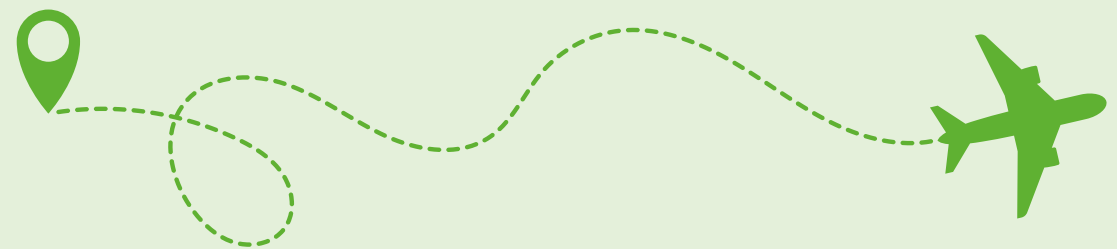


Birmingham Airport Noise Action Plan 2024 - 2028

Formally adopted by Defra 18.10.24

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01 - Foreword



We have long recognised that noise is a consequence of Birmingham Airport's operations and over the years we have developed a comprehensive noise management programme to minimise disturbance to our neighbours.

We are committed to working together with all stakeholders, including our local communities, our airlines, our air traffic controllers and the Government to meet the air travel needs of the Midlands region in an environmentally responsible way. In this way, the region benefits economically and socially from a successful Airport, while the environmental impact is minimised.

Our overarching objective for managing aircraft noise continues to be: 'to work with our stakeholders, including the local community and industry partners, to adopt the best practicable means to assess, manage and minimise the impact of aircraft noise, both now and in the future.' As such, since our previous Noise Action Plan was published, we have developed a comprehensive Sustainability Strategy, within which noise is outlined as a key priority.

Our measures to manage and reduce the effects of aircraft noise are set out in our Noise Action Plan, which we publish every 5 years. This strategic document sets out the Airport's noise programmes to 2028, updating and replacing the 2018-2023 Noise Action Plan.

When we published our last Noise Action Plan (2018-2023) few could have foreseen the catastrophic impact COVID-19 would have on all of our lives. While by no means unique, the effect of the pandemic on the aviation industry has been particularly severe. The significant reduction in operations, at times an almost complete cessation of flying, has had a considerable financial impact, affecting investment, jobs and the ability of people to connect with families. During the pandemic we worked hard to maintain our full range of noise management activities, both in limiting current aircraft noise and continuing to plan for better noise management over time, continuing to maintain an open and transparent dialogue with our communities as a top priority.

The considerable drop in air traffic movements over the course of the pandemic has in turn significantly shrunk our noise footprint, as you will see in our 2021 Noise Contours. We recognise that this year is not representative of our 'normal' operations and as such we have chosen to supplement this Noise Action Plan with 2019 data, as the most recent pre pandemic year. We are proud of the fact that, despite the number of passengers and movements increasing from 1993 to 2019, our noise footprint has shrunk significantly over this period.

We look forward to working closely with our local communities, airlines, air traffic and policy makers to deliver this Noise Action Plan over the next five years, building on our existing work to reduce the impact of noise from our operations and continuing to drive improvement, with a focus on rebuilding the business more sustainably.



Nick Barton
CEO

02 - Executive Summary

The scope of this Noise Action Plan includes airborne noise from arriving and departing aircraft and ground borne noise from operations such as taxiing and engine ground running.

Managing the impact of noise is a key priority at Birmingham Airport. Aircraft noise (both airborne and ground borne), is recognised by the Airport as a sensitive issue for the local community and as such, a comprehensive noise management programme has been in existence for many years. In 1996, this noise programme was formalised into a legal document with Solihull Metropolitan Borough Council (MBC) through a Section 106 Agreement, as part of the Outline Planning Approval for the Expansion of the Passenger Terminal Facilities. In 2012 the Airport entered into a further Section 106 agreement as part of the Outline Planning Approval for the Runway Extension to the south of the airfield. As a result of this, new departure routes for aircraft taking off from runway 15 were implemented and the landing threshold for aircraft arriving on to runway 33 was relocated.

After a period of community consultation commencing in 2017 and following Civil Aviation Authority (CAA) approval of the Airport's proposals, in May 2019 new flightpaths were implemented for aircraft departing the Airport to the north from Runway 33. Birmingham Airport was required to implement these new flightpaths because of a national programme to modernise UK airspace, which is introducing changes in the technology used to navigate aircraft and which aims to deliver a more efficient airspace system for the UK.

Through initial voluntary measures and then through the obligations outlined within the Section 106 Agreement with Solihull MBC, the Airport already had an effective noise management programme in place prior to the adoption of the original Noise Action Plan and subsequent revisions. This latest revision reviews performance and progress against the actions set out in

the 2018 to 2023 plan, building on these, and developing new actions for 2024 to 2028. This is presented in [Appendix A](#) and [Appendix B](#).

This Revised Noise Action Plan has been produced as a requirement of the Environmental Noise (England) Regulations 2006 (as amended), which were transposed from the European Commission Directive 2002/49/EC. This requires major Airports to produce Strategic Noise Maps every five years.

The COVID-19 pandemic and subsequent reductions in movements and operations within the Airport has meant that the 2021 contour data is not representative of a typical year of operation. As a result, this plan will use 2019 contour data to supplement, where necessary, in order for the accurate analysis of representative and comparative data.

The Department for Environment, Food and Rural Affairs (Defra) published Guidance for Airport Operators on Noise Action Planning in March 2009. This was updated in July 2013, July 2017 and September 2022 and includes the requirements for the revision of Noise Action Plans.

The action planning process is designed to consider the results of the new strategic noise mapping and to identify whether there are any particular or additional measures that may be taken to meet the government's overarching aviation noise policy statement:

“to balance the economic and consumer benefits of aviation against their social and health implications in line with the International Civil Aviation Organisation's Balanced Approach to Aircraft Noise Management. This should take into account the local and national context of both passenger and freight operations, and recognise the additional health impacts of night flights.

The impact of aviation noise must be mitigated as much as is practicable and realistic to do so, limiting, and where possible reducing, the total adverse impacts on health and quality of life from aviation noise”

Our Noise Action Plan continues to incorporate three key themes:

Measure - We will continue to monitor aircraft noise using best practicable methods. Our commitment starts with investment in systems and equipment to enable us to understand our noise impact and identify opportunities to reduce noise.

Mitigate - We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport's Sustainability Team.

Engage – We will meet with our neighbours and partners to involve, engage and inform people through open dialogue. We will continue to operate a transparent stakeholder engagement programme. This will aid mutual understanding of noise issues and allow us to inform our local community of any changes to Airport activities which may have a noise impact.



02 - Executive Summary

This revised Noise Action plan contains:

- The progress made against all actions.
- The new strategic noise mapping and results.
- A comparison of the new strategic noise mapping (based on data from 2021 and 2019) with the noise mapping contained in the previous plan (based on data from 2016).
- New and revised actions. Birmingham Airport has committed to improve and develop the Noise Action Plan by enhancing 4 actions and also introducing 8 new actions.

Enhanced Actions

1. Carry out a full review of the current Sound Insulation Scheme.
2. Carry out a full review of the current Schools Environmental Improvement Scheme.
3. Drive improvements in track-keeping by increasing our target to 99% (previously 97%).
4. Provide a Community Trust Fund (registered charity), supporting local community projects, where the Airport will provide £94,676 (index linked) plus revenues from noise exceedance surcharges.

New Actions

1. Carry out a full review of the Night Flying Policy and determine a new Night Flying Policy 2024-2027.
2. Report helicopter data to the community on a quarterly basis.
3. Determine a methodology for measuring fixed electrical ground power usage – this has a noise and emissions reduction benefit, when compared to aircraft using Auxiliary Power Unit's (APU).
4. Publish a quarterly airline league table, in order to incentivise airlines to operate their fleets in the quietest way possible.
5. Carry out a full review of the Airport Fees & Charges document to ensure aircraft noise is a key consideration.
6. Report on community complaints on a quarterly basis, to include a breakdown of complaints by type, area, trend analysis and new complainant trends.
7. Provide the community with access to Web Track, an online facility which enables people to view and track flights, providing information on aircraft type, altitude, flight number and speed.
8. We will report on our noise programmes through our Quarterly Community Noise Report.

The Airport continues to commit to publicly reporting performance against the Noise Actions detailed within our Noise Action Plan. This is reflected within this revised 2024-2028 Noise Action Plan, which details a review of progress against the revised 2019-2023 Noise Action Plan, and the setting out of our commitments to 2028.



03 - Introduction

3.1 Purpose

The Department for Environment, Food and Rural Affairs (Defra) in March 2009 published Guidance for Airport Operators on Noise Action Planning. This was updated in July 2013, July 2017 and September 2022. The 2022 guidance requires Airports to review and revise their Noise Action Plans and stipulates what the Noise Action Plan should include.

This Revised Noise Action Plan is produced in line with the Environmental Noise Regulations (England) 2006 (as amended), which are transposed from the European Commission Directive 2002/49/EC. This requires major Airports to produce Strategic Noise Maps every five years. The results of the new Strategic Noise Maps (based on the years 2019 and 2021) were considered in the development of this Noise Action Plan. The drawing up of Noise Action Plans for Airports supports the Government's aim, as set out in the Aviation Policy Framework "to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise."

Managing the impact of noise is given top priority at Birmingham Airport. Aircraft noise, both airborne and ground borne has long been recognised by the Airport as a sensitive issue for the local community and as such, a comprehensive noise management programme has been in existence for many years. The introduction of the Environmental Noise Regulations (England) 2006 (as amended) requires the Airport to build on these programmes by developing formal Noise Action Planning.

The competent authority for developing this revised Noise Action Plan is Birmingham Airport Limited. In line with the September 2022 Defra guidance, consultation and comment on this Noise Action Plan is through the Airport Consultative Committee.

This revised Noise Action Plan was tabled at the Airport Consultative Committee on the 8th June 2023 and members were invited to submit written comments to the Airport Company.

The formal consultation process commenced on 19th June and closed on 7th August 2023, a 7-week consultation period. During the consultation period, Birmingham Airport held two drop-in sessions on the 6th and 10th July 2023 which Airport Consultative Committee members were invited to attend. A number of points were raised at these sessions and these are discussed in further detail within Birmingham Airport's consultation response table in [Appendix F](#).

3.2 Scope

The scope of this revised Noise Action Plan includes airborne noise from arriving and departing aircraft and ground borne noise from operations such as aircraft taxiing and engine ground running. The Environmental Noise Regulations (England) 2006 (as amended) requires consideration of noise impacts within the Strategic Noise Maps. However, Birmingham Airport recognises that noise impacts can extend beyond these areas. The Noise Action Plan therefore includes noise measures that benefit areas outside of the Strategic Noise Maps.

Although the inclusion of ground noise is not a requirement of the Environmental Noise Regulations (England) 2006 (as amended), Birmingham Airport's Noise Action Plan does include these aspects; this reflects our recognition of the noise impact that ground noise presents to our neighbours.

The scope of this Noise Action Plan excludes noise relating to Airport construction activities and noise associated with surface access to the Airport (major road and rail). Noise Action Plans for the West Midlands Agglomeration (including Birmingham and Solihull),

major rail and major roads are produced separately by Defra.

The Environmental Noise Regulations (England) 2006 (as amended) requires the Noise Action Plan to be based on the results from the Strategic Noise Maps. The Noise Action Plan must consider noise within the 55dB (A) Lden and 50 dB (A) Lnight noise contours (refer to Section 3 for explanation of Strategic Noise Maps). By including ground noise and noise impacts beyond the contours shown on the Strategic Noise Maps, this Noise Action Plan goes beyond the scope of the legal requirements. The Regulations also require an estimation of the number of people affected by the noise actions. However, as many of our actions aim to reduce noise outside of the contours this has been difficult to estimate.

Under the Environmental Noise Regulations (England) 2006 (as amended), Lden contours must be produced every five years and reported on within Noise Action Plan. The Airport acknowledges that the incumbent set of contours for the year 2021 are not representative of a normal year's worth of operations, owing to the impact of COVID-19, and has taken the decision to supplement this data with 2019 Lden contours, the most recent full year of operations prior to the pandemic and more representative of a standard operating year.

The Environmental Noise Regulations (England) 2006 (as amended) also require that Airport Noise Action Plans must aim to protect quiet areas. There are currently no quiet areas defined for the West Midlands Agglomeration. Birmingham Airport will continue to liaise with the relevant authorities regarding any future designation of quiet areas. Birmingham Airport's 2024 - 2028 Noise Action Plan will be aligned with the Airport's existing noise management programmes and the Obligations within the current Section 106 Agreement with Solihull Metropolitan Borough Council.

03 - Introduction

The Airport is committed to revising the Noise Action Plan following the completion of any major development which may affect the existing noise situation.

The Birmingham Airport Master Plan contains the Airport's future development plans up to 2033, this was developed and published in 2018 and is therefore based on pre-Covid-19 data and forecasts.

3.3 Airport Description

Birmingham Airport covers an area of 775 acres, is located within the Metropolitan Borough of Solihull and borders the City of Birmingham. The current shareholding for Birmingham Airport Limited includes: Seven West Midlands District Councils (Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall and Wolverhampton) (49%), Ontario Teachers' Pension Plan (48.25%) and the Employee Share Ownership (ESOP) (2.75%).

Birmingham is the UK's seventh largest Airport, third largest for charter traffic and the third largest Airport outside London. In 2019 it handled 12.65 million passengers and in 2021 it handled 2.48 million passengers. The number of Air Transport Movements (ATMs) during 2019 was 109,357 and during 2021 was 35,411. Birmingham Airport has one Runway, which operates in two modes (Runway 15 and Runway 33); the direction of operation is dependent upon meteorological conditions. Both runways have defined Standard Instrument Departure Procedures and Noise Preferential Routes. A runway extension was completed in 2014, increasing the length of both Runway 15 and Runway 33.

Birmingham Airport occasionally accommodates military flights. Birmingham Airport is close to the Royal Centre for Defence Medicine at Queen Elizabeth Hospital. West Midlands Police also base and operate a helicopter from Birmingham Airport.

3.4 Characterisation of Airport Surroundings

To the north of the airfield is the residential area of Birmingham and North Solihull. This area is the most impacted by aircraft noise, with some properties overflowed at 500 feet.

To the South of the airfield are countryside areas and small towns and villages. Areas particularly reporting concerns about aircraft noise include Balsall Common, Barston, Bickenhill, Catherine de Barnes, Eastcote, Hampton in Arden and Knowle. The majority of community complaints come from areas to the south of the airfield.

Many of these areas are outside of the 54dB(A) LAeq 16 hour contour (the level the Government states is the approximate onset of significant community annoyance).

The West of the airfield includes the areas of Elmdon and Sheldon. These areas are not directly overflowed but are impacted by noise from landing and departing aircraft and the associated taxiing noise. The Elmdon side of the airfield is also the location of a small cargo operation and will therefore on occasions experience noise associated with this, including the prolonged running of aircraft's Auxiliary Power Unit's (APU). An APU is a small jet engine located in the tail of the aircraft that provides power at times when no fixed electrical ground power (FEGP) is available.

To the East of the airfield is the residential area of Marston Green. This area is also not overflowed directly by aircraft but will be impacted by noise from landing and departing aircraft and the associated taxiing noise. In addition, areas in Marston Green located next to the Airport boundary may also experience noise from Full Power Engine Ground Runs. This is particularly the case when they are carried out on Taxiway Tango. The use of

this location is heavily restricted and can only be used when absolutely necessary.

A noise bund exists between the Airport and Marston Green, which limits the impact of ground noise on the area. The National Exhibition Centre also lies to the east of the airfield.

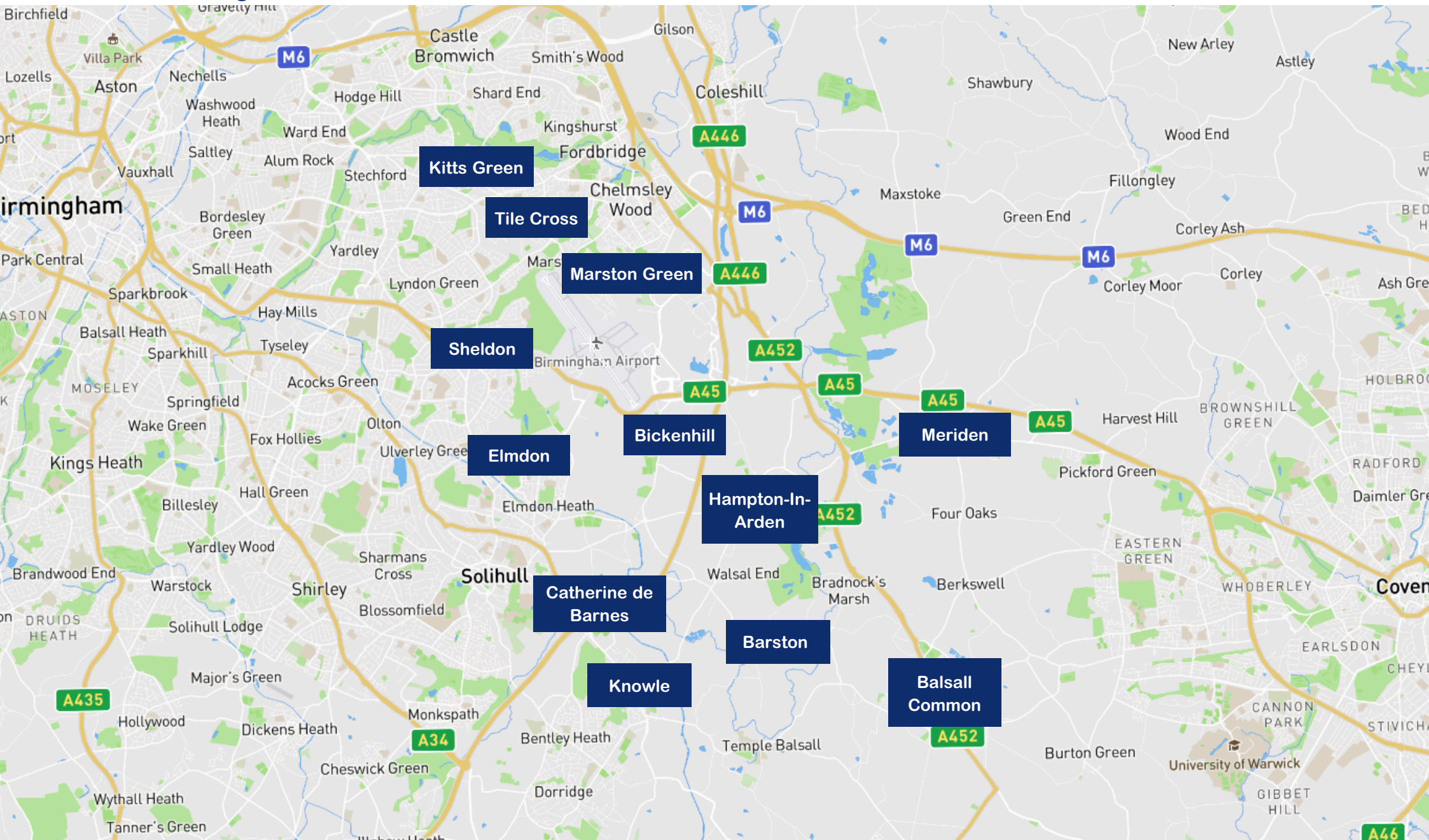
| Runway Information | | |
|--------------------|------------|-----------|
| Orientation | Length (m) | Width (m) |
| 15 | 3003 | 45 |
| 33 | 3003 | 45 |

Runway Elevation = 325 feet



03 - Introduction

3.5 Surrounding Areas



03 - Introduction

3.6 Future Development

Aviation 2050 – the future of UK aviation

In 2018, the Government set out new policy proposals to tackle localised impacts through the consultation '[Aviation 2050 – the future of UK aviation](#)'. These comprised of a commitment to develop a clearer noise policy framework, alongside measures to incentivise best operational practice to reduce noise and measures to improve airport noise insulation schemes, with a commitment to set out next steps in 2022/23.

Flightpath to the Future

In 2022, the Government published a comprehensive strategic framework for aviation through the publication of '[Flightpath to the Future](#)'. This framework prioritises support for recovery of the aviation sector following the challenges of the COVID-19 pandemic. This objective is outlined below:

“As the sector recovers from the pandemic, we are committed to working in partnership with all aspects of aviation to support growth and drive forward a successful recovery. This will include building back better and greener to ensure the UK delivers one of the strongest, most modern, and most sustainable aviation sectors in the world.”

Focussing on the next ten years of aviation, the UK Government seeks to decarbonise the aviation sector, embracing new technologies and making the most of Brexit and trade opportunities. Through this the Government aims to retain the UK's position as one of the strongest aviation sectors in the world:

“We will work with the sector to ensure UK aviation retains its international standing, continuing to lead the way globally on key issues such as decarbonisation,

Safety and security. We also want to ensure the sector remains fit for purpose, embracing both modernisation and innovation to bring benefits to the UK and for users.”

This framework also centralises focus on tackling the localised impacts of aviation, recognising that air quality emissions and noise from aviation can have detrimental impacts on local communities, and addressing these impacts is an important aspect of a sustainable future for the sector.

The CAA assumed responsibility for most of the functions previously performed by the Independent Commission on civil Aviation Noise (ICCAN) from April 2022. As a result, the Government has worked closely with the CAA to create a new Environmental Sustainability Panel as a specialist, non-statutory body providing expert technical advice to the CAA.

The key activities of the Panel are to:

- provide expert technical advice to the CAA to support their work programme relating to their environmental roles, or on specific tasks that they may require, including input to their response to any relevant external consultations;
- help the CAA to understand and take account of environmental interests and impacts in their regulatory policy and framework (although the Panel will not be expected to review or comment on individual regulatory decisions);
- challenge and support the CAA on their progress towards their strategic focus on improving environmental performance, both within the aviation and aerospace sectors and within the CAA itself, including informing the delivery and future evolution of our environmental sustainability strategy;

- Provide advice and critique on the CAA's research and help identify where further research may be needed to inform their sustainability agenda.

Future Night Flying Policy

The Department for Transport (DfT) issued a consultation in March 2021 '[Night flights restrictions at Heathrow, Gatwick and Stansted airports beyond 2024, plus national night flight policy](#)', seeking views and evidence on revising night flight dispensation guidance, and on policy options for the government's future night flight policy at the designated Airports beyond 2024 and nationally.

Birmingham Airport worked with the Noise sub-group of the Airport Consultative Committee to ensure the Airport response accurately reflected the communities views on night noise.

The DfT issued a further consultation in March 2023 '[Night-time noise abatement objectives for the designated airports from October 2025](#)', seeking views on a night-time noise abatement objective for the designated Airports (Heathrow, Gatwick and Stansted): 'Whilst supporting sustainable growth and recognising the importance to the UK of maintaining freight connectivity, to limit and where possible reduce, the adverse effects of aviation noise at night on health and quality of life', and are also seeking views on the metrics which could be used to measure performance against this objective.

03 - Introduction

Night Flying Dispensation Guidance

The DfT were expected to publish updated guidance on the night flying dispensation process in Autumn 2022, this action came as a result of a national night flying policy consultation in 2021, which identified that there is a lack of transparency across the country relating to “exempt” night movements, these movements do not count towards a movement limit. The DfT issued a further [statement](#) in March 2023, stating that an update on dispensation guidance can be expected in late 2023.

The Airport Consultative Committee (ACC) Noise Sub-group were presented with exemption data in late 2021 and this is now presented to the main ACC on a quarterly basis in order to improve transparency. The Airport will give careful consideration to any future guidance updates in order to ensure best practice.

Aviation Noise Policy Statement Revision

The Government published a revised [overarching aviation noise policy](#) statement in March 2023:

‘The Government’s overall policy on aviation noise is to balance the economic and consumer benefits of aviation against their social and health implications in line with the International Civil Aviation Organisation’s Balanced Approach to Aircraft Noise Management. This should take into account the local and national context of both passenger and freight operations, and recognise the additional health impacts of night flights.

The impact of aviation noise must be mitigated as much as is practicable and realistic to do so, limiting, and where possible reducing, the total adverse impacts on health and quality of life from aviation noise’.

