



***AIRSPACE MODERNISATION AIRSPACE CHANGE  
PROPOSAL  
(ACP-2021-056)***

***STAGE ONE - DESIGN PRINCIPLES SUBMISSION***





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# 1. INTRODUCTION

## 1.1 The UK's Airspace Modernisation Strategy

- 1.1.1 In December 2018 the Civil Aviation Authority (CAA) published its finalised [Airspace Modernisation Strategy \(AMS\)](#). The AMS sets out the ways, means and ends of modernising airspace through initiatives that will modernise the design, technology, and operations of airspace.
- 1.1.2 The structure of the UK's airspace has remained the same for decades, despite an increase in demand from its users. Modernisation is critical to ensure that this invisible piece of the UK's national infrastructure is fit for purpose for the future.
- 1.1.3 The AMS sets out a new shared objective between the CAA and the Department for Transport (DfT) for modernising airspace which is to deliver quicker, quieter, and cleaner journeys and more capacity for the benefit of those who use and are affected by UK airspace.

## 1.2 Airspace Modernisation at Heathrow

- 1.2.1 Heathrow had initially proposed to undertake airspace modernisation through its Airspace Change Proposal (ACP) for Airport Expansion, but the Expansion project is currently on pause as the airport prioritises recovery from the COVID-19 pandemic.
- 1.2.2 Heathrow remains committed to airspace modernisation and to keeping pace with the wider UK programme, so it has commenced a new ACP to make the necessary changes to flight paths to and from Heathrow's existing two runways.
- 1.2.3 In July 2021 Heathrow began a new ACP for airspace modernisation at the airport.
- 1.2.4 Any future changes to the airspace around Heathrow that are required for Expansion would be dealt with through a separate ACP.

### *ACP Awareness Campaign*

- 1.2.5 Whilst not specifically related to Heathrow's design principles engagement, prior to the start of this ACP, Heathrow was aware that due to the previous Expansion ACP and other proposals, there could be some confusion for stakeholders and the public around Heathrow's current plans for airspace.
- 1.2.6 Heathrow decided to carry out a dedicated awareness campaign for this ACP to share information specifically on the airport's updated plans for airspace modernisation.
- 1.2.7 Heathrow created new webpages within its existing public website. These were published in September 2021 and contain up-to-date background information on key topics such as the CAP1616 process, the Airspace Modernisation Strategy and Performance Based Navigation (PBN).



- 1.2.8 The webpages allow stakeholders and the public to follow the progress of this ACP by directing them to the CAA Airspace Change Portal. They also contain a high-level summary of where Heathrow is in the process, planned and current engagement.
- 1.2.9 The webpages may be accessed at [heathrow.com/airspacemodernisation](https://www.heathrow.com/airspacemodernisation)
- 1.2.10 Heathrow also carried out an advertising campaign to spread awareness of the new airspace change proposal, pointing to the website to explain how these plans differ to the previous ACP for Expansion.
- 1.2.11 This campaign involved direct mail sent to local authorities, MPs, community venues and community groups. It included newspaper adverts in print and online news portals. Radio adverts were placed on Heart, Jackie, and Sunrise. Heathrow also used its existing social media sites, posting on Twitter, LinkedIn, Facebook and Instagram. Heathrow also promoted its plans for airspace modernisation on social media platforms with targeted paid-for advertising content.

### 1.3 Airspace Change Process

- 1.3.1 In December 2017 the CAA reformed the airspace change process and introduced [CAP1616 Airspace Change](#) on the regulatory process for changing flight paths, including community engagement requirements.
- 1.3.2 Proposals for changes to flight paths are submitted to, assessed and approved by the CAA, following the standards set out in CAP1616. This seven-stage guidance provides a framework for changing airspace and places great importance on engaging and consulting on Airspace Change Proposals with a wide range of stakeholders, including potentially affected communities.

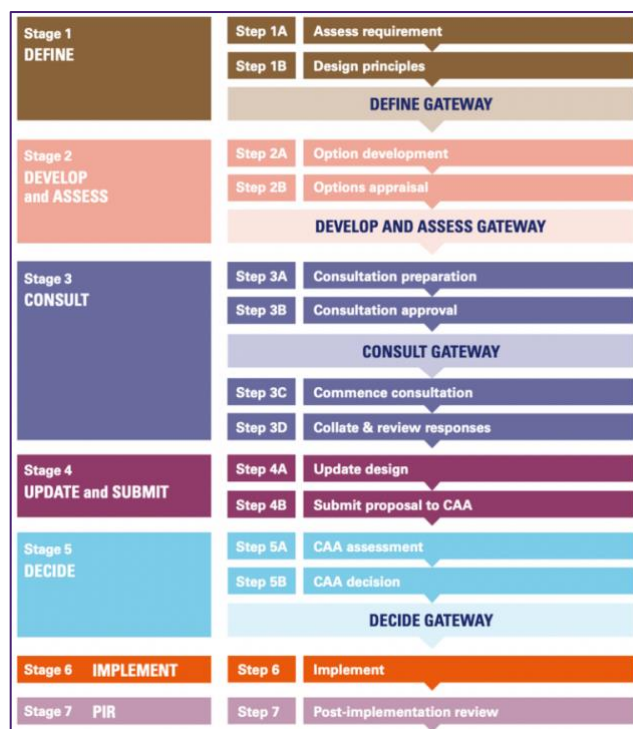


Figure 1: CAP1616 Overview



- 1.3.3 Step 1A 'Assess requirement', required Heathrow to submit a [Statement of Need](#) and to attend an assessment meeting with the CAA. The assessment meeting allowed Heathrow to discuss with the CAA the potential merits of the proposed airspace change and the first step in the airspace change process.

#### *Heathrow's Airspace Modernisation ACP Statement of Need*

*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<sup>1</sup>) 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).*

*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.*

*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.*

*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), and other anticipated aircraft fleet changes, or expansion of the airport.*

#### **CAP1616 Stage 1**

- 1.3.4 The Step 1A assessment meeting was held with the CAA on 19 August 2021. Details of the meeting, including the presentation given by Heathrow and the meeting minutes, can be found on the CAA Airspace Change Portal [here](#).
- 1.3.5 This Stage 1 submission document forms Heathrow's submission to the CAA for Step 1B of the CAP1616 process 'design principles' and provides evidence of our compliance with the required process. This document:

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<sup>1</sup> <https://www.acog.aero/>



- Sets out Heathrow's proposed design principles for this Airspace Change Proposal;
- Shows how these design principles have been informed by two-way stakeholder engagement; and
- Provides evidence of Heathrow's stakeholder engagement.

1.3.6 The CAA will decide whether Heathrow has satisfied Step 1B of the CAP1616 process at the Define Gateway, scheduled for 25 February 2022.



## 2. DESIGN PRINCIPLES

### 2.1 What are design principles?

- 2.1.1 CAP1616 describes design principles as encompassing ‘the safety, environmental and operational criteria and the strategic policy objectives that the change sponsor seeks to achieve in developing the airspace change proposal’<sup>2</sup>.
- 2.1.2 Design principles are the objectives that the airport seeks to achieve through the airspace change and help the airspace designers to create and compare different flight paths and design options.
- 2.1.3 Design principles must consider Government policy documents (e.g. the Air Navigation Guidance 2017, the Airspace Modernisation Strategy) and consider the local context for airspace change to take account of priorities within the area affected.
- 2.1.4 As the context of each proposed airspace change is different, it is important for each ACP to have design principles that are specific to that proposal, and which capture the current views of stakeholders relating to it.
- 2.1.5 Although Heathrow has engaged previously on design principles for earlier ACPs, directly applying design principles from a different airspace change may not be appropriate due to differences in context, and opinions and priorities may have changed since Heathrow previously engaged with stakeholders.

### 2.2 How will design principles be used?

- 2.2.1 The airspace change process requires Heathrow to develop a set of design principles with identified stakeholders. Design principles essentially provide high-level criteria that the proposed airspace design options ‘must’ or ‘should’ meet. In some cases, design principles may be contradictory, for example, where avoiding one potential impact is likely to increase another.
- 2.2.2 CAP1616 recognises that unanimous agreement on the design principles is unlikely and instead the aim is to identify common priorities through discussions and engagement with stakeholders.
- 2.2.3 Design principles are used in two ways:
- To inform the development of airspace design options; and,
  - To form a framework against which design options can be evaluated.
- 2.2.4 Design principles help ensure that a sufficiently wide range of options are developed, assessed, and fed into the process from the outset. However, design options are only evaluated against the design principles in Stage 2A of the CAP1616 process. The Initial,

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<sup>2</sup> [CAP1616 page 34, paragraph 112](#)



Full and Final appraisals required in Stage 2B, Stage 3A and Stage 4 are assessed against existing policy and the requirements detailed in Appendix E of CAP1616<sup>3</sup>.

