Heathrow

Noise Action Plan 2024-2028

CONSULTATION DOCUMENT
SUPPORTING ANNEXES
JUNE 2023

ENTER >

Contents

ANNEX 1

Glossary of terms

aal	above aerodrome level
AIP	Aeronautical Information Package
ACI	Airports Council International
ACOP	Arrivals Code of Practice
ANCON 2	Aircraft Noise Contour Model version 2
ANEG	Aircraft Noise Engagement Group
ANMAC	Aircraft Noise Monitoring Advisory Committee. The committee is chaired by the Department for Transport and comprises, among others, representatives of the airlines, Heathrow, Gatwick and Stansted airports and airport consultative committees
ANPS	Airports National Policy Statement
APF	Aviation Policy Framework
APU	Auxiliary Power Unit. A power unit located on the aircraft
ATC	Air Traffic Control
ATM	Air Traffic Movement
CAA	Civil Aviation Authority
CDA	Continuous Descent Approach (Operations)
Ch	Chapter (in the context of the ICAO Noise Certification for aircraft)
CISHA	Council for the Independent Scrutiny of Heathrow Airport
CoE	Centre of Excellence
dBA	A unit of sound pressure level, adjusted in accordance with the A weighting scale which takes into account the increased sensitivity of the human ear at some frequencies
Decibel (dB)	The decibel (dB) is a logarithmic unit of measurement that expresses the magnitude of a physical quantity relative to a specified or implied reference level. Its logarithmic nature allows very large or very small ratios to be represented by a convenient number. Being a ratio, it is a dimensionless unit. Decibels are used for a wide variety of measurements including acoustics, and for audible sound A-weighted decibels (dBA) are commonly used
DEFRA	Department for Environment Food and Rural Affairs (UK Government)
DfT	Department for Transport (UK Government)
ERCD	Environmental Research and Consultancy Department of the Civil Aviation Authority
FEGP	Fixed Electrical Ground Power
FLOPSC	Flight Operations Performance and Safety Committee
FPU	Flight Performance Unit
FQG	Fly Quiet and Green, Heathrow's programme for ranking the noise and emissions performances of each airline and its fleet
GNMP	Ground Noise Management Plan
GPU	Ground Power Unit
HA	High Annoyance
HACC	Heathrow Airport Consultative Committee, who's functions were replaced in 2022 by the Committee for the Independent Scrutiny of Heathrow Airport (CISHA)
HAL	Heathrow Airport Limited
HSD	High Sleep Disturbance
ICAO	International Civil Aviation Organization
ICCAN	Independent Commission on Civil Aviation Noise. Following a review by DfT in 2021, ICCAN was dissolved, and its functions transferred to the CAA.
ILS	Instrument Landing System
L_{day}	The A-weighted average sound level over the 12 hour day period of 07:00-19:00
L_{den}	The day, evening, night level, L_{den} is a logarithmic composite of the L_{day}, $L_{evening}$, and L_{night} levels but with 5 dB(A) being added to the $L_{evening}$ value and 10 dB(A) being added to the L_{night} value
L_{dn}	The Day-Night noise level, sometimes written as DNL
L_{eq}	Equivalent sound level of aircraft noise in dBA, often called equivalent continuous sound level. For conventional historical contours this is based on the daily average movements that take place in the 16 hour period (07:00-23:00 local time) during the 92 day period 16 June to 15 September inclusive
$L_{evening}$	The A-weighted average sound level over the four hour evening period of 19:00-23:00
LPA	Local Planning Authority
L_{night}	The A-weighted average sound level over the eight hour night period of 23:00-07:00

Glossary of terms continued

NATS	Formerly known as National Air Traffic Services Ltd. NATS is licensed to provide en-route air traffic control for the UK and the Eastern part of the North Atlantic, and also provides air traffic control services at several major UK airports, including Gatwick
NEWG	Noise and Emissions Working Group
Noise Contour	Map contour line indicating noise exposure in dB for the area that it encloses
Noise Respite	Predictable periods of relief from noise
NJM	Night jet movement
NMT	Noise Monitoring Terminal
NPPF	National Planning Policy Framework
NPR	Noise Preferential Route
NPSE	National Policy Statement for England
NTK	Noise and Track Keeping monitoring system. The NTK system associates radar data from air traffic control radar with related data from both fixed (permanent) and mobile noise monitors at prescribed positions on the ground
OSI	Operational Safety Instructions
PBN	Performance-Based Navigation
PCA	Preconditioned Air
PNL	Perceived Noise Level, measured in PNdB. Its measurement involves analyses of the frequency spectra of noise events as well as the maximum level
PPG	Planning Policy Guidance
QC	Quota Count – the basis of the London airports night restrictions regime
QNC	Quiet Night Charter
RBA	Responsible Business Action. This refers to a business-as-usual activity that is not highlighted as a specific action
SEL	Sound Exposure Level. The level generated by a single aircraft noise event at the monitoring point. This is normalised to a one second burst of sound and takes account of the duration of the sound as well as its intensity
SOP	Standard Operating Procedures
SOR	Start-of-roll: The position on a runway where aircraft commence their take-off runs
SoS	Secretary of State
Sustainable Aviation	A UK aviation industry initiative aiming to set out a long term strategy for the industry to address its sustainability issues

ANNEX 2

Airfield map

Key

- 09L/27R & 09R/27L Runways
- ILS Critical Areas
- Emergency Vehicle Rendezvous Point
- Airfield Operations
- Helicopter Aiming Point
- Control post
- Code F Taxiway
- Code E Taxiway
- Code D Taxiway
- Code C Taxiway
- Uncontrolled Taxiway crossing
- Tunnel
- No pier service
- Pier service
- Crash Gate

ANNEX 3

Typical daily flight paths

In line with the 2021 Strategic noise maps detailed in Annex 11, typical flight maps are shown below.

