

Rt. Hon. John Randall MP



HOUSE OF COMMONS
LONDON SW1A 0AA

**Airports Commission
Discussion Paper 05: Aviation Noise**

Response

Member of Parliament for Uxbridge and South Ruislip

How does noise affect people?

The Commission is interested in views on these issues. In particular we would like to invite submissions which shed light on any other relevant evidence or research that the Commission should be aware of.

1. Tables 2.1 and 2.2 (see p9) illustrate the vast gap in noise footprint between Heathrow and other UK or European airports. It is unfair to the residents around Heathrow that:
 - i. in the UK, the population exposed to aviation noise of 57 decibels (dB) ($L_{Aeq\ 16h}$) or more is largest for Heathrow airport at 258,500 people, followed by Manchester with 35,200 people, followed by Birmingham with 18,900 people.
 - ii. in Europe, the population exposed to aviation noise of 55 decibels (dB) (L_{den}) or more is largest for Heathrow airport at 725,500, followed by Frankfurt airport with 238,700 people, followed by Paris Charles de Gaulle with 170,000 people.
2. **Beyond any noise-related arguments against further expansion at Heathrow, there is a clear equity argument against doing so.**
3. In spite of the number of studies that have been undertaken to better understand the relationship between the level of noise and the effect it has on communities, the Commission accepts that “it is not always possible to predict how any particular person might react to a particular level of noise” (p10).
4. For example, although there is a well established evidence base suggesting that extensive noise-induced awakenings have adverse effects, “it is less clear to what extent and at what level noise can cause harmful loss of sleep, and equally whether lesser reactions to noise, which do not involve awakening, can affect general well-being in similar ways” (p11-12).
5. The Commission also finds that further work is needed to better understand the relationship between noise and hypertension.
6. In conclusion, in the words of the Commission, “recent research has led to a better understanding of the impacts of noise pollution from various sources, though further research in some areas is still needed” (p16).
7. **When the health effects, amenity effects and productivity and learning effects of noise are not yet fully known, aviation capacity options which push existing, upsetting noise levels up to dangerous intensities are an unsafe gamble. Consequently, a *third* runway at Heathrow poses a real risk of endangering the quality of life, and possibly the life, of affected residents (adults and children). The full, hidden and long-term nature of the effects of aviation noise should be closely examined if the Commission wishes to explore these options.**

Measuring aviation noise

What is the most appropriate methodology to assess and compare different airport noise footprints?

For example:

- What metrics or assessment methods would an appropriate ‘scorecard’ be based on?
- To what extent is it appropriate to use multiple metrics, and would there be any issues of contradiction if this were to occur?
- Are there additional relevant metrics to those discussed in this chapter which the Commission should be aware of?
- What baseline should any noise assessment be based on? Should an assessment be based on absolute noise levels, or on changes relative to the existing noise environment?
- How should we characterise a noise environment currently unaffected by aircraft noise?

8. **There are shortcomings to the UK’s main metric for long-term noise exposure, the $L_{Aeq\ 16h}$:**
 - $L_{Aeq\ 16h}$ uses an average **summer** day: this overemphasises the sound level experienced annually since the UK experiences more Air Transport Movements (ATM) in the summer months.

- $L_{Aeq\ 16h}$ **averages** sound level (over the 16 hour period of 0700-2300): this masks the trade-off between flight numbers and aircraft noise.
 - It is unclear where the incident sound is considered from: one assumes it is as set out in the Environmental Noise Directive 2002 for L_{den} ('at a height of 4m above the local ground level at the most exposed facades of the buildings'). An outdoor, single assessment point does not allow a person to gauge average sound levels within a building in an area.
9. A new metric which replaces the existing metric faces the drawback of examining historical comparisons.
10. Historically, UK policy has been to use 57 $L_{Aeq\ 16h}$ as the level of daytime noise marking the approximate onset of significant community annoyance. In contrast, the World Health Organisation, guided by numerous studies and reviews that have occurred since the 1980s, has set out the thresholds of 50 dB for 'moderate annoyance' and 55 dB for 'serious annoyance'.
11. If the Commission concludes that it is appropriate to maintain the $L_{Aeq\ 16h}$ metric, it is important to reconsider the threshold. Clearly, a 57 dB threshold is unhelpful if it excludes population areas that are experiencing significant annoyance from aviation noise.

Quantifying noise effects

- How could the assessment methods described in Chapter 4 be improved to better reflect noise impacts and effects?
 - Is monetising noise impacts and effects a sensible approach? If so, which monetisation methods described here hold the most credibility, or are most pertinent to noise and its various effects?
 - Are there any specific thresholds that significantly alter the nature of any noise assessment, e.g. a level or intermittency of noise beyond which the impact or effect significantly changes in nature?
 - To what extent does introducing noise at a previously unaffected area represent more or less of an impact than increasing noise in already affected areas?
12. Obviously, there is little point in monetising noise impacts on health, sleep, productivity and learning, and so on, when said noise impacts are not fully known at this time (see point 3-7).
13. Notwithstanding point 12, sophisticated revealed preference valuations commonly suffer from econometric identification problems.
14. The impact between introducing noise at a previously unaffected area and increasing noise in already affected areas takes us back to point 7: the latter option could drive the level of noise beyond a secure threshold. The former option is likely safer.

Mitigation

- To what extent is the use of a noise envelope approach appropriate, and which metrics could be used effectively in this regard?
 - To what extent should noise concentration and noise dispersal be used in the UK? Where and how could these techniques be deployed most effectively?
 - What constitutes best practice for noise compensation schemes abroad and how do these compare to current UK practice? What noise assessments could be effectively utilised when constructing compensation arrangements?
15. 'Noise envelopes' ("a limit or restriction on the overall noise impact of an airport", p48) do not appear to be a new phenomenon: the Quota Count system, under the night operating restrictions at Heathrow, Gatwick and Stansted, is an example of an existing 'noise envelope'. The purpose behind introducing this broad concept is unclear.
16. A dispersed noise model, as in operation at Sydney Airport, offers greater protection to residents' well-being until the effects of noise are fully known (see points 3-7).

END OF RESPONSE