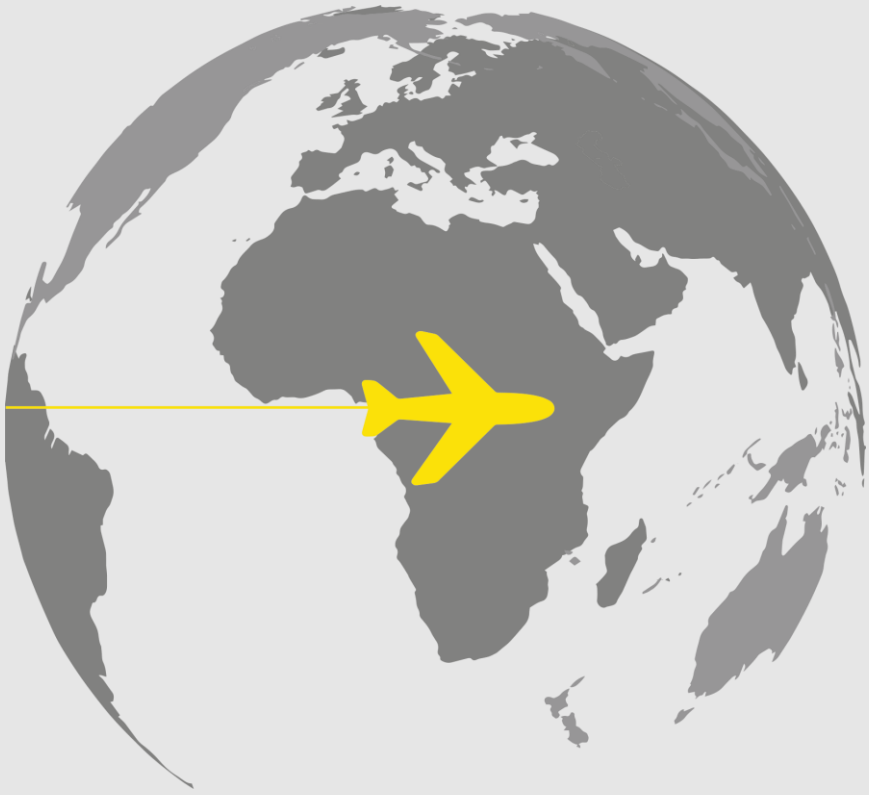
Leeds Bradford®
Yorkshire's Airport

Noise Action Plan 2024-2028



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Foreword

With direct links to 80 destinations, Leeds Bradford Aiport is Yorkshire's connection to the world. The airport plays a key role in the economic and social life of our region and an essential service in enabling our passengers to grow their businesses, connect with their families and friends or just to get away from the daily grind.

Leeds Bradford Airport has been one of the fastest recovering airports in the United Kingdom since the pandemic. This rapid recovery has reinforced the need to expand airport capacity in order to continue providing high quality transportation links to our customers and our region. As we embark on that expansion, it is equally important to consider the impact that our operation has on our closest neighbours and to balance the benefits and the impacts to ensure a sustainable aviation future.

In 2021, Leeds Bradford Airport was only the second airport in the UK to commit to Net Zero carbon emmissions by 2030. That is 10 years ahead of the targets set in the UK government's JetXero strategy. While this commitment applies to Scope 1 and 2 emissions, we also recognise the importance of engaging with our airline partners and customers to encourage and facilitate reductions in Scope 3 emissions.

Our commitment to a sustainable aviation future also takes into account the impact of airport and aircraft noise on our local community. We acknowledge that local communities bear the majority of the impact of aircraft noise, with the benefits shared across a much larger group. It is important therefore that we engage proactively with our neighbours to put in place noise action plans that work to reduce our noise impact and improve amenity for residents.

In this, our fourth Noise Action plan which covers the period from 2024 to 2028, we lay out the regulatory framework governing airport and aircraft noise, the current position of the airport and the plans that we have in place to mitigate and reduce the impact of noise over time.

We are grateful to our Airport Consultative Committee members who represent our local communities and who have participated actively in the consultation on our latest noise action plan and commit ourselves to work within the parameters of the noise action plan to reduce our noise impact on our neighbours and local communities.

Vincent Hodder
Chief Executve Officer

1 EXECUTIVE SUMMARY

The Environmental Noise (England) Regulations 2006 (as amended) apply to environmental noise, largely from transport and requires regular noise mapping and action planning for road, rail and aviation noise and noise in large urban areas (agglomerations). In terms of airports, the Regulations require certain airports in England to produce noise maps and action plans. The Regulations operate in five yearly cycles, known as Rounds.

This Noise Action Plan is the fourth round to be produced by Leeds Bradford Airport (LBA) under the Regulations and is based on conditions assessed for the 2021 calendar year. Given the travel restrictions during this period (due to the Covid-19 pandemic), the 2021 mapping data shows an anomaly, as air travel in particular, was impacted by travel restrictions, thus significantly reduced aircraft movements. It is therefore difficult to make any comparisons and measuring progress between both the previous rounds and those that may occur in the future. By the end of 2023, LBA is expected to exceed pre-Covid passenger numbers.

This document aims to obtain, where possible, a reduction of the impact of noise produced by aircraft and the associated ground operations through the next five year period **2024 - 2028**. This process will then be reviewed on a five yearly basis in accordance with the Regulations.

LBA's Environmental Policy includes an objective relating to environmental noise:

'Minimise as far as reasonably practicable, the effects and disturbance of noise from aircraft and airport operations.'

Noise from airport operations, however, is an inevitable consequence of our modern and vibrant society. Society enjoys the benefit from air travel and therefore a fair balance needs to be struck between the negative impacts of noise (on health, amenity and productivity) and the positive social and economic impacts of flights.

The Government's Aviation Policy Framework (APF) states that the Government's overall policy is *'to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise'*. This statement clarifies that eliminating all noise would be impossible but limiting and seeking to reduce the number affected is the most appropriate way forward.

It is the aim of LBA, therefore, that this action plan will work to achieve best practice in the management of noise in line with other comparable airports.

2 INTRODUCTION

2.1 Purpose and Scope

The Environmental Noise (England) Regulations 2006 (as amended) require airports with over 50,000 movements a year and/or located within an agglomeration, to produce strategic noise maps and associated action plan.

The Regulations designate 'Competent Authorities' responsible for producing noise maps and action plans, which in the case of an airport, is the airport operator. Therefore, LBA, as the airport operator, is the Competent Authority under the terms of the Regulations.

Whilst LBA falls below the requirement of over 50,000 movements a year, due to the proximity of the airport to the West Yorkshire Urban Area Agglomeration, noise maps and associated action plans are required to be produced by LBA under the terms of the Regulations.

This Noise Action Plan (NAP) has been prepared to demonstrate how LBA aims to manage and where possible reduce the impact of noise from aircraft and airport operations over the next five year period (2024 – 2028). This is the fourth NAP to be produced by LBA (with the previous NAP covering the period 2019 – 2023) and has been updated to reflect the most recent round of noise mapping prepared for the 2021 calendar year, along with progress made in respect of the actions defined in previous plans and proposed new actions.

The noise maps are intended to provide a snapshot of the potential noise impact arising from departing/arriving aircraft. The Regulations also require the airport to provide estimates of the number of people exposed above various noise levels in 2021. It is important to note that 2021 was an anomaly year, due to major disruption to air travel as a result of the Covid-19 pandemic. This has resulted in difficulties when making comparisons and measuring progress between this current and previous NAPs.

One of the primary aims of this NAP is to promote two-way communication between LBA, local communities and other key stakeholders. The result of this improved communication will enable the airport to respond to the concerns of local communities and where practicable apply effective and meaningful noise mitigation measures.

3 LEEDS BRADFORD AIRPORT

LBA is a regional airport serving the Yorkshire region and beyond. Located approximately eight miles northwest of Leeds City Centre and seven miles northeast of Bradford, at 662ft above sea level, it holds the title of the highest airport in the UK. The airport was originally formed as Yeadon Aerodrome which commenced operations in 1931.

In 1987, LBA was converted into a Limited company under the provisions of the Airports Act 1986 and the five metropolitan Councils of West Yorkshire became the shareholders of the company (Leeds and Bradford owning 40% and Wakefield, Calderdale and Kirklees sharing 20% equally). In 2007 the airport was privatised and sold to Bridgepoint Capital. In 2017, AMP Capital acquired 100 per cent of the shares from Bridgepoint Capital. In 2022 AMP Capital itself was acquired by DigitalBridge Group Inc and renamed InfraBridge and retain ownership of LBA under their new name.

Today, LBA welcomes over 4 million passengers a year travelling to 80 destinations. LBA has exciting plans to improve infrastructure and increase passenger numbers to 7 million by 2030.

The immediate surrounding areas of the airport include the small towns and villages of Guiseley, Menston, Burley-in-Wharfedale, Horsforth, Cookridge, Carlton, Bramhope, Yeadon and Otley.

4 BACKGROUND TO AIRPORT NOISE AND REGULATION

There are four main tiers of regulation governing aircraft noise in England.

- International - ICAO
- National - The UK Government
- Local - Local Authorities

The airport itself also acts as another important regulator of aircraft noise and operates noise management schemes which are voluntary.

INTERNATIONAL REGULATION

The International Civil Aviation Organisation (ICAO) sets progressively tighter certification standards, known as Chapters, for noise emissions from civil aircraft to which Member countries' fleets must conform.

Further details of these standards can be found at:

https://www.icao.int/environmental-protection/Pages/technology-standards.aspx

In addition to these specific requirements, the ICAO requires Member states to adopt a "balanced approach" to noise management, which looks beyond individual aircraft to reduce noise impact through the following measures:

- reduce aircraft noise at source (i.e. quieter aircraft technology)
- land-use planning
- noise abatement operational procedures
- operating restrictions

The 'balanced approach' consists of identifying the noise problem at an airport and then assessing the cost-effectiveness of the various measures available to reduce noise through the exploration of four principal elements as outlined above.

NATIONAL REGULATION

Relevant parliamentary acts and national regulations that deal with the aircraft noise include:

Civil Aviation Act (1982 and 2006)
These Acts grant the Government powers to introduce noise control measures, including mitigation and financial incentives for the use of quieter aircraft.

The Environmental Noise (England) Regulations 2006 (as amended)
These Regulations require regular noise mapping and action planning for road, rail and aviation noise and noise in large urban areas (agglomerations). The Regulations place a five yearly requirement to publish strategic noise maps and prepare noise action plans every five years for major airports (defined as having more than 50,000 movements a year) or where airport noise affects noise agglomerations (a continuous area of at least 100,000 people).

The Aeroplane Noise Regulations 1999
These Regulations provide noise certifications standards for propeller and jet aeroplanes registered in the UK. The certification standards reflect those passed down by ICAO.

The Airports (Noise-related Operating Restrictions) (England and Wales) Regulations 2018
These Regulations set out the competent authorities as defined with to regards other enabling legislation for setting noise-related operating restrictions in England and Wales. These Regulations provide further effect to the application of Regulation (EU) 598/2014 which

establishes rules and procedures with regard to the introduction of noise-related operating restrictions in line with the ICAO Balanced approach.

The Aviation Noise (Amendment) (EU Exit) Regulations 2019
These Regulations make amendments to the Aeroplane Noise Regulations 1999, the Air Navigation (Environmental Standards for Non-EASA Aircraft) Order 2008, and the Airports (Noise-related Operating Restrictions) (England and Wales) Regulations 2018 following EU Exit.

Full details of the range of aircraft operations related noise controls are set out in statutory notices and published in the UK Aeronautical Information Package and elsewhere as appropriate. These controls include aspects such as Continuous Descent Approaches (CDAs), noise abatement procedures and night flight limits.

Noise Policy Statement for England

The Noise Policy Statement for England sets out the long-term vision of Government noise policy: to *"Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development."*.

