London Gatwick Airport Round 4 Noise Action Plan

Final Draft

Gatwick Airport Limited

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Document Control

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1 Foreword

As a vital piece of UK infrastructure, London Gatwick Airport generates around £3.8 billion for the region's local economy and supported around 61,000 jobs in 2019.

The airport also plans to increase the important economic contribution it makes by bringing its Northern Runway into routine use, alongside its Main Runway. If approved, this would be one of the largest capital investment projects in the region for decades. It would deliver around 14,000 additional jobs and a further £1 billion for the South East economy every year.

The airport's contribution to the economy goes far beyond the airport campus itself. It supports the wider tourism industry, international trade, supply-chain, and a wide-range of other business opportunities. Combined, this provides incomes and support for a large number of individuals, families, and businesses across the region. It also helps secure economic prosperity for future generations.

Despite the considerable social and economic benefits that the airport delivers for the region; London Gatwick Airport fully recognises its responsibility to deliver a sustainable and considerate airport operation. This includes striving to limit the impact that aircraft noise has on residents and communities close to the airport.

The airport demonstrates how it aims to do this as part of its second Decade of Change sustainability policy:

> *Limit and where possible reduce the airport's impact on local communities by working with partners and stakeholders to create the most noise efficient operation possible.*

Under the Environmental Noise (England) Regulations 2006, London Gatwick is required to produce a Noise Action Plan. The Plan describes in detail the airport's approach to managing aircraft noise issues. It also clearly sets out the actions the airport will take to reduce the noise impact that aircraft can have on some local communities.

The Noise Action Plan is a key component of the airport's wider commitment to sustainability. The previous Noise Action Plan covered the period 2018 to 2023. During this period, the airport invested heavily in noise management, including:

- Significant upgrades to the airport's Noise and Track Keeping (NTK) system, providing public access for the first time.
- Increasing the financial assistance available as part of our Noise Insulation Scheme.
- New financial incentives to attract quieter aircraft to the airport.
- Following the establishment of the Noise Management Board (NMB) in 2016, and as a result of an Independent Review of Arrivals, the airport transformed its approach to addressing community concerns regarding our airspace and noise.

This, the fourth evolution of London Gatwick's Noise Action Plan, covers the period 2024 to 2028 and builds on the success of previous plans. Content in this plan has been purposefully designed to be more accessible and easier to understand. It also has more specific and focussed actions.

The new plan contains 40 actions. These bring together the work of the NMB and consolidated actions from the previous Noise Action Plan, in addition to some new actions.

To ensure transparency, the airport remains committed to publishing annual reports on its performance against these actions and their effectiveness in addressing community concerns.

2 Purpose and Scope

The purpose of this Noise Action Plan (NAP) is to comply with the requirements of The Environment Noise (England) Regulations 2006 (herein referred to as 'the Regulations'). The Regulations require certain airports in England to produce strategic noise maps and NAPs every five years. In the case of London Gatwick, this is due to the airport being considered a 'major airport' under the Regulations due to the number of air traffic movement exceeding 50,000 per year.

Under the Regulations, strategic noise maps are to be produced based on the annual average noise situation at the airport. The Regulations require the preparation of a suite of noise exposure metrics, which originate from a European Environmental Noise Directive[1] (END) and wider European aircraft noise regulation[2].

The Regulations require that this be carried out every five years. Each five-year cycle is known as a 'Round'. The latest Round is the Fourth Round of the Regulations, which required airports to produce strategic noise maps in 2022 based on operations occurring during the calendar year of 2021. Under the Regulations the Fourth Round NAP need to be published in February 2024.

The Department for the Environment, Food and Rural Affairs (Defra) is responsible for overseeing the delivery of the strategic noise maps and NAPs. Defra have issued guidance[3] to airport authorities with competence to produce their NAPs along with 'data packs' setting out the results of the strategic noise maps[4]. The guidance summarises the timeline, legal context, and the required contents for the NAPs, which is described by the Regulations themselves.

