Heathrow Airspace

APPENDIX 5 – AIRSPACE DESIGN PRINCIPLES CONSULTATION: DEVELOPMENT OF QUESTIONS AND SUMMARY FEEDBACK

1.1.1 A voluntary public consultation on Heathrow's Airspace Design Principles ran from 17 January to 28 March 2018. This was run in parallel with the public consultation on Heathrow's airport expansion programme, set up to meet the requirements of a separate consenting process for physical infrastructure, known as the Development Consent Order (DCO).

1.1.2 Heathrow drew on historic stakeholder engagement to develop a set of questions on design principles for consultation. Heathrow developed a longlist of potential design principle questions, and discussed the benefits of different approaches to the feedback form. A stakeholder engagement strategy was produced, which included a consultation plan. This was shared with the CAA for feedback.

1.1.3 The questions asked in the Airspace Design Principles consultation are set out below, with our rationale for inclusion in the consultation. Questions 1-4 offered a multiple choice and asked respondents to tick their preferred principle. These questions also included a box for respondents to provide any feedback related to the question or principle. Questions 5-7 just provided a box for respondents to provide any feedback. The consultation document and feedback form are provided at Appendix X.

1.1.4 An introductory question asked whether the respondent is currently overflown by aircraft to/from Heathrow and 82% of respondents to the consultation considered themselves to be overflown by aircraft flying to/from Heathrow today. The remaining respondents were split between 15% who do not consider themselves to be currently overflown and 4% who don't know whether they are overflown by Heathrow aircraft. It is assumed that those who perceive themselves as overflown today are more likely to already be 'engaged' and have an active interest in the future of the airport. This would mean that they are more likely to be motivated to get involved at the consultation at this early stage and would explain why the number of responses from this group was dominant in the overall figures.

1.1.5 In the case of the multiple-choice questions, Heathrow considers all of the options to represent "good" design principles when considered in isolation. The questions sought to identify a preference between these principles should a trade-off need to be considered.

1.1.6 The sections below set out the rationale for each consultation question and highlight the key observations from the consultation responses. For full details on the consultation and responses, see the independent Analysis of Findings Report produced by Wood & Ipsos Mori in Appendix X.

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Question 1: Flight Paths: Rationale for inclusion

Q1. Principle 1: Flight Paths

Please read pages 12 and 13 of the Airspace Consultation Document before answering this question. **Please select one of the options** a-c, and provide any comments in the box below. A trade-off exists between these three principles and we would like to understand which principle you prefer.

When designing airspace, Heathrow should:

a) Minimise the **total number** of people overflown, with flight paths designed to impact as few people as possible ☐

b) Minimise the number of people **newly** overflown, keeping flight paths close to where they are today, where possible ☐

c) Share flight paths over a wider area, which might increase the total number of people overflown but would reduce the number of people **most** affected by the flight paths as the noise will be shared more equally ☐

Please provide any comments you have on flight paths:

1.1.7   Question 1 sought feedback on the most fundamental design principle: should Heathrow keep aircraft where they are today (as far as possible), move them to overfly as few people as possible, or design multiple routes to share aircraft across a wider area? Historic stakeholder engagement has shown this trade-off to be particularly contentious, with people recognising that all 3 principles are "good" design principles, but there are trade-offs between these and it is unlikely that Heathrow would be able to deliver a route that delivered against all 3 principles. These design principles therefore need to be prioritised.

Question 1: Flight Paths: Feedback

1.1.8   Overall the consultation feedback indicated the importance of "fairness" in answering this question. This led to a preference for option C, with 54% of the multiple-choice respondents preferring this option and many of the comments related to the perceived 'fairness' of this option. 300 positive comments were received in relation to option C, compared with 43 positive comments relating to option A and 73 positive comments relating to option B. Many of those respondents who favoured option B (25%) stated that minimising newly overflown was considered the fairest approach.

