

# AIRSPACE STRATEGY | STAKEHOLDER ENGAGEMENT

Report of focus groups  
13 March 2019

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## 1. Objectives

As part of the Government's UK Future Airspace Strategy, the Civil Aviation Authority (CAA) has mandated the need for each airport across the UK to modernise its airspace: as part of this process the CAA has also instructed each airport to conduct an engagement process with its local community.

RAF Northolt has therefore conducted primary research in order to understand how residents in the affected areas think about and prioritise airspace strategy design principles. This is complementary to engagement with regional stakeholders which will be conducted separately by RAF Northolt.

The report of these findings will be included in RAF Northolt's submission to the CAA of its updated design principles.

While the research's primary purpose is to understand resident attitudes towards the design principles, it will also be useful for any longer-term planning with regard to communicating the role, and operation, of the airfield.

## 2. Methodology

Two focus groups were held on 5<sup>th</sup> February 2019, each lasting 90 minutes and attended by eight participants. Participants were recruited by independent qualitative fieldwork agency Leftfield International, and were each incentivised with a £50 cash payment, as is standard practice in market research.

Participants were recruited using a recruitment screening questionnaire. In each group there were equal numbers of men and women, from a mix of socio-economic backgrounds. Both groups were compiled of a mixture of age groups (30-60).

Participants in (or with close family members) working in advertising, journalism, public relations or market research were excluded.

It was important that participants lived within the flight path of RAF Northolt and as a result the groups were held in Ruislip, with participants recruited from the surrounding areas:

- Uxbridge
- Harrow

In selecting the location of the groups, we sought to meet the following criteria:

- From areas that are affected by flight paths currently, or plausibly might be in the future (see Fig. 1)

We considered four prospective areas to conduct the focus groups, marked with red circles on figure 1 below and ultimately selected the areas marked by the black circles.

### Selected areas

- Area A – Urban residents of Uxbridge, overflowed by a mix of arrival and departure routes.
- Area B – Urban residents of Harrow currently overflowed by arrival and departure routes, but not significantly impacted.



Fig. 1 – Consultation area

### 3. Structured discussion

Each discussion followed the below structure:

- Introduction
- Associations with RAF Northolt
- Background on RAF Northolt
- Exploration of why airspace modernisation is needed and the impacts on the surrounding area
- Presentation of five headline design principles, and a discussion of prioritisation (see Appendix 1, page 16):
  - a) Minimising fuel requirements and greenhouse gas emissions
  - b) Incentivise airfield operators to use the most modern aircraft
  - c) Minimise impact on other airspace users
  - d) Minimise the impact of aircraft noise
  - e) Simple and efficient flight paths for operational efficiency
- Presentation of two design principles related to noise reduction and discussion of prioritisation (see Appendix 1, page 17):
  - a) Minimising noise for those affected
  - b) Minimising noise for those newly affected
- Presentation and discussion of four further design principles (see Appendix 1, page 17):
  - a) Prioritise flight paths over rural areas rather than over urban areas
  - b) Prioritise flight paths over parks and open spaces rather than residential areas
  - c) Prioritise flight paths according to significant locations
  - d) Prioritise less people affected but more noise or more people affected but less noise

The explanation of airspace modernisation and each of the design principles was presented in a printed handout given to each participant (containing text and illustrative diagrams) that was read out and explained by the moderator. The stimulus shown to participants can be found in the Appendix on pages 13-17.

After the presentation and brief discussion of the five headline design principles, participants were given a sheet of paper with the five headline principles on them; they were asked to rank these principles in order of importance, 1 being the most important to the participant and 5 being the least important. The results of these votes were recorded and are shown in the Appendix on page 19. However, the main purpose the voting served was to stimulate discussion, with the participants debating on and deciding the importance of each principle after the vote. Given the complexity of the issues, and the ways in which some participants changed their views in the light of greater information and debate, our conclusions are primarily based on the results of these discussions rather than the vote tabulation shown in the Appendix on page 19.