*Prioritisation of design principles*

- 2.2.5 CAP1616 states that some design principles may contradict one another, and some may be prioritised over others<sup>4</sup>. For this ACP, Heathrow decided not to prioritise the final design principles individually, but instead Heathrow has grouped them into clusters of equal importance within the two brackets, ‘our new airspace design must’, ‘and should also’.
- 2.2.6 The ‘must’ design principles are core requirements of the airspace design, related to policy, regulation, or Heathrow’s business requirements. They all have equal priority since any airspace design option(s) will need to deliver against each of these.
- 2.2.7 The ‘should also’ design principles all have equal priority, and any airspace design option(s) should aim to deliver against these, where possible.

**2.3 Heathrow’s design principles for Airspace Modernisation**

2.3.1 Following the stakeholder engagement which took place between September and December 2021, Heathrow’s design principles for the Airspace Modernisation airspace change proposal are as follows:

	Final Design Principles
Our new airspace design <b>must</b>	Be safe
	Remain in accordance with the CAA's published Airspace Modernisation Strategy and any current or future plans associated with it and all other relevant UK policy, legislation and regulatory standards (for example, Air Navigation Guidance). This includes preventing any worsening of local air quality due to emissions from Heathrow’s aircraft movements, to remain within local authorities’ limits
	Use noise efficient operational practices to limit and, where possible, reduce adverse impacts from aircraft noise
	Reduce the contribution to climate change from CO <sub>2</sub> emissions and other greenhouse gas emissions arising from Heathrow’s aircraft activities
	Enable Heathrow to make the most operationally efficient and resilient use of its existing two runways, to maximise benefits to the airport, airlines and cargo handlers, passengers, and local communities
And <b>should also</b>	Provide predictable and meaningful respite to those affected by noise from Heathrow's movements
	Seek to avoid overflying the same communities with multiple routes including those to/from other airports

<sup>3</sup> “The design principles will, however, influence the CAA’s assessment of the change sponsor’s Initial options appraisal (Stage 2) and Full options appraisal (Stage 3) as well as being part of the information available to us when we [CAA] make our decision (Stage 5)”, refer CAP1616 page 36, paragraph 120.

<sup>4</sup> [CAP1616 page 35, paragraph 115](#)





	Contribute to minimising the negative impacts of night flights
	Keep the number of people who experience an increase in noise from the future airspace design to a minimum
	Keep the total number of people who experience noise from the future airspace design to a minimum
	Enable the efficiency of other airspace users' operations
	Minimise the impact to all stakeholders from future changes to Heathrow's airspace

*Table 1: Final Design Principles*



### 3. STAKEHOLDER IDENTIFICATION

#### 3.1 Potentially affected area

- 3.1.1 Identifying stakeholders is a process that needs to be carried out at the outset of an ACP and will be continually assessed as the proposal develops.
- 3.1.2 Heathrow is responsible for the design of its flight paths up to 7000ft, beyond that it is NATS' responsibility to design the flight paths.
- 3.1.3 Heathrow has created a potentially impacted area (Figure 2) with the airport as the centre point and based on the areas that could be overflowed by arrivals or departures up to 7000ft in the future. This map can also be seen on the CAA Portal [here](#).
- 3.1.4 This potentially impacted area may change during the ACP, particularly as the proposal moves into the options development stage, as Heathrow will be able to identify impacted areas more precisely.

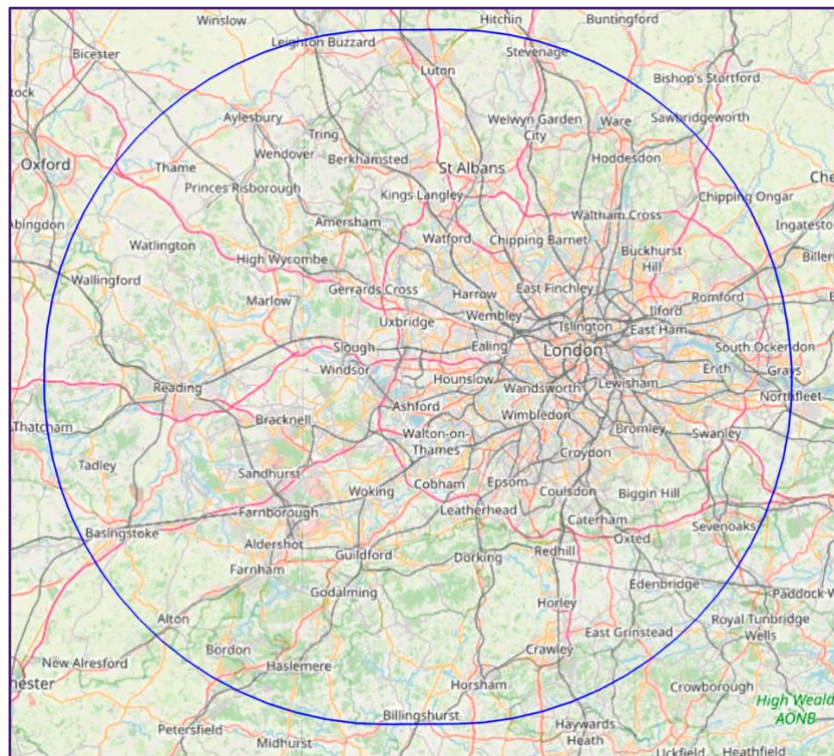


Figure 2: Potentially Affected Area

#### 3.2 Stakeholder Identification

- 3.2.1 CAP1616 requires the design principles to be drawn up through discussions between the change sponsor (Heathrow Airport) and affected local stakeholders. These local stakeholders will normally include local authorities' elected representatives, local community groups, the Airport Consultative Committee and representatives of local General



Aviation organisations or clubs. The change sponsor may also consider focus groups with a mix of representatives.

- 3.2.2 Heathrow used the potentially affected area map in Figure 2 to identify the local authorities to be contacted for engagement.
- 3.2.3 Heathrow engages with representatives from its local communities, airlines and neighbouring airports on a regular basis and several forums already exist. Heathrow reached out to these existing forums to engage them on the design principles.
- 3.2.4 Heathrow also identified the Areas of National Outstanding Beauty within the potentially affected area and reached out to these organisations as well as other environmental groups.
- 3.2.5 To ensure a range of opinions could be collected from people other than those currently overflown or annoyed by aircraft noise, Heathrow carried out public focus groups with local individuals who do not routinely engage with the airport, but who could potentially be impacted by this airspace change. More information on these groups and the outcomes are available in the Community Focus Groups section of this document and in Annex 1. Heathrow also decided to carry out focus groups with 16 to 18-year-olds in local schools, to capture the views of a younger demographic who have historically been less likely to engage with Heathrow on airspace issues. More information on these groups and the outcomes are available in the School Focus Groups section of this document and in Annex 2.

### 3.3 Stakeholder Groups

- 3.3.1 Heathrow separated the stakeholders into the following categories:
- Local authorities/councils and environmental groups;
  - Industry stakeholders; and
  - Community groups.

#### ***Local Authorities/Councils and Environmental Groups***

- 3.3.2 Heathrow contacted 77 local authorities and 9 county councils to invite them to be part of the design principles engagement. A full list of these stakeholders is available in Appendix A.
- 3.3.3 Included in this category is the Heathrow Strategic Planning Group<sup>5</sup> (HSPG). The HSPG represents many of the local authorities and other public organisations responsible for planning the land use, transport, environment, economic development, and sustainable development of the sub-region surrounding Heathrow Airport.

