8 percent reported zero flights. As with the recreational operators, the number of registered aircraft was added as a stratum to the Part 107 operators. This resulted in 65.7 percent of Part 107 respondents with two or fewer aircraft and 34.3 percent with greater than two. Core Part 107 operators with

greater than two registered aircraft reported substantially higher annual flight volumes and aircraft ownership compared to those with smaller fleets.

Core Part 107 respondents also indicated activity levels across various industries using a five-point scale. Operators with more than two registered aircraft reported higher activity levels in nearly all industries, with the most significant differences appearing in law enforcement and emergency response, education, utilities and telecommunications, and construction. For those representing emergency response (ER) organizations, 95.0 percent indicated involvement in more than one type of ER activity. The most common ER activities included search and rescue, training, tactical support, and natural disaster response.

Core Part 107 Mean Aircraft Owned and Operated by Operator Group

Part 107 Partition (Core Part 107)	Aircraft Owned (M)	Aircraft Operated (M)
Aircraft =< 2	3.4	2.7
Aircraft > 2	8.0	5.8

Mean Flights, Flight Time, and Operating Altitude by Part 107 Operator Group

Part 107 Partition	Nonrecreational Flights (M)	Recreational Flights (M)	Minutes per Flight (M)	Operating Altitude in Feet (M)
Aircraft =< 2	72	25	24	221
Aircraft > 2	255	51	24	229
Core Part 107	206	33	24*	224*
Exclusively Recreational	0	46	29**	171**

* For nonrecreational flights only

** For recreational flights only

The 2025 survey established foreign operators as a specific population, defined as those with a registered foreign address who primarily reside outside the United States. Response rates for this group were notably lower, one contributing factor to this could be a language barrier as the survey was available exclusively in English. These operators represented 100 countries, with over 50 percent originating from Canada, Germany, the United Kingdom, France, and Mexico. Flight activity for this group was primarily concentrated in California, Florida, and Arizona.

Foreign recreational operators were more likely to operate outside of designated flying sites compared to domestic operators, with 85 percent falling into that category. In addition, 90.0 percent identified as drone and not model aircraft operators and 4.0 percent as model aircraft and not drone operator, increasing this gap compared to domestic operators. Among foreign Part 107 registrants, 41.0 percent reported conducting zero flights in 2025, a much higher percentage than the 8.0 percent reported by domestic Part 107 operators. Generally, foreign operators who did fly reported fewer annual flights than their domestic counterparts.

Mean Flights, Flight Time, and Operating Altitude by Foreign Recreational Operator Groups

Recreational Partition	Total Annual Flights (M)	Flying Site Flights (M)	Minutes per Flight (M)	Operating Altitude in Feet (M)
Inside Flying Site	96	74	17	274
Outside Flying Site	37	1	19	201
Drone and Model	205	112	24	237
Drone Not Model	14	1	17	196
Model Not Drone	73	50	11	320

Mean Flights, Flight Time, and Operating Altitude by Foreign Part 107 Operator Group

Part 107 Partition	Nonrecreational Flights (M)	Recreational Flights (M)	Minutes per Flight (M)	Operating Altitude in Feet (M)
Core Part 107	169	22	23*	252*
Exclusively Recreational	0	23	30**	196**

* For nonrecreational flights only

** For recreational flights only

This preliminary analysis reveals that UAS operating groups are more varied and differentiable than previously understood. The methodological improvements in the 2025 survey, particularly the inclusion of aircraft registration stratum and a foreign operator population, provide critical insights into groups of interest. These data points allow FAA to better serve the public and make informed decisions to improve the safety and integration of the National Airspace System.

Remote Pilot Forecast

An important final metric in commercial sUAS is the trend in remote pilot (RP) certifications. RPs[38] are used primarily to facilitate commercial and public use (*i.e.*, law enforcement and first responder) sUAS flights, as discussed in the preceding section. As of December 2025, over 493 thousand RP certifications had been issued, an increase of over 70 thousand from December 2024.

Approximately three-quarters (78.0 percent) of the RPs have only a Part 107 RP certificate, while the remainder (22.0 percent) have a Part 107 RP certificate along with a Part 61 pilot certificate. Over 90.0 percent of those who took the exam passed and obtained RP certification.[39]

The RP forecasts presented below are based on three primary data sources: (a) trends in total RPs; (b) renewal trends; and (c) trends in commercial sUAS registration, or Part 107 and forecasts of

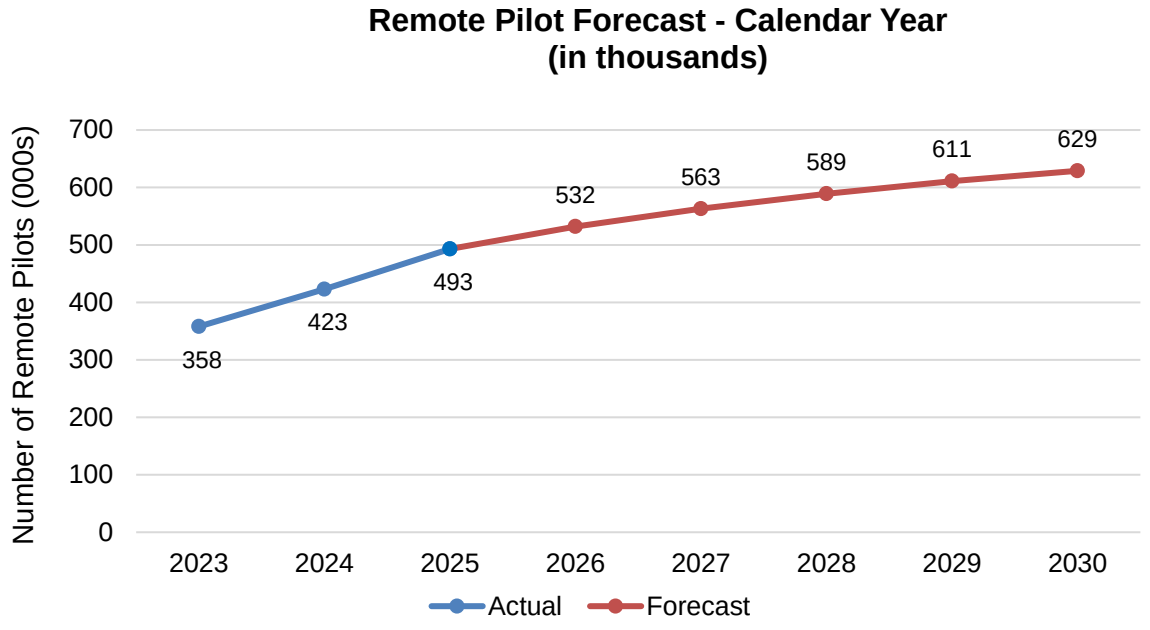
[38] In our accounting of RPs, we take pilots who passed the initial knowledge test (or Part 107), plus current traditional pilots who took online training in lieu of the knowledge test (or Part 61).

[39] Comparing data from last year, we notice that RP numbers have been revised downwards, by around 4,000 (or around -2.0%), over the entire program period. This is due to data clean up throwing out duplicate data and wrong data entry noticed during renewal.

fleet. In this context, it is important to note that the empirical relationship between trends in RP and commercial/Part 107 sUAS registration, particularly new registration, has changed in the past few years with a decline in the ratio of units registered to RPs. Given the trends in registration and our forecast of the commercial sUAS fleet (*i.e.*, base forecasts), FAA assumes that the trend in remote pilots to units of commercial sUAS will remain at its 2025 level of 1.16 per active registration in the Part 107 registry.

Using these assumptions combined with the base scenario of the commercial/Part 107 sUAS forecast, FAA projects RPs in the graph below. Last year, FAA projected RPs to be a little under 433,000 by the end of 2025. Actual registrations by the end of 2025 totaled 493,396 (or over 60,000 more than last year's projection) thus the number of actual RPs exceeded last year's projection by 13.9 percent for 2025.

Given the actual numbers at the end of 2025, RPs are set to experience tremendous growth following the growth trends of the commercial (or Part 107) sUAS sector. Starting from the base of 493,396 RPs in 2025, the expected growth in commercial activities leads to a 28.0 percent increase in the total number of RPs by 2030 (628,600), showcasing tremendous opportunities for growth in employment—over 135 thousand new RP opportunities—associated with commercial and public use activities of sUAS. The potential for RPs is likely to increase as larger UAS are used in commercial activities and advanced air mobility (AAM) starts operations.



Large UAS

Part 107 limits the gross takeoff weight of unmanned aircraft (or sUAS) to below 55 lbs. Thus, unmanned aircraft with gross takeoff weights above 55 lbs. must operate under separate rules and are considered a separate category of UAS, which we refer to as simply large UAS (lUAS) for this analysis. Since these lUAS are not type certified and do not fall under the Part 107 operating rules, operation of these aircraft requires a section 49 U.S.C § 44807 exemption or a public aircraft operator (PAO) certification.[40] In addition, FAA requires lUAS operating under a 44807 exemption or PAO to receive a tail number by registering the unmanned aircraft in the Part 47 aircraft registry.[41]

FAA has been granting 44807 exemptions since their introduction in FAA Reauthorization Act of 2018. Both applications for a 44807 exemption by individuals and organizations and the decisions by FAA are publicly available.[42] Since 44807 exemptions are required to operate a lUAS for commercial purposes, these exemptions are a leading indicator of both the purchases, which increase the fleet, and the operations of civilian lUAS. The 44807 exemption was slated to sunset in May of 2024, but FAA Reauthorization Act of 2024 extended the 44807 exemption's sunset to the end of September 2033.[43] In past forecasts, the count of new 44807 exemptions were a reasonable leading indicator of the future of the lUAS fleet. However, falling new exemptions coupled with increasing registration of new lUAS suggest this is no longer the case while other leading indicators, such as imports of lUAS, have been shown to provide more predictive power for the forecast. It is likely that many operators are expecting new rules on the horizon and are waiting for these rules to be published rather than seeking an exemption.

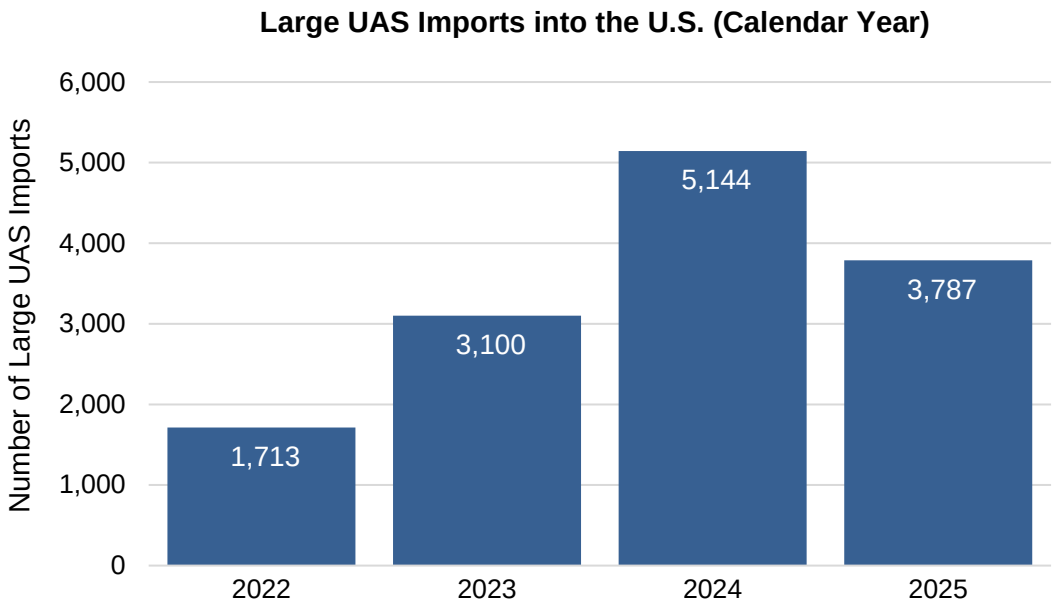
Imports of lUAS have been increasing since U.S. Customs started collecting this data in 2022. However, in 2025 the number of lUAS imported into the United States drop from 5,144 in 2024 to 3,787 in 2025. This suggests that demand for lUAS could be temporarily slowing into the future. Several reasons could explain this shift, from delaying lUAS purchases in expectation of rule changes to policy or market uncertainty. Regardless of the reason, FAA expects a temporary slowing in the growth of these aircraft.

[40] Federal Aviation Administration. (n.d.). *Section 44807 - Special Authority for Certain Unmanned Aircraft Systems*. U.S. Department of Transportation. https://www.faa.gov/uas/advanced_operations/certification/section_44807. Accessed April 21, 2026.

[41] Federal Aviation Administration. (2025, September 9). *Aircraft registration*. https://www.faa.gov/licenses_certificates/aircraft_certification/aircraft_registry. Accessed April 21, 2026.

[42] All 44807-exemption applications and decisions are available at regulations.gov in the "Other" category.

[43] Continuing Appropriations Act, 2024 and Other Extensions Act, H.R. 5860, 118th Cong. (2023). https://www.congress.gov/bill/118th-congress/house-bill/5860/actions. Accessed April 21, 2026.



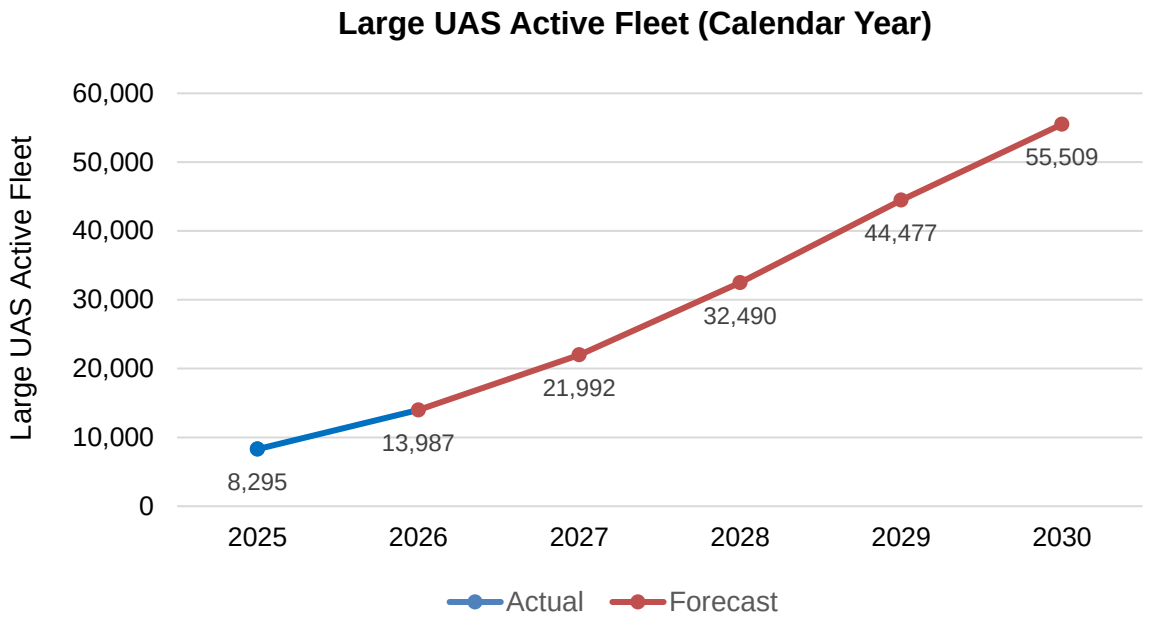
Since lUAS are required to register with the Part 47 aircraft registry, we can use this registry to estimate the lUAS active fleet. Using the Aircraft Reference file from the publicly available Part-47 aircraft registry, FAA identifies the lUAS in the Aircraft Registration Master file and the De-registered Aircraft file from which it can calculate the active fleet of lUAS.[44] In 2025, 4,753 new lUAS aircraft were added to the Part 47 aircraft registry, a 70 percent increase from 2024. Ten percent (440) of aircraft registered at the end of 2024 were delisted in 2025, producing an active fleet of 8,637 lUAS by the end of 2025.

Unlike previous year, the agricultural-spraying lUAS did not dominate the new registrations in the Part 47 aircraft registry. New agricultural-spraying lUAS dropped from 1,432 in 2024 to 592 in 2025, at 58.7 percent decrease even as other non-agricultural lUAS increase from 1,368 to 4,161 over the same period, a 204 increase.[45] This suggests a slowdown in the fastest growing segment of the lUAS market, again indicating there will likely be a temporary slowdown in growth.

