

## **APPENDIX B - ENGAGEMENT MATERIALS/DOCUMENTS/EMAILS**



## *HEATHROW - STAGE 1B DESIGN PRINCIPLES – SLIGHTLY STEEPER APPROACHES*



5 June 2019

**Heathrow**

## **DISCLAIMER**

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## *PURPOSE OF THE ENGAGEMENT*

- To inform you of the context of the airspace change proposal for the Slightly Steeper Approaches (SSA).
- To develop and agree a set of design principles for our Slightly Steeper Approaches.
- Your input today will be used to make any amendments to our proposed design principles.

## WHAT IS A DESIGN PRINCIPLE?

- The CAP1616 guidance requires the production of design principles for **each airspace change**.
- Design principles essentially provide a list of high level criteria that the proposed airspace design options should meet. They also provide a means of analysing the impact of different design options and a framework for choosing between options.

CAP1616 states that:

- the development of design principles should provide “a shortlist of principles to inform the development of airspace design options” and a “framework against which airspace design options are evaluated”.
- principles “are in no way immutable and, as a part of the process for the establishment of the airspace design principles, should be challenged as part of the ongoing dialogue with stakeholders.”

## BACKGROUND

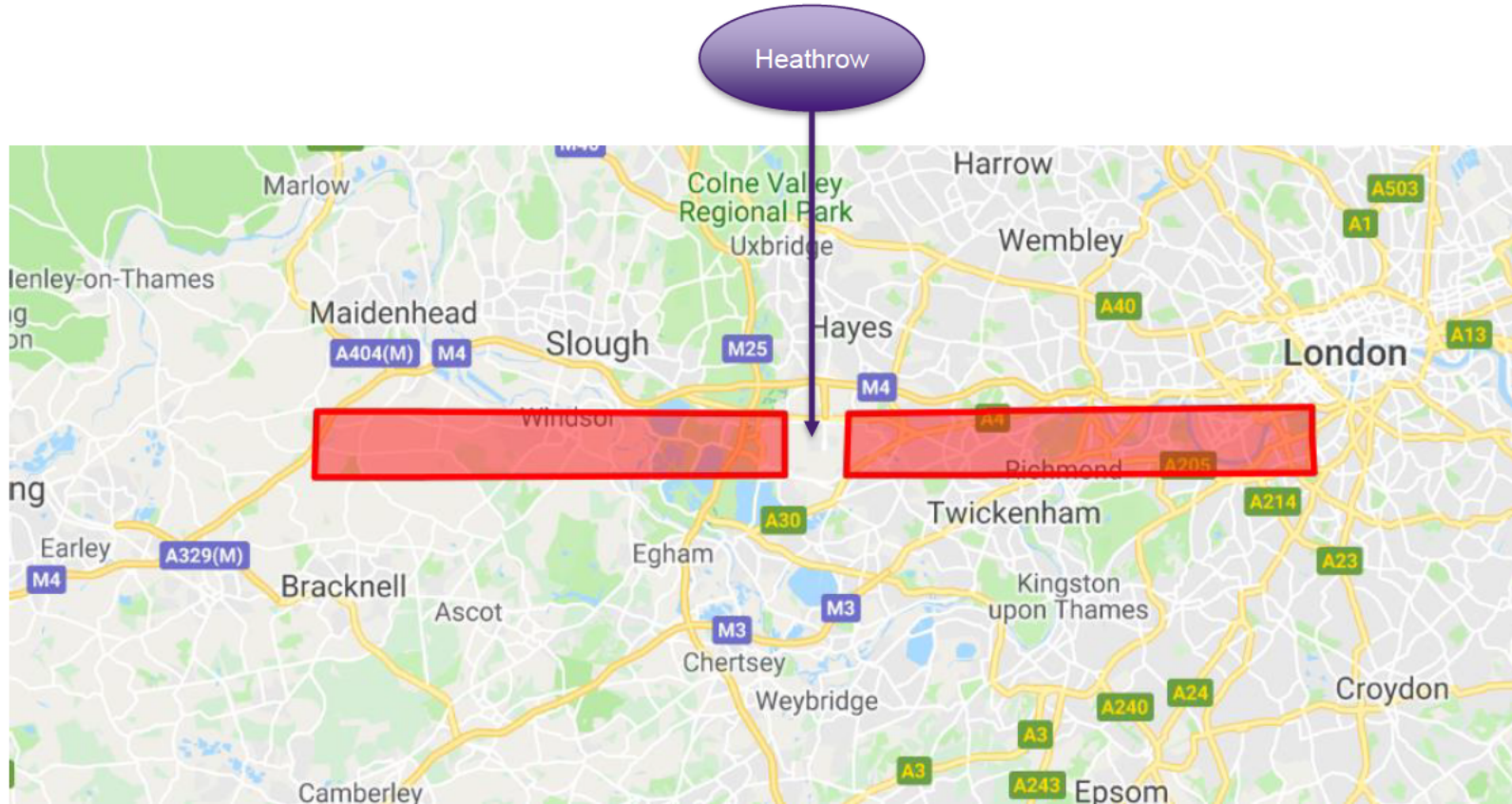
- Between 2015 and 2017, Heathrow ran two live trials to investigate the impact of SSA on its operations, whilst capturing data on the actual environmental (noise) benefit realised.
- For operational reasons, which are explained fully in the trial reports, (available on our website [here](#)), these slightly steeper approaches are used by fewer than 2% of Heathrow's arrivals that flew RNAV\* approaches. The remainder flew the standard 3.0° approaches using the Instrument Landing System (ILS).
- Local communities supported the trials, which demonstrated that a small noise benefit can be provided whilst experiencing no negative environmental or operational dis-benefit and no change to the tracks over the ground of Heathrow's arrivals.
- Since the end of the (second) trial period, the CAA have allowed Heathrow to keep the slightly steeper RNAV approaches operational, for a temporary period, whilst Heathrow prepare and submit an Airspace Change Proposal (ACP) for their permanent adoption.

\* RNAV (Area Navigation) is a method of navigation without the need for navigational aids or beacons. RNAV arrivals follow the same lateral final approach track over the ground as the ILS arrivals.





## POTENTIALLY AFFECTED AREA



This is the area which may be affected by this airspace change depending on its development. This area may change as the proposal is developed.

# PROPOSED DESIGN PRINCIPLES - FOR DISCUSSION

Proposed Design Principle
Must be safe
Must reduce the noise footprint of Heathrow's arrivals by enabling aircraft to stay higher for longer
Must not increase the numbers of go-arounds
Must not reduce Heathrow's capacity
Must not change the lateral tracks of aircraft over the ground
Should not reduce the ability of arrivals to perform Continuous Descent Approach
Should maximise the number of aircraft able to fly the slightly steeper approach
Should not adversely increase pilot or ATC workload

We would like you to provide feedback on:

- Do you agree with the design principles proposed above?
- Would you like to make any amendments, or propose additional principles, to our proposed design principles?
- Would you prioritise any design principles over any others?



## *NEXT STEPS FOR SLIGHTLY STEEPER APPROACHES DESIGN PRINCIPLES*

- Any comments and feedback need to be sent to [airspace@heathrow.com](mailto:airspace@heathrow.com) by 21st June.
- Once we have received and analysed the feedback from all our stakeholders, we will develop our final set of prioritised design principles.
- Prior to submitting these to the CAA we will inform you of the results of our engagement. We will then submit the final set of design principles to the CAA for the 'Stage 1 Define Gateway' in August 2019.
- We will continue to engage with you at key stages throughout the CAP1616 process for the airspace change for the permanent adoption of Slightly Steeper Approaches.

# Heathrow

## Heathrow Community Noise Forum – 5 June 2019

1:00pm – 4:00pm Heathrow Academy – meeting notes

### Attendees

Name	Borough / Organisation
[REDACTED]	Elmbridge
[REDACTED]	Richmond
[REDACTED]	Runnymede
[REDACTED]	Windsor and Maidenhead
[REDACTED]	EANAG
[REDACTED]	Englefield Green
[REDACTED]	Englefield Green
[REDACTED]	HACAN
[REDACTED]	HASRA
[REDACTED]	HASRA
[REDACTED]	Plane Hell Action Group
[REDACTED]	Spelthorne resident
[REDACTED]	Teddington Action Group
[REDACTED]	The Windlesham Society
[REDACTED]	Anderson Acoustics
[REDACTED]	British Airways
[REDACTED]	DfT
[REDACTED]	DfT
[REDACTED]	ICCAN
[REDACTED] ham	ICCAN
[REDACTED]	To70
[REDACTED]	Heathrow
[REDACTED]	Heathrow
[REDACTED]	Heathrow
[REDACTED]	Heathrow
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### Apologies

[REDACTED]	Buckinghamshire County Council
[REDACTED]	Hounslow
[REDACTED]	London Borough of Ealing
[REDACTED]	Richings Park
[REDACTED]	South Bucks
[REDACTED]	Forest Hill Society
[REDACTED]	Richmond Heathrow Campaign
[REDACTED]	Teddington Action Group
[REDACTED]	Virgin Atlantic
[REDACTED]	CAA
[REDACTED]	DfT
[REDACTED]	NATS
[REDACTED]	Heathrow
[REDACTED]	Heathrow

## 1 Welcome and apologies for absence

- 1.1 [REDACTED] welcomed members and observers in the public gallery and noted apologies for absence. [REDACTED] informed the group that Surrey County Council would be joining the forum as well as new representatives for London Borough of Ealing, Surrey Heath Borough Council, Runnymede Borough Council and Spelthorne Borough Council. Another new member was [REDACTED] from To70 who has been appointed as the independent technical advisor to the group.