WESTERLY OPERATIONS DEPARTURES

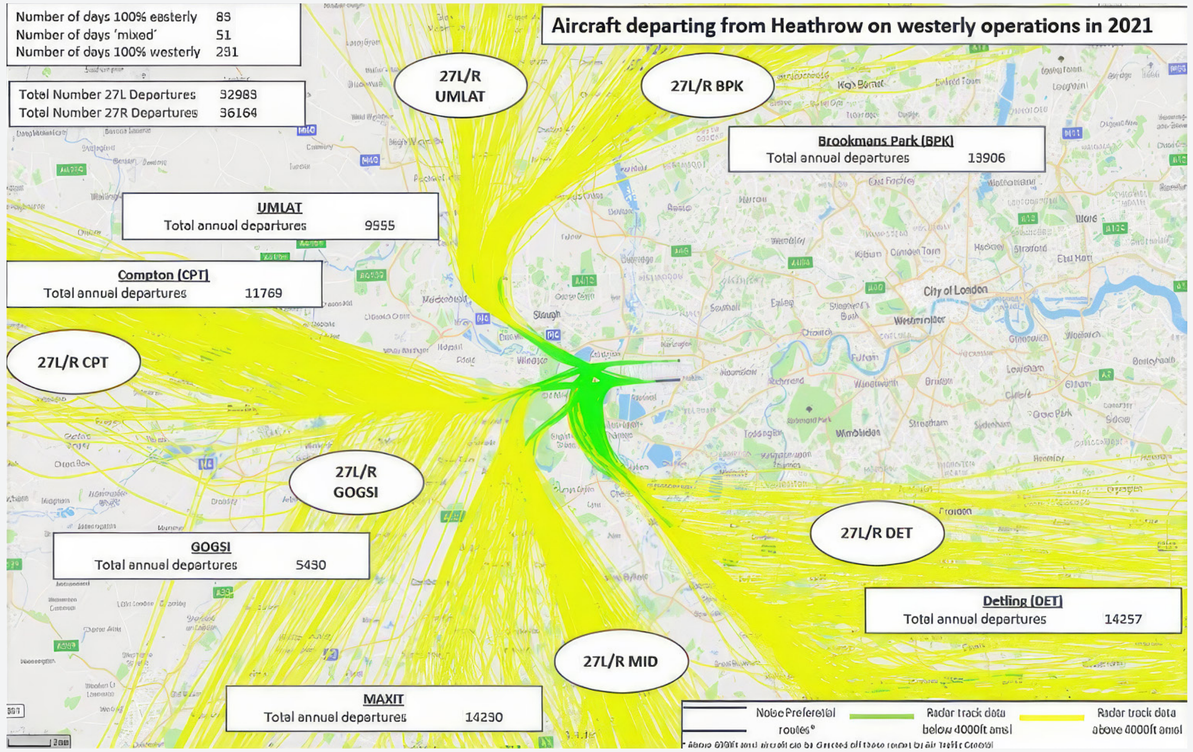


Figure 3.1: Aircraft departing from Heathrow on westerly operations in 2021

WESTERLY OPERATIONS ARRIVALS

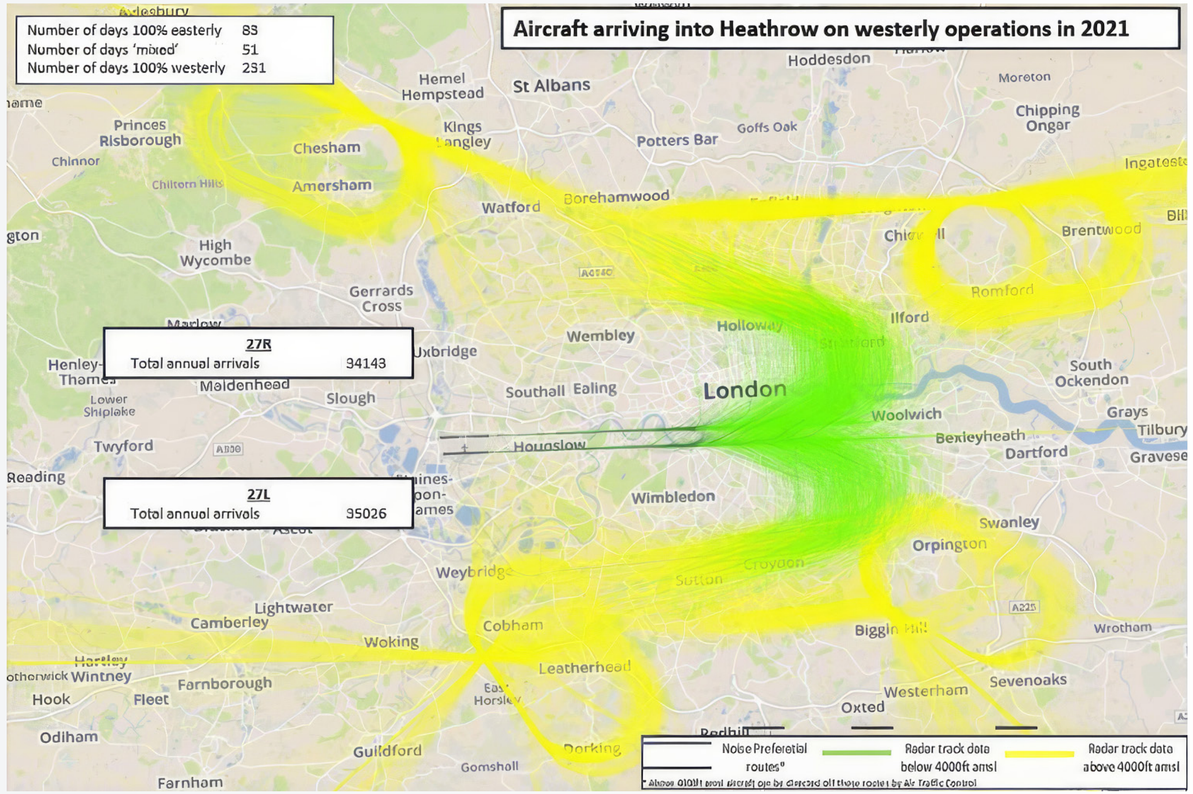


Figure 3.2: Aircraft arriving into Heathrow on westerly operations in 2021

Typical daily flight paths continued

EASTERLY OPERATIONS DEPARTURES

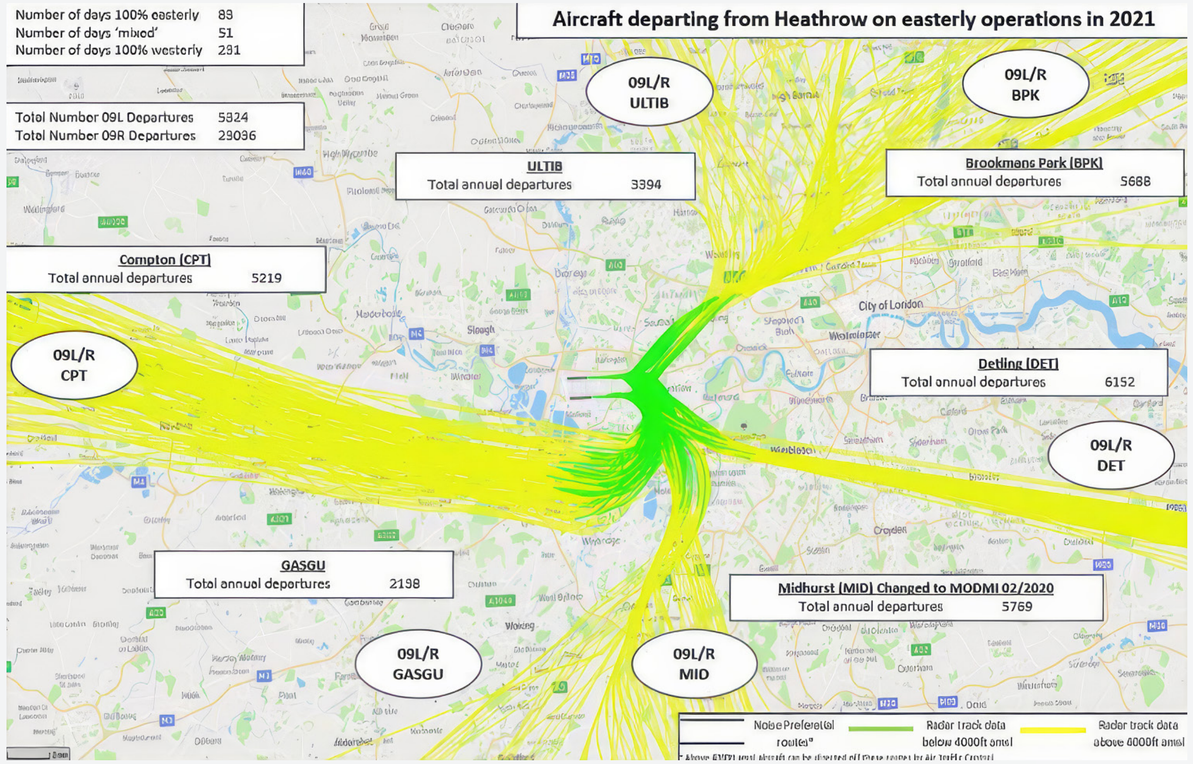


Figure 3.3: Aircraft departing from Heathrow on easterly operations in 2021

EASTERLY OPERATIONS ARRIVALS

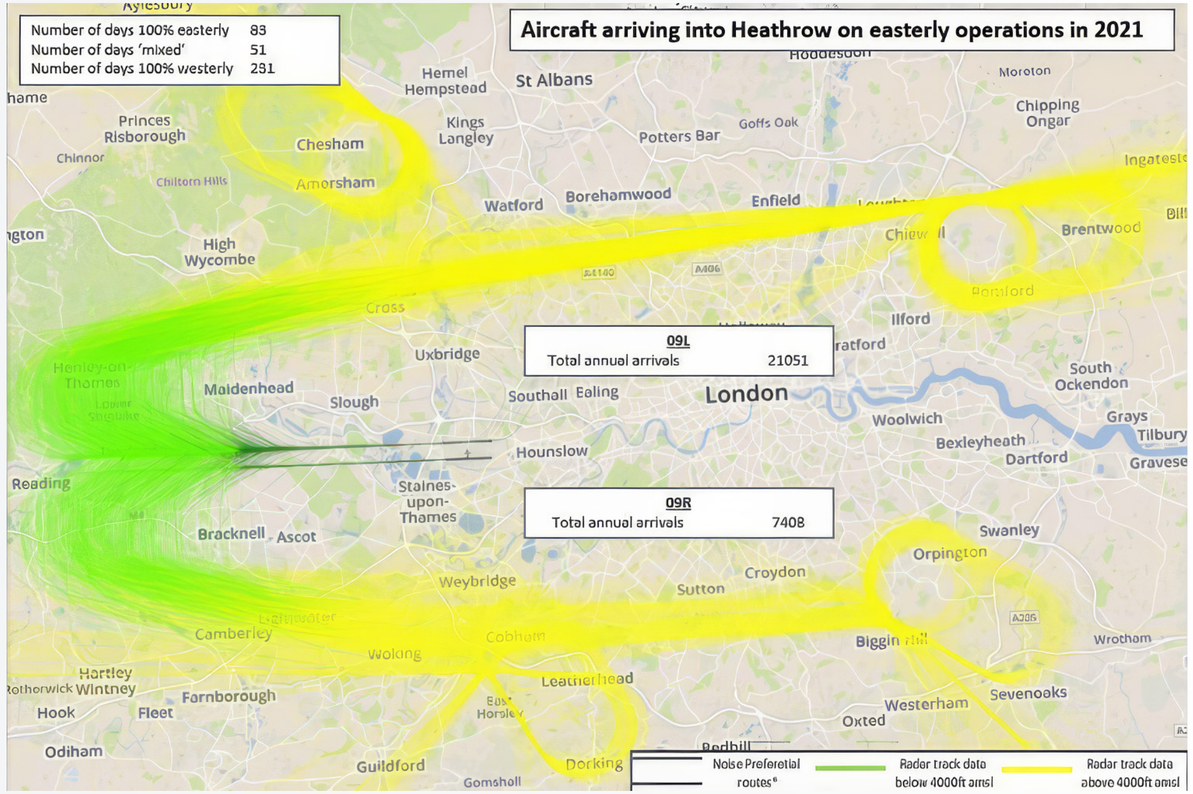


Figure 3.4: Aircraft arriving into Heathrow on easterly operations in 2021

Positions of noise monitors

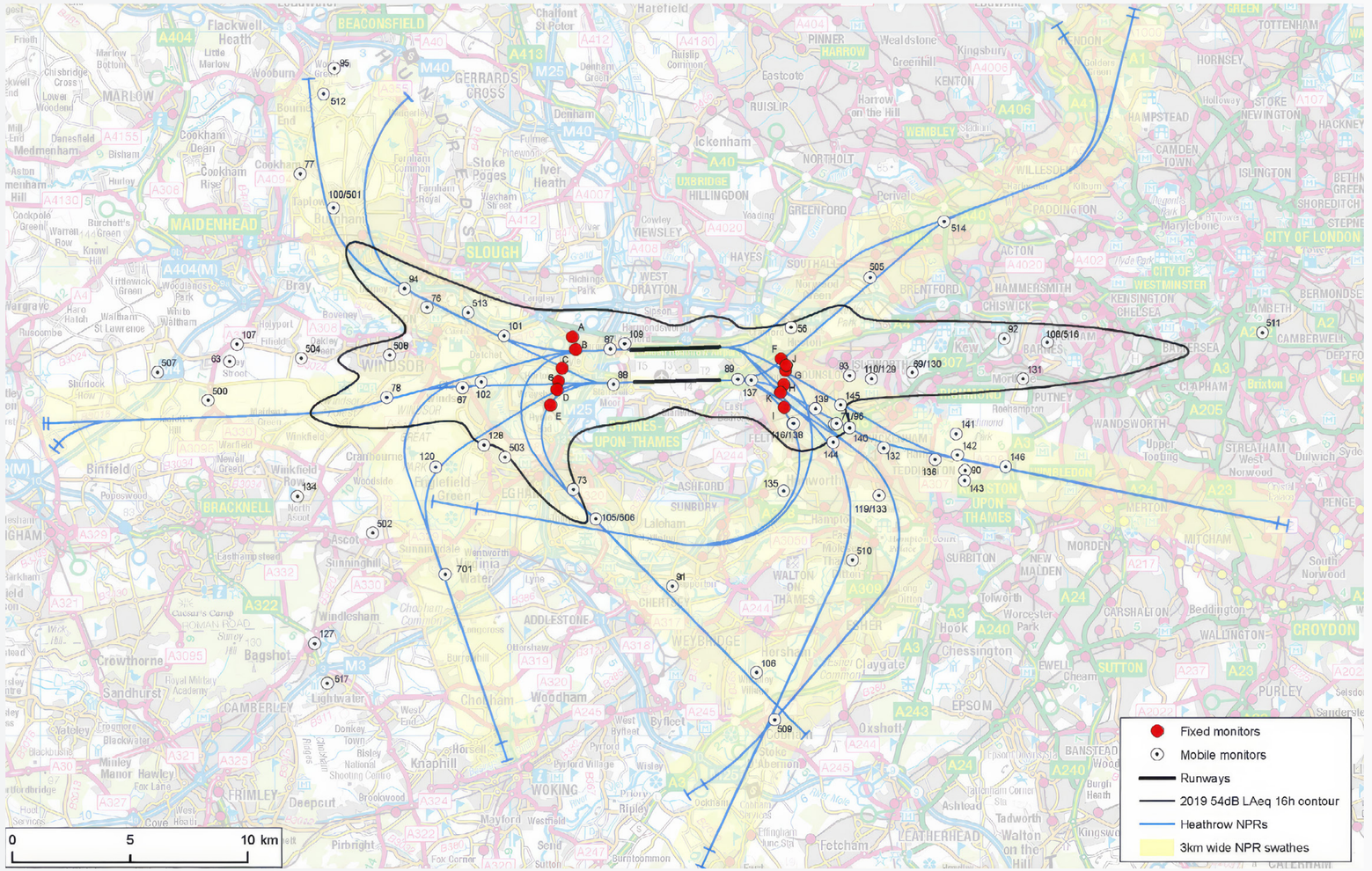


Figure 3.5: Position of noise monitors

ANNEX 4

Community response to noise

COMMUNITY ENGAGEMENT

Understanding the concerns of local residents is important for informing our approach to managing aircraft noise. As part of our commitment to being open and constructive with local communities we regularly hold meetings with local residents, community groups and local councils. Our established forums include the Council for the Independent Scrutiny of Heathrow Airport (CISHA) and the Heathrow Noise and Airspace Community Forum (NACF).

Community response to noise continued

NOISE COMPLAINTS

The Heathrow Community Relations team manages complaints from residents about aircraft noise.

During 2022, 1,609 people complained to the team, making 63,679 complaints. This compares to 3,232 people in 2019 making 75,838 complaints.

Most people who contacted Heathrow in 2022 made one complaint (57% of total people). However, 82% of complaints received were made by 10 people (52,068 complaints).

Figure 4.1 and Table 4.1 opposite show the number of people making complaints and the number of complaints each year from 2008 to 2022. The significant increase in the number of people complaining in 2014 was brought about by Heathrow's airspace trials that year. Although the trials ended in 2014 with aircraft returning to the pre-trial routes, the number of complaints has remained higher than before the 2014 trials. However, the number of people making complaints is below pre-trial levels.

Complaint reports are available on the Heathrow noise website www.heathrow.com/noise

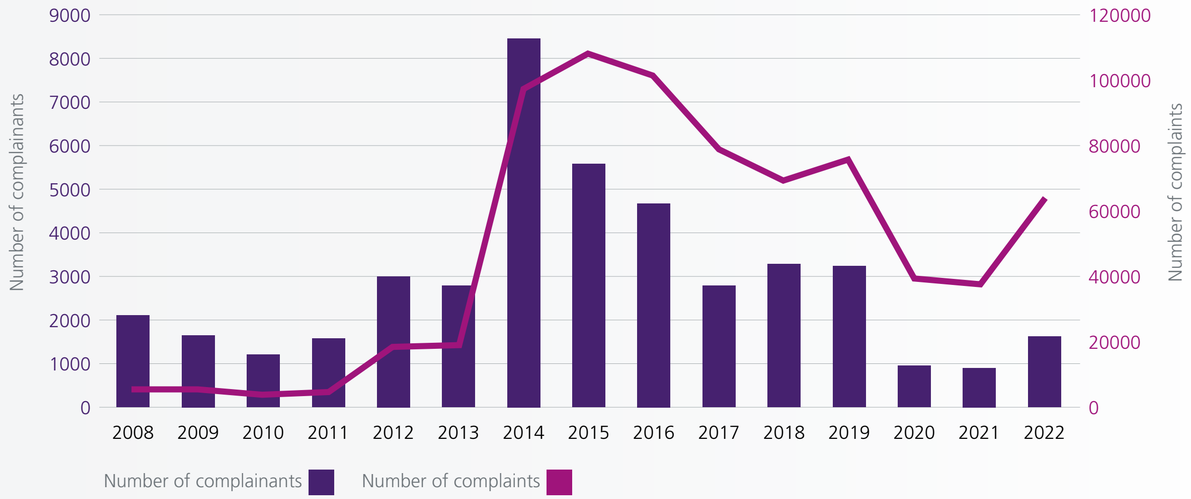


Figure 4.1: Number of complainants and complaints relating to aircraft noise

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Complainants	2071	1651	1206	1580	2992	2769	8458	5573	4661	2775	3272	3232	945	900	1609
Complaints	5002	4715	4074	4652	18318	18717	96987	108255	101039	78794	68945	75838	39083	37132	63679

Table 4.1: Number of complainants and complaints relating to aircraft noise

Community response to noise continued

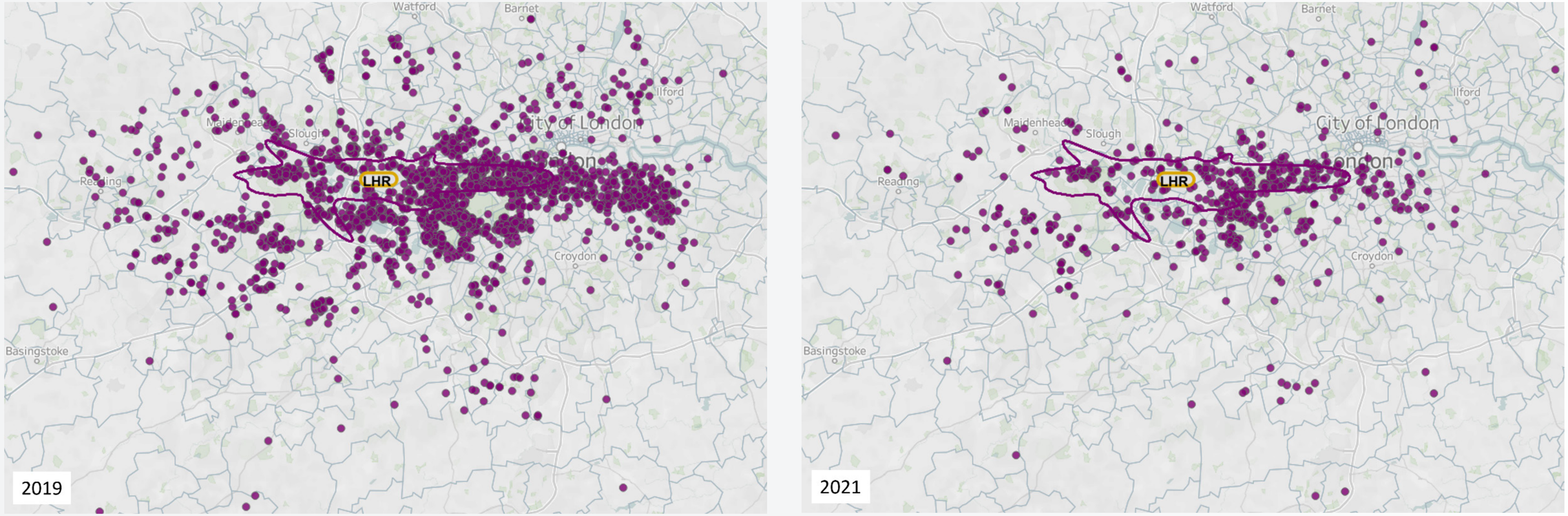


Figure 4.2: Location of complainants (2019 and 2021)

ANNEX 5

Limit values in place at Heathrow

a Under Terminal 5 Planning Condition A4, the number of air transport movements at Heathrow Airport shall be limited to 480,000 each year.

b With effect from 1 January 2016, the area enclosed by the 57dBAL_{eq}16hr (07:00-23:00) contour, when calculated and measured by the CAA's Aircraft Noise Contour Model, or any system that succeeds it, shall not exceed 145km².

The area of the 57dBA L_{eq}16hr (07:00-23:00) contour in 2019 was 86.3.km². This reduced to 28.5km² in 2020 and 39.9 km² in 2021 due to the impacts of the Covid pandemic on aircraft movements.

c Limit the 6.5 hour, 48dBA L_{eq} night quota period contour (for the winter and summer seasons combined) to 55km² by 2011–2012.

The area of the 48dBA L_{eq} 6.5hr (23:30-06:00) contour in 2019 was 33.4 km².This reduced to 7.6km² in 2020 and 12.5 km² in 2021 due to the impacts of the Covid pandemic on aircraft movements.

d Night Movement and Quota Count Restrictions between 23:30 and 06:00 local. See Annex 6

e The Noise Abatement Procedures contained within the UK AIP. See Annex 8

f Day (07:00-23:00) departure noise limits of 94dBA Lmax at 6.5 km from start of roll.

g Night Shoulder (23:00-23:30 and 06:00-07:00 local) departure noise limits of 89dBA L_{max} at 6.5 km from start of roll.

h Night (23:30-06:00 local) departure noise limits of 87dBA L_{max} at 6.5 km from start of roll.

Period	2006	2009	2010	2011	2012	2013	2014	2019	2020	2021	2022
Day	34	6	15	16	18	11	9	0	1	1	0
Night Shoulder	85	26	46	20	12	11	7	1	0	0	0
Night	97	39	66	36	43	21	19	4	1	2	3

i The Ground running restrictions are set out in Annex 7.

ANNEX 6

Night restrictions

The following summarises the information that Heathrow provides on its night restrictions.

UK's night flying restrictions were reviewed by the government and guidelines were published in 2017.

WHAT IS THE ISSUE?

Noise created by aircraft at night may cause more disturbance to some people because there is less background noise from other sources and the majority of people will be trying to sleep. Similarly, night noise may appear worse in the summer because people tend to sleep with windows open more frequently.

IS THERE A BAN ON NIGHT FLIGHTS?

Heathrow has always been a 24-hour operation airport. There is not, and never has been, a complete night-time ban or curfew. However, for the reasons above and in order to try to balance the interests of the local communities and those of the airport users, there are restrictions and rules regarding night flights.

WHO MAKES THE RESTRICTIONS?

The Department for Transport (DfT) is responsible for making the restrictions on the types of aircraft that can be scheduled to fly at night.

In setting the restrictions the aim has been to maintain a balance between the need to protect local communities from too much aircraft noise at night and the operation of services where they provide economic benefits.

Heathrow does not set the rules but strictly monitors compliance with all Government restrictions in force. We report regularly to the DfT and the Council for the Independent Scrutiny of Heathrow Airport (CISHA).

WHAT ARE THE RESTRICTIONS?

Aircraft are certified by the International Civil Aviation Organisation (ICAO) according to the noise they produce. They are classified separately for both take-off and landing.

The night flying restrictions are divided into summer and winter seasons, based on daylight savings time. Each season there are two limits – one on movements and the other based on a quota count (QC) system. The QC system involves aircraft being allocated points based on their certified noise levels for both take-off and landing. The noisier the aircraft type, the higher the points allocated.

This provides an incentive for airlines to use quieter aircraft types.

NIGHT PERIOD AND NIGHT QUOTA PERIOD

The 'Night Period' is from 23:00 to 07:00 during which the noisiest types of aircraft (classified QC/8 and QC/16) may not be scheduled to land or take-off.

The 'Night Quota Period' is from 23:30 to 06:00 during which aircraft movements are restricted by a limit on the number of movements with noise quotas as an additional measure. The number of movements and quota counts allowed are set for each season as opposed to each night.

THE QUOTA COUNT SYSTEM

Aircraft are given quota count (QC) classifications as follows:

Certified noise level (EPNDB)	Quota Count
More than 101.9	QC/16
99 – 101.9	QC/08
96 – 98.9	QC/04
93 – 95.9	QC/02
90 – 92.9	QC/01
87 – 89.9	QC/0.5
84 – 86.9	QC/0.25
81 – 83.9	QC/0.125

WHAT ABOUT THE AIRCRAFT QUIETER THAN 81 EPNdB?

Aircraft quieter than 81 EPNdB have QC/0 and are thus they are effectively exempt from the noise quotas, but as of 2018 their movements are counted towards the movement limit.

Before 2017, the QC/0 aircraft were exempt from the movement count.

DfT may introduce a new QC/0.0625 band (or "QC sixteenth") for aircraft between 78 EPNdB and 80.9 EPNdB. The QC/0 band would then apply to aircraft classified below 78 EPNdB.

Night restrictions

	2005/ 06	2021/ 22	2022/ 23	2023/ 24	2024/ 25	2025/ 26	2026/ 27	2027/ 28
Winter movements	2550	2550	2550	2550	2550	tbc	tbc	tbc
Winter QC	4141	2415	2415	2415	2415	tbc	tbc	tbc
Summer movements	3250	3250	3250	3250	3250	tbc	tbc	tbc
Summer QC	5610	2735	2735	2735	2735	tbc	tbc	tbc

MOVEMENTS LIMITS AND NOISE QUOTAS AT HEATHROW

The movement limits and noise quotas for current and future years / seasons are shown in the table above.

The summer season is the period of British Summer Time in any one year. The winter season is the period between the end of British Summer Time in one year and the start of British Summer Time in the next.

