**Heathrow Airspace and Future Operations**

**Introduction and Background (***italics are quotes from consultation***)**

‘*This consultation gives you the chance to have your say on three key areas:*

* ***Airspace change for an expanded Heathrow:****how we design our future airspace and the local factors we should consider in different geographic areas when designing future flight paths.*
* ***Airspace change to make better use of our existing two runways****: the local factors we should consider in different geographic areas when designing new flight paths for some arrivals on our existing two runways*
* ***Future operations for an expanded Heathrow:****how we will operate our three runways in the future, this includes managing noise; respite through runway and airspace alternation; directional preference and night flights’.*

Background

On 25 June 2018, Parliament formally backed

**Heathrow expansion**, with MPs voting in support

of the Government’s Airports National Policy

Statement (Airports NPS).

The Airports NPS sets out Government policy for

the expansion of Heathrow and the construction of

a new north-west runway. This will increase the

number of runways at Heathrow from two to three.

It also sets out the tests that Heathrow must meet,

for example on air quality and noise, in order to

get permission to expand.

To get permission for the expansion of Heathrow

 (including how the runways operate in the future),

a Development Consent Order (DCO) must be applied for,

which will be examined by the Planning Inspectorate.

Also, any changes to **flight paths** follow a separate

approvals process to the expansion of the airport on

the ground.

To get permission for changes to flight paths, there is a

requirement to submit an Airspace Change Proposal to the

Civil Aviation Authority (CAA).

**The final flightpath consultation is expected to take place in 2022.**

Proposals

 Heathrow is seeking to bring in changes before the third runway is operational,

to make better use of the 2 existing runways.

**Note- these proposals, and all the 3-runway options, assume mixed mode is here to stay.** IPA is the means to make its operation more efficient because it of its use of satellite technology to maximise numbers of arrivals, and to a lesser extent departures, at peak periods.

Independent Parallel Approaches\*

As part of the Airspace and Future Operations consultation, Heathrow is also consulting on a proposed short-term change to the way that some aircraft arrive at Heathrow. This is known as Independent Parallel Approaches (or “IPA”) and would additionally involve some new, closer, dedicated arrival routes into Heathrow from the holding stacks in order to expand the number of flights into and out of Heathrow.

‘*Some of these flight paths could overfly areas that are not affected by Heathrow arrivals today*.’

This change allows aircraft to land on both runways at once, as is the case today\*; in other words, one runway has departures **and** some arrivals, and the other is dedicated as arrivals only.

(\*Following a trial in 2012/3, known as ‘Dependent Parallel Approaches’ (DPA) , and when certain conditions are met, e.g. peak periods).

The difference being, that for safety reasons today, arrivals onto a departures **and** arrivals runway are more widely spaced apart than those onto a dedicated runway, whereas under the new **mixed mode** system arrivals can land simultaneously on both runways.

This proposed new system (**IPA**), by virtue of new technology, means that the separation between aircraft narrows, enabling more arrivals and departures than when DPA operates today.

We would likely experience an increase in noise from today’s levels when the proposed IPA **A1 plan is in place (westerly operation, southern runway dedicated to arrivals, our runway in mixed mode).**

As the new proposed flightpaths are coming in closer to the airport than today, we could also experience greater noise than today from IPA A2 as well. **We just don’t know at this stage** because it is hard to tell how the proposed new closer dedicated flight paths coming in from the 3 stacks would additionally change from the existing noise levels for us, because the consultation material does not give enough definition.

\*IPA-

*Requires the use of new technology for aircraft to be able to fly ‘without consideration for others in the area’*.

This means that spacings for arrivals on to both runways can be the same as single runway arrivals. Today this is not possible. During the 2012/3 trial of landing on both runways,(also known as Dependent Parallel Approaches) a wider spacing was needed to provide a safety margin. We have been experiencing an average of 12 extra arriving flights on our nearest runway during the morning peak (6am-7am) in our ‘respite period’ since the trial. This will clearly increase as a result of the introduction of IPA (perhaps doubling).