The aims of the policy are:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- *Avoid significant negative impacts on health and quality of life*
- *Mitigate and minimise negative impacts on health and quality of life*
- *Where possible, contribute to the improvement of health and quality of life*

Flightpath to the Future: a strategic framework for the aviation sector

'Flightpath to the Future' was published in 2022 and is a Department for Transport policy document that sets out a strategic framework for the aviation industry. The document does not update any of the polices but makes reference to Aviation 2050. It states:

"…the Government set out new policy proposals to tackle these localised impacts through the Aviation 2050 consultation (2018). These included a clearer noise policy framework alongside measures to incentivise best operational practice to reduce noise and measures to improve airport noise insulation schemes. As the sector recovers, and air travel volumes increase again, these aims remain very relevant and we will set out next steps in 2022/23."

Overarching Aviation Noise Policy

The Overarching Aviation Noise Policy is a policy paper which sets out the Government's overarching noise policy statement as reproduced below.

"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."

This policy takes into consideration the Aviation 2050 Green Paper, the 2020 consultation on night flight restrictions that apply to the London airports, and the Air Navigation Guidance 2017.

The policy statement acknowledges the need to "limit, and where possible reduce" as the appropriate wording for the policy with "*An overall reduction in total adverse effects". It notes that "...in the context of sustainable growth, an increase in total adverse effects may be offset by an increase in economic and consumer benefits*."

It continues to state that:

"In circumstances where there is an increase in total adverse effects, "limit" would mean to mitigate and minimise adverse effects, in line with the Noise Policy Statement for England."

The policy statement also notes the Government's view that:

"there is clear evidence of additional health impacts of night flights, it is also right that this should be recognised within overarching noise policy."

Airspace Modernisation

The CAA and the Department of Transport have developed a shared vision for the modernisation of UK airspace. That vision is to deliver quicker, quieter and cleaner journeys and more capacity for the benefit of those who use and are affected by UK airspace. This vision is set out in the CAA's Airspace Modernisation Strategy (AMS) which is based on four strategic objectives: safety, integration, simplification and environment.

The Government has provided guidance to the CAA on its environmental objective when carrying out its air navigation functions. This is set out in the Air Navigation Guidance 2017 (ANG17). The ANG17 also provides guidance and instructions to the CAA and the wider aviation industry on airspace and noise management. This includes the 'altitude-based priorities' which requires the CAA to apply a prioritised set of considerations where a change in airspace design has been requested. These priorities instruct the CAA that the Government's environmental priority is *"to limit and, where possible, reduce the total adverse effects on people"* with aircraft noise being the primary consideration to 4,000ft. The altitude priorities also confirm that aircraft noise should continue to be the priority to 7,000ft unless there is evidence to indicate that there would be a disproportionate increase in CO_2 emissions. The ANG17 also sets out the requirement to consider other interdependent environmental considerations, such as air quality, biodiversity and tranquility.

CAP1616 is a CAA document which explains the regulatory process to change current airspace. It incorporates the policies and metrics set out by the Government in the ANG17. It is a seven stage process which includes developing and assessing airspace change options, engagement with stakeholders, consultation requirements and the decision process. Any airspace change must follow this process, which fully evaluates the impacts of different design options from a safety, operational, economic and environmental perspective.

LBA has a requirement under the Airspace Modernisation Strategy (AMS), to update the airspace and associated air traffic route structure, comprising of Standard Instrument Departures (SIDs), transitions and instrument approach procedures. Coupled with the requirements of the AMS, the Gamston VHF Omni-directional Range (VOR) Beacon is being removed as part of the NATS rationalisation program. Once this is removed, the instrument flight procedures will no longer be usable. The redesign of the LBA airspace will allow the airport to address local airspace issues and aid the implementation of satellite-based navigation standards.

LBA began the CAP1616 process in September 2021 and is expected to be completed (if approved) by 2027. The CAP1616 process may include a change to the existing NPR's. Whilst LBA is not seeking a change to the NPR's, the CAP1616 process, including a full public consultation, may determine that a change to the NPR's is the preferred option.

LOCAL REGULATION

Planning Conditions

LBA operates on a 24-hour basis. A comprehensive night time noise regime and associated monitoring procedures were put in place through planning permission 29/114/93FU (dated 19th January 1994). LBA continues to operate consistently with this regime, as described in Section 5.

5 NOISE MANAGEMENT AT LEEDS BRADFORD AIRPORT

LBA is an important economic generator, contributing significant sums to the local economy and supporting hundreds of jobs. The wider benefits include the facilitation of tourism and increased trade from business connectivity.

Noise from airport operations, however, is an inevitable consequence of today's modern and vibrant society. Society enjoys the benefit from air travel and therefore a fair balance needs to be struck between the negative impacts of noise (on health, amenity and productivity) and the positive social and economic impacts of flights.

The management and mitigation of this noise has been a long standing commitment of LBA and we have statutory responsibilities, to monitor, manage and mitigate the noise from our operations.

Over the past 40 years, LBA has introduced various initiatives and procedures (some of which being voluntary) to mitigate aircraft noise. Some of these schemes were introduced through conditions attached to previous and historical planning consents, which include the runway extension (planning ref: H28/22/82) in 1982 and introduction of 24 hour availability (planning ref: 29/114/93/FU) in 1994.

Noise Insulation Grant Schemes

LBA has historically offered two noise insulation grant schemes. The first scheme was associated with the runway extension in 1982 and a further scheme was offered in 1994 associated with 24 hour operations, particularly to address night-time noise. Both these schemes are now closed. There has been no significant airport developments or changes to

operations (to impact upon noise exposure) since 1994 and therefore no schemes are running currently.

Noise Preferential Routes (NPRs)

Noise Preferential Routes (NPRs) are in force to ensure that, wherever possible, departing jet aircraft fly over the least populated areas. All departing jet aircraft are required to follow the NPRs, the only exceptions being for safety or operational reasons, such as the avoidance of adverse weather.

It is important to note, there are no established NPRs for arriving aircraft. As aircraft take off and land into wind, the runway used depends upon the prevailing wind direction. The preferential runway at LBA is Runway 32 (towards the northwest), as this route takes departing aircraft over the least amount of properties. The prevailing winds are largely from the west and therefore Runway 32 is used approximately 60-70% of the time.

The introduction of satellite-based navigation in the near future will allow the accurancy and compliance with the NPR to improve.

A plan of the NPRs at LBA is included in ***Appendix C***.

Noise Monitoring

There are four fixed noise monitors installed at the airport to monitor aircraft noise; two at each end of the runway. Target Noise Levels (TNLs) are set for both daytime and night-time noise, shown in **Table 1** below.

Table 1: LBA Target Noise Levels

Runway	Daytime TNL (0700 to 2300 local)	Night-Time TNL (2300 to 0700 local)
14 (Departures)	92 dBA	84 dBA
32 (Departures)	85 dBA	77 dBA
32 (Arrivals)	85 dBA	79 dBA

LBA works in partnership with Leeds City Council in continuous noise monitoring around the airport. In addition to the four fixed noise monitors, mobile monitoring stations are also set up. Certain monitors are specifically set up to monitor night-time noise. Two additional mobile noise monitors have been deployed in the local community for openness and transparency.

LBA invested in a new noise and track monitoring System (NTMS) and associated infrastructure in 2014. The NTMS provides a valuable noise management and complaint handling functions. There have been various upgrades and improvements to this system since the initial installation and more features are proposed as the airport develops.

Quota Count (QC) and Maximum Jet Aircraft Movements

All aircraft types have a noise certificate, which is determined separately for take-off and landing. A classification is given using the Quota Count (QC) system, with noisier aircraft carrying a higher QC classification. At LBA, the only aircraft permitted to operate during our designated night-time period (2300hrs – 0700hrs) are those aircraft which have a QC of less than 1.0 on departure and a QC of 1.0 or below for arrivals. See **Table 2** below.

In addition to the QC restrictions, the conditions set limits on the absolute number of night-time aircraft movements by specific aircraft types permitted in any season. These limits currently stand at 2,800 for Summer[1] and 1,200 for Winter[2]. Certain aircraft movements are exempt as well as certain delayed flights and emergency landings and are not counted against the limits on night-time movements.

Table 2: Noise Quota Count System operating at LBA

EPNdB	dB(A)	Quota Count
<87	<74	Exempt
87 - 89.9	74 – 76.9	0.5
90 - 92.9	77 – 79.9	1
93 - 95.9	80 – 82.9	2
96 - 98.9	83 – 85.9	4
99 - 101.9	86 – 88.9	8
>101.9	>90	16

Ground Engine Running

LBA is responsible for ensuring the safe ground running of aircraft engines on the aerodrome and the control of any resulting blast, fumes and ground noise.

Due to the environmental impact of ground engine running, particularly at night, this is strictly controlled at LBA and the number of ground running operations kept to an absolute minimum, as detailed below.

Table 3: Periods where engine ground running times are not normally permitted.

Engine ground runs will not normally be permitted within the following periods :-	
Weekdays	Between 2300-0700 hours local
Saturdays, Sundays and Public Holidays	Between 2300-0700 hours local
Armistice Day	No engine running permitted between 1055 – 1105 hours local.

Helicopters and Training Flights

Restrictions regarding helicopter operations and training flights are both detailed in the Aeronautical Information Publication (AIP) for LBA. Full details of these restrictions is available in the AIP at *https://www.aurora.nats.co.uk/htmlAIP/Publications/2023-08-10-AIRAC/html/index-en-GB.html*

Complaint Management

All noise related complaints are recorded, fully investigated with a response provided in a timely manner. All complaints are managed through a noise complaints dashboard, which is

[1] The Summer Season is defined by the period of British Summer Time in any one year as fixed by or under the Summer Time Act.

[2] The Winter Season is defined by the end of British Summer Time in one year and the start of British Summer Time in the next.

an added feature within the NTMS. This provides a mapping facility, which is a useful tool to highlight any potential issues and/or trends within a particular area.

Noise complaints can be reported to LBA by completing a noise compliants form on our website: Noise Complaint Form or via a 24-hour telephone on 0113 391 1625.

Consultative Committee

Members of LBA's Consultative Committee are kept up to date with regards to noise management with a regular item on the agenda in terms of reporting noise statistics with constructive discussion with Members around this both inside and outside of the meetings.

Sustainable Aviation

LBA is a signatory of Sustainable Aviation (SA), which is an alliance of the UK's airlines, airports, aerospace manufacturers and air navigation service providers. SA is focussed on delivering a long-term strategy to deliver cleaner, quieter and smarter flying.

We fully endorse Sustainable Aviation's 'Noise Road-Map'. This document sets out the aviation industry's expert view of how UK aviation can continue to develop sustainably. The document covers what can realistically be achieved between now and 2050. The 'Noise Road-Map' prioritises four areas of work:

- Aircraft and engine technology
- Operational improvements
- Land use planning
- Noise communication and community engagement

SA have also prepared a similar 'Road-Map' document relating to CO_2 emissions. Further details of SA's Noise and CO_2 'Road-maps' can be found at:
http://www.sustainableaviation.co.uk

General

LBA employs a full time Sustainability Manager with additional support from a newly appointed Environmental Co-ordinator, to proactively manage any environmental issues affecting the airport. The Sustainability Manager works closely with local residents, community groups and officers of Local Authorities to ensure any noise issues are identified as quickly as possible and appropriate action is taken to mitigate any impacts. LBA's Sustainability Manager also holds a Diploma in Acoustics and Noise Control, awarded by the Institute of Acoustics (IOA).

The noise management defined in this section will be kept under review with respect to changes in Government policy and any future development.

6 RESULTS OF NOISE MAPPING

Noise contour mapping for five metrics (L_{day}, $L_{evening}$, L_{night}, L_{den} and $L_{Aeq,16hr}$) as required by the Regulations has been produced by Defra, which illustrate the situation in terms of air traffic movements in the 2021 calendar year. These strategic noise maps are provided in **Appendix D.**

Based on the 2021 strategic noise mapping results, estimated population and dwelling exposure statistics for each of the five noise metrics are detailed below. This assessment was

carried out by Defra utilising a strategic residential population location dataset. For comparison purposes, the data from previous rounds has also been included.