END OF SEASON FLEXIBILITY

Left over movements – Up to 10% of the current season's movements limit may be carried over if sufficient amount of the limit has not been used.

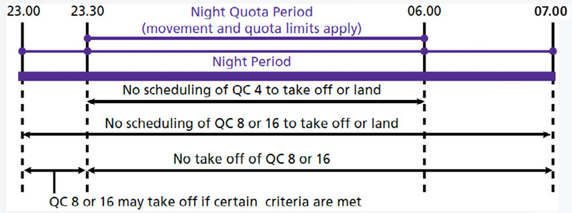
Overrun of movements – Also, up to 10% of the next season's movements limit may be anticipated in the event of an overrun. Any excess overrun is penalised in the following season at double the amount of the excess.

The same arrangements apply to the noise quotas

WHAT IS NOT ALLOWED?

- Any aircraft which has a quota count of four, eight, or 16 may not be scheduled to take off or land between 23:30 and 06:00 local
- Any aircraft which has a quota count of eight or 16 (i.e. the noisiest) may not be scheduled to take off or land between 23:00 and 07:00 local
- Any aircraft which has a quota count of eight or 16 may not take off between 23:00 and 07:00 local. However, between 23:00 and 23:30 local, it may take off if:
  - It was scheduled to take off before 23:00 local
  - The take-off was delayed for reasons beyond the control of the aircraft operator; and
  - The airport authority has not given notice to the aircraft operator precluding take-off.

These restrictions are summarised below:



DISPENSATIONS

The Secretary of State has the power to state circumstances in which movements may be disregarded from the night restrictions. This is in exceptional circumstances only.

HOW IS COMPLIANCE TO THE RESTRICTIONS MONITORED?

Night flights are closely monitored by Heathrow Airport on a daily basis. We provide the HACC and the DfT, with regular reports on the use of the movements limits and the noise quotas, details of any dispensations or exemptions granted and any movements by QC/8 and QC/16 aircraft during the night period.

All dispensations granted by the airport have to be reported to the DfT in writing within a maximum of one week from when the flight took place.

FUTURE REVIEW

The night flights regime is reviewed by the DfT approximately every five years. Due to the impacts of Covid on the aviation industry, the DfT extended the 2020/21 movement and quota limits for three years until Autumn 2025. The DfT is expected to consult on the new regime in 2023 for commencement in Autumn 2025.

ANNEX 7

Planning conditions for Terminal 4 and Terminal 5

As part of the planning process for Terminal 4 and Terminal 5 a number of special conditions were attached to the planning permission which relate to airport noise management. These include:

TERMINAL 4

- Except in an emergency, no live aircraft movements or activities involving the running of aircraft engines to be permitted to, from or onto stands 401-403, 429-432 and 463, between the hours of 23:30 and 06:00 local.
- Access to or egress from the Terminal site by taxiing aircraft between 23:30 and 06:00 is prohibited on the taxiway route "S" west of "V" apron or though "Link 41" to SB1 and reverse, except in an emergency or as a consequence of essential maintenance work on the alternative access routes. This restriction does not apply to aircraft taxiing to or from Terminal 4.
- Except in an emergency, no Auxiliary Power Units (APUs) may be operated on stands 401-403, 429-432 and 463 between the hours of 23:30 and 06:00 local.
- Other than the routine servicing of aircraft on turnaround, no aircraft maintenance work which involves the running of aircraft engines is permitted on theTerminal 4 site at anytime.

TERMINAL 5

- Under Terminal 5 Planning Condition A4, the number of air transport movements at Heathrow airport shall be limited to 480,000 each year.
- With effect from 1 January 2016, the area enclosed by the 57dB(A) L_{eq}16hr (07:00-23:00) contour, when calculated and measured by the CAA's Aircraft Noise Contour Model, or any system that succeeds it, shall not exceed 145 square kilometres.
- The recording and management criteria for engine testing will be extended to cover the Terminal 5 application site without any increase in the current maximum and average period of testing permitted for Heathrow with four terminals:
  - the total ground running time in any one night period shall not exceed 150 minutes
  - the total ground running time at high power in any one night period shall not exceed 60 minutes
  - the ground running time at high power in the night period shall not exceed a rolling 30 day average of 20 minutes.
- In addition to the overall airport constraint on permitted periods for engine ground running, any run on any stand on the Terminal 5 application site at idle power will not exceed ten minutes for any single engine.
- Between 23:00 and 07:00 local only, check starts (maximum five minute duration) will be permitted on any stand on the Terminal 5 application site.
- During the night quota period (23:30-06:00 local), aircraft arriving at the Terminal 5 application site, and aircraft scheduled to depart from it in that period, will use the stands closest to the centre of the site, i.e furthest away from Longford and Stanwell, in preference to the outer stands. This would apply to both the core building and the satellites.
- During the night quota period (23:30-06:00 local), and except in an emergency or for maintenance of the runway and taxiway system, taxiing operation to the north and south of the Terminal 5 application site will be restricted to inner taxiways only. These operational constraints will be applied through Heathrow ATC in the same way as the current taxiing constraints on Terminal 4 are implemented to ensure compliance.
- No pier served stand within the Terminal 5 application site shall be used for live aircraft movements until there is available to that stand a supply of PCA.
- Aircraft arriving at the Terminal 5 application site under engine power, and aircraft scheduled to leave the application site under engine power, during the night quota period shall be allocated a centre stand in preference to any other stand; provided that if all centre stands are so allocated or unavailable for use for any reason, such aircraft may be allocated to another stand.

ANNEX 8

AIP Noise abatement procedures Heathrow

Below are the parts of the AIP (effective from 20 April 2023) that refer to noise regulation or related procedures.

EGLL AD 2.20 LOCAL AERODROME REGULATIONS

1. AIRPORT REGULATIONS

a. Use governed by regulations applicable to the London CTR.

b. The following conditions and procedures apply to single-engined and light twin-engined aircraft not fully equipped with radio apparatus (including ILS receiver) as specified at GEN 1.5 but carrying at least the VHF RTF frequencies to permit communication with London (Heathrow) Airport Approach/Director/Radar, Tower and Ground Movement Control:

   a. The flight must be made on a VFR or Special VFR clearance under the weather conditions and along the routes specified in the EGLL AD 2.22, paragraph 12.

   b. The first VHF RTF communication with Approach Control must include the words 'Customs required' if the flight is an international one.

c. An operator which has not operated a scheduled service or a series charter service from Heathrow prior to 1 November 1992 shall only be permitted to commence a scheduled service or a series charter service from Heathrow to a destination which was not served from the airport by any operator in the twelve months prior to 1 November 1992 if any jet aircraft to be used meets the requirements ICAO Annex 16, Chapter 3.

d. When applying for permission to commence a service falling within the terms of this Condition, documents attesting that jet aircraft comply with Chapter 3 Noise certification standards must be produced. If these documents are not produced the aircraft will be regarded as a non Chapter 3 aircraft.

(…)

2. GROUND MOVEMENT

a. General

(…)

b. Manoeuvring Area

(…)

c. Engine Ground Running

Accountability for the control of ground noise at Heathrow rests with Heathrow Airport Limited (HAL). Various restrictions regarding aircraft operations are related to the planning conditions (as amended) for Terminals 4 and 5. In addition, the running of Auxiliary Power Units is controlled.

a. Operations at Terminal 4

1. **Stands 401-403 and 429-432,** except in an emergency, **between 2330 (2230) and 0600 (0500);** no use of aircraft engines shall be permitted to, from or onto these stands;

2. **Taxiway route 'S' east of 'V' apron or through 'Link 41' to S1 and reverse.** Aircraft are prohibited from accessing and departing from the terminal site by taxiing on the route above between 2330 (2230) and 0600 (0500) except in an emergency or as a consequence of essential maintenance work on the alternative access routes.

b. Operations at Terminal 5

Between 2330 (2230) and 0600 (0500):

1. Aircraft arriving at Terminal 5 and those scheduled to depart in that period, will use stands closest to the centre of the site in preference to outer stands;

2. Taxiing operations to the north and south of the T5 application site will be restricted to inner taxiways only, except in an emergency or for the maintenance of the runway and taxiway system.

AIP Noise abatement procedures Heathrow continued

c. Hierarchy of power sources

The following hierarchy of power sources must be followed:

1. FEGP - to be used whenever supplied and serviceable;
2. GPU - only to be used when FEGP is not supplied or the unit is unserviceable;
3. APU - only to be used when neither FEGP nor GPU is supplied or both units are unserviceable.

d. Auxiliary Power Units (APU) procedures

1. APU must be shut down at the earliest opportunity on arrival on stand.
2. APUs are not permitted to be used between 2330-0600 (2230-0500) on:

   Cargo Area stands 601-609 and 611-616;
   Stands 401-403 and 429-432, except in an emergency.
3. No APU is to be left running unless either a qualified person is in attendance or the APU has both an auto-shut down and auto-extinguishing facility.

e. Restrictions on the use of APUs are:

	Before Scheduled Time of Departure - start	Arrival terminating operation - shut down
Narrow Body Aircraft	No more than 15 minutes †	10 minutes after arrival on stand †
Wide Body Aircraft (B747, B767, B777, B787, MD11, A300, A310, A330, A340)	No more than 30 minutes † Or not more than 60 minutes prior to departure when the FEGP has not been upgraded to provide enough power to support the Flight Management Systems	10 minutes after arrival on stand †
A380	No more than 60 minutes †	15 minutes after arrival on stand †

f. Exemptions to these restrictions are:

1. When an aircraft is scheduled to be towed off to another location the APU may be restarted for safety reasons not in excess of 10 minutes prior to the planned movements.
2. When the planned towing movement as specified under 1 is delayed due ATC, then the APU may be left running.
3. Where no fourth FEGP plug is available on stand, A380 aircraft are permitted to use a GPU to support FEGP usage.
4. When the external air temperature is below 5°C or above 25°C as stated on the ATIS, then the APU restriction for Narrow body aircraft is extended to 30 minutes before STD.
5. When the external air temperature is below 5°C or above 25°C as stated on the ATIS, then the APU restriction for Wide body aircraft is extended to 60 minutes before STD.
6. When the external air temperature is below 5°C or above 25°C as stated on the ATIS, then the APU restriction for A380 aircraft is extended to 90 minutes before STD.

g. If an Airline wishes to make use of the Engine Ground Run pens they should contact British Airways maintenance control on 020-8513 0880. Requests will only be accepted when there is spare capacity.

d. Runway Crossing Procedure (Runway 09R/27L)

(…)

AIP Noise abatement procedures Heathrow continued

e. Start-up Procedures

a. General

1. ATC are responsible for clearance delivery as a separate function from Ground Movement Control (GMC). **Pushback approval must be obtained from GMC.** Pilots who wish to start engines on stand must request permission from GMC. Pushback approval includes permission to start engines during pushback.
2. Pilots are to report their aircraft type, stand number, QNH and the identification letter of the received ATIS information on first contact with 'Heathrow Delivery'.
3. All jet aircraft are to advise ATC if, for any reason, they are unable to accelerate after noise abatement procedures to 250 KT.
4. Any jet aircraft with a minimum clean speed of greater than 250 KT must inform Heathrow Delivery.
5. All non 833 KHz equipped aircraft should contact ATC on the published number to obtain ATC clearance and weather information.

b. Airport - Collaborative Decision Making (A-CDM)

1. TOBT/TSAT

(aa) Pilots should take note of the **TSAT** which they receive from their AO/GH or ATC and comply with it;

(bb) **If TOBT or TSAT** can no longer be met, at any time, then TOBT must be updated by AO/GH;

(cc) Pilot should ensure that the flight is ready to depart at **TOBT (window of -5 to +5 minutes).**

2. Start Request - Heathrow Delivery

(aa) Pilot should report ready to Heathrow Delivery at **TOBT (window of -5 to +5 minutes);**

(bb) ATC will then **approve start** or in the case of a delay will **advise the TSAT;**

(i) Pilots to monitor the frequency from this point, as TSAT can improve up to TOBT;

(ii) Start approval will be issued, based on TSAT and the prevailing traffic situation;

(iii) Pilots will be informed of an ATC delay to TSAT in excess of 5 minutes.

(cc) If at **TOBT + 5 minutes** ATC have not received a start up request the aircraft may lose its position in the sequence.

(i) ATC will advise the pilot that a new TOBT is required;

(ii) Once the new TOBT is entered the flight will be re-sequenced according to a new TOBT, with a subsequent delay;

(iii) The aircraft will not be allowed to depart until a valid TOBT is entered and revised TSAT given and complied with.

3. Pushback Request - Heathrow Ground

(aa) Pushback/Start clearance must be requested from Ground no later than 5 minutes after being transferred from Delivery;

(bb) If unable to meet this constraint, the aircraft will not be allowed to pushback. A valid TOBT must then be issued by the AO/GH and ATC will then issue a revised TSAT.

AIP Noise abatement procedures Heathrow continued

4. Remote Holding Request

   (aa) If an eligible AO is aware of a CTOT and wishes to take the delay on a taxiway rather than on the stand, then they should contact the Tower Supervisor by telephone to arrange it;

   (bb) In this instance, the TSAT will be adjusted to allow the aircraft to be transferred to GMC earlier for the remote hold.

5. Aircraft De-icing Requirements.

   (aa) Annually, Heathrow publishes an Aircraft De-icing Plan (HADIP). All airline operators should ensure that they have read and understood this document. A copy of the plan can be downloaded from **www.heathrow.com/airside.**

   (bb) During periods of high demand for de-icing, Heathrow activates the A-CDM 'Winter Module' which includes aircraft de-icing rig allocation capability.

   (cc) In order to request de-icing, pilots should follow their company's standard procedure. In accordance with Heathrow's de-icing plan, operators will enter the requirement for de-icing into A-CDM, which will ensure that de-icing resources are allocated appropriately. If the aircraft is to be de-iced remotely, operating companies will pass this information to pilots prior to push. Remote de-icing facility locations are shown on chart AD 2-EGLL-2-8.

   (dd) When doors are closed and ready to commence de-icing on gate, pilots must call Heathrow Delivery stating "Ready for de-icing". This call must be made at +/- 5 minutes from TOBT.

   (ee) Once de-icing on the gate is complete, pilots should call Heathrow Delivery again, stating 'De-icing complete, ready to push and start'.

   (ff) Pilots who have been allocated a remote de-icing area should contact Heathrow Delivery, stating 'Ready to push and start for remote de-icing'.

c. Clearance Delivery
(…)

f. Departures – Minimum Runway Occupancy Time

a. On receipt of line-up clearance pilots should ensure, commensurate with safety and standard operating procedures, that they are able to taxi into the correct position at the hold and line up on the runway as soon as the preceding aircraft has commenced its take-off roll.

b. Pilots in receipt of a conditional line up clearance on a preceding departing aircraft (for example; **'ABC123 behind the departing Sky Train A330, line up Runway 27L behind'**) should remain behind the subject aircraft but may cross the runway holding point (subject to there being no illuminated red stop bar) and enter the runway upon receipt of the clearance. There is no requirement for the subject aircraft to have commenced its take-off roll before entering the runway. **Pilots must be aware that there may be a blast hazard as the aircraft on the runway applies power**.

   Pilots in receipt of a conditional line up clearance on a preceding arriving aircraft (for example; **'ABC123, behind the landing Sky Train A330, line up Runway 27L behind'**) may cross the runway holding point (subject to there being no illuminated red stop bar) as soon as the landing aircraft has passed the runway entry point.

   Pilots are advised that there is an increased risk of Runway Incursions when holding at N11 and NB11. Pilots may mistakenly believe that when on reaching the front of the queue, they have been given permission to line up in turn. Pilots are to be extra vigilant as to whether they have received a line-up clearance from ATC and seek confirmation where there is doubt.

c. Pilots who require to back-track the runway (including line up from N2W onto Runway 27L) must notify ATC prior to arrival at the holding point.

d. Whenever possible, cockpit checks should be completed prior to line up and any checks requiring completion whilst on the runway should be kept to the minimum required. Pilots should ensure that they are able to commence the take-off roll immediately take-off clearance is issued.

e. Pilots not able to comply with these requirements should notify ATC as soon as possible once transferred to Heathrow Tower Departures Frequency.

AIP Noise abatement procedures Heathrow continued

g. Intersection Departures

a. Runway 27R; A4; Runway 27L, N3 and S3, Runway 09R; N8 and N10 are **NOT,** for the purposes of wake turbulence, considered by ATC to be intersection departures.

b. Pilots in receipt of a conditional line up clearance holding at an intersection (for example; **'ABC123, behind the departing Sky Train from the full length, line up Runway 27L via NB3 behind'**) should remain behind the runway holding point until the subject aircraft has passed the intersection at which they are holding.

h. Reduced Engine Taxi

a. Whenever operationally and safely feasible, all aircraft are requested to shut down as many engines as possible while taxiing and holding on the ground, **EXCEPT** in the following circumstances:

aa. By any aircraft that is required to cross an active arrival runway;

bb. By any aircraft exiting T and turning west onto S, Link 44 and Link 42 due to jet blast;

cc. By B777 variants in G and H due to jet blast;

b. Pilots who intend to execute Reduced Engine Taxi on departure **MUST** report their intention to Heathrow Delivery on first contact by data link or if not possible by RT. This is essential for safety and operational reasons.

