

03

Demand for air travel

We have conducted detailed modelling of passenger forecasts for the next 15 years. This takes account of macro-economic trends and developments in the aviation industry, ensuring we are prepared to respond to changes in market demand.

Developments since our last Master Plan

The most significant development in aviation policy since our last Master Plan has been the decision to proceed with a third runway at Heathrow, and our modelling is based on the expectation that this will come into operation in 2030. In addition, following the UK's vote to leave the European Union we have made neutral assumptions (neither positive or negative effects) with regard to how this might affect demand for air travel.

High Speed 2 has received Royal Assent and is planned to be in operation by 2026, giving Birmingham Airport the unique distinction of being the only airport linked directly to the high-speed rail network. This will provide a direct connection to the centre of London allowing passengers to travel by rail from London Euston to the Interchange Station in 38 minutes. Most importantly, HS2 will also release capacity on the West Coast Main Line for more train connections between the Airport and the region and beyond.

In addition to new infrastructure in the region, there is a renewed emphasis on devolved Government with the election of the first West Midlands Mayor, Andy Street, the establishment of the West Midlands Combined Authority and the creation of the Midlands Engine under the leadership of Sir John Peace. These are significant steps forward for the Midlands economy and the role that the Airport can play in promoting growth for the region.

The forecasts

Air travel demand has a close and well understood relationship to GDP (Gross Domestic Product). The detailed modelling that we have undertaken assesses two scenarios – a base case and a high case. While our development programme largely remains the same under both scenarios, the pace of development is adjusted depending on the rate of growth.

This Master Plan uses 2016 data as the base year and forecasts passenger growth and demand from 2017 onwards. Where data has since become available for 2017, we have validated that any new information available does not change the proposals contained within the Master Plan.

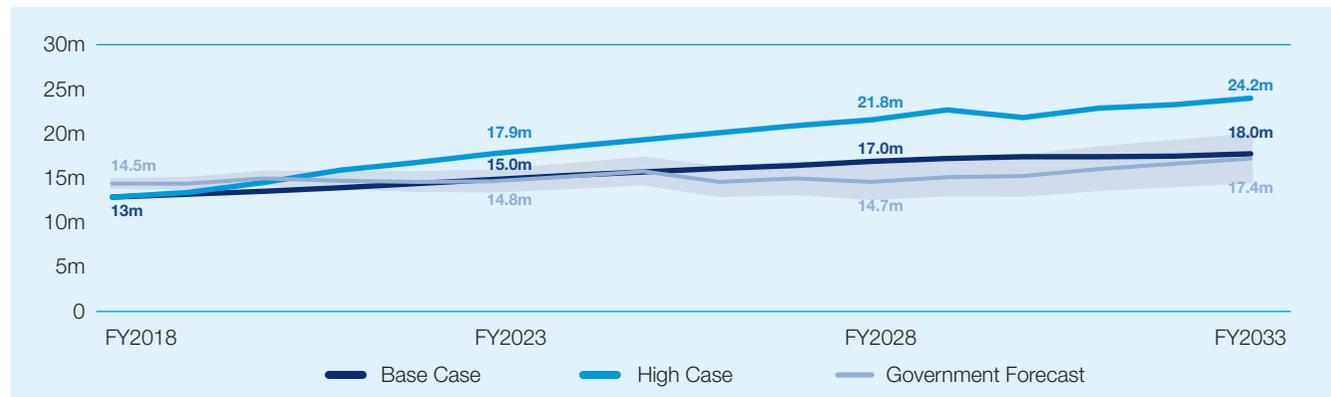
Passenger demand

The graph below provides a summary of the passenger volume forecast. Under our base case, passenger demand rises by almost 40% from 13mppa today to 18mppa in 2033. Our forecasts predict significant growth in the early stages of this period with the pace of growth slowing as Heathrow Runway 3 comes into operation from 2030. The vast majority of the expected growth relates to increasing underlying market demand although some gain in market share from other airports is also envisaged. We have also considered a 24mppa scenario to understand the implications of higher levels of growth than we currently expect. This will enable us to be prepared to make the decisions necessary to meet that demand within the timeframe of this plan.

The graph below also shows the forecast that was published by the Government in 2017 which assumes that the third runway is built at Heathrow. The Government forecast is similar to our base case forecast with a central estimate of 17.4 million passengers in 2033.

Passenger Volume Forecast

Base Case, High Case & Government



Source: ACL, Management Data, Altitude Analysis, DfT



Global reach

Currently 50 airlines operate to 150 direct destinations

Arriving and departing aircraft (Air Transport Movements or ATMs)

Due to an anticipated increase in the average number of passengers per aircraft, ATMs are not predicted to rise at the same rate as passenger volume. This is due to three factors:

- Growth in long-haul traffic using larger aircraft.
- Airlines replacing their fleets with larger aircraft versions (e.g. the Boeing 737-400 series has 159 seats whereas the Boeing 737-800 series has 189 seats).
- Airlines actively promoting and marketing to fill their aircraft more effectively for each flight.

ATMs are forecast to rise from around 113k annually today to 137k in 2033. In parallel, the average number of passengers on each aircraft rises from around 116 today to 131 in 2033. This will allow more efficient use of the runway in terms of the number of passengers it can serve.

Assessing capacity and estimating future stand and terminal building requirements

Demand for aircraft stands is assessed based on the pattern of traffic across the day and night at the busiest times of the year (typically August). For future years, a schedule of aircraft movements is prepared across a typical busy operating day while making an allowance for 'constrained' stands occupied by aircraft that are off-schedule, parked aircraft that have developed a technical fault or stands that are closed for maintenance.

