MOTT MACDONALD

Bournemouth Airport Demand and Capacity Assessment

Analysis in support of application for designation as a Schedules Facilitated airport

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1 Introduction

1.1 Background

This study is a demand and capacity analysis of Bournemouth Airport (BOH) to assess the need for the airport to be designated as a **schedules facilitated** (or Level 2) airport. It is undertaken in fulfilment of Article 3 of the retained EU slot regulation[1].

A *schedules facilitated* airport is defined as[2]:

> *'schedules facilitated airport' shall mean an airport where there is potential for congestion at some periods of the day, week or year which is amenable to resolution by voluntary cooperation between air carriers and where a schedules facilitator has been appointed to facilitate the operations of air carriers operating services or intending to operate services at that airport*

Bournemouth Airport is currently undesignated under the retained EU slot regulation, but is a "Level 1" airport under the Worldwide Airport Slot Guidelines (WASG)[3], and Airport Coordination Limited (ACL) provides a schedule data collection service for the airport. A Level 1 airport is defined as[4]:

> *Level 1 Airport: an airport where the capacities of all infrastructure at the airport are generally adequate to meet the demands of users at all times*

Therefore, the difference between a Level 1 *data collection* and a Level 2 *schedules facilitated* airport is whether there is "*potential for congestion at some periods of the day, week or year which is amenable to resolution by voluntary cooperation"*.

The administrative process for airlines at Level 1 and 2 airports is similar. They submit their planned schedules to the airport's data collection agent (Level 1) or schedules facilitator (Level 2) in the same standard schedule format or via an online coordination system, and follow the same seasonal calendar of activities set out in the WASG.

The difference between the Level 1 and Level 2 processes is that for Level 2:

a) The airport operator declares its capacity parameters to the schedules facilitator

b) If airline demand exceeds capacity at peak times, the schedules facilitator initiates a dialogue with the airline(s) concerned and suggests schedule adjustments to resolve the excess demand and potential for congestion

c) The schedule adjustments are voluntary, and the airline may decline a change, but it is in the interests of airlines to cooperate with adjustments where possible to help ensure smooth airport operations[5]

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1 Council regulation No.95/93 on common rules for the allocation of slots at UK airports ("the retained EU slot regulation").

2 Retained EU slot regulation, Article 2(i)

3 See WASG section 3

4 WASG, section 11, Terms and Abbreviations

5 WASG paragraph 4.3.2 recommends that *"Airlines should be prepared to accept an alternative time if offered by the facilitator to avoid exceeding the coordination parameters, otherwise the airport may need to consider changing to Level 3"*

In the UK, Article 3(2) of the retained EU slot regulation states that:

> *The Secretary of State may, however, provide for any airport to be designated as a schedules facilitated airport provided that principles of transparency, neutrality and non-discrimination are met*

The UK currently has 8 airports designated as *coordinated* (Level 3) and 10 airports designated as *schedules facilitated* (Level 2). At all of these airports the principles of transparency, neutrality and non-discrimination are fully met.

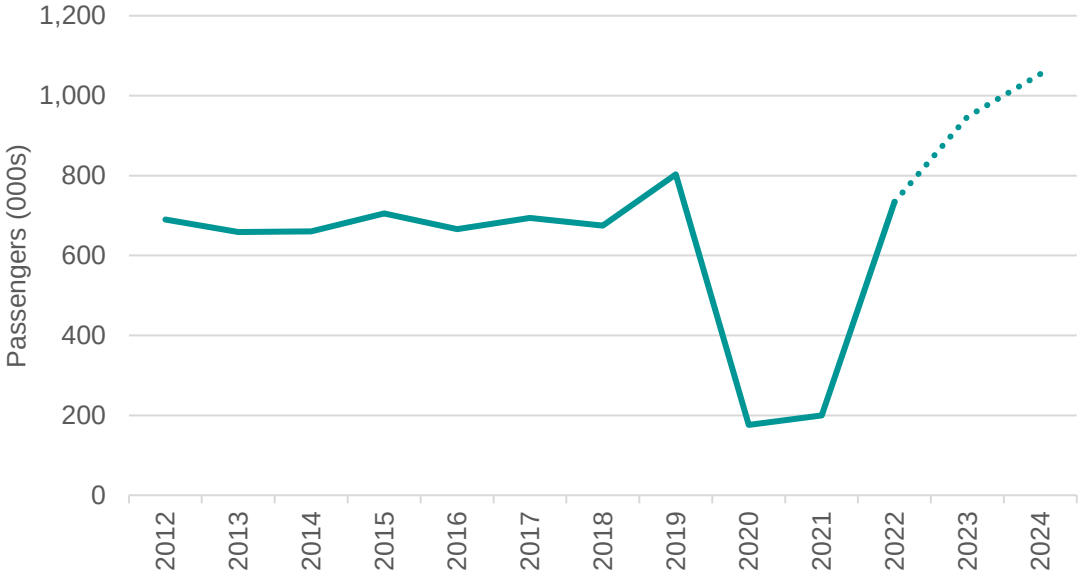
It is envisaged that, should Bournemouth Airport be designated as a schedules facilitated airport, then it will follow the same well-established processes and level of compliance as other UK airports.