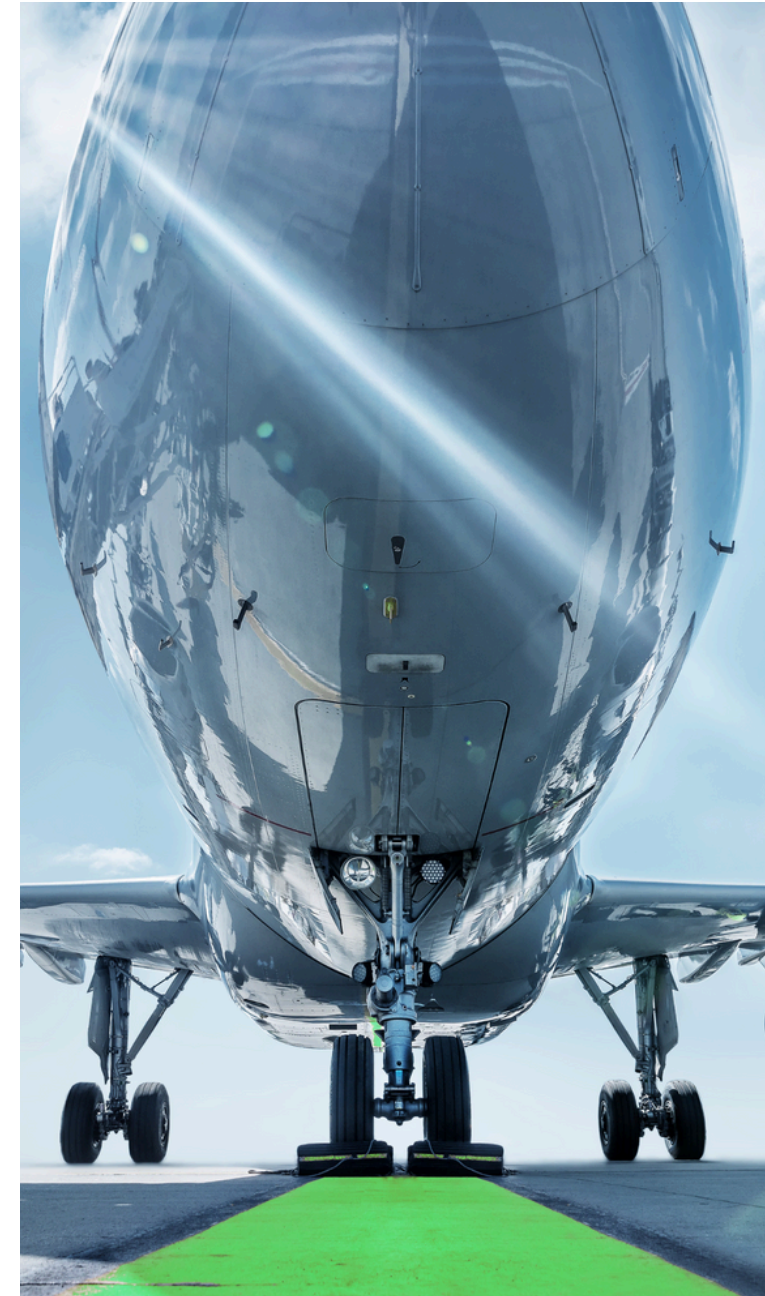
Birmingham Airport Masterplan

In June 2019, following a period of community consultation, Birmingham Airport published its Master Plan 2018, setting out plans for future growth and how these will be delivered over the 15 years to 2033.

Birmingham Airport’s ambition is to be the preferred international hub for the Midlands acting as a key economic accelerator for the region, providing the air connectivity vital for the expansion of international trade, investment and employment, the growth of inbound tourism, and the provision of outbound leisure destinations.

To achieve this, we will:

- Increase the range of destinations and frequency of flights.
- Invest in expanded and enhanced facilities to provide the customer experience to underpin our growth.
- Meet or exceed regulatory requirements to ensure safety and security.
- Play an active and responsible role in the community, mitigating the adverse environmental impacts of the Airport where possible.
- Work closely with local and national government and agencies to ensure the Airport is not constrained by insufficient surface transport or airspace capacity.



04 - Introduction to Aircraft Noise

4.1 How do we describe Aircraft noise?

Aircraft noise can be categorised in terms of airborne noise and ground noise. Airborne noise is created while aircraft are departing or arriving. This includes noise generated from engines and airframe turbulence, while the aircraft is taking-off and landing. Ground noise includes noise from aircraft taxiing and engine ground running on the airfield. The inclusion of ground noise within our Noise Action Plan reflects our recognition of the noise impact that ground borne noise presents to our neighbours.

Aircraft in operation today are considerably quieter than those in operation 20 years ago. Moving forward, today's aircraft are beginning to be replaced by quieter models as airlines renew their fleets with the newest aircraft types including the Boeing 737-800 MAX and the Airbus A320 NEO. Despite aircraft continuing to become quieter, the Airport does acknowledge that noise disturbance remains a concern for many local residents.

It is often difficult to describe the effect that aircraft noise has on the local community, as noise perception is very subjective. Indeed, there is no direct correlation between the noise levels modelled and the community concerns we receive. We do acknowledge that within the aviation industry the communication of noise information can always be improved and as such at Birmingham Airport we remain committed to publishing our noise contours via Google Earth along with actual air traffic movement availability.

To access this information users must first have Google Earth installed on their computer, they can then download a KMZ file from the Environment Section of our website [here](#) and view the various layers of airport information. These layers include the sound insulation scheme boundary and the Strategic Noise Maps.



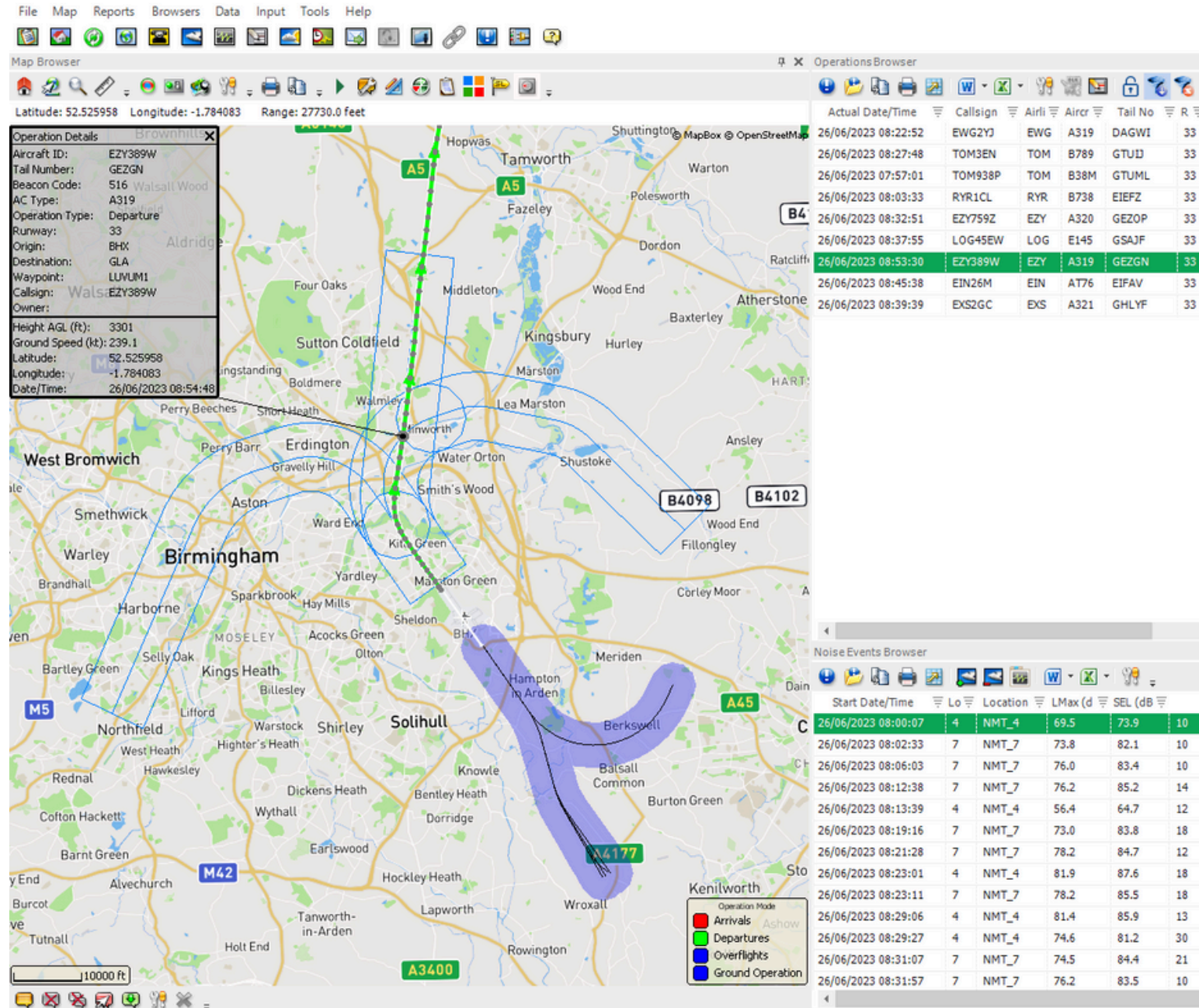
04 - Introduction to Aircraft Noise

4.2 How do we measure noise?

Aircraft noise is measured using the A-weighted Decibel, dB(A). The decibel is a ratio that compares the sound pressure of the noise source (e.g. an aircraft) to

reference pressure (the quietest sound we can hear). The A-weighting approximates the sensitivity of our ear to different frequencies (pitch) in the sound and helps to assess the relative loudness of various sounds.

The Airport constantly measures aircraft noise at six noise monitors located in the local community, where noise events (flyovers) are recorded as dB(A). The community noise monitors feed into the Airport Noise and Operations Monitoring System (ANOMS), which allows the Airport's Sustainability Team to monitor noise and track-keeping. A screenshot of the ANOMS system is shown on the right. ANOMS also allows the Sustainability Team to log community complaints and identify the cause of disturbance. There is a further noise monitor located on the Airfield.



04 - Introduction to Aircraft Noise

4.3 dB LAeq Noise Contours

The dB LAeq metric is the standard method of measuring average noise levels at Airports in the UK, and is the method used in producing noise contours. Noise contours are produced independently every 2 years for Birmingham Airport, based upon this methodology. The contours are produced for an average day time noise exposure based on actual traffic data (0700 – 2300 hours) for the 92-day summer period (16th June – 15th September). When required, contours are also produced for an average night time noise exposure (2300 – 0700 hours). The noise contours are produced to estimate the average noise levels experienced by people living around the Airport. The 2019 and 2021 average summer day contours are in [Appendix C](#).

The latest LAeq contours were produced for summer 2021. The following chart illustrates how populations within the LAeq noise contours have changed over time. The number of people affected by noise is considerably below that of operations before 2000. There has been a decrease in the number of people within all noise contour bands in 2019 when compared to 2016. There has also been a significant decrease in the number of people within all noise contour bands in 2021 when compared to 2016, this can be attributed to the decrease in ATM's resulting from the impact of the COVID-19 pandemic.

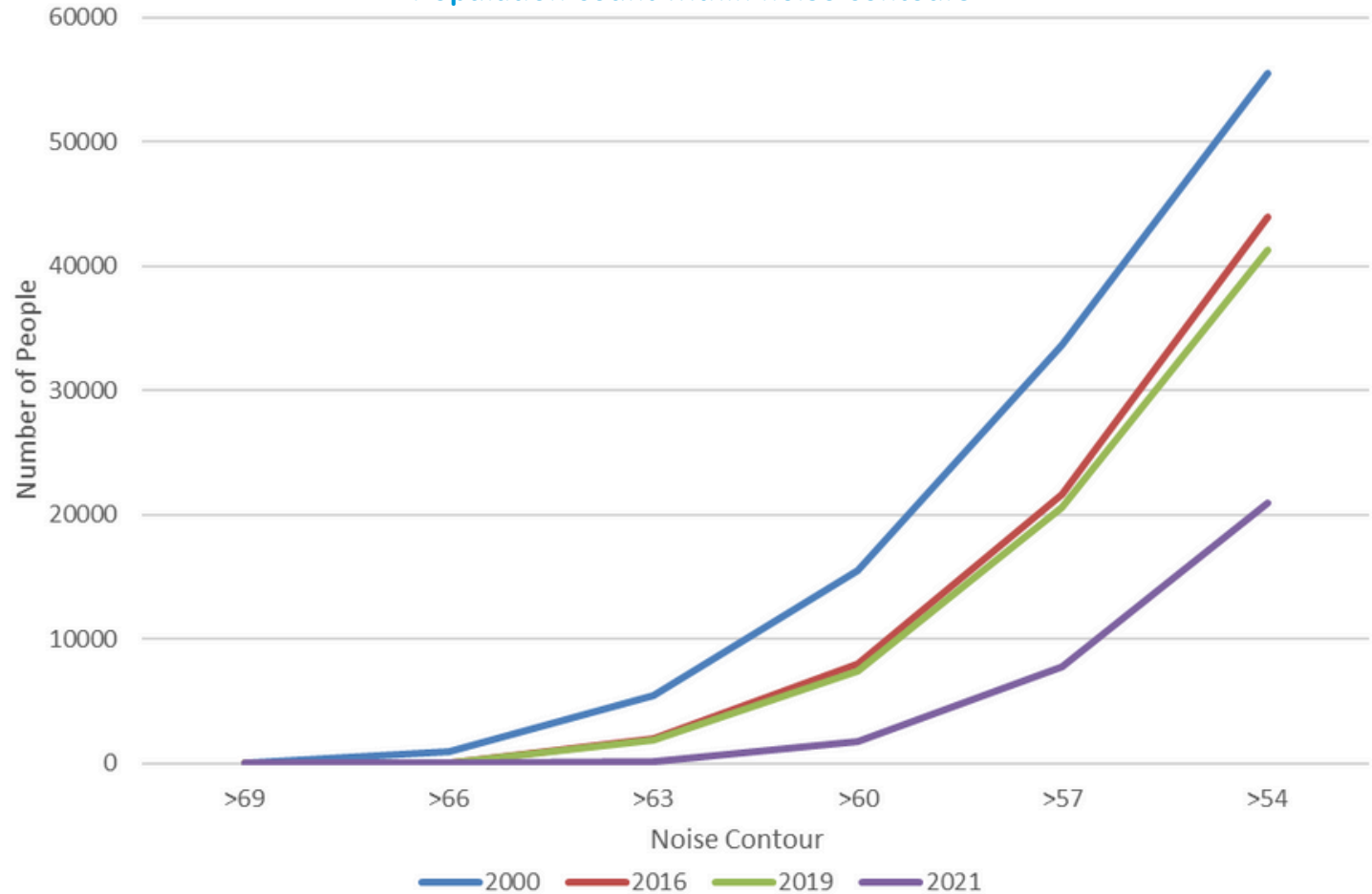
When specifically looking at the 54 dB(A) contour there has been a decrease in the affected population of 6% from 2016 to 2019. Over the 92-day summer day period (16th June – 15th September from 0700 – 2300 hours) in 2019 there was 10.3% more operations when compared to 2016. This demonstrates how the continued introduction of newer, modern aircraft is reducing the noise impact from individual movements. CAP 1588 – Aircraft Noise and Annoyance: Recent findings acknowledges the 54dB LAeq 16-hour contour as the

average level of daytime aircraft noise marking the approximate onset of significant community annoyance.

Birmingham Airport has also seen an increase in passenger numbers of 8% when comparing 2016 to 2019. This increase in passenger numbers has not correlated to any increase in noise due to improvements in load factor (how full a flight is). In 2019 the average load factor was 83% compared to 77% in 2016.

| Population count within 54dB(A) noise contour | | | | | |
|---|---------|--------|--------|--------|--------|
| Year | 1993 | 2000 | 2016 | 2019 | 2021 |
| Population | 134,150 | 55,550 | 43,900 | 41,300 | 21,000 |

Population count within noise contours



04 - Introduction to Aircraft Noise

4.4 dB Lden Noise Contours

The Environmental Noise Regulations (England) 2006 (as amended) require major Airports (as well as major agglomerations, roads and railways) to produce Strategic Noise Maps every five years, using Lden noise contours based on an annual average day. The Lden noise metric is itself derived from three sets of contours:

- **Lday: average 12-hour period from 0700 – 1900**
- **Levening: average 4-hour period from 1900 – 2300**
- **Lnight: average 8 hours period from 2300 – 0700**

Lden is the average 24-hour period including Lday, Levening and Lnight. A 5dB and 10dB noise weighting is given to the evening and night periods respectively, to reflect the increased community sensitivity to noise, during these periods. These weighting numbers were assigned by the CAA following analysis of the standard deviations of data obtained through community reaction studies.

The original 2012 Noise Action Plan was based on the results of the Lden contours created from 2006 data. The 2013-2018 Noise Action Plan was based on the Lden contours created from 2011 data. The 2024 - 2028 Noise Action Plan is based on the Lden contours created from 2021 data. It is recognised that 2021 is not a representative year due to the COVID-19 pandemic, therefore 2019 data has also been used to inform this Noise Action Plan.

The noise contours are independently produced by the Civil Aviation Authority's (CAA) Environmental and Research Consultancy Department (ERCD), using the latest version of ANCON (version 2.4). The modelling incorporates actual annual Air Transport Movement

(ATMs) data and flight track radar data, taken from the Airport's ANOMS system. As part of the Noise Action Plan process these results must be analysed by Defra prior to publication.

Defra utilises a strategic residential population location dataset, in order to produce population counts and numbers of dwellings within the specified noise contours; these are identified through the Ordnance Survey (OS) AddressBase Premium and Topography layer respectively. An average population per residential dwelling is calculated for each discrete dwelling utilising population data attained from population estimates from the Office of National Statistics (ONS).

Section 4 provides a review of the more recent results. This Noise Action Plan is based on the Lden contours created from 2021 traffic data.

The Environmental Noise Regulations (England) 2006 (as amended) requires that the households within the 55Lden and 50Lnight noise contours are considered in the development of the Noise Action Plan.

The Environmental Noise Regulations (England) 2006 (as amended) also require that Airport Noise Action Plans must aim to protect quiet areas. There are currently no quiet areas defined for the West Midlands Agglomeration. Birmingham Airport will continue to liaise with the relevant authorities regarding any future designation of quiet areas.

More information on Birmingham Airport's noise management programmes can be found on our website: <https://www.birminghamairport.co.uk/about-us/community-and-environment/aircraft-noise/>



05 - Aircraft Noise Policy

All UK Airports must comply with International, European and National Noise Policy. In addition, some Airports, including Birmingham Airport, must also comply with Local Planning Agreements.

5.1 International Policy

Responsible Authority: ICAO

Noise Certification Standards

Under International Civil Aviation Organisation (ICAO) objective C 'Environmental Protection - minimize the adverse effect of global civil aviation on the environment', ICAO sets progressively higher aircraft certification standards for noise emissions. Member States (including the UK) must comply with these standards, which are known as 'Chapters'.

These chapters set the maximum acceptable noise levels for different aircraft under specific conditions. The first aircraft standard, Chapter 2, was introduced in 1973. Aircraft in this category have been phased out (e.g. BAC 1-11) with a ban from 1st April 2002 (unless they are granted specific exemption – e.g. Military flights). Chapter 3, 4 and 14 categories were introduced in the years 1977, 2001 and 2013, respectively. Since 2006, all new aircraft types manufactured have been required to meet Chapter 4 requirements.

The latest noise standard, Chapter 14, was agreed in 2013 and increased stringency by 7 decibels relative to Chapter 4 levels, becoming effective for larger aircraft from 31 December 2017.

Balanced Approach

ICAO recognises that there is a significant community reaction related to aircraft noise and therefore requires all member states to adhere to a 'Balanced Approach' to managing this noise.

This balanced approach encompasses four main elements to address noise management in an environmentally responsible way, through;

- Reducing noise at source
- Land-use planning and management
- Noise abatement operational procedures
- Operating restrictions on aircraft

Our Noise Action Plan takes into account this Balanced Approach to managing aircraft noise. Further information on the role of ICAO can be found at www.icao.int

5.2 European Policy

Responsible Authority: The European Union

Since the previous Noise Action Plan, the United Kingdom has formally withdrawn from the European Union. As such, all EU legislation has either been revoked completely or retained and transposed into UK law.

5.3 National Policy

Responsible Authority: National Government

Environmental Noise (England) Regulations 2006, as Amended

Noise Action Plans are a legal requirement under Directive 2002/49/EC relating to the Assessment and Management of Environmental Noise. The requirements of the Directive were transposed into the Environmental Noise Regulations (England) 2006 (as amended), which also includes a requirement for Airports to produce Strategic Noise Maps. Once produced, the Strategic Noise Maps and Noise Action Plan must be reviewed every five years, or following a major development, affecting the noise situation.

The Civil Aviation Acts 1982, 2006, 2012

[The Civil Aviation Act 1982](#) (amended [2006, 2012](#)) gives power to Airports to establish penalty schemes with the aim of limiting the effect of noise from aircraft arriving and departing from UK Airports (Section 3).

The Aerodromes (Noise restrictions) (Rules and Procedures) Regulations 2003

Introduced powers to Airports to restrict operation of marginally compliant aircraft, the measure of which is determined by a certification procedure. Prior to adopting measures under these regulations, the airport must establish and publish an environmental objective. These also require Airports to adopt a balanced approach to noise management.

Airports (Noise-related Operating Restrictions) (England and Wales) Regulations 2018

Affords power to the local planning authority (Solihull Metropolitan Borough Council) to ensure application of the 'Balanced Approach' and compliance with operating restrictions when determining a planning matter in that area.

05 - Aircraft Noise Policy

The Aeroplane Noise Regulations 1999

The Aeroplane Noise Regulations 1999 set out that aircraft landing and departing the UK have a valid noise certificate issued by their competent authority complying with ICAO noise certification requirements.

Aviation Policy Framework 2013

The Aviation Policy Framework (APF), published in March 2013, set out the Government's high-level strategy for overall aviation objectives and policies. Its key objective for the management of aviation noise impacts is "to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise". As published in the Aviation Policy Framework 2013, the 57 dB(A) LAeq 16 hour contour shall be treated as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance.

The APF states that the acceptability of growth in aviation depends to a large extent on the industry continuing to tackle its noise impact and confirms that the Government expects the industry at all levels to continue to address noise. The APF also sets the objective "to encourage the aviation industry and local stakeholders to strengthen and streamline the way in which they work together". This will ultimately be replaced by The Government's Aviation Strategy with a consultation document entitled 'Beyond the horizon: the future of UK aviation – call for evidence on a new strategy' published in 2017.

The APF formally recognises the ICAO assembly's 'Balanced Approach' principle to aircraft noise management through the following requirements:

- Reduction of noise at the source (aircraft)
- Land-use planning and management with noise considerations

- Noise abatement procedures (optimising how aircraft are flown and the routes they follow)
- Operating restrictions (preventing noisier types of aircraft from flying at certain times)

National Planning Policy Framework 2012

The National Planning Policy Framework (NPPF) acts as guidance for local planning authorities and decision-takers, both in drawing up plans and making decisions about planning applications. In terms of guidance on development and noise the NPPF has a stated aim of:

"Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of (...) noise pollution" It also states that planning policies and decisions should aim to:

- Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development
- Mitigate and reduce adverse impacts on health and quality of life arising from noise from new development
- Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established
- Identify and protect areas of tranquility which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

The NPPF supersedes the previous Planning Policy Guidance Notes (PPGs), including Planning Policy Guidance 24: Planning and Noise. More information is available at <http://www.communities.gov.uk>

CAP1616: Airspace Design: Guidance on the regulatory process for changing airspace design including community engagement requirements

CAP1616 was published in December 2017 and superseded the previous CAP725: Airspace Change Process Guidance Document.

CAP1616 introduces new noise metrics that must be considered when changes to the flightpaths are made below an altitude of 7,000 feet. This includes the use of 'N' Contours which identify the number of overflights an area is likely to experience that register above a prescribed noise level, for example 65 dB(A).

The new guidance also requires airspace change sponsors to use DfT's WebTag tool when carrying out an options appraisal of new procedures in order to help understanding of health impacts relating to noise.

There is also an expectation that Airports, regardless of whether or not an Airspace Change has been carried out, will make route utilisation statistics publicly available. This is in order to help improve transparency and allow the public to better understand aircraft operations in their location. This requirement forms a new action for the 2019 – 2023 Noise Action Plan.

Department for Transport Air Navigation Guidance 2017

This document gives guidance to the Civil Aviation Authority and the wider airport industry on airspace and noise management.

05 - Aircraft Noise Policy

The guidance on noise relates to the potential impact on neighbouring communities. It specifically states that noise should be prioritised below an altitude of 7,000 feet when compared to other environmental factors such as CO2 emissions.

It should however be noted that there could be circumstances where local air quality may be a consideration above that of noise. This will be in situations where emissions from aircraft taking off, landing, or whilst they are on the ground have the potential to contribute to overall pollution levels in the area.

This could lead to a situation which creates unacceptable costs in terms of local air quality or might risk breaching legal limits.

CAP1588

CAP 1588 – Aircraft Noise and Annoyance: Recent findings acknowledges the 54dB LAeq 16-hour contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance.

The government published their Response to their Airspace Consultation in 2017 and acknowledged the evidence from the SoNA study, which showed that sensitivity to aircraft noise has increased, with the same percentage of people reporting to be highly annoyed at a level of 54 dB LAeq,16hr as occurred at 57 dB LAeq,16hr in the past.

5.4 Local Policy

Responsible Authority: Local Authorities

Section 106 Agreement 2009

Solihull Metropolitan Borough Council (SMBC) is the responsible Local Planning Authority for Birmingham Airport.

In 2009, the Airport agreed a Section 106 Agreement with SMBC as part of the Planning Approval for Runway Extension. This was implemented in 2012 when works commenced. The Section 106 Agreement contains environmental obligations including noise control, night flying and air traffic management, with SMBC providing an annual section 106 report. Some key noise obligations that the Airport are required to carry out are listed below:

- Maintain a Sound Insulation Scheme
- Maintain a Schools Environmental Improvement Scheme
- Maintain the Aircraft Noise and Track-keeping system and respond to community complaints
- Administer a daytime noise level limit of 90dB(A) LAmax for departures
- Maintain an Engine Ground Running operating instruction
- Maintain a Night Flying Policy, including the use of a quota count system, annual limit on movements and night time noise level limit
- Maintain a track-keeping target of 97% for all departing aircraft
- Ensure a Continuous Decent Approach Policy is in operation

As part of the Section 106 Agreement, Birmingham Airport funds the monitoring of compliance through the payment of £60,000 per annum to SMBC. This is to audit the Airport Company's compliance with all aspects of the Section 106 Agreement.

