

Although the long-haul market has drawn most of the attention for the 757-, 767- and A330-200, the majority of the 2,000 aircraft in this category operate on short- & medium-haul routes. Current traffic volumes and traffic forecasts indicates the market for the 787-3 could reach 2,000 units.

How big is the short- & medium-haul market for 200- to 260-seat aircraft?

The market for 200- to 260-seat aircraft is attracting more attention following the spate of orders for the 787 over the past year. This market includes the A310-300, A300-600, A330-200 and 767 family; there are more than 1,200 of these types in service, as well as 870 passenger-configured 757s.

While the long-haul market for aircraft of this size has received a lot of attention, the short- and medium-haul markets for 200- to 260-seat aircraft are also likely to be substantial over the next few years. Analysis by both Airbus and Boeing reveals that the majority of A310/A300/767 operations are on routes shorter than 2,500nm.

So far, the 787-3 is the only new aircraft available to serve the short- and medium-haul markets. Production of the 757 is due to finish. Airbus has launched the A350-800, but this is a high gross weight and long-range derivative of the A330-200. Airbus has not yet provided a replacement for the A310 and A300-600.

To examine how the short- and medium-haul markets for 200- to 260-seat aircraft might develop, an analysis of operations in different major global markets has been made.

Analysis of operations

There are about 20 major global markets. While some clearly fall into either the short-, medium- or long-haul category, others are a combination of two or even three categories. One example is the intra-Asia Pacific market, where route lengths vary between 300nm and 5,000nm.

The markets which comprise mainly short- and medium-haul routes are: the intra-Asia Pacific; the North American;

the intra-European; the intra African & Middle Eastern; the intra Latin American; the intra Russian & CIS; the Europe-Africa & Middle East; the Asia Pacific-Africa and Middle East; the North America-Central America & Caribbean; the Europe-Russia & CIS; and the Africa & Middle East-Russia & CIS markets (*see table, page 27*).

The markets which have long-haul routes (ones with stage lengths of 2,500nm or more) include the Europe-Asia Pacific, the transatlantic, and the trans-Pacific (*see table, page 27*). Some routes in the intra-Asia Pacific and Europe-Africa markets fall into the long-haul category.

Each short- and medium-haul market has been analysed in terms of the total number of flights and available seat-kilometres (ASKs) that the 757, three Airbus widebodies and 767 family aircraft made and generated during June 2004.

The split between the short- and medium-haul group of routes and the long-haul batch of city-pairs operated by the widebody types indicates how important the former is. A total of almost 73,000 flights, equal to about 2,400 per day, were operated by these widebody twinjets in the 11 short- and medium-haul markets in one month. In contrast, a total of 14,800 flights, about 450 per day, was operated in the nine long-haul markets.

The number of monthly flights operated by 200- to 260-seat aircraft on short- and medium-haul routes totals about 146,000: equal to about 4,900 per day (*see table, page 27*). These are distributed between 12 different markets. The Asia Pacific market has been subdivided into four different sub-markets, including domestic China.

Intra Asian & Asia Pacific

The size of the intra-Asian market is large, in terms of geography, population, total jetliner fleet and all air transport operations.

The Asian, Asia Pacific and Oceania area stretches from Afghanistan across China and to Japan, to New Zealand and the southwest Pacific islands and to Indonesia and Australia. Of the flights operated by 200- to 260-seat aircraft in the intra-Asia Pacific market, 96% can be classed as short- or medium-haul.

The Asia Pacific area can be subdivided into four main markets. The first of these is air transport networks operated between the countries with established economies. These include South Korea, Japan, the Philippines, Hong Kong, Taiwan, Malaysia, Thailand, Singapore, Australia and New Zealand.

Not surprisingly, operations in this first region account for about 57% of all flights and 50% of all ASKs provided in the total intra-Asia Pacific market. In most cases, frequencies and capacities are high between countries with established air transport services. What is also clear is that the majority of aircraft used on this group of routes are the larger widebody twins: the A300-600, A330-200 and 767-300. The 757 is used on relatively few routes, and where it is deployed it is already used at high frequencies. Larger aircraft types are also used prominently in this market. The A330-300, A340, 777-200/300 and 747 are all used on the busier sectors in this market, and the 757 and small widebody twins studied here are used on routes with lower traffic volumes. This suggests the proportion of aircraft in the 200- to 260-seat category may decline as larger aircraft become dominant.



