

## **AIRPORTS COMMISSION**

### **DISCUSSION PAPER 05** **AVIATION NOISE**

In **Chapter 2**, the Commission considers how noise affects people, and summarises sleep disturbance impacts under *health effects, amenity / quality of life effects and productivity and learning impacts*. The discussion paper lists UK airports by the size of population within the 57 LAeq contour. Stansted is sixth in the list, with 1,900 people – Heathrow is bottom with 258,500.

In **Chapter 3**, the Commission comments on how aviation noise is measured, i) from a single noise event (maximum sound pressure – [L<sub>Amax</sub>] and sound exposure level [SEL]), and ii) over a longer period.

The discussion paper looks at a number of longer period noise exposure indicators:

- *Equivalent Continuous Sound level – Leq*
- *Number above (or frequency) contours – Australian N70*
- *Person Events Index or Average Individual Exposure (PEI, AIE)*
- *Airport Noise Efficiency*

The PEI calculates how many houses / residents are exposed to certain noise levels, summed to give a total noise “load”. The AEI divides the total PEI by the number of residents exposed above the threshold level to give a measure of the average number of events per person within a defined area. The Commission considers that these metrics are useful in assessing how noise is shared around a local population.

Airport Noise Efficiency calculates either the number of ATMs per person affected within the 57 LAeq contour, or the number of passengers carried per person within the same contour.

Based on 2006 figures, Stansted is the second most “efficient” airport in terms of ATMs / person affected – 108.8, and the most “efficient” in terms of passengers / person affected – 12,467. Using both measurements, Heathrow is the least “efficient” at 1.8 and 261 respectively. The Commission says that it *“is interested in exploring the idea of noise efficiency further, and would be interested to hear stakeholders’ views on the suitability of these metrics for assessing and comparing noise impact”*.

**The Commission says that it will undertake a series of noise assessments in looking at options to increase UK airport capacity. This will include 57 LAeq mapping, but the Commission wants views on options that either build on 57 LAeq or depart from it. The Commission also wants views on whether it should be assessing absolute noise levels or noise relative to existing background levels.**

**In Chapter 4, the Commission looks at how noise effects are quantified, and how LAeq became preferred to the old Noise Number Index. The Commission considers attempts to monetise noise effects using cost benefit analysis, but concludes that there is little consensus on what is the most appropriate method.**

**In Chapter 5, the Commission considers noise mitigation based on the ICAO “balanced approach”, which is:**

- ***reduction at source***
- ***land-use planning and management***
- ***noise abatement operational procedures***
- ***operating restrictions***

**The chapter includes a case study of noise management at Sydney Airport, whereby public engagement led to the principle that noise sharing should be prioritised (i.e. minimising AIE at the expense of increasing PEI). A system of runway rotation involving 10 different ways / combinations of using the Airport’s three runways and flight paths was drawn up to provide periods of respite. Noise sharing modes are required during the week between 06:00–0700, 11:00-15:00 and 20:00-23:00 with longer hours at weekends.**

**The Commission says that it is particularly interested to hear views on night flight restrictions, noise envelopes and the appointing of an independent noise regulator. The Commission comments that noise compensation schemes appear to be more generous in foreign countries than in the UK, although this may be because of contributions from central or local government. The Commission is interested in how fair and robust compensation arrangements can be established in relation to the addition of new UK aviation capacity.**

**Comments on the discussion paper are due with the Commission by 6<sup>th</sup> September.**