



Commercial Market Outlook | 2025-2044

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Cover photo:

View of the horizon through a head-up display (HUD)

FOREWORD



Brad McMullen

*Senior Vice President
Commercial Sales and Marketing
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As we cross the quarter century mark, I'm reminded of how resilient our industry is in the face of uncertainty. Passenger air traffic has tripled and the global airplane fleet has more than doubled over the past 25 years as commercial aviation grew despite significant challenges.

While we will continue to adapt and navigate some level of volatility, we provide this comprehensive forecast as a map of where the industry is headed over the next 20 years – backed up by decades of data, research and expert analysis.

From our vantage point in 2025, we see passenger air traffic continuing to rise and demand for new airplanes remaining strong, outstripping supply for years to come. Operators will need new airplanes to replace older, less-efficient jets and to grow their fleets to support travel demand.

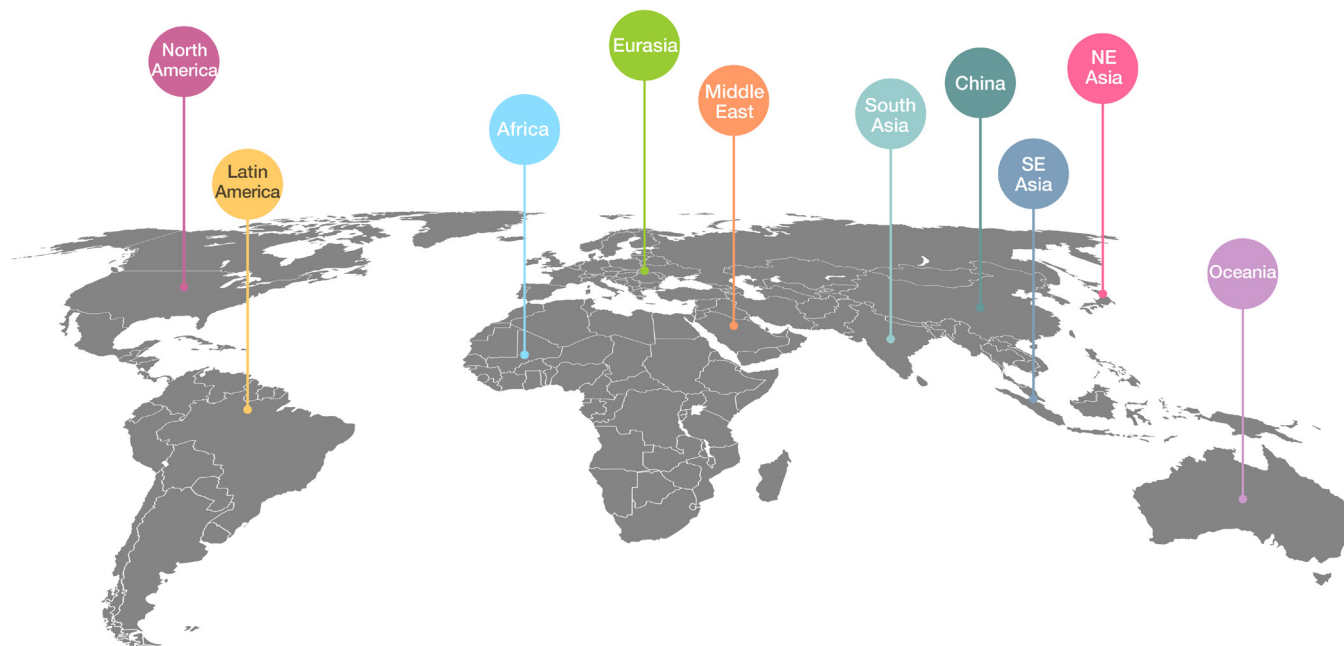
We expect it will take at least until the end of this decade for airplane supply to catch up with market demand, at which point commercial aviation will align with its pre-pandemic growth trajectory.

We know our industry will continue to grow and overcome current and future hurdles, in part, because we've proven we can do that again and again.

25 years

EXECUTIVE SUMMARY

2025-2044



GLOBAL OUTLOOK

Deliveries

43,600

Regional jets

1,545

Single-aisle

33,285

Widebody

7,815

Freighters

955



2044 fleet

49,640

Annual fleet growth

3.1%

Annual traffic growth

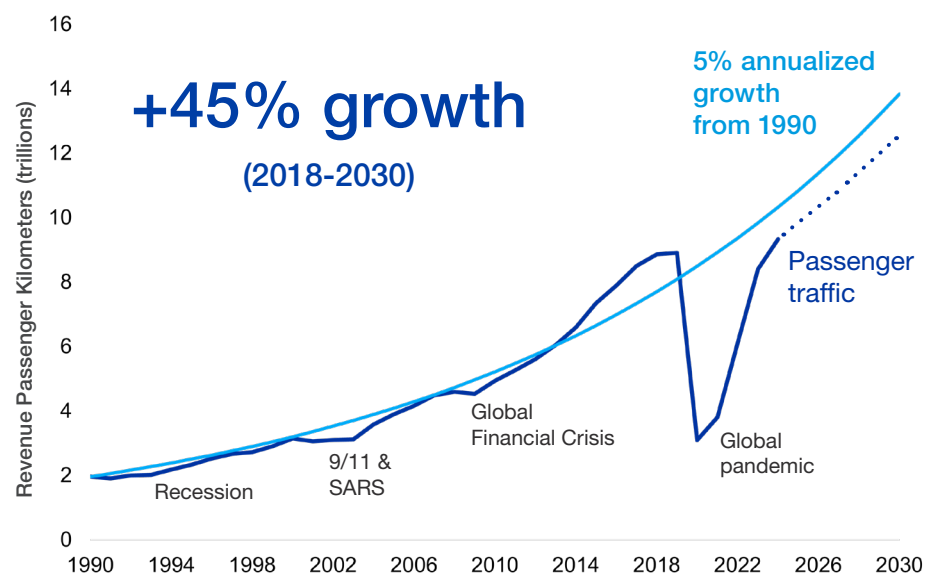
4.2%

Departures	Deliveries	2044 Fleet	Traffic growth
Africa	1,205	1,680	6.0%
China	9,000	9,755	5.3%
Eurasia	8,910	10,680	3.1%
Latin America	2,365	3,020	4.3%
Middle East	2,950	3,475	4.4%
North America	8,680	10,475	2.8%
Northeast Asia	1,515	1,635	2.4%
Oceania	800	895	3.0%
South Asia	3,290	2,925	7.0%
Southeast Asia	4,885	5,100	7.0%

GLOBAL TRENDS AND DRIVERS

Over the last quarter century, the aviation industry has been on a remarkable growth trajectory. Traffic volumes have tripled and there are now twice as many airport pairs served and double the number of airplanes flying. This growth has come despite a number of historic challenges – including the 9/11 attacks, the Global Financial Crisis and the COVID-19 pandemic. Resilience is a proven and unshakable trait of this industry.

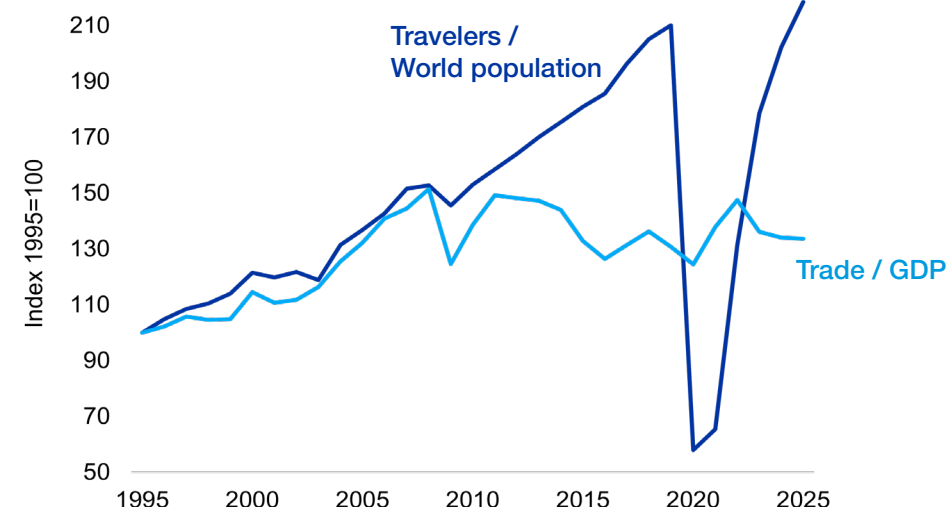
Aviation's resilience is proven; this is a growth industry



Source: Cirium, S&P Global Market Intelligence, Boeing Analysis

The next decades will likely bring uncertainty and obstacles as well, but there will be just as many opportunities and structural drivers supporting further connectivity and growth in air transport. In fact, while merchandise trade globalization has slowed since the Global Financial Crisis of 2008/09, the spread of global tourism—the connection of people and cultures—continues at pace.

Tourism growth continues



Source: Tourism Economics, WTO trade statistics, S&P Global Market Intelligence, Boeing Analysis
Note: travelers are international overnight arrivals; trade is global exports of goods

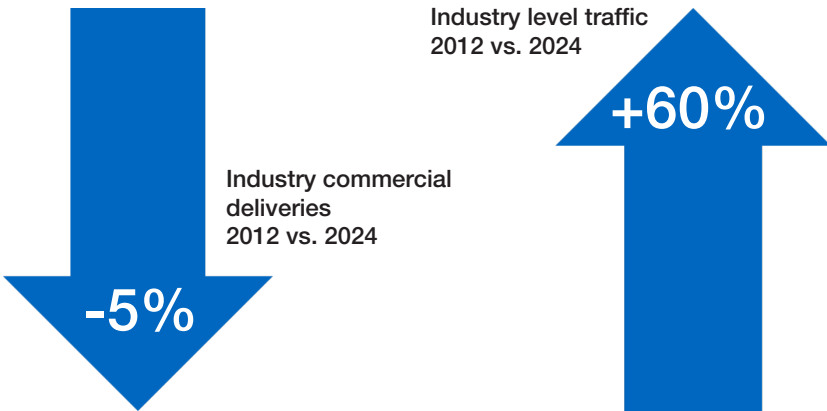
In addition, services trade is still expanding rapidly, growing at a rate nearly two percentage points faster than the rate of merchandise trade since 2010 and linking different economies beyond the exchange of physical goods.

Consumers continue to prioritize air travel in their spending choices. Travel spending as a share of discretionary spending has returned to about pre-pandemic levels and in some cases is now exceeding it. Several key long-term drivers support this trend. Overall, average fares relative to income levels have declined. This trend has been most pronounced over the last decade in the Asia-Pacific region. Even more mature markets such as North America and Europe have seen increased affordability.

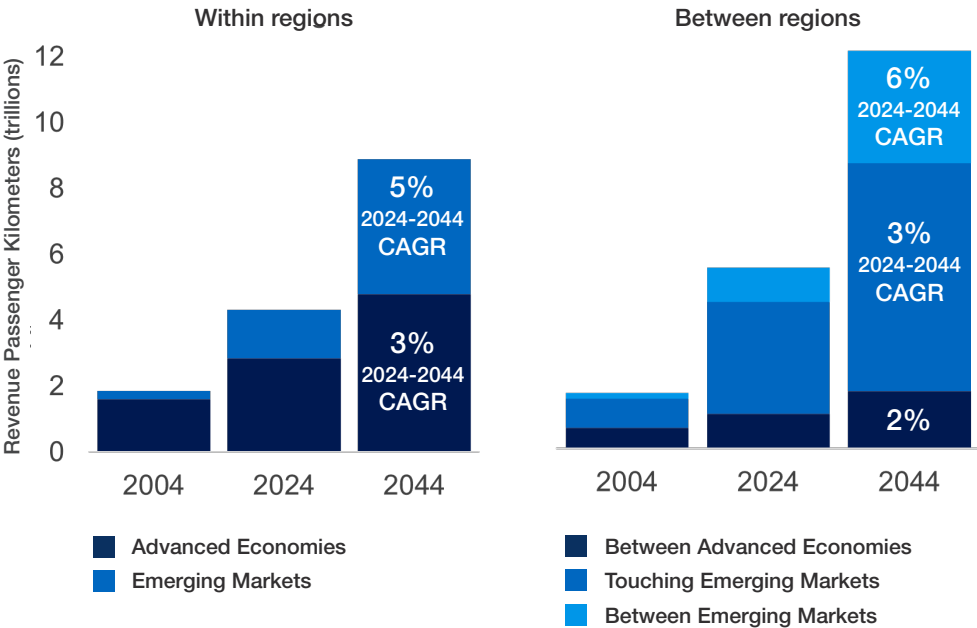
GLOBAL TRENDS AND DRIVERS

Airline industry business models have also significantly diversified over the last couple of decades. Airlines are expanding options to provide more price points and service levels to match consumer needs. To support the wider range of fare options, airlines are pursuing a range of strategies to improve efficiency and lower unit costs.

Emerging markets play a key role in future demand. In a world with new and evolving alliances, a more integrated Global South may well be a key source of growth going forward. Passenger traffic within and between emerging markets has risen six-fold over the last two decades. Already, the share of global traffic within and to/from emerging markets has risen to 60%.



Emerging markets outpacing average traffic growth



Five years after the onset of the pandemic, industry airplane supply remains well below prior peak production levels. Delivered capacity is still more than 20% below pre-pandemic levels and lags the manufacturing capacity recovery following the Global Financial Crisis, 9/11 and SARS downturns. In 2024, industry deliveries were near 2012 levels even though passenger air travel was 60% higher.

Airlines are adapting with a range of tactics including increasing utilization per airplane. Single-aisle airplane average hours flown per day is 15% higher than 2019 levels, or an extra hour per day. Airlines are also extending airplane economic lives. The share of the passenger fleet at or above the average economic retirement age has risen from 6% to 11% over the last five years. As a result, airlines will be fulfilling pent-up replacement demand well through this decade as industry supply chains recover and return to growth.

