Design Principles

Bournemouth Airport FASI(S) Airspace Change Proposal

August 2022

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Overview

- Why?
- CAP 1616 Process
- CAP 1616 Stage 1 Rework
- Impact on BOH
- Airspace
- Noise Preferential Routes
- Draft Design Principles
- Survey
- Questions

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Why?

Airspace Modernisation Strategy (AMS)

- Published in Dec 2018 and replaced Future Airspace Strategy (FAS);
- Roadmap that sets out the 'Ways', 'Ends' and 'Means' of modernising UK airspace through 15 initiatives; and
- One of these initiatives is the fundamental redesign of the Terminal Route Network using satellite navigation (Performance-Based Navigation (PBN)).

Airspace Change Organising Group (ACOG)

- Established in 2019 as a fully independent organisation (at the request of both the DfT and the CAA);
- Responsible for coordinated delivery of key aspects of the AMS;
- Delivery of two major national airspace change programmes known as Future Airspace Implementation South (FASI-S) and Future Airspace Implementation North (FASI-N);
- FASI-S is a complete redesign of the existing airspace structure in Southern England; and
- BOH is one of nineteen airports included within this programme.

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Why?

Performance-Based Navigation (PBN)

- One of the major aims of the AMS is to optimise future airspace designs to take account of modern aircraft performance and functional capabilities;
- PBN is being adopted world-wide and States are expected to modernise their airspace;
- In parallel, the UK navigation infrastructure is being optimised to take advantage of the lateral navigation accuracy from Global Navigation Satellite Systems (GNSS) while retaining adequate conventional ground-based navigation aids to ensure both resilience and contingency measures.

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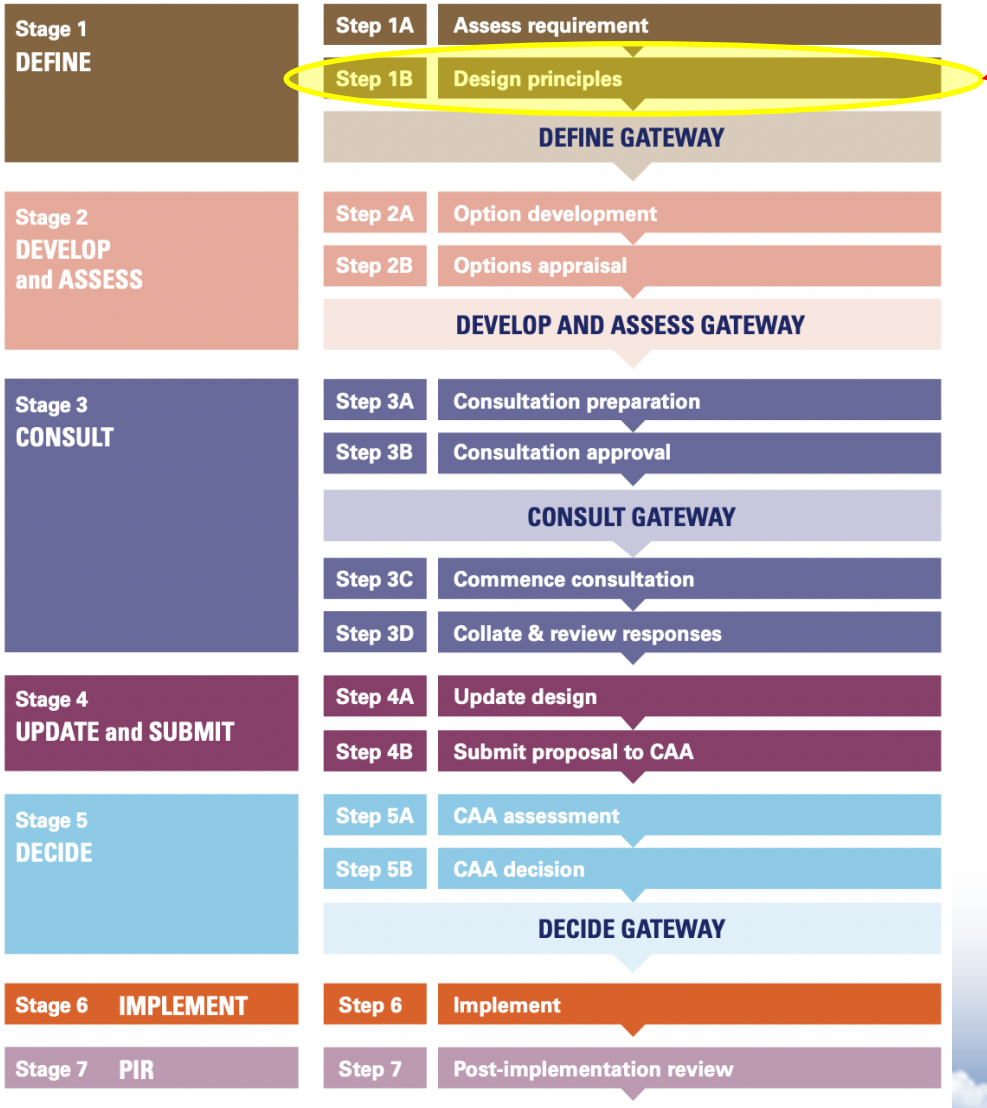
CAP1616 Process