<b>Heathrow Strategic Planning Group (Full members)</b>	
Buckinghamshire Thames Valley Local Enterprise Partnership	Runnymede Borough Council

<sup>5</sup> [HSPG website](#)



Colne Valley Park Community Interest Company	Slough Borough Council
Elmbridge Borough Council	Surrey County Council
Enterprise M3 Local Enterprise Partnership	South Bucks District Council
London Borough of Ealing	Spelthorne Borough Council
London Borough of Hounslow	Thames Valley Berkshire Local Enterprise Partnership

Table 2: List of HSPG Full Members

3.3.4 Heathrow initially invited a representative from the following environmental organisations to the design principles engagement:

Environmental Organisations	
Chilterns Area of Outstanding Natural Beauty (AONB)	Surrey Hills AONB
Kent Downs AONB	South Downs National Park
North Wessex Downs AONB	High Weald AONB
Natural England	

Table 3:List of Environmental Organisations

3.3.5 Additional organisations were added to this list following Phase 1 of the design principles engagement:

Additional Environmental Organisations	
Kew Gardens	The National Trust
Environment Agency	Campaign to Protect Rural England (CPRE) (National)
Friends of Richmond Park	The Chiltern Society
Friends of the Earth (Hounslow & Brentford)	CPRE (Bedfordshire, Berkshire, Buckinghamshire, Kent, London, Oxfordshire, Surrey)

Table 4:Additional Environmental Organisations

## Industry Stakeholders

### Airlines

3.3.6 Airlines were engaged either individually or through the existing Heathrow forums outlined in Tables 5-7 below.



**Airport Operations Efficiency (AOE)**

- 3.3.7 The AOE is a forum attended by the external organisations in Table 5.
- 3.3.8 The forum is part of Heathrow’s capital engagement where the focus is air traffic management and airspace projects.

AOE	
British Airways	Virgin
United	American Airlines
Heathrow Airline Operations Committee	International Air Transport Association (IATA)
NATS	

Table 5: AOE Members

**Heathrow Flight Operations Performance and Safety Committee (FLOPSC)**

- 3.3.9 FLOPSC includes multiple additional airline representatives as well as representatives from NATS, the CAA and the British Airline Pilots Association. The committee meets quarterly to discuss Heathrow’s airside operational and safety performance.

List of FLOPSC Members	
Heathrow	National Air Traffic Services
British Airways	Virgin
UK Flight Safety Committee	United
Qatar Airways	Lufthansa (DLH)
KLM	Aer Lingus
American Airlines	Germanwings
Austrian Airlines	Delta
SAS	Qantas
Met Office	Airport Coordination Ltd (ACL)
British Air Line Pilots Association (BALPA)	Civil Aviation Authority
Department for Transport	

Table 6: List of FLOPSC Members

**National Air Traffic Management Committee (NATMAC)**

- 3.3.10 NATMAC is a non-statutory advisory board sponsored by the Safety and Airspace Regulation Group (SARG). The committee is consulted for advice and views on any major matter concerned with airspace management. NATMAC is to assist SARG in the development of airspace policies, configurations, and procedures in order that due attention is given to the various requirements of all users of the United Kingdom airspace, civil and military.



List of NATMAC Members	
Airlines UK	Airspace4All
Airport Operators Association (AOA)	Airfield Operators Group (AOG)
Aircraft Owners & Pilots Association (AOPA)	Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK)
British Airways (BA)	Bae Systems
British Airline Pilots Association (BALPA)	British Balloon & Airship Club (BBAC)
British Business & General Aviation Association (BBGA)	British Gliding Association (BGA)
British Helicopter Association (BHA)	British Hang Gliding & Paragliding Association (BHPA)
British Microlight Aircraft Association (BMAA)	British Model Flying Association (BMFA)
British Parachute Association (BPA)	General Aviation Alliance (GAA)
General Aviation Safety Council (GASCo)	Guild of Air Traffic Control Officers (GATCO)
Honourable Company of Air Pilots (HCAP)	Helicopter Club of Great Britain (HCGB)
Heavy Airlines	Isle of Man CC
Light Aircraft Association (LAA)	Low-Fares Airlines
NATS	PPL/IR (Europe)
UK Airprox Board (UKAB)	UK Flight Safety Committee (UKFSC)
Ministry of Defence – Defence Airspace & Air Traffic Management (MoD DAATM)	United States Air Force Europe (USAFE)
Navy Command Headquarters	Military Aviation Authority (MAA)

Table 7: List of NATMAC Members

### Adjacent Airports & Airfields

3.3.11 Heathrow engaged with the following major adjacent airports, many of which are also part of the UK Airspace Modernisation programme. Heathrow also engaged with the General Aviation (GA) airfields operating near Heathrow airport.

Adjacent Airports & Airfields	
Luton	RAF Northolt
Stansted	London City
Gatwick	Farnborough
Biggin Hill	Southend
Denham Airfield	Fairoaks
Wycombe Air Park	White Waltham



Table 8: List of Airports & Airfields

**Community Groups**

3.3.12 There are several existing community group forums that are already engaged on a wide range of subjects relating to Heathrow on a regular basis. These community groups represent areas which are already overflowed by Heathrow arrivals and departures or are close enough to the airport to be impacted by noise on the ground.

**Heathrow Community Engagement Board (HCEB)**

3.3.13 The HCEB<sup>6</sup> is independent of Heathrow Airport and Government with an independent chair. It was set up to be the Airport Consultative Committee, a forum for discussing airport-related issues with those who may be affected, and the Community Engagement Board for Heathrow Airport.

HCEB Directors	
Executive Director	██████████ (Chair) (departed end 2021)
Non-Executive Director	██████████
Non-Executive Director	██████████

Table 9: List of HCEB Directors

**Heathrow Community Noise Forum (HCNF)**

3.3.14 The HCNF<sup>7</sup> was set up in 2015 in response to local concerns regarding future changes to airspace as a result of the Government’s Airspace Modernisation Strategy.

3.3.15 It is made up of representatives from local communities and local authorities around Heathrow, NATS, British Airways, Virgin Atlantic Airways, the Department for Transport, the CAA, and Heathrow.

- 3.3.16 The aim of the forum is to:
- Keep community representatives and local authority stakeholders informed and seek their input in preparing for and consulting on future airspace modernisation as part of the Government’s Airspace Modernisation Strategy;
  - Improve understanding of members of Heathrow’s operations and airspace issues;
  - Seek input from members to inform the communications approach to public consultations regarding potential airspace changes; and
  - Build trust in Heathrow’s data through members involvement in the independent verification and analysis of data.

HCNF Members	
Organisation	Representative

<sup>6</sup> [HCEB website](#)  
<sup>7</sup> [HCNF webpage](#)



Bracknell Forest Council	[REDACTED]
Buckinghamshire Council	[REDACTED]
Elmbridge Borough Council	[REDACTED]
London Borough of Ealing	[REDACTED]
London Borough of Hammersmith & Fulham	[REDACTED]
London Borough of Hounslow	[REDACTED]
London Borough of Richmond upon Thames	[REDACTED]
Royal Borough of Windsor & Maidenhead	[REDACTED]
Runnymede Borough Council	[REDACTED]
Slough Borough Council	[REDACTED]
Spelthorne Borough Council	[REDACTED]
Surrey County Council	[REDACTED]
Surrey Heath Borough Council	[REDACTED]
Wokingham Borough Council	[REDACTED]
Richings Park Residents Association	[REDACTED]
Iver Village Residents Association	[REDACTED]
Molesey Residents Association	[REDACTED]
Ealing Aircraft Noise Action Group (EANAG)	[REDACTED]
Harmondsworth & Sipson Residents Association (HASRA)	[REDACTED]
Forest Hill Society	[REDACTED]
Richmond Heathrow Campaign	[REDACTED]
Teddington Action Group (TAG)	[REDACTED]
Plane Hell Action	[REDACTED]
Englefield Green Action Group (EGAG)	[REDACTED]
Stanwell Moor Residents Association	[REDACTED]





Aircraft Noise Three Villages (AN3V)	[Redacted]
The Windlesham Society	[Redacted]
HACAN	[Redacted]
Local Authorities Aircraft Noise Council (LAANC)	[Redacted]
British Airways	[Redacted]
CAA	[Redacted]
Department for Transport	[Redacted]
NATS	[Redacted]

Table 10: List of HCNF Members

**Local Focus Forum (LFF)**

- 3.3.17 Heathrow’s Local Focus Forum is a community forum attended by representatives of Community organisations, including resident associations and local councillors in Heathrow’s most local communities.
- 3.3.18 At the forum meetings, Heathrow shares information on operational impacts and business updates that might affect the local community. It is also an opportunity for attendees to ask questions directly to topic experts from around the Heathrow business.