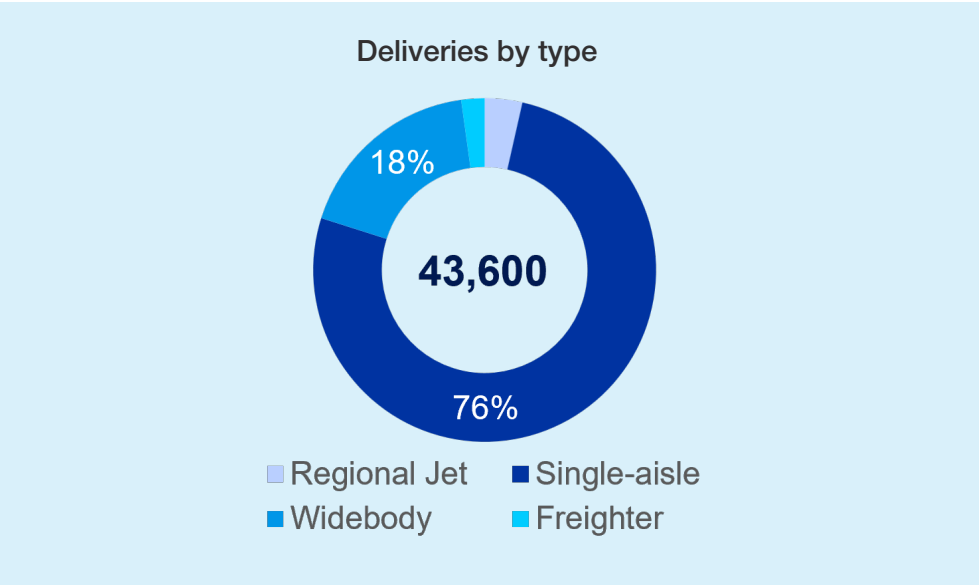
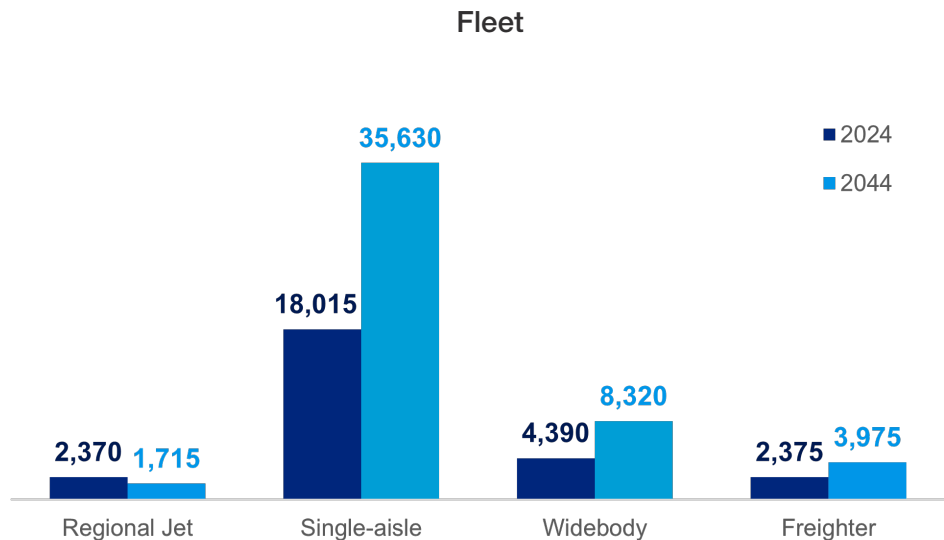
GLOBAL TRAFFIC, FLEET AND AIRPLANE DEMAND Outlook

In 2024, the global airline industry marked a significant milestone, surpassing pre-pandemic traffic levels first achieved in 2019. This resurgence signals a robust recovery and a return to growth for the sector. Over the past 25 years, the airline industry has demonstrated exceptional resilience, navigating through various regional and global crises while expanding the network by adding more than 12,000 airport pairs. Notably, passenger air traffic (revenue passenger kilometers) has tripled over the last quarter century with a fleet that has doubled underscoring the continuous productivity improvements across the industry.

Looking ahead, the fleet is projected to approach 50,000 active commercial airplanes by 2044, representing a 1.8-fold increase from the 2024 fleet of just over 27,000 aircraft. This growth is largely driven by single-aisle airplanes, which are expected to constitute 76% of the forecasted 43,600 deliveries. These aircraft belong to highly capable families that offer flexibility in capacity and operational characteristics along with competitive unit costs and the advantages of fleet commonality.

Their versatility makes them suitable for a wide range of missions, from high-frequency short-haul routes to longer-range, lower-demand operations. The increasing share of single-aisle airplanes in the fleet is evident, rising from 66% in 2024 to 72% by 2044.

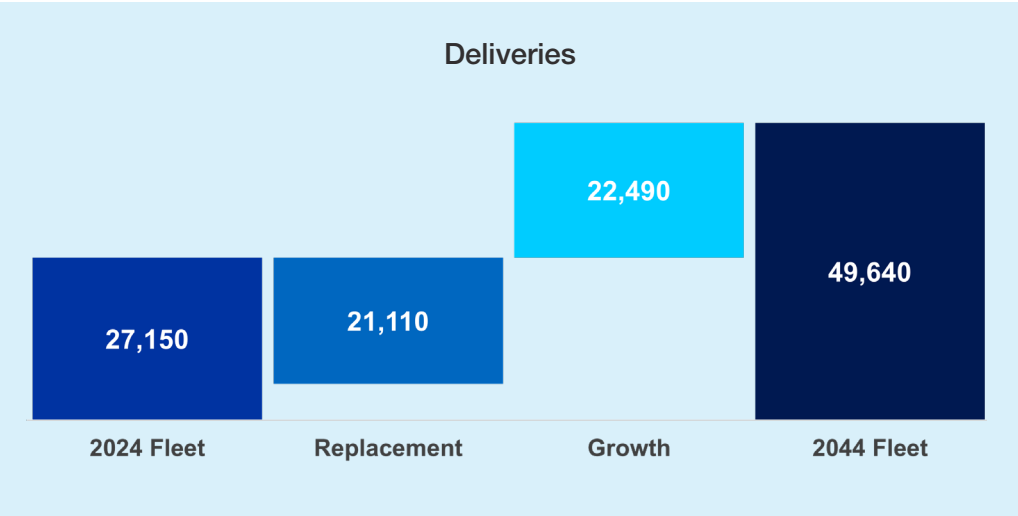
In contrast, widebody airplanes, which currently represent 16% of the global fleet, provide significant passenger accommodation, long-range capabilities, and substantial cargo capacity. These attributes enable airlines to explore diverse revenue opportunities, including premium classes, long-distance point-to-point travel, and high-capacity short-haul operations. The transition from four-engine to two-engine configurations has enhanced the operating economics and fuel efficiency of widebody airplanes, making them more versatile and cost-effective than ever.



GLOBAL TRAFFIC, FLEET AND AIRPLANE DEMAND Outlook

The demand for airplane deliveries is almost evenly divided between replacement and growth, a notable shift from forecasts from over two decades ago. In 2001, approximately 70% of airplane deliveries were anticipated for industry growth, whereas the current forecast indicates a more balanced split of around 50/50. This increased focus on fleet renewal offers benefits for the industry and environment. Newer airplanes typically consume less fuel per seat-mile, leading to reduced operational costs and lower emissions. Over the next 20 years, it is expected that nearly 80% of the airplanes currently in service will be replaced.

Deliveries are also expected to be distributed almost equally between emerging markets where a larger proportion will be allocated for growth, and the focus of mature markets on replacing existing fleets. Emerging markets are already significant players in the industry, accounting for nearly 40% of the fleet in 2024, and their influence is projected to increase. By 2044, these markets are expected to represent over 50% of the global commercial fleet, highlighting their growing importance in shaping the future of the aviation industry.



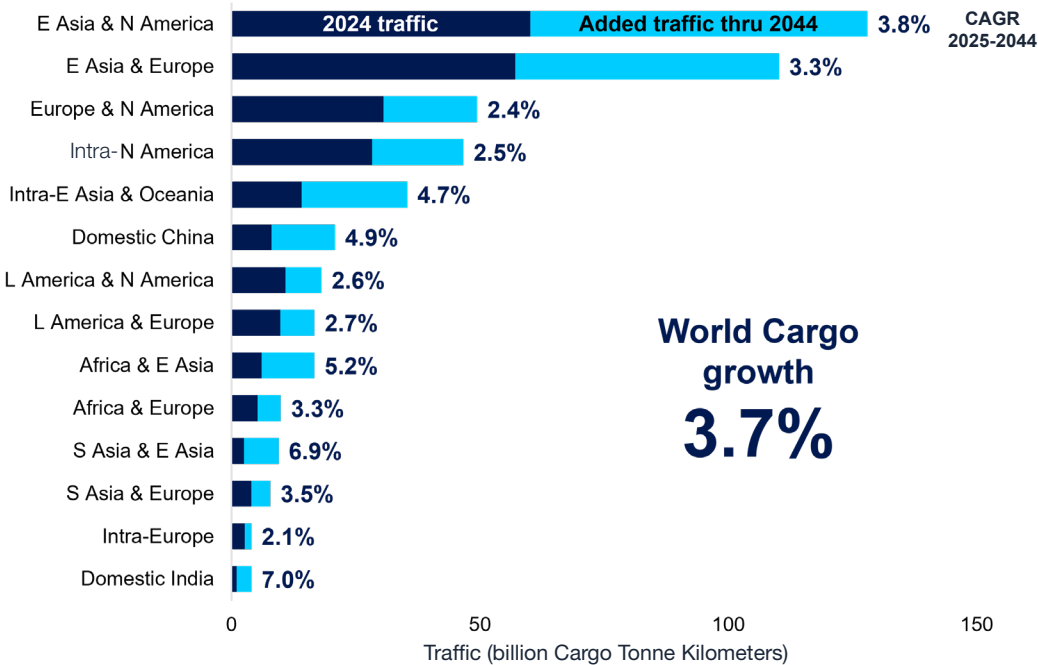
GLOBAL AIR CARGO AND FREIGHTER FLEET Outlook

The air cargo industry experienced strong growth in 2024, owing to the recovery of general cargo trade and a strong upswing in demand for e-commerce out of East Asia. Boeing forecasts that the industry overall will continue to grow at an average of 3.7% per year through 2044, driven primarily by the projected growth of global real GDP, global trade and industrial production.

Additionally, de-risking and diversification of global supply chains will increase the manufacturing sector's demand for air cargo as supply chains become multi-nodal across a wider geography. At the same time, expanding e-commerce and express networks—particularly in countries with large populations but nascent online retail markets—will provide a further boost to air cargo traffic. Given these factors, markets in South Asia, China and Southeast Asia are poised for the fastest growth over the next twenty years.



Air Cargo Traffic Forecasts by Flow



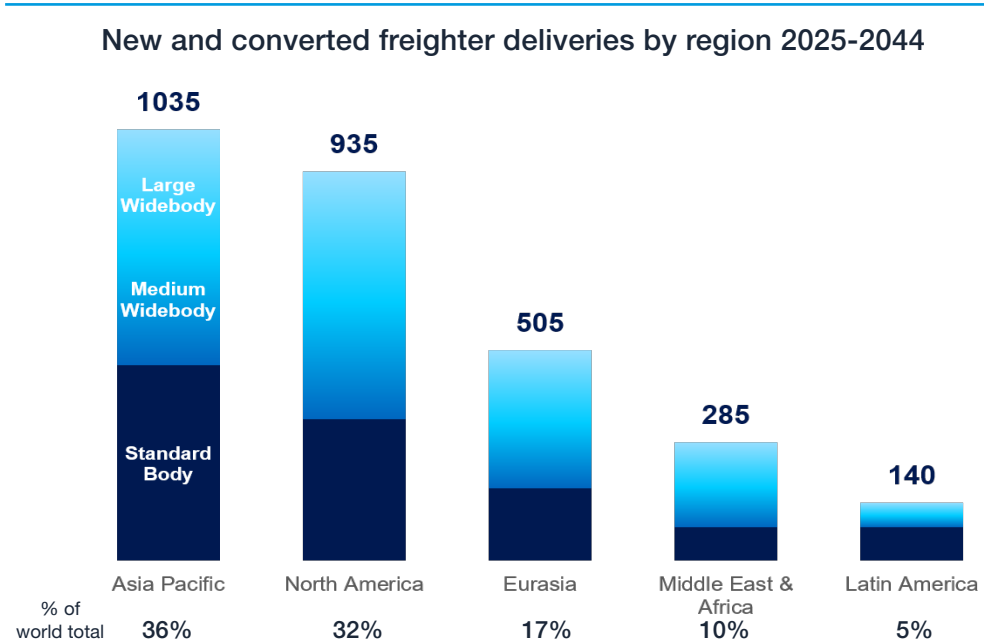
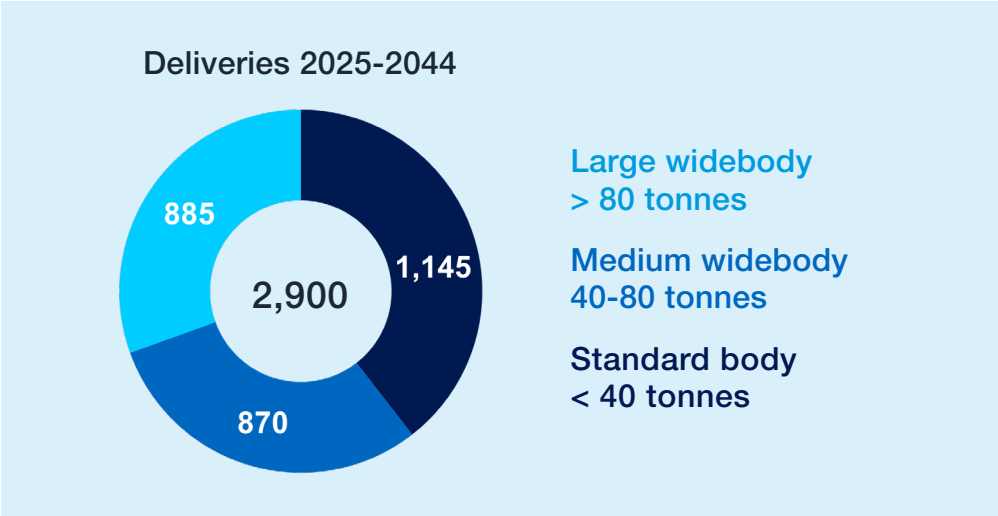
GLOBAL AIR CARGO AND FREIGHTER FLEET Outlook

The continued growth of air cargo traffic and the need to replace aging freighters with the latest technology will drive demand for factory-produced and converted freighters over the next 20 years.