We are here

- 14 Steps;
- 7 Stages;
- 4 Gateways;
- 2 years minimum.

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Stage 1 Gateway Decision and Rework

In May 2022 Bournemouth Airports ACP submission failed to pass the Stage 1 Gateway.

- The full breakdown of the CAAs Define Gateway Outcome- May 2022 can be found on the ACP Portal online.

This outcome now requires the Change Sponsor to revaluate its approach and reengage with the stakeholders on the draft design principles in order for resubmission.

- The previous rounds of targeted stakeholder engagement are not to be discounted in this process. As such, we have updated the Draft Design Principles (DPs) to reflect previous feedback, and these will be the DPs we are taking forward for this round of stakeholder engagement.

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BOH CAP 1616 Gateways

Stage 1 – Define Gateway - October 2022

- Submit Stage 2 Documentation by the end of September 2022

Stage 2 – Develop and Assess Gateway – April 2023

- Stakeholder workshops planned November 2022
- Submit Stage 2A Documentation (Options Development) January 2023
- Submit Stage 2B Documentation (Options Appraisal) March 2023

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Impact on Bournemouth Airport

Bournemouth Airport is required to introduce the following procedures:

- PBN approaches in the form of Required Navigation Performance (RNP) Instrument Approach Procedures (IAPs);
- PBN departure routes (known as Standard Instrument Departures (SIDs) to link the Airport to the evolving airspace structure above 7,000ft; and
- Arrival Transitions to enable aircraft to get established on an approach into the Airport.
- It is likely that in the development of options for new departure, arrival and approach profiles, that the airspace configuration may also require re-configuration.