## 4. Findings

### Attitudes to headline design principles

#### ***Minimise fuel requirements and greenhouse gas emissions***

CO<sub>2</sub> emissions and noise pollution emerged as the most important considerations. However, CO<sub>2</sub> emissions was deemed of higher importance when asked to make a choice between the two. Nevertheless, the prioritisation of CO<sub>2</sub> seemed to be an emotional association with the long-term damage to the environment and health. Likewise, the participants felt that it was of greater importance to think not only of the positive health benefits to reducing emissions locally, but also the global impact of CO<sub>2</sub> emissions to health. This was specifically interesting for the Uxbridge residents whose lives were impacted to a greater degree by noise as a result of the RAF Northolt flight path, than those residing in Harrow.

“The more direct route is all to do with fuel requirements, and greenhouse gas emissions that not just Hillingdon need to worry about but also globally.”  
*Female resident, Uxbridge*

“I think most definitely you’ve got to cut your fuel and just go over residential areas, rather than going around [them].”  
*Female resident, Uxbridge*

Interestingly, the Harrow participants live further from the flight path, yet had a greater concern for any flight path changes that would result in them being affected by aircraft noise. Arguably the Harrow respondents found it more challenging to look beyond the noise impact, because they didn’t have the personal experience of the aircraft noise caused by RAF Northolt.

In terms of their concerns over noise, the Uxbridge residents observed that whilst there was awareness of the noise, it was small and comparatively quiet to most airports due to the size of the planes being flown and the restrictions on flights per day at RAF Northolt.<sup>1</sup> The majority of the Harrow participants felt that they were mildly affected by noise; however, they would prefer it if the flight path did not change to avoid planes flying over their homes.

“They’re not huge commercial planes carrying 400 people, they’re very small planes.”  
*Female resident, Uxbridge*

“If they bend their route to avoid my area, I’m happy. I don’t want a direct route if it goes over my area.”  
*Male resident, Harrow*

“I can’t see how going direct over the Ruislip area as opposed to going around slightly will reduce emissions much. Because it is such a little space and it takes very little to avoid that area, in terms of a direct route.”  
*Male resident, Harrow*

<sup>1</sup> Over the course of the year, RAF Northolt is restricted to 12,000 civilian flights, with a maximum of 40 flights per day (Appendix 1, page 13).

***Minimise the impact of aircraft noise***

Noise impact is a highly important consideration for the respondents we spoke to. It was the most tangible consequence of changing flight paths, and the most discussed response when the concept of airspace redesign was raised.

Uxbridge participants observed that the impact on day-to-day life was limited due to the infrequency of flights and the size of the aircraft. The disruption to daily life was observed as being more present in the summer months as people have their windows open and are outside more. The respondents also highlighted that the disruption to daily life was minimal as most people were out of their homes for the majority of the commercial flight time period, and would only be affected for a few hours in the evening, before the commercial flight restriction began.<sup>2</sup>

In general, the participants from Harrow acknowledged that noise is the biggest cause for concern for residents. However, they did recognise that noise was part of living in London and it was something that you got used to.

“The noise you get is not constant, it doesn’t last that long. You can hear them taking off or landing but there’s no consistent noise.”  
*Male resident, Uxbridge*

“People are at work during the day aren’t they... and if you’re out as well you’ve only got a couple of hours in the evening when you can hear the planes.”  
*Female resident, Uxbridge.*

“At certain times of the year you hear it more when it’s summery and you’ve got the windows open.”  
*Female resident, Uxbridge*

Overall, the participants felt that this was a very important principle for RAF Northolt to prioritise, as it was relevant to them and was the only ‘physical’ impact that would be noticed as a result of a change in airspace. Despite the noise of aircraft being raised as a major issue for many of the participants they still felt that sharing the impact across a greater number of houses rather than concentrating it on a smaller area, would be more beneficial to those affected as this would lessen the overall impact of noise pollution from RAF Northolt.