In the apron areas minimum engine power shall be used as far as possible, and use of reverse thrust for manoeuvring to and from a stand is not permitted.

c. Any aircraft with a CTOT should plan Reduced Engine Taxi to be ready for departure at CTOT - 5 minutes. This is essential for ATC sequencing.

3 CAT II/III OPERATIONS

(…)

4 WARNINGS

a. Pilots are warned, when landing on Runway 27R in strong southerly/south westerly winds, of the possibility of building-induced turbulence and large windshear effects.

b. Similarly, Runway 27L arrivals may be affected by winds with a strong Northerly component. Building-induced turbulence may be experienced at the mid sections of each runway from winds with a strong Southerly, or strong Northerly component.

c. Electricity pylons running on a line NE/SW and 2.6 NM W from ARP at 182 FT AAL/262 FT AMSL.

d. Paramotor activity at Elm Farm, within the London CTR. Activity is restricted to 1000 FT AMSL within a circle of radius of 0.75 NM centred on 512151.00N 0001929.00W.

e. Model aircraft club activity within Heathrow FRZ. Activity is restricted to 475 FT AMSL within a radius of 0.16 NM centred on 512915.5N 0002459.79W.

f. Model aircraft club activity within Heathrow FRZ. Activity is restricted to 292 FT AMSL. The area of operation of the Small Unmanned Aircraft (SUAs) will be contained in a semi-circle of radius 0.157 NM radiating to the north, with the straight-line end points being located at 512923.9N 0002657.3W and 512922.5N 0002645.1W.

g. Cranes operating within an area bounded by co-ordinates:
513026N 0002321W - 513028N 0002327W - 513027N 0002329W - 513029N 0002328W.
Maximum elevation restricted to 328 FT AMSL. Height 223 FT AGL. Cranes will have obstruction lighting.

(…)

AIP Noise abatement procedures Heathrow continued

6 USE OF RUNWAYS

a. Preferential Runway System

   a. In weather conditions when the tail wind component is no greater than 5 knots on the main Runway 27R and 27L, these runways will normally be used in preference to Runways 09R and 09L, provided the runway(s) surface is dry.

   b. Pilots who ask for permission to use the runway into wind when, in accordance with these procedures, Runway 27R or 27L are in use, should understand that their arrival or departure may be delayed.

   c. Departures - Wake Turbulence Separation

      Wake turbulence separations are applied in accordance with the RECAT-EU departure separations. The separations applied are described in EUROCONTROL document 'RECAT-EU European Wake Turbulence Categorisation and Separation Minima on Approach and Departure'. On departure, when in receipt of line up clearance, the pilot must inform ATC if greater wake turbulence separation than the minimum specified will be required behind the preceding aircraft. Failure to do so may result in additional delay.

   d. Arrivals – Minimum Runway Occupancy Time

      Pilots are reminded that rapid exit from the landing runway enables ATC to apply minimum spacing on final approach that will achieve maximum runway utilisation and will minimise the occurrence of 'go-arounds'.

   e. Landing aircraft are to vacate expeditiously. All arrivals are to ensure that they are fully vacated before stopping.

b. Runway Vacation Guidelines

   a. Due to the High Intensity Runway Operations at Heathrow it is necessary to ensure pilots adhere to the following guidelines.

   b. A380 pilots are reminded that a long landing roll will infringe the Extended Instrument Landing System Localiser Critical Area. This increases the likelihood of the following aircraft having to break off its approach if unable to continue visually. Pilots are advised that the furthest preferred exit for each runway is as follows: 09L - A5; 09R - S4E and N4E; 27L - S6 and N7; 27R - A11.

   c. **Aircraft lands but cannot contact Heathrow Ground due to RTF congestion:** In this case the pilot should completely vacate the landing runway and taxi into the first taxiway available. The pilot should then hold position until contact with GMC can be established.

c. Aircraft Separation

   a. In certain weather conditions 2.5 NM radar separation may be applied on final approach. The conditions when this separation may be utilised are:

      1. Visibility and cloud ceiling equal to or better than 10 KM and 1500 FT with a minimum recommended headwind component of approximately 10 KT.

      2. Braking action is good.

      3. When aircraft involved in the procedure are being operated normally. It is the pilot's responsibility to inform ATC if they are operating their aircraft other than in the normal manner.

      4. Speed on final approach and 2.5 NM separation from preceding traffic must be stabilised by 8 NM.

AIP Noise abatement procedures Heathrow continued

EGLL AD 2.21 NOISE ABATEMENT PROCEDURES

Notice under Section 78(1) of the Civil Aviation Act 1982

Whereas:

(1) By virtue of the Civil Aviation (Designation of Aerodromes) Order 1981 (a) Heathrow Airport – London is a designated aerodrome for the purpose of Section 78 of the Civil Aviation Act 1982 (b);

(2) the requirements specified in this notice appear to the Secretary of State to be appropriate for the purpose of limiting, or of mitigating the effect of, noise and vibration connected with the taking off or, as the case may be, landing of aircraft at Heathrow Airport – London;

Now, therefore, the Secretary of State, in exercise of the powers conferred on him by Section 78 (1) and (12) of the Civil Aviation Act 1982, by this notice published in the manner prescribed by the Civil Aviation (Notices) Regulations 1978 (c), hereby provides as follows:

1 This notice may be cited as the Heathrow Airport – London (Noise Abatement Requirements) Notice 2010 and shall come into operation on 1 July 2010.

2 The Heathrow Airport – London (Noise Abatement Requirements) Notice 2004 (d) is hereby revoked.

3 It shall be the duty of every person who is the operator of any aircraft which is to take off or land at Heathrow Airport – London to secure that, after the aircraft takes off or, as the case may be, before it lands at the aerodrome the following requirements are complied with:

1. After take-off the aircraft shall be operated in such a way that it is at a height of not less than 1000 FT AAL at 6.5 KM from start of roll as measured along the departure track of that aircraft.

2. The sites of the noise monitoring terminals relating to Heathrow Airport – London are:

Description	OS Co-ordinates	Elevation above aerodrome	Latitude	Longitude
Site 6: Thames Water, Wraysbury	TQ 0204 7510	-6 M	*512756N	0003157W
Site 19 (A): Colnbrook	TQ 0263 7700	-4 M	*512857N	0003124W
Site 18 (B): Poyle	TQ 0278 7647	-4 M	*512840N	0003117W
Site 17 (C): Horton	TQ 0219 7566	-6 M	*512814N	0003148W
Site 15 (D): Coppermill	TQ 0197 7477	-7 M	*512745N	0003201W
Site 14 (E): Wraysbury Reservoir (South)	TQ 0169 7409	-7 M	*512724N	0003216W
Site 11 (F): Hounslow West	TQ 1151 7606	-3 M	*512821N	0002345W
Site 12 (G): Hounslow Cavalry Barracks	TQ 1166 7560	-3 M	*512806N	0002338W
Site 10 (H): Hounslow Heath	TQ 1163 7495	-3 M	*512745N	0002340W
Site 13 (I): East Feltham	TQ 1164 7398	-4 M	*512714N	0002341W
Site 20 (J): Hounslow Cavalry Barracks North	TQ 1172 7577	-3 M	*512812N	0002334W
Site 21 (K): Hounslow Heath Golf Course	TQ 1148 7462	-4 M	512735N	0002348W

3. Subject to sub-paragraphs (5) and (6) below, any aircraft shall, after take-off, be operated in such a way that it will not cause more than 94 dBA L_{max} by day (from 0700 to 2300 hours local time) as measured at any noise monitoring terminal at any of the sites referred to in sub-paragraph (2) above.

4. Subject to sub-paragraphs (5) and (6) below, any aircraft shall, after take-off, be operated in such a way that it will not cause more than 89 dBA L_{max} by night (from 2300 to 0700 hours local time) and that it will not cause more than 87 dBA L_{max} during the night quota period (from 2330 to 0600 hours local time) as measured at any noise monitoring terminal at any of the sites referred to in sub-paragraph (2) above.

AIP Noise abatement procedures Heathrow continued

5. The limits specified in sub-paragraphs (3) and (4) above shall be adjusted in accordance with the following table in respect of any noise monitoring terminal at any of the sites referred to in the table in sub-paragraph (2) above to take account of the location of that terminal and its ground elevation relative to the aerodrome elevation.

Description	Adjustment dBA	Description	Adjustment dBA
Site 6	minus 0.3	Site 11 (F)	plus 0.9
Site 19 (A)	plus 2.3	Site 12 (G)	minus 0.1
Site 18 (B)	plus 4.8	Site 10 (H)	plus 1.2
Site 17 (C)	minus 0.3	Site 13 (I)	minus 0.3
Site 15 (D)	minus 0.6	Site 20 (J)	minus 0.2
Site 14 (E)	minus 1.0	Site 21 (K)	plus 1.7

6. For the purpose of determining an infringement of the limits specified in sub-paragraphs (3) and (4) above, if the aircraft was required to take-off with a tailwind, an amount of up to 2 dB of the noise recorded at the noise monitor should be disregarded. The amount to be disregarded shall be:

   - 0.4 dB for a tailwind of up to 1 KT
   - 0.8 dB for a tailwind exceeding 1 KT but not exceeding 2 KT
   - 1.2 dB for a tailwind exceeding 2 KT but not exceeding 3 KT
   - 1.6 dB for a tailwind exceeding 3 KT but not exceeding 4 KT
   - 2.0 dB for a tailwind exceeding 4 KT.

   For this purpose, tailwind is to be calculated from the wind data measured in the on-airfield anemometers and wind vanes according to the formula:

   (windspeed x cosine (runway heading minus wind direction)) x – 1.

7. Where the aircraft is a jet aircraft, after passing the point referred to in sub-paragraph (1) above, it shall maintain a gradient of climb of not less than 4% to an altitude of not less than 4000 FT. The aircraft shall be operated in such a way that progressively reducing noise levels at points on the ground under the flight path beyond that point are achieved.

8. After the aircraft takes off from any runway specified in the first column of the following table, the aircraft shall follow the Noise Preferential Routeing Procedure specified in the third column of the table which relates to the ATC clearance previously given to the aircraft and specified in the second column of the table, whether flying in IMC or VMC:

   a. Provided that nothing in this sub-paragraph (8) shall apply:

   a. to any propeller driven aircraft whose MTWA does not exceed 5700 KG; or

   b. during the period between 0600 and 2330 hours (local time), any propeller driven aircraft whose MTWA does not exceed 17000 KG or any Dash 7 aircraft.

9. Where the aircraft is approaching the aerodrome to land it shall commensurate with its ATC clearance minimise noise disturbance by the use of continuous descent and low power, low drag operating procedures (referred to in Detailed Procedures for descent clearance in AD 2 paragraphs 3 and 4). Where the use of these procedures is not practicable, the aircraft shall maintain as high an altitude as possible. In addition, when descending on initial approach, including the closing heading, and on intermediate and final approach, thrust reductions should be achieved where possible by maintaining a ‘clean’ aircraft configuration and by landing with reduced flap, provided that in all the circumstances of the flight this is consistent with safe operation of the aircraft.

AIP Noise abatement procedures Heathrow continued

10. Subject to sub-paragraph (11) below:

    a. Between 0600 and 2330 hours (local time) where the aircraft is approaching Runway 27 (L or R) and is using the ILS in IMC or VMC it shall not descend on the glidepath below an altitude of 2500 FT (Heathrow QNH) before being established on the localizer, nor thereafter fly below the glidepath. An aircraft approaching without assistance from the ILS shall follow a descent path which will not result in its being at any time lower than the approach path that would be followed by an aircraft using the ILS glidepath, and shall follow a track to intercept the extended runway centre-line at or above 2500 FT.

    b. Between 2330 and 0600 hours (local time) where the aircraft is approaching runway 27 (L or R) and is using the ILS in IMC or VMC it shall not descend on the glidepath below an altitude of 3000 FT (Heathrow QNH) before being established on the localizer at not less than 10 NM from touchdown, nor thereafter fly below the glidepath. An aircraft approaching without assistance from the ILS shall follow a descent path which will not result in its being at any time lower than the approach path that would be followed by an aircraft using the ILS glidepath, and shall follow a track to intercept the extended runway centre-line at or above 3000 FT.

    c. Between 0700 and 2300 hours (local time) where the aircraft is approaching Runway 09 (L or R) and is using the ILS in IMC or VMC it shall not descend on the glidepath below an altitude of 2500 FT (Heathrow QNH) before being established on the localizer, nor thereafter fly below the glidepath. An aircraft approaching without assistance from the ILS shall follow a descent path which will not result in its being at any time lower than the approach path that would be followed by an aircraft using the ILS glidepath, and shall follow a track to intercept the extended runway centre-line at or above 2500 FT.

    d. Between 2300 and 0700 hours (local time) where the aircraft is approaching Runway 09 (L or R) and is using the ILS in IMC or VMC it shall not descend on the glidepath below an altitude of 3000 FT (Heathrow QNH) before being established on the localizer at not less than 10 NM from touchdown, nor thereafter fly below the glidepath. An aircraft approaching without assistance from the ILS shall follow a descent path which will not result in its being at any time lower than the approach path that would be followed by an aircraft using the ILS glidepath, and shall follow a track to intercept the extended runway centre-line at or above 3000 FT.

11. Nothing in sub-paragraph (10) above shall apply to any propeller driven aircraft whose MTWA does not exceed 5,700 KG.

12. Without prejudice to the provisions of sub-paragraphs (1) - (11) above, the aircraft shall at all times be operated in a manner which is calculated to cause the least disturbance practicable in areas surrounding the aerodrome.

13. The requirements set out in sub-paragraphs (1) - (12) above may at any time be departed from to the extent necessary for avoiding immediate danger or for complying with the instructions of an Air Traffic Control Unit.

4 In this notice, except where the context otherwise requires:

'local time' means, during any period of summer time, the time fixed by or under the Summer Time Act 1972 (e), and outside that period, Universal Co-ordinated Time;

'dBA' means a decibel unit of sound level measured on the A-weighted scale, which incorporates a frequency dependent weighting approximating the characteristics of human hearing;

'Lmax' means the highest instantaneous sound level recorded (with the noise monitoring terminal set at the slow meter setting);

other abbreviations used are defined in GEN 2-2 of the United Kingdom Aeronautical Information Publication (Air Pilot).

J Hotchkiss
Divisional Manager
Aviation Environmental Division
Department for Transport

7 April 2010

a. S.I. 1981/651.
b. 1982 c.16.
c. S.I. 1978/1303.
d. The Heathrow Airport – London (Noise Abatement Requirements) Notice 2004 signed by G Pendlebury on 24 March 2004.
e. 1972 c.6.

AIP Noise abatement procedures Heathrow continued

Notes (These notes are not part of the notice)

1. The Noise Preferential Routeing Procedures specified in the above notice are compatible with normal ATC requirements. The use of the routeings specified above is supplementary to noise abatement take-off techniques as used by piston-engined, turbo-prop, turbo- jet and turbofan aircraft.
2. The attention of operators is drawn to the provisions of Section 78 (2) of the Civil Aviation Act 1982, under which if it appears to the Secretary of State that any of the requirements in this notice have not been complied with as respects any aircraft, he may direct the manager of the aerodrome to withhold facilities for using the aerodrome from the operator of the aircraft. However, the Secretary of State accepts that occasional and exceptional breaches of the noise limits, or of the height requirement, would not be expected to lead to sanctions under Section 78 (2). Such breaches would, however, run the risk of financial penalties.
3. Noise from ground running of aircraft engines is controlled in accordance with instructions issued by Heathrow Airport Limited.
4. In the interests of noise abatement, certain restrictions are imposed on the operation of training flights at this aerodrome. Operators concerned are advised to obtain details from Heathrow Airport Limited.
5. To minimise disturbance in areas adjacent to the aerodrome, commanders of aircraft are requested to avoid the use of reverse thrust after landing, consistent with the safe operation of the aircraft, between 2330 and 0600 hours (local time).
6. Full details concerning the maximum number of occasions and the types of aircraft which are permitted to take off or land at night during specified periods at this aerodrome are promulgated by Supplement.
7. For monitoring purposes, a descent will be deemed to have been continuous provided that no segment of level flight longer than 2.5 NM occurs below 6000 FT QNH and ‘level flight’ is interpreted as any segment of flight having a height change of not more than 50 FT over a track distance of 2 NM or more, as recorded in the airport Noise and track-keeping system.
8. For monitoring purposes, a departure will be deemed to have complied with the Noise Preferential Routeing (NPR) if, in the portion of flight below the appropriate vectoring altitude (see note 9 below), it is properly recorded by the airport’s noise and track-keeping (NTK) system as having flown wholly within the Lateral Swathe (LS). The LS is defined from the centre-line of the relevant route coded in the NTK system, based upon a map accredited for this purpose by the Department for Transport, by the closer to the route centre-line depicted on the map of (a) a pair of lines either side, each diverging at an angle of 10° from a point on the runway centre-line 2000 M from start-of-roll; and (b) a pair of parallel lines representing a distance of 1.5 KM either side of the route centre-line. For avoidance of doubt, the depicted route and LS may include curved sections representing turns.
9. Aircraft which have attained an altitude of 4000 FT (Heathrow QNH) may be directed by air traffic controllers onto a different heading and commanders complying with any such direction will not by reason of so complying be deemed to have departed from the Noise Preferential Routeing.