2 Demand and Capacity Assessment

2.1 Traffic History

Bournemouth Airport was the UK's 20th busiest airport in 2022, up from 24th place in 2019. It recovered to 91% of its pre-pandemic traffic levels in 2022, compared with 75% recovery for the UK as a whole. The airport expects traffic to grow by almost 30% from 2022 to 2023, significantly exceeding 2019 levels, and to exceed 1 million annual passengers by 2024.

Figure 1 Bournemouth Airport Traffic History – Annual Passengers



Source: CAA Airport Statistics

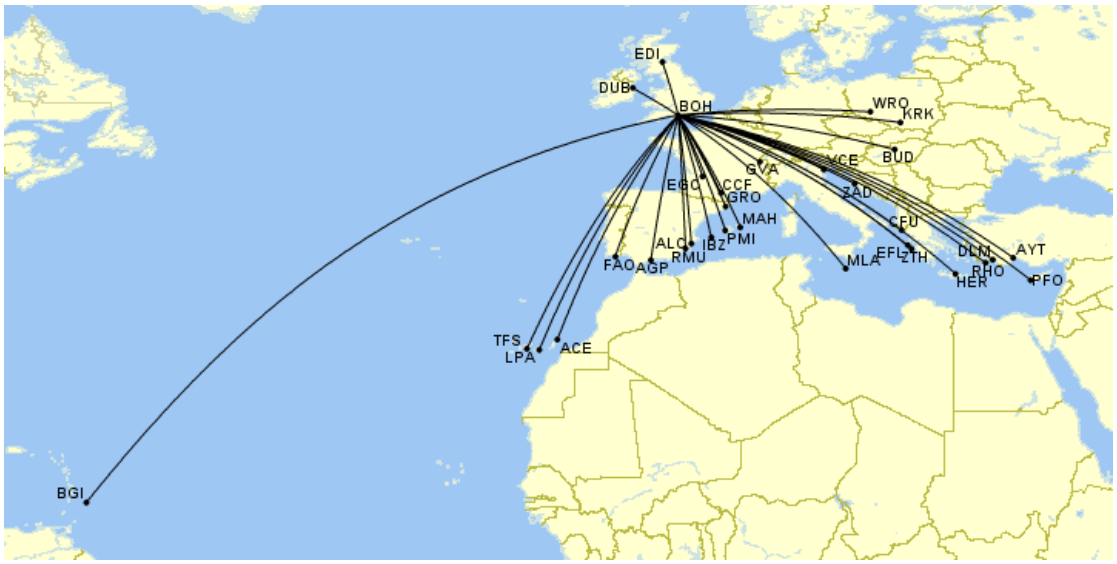
2.2 Traffic Mix

Bournemouth Airport is a leisure airport primarily serving low-cost and charter carriers. **Ryanair** is the largest airline with 76% of seat capacity in 2022, followed by charter airline **TUI** with a 20% share. **easyJet** operate services to Geneva in a winter season. TUI have announced plans to base a second aircraft at Bournemouth Airport in Summer 2024[6], which will increase demand in the morning departures peak and the midday arrivals peak periods.