Solihull Draft Local Plan Review

The Solihull Draft Local Plan Review is an ongoing review of the 2013 Solihull Local Plan[SR1] [RB2] and sets out Solihull Metropolitan Borough Council's vision for the local area. It highlights Birmingham Airport as a key economic asset for the growth of the area and states that “The Council will support and encourage further development needed for operational purposes such as passenger and freight facilities, terminals, transport facilities and other development that supports operational needs, or which allows the capacity of the extended runway to be maximised”.

It also states that “The Council recognises the existence of significant sources of noise or potential noise within the Borough, such as Birmingham Airport (...) and the need to protect noise sensitive uses, including housing, education and health institutions. The policy seeks to ensure that noise and vibration are contained by appropriate design and operational measures”.

5.5 Consideration for Non-noise Environmental Impacts

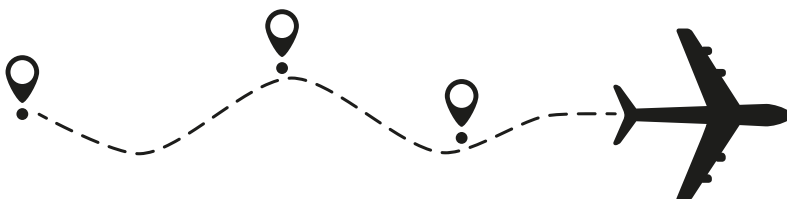
The aviation industry is striving to develop ways of reducing aircraft noise. Significant improvements in noise performance continue to be developed by aircraft manufacturers. An example of this is the Boeing 737 MAX aircraft, which is 40% quieter than the older Boeing 737-800 aircraft and over 93% quieter than the now-retired Boeing 737-200s from the 1990s. The Boeing 737 MAX aircraft is fitted with “next-generation” CFM LEAP engines which can reduce fuel usage by 16%, therefore reducing carbon emissions.

05 - Aircraft Noise Policy

Birmingham Airport understands that there is a need to balance these interdependent environmental impacts. Where possible, the Airport will support programmes that provide all round environmental benefits, while recognising that in some cases a balance must be achieved.

In addition to noise, aircraft also produce air emissions, which can affect local air quality and are a contributor to climate change. Most of the technological improvements to date have led to reductions in both noise and air emissions. However, reductions in noise do not necessarily lead to reductions in air emissions, and vice versa. For example, some of the technologies and operating procedures used to reduce aircraft noise have led to an increase in air emissions. Scientific understanding on the relationship between noise and air emissions is still evolving and continues to be the subject to a number of studies. This is recognised within the Department for Transport Air Navigation Guidance 2017 with one of the government's key objectives being to "minimise local air quality emissions and in particular ensure that the UK complies with its international obligations on air quality."

Birmingham Airport is a signatory to Sustainable Aviation, a unique alliance of the UK's airlines, airports, aerospace manufacturers and air navigation service providers who's aim is to drive a long term strategy to deliver cleaner, quieter, smarter flying. The business continues to take an active role within both the Quieter and Cleaner working groups, sharing best practice and reporting on environmental progress. Further information on Sustainable Aviation's work, including the Noise Road-Map can be found at Section 5.3.





06 - Progress since the last Action Plan

Birmingham Airport adopted its third Noise Action Plan in 2019, following approval by the Department for Environment, Food and Rural Affairs (Defra). The plan presented a strategic set of noise actions to 2023. Since adoption of the 2019 -2023 plan we have successfully progressed the actions from the original Noise Action Plan and undertaken our fourth round of noise mapping under the requirements of the Environmental Noise (England) Regulations 2006 (as amended).

Birmingham Airport has undertaken a review of its day, evening and night (Lden) noise contours for the years 2019 and 2021. The 2021 Noise Contours are a requirement of the Environmental Noise (England) Regulations 2006, with the 2019 data used to supplement as a more representative year pre Covid-19 pandemic.

The noise contours are independently produced by the Civil Aviation Authority's (CAA) Environmental and Research Consultancy Department (ERCD), using the latest version of ANCON (version 2.4). The modelling incorporates actual annual Air Transport Movement (ATMs) data and flight track radar data, taken from the Airport's ANOMS system. As part of the Noise Action Plan process these results must be analysed by Defra prior to publication.

The noise contours are produced for day, evening and night periods. Daytime noise levels (Lday) are averaged over a 12-hour period (0700-1900), evening (Levening) over a 4-hour period (1900-2300) and night-time (Lnight) noise levels are averaged over an 8 hour period (2300-0700). These are combined to form a 24 hour (Lden). Evening values (1900-2300) are weighted by the addition of 5 dB(A), and the night values (2300-0700) weighted by the addition of 10dB(A).



06 - Progress since the last Action Plan

6.1 Results of the 2019 Lden Noise Contours

The results of the 2019 Noise Contours can be found in [Appendix C](#) alongside 2016 results. The 2019 Noise Contour Maps can be found in [Appendix D](#) along with a map detailing comparison between our 2016 and 2019 annual Lden Noise Contours. The Lden values can also be found in the table below.

| 2019 Lden compared to 2016 Lden | | | | |
|---------------------------------|---------------------|------------------|---------------------|------------------|
| Noise level (dB) | 2019 | | 2016 | |
| | Number of Dwellings | Number of People | Number of Dwellings | Number of People |
| >55 | 18,900 | 45,500 | 21,700 | 53,600 |
| >60 | 6,350 | 15,000 | 6,850 | 16,400 |
| >65 | 850 | 1,900 | 850 | 1,800 |
| >70 | 0 | 0 | <50 | 100 |
| >75 | 0 | 0 | 0 | 0 |

There has been a decrease in both the number of dwellings and people within the 55 and 60 dB noise contour levels. While there has been no change in the number of dwellings in the 65 dB noise contour there has been a small increase of 100 people between 2016 and 2019. There is now no dwellings or population within the 70 dB noise contour level. The Lden 55dB and Lnight 48dB noise contour are designated for consideration in the Noise Action Plan. There has been a decrease in the Lden 55dB noise contour, with 15.1% fewer people and 12.9% fewer dwellings. For the Lnight 48dB contour there are 21.9% fewer people and 20.6% fewer dwellings.

| Percentage Difference 2016 to 2019 | | |
|------------------------------------|-----------|-------------|
| | Lden 55dB | Lnight 48dB |
| Number of Dwellings | -12.90% | -20.06% |
| Number of People | -15.1% | -21.9% |

There has been a decrease of 2.8% in total Air Transport Movements (ATMs) from 2016 to 2019. However, in terms of night ATMs (2300 – 0700), there has been an increase of 5.6% from 2016 to 2019.

| Air Transport Movements | | |
|-------------------------|---------|-----------------|
| | 2016 | 2019 |
| Night | 10,518 | 11,108 (+5.6%) |
| Total | 111,483 | 108,390 (-2.8%) |

Runway utilisation will also have an impact upon the shape of the noise contours and, in particular the number of people affected by noise. Analysis has therefore been undertaken on runway usage during the noise contour periods for 2019 in comparison to 2016.

| Average Runway Modal Splits | | | | |
|-----------------------------|------|-----|------|-----|
| Period | 2016 | | 2019 | |
| | R33 | R15 | R33 | R15 |
| Day | 57% | 43% | 51% | 49% |
| Evening | 59% | 41% | 51% | 49% |
| Night | 63% | 37% | 55% | 45% |
| 24-hour period | 58% | 42% | 51% | 49% |
| 16-hour period | 57% | 43% | 51% | 49% |

Aircraft types will also have an effect on the size and shape of the contours. Analysis has also been undertaken into the dominant aircraft types in operation during 2019 for comparison with 2016. The top ten aircraft have been listed below (these represent 76% of 2019 movements and 83% of 2016 movements).

There have been changes to both aircraft operators and aircraft types between 2019 and 2016. One example of this is the significant decrease in the number of Airbus A321 aircraft between 2016 and 2019. These older variants of single aisle twin jet Airbus aircraft are typically noisier aircraft types that Monarch operated

using, with Monarch ceasing trading in October 2017.

Boeing 737-800 aircraft have significantly increased from 2016 to 2019. This is largely due to Jet-2 commencing operations at Birmingham Airport in 2017, with 93% of their operations being 737-800 aircraft. Ryanair were the largest operator of 737-800's in 2019, with their operation of this aircraft type increasing by 20% from 2016.

| Most Frequent Aircraft Types 2016 | | ATMs |
|-----------------------------------|---------------------------------------|--------|
| DH4 | De Havilland Canada DHC-8-400 Dash 8Q | 22,837 |
| 738 | Boeing 737-800 pax | 16,811 |
| 321 | Airbus A321-100/200 Ceo | 12,826 |
| E75 | Embraer 175 | 10,122 |
| 320 | Airbus A320-100/200 Ceo | 9,398 |
| 319 | Airbus A319 Ceo | 5,216 |
| 757 | Boeing 757 all pax models | 4,720 |
| AT7 | Aerospatiale/Alenia ATR 72 | 4,623 |
| E95 | Embraer 195 | 3,726 |
| CR9 | Canadair Regional Jet 900 | 2,414 |

| Most Frequent Aircraft Types 2019 | | ATMs |
|-----------------------------------|---|--------|
| 73H | Boeing 737-800 (winglets) pax | 27,346 |
| DH4 | De Havilland Canada DHC-8-400 Dash 8Q | 22,288 |
| 320 | Airbus A320-100/200 Ceo | 6,775 |
| E75 | Embraer 175 | 6,045 |
| 319 | Airbus A319 Ceo | 4,978 |
| AT7 | Aerospatiale/Alenia ATR 72 | 3,550 |
| 7S8 | Boeing 737-800 (split scimitar winglet) | 3,321 |
| 75W | Boeing 757-200 (winglets) pax | 2,955 |
| 32A | Airbus A320-200 Ceo (Sharklets) | 2,758 |
| E95 | Embraer 195 | 2,757 |

06 - Progress since the last Action Plan

6.2 Results of the 2021 Lden Noise Contours

The results of the 2021 Noise Contours can be found in [Appendix C](#) alongside 2016 results. The 2021 Noise Contour Maps can be found in [Appendix D](#) along with a map detailing comparison between our 2016 and 2021 annual Lden Noise Contours. The Lden values can also be found in the table below.

| 2021 Lden compared to 2016 Lden | | | | |
|---------------------------------|---------------------|------------------|---------------------|------------------|
| Noise level (dB) | 2021 | | 2016 | |
| | Number of Dwellings | Number of People | Number of Dwellings | Number of People |
| >55 | 9,850 | 23,200 | 21,700 | 53,600 |
| >60 | 1,850 | 4,100 | 6,850 | 16,400 |
| >65 | <50 | 100 | 850 | 1,800 |
| >70 | 0 | 0 | <50 | 100 |
| >75 | 0 | 0 | 0 | 0 |

There has been a decrease in both the number of dwellings and people within the 70, 65, 60 and 55 dB noise contour levels whilst there has been no change in the 75 dB contour levels. The Lden 55dB and Lnight 48dB noise contour are designated for consideration in the Noise Action Plan. There has been a decrease in the Lden 55dB noise contour, with a decrease of 54.6% fewer people and 56.7% fewer dwellings. For the Lnight 48dB contour there are 54.3% fewer people and 58.2% fewer dwellings. It is considered that these decreases are attributed to the large reduction in air traffic during the COVID-19 pandemic. Such decreases in Air Transport Movements are likely to shrink contour sizes.

| Percentage Difference 2016 to 2021 | | |
|------------------------------------|-----------|-------------|
| | Lden 55dB | Lnight 48dB |
| Number of Dwellings | -54.6% | -54.3% |
| Number of People | -56.7% | -58.2% |

In terms of night ATMs (2300 – 0700), there has been a decrease of 58.8% from 2016 to 2021. Overall ATM's during the day, evening and night have decreased by 68.3% from 2016 to 2021.

| Air Transport Movements | | |
|-------------------------|---------|-----------------|
| | 2016 | 2021 |
| Night | 10,518 | 4,330 (-58.8%) |
| Total | 111,483 | 35,331 (-68.3%) |

Runway utilisation will also have an impact upon the shape of the noise contours and, in particular the number of people affected by noise. Analysis has therefore been undertaken on runway usage during the noise contour periods for 2021 in comparison to 2016.

| Average Runway Modal Splits | | | | |
|-----------------------------|------|-----|------|-----|
| Period | 2016 | | 2021 | |
| | R33 | R15 | R33 | R15 |
| Day | 57% | 43% | 62% | 38% |
| Evening | 59% | 41% | 64% | 36% |
| Night | 63% | 37% | 63% | 37% |
| 24-hour period | 58% | 42% | 62% | 38% |
| 16-hour period | 57% | 43% | 62% | 38% |

Aircraft types will also have an effect on the size and shape of the contours. Analysis has also been undertaken into the dominant aircraft types in operation during 2021 for comparison with 2016. The top ten aircraft have been listed below (these represent 66% of 2021 movements and 83% of 2016 movements). There have been changes to both aircraft operators and aircraft types between 2021 and 2016. One example of this is the significant decrease in the number of Dash-8, Embraer 195 and Embraer 175 aircraft. The most notable operator of these aircraft types was Flybe, who ceased trading in March 2020, with no operations in 2021. Flybe resumed operations in 2022, ceasing trading again in January 2023.

There was a significant decrease in the number of Airbus A321 aircraft as a result of the cessation of Thomas Cook in September 2019, with the airline being a notable operator of these aircraft. There has been an increase in the number of Airbus A320 Neo operating in 2021. This is a quieter aircraft in comparison to the older A320 variants. The A320 Neo is primarily used by Easyjet and started operating at the Airport in 2017. There was a notable increase in Fairchild SA26 in 2021 compared to 2016. This is a result of these aircraft being used to deliver Covid-19 tests and samples over the course of the pandemic.

| Most Frequent Aircraft Types 2016 | | ATMs |
|-----------------------------------|---------------------------------------|--------|
| DH4 | De Havilland Canada DHC-8-400 Dash 8Q | 22,837 |
| 738 | Boeing 737-800 pax | 16,811 |
| 321 | Airbus A321-100/200 Ceo | 12,826 |
| E75 | Embraer 175 | 10,122 |
| 320 | Airbus A320-100/200 Ceo | 9,398 |
| 319 | Airbus A319 Ceo | 5,216 |
| 757 | Boeing 757 all pax models | 4,720 |
| AT7 | Aerospatiale/Alenia ATR 72 | 4,623 |
| E95 | Embraer 195 | 3,726 |
| CR9 | Canadair Regional Jet 900 | 2,414 |

| Most Frequent Aircraft Types 2021 | | ATMs |
|-----------------------------------|--|--------|
| 73H | Boeing 737-800 (winglets) pax | 11,535 |
| 320 | Airbus A320-100/200 Ceo | 2,008 |
| E90 | Embraer 190 | 1,764 |
| 319 | Airbus A319 Ceo | 1,656 |
| 32A | Airbus A320-200 Ceo (Sharklets) | 1,354 |
| ATF | Aerospatiale/Alenia ATR 72 Freighter | 1,091 |
| ER4 | Embraer RJ145 Amazon | 1,044 |
| 7S8 | Boeing 737-800 (split scimitar winglet) | 1,007 |
| 32N | Airbus A320-200 Neo | 920 |
| SWM | Fairchild (Swearingen) SA26 / SA226 / SA227 Metro / Merlin / Expediter | 847 |

07 - Progress Against Actions and Proposed Enhancements

Our commitment at Birmingham Airport is to meet the air travel demands of the region in an environmentally responsible way. In this way the region benefits economically and socially from a successful Airport and the environmental impact is minimised.

Birmingham Airport's objective for managing aircraft noise is:

“To work with our stakeholders, including the local community and industry partners to adopt the best practicable means to assess, manage and minimise the impact of aircraft noise, both now and in the future.”

The Environmental Noise Regulations (England) 2006 (as amended) require that the Airport consider the 55 dB(A) Lden and 50 dB (A) Lnight noise contours, when developing the Noise Action Plan. However, Birmingham Airport recognises that the population affected by aircraft noise extends beyond these noise contours. Consequently, this Airport Noise Strategy has been developed to consider wider aircraft noise impacts, including noise from engine ground running.

A review of other Airport's Noise Actions Plans was undertaken in order to ensure that Birmingham Airport is employing industry best practice where possible.

The Birmingham Airport Noise Action Plan incorporates three key themes. These are detailed below and are accompanied by a summary of some of the noise management programmes that we have in place and the enhancements proposed in this revised plan.

A full list of actions, progress and revisions can be found in [Appendix A](#) and [Appendix B](#).

7.1 Measure

“We will continue to monitor aircraft noise using best practicable methods. Our commitment starts with investment in systems and equipment to enable us to understand our noise impact and identify opportunities to reduce noise.”

Noise and Track Keeping Monitoring

The Airport implements an extensive programme of monitoring. This includes the ANOMS 9 Noise and Track Keeping System, which combines secondary radar data with noise data from our community noise monitors. Birmingham Airport was the first commercial Airport in the world to implement the state of the art ANOMS 9 system. The system is also used to log and investigate community complaints relating to aircraft noise.

We continue to monitor aircraft activity, including noise levels and tracks, using the Airport Noise and Operations Monitoring System (ANOMS). Via the Airport Consultative Committee, we provide statistics on environmental issues, including community concerns. In 2023 we have also made more information publicly available through our community noise report.

Within the last Noise Action Plan, Birmingham Airport committed to establishing a programme to carry out noise monitoring studies using a Portable Noise Monitor twice yearly as required.

Since the last Noise Action Plan noise studies have been carried out using the portable noise monitor for the areas of Barston and Balsall Common with these studies available on the Noise Monitoring pages of our website. Owing to the impact of COVID-19 on traffic volumes no new noise monitoring studies have been carried out

since 2019. As traffic volumes reach pre-COVID levels, this noise action plan commitment will be resumed.

Complaints Management

We ensure that members of the public who wish to complain about aircraft noise receive an informative, helpful and friendly service. Community concerns can be logged via our Complaint Form located on the Airport website, enabling complaints to be dealt with quickly and efficiently.

<https://www.birminghamairport.co.uk/about-us/community-and-environment/aircraft-noise/make-a-community-complaint/>.

Alternatively, there is an Environmental Helpline (0121 767 7433).

Complaints statistics are compiled quarterly and reported through the Airport Consultative Committee. We have maintained our target time to respond to complaints within 5 working days.

Our complaints policy was introduced in 2015 and is available via our community complaints web page. Complainants can be referred to this resource to be informed of the procedure for complaint investigation and the service levels that they can expect. Available resources and the need to treat complainants fairly and equally are considered within the scope of this policy.

07 - Progress Against Actions and Proposed Enhancements

WebTrack

Birmingham Airport committed to introducing WebTrack, a complaints tool which allows people to view and track flights in their area.

This gives the user detailed information on the aircraft type, altitude, flight number and speed, as well as access to historical trends and patterns. It allows complainants to submit complaints according to the specific movement they have identified and their associated noise monitor reading. A screenshot of the WebTrack interface can be seen below right.

7.2 Mitigate

“We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport’s Sustainability Team.”

Sound Insulation Scheme

An extensive Sound Insulation Scheme programme has been in place at Birmingham Airport since 1978, to manage the noise impact on our neighbours. The Sound Insulation Scheme is based on the 2002 63 dB LAeq average summer day noise contour, which is an average measure of noise exposure over a 16 hour period.

Although our noise contours have consistently reduced since this time, the airport has continued to insulate all properties that fall within the 2002 footprint. The Scheme aims to provide sound-reducing glazing to properties in areas most affected by aircraft noise. We have invested over £12 million since starting the Scheme, insulating over 7000 properties.

Since adoption of our previous Noise Action Plan, under the 2018/19 and 2019/20 phases of the Sound Insulation Scheme 46 properties accepted the offer of high-specification double glazing and have benefited from the scheme.

The current scheme of works is finished as we have insulated every eligible property that is within the contour boundary, with a second offer given to all properties that were previously offered sound insulation and declined.

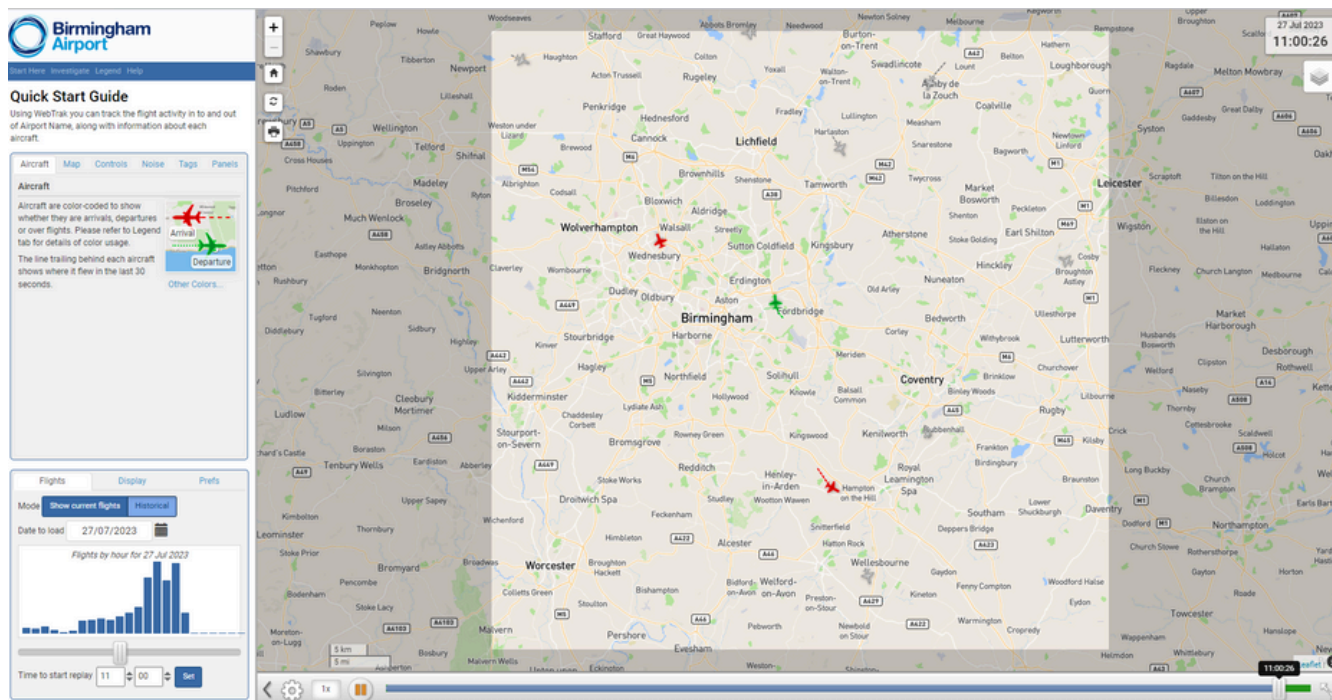
Over 2023 we are committed to carrying out an in-depth review into the Sound Insulation Scheme and how it may operate in future years. The results of this review will be shared with the community for comment.

Schools Environmental Improvement Scheme

Since adoption of the previous Noise Action Plan we have continued to invest in the Schools Environmental Improvement Scheme. In 2019/20 the Airport replaced the flat roof of Year 3-6 Classrooms at Gossey Lane School, with insulation and high performance felt to the cost of £39,000.

This work improves overall sound insulation performance of the building, while significantly improving thermal performance and thereby reducing energy usage.

Over 2023 we are committed to carrying out an in-depth review into the Schools Environmental Improvement Scheme and how it may operate in future years. The results of this review will be shared with the community for comment.



07 - Progress Against Actions and Proposed Enhancements

Night Flying Policy

Night flying is recognised by Birmingham Airport as a very sensitive issue and as such the Night Flying Policy was voluntarily introduced in and subsequently transposed into the Section 106 Agreement with Solihull Metropolitan Borough Council in 2009 as part of the planning conditions for the runway extension. The Night Flying Policy is designed to minimise disturbance in the local community during the night period (2330-0600).

Birmingham Airports Night Flying Policy 2021-2024 was approved by the Solihull MBC planning committee on 19th March 2021; the policy was reviewed in consultation with the ACC noise sub-group and had the support of the full Airport Consultative Committee when presented. The current policy is effective from 31st October 2021 until 27th October 2024.