## 2 Previous meeting notes and actions

- 2.1 [REDACTED] went through the actions from the previous meeting as described below.
- 2.2 **Further develop the Issues Tracker (2.6).** This will be circulated with the notes from this meeting. **ACTION RW**
- 2.3 **Confirm position on early growth in writing to [REDACTED] (2.11).** Confirmation was sent in writing.
- 2.4 **Community to select preferred candidate for independent advisor role (4.2).** [REDACTED] from To70 had been appointed and is present at the meeting.
- 2.5 **Investigate examples of arrival heights over Lightwater (7.1).** NATS have looked into these and a response has been sent to [REDACTED]
- 2.6 **Formally invite ICCAN to join HCNF (8.2).** This has been done and representatives from ICCAN are present at the meeting.
- 2.7 [REDACTED] to provide his data around the ATM cap (9.4). [REDACTED] has sent his apologies for today's meeting and has not provided this data yet. **ACTION [REDACTED]**
- 2.8 **Describe DCO/PEIR process (10.1).** This is on today's agenda.
- 2.9 **Provide more information about the Noise Envelope Design Group (NEDG) (10.4).** This was covered at the last working group and will also be covered today.
- 2.10 [REDACTED] advised that the meeting notes from 20 March 2019 have been amended as requested by [REDACTED] to emphasize certain points from his presentation. The updated notes are available online [here](#) or can be emailed on request.
- 2.11 [REDACTED] sought to clarify comments from the previous meeting regarding contributions from groups with more than one member. [REDACTED] reminded members that when the HCNF was formed in 2015 [REDACTED] had asked groups to put forward one spokesperson per group. [REDACTED] advised that it was his wish for everyone to contribute to the discussions but was aware that this was not always easy within the three-hour timeframe and so asked for everyone's cooperation in this. [REDACTED] responded that [REDACTED] had been excluded at the last meeting. [REDACTED] apologised and stressed that it had not been his intention to silence [REDACTED]

### 3 Community slot

- 3.1 [REDACTED] handed over the meeting to [REDACTED] to chair the community slot. [REDACTED] welcomed the forum's newly appointed independent technical advisor [REDACTED] from Dutch aviation consultancy To70. He hoped that [REDACTED] advice would result in community group members being able to make concise recommendations to Heathrow which could be acted upon. [REDACTED] introduced [REDACTED] and felt that, based on discussions with community members last week, [REDACTED] experience as an advisor to airports such as Schiphol Airport would help in this role. [REDACTED] noted that various members had sent questions to put to [REDACTED] and these would all be addressed. [REDACTED] advised that some members had met with [REDACTED] last week and that the briefing note given to [REDACTED] would be circulate in due course. **ACTION** [REDACTED]
- 3.2 [REDACTED] asked presenters to observe the schedule to allow time for questions, noting that he had been criticised in the past for not allowing members the opportunity to speak. [REDACTED] noted that [REDACTED] did not have email addresses for all community members and agreed to [REDACTED] suggestion that Heathrow should circulate [REDACTED] email address to members, so they can contact [REDACTED] **ACTION** [REDACTED]

### 4 Follow up to Survey of Noise Attitudes (SoNA)

- 4.1 [REDACTED] gave a presentation entitled "The impact of airspace change on noise sensitivity and how static SoNA results compare to other International Noise Studies". The presentation is available to download [here](#).
- 4.2 The presentation compared SoNA with World Health Organisation (WHO) guidance and additional studies. [REDACTED] stressed that change increases noise sensitivity and questioned whether the Government had included change impacts in its development of airspace policy by only using SoNA. A number of questions were posed in the presentation and [REDACTED] suggested that a working party should be held to look at this. [REDACTED] agreed to a further meeting and confirmed that Heathrow would provide a written response. **ACTION** [REDACTED]
- 4.3 [REDACTED] asked who out of DEFRA, DfT, Public Health England, Heathrow or the CAA had a duty of care for protecting the public. [REDACTED] acknowledged that each of the organisations has some responsibility around the impacts on the local community. [REDACTED] added that Heathrow has a duty of care for the impact of its operations, responding to a policy framework that is set by Government. [REDACTED] agreed that everyone has a duty of care, observing that regulation was a complicated landscape so not it was not possible for just one body to have that duty of care. In response to other questions posed in the presentation, [REDACTED] observed that [REDACTED] has asked these questions of the DfT before and was aware the DfT is not able to discuss these issues while there are still proceedings going on relating to the judicial review. [REDACTED] added that work was ongoing at DEFRA to review the WHO guidelines, but noted that DfT has a clear current policy in place as stated in the Aviation Policy Framework and it would work to that policy until such a time as that should change.

- 4.4 [REDACTED] observed that Heathrow was supposed to work with communities and local government to determine how airspace change should take place up to 7,000ft, but felt this was an unbalanced approach as the communities lack the necessary resources. [REDACTED] added that CAA was only interested in the CAP1616 process and not the outcome, so the regulator does not regulate. [REDACTED] disagreed that it was all about the process from Heathrow's perspective. [REDACTED] noted that governments around the world has mandated the introduction of Performance Based Navigation (PBN) and that while this could lead to pure concentration of flight paths which may be easiest for the industry, Heathrow was looking for the best way to use the technology to introduce different routes to provide breaks from aircraft noise.
- 4.5 [REDACTED] added that the new airspace change process CAP1616 puts greater emphasis on community engagement, explaining that there have been some proposals which were rejected around the lack of adequate consultation and engagement, so there has been an increase in scrutiny on engagement with communities. [REDACTED] replied that consultation and engagement did not solve the problem.

## 5 Follow up on Performance Based Navigation (PBN)

- 5.1 [REDACTED] gave a presentation entitled "PBN – unanswered questions and unresolved challenges". The presentation is available to download [here](#).
- 5.2 Issues raised in the presentation included: The social impact of PBN trials in the UK and what evidence there was that PBN could be acceptable around Heathrow; ICAO's unpublished research on PBN and whether a report by Anderson Acoustics on the 2014 PBN trials had been considered; the introduction of PBN at Toronto Pearson airport and whether airspace capacity limitations would limit respite at Heathrow; and which organisation would be accountable if Heathrow's expansion and airspace change proposals caused substantial adverse physical and mental health damage to large numbers of people.
- 5.3 [REDACTED] stressed that there was a complete lack of understanding of how extremely concentrated PBN routes can be implemented over densely populated areas around Heathrow on an acceptable basis. [REDACTED] asked how meaningful or valued respite could be achieved in practical terms within the congested airspace around Heathrow with the number of flights proposed, how public consultation on concentrated PBN routes could begin, who would be accountable for adverse physical and mental health damage, and how Heathrow could proceed with the Development Consent Order (DCO) until such questions are answered.
- 5.4 [REDACTED] reiterated that Heathrow was not blindly going forward with concentrated flight paths. [REDACTED] advised that the airport had learned from the previous PBN trials and was looking at how it can deliver for both the industry and the community. [REDACTED] advised that Heathrow had to respond to the legal requirement to modernise airspace. [REDACTED] noted that like many other airports around world, Heathrow was close to an urban area, so it was looking for the best way to use PBN to provide a solution. [REDACTED] added that Heathrow was undertaking research into respite and how far apart routes should be. [REDACTED] suggested that in the interest of time he would not follow up on this anymore, but [REDACTED] was concerned that [REDACTED] had the perception that Heathrow was cruising ahead regardless to introduce PBN whereas this was not the case.