1.1.9   To ensure a balanced view, feedback was further analysed according to whether people perceive themselves to be currently overflown or not. This analysis indicated that those whom consider themselves to be currently overflown prefer to share flight paths over a wider area (60% of 'overflown' respondents) with the larger proportion of the remainder (24%) preferring to minimise total and 17% preferring to minimise new. Those whom do not consider themselves overflown prefer to minimise newly overflown (59% of 'not overflown' respondents) with the larger proportion of the remainder (25%) preferring to share noise and 17% preferring to minimise total. These figures were supported by comments provided.

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Figure 1: Feedback to Question 1, by overflown/not overflown
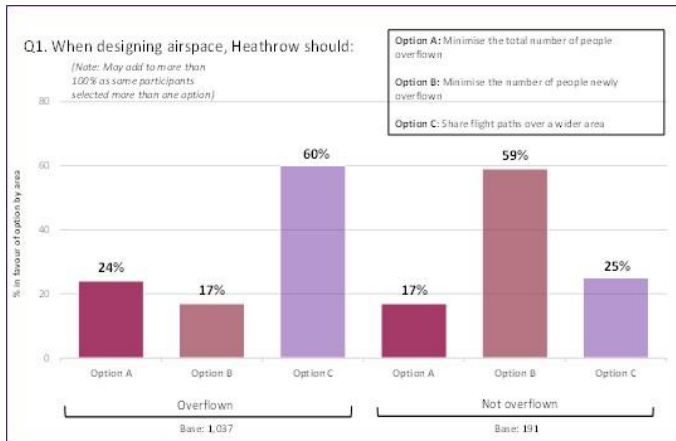
1.1.10 Results were analysed by age group and this showed no significant difference between age categories.

1.1.11 Results were analysed by location of respondent, based on postcode data collected in the introductory questions. This analysis showed that preferences were generally consistent across the geographical area. However, respondents based to the north-west of the airport indicated a preference for option B (42%) rather than for option C (36%). This may be explained by the fewer respondents who consider themselves currently overflown in this area and/or by a potential perception amongst communities that a new north-west runway is more likely to bring new flight paths to the area to the north-west of the airport, and therefore a greater preference for 'minimise new'.

Question 2: Urban and rural areas: Rationale for inclusion

Q2. Principle 2: Urban and rural areas

Please read page 14 of the Airspace Consultation Document before answering this question.
Please select one of the options a-b, and provide any comments in the box below.

When designing airspace, Heathrow should:

a) Prioritise routing aircraft over urban areas, recognising that urban areas have higher general noise levels ☐

b) Prioritise routing aircraft over rural areas where fewer people live ☐

Please provide any comments you have on overflight of urban or rural areas:

1.1.12 When developing airspace design options, there are likely to be instances where the designers can choose between putting a route over a relatively rural area, or over an urban area or town. Question 2 sought to understand whether we should seek to overfly more populated (urban) areas to protect the natural character of the countryside and recognising that urban areas may have higher general noise levels and people might notice aircraft noise less, or whether we should seek to overfly less populated (rural) areas where fewer people would be affected by aircraft noise. Postcode data was collected from respondents so that we could identify whether there was a pattern in responses beyond rural respondents preferring routes over urban areas and urban respondents preferring routes over rural areas.

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Question 2: Urban and rural areas: Feedback

1.1.13 Consultation feedback indicated most respondents would prefer Heathrow to prioritise overflying rural areas rather than urban (73% preferred option B). Comments gave the main reason for this preference being that overflying rural areas would affect fewer people, given fewer people live or work in rural areas.

1.1.14 Comments from those who would prefer Heathrow to prioritise overflying urban areas generally gave a view that the peace and natural character of rural areas should be protected and that aircraft noise in urban areas might be less noticeable due to there being more background noise.

1.1.15 The data did not indicate that responses to this question were influenced by whether a respondent is currently overflown.