Due to the impact of Covid-19 the current Night Flying Policy 2021-2024 remains the same as the previous 2018-2021 policy. In line with its three-year review cycle, we have committed to carrying out a full review of the Night Flying Policy ahead of consultation and publication of the Night Flying Policy 2024-2027. The below table sets out the current Night Flying Policy restrictions and outlines the specific review commitments made during the previous Noise Action Plan. These commitments will be considered as part of the full Night Flying Policy review.

| 2021 - 2024 NFP | Commentary |
|--|---|
| <p>Night Period is defined as 2330 to 0600.</p> | <p>All Night Flying Policy restrictions apply to the night period timeframe, with the exception of the absolute departure limit introduced in 2018, with this restriction applying to the timeframe of between 2330 to 0500.</p> |
| <p>Aircraft with Quota Count of greater than 1 prohibited from being scheduled to take off or land during the Night Period.</p> | <p>All aircraft operating during the night period are assigned a noise quota, ranging from 0 to 16 dependent on the noise certification of the aircraft. Noisier aircraft are assigned a higher noise quota value with quieter aircraft assigned a lower noise quota value.</p> <p>Under our original Noise Action Plan, Aircraft with a Quota Count of 8 or more were prohibited from being scheduled to operate during the night period. A further revision in 2015 prohibited the scheduling of aircraft of a Quota Count greater than 2 during the night period. From October 2018 we have prohibited the scheduling of aircraft of a Quota Count greater than 1 during the night period.</p> |
| <p>Any departing aircraft registering more than 83dB(A) at the centre noise monitors during the Night Period will be subject to a surcharge equivalent to a full runway charge.</p> | <p>Under our original Noise Action Plan, the night noise limit was set at 87dB(A). This was reduced to 85dB(A) in 2011 and from October 2018 we reduced the night noise limit again, to the current limit of 83dB(A).</p> <p>If a departing aircraft registers a noise level above this at our centreline noise monitors (Noise Monitors 1 and 2), the airline is surcharged an amount equivalent to a full runway charge, thus deterring noisier aircraft from operating. All funds from night noise violations are placed into the Community Trust Fund, a registered charity that benefits projects in the local community.</p> <p>The Airport committed to investigating the feasibility of reducing this limit further to 81dB(A). This commitment will be carried out at the upcoming Night Flying Policy review.</p> |

07 - Progress Against Actions and Proposed Enhancements

| 2021 - 2024 NFP | Commentary |
|--|---|
| <p>Annual Quota Count limit during the Night Period of 4,000.</p> <p>Quota can be reclaimed for movements which register less than 74dB(A) at all three noise monitors.</p> | <p>All aircraft operating during the night period are assigned a noise quota, ranging from 0 to 16 dependent on the noise certification of the aircraft. Noisier aircraft are assigned a higher noise quota value with quieter aircraft assigned a lower noise quota value.</p> <p>This limit is designed to encourage the operation of a quieter fleet at night, and is a further method for restricting the number of movements, as larger QC values account for a larger proportion of the total. For example, if every aircraft operating at night was the noisiest permitted to operate (QC 1), under the current quota count limit, 4000 movements would be able to take place. This number of movements is significantly less than the annual ATM limit.</p> <p>The Airport has committed to a specific review of this limit during the next Night Flying Policy review.</p> |
| <p>The maximum annual movement limit allowed during the Night Period is calculated at 5% of the total number of ATMs from the busiest single year within the last 5-year period.</p> | <p>This Annual ATM Limit is in place to restrict the total number of aircraft movements allowed to operate during the night period.</p> |
| <p>Absolute annual departure limit implemented between 2330 and 0500 of 877 movements.</p> | <p>This limit was introduced in 2018 in response to community concerns specifically regarding departure night noise. This limit prohibits any increase in departures between 2330 and 0500.</p> |
| <p>Provision to exempt certain ATMs including, mercy flights, emergencies, delays due to prolonged Air Traffic disruption and delays likely to lead to serious congestion at the Airport or hardship and suffering to passengers or animals, and those aircraft classified at less than 81 EPNdB.</p> | <p>A more stringent restriction reducing the number of aircraft that can be exempted during the night period was introduced in 2018, with aircraft classified at less than 81 EPNdB exempt (this was previously 84 EPNdB).</p> <p>At the request of the ACC, exemptions data has been shared with the community since 2021, in order to ensure full transparency. A full review into current exemption provisions will be carried out at the upcoming Night Flying Policy review.</p> |

07 - Progress Against Actions and Proposed Enhancements

Daytime Noise Limit

If a departing aircraft exceeds our daytime noise violation limit at our centreline noise monitors (Noise Monitors 1 and 2), the airline is surcharged £500 plus a further £150 for every full decibel recorded over the limit. All funds generated from this Policy are placed into the Community Trust Fund. The aim of this limit is to incentivise airlines and encourage them to deploy the quietest aircraft in their fleet at Birmingham Airport.

Under this revised Noise Action Plan the Daytime Noise Limit remains at 90dB(A). A commitment was made within the previous Noise Action Plan to review this limit and as such a daytime noise limit review group (a sub-group of the Airport Consultative Committee) was set up in 2019.

At this time, and in agreement with the sub-group, it was decided that the current 90dB(A) fining limit should be maintained, with the Airport committing to monitor aircraft to 86dB(A) over a year long period, in order to understand the aircraft types and airlines that would be fined were the daytime noise limit to be reduced and to ensure that any new limit still meets the purpose of incentivising quieter fleets.

It was agreed that this timeframe for a daytime noise limit review period would align with that of the night flying policy review, however due to the impact of Covid-19, the data collected is not representative of normal operations. The daytime noise limit review will therefore align with the upcoming Night Flying Policy review over 2023-24, with this commitment set out in [Appendix B](#).

Aircraft Track Keeping

Birmingham Airport stipulates that all departing aircraft (greater than 5700 kg) should follow Noise Preferential Routes (NPRs) until reaching 3,000 or 4,000 feet altitude (dependent upon heading). The NPRs consist of flight corridors three kilometres in width, which are designed

to take departing aircraft over the least populated areas. The Airport consistently achieves the current target not to fall below 97% compliance and has put forward a new target of 99% compliance within this Noise Action Plan.

Continuous Descent Approaches (CDAs)

The CDA programme was launched at Birmingham Airport during May 2009. The basic principle of a CDA is that arriving aircraft stay higher for longer, by descending at a continuous rate. CDAs require significantly less engine thrust, which leads to reduced emissions of air pollutants and noise. Unlike some Airports, CDAs are implemented at Birmingham 24 hours a day. Within our previous Noise Action Plan we identified that airlines consistently achieve the current target not to fall below our previous target of 90% CDA compliance. We therefore put forward a new target of increasing to 96% CDA compliance.

Since adoption of the previous Noise Action Plan, we have achieved 92% CDA compliance. CDA compliance is reviewed by airline as part of the Operation Pathfinder forum, in order to identify and understand CDA compliance trends and allow us to work with airlines to understand where further improvements can be made. Performance is dependent on a multitude of factors including runway direction, airline and airline base, weather and safety restrictions.

Birmingham Airport also had a new action within the previous Noise Action Plan to investigate the feasibility of a 3.2° glide slope to runway 33 (and possibly runway 15) which could potentially take aircraft on approach closer to the height they were prior to the runway extension. This was dependent on the outcome of a trial at Heathrow. Since the previous Noise Action Plan, Heathrow Airport have carried out this trial. We are continuing discussions with Heathrow Airport to understand the outcomes of the trial, the levels of implementation and the noise benefit. Once fully

understood this will be presented to the Airport Consultative Committee; this continued commitment is set out in [Appendix B](#).

Engine Ground Running

Although the Noise Action Plan is not required to consider noise from Engine Ground Running, we recognise that it is a key concern of residents in some neighbouring communities. Engine Ground Running is required by airlines following essential aircraft maintenance and only takes place when absolutely necessary.

To minimise disturbance, we have an Engine Ground Running Policy which includes the following provisions:

- Specified engine ground running locations to help minimise noise disturbance to local residents.
- Full power engine ground runs can only take place from 0600hrs until 2300hrs (Monday to Saturday), and 0800hrs until 2300hrs on Sundays (and not between 1030-1230 hrs Sundays).
- Stringent restrictions on the use of taxiway T.
- All engine ground runs require prior approval.
- Monthly reports are compiled and provided on a quarterly basis to the Airport Consultative Committee.

Airspace Redesign

Birmingham Airport's airspace redesign was required as part of a national programme to deliver improvements and efficiencies in the UK's airspace infrastructure, this programme introduced changes in the technology used to navigate aircraft and aims to deliver a more efficient airspace system for the UK.

07 - Progress Against Actions and Proposed Enhancements

A number of Airspace Change Proposals (ACP's) have been previously implemented, as summarised below:

- Implementation of new Instrument Approach Procedures to Runway 33 to coincide with the new landing threshold for the extended runway.
- Implementation of RNAV-1 procedures for all departures from Runway 15 following the runway extension.
- Implementation of new RNAV-1 procedures for all departures from Runway 33 to meet the requirements of the redesigned upper airspace north of Birmingham Airport.

The implementation of RNAV-1 procedures has in some instances led to the reduction in the overflight of communities surrounding the Airport due to improved concentration. The Airport is however cognisant of the fact that concentrating aircraft on NPR centrelines may also lead to an increase in overflights for communities positioned directly beneath them.

Furthermore, with the Airport being an early adopter of RNAV-1 procedures, it was identified that the designed procedure for aircraft heading north from runway 15 did not provide the anticipated level of concentration.

As a result, the Airport committed to making technical amendments to the design in order to improve concentration. The re-designed Northbound Turn became operational on 23rd May 2019, with the Airport undertaking a noise study to investigate aircraft operations before and after implementation of the re-design. This study showed that the re-design resulted in the expected improvement in track-keeping; the full study can be found on the Airport website [here](#).

7.3 Engage

“We will meet with our neighbours and partners to involve, engage and inform people through open dialogue. We will continue to operate a transparent stakeholder engagement programme. This will aid mutual understanding of noise issues and allow us to inform our local community of any changes to Airport activities which may have a noise impact.”

Airport Consultative Committee

The Airport reports, on a quarterly basis, to the Airport Consultative Committee (ACC). Membership of this group includes local community representatives. The Airport offers an open and transparent service and provides detailed reporting on environmental performance including noise and track keeping. Quarterly minutes are available via the Airport's website: <https://www.birminghamairport.co.uk/about-us/community-and-environment/airport-consultative-committee/agendas-and-minutes/>

Operation Pathfinder

In 2006 the Airport launched Operation Pathfinder, a forum through which the Airport Sustainability Team works with Birmingham Airport Air Traffic Control (BAATC), NATS and airlines, to develop improvements to noise and track keeping performance and to reduce carbon emissions.

Operation Pathfinder is not just about improving track keeping performance; we work closely with BAATL, NATS and the airlines to investigate other projects to reduce noise and emissions. Following airspace change, track-keeping compliance has increased significantly.

The Airport consistently saw over 99% of its departures on-track in the year of 2022, exceeding the 97% target of the previous Noise Action Plan. With a higher number of aircraft following our Noise Preferential Routes, Birmingham Airport has been able to minimise the number of people affected by noise.

Operation Pathfinder is also responsible for implementing Continuous Climb Operations, where aircraft operate a continuous climb on departure, thereby reducing their fuel consumption and noise impact. Engagement with Operation Pathfinder is core to the aim of minimising the impact of aircraft noise.

Community Engagement

We operate a community outreach programme where we openly engage with members of the community. This includes presentations to local community groups, Ward Committees and Parish Council meetings, as well as attending local community events.

Our community engagement strategy is core to our noise management strategy as it aids a mutual understanding of noise issues. We aim to engage with our neighbours through these events, through community updates via email and through our own dedicated specific twitter account: [@bhx_community](#)

Another key feature of our community engagement strategy is our Community Impact Alert System, whereby we notify key local contacts of any changes to Airport activities that may have an impact upon the local community. Notifications are made by telephone, text message, email or letter as appropriate.

We continue to operate a Community Trust Fund. In 2022 over £96,000 was made available for local projects, a figure which is index-linked to ensure it increases each year in line with inflation, with an increase in annual contribution from £84,000 in 2019.

07 - Progress Against Actions and Proposed Enhancements

This figure is augmented by any aircraft noise limit violation surcharges. Since the Trust's inception in 1998 over £1.8 million has been invested in over 800 local projects.

Community Noise Report

In response to requests for wider availability of noise data that can be shared with local communities, a comprehensive Community Noise Report has been developed. This is available quarterly on the Birmingham Airport Website [here](#) and will incorporate airline noise performance, arrivals performance (continuous descent approaches), departures performance (track-keeping, noise violations), night flying, complaints (including complaints by area), helicopter statistics and ground noise data.

Information Resources

We have continued to develop and maintained a range of information resources that give a detailed overview of our environmental management programmes for our neighbours. Since adoption of our previous Noise Action Plan we have updated all of our Community Impact docuseries. These documents focus on individual areas to explain the impact of the Airport's operations in these communities.

We also continue to commit to operating a Community and Environment Section of our website, where we have a section dedicated to aircraft noise management:

[Aircraft Noise - Birmingham Airport Website](#)

We are always seeking new ways to communicate our initiatives and information and Birmingham Airport was the first Airport in the UK to launch an environmental information service on Google Earth. This can be accessed [here](#).

We also have a 'How is my area affected?' section on our website, which can be accessed [here](#). This series of documents explain the impact of the Airport's operations within various specific communities.

Case Study: Bickenhill Church Hall

Name: Ian Wasse

Manager and Treasurer

Date 11/04/2023

"I would like to give our thanks to Birmingham Airport for funding the replacement of our community hall's west-facing windows and door. The Church and community hall is used by youth groups, local villagers and others for social events. As we are located adjacent to the flightpath, these works will have a significant noise benefit, additionally, these new windows will help maintain the security of the hall and conserve energy."



07 - Progress Against Actions and Proposed Enhancements

Sustainable Aviation Noise Road Map

Sustainable Aviation is a unique alliance of the UK's airports, airlines, aerospace manufacturers and air navigation service providers; driving a long term strategy to deliver cleaner, quieter, smarter flying, reporting regularly on progress in reducing aviation's environmental impact. We continue to support Sustainable Aviation and the Sustainability team play an active role in both the Quieter and Cleaner groups.

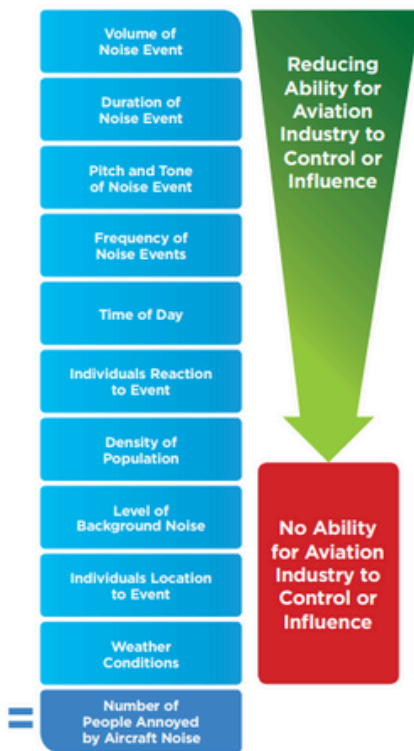
Birmingham Airport was an active participant in the development of [Sustainable Aviation's Noise Roadmap](#), which launched in April 2013 and outlined how noise would be reduced, in real, measurable terms to benefit communities across the UK whilst aviation grows, out to 2050. This can be achieved through the development and introduction of quieter aircraft alongside the implementation of better operating procedures and improved land-use planning. Sustainable Aviation is progressing an update to the 2013 Noise Roadmap over 2023, with the Airport sharing noise contour data and progress which will feed into the publication.



SUSTAINABLE AVIATION

THE NOISE CHALLENGE

The key objective in managing issues of aircraft noise is to limit and where possible reduce the number of people significantly affected. The diagram below shows the wide range of variables that can cause someone to be annoyed by aircraft noise: some the aviation industry can control; others, however, require a multi-stakeholder approach to resolve.



WHAT IS SUSTAINABLE AVIATION?

Sustainable Aviation is a unique alliance of the UK's airlines, airports, aerospace manufacturers and air navigation service providers. Together, we drive a long term strategy to deliver cleaner, quieter, smarter flying. SA is the first alliance of its type in the world, and reports regularly on progress in reducing aviation's environmental impact. For a full list of members, see www.sustainableaviation.co.uk/about/signatories

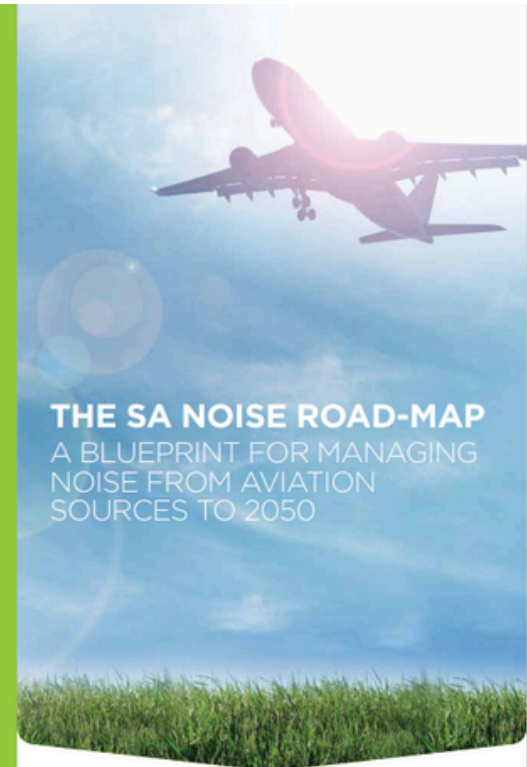
THE RIGHT ROAD TO LIMIT AND WHERE POSSIBLE REDUCE NOISE

We all share responsibility for limiting and reducing aircraft noise in the future. Governments, individuals and the aviation industry must work together to reduce the number of people affected by aircraft noise. The SA Noise Road-Map shows how we believe aviation can manage noise from aircraft operations between now and 2050.

Whilst the industry remains committed to reducing noise impacts from aircraft operations, the UK Government needs to support and underpin SA's efforts through responsible policy, particularly regarding land use planning around airports.

SA members are committed to continuous improvement in reducing impacts from aircraft noise following the principles of the ICAO 'balanced approach' (<http://legacy.icao.int/env/noise.htm>).

E: info@sustainableaviation.co.uk
T: 020 7799 3171
www.sustainableaviation.co.uk



THE SA NOISE ROAD-MAP
A BLUEPRINT FOR MANAGING
NOISE FROM AVIATION
SOURCES TO 2050

**SUSTAINABLE
AVIATION**
Cleaner. Quieter. Smarter.

www.sustainableaviation.co.uk

08 - Performance Evaluation and Conclusions

8.1 Performance Indicators and Evaluation

The Noise Actions contained within this Noise Action Plan are based upon the existing measures in place at Birmingham Airport. The Noise Actions and any associated limit values have been selected from both voluntary measures and obligations from the Section 106 Agreement with Solihull MBC. A detailed list of Noise Action Indicators is included within Appendices A and B.

Many of the proposed actions aim to reduce noise impact for not just the population located within the 55 dB(A) Lden noise contour but also for many dwellings located outside of the contour. Whilst it is therefore difficult to estimate the number of dwellings that may benefit from the proposed actions, it is anticipated that many of the dwellings located within Birmingham Airport's Noise Preferential routes may benefit to some extent.

The Environmental Noise Regulations (England) 2006 (as amended) state that the actions should be based upon the Strategic Noise Maps. However, our Noise Actions have been developed with consideration for areas beyond the Strategic Noise Maps, for example to include noise from engine ground running and helicopter operations.

Through the use of performance indicators, we can evaluate and report on the Noise Actions detailed in the Noise Action Plan. This will enable us to assess the effectiveness of our Noise Actions and ensure that our noise management programme is benefiting the local community.

The Airport continues to have a comprehensive programme for monitoring and reporting our noise performance against key indicators.

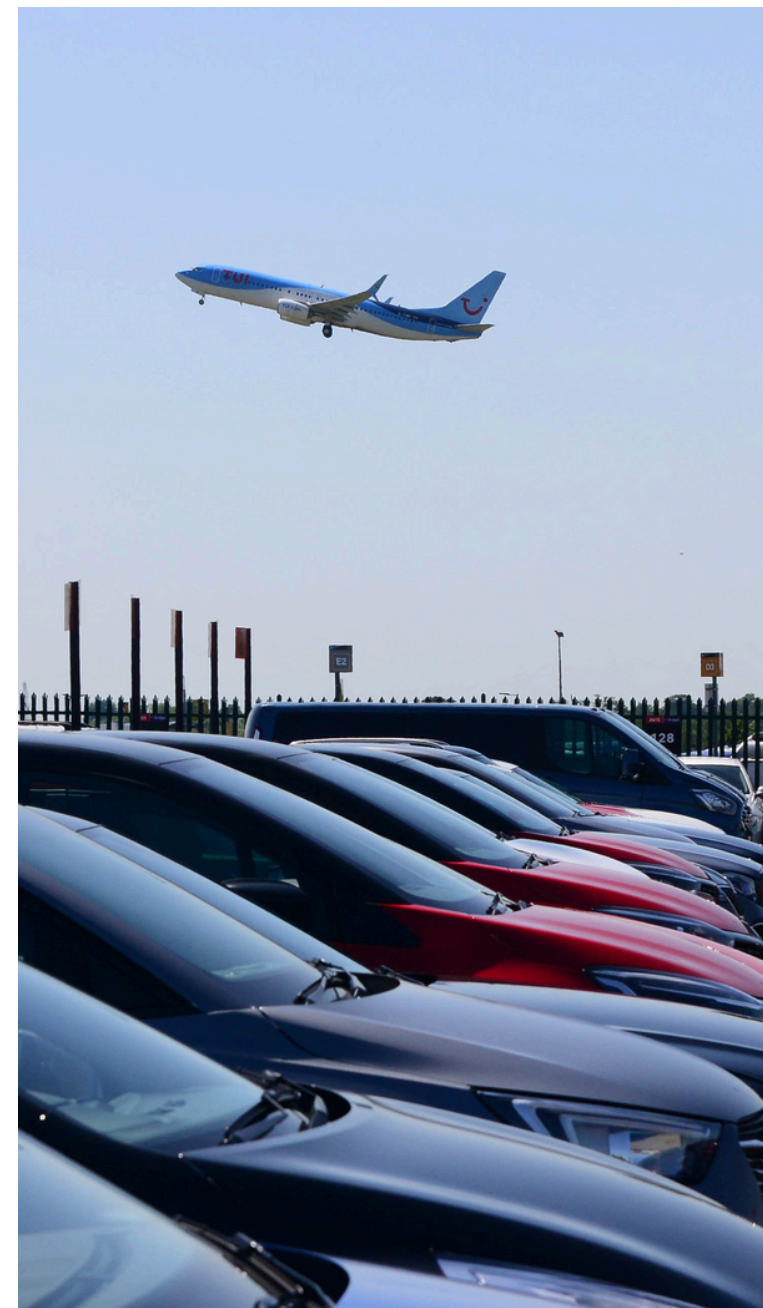
Our performance against these is reported through our Community Noise Report on a quarterly basis, with this made available via our website. Our performance against the noise aspects of the Section 106 Agreement, is also audited on an annual basis, by Solihull MBC's Airport Monitoring Officer, with this publicly available on the SMBC website.

Within the five-year period of this Noise Action Plan, we may amend the range of performance indicators. The Airport is committed to revising the Noise Action Plan following the completion of any major development which affects the existing noise situation. Any amendments to the Noise Action Plan will be made following engagement with the Airport Consultative Committee.

8.2 Conclusion

This further revised plan sets out Noise Actions for Birmingham Airport until 2028. In line with statutory guidance, it includes updated information on the Airport, its operations, legislation and standards, as well as national and local policies. It includes a review of the Lden Noise Contours produced for 2019 and 2021 and details progress that has been made against the actions in the previous 2019-2023 Noise Action Plan.

These actions have been amended and enhanced to accommodate new obligations and to ensure that Birmingham Airport continues to demonstrate best practice in noise mitigation and community engagement.