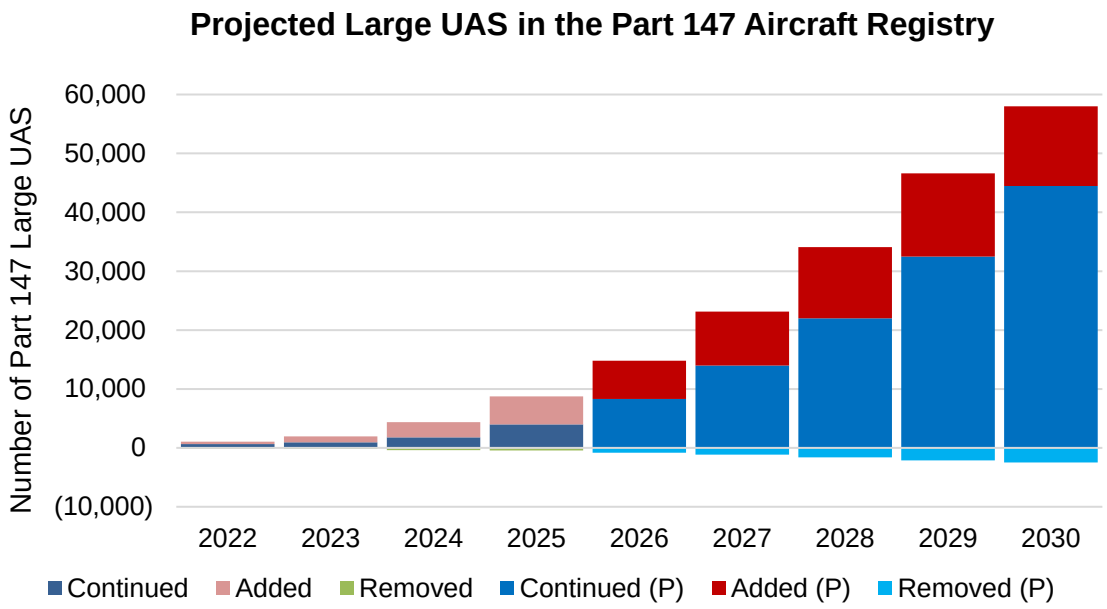
[44] The Public Aircraft Registry data for 2022 is available at https://bit.ly/433iqET. Unmanned aircraft are separated from crewed aircraft using the "NO-SEATS" field in the Aircraft Reference file. The "AC-WEIGHT" field is used to remove all small unmanned aircraft, and the "TYPE-ACFT" field is used to remove all lighter-than-air aircraft, including blimps and balloons. The remaining codes – held within the "CODE" field – are matched with the "MFR MDL CODE" in the Aircraft Registration Master file and the Deregistered Aircraft file and adjusted based on the "STATUS CODE" field. The remaining aircraft are sorted for the year they registered using the "CERT ISSUE DATE" or "LAST ACTION DATE". The count of new registration, older registrations, and delisted registrations are used to construct the active lUAS fleet.

[45] Several new manufactures of agricultural-spraying large UAS had new aircraft added to the Part 47 aircraft registry. As such, FAA expanded the list of makes and models that are included in the agriculture large UAS estimations.

With slower imports and a pullback in the growth of agricultural-spraying lUAS, FAA expects new lUAS in the next couple of years to continue to grow, albeit at a slower pace compared to the previous year's forecast. As such, we expect the lUAS fleet to grow from 8,295 aircraft in 2025 to 55,509 in 2023, a 46.3 percent CAGR.



Though the active fleet can be observed from the Part 47 aircraft registry, the operations of lUAS are more difficult to observe. In previous years, the majority of registered lUAS were agricultural spraying aircraft, which meant most operations were close to the ground. However, with the slowing in new agricultural-spraying lUAS and an increase in non-agricultural lUAS, operations of this segment of aircraft could increase density of overall aviation operations in the NAS. As such, FAA has expanded the Survey of UAS Operators to improve our understanding of these operations. We expect this data to be available in future forecasts.


Projected Large UAS in the Part 147 Aircraft Registry
Number of Part 147 Large UAS
60,000
50,000
40,000
30,000
20,000
10,000
0
(10,000)
2022
2023
2024
2025
2026
2027
2028
2029
2030
Continued
Added
Removed
Continued (P)
Added (P)
Removed (P)

Advanced Air Mobility

AAM is an umbrella term for aircraft weighing more than 1,320 pounds, implementing "advanced technologies, such as distributed propulsion, vertical takeoff and landing, powered lift, nontraditional power systems, or autonomous technologies," and transporting passengers or cargo between two locations.[46] AAM is split into two sub-categories: Urban Air Mobility (UAM) and Regional Air Mobility (RAM). UAM focuses on operations within dense urban environments, typically requiring powered-lift aircraft capable of vertical takeoff and landing. Conversely, RAM focuses on connecting rural communities and regional hubs. Unlike the novel flight profiles of UAM, RAM adapts AAM technologies to more conventional and traditional operations such as passenger and cargo transport.

To prepare for the safe and efficient integration of AAM operations into the NAS, FAA led several initiatives including the release of FAA UAM CONOPS Version 2.0 in April 2023, as well as the publication of FAA AAM Implementation Plan and the issuance of the final rule that adds the "powered-lift" definition to the regulations covering certain air carrier and commercial operations, both in July 2023. More recently, in November 2024 FAA issued the final rule establishing the requirements for pilot certification and powered-lift operations and published an updated engineering brief for vertiport design standards in December 2024. In June of 2025, the executive order "Unleashing American Drone Dominance" was issued, which established an eVTOL pilot program.[47] This created a public-private partnership to accelerate the deployment of safe and lawful eVTOL operations in the United States including advanced air mobility, medical response, cargo transport and rural access.

Despite a challenging environment from a wave of consolidations, several AAM Original Equipment Manufacturer (OEMs) including Joby Aviation, Archer Aviation, and Beta Technologies have made significant progress toward entry into service (EIS) and are planning to launch operations in the 2026-2027 timeframe. These OEMs have either entered or are close to entering the final phases of aircraft certification.

Drawing from FAA-sponsored AAM demand research conducted by The MITRE Corporation (MITRE),[48] a NAS-wide AAM demand forecast starting from Year 1 (defined as the EIS year[49] for the first expected AAM use case in the U.S.) through Year 6 (five years after EIS) is shown in the table below:

[46] Federal Aviation Administration Reauthorization Act of 2024, sec. 951.

[47] Executive Order 14307: www.whitehouse.gov/presidential-actions/2025/06/unleashing-american-drone-dominance/

[48] "Advanced Air Mobility Demand Forecast for the National Airspace System", The MITRE Corporation, MP250135, Mclean, VA, March 2025.

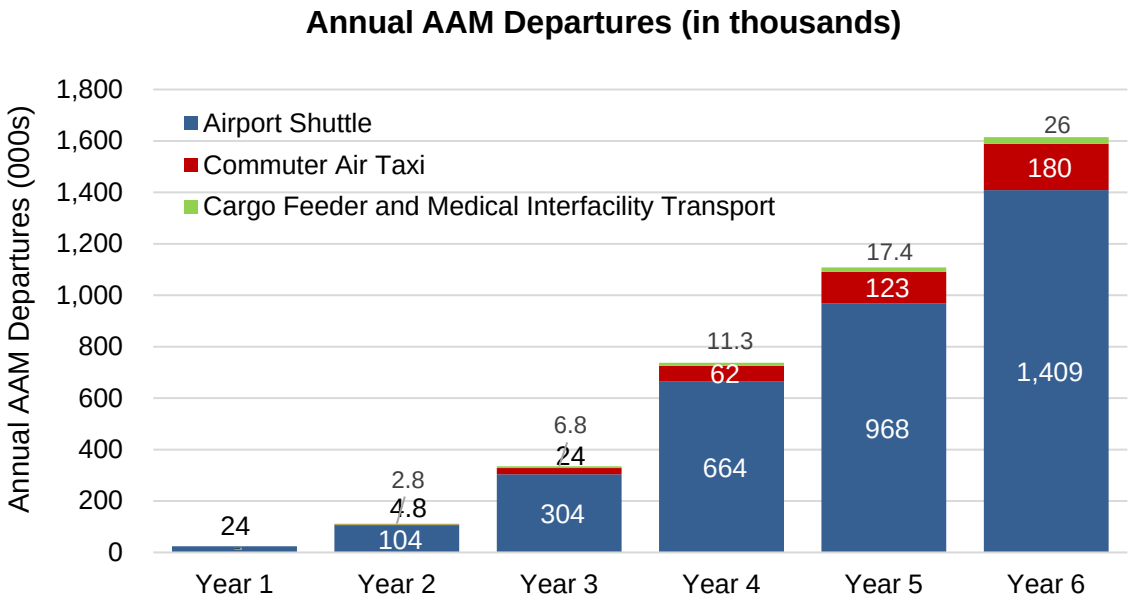
[49] Year 1 does not have a definitive calendar year assigned as the timing for AAM operations to be granted EIS in the U.S. is still uncertain and is dependent on several external factors beyond the scope of the AAM demand research.

NAS-wide AAM Demand Forecast (Includes Airport Shuttle, Commuter Air Taxi, Cargo Feeder, and Medical Interfacility Transport)			
Year	Number of Markets	Total Fleet	Annual Trips
1	2	7	24,600
2	8	30	111,600
3	15	80	334,800
4	19	169	737,300
5	24	254	1,108,400
6	32	367	1,615,000

Unconstrained demand for AAM departures across the NAS is estimated to be 24,600 departures in its first full year, growing to over 334,000 departures annually by Year 3. As markets for AAM services mature, the NAS-wide demand could continue to accelerate and reach over 1.6 million departures annually by the end of Year 6 (or around 4,400 daily flights).

Among the three most-likely AAM use cases, it is projected that initial operations in the U.S. will commence with airport shuttles in a few major cities and cargo feeder operations in sparsely populated areas of the Western U.S. or among island communities, followed by air taxis, and then medical interfacility transport. This is because airport shuttles will have the most robust passenger demand traveling between fixed and concentrated points of interest (*i.e.*, airports and downtown areas). Similarly, cargo operations already have established routes and infrastructure that AAM aircraft could replace the current operations. Urban air taxi flights for commuters, on the other hand, will be spread across more routes depending on where commuters live and work. Lastly, air medical interfacility transport is expected to lag airport shuttle and air taxi services due to a lower level of operator interest currently, as well as potential requirements for retrofitting aircraft for medical-use, additional time needed for aircraft certification, and deployment of charging infrastructure to support these operations.

The figure below shows the anticipated AAM departures for each forecast year, by use case.



The Airport Shuttle projections constitute the largest portion of the overall AAM forecasts for a couple of reasons. First, the Airport Shuttle is anticipated to be the initial AAM use case to be implemented, with demand increasing annually in tandem with the rise in airline passengers from the growing number of Metropolitan Statistical Areas that could adopt an AAM airport shuttle service. Secondly, the number and proportion of commuters likely to consider AAM are generally lower than the estimates for airline passengers.

The fleet sizes required to support the projected departures for the four use cases were estimated by assuming each AAM aircraft would conduct 28 trips per day, on average (2 trips per hour over a 14-hour operating day) for the Airport Shuttle, Cargo Feeder, and Urban Air Taxi use cases and 2.5 trips a day for Medical Interfacility Transport use case. The projected NAS-wide AAM daily trips and the estimated fleet sizes to support those trips are shown in the table below. Based on announcements of expected fleet production capacities from several AAM OEMs, the fleet sizes needed to support the number of trips should be attainable and not be a constraining factor.

	Year 1 (EIS)	Year 2	Year 3	Year 4	Year 5	Year 6
Daily Trips	67	306	917	2,020	3,037	4,425
Fleet Size	7	30	80	169	254	367

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 FAA models that could affect the degree to which these forecasts are realized. Now that passenger and traffic volumes have returned to pre-COVID levels, this year's forecast is driven—particularly in the near term—by the strength of the U.S. and global economies. Potential downside risk can be looked at from supply chain constraints and delays in aircraft deliveries. It also goes without saying that international conflicts are one of the most significant global risks to aviation growth. Any terrorist incident and escalating conflicts such as Iran could affect the demand for aviation services.

The changes in the geo-political landscape could lead to outcomes very different than the forecasts provided in this document. The magnitude of the impacts remains difficult to quantify at this stage, as outcomes depend heavily on the duration and potential escalation of the conflict. A swift resolution, coupled with the prompt restoration of crude shipments and refining capacity, would likely limit long-term damage. However, a prolonged or expanding conflict could have broader economic repercussions, leading to more significant impacts on the industry.

For now, effects are largely confined to rising fuel prices. Airlines have begun to respond through modest fare increases and plans for slight capacity reductions. Flights to the Persian Gulf region have been curtailed, though this represents a relatively small market for U.S. carriers. In addition, more indirect effects—so far less pronounced—include higher Treasury yields, declining airline stock prices, and increased gasoline prices. These factors may erode consumer discretionary spending and, in turn, dampen demand for air travel.

Towered airports handled a total of 57.4 million operations in 2025. There was also an overall increase of 0.8 percent in operations at towered airports since FY 2024, following a 4.0 percent increase from FY 2023 to FY 2024. 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. Similarly, if infrastructure has the ability to expand more significantly and the NAS is able to operate efficiently through infrastructure investment, aviation will grow accordingly.

Notably, in May 2025, Transportation Secretary Sean Duffy announced a major initiative to modernize the air traffic control system for NAS efficiency and safety. Without the implementation of this initiative, the likely result would be greater congestion and delays at airports, increasing airline passenger dissatisfaction. Furthermore, slower growth in new entrant activity could occur, delaying or reducing the benefits to the nation from expansion of these activities. 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 and vehicles is changing as well. The expected increases in the numbers of larger regional

jets and business jets as well as the anticipated widespread deployment – and integration -- of UAS and Advanced Air Mobility (AAM) vehicles into the national airspace system will make FAA's job more challenging. For example, with these new vehicles entering the system, traditional aircraft may be replaced. The integration of UAS and AAM could add to the workload above and beyond the current demand for aviation services. Commercial Space launches will increase and require efficient planning and analysis to minimize delays.

Appendix A: Alternative Forecast Scenarios

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

To create the baseline domestic forecast, economic assumptions from S&P Global's November 2025 30-year U.S. Macro Baseline were used. To develop the alternative scenarios, assumptions from S&P Global's 30-year optimistic and pessimistic forecasts from their August 2025 *U.S. Economic Outlook* were utilized. Inputs from these alternative scenarios were used to create "Optimistic" and "Pessimistic" traffic, capacity, and yield forecasts.

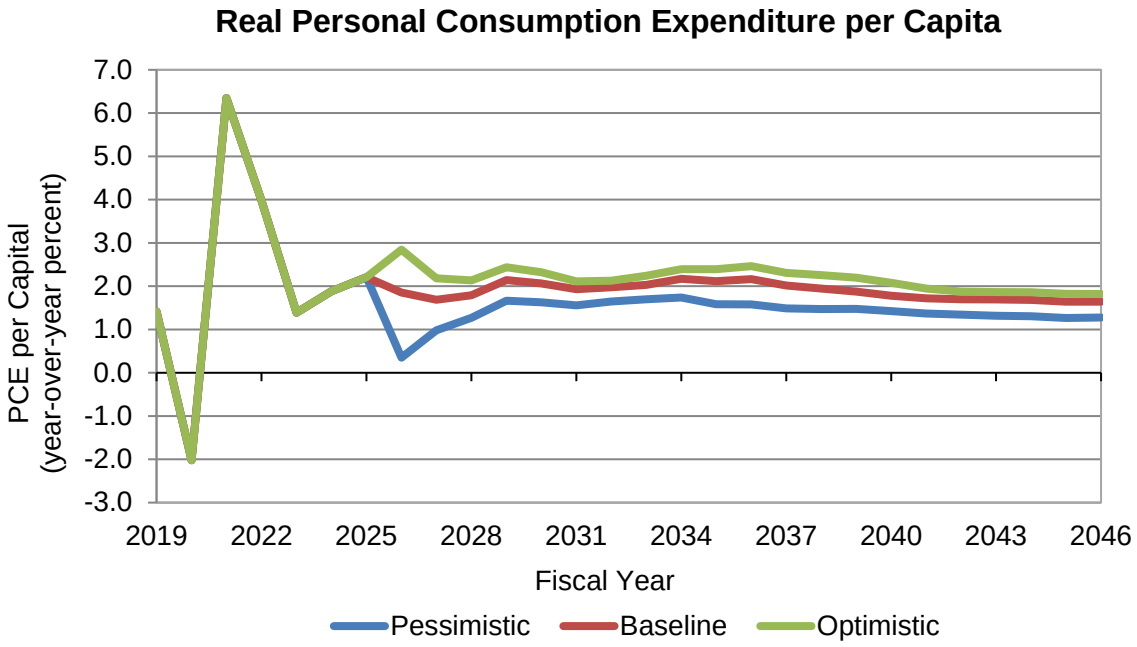
International passengers and traffic are primarily driven by country specific Gross Domestic Product (GDP) forecasts provided by S&P Global. Thus, the alternative scenarios use inputs based on ratios derived from S&P Global's Major Trading Partner and Other Important Trading Partners optimistic and pessimistic forecasts to create high and low cases.

