

Note of Heathrow Workshop on Noise Annoyance – panel session

On 14 August 2019 Heathrow Airport hosted a workshop to explore the topics of measuring noise annoyance and the Survey of Noise Attitudes (SoNA) 2014. The session was attended by international noise experts and representatives from Heathrow, wider aviation industry, the Noise Expert Review Group (NERG), the World Health Organisation (WHO), Department for Transport (DfT), the Civil Aviation Authority (CAA), Public Health England (PHE) and community groups. Presentations were made by noise experts and community members and were followed by a panel discussion.

The panel session was chaired by Rob Light, ICCAN Head Commissioner.

This record of the questions and responses was prepared by ICCAN staff and quality assured by panellists. It is not verbatim. Questions and answers have not been attributed.

Question 1: can the panel say something about the risks of aircraft annoyance compared to other types of risk in people's everyday lives.

The following points were discussed by the panel:

- It's hard to say because you can't say how each individual will respond and so we need to work on community averages.
- How does it compare with the risk of something we do every day such as the risk of car accidents, for example? People take risks everyday – some are conscious and some are unconscious. Some risks are imposed on us and aviation is imposed on us. Some people are not able to choose whether to be affected by aviation noise given inequalities in society.
- Aircraft noise may be a smaller problem than other types of noise such as road traffic noise because more people are affected by road traffic noise. You cannot locate cities far away from transport infrastructure and so risks are inherent in their location.

Question 2: health and quality of life are often grouped together; what is the best way of breaking this down was and whether they can be assessed separately.

The following points were discussed by the panel:

- They are always bundled together. For health we use the WHO definition. Health is often thought of as just physical whereas wellbeing (quality of life) encompasses psychological too. You could argue that 'health' could cover both though. Terms are always developing.
- There is evidence now that long-term exposure to noise does impact on physical health. Quality of life is subjective. They are linked and we should keep both elements in mind.
- The WHO definition of health includes wellbeing (quality of life). Many think health is something you need to consult your doctor about.

A point was raised by the audience that quality of life and health go together and you can't separate because quality of life has an impact on health.

- The panel responded by saying that if a person is annoyed by noise you can't show them a graph. But for regulatory purposes you have to work on averages. It's not

comforting to know but that's how it works. Heathrow has been in high rate change for 25 years.

- There are still associated health effects even if there is no airspace change. Public Health England does comment on Heathrow expansion and it comments on noise. Things can be proposed based on evidence. But some people may not be captured by the curves on graphs.

Question 3: the panel was asked about whether noise event metrics should be used alongside average measures.

The following points were discussed by the panel:

- Different surveys find different metrics to be good indicators. But most find LAeq or Lden (which is LAeq based) to be the best or second-best indicator so there is enough evidence to use this. But individual surveys may find something better.
- Yes, but one additional flight at N65 could be at 66dB or 96dB. Average measures take account of level of noise and number of events. Average measures tend to correlate better with subjective measures. People should look at all measures to understand noise and Nabove measures are a good supplement.
- LAeq can capture better information for some aspects. You can have the same LAeq level for different Nabove measures and you can have different reactions to it. But we don't have the evidence yet. A research project could look at whether the Nabove metric gives us different effects.
- It's a big challenge and it leads to frustration. Using response functions and statistics shows a good correlation. We can't say we understand everything and it is constantly evolving.

Question 4: a question was raised about SoNA. It was stated that WHO classified SoNA as low rate change and now it is discussed as high rate change, but that SoNA hasn't taken account of change which needs to be built in. The question was how can people be confident in this change, how do we reconcile different results of WHO and SoNA. What confidence can be had in SoNA?

The following points were discussed by the panel:

- There have been criticisms of WHO's conclusions. Half of the HYENA studies only looked at a specific age group. If you compare the WHO HYENA studies and the WHO without HYENA studies you see a difference. Perhaps HYENA studies should not have been included.
- There are those who disagree with the criticisms of WHO because if you include other studies you get similar results. There are those who don't agree with the criticisms of SoNA. NORAH was very expensive and still criticised. Surveys like this give us a picture of what is going on. We should spend time debating whether SoNA was conducted in high rate change or low rate change. There are three aspects to change – people experiencing real change, people perceiving there to be change and what information/debate is going on.
- ANIMA saw irrespective of information being available about change that people might not be aware that change is going on so we shouldn't assume everyone knows. SoNA would have been classified as high rate change according to the

definitions used in the WHO systematic review for annoyance. But in SoNA many respondents expected things to stay the same over the next 12 months.

- Analysis of non-acoustic factors – such as people who have just moved – show they are more likely to be highly annoyed and those who expected a change were more highly annoyed.
- When SoNA was conceived and written up change wasn't considered. We are lucky to have SoNA as otherwise we would be debating this topic using ANASE which had issues. SoNA wasn't trying to look at change – it was a snapshot.
- We need to have another SoNA as it's been five years. We don't currently have stability so we need another survey.