Population and dwelling counts have been rounded as follows:

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

Table 4: Estimated total number of people and dwellings above various noise levels, L_{day}.

	2006		2011		2016		2021	
Noise Level dB(A)	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**
≥ 54	3,450	7,900	3,800	8,000	6,700	13,500	500	1,100
≥ 57	900	2,200	1,100	2,400	1,950	4,200	100	300
≥ 60	200	600	300	600	450	1,100	<50	<100
≥ 63	<50	<100	<100	<100	100	300	0	0
≥ 66	0	0	0	0	<50	<100	0	0
≥ 69	0	0	0	0	0	0	0	0

Table 5: Estimated total number of people and dwellings above various noise levels, $L_{evening}$.

	2006		2011		2016		2021	
Noise Level dB(A)	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**
≥ 54	2,050	4,600	1,500	3,100	3,950	8,000	100	300
≥ 57	550	1,400	500	1,100	950	2,100	0	0
≥ 60	100	300	100	300	250	600	0	0
≥ 63	0	0	0	0	50	200	0	0
≥ 66	0	0	0	0	0	0	0	0
≥ 69	0	0	0	0	0	0	0	0

Table 6: Estimated total number of people and dwellings above various noise levels, L_{night}.

	2006		2011		2016		2021	
Noise Level dB(A)	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**
≥ 48	800	2,000	2,900	6,200	5,650	11,400	450	900
≥ 51	150	500	900	1,900	1,500	3,400	100	200
≥ 54	<50	<100	200	500	300	800	<50	<100
≥ 57	0	0	<100	<100	50	200	0	0
≥ 60	0	0	0	0	<50	<100	0	0
≥ 63	0	0	0	0	0	0	0	0
≥ 66	0	0	0	0	0	0	0	0

Table 7: Estimated total number of people and dwellings above various noise levels, L_{den}.

	2006		2011		2016		2021	
Noise Level dB(A)	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**
≥ 55	3,800	8,400	5,300	10,900	9,450	18,800	800	1,700
≥ 60	400	1,000	700	1,500	1,299	2,700	<50	<100
≥ 65	0	0	<100	<100	150	300	0	0
≥ 70	0	0	0	0	0	0	0	0
≥ 75	0	0	0	0	0	0	0	0

Table 8: Estimated total number of people and dwellings above various noise levels, $L_{eq(16hour)}$

	2006		2011		2016		2021	
Noise Level dB(A)	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**	**Number of dwellings**	**Number of People**
≥ 54	3,000	6,800	3,100	6,500	5,650	11,500	350	700
≥ 57	800	2,000	900	2,000	1,650	3,600	50	100
≥ 60	200	500	200	500	400	900	0	0
≥ 63	<50	<100	<100	<100	100	300	0	0
≥ 66	0	0	0	0	<50	<100	0	0
≥ 69	0	0	0	0	0	0	0	0

7 COMPARISON WITH PREVIOUS ROUNDS

Under the Regulations, there is no requirement to compare results from one round to another. The data in Tables 4 – 8 does however show that over the period 2006 to 2016 that population exposure to aircraft noise was increasing. This increased noise exposure was likely a result of changes to aircraft fleet mix, changes to the modelling and the consequential effect of noise contours increasing in size to capture more densily populated areas to the east. It is also likely that changes in modal split (i.e. the proportion of time the airport is operating in either a westerly or easterly direction which changes year to year) will have also influenced this.

The results of the noise mapping for 2021 are influenced by Covid travel restrictions. As such the results of the 2021 mapping show a highly anomalous situation. For context, total Air Transport Movements for LBA in 2016 were 32,196. In 2021, there were only 9,102 movements. In 2022, total ATMs were 26,850 and it is expected that movements in 2023 and 2024 will be approaching the numbers that occurred before the pandemic in 2019.

For these reasons, the noise contours and results of the mapping for 2016 are considered to be the best representation of the current noise situation at LBA.

Since the first round in 2006 and the latest round of mapping in 2021, it is estimated that there has been a reduction of around 2,100 in the number of people affected above 55 dB L_{den}, and 1,100 people above 48 dB L_{night}. When compared to the third round of mapping based on operations in 2016, the latest round of mapping indicates a reduction of around 17,100 people impacted above 55 dB L_{den} and 10,500 impacted above 48 dB L_{night}. However, for the reasons outlined above, this level of reduction is based on a highly anomalous situation for 2021. For this reason, LBA has committed to publishing 2023 noise exposure contours as an addendum to this NAP in 2024. This is captured in Action 21. From this action, an updated comparison against the third round of noise mapping in 2023 will be provided as part of the addendum.

The actions set out in Section 9 have been allocated, where appropriate, with performance indicators. These intend to track noise performance and outcomes over the timeframe of the NAP. All actions seek to improve the aircraft noise in the context of the Government's policy objective.

8 PROVISIONS ENVISAGED FOR EVALUATING IMPLEMENTATION

In our third round noise action plan, LBA set a number of performance indicators to help us to monitor the effectiveness of the actions we are taking. These performance indicators and the actions were mainly carried over from the first round noise action plan. We propose to retain all of the actions and performance indicators from our third round action plan.

For this fourth round action plan, a number of new actions are proposed, including the introduction of public access to the noise and tracking system for greater transparency.

Our actions and performance indicators are presented in **Section 9**. We have included details of our progress against each action since our first plan.

We will use the information from the performance indicators to ensure that the measures we take will have the maximum benefit in terms of reducing noise impact.

At this time, we estimate no reduction in the number of affected as a result of new, revised or retained actions compared to the third round of mapping (2016) as set out in Tables 4 – 8. This is due to LBA being unable to fully evaluate changes in noise during our previous noise action plan as a result of the Covid-19 pandemic along with potential changes due to development projects forming part of our new masterplan as set out in **Section 10**. LBA is however committed to providing greater transparency over its noise impacts and how they may change. This will commence with annual noise reports as per Action 21 which will provide noise exposure data for 2023 as an addendum to this NAP. This will allow LBA to fully evaluate the number of people affected during the previous NAP. This will also consider an informed forecast on the numbers of people affected due to the actions and developments which may occur over the period of this plan.

The performance against these indicators will be regularly reviewed internally through internal auditing procedures and reporting. We will also inform the LBA Consultative Committee of our progress, and will continue to produce reports. Additionally, we will endeavour to provide improved noise data and any information relating to the progress of this plan, which we will make publicly available on our website.

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9 ACTION PLAN

	Action	Impact	Timescale	Performance Indicator	Approx Estimate Number of people affected by the action	Progress	Status
1	We will continue to monitor and manage current and future aircraft currently using LBA	Current and future aircraft using LBA	Ongoing.	Noise contours. Runway Usage data.	Population exposed to all levels of exposure (including from 55 dB L_{den} and 50 dB L_{night})	Continual monitoring via the Noise and Track Monitoring System (NTMS)	Ongoing
2	We will develop and work with appropriate bodies towards introducing continuous descent approaches (CDA)	Aircraft arrivals	Ongoing	Number of CDAs	Population in areas dominated by arrival noise.	LBA's Airspace Change Proposal under CAP 1616 will facilitate more CDAs, if approved.	Ongoing
4	We will work with the CAA and other bodies to develop and where practicably possible introduce noise reduced flight procedures and operation of aircraft causing least disturbance to surrounding areas.	Current and future aircraft using LBA and the surrounding region.	Ongoing	Introduction of new flight procedures where practicably possible.	Population exposed to all levels of exposure (including from 55 dB L_{den} and 50 dB L_{night})	NTMS continues to be reviewed on a regular basis to address any potential or foreseeable issues.	Ongoing
5	Comply where possible and adhere to the AIP (Aeronautical Information Publication).	Current and future aircraft using LBA and the surrounding region.	Ongoing	Number of infringements.	Number of those wanting to raise concerns.	NTMS continues to be reviewed to ensure adherence to the AIP	Ongoing
6	Encourage continual operation of all aircraft to operate in such away that noise levels at relevant monitoring points don't exceed the TNLs.	Current and future aircraft using LBA and surrounding region.	Ongoing	Number of infringements.	Number of those wanting to raise concerns.	We have reported and continue to report the number of infringements to our consultative committee. These reports are available on our website	Ongoing

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	Action	Impact	Timescale	Performance Indicator	Approx Estimate Number of people affected by the action	Progress	Status
7	Operation of aircraft during the night time period will continue to be restricted as set out by planning requirements.	Current and future aircraft using LBA and surrounding region.	Ongoing	Number of infringements.	Number of those wanting to raise concerns.	In 2020, LBA submitted a planning application in respect of the re-designation of the night-time quota period to 2330-0600 hours, under planning application (20/02559/FU). However, this was subsequently withdrawn by LBA (on 11th March 2022). Therefore, the existing restrictions will remain in place and there are currently no active plans to change this.	Ongoing
9	No continual running of aircraft engines permitted between the night time quota period and is subject to ATC (Air Traffic Control) permission at all other times.	Current and future aircraft using LBA and surrounding region.	Ongoing	Log recorded by ATC (Air Traffic Control).	Number of those wanting to raise concerns.	We continue to closely monitor engine runs to ensure these are carried out in compliance with our noise restrictions.	Ongoing
10	We will wherever possible minimise non-aircraft generated noise.	Fixed and mobile on site equipment	Ongoing	Number of complaints	Number of those wanting to raise concerns.	Noise has been considered during overnight runway repair works with mitigation measures put in place if necessary. We have not received any complaints regarding non-aircraft generated noise.	Ongoing
11	Manage running time of Ground power units / Auxiliary power units	Fixed and mobile on site equipment	Ongoing		Population within 1km of the airport boundary	**New Action** We are proposing to install Fixed Ground Power (FGP) on eight aircraft stands, which will reduce the number of ground power units required and will reduce noise from	Ongoing

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	Action	Impact	Timescale	Performance Indicator	Approx Estimate Number of people affected by the action	Progress	Status
						ground operations. This action also has wider environmental benefits, including reduced carbon emissions and improved air quality. *ICAO Balanced Approach: Reduction of noise at source*	
12	The aims set out in this Action Plan will work along side the noise mitigation measures set out in our masterplan.	Surrounding region.	Ongoing	Masterplan publication	Interested Parties	Our next Masterplan publication is currently in the process of being produced and is anticipated to be published by mid 2024.	Ongoing
15	All compliments and complaints received, as appropriate, will be logged and reported to the airport's Consultative Committee	Community and interested parties. Increasing trust, relationships and understanding.	Bi-annually	Number of compliants/compliments logged.	Interested parties.	We openly communicate noise complaint statistics for discussion at the ACC meetings.	Ongoing
18	Publish annual progress in relation to the action plan and communicate through the Consultative Committee.	Community and interested parties. Increasing trust, relationships and understanding.	Ongoing	Minutes of ACC meetings.	Interested parties.	Aircraft noise, track keeping and any other relevant information is added to the ACC meeting agenda as and when is required.	Ongoing
19	We will continue to work with the Local Authorities to ensure that planning conditions are adhered to.	Community and interested parties. Increasing trust, relationships and understanding.	Ongoing	Number of infringements	All levels of exposure (including 55 dB L_{den} and 50 dB L_{night})	We continue to provide data to Leeds City Council as required under our planning agreements.	Ongoing
20	Noise monitoring will continue to operate at locations around the airport.	Community and interested parties. Increasing trust,	Ongoing	Noise Monitoring Results	Community surrounding the airports catchment area.	In addition to our four fixed noise monitors, we have collaborated with Leeds City Council to install a further two mobile noise monitors, at	Ongoing