The freighter fleet forecast projects the global freighter fleet to grow by approximately 67% from 2,375 airplanes in 2024 to 3,975 airplanes in 2044.

Freighter deliveries are expected to total 2,900, with approximately 45% replacing retiring airplanes, while the remainder will grow the fleet. Roughly two-thirds of all freighter deliveries will be converted passenger airplanes. Of those conversions, nearly 60% will be standard body freighters.

The Asia Pacific and North America regions will require the most freighter deliveries. Just over one-third of all freighter demand will come from Asia Pacific carriers, more than doubling the existing fleet. North American carriers will receive another third of projected freighter deliveries, with roughly two-thirds replacing older airplanes.



AFRICA

Economic growth (GDP) 4.0%

Airline traffic growth (RPK) 6.0%

Airline fleet growth 4.4%

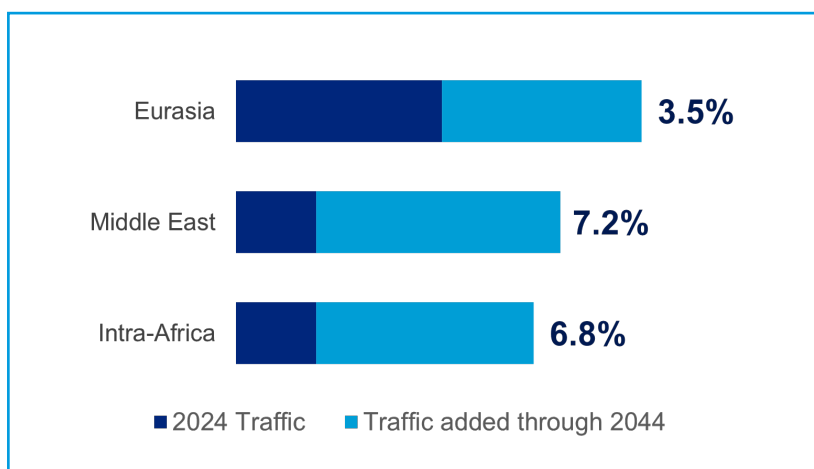


Chefchaouen, Morocco

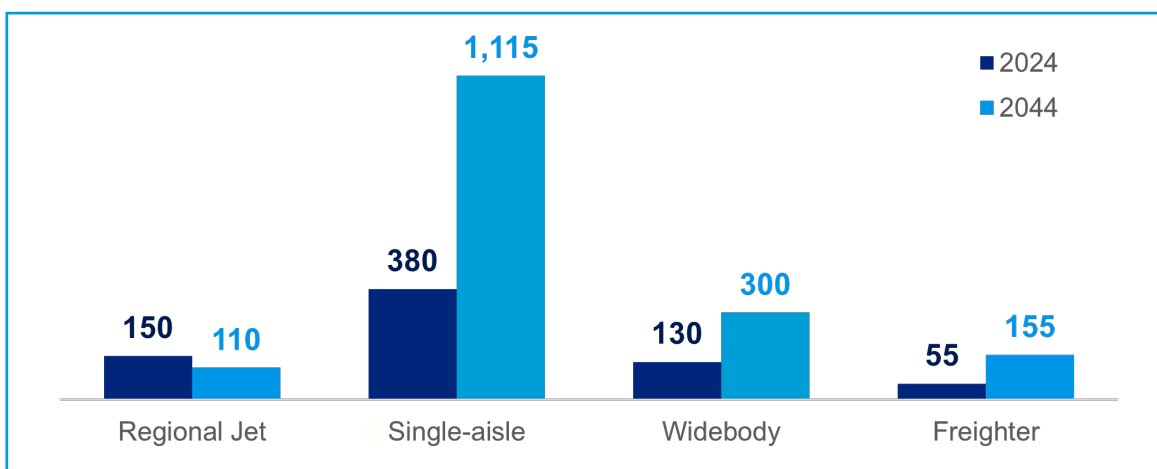
With traffic growth averaging 6% per year through 2044, Africa is one of the higher-growth regions of the forecast, driven by a young population and rapidly developing economy.

Air services within the region remain relatively low compared to other emerging markets. While the continent covers 20% of Earth's land area, regulatory constraints have slowed development of aviation networks in many countries. Low-cost carriers (LCCs) fly only 1% of capacity within the region compared to over 20% capacity on routes to and from Europe. As a result, short-haul international travel is less developed in Africa than it is in other emerging markets and represents a significant growth opportunity.

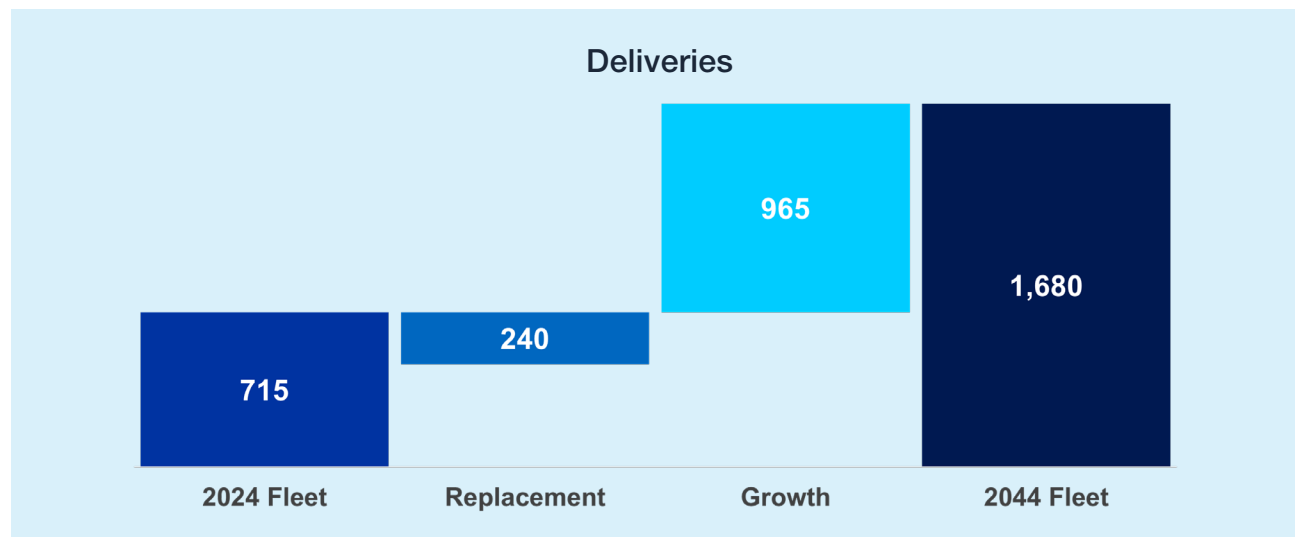
Passenger traffic



Fleet



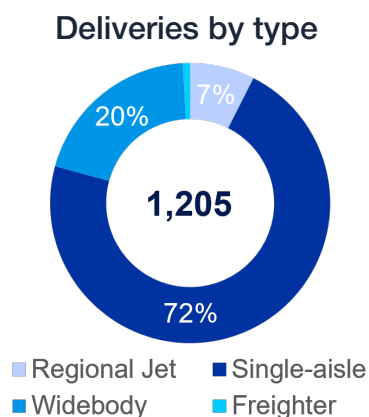
AFRICA



Traffic growth is forecast to average 6% per year through 2044 fueled by rapid economic development, and a young, growing population.

African airlines and their trade associations have been working towards the Single African Air Transport Market (SAATM) since 2018. Boeing's forecast assumes continued progress, unlocking growth potential and allowing the airline fleet to more than double through 2044.

Fleet growth will favor single-aisle airplanes, which represent over 70% of the region's deliveries to 2044. Modern single-aisle airplanes are highly range-capable, enabling airlines to serve a variety of markets within Africa and to nearby regions.



Map of the African continent

CHINA



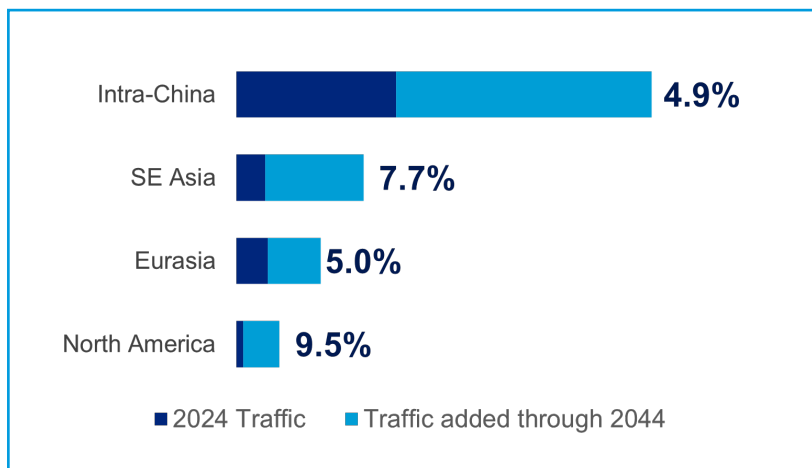
Economic growth (GDP)	3.7%
Airline traffic growth (RPK)	5.3%
Airline fleet growth	4.0%

Beijing, China

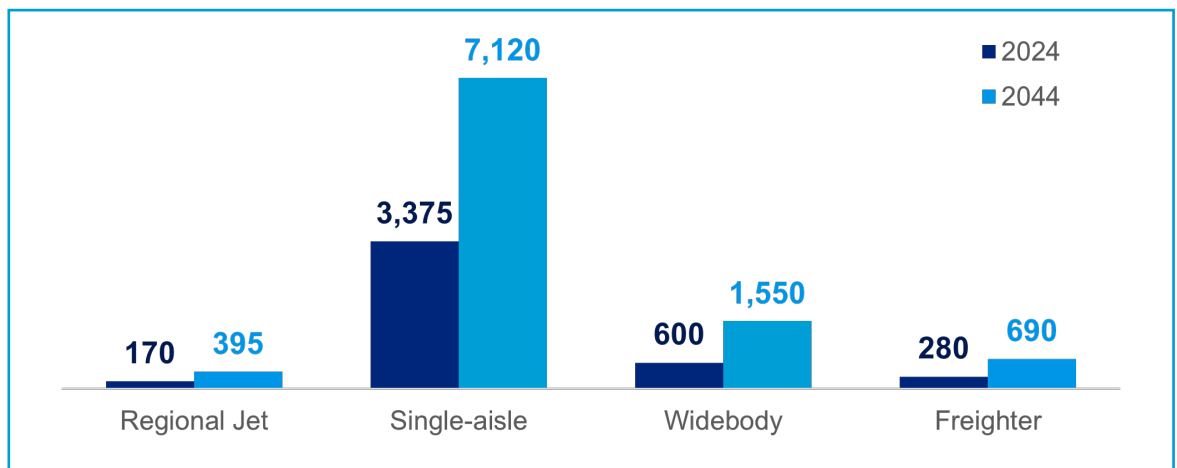
Chinese airlines have seen strong passenger traffic growth over the last several years, with 2024 volumes 10% above 2019 levels. Over the next 20 years, passenger traffic will grow at 5.3% annually, outpacing projected economic growth of 3.7%. The share of middle-income households will nearly double from 24% to 43%, making air travel attainable for more people. Recent policy changes reducing visa requirements will further stimulate international travel.

China's jet fleet is forecast to double over the next twenty years to 9,755 airplanes. New airplane deliveries will increasingly support fleet renewal, with 41% of 9,000 new deliveries replacing older airplanes—up from 27% a decade ago.