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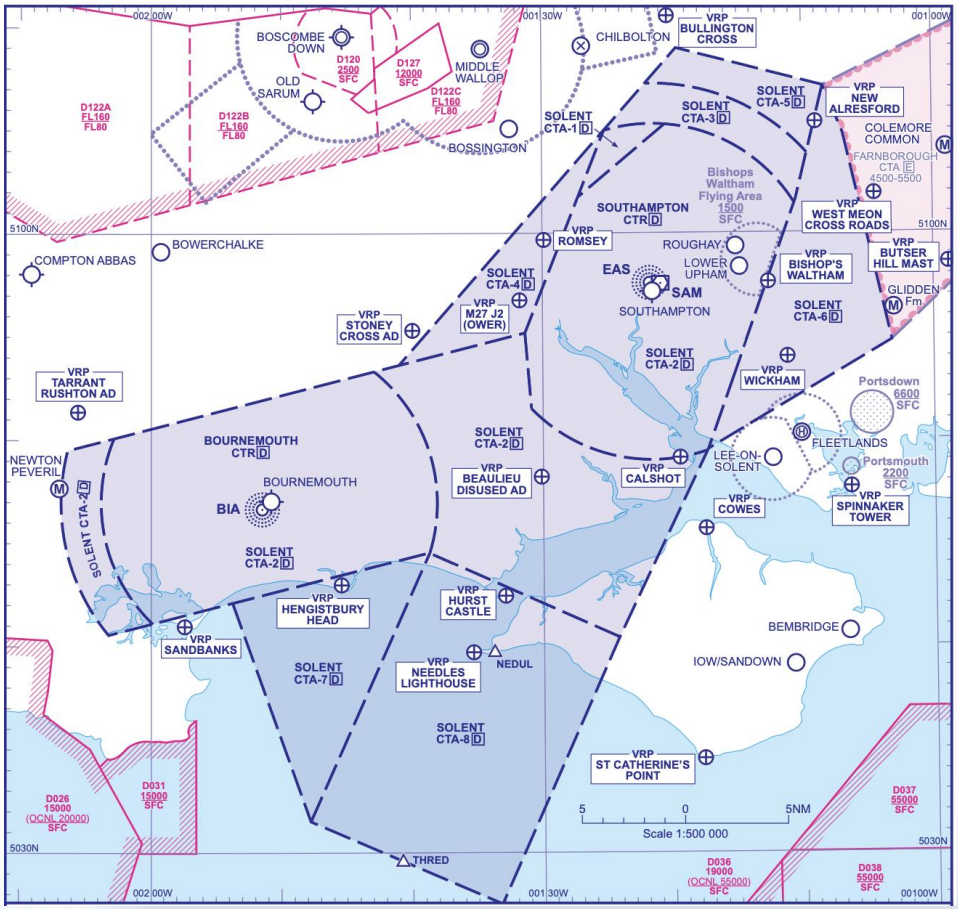
Airspace
Solent Control Area (CTA)

- The terminal airspace surrounding Bournemouth Airport is complex and shared with Southampton Airport.
- BOH relies on Southampton Airport being open to benefit from the additional volume of controlled airspace.
- Normally Class D (controlled) airspace - If Southampton are closed this airspace reverts to Class G (uncontrolled).
- **DP10 – Independence** – The new procedures and airspace configuration should enable Bournemouth Airport to operate independently of Southampton Radar.



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Airspace

- In addition to this, there is insufficient controlled airspace for the vectoring of arrivals/approaches to Bournemouth Runway 08 and, keeping aircraft within controlled airspace on departure on continuous climb profiles also presents a challenge for Bournemouth Radar.
- As a result, aircraft are often outside controlled airspace for part of their arrival or departure to/from Bournemouth Airport. Accordingly, the Airport would like controlled airspace containment to form part of the discussion on change.
- **DP6 – Airspace Dimensions** – The volume and classification of controlled airspace required for Bournemouth Airport should afford the appropriate volume to contain and support commercial air transport for both runways, enabling safe, efficient airspace design which considers the needs of all airspace users.

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Noise Action Plan and Noise Preferential Routings

Routing instructions are published in the Aeronautical Information Publication (AIP) instructing pilots of departing aircraft to fly a track that avoids, as far as is possible, the more densely populated areas, to minimise the impact of noise.

At the Noise Action Plan (NAP) Review (2018), these instructions were substantially changed as a direct result of the comments received during the consultation of the draft NAP. In further reviews, the wording of these instructions has been reviewed to enable greater pilot understanding.