Local Focus Forum	
Organisation	Representative
Iver Parish Council	[Redacted]
Colnbrook Residents Association	[Redacted]
Colnbrook with Poyle Parish Council	[Redacted]
Cranford Residents Association	[Redacted]
Harmondsworth & Sipson Residents Association (HASRA)	[Redacted]
Hillingdon Council	C [Redacted]
Pavilion Association	[Redacted]
Spelthorne Council	[Redacted]
Stanwell Moor Residents Association	[Redacted]
Stanwell Preservation Action Group	[Redacted]



Stanwell Village Hall	[REDACTED]
Longford Residents Association	[REDACTED]
Richings Park Residents Association	[REDACTED]
Heston Residents Association	[REDACTED]

Table 11: List of LFF Members

**Wider Community**

- 3.3.19 Heathrow engaged with the wider local community through independent focus groups with individuals who do not routinely engage with the airport, but who could be impacted by this airspace change. More information on the public focus groups can be found in section 4.4 of this document and Annex 1.
- 3.3.20 Heathrow also carried out focus groups in local schools, with students aged 16-18 years old. More information on the school focus groups can be found in section 4.5 of this document and Annex 2.



## 4. STAKEHOLDER ENGAGEMENT

### 4.1 Method of Engagement

4.1.1 Following the identification of stakeholders outlined in Section 3, Heathrow chose an appropriate method of engagement for each stakeholder group to ensure their needs were met in an appropriate manner.

4.1.2 A phased approach was taken to ensure that effective and appropriate two-way engagement took place, as required by CAP1616. Due to the ever-changing situation with the COVID-19 pandemic, Heathrow made the decision to hold the engagement via online workshops<sup>8</sup> and via email.

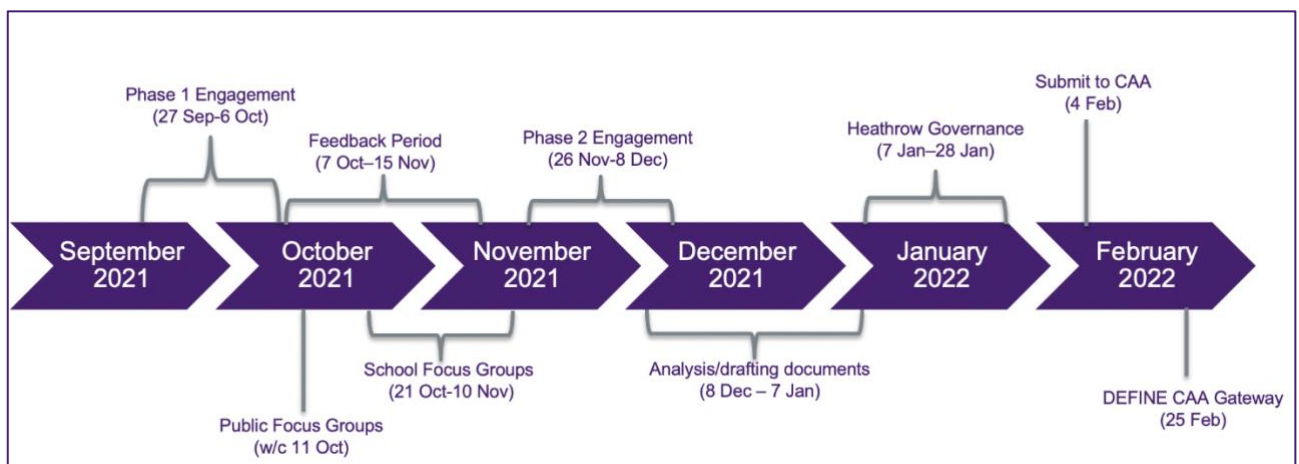


Figure 3: Engagement Timeline

### 4.2 Phase 1 Engagement

#### Local Authorities/Councils, Environmental Groups & Community Groups

4.2.1 To ensure these stakeholders were fully aware of this Airspace Change Proposal, the CAP1616 process Heathrow will follow and obtain feedback to develop the design principles, Heathrow planned several online workshops. All stakeholders identified in Appendix A and tables 2-4 and 9-11, were invited to attend a workshop.

4.2.2 Stakeholders were given twelve different workshop dates and times and were able to choose which they would prefer to attend. Heathrow scheduled one evening workshop to ensure those who may not be available during the day still had an option to attend a session.

4.2.3 Prior to the commencement of the workshops a briefing presentation was distributed electronically to the stakeholders who had responded positively to the workshop invitation. This presentation contained background information on CAP1616, the Airspace Modernisation Strategy and Heathrow’s proposal. A copy of this presentation is available at Appendix B, pages 96-118.

<sup>8</sup> School Focus Groups were in-person events. More information in section 4.5



- 4.2.4 Heathrow then held twelve online workshops over a two-week period. The slides presented at the workshop covered a summary of the pre-workshop material, the Statement of Need for this ACP, background on design principles and existing Government policies; and introduced a range of themes for discussion regarding specific design principles. These themes were:
- Safety;
  - Policy;
  - Noise;
  - Environment;
  - Technology; and
  - Operational Performance.
- 4.2.5 Stakeholders were asked to suggest design principles under each of these themes. They were informed that these themes were not exclusive, and any other topics could be added and discussed if they wished. A copy of the presentation given at the Phase 1 workshops is available at Appendix B, pages 119-144.
- 4.2.6 At the end of each workshop Heathrow had an initial list of stakeholders’ suggested design principles. Lists of attendees of each workshop and the suggested design principles that resulted from each session are at Appendix B, pages 145-158.
- 4.2.7 On completion of all the workshops, the results were compiled into a longer list and put into a matrix. This matrix, along with the presentation provided at the workshops was then distributed to all stakeholders.
- 4.2.8 The matrix asked stakeholders to state which of the suggested design principles they strongly agreed, agreed, neither agreed nor disagreed, disagreed, or strongly disagreed with.
- 4.2.9 This method enabled Heathrow to understand the strength of feeling that stakeholder groups and representatives had toward certain suggestions.
- 4.2.10 Stakeholders were also provided with space to provide any further suggested design principles at the end of the matrix.
- 4.2.11 During the workshops there were some more general points which stakeholders raised, alongside the design principles suggested. As many of these were points raised at multiple workshops, Heathrow added a table of these points to the matrix, highlighting them not as potential design principles, but as points raised in the engagement for Heathrow to consider as the ACP develops.

General Points Raised by Stakeholders (these are issues for Heathrow to consider during the ACP development but are not design principles suggestions)	
1	Use N & LA <sub>max</sub> metrics
2	Avoid use of ‘where possible & seek to’, instead use ‘will do’
3	Look at best practices from other hub airports operating in high population areas
4	Airlines should use the best possible technology to create greater societal benefits (which airlines and passengers should pay for)
5	Work collaboratively with other airports and NATS
6	Support steeper climbs providing there is no increase in significant effects
7	References should be made to Air Quality policy/WHO guidelines on air quality



8	Expand on what is meant by 'efficiency', operational/environmental etc.
9	Options that are discounted on safety grounds need to be evidenced
10	Consider other aspects of climate change, pollution, air quality and all other types of emissions

*Table 12: General Points Raised*

- 4.2.12 The matrix allowed stakeholders to see **all** the principles suggested in other sessions grouped into themes. Stakeholders were asked to provide feedback on their strength of feeling towards each suggestion, ranging from 'strongly agree' to 'disagree' and were given the opportunity to provide further comment on each suggestion or suggest different design principles if they wished. A copy of the matrix is available at Appendix B, pages 159-166.
- 4.2.13 Stakeholders were given until 15 November 2021 to return their completed matrix and any additional feedback. Any stakeholder who requested additional time was given it and any submissions received after the Phase 1 feedback deadline were accepted and have been included in the Phase 1 analysis.

### *Industry Stakeholders*

- 4.2.14 Selected airlines from tables 5-6 were invited to attend a workshop. Heathrow also invited representatives from the Ministry of Defence and NATS to attend a workshop.
- 4.2.15 The wider industry groups such as NATMAC, FLOPSC and the AOE (tables 5-7) have representatives from multiple organisations, and they are frequently involved in airspace change proposals. Heathrow felt that engagement via email communication would be appropriate for these stakeholders. These groups were emailed the workshop presentation and the matrix of stakeholders' suggested design principles and asked to provide feedback. They were also given space to provide any additional design principle suggestions.
- 4.2.16 Due to their familiarity with the process, Heathrow decided that engagement via email would also be appropriate for the adjacent airports and airfields identified in Table 8. These stakeholders were also emailed the workshop presentation and the matrix of stakeholders' suggested design principles and asked to provide feedback.