The airport has schedules serving over 30 routes in 2023, mainly to destinations in southern and eastern Europe, plus flights to Edinburgh, Dublin and charter services to Barbados.

[6] https://www.bournemouthairport.com/bournemouth-airport-announces-new-flights-and-second-based-aircraft-with-tui-for-summer-2024/

Figure 2 Bournemouth Airport 2023 Route Map



Source: SRS Schedules; GC Mapper (www.gcmap.com)

2.3 Demand and Capacity

2.3.1 Terminal Layout and Facilities

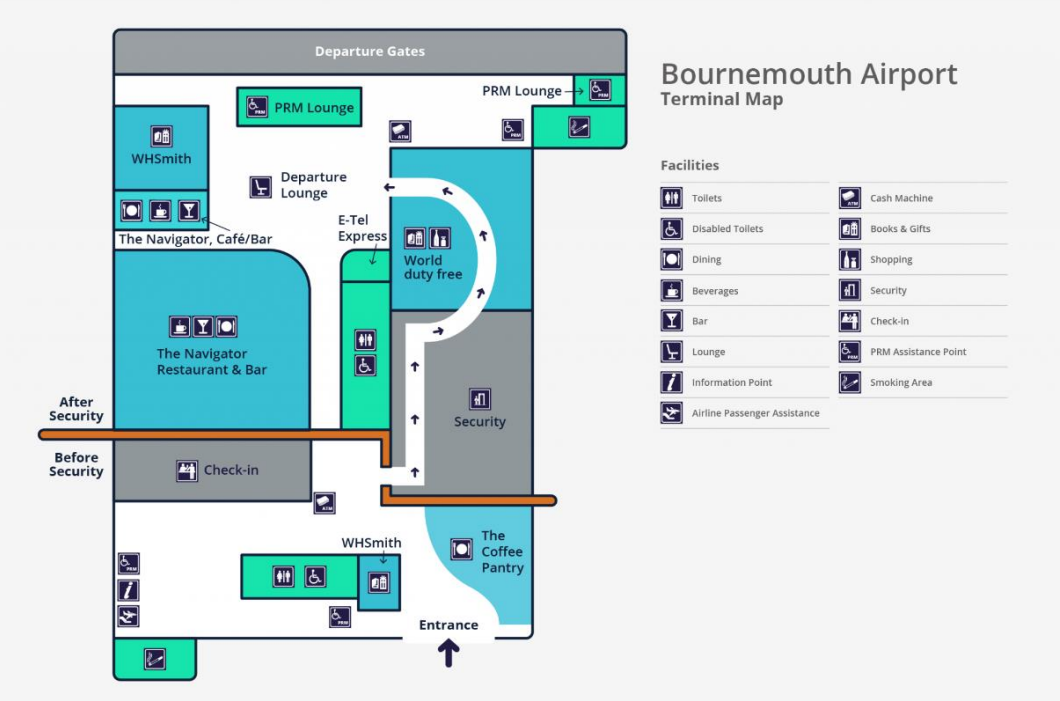
Bournemouth Airport has separate departures and arrivals terminal buildings, connected by an airside passenger walkway. There are six Code C (A320/B737) size stands along the terminal frontage apron and a further five remote stands on the other side of the taxiway.

Figure 3 Bournemouth Airport Layout

The figure and table below summarises the airport's terminal and passenger processing facilities. There is a single check-in area and a central security search leading to a common departure lounge which serves both international and domestic flights.

The arrivals building consists of an immigration area and baggage reclaim hall. The baggage reclaim hall has 3 belts – two international belts and a third belt that can be used for either international or domestic flights (it is separated from the international belts by a curtain wall that can be closed when domestic flights operate).