“The main thing that’s going to cause angst for people is the noise, so if [RAF Northolt] can minimise it, it won’t cause issues.”  
*Female resident, Harrow*

“A good proportion of the people [that will be affected by the flight path change] are going to be in work for 75% of the time that they’re in operation.”  
*Male resident, Harrow*

“Noise is just part and parcel of London though, isn’t it? You do get used to the noise.”  
*Female resident, Harrow*

<sup>2</sup> Civilian aircraft are able to fly from 8am to 8pm during the week, 8am to 3pm on Saturdays and midday to 7pm on Sundays and bank holidays (Appendix 1, page 13).

***Incentivise airfield operators to use the most modern aircraft***

For most participants, this was an obvious principle to implement, without a strong counter-argument, because participants understood the ongoing developments of technology, for them, technology is tangible and something they have experience of. They understood the argument that requiring more modern technology likely means more modern/efficient planes, and the associated noise and pollution reduction.

As with the previous principle, fuel emissions were considered to be highly important for the Uxbridge respondents we spoke to. Likewise, when discussing this stimulus, the participants noted that more modern aircraft would be more fuel efficient and therefore would result in reduced fuel emissions, as well as reducing the impact of noise. Notably, for Uxbridge residents, CO<sub>2</sub> emissions remained of greater importance than noise.

“By using the benefits of technology and it being more accurate, you’re going to reduce fuel requirements and greenhouse emissions.”  
*Male resident, Uxbridge*

“You have to think about the long-term impact to the NHS as a result of treating people that are sick because of fuel emissions.”  
*Female resident, Uxbridge*

Similarly, Harrow participants felt that it was expected that as technology improved, modern aircraft would utilise and incorporate it. However, not unlike the first stimulus, they placed a greater level of importance on reducing noise when first discussing the stimulus. As the Harrow residents are affected to a greater extent by Heathrow, it was difficult to get them to focus on the impact of flight path changes from RAF Northolt as they were already going to be affected by Heathrow flight path changes. However, when presented with a choice between what was more important between emissions and noise, emissions were seen to be of greater importance.

“You wouldn’t expect RAF Northolt to use really old systems, you expect it to be updated.”  
*Female resident, Harrow*

“I think that if you have got used to what you have now, and the impact to noise will fundamentally change, it’s going to change the way you live, and that needs to be taken into consideration.”  
*Male resident, Harrow*

**Minimise impact on other airspace users**

Both groups acknowledged the potential impact on residents if other airports and airfields could increase their output as a result of this principle being implemented. However, they agreed that it was important to make airspace more efficient and economical. Nevertheless, this principle received the lowest priority because it is seen as less relevant to them directly.

“If we’re not using it then why bother but I guess some of the other [principles] are more important.”  
*Male resident, Uxbridge*

“If RAF Northolt were to give up airspace would that mean that Heathrow could triple its output?”  
*Female resident, Uxbridge*

“You’re sharing, not wasting airspace, trying to be economical with the whole space.”  
*Male resident, Harrow*

“I mean it just doesn’t figure when I think about what is important, it doesn’t mean anything to me.”  
*Female resident, Harrow*

**Simple and efficient flight paths for operational efficiency**

Increasing flight path efficiency and simplicity was mostly understood in terms of increasing operational efficiency as it would have no direct impact on them and therefore hold no relevance.

It was also presumed that operational efficiency was in effect already, however, the participants did support this as an airspace principle, as it was felt that a reduction in CO<sub>2</sub> emissions would be a positive outcome to this.

As previously stated participants did not feel that this principle resulted in a personal benefit or impact to them so was not considered very important or a principle to prioritise.

Participants observed that the benefits associated with pilot and air traffic control workload was not a persuasive factor as it was felt it was their job, but they saw benefits to increasing safety.