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	Action	Impact	Timescale	Performance Indicator	Approx Estimate Number of people affected by the action	Progress	Status
		relationships and understanding.				opposite ends of the runway; one in Burley-in-Wharfedale and one in West Park. **New Action** We will purchase an additional mobile noise monitor, which can be used to address specific noise concerns in the local community.	
21	We will publish noise contours periodically.	Community and interested parties. Increasing trust, relationships and understanding.	Every 5 years	Noise mapping data	Interested parties.	We have complied with the Regulations and will continue to do so as required, to publish noise mapping every 5 years. **New Action** We will work towards increasing the frequency of noise mapping to annually and will aim to publish noise contour mapping in 2024, based on 2023 movement data, as an addendum to this NAP.	Ongoing
22	At corporate level participate with appropriate groups to discuss current and future policies, legislation and regulations.	Community and interested parties. Increasing trust, relationships and understanding.	Ongoing	Minutes of meetings / consultations responses.	Interested parties.	Airport senior management continue to participate in discussions and respond to consultations to influence aviation policy.	Ongoing
24	Continue to use where practicably possible the current NPR (Noise Preferential Route).	Surrounding region.	Ongoing	Track Keeping Data	Community surrounding the airport's catchment area	We continue to work with all airline operators at LBA to ensure we maintain good track keeping performance.	Ongoing

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	Action	Impact	Timescale	Performance Indicator	Approx Estimate Number of people affected by the action	Progress	Status
						Typically compliance with the NPR is >95% on-track. The introduction of satellite-based navigation once approved by the CAA will likely improve compliance with the NPR.	
25	Continue to engage positively with the local community and local interest groups.	Community and interested parties. Increasing trust, relationships and understanding.	Ongoing	Minutes of meetings.	Interested Parties.	Senior management have engaged with local neighbourhood forums and committees and will continue to do so.	Ongoing
26	As part of requirements set by the DfT Airspace Modernisation Strategy, LBA will be completing an ACP in line with the requirements in CAP1616. This will include studies on new aircraft holding facilities, Standard Instrument Departures that de-conflict arrivals and departures allowing more efficient climb and decent profiles and the realignment of NPRs, where public consultation and stakeholder engagement concludes is the preferred option.	Surrounding region.	Ongoing	Track Keeping	Population within the NPR (Noise Preferential Route).	LBA began the CAP1616 process in September 2021 and is expected to be completed (if approved) by 2027. Current progress in respect of our airspace change, under the CAP 1616 process can be found here: LBA Airspace Change	Process continues under CAP 1616

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	Action	Impact	Timescale	Performance Indicator	Approx Estimate Number of people affected by the action	Progress	Status
27	We will explore all options available to us to minimise the disturbance from light aircraft operations.	Surrounding region	Ongoing	Number of complaints logged.	Community surrounding the airports catchment area.	Complaints in relation to light aircraft operations have continued to remain low.	Ongoing
28	Noise management will be kept under review with respect to changes in Government policy and any future development.	Surronding region	Ongoing	Assess and Review	Community surrounding the airports catchment area	Ongoing	Ongoing
29	Undertake a review on the use of reverse thrust on landing to understand how this can be reduced without impacting on safety.	Surrounding region	Ongoing	Number of aircraft using reverse thrust on landing	Community surrounding the airport's catchment area.	**New Action** *ICAO balanced approach: Noise abatement operating procedures*	**New Action**
30	We will work to provide a publicly available noise and flight tracking website, for complete transparency and openness in terms of compliance with our noise restrictions	Community and interested parties. Increasing trust, relationships and understanding	By end of 2024	Number accessing the public access website	Community surrounding the airport's catchment area	**New Action**	**New Action**
31	Favourable landing fees will be introduced for the quietest and most fuel efficient aircraft to encourage airlines to operate the most modern fleets out of LBA.	Surrounding region	By end of 2023	Publication of charges	Community surrounding the airport's catchment area.	**New Action** *ICAO balanced approach: Reduction of noise at source*	**New Action**
32	Work with the airline operators to introduce procedures to delay the deployment of the landing	Surrounding region	By end of 2024	Number, of airlines utilising delayed landing gear procedures, as confirmed as part of their	Population in areas dominated by arrival noise.	**New Action** *ICAO balanced approach:*	**New Action**

	Action	Impact	Timescale	Performance Indicator	Approx Estimate Number of people affected by the action	Progress	Status
	gear (which is proven to reduce airframe noise for aircraft arrivals) and make this standard practice for all operators.			Standard Operating Procedures.		*Noise abatement operating procedures*	
33	Investigate an appropriate target and/or set of targets related to noise impacts over the next 5 year cycle	Surrounding region	To be included in the next NAP	Noise contour and population exposure data	Community surrounding the airport's catchment area.	**New Action**	**New Action**

9.1 Completed Actions

	Action	Impact	Timescale	Performance Indicator	Approx Estimate Number of people affected by the action	Progress	Status
13	We will introduce a phone number where enquiries, compliments and complaints can be logged.	Community and interested parties. Increasing trust, relationships and understanding.	Ongoing	Number of complaints/compliments logged.	Number of those wanting to make comments.	**Completed**	Continue to provide
14	An aircraft noise compliments and complaints form will continue to be available on line through LBA website. A service feedback form will also be made available.	Community and interested parties. Increasing trust, relationships and understanding.	Ongoing	Number of complaints/compliments logged.	Number of those wanting to make comments.	**Completed**	Continue to provide
16	All noise complaints will be responded to within 21 working days.	Community and interested parties. Increasing trust,	Ongoing	Response rate tracker.	Those who complain and make enquiries to LBA.	**Completed**	Continue to respond within the timeframe

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		relationships and understanding.				***All complaints and enquiries have been responded to within 21 working days.***	
17	Review and make improvements to the LBA website and all communication material currently available to ensure accuracy and ease of understanding.	Community and interested parties. Increasing trust, relationships and understanding.	Ongoing	Evidence of communications on website	Interested parties.	**Completed** ***A FAQ's section is available on our website at https://www.leedsbradfordairport.co.uk/about-the-airport/airport-noise along with other environmental information. This information is reviewed and updated on a regular basis.***	Review and update Annually
3	We will review and evaluate the process for fining aircraft who exceed the TNL during the night time period.	Current and future aircraft using LBA	Annually	Number of infringements.	All levels of exposure (including 55 dB L_{den} and 50 dB L_{night})	**Completed** **Penalty scheme in force from 1st April 2023. Includes penalty for exceeding TNL both day and night and/or non-compliance with the NPR.** **Full details of scheme available in LBA's Conditions of Use for Aircraft Operators and Charges Schedule** **All penalties collected will be put towards projects that benefit neighbouring communities.**	Continue with regular review

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9.2 Actions Removed since First Round

Three actions have been removed from the first round noise action plan, as outlined below.

Action		Impact	Timescale	Performance Indicator	Approx Estimate Number of people affected by the action	Reason for Removal
8	Review the penalty procedures for airlines whose aircraft are persistently off-track (using a sliding scale based on a percentage of movements per airline off-track)	Current and future aircraft using LBA and surrounding re-gion.	Annually	Number of infringements	Number of those wanting to raise concerns.	Covered under Action number 3, which is now completed.
23	Continue to apply mitigation measures when carrying out any current and future maintenance and development within the airport boundary.	Surrounding region	Ongoing	Monitor, assess, review and report	Interested parties	Covered under Action number 10

10 LONG TERM STRATEGY

LBA is projected to grow to 7mppa by 2030. To cater for this growth in passenger numbers the current terminal will be expanded and renovated with the development due to take place between Q3 of 2023 and Q2 of 2026. To complement this, there will be a proportionate increase in aircraft stands, airside ground handling and fuel farm facilities. There are also detailed discussion taking place with the West Yorkshire Combined Authority and Leeds City Council on the provision of a parkway rail station to address sustainable surface access to the airport. Additionally, the airport is looking to deliver a hotel providing overnight accommodation for passengers coming from further afield, self-generation of power requirements via the installation of solar panels, a car park extension programme and major improvements to the runway.

These development projects are to be documented in a new masterplan set to be published by the mid of 2024.

Our long term strategy has regard to our environmental objective to '*Minimise as far as reasonably practicable, the effects and disturbance of noise from aircraft and airport operations*' and will reflect the International Civil Aviation Organisation's balanced approach for noise management.

11 CONSULTATION RESPONSES

This updated NAP was presented to members of LBA's Consultative Committee for comment. Below is a summary of the responses received.

A total of three responses were received by the airport from:

- LBA Consultative Committee member, Cllr Colin Campbell on behalf of Otley Town Council and Yeadon end of runway; and
- North West Leeds Transport Forum, representing residents associations in North West Leeds.
- Bramhope and Carlton Parish Council

11.1 Comments from Cllr Colin Campbell

As the elected representatives of Otley and Yeadon you will appreciate we regularly receive comments concerning aircraft noise. We appreciate that all aircraft make noise and that modern aircraft are "quieter" than their counterparts of twenty or thirty years ago. That said quieter and noisier are relative terms and all aircraft using the airport have a significant noise impact on the surrounding area.

Aircraft landing and taking off affects a significant number of residents of West and North Yorkshire. Whilst we appreciate the airport are proposing a number of measures to attempt to mitigate this we believe that these could be improved by introducing a more restrictive range of landing charges which penalises noisier aircraft. We understand that some airports already do this.

We are also concerned at the proposal to change the daytime/night time hours which, in effect starts the daytime an hour earlier and finishing half an hour later. We understand from your comments that this is the practice in other airports as it allows, particularly low cost airlines, to

maximise the number of rotations a plane can fly in a day. Having looked at this it is true that some airports do have a six o'clock start but this seems to be linked to a quiet period during the night when there are no take offs or landings, (so allowing residents a period of uninterupted sleep). At the moment the airport does not seem to be offering this as a way of off setting the impact of extra daytime flights. Indeed it seems that the airport wishes to retain the current night time quota but in a reduced period of time. We feel this would have a detrimental effect on the residents we represent and cannot be supported. We would urge you to look at this again

LBA Comment

LBA agrees that differential charging based on noise levels has potential to further minimise levels of aircraft noise. LBA will be addressing this during the period of the NAP under Action 31. In addition, LBA have introduced a noise penalty scheme for airlines that breach maximum permitted noise levels and/or noise preferential routes. All penalties issued under this scheme will be put into a community fund administered by the airport for the benefit of local communities.

LBA notes the concerns raised over a change to the night-period hours. There are currently no active plans to change the existing night-period operating restrictions or the night-period hours. The comments raised by Cllr Campbell appear to relate to changes that were proposed under Leeds City Council planning application 20/02559/FU which was withdrawn by LBA in March 2022. See the 'progress' comment in Action 7.

11.2 Comments from Leeds North West Transport Forum

We are concerned that it is not ambitious enough.

The Draft NAP notes that Government Policy as set out in the APF requires airports to seek to minimise the number of people affected by noise, particularly during the night time. We are concerned that LBA is not doing as much as it could to achieve this outcome, to have relevant targets or to monitor progress towards the goal.

Although safety must always be a prime concern, and although a degree of noise is an inevitable consequence of airport operations, the "balanced approach" does not remove the requirement on airports to make all reasonable efforts to reduce the number of people affected by aircraft noise. We do not believe that the Draft NAP gives sufficient attention to the achievement of this reduction nor to monitoring progress towards its achievement using an appropriate range of metrics.

We accept that statistics for 2021 are anomalous due to the pandemic but we do not understand why 2016 has been chosen as the best representation of the current situation. Surely figures for 2019 would have given a more accurate representation? Nevertheless, even using the 2016 figures it is clear from Tables 4-8 that the number of people affected by aircraft noise has increased substantially and that this increase has been most marked during the night time. The commentary suggests a major factor has been (changes in) runway usage and, noting that this can, to some extent, be influenced by LBA, we believe that runway usage should feature in the NAP.

LBA Comment

LBA notes that North West Leeds Transport Forum (NWLTF) is concerned that LBA is not ambitious enough in its plans to limit, and where possible reduce, aircraft noise. LBA believes

that the significant list of Actions included in the NAP will deliver material and measurable benefits for communities around the airport. Nonetheless, LBA takes on board the feedback will look for opportunities to accelerate and enhance the actions proposed.