The guidance states that the Noise Action Plan processes is designed to manage noise issues and effects arising from aircraft departing from and arriving at the airport, including noise reduction if necessary. The guidance advises that no other noise sources will have been considered in the noise mapping, but it does not preclude the Noise Action Plan covering other airport related noise sources. In respect of revisions to an existing plan the guidance advises that the NAP should be reviewed and revised to include:

- updated details about the airport and its operation
- the results of the noise mapping from 2021 supplemented with any data considered more relevant to noise action planning given that air traffic movements in 2021 are likely to have been affected by pandemic travel restrictions
- the progress made against the actions described in the current Noise Action Plan
- updated information about relevant legislation and standards

[1] EC Directive 2002/49/EC

[2] EU Regulation 598/2014

[3] Airport Noise Action Plans - Guidance for Airport Operators on how to revise Noise Action Plans under the Environmental Noise (England) Regulations 2006 (as amended) - September 2022

[4] Strategic noise contours maps for 2021 and supplementary noise contours are provided in Appendix A3

- consideration of updated relevant national and local policies
- information about on-going actions
- information about any new actions
- estimates in terms of the reduction of the number of people affected as a result of new or revised actions

Importantly, between Round 3 and Round 4, the Defra guidance is broadly unchanged but introduces the following considerations and changes in emphasis:

- Impact of COVID-19 travel restrictions upon 2021 noise data and suggestion that data be "supplemented with any data considered more relevant to noise action planning"
- Suggestion that "a range of metrics are used in developing effective actions, and that actions are measured in a meaningful and appropriate way" and "Consideration should be given to ensuring that actions focus on outcomes and their benefits within the local context, rather than outputs or processes"
- An increased emphasis on public participation requiring airports to "ensure that the public is given early and effective opportunities to participate in the preparation and review of the Noise Action Plans; and that the results of participation should be taken into account"
- Give consideration to consultation responses to the 2018 changes to the APF and 'Flightpath to the Future'
- Change of emphasis in reporting the expected outcome of NAP actions in terms of "estimated numbers of people affected by actions. Measures should be challenging; objective; quantified where reasonably practicable; subject to specific timescales; use a range of appropriate metrics and have taken account of the views of local communities."

Importantly, the NAP will not consider in detail the proposed Northern Runway Project and associated Development Consent Order (DCO). The DCO planning application is subject to alternative legislative requirement overseen by the Planning Inspectorate for England (PINS) on behalf of the Department for Levelling Up, Housing and Communities (DLUHC). The Northern Runway, if permitted, would not come into operation until well into Round 5 of the NAP at which point specific actions arising from the change would be considered and accommodated as required. For the benefit of interested stakeholders, a summary of the Northern Runway Project Proposals is included in Section 3.4.1. Importantly, provisions are made in this Noise Action Plan for reviewing certain actions in the event that the DCO is unsuccessful.

Likewise, the NAP will not consider in detail the Government's Airspace Modernisation Strategy (AMS) incorporating Future Airspace Strategy Implementation - South (FASI-S) which seeks to modernise the airspace around London Gatwick. FASI-S is subject to an alternative legislative process overseen by the CAA on behalf of the DfT. FASI-S is unlikely to result in significant changes in airspace around the airport until well into Round 5 of the NAP, albeit some changes, reduced in scope, may be achievable towards the very end of Round 4. At this stage it is not possible to speculate on what changes may arise as a result of FASI-S, but if they prove significant, specific actions arising from them would be considered and accommodated as required. For the benefit of interested stakeholders, a summary of the airspace change process is included in Section 3.4.2.

The NAP will consider the current DfT Night Flight Restrictions but cannot sensibly consider potential changes at this stage. Once any changes are introduced by the DfT, specific actions arising from the change can be considered and accommodated as required. For the benefit of interested stakeholders, a summary of the DfT Night Flight Restrictions is included in Section 5.2.