AIP Noise abatement procedures Heathrow continued

EGLL AD 2.22 FLIGHT PROCEDURES

(…)

7 DEPARTURE PROCEDURES

a. Standard Instrument Departure (SID) procedures for aircraft departing from London Heathrow Airport are detailed at AD 2-EGLL-6-1 to 6-7 and incorporate the Noise Preferential Routes (NPRs) detailed in AD 2.21.

b. Departure Speed Restriction: In order to optimise the departure flow and assist in the separation between successive departing aircraft a speed limit of 250 KT IAS below FL 100 is applicable until removed by ATC. ATC may remove the speed restriction by using the phrase 'No ATC Speed Restriction'. **Pilots are reminded that this phrase does not relieve the pilot of the responsibility to adhere to the ground track of the Noise Preferential Route, which may require a speed/power limitation.**

c. If for any reason pilots are unable to comply with the 250 KT IAS speed restriction the pilot should immediately advise ATC and state the minimum speed acceptable. If a pilot anticipates before departure that they will be unable to comply with the speed restriction, they should inform ATC when requesting start-up clearance, stating the minimum speed acceptable. In this case the pilot will be informed before take-off of any higher speed limitation.

d. Flight crew of aircraft unable to meet SID climb restrictions must inform Heathrow Delivery via voice prior to pushback. Restrictions/delays may apply.

8 VFR AND SPECIAL VFR CLEARANCE IN THE LONDON CTR

a. VFR and Special VFR clearances for flights within the London CTR may be requested and will be given whenever traffic conditions permit. These flights are subject to the general conditions laid down for VFR and Special VFR flights detailed at ENR 1.2 and will normally be given only to aircraft which carry RTF including the appropriate frequencies listed in EGLL AD 2.18.

b. The use of VFR and Special VFR clearances is intended for the following types of flight:

   a. Light aircraft that wish to proceed to or from an aerodrome/landing site within the CTR or to transit the CTR;

   b. Aircraft using the local flying areas and the access lanes notified for Brooklands, Denham, Fairoaks and White Waltham and complying with the published procedures will be considered as complying with a VFR clearance;

   c. Aircraft carrying out non-standard flights, such as photographic survey flights, which may require penetration of the London CTR in VMC.

c. Weather minima for aircraft arriving, departing or helicopter crossing at Heathrow is as follows;

Type of Operation	Visibility Restriction	Cloud Restriction
VFR arrival/departure/heli crossing	5 KM or more	Cloud Ceiling 1500 FT or greater
SVFR arrival/departure/heli crossing	2 KM or more	Cloud Ceiling 600 FT or greater

d. *Note: SVFR helicopter crossings should normally be restricted to High Flight Priority (A-E) helicopters.*

e. Access to the Inner Area of the London CTR (see paragraph 11 and AD-2-EGLL-3-2) requires PPR by telephone on the day at least 60 minutes in advance. Prior notification of Inner Area flights, other VFR or Special VFR flights and general enquiries about flights in the London CTR may be made via the London Terminal Control Senior Watch Assistant, Tel: 02380-401110.

f. Pilots who wish to depart Heathrow on a VFR or Special VFR clearance should pass brief details of their flight to Heathrow ATC, by telephone 020-8750 2578, and not to ATC by RTF.

g. Non-scheduled arrival flights by single-engined and light twin-engined fixed wing aircraft which are unable to accept an IFR clearance will be cleared to London Heathrow on a VFR or Special VFR clearance, at an altitude below 2500 FT (London Heathrow QNH) subject to the weather minima in (c). If the weather observations at London Heathrow are below either of these minima, clearance to enter the London CTR will not be granted.

AIP Noise abatement procedures Heathrow continued

h. It will remain the responsibility of the pilot to remain at all times in flight conditions which will enable him to determine his flight path and to keep clear of obstacles, and to ensure that he is able to comply with SERA.3105 Minimum Heights unless otherwise permitted by the CAA. Pilots must inform the Radar Controller if compliance with the above entails a change of heading or height.

i. VFR and Special VFR flights may be subject to delay when parts of the route are outside radar cover or when they cannot be fitted readily into gaps in the IFR traffic flow. Pilots should therefore always ensure that they have adequate fuel reserves and are able to divert to another aerodrome if necessary.

9 LOCAL FLYING ARRANGEMENTS AND SPECIAL ACCESS LANES FOR BROOKLANDS, DENHAM, FAIROAKS, LONDON HELIPORT, RAF NORTHOLT AND WHITE WALTHAM AERODROMES.

a. Flights within the Local Flying Areas (LFA) of aerodromes within, or adjacent to, the London CTR, may be made subject to certain conditions. Details of those for Denham, Fairoaks, London Heliport and White Waltham appear in the relevant AD sections, RAF Northolt can be found in the Military AIP. An additional local flying area is established for the unlicensed aerodrome at Brooklands and is detailed below.

b. Brooklands

   a. Within a local flying area of 1 NM radius, centred on position 512103N 0002812W, but excluding that part to the east of the B374 road and a line bearing 180°T from the A245/B374 road junction and excluding the area south of the southern boundary of the London CTR, VFR flights may take place, subject to prior permission obtained from Brooklands Museum Trust Ltd.

      1. Aircraft to remain below cloud with the surface in sight;
      2. Maximum Altitude: 1500 FT QNH;
      3. Prior permission **must** be obtained from Brooklands Museum Trust Ltd.

Note 1: Pilots of aircraft flying in the local flying area are responsible for providing their own separation from other aircraft operating in the relevant airspace.

Note 2: In addition to paragraph (b), VFR flights must also comply with the VMC minima for Class D airspace detailed at ENR 1.2.

Note 3: Aircraft unable to operate VFR may operate Special VFR, subject to approval from Heathrow Radar, within the LFA subject to the conditions in paragraph (b) and the requirements for Special VFR flights detailed at ENR 1.2.

Note 4: The carriage of a Mode S Transponder within the LFA is encouraged, however there is currently no requirement for aircraft operating in the Brooklands LFA to comply with the requirements of the London CTR Mode S Transponder Mandatory Zone (TMZ). Pilots of suitably equipped aircraft shall utilise the transponder to the maximum serviceable extent with altitude information selected when fitted.

10 VFR AND SPECIAL VFR HELICOPTER FLIGHTS IN THE LONDON CTR AND LONDON CITY CTR

(...)

Noise

a. On all notified helicopter routes, in order to minimize noise nuisance, pilots should maintain the maximum altitude compatible with their ATC clearance and with the prevailing cloud conditions.

b. Pilots are requested wherever possible to avoid overflying hospitals, palaces, schools and prisons.

ANNEX 9

Overview of Heathrow's noise insulation schemes

Heathrow's Noise Insulation Schemes

Overview

In our Noise Action Plan (2019 - 2023) we committed to undertake a detailed review of our existing community noise insulation and vortex (NIV) schemes and practices in 2021, with a view to launching a new noise insulation strategy in 2023.

Having concluded this review, we are preparing to launch our new strategy in 2023, consistent with Heathrow's 2.0 noise objective, UK policy and ICAO's Balanced Approach to Noise Management.

We are planning to introduce a transition stage in 2023 to respond to expressions of interest registered with Heathrow before the existing NIV schemes were closed in June 2022.

Then in 2024 we will roll out our new schemes for dwellings and community buildings which will provide 100% Heathrow funding for noise insulation and ventilation costs*. This will be within eligibility footprints (noise contours) which are based on UK noise policy. As before, we will be offering two scheme families:

1 Residential:
- Noise insulation
- Home relocation assistance
- Vortex impact repair

2 Community Buildings:
- Includes schools, colleges, community halls, libraries, hospitals, hospices, and day nurseries.

In parallel with the new schemes, we plan to undertake academically robust independent research to better understand their effectiveness in reducing annoyance and sleep disturbance and improving residents' quality of life and children's cognition.

Heathrow's Noise Insulation Schemes

Key points

Our offer
- We have simplified our residential schemes into one offer.
- We will cover 100% of the costs of insulation*, benefitting thousands of residential properties.
- We are increasing the maximum payments on our relocation assistance schemes by 60%.
- We are rolling out our school ventilation initiative to remaining schools that have previously qualified for insulation support.
- We will continue with our vortex protection scheme to protect and repair homes around the airport, including the provision of pro-active protection for homes in high-risk areas.

Phased roll-out
- The scheme will be delivered in phases, prioritising those in the highest noise areas.
- We will contact residents as we open each phase and seek to drive take-up to at least 80% with targeted communications.
- The first residents will be contacted from October 2023.

What happens next?
- We will introduce a transition phase to complete legacy properties and applications under the old schemes by the end of 2023.
- We will establish a Prioritisation Panel comprising representative stakeholders to help support the delivery decisions associated with the scheme, identifying properties that are eligible in the first phase of the new scheme and setting out our plan to begin delivering to those households from January 2024.

Who will qualify for the scheme?
- Properties will be eligible if they are located within a single composite boundary based on current UK noise policy.**
- This will be regularly updated to take account of improvements in aircraft fleet and changes in airspace use or design. This will help to reflect and incentivise investment in new fleet technology and operational procedures, as well as ensuring that the scheme continues to remain reflective of the noise climate.

continued overleaf >>

* Up to an inflation-linked maximum of £30,000

** Compliant with existing policy and reflective of the Significant Observed Adverse Effect Level (SOAEL) for day and night and the Sound Exposure Level (SEL) footprint of the noisiest aircraft scheduled to

Overview of Heathrow's noise insulation schemes continued

Heathrow's Noise Insulation Schemes

Overview

In our Noise Action Plan (2019 - 2023) we committed to undertake a detailed review of our existing community noise insulation and vortex (NIV) schemes and practices in 2021, with a view to launching a new noise insulation strategy in 2023.

Having concluded this review, we are preparing to launch our new strategy in 2023, consistent with Heathrow's 2.0 noise objective, UK policy and ICAO's Balanced Approach to Noise Management.

We are planning to introduce a transition stage in 2023 to respond to expressions of interest registered with Heathrow before the existing NIV schemes were closed in June 2022.

Then, in 2024, we will roll out our new schemes for dwellings and community buildings which will provide 100% Heathrow funding for noise insulation and ventilation costs*. This will be within eligibility footprints (noise contours) which are based on UK noise policy. As before, we will be offering two scheme families:

1 Residential:

- Noise insulation
- Home relocation assistance
- Vortex impact repair

2 Community Buildings:

- Includes schools, colleges, community halls, libraries, hospitals, hospices, and day nurseries.

In parallel with the new schemes, we plan to undertake academically robust independent research to better understand their effectiveness in reducing annoyance and sleep disturbance and improving residents' quality of life and children's cognition.

Heathrow's Noise Insulation Schemes

Key points

Our offer

- We have simplified our residential schemes into one offer.
- We will cover 100% of the costs of insulation*, benefitting thousands of residential properties.
- We are increasing the maximum payments on our relocation assistance schemes by 60%.
- We are rolling out our school ventilation initiative to remaining schools that have previously qualified for insulation support.
- We will continue with our vortex protection scheme to protect and repair homes around the airport, including the provision of pro-active protection for homes in high-risk areas.

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- The scheme will be delivered in phases, prioritising those in the highest noise areas.
- We will contact residents as we open each phase and seek to drive take-up to at least 80% with targeted communications.
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- We will introduce a transition phase to complete legacy properties and applications under the old schemes by the end of 2023.
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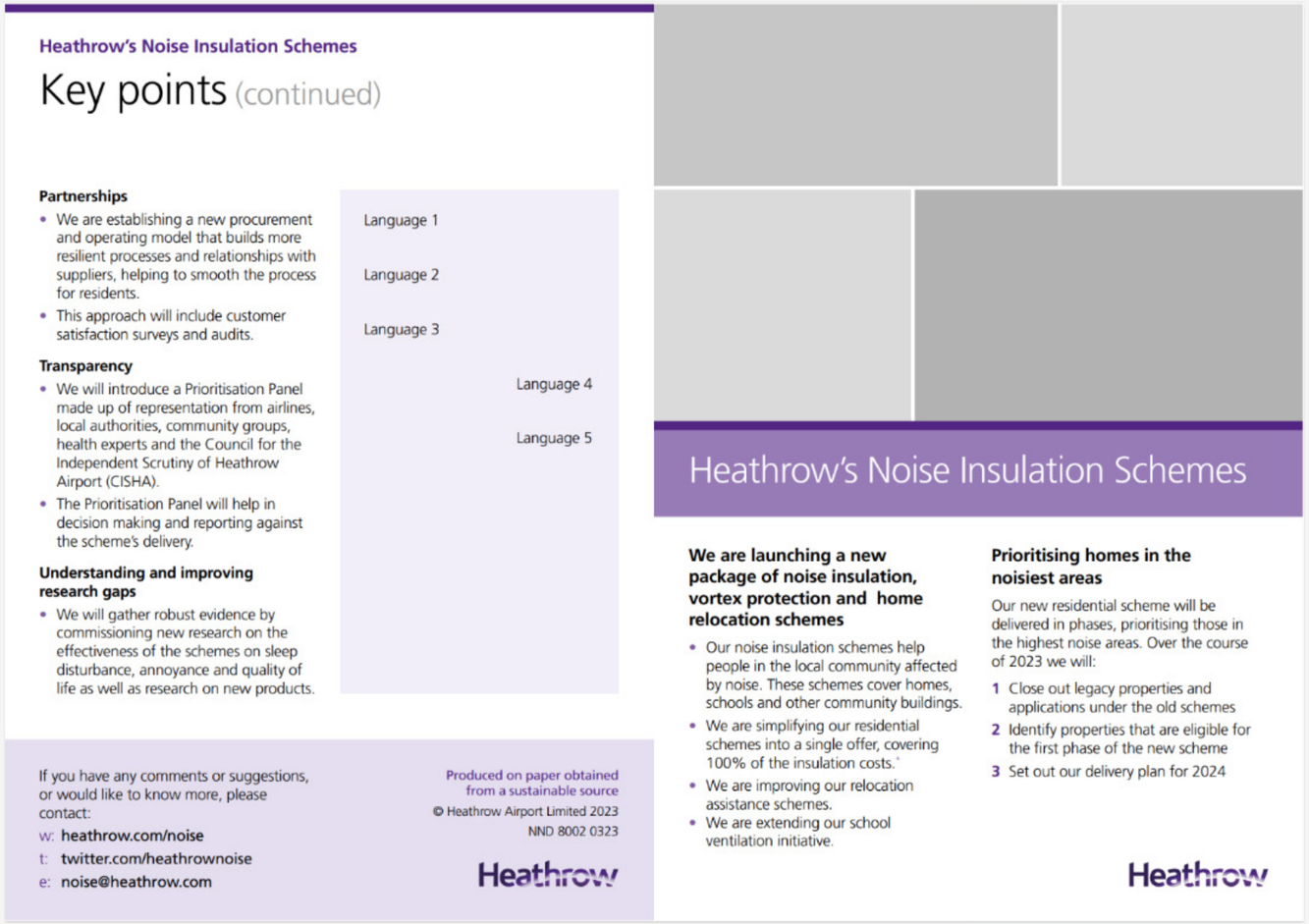
- Properties will be eligible if they are located within a single composite boundary based on current UK noise policy.**
- This will be regularly updated to take account of improvements in aircraft fleet and changes in airspace use or design. This will help to reflect and incentivise investment in new fleet technology and operational procedures, as well as ensuring that the scheme continues to remain reflective of the noise climate.

continued overleaf >>

* Up to an inflation-linked maximum of £30,000

** Compliant with existing policy and reflective of the Significant Observed Adverse Effect Level (SOAEL) for day and night and the Sound Exposure Level (SEL) footprint of the noisiest aircraft scheduled to operate before 06:00

Overview of Heathrow's noise insulation schemes continued



Heathrow's Noise Insulation Schemes

Key points (continued)

Partnerships

- We are establishing a new procurement and operating model that builds more resilient processes and relationships with suppliers, helping to smooth the process for residents.
- This approach will include customer satisfaction surveys and audits.

Transparency

- We will introduce a Prioritisation Panel made up of representation from airlines, local authorities, community groups, health experts and the Council for the Independent Scrutiny of Heathrow Airport (CISHA).
- The Prioritisation Panel will help in decision making and reporting against the scheme's delivery.