LBA agrees that 2019 would provide a more accurate representation of the current situation than 2016. Unfortunately contour mapping is only required to be completed every five years and was therefore not performed in 2019. As indicated, in the absence of data from 2019, the data from 2016 is a better representation than 2021 due to the significant reduction in air transport movements in 2021. As a result LBA have included an additional action (See Action 21) in the NAP to voluntarily produce a new set of noise contours and publish as an addendum to this NAP.

Regarding the existing actions:

- The commentary on Action 7 and on Action 19 refer to night time operations and to planning conditions but make no mention of the fact that LBA has been operating night flights in breach of its planning conditions. This is a material fact which should surely be acknowledged within the commentary. We suggest that, to avoid a repetition, additional wording in Action 7 should commit LBA to careful monitoring of the number of night flights and the publication of these resulting statistics on a monthly basis. We further suggest that the wording of Action 7 should be revised to omit the reference to an intention to re-designate the period to which night time flying restrictions should apply. Such a re-designation would amount to a relaxation of night time flying restrictions and such an aspiration is entirely out of place in the context of a Noise Action Plan.

LBA Comment

LBA acknowledges the issuance of a Breach of Condition Notice (BCN) by Leeds City Council in relation to the number of night movements of aircraft during the summer period in 2022. As the NAP covers the period of 2024-2028 and as the BCN relates to aircraft movements, not noise limits, this is not considered as relevant to the preparation of the NAP.

Action 25 refers to positive engagement with the local community and indicates that the intended impact would be increased trust and understanding. We note that the performance indicator is "minutes of meetings" and suggest that this is a wholly inadequate indicator since so many of the affected local residents associations are excluded from those meetings!

LBA Comment

LBA notes that the Airport Consultative Committee (ACC) is a duly constituted consultatative body that operates in accordance with guidelines issued by the Department for Transport. The ACC is attended by airport management as well as key stakeholders in the local community, including representatives from neighbouring local authorities, parish councils, community associations, local residents and businesses. Membership and attendance at ACC meetings is at the discretion of the independent Chair. LBA notes that NWLTF applied for membership of the ACC and that the independent Chair determined that the communities NWLTF claims to represent were already represented by an elected representative from Leeds City Council. The minutes of all the ACC meetings are publicly available on the LBA website: https://www.leedsbradfordairport.co.uk/about-leeds-bradford-airport/our-responsibility/airport-consultative-committee

Regarding new actions:

- We welcome the intention (under Action 20) to purchase an additional monitor but point out that one additional unit will not meet the demand for additional data in heavily populated areas under the south eastern flight path.
- We welcome the intention (under Action 21) to increase the frequency of noise mapping.
- We welcome the intention (under Action 30) to improve public access to the Noise and Tracking data
- We welcome the intention (under Action 31) to use differentiated landing charges to incentivise use of quieter aircraft.
- We welcome the intention (under Action 32) to work with airlines to delay the deployment of landing gear but wonder why this cannot happen before the end of 2024.

Regarding additional actions which we think necessary:

- We are concerned that the Draft NAP does not indicate any ambition to reduce, or even limit, the number of people affected by aircraft noise. We believe that LBA should emulate its main rival airport (Manchester) in adopting a relevant target. We suggest a new Action encapsulating a 10% reduction in the exposed population over the period of the NAP would be reasonable (note that the target should refer to the number of people affected not to the square kilometrage covered by a given contour - although we do accept that adjustments would be needed to allow for new residential developments)
- It is accepted that a major factor in determining the number of people affected by aircraft noise around LBA is the direction of take off and landing. We note that a planning condition requires departures to be on RW 32 and landings to be on RW14 except when to do so would be unsafe. We understand that, when there is a significant amount of wind, it is generally safest to depart, and to arrive, into that wind, we also accept that cross winds and low cloud can be a particular concern when landing on RW14 and we understand that it is not safe to have an aircraft land on RW14 very shortly after one has departed on RW32. However, we do not believe that sufficient effort is being made to adhere to the principle that, whenever possible, departures should be on RW 32 and landings should be on RW14. We therefore propose the following as new Actions:

    - Air traffic Control and Airlines should be reminded of the requirement to depart on RW32 and to arrive on RW14 whenever it is safe to do so.
    - A log should be kept and published (say every 6 months) showing all arrivals and departures indicating the time, flight number, runway use, equipment type, wind direction, wind speed and cloud cover.
    - Analysis should be conducted and published (say every 6 months) identifying departures on RW14 and arrivals on RW32 which, given the then current conditions, could have safely used RW32 and RW14 respectively.

LBA Comment

LBA notes the suggestion of the adoption of published targets in relation to noise impacts of the airport and agrees that this would be a positive step forward. The design, measurement and implications of targets are complicated and need to be worked through carefully and diligently. LBA intends to investigate appropriate targets and measurements with a view to incorporating

such a target in the next NAP. As such, an additional action (Action 33) has been added to the action plan to develop these targets.

LBA notes the comments made by NWLTF in relation to runway use. The runway in use at any time is dictated by the prevailing weather conditions. LBA is not permitted to and does not select a runway for a particular benefit, for example, expedient reasons. Runway usage is monitored and reported at the ACC meetings.

LBA's noise abatement procedures, including preferential runway usage is detailed in Section 2.21 of the UK Aeronautical Information Publication (AIP) for Leeds Bradford, which can be found here - https://www.aurora.nats.co.uk/htmlAIP/Publications/2023-08-10-AIRAC/html/index-en-GB.html

The AIP contains details of regulations, procedures and other information pertinent to the operation of aircraft at LBA. All aerodomes have a respective AIP. These are kept up to date on a regular cycle and are essential information for air navigation.

- The Draft NAP does not specify any adjustment to the existing NPRs. However, the NPR for departures on RW 14 is unusually short and could benefit from an extension turning slightly south to follow a line of less dense development (on a heading toward Kirkstall Bridge). We suggest that an appropriate new Action would be to examine this suggestion by the end of 2024 and, if it proves feasible and beneficial, to adopt it before the end of 2025.

LBA Comment

Any changes to the flight paths are required to be addressed via an Airspace Change process. Please see action no. 26 for details.

Closing Comments:

The Draft NAP contains some factual errors. Most glaringly, the statement that "LBA continues to operate consistently with the night time noise regime" is, to put it mildly, somewhat misleading and the self-congratulatory description of LBA's efforts to engage with local communities struck us as being out of tune with our experience. More prosaically, the statement, on page 8, that the NPR for departures on RW32 is towards the Northeast is clearly wrong (it is towards the Northwest!).

We note, and accept, that a degree of noise disturbance is an inevitable consequence of airport operations and that national policy requires a balance to be struck between the amount of noise disturbance and the social and economic benefits which flow from the existence of a local airport. However, we believe that the net positive impact on the local economy is significantly lower than is generally assumed once allowance is made for the "export" of leisure-related expenditure and the deleterious impact that noise disturbance has on the health and productivity of the local workforce.

We are concerned that the outcomes proposed in the Draft NAP, even where they exist, cannot reasonably be considered to be challenging, objective or adequately quantified. In many cases they do not include the specific timescales required by Defra's guidance. Furthermore, because there has not been adequate consultation, they do not take account of the views of local communities, all also required by Defra's guidance.

We do not believe that the Draft NAP demonstrates compliance with the government's policy principles that "future growth in aviation should ensure that benefits are shared between the aviation industry and local communities" and that noise should reduce and be mitigated as airport capacity grows. There is no analysis of whether or how these principles have been achieved.

LBA Comment

LBA notes the closing comments raised by NWLTF. LBA recognises that the comments made by NWLTF are based on "belief" and opinion. LBA does not agree with the conclusions raised by NWLTF.

This NAP is a refresh and update of LBA's previously published NAP. There have been no significant airport developments or changes to airport operations since our initial plan, which was subject to a full public consultation. Given the legal requirement to use the 2021 air traffic movement data in this updated plan, coupled with no changes to our operations, we believe consulting with the ACC, which is literally the Airport Consultative Committee is appropriate consultation.

As part this updated plan, LBA have included an action to publish noise contours (based on the 2023 movement data) as an addendum to this NAP, as well as committing to producing noise contours on a more regular basis than the current five year cycle, which will assist in closely monitoring the impacts of the proposed actions in this plan.

11.3 Comments from Bramhope and Carlton Parish Council

Overall a comprehensive document providing the necessary context for the Action Plan, the overall strategy and the Action Plan itself.

As far as one can ascertain without being a specialist in the field, the Action Plan complies with regulatory standards and government aims, and embodies good practice.

We appreciate that this is necessarily a high level document, but it is difficult to identify in the Action Plan specific metrics and targets against which progress can be monitored and reported.

It may be that these measurements are provided in the more detailed reports provided to management and to the Airport Consultative Committee, and it is not appropriate to include them in what is a strategic plan looking forward 5 years.

The Action Plan includes a column "Performance Indicator" which defines the metric to be used but there is no further quantification. For example, Action 14 Aircraft Noise Complaints/ Compliments. One would expect that there would be a current figure as the base data against which progress can be measured.

The Action Plan includes a column "Approx. Estimate – Number of people affected by the action". The contents of this column are not numerical estimates but an indication of how these figures may be obtained.

Though it may not be appropriate to include detailed metrics and targets in the plan, we do suggest that in any case Section 8 *Provisions Envisaged for Evaluating Implementation* be expanded to provide more detail on the level and means of reporting:

a) internally within the airport management structure
b) to the Airport Consultative Committee
c) to the general public

LBA Comment

LBA notes the comments raised by Bramhope and Carlton Parish Council (BCPC). LBA agrees that measurement and reporting of metrics is an important element of delivering the NAP. LBA clarifies that the NAP lays out the key metrics and the means of measuring those metrics and the specific numbers are incorporated in reporting to airport management, the ACC and ultimately to the general public as envisaged by BCPC. LBA are reviewing measurement and reporting of environmental performance data, including noise related information and how this can be improved to provide progress on the implementation of this plan. LBA is committed to providing improved and transparent information, which will include public access to the noise and track monitoring system and publishing noise exposure contour information on a more regular basis.

Appendix A: Technical Glossary and Abbreviations

Agglomeration	An area having a population in excess of 100,000 persons and a population density equal to or greater than 500 people per km^2 and which is considered to be urbanised
AIP	Aeronautical Information Publication
ANASE	Attitudes to Noise from Aviation Sources in England
APU	Auxilliary Power Unit. A power unit located on the aircraft.
ATC	Air Traffic Control
ATM	Air Transport Movement
ATWP	Air Transport White Paper
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CDA	Continuous Descent Approach
dB(A)	A unit of sound pressure level, adjusted in accordance with the A weighting scale, which takes into account the increased sensitivity of the human ear at some frequencies
Decibel (dB)	The decibel (dB) is a logarithmic unit of measurement that expresses the magnitude of a physical quantity relative to a specified or implied reference level. Its logarithmic nature allows very large or very small ratios to be represented by a convenient number. Being a ratio, it is a dimensionless unit. Decibels are used for a wide variety of measurements including acoustics, and for audible sound A-weighted decibels (dBA) are commonly used.
DEFRA	Department for Environment Food and Rural Affairs (UK Government).
DfT	Department for Transport (UK Government).
EpndB	Effective perceived noise level. Its measurement involves analyses of the frequency spectra of noise events as well as the maximum level.
ERCD	Environmental Research and Consultancy Department of the Civil Aviation Authority.
ICAO	International Civil Aviation Organization.
ILS	Instrument Landing System.
$L_{Aeq,\ T}$	The A-weighted equivalent continuous sound pressure level which is a notional continuous level that, at a given position and over the defined time period, T, contains the same sound energy as the actual fluctuating sound that occurred at the given position over the same time period, T.
$L_{Aeq,16h}$	The A-weighted average sound level over the 16 hour period of 0700–2300, local time (for strategic noise mapping this is an annual average)
L_{day}	The A-weighted average sound level over the 12 hour day period of 0700–1900 hours, local time (for strategic noise mapping this is an annual average)
L_{den}	The A-weighted average sound level over the period 0000 – 2400, but with the evening values (1900 – 2300) weighted by the addition of 5 dB(A) and the night values (2300 – 0700) weighted by the addition of 10 dB(A).
$L_{evening}$	The A-weighted average sound level over the 4 hour evening period of 1900–2300 hours, local time (for strategic noise mapping this is an annual average)
L_{night}	The A-weighted average sound level over the 8 hour night period of 2300–0700 hours, local time (for strategic noise mapping this is an annual average)
NNI	Noise and Number Index. The noise exposure measure that preceded Leq.
Noise Contour	Map contour line indicating noise exposure in dB for the area that it encloses.