## 6 Noise relief

- 6.1 [REDACTED] and [REDACTED] presented four proposals which aimed to improve the noise climate for communities under Heathrow's flight paths in advance of future airspace changes. Their presentation is available to download [here](#).
- 6.2 They put forward proposals to stagger the joining point for arrivals, increase variation in departure routes, promote fairer night flight arrival distribution, and reduce simultaneous overflight by arrivals to London City Airport (LCY) and Heathrow. [REDACTED] asked members to email their views on these issues so that he could take the ideas forward. **ACTION ALL**
- 6.3 [REDACTED] acknowledged that the proposal to increase variation in departure routes would constitute an airspace change so they would need to talk to CAA further about this. [REDACTED] observed that Heathrow had trialled the idea of flying on both sides of the departure routes in 2014. [REDACTED] advised that he would be talking to Heathrow, NATS and CAA to find a short-term solution on night flight distribution.
- 6.4 Regarding some areas of London being affected by double overflight when LCY is on easterly operations and Heathrow is on westerly operations, [REDACTED] advised that overflight by LCY arrivals had become worse since LCY had concentrated its flight paths in 2016. He understood that LCY would be required to redesign its flight paths to fit in with other airspace changes in the South East by 2024/5 but would like to see if anything could be done in the meantime to reduce double overflight. [REDACTED] stressed that removing westerly preference at Heathrow was not an option until the required taxiways are in place to allow Heathrow to introduce full runway alternation on easterly operations. [REDACTED] felt that it should be the job of the regulator to look into the issue of areas being overflown by arrivals from both airports.
- 6.5 [REDACTED] welcomed the report and the recognition in the presentation that any changes have consequences and the proposals would result in moving noise to different areas. [REDACTED] acknowledged that the proposals could result in other parts of London having more aircraft noise. [REDACTED] noted that HACAN used to receive complaints from areas such as Islington and Camden but was not receiving so many of these now. [REDACTED] understood that the proposal changes could cause a resurgence of complaints from these areas, so some sort of consultation would be required.

## 7 Industry slot

- 7.1 [REDACTED] chaired the second half of the meeting which was primarily focussed on Heathrow's upcoming Airport Expansion Consultation.

## 8 Airport Expansion Consultation

- 8.1 [REDACTED] [REDACTED] [REDACTED] gave a brief overview of the upcoming Airport Expansion Consultation. The presentation is available to download [here](#). [REDACTED] advised that the consultation will run for 12 weeks from 18 June to 13 September and would cover four main areas: Heathrow's expansion scheme, managing and mitigating impacts, future operations and assessment of impacts. [REDACTED] added that there would be over 40 exhibition events during July and August.
- 8.2 Presentations on environmentally managed growth, the Noise Envelope Design Group (NEDG), early growth and future runway operations were given as detailed below. These were originally presented at the HCNF working group on 25 April and the slides are available to download [here](#).

- 8.3 **Environmentally Managed Growth:** █████ █████ █████ outlined Heathrow's proposal to implement a system of environmentally managed growth, where capacity is released according to a number of legally binding, strict environmental limits.
- 8.4 █████ asked if this would mean the night noise quota would no longer be a dedicated number. █████ advised that the night noise quota system would remain, and █████ would cover this later.
- 8.5 █████ was in favour of the proposal and asked if it would apply to any increased movements resulting from Independent Parallel Approaches (IPA). █████ confirmed that it would apply.
- 8.6 With regard to the NPS requirement that the impact of aircraft noise should be limited and where possible reduced compared to the 2013 baseline, █████ asked how the 2013 baseline would be defined and what metrics would be used. █████ acknowledged that setting the right metrics was very important and noted that the noise envelope design process would include a review of the metrics.
- 8.7 █████ asked if limits on the release of capacity would only apply over and above an additional 260,000 flights. █████ advised that Heathrow would have to perform within environmental limits, so these would apply from the first additional flight over and above the 480,000 flights operating today. █████ asked if Heathrow would match the regime at Schiphol airport. █████ advised that Schiphol has different factors such as its geography, so Heathrow would need to apply a regime that was suitable for Heathrow. █████ noted that Schiphol was a good example along with many other airports that Heathrow could build upon.
- 8.8 █████ asked what the baseline was for the reduction in staff car trips and whether that applied just to Heathrow staff or to all 76,000 workers at the airport. █████ advised that he was happy to pick this up but noted that the HCNF was fundamentally a noise forum. █████ confirmed that the reduction applied to all workers and noted that the baseline was covered in the document.
- 8.9 **Noise Envelope Design Group (NEDG):** █████ advised that Heathrow needs a framework of limits and controls to manage noise in the future and this was known as a noise envelope. █████ explained that this is also a requirement of the Airports National Policy Statement (ANPS) and will form part of the system Heathrow is proposing for environmentally managed growth. █████ added that the NEDG had been set up with an independent chair and had held four meetings so far.
- 8.10 █████ felt that the NEDG needed someone additional from the community side beyond the two community representatives from the Heathrow Strategic Planning Group (HSPG). █████ advised that membership would be reviewed later in the year. █████ added that HACAN attends the meeting at the nomination of the HCEB. █████ asked if Runnymede Borough Council had been invited to join. █████ explained that Runnymede was a member of the HSPG, so it had a voice through that channel. █████ added that Hillingdon Council had been invited separately as they were not on the HSPG. █████ felt that Local Authority members were not the same as community members. █████ responded that they were the elected representatives of communities but acknowledged they were different from community groups. █████ asked if Surrey Heath was represented on the HSPG. █████ said she would check. **ACTION** █████

- 8.11 ■ stressed that the NEDG needed to be a relatively small group to be effective, otherwise it would be hard to make any progress. ■ added that the HSPG was an independent group of Local Authority representatives and agreed that it would not be practical to have 15 Local Authority members around the table, so the HSPG had identified two representatives for the NEDG.
- 8.12 ■ asked for a copy of the NEDG's Phase 1 Final Report. ■ suggested circulating it to all members. **ACTION** ■
- 8.13 **Early growth:** ■ gave an overview of Heathrow's emerging proposals to introduce additional Air Transport Movements (ATMs) in advance of the third runway. ■ advised that Heathrow would set out its emerging proposals for early growth at the statutory consultation before proposals are finalised for the DCO application.
- 8.14 ■ asked if the project had government backing. ■ advised that any such application would go through the DCO process and would be considered by the Secretary of State. ■ advised that DfT was supportive of the ANPS which had come through parliament but had not made a statement about early growth.
- 8.15 ■ stated that the introduction of IPA could mean some areas would be affected by both arrivals and departures on different days which was contrary to the principle of not overflying communities with multiple routes. ■ advised that there would be a detailed session on IPA for community groups tomorrow.
- 8.16 ■ felt there had not been adequate consultation on IPA as there had been no option for residents to say if they were in favour or not. ■ noted that while there were mixed feelings about Heathrow expansion in Elmbridge there was almost universal opposition to IPA and this could undermine support for the third runway.
- 8.17 **Future runway operations:** ■ recapped that Heathrow had sought views on directional preference, runway alternation and night flights at its Airspace and Future Operations Consultation from January to March 2019.
- 8.18 ■ noted that Heathrow was looking at how to combine the runway alternation patterns and night restrictions to focus on optimising the respite provision in the evening and night periods. ■ explained that there was an aim to avoid instances where late evening flights are followed by early morning flights over the same communities. ■ was grateful to hear this was being considered.
- 8.19 ■ asked where and when focus groups had been carried out, who had attended them and who had run them. ■ advised that they had been held at a number of locations around the airport and were facilitated by consultants called Stonehaven. ■ added that there would be a full report, so this could be sent to ■ once it has been published. **ACTION** ■

## 9 Noise assessment

- 9.1 [REDACTED] gave a presentation on the Development Consent Order (DCO) process and the airspace change process and how they fit together. [REDACTED] explained that the final airspace design would not be known until after the DCO would be granted. This is explicitly built into the Airports National Policy Statement (ANPS) that states that the assessment of aircraft noise for a DCO would be based on indicative airspace design. So, in order to assess the environmental effects of flight paths for the DCO a range of indicative 'test case' airspace designs had been developed. The presentation is available [here](#). The airspace change process is subject to separate decision making, by the CAA, following consultation and environmental impact assessment of the airspace proposals.
- 9.2 [REDACTED] asked for more details about the test cases. [REDACTED] explained that each test case has been developed to show the range of potential effects, looking at design principles such as maximising respite and limiting the number of people overflown. [REDACTED] added that full details would be published in the Preliminary Environmental Information Report (PEIR) consultation document.

## 10 Working group update

- 10.1 [REDACTED] advised that the working group update would not be covered at today's meeting due to a lack of time. Meeting notes and presentations from the working group are available to download [here](#).

## 11 Slightly Steeper Approaches – Airspace Change Proposal

- 11.1 [REDACTED] advised members that following successful trials to increase the angle of descent on the final approach into Heathrow from 3.0° to 3.2°, the airport was now preparing to submit an Airspace Change Proposal (ACP) for the permanent adoption of the slightly steeper approaches. He advised that Heathrow was now seeking input on its design principles by 21<sup>st</sup> June which would be used to inform the final set of prioritised design principles for submission to the CAA. The presentation can be downloaded [here](#).
- 11.2 [REDACTED] advised that since the second trial in 2017 the CAA had allowed Heathrow to keep the slightly steeper approaches operational for a temporary period while they prepare and submit an ACP for their permanent adoption. [REDACTED] advised that for operational reasons these slightly steeper approaches are used by fewer than 2% of Heathrow's arrivals which fly RNAV (Area Navigation) approaches. [REDACTED] explained that RNAV is a method of navigation without the need for navigational aids or beacons. The remainder flew the standard 3.0° approaches using the Instrument Landing System (ILS). [REDACTED] added that slightly steeper approaches will remain optional for aircraft until airspace has been modernised. [REDACTED] asked how the slightly steeper approaches would mesh with IPA. [REDACTED] explained that both were RNAV approaches.