1.1.16 Analysis of responses by age of respondent did not provide evidence to suggest a difference of opinion between the 3 older age ranges, but the 16-34 age group appeared more divided, with 64% preferring option B within this age range, compared with 73% of respondents overall.

1.1.17 A preference for overflying rural areas was broadly consistent across all geographical areas. However, respondents located to the west of the airport appeared more divided, with 51% in the north-west and 56% in the south-west preferring option B. This is unsurprising since respondents from the west of the airport are more likely to be rural inhabitants than those to the east of the airport.

Figure 2: Feedback to Question 2, by respondent address

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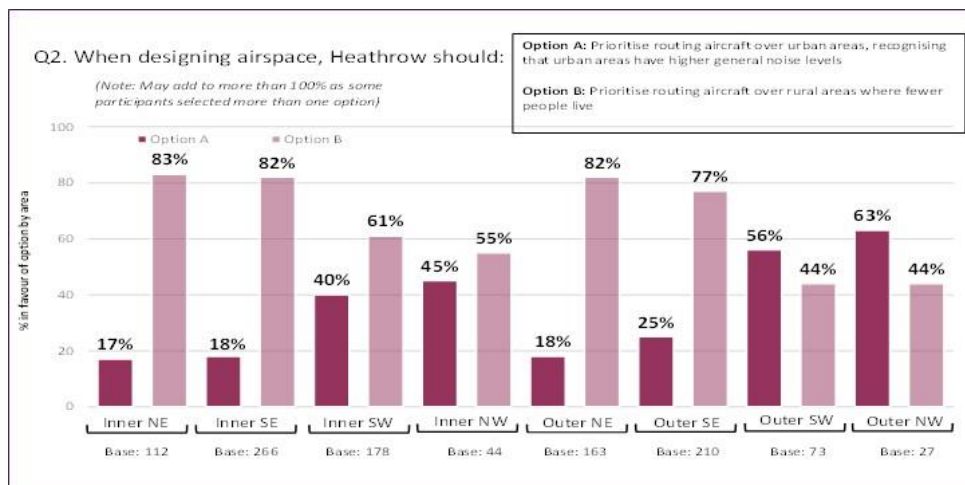
Question 3: Urban areas: Rationale for inclusion

Q3. Principle 3: Urban areas

Please read page 15 of the Airspace Consultation Document before answering this question.
Please select one of the options a-b, and provide any comments in the box below.

When designing airspace in urban areas, Heathrow should:

a) Prioritise routing aircraft over parks and open spaces rather than residential areas ☐

b) Prioritise routing aircraft over residential areas, avoiding aircraft overflight of parks and open spaces ☐

Please provide any comments you have on parks and open spaces in urban areas:

1.1.18   When developing airspace options, there may be instances where the designers can choose between putting a flight path over a large park or open space, or over the residential area (i.e. houses) surrounding it. Question 3 sought to understand whether people valued the relative peace of parks and open spaces, or whether people would prefer to reduce aircraft noise over their homes in favour of putting it over their local park or open space.

Question 3: Urban areas: Feedback

1.1.19   Consultation feedback indicated most respondents would prefer Heathrow to prioritise routing aircraft over parks and open spaces, rather than over residential areas (75% preferred option A). Comments in consultation feedback suggested that the main reasons for this preference was that it might reduce or mitigate noise in urban and residential areas and that fewer people would be affected by noise.

1.1.20   Whilst the majority preferred option A, there were a large number of comments that referred to a potential for different principles to be applied at different times of day. Comments suggested that parks and open spaces should certainly be overflown at night when people would not be using them, but that some parks and open spaces should be protected from noise during the day, particularly those that are seen as key recreational resources for local residents or even assets of national importance.

1.1.21   This preference for option A was broadly consistent across respondents who are currently overflown and those who are not, and across the various age groups.