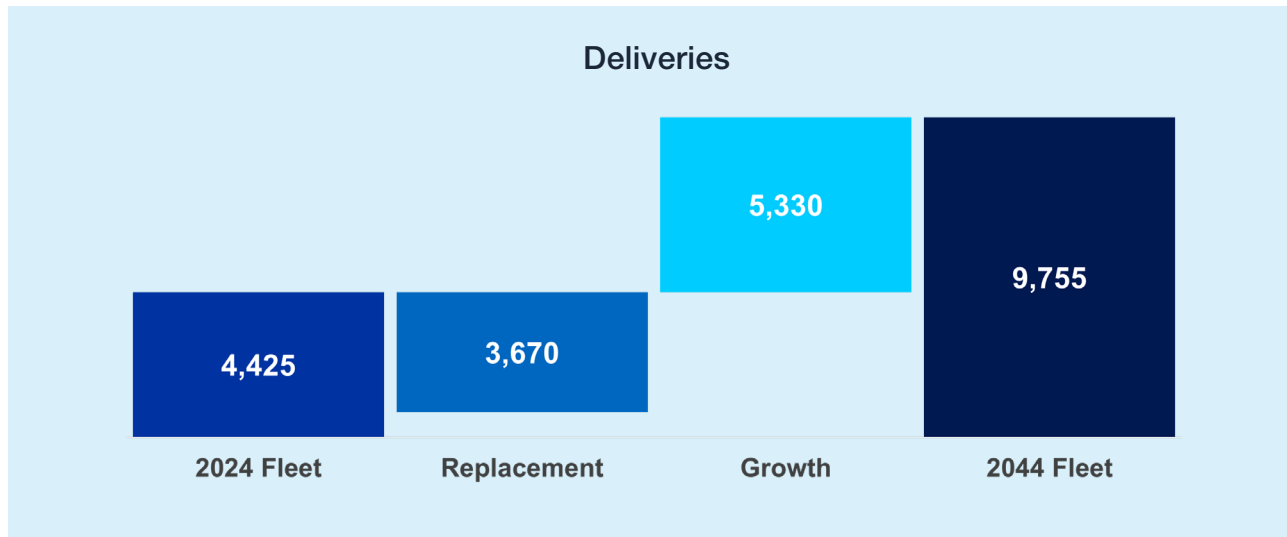
Passenger traffic



Fleet



CHINA

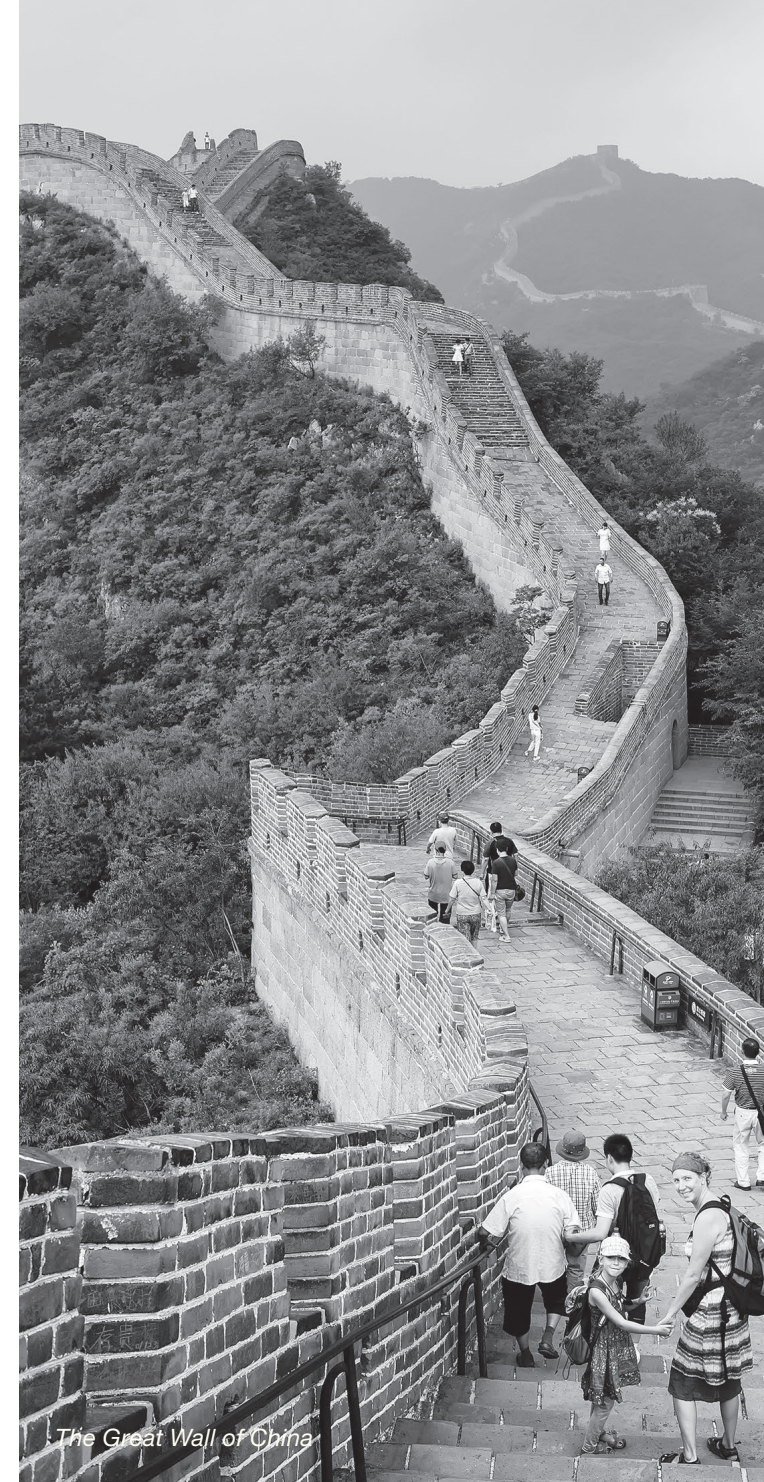
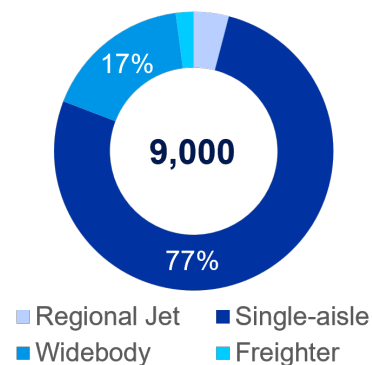


The China market will see above-average global traffic growth with a growing middle class, liberalizing visa policies, and strong aviation infrastructure investment.

As more efficient and capable single-aisle airplanes enter China's fleet, airlines are shifting away from operating widebody airplanes on shorter-haul routes. This trend is seen on routes to and from the rest of Asia, where the share of flights operated by widebody airplanes has decreased from 15% to 12% over the last five years.

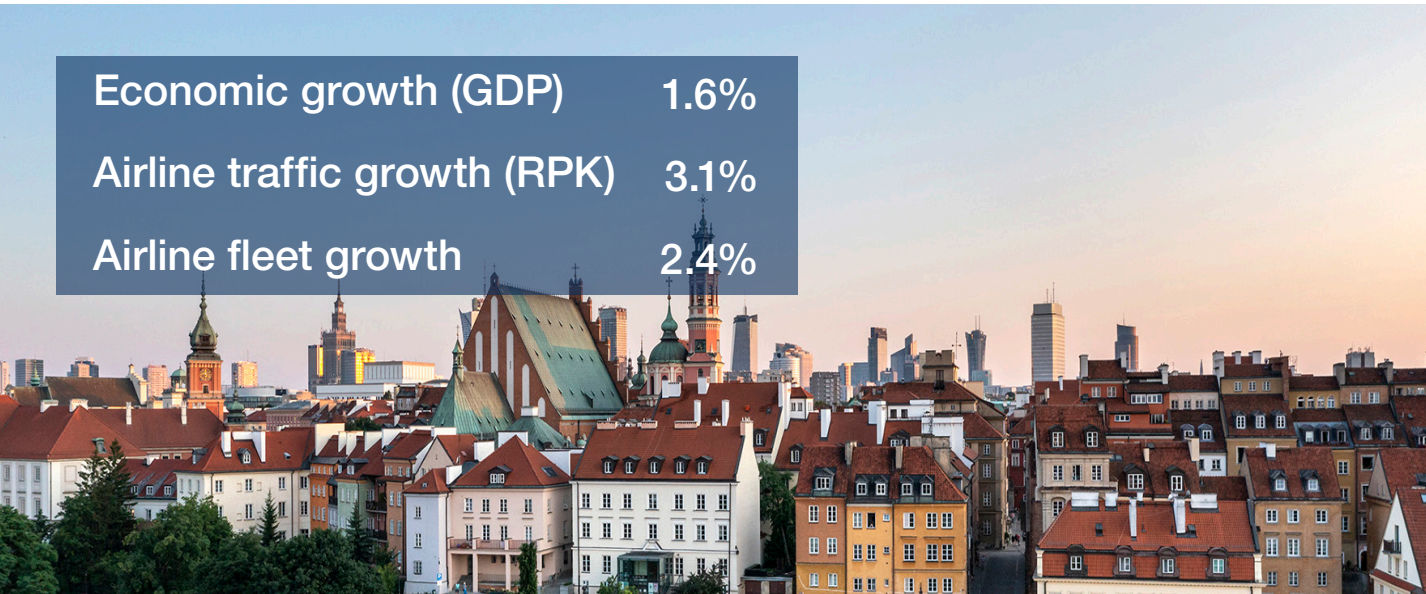
Chinese airline capacity share on major long-haul routes has increased more than 20 percentage points over the last decade and is now at 65%. While growth will moderate, passenger traffic on long-haul flows is expected to grow at a rate of 6.5%—supporting a need for 1,540 new widebody airplanes.

Deliveries by type



EURASIA

Economic growth (GDP) 1.6%
Airline traffic growth (RPK) 3.1%
Airline fleet growth 2.4%

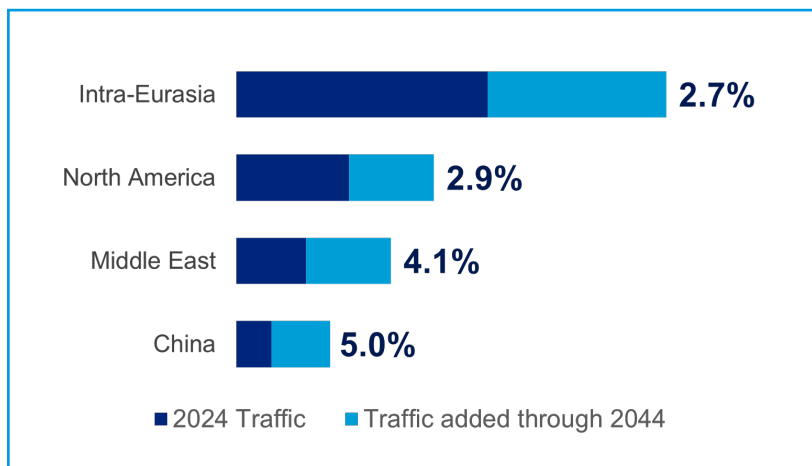


Warsaw, Poland

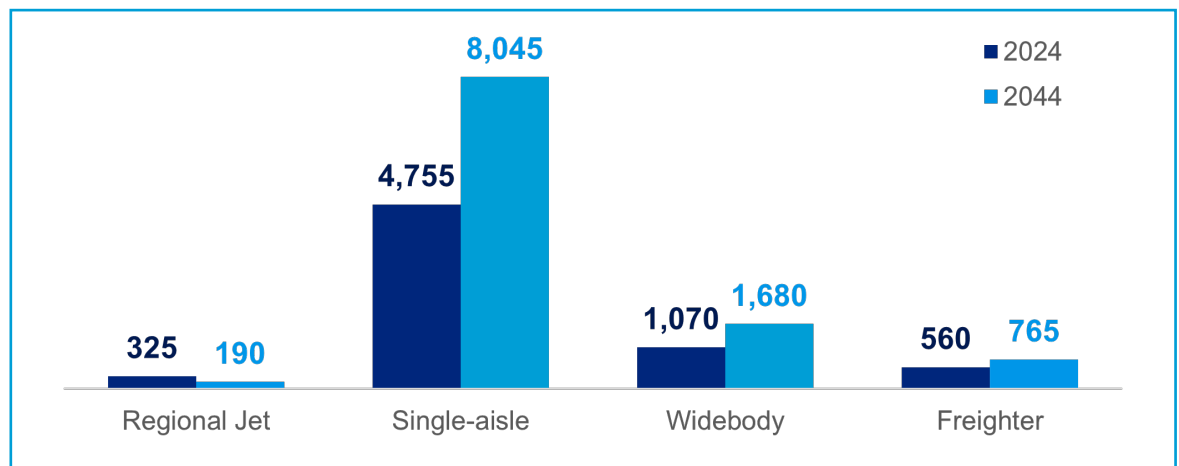
Diverse markets, connectivity needs and airline business models characterize the Eurasia region. Western European markets boast strong origin and destination demand but are not growing as quickly as other markets in the region. Eastern European and Central Asian markets are generally less wealthy but are growing faster as per-capita incomes improve and tourism industries develop. On a blended basis, Boeing's forecast for the region's traffic calls for average growth of 3.1% annually over the next 20 years.

Passengers in the region benefit from extensive global network access. Demand for travel to and from former colonies strongly influences the networks of Europe's flag carriers, creating business and family linkages across Africa, the Americas and Asia. To support these distant linkages and resulting demand, Eurasian airlines need to maintain a large widebody fleet and will require 1,415 widebody deliveries by 2044 for growth and fleet renewal.

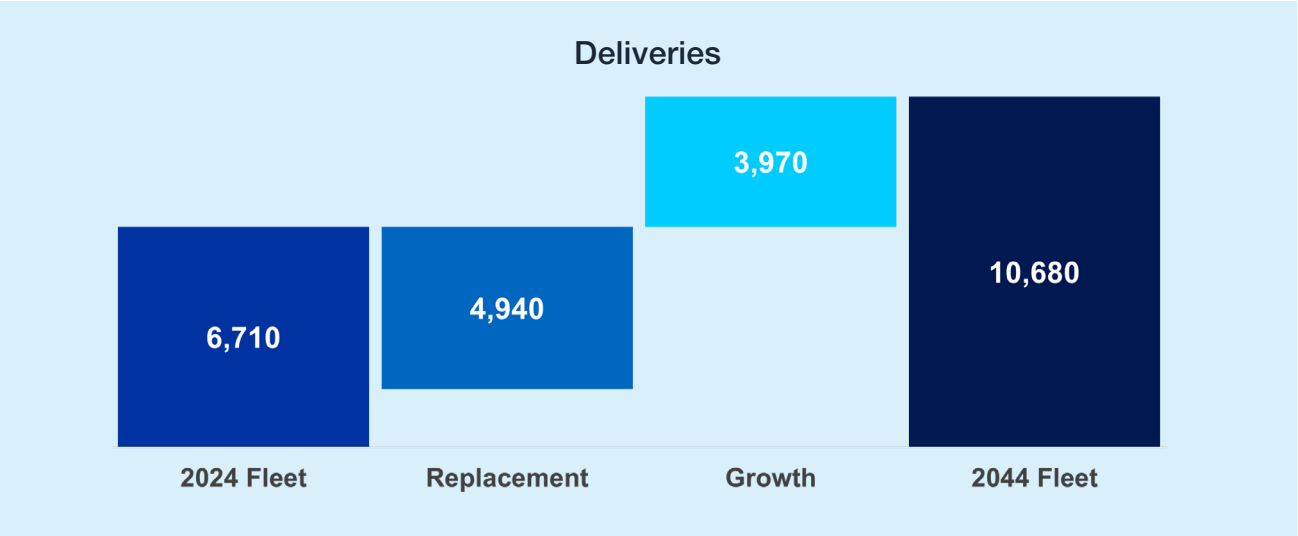
Passenger traffic



Fleet

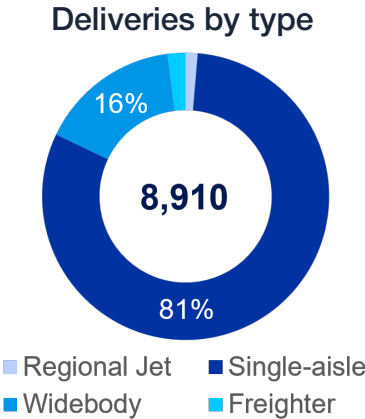


EURASIA



Intra-Eurasia travel is primarily served by single-aisle airplanes and ranks among the top three global flows with 7,195 deliveries expected over the next two decades.