Scenario Assumptions

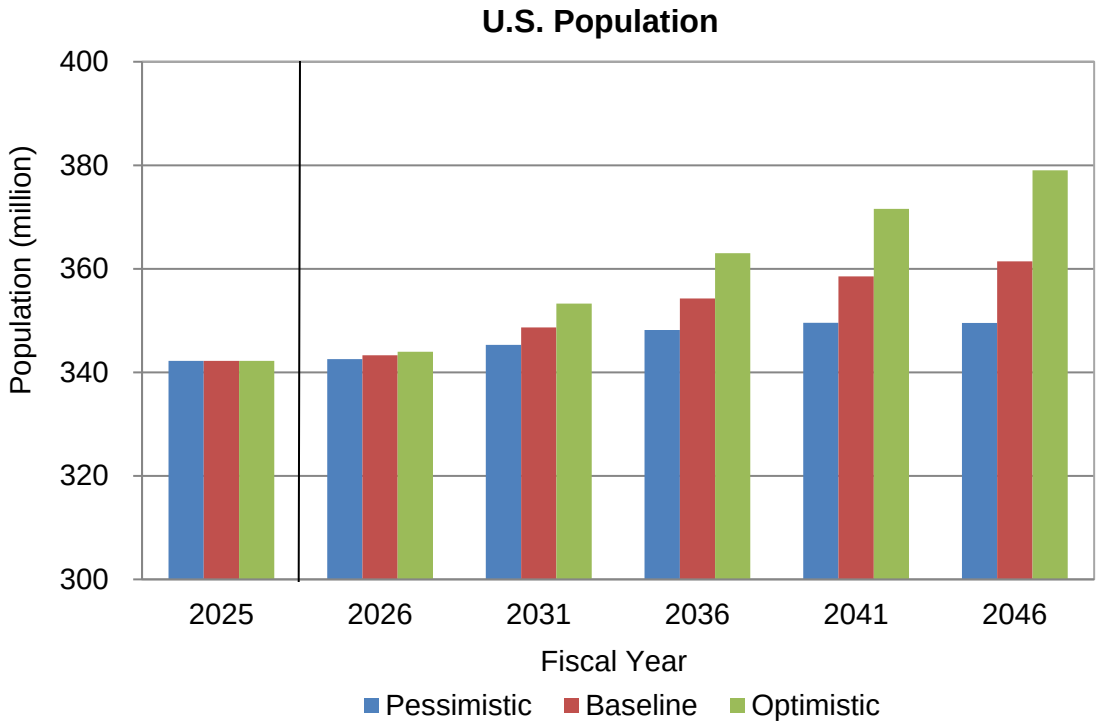
FAA's domestic baseline forecast assumes growth slightly above trend in 2026 and 2027 followed by a slowdown in 2028. GDP growth in 2026 comes in at 2.1 percent but drops to 1.6 percent in 2028, somewhat below its long-term potential rate. The below-trend rate in the medium term causes the unemployment rate to rise and peak at 4.6 percent in 2028. Slower growth and higher unemployment contribute to tamp down inflation, and the Federal Reserve can begin lowering interest rates. By the end of the decade, slowing population growth restrains potential GDP growth, and the economy stabilizes with GDP growth at 1.8 percent and unemployment at 4.3 percent. Crude oil prices bottom out at $57 in 2026 before gradually rising throughout the remainder of the forecast. With increasing global demand, the oil price rises to $108 per barrel at the end of the forecast.

FAA's high case forecast draws from S&P Global's optimistic forecast. Near-term differences from the baseline include GDP growth of 3.3 percent in 2026 compared to 2.1 percent in the baseline, driven mainly by stronger consumer spending. Consumer spending in 2026 grows 3.4 percent before moderating to 2.7 percent in 2027, versus 2.2 percent and 2.0 percent in the base forecast. The unemployment rate still rises but peaks about 0.3 percent lower than in the baseline. Oil prices in this scenario rise only to $83 per barrel in 2046.

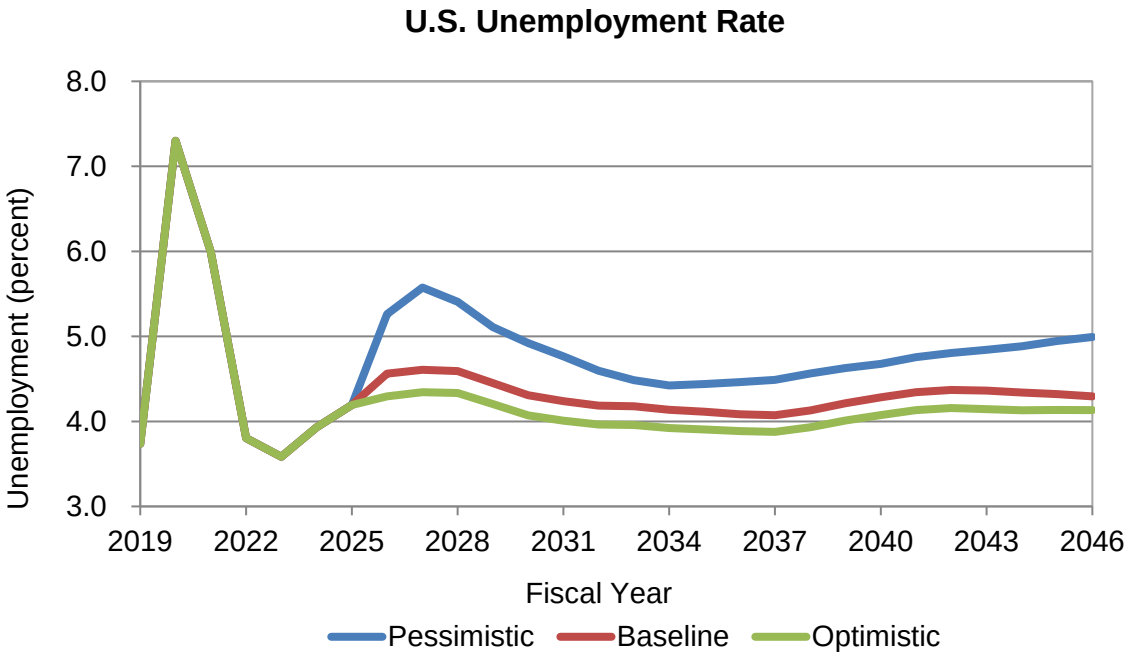
Conversely, FAA's low case forecast relies on S&P Global's pessimistic scenario. GDP growth is flat in 2026 compared to an increase of 2.1 percent in the baseline while consumption grows a meager 0.5 percent compared to the baseline's increase of 2.2 percent. Over the forecast horizon, average GDP growth is about six tenths slower than in the baseline. Oil prices rise sharply throughout the forecast to end at $195 in 2046 -- 81.0 percent higher than the baseline. The unemployment rate peaks in 2027 at 5.6 percent, a full percentage point higher than the baseline's peak. It remains elevated by about half a percentage point through the end of the forecast.



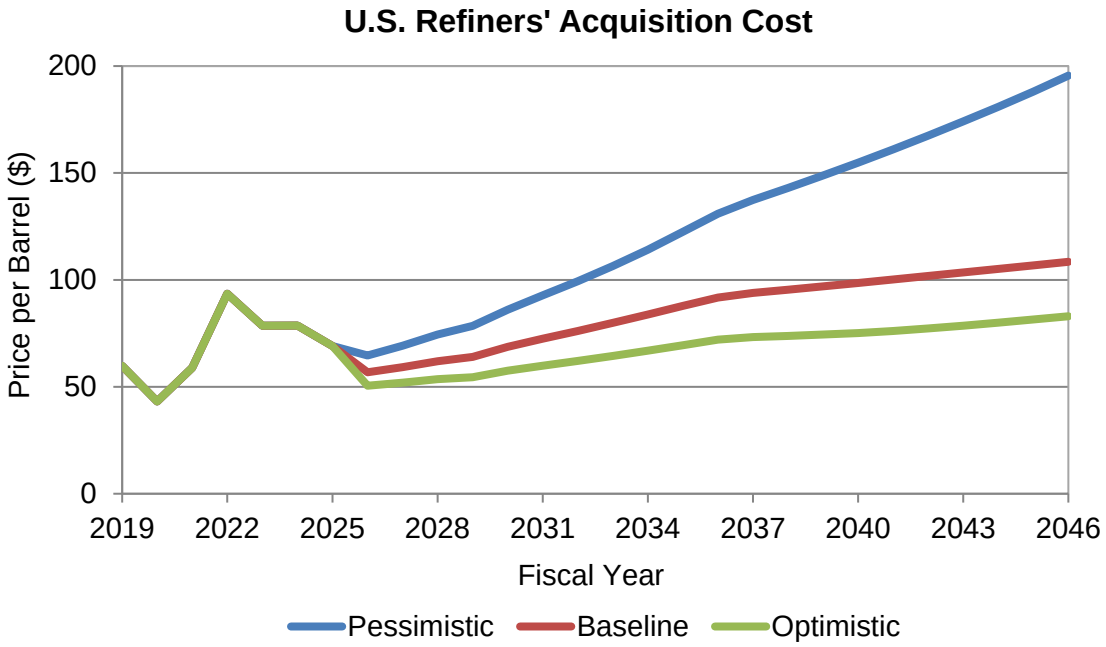
Source: S&P Global, APO-100



Source: S&P Global, APO-100

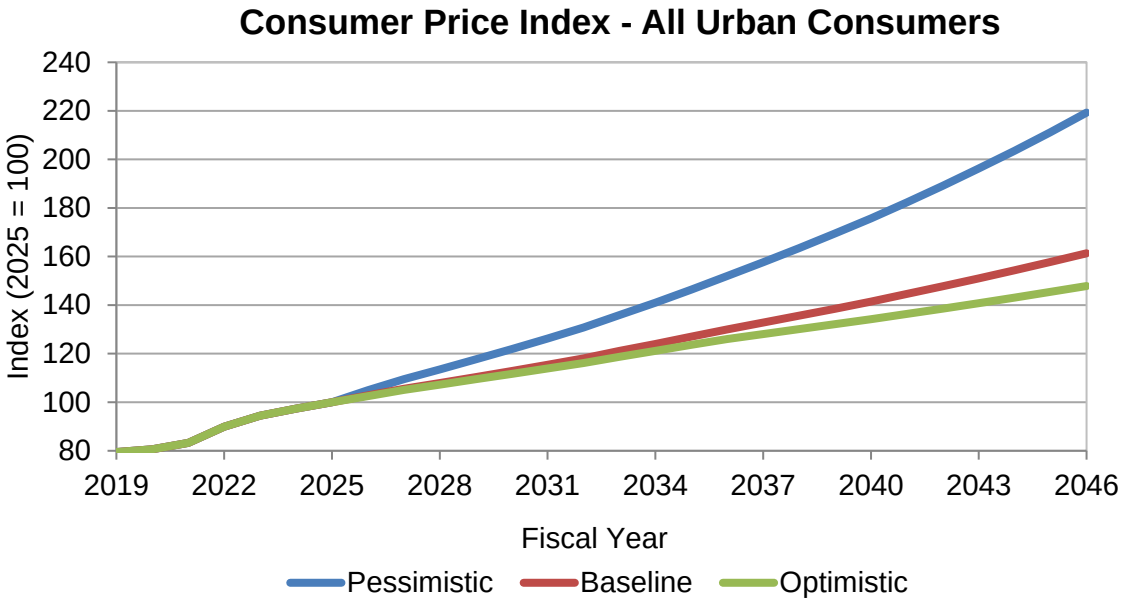


Source: S&P Global, APO-100



Source: S&P Global, APO-100

The price of energy is one of the drivers in the growth of consumer prices over the forecast period. In the optimistic case, slow growth of energy prices and import prices counteracts faster growth of other consumer goods prices, causing the optimistic CPI to rise somewhat slower than the baseline. In the pessimistic case, energy prices, wages and import prices all rise more rapidly compared to the baseline.



Source: S&P Global, APO-100

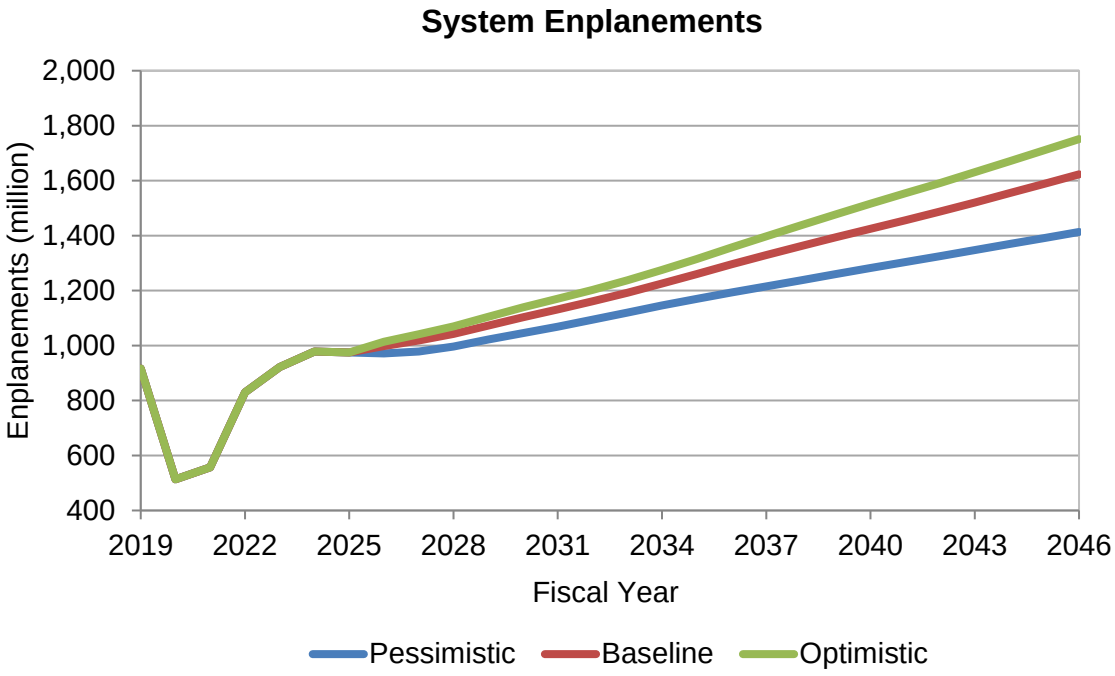
Alternative Forecasts

Enplanements

In the baseline forecast, system enplanements are forecast to grow at an average annual rate of 2.5 percent a year over the forecast horizon of 2025-2046 (with domestic and international passengers increasing at rates of 2.4 and 2.8 percent, respectively).

In the optimistic case, enplanements grow at a slightly quicker pace, averaging 2.8 percent per year (up 2.8 percent domestically and 2.9 percent internationally). This scenario is marked by a more favorable business environment and lower fuel prices which make the price of flying more affordable to business and leisure travelers. By the end of the forecast period in 2046, system passengers in the optimistic case are 8.0 percent above the baseline, totaling 1.8 billion, 128 million greater than in the baseline.

The pessimistic case is characterized by a period of weakened consumer spending combined with high inflation, leading to higher interest rates, and curtailed investment. In this scenario, enplanements grow an average of 1.8 percent per year (domestic up 1.7 percent and international up 2.5 percent). In the pessimistic case, system passengers in 2046 are 13 percent below the baseline case, totaling 1.4 billion, or 210 million fewer than in the baseline.

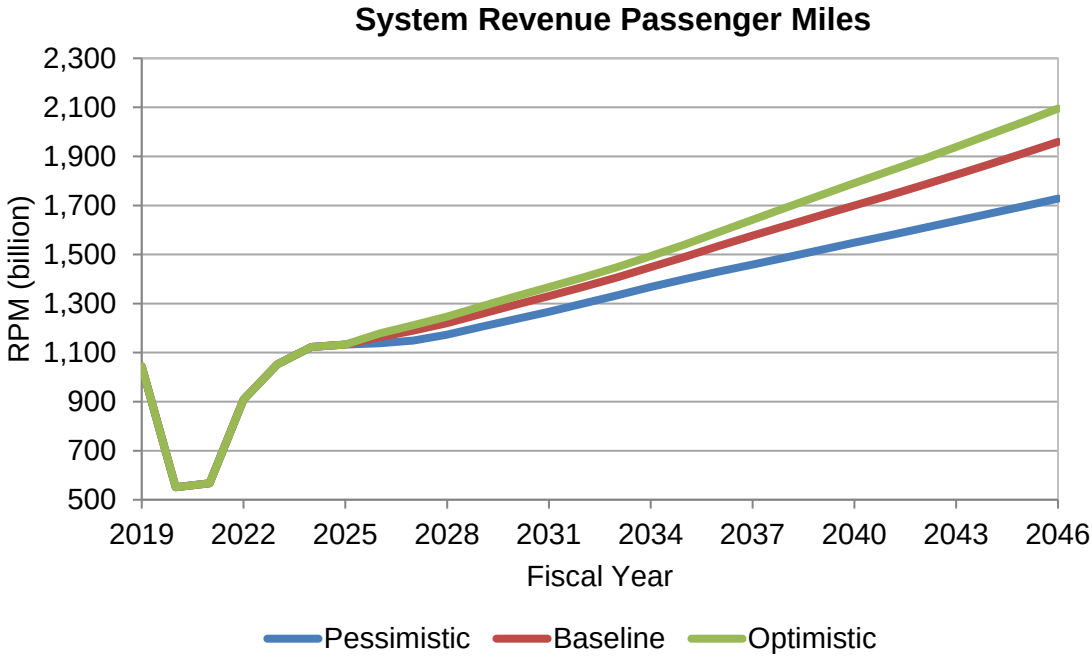


Revenue Passenger Miles

In the baseline forecast, system RPMs grow at an average annual rate of 2.6 percent a year over the forecast horizon (2025-2046), with domestic RPMs increasing 2.7 percent annually and international RPMs growing 2.6 percent annually.