Appendix A Full List of Actions (as per 2019 - 2023 NAP) and Progress

Measure

“We will continue to monitor aircraft noise using best practicable methods. Our commitment starts with investment in systems and equipment to enable us to understand our noise impact and identify opportunities to reduce noise.”

| Ref | Action | Impact | Timescale | Performance Indicator | Progress (since adoption in February 2019) |
|-----|---|--|------------------------|---|--|
| 1 | We will continue to monitor aircraft activity using a sophisticated Noise and Track-keeping System. | Arrivals, Departures | Ongoing | Section 106 Compliance. | Progressed. We continue to operate our Aircraft Noise and Operations Monitoring System (ANOMS). |
| 2 | We will carry out the Round 4 Mapping exercise in line with the Environmental Noise (England) Regulations (as amended) (producing Lden and Lnight Noise Contours for 2021). | Noise Action Planning | 2021 | Contours produced for 2021 data. | Progressed. Strategic Noise Mapping was undertaken in 2022 based on 2021 data. Strategic Noise Mapping has also been carried for the 2019 year in order to reflect the last year of pre-pandemic operations. |
| 3 | We will continue to produce LAeq Noise Contours on a biennial basis or for a major development. | Land Use Planning, Community Relations | 2018, 2020, 2022 | Contours will be produced for 2018, 2020, 2022. | Progressed. Contours have been produced in 2018, 2019 and 2021. Additional contour in 2019 due to airspace change work. Contours progressed from 2019 on a biennial basis. |
| 4 | We will continue to benchmark our noise programmes with other comparable Airports. | Arrivals, Departures, Ground Noise | Ongoing, every 2 years | Internal benchmarking undertaken and where practicable noise policies reviewed. | Progressed. Benchmarking completed for 2022. |
| 5 | We will liaise with the relevant authorities regarding quiet areas. | Arrivals, Departures, Ground Noise | Ongoing | Ongoing. As yet no quiet areas have been declared in the vicinity. | Ongoing. As yet no quiet areas have been declared in the vicinity. |

Appendix A Full List of Actions (as per 2019 - 2023 NAP) and Progress

Measure

“We will continue to monitor aircraft noise using best practicable methods. Our commitment starts with investment in systems and equipment to enable us to understand our noise impact and identify opportunities to reduce noise.”

| Ref | Action | Impact | Timescale | Performance Indicator | Progress (since adoption in February 2019) |
|-----|---|-----------------------------------|------------------------------------|--|---|
| 6 | We will establish a programme to carry out noise monitoring studies using a Portable Noise Monitor. | Arrivals, Departures Ground Noise | Twice yearly dependent upon demand | Studies conducted and reports published and available on the Airport website, with evaluation of local noise impact. | Progressed. Noise studies have been carried out using the portable noise monitor for Barston and Balsall Common. Owing to the impact of COVID-19 on traffic volumes no new noise monitoring studies have been carried out since 2019. |

Appendix A Full List of Actions (as per 2019 - 2023 NAP) and Progress

Mitigate

“We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport’s Environment Team.”

| Ref | Action | Impact | Timescale | Performance Indicator | Progress (since adoption in February 2019) |
|-----|--|------------------------------|--|--|---|
| 7 | We will provide a second offer to all properties that have previously declined Sound Insulation works and are located within the 2002 63 dB LAeq noise contour. | Arrivals, Departures | Reviewed in line with the Section 106 Agreement | Section 106 Compliance. Number of properties insulated. | Progressed. Since adoption all properties that previously declined Sound Insulation works have been provided with a second offer, with 880 properties insulated. All properties have now been insulated within the scheme boundary. |
| 8 | We will continue to invest in the Schools Environmental Improvement Scheme and provide sound insulation. | Arrivals, Departures | Ongoing. Reviewed in line with the Section 106 Agreement | Section 106 Compliance. Number of schools eligible. Number of schools insulated. | Progressed. In 2019 £39,000 was spent on replacing the roof of Gossey Lane School with insulation and high performance felt. A review of the scheme will be carried out in 2023. |
| 9 | We will operate an Annual Movement Limit for aircraft movements between 23:30–0600, at 5% of the total number of ATMs from the busiest single year within the last 5-year period, in line with our Night Flying Policy. We will also have no more than 877 departures between 23.30 and 05.00 per annum. | Arrivals, Departures (Night) | Ongoing. Reviewed in line with the Section 106 Agreement | Section 106 Compliance. Within the Annual Limit. | Progressed. The number of ATM’s has been within the Annual Limit. During the Night Flying Year 2021/22 we used 97.4% of our Annual Limit. |

Appendix A Full List of Actions (as per 2019 - 2023 NAP) and Progress

Mitigate

“We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport’s Environment Team.”

| Ref | Action | Impact | Timescale | Performance Indicator | Progress (since adoption in February 2019) |
|-----|---|------------------------------|--|--|--|
| 10 | We will operate a Noise Quota Limit of 4000, between 2330 – 0600, in line with our Night Flying Policy. | Arrivals, Departures (Night) | Ongoing. Reviewed in line with the Section 106 Agreement | Section 106 Compliance. Within the Quota Limit. | Progressed. The Quota Count used is within the Quota Limit. During the Night Flying Year 2021/22 we used 48.8% of our Quota Count Limit. |
| 11 | We will surcharge aircraft which exceed a maximum noise level of 83dB(A) at the centreline noise monitors between 2330 – 0600, in line with our Night Flying Policy. | Departures (Night) | Ongoing. Reviewed in line with the Section 106 Agreement | Section 106 Compliance. Number of fines for aircraft exceeding 83dB(A) at centreline noise monitors. | Progressed. Since adoption 8 aircraft have been surcharged for exceeding the noise limit, with all proceeds going to the Community Trust Fund. |
| 12 | Aircraft with a Quota Count greater than 1 are prohibited from being scheduled to take-off or land during the night period (2330 – 0600), in line with our Night Flying Policy. | Arrivals, Departures (Night) | Ongoing | Section 106 Compliance. | Progressed. Section 106 Compliance. |
| 13 | We will surcharge departing aircraft which exceed a maximum noise level of 90dB(A) at the centreline noise monitors between 0600 – 2330, in line with our Daytime Noise Policy. | Departures (Day) | Ongoing | Section 106 Compliance. Number of fines for aircraft exceeding 90dB(A) at centreline noise monitors. | Progressed. Since adoption 3 aircraft have been surcharged for exceeding the noise limit with funds going to the Community Trust Fund. |

Appendix A Full List of Actions (as per 2019 - 2023 NAP) and Progress

Mitigate

“We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport’s Environment Team.”

| Ref | Action | Impact | Timescale | Performance Indicator | Progress (since adoption in February 2019) |
|-----|---|--|-----------|--|---|
| 14 | We will continue to require that aircraft fly within Noise Preferential Routes (NPRs) up to 3000 or 4000 feet (dependent upon heading) and operate a target to not fall below 97% compliance. | Departing aircraft required to follow set routes | Ongoing | Section 106 Compliance. Percentage of ‘On-Track’ aircraft. | Progressed. Since March 2019, on average 98.8% of aircraft have been ‘on-track’. |
| 15 | Our operations facilitate the use of Continuous Descent Approaches (CDA) 24 hours a day and operate a target to not fall below 96% CDA compliance. | Arrivals | Ongoing | Percentage of aircraft achieving CDAs. | Partially Progressed. Since March 2019, on average 92% of aircraft have performed CDA’s. |
| 16 | We will continue to operate a Policy for Helicopters taking off and landing at Birmingham in order to minimise the number of people overflown. | Helicopter Noise | Ongoing | Policy maintained. | Progressed. Policy maintained. |
| 17 | We will continue to operate an Engine Ground Running Policy between 2300 – 0600 (0800 hours on Sundays) to reduce the noise impact of this operation during sensitive times. | Ground Noise | Ongoing | Section 106 Compliance. | Progressed. Since adoption, full engine runs have been prohibited during the night period. During the daytime 354 full power engine runs have been undertaken, of which 3 have been in the morning shoulder period. Operations remain within the 79dB LAeq,T Limit. |

Appendix A Full List of Actions (as per 2019 - 2023 NAP) and Progress

Mitigate

“We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport’s Environment Team.”

| Ref | Action | Impact | Timescale | Performance Indicator | Progress (since adoption in February 2019) |
|-----|---|------------------------------------|-----------|---|--|
| 18 | We will publish quarterly route and runway utilisation figures on our website, in order to improve understanding of aircraft operations in our local communities. | Arrivals, Departures | Ongoing | Figures published on the website. | Progressed. This is published within our Community Noise Report. |
| 19 | We will continue to support Sustainable Aviation and improvements in technology and operations towards the Advisory Council for Aeronautics Research in Europe (ACARE) goal of 50% reduction in aircraft noise by 2020, relative to 2000. | Arrivals, Departures, Ground Noise | Ongoing | Engagement with Sustainable Aviation, including Noise Roadmap. Promotion of noise initiatives with airlines via Operation Pathfinder. | Progressed. Engagement with Sustainable Aviation, including the Noise Roadmap and the CO2 Roadmap. We continue to promote noise initiatives with airlines via Operation Pathfinder, including track-keeping and Continuous Descent Approaches. |
| 20 | We will investigate the feasibility of decreasing the daytime noise limit from 90 dB(A). | Departures (day) | 2019 | Review presented to Airport Consultative Committee. | Progressed. Review began in 2019, however data has been impacted by Covid-19 and the associated decrease in movements. Commitment to picking up this review in line with the 2024-2027 Night Flying Policy review. |

Appendix A Full List of Actions (as per 2019 - 2023 NAP) and Progress

Mitigate

“We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport’s Environment Team.”

| Ref | Action | Impact | Timescale | Performance Indicator | Progress (since adoption in February 2019) |
|-----|---|--------------------|-----------|---|--|
| 21 | Investigate the feasibility of a 3.2° glide slope to runway 33 (and possibly runway 15) which could potentially take aircraft on approach closer to the height they were prior to the runway extension. It should be noted that to implement slightly steeper approaches requires a policy change from the CAA, which is dependent on the outcome of a trial at Heathrow. | Arrivals | 2019 | Review presented to Airport Consultative Committee. | Progressed. We are continuing discussions with Heathrow Airport to understand the outcomes of the trial carried out there. This will be presented to the Airport Consultative Committee once fully understood. |
| 22 | We will assess the actual noise impact of Noise Abatement Departure Procedures (NADP) 1 & 2 and recommend the most appropriate procedure for use to Airlines, if applicable. | Departures | 2019 | Review presented to Airport Consultative Committee. | Progressed. NADP Noise study was carried out in 2019 with initial results presented to ACC. Further trial to be carried out over 23/24 in line with ATM’s increasing. |
| 23 | We will investigate the feasibility of decreasing the night-time noise limit from 83dB(A) to 81dB(A). | Departures (night) | 2018 | Review presented to Airport Consultative Committee. | Progressed. Community agreement to retain Night Flying Policy 2018-2021 for 2021-2024, due to the impact of the Covid-19 Pandemic. Commitment to review this in line with the Night Flying Policy review over 2023-24. |

Appendix A Full List of Actions (as per 2019 - 2023 NAP) and Progress

Engage

“We will meet our neighbours and partners to involve, engage and inform people through open dialogue. We will continue to operate a transparent stakeholder engagement programme. This will aid mutual understanding of noise issues and allow us to inform our local community of any changes to Airport activities which may have a noise impact.”

| Ref | Action | Impact | Timescale | Performance Indicator | Progress (since adoption in February 2019) |
|-----|--|---|-----------|--|---|
| 24 | We will engage with the Local Planning Authorities, located within Strategic Noise Maps, to encourage consideration of aircraft operations in the development of land use. | Land Use Planning | Ongoing | Local Authorities advised of Strategic Noise Maps | Progressed. Local Authorities advised of Strategic Noise Maps. |
| 25 | We will continue to use the ‘Operation Pathfinder’ programme to seek improvements in adherence to noise management programmes through the Flight Safety Committee. | Arrivals, Departures, Ground Noise | Ongoing | Minutes from Flight Safety Committee meetings (internal) | Progressed. Operation Pathfinder continues to meet quarterly as part of the Flight Safety Committee. |
| 26 | We will continue to regularly engage with the Airport Consultative Committee and their subgroups on noise issues. | Arrivals, Departures, Ground Noise | Ongoing | Minutes of meetings | Progressed. Engagement with the ACC continues on a quarterly basis. |
| 27 | We will continue to be accessible for complaints and enquiries relating to environmental issues, including noise. | Community Relations and Awareness of Noise Issues | Ongoing | Section 106 Compliance. Number of complaints | Progressed. Since adoption we continued to maintain our Customer Relations Management (CRM) System, allowing correspondents to log concerns on our website. We continue to operate our Environmental Helpline and accept enquiries by letter when internet access is not available. |

Appendix A Full List of Actions (as per 2019 - 2023 NAP) and Progress

Engage

“We will meet our neighbours and partners to involve, engage and inform people through open dialogue. We will continue to operate a transparent stakeholder engagement programme. This will aid mutual understanding of noise issues and allow us to inform our local community of any changes to airport activities which may have a noise impact.”

| Ref | Action | Impact | Timescale | Performance Indicator | Progress (since adoption in February 2019) |
|-----|--|---|-----------|--|---|
| 28 | We will continue to investigate and report on all complaints relating to aircraft noise. | Community Relations and Awareness of Noise Issues | Ongoing | Section 106 Compliance. Number of complainants, contacts, events and concerns. | Progressed. Since the previous iteration of the Noise Action Plan we have investigated and responded to 1,940 contacts about 3,237 events. |
| 29 | We will seek to respond to all complaints within 5 working days of receipt of the concern. | Community Relations and Awareness of Noise Issues | Ongoing | Percentage of complaints responded to within 5 working days. | Progressed. Since March 2019 we have replied to 100% of complaints within 5 working days of receipt of the concern. |
| 30 | We will provide a Community Trust Fund (registered charity), supporting local community projects, where the Airport will provide £84,000 (index linked) plus revenues from noise exceedance surcharges | Community Relations | Ongoing | Section 106 Compliance | Progressed. Funds made available each year in line with Section 106 Compliance. Improvement: The Airport currently provide £96,000 (2022), plus revenues from noise exceedance surcharges. |
| 31 | We will continue to report on our noise programmes through our Annual Corporate Responsibility Report. | Community Relations and Awareness | Annually | Report Published | Progressed. Environmental Monitoring statistics included in the quarterly Sustainability Report which is presented to the Airport Consultative Committee. Annual Sustainability Report is also published. |

Appendix A Full List of Actions (as per 2019 - 2023 NAP) and Progress

Engage

“We will meet our neighbours and partners to involve, engage and inform people through open dialogue. We will continue to operate a transparent stakeholder engagement programme. This will aid mutual understanding of noise issues and allow us to inform our local community of any changes to Airport activities which may have a noise impact.”

| Ref | Action | Impact | Timescale | Performance Indicator | Progress (since adoption in February 2019) |
|-----|---|---|-----------|---------------------------------------|---|
| 32 | We will continue to operate the Community Impact Alert System, to advise local community representatives of abnormal activities which may have an adverse noise effect. | Community Relations and Awareness | Ongoing | Records of community alerts | Progressed. We continue to issue community alerts when required advising on issues such as ILS (Instrument Landing System) outage and unusual aircraft movements. |
| 33 | We will continue to operate a programme to engage with members of the local community. | Community Relations and Awareness | Ongoing | Records of community events attended | Progressed. Since adoption we have attended 10 Community Events. |
| 34 | We will make our key noise information available on Google Earth. | Community Relations and Awareness | Ongoing | Information available on Google Earth | Progressed. Google Earth information available on our Environment Pages. |
| 35 | We will publish our quarterly ACC Minutes via our website. | Community Relations and Awareness of Noise Issues | Ongoing | Minutes Published | Progressed. Environmental Information is published quarterly in the Sustainability Report which is published on Birmingham Airports and Solihull MBC websites. |

Appendix A Full List of Actions (as per 2019 - 2023 NAP) and Progress

Engage

“We will meet our neighbours and partners to involve, engage and inform people through open dialogue. We will continue to operate a transparent stakeholder engagement programme. This will aid mutual understanding of noise issues and allow us to inform our local community of any changes to Airport activities which may have a noise impact.”

| Ref | Action | Impact | Timescale | Performance Indicator | Progress (since adoption in February 2019) |
|-----|---|------------------------------------|-------------------------------------|--|--|
| 36 | We will report our progress against the Noise Action Plan on an annual basis | Community Relations | Annually | Progress reported. Number of Actions Complete. | Progressed. Key noise information reported to Airport Consultative Committee on a quarterly basis. Noise progress is detailed within Sustainability Strategy updates published on the Airport website. |
| 37 | We will keep a record of all meetings with external stakeholders on matters relating to the impact of aircraft operations on neighbouring communities | Arrivals, Departures, Ground Noise | Quarterly ACC Sustainability Report | Report submitted. | Progressed. Recorded in Annual Sustainability Report. |

Appendix B Noise Action Plan 2024 - 2028

Measure

“We will continue to monitor aircraft noise using best practicable methods. Our commitment starts with investment in systems and equipment to enable us to understand our noise impact and identify opportunities to reduce noise.”

| Ref | Action | Impact | Timescale | Performance Indicator | Category |
|-----|---|--|------------------------------------|---|-------------------|
| 1 | We will monitor aircraft activity using a sophisticated Noise and Track-keeping System. | Arrivals, Departures | Ongoing | Section 106 Compliance. | Maintained Action |
| 2 | We will carry out the Round 5 Mapping exercise in line with the Environmental Noise (England) Regulations (as amended) (producing Lden and Lnight Noise Contours for 2026). | Noise Action Planning | 2026 | Contours produced for 2026 data. | Maintained Action |
| 3 | We will produce LAeq Noise Contours on a biennial basis or for a major development. | Land Use Planning, Community Relations | 2023, 2025, 2027 | Contours will be produced for 2023, 2025, 2027. | Maintained Action |
| 4 | We will benchmark our noise programmes with other comparable Airports. | Arrivals, Departures, Ground Noise | Ongoing, every 2 years | Internal benchmarking undertaken and where practicable noise policies reviewed. | Maintained Action |
| 5 | We will liaise with the relevant authorities regarding quiet areas. | Arrivals, Departures, Ground Noise | Ongoing | Ongoing. As yet no quiet areas have been declared in the vicinity. | Maintained Action |
| 6 | We will establish a programme to carry out noise monitoring studies using a Portable Noise Monitor. | Arrivals, Departures Ground Noise | Twice yearly dependent upon demand | Studies conducted and reports published and available on the Airport website with evaluation of local noise impact. | Maintained Action |

Appendix B Noise Action Plan 2024 - 2028

Mitigate

“We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport’s Environment Team.”

| Ref | Action | Impact | Timescale | Performance Indicator | Category |
|-----|--|------------------------------|---|--|-------------------|
| 7 | We will carry out a full review of the current Sound Insulation Scheme to determine how this may operate in future years. | Arrivals, Departures | December 2023. Reviewed in line with the Section 106 Agreement. Review presented to Airport Consultative Committee. | Section 106 Compliance. Number of properties insulated. | Enhanced Action |
| 8 | We will carry out a full review of the current Schools Environmental Improvement Scheme to determine how this may operate in future years. | Arrivals, Departures | December 2023. Reviewed in line with the Section 106 Agreement. Review presented to Airport Consultative Committee. | Section 106 Compliance. Number of schools eligible. Number of schools insulated. | Enhanced Action |
| 9 | We will carry out a full review of the Night Flying Policy and determine a new Night Flying Policy 2024-2027. | Arrivals, Departures (Night) | 2023/24. Reviewed in line with the Section 106 Agreement. Review presented to the Airport Consultative Committee. | Section 106 Compliance. Night Flying Policy 2024-2027 implemented. | New Action |
| 10 | We will operate an Annual Movement Limit for aircraft movements between 23:30–0600, in line with our Night Flying Policy. | Arrivals, Departures (Night) | Ongoing. Reviewed in line with the Section 106 Agreement | Section 106 Compliance. Within the Annual Limit. | Maintained Action |

Appendix B Noise Action Plan 2024 - 2028

Mitigate

“We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport’s Environment Team.”

| Ref | Action | Impact | Timescale | Performance Indicator | Category |
|-----|--|------------------------------|---|---|-------------------|
| 11 | We will operate an Annual Departure Movement Limit between 23:30 – 05:00, in line with our Night Flying Policy. | Arrivals, Departures (Night) | Ongoing. Reviewed in line with the Section 106 Agreement. | Section 106 Compliance. Within the Annual Limit. | Maintained Action |
| 12 | We will operate a Noise Quota Limit, between 2330 – 0600, in line with our Night Flying Policy. | Arrivals, Departures (Night) | Ongoing. Reviewed in line with the Section 106 Agreement. | Section 106 Compliance. Within the Annual Limit. | Maintained Action |
| 13 | We will surcharge aircraft which exceed a maximum night noise level, between 2330 – 0600, in line with our Night Flying Policy. | Departures (Night) | Ongoing. Reviewed in line with the Section 106 Agreement. | Section 106 Compliance. Number of fines for aircraft exceeding the maximum night noise level specified within our Night Flying Policy at centreline noise monitors. | Maintained Action |
| 14 | Aircraft with a Quota Count greater than 1 are prohibited from being scheduled to take-off or land during the night period (2330 – 0600). | Arrivals, Departures (Night) | Ongoing | Section 106 Compliance. | Maintained Action |
| 15 | We will surcharge departing aircraft which exceed a maximum daytime noise level, at the centreline noise monitors between 0600 – 2330, in line with our Daytime Noise Policy | Departures (Day) | Ongoing. Reviewed in line with the Section 106 Agreement. | Section 106 Compliance. Number of fines for aircraft exceeding the maximum daytime noise level at centreline noise monitors. | Maintained Action |

Appendix B Noise Action Plan 2024 - 2028

Mitigate

“We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport’s Environment Team.”

| Ref | Action | Impact | Timescale | Performance Indicator | Category |
|-----|---|--|-----------|---|-------------------|
| 16 | We will continue to require that aircraft fly within Noise Preferential Routes (NPRs) up to 3000 or 4000 feet (dependent upon heading) and operate a target to not fall below 99% compliance. | Departing aircraft required to follow set routes | Ongoing | Section 106 Compliance. Percentage of ‘On-Track’ aircraft. | Enhanced Action |
| 17 | We will facilitate the use of Continuous Descent Approaches (CDA) 24 hours a day and operate a target to not fall below 96% CDA compliance. | Arrivals | Ongoing | Percentage of aircraft achieving CDAs. | Maintained Action |
| 18 | We will operate a Policy for Helicopters taking off and landing at Birmingham in order to minimise the number of people overflowed. | Helicopter Noise | Ongoing | Policy maintained. | Maintained Action |
| 19 | We will report helicopter data to the community on a quarterly basis. | Helicopter Noise | Ongoing | Data published on the website. | New Action |
| 20 | We will operate an Engine Ground Running Policy between 2300 – 0600 (0800 hours on Sundays) to reduce the noise impact of this operation during sensitive times. | Ground Noise | Ongoing | Section 106 Compliance. Number and locations of full power runs. Number and locations of runs in the Morning Shoulder Period. Compliance with 79dB LAeq,T Limit. Number of runs on Taxiway T. | Maintained Action |

Appendix B Noise Action Plan 2024 - 2028

Mitigate

“We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport’s Environment Team.”

| Ref | Action | Impact | Timescale | Performance Indicator | Category |
|-----|---|------------------------------------|-----------|---|-------------------|
| 21 | We will determine a methodology for measuring fixed electrical ground power usage. | Ground Noise | Ongoing | Percentage of aircraft using fixed electrical ground power (FEGP). | New Action |
| 22 | We will publish quarterly route and runway utilisation figures on our website as part of our Community Noise Report, in order to improve understanding of aircraft operations in our local communities. | Arrivals, Departures | Ongoing | Figures published on the website. | Maintained Action |
| 23 | We will publish an airline league table quarterly as part of our Community Noise Report, in order to incentivise airlines to operate their fleets in the quietest way possible. | Arrivals, Departures | Ongoing | Figures published on the website. | New Action |
| 24 | We will support Sustainable Aviation’s noise reduction goals. | Arrivals, Departures, Ground Noise | Ongoing | Engagement with Sustainable Aviation, including Noise Roadmap. Promotion of noise initiatives with airlines via Operation Pathfinder. | Maintained Action |
| 25 | We will investigate the feasibility of decreasing the daytime noise limit from 90 dB(A). | Departures (day) | 2023-24 | Review presented to Airport Consultative Committee. | Maintained Action |

Appendix B Noise Action Plan 2024 - 2028

Mitigate

“We will continue to operate noise management schemes to achieve the quietest practicable aircraft operations. We currently operate a comprehensive programme of noise management schemes, which are closely monitored by the Airport’s Environment Team.”

| Ref | Action | Impact | Timescale | Performance Indicator | Category |
|-----|---|----------------------|-----------|---|-------------------|
| 26 | Investigate the feasibility of a 3.2° glide slope to runway 33 (and possibly runway 15) which could potentially take aircraft on approach closer to the height they were prior to the runway extension. It should be noted that to implement slightly steeper approaches requires a policy change from the CAA, which is dependent on understanding the outcomes of a trial and implementation at Heathrow. | Arrivals | 2023-24 | Review presented to Airport Consultative Committee. | Maintained Action |
| 27 | We will assess the actual noise impact of Noise Abatement Departure Procedures (NADP) 1 & 2 and recommend the most appropriate procedure for use to Airlines, if applicable. | Departures | 2023-24 | Review presented to Airport Consultative Committee. | Maintained Action |
| 28 | We will investigate the feasibility of decreasing the night-time noise limit from 83dB(A) to 81dB(A). | Departures (night) | 2023-24 | Review presented to Airport Consultative Committee. | Maintained Action |
| 29 | We will carry out a full review of the Airport Fees & Charges document to ensure aircraft noise is a key consideration. | Arrivals, Departures | 2023-24 | Review presented to Airport Consultative Committee. | New Action |

Appendix B Noise Action Plan 2024 - 2028

Engage

“We will meet our neighbours and partners to involve, engage and inform people through open dialogue. We will continue to operate a transparent stakeholder engagement programme. This will aid mutual understanding of noise issues and allow us to inform our local community of any changes to airport activities which may have a noise impact.”

| Ref | Action | Impact | Timescale | Performance Indicator | Category |
|-----|--|---|-----------|--|-------------------|
| 30 | We will engage with the Local Planning Authorities, located within Strategic Noise Maps, to encourage consideration of aircraft operations in the development of land use. | Land Use Planning | Ongoing | Local Authorities advised of Strategic Noise Maps | Maintained Action |
| 31 | We will use the ‘Operation Pathfinder’ programme to seek improvements in adherence to noise management programmes through the Flight Safety Committee. | Arrivals, Departures, Ground Noise | Ongoing | Minutes from Flight Safety Committee meetings (internal) | Maintained Action |
| 32 | We will regularly engage with the Airport Consultative Committee and their subgroups on noise issues. | Arrivals, Departures, Ground Noise | Ongoing | Minutes of meetings | Maintained Action |
| 33 | We will be accessible for complaints and enquiries relating to environmental issues, including noise. | Community Relations and awareness of Noise Issues | Ongoing | Section 106 Compliance Number of complaints | Maintained Action |

Appendix B Noise Action Plan 2024 - 2028

Engage

“We will meet our neighbours and partners to involve, engage and inform people through open dialogue. We will continue to operate a transparent stakeholder engagement programme. This will aid mutual understanding of noise issues and allow us to inform our local community of any changes to airport activities which may have a noise impact.”

