

MANCHESTER AIRPORT STATEMENT OF NEED

-CONFORMING TO CAP1616 AIRSPACE CHANGE

Manchester Airport is located approximately 7.5 miles southwest of Manchester city centre. Its catchment area covers the majority of Northern England, North Wales, and the northern part of the Midlands.

It is the third largest airport in the UK, handling more than 28m passengers a year, with over 200,000 air traffic movements (ATMs). The airport also handles over 117,000 tonnes of air freight annually.

First opened in 1938, Manchester has developed a route network providing links to more than 210 destinations around the world. This benefits the 22m people who live within the Airport's catchment area and the wider economy with the Airport estimated to contribute £1.4 billion in gross value added (GVA) to the regional economy.

Over the course of its 80-year history, Manchester Airport has connected travellers to a wide range of destinations, both within Europe and, as travel trends have evolved, further afield. This includes direct flights to key regions for business including the United States, China, India, and the Middle East. Manchester is the only airport in the North to provide a network of long-haul connections and increasingly, the Airport is linking businesses to long haul international markets, helping them increase exports and attract overseas investment. The Airport is also helping to support the region's visitor economy by welcoming tourists from far flung places to the North.

Manchester Airport is currently the only airport outside London with two full-length runways and is part-way through a £1bn transformation programme, the largest investment in its history. The programme will deliver significant benefits for customers, including through the expansion and redevelopment of its Terminal 2 building. The enlarged Terminal will incorporate spacious check-in and immigration halls and a state-of-the-art departure lounge.

As the largest airport outside of London, Manchester makes a valuable contribution to the overall UK air travel market, which is forecast to continue growing. Accordingly, it is important that as airspace changes the growing operational needs of the Airport are accommodated in airspace redesign required for other reasons as described below.

UK AIR TRAVEL AND AIRSPACE MODERNISATION

The government has made clear that the international connectivity provided by UK airports is important to trade, tourism, and investment and that it intends to support the forecast growth in air travel, while balancing the needs of communities and the environment.

With this in mind, the Department for Transport published its strategic rationale for 'Upgrading UK Airspace'¹ in February 2017, recognising that airspace constraints could hinder growth, cause delays for travellers and negatively impact the environment.

It described a UK airspace network that was originally designed in the 1950s and, while it remained safe, had not kept pace with improvements to aircraft technology.

The network has been developed over time in a piecemeal way, meaning it does not function as efficiently as it could, and that congestion can be experienced, especially at peak times. For passengers, this can result in aircraft being delayed on the ground or held in the air while waiting to land.

The DfT's strategic rationale anticipated that, unless airspace was modernised, these issues would get worse over time, making delays commonplace and reducing the ability of the industry to grow. It predicted as many as one in every three flights could experience a delay of more than an hour unless this modernisation took place.

Therefore, in response to direction from Government, the Civil Aviation Authority (CAA) published its Airspace Modernisation Strategy² in December 2018. A key feature of this was a transition to make greater use of satellite navigation technology. This would allow the removal of physical ground-based navigational aids, which are currently used to guide aircraft flying into land and departing from UK airports.

¹ Department for Transport; [Upgrading UK Airspace, Strategic Rationale](#).

² Civil Aviation Authority; [CAP1711 Airspace Modernisation Strategy](#).

The existing air traffic system is based on the use of these aids, despite the fact that modern aircraft are equipped with far more sophisticated and accurate navigational technology.

Making greater use of satellite navigation technology is also a mandatory requirement for all major European airports imposed by the Single European Sky STM Research (SESAR) Programme.

Both the CAA's Airspace Modernisation Strategy and SESAR made clear that the removal of ground-based aids – known as VHF Omnidirectional Range (VOR) beacons – and the increased use of satellite technology are key to improving accuracy, operational efficiency and reducing delays.

Consequently, in October 2018, National Air Traffic Services (NATS) formally notified Manchester Airport of its intention to remove its support for a number of these beacons. This notice requires all airports to have removed their dependency on them by December 2022.

At Manchester, this includes the Manchester (MCT) VOR located on its airfield. This beacon is central to more than 25 "instrument flight procedures," which are what aircraft currently use to fly in and out of Manchester Airport.

These procedures are known as either Standard Instrument Departures (SIDs) or Standard Terminal Arrival Routes (STARs). Removing the VOR used at Manchester will mean these existing routings can no longer be used, requiring a re-design of these routes within the airspace.

Resulting from the policy objectives described in this section, the advantages of modern navigational technology and the removal of VOR beacons, airspace change will be required for Manchester Airport.

AIRSPACE MODERNISATION IN THE NORTH OF ENGLAND

The airspace above the UK is complex for a number of reasons. It covers several different regions, each of which has several airports within them. There are also different "levels" of airspace, in terms of the height at which aircraft are flying.

The North of England has one of the busiest pieces of airspace, with several airports – including Manchester – in close proximity to each other.

In this context, the Future Airspace Strategy Implementation North (FASI-North) programme has been set up. There is a similar programme for the South of the country. FASI-North, led by NATS, will coordinate all Airspace modernisation across the North of England at a higher level. FASI-North will then "plug-in" to the UK-wide airspace above it, while airports are required to lead the coordination of airspace modernisation at lower levels.

For Manchester, this means modernising its instrument flight procedures for aircraft operating to and from the Airport at altitudes of 7,000 feet and below. As described above, changes to operations at Manchester are part of a national programme of modernisation, integrating with lower airspace changes carried out by other airports within the FASI-North "catchment", as well as connecting to the modernisation programmes being carried out at a higher level across the UK.

The modernisation process that Manchester seeks to implement, will involve introducing the new technologies described in this document, while phasing out the old ground-based navigational aids.

As a result, it will seek to deliver benefits to passengers, by reducing delays, and to the environment, by facilitating more efficient operations, including reducing unnecessary aircraft holding.

The airspace change process needs to deliver an airspace design that will enable Manchester Airport to continue to grow to make best use of its available runway capacity, while balancing the needs of communities and the environment in line with Government policy. Meeting the growing demand for air travel will bring with it associated economic and social benefits for those living and working in Manchester Airport's catchment across the North.

March 2019