London Gatwick Airport's strategic approach to noise is described in Section 6 of this document, underpinned by its Decade of Change sustainability policy, published in 2020. The airport is committed to reducing noise at or around the airport and has significantly increased the level of focus in addressing the challenges arising from aircraft noise over recent years, however it is recognised that noise continues to remain an area of concern for local communities. Whilst aircraft noise cannot be eliminated completely, our goal is to reduce it as much as possible and this NAP sets out how we plan to manage and where possible reduce the impact of aircraft noise.

Importantly, responsibilities within the management of noise do not always fall to the airport operator and where responsibility falls to the Department for Transport, air navigation service providers or the Civil Aviation Authority (CAA) then the airport will seek to recommend or influence changes.

In revising this action plan, the following bodies have been consulted with responses summarised in Appendix A11:

- The Gatwick Airport Consultative Committee (GATCOM)
- The Noise and Track Monitoring Advisory Group (NaTMAG)
- The Noise Management Board (NMB)
    - Executive (NEX)
    - Community Forum (NCF)
    - Delivery Group (NDG)

3 About London Gatwick

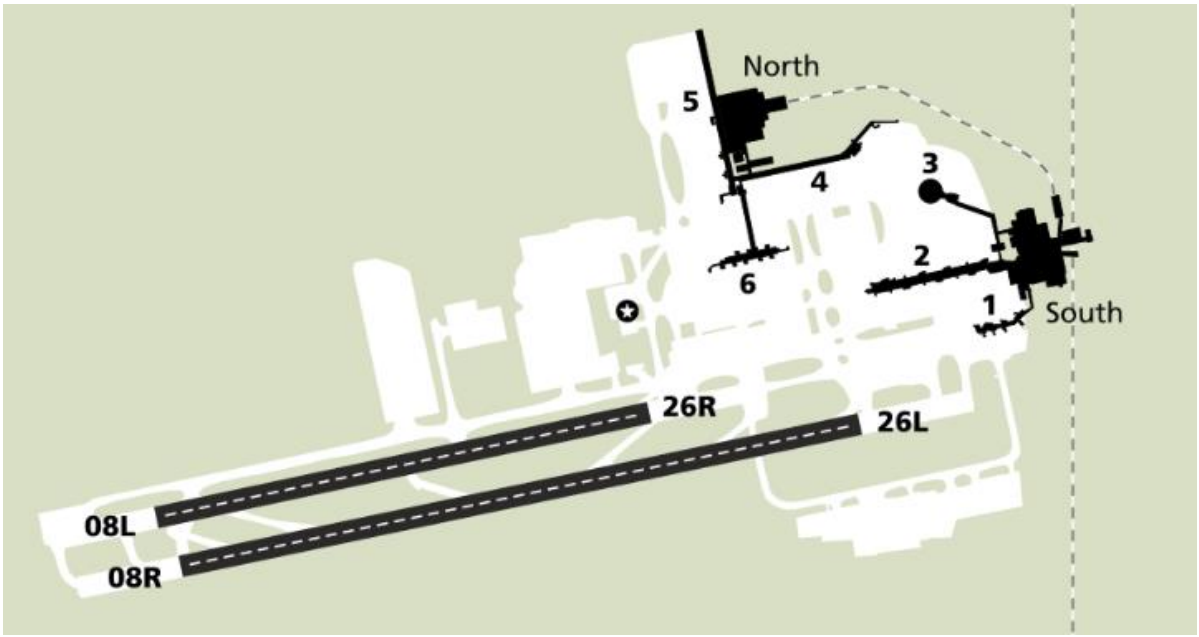
3.1 Historical and operational information

London Gatwick Airport started life as an aerodrome in the 1930s with the airport opening in 1958. Over the last 65 years, the number of passengers passing through the airport has grown to its peak of nearly 47 million in 2019. London Gatwick is open 24 hours a day, 365 days of the year connecting people to over 200 destinations in 74 countries around the world every year including around 50 long haul destinations. London Gatwick is easily accessible by road and rail and was the first airport to have direct access to a mainline railway with a dedicated station. There are over 120 direct rail connections from London Gatwick and there are trains regularly which run into central London.