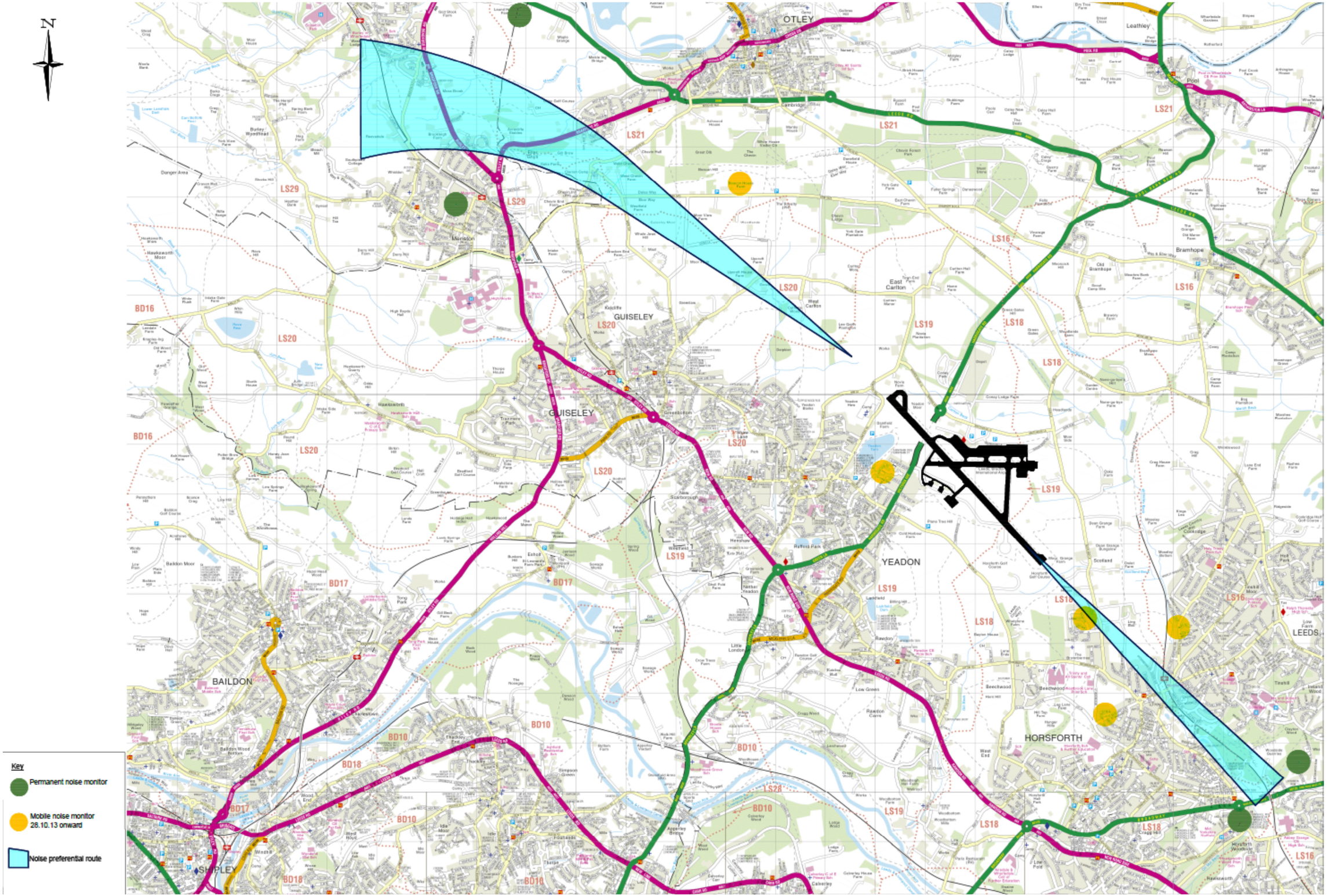
NATS	National Air Traffic Services
NPR	Noise Preferential Route.
QC	Quota Count - the basis of the London airports' Night Restrictions regime
SEL	Sound Exposure Level. The level generated by a single aircraft at the monitoring point. Takes account of the duration of the sound as well as its intensity. This is normalised to a 1 second burst of sound allowing comparison between different events of different durations.

Appendix B: Financial Information – Cost of Noise Management

Type	Description	Estimated Cost
Staff Costs, including external consultancy	External communications Noise &Track Keeping Noise measurement Reporting Compliance	£90,000
Equipment	Noise and Track Monitoring System Noise Monitors	£50,000