1.1.22   The preference for overflying parks and open spaces was also broadly consistent across the geographical area.

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Figure 3: Feedback to Question 3, by respondent address
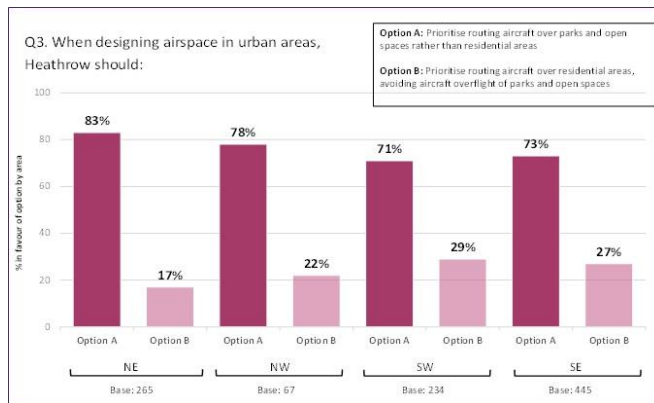
Question 4: Noise and emissions: Rationale for inclusion

Q4. Principle 4: Noise and emissions

Please read page 16 of the Airspace Consultation Document before answering this question.
Please select one of the options a-b, and provide any comments in the box below.

When designing airspace, Heathrow should:

a) Design flight paths that prioritise the reduction of aircraft noise for local communities over those that reduce fuel burn and emissions*

b) Design flight paths that prioritise a reduction in fuel burn and emissions* over those that reduce noise for local communities

Please provide any comments you have on noise and emissions*:

1.1.23 When developing airspace options, designers may have an option to design shorter, more direct, flight paths that minimise fuel burn and emissions, or to design potentially longer flight paths that seek to go around, and thereby avoid, more populated areas. Question 4 sought to understand whether people valued a potential reduction in noise over a potential reduction in fuel burn and emissions. Respondents were also invited to provide any comments they might have relating to noise and emissions and the potential trade-off between them.

Question 4: Noise and emissions: Feedback

1.1.24 Consultation feedback indicated most respondents would prefer Heathrow to prioritise the reduction of aircraft noise, even if this meant that fuel burn and emissions might be increased (78% preferred option A). Comments in consultation feedback suggested that many respondents felt that noise reduction should be the most important consideration when redesigning airspace, and that noise was thought to have a greater negative effect on people's lives than emissions. Some respondents were sceptical about how much difference an airspace design might have to emissions, whereas the design could have a very significant impact on noise.

1.1.25 This preference for option A was broadly consistent across respondents who are currently overflown and those who are not.

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1.1.26   Analysing feedback by age range shows that the younger age range (age 16-34) were more divided in their responses. 62% of this group preferred option A, compared with 78% of respondents overall.

Figure 4: Feedback to Question 4, by age of respondent
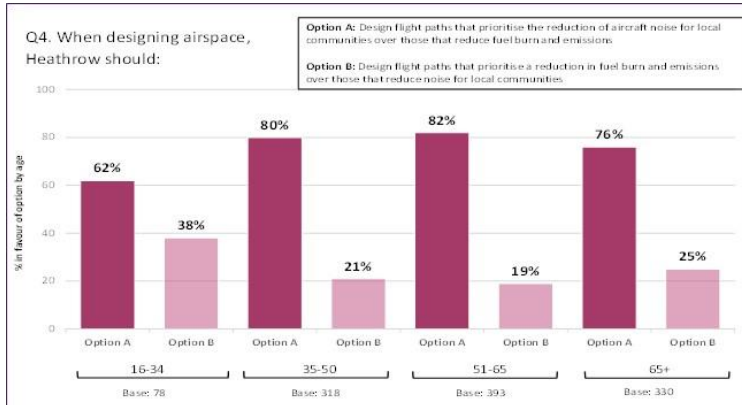
1.1.27   The preference for prioritising noise reduction over fuel reduction was consistent across the geographical area.