COVID-19 restrictions on travel significantly reduced the number of passengers and services provided by the airport in 2020 and 2021. In 2022, passenger numbers and air traffic movements had recovered to approximately 70% of 2019 numbers and 2023 looks likely to achieve 90%.

London Gatwick is located approximately 28 miles south of London and two miles north of Crawley. It is located in a relatively sparsely populated area with the towns of Crawley and Horley nearby. The airport's main southern runway, designated 08R/26L), is 3,316 metres long and roughly oriented on an east west axis. The standby Northern Runway (08L/26R) can be used if the Main Runway is out of operation. In 2022, the Main Runway was successfully resurfaced over a six-month period with minimal impact on airport operations.

Figure 1: Airport Site Plan



[PLACEHOLDER FIGURE – TO BE UPDATED]

London Gatwick operates the world's most efficient single runway and is the second largest airport in the UK. It is home to a mix of airline operators from scheduled, to low-cost and charter airlines,

comprising both short haul and long-haul operations. It is the main base for EasyJet, one of Europe's most successful airlines, and is also home to key charter operations such as TUI Airways.

The airport has two passenger terminals. The South Terminal opened in 1958 and North Terminal opened in 1988. The airport has recently embarked on an ambitious redevelopment of the North Terminal, which will be completed in early 2024 to provide modernised facilities and create a more appealing space for passengers to relax, shop, work and eat.

London Gatwick is majority owned by VINCI Airports, with the remainder of the airport owned by a consortium of investors and managed by Global Infrastructure Partners (GIP) who have operated the airport since 2009.

3.2 Sources of noise around the airport

The primary sources of environmental noise at London Gatwick, considered in this Noise Action Plan, are aircraft 'air noise' and 'ground noise'. Air noise is defined as noise from departing or arriving aircraft, commonly defined from the point of entry onto the runway (start of roll) and exit from the runway. Ground noise includes noise from aircraft taxi-ing to and from the runway, stationary aircraft located at stands or aprons, aircraft engine testing for maintenance purposes and other ancillary activities in the airfield such as baggage handling. Air noise tends to dominate over ground noise in most locations, however ground noise can be appreciable near the airport particularly at locations lateral to the runway centre line where 'air noise' is less pronounced.

The preferred mode of operation for aircraft is to arrive and depart into a headwind for number of reasons, with the airport's Air Traffic Control being the decisions maker. This means that the character of exposure to 'air noise' is sensitive to wind direction. London Gatwick Airport typically experiences easterly and westerly winds for 30% and 70% of the time, respectively. This means that arrivals predominately occur over areas to the east of the airport, with departures predominantly towards the west. Historically, departure noise tended to be more dominant than arrivals noise, however due to technological development the two are increasingly comparable[5]. Aviation noise is discussed in more detail in Section 4.

The interactive Airspace & Noise Information Portal, available on the airport's website, provides a useful guide to 'Air Noise' and 'Ground Noise' and is available at the following link: https://aircraftnoise.gatwickairport.com/.

Aviation noise is regulated at an international, national, and local level, which are discussed in Section 5. Noise management at London Gatwick also incorporates voluntary commitments, which go beyond mandatory regulations as described in Section 6.

[5] Departing aircraft tend to be louder but climb steeply away from communities on the ground, whereas arriving aircraft are nominally quieter but adopt a shallow approach angle hence increased proximity to the ground.

3.3 Decade of Change (to 2030)

In 2010, the airport created a 10-point sustainability policy - our Decade of Change. It set challenging targets as we worked towards our goal of being a sustainable airport. It included and went further than our legal obligations.