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Noise Preferential Routes (NPRs)

Bournemouth Airport has a Section 106 agreement with Christchurch Borough Council that requires the following:

- Departing aircraft are required to follow specified departure routings (Noise Preferential Routings (NPRs)). Commercial aircraft are not permitted to make any turn below 2,000 feet and it is the intention of the departure routings that aircraft avoid flying over built up areas where it is possible to do so. The effect of the routings is to minimise impact to Parley and the Bournemouth agglomeration when aircraft depart to the west (Runway 26) and to minimise the impact to Bransgore when aircraft depart to the east (Runway 08); and
- Departing aircraft are required to climb as steeply as is compatible with safety, in an effort to maximise altitude and thereby reduce noise

NPRs are published in the Aeronautical Information Publication (AIP), however, their ownership and enforcement is the responsibility of the Local Authority and not the DfT or the CAA;

The introduction of PBN will improve the accuracy and compliance with the NPR;

NPRs might evolve by mutual agreement should an improvement be possible.

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Draft Design Principles

SAFETY	• DP1 – Safety
TECHNICAL	• DP8 – Technical Requirements • DP9 – Systemisation • DP10 – Independence
ENVIRONMENTAL	• DP2 – Overflight • DP3 – Noise Footprint • DP4 – Tranquillity • DP5 – Emissions and Air Quality
ECONOMIC	• DP11 – Operational Cost
OPERATIONAL	• DP6 – Airspace Dimensions • DP7 – Airspace Complexity • DP8 – Technical Requirements
STRATEGIC POLICY	• DP12 – AMS Realisation • DP13 – PBN

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Safety

DP1 – Safety

- The airspace design and its operation must maintain or where possible, enhance current levels of safety.

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Environmental

DP2 – Overflight	• The new procedures should not increase the number of people overflown by aircraft using the Airport.
DP3 – Noise Footprint	• The design should limit, and where practicable reduce the impact of noise to stakeholders on the ground, in line with the Bournemouth Airport Noise Action Plan and where possible periods of built-in respite should be considered.
DP4 – Tranquillity	• Where practical, route designs should limit effects upon sensitive areas. These may include cultural or historic assets, tranquil or rural areas, sites of care or education and AONB's.
DP5 – Emissions and Air Quality	• The proposed design should minimise CO2 emissions per flight.

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Operational

***DP6 – Airspace Dimensions**

- The volume and classification of controlled airspace required for Bournemouth Airport should afford the appropriate volume to contain and support commercial air transport for both runways, enabling safe, efficient airspace design which considers the needs of all airspace users.

DP7 – Airspace Complexity

- The airspace design should seek to reduce complexity and bottlenecks in controlled and uncontrolled airspace and contribute to a reduction in airspace infringements.

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Technical

DP8 – Technical Requirements	• The design shall be fully compliant with PANS-OPS and UK CAA criteria to meet the technical capability requirements of aircraft using the airport.
DP9 – Systemisation	• The arrival transitions and departure procedures shall be deconflicted and integrate with the en-route network, as per the FASI(S) programme, and in the case of the arrival transitions shall integrate with the Instrument Approach Procedures (IAPs) reducing the requirement for tactical coordination. • To streamline the interaction and co-ordination with Southampton Airport, routes to/from Bournemouth and Southampton Airports must be procedurally deconflicted in coordination with NATS.
***DP10 – Independence**	• The new procedures and airspace configuration should enable Bournemouth Airport to operate independently of Southampton Radar.

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Economic

DP11 – Operational Cost

- Provided it does not have an adverse impact of community disturbance, procedures should be designed to optimise fuel efficiency.

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Strategic Policy

DP12 – AMS Realisation

- This ACP must not conflict with, the realisation of the AMS.

Note: It is accepted by the CAA that adherence to this DP, in what is a coordinated modernisation programme, may impact upon the development of 'Options'.

DP13 – PBN

- The new procedures should capitalise on as many of the potential benefits of PBN implementation as are practicable.

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What do we need from you?

- CAP1616 requires that a discussion with affected stakeholders takes place. Local stakeholders normally include local authority elected representatives, local community groups, the Airport Consultative Committee (ACC) and representatives of local General Aviation (GA) organisations or clubs;
- We need your views on the Draft Design Principles;
- Remember, this isn't procedure designs or volumes of airspace at this stage – it is conceptual principles that will inform the development of design options;
- Please populate the survey. The feedback received will influence the Final Design Principles.

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Questions?

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