Short-haul travel growth is very strong and is often oriented towards vacations and personal visits within Europe. Much of this traffic flows via ultra low-cost carriers (ULCCs), which have been expanding their market share since the opening of the EU internal aviation market in the 1990s. While this trend has largely run its course in Western Europe, it continues in Eastern Europe and Türkiye and is in its early days in Central Asia. ULCCs predominantly fly single-aisle airplanes, and as a result, Eurasia's single-aisle fleet will remain the largest with 7,195 deliveries for growth and replacement needs.



Galleria Vittorio Emanuele in Milan, Italy

LATIN AMERICA

Economic growth (GDP) 2.8%

Airline traffic growth (RPK) 4.3%

Airline fleet growth 3.0%



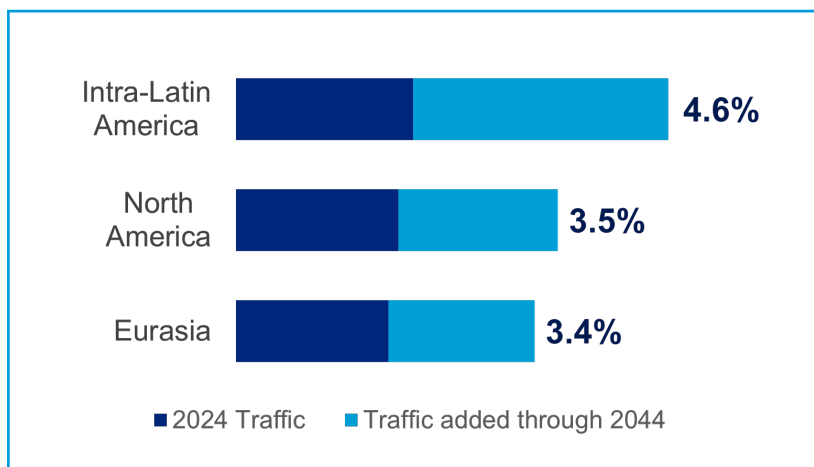
Panama City, Panama

Demand for air travel in Latin America is forecast to outpace regional economic growth at over 4% per year. Demographics are a key driver. Brazil's middle class, the third largest among global emerging markets, is expected to grow 4% annually over the next decade. The middle class now comprises over 40% of the population in Latin America and its share will continue to increase.

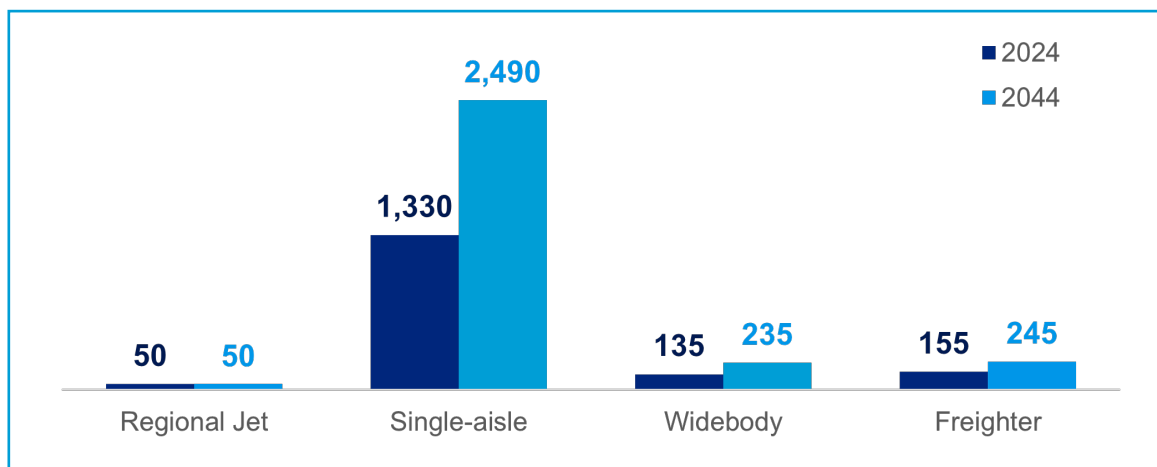
In addition, the rise of LCCs is making air travel more affordable within the region. LCCs have increased their share of seats flown within the region to 32%, a seven-point improvement over the last decade.

Tourism is also a significant growth driver, with international arrivals in Latin America projected to increase by 40% over the next decade. Countries in South America, Central America, and the Caribbean are prioritizing travel and tourism. Business travel is the fastest-growing segment with arrivals expected to rise 55% by 2034.

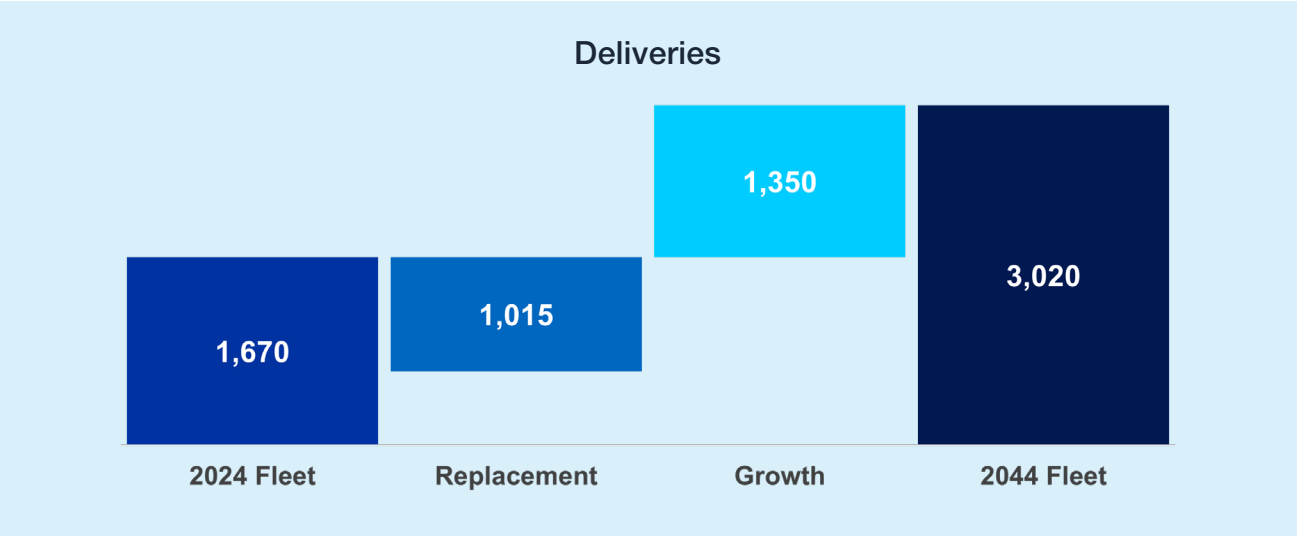
Passenger traffic



Fleet



LATIN AMERICA

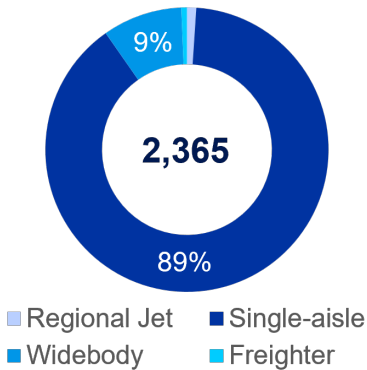


A growing middle class and increasing LCC capacity are key factors driving above-average traffic growth in the region.

Single-aisle airplanes dominate the region’s fleet, with the largest intra- and inter-regional markets within their range. LCC growth has led to a more than 17% increase in the average number of seats per flight on single-aisle airplanes over the last decade, and is forecast to increase by more than 10% over the next two decades.

Regional and small single-aisle airplanes remain essential in areas where airport infrastructure cannot accommodate larger planes. Currently, small single-aisle airplanes and regional jets make up 25% of the in-service passenger fleet, providing crucial service to airports with short runways and high elevations. However, the growing fleet of medium and large single-aisle airplanes will remain the backbone of networks and support growth for operators throughout the region with premium or dense cabin configurations.

Deliveries by type



Amazon rainforest, Brazil

MIDDLE EAST

Economic growth (GDP) 2.9%

Airline traffic growth (RPK) 4.4%

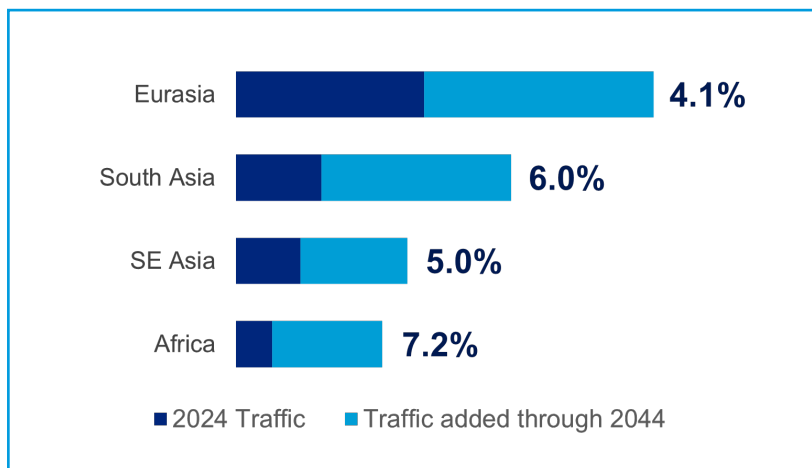
Airline fleet growth 3.9%

Wadi Darbat, Oman

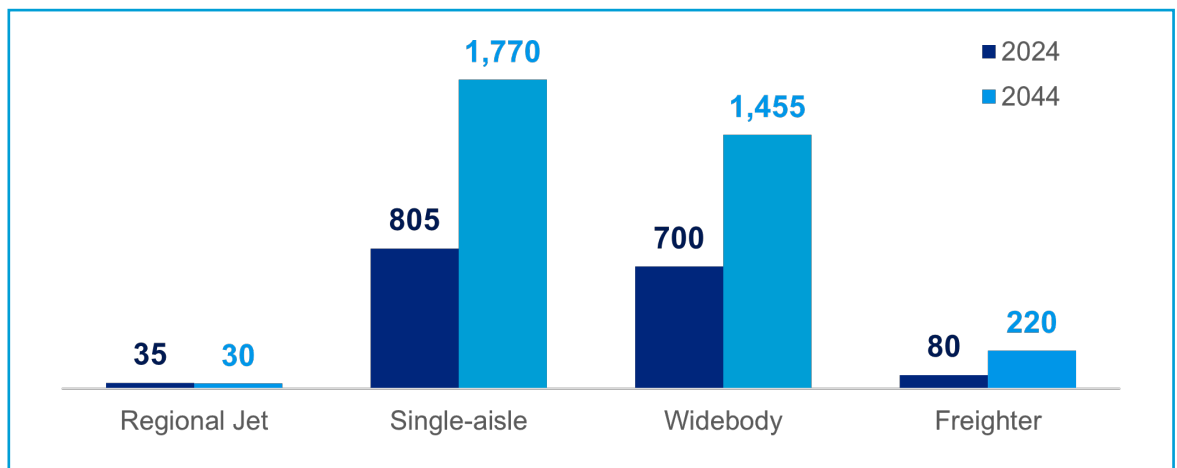
Located between the large Asian and African continents and adjacent to Europe's powerful regional economy, the Middle East has long occupied an important role in connecting people, in addition to being an economic and cultural power on its own. This location is a strong competitive advantage for the region's airlines: the Middle East accounts for only 3.7% of global GDP, while its airlines provide about 10% of global capacity.

The Middle East has the highest share of widebodies in its delivery mix at 46% over the next 20 years, underlining the important role the region's airlines play in connecting diverse points around the globe. The region's widebody fleet is the backbone of its long-haul services, which connect distant cities with one-stop itineraries that, without an intermediate hub, would not be practical.

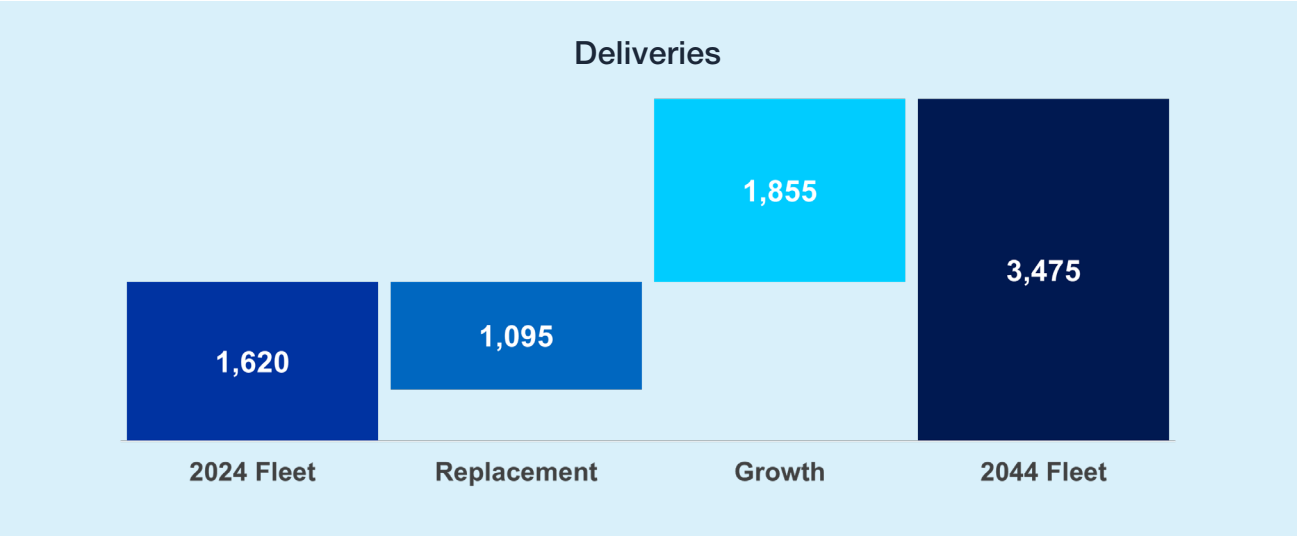
Passenger traffic



Fleet



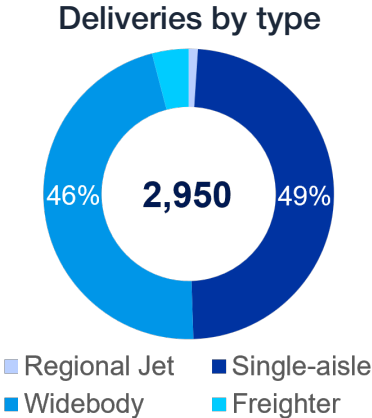
MIDDLE EAST



The region has the highest widebody fleet share globally, underscoring the important role the region’s airlines play in connecting diverse points around the globe.