Understanding and improving research gaps

- We will gather robust evidence by commissioning new research on the effectiveness of the schemes on sleep disturbance, annoyance and quality of life as well as research on new products.

Language 1

Language 2

Language 3

Language 4

Language 5

If you have any comments or suggestions, or would like to know more, please contact:

w: **heathrow.com/noise**

t: **twitter.com/heathrownoise**

e: **noise@heathrow.com**

Heathrow

Heathrow's Noise Insulation Schemes

We are launching a new package of noise insulation, vortex protection and home relocation schemes

- Our noise insulation schemes help people in the local community affected by noise. These schemes cover homes, schools and other community buildings.
- We are simplifying our residential schemes into a single offer, covering 100% of the insulation costs.*
- We are improving our relocation assistance schemes.
- We are extending our school ventilation initiative.

Prioritising homes in the noisiest areas

Our new residential scheme will be delivered in phases, prioritising those in the highest noise areas. Over the course of 2023 we will:

1. Close out legacy properties and applications under the old schemes
2. Identify properties that are eligible for the first phase of the new scheme
3. Set out our delivery plan for 2024

Heathrow

ANNEX 10

Comments from independent auditor

We will include the results and comments from the ongoing external audit for the 2019-2022 period as evidence in the final version of the 2024-2028 Noise Action Plan.

ANNEX 11

Strategic noise maps

The 2021 Strategic Noise Maps for Heathrow were included in the DEFRA Airport Noise Action Plan Data Pack 2023 London Heathrow Airport (EGLL) February 2023 and are reproduced below. These contours include 2021 L_{den}, L_{day}, $L_{evening}$, L_{night} and $LA_{eq}16hr$.

Contours were also published in Heathrow Airport 2021 Summer Noise Contours and Noise Action Plan Contours (ERCD Report 2201) which is available on the Heathrow website at ERCD REPORT 2201 – Heathrow Airport 2021 Summer and Noise Action Plan Contours.

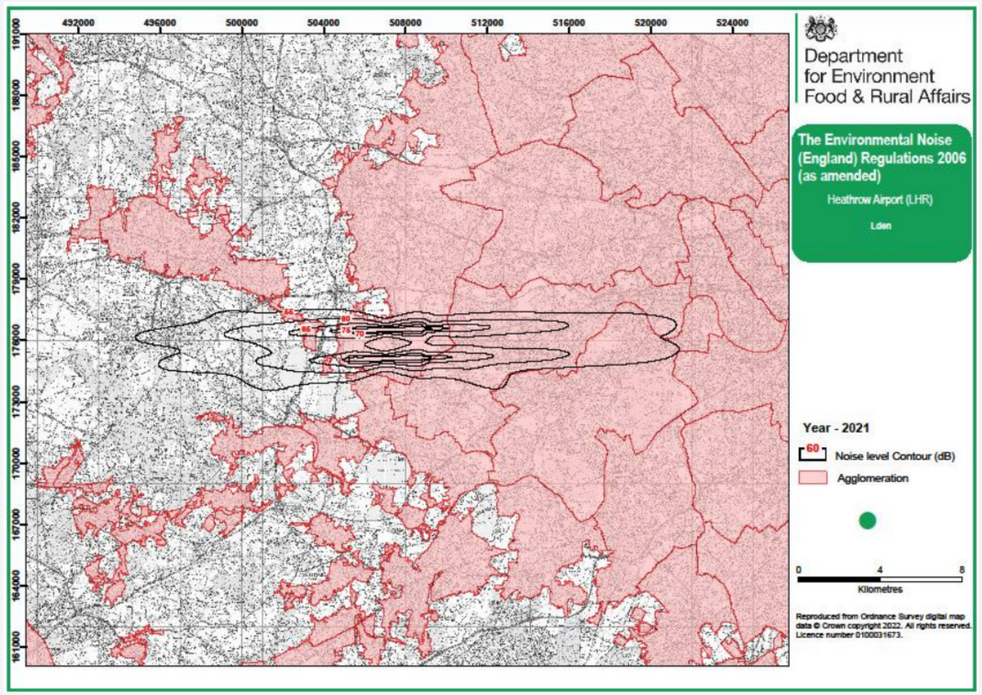


Figure 11.1

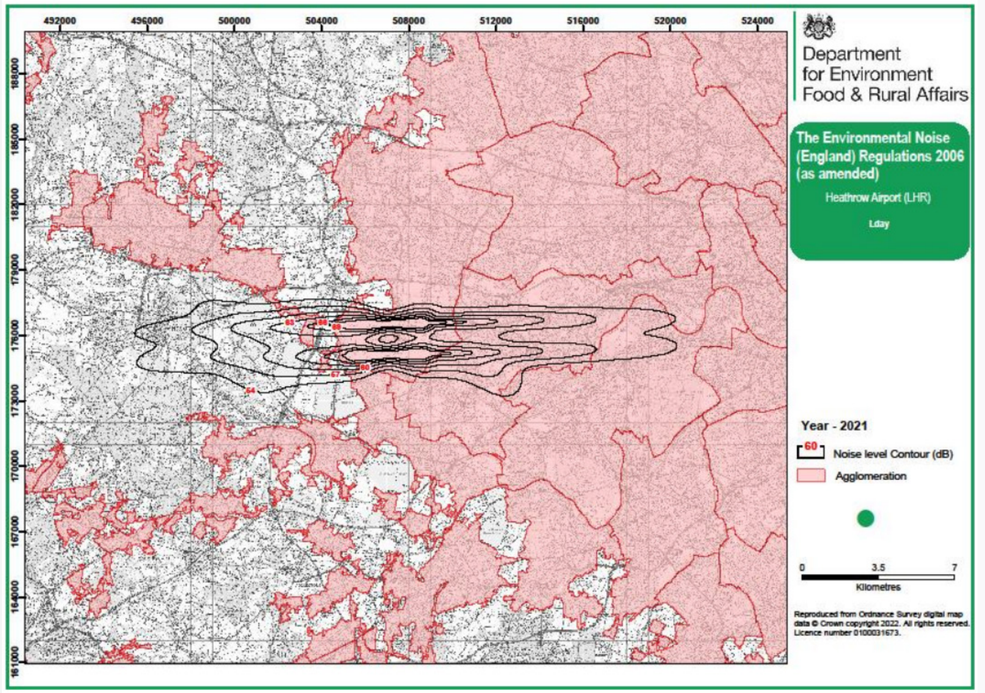


Figure 11.2

Strategic noise maps continued

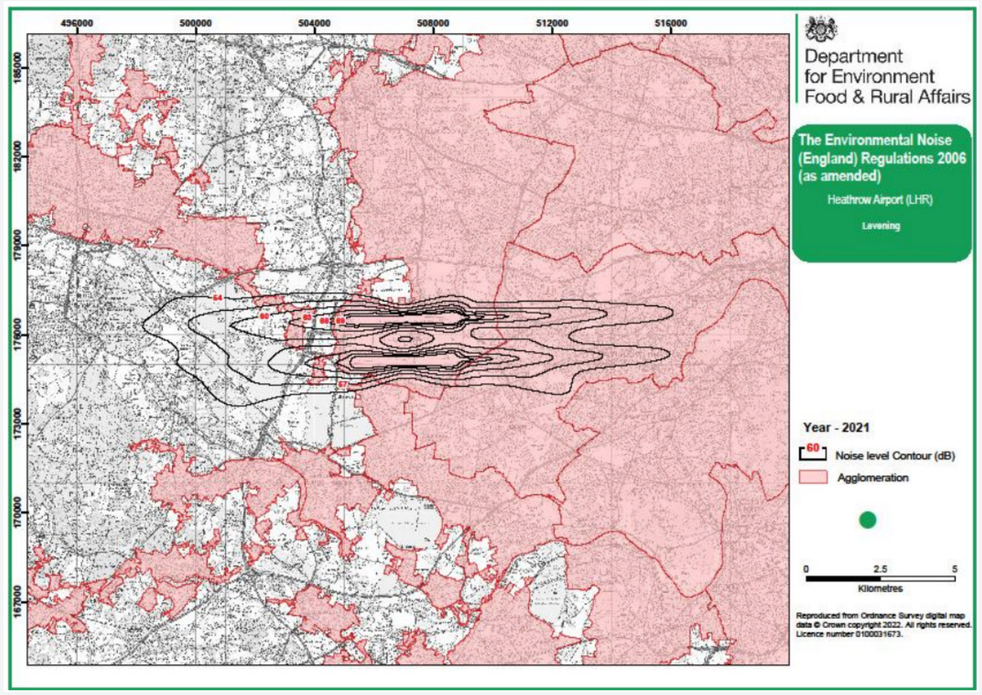


Figure 11.3

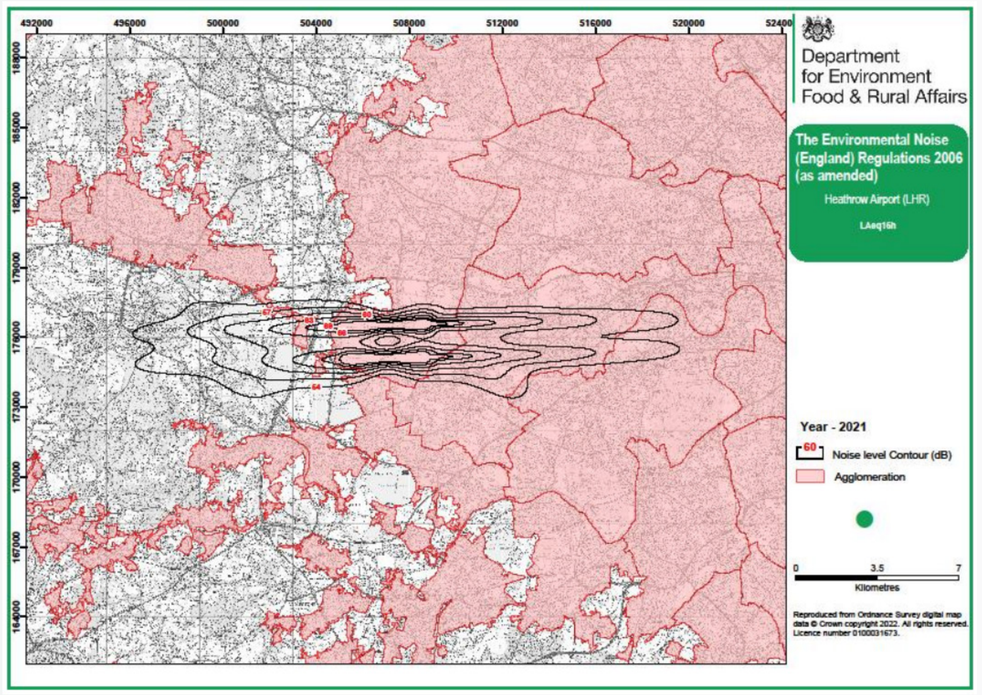


Figure 11.4

Strategic noise maps continued

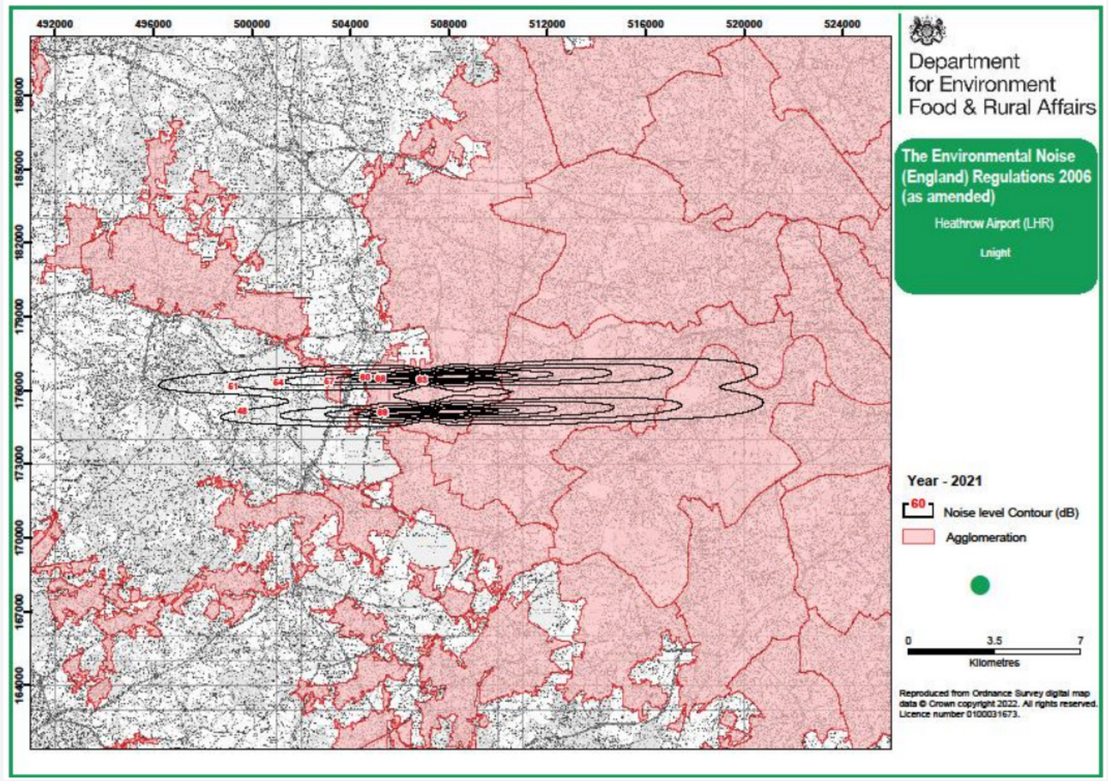


Figure 11.5

ANNEX 12

Noise mapping and impacts 2006-2021

Detailed in the following pages in Tables 12.1a to 12.5c are the results of the 2021 aircraft noise mapping, showing the estimated number of people and dwellings exposed above various noise levels from aircraft using Heathrow airport. Where available, for comparison, road and rail noise impacts in the London Agglomeration are included. It should be noted that the figures quoted for Heathrow include areas outside of the London Agglomeration, whereas the figures for road and rail includes only those within it. As a reference we have also provided the equivalent figures for 2011 and 2016 where they are available. In Tables 12.1c and 12.5c we have provided comparison with population database fixed at 2006 levels.

In all of the tables below the number of dwellings has been rounded to the nearest 50, except when the number of dwellings is greater than zero but less than 50, in which case the total has been shown as '<50'. The associated population has been rounded to the nearest 100, except when the associated population is greater than zero but less than 100, in which case the total has been shown as '<100'.

The results of the Strategic Noise Mapping are provided in Annex 11 and the shape of the contours are illustrative of the location of Heathrow airport in relation to the city of London. The alignment of the two runways means that residents of Windsor and others to the west of the airport as well as Hatton and Feltham to the east are impacted by the airport's operation. Heathrow has witnessed strong growth over recent decades, handling 80.9 million passengers and 479,200 flights a year (2019) compared to around 56 million passengers and 440,000 flights in the year 1996. The impacts of the Covid pandemic become evident from 2020, with 195,275 flights recorded in 2021.

The prevalence of westerly winds means that approximately 70% of aircraft arrivals come from the east, over London, and around 70% of departures are to the west.

There are six departure routes for each runway for both easterly and westerly operations, and the L_{den} maps indicate the impact of these so-called Noise Preferential Routes (NPR) particularly to the west where the departure routes form spurs in the contours over parts of Slough, Windsor and Egham. (See Annex 3).

For aircraft arriving at Heathrow the contour is significantly influenced by arrivals from the east where a long single spur of the 55dB L_{den} contour extends over Barnes and Fulham to the east.

The impact of departures is less marked on the L_{night} contour map reflecting that the night period typically consists of scheduled arrivals.

Noise level (dB)	Area (km²)				Number of dwellings				Number of people			
	2006	2011	2016	2021	2006	2011	2016	2021	2006	2011	2016	2021
≥ 55	244.7	221.9	198.0	75.6	314,350	329,900	288,050	84,500	725,500	766,100	683,700	215,000
≥ 60	92.7	79.6	74.5	30.2	81,000	73,650	72,050	20,950	191,400	191,500	193,700	61,000
≥ 65	37.1	32.0	28.9	9.1	22,000	18,250	15,050	2,150	56,400	52,700	45,600	6,800
≥ 70	13.7	10.7	9.5	3.2	3,500	2,250	1,450	<50	9,700	6,600	4,500	<100
≥ 75	5.0	4.0	3.4	1.4	250	<50	<50	0	600	100	<100	0

Table 12.1a: Estimated total number of people and dwellings above various noise levels L_{den}

Noise level (dB)	Area (km2)			Number of dwellings			Number of people			Number of people (road)		Number of people (rail)	
	2011	2019	2021	2011	2019	2021	2011	2019	2021	2011	2021	2011	2021
≥ 55	221.9	176.2	75.6	329,900	268,400	84,500	766,100	664,300	215,000	2,387,200	tbc	525,200	tbc
≥ 60	76.9	69.0	30.2	73,650	68,800	20,950	191,500	186,600	61,000	1,426,100	tbc	308,500	tbc
≥ 65	32.0	26.4	9.1	18,250	15,500	2,150	52,700	46,400	6,800	1,027,200	tbc	158,100	tbc
≥ 70	10.7	8.5	3.2	2,250	1,500	<50	6,600	4,800	<100	597,800	tbc	59,800	tbc
≥ 75	4.0	3.1	1.4	<50	0	0	100	0	0	99,200	tbc	15,200	tbc

Table 12.1b: Estimated total number of people and dwellings above various noise levels L_{den}

Noise mapping and impacts 2006-2021 continued

Tables 12.1a to 12.5c show that for L_{den}, L_{day}, $L_{evening}$, L_{eq},16h and L_{night} the number of dwellings and people in each band (with very few exceptions) have decreased between 2006, 2011, 2016 and 2021. The reduction in air traffic as a result of the Covid pandemic is evident in the data for 2021.