## **4.3 Outcomes of Phase 1 Engagement**

### **Matrix Results**

- 4.3.1 As noted above, the aim of the matrix was to enable stakeholders to see all the design principles suggested during the workshops and make Heathrow aware of their strength of feeling towards each.
- 4.3.2 Heathrow felt this method allowed for a more focused analysis of stakeholders' views, rather than relying solely on subjective interpretation of written feedback; and that it would also increase the amount of feedback Heathrow received as the method was more straightforward than asking stakeholders to provide wholly written responses.
- 4.3.3 In total, Heathrow received 36 completed matrices from stakeholders. All the completed matrices alongside any additional written feedback Heathrow received are available at Appendix C. The results of the completed matrices are at Table 13.



Safety	Proposed by	Stakeholder Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
S1	Workshops 1,8	Future airspace change must be safe for all stakeholders, including those on the ground	22	11	1	0	0
S2	Workshop 2	Airspace design must be safe	20	12	1	0	0
S3	Workshop 8	Avoid overflying dense populations, to minimise risk to those on the ground	5	13	12	2	1
S4	Workshops 6, 7, 11	Must be safe, but does not exceed existing safety standards to an extent that it has a detrimental impact on other benefits	10	19	4	1	1
Policy	Proposed by	Stakeholder Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
P1	CAA	Subject to the overriding design principle of maintaining a high standard of safety, the highest priority principle of this airspace change that cannot be discounted is that it remains in accordance with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it.	7	5	13	5	3
P2	Workshop 8	Future airspace change should take into account local plans and policies regarding local air quality, the climate emergency [London Plan]	15	14	4	0	1
Noise	Proposed by	Stakeholder Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Relating to sharing the noise							
N1	Workshop 1	The design options must not create any more noise for any single community compared to pre-COVID-19 levels	11	9	9	4	2
N2	Workshops 3,4,6,7,9,11,12	Share the noise	18	6	9	0	1
N3	Workshops 3, 6	Future airspace change should result in a larger number of people slightly annoyed, rather than a smaller number significantly annoyed	10	11	11	2	0



N4	Workshops 6,9,11,12	Share the benefits of the airspace change between industry and communities	9	8	11	4	3
<b>Relating to aircraft flight profiles</b>							
N5	Workshop 3	Departure routes from different runway ends should stay a suitable distance apart to provide valuable respite	15	10	9	0	0
N6	Workshops 1, 3 4,6,8,12	There should be steeper climbs for aircraft to get higher quicker and for arrivals to stay as high as possible, for as long as possible	16	9	10	1	0
<b>Relating to respite/dispersal</b>							
N7	Workshops 3,9	There should be planned respite within safe operational parameters, that provides meaningful respite	15	11	7	0	1
N8	Workshop 4	Share the noise through managed distribution over multiple flight paths	13	11	8	0	2
N9	Workshop 5	Multiple routes for respite to be operated to a schedule	7	12	11	0	1
N10	Workshops 7,8, 9,12	Predictable, meaningful, and equitable respite	14	13	6	0	1
N11	Workshop 8	Share the noise through predictable respite, with respite being provided frequently [e.g., during each day rather than weekly]	9	14	9	0	1
N12	Workshop 7	Different flight paths for day/night flights	5	7	18	0	2
N13	Workshop 9	Predictable respite during the day and concentrate 'night flights' over open spaces	4	10	11	7	1
<b>Relating to newly overflown</b>							
N14	Workshop 8	Avoid overflying places that aren't currently overflown	1	6	13	9	6
N15	Workshop 8	Overfly new people if it delivers benefits to those currently affected	5	11	14	3	1
<b>Relating to noise reductions/mitigations</b>							
N16	Workshops 7, 12	Future airspace change should aim to reduce noise before mitigating the impacts of noise	16	10	8	0	0
N17	Workshops 1,6	Seek to limit or reduce the effects of aircraft noise for individuals/local communities (having regard for WHO guidelines)	19	10	5	1	0



N18	Workshop 7	Reduce the impacts on those most significantly affected by noise	15	13	6	0	0
N19	Workshop 7	Provide mitigation for those most adversely affected (those living under final approach/immediate climb out)	16	11	7	0	0
<b>Relating to limiting impacts/health impacts</b>							
N20	Workshop 1	Don't make it worse for those currently significantly impacted, even if there is an overall net noise reduction	15	12	7	0	0
N21	Workshop 4	Those who currently experience the most noise should benefit most from the airspace change	10	10	14	0	0
N22	Workshop 4	Minimise the negative impacts on health from night flights	19	10	5	0	0
N23	Workshop 4	Minimise the number of people who experience an increase in noise due to this ACP	8	11	9	4	2
N24	Workshop 6	Minimise impacts on those affected by noise, not just those considered to be overflown (e.g., those who hear aircraft/airport noise even though not directly overflown, according to the CAP1498 definition)	9	15	10	2	0
<b>General</b>							
N25	Workshop 2	Find a balance between the number of procedures for respite and operational complexity and technical capability (there is an issue with the number of procedures that aircraft/airlines can manage)	3	14	16	2	1
N26	Workshop 5	Don't make large, complex changes only to achieve small noise benefits	6	10	9	10	0
N27	Workshops 3, 6,9,10	Future airspace change should avoid overflying the same communities with multiple routes, and take into account routes and the cumulative impacts of routes to/from other airports, below 7000 feet	15	13	6	0	0
N28	Workshop 7	Keep as much of the noise within the airport boundaries as possible	17	10	6	3	0
N29	Workshop 9	Make use of open spaces/parks etc.	3	8	117	6	2
<b>Environment</b>	<b>Proposed by</b>	<b>Stakeholder Proposed Principle</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neither Agree nor Disagree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>





E1	Workshop 1	Noise should remain the priority below 4000 feet, regardless of any policy changes	13	8	9	3	0
E2	Workshop 1	Minimise fuel burn, CO <sub>2</sub> , greenhouse gases and all other contributors to climate change	4	17	9	0	3
E3	Workshop 2	Operate flights in the most CO <sub>2</sub> efficient/friendly way	8	14	8	1	3
E4	Workshop 3	Must not degrade air quality	15	15	3	0	0
E5	Workshop 4	Noise should be the priority below 7000 feet regardless of CO <sub>2</sub> impacts	10	9	7	5	2
E6	Workshop 7	The airspace design should deliver a net CO <sub>2</sub> benefit across Heathrow's operation whilst delivering noise benefits below 7000 feet	10	12	7	3	1
E7	Workshop 9	Noise is the priority below 7000 feet, but the project as a whole should still deliver net carbon reduction for Heathrow's operation	5	19	5	2	2
E8	Workshop 8	The airspace change should deliver an overall CO <sub>2</sub> reduction for Heathrow's operation. If noise benefits negatively impact CO <sub>2</sub> below 7000 feet, that needs to be offset by CO <sub>2</sub> benefits elsewhere (e.g., in the upper airspace or reduced airborne/stack delays)	7	18	5	2	1
E9	Workshop 12	Prioritise noise over carbon	7	4	13	7	2
E10	Workshop 12	Noise and CO <sub>2</sub> are equally important and there should be a balance	3	13	11	3	4
<b>Technology</b>	<b>Proposed by</b>	<b>Stakeholder Proposed Principle</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neither Agree nor Disagree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
T1	Workshop 1	Future airspace change should use modern technology	10	18	5	1	0
T2	Workshop 2, 5	Design with latest technological specification possible, that is widely available	11	16	7	0	0
T3	Workshops 4, 12	Future proof airspace design to be able to benefit from future technological developments	8	21	6	0	0
T4	Workshop 12	Use the latest technology that enables the greatest benefit to mitigate societal impacts	16	10	6	0	0