In the optimistic case, the faster growing economy coupled with lower energy prices drives RPMs higher than the baseline, with growth averaging 3.0 percent per year (domestic and international RPMs up 3.1 and 2.7 percent, respectively).

In the pessimistic case, the combination of a slower growing economy and higher energy prices result in RPM growth averaging 2.0 percent annually with domestic markets growing 1.9 percent a year while international traffic grows 2.2 percent annually.

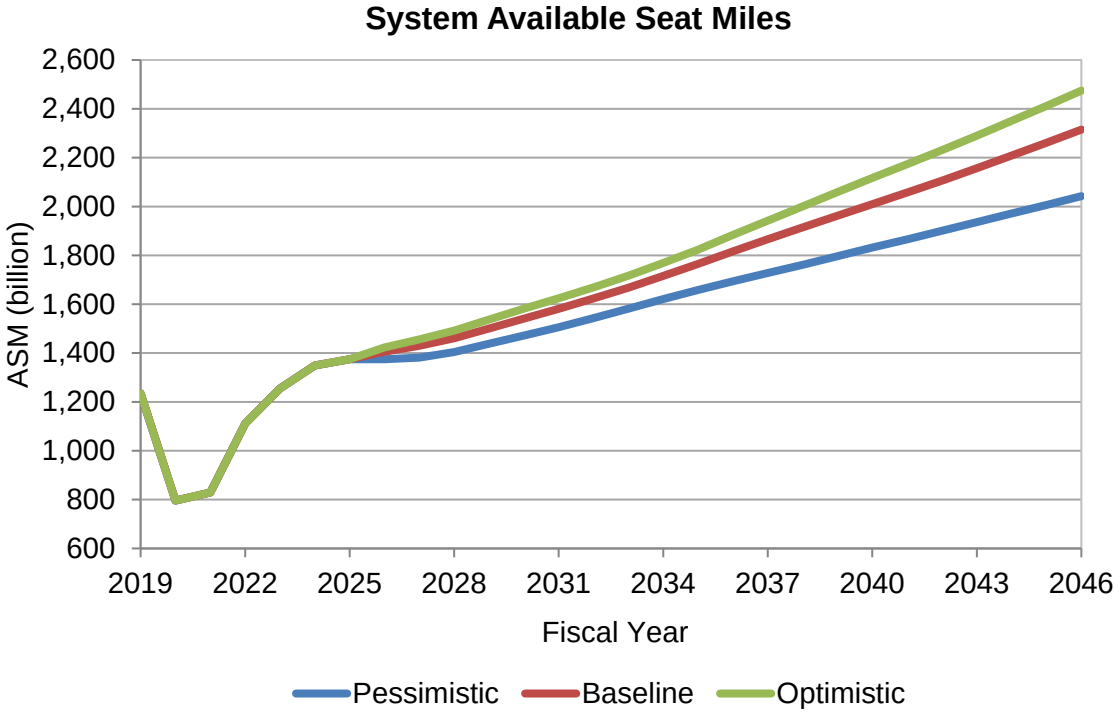


Available Seat Miles

In the base case, system capacity is forecast to increase an average of 2.5 percent annually over the forecast horizon with growth averaging 2.5 percent annually in domestic markets and 2.6 percent a year in international markets.

In the optimistic case, capacity grows somewhat faster than in the baseline forecast, averaging 2.8 percent annually system-wide (2.9 and 2.7 percent for domestic and international markets, respectively). Carriers increase capacity compared to the baseline forecast to accommodate increased travel demand brought about by a more favorable economic environment.

In the pessimistic case, demand for air travel is lower than in the baseline, thus system capacity grows at a slower pace of 1.9 percent annually (domestic growth of 1.8 percent annually and international up 2.2 percent annually).



Load Factor

System load factors over the 20-year forecast period are similar for all three forecast scenarios. System load factor rises from 82.4 percent in 2025 to 84.7 percent (optimistic), 84.6 percent (pessimistic), and 84.6 percent (baseline) in 2046. In all three scenarios it is assumed that carriers will keep load factors on the high side by actively managing capacity (seats) to more precisely meet demand (passengers).

The domestic load factor increases over the forecast horizon from 82.2 percent to 85.3 percent in the baseline, optimistic, and pessimistic scenarios.

The international load factor rises in the baseline from 82.8 percent to 82.9 percent in all three scenarios. This reflects in part the relative growth in demand in the three (Atlantic, Latin, and Pacific) international regions and carriers' ability to manage capacity.

Yield

In the baseline forecast, nominal system yield increases 1.7 percent annually, rising from 16.19 cents in 2025 to 22.97 cents in 2046. In domestic markets, yield in the baseline forecast rises from 16.16 cents in 2025 to 23.10 cents in 2046. International yield rises from 16.27 cents in 2025 to 22.66 cents in 2046.

System yield rises in the optimistic case at a slower rate than in the baseline, up 1.3 percent annually to 21.03 cents in 2046. Domestic yield increases to 21.66 cents while international yield increases to 20.87 cents. The moderate growth in yield in both cases is due to advancements in technology, gains in productivity, and modestly rising fuel and other costs.

In the pessimistic case, nominal yields rise more rapidly than in the baseline, growing an average of 3.0 percent annually, reaching 30.32 cents by 2046 (32.10 cents domestically and 26.21 cents internationally). This scenario reflects higher general domestic inflation and markedly higher energy prices than in the baseline, forcing carriers to increase fares to cover the higher costs of fuel, labor, and capital.

TABLE A-1

FAA FORECAST ECONOMIC ASSUMPTIONS

FISCAL YEARS 2025-2046

		Historical	FORECAST					PERCENT AVERAGE ANNUAL GROWTH				
Variable	Scenario	2025E	2026	2031	2036	2041	2046	2025-26	2026-31	2026-36	2026-41	2026-46
Economic Assumptions												
Real Personal Consumption	Pessimistic	47,975	48,143	51,661	56,063	60,236	64,260	0.4%	1.4%	1.5%	1.5%	1.5%
Expenditure per Capita	Baseline	47,975	48,865	53,746	59,607	65,384	71,037	1.9%	1.9%	2.0%	2.0%	1.9%
(2017 $)	Optimistic	47,975	49,339	55,113	61,821	68,783	75,382	2.8%	2.2%	2.3%	2.2%	2.1%
Refiners Acquisition Cost -	Pessimistic	69.1	64.6	92.8	131.0	161.0	195.5	-6.4%	7.5%	7.3%	6.3%	5.7%
Average - $ Per Barrel	Baseline	69.1	56.8	72.5	91.7	100.2	108.5	-17.8%	5.0%	4.9%	3.9%	3.3%
	Optimistic	69.1	50.5	59.9	72.1	76.1	83.0	-26.9%	3.5%	3.6%	2.8%	2.5%
Consumer Price Index	Pessimistic	3.00	3.17	3.82	4.60	5.51	6.63	5.8%	3.8%	3.8%	3.7%	3.8%
All Urban, 1982-84 = 1	Baseline	3.00	3.08	3.46	3.90	4.34	4.84	2.8%	2.3%	2.4%	2.3%	2.3%
	Optimistic	3.00	3.10	3.44	3.81	4.12	4.47	3.3%	2.1%	2.1%	1.9%	1.8%
Civilian Unemployment Rate	Pessimistic	4.2	5.3	4.8	4.5	4.8	5.0	25.5%	-2.0%	-1.6%	-0.7%	-0.3%
(%)	Baseline	4.2	4.6	4.2	4.1	4.3	4.3	8.8%	-1.5%	-1.1%	-0.3%	-0.3%
	Optimistic	4.2	4.3	4.0	3.9	4.1	4.1	2.4%	-1.4%	-1.0%	-0.3%	-0.2%

Source: S&P Global; APO-100 calculations

TABLE A-2

FAA FORECAST OF AVIATION ACTIVITY*

FISCAL YEARS 2025-2046

		Historical	FORECAST					PERCENT AVERAGE ANNUAL GROWTH				
Variable	Scenario	2025E	2026	2031	2036	2041	2046	2025-26	2026-31	2026-36	2026-41	2026-46
System Aviation Activity												
Available Seat Miles	Pessimistic	1,375.0	1,374.8	1,505.8	1,693.6	1,865.8	2,042.5	0.0%	1.8%	2.1%	2.1%	2.0%
(BIL)	Baseline	1,375.0	1,405.3	1,581.0	1,816.5	2,057.2	2,315.0	2.2%	2.4%	2.6%	2.6%	2.5%
	Optimistic	1,375.0	1,423.3	1,624.3	1,883.5	2,173.6	2,474.6	3.5%	2.7%	2.8%	2.9%	2.8%
Revenue Passenger Miles	Pessimistic	1,132.7	1,137.8	1,266.7	1,430.0	1,577.3	1,727.8	0.5%	2.2%	2.3%	2.2%	2.1%
(BIL)	Baseline	1,132.7	1,163.0	1,330.2	1,534.4	1,739.9	1,959.2	2.7%	2.7%	2.8%	2.7%	2.6%
	Optimistic	1,132.7	1,178.0	1,366.9	1,591.6	1,839.0	2,095.0	4.0%	3.0%	3.1%	3.0%	2.9%
Enplanements	Pessimistic	974.9	971.4	1,068.7	1,193.2	1,303.6	1,413.3	-0.4%	1.9%	2.1%	2.0%	1.9%
(MIL)	Baseline	974.9	998.1	1,131.4	1,295.4	1,455.7	1,622.9	2.4%	2.5%	2.6%	2.5%	2.5%
	Optimistic	974.9	1,014.0	1,170.4	1,356.8	1,553.9	1,751.2	4.0%	2.9%	3.0%	2.9%	2.8%
Psgr Carrier Miles Flown	Pessimistic	8,118.0	8,084.8	8,703.7	9,605.6	10,387.8	11,160.8	-0.4%	1.5%	1.7%	1.7%	1.6%
(MIL)	Baseline	8,118.0	8,284.3	9,173.4	10,359.3	11,518.7	12,722.9	2.0%	2.1%	2.3%	2.2%	2.2%
	Optimistic	8,118.0	8,402.6	9,454.1	10,790.0	12,225.6	13,656.1	3.5%	2.4%	2.5%	2.5%	2.5%
Psgr Carrier Departures	Pessimistic	9,212.4	9,102.8	9,588.1	10,373.7	10,981.9	11,540.3	-1.2%	1.0%	1.3%	1.3%	1.2%
(000s)	Baseline	9,212.4	9,335.1	10,124.9	11,231.3	12,218.8	13,195.1	1.3%	1.6%	1.9%	1.8%	1.7%
	Optimistic	9,212.4	9,468.3	10,449.7	11,736.8	13,012.7	14,216.9	2.8%	2.0%	2.2%	2.1%	2.1%
Nominal Passenger Yield	Pessimistic	16.19	16.71	19.27	22.31	25.99	30.32	3.2%	2.9%	2.9%	3.0%	3.0%
(cents)	Baseline	16.19	16.36	17.98	19.73	21.27	22.97	1.1%	1.9%	1.9%	1.8%	1.7%
	Optimistic	16.19	16.21	17.66	19.08	20.00	21.03	0.2%	1.7%	1.6%	1.4%	1.3%

* Includes domestic and international activity.

TABLE A-3

FAA FORECAST OF DOMESTIC AVIATION ACTIVITY

FISCAL YEARS 2025-2046

		Historical	FORECAST					PERCENT AVERAGE ANNUAL GROWTH				
Variable	Scenario	2025E	2026	2031	2036	2041	2046	2025-26	2026-31	2026-36	2026-41	2026-46
Domestic Aviation Activity												
Available Seat Miles	Pessimistic	979.1	966.8	1,050.0	1,175.5	1,293.8	1,412.7	-1.2%	1.7%	2.0%	2.0%	1.9%
(BIL)	Baseline	979.1	997.3	1,117.9	1,287.1	1,458.4	1,639.7	1.9%	2.3%	2.6%	2.6%	2.5%
	Optimistic	979.1	1,015.2	1,162.4	1,359.0	1,570.5	1,785.0	3.7%	2.7%	3.0%	3.0%	2.9%
Revenue Passenger Miles	Pessimistic	804.9	800.1	889.2	1,000.9	1,103.4	1,205.7	-0.6%	2.1%	2.3%	2.2%	2.1%
(BIL)	Baseline	804.9	825.3	946.8	1,095.9	1,243.7	1,399.4	2.5%	2.8%	2.9%	2.8%	2.7%
	Optimistic	804.9	840.2	984.4	1,157.1	1,339.3	1,523.4	4.4%	3.2%	3.3%	3.2%	3.0%
Enplanements	Pessimistic	854.9	848.7	930.6	1,033.8	1,124.7	1,212.9	-0.7%	1.9%	2.0%	1.9%	1.8%
(MIL)	Baseline	854.9	875.4	990.8	1,131.9	1,267.8	1,407.7	2.4%	2.5%	2.6%	2.5%	2.4%
	Optimistic	854.9	891.2	1,030.2	1,195.1	1365.2	1,532.5	4.2%	2.9%	3.0%	2.9%	2.7%
Psgr Carrier Miles Flown	Pessimistic	6,369.6	6,290.3	6,711.8	7,354.4	7,916.0	8,453.2	-1.2%	1.3%	1.6%	1.5%	1.5%
(MIL)	Baseline	6,369.6	6,488.7	7,147.5	8,054.9	8,927.3	9,817.2	1.9%	2.0%	2.2%	2.1%	2.1%
	Optimistic	6,369.6	6,606.4	7,433.4	8,507.0	9,616.7	10,691.4	3.7%	2.4%	2.6%	2.5%	2.4%
Psgr Carrier Departures	Pessimistic	8,446.0	8,325.9	8,722.3	9,383.3	9,880.3	10,317.7	-1.4%	0.9%	1.2%	1.1%	1.1%
(000s)	Baseline	8,446.0	8,556.7	9,241.3	10,212.2	11,058.4	11,878.4	1.3%	1.6%	1.8%	1.7%	1.7%
	Optimistic	8,446.0	8,689.0	9,568.2	10,727.2	11,845.7	12,877.1	2.9%	1.9%	2.1%	2.1%	2.0%
Nominal Passenger Yield	Pessimistic	16.16	16.78	19.88	23.54	27.47	32.10	3.9%	3.4%	3.4%	3.3%	3.3%
(cents)	Baseline	16.16	16.30	17.95	19.81	21.37	23.10	0.9%	1.9%	2.0%	1.8%	1.8%
	Optimistic	16.16	16.11	17.47	18.89	19.81	20.87	-0.3%	1.6%	1.6%	1.4%	1.3%

*Includes mainline and regional carriers.

TABLE A-4

FAA FORECAST OF INTERNATIONAL AVIATION ACTIVITY*

FISCAL YEARS 2025-2046

		Historical	FORECAST					PERCENT AVERAGE ANNUAL GROWTH				
Variable	Scenario	2025E	2026	2031	2036	2041	2046	2025-26	2026-31	2026-36	2026-41	2026-46
International Aviation Activity												
Available Seat Miles	Pessimistic	396.0	408.0	455.8	518.1	572.0	629.8	3.0%	2.2%	2.4%	2.3%	2.2%
(BIL)	Baseline	396.0	408.1	463.1	529.4	598.8	675.3	3.1%	2.6%	2.6%	2.6%	2.6%
	Optimistic	396.0	408.1	461.9	524.5	603.0	689.6	3.1%	2.5%	2.5%	2.6%	2.7%
Revenue Passenger Miles	Pessimistic	327.7	337.7	377.4	429.2	474.0	522.1	3.0%	2.3%	2.4%	2.3%	2.2%
(BIL)	Baseline	327.7	337.7	383.5	438.6	496.2	559.8	3.1%	2.6%	2.6%	2.6%	2.6%
	Optimistic	327.7	337.8	382.5	434.5	499.7	571.6	3.1%	2.5%	2.5%	2.6%	2.7%
Enplanements	Pessimistic	119.9	122.6	138.1	159.5	179.0	200.4	2.3%	2.4%	2.7%	2.6%	2.5%
(MIL)	Baseline	119.9	122.7	140.6	163.6	187.9	215.2	2.3%	2.8%	2.9%	2.9%	2.8%
	Optimistic	119.9	122.8	140.1	161.7	188.7	218.7	2.4%	2.7%	2.8%	2.9%	2.9%
Psgr Carrier Miles Flown	Pessimistic	1,748.4	1,794.5	1,991.9	2,251.3	2,471.8	2,707.6	2.6%	2.1%	2.3%	2.2%	2.1%
(MIL)	Baseline	1,748.4	1,795.6	2,025.9	2,304.4	2,591.4	2,905.6	2.7%	2.4%	2.5%	2.5%	2.4%
	Optimistic	1,748.4	1,796.2	2,020.7	2,283.0	2,609.0	2,964.7	2.7%	2.4%	2.4%	2.5%	2.5%
Psgr Carrier Departures	Pessimistic	766.4	776.8	865.8	990.4	1,101.6	1,222.6	1.4%	2.2%	2.5%	2.4%	2.3%
(000s)	Baseline	766.4	778.4	883.5	1,019.1	1,160.4	1,316.7	1.6%	2.6%	2.7%	2.7%	2.7%
	Optimistic	766.4	779.3	881.5	1,009.6	1,166.9	1,339.8	1.7%	2.5%	2.6%	2.7%	2.7%
Nominal Passenger Yield	Pessimistic	16.27	16.53	17.83	19.44	22.54	26.21	1.6%	1.5%	1.6%	2.1%	2.3%
(cents)	Baseline	16.27	16.50	18.04	19.52	21.00	22.66	1.4%	1.8%	1.7%	1.6%	1.6%
	Optimistic	16.27	16.47	18.14	19.59	20.50	21.48	1.3%	1.9%	1.7%	1.5%	1.3%

*Includes mainline and regional carriers.