“I do think it’s sensible, it involves all the things that we’re talking about regarding the reduction of CO<sub>2</sub>.  
 They’re all intertwined in one way or another.”  
*Male resident, Uxbridge*

“I think it is directed at [airline staff], I’m sure everything has to be efficient as it can. But reducing delays to aircraft; that doesn’t mean anything to me.”  
*Male resident, Harrow*

“For me [a result of operational efficiency] is the reduced emissions and overall efficiency.”  
*Male resident, Harrow*



## Attitudes to noise impact principles

### ***Minimise the number of people newly affected by noise and minimise the total number of people affected by noise***

These principles provoked an extensive debate within both groups, which showed that there was a clear divide in opinion for both groups, with no clear conclusion reached. Fairness was the overriding emotional driver and was interestingly seen from two perspectives.

Firstly, it was felt that sharing the impact would decrease the burden on those currently under the flight path because, as there are restrictions on flights per day, the impact would be minimal for those newly affected. Arguably, this was an emotive response from participants as these changes would positively mitigate the direct impacts upon them.

Secondly, those participants against sharing the impact felt that sharing the flight path with a wider area would result in a greater number of people affected and therefore have a wider and more negative impact. It was also observed that RAF Northolt was a pre-existing airport and people moved to the area knowing that there would be flight noise, but for those unaffected currently, they deserved to have their choice to live away from the existing flight path protected. This was again in response to how it would personally impact the participants – as those against ‘sharing the load’ were not currently impacted by RAF Northolt.

The issue of house prices was particularly emotive for the Harrow residents who were concerned that flight path changes could reduce house prices for areas under the flight path. However, many participants noted that accessibility to London was of greater importance to buyers and would unlikely impact the market in the area.

“It’s a pre-existing airport with a pre-existing flight path and this is already a problem. So I think spreading the problem out is the thing that is unfair.”

*Male resident, Uxbridge*

“When people move here, they are aware of the flight paths... so changing them would affect more people.”

*Male resident, Uxbridge*

“[Changing airspace to impact people not directly affected] doesn’t seem fair.”

*Female resident, Uxbridge*

### ***Prioritise flight paths over rural areas, rather than urban areas***

This principle was supported by the majority of residents as they preferred the flight path to be away from their homes and they felt that it would impact fewer people. Overall the participants felt that it would not have a negative effect on rural areas. However, a few participants noted that this would create longer routes for flight paths and as a result would generate more emissions and CO<sub>2</sub>.

“I don’t know what effect that would have on rural areas apart from if you’re on holiday and a plane flies over. Apart from that I suppose [an impact would be rural areas becoming increasingly] urban.”

*Female resident, Uxbridge*

“[If they flew] over a rural area that means that the flight path is longer.”

*Female resident, Harrow*

**Prioritise flight paths over parks and open spaces, rather than residential areas**

This principle generated similar responses to those set out above, participants felt that they would prefer the flight path to be away from their homes. However, participants did note that this would be difficult to achieve as local parks and houses were so close together.

“Rural areas and parks and open spaces to me all come under cities and the same umbrella.”  
*Female resident, Harrow*

“I don’t see the difference between rural areas and park spaces.”  
*Female resident, Uxbridge*

**Prioritise flight paths according to significant locations**

Harrow participants felt that as schools and hospitals are within residential communities it would be impossible to achieve this principle and as a result it was not applicable to the area.

Uxbridge participants could see the benefits to this principle, as they felt hospitals were busy places and would not be impacted to the same extent as residential homes. Nevertheless, they did raise the same concerns as Harrow participants in that schools and churches are mixed within residential areas and they felt it would be impossible to implement this principle.

“Most of the schools and the churches are mixed in with residential areas, you can’t really separate them, because they are together.”  
*Female resident, Uxbridge*

“[Schools, hospitals and churches] are on top of one another around here.”  
*Female resident, Harrow*

**Prioritise less people affected but more noise or more people affected but less noise**

This principle divided participant opinion with some Harrow residents believing that fewer people affected, and more noise, was the better option as it would result in less noise collectively. Similarly, some Harrow residents felt that because the noise had to fit within noise regulation it was preferable to impacting a greater number of people.

It is worth noting that during the discussion, residents made a presumption that as technology improved the noise omitted by planes would reduce and improve the direct impact of noise to residents. Indeed, participants felt that it would be more difficult to review and change airspace as it would result in changing surrounding airports’ airspace as well.