	Workshop 12	Minimise the impact of future change	6	11	12	0	3
Operational Performance	Proposed by	Stakeholder Proposed Principle	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
OP1	Workshop 1	Future airspace change should enable Heathrow to make the most efficient use of its runways, subject to environmental commitments	4	16	9	3	4
OP2	Workshop 2	Offer flexibility in the route structure that allows variation, to avoid extensive ground delays	1	11	13	7	3
OP3	Workshops 3, 7	Airlines need to conform to the design to ensure benefits are delivered (e.g., through Heathrow monitoring & KPIs)	16	12	5	1	0
OP4	Workshops 4,8	Make efficient use of runways during the day to lessen the impact on the night schedule	11	16	5	1	0
OP5	Workshop 5	The airspace design needs to retain operational flexibility in order to handle non-standard situations (e.g., weather)	4	19	7	1	2
OP6	Workshop 7	Meet performance targets within acceptable environmental/noise constraints	6	13	13	1	1
OP7	Workshop 10	Minimise the requirement for future change to adjacent airport operations	7	10	16	0	2
OP8	Workshop 10	Minimise impacts on other airspace users	8	11	14	1	1
OP9	Workshop 12	Designs should enable a reduction in stack holding	8	18	6	0	0

Table 13: Total Matrix Numbers<sup>9</sup>

<sup>9</sup> This table varies by one number from the table shown at the Phase 2 engagement workshops due to a late submission



### Summary of Phase 1 Feedback

- 4.3.4 The following paragraphs 4.3.6 to 4.5.4 comprise a general summary of the feedback received by Heathrow during Phase 1, alongside some extracts from the feedback. Full copies of all the feedback received are at Appendix C.
- 4.3.5 Of the completed responses, 27.7% were from industry stakeholders, 41.6% from local authorities and environmental group stakeholders and 30.5% from community group stakeholders.

### Industry

- 4.3.6 Heathrow received 10 responses from industry stakeholders, including airports, airfields, the MOD and NATS NERL. All the completed matrices are available at Appendix C, pages 136-221.
- 4.3.7 Overall, their considerations were focused on any potential impacts on adjacent airports and airspace users and ensuring that priorities between noise and carbon should be in line with national policies.

*“Any respite that is considered should be mindful of neighbouring airports (as it is likely to take up more airspace) and cumulative impacts should be considered” – Luton Airport*

*“Priorities should be in line with National Policies” – NATS NERL*

- 4.3.8 Some industry stakeholders also suggested other design principles for Heathrow to consider, for example ‘reduce the overall footprint of controlled airspace’. The full list of additional design principles suggested, and the outcomes is at Appendix D, pages

### Local Authorities and Environmental Groups

- 4.3.9 Heathrow received 15 responses from local authorities, a response from the Heathrow Strategic Planning Group and a response from the National Trust. All the completed matrices and any additional feedback received are available at Appendix C, pages 222-383.
- 4.3.10 There was a wide range of views across all the principles suggested by the stakeholders, with priorities varying depending on the location of the local authority and the concerns of its residents.

*“Surprised that the option to share the noise was widely supported by groups” – Kingston Council*

*“Share the noise” – Essential – MRA & Elmbridge Council*

- 4.3.11 There were mixed views on the proposal of sharing the noise, which could benefit those currently overflowed, but overall expose more people. Generally, providing respite, dispersal of routes and a reduction of the impacts of noise were received positively.

*“RBC has adopted a policy that flightpaths should be dispersed” – Runnymede Borough Council*

*“Airspace design should offer long term predictability of flight paths and respite” – Surrey County Council*



- 4.3.12 The organisations in this category felt strongly about environmental considerations, with the suggestions which referenced not degrading air quality and minimising CO<sub>2</sub> emissions scoring highly.
- 4.3.13 Although many of the local councils stated that they have declared climate emergencies, during the workshops some commented that any complaints they received from residents were generally not about climate change but about noise, as noise is a more immediate concern.
- 4.3.14 Additional design principles were also suggested by some stakeholders for Heathrow to consider, such as ‘must achieve a fair balance between the benefits for the industry and the people it impacts’. The full list of additional suggested design principles and the outcomes are available at Appendix D, pages 21-27.

### *Community Groups*

- 4.3.15 Heathrow received 11 responses from the community groups engaged. All the completed matrices and any additional feedback received are available at Appendix C, pages 4-134.
- 4.3.16 Many of these stakeholders disagreed with the mandatory policy design principle that Heathrow is required to include by the CAA, which references the Airspace Modernisation Strategy. They felt it lacks clarity as future plans are unknown, and that for communities, health impacts are the highest priority.

*“Think this is not a clear principle as the strategy is wide-ranging and is not clear in terms of noise reduction or priorities between carbon and noise reductions” – HACAN*

*“This suggested principle adds nothing to the general position application to airspace modernisation and lacks clarity as it stands” – Teddington Action Group*

- 4.3.17 Most of these stakeholders agreed with the suggested principles relating to sharing the noise, overflying new people, and reducing impacts of noise. In relation to the environmental related suggested principles, many stakeholders felt that noise should always be the highest priority and should be prioritised over carbon considerations.

*“Noise benefits must be the only consideration” – Englefield Green Action Group*

*“Noise reduction must take priority over CO<sub>2</sub> impacts” – Plane Hell Action SE*

- 4.3.18 Additional design principles were also suggested by some stakeholders for Heathrow to consider, such as ‘reduce the level of aircraft noise for overflow communities’. The full list of additional suggested design principles and the outcomes are available at Appendix D, pages 21-27.

## **4.4 Community Focus Groups**

- 4.4.1 Heathrow arranged four independently facilitated online public focus groups. The attendees for the focus groups were recruited by an independent qualitative field work agency and were residents who do not usually proactively engage with Heathrow on debates on airspace design.
- 4.4.2 Participants were also screened according to certain other characteristics or attitudes, to speak to residents who do not have strong opinions about Heathrow operations. Participants were sought from the following criteria:



- From areas that reflect a mix of different experiences of overflying aircraft; and
- From areas that are affected by flight paths currently, or plausibly might be in the future.

4.4.3 The groups contained individuals from or near the following locations:

- High Wycombe
- Windsor
- Brentford & Isleworth
- Mitcham & Morden

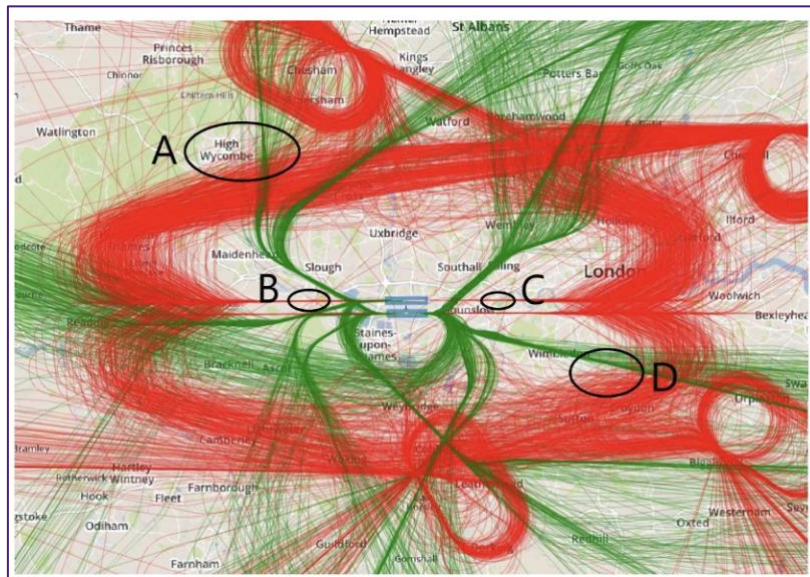


Figure 4: Approximate locations that residents were recruited from for each focus group, overlaid with current Heathrow flight paths, arrivals shown in red and departures in green

- 4.4.4 A copy of the material provided to the focus groups and the independent report is available at Annex 1.
- 4.4.5 Overall, the findings from the public focus groups were that participants were most concerned about the environment and limiting CO<sub>2</sub> emissions, although they recognised the benefits of sharing noise rather than concentration.

*“I think that the environment and the CO<sub>2</sub> emissions override and come up trumps for me over everything else, because we’re losing things that we will not be able to replace very easily” – Windsor resident*

*“For noise, it’s the people underneath, directly underneath it that are suffering, but for CO<sub>2</sub> it’s a global issue” – Wycombe resident*

- 4.4.6 There was a split between these stakeholders, with the suggestion that Heathrow should minimise the numbers of people newly affected by aircraft noise narrowly coming out ahead, as they felt it would be unfair to inflict noise upon people who are not used to it and potentially chose to live somewhere not currently impacted.