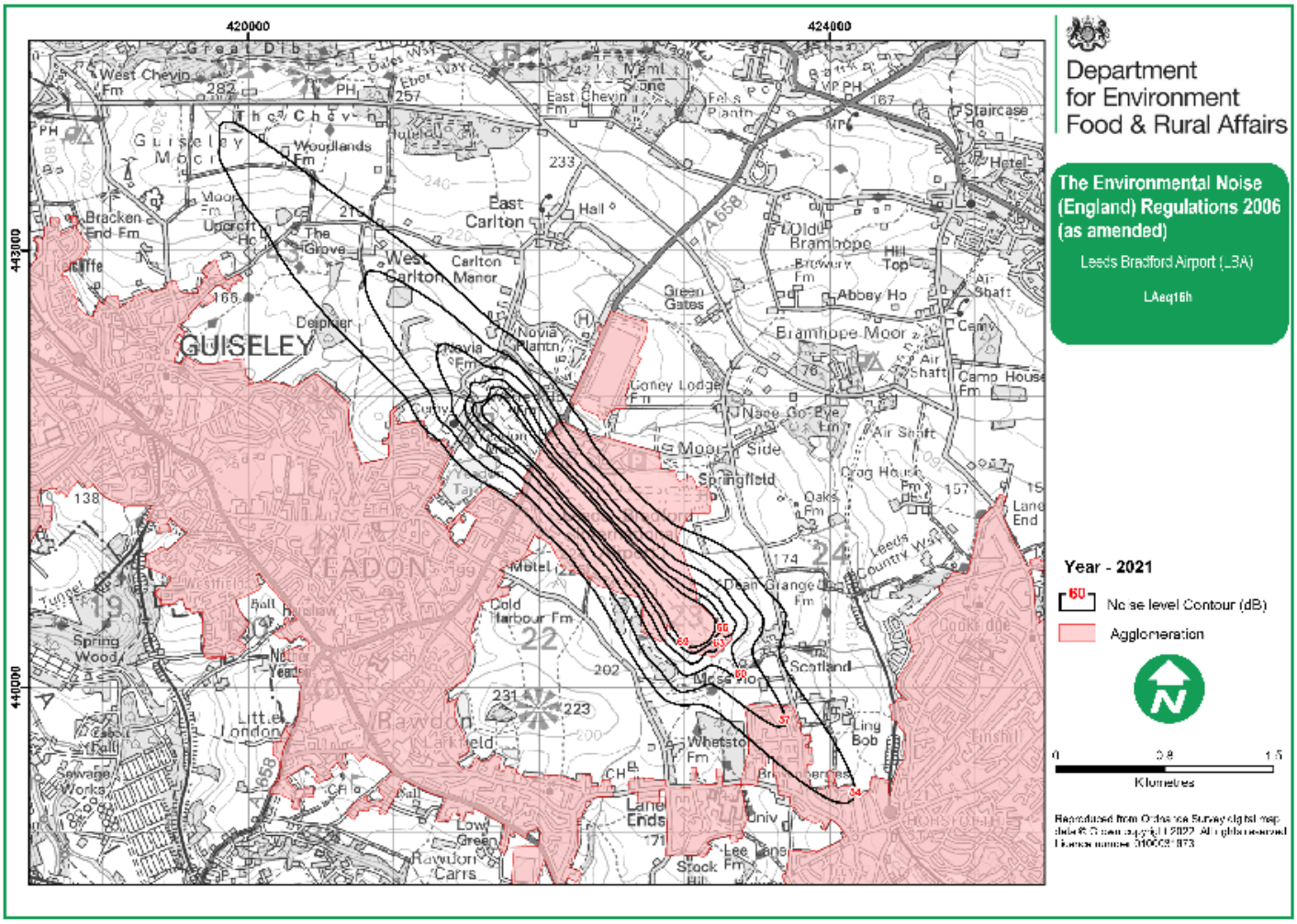
Appendix C – Noise Preferential Routes

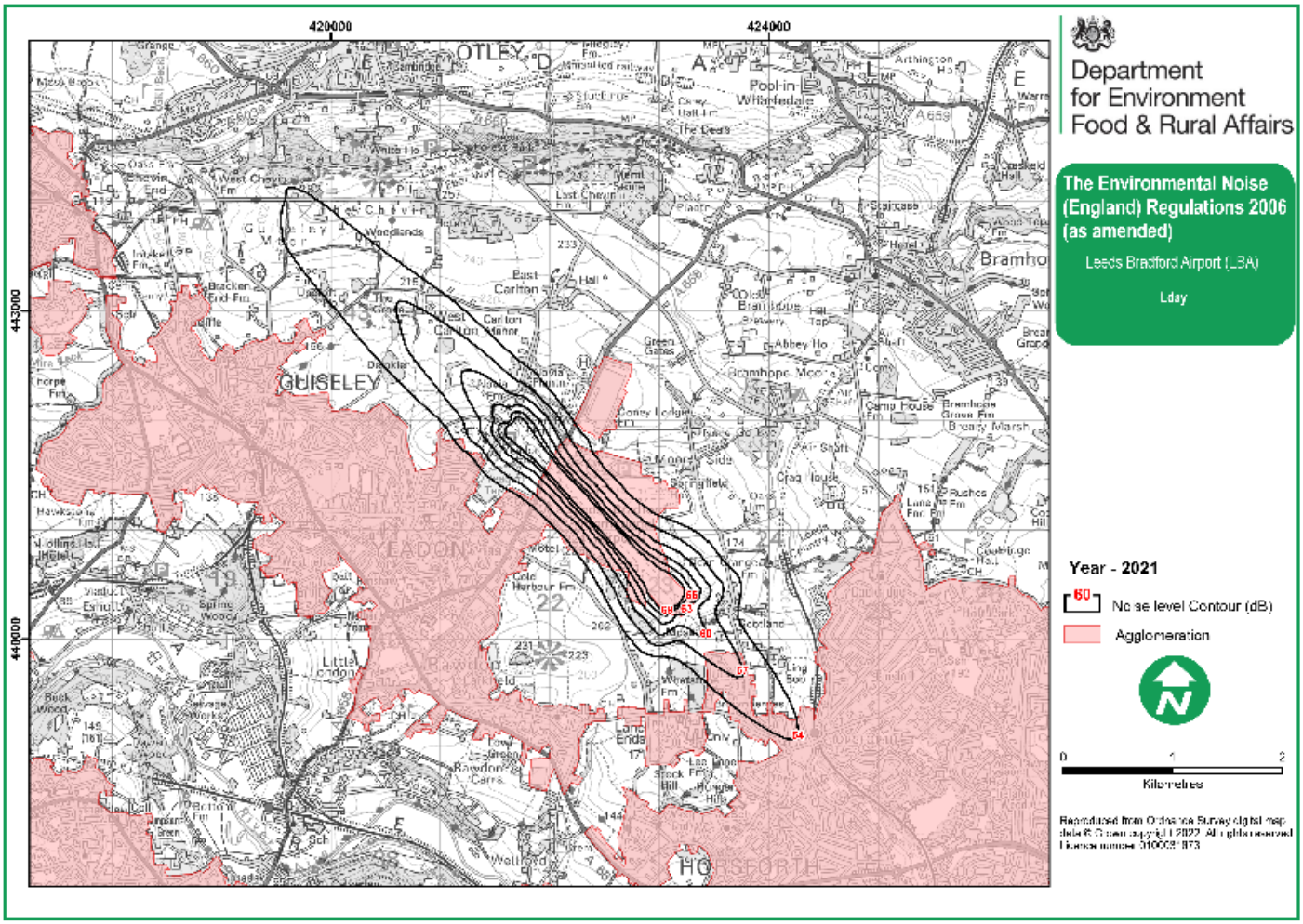
N

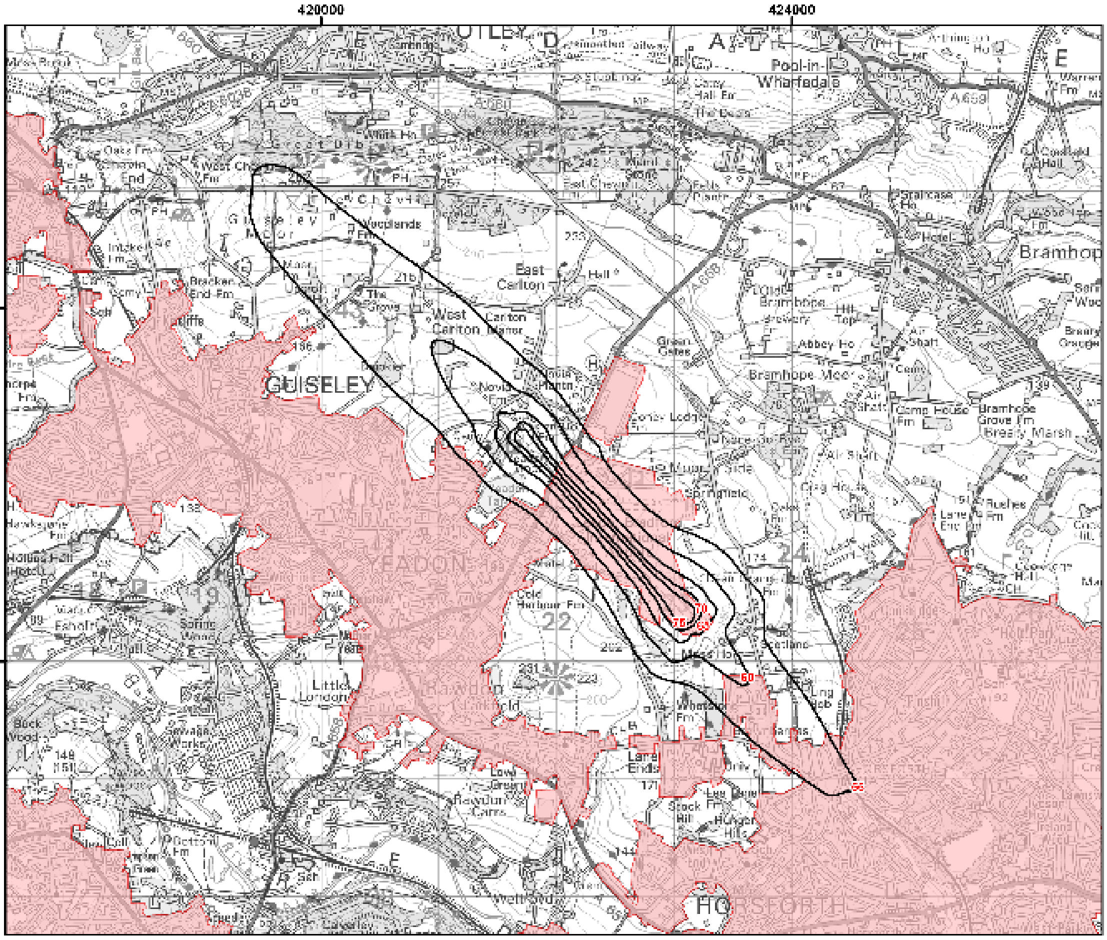

OTLEY
Leathley
Pool
Cambridge
LS21
Menston
LS29
Bramhope
LS16
East Carlton
West Carlton
LS20
GUISELEY
LS19
LS18
BD16
Hawksworth Moor
Hawksworth
YEADON
Rawdon
BD17
BD10
BD18
BAILDON
SHIPLEY
HORSFORTH
LEEDS
Key
Permanent noise monitor
Mobile noise monitor 28.10.13 onward
Noise preferential route

Appendix D – Noise Contour Mapping

Appendix A - Noise Contour Maps




420000
424000
443000
449000
OTLEY
GUISELEY
YEADON
Bramho
Department
for Environment
Food & Rural Affairs
The Environmental Noise (England) Regulations 2006 (as amended)
Leeds Bradford Airport (LBA)
Lday
Year - 2021
60
Noise level Contour (dB)
Agglomeration
N
0
2
Kilometres
Reproduced from Ordnance Survey digital map data © Crown copyright [2022]. All rights reserved. Licence number 0100031673



Department for Environment Food & Rural Affairs

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

Leeds Bradford Airport (LBA)

Lden

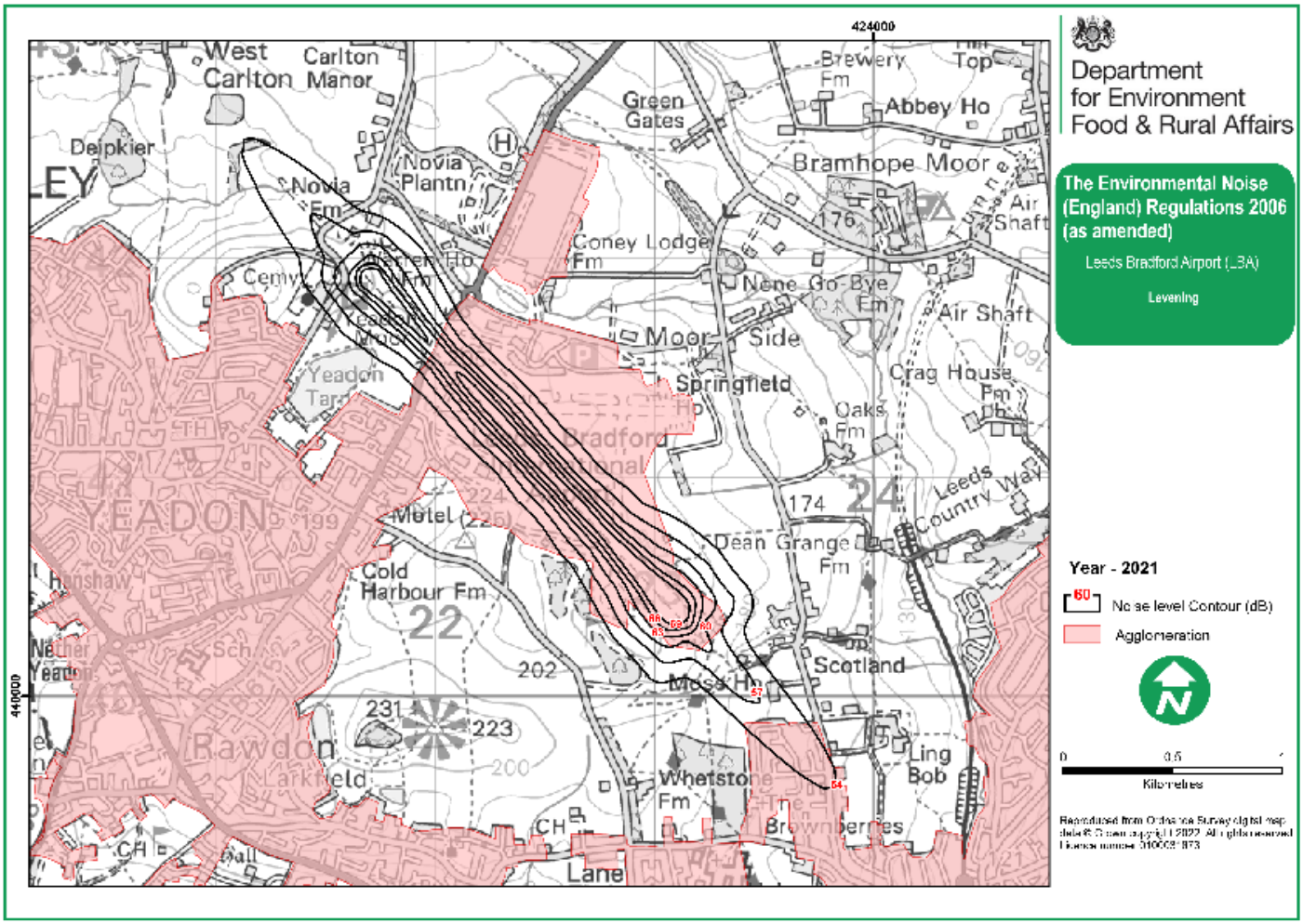
Year - 2021

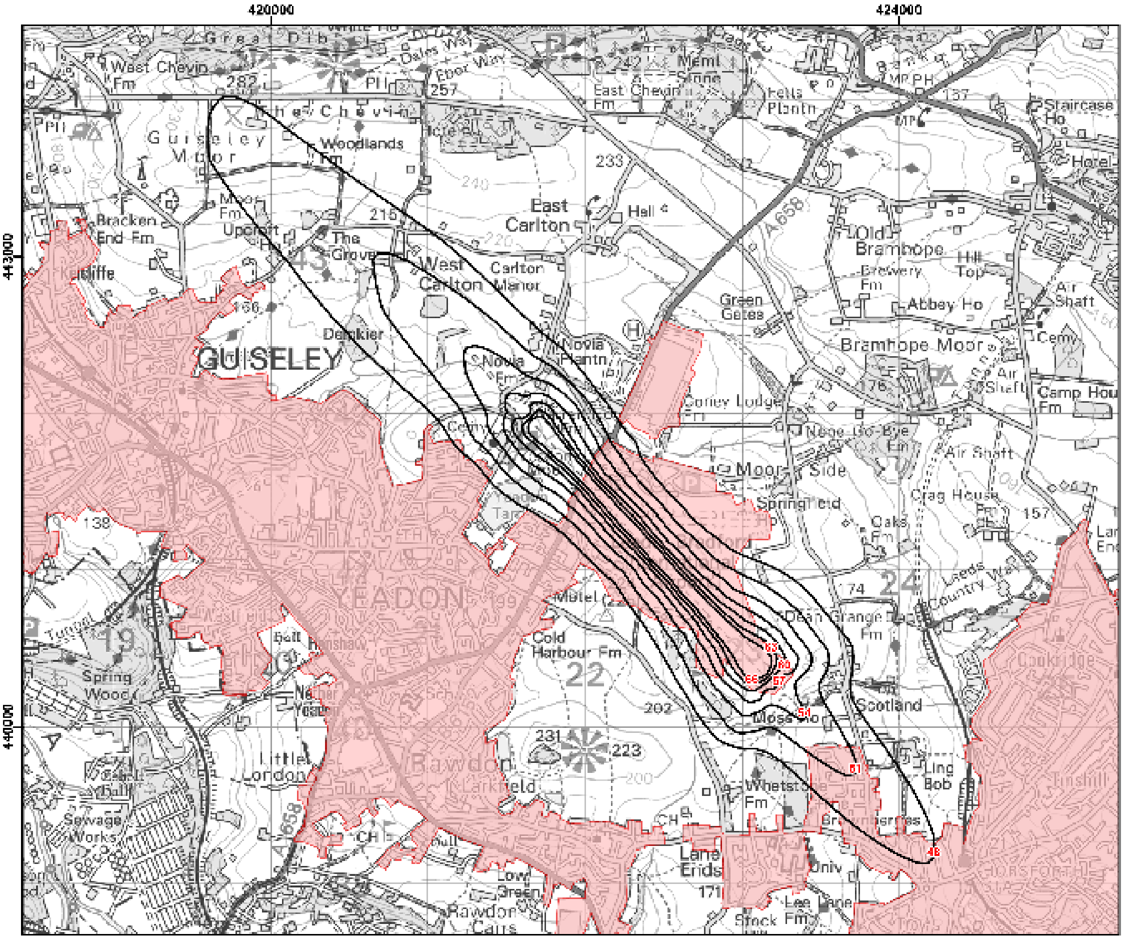
60 Noise level Contour (dB)