Closer analysis of some markets reveals this rule cannot be applied across the whole market. “Japan is opening more new airports and runways, and aircraft size is reducing as a consequence,” says Randolph Baseler, vice president of marketing at Boeing Commercial Airplanes. “Tokyo’s domestic airport Haneda is opening a fourth runway in 2009, and this development is allowing Japan Airlines and All Nippon Airways to increase frequencies on routes, and so reduce average aircraft size. The 787-3s these two airlines have ordered have been acquired for this purpose.”

The second and third main markets in the region are the Chinese domestic and China-Asia Pacific group of routes. The potential of the Chinese air transport market is well known. The collective fleet of China’s airlines totals about 750 aircraft, and the 757, A310-300, A300-600, A330-200 and 767 family types account for 121 of these.

The Chinese domestic market accounts for about 10,900 flights of the 43,550 operated in the intra-Asian and Asia Pacific market each month with 200- to 260-seat aircraft (*see table, page 27*). The majority of flights, 7,400, are operated by the 757 and the remaining 3,500 by the widebodies.

China has a population of 1.3 billion, yet its physical size is similar to that of the US. At the widest point, China’s East-to-West width is at about 2,500nm: equal to a six-hour transcontinental flight. The majority of the population, however, is located in the eastern half of the country in an area about 1,000nm from East to West and 1,500nm North to South. “Urbanisation of China’s population is

occurring fast, and this will fuel air traffic growth,” says Lauren Rouaud, vice president of market forecasting and research at Airbus.

While jetliners are prominent, potential for development in the Chinese domestic market is still large in terms of opening new city-pairs and adding frequencies, while increasing aircraft size on established routes.

“China has the potential to develop many more city-pairs and to add a lot more frequencies. It is likely that it will skip the use of the hub and spoke system and go straight to a lot of point-to-point services,” says Baseler. “There are 12 cities in China with populations of more than 5 million, as well as hundreds of other cities with large populations. This underlines the huge route network potential. More established routes are already using 757s and widebodies.”

Traffic growth is forecast to average about 7.5% per year. The Chinese domestic market therefore has a strong potential requirement for 200- to 260-seat aircraft over an extended period.

The Chinese-Asia Pacific market is small compared to the rest of the Asia Pacific market (*see table, page 27*). The majority of services are to Japan, South Korea, Malaysia, Singapore, Taiwan and Thailand. China still follows a protectionist policy of giving traffic rights to foreign carriers, and there is large potential for further development of the Chinese-Asia Pacific air network market, in particular to other countries in the region.

“Analysis of the Japan-China market reveals that the number of city-pairs was only eight in 1990, but has now grown to 45,” says Baseler. “Frequencies for all

Although highly developed markets in the Asia Pacific, such as the Japanese domestic network, require large aircraft, more airports and runways are being opened. This has stimulated more routes being opened and frequencies being added, and it is on these routes that Japan Airlines and All Nippon Airways will use the 787-3.

flights have increased from 59 a week to 463 a week. The majority of routes, however, still only have less than seven flights a week.”

The fourth market is the group of routes that each serve one or two cities in poorer countries in the region, including: Afghanistan, India, Pakistan, Bangladesh, Myanmar, Indonesia, Laos, Cambodia and Vietnam. Many have economies and traffic volumes growing at a high rate, and are adding routes and frequencies in response. There are 2,923 flights per month in this market that are operated by 200- to 260-seat aircraft (*see table, page 27*).

A close examination of this group of routes shows how underdeveloped this market is. Many routes fall into the medium-range category and are less likely to be operated by smaller narrowbodies. Traffic growth rates are also high in some of these markets. Examples are Vietnam and India, which have had average traffic growth rates of 15% over the past 5 years. This suggests a good potential market for small and medium-size widebodies over the next 10-20 years.

Despite the maturity of some markets and routes in the Asia Pacific region, there is large potential for development in the majority of the market. Baseler comments that liberalisation of the market is being pushed by low-cost carriers such as Air Asia. This is the reverse of what happened in Europe and the US, where liberalisation took place before the growth of low-cost airlines. “Many routes have yet to be opened and many other services are operating at low frequency. For this reason we have increased the number of narrowbodies in our market forecast by about 1,000,” explains Baseler.

Airbus has a similar outlook to Boeing in the Asia Pacific market. “The region has a population of 3.5 billion and low-cost airlines only account for about 5% of traffic,” says Rouaud. “There is a large potential for development in the region, and there are three main areas that low-cost airlines are likely to develop. These are the Japan/Korea-China market, the area around Hong Kong and the region around Singapore, Malaysia and Indonesia. We expect the Asia Pacific market to go for larger types like the A330-300 on the trunk routes

and low-cost airlines to drive demand for narrowbodies. Some routes in Japan and China have daily frequencies of 40 or 50 flights per day, and will clearly need larger aircraft.”

