

Short and longer term measures to improve the Heathrow noise climate

Noise remains a huge problem for a lot of residents under the Heathrow flight paths. This short paper provides a brief overview of some of the key pieces of work which Heathrow Airport has done, often in conjunction with community and campaign groups, over the last few years to assess, manage and reduce the noise. It also looks forward to what is in the pipeline.



A big opportunity to tackle noise will come when future airspace changes are introduced. These will take place whether or not a third runway is built. They are driven by new technology which allows airlines across the world to make more efficient use of airspace, thus saving on fuel costs and reducing CO₂ emissions. The new technology enables aircraft to be guided much more precisely. This, typically, leads to concentrated routes. Heathrow is aiming to introduce multiple concentrated routes so that they can be alternated to give residents a guaranteed break from the noise which only a minority of people under the flight paths currently enjoy.

But since these new flight paths are unlikely to be in place 2014, it is essential that Heathrow does as much as it can to cut noise over the next few years.

Work which has been done

Verification of track-keeping system, Webtrak

Webtrak is the online system which allows people to track the planes landing at and departing from Heathrow. There had been a lot of complaints that it was not 100% accurate; that the planes coming over or close to our homes were shown in a different place on Webtrak. Heathrow commissioned an independent piece of work which showed that Webtrak was nearly always accurate – at most it is out by 250 metres: http://www.heathrow.com/file_source/HeathrowNoise/Static/NLR_HCNF_20160125.pdf. Sometimes it can seem to be more than this but that is down to where we perceive planes to be. Identifying what is directly overhead can be very tricky and relatively minor

errors in our perception can account for what seems like a huge variation in ground track. The higher the aircraft the more exaggerated this error can be. So, for instance, if we look up “overhead” and are out by 30 degrees and the system was out by its 250m maximum we could see a difference on the ground (based on an aircraft at 4000ft) of getting on for one kilometre.

Introduction of xPlane flight analysis tool

Heathrow has launched a new online tool which allows us to find out exactly what kind of aircraft from Heathrow fly over our homes when and how often. It shows data going back over six years so we can trace how the flights may have changed. Find out more [here](#).

Fly Quiet Programme

The Fly Quiet Programme is one of the steps Heathrow is taking to reduce aircraft noise. It is intended to further encourage airlines to use quieter aircraft and to fly them in the quietest possible way. The programme includes the UK's first ever league table which ranks airlines according to their noise performance. The table is published every quarter comparing each of the top 50 airlines across six different noise metrics. The thinking behind Fly Quiet is not to punish poor performers but to play on the fact that airlines realize it is bad for their image if they are consistently bottom of the league. Heathrow uses the league table to ‘provide airlines with regular feedback, to recognise good performance and to identify specific areas to be targeted for improvement’. Where the table shows amber dots, the airlines have met Heathrow’s minimum performance targets and green dots show they have exceeded them. If the airline has a red dot in a particular area, Heathrow works closely with them to improve performance. See the latest Fly Quiet reports here: [Fly Quiet - Q3 2016 \(729KB PDF\)](#)

Noise Action Plan

The Noise Action Plan is a technical document which is distilled into [A Quieter Heathrow](#). It is revised every five year. The current one, published in 2013, sets out the five key steps Heathrow is taking to reduce aircraft noise:

- ‘Quieter planes. Incentivising airlines to use modern, quieter planes
- Quieter procedures. Encouraging the quietest practicable take-off and landing procedures
- Operating restrictions. Fewer planes after 11 and quieter planes in the early morning
- Mitigating noise and land use. Effective noise insulation schemes and influencing planning to minimize the number of noise-sensitive properties around the airport.
- Working with local communities. Reflecting the community’s concerns in our noise strategies and communications.’