There are different market drivers for single-aisle airplanes, which account for about half of the Middle Eastern fleet. Single-aisle airplanes provide year-round point-to-point service, departure time choices, and consistent hub feed for long-haul where capacity can be fine-tuned to specific missions and routes. It also allows the airline to share costs on spare parts, pilot pools, and other fleet-common expenses.

Single-aisle jets also support the growth of low-fare airline networks, which offer the local population and guest workers connections within the region, as well as into South Asia and much of Europe. Of the 1,430 single-aisle airplanes expected to deliver between 2025-2044, 67% will be needed for growth of the fleet.



Al Masjid an Nabawi, Saudi Arabia

NORTH AMERICA



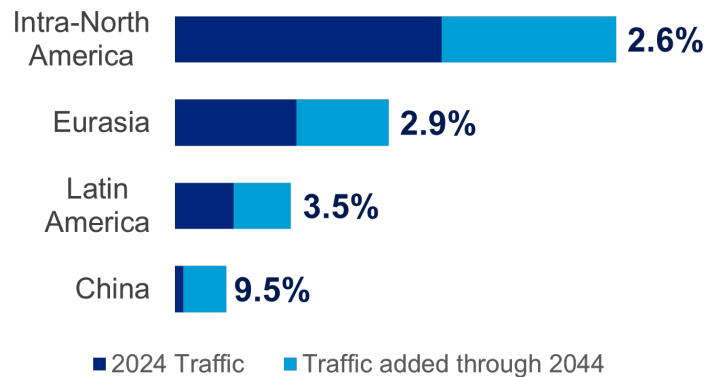
Economic growth (GDP)	1.6%
Airline traffic growth (RPK)	2.8%
Airline fleet growth	1.3%

Yosemite National Park, California

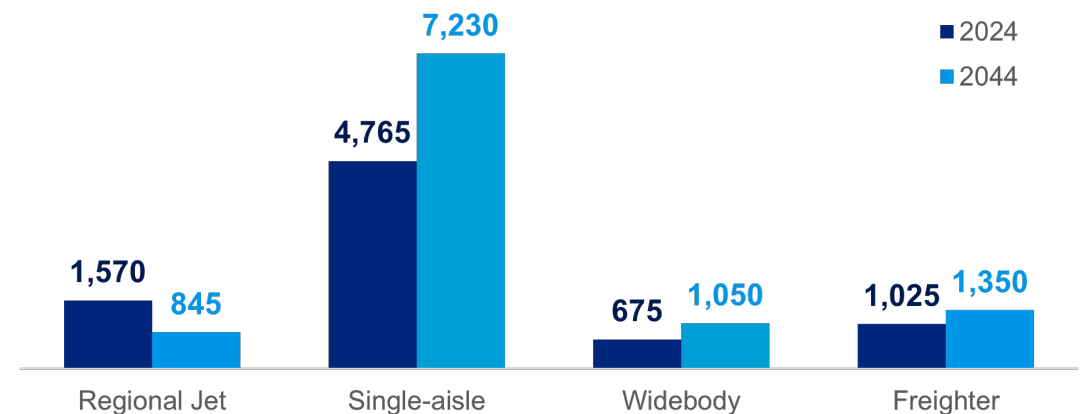
North American carriers and traffic flows touching the region saw above-average growth in 2024 after surpassing pre-pandemic levels in 2023. Airlines in the region continue to account for a large share of the global industry profitability and are investing for both fleet growth and replacement.

North America's share of the single-aisle fleet continues to expand as smaller regional jets retire and capacity shifts to larger regional jets and single-aisle airplanes. The single-aisle segment makes up over 75% of the region's passenger fleet and a robust backlog supports LCC point-to-point service and network airline hub connectivity. Upgauging of the single-aisle fleet is accommodating both traffic growth and increased demand for premium seating for many carriers in the region.

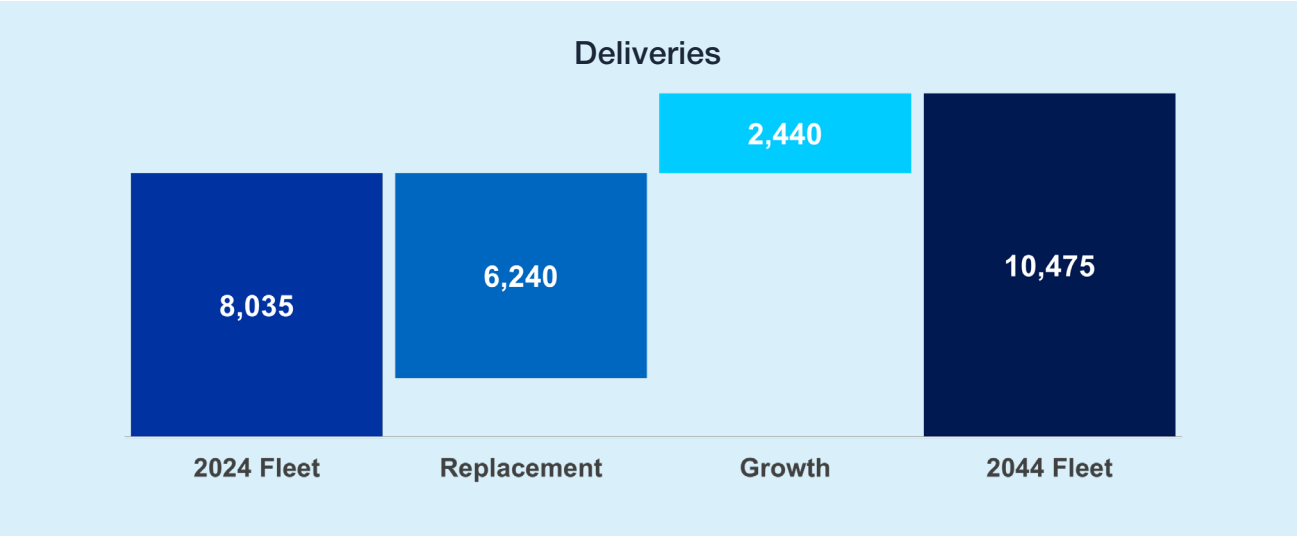
Passenger traffic



Fleet



NORTH AMERICA

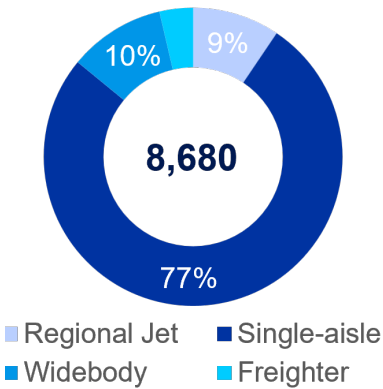


Larger single-aisle airplanes across the fleet are boosting hub efficiencies, improving unit costs and providing space for more premium cabin seating.

The widebody fleet outlook is stable as network airlines leverage investments in partner alliance operators to extend international networks and cover a larger global footprint. The region’s passenger widebody fleet grew 11% over the last decade, well below total traffic growth on long-haul flows of 20%. North America is home to more than 40% of the world’s freighter fleet and is the leading region for new widebody freighter deliveries—with nearly one third of total deliveries over the next two decades.

At just over 8,000 airplanes at the end of 2024, the North American fleet is nearly 30% of the global total. Nearly one-third of the fleet is older than 20 years as delayed replacements in recent years have boosted overall fleet age by two years. More than 70% of the fleet is forecast to retire over the next 20 years—the highest replacement delivery share of any region globally.

Deliveries by type



The Brooklyn Bridge, New York City

NORTHEAST ASIA

Economic growth (GDP)	1.0%
Airline traffic growth (RPK)	2.4%
Airline fleet growth	1.6%



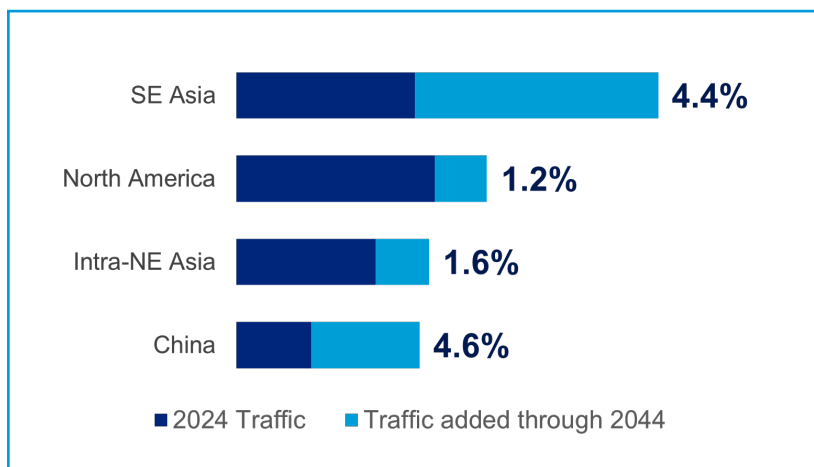
Seoul, South Korea

International inbound demand continues to fuel air travel growth for Northeast Asia. Governments and airlines are investing in tourism initiatives including streamlined visa policies to ensure the region remains a key global destination. International passenger traffic is projected to grow 5% annually through 2035, fueled by increased demand from North America and Europe.

The region's global network carriers, which continue to prioritize premium international travel, are leveraging global alliances and expansive long-haul networks. Since 2019, these carriers have increased international capacity 13% across their top ten international routes.

On intra-Asia routes, LCCs have steadily expanded with total capacity growing at an average annual rate of 14% between 2014 and 2024. Despite this growth, market penetration remains moderate. LCCs account for 23% of total Northeast Asia domiciled capacity in 2024—up from 7% in 2014, but still below the global average of 26%.

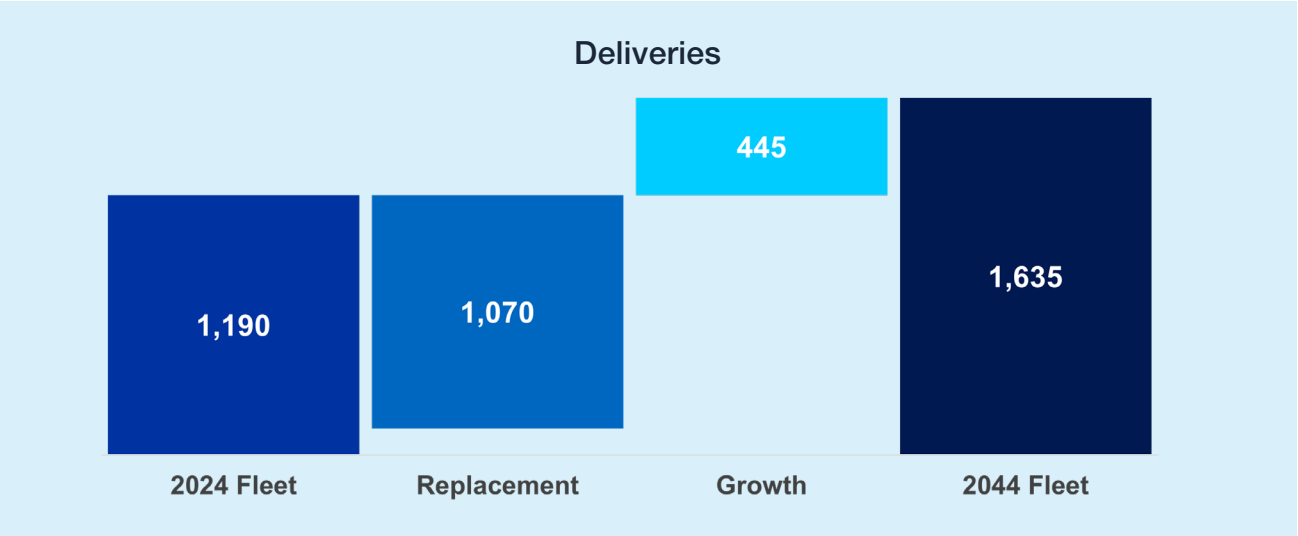
Passenger traffic



Fleet



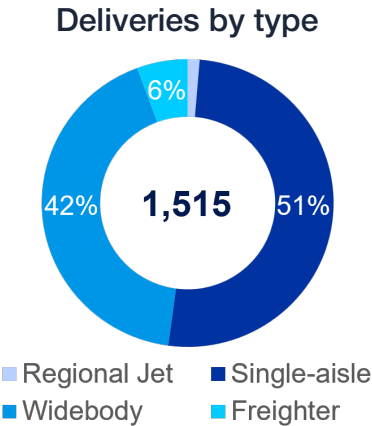
NORTHEAST ASIA



Air liberalization within Asia Pacific is stimulating LCC growth and single-aisle airplane demand. By 2044, single-aisle airplanes will comprise 51% of the region’s fleet.

Over the next 20 years, LCCs are expected to continue expanding, particularly on new point-to-point routes between Northeast and Southeast Asia.

From 2014-2024, the share of domestic flights operated by widebody airplanes fell from more than half to 38%, signaling a shift to increased network fragmentation and operational efficiency. This trend is expected to continue, with larger single-aisle airplanes projected to account for 23% of the fleet by 2044. The region’s fleet has the second highest share of widebodies in Asia Pacific to support growth in international hub passengers and air cargo volume—particularly in high-value sectors such as electronics and semiconductors.