North American market

The North American market is clearly mature. It is the largest of all short- and medium-haul markets operated by 200- to 260-seat aircraft, with a total of nearly 62,000 flights per month (*see table, this page*).

Major US carriers and Air Canada have used the 757 and small- and medium-sized widebodies for the past 22 years, in particular the 767-200/-300, for US and Canadian domestic and trans-border routes.

The protectionist strategy of the hub and spoke system used by US major carriers provided them with enough traffic volume to fill widebody aircraft on the busier routes. The commonality between the 757 and 767 and their appeal to US carriers aided high sales to Delta, American, United and Continental. The A300-600 has also been adopted by American, which has a fleet of 34, while Northwest has a fleet of 70 757s.

An examination of the use of the 767-200/-300 and A300-600 by US majors and Air Canada shows they are used between larger cities in highly populated states and provinces on busier routes. These aircraft types generated almost 15,000 flights in June 2004, about equal to 300 per day, in the North American market. The 767 is most prominent in North America, with 335 of the 750-strong global fleet operated by US carriers and Air Canada.

The 757 is used more extensively and is operated on a larger number of less dense routes serving a higher number of states and provinces. It generated nearly 47,000 flights in June 2004, equal to nearly 1,600 per day. The total North American fleet of 757s is 566 aircraft out of a global fleet of 870.

The US market has changed since orders for most 757s, 767s and A300-600s were placed. The US domestic market has been permanently altered by the entry and fast growth of several low-cost airlines. While Southwest has continued to grow its network and reach further across the US, jetBlue has grown into a formidable force over the past five to six years, and AirTran and Frontier have also increased in size. A few low-cost airlines have also emerged in Canada, but WestJet is the strongest player. These low-cost carriers have collectively eroded systemwide yields and undermined the hub and spoke business model. Moreover, the collective traffic volumes of the low-cost airlines have grown at high rates at the expense of the

MONTHLY SHORT- & MEDIUM-HAUL CAPACITY PROVIDED BY 200- TO 260-SEAT AIRCRAFT

Global region	Number of flights	Number of ASKs	% of flights	% of ASKs
Intra Asia Pacific (developed)	24,874	6,180,367,976	17.0	10.5
Intra Asia Pacific (underdeveloped)	2,923	1,280,843,551	2.0	2.2
Chinese domestic	10,902	3,016,699,169	7.4	5.1
China-Asia Pacific	4,847	2,129,710,510	3.3	3.6
Total Asia Pacific	43,546	12,607,621,206	29.7	21.4
Intra-North America	61,603	25,993,497,474	42.1	44.1
Intra Europe	10,895	3,289,961,137	7.4	5.6
North America to Central America & Caribbean	9,650	4,430,663,785	6.6	7.5
Intra Africa & Middle East	7,045	2,330,441,248	4.8	4.0
Europe to Africa & Middle East	5,444	5,610,709,442	3.7	9.5
Intra Latin America	4,028	1,200,219,961	2.8	2.0
Asia Pacific to Africa & Middle East	2,862	2,556,352,967	2.0	4.3
Europe to Russia & CIS	587	497,240,914	0.4	0.8
Intra Russia & CIS	430	261,964,140	0.3	0.4
Africa & Middle East to Russia & CIS	258	155,717,068	0.2	0.3
Asia Pacific to Russia & CIS	123	51,776,458	0.1	0.1

major airlines, especially since 9/11.

The six main airlines in the US have all had to conduct comprehensive cost reduction and restructuring programmes. The effects of these are only just beginning to be felt, and one of their objectives is to stem the loss of traffic to low-cost carriers. In many cases major airlines have had to or will reduce capacity on many routes, and will achieve this by reducing average aircraft size. Another strategy that may be followed is the adoption by the majors of more point-to-point routes in their networks, or at least the ‘de-peaking’ of services which will lead to a more even flow of departures at their hubs. Both these strategies would lead to a reduction in average aircraft size.

While, therefore, total traffic may continue to grow in the North American market, the higher volumes will be spread over a higher number of services and frequencies. The implications are that the

market for 200- to 260-seat aircraft in the North American market is likely to remain static or contract.

Intra-European

The intra-European market only accounts for about 7.4% of 200- to 260-seat aircraft operations on all short- and medium-haul routes (*see table, this page*). This market’s development has been similar to North America’s. Several low-cost airlines have emerged in Europe as formidable forces, including easyJet, Ryanair and Air Berlin. Several other smaller operators are also growing at a fast rate and account for an appreciable share of total revenue passenger kilometres.