Appendix B: FAA Forecast Accuracy

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

The table below presents an analysis of the variance from historical results for a primary forecast assumption along with five key forecast metrics during the FY 2010-2019, and 2023-24 forecast period. Though many of the forecasts prepared for the period examined were developed while the U.S. airline industry was going through upheaval, FAA's forecast methodology remained consistent during this time. Given the sudden nature of the COVID-19 pandemic and its unprecedented impacts to global aviation, forecasts developed for FY 2020-22 period were excluded from this analysis as inclusion of forecasts for these years might lead to inconclusive or inaccurate implications about the accuracy of FAA's current forecast methodology.

The table below contains the mean absolute percent errors for the projected values versus the actual results for U.S. carriers' system operations along with the projected values versus actual results for U.S. GDP. Each metric has five values showing the relative forecast variance by the number of years in advance the preparation of the forecast took place. For example, the "3 Years" column for ASMs shows that the mean absolute percent error was 5.3 percent for ASM forecasts prepared 3 years in advance. For the period under examination, preparation of the forecasts for FY 2010 through FY 2019 occurred in FY 2006 through FY 2016. Forecasts for the period FY 2023 through FY 2024 were prepared in 2019 through 2023.[50]

[50] It should be noted that the first forecasted year for each respective fiscal year is that very same year. Therefore, FY 2010's first forecasted year is FY 2010, and the third forecasted year is FY 2012.

U.S. AIR CARRIERS
SYSTEM SCHEDULED PASSENGER ACTIVITY
FORECAST EVALUATION

Forecast Variable	Mean Absolute Percent Error (Combined FY 2010-19, FY 2023-24) (Forecast Variance from Actual) Forecast Performed Years Prior to Actual				
	1 Year	2 Years	3 Years	4 Years	5 Years
U.S. Real GDP	1.2%	2.6%	4.3%	6.2%	7.5%
ASMs	1.0%	2.2%	4.9%	8.4%	10.4%
RPMs	0.9%	1.8%	4.5%	7.4%	9.5%
Passenger Enplanements	0.7%	1.8%	4.3%	7.2%	9.2%
Mainline Domestic Yield	2.4%	5.3%	9.6%	10.7%	9.0%
Commercial Operations at FAA/Contract Towers	0.8%	2.8%	6.8%	9.7%	13.0%

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

Examination of the forecast variances reveals several items. First, the forecast variances for GDP, a key exogenous variable, are similar to the variances of the key traffic measures, Passenger Enplanements and RPMs. This suggests that a substantial amount of the forecast variance for the traffic variables is attributable to the forecast error in the exogenous variables. Second, all the metrics examined have increasing variances as the forecast time horizon lengthens. Third, the variance between RPMs and Enplanements is relatively constant, even as the time horizon increases suggesting that over the long run, enplanement growth is a good indicator of RPM growth. Finally, the variance of Commercial Operations at FAA/Contract Towers relative to ASMs widens considerably after 2 years. This suggests that, beyond a 2-year forecast horizon, carriers are accommodating changes in capacity by means other than adjusting operations. Many carriers have been systematically reducing the number of smaller regional jets in their fleets, replacing them with larger 70-90 seat aircraft. This has allowed carriers to increase capacity without increasing flights.

Appendix C: Forecast Tables

TABLE 1

U.S. SHORT-TERM ECONOMIC FORECASTS

	FISCAL YEAR 2025				FISCAL YEAR 2026				FISCAL YEAR 2027			
ECONOMIC VARIABLE	1ST. QTR.	2ND. QTR.	3RD QTR.	4TH. QTR.	1ST. QTR.	2ND. QTR.	3RD QTR.	4TH. QTR.	1ST. QTR.	2ND. QTR.	3RD QTR.	4TH. QTR.
Real Personal Consumption Expenditure per Capita												
(2017 $)	47,779	47,786	48,025	48,309	48,459	48,734	49,010	49,256	49,447	49,587	49,765	49,955
Year over year change	2.5%	2.3%	2.1%	1.9%	1.4%	2.0%	2.1%	2.0%	2.0%	1.7%	1.5%	1.4%
Refiners' Acquisition Cost - Averag												
(Dollars per barrel)	71.40	72.65	65.58	66.73	60.49	56.94	54.35	55.41	56.17	57.46	60.34	62.91
Year over year change	-10.2%	-4.9%	-19.8%	-13.2%	-15.3%	-21.6%	-17.1%	-17.0%	-7.1%	0.9%	11.0%	13.5%
Consumer Price Index												
(1982-84 = 1)	3.165	3.195	3.208	3.233	3.255	3.281	3.301	3.324	3.345	3.364	3.387	3.409
Year over year change	2.7%	2.7%	2.5%	2.9%	2.8%	2.7%	2.9%	2.8%	2.8%	2.5%	2.6%	2.5%

Source: S&P Global

TABLE 2

U.S. LONG-TERM ECONOMIC FORECASTS

FISCAL YEAR	REAL GROSS DOMESTIC PRODUCT (Billions 2017 $)	REAL PERSONAL CONSUMPTION EXPENDITURE PER CAPITA (2017 $)	CONSUMER PRICE INDEX (1982-84=1.00)	REFINERS' ACQUISITION COST AVERAGE (Dollars per barrel)
Historical				
2010	16,675	36,378	2.17	74.61
2019	20,546	41,940	2.54	59.77
2020	20,333	41,093	2.58	43.15
2021	21,233	43,701	2.67	58.91
2022	22,004	45,440	2.88	93.50
2023	22,535	46,071	3.02	78.56
2024	23,220	46,938	3.12	78.66
2025E	23,712	47,975	3.20	69.09
Forecast				
2026	24,216	48,865	3.29	56.80
2031	26,456	53,746	3.69	72.52
2036	28,948	59,607	4.16	91.72
2041	31,327	65,384	4.63	100.17
2046	33,697	71,037	5.16	108.46
Avg Annual Growth				
2010-25	2.4%	1.9%	2.6%	-0.5%
2025-26	2.1%	1.9%	2.8%	-17.8%
2026-36	1.8%	2.0%	2.4%	4.9%
2026-46	1.7%	1.9%	2.3%	3.3%
Source: S&P Global				

TABLE 3

INTERNATIONAL GDP FORECASTS BY TRAVEL REGION

	GROSS DOMESTIC PRODUCT (In Billions of 2019 U.S. Dollars)				
CALENDAR YEAR	CANADA	EUROPE / AFRICA / MIDDLE EAST	LATIN AMERICA / CARIBBEAN / MEXICO	JAPAN / PACIFIC BASIN / CHINA / OTHER ASIA / AUSTRALIA / NEW ZEALAND	WORLD
Historical					
2010	1,439	22,041	4,647	20,177	67,678
2019	1,744	26,439	5,418	31,165	88,557
2020	1,656	24,999	5,055	30,906	85,897
2021	1,754	26,594	5,417	33,031	91,500
2022	1,837	27,743	5,635	34,171	94,606
2023	1,873	28,064	5,764	35,670	97,364
2024	1,911	28,472	5,886	37,065	100,093
2025E	1,943	29,070	6,018	38,640	103,000
Forecast					
2026	1,971	29,637	6,147	40,148	105,857
2031	2,194	32,930	7,038	48,333	121,125
2036	2,408	36,280	8,069	57,211	137,587
2041	2,645	39,679	9,176	66,801	154,790
2046	2,897	43,347	10,454	77,263	173,297
Avg Annual Growth					
2010-25	2.0%	1.9%	1.7%	4.4%	2.8%
2025-26	1.4%	1.9%	2.1%	3.9%	2.8%
2026-36	2.0%	2.0%	2.8%	3.6%	2.7%
2026-46	1.9%	1.9%	2.7%	3.3%	2.5%

Source: S&P Global, Comparative World Overview Tables (Interim Forecast, Monthly)

TABLE 4

INTERNATIONAL GDP FORECASTS – SELECTED AREAS/COUNTRIES

	GROSS DOMESTIC PRODUCT (In Billions of 2019 U.S. Dollars)				
CALENDAR YEAR	NORTH AMERICA (USMCA)	EUROZONE	UNITED KINGDOM	JAPAN	CHINA
Historical					
2010	19,986	12,145	2,420	4,798	7,697
2019	24,588	13,735	2,875	5,246	14,558
2020	23,941	12,893	2,586	5,019	14,894
2021	25,412	13,714	2,807	5,202	16,173
2022	26,106	14,224	2,952	5,269	16,680
2023	26,857	14,306	2,960	5,307	17,583
2024	27,570	14,432	2,992	5,294	18,459
2025E	28,133	14,642	3,033	5,358	19,383
Forecast					
2026	28,754	14,795	3,056	5,407	20,268
2031	31,441	15,960	3,278	5,623	25,087
2036	34,460	17,060	3,482	5,836	30,287
2041	37,320	18,094	3,688	6,034	35,633
2046	40,221	19,131	3,898	6,186	41,223
Avg Annual Growth					
2010-25	2.3%	1.3%	1.5%	0.7%	6.4%
2025-26	2.2%	1.0%	0.8%	0.9%	4.6%
2026-36	1.8%	1.4%	1.3%	0.8%	4.1%
2026-46	1.7%	1.3%	1.2%	0.7%	3.6%

Source: S&P Global, Comparative World Overview Tables (Interim Forecast, Monthly)

TABLE 5

U.S. COMMERCIAL AIR CARRIERS[1]

TOTAL SCHEDULED U.S. PASSENGER TRAFFIC

	REVENUE PASSENGER ENPLANEMENTS (Millions)			REVENUE PASSENGER MILES (Billions)		
FISCAL YEAR	DOMESTIC	INTERNATIONAL	TOTAL	DOMESTIC	INTERNATIONAL	TOTAL
Historical						
2010	635	77	712	555	231	786
2019	813	104	917	752	292	1,044
2020	465	49	513	423	129	551
2021	508	49	557	476	92	567
2022	739	91	830	696	213	909
2023	811	111	922	763	290	1,053
2024	859	120	978	805	318	1,123
2025E	855	120	975	805	328	1,133
Forecast						
2026	875	123	998	825	338	1,163
2031	991	141	1,131	947	383	1,330
2036	1,132	164	1,295	1,096	439	1,534
2041	1,268	188	1,456	1,244	496	1,740
2046	1,408	215	1,623	1,399	560	1,959
Avg Annual Growth						
2010-25	2.0%	3.0%	2.1%	2.5%	2.4%	2.5%
2025-26	2.4%	2.3%	2.4%	2.5%	3.1%	2.7%
2026-36	2.6%	2.9%	2.6%	2.9%	2.6%	2.8%
2026-46	2.4%	2.8%	2.5%	2.7%	2.6%	2.6%

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

[1]Sum of U.S. Mainline and Regional Air Carriers.

TABLE 6

U.S. COMMERCIAL AIR CARRIERS[1]

SCHEDULED PASSENGER CAPACITY, TRAFFIC, AND LOAD FACTORS

	DOMESTIC			INTERNATIONAL			SYSTEM		
FISCAL YEAR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR
Historical									
2010	679	555	81.7	281	231	82.1	961	786	81.8
2019	883	752	85	352	292	83	1,235	1,044	84.5
2020	618	423	68	178	129	72	796	551	69.2
2021	658	476	72	171	92	54	829	567	68.5
2022	834	696	83	278	213	77	1,112	909	81.7
2023	907	763	84	348	290	83	1,255	1,053	83.9
2024	961	805	83.7	388	318	82.1	1,349	1,123	83.3
2025E	979	805	82.2	396	328	82.8	1,375	1,133	82.4
Forecast									
2026	997	825	82.8	408	338	82.8	1,405	1,163	82.8
2031	1,118	947	84.7	463	383	82.8	1,581	1,330	84.1
2036	1,287	1,096	85.1	529	439	82.8	1,817	1,534	84.5
2041	1,458	1,244	85.3	599	496	82.9	2,057	1,740	84.6
2046	1,640	1,399	85.3	675	560	82.9	2,315	1,959	84.6
Avg Annual Growth									
2010-25	2.5%	2.5%		2.3%	2.4%		2.4%	2.5%	
2025-26	1.9%	2.5%		3.1%	3.1%		2.2%	2.7%	
2026-36	2.6%	2.9%		2.6%	2.6%		2.6%	2.8%	
2026-46	2.5%	2.7%		2.6%	2.6%		2.5%	2.6%	

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

[1]Sum of U.S. Mainline and Regional Air Carriers.

TABLE 7

U.S. COMMERCIAL AIR CARRIERS[1]

TOTAL SCHEDULED U.S. INTERNATIONAL PASSENGER TRAFFIC

	REVENUE PASSENGER ENPLANEMENTS				REVENUE PASSENGER MILES			
FISCAL YEAR	ATLANTIC (Mil)	LATIN AMERICA (Mil)	PACIFIC (Mil)	TOTAL INTERNATIONAL (Mil)	ATLANTIC (Bil)	LATIN AMERICA (Bil)	PACIFIC (Bil)	TOTAL INTERNATIONAL (Bil)
Historical								
2010	25	37	13	75	109	62	59	230
2019	28	59	13	100	121	94	75	290
2020	11	30	6	47	48	48	31	127
2021	6	41	1	47	27	59	4	90
2022	23	63	3	89	100	96	15	211
2023	32	70	7	109	141	104	43	289
2024	33	74	10	117	146	113	58	317
2025E	34	72	11	117	148	112	66	326
Forecast								
2026	36	73	12	120	155	113	67	336
2031	39	86	13	138	171	136	74	381
2036	43	103	14	160	190	164	82	436
2041	46	122	16	184	208	194	91	493
2046	50	143	17	211	227	229	100	556
Avg Annual Growth								
2010-25	2.2%	4.5%	-0.8%	3.1%	2.1%	4.0%	0.7%	2.4%
2025-26	4.4%	1.4%	1.5%	2.3%	4.7%	1.6%	1.7%	3.0%
2026-36	1.8%	3.6%	2.0%	2.9%	2.0%	3.7%	2.0%	2.6%
2026-46	1.8%	3.4%	2.0%	2.9%	1.9%	3.6%	2.0%	2.6%

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

[1]Sum of U.S. Mainline and Regional Air Carriers.

TABLE 8

U.S. AND FOREIGN FLAG CARRIERS

TOTAL PASSENGER TRAFFIC TO/FROM THE UNITED STATES

	TOTAL PASSENGERS BY WORLD TRAVEL AREA (Millions)				
CALENDAR YEAR	ATLANTIC	LATIN AMERICA	PACIFIC	U.S./CANADA TRANSBORDER	TOTAL
Historical					
2010	55.9	53.1	27.0	21.8	157.8
2019	88.5	88.7	43.8	31.9	252.9
2020	17.3	33.4	9.5	7.0	67.2
2021	24.1	65.8	4.4	4.8	99.0
2022	71.4	88.0	15.3	20.8	195.4
2023	86.8	99.6	29.4	28.4	244.2
2024	93.3	107.3	34.7	31.5	266.9
2025E	95.2	107.0	36.6	29.2	268.0
Forecast					
2026	97.5	109.5	38.1	29.3	274.3
2031	113.5	128.0	44.9	34.1	320.5
2036	130.7	149.4	52.2	38.5	370.9
2041	147.4	171.4	60.3	43.9	423.0
2046	164.5	195.4	69.4	50.5	479.8
Avg Annual Growth					
2010-25	3.6%	4.8%	2.0%	2.0%	3.6%
2025-26	2.4%	2.3%	4.0%	0.3%	2.4%
2026-36	3.0%	3.2%	3.2%	2.8%	3.1%
2026-46	2.7%	2.9%	3.0%	2.8%	2.8%

Source: US Customs & Border Protection data processed and released by Department of Commerce.