| Ref | Action | Impact | Timescale | Performance Indicator | Category |
|-----|---|---|-----------|---|-------------------|
| 34 | We will investigate and report on all complaints relating to aircraft noise. | Community Relations and Awareness of Noise Issues | Ongoing | Section 106 Compliance Number of complainants, contacts, events and concerns | Maintained Action |
| 35 | We will seek to respond to all complaints within 5 working days of receipt of the concern | Community Relations and Awareness of Noise Issues | Ongoing | Percentage of complaints responded to within 5 working days | Maintained Action |
| 36 | We will report on community complaints on a quarterly basis, to include a breakdown of complaints by type, area, trend analysis and new complainant trends. | Community Relations and Awareness of Noise Issues | Ongoing | Report published. | New Action |
| 37 | We will provide the community with access to Web Track, an online facility which enables people to view and track flights, providing information on aircraft type, altitude, flight number and speed. | Community Relations and Awareness of Noise Issues | Ongoing | Launch of Web Trak, monthly engagement statistics. | New Action |

Appendix B Noise Action Plan 2024 - 2028

Engage

“We will meet our neighbours and partners to involve, engage and inform people through open dialogue. We will continue to operate a transparent stakeholder engagement programme. This will aid mutual understanding of noise issues and allow us to inform our local community of any changes to Airport activities which may have a noise impact.”

| Ref | Action | Impact | Timescale | Performance Indicator | Category |
|-----|---|-----------------------------------|-----------|---|-------------------|
| 38 | We will provide a Community Trust Fund (registered charity), supporting local community projects, where the Airport will provide £94,676 (index linked) plus revenues from noise exceedance surcharges. | Community Relations | Ongoing | Section 106 Compliance | Enhanced Action |
| 39 | We will report on our noise programmes through our Annual Sustainability Strategy Update. | Community Relations and Awareness | Annually | Report Published. | Maintained Action |
| 40 | We will report on our noise programmes through our Quarterly Community Noise Report. | Community Relations and Awareness | Ongoing | Report Published. | New Action |
| 41 | We will operate the Community Impact Alert System, to advise local community representatives of abnormal activities which may have an adverse noise effect. | Community Relations and Awareness | Ongoing | Records of community alerts | Maintained Action |
| 42 | We will operate a programme to engage with members of the local community | Community Relations and Awareness | Ongoing | Records of issues raised and responses, as appropriate. | Maintained Action |

Appendix B Noise Action Plan 2024 - 2028

Engage

“We will meet our neighbours and partners to involve, engage and inform people through open dialogue. We will continue to operate a transparent stakeholder engagement programme. This will aid mutual understanding of noise issues and allow us to inform our local community of any changes to airport activities which may have a noise impact.”

| Ref | Action | Impact | Timescale | Performance Indicator | Category |
|-----|--|---|-------------------------------------|---|-------------------|
| 43 | We will make our key noise information available on Google Earth. | Community Relations and Awareness | Ongoing | Information available on Google Earth | Maintained Action |
| 44 | We will publish our quarterly ACC Minutes via our website. | Community Relations and Awareness of Noise Issues | Ongoing | Minutes Published | Maintained Action |
| 45 | We will report our progress against the Noise Action Plan on an annual basis through Sustainability Strategy Updates. | Community Relations | Annually | Progress reported Number of Actions Complete | Maintained Action |
| 46 | We will keep a record of all meetings with external stakeholders on matters relating to the impact of aircraft operations on neighbouring communities. | Arrivals, Departures, Ground Noise | Quarterly ACC Sustainability Report | Report submitted | Maintained Action |

Appendix C Noise Contour Results - END Contours

| Lden | | | | | | |
|------------------|---------------------|------------------|---------------------|------------------|---------------------|------------------|
| Noise Level (dB) | 2016 | | 2019 | | 2021 | |
| | Number of Dwellings | Number of People | Number of Dwellings | Number of People | Number of Dwellings | Number of People |
| >55 | 21,700 | 53,600 | 18,900 | 45,500 | 9,850 | 23,200 |
| >60 | 6,850 | 16,400 | 6,350 | 15,000 | 1,850 | 4,100 |
| >65 | 850 | 1,800 | 850 | 1,900 | <50 | 100 |
| >70 | <50 | 100 | 0 | 0 | 0 | 0 |
| >75 | 0 | 0 | 0 | 0 | 0 | 0 |

| Lday | | | | | | |
|------------------|---------------------|------------------|---------------------|------------------|---------------------|------------------|
| Noise Level (dB) | 2016 | | 2019 | | 2021 | |
| | Number of Dwellings | Number of People | Number of Dwellings | Number of People | Number of Dwellings | Number of People |
| >54 | 16,900 | 41,800 | 15,650 | 37,800 | 6,650 | 15,400 |
| >57 | 8,300 | 20,200 | 8,000 | 19,000 | 2,300 | 5,200 |
| >60 | 2,950 | 6,900 | 2,800 | 6,600 | 400 | 900 |
| >63 | 700 | 1,500 | 750 | 1,700 | <50 | <100 |
| >66 | <50 | <100 | <50 | <100 | 0 | 0 |
| >69 | 0 | 0 | 0 | 0 | 0 | 0 |

Appendix C Noise Contour Results - END Contours

| Levening | | | | | | |
|------------------|---------------------|------------------|---------------------|------------------|---------------------|------------------|
| Noise Level (dB) | 2016 | | 2019 | | 2021 | |
| | Number of Dwellings | Number of People | Number of Dwellings | Number of People | Number of Dwellings | Number of People |
| >54 | 11,950 | 30,000 | 12,100 | 29,300 | 3,350 | 7,800 |
| >57 | 5,150 | 12,200 | 5,700 | 13,500 | 850 | 1,800 |
| >60 | 1,400 | 3,300 | 1,700 | 4,000 | <50 | <100 |
| >63 | 200 | 400 | 500 | 1,000 | 0 | 0 |
| >66 | <50 | <100 | <50 | <100 | 0 | 0 |
| >69 | 0 | 0 | 0 | 0 | 0 | 0 |

| Lnight | | | | | | |
|------------------|---------------------|------------------|---------------------|------------------|---------------------|------------------|
| Noise Level (dB) | 2016 | | 2019 | | 2021 | |
| | Number of Dwellings | Number of People | Number of Dwellings | Number of People | Number of Dwellings | Number of People |
| >48 | 16,950 | 42,100 | 13,550 | 32,900 | 7,750 | 17,600 |
| >51 | 8,200 | 20,000 | 6,850 | 16,300 | 2,600 | 5,900 |
| >54 | 2,900 | 6,800 | 2,300 | 5,400 | 450 | 1,000 |
| >57 | 650 | 1,400 | 750 | 1,600 | <50 | <100 |
| >60 | <50 | <100 | <50 | <100 | 0 | 0 |
| >63 | 0 | 0 | 0 | 0 | 0 | 0 |
| >66 | 0 | 0 | 0 | 0 | 0 | 0 |

Appendix C Noise Contour Results - Average Summer Day Contours

| 2019 Summer Day 16hr LAeq | | | |
|---------------------------|------------|------------|------------|
| Noise Level (dB) | Area (km2) | Population | Households |
| >54 | 24.5 | 41,300 | 16,600 |
| >57 | 14.0 | 20,600 | 8,300 |
| >60 | 7.4 | 7,400 | 3,000 |
| >63 | 3.9 | 1,900 | 800 |
| >66 | 2.1 | <100 | <100 |
| >69 | 1.2 | 0 | 0 |
| >72 | 0.7 | 0 | 0 |

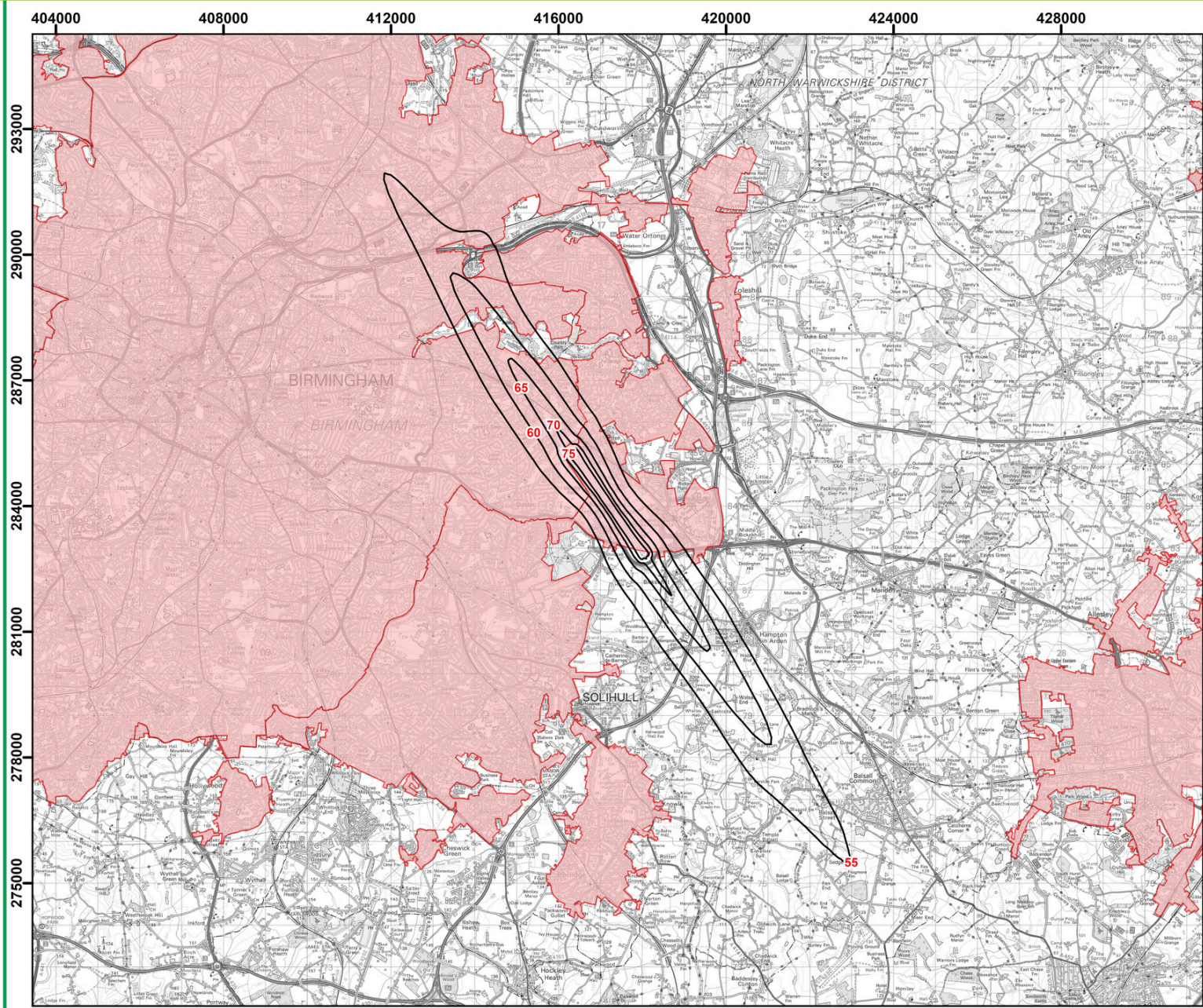
| 2019 Summer Night 8hr LAeq | | | |
|----------------------------|------------|------------|------------|
| Noise Level (dB) | Area (km2) | Population | Households |
| >48 | 31.3 | 48,500 | 19,500 |
| >51 | 18.0 | 27,500 | 11,000 |
| >54 | 10.1 | 11,000 | 4,500 |
| >57 | 5.3 | 2,600 | 1,100 |
| >60 | 2.9 | 300 | 100 |
| >63 | 1.6 | 0 | 0 |
| >66 | 0.9 | 0 | 0 |

Appendix C Noise Contour Results - Average Summer Day Contours

| 2021 Summer Day 16hr LAeq | | | |
|---------------------------|------------|------------|------------|
| Noise Level (dB) | Area (km2) | Population | Households |
| >54 | 14.1 | 21,000 | 8,600 |
| >57 | 7.9 | 7,800 | 3,200 |
| >60 | 4.4 | 1,400 | 800 |
| >63 | 2.6 | 200 | 100 |
| >66 | 1.5 | 0 | 0 |
| >69 | 0.9 | 0 | 0 |
| >72 | 0.6 | 0 | 0 |

| 2021 Summer Night 8hr LAeq | | | |
|----------------------------|------------|------------|------------|
| Noise Level (dB) | Area (km2) | Population | Households |
| >48 | 19.7 | 37,200 | 15,200 |
| >51 | 11.4 | 16,500 | 6,000 |
| >54 | 6.2 | 5,700 | 2,400 |
| >57 | 3.6 | 900 | 400 |
| >60 | 2.1 | 200 | 100 |
| >63 | 1.2 | 0 | 0 |
| >66 | 0.8 | 0 | 0 |


Appendix D Strategic Noise Maps 2019






Department
for Environment
Food & Rural Affairs

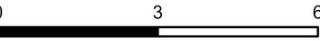
The Environmental Noise
(England) Regulations 2006
(as amended)
Birmingham International Airport (BHX)
Lden

Year - 2019

 Noise level Contour (dB)

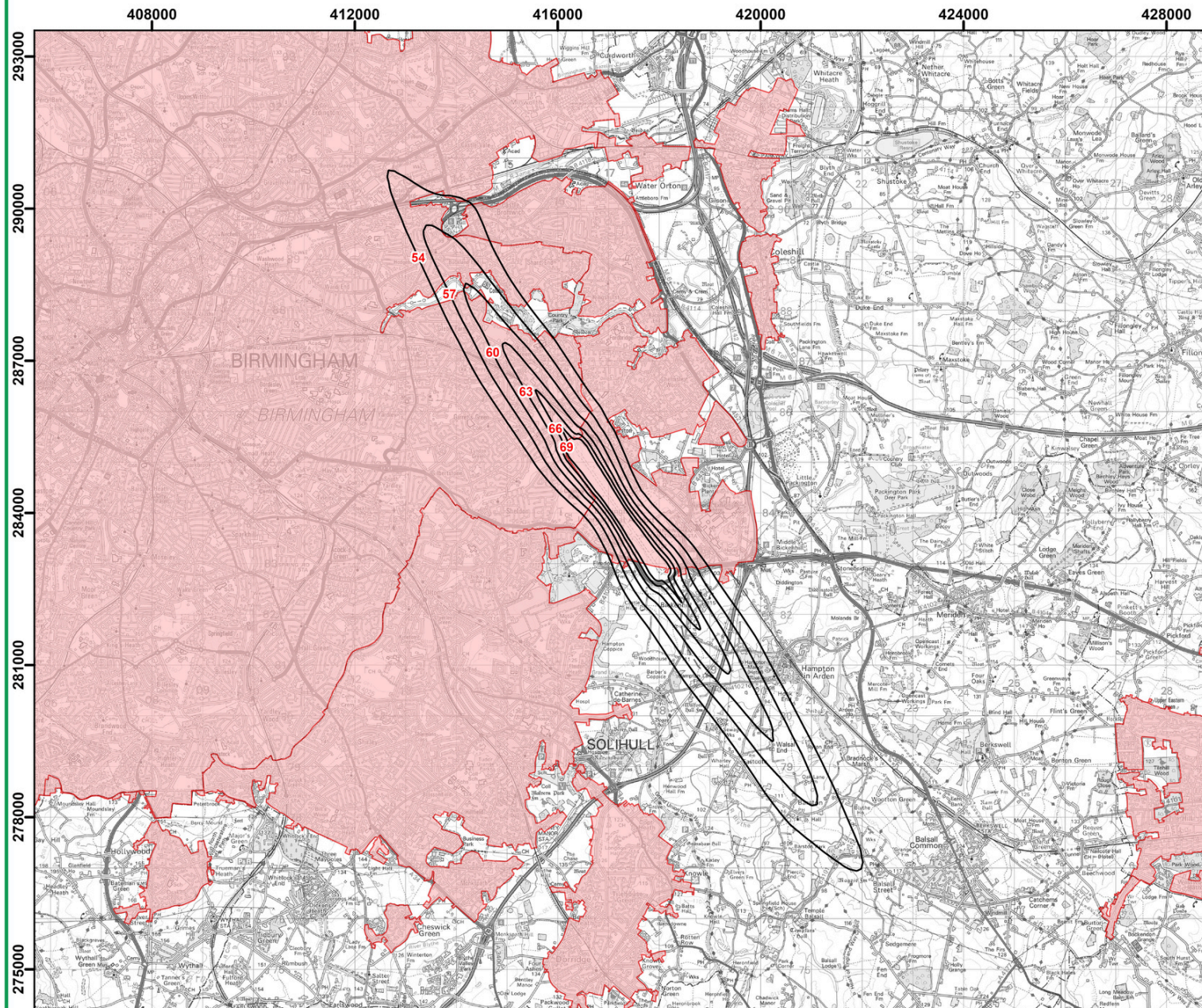
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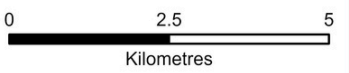
Appendix D Strategic Noise Maps 2019




 Department
 for Environment
 Food & Rural Affairs

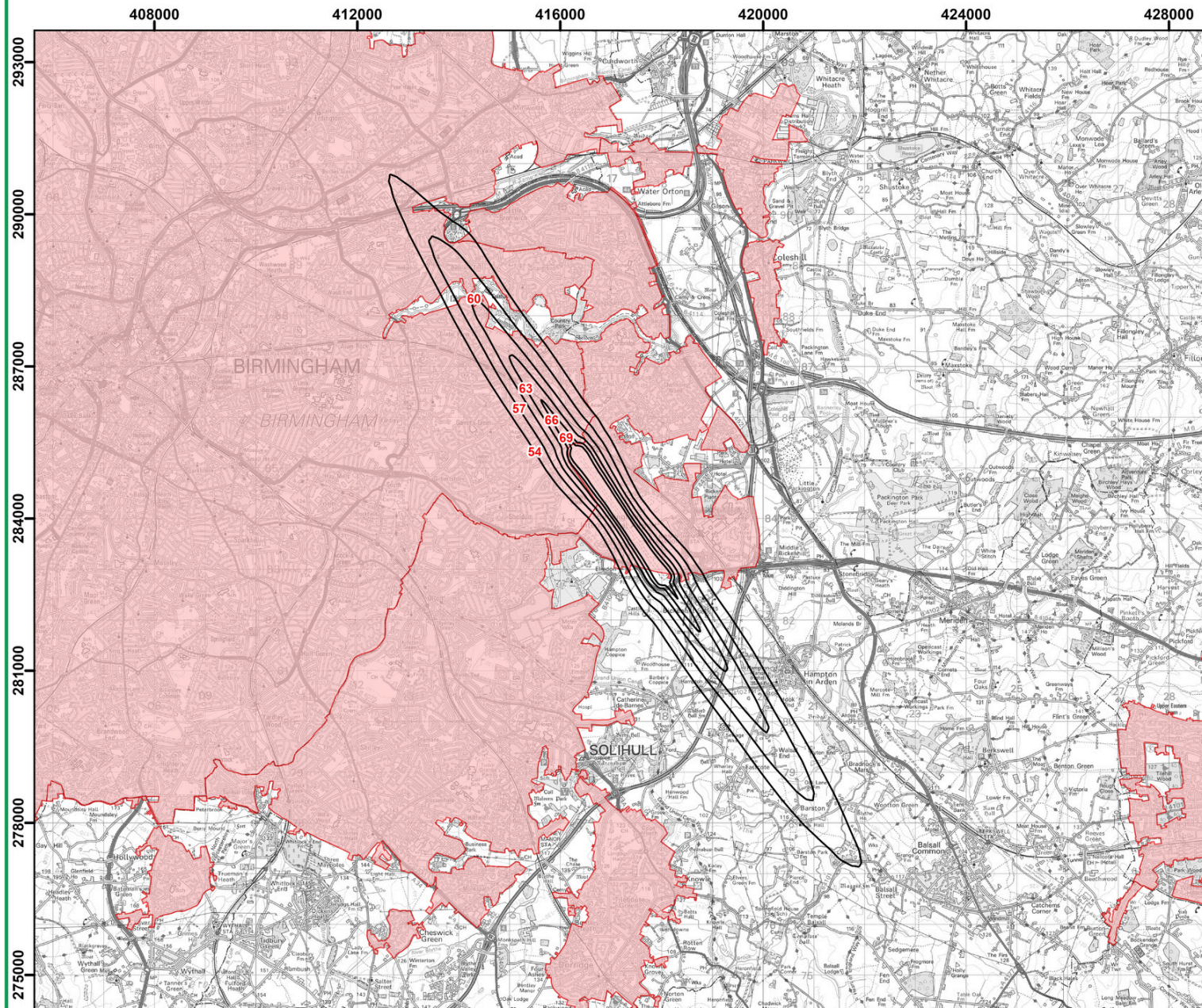
**The Environmental Noise
 (England) Regulations 2006
 (as amended)**
 Birmingham International Airport (BHX)
 Lday

Year - 2019
 Noise level Contour (dB)
 Agglomeration



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Appendix D Strategic Noise Maps 2019




Department
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Food & Rural Affairs

The Environmental Noise
(England) Regulations 2006
(as amended)
Birmingham International Airport (BHX)
Levening

Year - 2019
 Noise level Contour (dB)
 Agglomeration



0 2.5 5
Kilometres

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Appendix D Strategic Noise Maps 2019


 Department
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 Food & Rural Affairs

The Environmental Noise
 (England) Regulations 2006
 (as amended)

Birmingham International Airport (BHX)

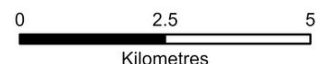
Lnight

Year - 2019

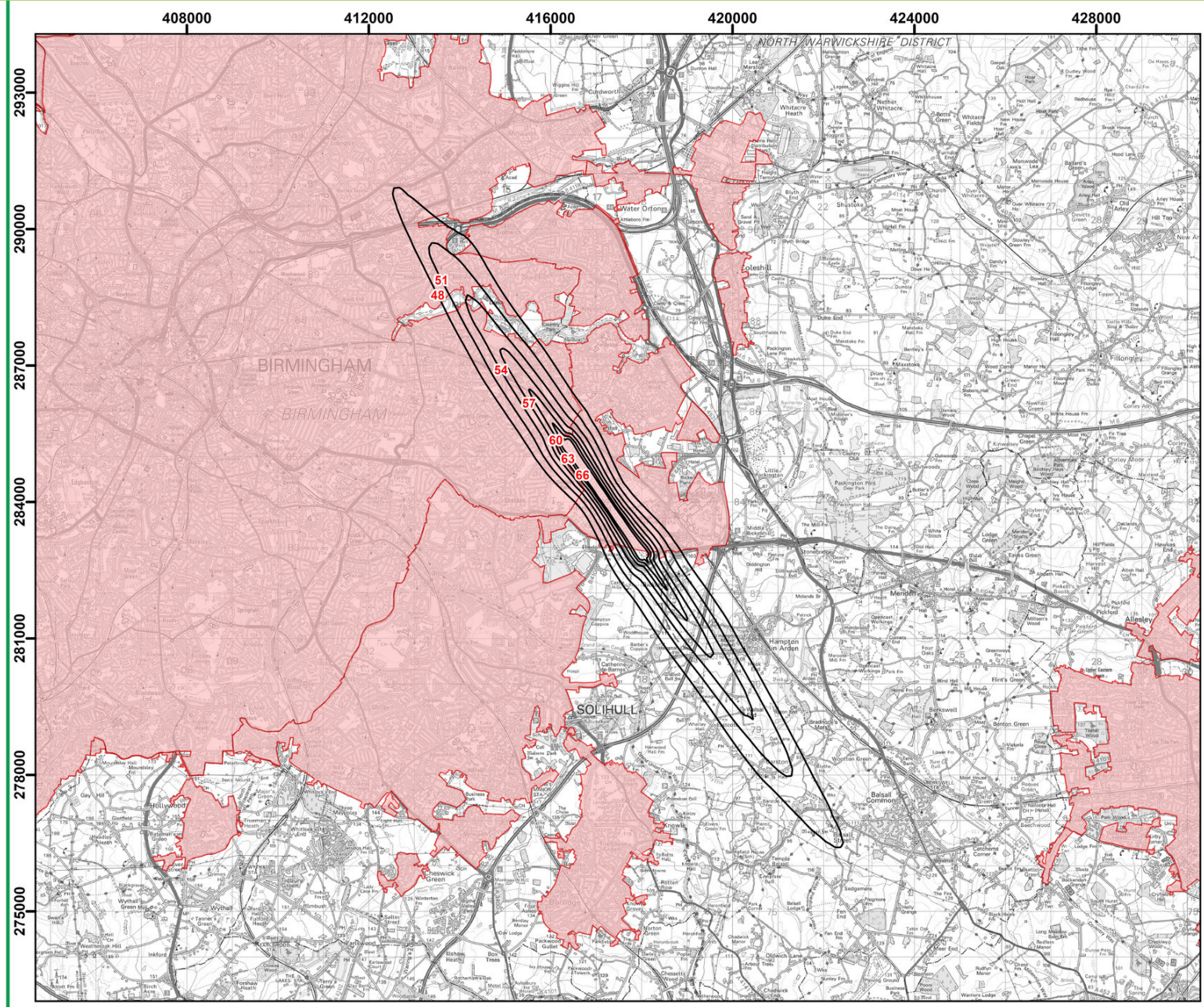
 Noise level Contour (dB)