Question 5: Technology and innovation: Rationale for inclusion

Q5. Principle 5: Technology and innovation

Please read page 17 of the Airspace Consultation Document before providing any comments on the statement below.

In order to deliver any of these design principles, all aircraft will need to be equipped with the latest technology. We will not design flight paths to accommodate aircraft with older navigation technologies and there may be parts of the design where aircraft with the highest specification of navigation technology have an advantage.

Please provide any comments you have on technology and innovation:

1.1.28   Question 5 set out Heathrow's proposed design principle relating to navigation technology, and sought feedback on this from all respondents, but particularly from airlines who may have comments or concerns relating to their own equipage. We did not offer an alternative to this principle, but used the consultation to engage with our stakeholders on this important issue relating to technology and innovation for future airspace design.

Question 5: Technology and innovation: Feedback

1.1.29   802 respondents made comments relating to question 5, and most were in favour of the introduction of newer technology. Many local residents made a link between this principle and the introduction of cleaner and quieter aircraft which would reduce both noise and emissions. Many also commented that older, noisier and less efficient aircraft should be banned or phased out as soon as possible.

1.1.30   Negative comments tended to be in relation to the possible concentration of flights as a result of PBN technology, and these concerns were raised by local authorities, action groups and residents' associations, as well as by members of the public.

Question 6: Night flights: Rationale for inclusion

Q6. Principle 6: Night flights

Please read page 18 of the Airspace Consultation Document before providing your response to the question below.

Heathrow has made good progress over the last few years in reducing the number of late running flights that operate from the airport and, with expansion, we have committed to a six and a half hour ban on scheduled flights in the night period (sometime between 11pm and 7am).

However, some aircraft will need to use Heathrow late at night or early in the morning: what key principles should we apply to the design of flight paths for arrivals and departures during these times? (You may like to consider the design principle options set out in Questions 1-5).

1.1.31   Question 6 asked our stakeholders whether there were different design principles that should be applied during the most noise sensitive times of day, or whether the principles proposed in Questions 1-5 should be applied different during this time. It should be possible to vary our new airspace design by time of day and we sought to understand whether this would be beneficial.

Question 6: Night flights: Feedback

1.1.32   The overwhelming issue highlighted by respondents was that flights at night and in the early morning should be limited as much as possible. Many respondents questioned whether the proposed 6.5 hour ban on scheduled flights at night is sufficient. Conversely, airline responses requested a balance between the need for limitations on night flights and the operational, logistical and financial practicalities of delivering these. The airline community believe that other innovative solutions to delivering respite should be explored.

1.1.33   The most common comment in terms of airspace design was that night flights should be routed away from residential areas and towards open or rural spaces. Several local authorities and environmental groups made this suggestion, as well as many members of the public.

Question 7: Other comments or design principles: Rationale for inclusion

Q7.

Please provide any other comments you would like to make about our approach to airspace change, and let us know if there are any other design principles we should consider:

1.1.34   Question 7 aimed to be a "catch all" and asked our stakeholders to suggest any other design principles that we should consider. Stakeholders were also invited to provide any comments on our approach to airspace change.

Question 7: Other comments or design principles: Feedback

1.1.35   Many comments were related to the expansion of Heathrow and were not related to airspace design. A large number of comments showed a misunderstanding of the CAA's Airspace Change Process and criticised Heathrow's inability to show potential route options at this stage.

1.1.36   All design principle suggestions made by consultation respondents were included in our 'long list' of design principles, and these were then grouped by category and assessed one-by-one to identify whether each proposed principle was suitable for inclusion in our airspace design principles for expansion. Appendix X presents the grouped principles that were not included in our final list of design principles and provides a rationale summarising our reason for excluding them. Reasons include:

1. Already covered by an existing principle;

2. Contradictory to the principles favoured by most stakeholders; or,

3. Covered by another aspect of the expansion programme (such as the DCO process).