TABLE 9

U.S. COMMERCIAL AIR CARRIERS' FORECAST ASSUMPTIONS[1]

SEATS PER AIRCRAFT MILE AND PASSENGER TRIP LENGTH

	AVERAGE SEATS PER AIRCRAFT MILE			AVERAGE PASSENGER TRIP LENGTH		
FISCAL YEAR	DOMESTIC (Seats/Mile)	INTERNATIONAL (Seats/Mile)	SYSTEM (Seats/Mile)	DOMESTIC (Miles)	INTERNATIONAL (Miles)	SYSTEM (Miles)
Historical						
2010	121.8	216.4	139.7	874.8	2,988.0	1,104.2
2019	141.1	221.3	157.4	924.9	2,813.9	1,138.7
2020	141.1	217.1	153.1	909.2	2,647.9	1,073.6
2021	144.8	198.6	153.4	937.3	1,859.6	1,018.9
2022	149.0	215.4	161.4	941.2	2,347.5	1,094.7
2023	154.6	224.9	169.3	940.4	2,609.7	1,141.5
2024	154.8	226.1	170.2	937.5	2,654.8	1,147.8
2025E	153.7	226.5	169.4	941.5	2,732.5	1,161.9
Forecast						
2026	153.7	227.3	169.6	942.7	2,752.1	1,165.2
2031	156.4	228.6	172.4	955.6	2,727.0	1,175.7
2036	159.8	229.7	175.4	968.2	2,681.3	1,184.5
2041	163.4	231.1	178.6	981.1	2,640.5	1,195.3
2046	167.0	232.4	182.0	994.1	2,601.4	1,207.2
Avg Annual Growth						
2010-25	1.6%	0.3%	1.3%	0.5%	-0.6%	0.3%
2025-26	0.0%	0.3%	0.2%	0.1%	0.7%	0.3%
2026-36	0.4%	0.1%	0.3%	0.3%	-0.3%	0.2%
2026-46	0.4%	0.1%	0.4%	0.3%	-0.3%	0.2%

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

[1]Sum of U.S. Mainline and Regional Air Carriers.

TABLE 10

U. S. MAINLINE AIR CARRIERS
SCHEDULED PASSENGER TRAFFIC

	REVENUE PASSENGER ENPLANEMENTS (Millions)			REVENUE PASSENGER MILES (Billions)		
FISCAL YEAR	DOMESTIC	INTERNATIONAL	SYSTEM	DOMESTIC	INTERNATIONAL	SYSTEM
Historical						
2010	473	75	548	480	230	710
2019	654	100	754	674	290	963
2020	370	47	417	376	127	503
2021	402	47	449	422	90	512
2022	613	89	701	634	211	845
2023	696	109	805	710	289	998
2024	731	117	849	747	317	1,063
2025E	715	117	832	740	326	1,066
Forecast						
2026	729	120	849	757	336	1,093
2031	825	138	962	868	381	1,249
2036	942	160	1,102	1,004	436	1,440
2041	1,056	184	1,240	1,139	493	1,632
2046	1,172	211	1,383	1,280	556	1,837
Avg Annual Growth						
2010-25	2.8%	3.1%	2.8%	2.9%	2.4%	2.7%
2025-26	1.9%	2.3%	2.0%	2.3%	3.0%	2.5%
2026-36	2.6%	2.9%	2.7%	2.9%	2.6%	2.8%
2026-46	2.4%	2.9%	2.5%	2.7%	2.6%	2.6%

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

TABLE 11

U.S. MAINLINE AIR CARRIERS

SCHEDULED PASSENGER CAPACITY, TRAFFIC, AND LOAD FACTORS

	DOMESTIC			INTERNATIONAL			SYSTEM		
FISCAL YEAR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR
Historical									
2010	581	480	82.7	279	230	82.2	860	710	82.5
2019	785	674	85.8	349	290	83.0	1,134	963	85.0
2020	547	376	68.7	176	127	72.4	723	503	69.6
2021	582	422	72.6	169	90	53.4	751	512	68.2
2022	756	634	83.9	276	211	76.6	1,032	845	81.9
2023	842	710	84.3	346	289	83.4	1,188	998	84.1
2024	890	747	83.9	386	317	82.1	1,276	1,063	83.4
2025E	899	740	82.3	394	326	82.8	1,293	1,066	82.5
Forecast									
2026	913	757	82.9	406	336	82.8	1,318	1,093	82.9
2031	1,022	868	84.9	460	381	82.8	1,483	1,249	84.3
2036	1,176	1,004	85.3	526	436	82.9	1,703	1,440	84.6
2041	1,332	1,139	85.5	595	493	82.9	1,927	1,632	84.7
2046	1,497	1,280	85.5	671	556	82.9	2,168	1,837	84.7
Avg Annual Growth									
2010-25	3.0%	2.9%		2.3%	2.4%		2.7%	2.7%	
2025-26	1.6%	2.3%		3.0%	3.0%		2.0%	2.5%	
2026-36	2.6%	2.9%		2.6%	2.6%		2.6%	2.8%	
2026-46	2.5%	2.7%		2.5%	2.6%		2.5%	2.6%	

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

TABLE 12

U.S. MAINLINE AIR CARRIERS

SCHEDULED INTERNATIONAL PASSENGER ENPLANEMENTS

	REVENUE PASSENGER ENPLANEMENTS (MIL)			
FISCAL YEAR	ATLANTIC	LATIN AMERICA	PACIFIC	TOTAL
Historical				
2010	24.5	37.2	12.9	74.6
2019	27.9	59.2	13.2	100.2
2020	10.8	30.3	5.6	46.7
2021	5.7	40.9	0.8	47.4
2022	22.6	63.3	2.6	88.5
2023	31.8	69.7	7.4	109.0
2024	33.4	74.1	10.0	117.5
2025E	34.0	71.9	11.4	117.3
Forecast				
2026	35.5	72.9	11.6	120.0
2031	38.7	86.1	12.7	137.5
2036	42.6	103.3	14.1	160.0
2041	46.5	121.9	15.5	183.9
2046	50.4	143.2	17.1	210.8
Avg Annual Growth				
2010-25	2.2%	4.5%	-0.8%	3.1%
2025-26	4.4%	1.4%	1.5%	2.3%
2026-36	1.8%	3.6%	2.0%	2.9%
2026-46	1.8%	3.4%	2.0%	2.9%

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

TABLE 13

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

	ATLANTIC			LATIN AMERICA			PACIFIC			INTERNATIONAL		
FISCAL YEAR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR	ASMs (BIL)	RPMs (BIL)	% LOAD FACTOR
Historical												
2010	131	109	82.9	78	62	79.2	70	59	84.1	279	230	82.2
2019	146	121	82.9	112	94	83.5	91	75	82.6	349	290	83.0
2020	69	48	69.3	63	48	76.2	44	31	71.8	176	127	72.4
2021	57	27	47.8	92	59	63.5	20	4	22.4	169	90	53.4
2022	128	100	78.1	121	96	79.6	27	15	56.3	276	211	76.6
2023	171	141	82.6	122	104	85.8	54	43	80.5	346	289	83.4
2024	177	146	82.5	133	113	84.8	76	58	76.6	386	317	82.1
2025E	178	148	83.3	133	112	83.9	83	66	80.0	394	326	82.8
Forecast												
2026	186	155	83.3	135	113	83.9	84	67	80.0	406	336	82.8
2031	206	171	83.3	162	136	83.9	93	74	80.0	460	381	82.8
2036	228	190	83.3	195	164	83.9	103	82	80.0	526	436	82.9
2041	250	208	83.3	232	194	83.9	114	91	80.0	595	493	82.9
2046	273	227	83.3	273	229	83.9	125	100	80.0	671	556	82.9
Avg Annual Growth												
2010-25	2.1%	2.1%		3.6%	4.0%		1.1%	0.7%		2.3%	2.4%	
2025-26	4.7%	4.7%		1.6%	1.6%		1.7%	1.7%		3.0%	3.0%	
2026-36	2.0%	2.0%		3.7%	3.7%		2.0%	2.0%		2.6%	2.6%	
2026-46	1.9%	1.9%		3.6%	3.6%		2.0%	2.0%		2.5%	2.6%	

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

TABLE 14

U.S. MAINLINE AIR CARRIER FORECAST ASSUMPTIONS

SEATS PER AIRCRAFT MILE

		INTERNATIONAL				
FISCAL YEAR	DOMESTIC (Seats/Mile)	ATLANTIC (Seats/Mile)	LATIN AMERICA (Seats/Mile)	PACIFIC (Seats/Mile)	TOTAL (Seats/Mile)	SYSTEM (Seats/Mile)
Historical						
2010	152.0	231.7	171.7	287.2	220.9	169.2
2019	166.0	251.6	177.9	269.9	225.6	180.7
2020	166.7	256.2	178.5	256.5	221.8	177.4
2021	171.7	255.4	178.8	205.8	202.4	177.8
2022	171.0	260.0	180.4	265.8	218.3	181.5
2023	172.2	256.3	183.1	278.8	227.2	185.2
2024	172.7	254.1	184.6	279.6	228.6	186.5
2025E	173.5	253.4	185.8	277.7	229.4	187.4
Forecast						
2026	174.1	253.9	186.3	278.5	230.2	188.2
2031	176.6	256.4	188.8	282.2	231.5	190.7
2036	179.9	258.9	191.3	286.0	232.7	193.5
2041	183.5	261.4	193.8	289.7	234.0	196.6
2046	187.1	263.9	196.3	293.5	235.3	199.8
Avg Annual Growth						
2010-25	0.9%	0.6%	0.5%	-0.2%	0.3%	0.7%
2025-26	0.3%	0.2%	0.3%	0.3%	0.4%	0.4%
2026-36	0.3%	0.2%	0.3%	0.3%	0.1%	0.3%
2026-46	0.4%	0.2%	0.3%	0.3%	0.1%	0.3%

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

TABLE 15

U.S. MAINLINE AIR CARRIER FORECAST ASSUMPTIONS
AVERAGE PASSENGER TRIP LENGTH

		INTERNATIONAL				
FISCAL YEAR	DOMESTIC (Miles)	ATLANTIC (Miles)	LATIN AMERICA (Miles)	PACIFIC (Miles)	TOTAL (Miles)	SYSTEM (Miles)
Historical						
2010	1,015	4,433	1,660	4,587	3,077	1,296
2019	1,030	4,330	1,582	5,709	2,890	1,278
2020	1,015	4,442	1,577	5,634	2,725	1,207
2021	1,050	4,756	1,434	5,809	1,906	1,140
2022	1,035	4,435	1,517	5,835	2,388	1,206
2023	1,021	4,428	1,497	5,841	2,649	1,241
2024	1,021	4,370	1,520	5,800	2,695	1,253
2025E	1,035	4,355	1,552	5,808	2,778	1,281
Forecast						
2026	1,039	4,368	1,556	5,817	2,799	1,288
2031	1,052	4,425	1,575	5,844	2,772	1,298
2036	1,065	4,456	1,585	5,838	2,724	1,306
2041	1,079	4,478	1,593	5,847	2,681	1,317
2046	1,092	4,501	1,601	5,853	2,640	1,328
Avg Annual Growth						
2010-25	0.1%	-0.1%	-0.4%	1.6%	-0.7%	-0.1%
2025-26	0.3%	0.3%	0.2%	0.2%	0.8%	0.5%
2026-36	0.3%	0.2%	0.2%	0.0%	-0.3%	0.1%
2026-46	0.3%	0.1%	0.1%	0.0%	-0.3%	0.2%

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

TABLE 16

U.S. MAINLINE AIR CARRIER FORECAST ASSUMPTIONS
PASSENGER YIELDS

	REVENUE PER PASSENGER MILE					
	DOMESTIC		INTERNATIONAL		SYSTEM	
FISCAL YEAR	CURRENT $ (Cents)	FY 2025 $ (Cents)	CURRENT $ (Cents)	FY 2025 $ (Cents)	CURRENT $ (Cents)	FY 2025 $ (Cents)
Historical						
2010	12.62	18.58	12.84	18.89	12.69	18.68
2019	14.12	17.77	13.47	16.94	13.92	17.52
2020	13.40	16.62	13.48	16.71	13.42	16.64
2021	11.73	14.09	12.84	15.42	11.93	14.32
2022	15.62	17.37	15.23	16.95	15.52	17.27
2023	16.73	17.71	16.81	17.80	16.75	17.73
2024	16.24	16.68	16.35	16.79	16.27	16.71
2025E	16.41	16.41	16.29	16.29	16.37	16.37
Forecast						
2026	16.57	16.11	16.52	16.12	16.55	16.10
2031	18.25	15.81	18.06	15.64	18.19	15.76
2036	20.14	15.50	19.55	15.13	19.96	15.36
2041	21.73	15.03	21.03	14.64	21.52	14.88
2046	23.49	14.56	22.69	14.15	23.24	14.41
Avg Annual Growth						
2010-25	1.8%	-0.8%	1.6%	-1.0%	1.7%	-0.9%
2025-26	0.9%	-1.8%	1.4%	-1.0%	1.1%	-1.7%
2026-36	2.0%	-0.4%	1.7%	-0.6%	1.9%	-0.5%
2026-46	1.8%	-0.5%	1.6%	-0.6%	1.7%	-0.6%

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

TABLE 17

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

	REVENUE PER PASSENGER MILE							
	ATLANTIC		LATIN AMERICA		PACIFIC		TOTAL INTERNATIONAL	
FISCAL YEAR	CURRENT $ (Cents)	FY 2025 $ (Cents)	CURRENT $ (Cents)	FY 2025 $ (Cents)	CURRENT $ (Cents)	FY 2025 $ (Cents)	CURRENT $ (Cents)	FY 2025 $ (Cents)
Historical								
2010	12.73	18.75	13.33	19.63	12.50	18.40	12.84	18.89
2019	14.04	17.67	14.20	17.87	11.63	14.64	13.47	16.94
2020	13.49	16.73	14.60	18.10	11.75	14.58	13.48	16.71
2021	11.82	14.20	12.59	15.11	22.48	26.98	12.84	15.42
2022	15.68	17.44	14.37	15.99	17.79	19.80	15.23	16.95
2023	17.09	18.10	16.42	17.38	16.85	17.84	16.81	17.80
2024	17.30	17.76	15.35	15.76	15.92	16.35	16.35	16.79
2025E	17.34	17.34	15.47	15.47	15.30	15.30	16.29	16.29
Forecast								
2026	17.69	17.26	15.70	15.31	15.22	14.84	16.52	16.12
2031	19.44	16.83	17.05	14.76	16.74	14.49	18.06	15.64
2036	21.20	16.41	18.26	14.14	18.29	14.16	19.55	15.13
2041	23.00	16.01	19.47	13.55	19.88	13.84	21.03	14.64
2046	25.03	15.61	20.82	12.98	21.68	13.52	22.69	14.15
Avg Annual Growth								
2010-25	2.1%	-0.5%	1.0%	-1.6%	1.4%	-1.2%	1.6%	-1.0%
2025-26	2.0%	-0.5%	1.5%	-1.0%	-0.6%	-3.0%	1.4%	-1.0%
2026-36	1.8%	-0.5%	1.5%	-0.8%	1.9%	-0.5%	1.7%	-0.6%
2026-46	1.7%	-0.5%	1.4%	-0.8%	1.8%	-0.5%	1.6%	-0.6%

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

TABLE 18

U.S. MAINLINE AIR CARRIER FORECAST ASSUMPTIONS

JET FUEL PRICES

	DOMESTIC		INTERNATIONAL		SYSTEM	
FISCAL YEAR	CURRENT $ (Cents)	FY 2024 $ (Cents)	CURRENT $ (Cents)	FY 2024 $ (Cents)	CURRENT $ (Cents)	FY 2024 $ (Cents)
Historical						
2010	219.33	322.86	220.12	324.01	219.61	323.26
2019	204.64	257.47	207.73	261.36	205.75	258.88
2020	165.36	205.07	167.10	207.24	165.96	205.82
2021	176.27	211.63	171.80	206.26	174.78	209.84
2022	307.18	341.72	315.13	350.57	309.90	344.74
2023	294.20	311.46	290.68	307.73	292.93	310.12
2024	270.49	277.81	273.44	280.84	271.59	278.93
2025E	231.33	231.33	235.38	235.38	232.86	232.86
Forecast						
2026	196.36	190.97	199.80	194.32	197.67	192.24
2031	233.97	202.74	238.06	206.29	235.52	204.08
2036	297.63	228.98	302.84	232.99	299.61	230.50
2041	328.23	227.01	333.97	230.98	330.41	228.52
2046	355.66	220.45	361.89	224.31	358.03	221.92
Avg Annual Growth						
2010-25	0.4%	-2.2%	0.4%	-2.1%	0.4%	-2.2%
2025-26	-15.1%	-17.4%	-15.1%	-17.4%	-15.1%	-17.4%
2026-36	4.2%	1.8%	4.2%	1.8%	4.2%	1.8%
2026-46	3.0%	0.7%	3.0%	0.7%	3.0%	0.7%

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

TABLE 19

U.S. COMMERCIAL AIR CARRIERS

AIR CARGO REVENUE TON MILES[1, 2, 3]

	ALL-CARGO CARRIER RTMS (Millions)			PASSENGER CARRIER RTMS (Millions)			TOTAL RTMS (Millions)		
FISCAL YEAR	DOMESTIC	INT'L.	TOTAL	DOMESTIC	INT'L.	TOTAL	DOMESTIC	INT'L.	TOTAL
Historical									
2010	11,306	15,971	27,276	1,495	6,246	7,742	12,801	22,217	35,018
2019	14,737	19,668	34,405	1,468	6,984	8,452	16,205	26,652	42,857
2020	16,665	21,964	38,630	1,136	4,130	5,266	17,801	26,095	43,896
2021	18,555	26,580	45,135	1,318	4,836	6,154	19,873	31,416	51,289
2022	18,376	26,090	44,466	1,447	5,625	7,072	19,823	31,715	51,539
2023	16,358	24,184	40,542	1,219	5,522	6,741	17,578	29,706	47,284
2024	16,902	23,285	40,187	1,220	6,580	7,800	18,122	29,865	47,987
2025E	16,676	23,200	39,875	1,192	7,040	8,233	17,868	30,240	48,108
Forecast									
2026	17,253	24,593	41,846	1,222	7,359	8,581	18,475	31,952	50,427
2031	19,639	30,483	50,122	1,323	8,489	9,812	20,962	38,972	59,934
2036	22,064	36,430	58,494	1,411	9,412	10,824	23,475	45,843	69,318
2041	24,251	42,484	66,736	1,469	10,149	11,618	25,721	52,633	78,353
2046	26,354	49,053	75,406	1,508	10,791	12,299	27,862	59,843	87,705
Avg Annual Growth									
2010-25	2.6%	2.5%	2.6%	-1.5%	0.8%	0.4%	2.2%	2.1%	2.1%
2025-26	3.5%	6.0%	4.9%	2.5%	4.5%	4.2%	3.4%	5.7%	4.8%
2026-36	2.5%	4.0%	3.4%	1.5%	2.5%	2.3%	2.4%	3.7%	3.2%
2026-46	2.1%	3.5%	3.0%	1.1%	1.9%	1.8%	2.1%	3.2%	2.8%

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

[1]Includes freight/express and mail revenue ton miles on mainline air carriers and regionals/commuters.