Residents from Uxbridge held a contrasting opinion to the Harrow residents surrounding this principle, they felt that they’d prefer to have more people affected and less noise but reiterated that they lived in London and noise was expected. It was also felt that because the aircraft that fly from RAF Northolt are not ‘big commercial planes’, they are regarded to an extent as a ‘novelty’.

“I think [less people affected but more noise] as you can work on making the technology of the planes quieter rather than making changes to airspace again.”  
*Male resident, Harrow*

“I’d personally say [less people affected but more noise] and then work on the technology to make the planes quieter.”  
*Male resident, Harrow*

“[The planes taking off and landing] don’t bother anyone and it’s actually a bit of a novelty when they’re so low; they’re not great big commercial planes.”  
*Female resident, Uxbridge*

## 5. Conclusions

### Attitudes to headline design principles

Based solely on the findings of this research, and without considering the other elements of stakeholder engagement that RAF Northolt is conducting, RAF Northolt should consider giving priority to its airspace design principles in the following order:

- i. Minimise fuel requirements and greenhouse gas emissions**
- ii. Minimise the impact of aircraft noise**
- iii. Incentivise airlines to use the most modern aircraft
- iv. Minimise impact on other airspace users
- v. Simple and efficient flight paths for operational efficiency

There was only a narrow difference in the priority placed on the first two principles (noise impact and CO<sub>2</sub> impact) – participants found these to be equally emotive and seemed to prioritise these principles to the same extent. It is worth noting that the priority placed on minimising CO<sub>2</sub> emissions was seen in a wider context of poor urban air quality concerns.

The participants placed much less of a priority on the remaining three principles. Indeed, the priority placed on these principles to incentivise the use of the most modern aircraft and to increase operational efficiency through simple flight paths was viewed in terms of the principles' benefits to noise and pollution reduction; there was little regard placed on operational implications.

### Attitudes to noise impact principles

Within the principle of minimising noise impact, RAF Northolt should consider giving priority to its design principles in the following order:

- i. Minimise the number of people newly affected by noise**
- ii. Minimise the total number of people affected by noise**
- iii. Prioritise less people affected but more noise or more people affected but less noise
- iv. Prioritise flight paths over rural areas rather than urban areas
- v. Prioritise flight paths over parks and open spaces rather than residential areas
- vi. Prioritise flight paths according to significant locations

There was little difference in terms of priority associated with the top two principles and as such there was greater debate between the two principles between both groups with neither reaching a consensus on which should be the main priority. This was arguably because participants were concerned with mitigating or reducing their own experience of noise. Therefore as these principles are such divisive issues for residents local to RAF Northolt greater attention should be given to them when considering the airspace changes.

While there was clear support for prioritising flight paths over rural areas rather than urban areas, this directly contradicted previous views on reducing CO<sub>2</sub> emissions, and as a result this should be researched further with stakeholder interviews or public exhibitions within the community.

The remaining principles were associated with less emotive issues and were consequently less of a priority for residents.

## Appendix 1: Stimulus materials

### Background on RAF Northolt

RAF Northolt in west London is used by both military and civilian aircraft. It is often used for diplomatic purposes, such as foreign trips by government ministers.

It is also the home of the British Forces Post Office and the London Air Ambulance. 2,000 service personnel (from all 3 Armed Forces), civil servants, and contractors work at RAF Northolt.

Over the course of a year, RAF Northolt is restricted to 12,000 civilian flights, with a maximum of 40 flights per day.

The mostly small, civilian business jet aircraft that use the airfield carry a mixture of business people, diplomats and other VIPs who want the flexibility of using a small airfield rather than a big airport, with quick access to the centre of London. By comparison, Heathrow doesn't serve business jet aircraft because they are too small. As RAF Northolt is owned and operated by the military, all the revenue from civilian flights goes to the government to support public services.