Figure 4 Bournemouth Airport Terminal Facilities



Departures	
Check-in	12 conventional check-in desks (no self-service kiosks or bag-drop desks
Baggage System	1 baggage system race-track loading area 1 Hold Baggage Screening (HBS) x-ray, plus an out-of-gauge baggage x-ray
Security	3 security lanes (including 1 fast-track) 3 Archway Metal Detectors (AMDs)
Departures Lounge	6 gates with walk-out access to the aircraft stands Seating, food & beverage and retail areas Static capacity of 600 passengers at any one time
Arrivals – International	
Immigration	4 manned desks, No e-passport gates (one additional fast-track desk may be possible for Summer 2024)
Baggage Reclaim	2 belts, 26m length each (Curtain wall allows access to domestic reclaim belt if no domestic flights)
Arrivals – Domestic	
Baggage Reclaim	1 belt, 21m length

2.3.2 Terminal Capacity

Bournemouth Airport's terminal capacities are assessed using a capacity model based on the IATA Airport Design Reference Manual (ADRM v12) methodology. The capacity model is based on commonly recognised methods and has been applied by Mott MacDonald on numerous projects to assess terminal capacities and facility requirements at a variety of airports worldwide. The model takes account passenger flows from one operational area to the next and utilises airport specific processing information such as transaction times and passenger characteristics as well as space planning parameters.

Capacity was assessed against the IATA Level of Service "Optimum Average" (Level C). Optimum Average is defined by IATA as being the throughput rate at which a good level of service is provided with conditions of stable flow, acceptable delays and good levels of comfort. Where Bournemouth Airport has its own Level of Service standards, these have been adopted.

Figure 5 Bournemouth Airport Terminal Capacities

Departures Process	Capacity (Pax/Hour)
Check-In:	660
Central Search	600
Departure Lounges	720
Limiting Capacity	600

Arrivals Process	Capacity (Pax/Hour)
Immigration	600
Baggage Reclaim:	
International	450-630
Domestic	200
Limiting Capacity – International	600
Limiting Capacity - Domestic	200

Source: Mott MacDonald analysis

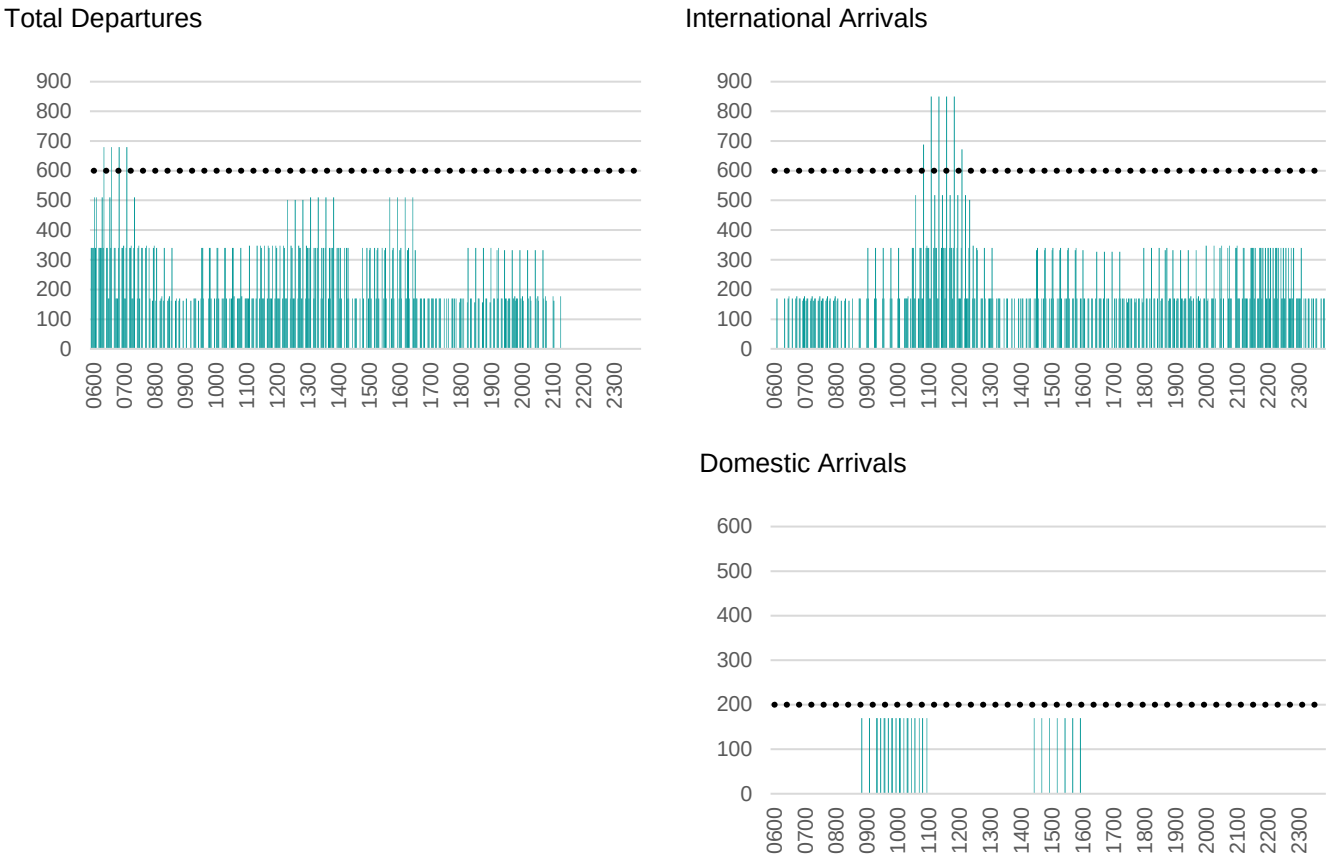
(*) International baggage reclaim capacity is 450pph with two belts available, or 630pph when the third belt is available (ie, when there are no domestic flights)