[2]Domestic figures from 2000 through 2002 exclude Airborne Express, Inc.; international figures for 2003 and beyond include new reporting of contract service by U.S. carriers for foreign flag carriers.

[3]Domestic figures from 2003 and beyond include Airborne Express. Inc.

TABLE 20

U.S. COMMERCIAL AIR CARRIERS

INTERNATIONAL AIR CARGO REVENUE TON MILES BY REGION[1, 2]

FISCAL YEAR	ATLANTIC (MILLIONS)	LATIN AMERICA (MILLIONS)	PACIFIC (MILLIONS)	OTHER INTERNATIONAL (MILLIONS)	TOTAL (MILLIONS)
Historical					
2010	6,786	1,990	7,897	5,545	22,217
2019	7,426	1,661	10,429	7,135	26,652
2020	6,669	1,296	10,198	7,931	26,095
2021	7,603	1,608	11,555	10,650	31,416
2022	8,763	1,666	10,905	10,382	31,715
2023	8,352	1,418	12,015	7,921	29,706
2024	8,436	1,696	11,001	8,732	29,865
2025E	9,075	1,970	9,731	9,465	30,240
Forecast					
2026	9,363	1,995	10,560	10,033	31,952
2031	10,789	2,144	13,793	12,245	38,972
2036	12,274	2,339	16,449	14,781	45,843
2041	13,825	2,428	18,775	17,605	52,633
2046	15,432	2,497	21,078	20,836	59,843
Avg Annual Growth					
2010-25	2.0%	-0.1%	1.4%	3.6%	2.1%
2025-26	3.2%	1.3%	8.5%	6.0%	5.7%
2026-36	2.7%	1.6%	4.5%	4.0%	3.7%
2026-46	2.5%	1.1%	3.5%	3.7%	3.2%

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

[1]Includes freight/express and mail revenue ton miles on mainline air carriers and regionals/commuters.

[2]Figures for 2003 and beyond include new reporting of contract service by U.S. carriers for foreign flag carriers.

TABLE 21

U.S. MAINLINE AIR CARRIERS

PASSENGER JET AIRCRAFT

	LARGE NARROWBODY				LARGE WIDEBODY						
CALENDAR YEAR	2 ENGINE	3 ENGINE	4 ENGINE	TOTAL	2 ENGINE	3 ENGINE	4 ENGINE	TOTAL	LARGE JETS	REGIONAL JETS	TOTAL JETS
Historical											
2010	3,120	8	1	3,129	470	9	43	522	3,651	71	3,722
2019	3,775	0	0	3,775	553	0	0	553	4,328	60	4,388
2020	2,860	0	0	2,860	298	0	0	298	3,158	23	3,181
2021	2,828	0	0	2,828	281	0	0	281	3,109	23	3,132
2022	3,429	0	0	3,429	426	0	0	426	3,855	60	3,915
2023	4,210	0	0	4,210	550	0	0	550	4,760	72	4,832
2024	4,240	0	0	4,240	540	0	0	540	4,780	49	4,829
2025E	4,079	0	0	4,079	523	0	0	523	4,602	24	4,626
Forecast											
2026	4,192	0	0	4,192	574	0	0	574	4,766	1	4,767
2031	4,331	0	0	4,331	664	0	0	664	4,995	0	4,995
2036	4,846	0	0	4,846	746	0	0	746	5,592	0	5,592
2041	5,323	0	0	5,323	841	0	0	841	6,164	0	6,164
2046	5,948	0	0	5,948	942	0	0	942	6,890	0	6,890
Avg Annual Growth											
2010-25	1.8%	N.A.	N.A.	1.8%	0.7%	N.A.	N.A.	0.0%	1.6%	-7.0%	1.5%
2025-26	2.8%	N.A.	N.A.	2.8%	9.8%	N.A.	N.A.	9.8%	3.6%	N.A.	3.0%
2026-36	1.5%	N.A.	N.A.	1.5%	2.7%	N.A.	N.A.	2.7%	1.6%	N.A.	1.6%
2026-46	1.8%	N.A.	N.A.	1.8%	2.5%	N.A.	N.A.	2.5%	1.9%	N.A.	1.9%

Note: N.A. - Not Applicable

TABLE 22

U.S. MAINLINE AIR CARRIERS

CARGO JET AIRCRAFT

	LARGE NARROWBODY				LARGE WIDEBODY				
CALENDAR YEAR	2 ENGINE	3 ENGINE	4 ENGINE	TOTAL	2 ENGINE	3 ENGINE	4 ENGINE	TOTAL	TOTAL
Historical									
2010	153	104	31	288	265	200	97	562	850
2019	216	10	2	228	419	120	112	651	879
2020	200	10	0	210	414	115	109	638	848
2021	213	8	0	221	434	111	110	655	876
2022	219	7	0	226	469	118	122	709	935
2023	225	9	0	234	494	107	133	734	968
2024	182	2	0	184	488	65	124	677	861
2025E	189	2	0	191	519	57	127	703	894
Forecast									
2026	216	2	0	218	605	31	148	784	1,002
2031	257	0	0	257	791	9	155	955	1,212
2036	237	0	0	237	961	6	146	1,113	1,350
2041	198	0	0	198	1,105	3	134	1,242	1,440
2046	197	0	0	197	1,301	0	100	1,401	1,598
Avg Annual Growth									
2010-25	1.4%	-23.2%	N.A.	-2.7%	4.6%	-8.0%	1.8%	1.5%	0.3%
2025-26	14.3%	0.0%	N.A.	14.1%	16.6%	-45.6%	16.5%	11.5%	12.1%
2026-36	0.9%	N.A.	N.A.	0.8%	4.7%	-15.1%	-0.1%	3.6%	3.0%
2026-46	-0.5%	N.A.	N.A.	-0.5%	3.9%	-99.9%	-1.9%	2.9%	2.4%

Note: N.A. - Not Applicable

TABLE 23

TOTAL JET FUEL AND AVIATION GASOLINE FUEL CONSUMPTION

U.S. CIVIL AVIATION AIRCRAFT

(Millions of Gallons)

	JET FUEL					AVIATION GASOLINE			
	U.S. AIR CARRIERS[1, 2]								
FISCAL YEAR	DOMESTIC	INT'L.	TOTAL	GENERAL AVIATION	TOTAL	AIR CARRIER	GENERAL AVIATION	TOTAL	TOTAL FUEL CONSUMED
Historical									
2010	11,796	6,292	18,088	1,435	19,523	2	221	223	19,746
2019	14,648	7,043	21,691	1,510	23,202	2	200	202	23,404
2020	10,538	4,732	15,270	1,342	16,612	2	204	206	16,818
2021	11,587	4,824	16,410	1,909	18,320	2	229	231	18,550
2022	14,170	6,116	20,287	2,048	22,334	2	233	235	22,569
2023	14,490	6,934	21,423	1,776	23,200	2	256	258	23,457
2024	14,883	7,599	22,482	1,874	24,356	2	248	250	24,606
2025E	14,939	7,879	22,819	1,943	24,762	2	247	249	25,011
Forecast									
2026	15,066	8,039	23,106	1,999	25,105	2	244	246	25,351
2031	16,069	8,682	24,751	2,270	27,021	2	231	233	27,254
2036	17,603	9,443	27,046	2,539	29,585	2	230	232	29,816
2041	18,979	10,161	29,140	2,841	31,981	2	228	230	32,211
2046	20,302	10,904	31,205	3,159	34,364	2	231	233	34,597
Avg Annual Growth									
2010-25	1.6%	1.5%	1.6%	2.0%	1.6%	0.0%	0.8%	0.7%	1.6%
2025-26	0.8%	2.0%	1.3%	2.9%	1.4%	0.0%	-1.3%	-1.3%	1.4%
2026-36	1.6%	1.6%	1.6%	2.4%	1.7%	0.0%	-0.6%	-0.6%	1.6%
2026-46	1.5%	1.5%	1.5%	2.3%	1.6%	0.0%	-0.3%	-0.3%	1.6%

Source: Air carrier jet fuel, Form 41, U.S. Department of Transportation; all others, FAA APO estimates.

[1]Includes both passenger (mainline and regional air carrier) and cargo carriers.

[2]Forecast assumes 1.0% annual improvement in available seat miles per gallon for U.S. Commercial Air Carrier

TABLE 24

U.S. REGIONAL CARRIER FORECAST ASSUMPTIONS

	AVERAGE SEATS PER AIRCRAFT MILE			AVERAGE PASSENGER TRIP LENGTH			REVENUE PER PASSENGER MILE**	
FISCAL YEAR	DOMESTIC (Seats/Mile)	INT'L (Seats/Mile)	TOTAL (Seats/Mile)	DOMESTIC (Miles)	INT'L. (Miles)	TOTAL (Miles)	CURRENT $ (Cents)	2025 $ (Cents)
Historical								
2010	56.1	53.2	56.0	464	503	465	15.74	23.16
2019	64.1	70.9	64.3	492	670	496	11.47	14.44
2020	64.6	70.7	64.8	494	675	497	10.96	13.60
2021	65.9	72.9	66.1	508	662	511	9.62	11.56
2022	66.2	72.5	66.4	488	640	490	12.77	14.20
2023	66.8	73.4	67.0	457	630	461	13.62	14.42
2024	67.5	72.2	67.6	457	652	461	12.99	13.35
2025E	67.3	73.2	67.5	463	700	467	13.22	13.22
Forecast								
2026	67.8	73.5	68.0	465	705	470	13.35	12.98
2031	70.4	75.0	70.5	476	721	481	14.69	12.73
2036	73.0	76.5	73.1	486	735	490	16.20	12.46
2041	75.7	78.0	75.8	495	750	500	17.46	12.08
2046	78.5	79.5	78.6	505	765	510	18.87	11.70
Avg Annual Growth								
2010-25	1.2%	2.1%	1.2%	0.0%	2.2%	0.0%	-1.2%	-3.7%
2025-26	0.7%	0.4%	0.7%	0.6%	0.6%	0.6%	1.0%	-1.8%
2026-36	0.7%	0.4%	0.7%	0.4%	0.4%	0.4%	2.0%	-0.4%
2026-46	0.7%	0.4%	0.7%	0.4%	0.4%	0.4%	1.7%	-0.5%

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

** Reporting carriers.

TABLE 25

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

	REVENUE PASSENGERS			REVENUE PASSENGER MILES		
FISCAL YEAR	DOMESTIC	INTERNATIONAL	TOTAL	DOMESTIC	INTERNATIONAL	TOTAL
Historical						
2010	162	3	164	75,030	1,347	76,377
2019	159	4	163	78,362	2,376	80,739
2020	94	2	96	46,669	1,229	47,898
2021	106	2	108	53,702	1,221	54,924
2022	127	2	129	61,844	1,335	63,179
2023	115	2	118	52,794	1,348	54,142
2024	127	2	130	58,312	1,532	59,844
2025E	140	3	143	64,739	1,834	66,573
Forecast						
2026	147	3	149	68,276	1,934	70,211
2031	166	3	169	78,966	2,237	81,203
2036	189	4	193	92,000	2,606	94,607
2041	212	4	216	105,087	2,977	108,064
2046	236	4	240	118,999	3,371	122,371
Avg Annual Growth						
2010-25	-1.0%	-0.1%	-0.9%	-1.0%	2.1%	-0.9%
2025-26	4.8%	4.8%	4.8%	5.5%	5.5%	5.5%
2026-36	2.6%	2.6%	2.6%	3.0%	3.0%	3.0%
2026-46	2.4%	2.4%	2.4%	2.8%	2.8%	2.8%

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

TABLE 26

U.S. REGIONAL CARRIERS

SCHEDULED PASSENGER CAPACITY, TRAFFIC, AND LOAD FACTORS

	DOMESTIC			INTERNATIONAL			TOTAL		
YEAR	ASMs (MIL)	RPMs (MIL)	% LOAD FACTOR	ASMs (MIL)	RPMs (MIL)	% LOAD FACTOR	ASMs (MIL)	RPMs (MIL)	% LOAD FACTOR
Historical									
2010	98,461	75,030	76.2	1,857	1,347	72.5	100,318	76,377	76.1
2019	98,128	78,362	79.9	3,116	2,376	76.3	101,244	80,739	79.7
2020	70,866	46,669	65.9	1,812	1,229	67.9	72,678	47,898	65.9
2021	75,970	53,702	70.7	1,836	1,221	66.5	77,806	54,924	70.6
2022	77,923	61,844	79.4	1,833	1,335	72.8	79,756	63,179	79.2
2023	65,433	52,794	80.7	1,685	1,348	80.0	67,119	54,142	80.7
2024	71,388	58,312	81.7	1,943	1,532	78.8	73,331	59,844	81.6
2025E	80,089	64,739	80.8	2,389	1,834	76.8	82,478	66,573	80.7
Forecast									
2026	84,348	68,276	80.9	2,516	1,934	76.9	86,864	70,211	80.8
2031	95,684	78,966	82.5	2,854	2,237	78.4	98,538	81,203	82.4
2036	110,671	92,000	83.1	3,301	2,606	79.0	113,971	94,607	83.0
2041	126,098	105,087	83.3	3,761	2,977	79.2	129,859	108,064	83.2
2046	142,619	118,999	83.4	4,254	3,371	79.3	146,872	122,371	83.3
Avg Annual Growth									
2010-25	-1.4%	-1.0%		1.7%	2.1%		-1.3%	-0.9%	
2025-26	5.3%	5.5%		5.3%	5.5%		5.3%	5.5%	
2026-36	2.8%	3.0%		2.8%	3.0%		2.8%	3.0%	
2026-46	2.7%	2.8%		2.7%	2.8%		2.7%	2.8%	

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

TABLE 27

U.S. REGIONAL CARRIERS

PASSENGER AIRCRAFT

	31 TO 40 SEATS			OVER 40 SEATS			TOTAL FLEET		
AS OF JANUARY 1	PROP	JET	TOTAL	PROP	JET	TOTAL	NON JET	JET	TOTAL
Historical									
2010	144	28	172	99	1,728	1,827	243	1,756	1,999
2019	11	0	11	39	1,846	1,885	50	1,846	1,896
2020	11	0	11	40	1,434	1,474	51	1,434	1,485
2021	10	0	10	38	1,406	1,444	48	1,406	1,454
2022	3	3	6	49	1,623	1,672	52	1,626	1,678
2023	3	1	4	24	1,435	1,459	27	1,436	1,463
2024	3	1	4	21	1,369	1,390	24	1,370	1,394
2025E	3	1	4	19	1,406	1,425	22	1,407	1,429
Forecast									
2026	0	5	5	7	1,501	1,508	7	1,506	1,513
2031	0	5	5	7	1,497	1,504	7	1,502	1,509
2036	0	5	5	7	1,698	1,705	7	1,703	1,710
2041	0	5	5	7	1,930	1,937	7	1,935	1,942
2046	0	5	5	7	2,177	2,184	7	2,182	2,189
Avg Annual Growth									
2010-25	-22.7%	-19.9%	-22.2%	-10.4%	-1.4%	-1.6%	-14.8%	-1.5%	-2.2%
2025-26	N.A.	N.A.	25.0%	-63.2%	6.8%	5.8%	-68.2%	7.0%	5.9%
2026-36	N.A.	N.A.	N.A.	0.0%	1.2%	1.2%	0.0%	1.2%	1.2%
2026-46	N.A.	N.A.	N.A.	0.0%	1.9%	1.9%	0.0%	1.9%	1.9%