 Agglomeration

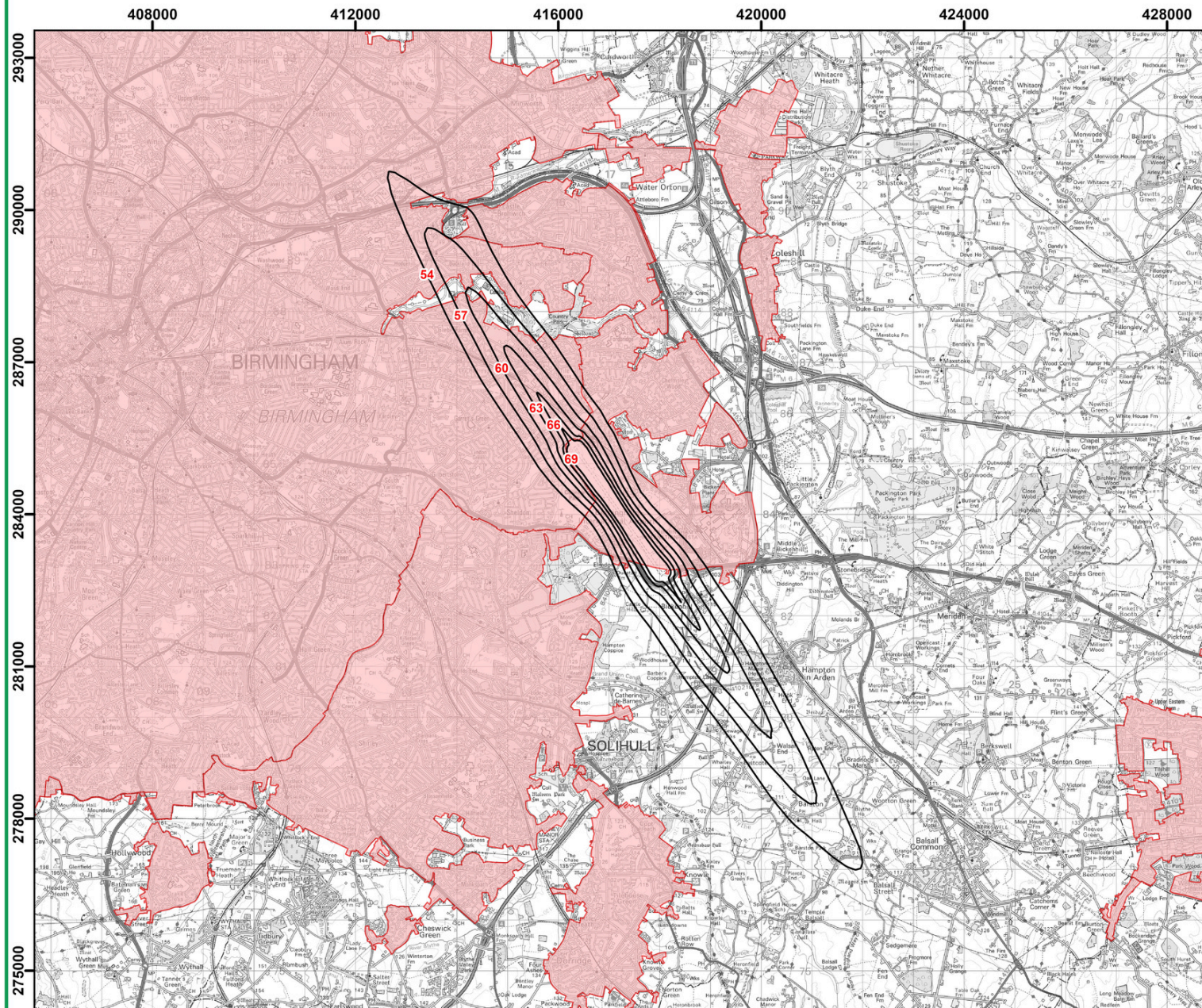



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 Kilometres

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Appendix D Strategic Noise Maps 2019




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 for Environment
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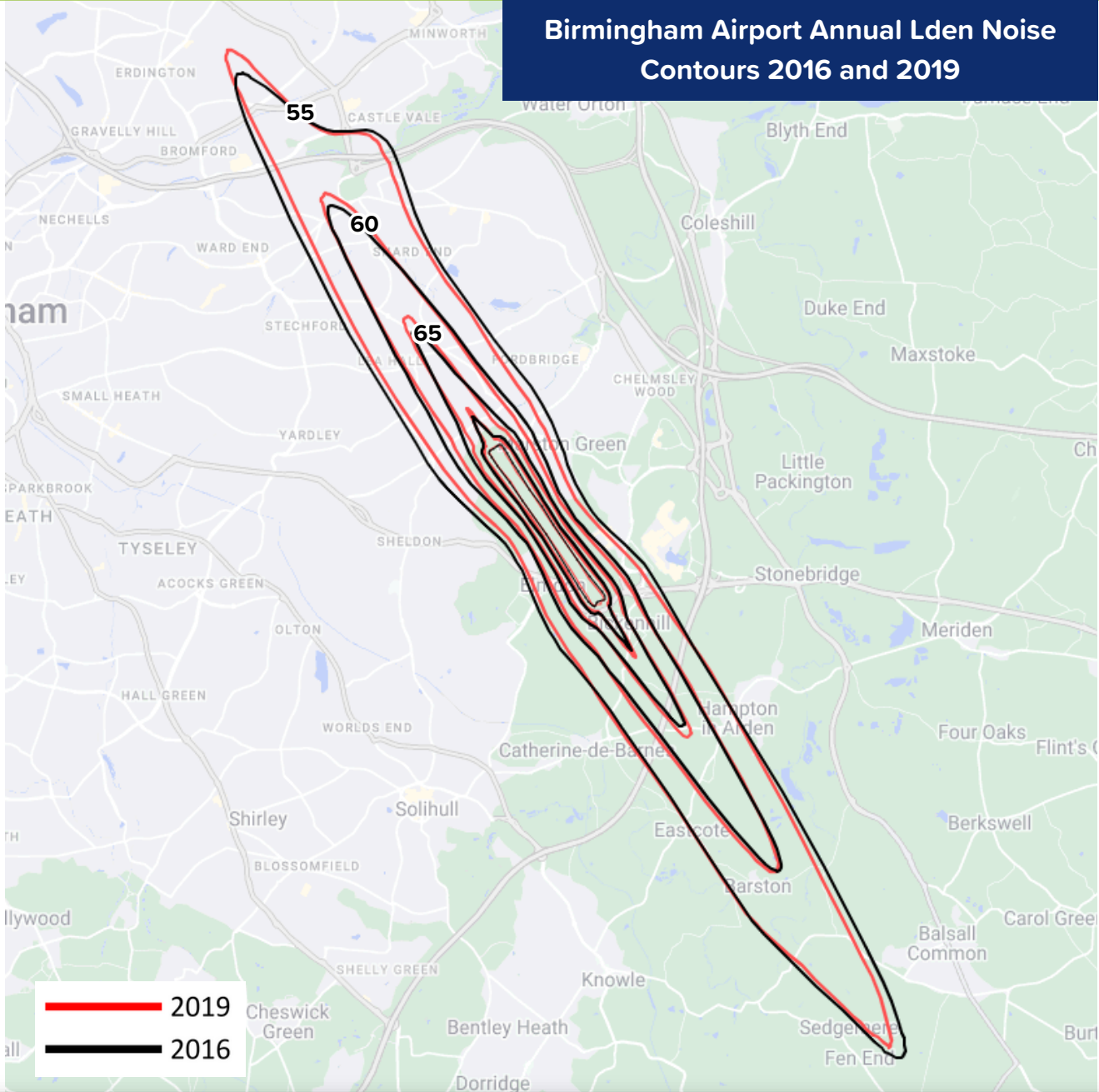
**The Environmental Noise
 (England) Regulations 2006
 (as amended)**
 Birmingham International Airport (BHX)
 LAeq16h

Year - 2019
 Noise level Contour (dB)
 Agglomeration

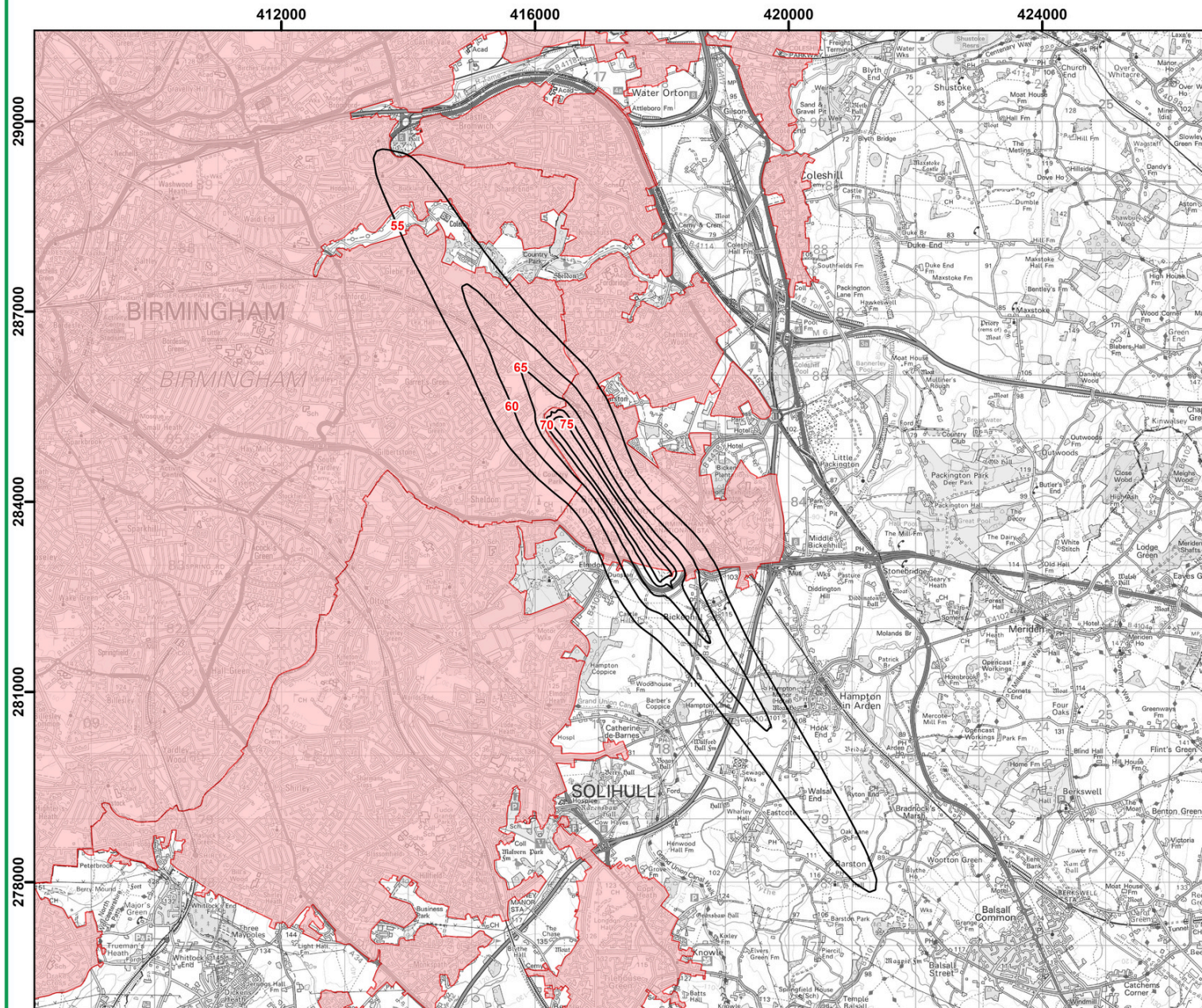


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Appendix D Strategic Noise Maps 2019





Appendix D Strategic Noise Maps 2021




 Department
 for Environment
 Food & Rural Affairs

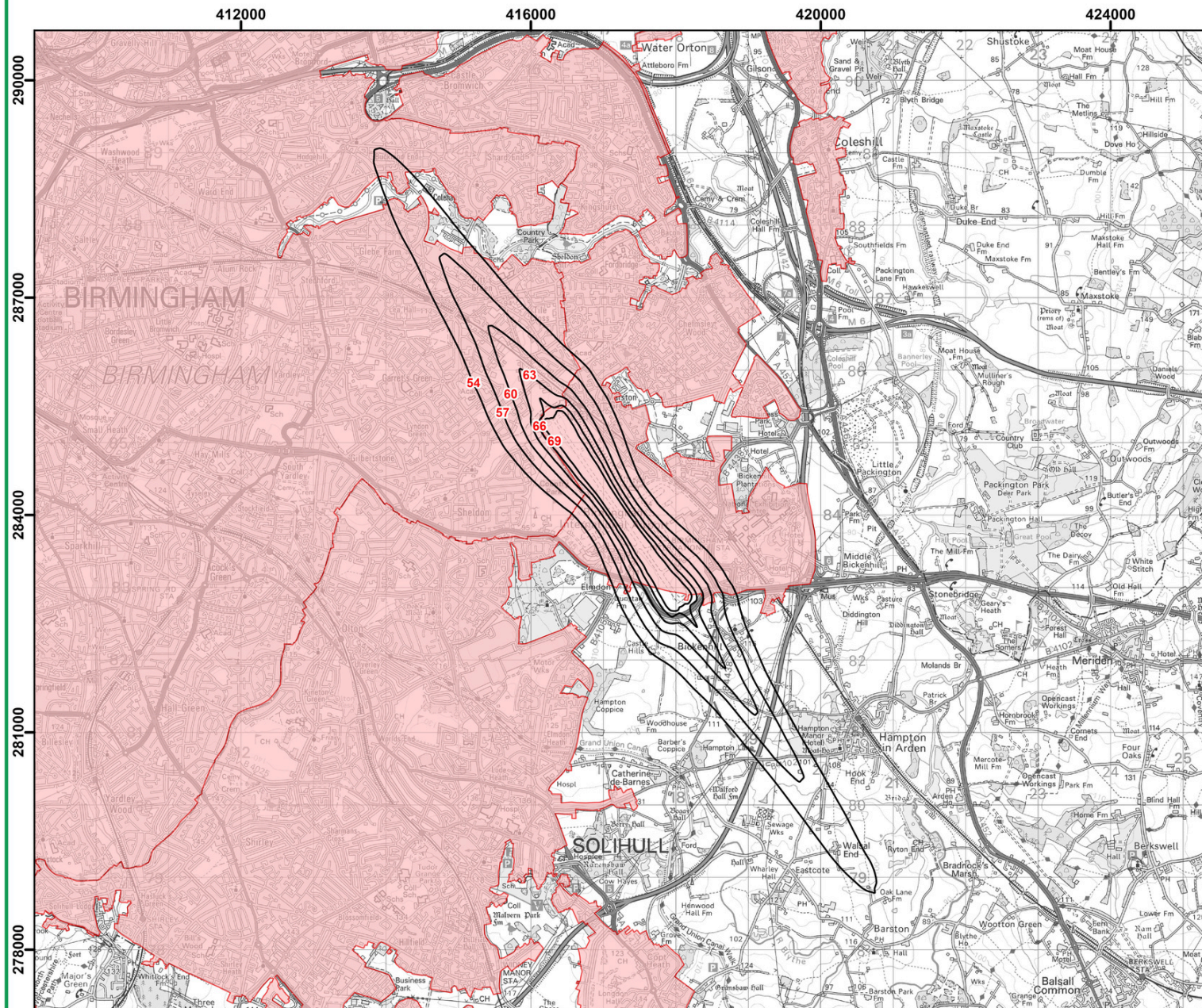
**The Environmental Noise
 (England) Regulations 2006
 (as amended)**
 Birmingham International Airport (BHX)
 Lden

Year - 2021
 Noise level Contour (dB)
 Agglomeration





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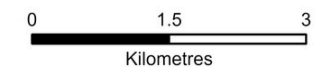
Appendix D Strategic Noise Maps 2021




 Department
 for Environment
 Food & Rural Affairs

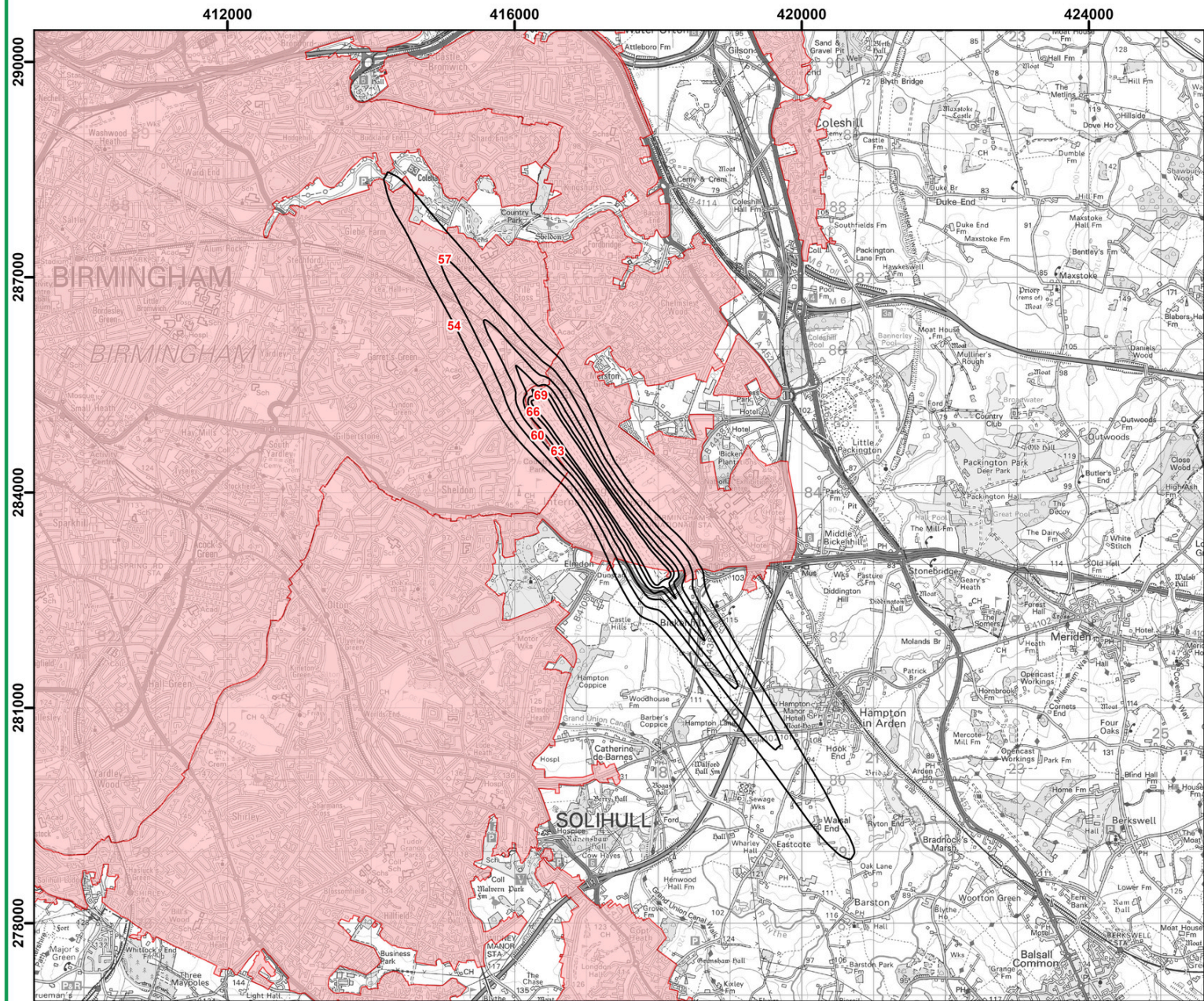
**The Environmental Noise
 (England) Regulations 2006
 (as amended)**
 Birmingham International Airport (BHX)
 Lday

Year - 2021
 Noise level Contour (dB)
 Agglomeration



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Appendix D Strategic Noise Maps 2021






 Department
 for Environment
 Food & Rural Affairs

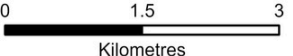
**The Environmental Noise
 (England) Regulations 2006
 (as amended)**
 Birmingham International Airport (BHX)
 Levelling

Year - 2021

 Noise level Contour (dB)

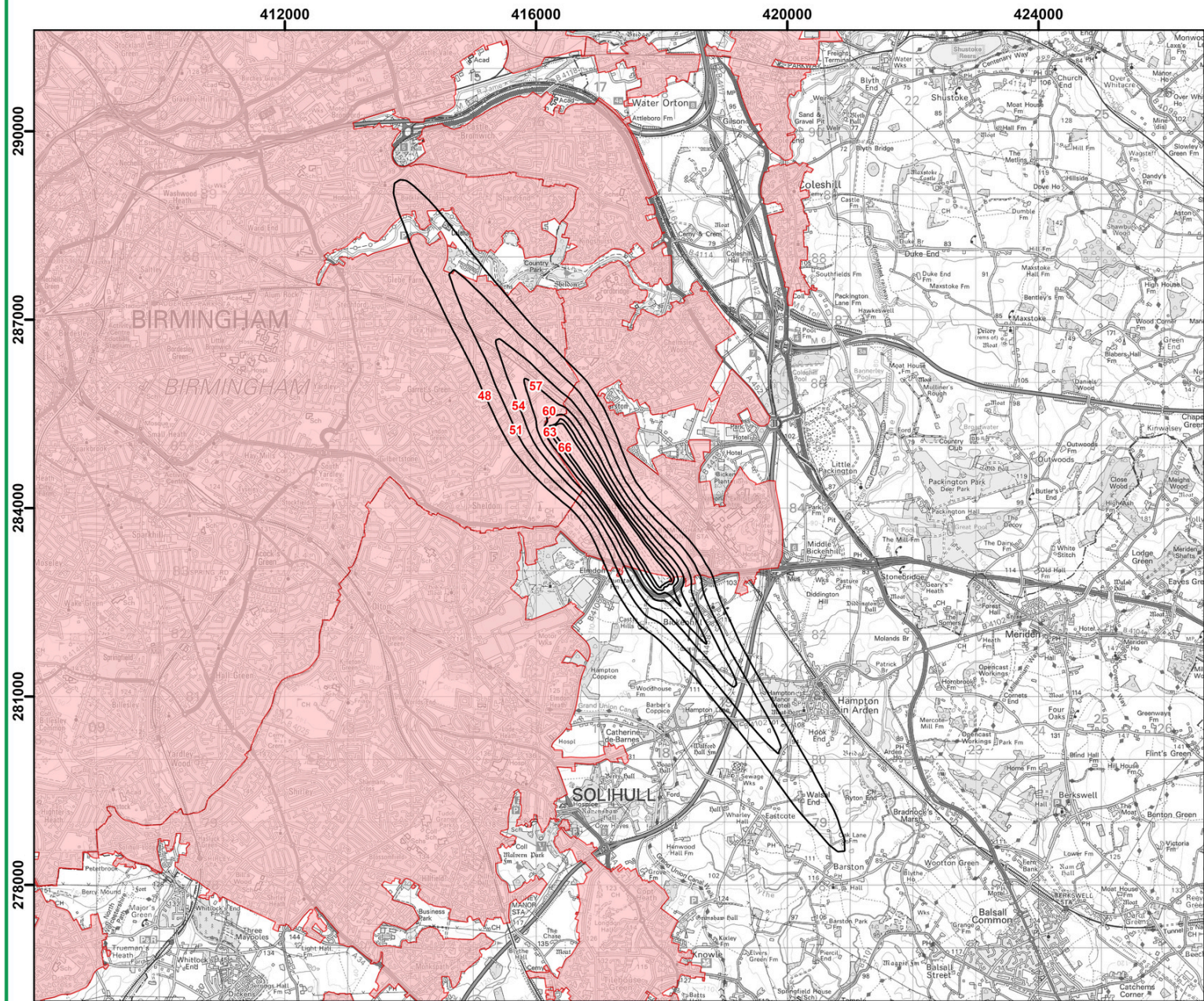
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Appendix D Strategic Noise Maps 2021



Department
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Food & Rural Affairs

The Environmental Noise
(England) Regulations 2006
(as amended)

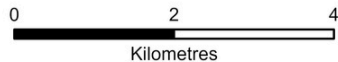
Birmingham International Airport (BHX)