Currently, the combined number of departing and arriving aircraft produces a scheduled peak of 34 per hour. By 2033 this is forecast to rise to around 40, which can be accommodated using the current runway and taxiway infrastructure. For comparison, Gatwick currently schedules up to 55 arrivals and departures in the peak hours and Stansted up to 50 off their single runways. In the longer term, our runway has the potential to grow to around 50 movements per hour, with some reconfiguration of entry and exit taxiways to reduce the time aircraft occupy the runway, but we do not foresee this happening within the period of this Master Plan.

Aircraft parking stands

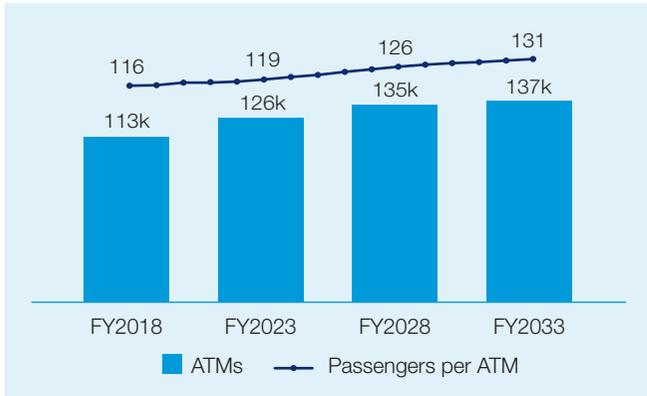
Demand for aircraft parking peaks overnight due to returning based aircraft. Combined with the trend towards larger aircraft, this has increased demand for parking stands needed to support future growth and also the mix of aircraft stand sizes. Based on our base case forecast, peak stand demand will rise from around 58 stands today to 69 by 2033. The majority of these are code C stands for a single narrow-bodied aircraft (sometimes described as one narrow-bodied equivalent (NBE) stand). The remainder are larger code D, E or F stands for either a single wide-bodied aircraft or two narrow-bodied aircraft (each stand being two NBE stands). Total NBE stands increase from 58 today to 69 by 2033.

Passenger numbers at the busiest periods

We have adopted the forecast demand in the 30th busiest hour of the year as the basis for determining when additional capacity is required.

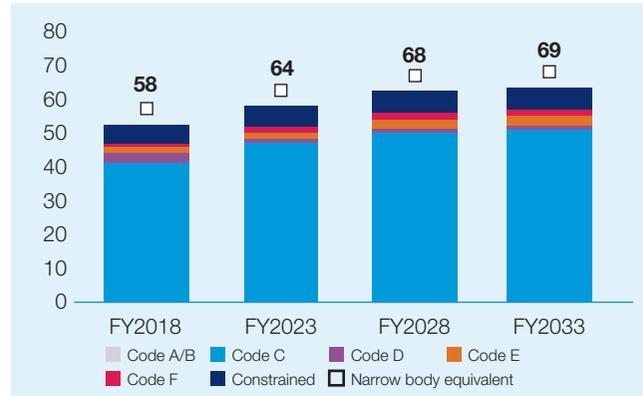
Departing passengers are forecast to rise from 3,143 passengers per hour in 2018 to 3,908 passengers per hour by 2033. Domestic and international arriving passengers are also expected to grow significantly during this period. These busy hour forecasts do not grow in line with annual passenger volumes because, in growing airports, an increasing proportion of demand occurs away from the busy hour during the shoulder and off-peak periods.

Air transport movements (ATMs) & passengers/ATM forecast base case



Source: Altitude Analysis

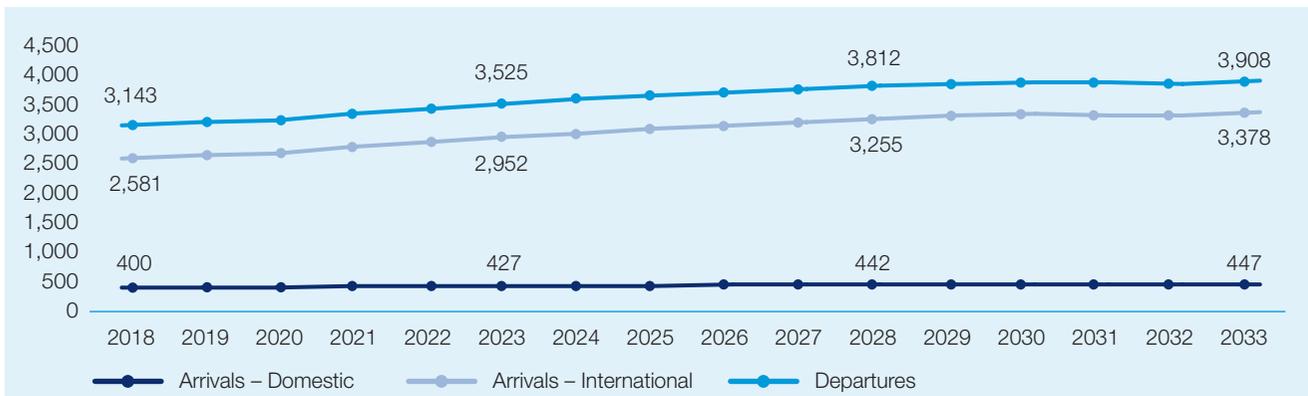
Peak stand demand forecast base case



Source: Altitude Analysis

Currently, the combined number of departing and arriving aircraft produces a scheduled peak of 34 per hour. By 2033 this is forecast to rise to around 40, which can be accommodated using the current runway and taxiway infrastructure.

Busy hour passenger forecast Base case scenario



Investment in check-in technology

Latest generation passenger facilities





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The majority of our customers are based in the West Midlands and it's great to have Birmingham Airport on our doorstep, which is matching our ambition, by diversifying into new markets.

Hamza Waris
Commercial Director, Pak Travels