

Richmond Heathrow Campaign



Business Case for Airspace Redesign Principles

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The benefits of system efficiencies

Aerospace R&D delivers significant spillover benefits to the rest of the economy and high paid manufacturing jobs that boost productivity



Airspace modernisation will allow the aviation industry to deliver a further

£29 billion

to the UK economy and create nearly

116,000

more jobs by 2035.²¹



Many of the measures to improve efficiencies also result in noise reductions – new aircraft technology alone could reduce perceived noise from aircraft by

65% by 2050²².



CAA Airspace Change Process (ACP)

CAP 1616

Stage 1 DEFINE

Step 1A Assess requirement

The change sponsor prepares a **Statement of Need** setting out what airspace issue or opportunity it is seeking to address. Having reviewed the Statement of Need, the CAA meets with the change sponsor to agree whether an airspace change is a relevant option to consider, and to have a first discussion about the appropriate scale of the airspace change process.

Step 1B Design principles

The design principles encompass the safety, environmental and operational criteria and strategic policy objectives that the change sponsor aims for in developing the airspace change proposal. They are developed through engagement with stakeholders and form a qualitative structure against which design options can be evaluated. Early engagement with stakeholders, optionally facilitated by a third party, may help to avoid disagreement later in the process.

DEFINE Gateway

CAA Statement of Need for Airspace Change

The current/existing situation

- A description of the current airspace design (i.e. the airspace structure and flight procedures) relevant to the proposal
- Any relevant history of airspace design changes
- The current prevailing air traffic situation
- Frequency/number of movements
- Forecast growth (where applicable)
- Local geography (for example, local physical geography, urban features etc)
- For a PPR proposal, a description of the current air traffic control operational procedure

The issue or opportunity to be addressed

- A summary statement of the issue or opportunity to be addressed and the objective of the proposed change
- For a PPR proposal, whether the instigator is an organisation other than the air navigation service provider
- Whether the proposal forms part of the plan for delivering the **Airspace Modernisation Strategy**, and, if not, confirmation that the proposal does not conflict with the plan

CAA Airspace Modernisation Strategy 2018

- enable and facilitate continuous improvements in safety standards within the system through innovation
- accommodate growing demand from commercial and defence airspace users
- maximise the utilisation of available runway capacity, including the government's policy for a new runway at Heathrow airport
- enable government policies in respect of the reduction and mitigation of noise and how it should be distributed to manage the impact of aviation growth on local communities
- deal with 'hotspots' of congestion within the current system
- improve resilience of the system to bad weather or other forms of disruption
- develop a genuinely sustainable framework to guide the aviation industry in its investment and technological development
- take advantage of those technological developments to improve safety and efficiency
- safely and efficiently accommodate new technologies that change the types of aerial craft and how they operate, for example drones and spacecraft
- implement internationally agreed requirements designed to increase the overall safety, capacity and efficiency of the global air traffic management system, while making commensurate environmental improvements, such as the Single European Sky
- further enable greater access to airspace for non-commercial users
- help the UK to mitigate the impact of disruptions in neighbouring European airspace
- provide flexibility within the system to enable continuing development and improvement.

Heathrow Statement of Need, August 2021

- **Context:** The Government published its Airspace Modernisation Strategy (AMS) in 2018. The AMS lays out a national programme to modernise and upgrade the UK's airspace and sets out the work required of the aviation industry, including UK airports, to deliver airspace modernisation. A masterplan is now being created by the Airspace Change Organising Group (ACOG) to coordinate the delivery of airspace change across UK airports and NATS En Route Limited (who is responsible for the airspace above/beyond the airports' areas of responsibility).
- **Benefits**
 - Heathrow's current departure and arrival procedures were designed decades ago, at a time when aircraft and navigation were much less sophisticated than today. Through the introduction of airspace modernisation at Heathrow, the airport will make use of modern navigation technology to enable better aircraft performance, reduce delays and manage traffic in ways that mitigate, where possible, the impact on local communities.
 - Heathrow will also play its part in delivering the requirements of the UK's AMS, such as maintaining and enhancing high aviation standards, ensuring the efficient use of airspace, avoiding flight delays by better managing the wider airspace network, and improving environmental performance by reducing emissions and noise impacts on local communities.
- **Two runway design point:** Heathrow had initially proposed to undertake airspace modernisation through its Airspace Change Proposal (ACP) for Airport Expansion, but the Expansion project is on pause as the airport's current priority is to recover from the COVID-19 pandemic. However, Heathrow remains committed to the airspace modernisation programme and is therefore proposing to progress the changes required to keep pace with the wider UK programme, via this new ACP, based on our existing two runways.
- **Building in future flexibility:** Through the new airspace design, Heathrow will seek to minimise the impact of potential future changes to its airspace as far as is practical, such as those that may result from the development of future navigation technologies, the introduction of Urban Air Mobility (UAM), other anticipated aircraft fleet changes, or expansion of the airport.

CAA Identified Benefits and Costs

- Demand and Capacity Scenarios

- Still modelling to NATS assumptions
- CAA: 3.25M UK ATMS/year in 2030 (2017 Forecast* still in use)
- DfT: 2.5M UK ATMS/year in 2030 (Current Forecast)
- CAA overstated by 30%

* *Upgrading UK Airspace - Strategic Rationale, 2017*

- Benefits

- Benefits covered: Safety; Punctuality, Delay and Resilience; Fuel Use; Environment.
- But none has been updated in the context of reduced growth forecast.

- Costs

- Environmental - impact of PBN on communities through noise concentration.

Re-evaluation needed in the context of reduced growth forecast

- Economic Assessment
 - Re-quantification of benefits
- Environmental Impact Assessment
 - Evaluation (e.g. through WebTAG) of the impact of PBN on affected communities
- Answers Needed
 - Is the benefit – taking into account PBN environmental costs – still £29 billion?
 - If not, what is the benefit?

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QUESTIONS?