Lnight

Year - 2021

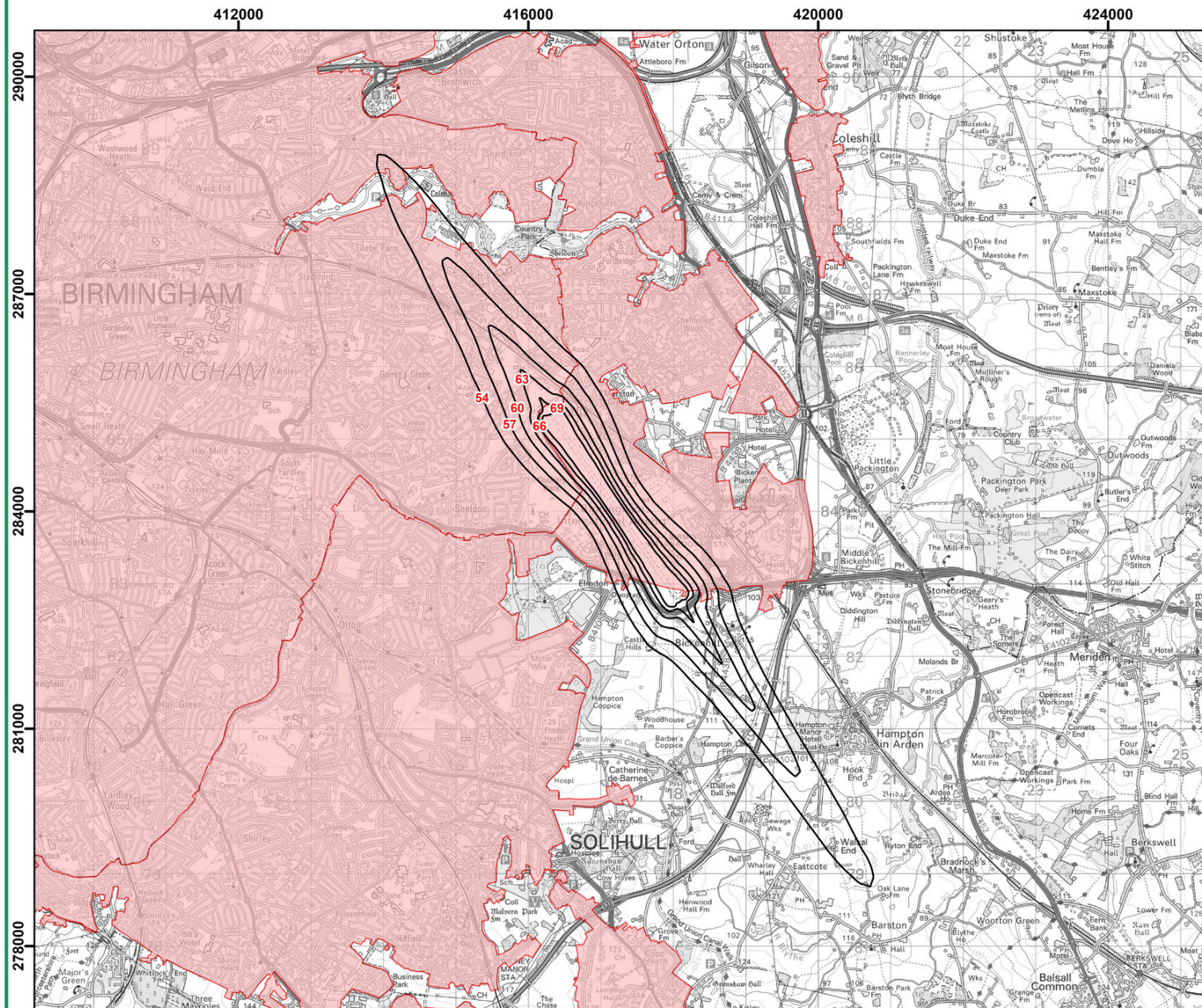
60 Noise level Contour (dB)

Agglomeration



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Appendix D Strategic Noise Maps 2021






 Department for Environment
 Food & Rural Affairs

The Environmental Noise
 (England) Regulations 2006
 (as amended)

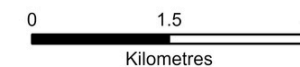
Birmingham International Airport (BHX)

L_{Aeq}16h

Year - 2021

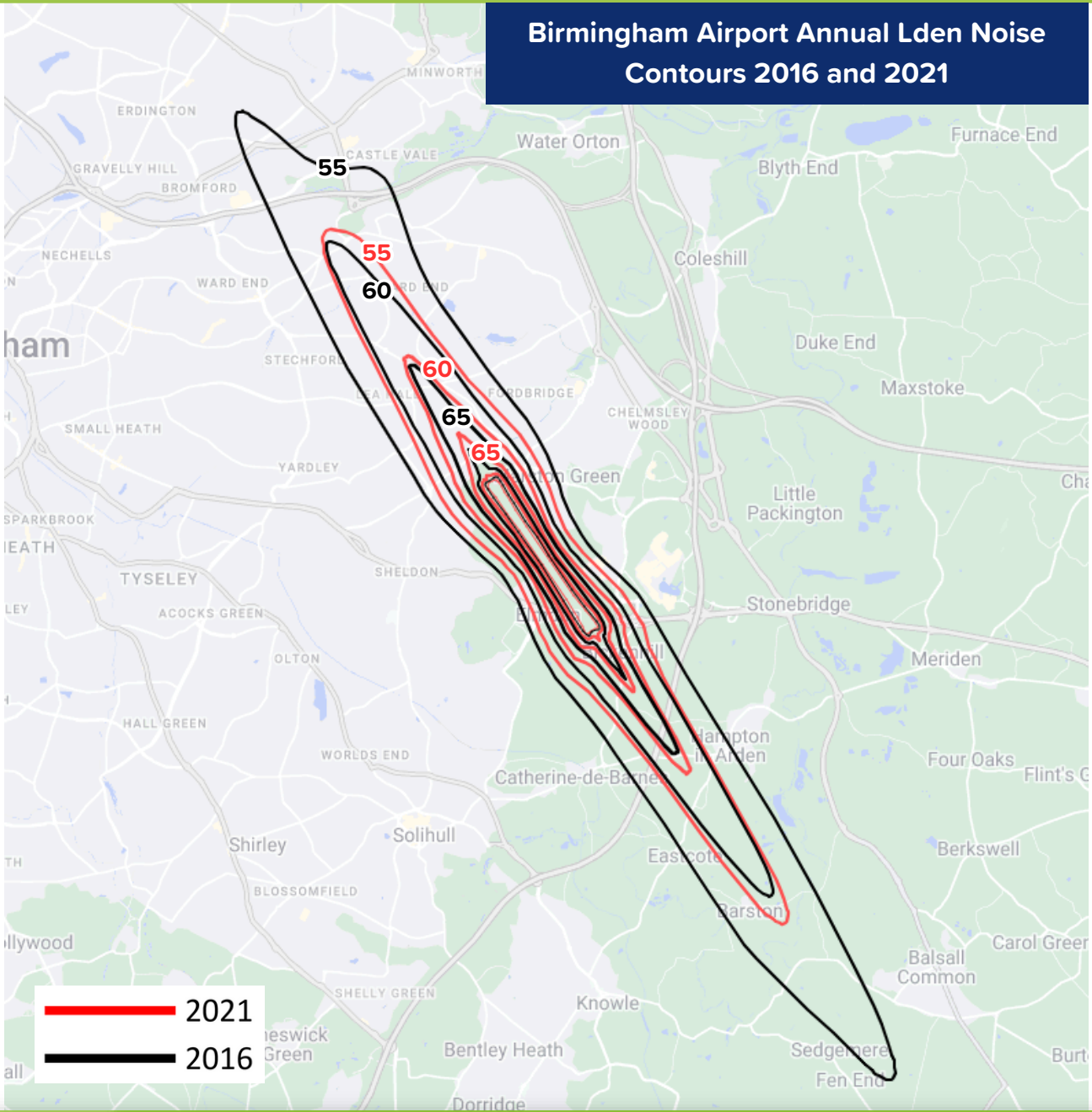
 Noise level Contour (dB)

 Agglomeration



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Appendix D Strategic Noise Maps 2021



Appendix E Financial Information

| Type | Cost | Benefit |
|---|---|--|
| Noise & Track-keeping Equipment | We cannot disclose this cost due to Commercial Confidentiality. | The Noise and Track-keeping system, ANOMS enables us to monitor the impact of aircraft operations on the local community. The system integrates radar data with noise data captured at 6 noise monitors located in the local community. ANOMS also allows us to investigate and respond to complaints about aircraft activity. |
| Sound Insulation Scheme (SIS) | £200,000 per annum | The SIS has a direct benefit to homes within the scheme. To date, the Airport has provided secondary glazing or high specification double glazing to reduce the impact of aircraft noise in over 7000 local homes (more than £12 million spent to date). We have committed to carrying out an in-depth review of the Sound Insulation Scheme and the associated budget within this Noise Action Plan, with a view to developing and launching a new Sound Insulation Scheme from 2024. |
| Schools Environmental Improvement Scheme | £50,000 per annum | Each year the Airport makes £50,000 available for the insulation of schools against aircraft noise through replacing windows and insulating sensitive areas such as IT suites and school halls. We have committed to carrying out an in-depth review of the Schools Environmental Improvement Scheme and the associated budget within this Noise Action Plan, with a view to developing and launching a new Schools Environmental Improvement Scheme from 2024. |
| Community Trust Fund | £94,676 per annum | We provide £94,676 (index linked) per annum to the Community Trust Fund (registered charity) which supports local projects in areas affected by aircraft noise. |
| Employee Costs | £85,000 per annum | Employees are required to assess the impact of noise, work with the local community on noise issues and implement noise management strategies. Airport employees also monitor policies and procedures that are in place to mitigate noise. |
| Noise Projects & Monitoring | £10,000 per annum | Allows us to identify the areas most affected by aircraft noise, in line with the methods outlined in Government Policy. The Airport invests in Noise projects on an annual basis, this can include projects such as Airspace re-design and investigation into slightly steeper approaches. |

Appendix F Identification of Key Themes Arising from the Consultation

| ACC Comment | BAL Comment |
|---|---|
| <p>A recent Imperial College London study: 'Aircraft noise and cardiovascular morbidity and mortality near Heathrow Airport: A case-crossover study' was raised. It was asked if the NAP should include a review of this data and its impact locally.</p> | <p>BAL is committed to continuing to review the health impacts of aviation through the Airport Health Forum. The remit of the Health Forum is to bring together health professionals to discuss specific health issues arising from the Airport and its use and to guide health conscious decision making within the Airport Company. Health Forum members include the Airport Company, the Council, the relevant health authority covering Solihull, Birmingham City Council and the Airport Consultative Committee.</p> |
| <p>It was felt that as Noise Contours are based on averages, this has the effect of eliminating the noise impact of individual aircraft, the few which cause the most noise, and shows that noise levels are falling. Statistically they may be, and this is in the interests of Government, CAA and BAL. However the impact of noisier planes is not highlighted in any way and is effectively ignored. It was asked if this is a fair reflection.</p> | <p>Noise contours are a requirement of the noise action planning process and are an averaging of sound based on all aircraft movements over an annual timeframe. The contours therefore incorporate the impact of noise from all aircraft - the noisiest and the quietest. BAL acknowledges that averaging sound over a given period will not specifically identify the noise generated by individual movements. BAL recognises this limitation of Noise Contour Mapping and this point is covered at Section 3.2 - Scope.</p> <p>The production of noise contours and the averaging of sound within them is covered in Section 4. BAL does not feel that additional reference to this would further understanding.</p> <p>BAL has committed to two new actions (Appendix B - 23 and 29) to further mitigate the noise impact of individual movements, by incentivising airlines to operate the quietest fleets possible.</p> |
| <p>It was queried as to why the BAL Sound Insulation Scheme does not benefit those in Eastcote Lane in Barston.</p> | <p>Details of the BAL Sound Insulation Scheme can be found at Section 7.2 - Mitigate: 'The Sound Insulation Scheme is based on the 2002 63 dB LAeq average summer day noise contour, which is an average measure of noise exposure over a 16 hour period.'</p> <p>This is consistent with Government Policy for insulating properties against aircraft noise, with BAL investing over £12 million to provide sound insulation for over 7,000 properties that fall within the 63dB(A) contour. Since 2002 the noise footprint for the Airport has reduced in size, as a result of the introduction of quieter aircraft over the intervening period, however we have continued to insulate all properties that fall within the 2002 footprint.</p> |
| <p>It was queried as to why it is not possible to review or change Option 6. Surely this would be meaningful action for a Noise Action Plan.</p> | <p>The Noise Action Plan does not relate specifically to any airspace changes or decisions relating to them. This was dealt with under a separate process, which at the time was CAP 725. It is therefore not appropriate to reference this in the Plan.</p> |

Appendix F Identification of Key Themes Arising from the Consultation

| ACC Comment | BAL Comment |
|--|---|
| It was suggested that the 2021 Noise Contour Maps have not changed shape to reflect Option 6. | Option 6 was introduced in June 2016 and has been in use since this time. Section 6 provides analysis of the Noise Contours results for 2019 and 2021 and comparison to the 2016 Noise Contour results. All noise contour's use actual data for their respective timeframes, this includes the routes flown for each movement which are obtained from actual radar data. |
| It was expressed that it is difficult to compare the contour results as they are presented in the Plan. It would be helpful if the 2016, 2019 and 2021 figures were in the same table. | This has been incorporated into Appendix C . |
| It was asked if a footnote could be added explaining where the data concerning the number of dwellings and number of people has been derived from. | This has been incorporated into Section 4.4 . |
| It was asked if there was any scope to review the current Engine Ground Running restrictions and reduce the permitted operating hours. | BAL recognises that noise from Engine Ground Running is a key concern of residents in some neighbouring communities, and our Engine Ground Running Policy, outlined in Section 7.2 , seeks to mitigate its impacts. A balance must be struck with mitigating the noise impact of engine ground running, against fulfilling our operational requirements. Engine Ground Running is required by airlines following essential aircraft maintenance and is only carried out if absolutely necessary, playing a vital role in aircraft safety. |
| It was suggested that the noise exceedance penalties be reviewed. | BAL has committed to reviewing both the day and night noise violation levels (Appendix B, Action 20 and Action 23), in addition to a commitment to carrying out a full review of the Airport Fees & Charges document to ensure aircraft noise is a key consideration (Appendix B - Action 29). This will include a review of the exceedance fine amounts to ensure they are in line with industry standards. |
| It was suggested that BAL provide a precise date for the completion of the Schools Environmental Improvement Scheme review. | BAL has committed to a specific date of December 2023 to present this review to the Airport Consultative Committee and this has been incorporated into Appendix B - Action 8 . |
| It was asked whether the discussed benchmarking exercise could be made visible to the Airport Consultative Committee. | Benchmarking against other airports is carried out periodically by BAL, using publicly available information published by other airports. Benchmarking on specific elements of noise will be shared with the Airport Consultative Committee and its sub-groups as necessary, in order to allow BAL to provide topic area context. |
| It was asked whether the noise contour results have been independently verified. | Section 4 - Introduction to Aircraft Noise has been enhanced to further elaborate on how the Noise Contours are formulated, with reference to noise contour generation and how these are independently produced by the CAA and analysed by Defra prior to publication. |

Appendix F Identification of Key Themes Arising from the Consultation

| ACC Comment | BAL Comment |
|--|--|
| <p>It was referenced that in the Executive Summary changes to departure routes for aircraft taking off on Runway 15 are referred to. It was felt that the NAP should do more than merely refer to changes and not review their impact and that the NAP 'ignores the extension of the Runway'</p> | <p>The Executive Summary gives an overview and context of noise management at BAL. The Noise Action Plan does not relate specifically to any airspace changes or decisions relating to them. This was dealt with under a separate process, which at the time was CAP 725. It is therefore not appropriate to reference this in the Plan.</p> <p><u>Section 4 - Introduction to Aircraft Noise</u> has been enhanced to further elaborate on how the Noise Contours are formulated, with reference to noise contour generation and how these are independently produced by the CAA and analysed by Defra prior to publication.</p> <p>Birmingham Airport's runway extension was completed in 2014. The noise contour's considered in this Noise Action Plan (2016, 2019, 2021) each use data for their respective years, with these years all being post runway extension completion and therefore representative of a time-period after runway extension completion. All noise contour's use actual radar data for their respective timeframes, which take into account the route flown for each movement.</p> |
| <p>It was felt that the health impacts of night flights are not recognised in the Draft NAP. Concern was raised over recent publicity on health impacts and whether there will be a contribution from the Airport Health Forum to address this issue.</p> | <p>BAL is committed to continuing to review the health impacts of aviation through the Airport Health Forum. The remit of the Health Forum is to bring together health professionals to discuss specific health issues arising from the Airport and its use and to guide health conscious decision making within the Airport Company. Health Forum members include the Airport Company, the Council, the relevant health authority covering Solihull, Birmingham City Council and the Airport Consultative Committee.</p> <p><u>Appendix B</u> - Actions 9, 10, 11, 12 and 13 and 28 underscore our commitment to mitigate night noise to achieve the quietest practicable aircraft operations.</p> |
| <p>It was raised that the Noise Action Plan doesn't acknowledge individual Portable Noise Monitor studies in Barston and Balsall Common. It was felt that these should be mentioned.</p> | <p>The Noise Action Plan aims to provide a noise overview for all surrounding areas, rather than focusing on specific locations, as is the purpose of the Portable Noise Monitoring Studies themselves.</p> <p>Appendix B - <u>Action 6</u> states BAL's continuing commitment to carrying out noise monitoring studies using a Portable Noise Monitor. All portable noise monitoring studies are publicly available on the Birmingham Airport website here. Requests for further noise monitoring studies are carried out in line with our <u>Portable Noise Monitor Deployment Policy</u>.</p> |

Appendix F Identification of Key Themes Arising from the Consultation

| ACC Comment | BAL Comment |
|--|---|
| <p>It was suggested that the Eastcote Lane noise monitor is the only Noise Monitor to the South of the Runway that is likely to record aircraft noise, as the adjacent monitors must be affected by motorway noise. The Friday Lane monitor's position was suggested as not being regularly overflown.</p> | <p>Section 4.2 - How do we measure noise? provides an overview of how noise is measured at the fixed noise monitors.</p> <p>The CAA oversees the positioning of fixed noise monitors and this is standard to every airport. The fixed monitors are sited in an arc as near as practicable to 6.5 km from the start of roll, with three at each runway end. The spacing of the monitors takes account of the location of the departure routes and the tracks actually flown. To ensure consistency in the noise monitoring arrangements, the limits at individual monitors are adjusted to account for the effects of any displacement from the reference point, with an additional allowance for departures in a tailwind.</p> <p>The fixed noise monitors are calibrated to record noise above a specific dB threshold, in so filtering out non-aircraft related noise. The ANOMS system is designed to record aircraft noise and this is closely monitored by the Sustainability Team.</p> |
| <p>It was queried as to why the noise contours appear to have moved north despite the impact of Airspace Change to the south.</p> | <p>A comparison overlay map of the Lden Noise Contours for 2016 and 2019 can be found at Appendix D. BAL anticipates that the change in Noise Contour shape to the North of the Runway is a result of the change in Runway usage outlined in Section 4.1.</p> |
| <p>It was expressed that some community concerns may not be being captured "as there is no point [in complaining]"</p> | <p>BAL can only respond to and log complaints as they are received. We will continue to be accessible for complaints and enquiries relating to all environmental issues, including noise.</p> <p>Complaints management is addressed at Section 7.1 - Measure, with Appendix B - Actions 30 - 47 detailing how we proactively engage with our neighbours. This section includes three new actions to further improve engagement:</p> <p>Action 36 - We will report on community complaints on a quarterly basis, to include a breakdown of complaints by type, area, trend analysis and new complainant trends.</p> <p>Action 37 - We will provide the community with access to Web Track, an online facility which enables people to view and track flights, providing information on aircraft type, altitude, flight number and speed.</p> <p>Action 40 - We will report on our noise programmes through our Quarterly Community Noise Report.</p> |

Appendix F Identification of Key Themes Arising from the Consultation

| ACC Comment | BAL Comment |
|---|---|
| <p>It was asked what could be done to shorten the timescales for the actions relating to CDA's (Appendix B - Action 17) and improvements to glide slopes (Appendix B - Action 26)</p> | <p><u>Appendix B - Action 17</u>: We will facilitate the use of Continuous Descent Approaches (CDA) 24 hours a day and operate a target to not fall below 96% CDA compliance.</p> <p>The basic principle of a CDA is that aircraft stay higher for longer, by descending at a continuous rate. Air Traffic Controllers issue pilots with their distance to touchdown and the pilots will calculate and perform a continuous rate of descent. CDAs require significantly less thrust, which leads to reduced air emissions and noise. Although encouraged and facilitated wherever possible, it is not always possible for an aircraft to complete a CDA. A non-CDA may take place due to a number of factors, including adverse weather, safety reasons, airspace constraints, air traffic controller workload and pilot workload.</p> <p>The below three actions aim to address the factors that can reduce CDA compliance in order to meet the 96% CDA compliance target set in Action 17.</p> <p><u>Appendix B - Action 31</u> underscores our continued commitment to Operation Pathfinder as a forum to promote noise initiatives, such as CDA, with airlines. This is an ongoing action with quarterly meetings.</p> <p><u>Appendix B - Action 23</u>; BAL has committed to a new action to publish a quarterly airline league table, with this aiming to incentivise airlines to carry out CDA's wherever possible. This will be presented to airlines quarterly.</p> <p><u>Appendix B - Action 29</u>; BAL has committed to a new action to carry out a full review of the Airport Fees & Charges document over 2023-24, this will include a review of all noise and environmental charging in order to incentives airlines to operate a cleaner, quieter fleet.</p> <p><u>Appendix B - Action 26</u>: Investigate the feasibility of a 3.2° glide slope to runway 33 (and possibly runway 15) which could potentially take aircraft on approach closer to the height they were prior to the runway extension. It should be noted that to implement slightly steeper approaches requires a policy change from the CAA, which is dependent on understanding the outcomes of a trial and implementation at Heathrow.</p> <p>Commentary around this action is detailed at <u>Section 7.2 - Mitigate</u>. The timescale of 2023-24 was decided upon, in reference to the significant levels of work and time needed in order to fully understand the noise benefit and feasibility of implementation.</p> |

Appendix F Identification of Key Themes Arising from the Consultation

| ACC Comment | BAL Comment |
|--|---|
| <p>It was queried as to why departing aircraft are not surcharged at 54dB(A) as opposed to the current 83dB(A) (night) and 90dB(A) (day), and why landing aircraft are not included in noise violation charging.</p> | <p>Government guidance for noise sets out the approximate onset of significant community annoyance at 54dB(A). However, this does not mean that all people within this contour will experience significant adverse effects from aircraft noise, nor does it mean people outside of this contour will not consider themselves annoyed by aircraft noise. As can be seen in Section 4.3, the number of people that fall within the 54dB(A) contour has decreased.</p> <p>If a departing aircraft registers a noise level above 83dB(A) at night, or above 90dB(A) during the day at our centreline noise monitors (Noise Monitors 1 and 2), the airline is surcharged an amount equivalent to a full runway charge. The aim of this noise violation limit is to deter noisier aircraft from operating, however BAL must balance this with our operational requirements. Reducing the noise violation limit to a limit whereby the majority of aircraft are fined for every operation flown is not conducive to the purpose of having a noise violation limit, this being to deter the noisiest aircraft from operating at Birmingham Airport. Through fining the noisiest percentage of movements, these operations are made less commercially viable for the airline, incentivising airlines to consider fleet changes. BAL has seen this over a number of years, with airlines continually investing significantly in upgrading to quieter, cleaner fleets.</p> <p>BAL has committed to reviewing both the day and night noise violation levels (Appendix B, Action 20 and Action 23), in addition to a commitment to carrying out a full review of the Airport Fees & Charges document to ensure aircraft noise is a key consideration (Appendix B - Action 29). This will include a review of the exceedance fine amounts to ensure they are in line with industry standards.</p> <p>Whilst departure noise limits are standard practice across the industry, no formal limits or penalties apply to arrival noise. This is in line with Government Policy, with a view that penalties as a way to manage arrival noise could incentivise unsafe behaviour. The rationale for this is that an arrival is a more safety critical period of flight, in comparison to a departure, with pilot workload high during the approach phase of flight. BAL instead focuses on encouraging best practice measures to reduce arrival noise, for example through the implementation of continuous descent approaches (CDA).</p> |

Appendix F Identification of Key Themes Arising from the Consultation

| ACC Comment | BAL Comment |
|--|--|
| <p>It was suggested that the Noise Action Plan clarify the origins of data sources for data other than that of BAL's own collection.</p> | <p>Section 4 - Introduction to Aircraft Noise has been enhanced to further elaborate on how the Noise Contours are formulated, with reference to noise contour generation and how these are independently produced by the CAA and analysed by Defra prior to publication.</p> |
| <p>It was proposed that an action be made for encouraging the achievement of the CDA target.</p> | <p>Appendix B - Action 31 underscores our continued commitment to Operation Pathfinder as a forum to promote noise initiatives, such as CDA, with airlines.</p> <p>Appendix B - Action 23; BAL has committed to a new action to publish a quarterly airline league table, with this aiming to incentivise airlines to carry out CDA's wherever possible.</p> <p>Appendix B - Action 29; BAL has committed to a new action to carry out a full review of the Airport Fees & Charges document, this will include a review of all noise and environmental charging in order to incentives airlines to operate a cleaner, quieter fleet.</p> |
| <p>Regarding the dB weighting given to evening and night periods for the Lden Noise Contours, it was requested that the Noise Action Plan should explain how this weighting was arrived at.</p> | <p>When carrying out noise contour modelling, the CAA use the Lden metric. Lden is the logarithmic average of Lday, Levening and Lnight, with the Levening and Lnight components weighted by 5 dB and 10 dB respectively. The reasoning behind weighting in this way, is in order to reflect the increased community sensitivity to noise during these periods. These weighting numbers were assigned by the CAA following analysis of the standard deviations of data obtained through community reaction studies.</p> <p>This is incorporated into Section 4.4 - dB Lden Noise Contours.</p> |
| <p>Clarification was sought on whether all movements, including helicopters, private, medical evacuation and military flights, were included in the data on which noise contours were based.</p> | <p>The CAA have advised that the noise contours are based on all fixed-wing movements that are included in the in the operations dataset that BAL supplied. This BAL supplied dataset includes all actual annual Air Transport Movement (ATMs) as flown and flight track radar data, taken from the Airport's ANOMS system, and will therefore include helicopters, private, general aviation, medical evacuation and military flights.</p> <p>Helicopter movements are not fixed-wing movements and have therefore been excluded from the supplied dataset, this is the case for all previous noise contours produced for BAL and is in line with Noise Action Plan requirements, providing comparable data. All other movements are included in noise contour production, including private, general aviation, medical evacuation and military flights.</p> <p>Appendix B - Action 18 and Action 19 aim to mitigate Helicopter Noise specifically, as BAL recognises the community impact helicopter noise can have.</p> |



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