A question was asked about whether SoNA should be restricted 51dB and over or should it go lower.

- The response from the panel was that it depends on the evidence. Government had reduced the threshold for considering effects of aircraft noise from 57 dB LAeq to 51 dB LAeq. A large and positive step. There may be a case for studying further down in more depth. But there would be issues to overcome with noise metrics at that level.

An audience member raised the point that there is evidence at other airports that there are issues below 51dB and some surveys go to 45dB which can cover a large population. They stated that we need to look at those locations and look beyond what regulation tells you to do. They said it was strange that there is only one LOEAL in this country.

The following points were discussed by the panel:

- Noise is a small part of annoyance. It accounts for about one-third of the variability and another third is due to other (non-acoustic) factors. If you look at individual surveys and see the spread of results it shows it depends on non-acoustic factors too. It could be that non-acoustic factors are more important at lower levels.
- LOAEL is from a toxicology background where it is easier to define. People's reactions depend on non-acoustic factors. We should try to understand the difference between WHO and SoNA – that's where the debate should be.
- SoNA aimed to be a national survey. Policy annoyance thresholds have changed over time. We're not saying that people won't be affected below the LOAEL. But if we stop at 51dB are we missing people highly annoyed below this level?
- There is only a small percentage who are highly annoyed in these groups. Heathrow has committed to run analysis using SoNA and WHO levels in the expansion Environmental Statement and that will be fascinating to see.

Question 6: What is the importance of non-acoustic factors and should they be included in how metrics are shown and in surveys?

The following points were discussed by the panel:

- You could argue that non-acoustic factors are as important as noise. Of people who are exposed to noise about 20% are highly noise sensitive – we could ask whether they are they entitled to more compensation. It is a difficult question and we need to

debate it. There are some non-acoustic factors that we can do something about – ANIMA is looking at this.

- Non-acoustic factors are important and shows building trust might be as important as other things.
- An audience member stated that there is a need for more research and analysis and for these factors to be added into surveys.

It was stated by an audience member that WebTag’s historical calculation has been incremental and can lead to concentration and if you use average then get dispersion. They asked if it is total or average household level used in WebTag?

The following points were discussed by the panel:

- You can do both. By using WebTag+ as proposed by Heathrow you may end up with bigger numbers that justifies more mitigation.
- WebTag gives quantification of health impacts. You can then divide by the population.

Question 7: Given the information that older people are more adversely affected by noise, are the panel reassured sufficient weight has be given to age given the aging population and differences in average ages of different areas?

The following points were discussed by the panel:

- Similar questions have been posed. There is a strong age effect. Although some studies don’t find it. SoNA has found some age effect. When using an average curve, should we be looking at this detail? If we are looking at communities who are older should they have their own sensitivity test?
- You can’t assume population demographics will stay the same. We need to remember that values are within confidence intervals so when you are assessing then you need to look at the confidence intervals.

It was stated by an audience member that real change is going to take place and people who are going to be newly overflowed are not being taken into account. It was asked whether they should be taken into account in SoNA and its application.

The following points were discussed by the panel:

- Change will not occur over night. There is a difference between sudden change and slow change. SoNA didn’t deliberately exclude change.
- Some studies have shown a change effect. Assessment should take change into account and we need to look at the effect and how it changes over time. The evidence shows after two years there is a slight reduction but it is still there. There will be population migration and changes. If you have high rate change and high annoyance how long does it last?
- It was stated by an audience member that WebTag needs to take account of this.

Question 8: An audience member asked how people know how to be counted in the data and how the criteria of noise levels are judged.

The following points were discussed by the panel:

- There are some areas where most of the time they have no aircraft and some of the time they do. Do people react to the noise when they are overflown and then no credit to the airport when they are not overflown?

An audience member stated that WebTag should go down lower than 51dB. Another stated that they would welcome single mode contours to give an accurate reflection and know Heathrow are looking at this.

Question 9: A question was asked about whether it was time to adopt metrics used in Europe.

The following points were discussed by the panel:

- LAeq and Lden are both average metrics and both have some benefits and disbenefits.
- Annoyance is just one outcome. Different metrics have similar effects, but sleep disturbance is affected by LAm_{ax}. So, you need to consider what you are looking at as to which metric to use.

An audience member commented that we should have a SoNA night survey.

Question 10: The panel were asked which one thing would help the noise annoyance debate in the future.

The following points were discussed by the panel:

- To see more studies on non-acoustic parts of annoyance as we know very little about it.
- To know what works - e.g. is sound insulation best?
- Repeat SoNA but cast the web wider. And keep doing it as things change.
- The approach in this debate should change to saying thanks for SoNA but we have questions that are still unanswered so we need another SoNA.