The emergence of low-cost airlines has not been Europe-wide, and no substantial low-cost airlines have yet emerged in France, Portugal, Spain and Scandinavia.



The presence of overall greater competition in the trans-European market has brought pressure on passenger yields and kept traffic volumes static for some of the legacy carriers for the past three to four years. British Airways (BA) admits it was forced to undertake a comprehensive cost reduction programme to allow it to reduce fares in order to prevent traffic erosion. While this strategy appears to have paid off, low-cost airlines still continue to grow.

Airlines with the largest fleets of 200- to 260-seat aircraft in Europe are BA, Air France, Lufthansa, KLM and Alitalia. Most have reduced the use of widebodies on intra-European routes in the face of increased competition.

BA, for example, has downsized its 757 and 767 operation on its European network, while Air France has totally substituted its A310s and A300s in Europe with 737-500s and A320 family aircraft. Alitalia and Iberia have similarly replaced their A300Bs with narrowbodies, as have smaller operators such as Air Portugal, Austrian and SAS. The collapse of Swiss's predecessor means that the airline is now utilising A320 family types on most European sectors.

Lufthansa and KLM are the only major airlines to continue with A310s, A300-600s and 767-300s at a similar level to that of the 1990s.

While European airlines have mainly substituted the use of A310s, A300s and 767s with smaller aircraft, traffic in the overall market continues to grow and the region also suffers from airspace and airport congestion. Despite this, low-cost airlines continue to grow at fast rates and

have large orders for narrowbodies in place to accommodate the increase in traffic. There is also an increase towards the use of large regional aircraft by some airlines, and more secondary airports are being used which draw away traffic from routes being flown into major airports. This is likely to result in a delay in the need for Europe's airlines to start using widebody aircraft again on their short- and medium-haul routes. If the 787, however, can offer airlines the expected reductions in unit operating costs then this may stimulate demand for widebodies from major airlines.

North America-Central America

The North America-Central America & Caribbean market is the fourth largest short- and medium-haul market for 200- to 260-seat aircraft, with 9,650 flights per month (see table, page 27). About 6,800 of these are accounted for by 757 operations, with the balance being widebody aircraft.

This is a mature market, which is heavily dependent on tourist travel, and is dominated by US carriers. American, for example, operates a substantial portion of its A300-600 fleet from Miami to the Caribbean and Central America. Frequencies on major routes with the A300-600 and 767-300 are saturated, however, which suggests that with continued traffic growth airlines could increase aircraft size.

A high proportion of routes using 757s operate at high frequencies. Traffic is forecast to grow at an average annual rate of 4.3%, which suggests some routes will move towards widebodies in the 200- to 260-seat category.

Types like the A300-600 and 767-200/300 have been used in the US at hubs dominated by the majors. While these aircraft account for the largest activity of 200- to 260-seat aircraft in the world's short- and medium-haul market, increased competition is likely to weaken demand for types like the 787-3.

Africa & Middle East

Two other major short- and medium-haul markets for 200- to 260-seat aircraft are the intra African and Middle Eastern and Europe-Africa and Middle East routes.

Airlines in Africa are collectively small and the majority of carriers with stable financial performance and extensive route networks are in the Arab states north of the Sahara desert. Airlines in the Middle East are more successful, in particular Emirates, Qatar Airways and Etihad. The total number of A310s, A300s, A330-200s, 757s and 767s operated by African and Middle Eastern carriers is 190. Emirates, Qatar Airways and Etihad account for 46 of these. All other aircraft in this group are operated in small numbers by airlines that include: Kuwait Airways, Iran Air, Gulf Air, Yemenia, Saudia, El Al, Middle Eastern Airlines, Royal Jordanian, Egyptair, Air Algerie, Royal Air Maroc, Kenya Airways, Air Zimbabwe, Ethiopian Airlines, Air Seychelles and Air Mauritius.

The intra-African and Middle East market, however, accounts for about 4.8% of short- and medium-haul operations with 200- to 260-seat aircraft, with about 7,000 flights per month (see table, page 27). The 757 is used by few airlines in this region, and more than 6,500 flights per month are operated using the A310/A300/A330-200 and 767 family types.

Despite the enormous size of continental Africa and the Middle East, few routes operated by the aircraft types analysed here are long-haul. Out of the 7,000 operations per month with these widebodies, only 130 are on city-pairs longer than 2,500nm.