Wind Direction

This is not work done by Heathrow but a presentation given by the Met Office to the Community Noise Forum. Aircraft land and take off into the wind (a light wind being a possible exception). The Met presentation shows it is the direction of the wind at 3,000 ft that is the critical factor:

http://www.heathrow.com/file_source/HeathrowNoise/Static/HCNF_Met_Office_Presentation.pdf

Steeper Approaches

Heathrow trialed aircraft using a 3.2 degree angle of approach when landing rather than the usual 3 degree approach. The airport recognized that the noise difference on the ground would be minimal but it was carried out as an experiment to test airline reaction and to show to ICAO (the International Civil Aviation Authority) that it could be done. ICAO stipulates that, except in places where obstacles such as tall buildings may be in the way (such as at London City Airport), a 3 degree glideslope must be used. Heathrow wants to continue to use 3.2 degrees but must first carry out some more trials required by the Civil Aviation Authority before going to get final approval from ICAO. In due course, Heathrow would like to put in place a much steeper glideslope further away from the airport (which would make a real difference to noise on the ground) with aircraft just using 3.2 degrees for the last few miles before they land.

http://www.heathrow.com/file_source/HeathrowNoise/Static/Heathrow_Slightly_Steep_Approach_Trial_Summary.pdf

Post-trial Reports

Trials took place in 2014 to test new operational and technical procedures. The trials resulted in a lot of planes flying over certain areas and in a concentrated way. Following complaints from some people in the communities affected that the flight paths had not gone back to their pre-trial patterns, Heathrow paid for work to test this out. The steering group for the work was made up of representatives from the affected communities. The steering group set the brief for the work and appointed the consultants. The areas the report covered were Sunninghill, Bracknell & Wokingham, Englefield Green, Lightwater and Teddington & Twickenham. You can find the reports here: <http://www.heathrow.com/noise/heathrow-community-noise-forum/flight-analysis>. The reports found that flight paths had returned to their pre-trial routes. But it did identify some changes that had taken place incrementally over the 10 years or so between 2006 and 2016. Departures had become more concentrated along the centre-lines of the Noise Preferential Routes. On some routes the height of aircraft increased, but on others the planes were flying lower. It also identified a gradual increase in the number of aircraft on most routes, with the Teddington/Twickenham route seeing a particularly annoying increase of large, inter-continental traffic in the mid/late evening.

Future work/work which is underway

Steeper Departures

This work is following up on one of the findings of the post-trial reports; that departures on some routes are lower than before. The work is looking at why they are lower, what can be done to enable them to depart more steeply and whether there would be losers if they climbed more steeply (a steeper climb rate would benefit those directly under flight path but would extend the area where the noise could be heard).

http://www.heathrow.com/file_source/HeathrowNoise/Static/SID_Climb_Gradient_Study_April_2016.pdf

Respite Report

This is a huge piece of work that Heathrow has commissioned. It is in preparation for the flight path changes which need to be put in place over the eight years (whether or not a 3rd runway is built) as part of world-wide programme to modernize airspace.

Heathrow is committed to providing respite wherever it can. This study, which is being headed up by Anderson Acoustics, aims to assess what “meaningful respite” would look like - for example, how far flight paths would need to be away from each other to provide respite. It is a world first. It is expected to be completed by the end of 2016. It will then go to independent peer reviewers and the final report is expected in April 2017.

http://www.heathrow.com/file_source/HeathrowNoise/Static/Respite_research_outline_HCNF_May_2016.pdf

Night Flights

There are currently restrictions on the number and types of scheduled flights which can operate between 11.30pm and 6am. This may change over the next few years. The Airports Commission recommended that a condition of a 3rd runway being given the go-ahead would be a ban on scheduled night flights until 6am. In the meantime Heathrow has made reducing the number of unscheduled flights which leave after 11.30pm one of its Key Performance Indicators. It is also speaking with the community about varying the routes of flights at night so that the burden is shared as much as possible.

The big opportunity to improve the noise climate for many residents will be the flight path changes which will be put in place in a few years time. It is the chance to provide respite (or an element of dispersal if that is more practicable) for communities from Waltham Forest to Windsor and beyond. In the meantime, communities would welcome as many creative measures as possible to tackle the noise to be introduced.

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