*“For me, it still comes down to having the lowest impact on the community. So even if that means affecting new people, it’s pretty harsh if you’ve been living somewhere all of your life, and then suddenly, the flight paths get changed, has a massive impact. But having said that, I still think the best thing that you can do is have the lowest impact shared across the whole community” – Brentford & Isleworth*



## 4.5 School Focus Groups

4.5.1 Heathrow also arranged for three school focus groups to take place, with students aged 16 to 18 who attend school/colleges in the area surrounding Heathrow. The three locations were, Uxbridge College, University Technical College (UTC) Heathrow in Northwood, and West Thames College in Isleworth.

4.5.2 Participants felt strongly that the core principle, after safety, must be limiting CO<sub>2</sub> emissions. They recognised the concerns about noise and many of them are affected by noise today but considered climate change to be a greater issue than any other.

*“Would rather keep the noise to protect the environment”*

4.5.3 In terms of noise, participants generally felt that the airport should minimise the total number of people affected and had some concerns about sharing noise via respite routes, since that would result in more people being impacted.

*“Some people will be upset whatever Heathrow does, so the best we can do is try to limit the effects of noise where possible”*

4.5.4 A copy of the material provided to the school focus groups and the report from each session is available at Annex 2.

## 4.6 Phase 2 Engagement

4.6.1 At the end of the Phase 1 feedback period, Heathrow analysed all the feedback received from stakeholders, along with the information gathered from the Public and School Focus Groups.

4.6.2 Heathrow used the feedback to develop a proposed list of design principles for this ACP. The proposed design principles were worded to try and capture as many of the themes and desires as possible, within a concise list. The evolution of the design principles from the original stakeholder suggestions, summary of feedback and Heathrow’s initial analysis and rationale are available at Appendix D.

4.6.3 Heathrow then carried out a series of Phase 2 engagement workshops with stakeholders to present the proposed design principles and share a summary of findings from Phase 1 engagement.

### *Local Authorities/Councils, Environmental Groups & Community Groups*

4.6.4 Heathrow held six workshops from 26-30 November 2021. All stakeholders identified in Appendix A and tables 2-4 and 9-11 were invited to attend, even if they had been unable to attend a Phase 1 workshop.

4.6.5 As Heathrow had received limited response from the invitations to the Phase 1 workshops and only one completed matrix from environmental groups, it was decided that additional environmental group organisations would be invited at this stage. The list of additional environmental organisations invited to participate in the Phase 2 workshops are at Table 4.

4.6.6 The Phase 2 workshops provided stakeholders with the opportunity to see the final matrix scores and with a summary of the feedback Heathrow had received. Heathrow presented its proposed list of design principles alongside the rationale for each. A copy of this presentation is available at Appendix B, pages 250-278.



- 4.6.7 Attendees were asked to provide feedback during the workshop to enable Heathrow to take on board any suggestions. Stakeholders also had an opportunity to ask questions and clarify any misunderstandings. Although the aim was to get feedback during the sessions, attendees were provided with additional time to email Heathrow further comments, if they required.
- 4.6.8 One stakeholder stated that they would like longer to provide written feedback and they were informed that the requested extension would be accepted by Heathrow.

*Industry Stakeholders*

- 4.6.9 Heathrow emailed the previously engaged Phase 1 industry stakeholders the same presentation provided at the Phase 2 workshops and invited them to send any further feedback via email.

**4.7 Outcomes of Phase 2 Engagement**

*Workshop Feedback*

- 4.7.1 Heathrow has chosen not to prioritise the design principles outside of the two categories, ‘must’ and ‘should’ outlined in paragraph 2.2.5. However, for ease of reference in Table 14 below and in Appendix D, Heathrow has numbered the design principles.
- 4.7.2 Stakeholders were informed that the list presented to them during the six Phase 2 workshops was **not** the final set and that changes can be made based on the feedback provided in the sessions. The initial proposed list was as follows:

Proposed Design Principles		
<b>Our airspace design must</b>	Be safe for all stakeholders	DP1
	Remain in accordance with the CAA's published Airspace Modernisation Strategy and any current or future plans associated with it and all other relevant UK Policy, Legislation and Regulatory Standards. This includes preventing any worsening of local air quality due to emissions from Heathrow’s aircraft movements, to remain within local authorities' limits	DP2
	Use noise efficient operational practices to limit and, where possible, reduce adverse impacts from aircraft noise	DP3
	Reduce the contribution to climate change from CO <sub>2</sub> emissions, and other greenhouse gas emissions relating to Heathrow’s aircraft activities* <i>*ANG2017 states that noise is the priority below 7000ft. Providing some types of noise mitigation measures below 7000ft is likely to negatively impact CO<sub>2</sub> emissions of aircraft in flight. However, the airspace design must still enable overall CO<sub>2</sub> reductions for the Heathrow operation.</i>	DP4
	Enable Heathrow to make the most operationally efficient and resilient use of its existing two runways, to maximise benefits to all stakeholders	DP5
<b>And should also</b>	Provide predictable and meaningful respite to those most affected by noise from Heathrow's movements	DP6
	Avoid overflying the same communities with multiple routes including those to/from other airports	DP7
	Minimise the negative impacts of night flights	DP8
	Keep the number of people who experience an increase in noise from the future airspace design to a minimum	DP9



Keep the total number of people who experience noise from the future airspace design to a minimum	DP10
Ensure the efficiency of other airspace users' operations	DP11
Minimise the impact to all stakeholders from future changes	DP12

Table 14: Proposed Design Principles (Phase 2)

- 4.7.3 The following paragraphs, 4.7.4-4.7.15 summarise all the verbal feedback Heathrow received during the Phase 2 workshops. Some of the design principles received no verbal feedback during the sessions.
- 4.7.4 Regarding DP1, some stakeholders requested a definition of safety and particularly for clarification on whether it includes health. Aviation safety refers to, "The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level."<sup>10</sup>
- 4.7.5 During discussions on DP2, some stakeholders stated they would like to see specific reference to other policies in this principle. For example, the National Policy Statement for England (NPSE) and the Air Navigation Guidance 2017 (ANG17) altitude-based priorities.
- 4.7.6 ANG2017, NPSE, altitude-based priorities and overflight of Areas of Outstanding Natural Beauty (AONB) are all covered within the statement 'all other UK policy, legislation and regulation standards' in DP2 and will be assessed as part of the Stage 2 Design Principles Evaluation and subsequent appraisals.
- 4.7.7 Heathrow received positive feedback from the Forest Hill Society regarding DP3.
- 4.7.8 Friends of the Earth and Ealing Council stated they were happy to see the reference to carbon within DP4.
- 4.7.9 London Borough of Ealing and the HSPG representative stated that further clarification to DP5 would be useful, this resulted in an amendment to this design principle in the final list.
- 4.7.10 Many stakeholders stated they did not like the reference to 'most affected' within DP6 and raised concerns about how it would be defined. This resulted in an amendment to this design principle in the final list. Discussion also took place regarding better definitions of the terms 'meaningful' and 'respite'.
- 4.7.11 Heathrow explained to its stakeholders that, as an industry, we need to define meaningful respite and Heathrow will support with research in parallel to the ACP design work. This work will continue in parallel to the ACP design work and will involve its own strand of analysis which will be shared with stakeholders via appropriate forums. Heathrow is unable to pre-determine the outcome at this stage.
- 4.7.12 DP7 received positive feedback from many workshop attendees, including the Windlesham Society and the Forest Hill Society, who were glad to see its inclusion in the list and welcomed the idea that airports would be working together.
- 4.7.13 There was no specific feedback received during the workshops on DP8, 10, 11 or 12.

<sup>10</sup> As defined by the International Civil Aviation Organisation (ICAO)





- 4.7.14 A representative from Teddington Action Group (TAG) commented positively on DP9, acknowledging that this principle included keeping noise increases to a minimum for those already overflown, not just those newly overflown. This was welcomed as a 'step forward'.
- 4.7.15 Final comments from Bracknell Forest stated that the list of design principles was what it would expect to see and the representative from Ealing Council commented that they were 'reasonably satisfied' with the design principles, confirming they felt comfortable that Heathrow had understood all the local issues surrounding airspace modernisation.