The nature of the intra-African market is that there are few direct routes between major African cities. Passengers are sometimes forced to make connections at European cities, to fly from one part of Africa to another. The intra-Middle East market is more established, but the majority of operations in this entire group of routes are flights to and from the United Arab Emirates (UAE). Other major route networks are to and from Bahrain, Kuwait, Qatar and Saudia Arabia.

The less developed regions of the Asia Pacific provide a large potential for the development of routes and networks using 200- to 260-seat aircraft. Many city-pairs are not served or have low frequencies.

While there are few signs that the use of widebody aircraft on the intra African and Middle East network will diminish, the market is concentrated on routes to a minority of countries. While these have expanded rapidly in recent years, there is still potential for large increases in service frequencies between many other countries. Many routes are served with less than 30 flights per month. Only a few routes to and from the UAE have reached probable frequency saturation with 200- to 260-seat widebodies.

Europe-Africa & Middle East

The Europe-Africa and Middle East market has some routes that can be classified as long-haul, but the majority are short- and medium-haul sectors. The market has about 5,400 operations per month (see table, page 27) and is dominated by routes from the UK, France, Germany, Italy, and the Netherlands to all major cities in the Middle East and major tourist destinations or cities with ex-colonial ties in Africa. About 4,700 flights per month are with widebodies.

Besides routes to a few select cities in the Middle East, such as Dubai, Abu Dhabi and Doha, the market is generally mature. While some routes between these three countries and major cities in Europe have reached frequency saturation with the A300-600, 767 and A330-200, there is large scope for frequency increases.

Other markets

There are six remaining short- and medium-haul markets for 200- to 260-seat aircraft. The two larger ones are the intra Latin America and Asia Pacific-Africa & Middle East markets.

The intra Latin American market is similar to the intra African market, in that there are no direct services between most countries on the continent. Passengers have to make long-distance connection flights via Miami or Mexico City in many cases. The countries with the most services to others in the region are Brazil, Chile, and Mexico. The lack of direct services between many Latin American cities is explained by a combination of weak economies and long distances. If a more comprehensive route network develops it is more likely to be

with small aircraft.

The Asia Pacific to Africa and Middle East market has the potential for considerable route development and requirement for larger numbers of aircraft. This market is dominated by routes to and from India, Pakistan and the United Arab Emirates. With high growth rates in some Middle Eastern states, India and many parts of the Asia Pacific market, the potential for sales of medium-sized widebodies is high.

Market requirement

Boeing's forecast predicts substantial growth in 200- to 260-seat aircraft operations. Large narrowbody operations of routes up to 2,500nm are expected to double to about 286,000 per month over the next 20 years, while operations of small and medium widebodies are expected to increase by a factor of about 2.3 in the same period to about 275,000 per month.

The current fleet of passenger-configured 757s and widebodies analysed here totals more than 2,000 aircraft. Boeing's 20-year market forecast predicts that the global jetliner passenger fleet will increase from a total of about 15,000 units to 31,300 aircraft by 2024. This is a net increase of about 16,500 aircraft, but when probable retirements of the current fleet are considered over this period, about 25,000 new aircraft will have to be delivered. This is equal to an average of about 1,200 new units per year.

About 1,000 of the 2,000 fleet of 200- to 260-seat aircraft are expected to retire over this period, while the fleet will also

grow to about 5,000 aircraft over 20 years. This implies that up to 4,000 new aircraft will have to be delivered.

About half these new 200- to 260-seat aircraft will be required for short- and medium-haul operations over the next 20 years, implying the market for the 787-3 and A330-200 will be strong.

Airbus forecasts a market for only 1,800 aircraft in a similar size category for all operations that include long-haul services. Airbus' prediction for the demand for 200- to 260-seat aircraft on short- and medium-haul services is therefore only about half of Boeing's forecast.

While the market for the 787-3 and A330-200 could be up to 2,000 units, the development of other types is not precluded. The 787-3 and the -8 are the same size, but the -3 is a low gross weight and shorter range version. The 787-9 has a longer fuselage, and is a high gross weight and long-range model. It is possible, however, to develop a low gross weight model to serve short- and medium-haul routes.

Although Airbus has recently concentrated on launching the A350, it could develop a replacement for the A300-600 to satisfy demand in this sector. Given the common fuselage for Airbus widebodies and common flightdeck for all aircraft, Airbus could develop a medium-range 210 to 230-seat aircraft at a relatively small development cost. Airbus expects the market to diverge towards 300-seat widebodies and large narrowbodies, negating the need for it to develop an aircraft the size of the A300-600 or 787-3/-8. **AC**