Agglomeration

0 1 2

Kilometres


424000
440000
West Carlton
Carlton Manor
Delpkier
Novia Fm
Novia Plantn
Green Gates
Brewery Fm
Top
Abbey Ho
Bramhope Moor
Air Shaft
176
Coney Lodge Fm
Nene Go-Bye Fm
Moor Side
Springfield
Crag House Fm
Oaks Fm
Bradford
YEADON
Motel
Cold Harbour Fm
22
24
174
Leeds Country Way
Dean Grange Fm
Scotland
Moss Hu
202
231
223
200
Rawdon
Larkfield
Whetstone Fm
Ling Bob
Brownberries
Lane
CH
Department for Environment Food & Rural Affairs
The Environmental Noise (England) Regulations 2006 (as amended)
Leeds Bradford Airport (LBA)
Levening
Year - 2021
60
Noise level Contour (dB)
Agglomeration
N
0
0.5
Kilometres
Reproduced from Ordnance Survey digital map data © Crown copyright [2022] All rights reserved
Licence number 100020813



Department for Environment Food & Rural Affairs

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

Leeds Bradford Airport (LBA)

Lnight

Year - 2021

60 Noise level Contour (dB)

Agglomeration

0 0.8 1.5

Kilometres

Appendix E – Noise Action Plan Summary

Noise Action Plan Aspect – As Required by the Regulations	Summary of Noise Action Plan
A description of the agglomeration, the major roads, the major railways or major airports and other noise sources taken into account	The Environmental Noise (England) Regulations 2006 (as amended) require airports with over 50,000 movements a year and/or located within an agglomeration, to produce strategic noise maps and associated action plan. This noise action plan concerns noise produced as a consequence of aircraft operations at Leeds Bradford Airport. LBA is a regional airport serving the Yorkshire region and beyond. Located approximately eight miles northwest of Leeds City Centre and seven miles northeast of Bradford, at 662ft above sea level, it holds the title of the highest airport in the UK. The Immediate surrounding areas of the airport include the small towns and villages of Guiseley, Menston, Burley-in-Wharfedale, Horsforth, Cookridge, Carlton, Bramhope, Yeadon and Otley. Further information can be found in **Section 3** of the Noise Action Plan
The Authority Responsible	The Regulations designate 'Competent Authorities' responsible for producing noise maps and action plans, which in the case of an airport, is the airport operator. Leeds Bradford Airport as the airport operator, is the Competent Authority under the terms of the Regulations.
The Legal Context	Aircraft noise management is subject to regulatory framework of controls at international, national and local level. A full description of the legal context can be found in **Section 4** of the Noise Action Plan. At international level, the main controls are described as part of the International Civil Aviation Organisation's 'Balanced Approach' to aircraft noise. At national level, the UK has enacted several regulations and acts of parliament intended to help manage and control aircraft noise. This includes the Environmental Noise (England) Regulations 2006 (as amended), under which this Noise Action Plan has been prepared. The UK Government also has prepared several policies that apply to noise and aviation. These policies include statements in relation to aircraft noise management, namely the overarching aviation noise policy. This states that: *"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."* At local level, airports can be subject to locally determined policies and controls. Leeds Bradford Airport operates on a 24-hour basis, and is subject to a comprehensive night time noise regime and associated monitoring procedures made effective through planning permission 29/114/93FU (dated 19th January 1994). LBA continues to operate consistently with this regime, as described in Section 5 of the Noise Action Plan.

<table>
<tr><td>Any limit values in place</td><td>Leeds Braford Airport is subject to a set of controls which place limits on the level of aircraft noise that be produced. These limits were set through planning permission 29/114/93FU.

These limits include:

- Target Noise Levels (TNLs) for daytime and night-time periods at for easterly departures and for westerly departures and arrivals;
- A limit on the maximum noise that can be produced by aircraft operating during the night-time period (determined by aircraft Quota Count)
- A restriction on the number of aircraft that can operate at night for specific aircraft types during the airport's summer and winter seasons
- Restrictions on ground engine running

A full description of these limits can be found in Section 5 of the Noise Action Plan.</td></tr>
<tr><td>A summary of the results of the noise mapping</td><td>The results of the noise mapping are presented in Section 6 of the Noise Action Plan and supported by noise maps which are set out in Appendix D.

The results for the relevant year of 2021 are summarised below for each metric.

<table>
<tr><th></th><th colspan="2">L_{day}</th><th colspan="2">$L_{evening}$</th></tr>
<tr><th>Noise Level dB(A)</th><th>Number of dwellings</th><th>Number of People</th><th>Number of dwellings</th><th>Number of People</th></tr>
<tr><td>≥ 54</td><td>500</td><td>1,100</td><td>100</td><td>300</td></tr>
<tr><td>≥ 57</td><td>100</td><td>300</td><td>0</td><td>0</td></tr>
<tr><td>≥ 60</td><td><50</td><td><100</td><td>0</td><td>0</td></tr>
<tr><td>≥ 63</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>≥ 66</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>≥ 69</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
</table>

<table>
<tr><th></th><th colspan="2">L_{night}</th></tr>
<tr><th>Noise Level dB(A)</th><th>Number of dwellings</th><th>Number of People</th></tr>
<tr><td>≥ 48</td><td>450</td><td>900</td></tr>
<tr><td>≥ 51</td><td>100</td><td>200</td></tr>
<tr><td>≥ 54</td><td><50</td><td><100</td></tr>
<tr><td>≥ 57</td><td>0</td><td>0</td></tr>
<tr><td>≥ 60</td><td>0</td><td>0</td></tr>
<tr><td>≥ 63</td><td>0</td><td>0</td></tr>
<tr><td>≥ 66</td><td>0</td><td>0</td></tr>
<tr><td>≥ 69</td><td>0</td><td>0</td></tr>
</table>

<table>
<tr><th></th><th colspan="2">L_{den}</th></tr>
<tr><th>Noise Level dB(A)</th><th>Number of dwellings</th><th>Number of People</th></tr>
<tr><td>≥ 55</td><td>800</td><td>1,700</td></tr>
<tr><td>≥ 60</td><td><50</td><td><100</td></tr>
<tr><td>≥ 65</td><td>0</td><td>0</td></tr>
<tr><td>≥ 70</td><td>0</td><td>0</td></tr>
<tr><td>≥ 75</td><td>0</td><td>0</td></tr>
</table>
</td></tr>
</table>

	<table><tr><th></th><th colspan="2">$L_{Aeq,16hr}$</th></tr><tr><th>Noise Level dB(A)</th><th>Number of dwellings</th><th>Number of People</th></tr><tr><td>≥ 54</td><td>350</td><td>700</td></tr><tr><td>≥ 57</td><td>50</td><td>100</td></tr><tr><td>≥ 60</td><td>0</td><td>0</td></tr><tr><td>≥ 63</td><td>0</td><td>0</td></tr><tr><td>≥ 66</td><td>0</td><td>0</td></tr><tr><td>≥ 69</td><td>0</td><td>0</td></tr></table> The number of dwellings and people shown as exposed to various levels of aircraft noise in 2021 are significantly lower than for previous rounds. This is because the results of the noise mapping for 2021 are influenced by Covid travel restrictions. As such the results of the 2021 mapping show a highly anomalous situation. For context, total Air Transport Movements for LBA in 2016 were 32,196. In 2021, there were only 9,102 movements. In 2022, total ATMs were 26,850 and it is expected that movements in 2023 and 2024 will be approaching the numbers that occurred before the pandemic in 2019. **Section 6 and 7** of the Noise Action Plan provides comparisons to previous rounds of the noise mapping to provide context. Due to the abnormality of 2021, the noise contours and results of the mapping for 2016 are considered to be the best representation of the current noise situation at LBA. Action 21 of the Noise Action Plan is a new action and will lead to LBA voluntarily preparing noise contours on an annual basis rather than every 5 years as required under the Regulations. This will provide LBA and surrounding communities with a more regular understanding of the airport's impacts.
An evaluation of the estimated number of people exposed to noise, identification of problems and situations that need to be improved	The number of people exposed to noise is presented in **Section 6** of the Noise Action Plan and is summarised above. In the third round noise action plan, LBA set a number of key performance indicators to help monitor the effectiveness of the actions being taken. Building on this, a number of new actions have been set to help further evaluate the performance of the noise action plan. The information gathered from these new actions and the performance indicators will be used to ensure that the measures we take will have the maximum benefit in terms of reducing and improving noise impacts.
A record of the pubic consultations	The Noise Action Plan was presented to members of LBA's Consultative Committee for comment. A total of three responses were received from the following consultees. • LBA Consultative Committee member, Cllr Colin Campbell on behalf of Otley Town Council and Yeadon end of runway; and • North West Leeds Transport Forum, representing residents associations in North West Leeds. • Bramhope and Carlton Parish Council All the comments received from the consultation, along with LBA's response to these is included in **Section 11**.

Any noise-reduction measures already in force and any projects in preparation	**Section 4** of the Noise Action Plan provides an overview of noise management at Leeds Bradford Airport. Specific noise reduction measures already in force at the Airport include: - Noise Preferential Routes - Restrictions on Ground Engine Running; and - Night flying restrictions. The Noise Action Plan contains a number of actions that will explore the introduction of new noise-reduction measures. These include: - Action 2 which includes a commitment to develop and work with industry towards introducing Continuous Decent Approaches (CDA). - Action 4 which include includes a similar commitment to work with industry towards introducing noise-reduced flight procedures; and - Action 32 which will involve LBA working with airlines operators to introduce procedures to delay the deployment of landing gear, where it is safe and practical to do so.
Action which the competent authorities intend to take in the next five years, including measures to preserve quiet areas	**Section 8** of the Noise Action Plan sets out the actions which LBA will take over the period 2024-2028 in support of aircraft noise management. In total 24 actions are set out. The majority of these have been carried over from the third round noise action plan. Six actions are new for this Noise Action Plan, and include: - Action 20 – provision of an additional mobile noise monitor in support of addressing specific concerns in the local community - Action 21 – increasing the frequency of the noise maps to annually with aim of publishing noise contours in 2024, based on the situation in 2023 as an addendum to this Noise Action Plan - Action 30 – working towards the provision of a publicly available noise and flight tracking website to increase transparency and opening in terms of compliance with restrictions and noise management measures - Action 31 – introduction of favourable landing fees for the quietest and most fuel efficient aircraft to help encourage airlines to operate the most modern fleets from LBA; and - Action 32 – working with airlines to introduce procedures to delay the deployment of the landing gear (which is proven to reduce airframe noise for aircraft arrivals) and make this standard practice for all operators.
Long-term strategy	Our long term strategy has regard to our environmental objective to *'Minimise as far as reasonably practicable, the effects and disturbance of noise from aircraft and airport operations'* and will reflect the International Civil Aviation Organisation's balanced approach for noise management.
Financial information (if available)	**Appendix B** of the Noise Action Plan provides budgetary information setting out the cost of noise management at Leeds Bradford Airport.
Provisions envisaged for evaluating the implementation and the results of the noise action plan.	**Section 9** set out the actions that LBA will take in support of in support of aircraft noise management over the period 2024 to 2028. These actions are accompanied by performance indicators which will be used to help evaluate the implementation of the actions within this noise action plan.