The airport published its second Decade of Change in 2020, which seeks to continue the great work on the community and local environment established over the first decade. The Decade of Change policy sets out 10 goals on People and Communities, Net Zero and Local Environment. Goal 5: Noise, seeks to:

"Limit and where possible reduce the airport's impact on local communities by working with partners and stakeholders to create the most noise efficient operation possible."

This philosophy underpins the airport's strategic approach to noise management.

3.4 Planned Developments

3.4.1 The Northern Runway Project

A Development Consent Order (DCO) has been accepted for examination by the Planning Inspectorate (PINS) setting out the plan to make the best use of the existing infrastructure at the airport by bringing the existing Northern Runway into routine use. The plans require the repositioning of the runway centre line to allow for dual runway operations, aligning the runways with international safety standards. This would increase capacity at the airport allowing for a more efficient and resilient operation and helping the airport meet future passenger demand of around 75 million passengers a year by the late 2030s. If successful, construction would start in 2025 with the runway ready for use by the end of the decade.

Whilst this development has the potential to result in appreciable change, the Northern Runway would not be operational before the end of the Round 4 Noise Action Plan. Therefore, Noise Action Plan actions have not been proposed in relation to the proposed routine operation of the Northern Runway.

A description of the development proposals is provided on our website at the following website link:

https://www.gatwickairport.com/business-community/future-plans/northern-runway/

Details of the planning application can be found on the PINS website at the following website link:

https://infrastructure.planninginspectorate.gov.uk/projects/South%20East/Gatwick-Airport-Northern-Runway/

Key noise spatial information for the DCO is presented in the Aircraft Noise Viewer at the following website link:

https://erm.maps.arcgis.com/apps/webappviewer/index.html?id=afc6c20e5507482fab156f19bc430960

3.4.2 Airspace Modernisation

Airspace change is regulated by the CAA in-line with their CAP 1616 guidance[6] introduced in 2017. The process comprises seven stages and whilst having a focus on noise, it considers other environmental factors such as carbon dioxide emissions, local air quality, tranquillity, and biodiversity.

London Gatwick Airport, like other UK airports, is currently working towards the implementation of Government's Airspace Modernisation Strategy (AMS). In respect of Southern England, the process is called Future Airspace Strategy Implementation – South (FASI-S). The airport is responsible for leading on the airspace changes below 7,000 feet, in the vicinity of the airport, with NERL[7] being responsible for the re-design of airspace above 7,000 feet.

Whilst this development has the potential to result in significant change, FASI-S airspace changes are unlikely to be fully implemented before the end of the Round 4 Noise Action Plan period. However, some of the Round 4 Noise Action Plan actions relate to the airport's ongoing work and initiatives relating to airspace change.

A description of the process is provided on our website at the following website link:

https://www.gatwickairport.com/business-community/aircraft-noise-airspace/airspace/airspace-modernisation/

Up to date details of progress can be found on the CAA's Airspace Change Portal at the following website link:

https://airspacechange.caa.co.uk/PublicProposalArea?pID=54

3.4.3 Rapid Exit Taxiway

Work is in progress during summer 2023 on the construction of a new Rapid Exit Taxiway (RET) for the Main Runway (26L/08R) to allow rapid clearance of aircraft from the main runway and improve capacity. In respect of environmental noise exposure for adjacent communities, this development is not considered to be significant.

3.4.4 Pier 6 Extension

Plans are underway for an extension to Pier 6 to provide an additional eight departure gates. The delivery of the extension was postponed as a result of COVID-19 on the capital investment plan 2017-2022. The work has yet to resume but is expected to take place during the life of the Round 4 Noise Action Plan.

In respect of environmental noise exposure for adjacent communities, this development is not considered to be significant.