## 12 AOB

- 12.1 [REDACTED] announced that following feedback from the community, the @HeathrowNoise Twitter service has now been updated to provide information about which runway will be used overnight.
- 12.2 [REDACTED] also announced that [REDACTED] would be moving to a new role as Head of Communications for the Airspace Change Organising Group on a two-year secondment, so this would be her last HCNF. Members responded that she would be greatly missed.

# Heathrow's airspace change proposal for introducing slightly steeper approaches

Briefing Document: Our proposed design principles and request for feedback

Date: 10 June 2019

Prepared by: Heathrow Airport Limited

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## Background

Slightly steeper approaches, have been shown to provide noise benefits to communities living close to an airport. As such, Heathrow, working alongside local communities, has aspired to implement this procedure wherever feasible.

The Civil Aviation Authority (CAA) has encouraged industry to consider the potential to use slightly steeper approaches, where appropriate, as a means of mitigating noise<sup>1</sup>. Heathrow's intent to explore the feasibility of slightly steeper approaches has been made public in several documents:

- Step 5 of [The Heathrow Blueprint for Noise Reduction](#)<sup>2</sup>,
- Recommendation 22 of the [Airports Commission: Interim Report, Appendix 1: Assessment of Short and Medium-Term Options, December 2013](#),
- Section 8, reference 2.7 of [Heathrow's Environmental Noise Directive; Noise Action Plan 2013-2018](#) and
- Heathrow's commitment to implement steeper approaches at an expanded Heathrow in [Taking Britain Further Volume 1](#),
- Page 42 of [Heathrow's Noise Action Plan 2019-2023](#).

Between 2015 and 2017 Heathrow ran two trials to investigate how slightly steeper approaches for arriving aircraft (3.2° as opposed to 3.0°) would impact Heathrow operationally whilst at the same time attempt to measure the benefit in noise reduction that could be achieved.

For operational reasons, which are explained in the trial reports (available on our website [here](#)), these slightly steeper approaches were used by under 2% of all approaches into Heathrow. The remaining aircraft flew the standard 3.0° approaches using our Instrument Landing System (ILS).

The main reasons for the lower number of 3.2° RNAV arrivals compared to 3.0° arrivals using our ILS are:

- ILS approaches have been the standard for over 50 years and crews are much more familiar with them than 3.2° Area Navigation (known as RNAV) approaches, which are relatively new on a global level. With Heathrow's large and diverse range of airline customers, many crews are long-haul<sup>3</sup> meaning that they may only fly into Heathrow once every couple of months. 69% of all the 3.2° approaches flown during the first trial were performed by A320 (short to medium-haul) aircraft.
- RNAV approaches are only available in CAT I<sup>4</sup> conditions meaning that during poorer visibility they cannot be used.
- Not all the aircraft using Heathrow have the capability to fly 3.2° approaches.

Local communities around Heathrow supported the trials, which demonstrated that a small noise benefit can be provided whilst experiencing no negative environmental or operational dis-benefits. Since the end of the trial period, the Civil Aviation Authority (CAA) have allowed Heathrow to keep the RNAV slightly steeper approaches operational temporarily whilst we prepare to submit an airspace change proposal for their permanent adoption.

Heathrow must follow the CAA's airspace change process known as 'CAP1616' (detailed on the following page) if the procedures are to be adopted permanently. However, the CAA also said

<sup>1</sup> Chapter 5 of [CAP 1165 Managing Aviation Noise](#)

<sup>2</sup> [https://www.heathrow.com/file\\_source/HeathrowNoise/Static/Heathrow\\_Blueprint\\_for\\_Noise\\_Reduction\\_2.pdf](https://www.heathrow.com/file_source/HeathrowNoise/Static/Heathrow_Blueprint_for_Noise_Reduction_2.pdf)

<sup>3</sup> Flight duration in excess of 6 hours

<sup>4</sup> [https://www.skybrary.aero/index.php/Precision\\_Approach](https://www.skybrary.aero/index.php/Precision_Approach)

that they “*will consider any request that certain requirements of CAP1616 are not proportionate to the nature of this change.*”.

It is Heathrow’s intention to follow the CAP1616 process for the permanent introduction of slightly steeper approaches at Heathrow for aircraft flying RNAV approaches.

It is important to note the proposed permanent adoption of Heathrow’s 3.2° slightly steeper approaches is for a today’s two-runway operation. This airspace change proposal is not related to Heathrow’s Expansion project. However, it remains Heathrow’s ambition to introduce slightly steeper approaches for all arriving aircraft. This is being pursued as part of the airspace change proposal for expansion.

## **CAP1616**

Changes to flight paths are submitted to, and approved by, the Civil Aviation Authority following the Airspace Design Guidance set out in their document known as CAP1616. This 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.

The process ensures that airspace change sponsors such as Heathrow fully explore all airspace design options before a final proposal is submitted to the CAA for approval. This process encompasses the provision of a “Statement of Need” setting out the change sponsor’s requirements for change; the development of airspace ‘design principles’ and an assessment of how well the route options meet the design principles. It also includes the provision of detailed impact analysis of a shortlist of design options and the undertaking of a formal consultation with stakeholders to inform the final proposal.

CAP1616 requires airspace change sponsors to develop a number of airspace options to address the “Statement of Need”. So although the trial results provide Heathrow with a clear case as to how and where to implement slightly steeper approaches, throughout the process we will investigate all potential options, as well as the one currently in operation.

## **Airspace Change Process Stage 1B: Design principles and stakeholder representatives**

The airspace change process requires Heathrow to develop a set of design principles with identified stakeholders. Design principles essentially provide a list of high-level criteria that the proposed airspace design options should meet. They also provide a means of analysing the impact of different design options and a framework for choosing between or prioritising options.

Owing to the evidence that Heathrow’s previous slightly steeper approaches trials have demonstrated only positive environmental benefits with no change to the lateral tracks or lowering of height over the ground of arriving aircraft, Heathrow propose to engage with a select number of stakeholders (in addition to those already engaged during the live trials) at this stage of the airspace change process for the permanent adoption of slightly steeper approaches.

The stakeholder groups are as follows:

- Heathrow Community Engagement Board (HCEB)
- Heathrow Community Noise Forum (HCNF)
- National Air Traffic Management Advisory Committee (NATMAC)
- Flight Operations Performance and Safety Committee (FLOPSC)

- Heathrow Strategic Planning Group (HSPG)

## Previous engagement on slightly steeper approaches

The following engagement activities took place between 2015 and 2017 in relation to Heathrow's proposals for slightly steeper approaches and their subsequent live trials:

Engagement Date	Group	Engagement Date	Group
12/01/2015	Airlines	15/09/2016	HCNF working group
08/07/2015	<a href="#">HCNF</a>	24/09/2016	<a href="#">HACC</a>
10/08/2015	Press	10/11/2016	FLOPSC
14/08/2015	South African Airways	19/01/2017	Airspace Change Stakeholder Meeting
14/08/2015	Air France	25/01/2017	<a href="#">HACC</a>
14/08/2015	American Airlines	02/02/2017	HCNF
14/08/2015	Delta Airlines	08/03/2017	Singapore Airlines
14/08/2015	Swiss International Airlines	08/03/2017	UKFSC
14/08/2015	Singapore Airlines	06/04/2017	HCNF working group
18/08/2015	Aer Lingus	02/05/2017	Sustainable Aviation
18/08/2015	United	24/05/2017	<a href="#">HCNF</a>
19/01/2016	UKFSC <sup>5</sup>	19/07/2017	<a href="#">HCNF</a>
28/04/2016	Pilots	16/08/2017	CAA
18/05/2016	FLOPSC <sup>6</sup>	20/09/2017	<a href="#">HCNF</a>
30/06/2016	HCNF working group	19/10/2017	DFT
06/07/2016	<a href="#">HCNF</a>	01/11/2017	Sustainable Aviation
25/07/2017	<a href="#">HACC<sup>7</sup></a>	02/11/2017	CAA
02/08/2016	CAA	22/11/2017	<a href="#">HCNF</a>
17/08/2016	CAA	May 2018	2 <sup>nd</sup> Trial <a href="#">report</a> available
August 2016	1 <sup>st</sup> Trial <a href="#">report</a> available		

Heathrow is not aware of any stakeholder or stakeholder group which does not support the introduction of slightly steeper approaches at Heathrow.

The next section proposes the list of design principles based on the engagement we have previously carried out and therefore has been used as the foundation of this airspace change proposal.