Note: N.A. - Not Applicable

TABLE 28

ACTIVE GENERAL AVIATION AND AIR TAXI AIRCRAFT

	FIXED WING												TOTAL		
	PISTON			TURBINE			ROTORCRAFT						GENERAL		
AS OF DEC. 31	SINGLE ENGINE	MULTI-ENGINE	TOTAL	TURBO PROP	TURBO JET	TOTAL	PISTON	TURBINE	TOTAL	EXPERI-MENTAL**	LIGHT SPORT AIRCRAFT**	OTHER	AVIATION FLEET	TOTAL PISTONS	TOTAL TURBINES
Historical*															
2010	139,519	15,900	155,419	9,369	11,484	20,853	3,588	6,514	10,102	24,784	6,528	5,684	223,370	159,007	27,367
2019	128,926	12,470	141,396	10,242	14,888	25,130	3,089	7,109	10,198	27,449	2,675	4,133	210,981	144,485	32,239
2020	124,059	11,947	136,006	10,317	15,316	25,633	2,930	6,816	9,746	26,367	2,570	3,818	204,140	138,936	32,449
2021	126,735	11,885	138,620	10,391	15,270	25,661	3,012	7,020	10,032	27,960	2,650	4,271	209,194	141,632	32,681
2022	126,076	11,652	137,728	10,713	16,126	26,839	2,748	7,021	9,769	28,062	2,666	4,476	209,540	140,476	33,860
2023	127,573	11,727	139,300	10,951	16,537	27,488	2,909	7,142	10,051	30,114	3,007	4,262	214,222	142,209	34,630
2024	127,344	11,616	138,960	11,924	16,835	28,759	2,998	7,574	10,573	27,848	3,088	4,529	213,756	141,959	36,333
2025E	126,915	11,545	138,460	11,985	17,385	29,370	3,005	7,705	10,710	28,825	3,190	4,675	215,230	141,465	37,075
Forecast															
2026	126,535	11,480	138,015	12,040	17,970	30,010	3,015	7,810	10,825	29,635	3,285	4,755	216,525	141,030	37,820
2031	125,180	11,205	136,385	12,420	21,100	33,520	3,115	8,480	11,595	31,200	3,795	4,915	221,410	139,500	42,000
2036	124,500	11,035	135,535	12,880	24,585	37,465	3,230	9,330	12,560	32,265	4,375	5,000	227,200	138,765	46,795
2041	124,540	10,965	135,505	13,555	28,250	41,805	3,330	10,275	13,605	33,255	5,025	5,050	234,245	138,835	52,080
2046	125,385	11,035	136,420	14,355	32,090	46,445	3,430	11,235	14,665	34,295	5,760	5,105	242,690	139,850	57,680
Avg Annual Growth															
2010-25	-0.6%	-2.1%	-0.8%	1.7%	2.8%	2.3%	-1.2%	1.1%	0.4%	1.0%	-4.7%	-1.3%	-0.2%	-0.8%	2.0%
2025-26	-0.3%	-0.6%	-0.3%	0.5%	3.4%	2.2%	0.3%	1.4%	1.1%	2.8%	3.0%	1.7%	0.6%	-0.3%	2.0%
2026-36	-0.2%	-0.4%	-0.2%	0.7%	3.2%	2.2%	0.7%	1.8%	1.5%	0.9%	2.9%	0.5%	0.5%	-0.2%	2.2%
2026-46	0.0%	-0.2%	-0.1%	0.9%	2.9%	2.2%	0.6%	1.8%	1.5%	0.7%	2.8%	0.4%	0.6%	0.0%	2.1%

* Source: 2001-2010, 2012-2024, FAA General Aviation and Air Taxi Activity (and Avionics) Surveys.

**Experimental Light-sport category that was previously shown under Sport Aircraft is moved under Experimental Aircraft category, starting in 2012.

Note: An active aircraft is one that has a current registration and was flown at least one hour during the calendar year.

TABLE 29

ACTIVE GENERAL AVIATION AND AIR TAXI HOURS FLOWN

(In Thousands)

	FIXED WING												TOTAL		
	PISTON			TURBINE			ROTORCRAFT						GENERAL		
AS OF DEC. 31	SINGLE ENGINE	MULTI-ENGINE	TOTAL	TURBO PROP	TURBO JET	TOTAL	PISTON	TURBINE	TOTAL	EXPERI-MENTAL**	LIGHT SPORT AIRCRAFT**	OTHER	AVIATION HOURS	TOTAL PISTONS	TOTAL TURBINES
Historical*															
2010	12,161	1,818	13,979	2,325	3,375	5,700	794	2,611	3,405	1,226	311	181	24,802	14,773	8,311
2019	12,700	1,731	14,431	2,619	3,926	6,546	628	2,369	2,997	1,269	189	135	25,566	15,059	8,914
2020	11,603	1,336	12,939	2,344	3,336	5,681	537	1,871	2,408	1,176	202	86	22,492	13,477	7,552
2021	12,808	1,494	14,302	2,720	4,868	7,587	578	2,178	2,756	1,394	245	156	26,441	14,880	9,765
2022	12,999	1,432	14,431	2,846	5,238	8,084	537	2,238	2,775	1,279	231	153	26,953	14,969	10,322
2023	14,613	1,492	16,105	2,841	4,628	7,469	668	2,239	2,907	1,594	355	132	28,563	16,773	9,708
2024	14,628	1,532	16,160	2,833	5,218	8,052	685	2,204	2,890	1,310	438	156	29,005	16,846	10,256
2025E	14,518	1,529	16,047	3,039	5,441	8,481	689	2,254	2,943	1,372	434	166	29,443	16,736	10,734
Forecast															
2026	14,171	1,519	15,691	3,136	5,653	8,789	693	2,300	2,994	1,426	432	174	29,505	16,384	11,090
2031	12,955	1,504	14,459	3,399	6,675	10,074	724	2,591	3,316	1,581	457	188	30,075	15,183	12,665
2036	12,880	1,511	14,391	3,562	7,754	11,316	756	2,906	3,661	1,659	510	193	31,731	15,147	14,221
2041	13,050	1,532	14,581	3,761	8,970	12,730	783	3,245	4,028	1,736	571	195	33,842	15,364	15,976
2046	13,411	1,573	14,984	3,978	10,390	14,369	810	3,579	4,389	1,813	643	198	36,395	15,794	17,947
Avg Annual Growth															
2010-25	1.2%	-1.1%	0.9%	1.8%	3.2%	2.7%	-0.9%	-1.0%	-1.0%	0.7%	2.3%	-0.6%	1.2%	0.8%	1.7%
2025-26	-2.4%	-0.6%	-2.2%	3.2%	3.9%	3.6%	0.6%	2.1%	1.7%	3.9%	-0.5%	4.5%	0.2%	-2.1%	3.3%
2026-36	-1.0%	-0.1%	-0.9%	1.3%	3.2%	2.6%	0.9%	2.4%	2.0%	1.5%	1.7%	1.1%	0.7%	-0.8%	2.5%
2026-46	-0.3%	0.2%	-0.2%	1.2%	3.1%	2.5%	0.8%	2.2%	1.9%	1.2%	2.0%	0.7%	1.1%	-0.2%	2.4%

* Source: 2001-2010, 2012-2024, FAA General Aviation and Air Taxi Activity (and Avionics) Surveys.

**Experimental Light-sport category that was previously shown under Sport Aircraft is moved under Experimental Aircraft category, starting in 2012.

Note: An active aircraft is one that has a current registration and was flown at least one hour during the calendar year.

TABLE 30

ACTIVE PILOTS BY TYPE OF CERTIFICATE, EXCLUDING STUDENT PILOTS*

AS OF DEC. 31	RECREA-TIONAL	SPORT PILOT	PRIVATE	COMMERCIAL	AIRLINE TRANSPORT	ROTOR-CRAFT ONLY	GLIDER ONLY	TOTAL LESS STUDENT PILOTS	INSTRUMENT RATED PILOTS[1]	GA PILOTS (EXCLUDING STUDENTS & ATPs)
Historical**										
2010	212	3,682	202,020	123,705	142,198	15,377	21,275	508,469	318,001	366,271
2019	127	6,467	161,105	100,863	164,947	14,248	19,143	466,900	314,168	301,953
2020	105	6,643	160,860	103,879	164,193	13,629	19,753	469,062	316,651	304,869
2021	85	6,801	161,459	104,610	163,934	13,191	20,328	470,408	317,169	306,474
2022	79	6,957	164,090	104,498	166,738	13,180	20,804	476,346	321,217	309,608
2023	71	7,144	167,711	106,711	174,113	13,428	21,292	490,470	332,313	316,357
2024	59	7,309	172,012	109,727	179,194	13,429	21,545	503,275	342,400	324,081
2025	54	7,450	174,155	118,314	181,742	13,630	21,888	517,233	355,473	335,491
Forecast										
2026	49	7,775	176,400	119,600	184,000	13,850	22,150	523,824	359,050	339,824
2031	35	8,865	176,350	122,600	190,500	14,850	23,200	536,400	368,700	345,900
2036	15	10,080	173,700	123,400	198,200	16,100	23,600	545,095	380,050	346,895
2041	2	11,335	173,400	126,100	206,800	17,050	23,850	558,537	393,550	351,737
2046	0	12,485	175,350	130,300	216,300	17,700	23,900	576,035	408,650	359,735
Avg Annual Growth										
2010-25	-8.7%	4.8%	-1.0%	-0.3%	1.6%	-0.8%	0.2%	0.1%	0.7%	-0.6%
2025-26	-9.3%	4.4%	1.3%	1.1%	1.2%	1.6%	1.2%	1.3%	1.0%	1.3%
2026-36	-11.2%	2.6%	-0.2%	0.3%	0.7%	1.5%	0.6%	0.4%	0.6%	0.2%
2026-46	-99.9%	2.4%	0.0%	0.4%	0.8%	1.2%	0.4%	0.5%	0.6%	0.3%

** Source: FAA U.S. Civil Airmen Statistics.

*Starting with April 2016, there is no expiration date on the new student pilot certificates. This generates a cumulative increase in the student pilot numbers and breaks the link between student pilot and private pilot or higher level certificates. Since there is no sufficient data yet to forecast the student certificates unter the new rule, student pilot forecast is suspended and excluded from this table.

[1]Instrument rated pilots should not be added to other categories in deriving total.

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

TABLE 31

GENERAL AVIATION AIRCRAFT FUEL CONSUMPTION

(In Millions of Gallons)

	FIXED WING								TOTAL FUEL CONSUMED		
	PISTON		TURBINE		ROTORCRAFT						
CALENDAR YEAR	SINGLE ENGINE	MULTI-ENGINE	TURBO PROP	TURBO JET	PISTON	TURBINE	EXPERI-MENTAL** / OTHER	LIGHT SPORT**	AVGAS	JET FUEL	TOTAL
Historical*											
2010	133	54	187	1,123	11	125	22	1	221	1,435	1,656
2019	131	45	213	1,170	8	127	16	1	200	1,510	1,711
2020	146	35	201	1,036	8	105	14	1	204	1,342	1,546
2021	155	47	230	1,557	8	123	18	1	229	1,909	2,138
2022	158	45	242	1,683	8	123	21	1	233	2,048	2,281
2023	175	46	237	1,420	9	118	24	2	256	1,776	2,032
2024	164	44	227	1,530	10	117	28	2	248	1,874	2,122
2025E	163	44	242	1,582	10	119	29	2	247	1,943	2,190
Forecast											
2026	159	43	249	1,629	10	122	30	2	244	1,999	2,243
2031	144	42	264	1,871	10	136	32	2	231	2,270	2,501
2036	142	42	270	2,118	11	151	32	2	230	2,539	2,768
2041	142	42	279	2,398	11	164	31	3	228	2,841	3,069
2046	145	43	290	2,700	11	168	29	3	231	3,159	3,389
Avg Annual Growth											
2010-25	1.3%	-1.4%	1.7%	2.3%	-0.7%	-0.3%	2.1%	2.1%	0.8%	2.0%	1.9%
2025-26	-2.5%	-1.1%	2.7%	3.0%	0.6%	1.8%	4.0%	-0.7%	-1.3%	2.9%	2.4%
2026-36	-1.1%	-0.2%	0.8%	2.7%	0.8%	2.2%	0.6%	1.4%	-0.6%	2.4%	2.1%
2026-46	-0.5%	0.0%	0.8%	2.6%	0.7%	1.6%	-0.3%	1.8%	-0.3%	2.3%	2.1%

*Source: FAA APO Estimates.

**Experimental Light-sport category that was previously shown under Sport Aircraft is moved under Experimental Aircraft category, starting in 2012.

Note: Detail may not add to total because of independent rounding.

TABLE 32

TOTAL COMBINED AIRCRAFT OPERATIONS AT AIRPORTS WITH FAA AND CONTRACT TRAFFIC CONTROL SERVICE

(In Thousands)

			GENERAL AVIATION			MILITARY				NUMBER OF TOWERS	
FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	ITINERANT	LOCAL	TOTAL	ITINERANT	LOCAL	TOTAL	TOTAL	FAA	CONTRACT
Historical											
2010	12,656	9,401	14,837	11,694	26,530	1,304	1,294	2,598	51,185	264	246
2019	16,100	7,212	14,139	12,998	27,138	1,348	1,134	2,482	52,933	264	256
2020	11,736	5,471	12,608	12,332	24,940	1,192	1,020	2,212	44,361	264	256
2021	12,214	5,882	13,759	13,441	27,200	1,287	1,074	2,362	47,659	264	258
2022	15,149	6,522	14,636	14,030	28,667	1,268	986	2,254	52,593	264	260
2023	16,157	6,456	14,591	15,281	29,872	1,194	866	2,060	54,547	264	262
2024	17,054	6,767	15,011	16,157	31,169	1,145	722	1,867	56,858	264	263
2025E	17,425	6,992	15,044	16,188	31,233	1,083	680	1,763	57,414	264	265
Forecast											
2026	17,744	7,036	15,396	16,694	32,090	1,083	680	1,763	58,635	264	265
2031	20,046	6,782	16,194	17,366	33,560	1,083	680	1,763	62,152	264	265
2036	21,917	7,134	16,496	17,721	34,218	1,083	680	1,763	65,035	264	265
2041	23,949	7,483	16,808	18,088	34,897	1,083	680	1,763	68,094	264	265
2046	26,120	7,831	17,128	18,467	35,596	1,083	680	1,763	71,312	264	265
Avg Annual Growth											
2010-25	2.2%	-2.0%	0.1%	2.2%	1.1%	-1.2%	-4.2%	-2.6%	0.8%		
2025-26	1.8%	0.6%	2.3%	3.1%	2.7%	0.0%	0.0%	0.0%	2.1%		
2026-36	2.1%	0.1%	0.7%	0.6%	0.6%	0.0%	0.0%	0.0%	1.0%		
2026-46	2.0%	0.5%	0.5%	0.5%	0.5%	0.0%	0.0%	0.0%	1.0%		

Source: FAA Air Traffic Activity.

TABLE 33

TOTAL TRACON OPERATIONS

(In Thousands)

FISCAL YEAR	AIR CARRIER	AIR TAXI/ COMMUTER	GENERAL AVIATION	MILITARY	OVERFLIGHT	TOTAL
Historical						
2010	12,572	8,649	10,810	2,052	4,844	38,928
2019	16,021	6,608	10,978	1,946	3,721	39,276
2020	11,617	5,153	9,691	1,763	3,049	31,274
2021	12,044	5,462	10,741	1,894	3,392	33,536
2022	14,966	5,924	11,375	1,825	3,601	37,694
2023	15,956	5,823	11,000	1,698	3,508	37,988
2024	16,840	6,053	11,132	1,630	3,598	39,255
2025E	17,212	6,243	11,177	1,565	3,875	40,073
Forecast						
2026	17,523	6,325	11,443	1,565	3,945	40,803
2031	19,790	5,871	12,084	1,565	4,207	43,519
2036	21,634	6,175	12,283	1,565	4,458	46,117
2041	23,638	6,486	12,487	1,565	4,727	48,904
2046	25,777	6,802	12,697	1,565	5,012	51,855
Avg Annual Growth						
2010-25	2.1%	-2.1%	0.2%	-1.8%	-1.5%	0.2%
2025-26	1.8%	1.3%	2.4%	0.0%	1.8%	1.8%
2026-36	2.1%	-0.2%	0.7%	0.0%	1.2%	1.2%
2026-46	1.9%	0.4%	0.5%	0.0%	1.2%	1.2%

Source: FAA Air Traffic Activity.

TABLE 34

IFR AIRCRAFT HANDLED
AT FAA EN ROUTE TRAFFIC CONTROL CENTERS
(In Thousands)

	IFR AIRCRAFT HANDLED			
FISCAL YEAR	COMMERCIAL	GENERAL AVIATION	MILITARY	TOTAL
Historical				
2010	30,965	6,550	2,982	40,498
2019	35,783	6,309	1,645	43,737
2020	25,608	5,096	1,404	32,108
2021	26,449	6,124	1,525	34,098
2022	32,891	7,034	1,511	41,437
2023	34,436	6,461	1,416	42,313
2024	36,209	6,284	1,385	43,878
2025E	36,868	6,427	1,385	44,681
Forecast				
2026	38,032	6,558	1,385	45,975
2031	42,192	6,870	1,385	50,447
2036	46,071	7,078	1,385	54,534
2041	50,212	7,297	1,385	58,894
2046	53,810	7,480	1,385	62,676
Avg Annual Growth				
2010-25	1.2%	-0.1%	-5.0%	0.7%
2025-26	3.2%	2.0%	0.0%	2.9%
2026-36	1.9%	0.8%	0.0%	1.7%
2026-46	1.8%	0.7%	0.0%	1.6%
Source: FAA Air Traffic Activity				