Bamboo forest, Japan

OCEANIA

Economic growth (GDP) 2.1%

Airline traffic growth (RPK) 3.0%

Airline fleet growth 2.2%

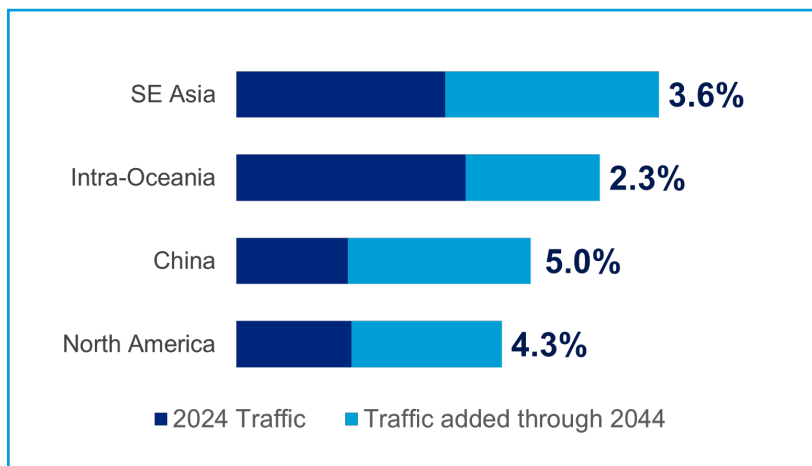


Sydney, Australia

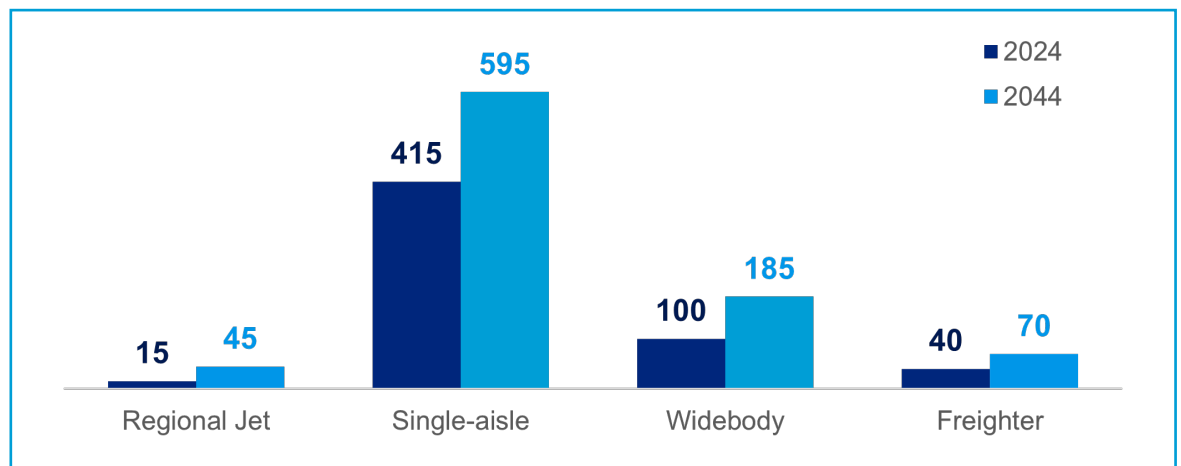
Oceania's aviation market is shaped by its geography, reliance on air connectivity, and strong inbound tourism demand. International tourism remains a key driver, with visitor arrivals expected to grow 35% over the next five years—particularly from North America and within Asia Pacific. Government initiatives that include open skies agreements and airport infrastructure investments further support air travel to, from, and within Oceania.

The region is served largely by global network carriers, but LCCs have gained domestic market share in recent years. LCCs now account for 20% of the domestic market capacity—up from 16% a decade ago—reflecting increasing demand for cost-effective options. Meanwhile, global network carriers continue to focus on premium offerings and international market share, as well as leveraging alliances and codeshare agreements to provide essential global connectivity.

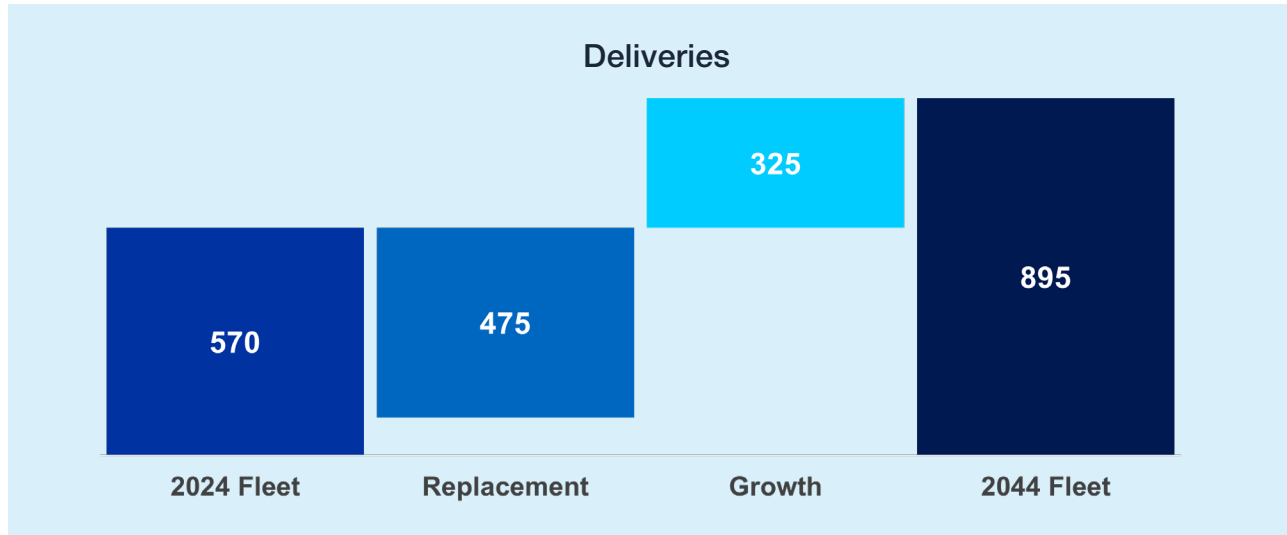
Passenger traffic



Fleet



OCEANIA

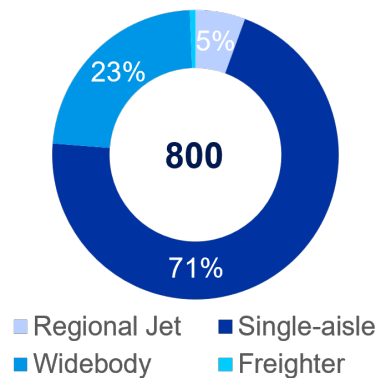


Aviation is a key component of Oceania's transportation infrastructure due to the region's geography, distance to other continents, and dispersed population centers.

Oceania's fleet size is expected to remain relatively stable, with new airplane deliveries primarily serving as replacements rather than growth. By 2044, the region is expected to need 800 new airplanes, with single-aisle jets making up ~70% to support intra-Asia routes. The share of single-aisle airplanes serving routes under 3,000 miles increased 12 percentage points over the past 10 years. This highlights increased efficiencies in new aircraft technology to serve longer-range, lower demand operations compared to operating widebody airplanes on those same routes.

Widebodies will comprise of 23% of new airplane demand. New airplanes will offer growth opportunities thanks to their longer-range capabilities and improved economics versus previous generations. These overall fleet dynamics will help Oceania remain competitive while reinforcing its role as a link between Asia Pacific and the broader global network.

Deliveries by type



SOUTH ASIA

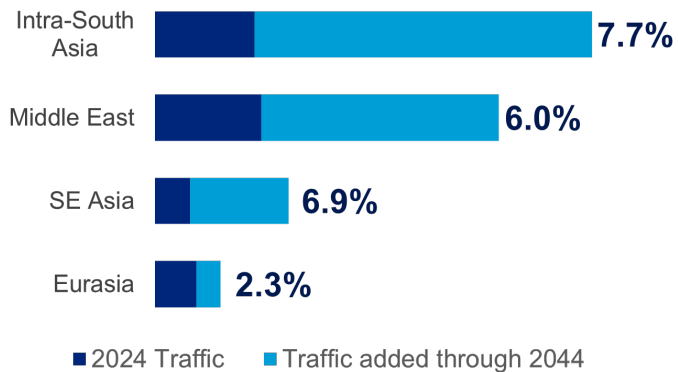
Economic growth (GDP) 4.1%

Airline traffic growth (RPK) 7.0%

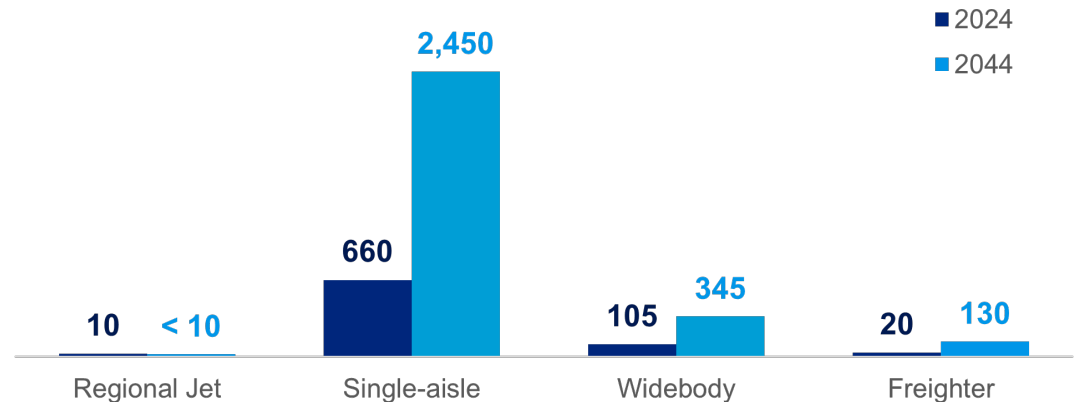
Airline fleet growth 6.7%

New Delhi, India

Passenger traffic



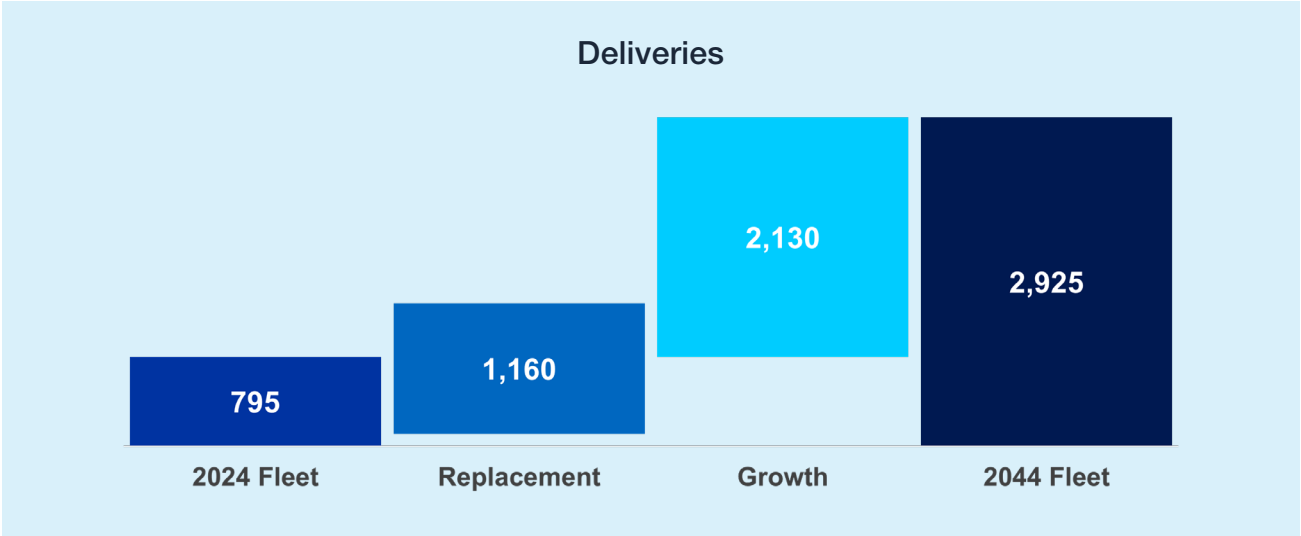
Fleet



South Asia is the world's fastest-growing aviation market, driven by strong economic expansion, a growing middle class and rapid urbanization. India, which dominates the region's economy, has experienced GDP growth averaging 6% annually since 2015, contributing to increased disposable incomes and higher air travel demand. Over the next twenty years, average annual air traffic growth is expected to outpace GDP by nearly three percentage points. In addition, recent government reforms and liberalized foreign direct investment policies help improve access to capital for domestic carriers and open doors for foreign carrier investment in the region.

The South Asian airline market is characterized by a dual structure: LCCs dominate the domestic sector, while global network carriers drive international expansion. LCCs account for 68% of domestic capacity, providing service for the rapidly growing middle class, and their share is expected to grow over the forecast period.