**We would like you to let us know if you agree with these design principles or if you would like to propose any revisions for additional principles for consideration.**

## Our proposed design principles for slightly steeper approaches

Having regard to the documents listed at the start of this document, the engagement undertaken with the stakeholders listed above, the outcome of the live trials, and best practice operational considerations, we have developed the following design principles for your consideration:

<sup>5</sup> UK Flight Safety Committee

<sup>6</sup> Flight Operations Safety Committee

<sup>7</sup> Heathrow Airport Consultative Committee (now the HCEB)

Proposed design principles	
1	Must be safe
2	Must reduce the noise footprint of Heathrow's arrivals by enabling aircraft to stay higher for longer
3	Must not increase the numbers of go-arounds
4	Must not reduce Heathrow's capacity
5	Should not reduce the ability of arrivals to perform Continuous Descent Approach
6	Should maximise the number of aircraft able to fly the slightly steeper approach
7	Should not adversely increase pilot or air traffic control workload
8	Should not change the lateral tracks of aircraft over the ground

## Our questions for you

We would like to invite you to tell us whether:

- you agree or disagree with any of the design principles proposed above,
- you would like to make any amendments to our proposed design principles, and
- there are any other design principles that you would like to suggest.

We are aware of the number of workshops and face to face engagement currently taking place on other Heathrow projects. Owing to the relatively simple nature of this airspace change proposal, we hope that this briefing document will provide you with all the detail you need to give feedback on our proposed design principles. However, if you have any questions relating to this proposal, please don't hesitate to get in touch on the email address detailed below.

## Next steps

On receipt of this document you will have **2 weeks** in which to provide us with your feedback. Once we have received and analysed the feedback from all our stakeholders, we will develop our final set of prioritised design principles.

Please send your feedback to [airspace@heathrow.com](mailto:airspace@heathrow.com) by **Tuesday 25<sup>th</sup> June 2019**.

Prior to submitting these to the Civil Aviation Authority we will inform you of the results of our engagement. We will then submit the final set of design principles to the CAA for the 'Stage 1 Define Gateway' in August 2019.

If accepted by the Civil Aviation Authority, the design principles will be used to qualitatively evaluate our airspace design options as we move towards the next stage in the process.

We will continue to engage with you at key stages throughout the CAP1616 process for the airspace change for the permanent adoption of slightly steeper approaches.

## Email to NATMAC

**From:** [REDACTED]  
**Sent on:** Tuesday, June 11, 2019 11:12:55 AM  
**BCC:** [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
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[REDACTED]  
[REDACTED]  
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[REDACTED]  
[REDACTED]  
[REDACTED]  
**Subject:** Heathrow Design Principles Engagement (NATMAC) - Slightly Steeper Approaches  
**Attachments:** Heathrow\_Slightly Steeper Approaches\_Design Principles\_Briefing\_June 2019.pdf (454.08 KB)

Good Afternoon,

At Heathrow we are looking to permanently introduce slightly steeper approaches for arriving aircraft. To do so we are now beginning the Civil Aviation Authority's (CAA) airspace change process (known as 'CAP1616'). At this stage in the process we are required to engage with stakeholders to develop and seek feedback on a proposed list of design principles - essentially a list of high-level criteria that the proposed airspace design options should meet (the same as we have done for our other airspace changes such as for an expanded Heathrow and Independent Parallel Approaches). As an interested stakeholder, we would like your input on our proposed set of principles for slightly steeper approaches.

As a recap, between 2015 and 2017 Heathrow ran two trials to investigate how slightly steeper approaches for arriving aircraft (3.2° as opposed to 3.0°) would impact Heathrow operationally whilst at the same time attempt to measure the benefit in noise reduction that could be achieved. Local communities around Heathrow supported the slightly steeper approaches trials, which demonstrated that a small noise benefit can be provided whilst experiencing no negative environmental or operational dis-benefits. Since the end of the trial period, the CAA have allowed Heathrow to keep the slightly steeper approaches operational on a temporary basis whilst we prepare to submit an airspace change proposal for their permanent adoption.

To help inform your response, I have attached a briefing document which provides information on our slightly steeper approaches Airspace Change Proposal; background on the previous trials we have carried out; our proposed design principles; and how you can provide feedback, suggest any amendments or propose additional design principles.

As a member of NATMAC we would very much welcome your views and would ask that you send us your feedback to the questions set out in the attached document to the following email address [airspace@heathrow.com](mailto:airspace@heathrow.com) by close of business on **Tuesday 25<sup>th</sup> June 2019**. In the meantime, should you require any further information then please let me know.

## Email to FLOPSC

**From:** [REDACTED]  
[REDACTED]

**Sent on:** Tuesday, June 11, 2019 1:49:35 PM

To: [REDACTED]

**Subject:** Slightly steeper approaches – design principles feedback request

**Urgent:** High

**Attachments:** Heathrow\_Slightly Steeper Approaches\_Design Principles\_Briefing\_June 2019.pdf  
(453.89 KB)

Good afternoon,



At Heathrow we are looking to permanently introduce slightly steeper approaches for arriving aircraft. To do so we are now beginning the Civil Aviation Authority's (CAA) airspace change process (known as 'CAP1616'). At this stage in the process we are required to engage with stakeholders to develop and seek feedback on a proposed list of design principles - essentially a list of high-level criteria that the proposed airspace design options should meet (the same as we have done for our other airspace changes such as for an expanded Heathrow and Independent Parallel Approaches). As an interested stakeholder, we would like your input on our proposed set of principles for slightly steeper approaches.

For context, between 2015 and 2017 Heathrow ran two trials to investigate how slightly steeper approaches for arriving aircraft (3.2° as opposed to 3.0°) would impact Heathrow operationally whilst at the same time attempt to measure the benefit in noise reduction that could be achieved. Local communities around Heathrow supported the slightly steeper approaches trials, which demonstrated that a small noise benefit can be provided whilst experiencing no negative environmental or operational dis-benefits. Since the end of the trial period, the CAA have allowed Heathrow to keep the slightly steeper approaches operational on a temporary basis whilst we prepare to submit an airspace change proposal for their permanent adoption.

To help inform your response, I have attached a briefing document which provides information on our slightly steeper approaches Airspace Change Proposal; background on the previous trials we have carried out; our proposed design principles; and how you can provide feedback, suggest any amendments or propose additional design principles.

We would very much welcome your views and would ask that you send us your feedback to the questions set out in the attached document to the email address [airspace@heathrow.com](mailto:airspace@heathrow.com) by close of business on **Tuesday 25<sup>th</sup> June 2019**. In the meantime, should you require any further information then please let me know.

## Email to HCNF

**From:** DD - Heathrow Community Noise Forum <hcnf@heathrow.com> on behalf of DD - Heathrow Community Noise Forum  
**Sent on:** Tuesday, June 11, 2019 11:50:44 AM  
**To:** DD - Heathrow Community Noise Forum <hcnf@heathrow.com>  
**Subject:** Slightly steeper approaches – design principles feedback request  
**Attachments:** Heathrow\_Slightly Steeper Approaches\_Design Principles\_Briefing\_June 2019.pdf (453.89 KB)

Good afternoon,

You will be aware from last week's Heathrow Community Noise Forum that we are looking to permanently introduce slightly steeper approaches at Heathrow. To do so we are now beginning the Civil Aviation Authority's (CAA) airspace change process (known as 'CAP1616'). At this stage in the process we are required to engage with stakeholders to develop and seek feedback on a proposed list of design principles - essentially a list of high-level criteria that the proposed airspace design options should meet (the same as we have done for our other airspace changes such as for an expanded Heathrow and Independent Parallel Approaches). As an interested stakeholder, we would like your input on our proposed set of principles for slightly steeper approaches.

As a recap, between 2015 and 2017 Heathrow ran two trials to investigate how slightly steeper approaches for arriving aircraft (3.2° as opposed to 3.0°) would impact Heathrow operationally whilst at the same time attempt to measure the benefit in noise reduction that could be achieved. Local

communities around Heathrow supported the slightly steeper approaches trials, which demonstrated that a small noise benefit can be provided whilst experiencing no negative environmental or operational dis-benefits. Since the end of the trial period, the CAA have allowed Heathrow to keep the slightly steeper approaches operational on a temporary basis whilst we prepare to submit an airspace change proposal for their permanent adoption.

To help inform your response, I have attached a briefing document which provides information on our slightly steeper approaches Airspace Change Proposal; background on the previous trials we have carried out; our proposed design principles; and how you can provide feedback, suggest any amendments or propose additional design principles.

We would very much welcome your views and would ask that you send us your feedback to the questions set out in the attached document to the email address [airspace@heathrow.com](mailto:airspace@heathrow.com) by close of business on **Tuesday 25<sup>th</sup> June 2019**. In the meantime, should you require any further information then please let me know.

## Email to HCEB

**From:** [REDACTED]  
**Sent:** 11 June 2019 13:47  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** Slightly steeper approaches – design principles feedback request

Good afternoon all – please see below email from [REDACTED] for your consideration.