‘*PBN technology gives certainty that aircraft will be safely separated when landing in parallel and removes the need for the diagonal spacing between arriving flights.*

*This would prevent any reduction in the number of aircraft that can land on the arrival*

*runway, resulting in a much more efficient use of the arrival process.*

*Only aircraft certified to use this type of PBN approach required for IPA will be able to use*

*the new flight paths. It is costly for older aircraft types to be upgraded with the required*

*technology for IPA and so we expect the vast majority of aircraft that could use the IPA*

*flight paths will be modern aircraft such as the Boeing 787, A320neo and the Airbus 350.*

*Airline forecasts have demonstrated to us that there will be a sufficient number of certified*

*aircraft to fly the IPA flight paths.*

*Use of the IPA flight paths would not be possible in all weather conditions. For example,*

*during fog, thunder storms and/or extremely windy conditions. In these circumstances,*

*we will continue to land on the departure runway the way we do today using the*

*diagonal spacing’.*

Preference changes

The airport is also investigating whether it can in some instances change from having a predominantly westerly operation which we have today (known as *westerly preference*), to *managed preference* (which operates today and is basically westerly preference for days and westerly/easterly for night flights) or easterly preference which aims to equalise the noise burden to about a 50/50 split between easterly and westerly operation.

**Currently** areas of London to the west of the airport, which experience the majority of take-offs, are subject to a slightly higher (and differently toned) noise level than those like ours, which experience predominantly landings.

The westerly preference was developed in the ‘60s because of prevailing winds, plus a desire to limit the population exposed to noisy take-offs as they were then. Since that time, with advances in quieter engine and aircraft design and changes to take-off paths, there is far less of a noise difference between arriving and departing aircraft.

A move to managed preference would mean that, **if** we remain on current rather than new flight paths, we would likely experience fewer total movements in the skies above us. **There is every indication however, that we will not remain on the current flightpaths in the future.**

**Changes proposed with introduction of a third runway**

Runway Alternation options

Currently runway use is switched during westerly operations between 27L and 27R for arrivals at certain times of day to provide respite to communities otherwise living under continuous approach and landings all day, or take-off and climbs all day, on the runway that affects them most (in our case, 27R, also known as the northern runway).

The **3-runway operation** options given, are combinations of one for landings, one for take-offs and one for mixed mode (take-offs and landings on the same runway).

The key point for us is that in the three-runway operation proposed, our overhead runway is now the ‘middle runway’, rather than the northern runway (which is now the new shorter runway to the north-west of the airport).

The middle runway is not planned to be used as mixed mode, which means it will be dedicated to arrivals only or departures only.

Airspace and flightpath changes

Any of the above changes need to be considered against proposals for airspace and flightpath changes that are also in the offing. Technology changes allow flightpaths to be more prescribed, narrower, and to ascend and descend at lesser or steeper angles than the regulations dictate today.

Current technology planned for airports, and already installed on newer aircraft, also allows operations to increase flights around airports because separations (between flightpaths, approaches, take-offs and landings) can all be narrower than current regulations dictate.

**Likely increases in noise nuisance for Old Chiswick**.

**Today,** paradoxically our Conservation Area experiences the greatest respite from aircraft noise when **easterly operations** are in place. (This means that all arrivals are from the west and all take-offs to the east, and the runway designations switch from 27R to 09L, and 27L to 09R respectively). This is because, even though aircraft **depart** **to the east** from both runways we do not hear them overhead because the 6 departing flightpaths have a steeper ascent and veer considerably, 3 to the north, and 3 to the south of us, from a point just east of Hounslow/ Isleworth.

Most of the time, though, Heathrow operates a **westerly preference**; that is, for 70% of the time aircraft depart to the west of the airport and arrive over the east, which does affect us. By the time they get to our Conservation Area, all arriving aircraft have joined the final approach paths for 27L or 27R. (Final approach can be joined from about 13 miles out).

Those aircraft on final approach for arrivals onto the northern runway (27R and our nearest runway) from the east, follow a westbound track roughly along the river until they cross overhead at the extreme west end of our Conservation Area when they are at around 2,500ft.

We hear arrivals from the east towards the 27L runway as well, but they are south of the river and less loud.

**Crucially though, today no flightpaths, whether take-offs or landings, are positioned directly overhead of the Conservation Area.**

**Runway alternation for the westerly operation** means that for half the day we experience arrivals on our nearest runway, and departures for the other half of the day (because departures are towards the west, this gives us a respite period). The half-days switch from mornings to afternoons on weekly cycles.