#### *Written Feedback – Industry Stakeholders*

- 4.7.16 Heathrow received emails from the British Gliding Association (BGA), Biggin Hill Airport, the Ministry of Defence (MoD), RAF Northolt, and NATS En-Route PLC (NERL).
- 4.7.17 The BGA and the MoD provided no further feedback on the proposed list of design principles. RAF Northolt stated that it was pleased to see points raised during engagement had been captured and had no further comments at this time.
- 4.7.18 Biggin Hill stated it agreed with the proposed design principles and suggested an additional principle for Heathrow to consider regarding adjacent stakeholders and airspace users. This suggestion and the outcome are at Appendix D, pages 21-27.
- 4.7.19 NERL commented alongside each of the proposed design principles. It raised points on certain aspects of design principles, such as ensuring that principles do not result in an increase in network complexity. They provided a comment regarding the wording of DP4, requesting we include the full reference to altitude-base priorities, this resulted in an amendment to the design principle. They also stated they were unsure of the meaning of 'efficiency' in DP11.
- 4.7.20 Full copies of all the feedback received are at Appendix B, pages 389-395.

#### *Written Feedback – Local Authorities and Environmental Groups*

- 4.7.21 Heathrow received emails from representatives of the HSPG and the Chiltern Society.
- 4.7.22 The HSPG commented that it was pleased to see that its previously submitted response had been considered and stated it would like to see greater clarity around the definition of safety. This can be found in paragraph 4.7.3 of this document.
- 4.7.23 The HSPG also asked several questions of Heathrow not directly related to the proposed design principles and Heathrow has responded separately to these. A copy of this feedback is available at Appendix C, pages 397-400 and Heathrow's response to its queries is at Appendix B, pages 305-306.
- 4.7.24 The Chiltern Society commented that it was disappointed that there was no specific reference to Areas of Outstanding Natural Beauty in any of the design principles and requested Heathrow consider adding one. A full copy of this feedback is in Appendix C, pages 397-400. As the altitude-based priorities in ANG17 specifically references overflight of AONBs, Heathrow believes that the reference to "all other UK policy, legislation, and regulation standards" in DP2 covers this suggestion, but following this feedback and comments from other stakeholders, specific reference to Air Navigation Guidance has been added to DP2.



### *Written Feedback – Community Groups*

- 4.7.25 Heathrow received one email from collective community group representatives; a letter written by the HCNF Community Co-ordinator and signed by an additional 13 members of the HCNF, dated 8 December 2021.
- 4.7.26 This letter stated that they disagreed with the set of proposed design principles presented in the Phase 2 workshops and went on to outline that they believe there had been a failure in the CAP1616 engagement process. A copy of the letter is available at Appendix B, pages 287-289.
- 4.7.27 Heathrow responded to the letter, refuting the suggestion that there had been a failure in the process and offering the signatories of the letter to have an additional workshop to better understand why the proposed design principles were not acceptable to them. A copy of this letter is at Appendix B, pages 290-292.
- 4.7.28 An additional letter was received by Heathrow on 4 January 2022, in which members of the HCNF who had raised concerns regarding the design principles and the process provided Heathrow with further details on their issues. A copy of this letter is at Appendix B, pages 319-323.
- 4.7.29 An additional workshop took place between Heathrow and the members of the Community Noise Groups (CNG) in response to the letter sent on 8 December 2021. The workshop was run by an independent facilitator from Headland Consultancy and took place on Friday 7 January 2022.
- 4.7.30 In advance of the workshop, Headland was provided with an updated version of the design principles which had been amended following other Phase 2 feedback received from stakeholders and the appropriate correspondence, and Headland use this information to prepare slides for the workshop. A copy of this presentation is at Annex 3, pages 1-19.
- 4.7.31 The aim of the workshop was to resolve the issues raised in the letter dated 8 December 2021. Heathrow responded as far as possible during the workshop and committed to responding in writing to the letter dated 4 January 2022 following the workshop. A copy of Heathrow's written response is at Appendix B, pages 330-339.
- 4.7.32 Following opening remarks and comments from some CNGs and Heathrow, the workshop focussed on the design principles, as currently drafted, and representatives were asked to state their concerns with each design principle.
- 4.7.33 The independent facilitator allowed the CNGs to raise their concerns and then Heathrow had time to respond. Each design principle was discussed, and, where possible Heathrow committed in the workshop to making some changes, with some needing to be discussed in more detail internally.
- 4.7.34 Summaries of the CNGs' requests and Heathrow's response can be found in Appendix D, the Evolution of the Design Principles. The full independent report by Headland Consultancy is at Annex 3.
- 4.7.35 On 26 January 2022 Heathrow presented the final design principles to the HCNF and received no further feedback during the forum.



## 4.8 Post Phase 2 Work

- 4.8.1 Following the end of the workshops and feedback period, Heathrow considered the suggestions and concerns that had been made by stakeholders and made several changes to the proposed design principles. This process included a period of internal governance in which members of the appropriate Heathrow teams analysed the feedback received from stakeholders and ensured that as the change sponsor, the final design principles are aligned with the wide range of requirements.
- 4.8.2 During the engagement process, some community group and local authority stakeholders commented that certain design principles required more context or supporting text to be better understood. Heathrow stated that this detail would be provided within the submission document, rather than alongside the final design principles.
- 4.8.3 Table 15 below provides details on the requests made by stakeholders alongside the Heathrow response. This table is separate to Appendix D, the Evolution of the Design Principles which is explained in paragraphs 4.8.3-4.8.4.

DP	Stakeholder Request	Heathrow Response
1	Requested a definition of safety	A certain standard of safety is enshrined in legislation/policy which Heathrow must adhere to. Aviation safety refers to ‘The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.’
2	Requested specific reference to Air Navigation Guidance 2017	This has been added to the final design principle.
3	Request specific mention of steeper departures/arrivals	Reference to ‘operational practices’ includes many different options that will be explored during the design options stage. This includes consideration of steeper approaches and steeper departures
4	Asterixed wording confusing, consider removing	Removed from final design principle, but Heathrow wish to acknowledge the altitude-based priorities; <i>*ANG2017 states that noise is the priority below 4000ft and also the priority between 4000-7000ft, so long as CO2 is not disproportionately increase. Providing some types of noise mitigation measures below 7000ft is likely to negatively impact CO2 emissions of aircraft in flight. However, the airspace design must still enable overall CO2 reductions for the Heathrow operation.</i>
5	N/A	N/A
6	Request for clarification on meaningful respite	See paragraph 4.7.11
7-12	N/A	N/A

Table 15: Supplementary information to design principles

- 4.8.4 It is important that the process of developing the design principles is open and transparent. To show how the design principles have been created, Heathrow has prepared an ‘Evolution of Design Principles’ table, at Appendix D.
- 4.8.5 Appendix D shows how the design principles been developed from the initial list of stakeholders’ suggested design principles during Phase 1 workshops, along with a summary of Heathrow’s analysis of Phase 1 feedback. The outcome of this analysis was the draft proposed list of design principles (Table 14). The final columns summarise the Phase 2 feedback Heathrow received and how the final design principles changed following Heathrow’s analysis of this feedback.



## 5. FINAL DESIGN PRINCIPLES

5.1.1 The table below contains Heathrow’s design principles for the Airspace Modernisation Airspace Change Proposal.

Final Design Principles	
Our new airspace design <b>must</b>	Be safe
	Remain in accordance with the CAA's published Airspace Modernisation Strategy and any current or future plans associated with it and all other relevant UK policy, legislation and regulatory standards (for example, Air Navigation Guidance). This includes preventing any worsening of local air quality due to emissions from Heathrow’s aircraft movements, to remain within local authorities’ limits
	Use noise efficient operational practices to limit and, where possible, reduce adverse impacts from aircraft noise
	Reduce the contribution to climate change from CO <sub>2</sub> emissions and other greenhouse gas emissions arising from Heathrow’s aircraft activities
	Enable Heathrow to make the most operationally efficient and resilient use of its existing two runways, to maximise benefits to the airport, airlines and cargo handlers, passengers, and local communities
And <b>should</b> also	Provide predictable and meaningful respite to those affected by noise from Heathrow's movements
	Seek to avoid overflying the same communities with multiple routes including those to/from other airports
	Contribute to minimising the negative impacts of night flights
	Keep the number of people who experience an increase in noise from the future airspace design to a minimum
	Keep the total number of people who experience noise from the future airspace design to a minimum
	Enable the efficiency of other airspace users' operations
Minimise the impact to all stakeholders from future changes to Heathrow's airspace	

Table 16: Final design principles