The above capacities reflect the terminal facilities that are expected to be available for the Summer 2024 season.

The charts below show the Summer 2023 peak week scheduled utilisation of the terminal capacity on a rolling hour basis, compared to these assessed capacities. It should be noted that these capacity utilisation charts are based on flights operating on time. On-the-day operational disruption or delays can cause flight bunching, congestion and a degradation in passenger service. The schedules facilitation process can seek to smooth schedule peaks to improve operational resilience at the airport.

Total Departures demand during the first departures peak exceeds capacity on some days of week. Similarly, International Arrivals demand exceeds capacity during a midday peak on certain days. Both of these peaks are likely to be amenable to smoothing by voluntary schedule adjustments under a Level 2 *schedule facilitation* process, relieving possible congestion and improving the passenger experience and operational efficiency.

Figure 6 Terminal Capacity Utilisation



Source: ACL data; Summer 2023 typical week; maximum roll; local times

2.3.3 Runway

Bournemouth Airport has one runway (Runway 08/26) which is 2270m in length. The airport handled 5,346 commercial air transport movements (ATMs) in 2022, in excess of the 4,992 ATMs handled in 2019. Peak hour schedule demand for commercial flights in Summer 2023 is 7 movements per hour.

The airport handles many more non-commercial flights, and in total 29,186 flights operated in 2022 (compared with 38,540 in 2019).

This level of activity is well within the capacity of a single runway airport, so runway capacity is not considered a capacity constraint.

2.3.4 Aircraft Parking Stands

Scheduled passenger service demand for parking stands is 4-5 aircraft at peak times in Summer 2023, within the airport's 6-gate capacity.

The airport is also used by cargo operators using larger widebody aircraft such as the Airbus A340, but there a two cargo stands available for this traffic.

Therefore, stand capacity is not currently a significant constraint at Bournemouth Airport.

3 Conclusions and Recommendations

Mott MacDonald's assessment and conclusions from this Bournemouth Airport Demand and Capacity Analysis are:

- That the airport experiences peak hour demand in excess of terminal capacities during busy periods for both departures and international arrivals
- These peaks represent periods when congestion is likely to occur, and passenger experience and operational efficiency would benefit from a process of *schedule facilitation* to smooth peak demand
- Such schedule smoothing is likely to be amenable to resolution by voluntary cooperation between air carriers and the schedules facilitator
- It is intended for Bournemouth Airport to follow the same *schedules facilitation* process established at other UK airports, where the principles of transparency, neutrality and non-discrimination are fully met

Therefore, it is recommended for the Secretary of State for Transport to consider designation of Bournemouth Airport as a *schedule facilitated* airport in accordance with Article 3(2) of retained EU slot regulation.