The L_{den} results (Tables 12.1a to 12.5c) show that the area of the contours has reduced for all contour levels. The area of the 55 dB L_{den} contour in 2021 was 75.6 km^2 and was estimated to contain a population of 215,000. Table 12.1b presents the results for 2019, the most recent year of typical air traffic levels pre-pandemic. These data are provided by our annual Noise Action Plan contours report produced by the CAA. The area of the 55 dB L_{den} contour in 2019 was 176.2 km^2 (28% lower than in 2006) and was estimated to contain a population of 663,300. This compares with 683,700 in 2016, 766,100 in 2011 and 725,500 in 2006. It should be noted there is a difference between the population and household results calculated by the CAA for 2019 and those provided by DEFRA in the data pack. This is the result of the CAA using a different population dataset from that used by DEFRA.

For the L_{night} contours the pattern is slightly more complex, with the DEFRA data packs showing a reduction in contour areas, dwellings and population from 2011 to 2016 and 2021 (Table 12.5a). It should be noted that the data for 2021 reflects the reduction in air traffic as a result of the Covid pandemic. Table 12.5b includes L_{night} data for 2019, the most recent year of typical air traffic levels pre-pandemic, together with a comparison against road and rail exposure numbers. It should be noted this information uses different contour bands and population data to that of the DEFRA data pack. This data shows a reduction in contour areas between 2011 and 2019, but an increase in dwellings and population. This is attributed to changes in the population (encroachment) with time. There are no contour bandings where the numbers exposed to air noise at night exceed road or rail exposure numbers. Tables 12.1c and 12.5c show the population change if the population had remained constant.

There is a difference between the population and household results calculated by the ERCD and those provided by DEFRA in the data pack. The results for the number of people affected given in the ERCD report were derived by consultants for the CAA using a different population dataset from that which was used by DEFRA. The same noise mapping contour results were used as the basis for both assessments.

There is also a difference between the DEFRA population datasets used for the 2006 mapping and the 2021 mapping. The latest census data has been used for the most recent mapping and this reflects a general increase in population and dwellings that has occurred across London, including areas within the noise contours. For details on our noise contours reports, see Reports | Heathrow.

L_{den} (dB)	Area (km^2)			Population			Household		
	2006	2019	% Change	2006	2019	% Change	2006	2019	% Change
≥ 55	244.7	176.7	-28%	756.1	644.7	-15%	338.5	260.2	-23%
≥ 60	92.7	68.6	-26%	194.6	182.7	-6%	81.6	67.1	-18%
≥ 65	37.1	26.1	-30%	54.3	44.3	-18%	21.4	14.7	-31%
≥ 70	13.7	8.4	-39%	9.6	4.3	-55%	3.5	1.3	-63%
≥ 75	5.0	3.0	-40%	0.7	0.0	-100%	0.3	0.0	-100%

Table 12.1c: Heathrow 2006 & 2019 L_{den} cumulative contour area, population and household estimates – assuming 2006 W/E runway modal split and 2006 N/S runway usage

Noise level (dB)	Number of dwellings				Number of people			
	2006	2011	2016	2021	2006	2011	2016	2021
≥ 54	262,300	256,500	227,950	77,750	605,700	611,600	554,900	201,500
≥ 57	107,600	97,350	97,450	33,100	253,700	249,800	258,300	94,200
≥ 60	43,300	41,750	41,350	12,000	114,000	115,500	118,600	35,900
≥ 63	21,400	17,300	14,450	2,400	54,100	49,400	43,100	7,200
≥ 66	6,450	4,800	3,900	350	17,300	13,900	11,500	1,200
≥ 69	1,800	1,100	850	<50	4,500	3,000	2,500	<100

Table 12.2: Estimated total number of people and dwellings above various noise levels L_{day}

Noise mapping and impacts 2006-2021 continued

Noise level (dB)	Number of dwellings				Number of people			
	2006	2011	2016	2021	2006	2011	2016	2021
≥ 54	249,650	236,750	176,950	33,250	583,800	577,500	444,400	95,200
≥ 57	105,700	92,600	76,650	6,000	251,000	243,500	208,200	35,200
≥ 60	43,500	36,050	31,550	3,200	108,800	100,400	91,600	7,200
≥ 63	19,200	14,050	9,100	350	48,600	40,000	27,000	1,300
≥ 66	5,500	3,500	2,250	<50	14,400	9,400	6,200	<100
≥ 69	1,550	800	500	0	3,700	1,900	1,300	0

Table 12.3: Estimated total number of people and dwellings above various noise levels $L_{evening}$

Noise level (dB)	Number of dwellings				Number of people			
	2006	2011	2016	2021	2006	2011	2016	2021
≥ 54	258,400	255,100	240,900	67,100	597,700	610,700	588,800	178,300
≥ 57	109,700	95,900	96,500	27,550	258,500	247,100	249,200	79,600
≥ 60	45,150	39,650	42,100	9,250	111,800	110,400	116,400	27,700
≥ 63	20,850	16,650	14,700	1750	52,800	47,500	41,800	5,100
≥ 66	6,200	4,550	4,300	200	16,600	13,000	12,600	600
≥ 69	1,750	1,050	1,100	<50	4,300	2,700	3,000	<100

Table 12.4: Estimated total number of people and dwellings above various noise levels $L_{eq,\ 16hr}$

* 2016 data based on population data provided by ERCD,CAA in Heathrow 2016 Noise Action Plan Contours Report

Noise mapping and impacts 2006-2021 continued

Noise level (dB)	Number of dwellings			Number of people		
	2011	2016	2021	2011	2016	2021
≥ 48	197,950	150,900	63,200	392,000	366,500	163,700
≥ 51	66,950	68,300	25,550	172,700	182,200	72,800
≥ 54	28,850	28,100	11,100	82,500	83,100	33,700
≥ 57	13,750	12,250	1,950	41,000	38,000	6,300
≥ 60	4,850	3,350	300	15,200	10,900	1,100
≥ 63	1,050	550	<50	3,400	2,000	<100
≥ 66	250	<50	0	800	100	0

Table 12.5a: Estimated total number of people and dwellings above various noise levels L_{night}

Noise level (dB)	Area (km2)				Number of dwellings				Number of people				Number of people (road)		Number of people (rail)	
	2006	2011	2019	2021	2006	2011	2019	2021	2006	2011	2019	2021	2011	2021	2011	2021
≥ 50	84.4	74.6	72.2	30.6	88.9	83,200	86,500	32,100	207.2	199,300	228,500	92,600	1,665,400	tbc	388,700	tbc
≥ 55	34.2	26.8	24.2	9.1	24.1	22,500	23,700	7,000	62.0	58,700	70,600	22,200	1,106,500	tbc	214,200	tbc
≥ 60	11.9	9.2	7.8	2.8	6.0	4,700	4,200	500	16.3	13,100	13,700	1,700	649,400	tbc	95,100	tbc
≥ 65	4.5	3.3	2.7	1.1	0.6	600	400	0	1.7	1,700	1,400	0	114,500	tbc	29,700	tbc
≥ 70	1.8	1.5	1.1	0.3	<0.1	0	0	0	>0.1	0	0	0	900	tbc	6,400	tbc

Table 12.5b: Estimated total number of people and dwellings above various noise levels L_{night}*

* based on population data provided by ERCD,CAA in Heathrow 2011 Noise Action Plan Contours Report (1304)w

L_{den} (dB)	Area (km²)			Population			Household		
	2006	2019	% Change	2006	2019	% Change	2006	2019	% Change
≥ 50	84.4	72.2	-14%	207.2	228.5	10%	88.9	86.5	-3%
≥ 55	34.2	24.2	-29%	62.0	70.6	14%	24.1	23.7	-2%
≥ 60	11.9	7.8	-34%	16.3	13.7	-16%	6.0	4.2	-30%
≥ 65	4.5	2.7	-40%	1.7	1.4	-18%	0.6	0.4	-33%
≥ 70	1.8	1.1	-39%	<0.1	0.0	n/a	<0.1	0.0	n/a
≥ 50				207.2	188.2	-9%	88.9	80.4	-10%
≥ 55				62.0	53.4	-14%	24.1	20.7	-14%
≥ 60				16.3	11.1	-32%	6.0	3.9	-35%
≥ 65				1.7	1.2	-29%	0.6	0.4	-33%
≥ 70				<0.1	0.0	n/a	<0.1	0.0	n/a

Table 12.5c: Heathrow 2006 & 2019 L_{night} cumulative contour area, population and household estimates. Estimates for 2019 using the 2006 population database are shown in purple.

ANNEX 13

Actions in noise action plan 2019-2023 progress and outcomes

ACTIONS

Heathrow's first Noise Action Plan, which covered the period 2010 to 2015, contained 66 actions. The second plan, which spanned 2013 to 2018, had 44 actions divided into the five pillars of the noise management framework. The current Noise Action Plan for 2019-2023 has 52 actions.

At the time of writing, 17 actions have either been completed or discontinued, and 35 are proposed to be retained or updated.

To provide traceability and transparency on the evolution of noise abatement measures and their effective outcomes, all ongoing Noise Actions will be commented on for their progress throughout the plan period. Each action will also be compared with its corresponding new actions.

OLD KPI – NOISE ACTION PLAN 2019-2023	DISCUSSION	OUTCOME
Key END Summary Statistic		
1. Area of noise contours for annual average – 55dBA L_{den}, 55dBA L_{night} 8 hr, N70=50, N65=50 and N60=10; and summer average day – 57dBA L_{eq} 16 hr and 69dBA L_{eq} 16 hr	Retain with the addition of Noise Action 12B	See Annex 5. We expect to be well below the forecasted values for 2023. Our initial estimate for 2023 was a contour area of 179.1 Km2 and a population of 655,500 people. However, the data from 2019 shows that the population was 664,300 people and the contour area was 176.2 km2.
Quieter Planes: Measures of Fleet Mix		
2. Moving annual percentage of fleet mix movements within the charging categories	Retain with the addition of Noise Action 2C	Chapter 3 aircraft movements reduced from 11% in 2010 to <0.1% in 2022
Percentage of A320-family movements by retrofitted aircraft	Retain with the addition of Noise Action 2B	>90% A320-family movements are retrofitted
Quieter Procedures: Measures of Operation Performance		
3. Track keeping compliance (excluding 09RCPT) and CDA	Retain with the addition of Noise Action 2B, and 5C	New Noise Action 3I, to raise the monitoring level of CDA from 6000 ft.
In Fly Quiet and Green, the number of green dot performance ratings.	Retain with the addition of Noise Action 3B and 3C	New FQG from Q1 2023
Quieter Planes: Measures of Fleet Mix		
4. Number of eligible households/noise sensitive buildings registered for insulation schemes	Retain with the addition of Noise Actions 7A and 7B	Prioritising homes in the noisiest areas
5. Report of overall satisfaction with insulation scheme	Retain with the addition of Noise Actions 10G	Gathering evidence by commissioning new research on the effectiveness of the schemes on sleep disturbance, annoyance and quality of life as well as research on new products.
Operational Restrictions: Measure of Night Time Respite		
6. For the period 23:30-04:30: a. Number of nights with no arrivals or departures b. Number of nights without non-dispensed flights. Reported monthly with Moving Annual Total, MAT	Retain with the addition of Noise Action 8A	Supported by Heathrow 2.0 Great Place to Live and Work commitment
Working With Local Communities		
7. Public perception as rated by polling	Retain with the addition of Noise Actions 10a and 10B	2023 Survey: "Heathrow Airport works to keep the impact of noise to a minimum." 56% agree, 24% disagree.
General Noise Action Plan Processes		
10. Percentage of actions on track	Retain with Responsible Business Action A	See Annex 13

ANNEX 14

Extracts from DEFRA guidance for airport operators September 2022

Airport Noise Action Plans

Guidance for Airport Operators on how to revise Noise Action Plans under the Environmental Noise (England) Regulations 2006 (as amended)

September 2022

Introduction

1.2 The Regulations require certain airports in England to produce noise maps and Noise Action Plans. The Regulations operate in 5 yearly cycles known as Rounds, with the current round (Round 4) requiring the operators of these airports to produce noise maps in 2022, using data from the 2021 calendar year. These maps are intended to provide a snapshot of the potential noise impact arising from each airport.

1.3 The Noise Action Plan process uses the mapping results and is designed to manage noise issues and effects arising from aircraft departing from and arriving at those airports. Airport Noise Action Plans need to be published by February 2024. Due to Covid travel restrictions, however, mapping for 2021 is likely to show a highly anomalous situation for most airports, and Noise Action Plans drawn up solely on the basis of 2021 data may not result in effective actions within the current and future context of Round 4. It is in the interests of airports and communities for Noise Action Plans to draw on information which best reflects the situation for the Round 4 Noise Action Plan period as appropriate. As a result, airports may supplement the 2021 data with information from a more representative period when drawing up Noise Action Plans. This information is likely to vary from airport to airport, but, if relevant, may include (but is not restricted to) noise contours from the most recent previous round; contours produced to meet other requirements; measured noise data or projections. Decisions as to what data to use should be discussed with the relevant consultative committee or other community groups as appropriate.

1.4 The anomalous nature of 2021 data may also result in difficulties in making comparisons and measuring progress between both previous Rounds and those that may occur in the future. It is recommended that where this is the case these difficulties should be made explicit in the narrative of Noise Action Plans.

1.5 The process set out in the Regulations supports the Government's aim, set out in the Aviation Policy Framework (APF)[2], to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise. The APF makes clear that 'the Government recognises that noise is the primary concern of local communities near airports and we take its impact seriously'. It also sets out that 'future growth in aviation should ensure that benefits are shared between the aviation industry and local communities, and aims to encourage better engagement between airports and local communities and greater transparency to facilitate an informed debate'. Noise Action Plans should identify whether there are any particular or additional measures that might be taken to meet the APF's aims at each airport, including noise reduction if necessary.

[1] http://www.legislation.gov.uk/uksi/2006/2238/contents/made

Extracts from DEFRA guidance for airport operators September 2022 continued

What needs to be included in a Noise Action Plan?

2.1 A Noise Action Plan must be drawn up for places near the airport which are affected by noise from airport operations as shown by the results of the noise mapping[6] and meet a number of requirements set out in the Regulations:

- a description of the airport and any other noise sources taken into account;
- the authority responsible;
- the legal context;
- any limit values in place;
- a summary of the results of the noise mapping, including an evaluation of the estimated number of people exposed to noise;
- identification of problems and situations that need to be improved;
- a record of the public consultations that have taken place;
- any noise reduction measures already in force and any projects in preparation;
- long term strategy;
- actions which the airport operator intends to take in the next five years, including measures to preserve quiet areas;
- financial information (if available): budgets, cost-effectiveness assessment, cost-benefit assessment;
- provisions envisaged for evaluating the implementation and the results of the Noise Action Plan; and
- estimates in terms of the reduction of the number of people affected (annoyed, sleep-disturbed, or other).

How to update and submit a Noise Action Plan

Revising an existing Noise Action Plan

3.1 All of the airports listed in Annex A already have a Noise Action Plan in place from previous rounds of noise mapping. It is envisaged that these airports should follow the process set out below to update their Noise Action Plan.

3.2 The local context of each airport is different. Airport operators are encouraged to work with the airport's consultative committee, community groups and other stakeholders as appropriate to ensure a range of metrics are used in developing effective actions, and that actions are measured in a meaningful and appropriate way. This may include measures beyond the requirements of the legislation where appropriate. Consideration should be given to ensuring that actions focus on outcomes and their benefits within the local context, rather than outputs or processes. Further information on public participation can be found in paragraph 3.5.

3.3 The current plan should be reviewed and revised to include, as necessary:

- updated details about the airport and its operation;
- the results of the noise mapping from 2021 supplemented with any data considered more relevant to noise action planning given that air traffic movements in 2021 are likely to have been affected by pandemic travel restrictions;
- the progress made against the actions described in the current Noise Action Plan;
- updated information about relevant legislation and standards;
- consideration of updated relevant national and local policies;
- information about on-going actions;
- information about any new actions; and
- estimates in terms of the reduction of the number of people affected as a result of new or revised actions (annoyed, sleep-disturbed, or other).