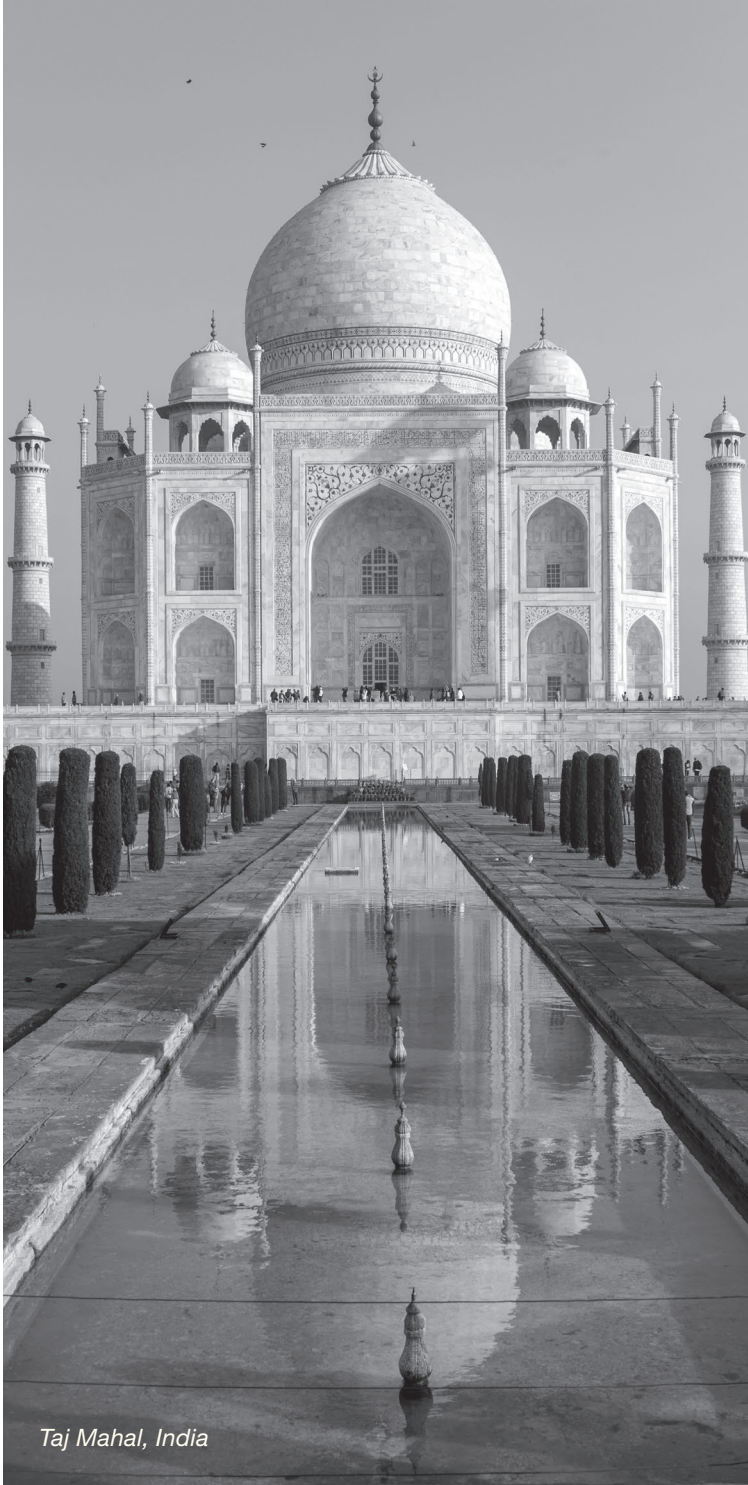
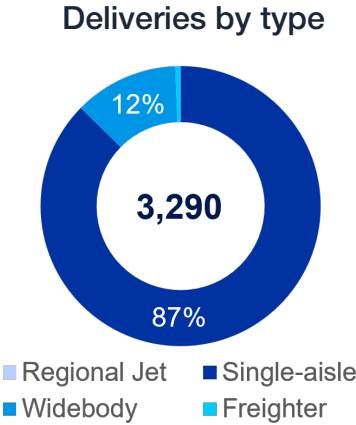
SOUTH ASIA



International traffic is expected to grow 5% annually, driven by network carriers expanding long-haul capacity to serve increasing tourism and business travel.

Global network carriers are ramping up long-haul international capacity in response to rising outbound demand capacity, relying on strategic alliances and fleet modernization to improve the passenger experience. These efforts aim to position South Asian airlines to compete against established carriers in international corridors.

The in-service South Asia passenger fleet has expanded three times over the past 20 years. Driven by high traffic growth rates, approximately 80% of the region's new deliveries will be used for fleet growth, one of the highest globally.



Taj Mahal, India

SOUTHEAST ASIA

Economic growth (GDP)	5.1%
Airline traffic growth (RPK)	7.0%
Airline fleet growth	6.6%



Kuala Lumpur, Malaysia

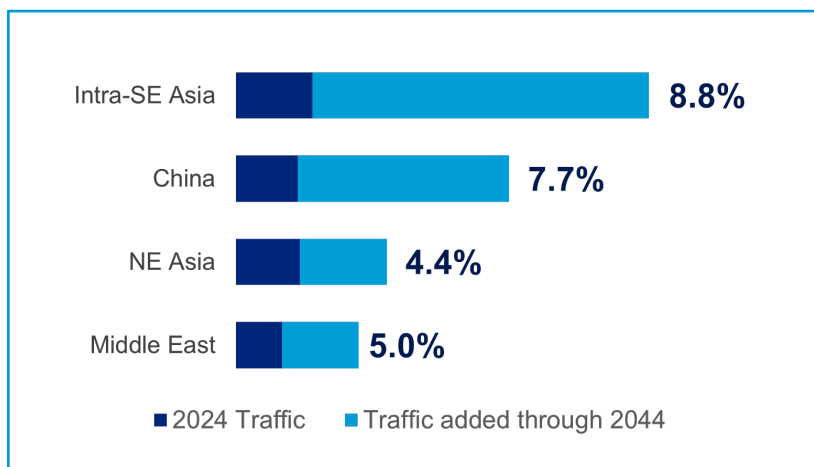
Economic indicators, favorable demographics and geography will continue to support aviation growth in Southeast Asia. The countries that make up Southeast Asia today are 10% of the total economy of Asia and are forecast to grow 5.1% annually through 2044.

Southeast Asia's population is forecast to increase by 10% and the middle class will double by 2044. Over the next 10 years, travel and tourism are projected to contribute nearly 12% to total economic activity and spur additional employment.

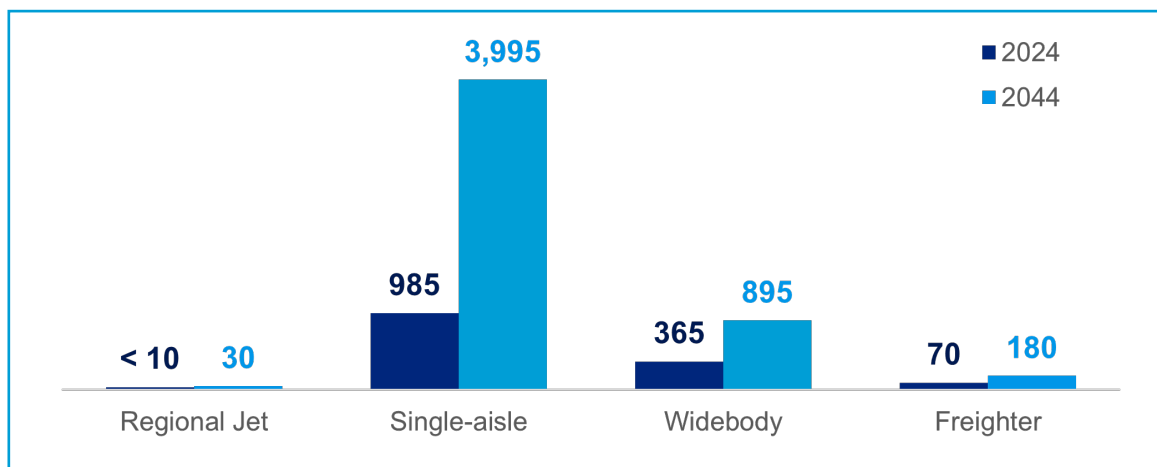
LCCs have increased air travel options in Southeast Asia by connecting more destinations with point-to-point travel and lowering the cost of flying to make it more accessible.

Twenty years ago, Southeast Asian LCCs operated approximately 25% of flights within Southeast Asia. Today that number has grown to approximately 70%.

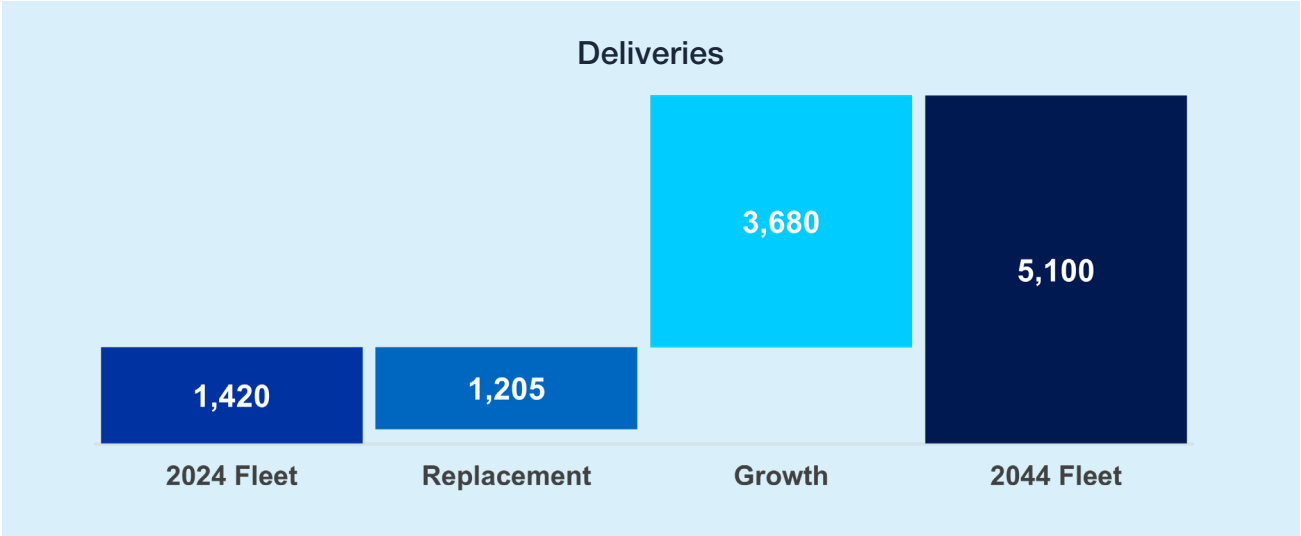
Passenger traffic



Fleet



SOUTHEAST ASIA

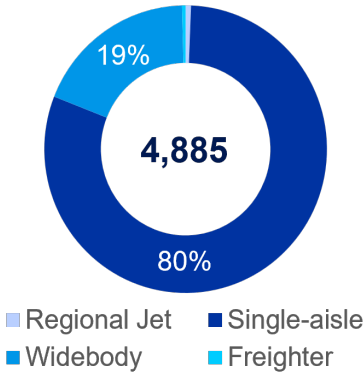


A growing middle class and strong tourism demand are driving above global average fleet growth in Southeast Asia.

This has spurred a tripling of the single-aisle fleet over the last 20 years. These LCC growth drivers—combined with steady yet more modest growth of network carriers—are forecast to drive a quadrupling of the single-aisle fleet by 2044.

International long-haul capacity has slowly recovered to pre-pandemic levels with 2024 capacity flat compared to 2019. Airlines in Southeast Asia provide 40% of all long-haul capacity to and from the region and have led its long-haul recovery. Long-haul networks are adapting to new passenger patterns, highlighting the need for versatile widebody airplanes which will make up 19% of the region’s deliveries through 2044. As seen with the single-aisle fleet, airlines will be focused on growth, with more than half of all new deliveries being needed for fleet growth.

Deliveries by type



Wat Arun Buddhist temple, Bangkok, Thailand

FORECAST METHODOLOGY

Boeing publishes the Commercial Market Outlook (CMO) on an annual basis to measure the effect of new or significant trends developing in the aviation industry and their resulting impact on future aircraft demand. The CMO is a top-down, bottom-up forecast that matches passenger and cargo traffic demand with a corresponding level of capacity.

The CMO produces a long-range fleet forecast of at least 180 global airlines that includes all passenger jet aircraft in commercial service that have more than 30 seats.

The forecasting process begins with the creation of a capacity forecast for the next 20 years. Travel demand is forecast for 53 intraregional and interregional traffic flows. Different flows have different drivers and are therefore modeled differently.

Global- and country- level economics are considered during the development process, but recently other forces, including the rapid global expansion of low-cost carriers and regional variations, contribute significantly to the capacity forecast.

AIR TRAVEL DEMAND FACTORS

The CMO is a long-term, noncyclical forecast that looks beyond short-term shocks to address underlying trends in the aviation industry.

Generally, factors that can influence air travel growth in a market can be grouped into one of three categories: economic activity, ease of travel, and local market attributes.

ECONOMIC ACTIVITY

Economic activity is the most easily understood and quantified. Key factors include:

- Country and regional GDP development.
- Population and per capita income trends.
- Labor-force composition.
- International trade, economic, and investment links.

EASE OF TRAVEL

While economic indicators have strong explanatory power in some markets, there is a risk that regression of traffic on economic variables can overstate the importance of economic drivers, because in these markets another set of factors is changing at the same time. In many cases, these influencers are related to ease of travel.

Ease of travel can improve in many ways. Some of the more common examples include:

- More open air services agreements between countries.
- Liberalized domestic market regulation.
- Emerging technology (e.g., new airplanes that enable new routes).
- Business-model innovation (e.g., low-cost airlines driving down fares).
- Airline network improvements (e.g., new nonstop city pairs, greater frequencies).



LOCAL MARKET ATTRIBUTES

Demand changes as countries develop economically. Emerging markets throughout the world show that air travel is one of the first discretionary expenditures added as consumers join the global middle class. In developed markets, growth comes mainly from discretionary travel. GDP per capita matters less in these market contexts. Within a given region, propensity to travel, measured in trips or in revenue passenger-kilometers, generally increases with per capita income and magnitude varies considerably.

Generally, markets that are more open are more responsive to changes in per capita income because airlines are freer to add routes, frequencies, and seats

FORECAST METHODOLOGY

to capture demand. In a more regulated environment, demand may increase with GDP per capita, but lower service quality and higher pricing may restrain travel growth. Geography may also influence travel within a region, with island geographies or poorly connected land masses necessitating more air travel than might otherwise be the case.

AIRPLANE DEMAND

The product forecast phase is the final step of the process. With detailed knowledge of airlines' current fleets and short-term fleet plans and a sold aircraft backlog, a base is established to assign current production or future aircraft products to an airline's long-term fleet.

Several factors are considered during this phase, including an airline's strategy, brand, and current and future route network, which are then matched with the appropriate aircraft product that maximizes profitability and capability. The capacity of the incoming and existing fleets must equal the total capacity targets for each participating regional flow and time period.

FORECAST UTILITY

Boeing utilizes the outputs of the forecast process to make key business decisions, including the market demand changes for existing aircraft, market demand for future aircraft product scenarios, and future production capacity and personnel planning. Boeing also uses the forecast to encourage alignment in how industry stakeholders, including governments, regulatory bodies, suppliers, and airlines, view the aviation industry and its prospects.



GLOSSARY

CAGR: Compound Annual Growth Rate.

Cargo: For the purposes of this document, freight, express or airmail.

CTK: Cargo Tonne-Kilometer.

A metric of freight traffic defined as the weight carried multiplied by the distance flown.

Frequency: How often an airline operates between two locations.

GDP: Gross Domestic Product.

A metric of all goods and services produced within a country's border during a specific period.

LCC: Low-cost carrier.

ULCC: Ultra low-cost carrier.

Payload: The portion of an aircraft load that provides revenue.

RPK: Revenue Passenger Kilometers.

A metric used to measure total distance flown multiplied by revenue passengers.

Utilization: The number of hours effectively flown by an airplane in a given unit of time.