Civilian aircraft are able to fly from 8am to 8pm during the week, 8am to 3pm on Saturdays and midday to 7pm on Sundays and bank holidays. Military aircraft attempt to adhere to these times, but may fly as required to meet operational needs.

## Why is RAF Northolt making changes to its flight paths?

Airspace is the space above land that aircraft fly in – it is a crucial, and limited, resource. It allows passengers and businesses to connect around the world.

The basic structure of the UK's airspace today was developed over 50 years ago, when aircraft and navigation systems were much less sophisticated.

A lot has changed since this airspace was designed:

1. **Demand for aviation** has increased a hundred-fold, and will continue to increase both for existing airspace users and future users like drones.
2. **New technologies have evolved.** The current airspace structure in the UK is based upon old navigational systems, while new technology provides us with more efficient ways of flying aircraft.
3. **A new runway at Heathrow** will lead to further changes in where and how planes fly into and out of London.

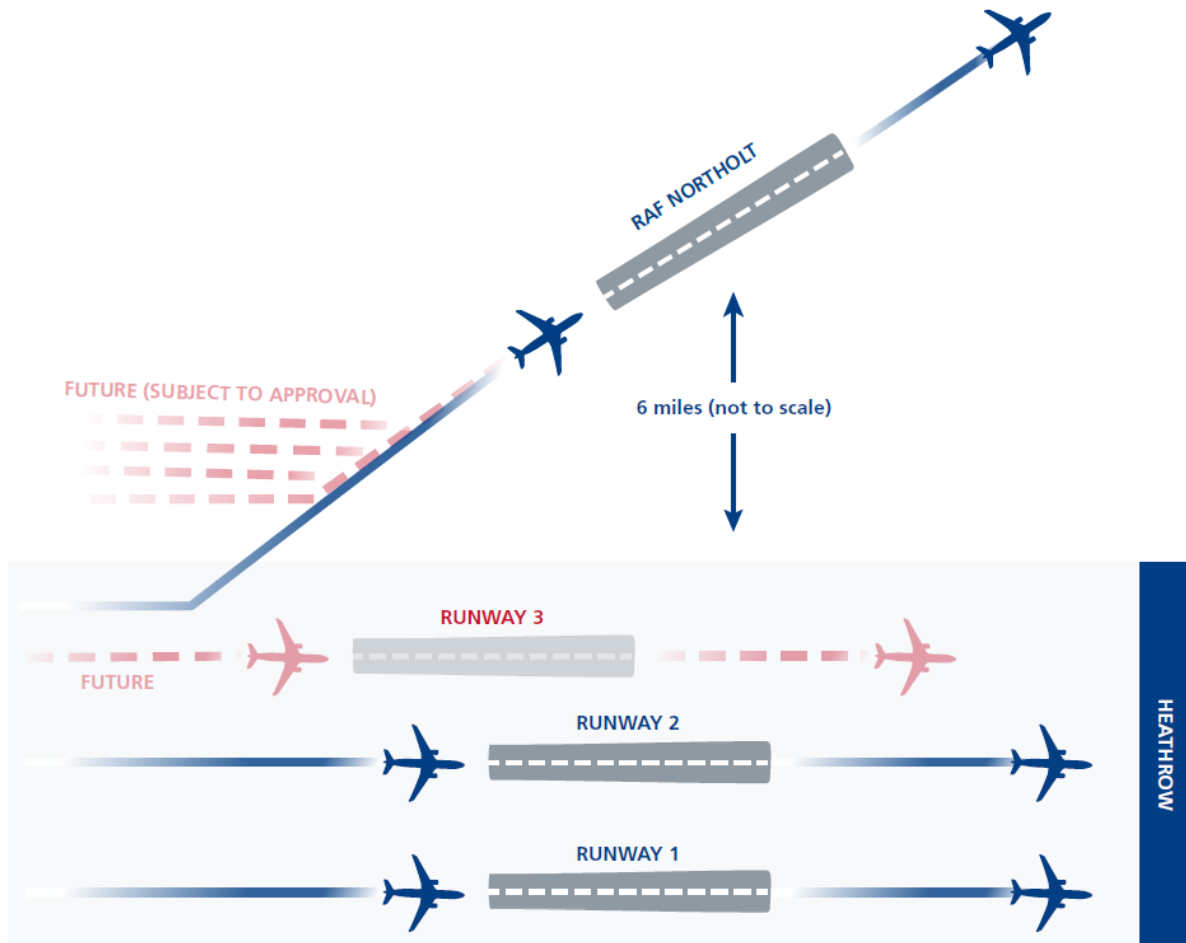
Regardless of the proposed expansion of Heathrow, as part of the UK Airspace Modernisation Strategy to modernise the UK's airspace, airports across the country, including RAF Northolt, have been mandated to update and simplify their airspace, to enable the following things.