Kind Regards, [REDACTED]

### Slightly steeper approaches – design principles feedback request

Good afternoon,

At Heathrow we are looking to permanently introduce slightly steeper approaches for arriving aircraft. To do so we are now beginning the Civil Aviation Authority's (CAA) airspace change process (known as 'CAP1616'). At this stage in the process we are required to engage with stakeholders to develop and seek feedback on a proposed list of design principles - essentially a list of high-level criteria that the proposed airspace design options should meet (the same as we have done for our other airspace changes such as for an expanded Heathrow and Independent Parallel Approaches). As an interested stakeholder, we would like your input on our proposed set of principles for slightly steeper approaches.

For context, between 2015 and 2017 Heathrow ran two trials to investigate how slightly steeper approaches for arriving aircraft (3.2° as opposed to 3.0°) would impact Heathrow operationally whilst at the same time attempt to measure the benefit in noise reduction that could be achieved. Local communities around Heathrow supported the slightly steeper approaches trials and were kept informed via the Heathrow Community Noise Forum (HCNF). The results demonstrated that a small noise benefit can be provided whilst experiencing no negative environmental or operational dis-benefits. Since the end of the trial period, the CAA have allowed Heathrow to keep the slightly steeper approaches operational on a temporary basis whilst we prepare to submit an airspace change proposal for their permanent adoption.

To help inform your response, I have attached a briefing document which provides information on our slightly steeper approaches Airspace Change Proposal; background on the previous trials we have

carried out; our proposed design principles; and how you can provide feedback, suggest any amendments or propose additional design principles.

We would very much welcome your views and would ask that you send us your feedback to the questions set out in the attached document to the email address [airspace@heathrow.com](mailto:airspace@heathrow.com) by close of business on **Tuesday 25<sup>th</sup> June 2019**. In the meantime, should you require any further information then please let me know.

## Email to HSPG

**From:** [REDACTED]  
**Sent on:** Wednesday, June 12, 2019 10:21:22 AM  
**To:** [REDACTED]  
**CC:** [REDACTED]  
**Subject:** Slightly steeper approaches – design principles feedback request  
**Attachments:** Heathrow\_Slightly Steeper Approaches\_Design Principles\_Briefing\_June 2019.pdf (453.89 KB)

Good morning [REDACTED] and [REDACTED]

I am writing to let you know that at Heathrow we are looking to introduce slightly steeper approaches for arriving aircraft (3.2° as opposed to 3.0°). Although the procedures have been operational for over 3 years, to do this permanently we need to go through the Civil Aviation Authority's (CAA) airspace change process. At this stage we are engaging with stakeholders to develop and seek feedback on a proposed list of design principles - essentially a list of high-level criteria that the proposed airspace design options should meet. As an interested stakeholder, we would also like your input on these design principles.

For context, between 2015 and 2017 Heathrow ran two trials to investigate how slightly steeper approaches would impact Heathrow operationally whilst at the same time attempt to measure the benefit in noise reduction that could be achieved. Local communities around Heathrow supported the trials and were kept informed via the Heathrow Community Noise Forum (HCNF). The results demonstrated that a small noise benefit can be provided whilst experiencing no negative environmental or operational dis-benefits. Since the end of the trial, the CAA have allowed Heathrow to maintain these procedures on a temporary basis whilst we prepare to submit an airspace change proposal for their permanent adoption.

I have attached a briefing document which provides information on our Airspace Change Proposal; background on the trials we have carried out; our proposed design principles; and how you can provide feedback, suggest any amendments or propose additional design principles. Given the relatively small nature of this change, which has positive noise benefits we are engaging primarily with local communities (the Heathrow Community Engagement Board and Heathrow Community Noise Forum) and industry stakeholders.

We would very much welcome your views and would ask that you send us your feedback to the questions set out in the attached document to the email address [airspace@heathrow.com](mailto:airspace@heathrow.com) by close of business on **Tuesday 25<sup>th</sup> June 2019**. Should you require any further information then please let me know – I'd be happy to give you a call to discuss further.

## EMAIL TO LOCAL AUTHORITIES

**From:** [REDACTED]  
**Sent on:** Thursday, June 13, 2019 1:25:25 PM  
**To:** [REDACTED]  
**CC:** [REDACTED]  
**Subject:** Email sent to LAs re Slightly steeper approaches – design principles  
**Attachments:** Heathrow\_Slightly Steeper Approaches\_Design Principles\_Briefing\_June 2019.pdf (453.89 KB)

Hi [REDACTED]

Below is the email sent to local authorities represented on the HCNF this afternoon. I have also listed the LAs below. I sent this email:

- TO: CEO/Council Leader
- CC: HCNF representative(s)
- CC: Other council reps who have received information on ACPS and/or attended workshops – and will receive the Compton workshop invitation as well today, if relevant to them

**Email subject: Slightly steeper approaches – design principles notification**

Good afternoon,

I am writing to inform you that this week we wrote to Heathrow Community Noise Forum members (which your council is a member of) asking for their feedback on the permanent introduction of slightly steeper approaches (3.2° as opposed to 3.0°) for arriving aircraft using the final approach into Heathrow. Although it has been operational at Heathrow for over 3 years now (with previous trials showing that a slightly steeper approach has **a small noise benefit can be provided without negative environmental or operation dis-benefits**), to make this permanent we need to go through the Civil Aviation Authority's (CAA) airspace change process.

We have therefore asked members of the Heathrow Community Noise Forum (along with the Heathrow Community Engagement Board and industry stakeholders) to provide their feedback in the first stage of the CAA's airspace change process. I have attached the briefing document which has been sent to HCNF members and provides more information on this Airspace Change Proposal and how stakeholders can provide feedback at this stage.

As your council is represented on the HCNF we would encourage you to respond through your representative on the Forum.

Should you require any further information on our plans then please let me know.

**Local authority**

Bracknell Forest  
Buckinghamshire County Council  
Elmbridge  
Hounslow  
Ealing  
Hammersmith & Fulham  
Richmond Upon Thames  
Runnymede  
South Bucks  
Spelthorne

Surrey Heath  
Surrey County Council  
Slough  
Windsor & Maidenhead  
Wokingham

## REMINDER EMAIL TO NATMAC

**From:** [REDACTED]  
**Sent on:** Thursday, June 20, 2019 7:45:56 AM  
**BCC:** [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
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[REDACTED]  
[REDACTED]  
[REDACTED]  
**Subject:** Heathrow Design Principles Engagement (NATMAC) - Slightly Steeper Approaches - Feedback Reminder  
**Attachments:** Heathrow\_Slightly Steeper Approaches\_Design Principles\_Briefing\_June 2019.pdf (454.08 KB)

Good Morning,

A quick reminder that the deadline for feedback on the design principles for Heathrow's Slightly Steeper Approaches is Tuesday 25<sup>th</sup> June 2019. If you have not already done so, please send your feedback to [airspace@heathrow.com](mailto:airspace@heathrow.com).

## REMINDER EMAIL TO HCNF

**From:** DD - Heathrow Community Noise Forum <hcnf@heathrow.com> on behalf of DD - Heathrow Community Noise Forum  
**Sent on:** Friday, June 21, 2019 3:17:13 PM  
**To:** DD - Heathrow Community Noise Forum <hcnf@heathrow.com>  
**Subject:** Reminder: Slightly steeper approaches – design principles feedback request  
**Attachments:** Heathrow\_Slightly Steeper Approaches\_Design Principles\_Briefing\_June 2019.pdf (453.89 KB)

Good afternoon,

I wish to follow up on my recent email regarding Heathrow's proposal to permanently introduce slightly steeper approaches. Thank you to those who have already submitted feedback to the

We look forward to hearing from you. In the meantime, should you have any questions or other comments then please do not hesitate to contact me.

[REDACTED]

[REDACTED]

[illegible]



**Attachments:** Heathrow\_Slightly Steeper Approaches\_Design Principles\_Briefing\_June 2019.pdf  
(453.89 KB)

Good afternoon,

I wish to follow up on the below email regarding Heathrow's proposal to permanently introduce slightly steeper approaches. Thank you to those who have already submitted feedback to the questions set out in the attached design principles briefing document. If you have not done so already, please be reminded that the deadline for submitting feedback is close of business on **Tuesday 25<sup>th</sup> June 2019**. To do so, please email [airspace@heathrow.com](mailto:airspace@heathrow.com).

We look forward to hearing from you. In the meantime, should you have any questions or other comments then please do not hesitate to contact me.

[REDACTED]  
[REDACTED] - Airspace

#### EMAIL TO HILLINGDON

**From:** [REDACTED]  
**Sent:** 25 June 2019 10:07  
**To:** [REDACTED]  
**Subject:** Slightly steeper approaches – design principles feedback request

Good morning,

At Heathrow we are looking to introduce slightly steeper approaches for arriving aircraft (3.2° as opposed to 3.0°). Although the procedures have been operational for over 3 years, to do this permanently we need to go through the Civil Aviation Authority's (CAA) airspace change process. At this stage we are engaging with stakeholders to develop and seek feedback on a proposed list of design principles - essentially a list of high-level criteria that the proposed airspace design options should meet. As an interested stakeholder, we would also like your input on these design principles.