There is a caveat -When **mixed mode** operations are in effect on 27R, our runway, (when 27L, the southern runway is arrivals only), we experience some arrivals as well, during what would be our respite period.

Typically today we hear an average of 12 arrivals between 6 and 7am, and the same number again spread over throughout the rest of the half-day respite period, if it is the first half of the day, and about 25 spread over 8 hours if respite is the second half of the day.

**Summary**

Departing aircraft nowadays are only slightly more noisy than arriving ones. There are differences in tone between the two.

As we are not directly overflown, our noise is mainly generated sideways from aircraft approaching Heathrow along the river.

Our noise levels today are greatest when the northern runway (or 27R) is used for arrivals.

We are also affected to a lesser extent by aircraft arriving on the southern runway (or 27L).

**In the future, we will be affected by flightpath changes, whether a third runway is built or not. The extent of these are unknown because we have no like-for-like comparison information between current, and proposed new, flightpaths.**

**The design envelopes in the consultation documents only give an idea of the areas in which at least one flightpath goes through, and their minimum height. I have therefore listed all those design envelopes in which Old Chiswick appears.**

We will potentially be affected by **all** **the following** **changes to flightpaths-**

**Any changes to, or introductions of, paths that aircraft take approaching Heathrow over London from the east. Any changes to flightpaths departing Heathrow to the east.**

**Therefore, any IPA introduction, operational preference, runway alternation, respite period and night flight operation questions must be considered in light of this, and each other.**

**The 5 Design envelopes in which Old Chiswick appears**-

 **Introduction of mixed mode closer flightpaths for existing 2 runways at peak periods-**

**IPA A1 envelope**- existing 2 runways, westerly preference in operation, when 27L is arrivals only, we have some arrivals on our nearest runway (27R) which is in mixed mode at peak operational times e.g. 6-7am. These new flight path(s) will come in from the NE and NW, and directly overhead at a level of 2-3,000ft. whereas today in DPA they join final approach to the east and south of us and are less disruptive. **Worse than today’s 27L DPA levels during peak times**.

**IPA A2 envelope**- existing 2 runways, westerly preference, when our runway is arrivals only, our area may still be overflown at peak times by at least one flight path heading for 27L as well. This will be at a higher level of 5-6,000ft, and likely drowned out by the arrivals onto our runway, 27R. **Similar to today’s 27R levels**.

**Introduction of new flightpaths for a 3 runway operation-**

**A1 arrival envelope**- Northern runway only, westerly operations. This will occur when the northern runway is receiving inbound aircraft which will all come from the NW and NE and directly overhead at approx. 2,500ft. This would today be a respite period for us as our nearest runway 27R would be departures only. In the future it would **not be a respite period**. **Noise levels are likely to be worse than today’s noisy periods.**

This is **Option 3** of the 4 options in the section called runway alternation. This option also shows the southern runway in mixed mode, meaning that in addition we would have some higher level overflying at peak times of aircraft inbound to the southern runway, similar to IPA A2.

**A2 arrival envelope** for the middle **or** the northern runway, for westerly operations. The Northern runway could be receiving inbound aircraft as above in mixed mode and the middle runway in arrivals mode. This would give the worst scenario for noise, with the possibility of A1 and A2 arrivals envelopes overlapping.

This is **Option 1** in runway alternation. **No respite. Noise levels worse than today’s noisy periods**

Also in this envelope the middle runway could be arrivals only, **Option 4** of runway alternation, with the southern runway in mixed mode at peak times. We may have some additional noise generated by this but it is unlikely to be much different from today’s levels. **No respite. Noise levels same as today’s noisy periods.**

**Option 2** of runway alternation shows aircraft inbound to the southern runway, the middle runway as departures only, and the northern runway in mixed mode. This means that at peak times we may be overflown by aircraft coming in to the northern runway, but this is unclear from the design envelopes. **Unknown**

3 runways- **D2 departure envelope** for middle runway, on easterly operations. This appears to be similar to the current operation (3 flight paths in the envelope at 2,000-9,000ft), so on the face of it should not affect us much more than it does today. **Similar to today’s easterly operations.**