1. Make the airspace more efficient and improve punctuality
2. Cut CO<sub>2</sub> emissions
3. Reduce noise
4. Ensure there is capacity to meet future demand

From an RAF Northolt perspective, there is the extra element of a third runway at Heathrow, which is scheduled to open in the mid-2020s. This will require change to RAF Northolt's airspace.

This is because, pending a Development Consent Order, Heathrow's third runway will be built to the north of its two existing runways, disrupting the air space around RAF Northolt. This will need to change as illustrated below.

Impact of Heathrow's 3<sup>rd</sup> runway:



Headline Design Principles

<p>Purple</p>		<p><b>Minimise fuel requirements and greenhouse gas emissions</b></p>	<p>RAF Northolt would seek to minimise the amount of fuel and CO2 emissions required by our flight paths, by keeping flight paths as short and direct as possible. RAF Northolt would avoid long and complicated paths that require more fuel (and therefore greater cost) for airfield operators.</p>	<p>2</p>																																				
<p>Light Blue</p>		<p><b>Incentivise airfield operators to use the most modern aircraft</b></p>	<p>RAF Northolt would base the airspace design on the latest navigation technology, requiring airfield operators to use the most modern technologies.</p>	<p>This would give RAF Northolt more flexibility when designing flight paths, and would lead to planes flying routes more accurately. It would reduce pilot and air traffic control workload and lead to more capacity, even better safety, and less delay.</p>	<p>7</p>																																			
<p>Pink</p>		<p><b>Minimise impact on other airspace users</b></p>	<p>RAF Northolt would minimise our impact on other airspace users, especially neighbouring airports of Luton, London City and Heathrow.</p>	<p>This means RAF Northolt are willing to share airspace where necessary, only seek extra airspace where absolutely necessary and consider opportunities to give away airspace that is not required for future operations.</p>	<p>3</p>																																			
<p>Green</p>		<p><b>Minimise the impact of aircraft noise</b></p>	<p>Future airspace design will comply with Government regulation and policy on noise impact. In addition to this, RAF Northolt will aim to reduce effects on health and quality of life from noise by considering local circumstances, and by contributing to improvements where possible.</p>	<p>6</p>																																				
<p>Orange</p>	<table border="1"> <thead> <tr> <th>TIME</th> <th>TO</th> <th>GATE</th> <th>REMARK</th> </tr> </thead> <tbody> <tr> <td>12:00</td> <td>SYDNEY</td> <td>A09</td> <td>ON TIME</td> </tr> <tr> <td>12:04</td> <td>PARIS</td> <td>A23</td> <td>ON TIME</td> </tr> <tr> <td>12:09</td> <td>NEWYORK</td> <td>B31</td> <td>ON TIME</td> </tr> <tr> <td>12:15</td> <td>TOKYO</td> <td>A27</td> <td>ON TIME</td> </tr> <tr> <td>12:19</td> <td>HONG KONG</td> <td>B25</td> <td>ON TIME</td> </tr> <tr> <td>12:21</td> <td>BERLIN</td> <td>B17</td> <td>ON TIME</td> </tr> <tr> <td>12:23</td> <td>PEKING</td> <td>A07</td> <td>ON TIME</td> </tr> <tr> <td>12:26</td> <td>SYDNEY</td> <td>A26</td> <td>ON TIME</td> </tr> </tbody> </table>	TIME	TO	GATE	REMARK	12:00	SYDNEY	A09	ON TIME	12:04	PARIS	A23	ON TIME	12:09	NEWYORK	B31	ON TIME	12:15	TOKYO	A27	ON TIME	12:19	HONG KONG	B25	ON TIME	12:21	BERLIN	B17	ON TIME	12:23	PEKING	A07	ON TIME	12:26	SYDNEY	A26	ON TIME	<p><b>Simple and efficient flight paths for operational efficiency</b></p>	<p>RAF Northolt would prioritise simple flight paths that minimise the workload of pilot and air traffic control, and reduce delays for aircraft.</p>	<p>9</p>
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**Noise Impact Principles**