For context, between 2015 and 2017 Heathrow ran two trials to investigate how slightly steeper approaches would impact Heathrow operationally whilst at the same time attempt to measure the benefit in noise reduction that could be achieved. Local communities around Heathrow supported the trials and were kept informed via the Heathrow Community Noise Forum (HCNF). The results demonstrated that a small noise benefit can be provided whilst experiencing no negative environmental or operational dis-benefits. Since the end of the trial, the CAA have allowed Heathrow to maintain these procedures on a temporary basis whilst we prepare to submit an airspace change proposal for their permanent adoption.

I have attached a briefing document which provides information on our Airspace Change Proposal; background on the trials we have carried out; our proposed design principles; and how you can provide feedback, suggest any amendments or propose additional design principles. Given the relatively small nature of this change, which has positive noise benefits we are engaging primarily with local authorities close to the airport and community representatives via the Heathrow Community Noise Forum, along with the Heathrow Community Engagement Board and industry stakeholders.

We would very much welcome your views and would ask that you send us your feedback to the questions set out in the attached document to the email address [airspace@heathrow.com](mailto:airspace@heathrow.com) by close of business on **Tuesday 9th July 2019**.

Should you require any further information on our plans then please let me know.

Regards,

[REDACTED]

[REDACTED]

[REDACTED] - Airspace

## EMAIL EXCHANGE WITH HSPG

**From:** [REDACTED]  
**Sent:** 28 June 2019 11:10  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Slightly steeper approaches – design principles feedback request

Hi [REDACTED]

I hope you've had a good week. I just wanted to follow up after [REDACTED] phone call with you – did everything sound okay? Let me know if you have any further questions or if there's anything else we can help with. Likewise, if you intend to submit feedback next week, just let me know so we'll know to expect this from you.

Thanks again,

[REDACTED]

[REDACTED]

[REDACTED] - Airspace  


Heathrow Airport

The Compass Centre, Nelson Road

Hounslow, Middlesex, TW6 2GW

[w: heathrow.com](http://w:heathrow.com) [t: twitter.com/heathrowairport](https://t:twitter.com/heathrowairport)

[a: heathrow.com/apps](http://a:heathrow.com/apps)

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**From:** [REDACTED]  
**Sent:** 25 June 2019 14:59  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Slightly steeper approaches – design principles feedback request

Hi [REDACTED]

Thanks again for speaking this afternoon. My colleague [REDACTED] will give you a ring around 4:30pm this afternoon to discuss your queries below.

If there's anything else I can help with, just let me know.

Thanks,

[REDACTED]

[REDACTED]

[REDACTED] - Airspace

**heathrow**

Heathrow Airport

The Compass Centre, Nelson Road

Hounslow, Middlesex, TW6 2GW

**w:** [heathrow.com](https://www.heathrow.com) **t:** [twitter.com/heathrowairport](https://twitter.com/heathrowairport)

**a:** [heathrow.com/apps](https://heathrow.com/apps)

From: [REDACTED]  
Sent: 24 June 2019 18:38  
To: [REDACTED]  
Cc: [REDACTED]  
Subject: RE: Slightly steeper approaches – design principles feedback request

Hi [REDACTED]

I'm drafting a positive response to this but have a couple queries, perhaps you or someone else can ring to explain before I finalise.

I understand that use of a CDA – whether off the stacks or straight in – reduces fuel burn and noise at ground level, and that Design Principle 5 is that 3.2deg should not prejudice use of CDA. CDA is a good thing and to do this with a steeper angle of approach appears even better. However, I note that only a relatively small number of aircraft types and crews have used 3.2deg in tests so far in the successful tests for reasons of both crew familiarity with LHR and performance of aircraft type.

Queries:

1. Can LHR maintain two ILS with one at 3deg and another at 3.2deg or can you only have one? If you can't have two, do we end up with resetting at 3.2deg and then some (larger older noisier types?) having to fly a noisier to stepped approach because they can't achieve the 3.2deg whereas they can do 3deg?
2. If using 3.2degree, at what distance do we aircraft hit the minimum joining height at 2,500 – how much nearer the threshold than existing 8.5stat mile point? Scale of benefits?
3. If the main straight in ILS approach is using CDA at 3.2deg – can the IPA curved approaches also be introduced? Can the IPA routeing aircraft achieve a quieter CDA at 3 and 3.2deg or do they have to use a stepped approach necessary to achieve the manoeuvre – I understand older larger types are not capable of the proposed IPA?

Hope the queries make sense – apologies if part of this was answered in the IPA session I was unable to attend

Thanks

[REDACTED]

[REDACTED]

[REDACTED] **Spatial Planning**  
**Heathrow Strategic Planning Group**

07933 715615



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HEATHROW SLIGHTLY STEEPER APPROACH  
TRIAL

## *Summary Presentation*

v1.0 June 2016



# Overview

*Objective*

To better understand how a 3.2° glideslope will impact Heathrow’s operation

*Success Criteria*

A safe trial enabling sufficient data gathering with no adverse impact on the daily operation

*Reason*

Heathrow Noise Blueprint

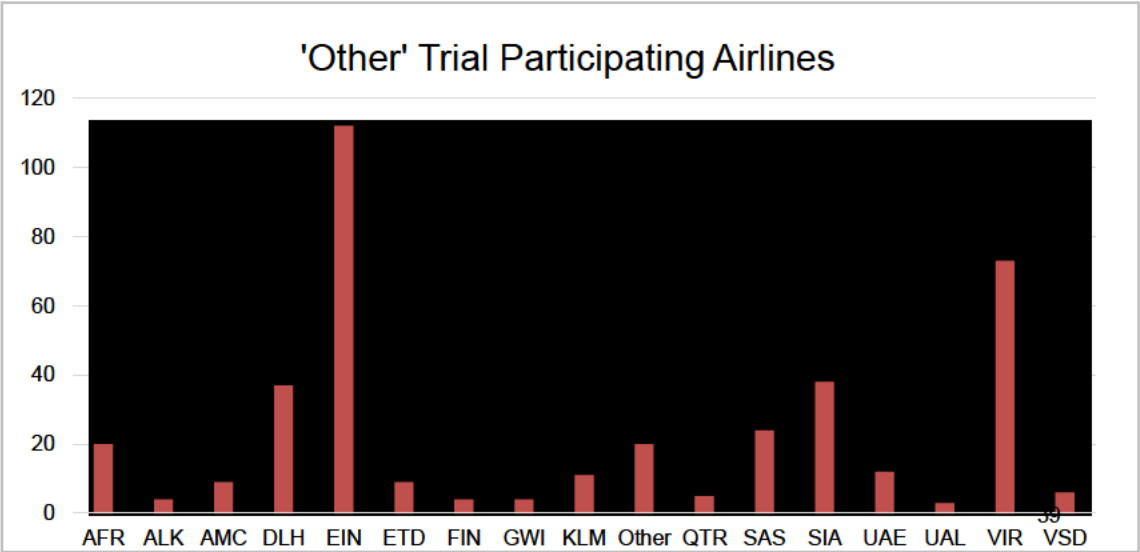
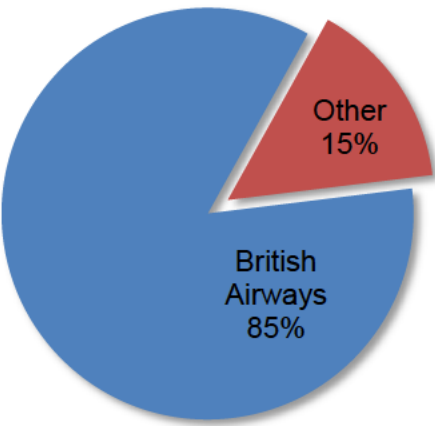
*Timelines*

September 2015 to March 2016.