ANNEX 15

Collaboration and consultation 2022 and 2023

DEFRA GUIDANCE

The DEFRA Airport Noise Action Plan Guidance for Airport Operators (September 2022) requires:

- the public is consulted about proposals for Noise Action Plans;
- the public is given early and effective opportunities to participate in the preparation and review of the Noise Action Plans;
- the results of the public participation are taken into account;
- the public is informed of the decisions taken; and
- reasonable time frames are provided allowing sufficient time for each stage of public participation.

It is important that the Noise Action Plan process does not contribute to an "overload" in community engagement, and that the consultation is sufficiently long for interested parties to formulate their responses, taking account of other consultations which may be taking place over the same time period and placing a burden on consultees' resources. It is also important that the issues raised by consultees are demonstrably given thorough consideration by airport operators. We will be looking for evidence of how you have ensured this is the case in your submitted Plans.

To these ends, in 2022 Heathrow undertook to develop a draft Noise Action Plan in a collaborative manner and then, in 2023 with a process approved by DEFRA, we are holding a public consultation to collect feedback on the present draft document. These processes and their resulting outcomes will be described below in the final version.

DEVELOPMENT OF DRAFT NOISE ACTION PLAN

Starting in November 2022, we held twelve meetings with airlines to gather their views on continued, modified and new actions. We also organised three workshops with the working groups of the NACF to collect views and ideas from the local community. In addition, we consulted with other groups including the HSPG, international organisations, NATS, and key stakeholders throughout.

The key outcomes of these collaborative efforts were the draft actions which are included in Section 8 of the draft Noise Action Plan.

Collaboration and consultation 2022 and 2023

PUBLIC CONSULTATION ON THE DRAFT NOISE ACTION PLAN

The draft Noise Action Plan 2024-2028 has been produced for the six-week public consultation which is being held from 5 June to 17 July 2023. The main elements of the consultation include:

- Documentation, background information and downloadable versions of the present draft document and annexes available on the Heathrow consultation website www.heathrowconsultation.com/quieter
- Postcards sent to 300,000 homes and businesses inside the 2019 L_{den} 55dBA noise contour to publicise the consultation. Figure 15.1 opposite shows the area covered by door drop delivery of flyers for this consultation campaign.
- Digital radio advertisements of the consultation targeting the 2019 L_{den} 55dBA noise contour, with 1,902,860 audio impressions during the 2-week period between 5 and 19 June 23.
- Email to the local authorities and members of parliament within the consultation zone (L_{den} 55dBA) to provide information and offer briefing if required.
- A press release issued to local and regional media around Heathrow.
- Two consultations at the Heathrow Academy for local residents and stakeholders to review our plans and give feedback.
- Presentations made by Heathrow upon request from local authorities and at meetings such as the Noise and Airspace Community Forum.
- The opportunity to send in any written views regarding the noise action plan.

COMMENTS SUBMITTED ON THE CONSULTATION

All raised issues will be identified and grouped together, whenever possible, into categories and entered into a table. This table will include responses and record modifications made to the draft Noise Action Plan, along with the actions contained in this draft, for submission to DEFRA for review.

This summary of the issues raised in submissions responding to the consultation along with Heathrow's responses will be included below.

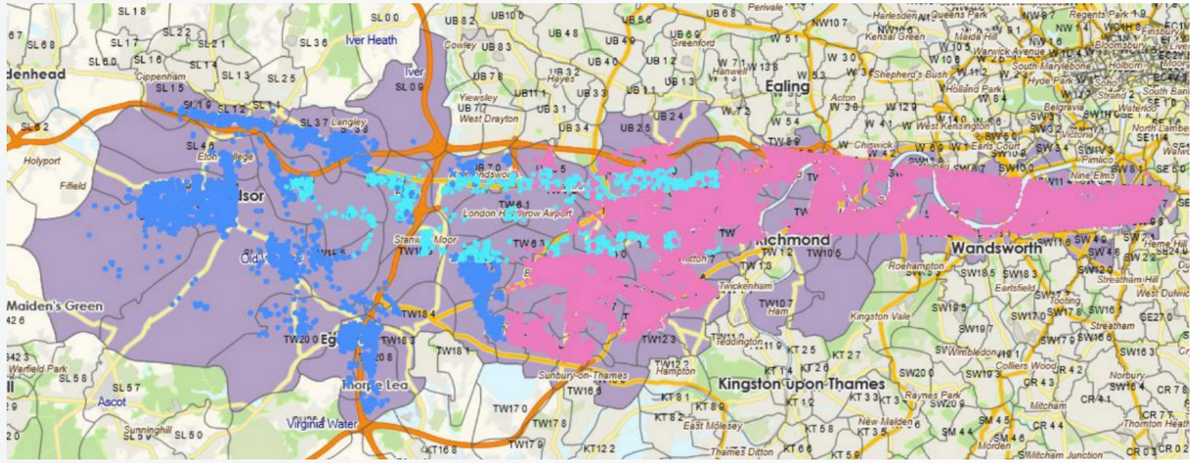


Figure 15.1: Noise Action Plan consultation door drop area coverage.

ANNEX 16

Key changes in the actions and KPI's proposed for Round 4 Action Plan

The proposed new Noise Action Plan includes 17 new actions, and 9 others gathered under "Responsible Business Actions" (RBA).

KEY PERFORMANCE INDICATORS

As shown opposite the Key Performance Indicator (KPI) structure has been kept the same. All KPI from the actual Noise Action Plan are retained or improved. However, our KPI performance was impacted by the Covid pandemic.

KPI	KPI NOISE ACTION PLAN 2024-2028
Key END Summary Statistic	
KPI 1	Population, households, area and number of people HSD & HA in the 50dBA L_{night} and 55dBA L_{den}
Quieter Planes: Measures of Fleet Mix	
KPI 2	Moving annual percentage of fleet mix movements within the charging categories
KPI 3	Percentage of A320-family movements retrofitted aircraft
Quieter Procedures: Measures of Operation Performance	
KPI 4	a. Track keeping compliance (excluding 09RCPT) and b. CDA
KPI 5	In Fly Quiet and Green, the number of green dot performance ratings
Quieter Planes: Measures of Fleet Mix	
KPI 6	% of eligible residential properties in completed phases taking up the scheme
KPI 7	Rate of overall satisfaction with the insulation scheme
Operational Restrictions: Measure of Night Time Respite	
KPI 8	For the period 23:30-04:30: c. Number of nights with no arrivals or departures d. Number of nights without non-dispensed flights. Reported monthly with Moving Annual Total, MAT
Working With Local Communities	
KPI 9	Public perception of Heathrow as rated by annual polling: "residents that report improvement on noise levels"
General Noise Action Plan Processes	
KPI 10	Percentage of actions on track or complete.

Table 16.2: Proposed KPI for Noise Action Plan 2024-2028

ANNEX 17

Forecast 2026 contours and results

We expect the population and area results for the 2026 contours to show a decrease compared to 2019, but to be higher than those for 2021. Detailed forecast results are currently being generated and will be included in the final submission.

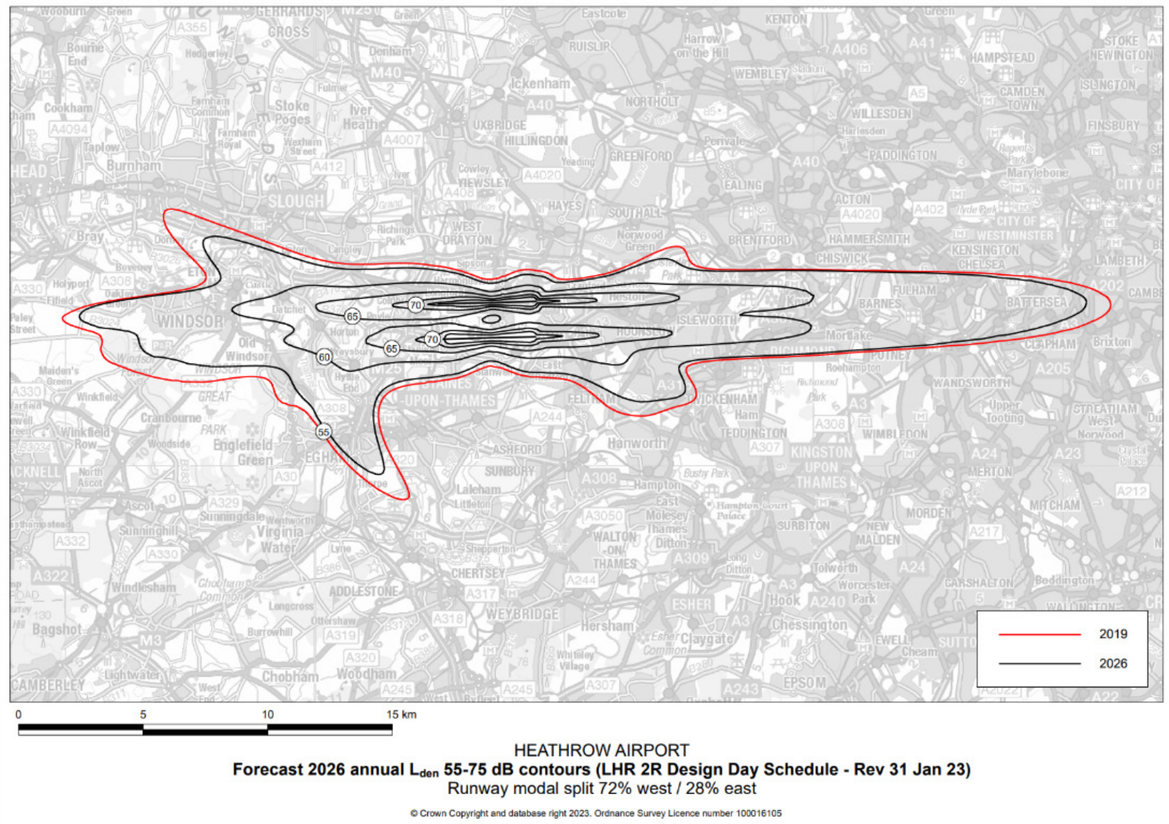


Figure 17.1: 2019 and forecast 2026 L_{den} 55-75 dB contours

L_{den}	Area (km²)				Population (000's)					Households (000's)				
	2006	2016	2019	2026	2006	2016	2019	2026 (2022 pop.)	2026 (2019 pop.)	2006	2016	2019	2026 (2022 pop.)	2026 (2019 pop.)
>55	244.7	198.0	176.2	148.2	756.1	689.4	664.3	tbc	tbc	338.5	286.1	268.4	tbc	tbc
>60	92.7	74.5	69.0	57.7	194.6	195.6	186.6	tbc	tbc	81.6	74.5	68.8	tbc	tbc
>65	37.1	28.9	26.4	20.1	54.3	44.5	46.4	tbc	tbc	21.4	15.4	15.5	tbc	tbc
>70	13.7	9.5	8.5	6.2	9.6	4.8	4.8	tbc	tbc	3.5	1.7	1.5	tbc	tbc
>75	5.0	3.4	3.1	2.4	0.7	<0.1	<0.1	tbc	tbc	0.3	<0.1	<0.1	tbc	tbc

Table 17.1: 2019 and forecast 2026 L_{den} 55-75 dB contours

Note: The 2016 population and household counts are based on an updated 2016 CACI population database based on the 2011 Census. The 2023 population and household counts are based on an updated 2017 CACI population database based on the 2011 Census. The 2026 estimated areas, population and households are based on both the CACI 2022 and 2019 population databases.

Forecast 2026 contours and results continued

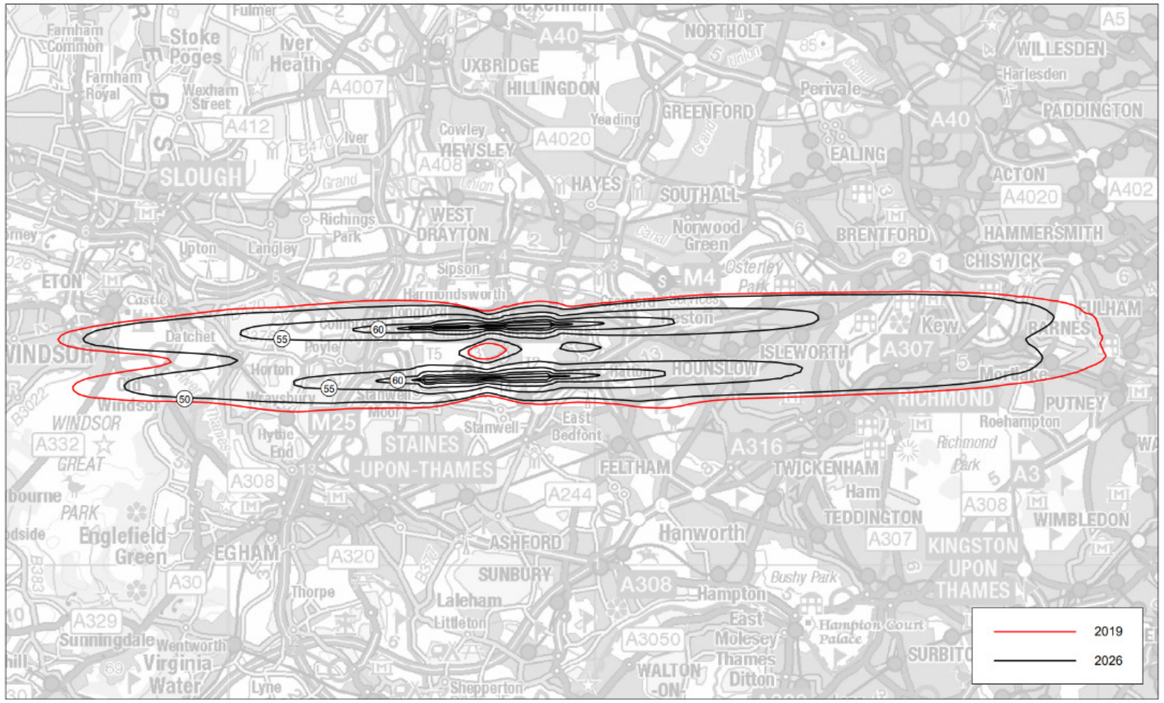


Figure 17.2: 2019 and forecast 2026 L_{night} 50-70 dB contours

L_{night}	Area (km²)				Population (000's)					Households (000's)				
	2006	2016	2019	2026	2006	2016	2019	2026 (2022 pop.)	2026 (2019 pop.)	2006	2016	2019	2026 (2022 pop.)	2026 (2019 pop.)
>50	84.4	74.0	72.2	60.0	207.2	221.2	228.5	tbc	tbc	88.9	86.3	86.5	tbc	tbc
>55	34.2	26.5	24.2	17.3	62.0	62.4	70.6	tbc	tbc	24.1	21.6	23.7	tbc	tbc
>60	119.	8.6	7.8	5.1	16.3	10.9	13.7	tbc	tbc	6.0	3.4	4.2	tbc	tbc
>65	4.5	3.0	2.7	1.9	1.7	1.1	1.4	tbc	tbc	0.6	0.3	0.4	tbc	tbc
>70	1.8	1.4	1.1	0.8	0.1	0.0	0.0	tbc	tbc	<0.1	0.0	0.0	tbc	tbc

Table 17.1: 2019 and forecast 2026 L_{night} 50-70 dB contours

Note: The 2016 population and household counts are based on an updated 2016 CACI population database based on the 2011 Census. The 2023 population and household counts are based on an updated 2017 CACI population database based on the 2011 Census. The 2026 estimated areas, population and households are based on both the CACI 2022 and 2019 population databases.

ANNEX 18

Financial information

As part of our long-term strategy, we have allocated a significant budget of between 80 and 90 million pounds for the development of the Noise Action Plan over the next five years. This investment reflects our commitment to ensuring that our actions align with our core values of sustainability, social responsibility, and community development.

We understand that the success of this Plan hinges on several key factors, including stakeholder engagement, strategic planning, and effective execution.

Based on the outcome of the present consultation, we will refine the figures and ensure that the final Plan is comprehensive and tailored to meet our noise abatement objectives.

INDICATIVE ANNUAL FINANCIAL EXPENDITURE (TO HEATHROW) ON NOISE MANAGEMENT ACTIVITIES

Type	Description	Approximate annual costs (£000) 2024-2028
Staff costs	Includes salary and training costs for elements of the Communications, Community Engagement, Airspace and Noise Performance Team, Sustainability and Environment compliance teams	£ TBC
Noise and Track Keeping Equipment (Hardware and Software)	Renewal, calibration, repair, software licences, support development	£ TBC
Publication and communications	Seminars, documents, website	£ TBC
Noise insulation and mitigation schemes	Quiet Homes Scheme, Community Buildings and Home Relocation Schemes	£ TBC
Consultancy support	Audit, forecasting, noise studies, benchmarking	£ TBC

Table 18.1

Heathrow