**Minimise the number of people newly affected by noise**

Where possible, RAF Northolt would limit putting in new routes over those who are not currently overflown. This would mean keeping routes as close to today's flight paths as possible. However, new routes will have to be created due to the expansion of Heathrow.

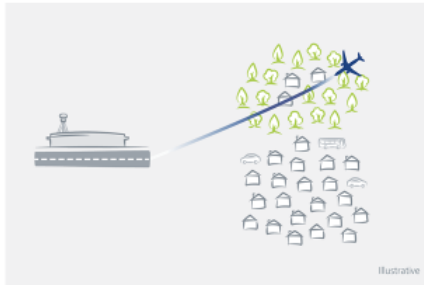
8



**Minimise the total number of people affected by noise**

RAF Northolt would aim to reduce the number of people overflown by aircraft. This will mean fewer people overflown but each of those communities that is overflown would be more affected. This will also lead to planes concentrated over a smaller number of routes.

5



**Prioritise flight paths over rural areas, rather than over urban areas**

RAF Northolt would aim to put planes over rural areas rather than urban areas, as they are less populated.

1



**Prioritise flight paths over parks and open spaces, rather than over residential areas**

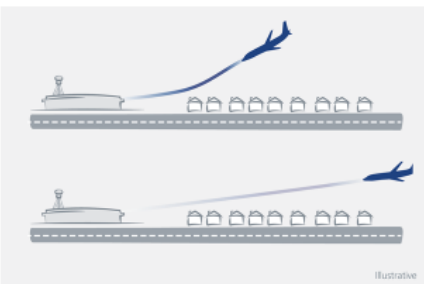
RAF Northolt would aim to put planes over parks and open spaces rather than residential areas in towns and cities.



**Prioritise flight paths according to significant locations**

RAF Northolt would aim to put planes over residential areas rather than over key buildings such as churches, mosques, hospitals, schools.

10



**Prioritise less people affected but more noise or more people affected but less noise**

RAF Northolt would aim to ensure that as few people as possible are affected by noise, but for those that are, the noise will be more concentrated.

11



Printed Handout

PRINCIPLE	RANK
<p>Minimise fuel requirements and greenhouse gas emissions</p>	
<p>Incentivise airfield operators to use the most modern aircraft</p>	
<p>Minimise impact on other airspace users</p>	
<p>Minimise the impact of aircraft noise</p>	
<p>Maximise operational efficiency</p>	



## Appendix 2: Principle scoring

### Headline design principles

On a scale of 1-5 with 1 being very important and 5 being least important	Uxbridge					Harrow				
	1	2	3	4	5	1	2	3	4	5
Minimise fuel requirements and greenhouse gas emissions	2	6	0	0	0	5	2	0	1	0
Incentivise airfield operators to use the most modern aircraft	0	0	3	3	2	2	2	5	1	0
Minimise impact on other airspace users	0	0	1	2	5	0	0	1	1	6
Minimise impact of aircraft noise	6	2	0	0	0	0	5	2	1	0
Simple and efficient flight paths for operational efficiency	0	0	4	3	1	0	0	2	4	2

\*This depicts the vote results across the principles stated above, with 1 being very important to 5 being the least important.