*Data set*

c.2500 3.2° RNAV approaches compared with c.115,000 3° ILS approaches. 3.2° RNAV Approaches were elective and only available in CAT I conditions

*Airline Participation*





## Objectives – what was assessed?

### Impact of a 3.2° APC on:

*Continuous Descent APC*

*Time Based Spacing*

*Runway Occupancy Time*

*Go-arounds*

*Speed adherence*

*Final APC joining point*

*Landing Gear Deployment*

*Landing Rate*

*Height on Final APC*

*Community*

*Airline*

*ATC*

*Environment*

### How data was captured

Heathrow Airport's Noise and Operations Management System

NATS Terminal Control

NATS Business Information

Heathrow Airport ATC

NATS Business Information

Heathrow Airport's Noise and Operations Management System

British Airways Flight Data Recorders

NATS Terminal Control

Heathrow Airport's Noise and Operations Management System

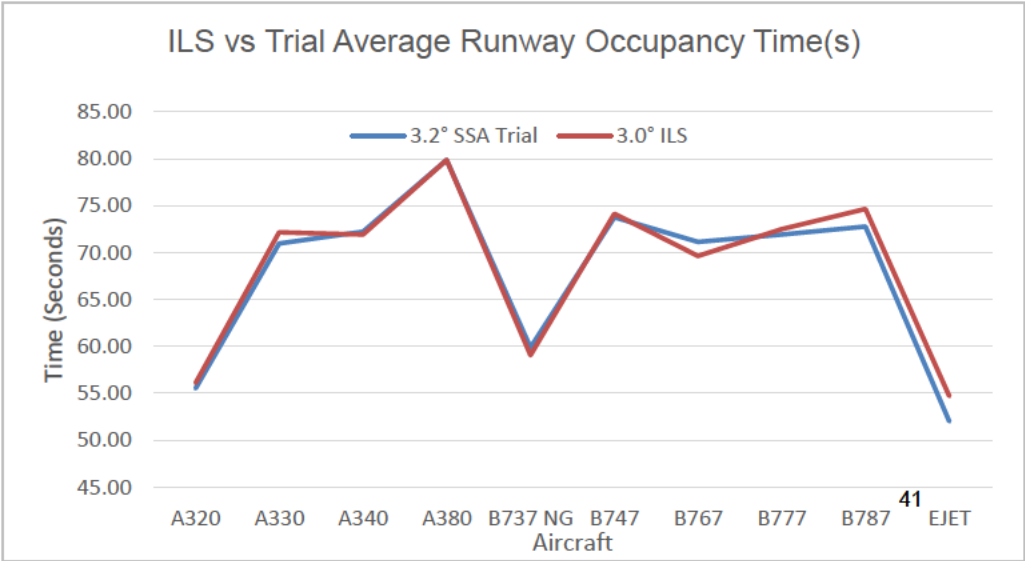
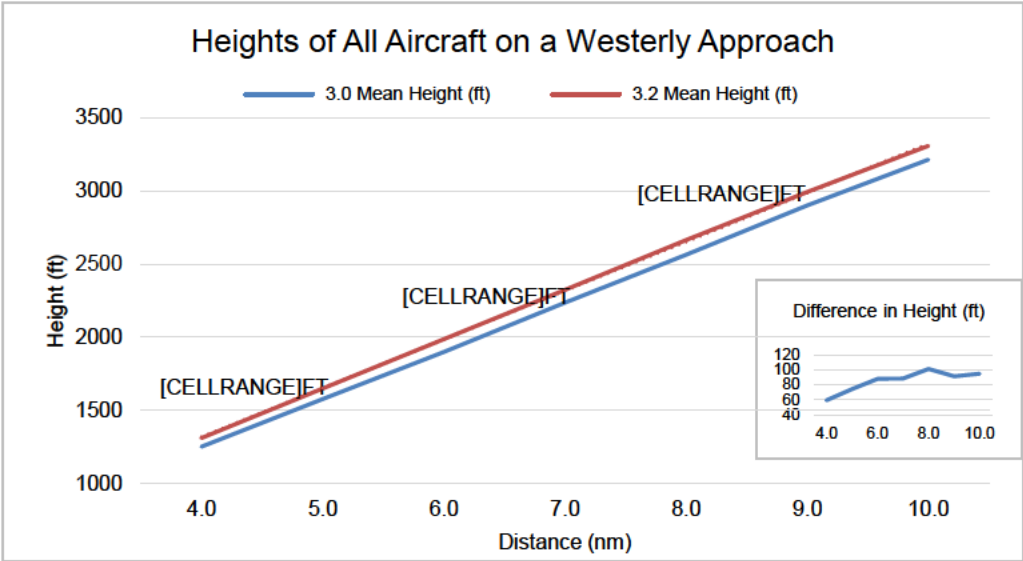
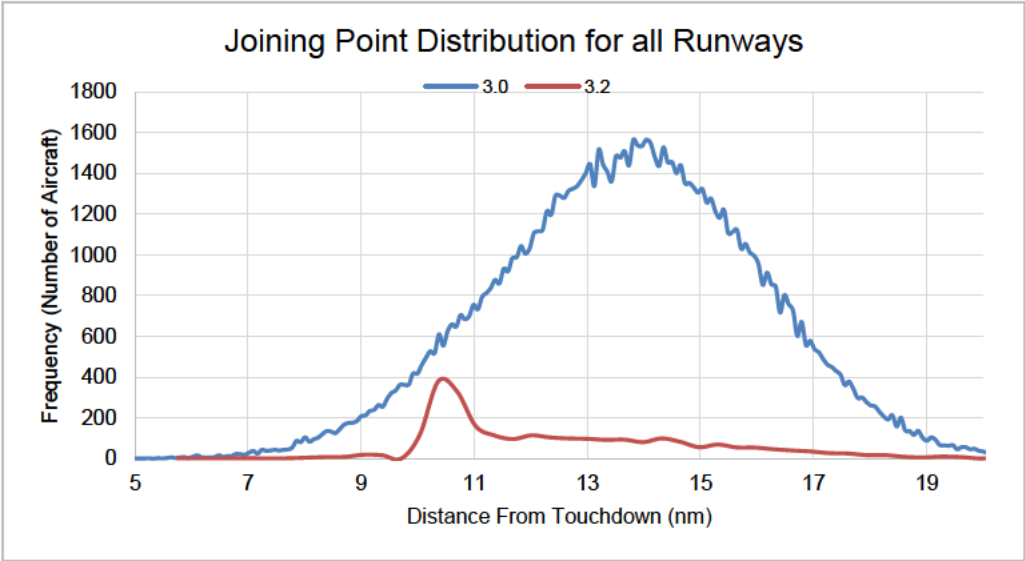
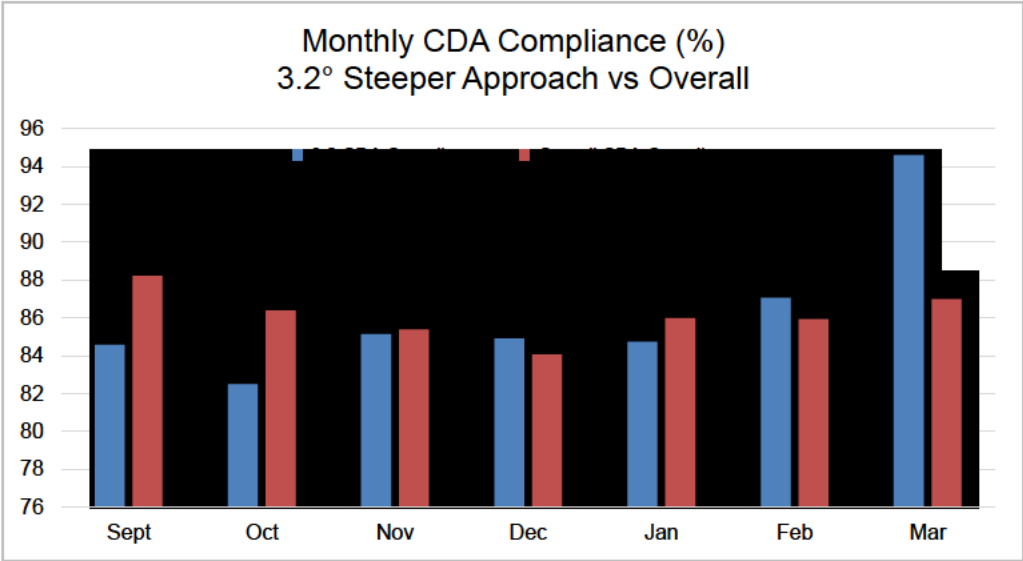
Heathrow Airport Community Relations

British Airways, Virgin Atlantic, Lufthansa (and Airbus)

NATS Terminal Control and NATS Heathrow Airport (and Eurocontrol)

3 additional Remote Noise Monitoring Terminals

# Data Collection - Examples



## Objectives – How did we do?

Objective	Status	Outcome
CDA		3.2° compliance of 85.7% versus 85.9% overall compliance
TBS		No detrimental impact
RoT		No detrimental impact
Go-around		No detrimental impact (3 out of 351 were on a 3.2° approach)
Speed		Slightly better speed adherence on final approach
Joining point		1.27nm closer to threshold (due to RNAV, not the approach angle)
Landing Gear		Med jets: Same but higher / Heavies: Later similar height
Landing Rate		No impact
Height		Low temperature reduced height benefit but as expected
Community		29 out of 50,274 comments, queries and complaints related to trial
Airline		No issues with 3.2° approach angle
ATC		No detrimental impact due to 3.2° approach
Environment		Min: +0.1dBA / Average: -0.5dBA / Max: -1.4dBA (SEL)

*Noise Modelling: We also took the opportunity to model the potential impacts of 3.2° approaches*

## *Next Steps*

- Report the findings to Heathrow's Airspace Governance and Community Groups
- Engage CAA to understand what can be done in the short, medium and long term