3.4.5 EasyJet Hangar 9 Extension

[6] https://publicapps.caa.co.uk/docs/33/CAA_Airspace%20Change%20Doc_Mar2021.pdf

[7] National Air Traffic Services (NATS) En-Route Plc

There are also plans for an extension to Hangar 9 to provide an additional maintenance bay.

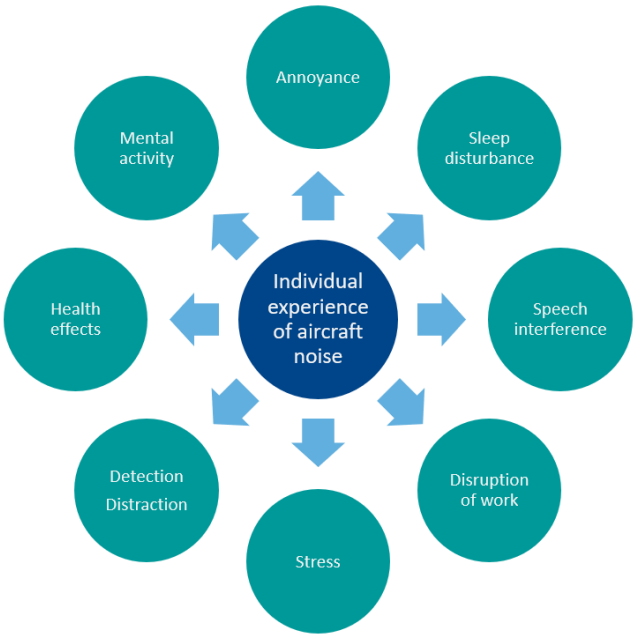
In respect of environmental noise exposure for adjacent communities, this development is not considered to be significant.

4 Aviation Noise

4.1 Aircraft Noise

Aviation noise is considered unwanted sound that can have many effects, which are experienced to varying degrees by individuals. Effects can include general detection/distraction; speech interference; disruption of work/mental activity; sleep disturbance and cognitive effects, which can lead to annoyance and complaints. Importantly, there are many subjective "non-acoustic factors" which can inform an individual's response to noise. In addition, physiological effects can occur which can result in observable health impacts when considered at a population level.

Figure 2: Impacts of Noise



Importantly aviation noise is rarely experienced in isolation, with other noise sources also contributing to the noise climate and in some cases dominating.

4.1.1 Air Noise

The primary source of 'air noise' is the engine, whether jet engine or propeller, which dominates during take-off. Engine noise comprises mechanical noise (propeller, fan blades, compressor, combustion chamber, turbine) as well as the sound from high velocity air flow and mixing. For jet engines, most of the engine noise comes from the exhaust, or jet, behind the engine as it mixes with the air around it, although fan and combustor noise from the front of the engine can also be heard.

The secondary source is aerodynamic sound, resulting from airflow over the airframe, which for jet aircraft is more prominent during arrivals, when engine noise is more subdued than during take-off. The main sources are the discontinuities of the aircraft structure, such as high-lift devices (flaps and slats), landing gear (when extended) and trailing edges. The amount of airframe sound produced by an aircraft depends on its type, along with its speed and its configuration.

The sound emitted by a departing or approaching aircraft is dependent on the engine thrust setting, climb/descent angle, and airspeed. When observed from the ground, historically, departure (take-off) noise tended to be more dominant than arrivals noise, however, due to technological development[8] the two are increasingly comparable.

Sound generally reduces with distance as a result of geometric spreading and air absorption. Whilst aircraft on departure tend to be louder at source, they climb more steeply rapidly, increasing their distance from communities on the ground. Conversely, whilst arriving aircraft are nominally quieter at source, they necessarily must adopt a shallow angle of approach resulting in an increased proximity to the receptors near to the airport.

Whilst aircraft noise has been progressively reducing on an individual basis, to varying degrees this has been counteracted by a growth in demand for air travel.

4.1.2 Ground Noise

Ground noise includes noise from aircraft taxi-ing to and from the runway, stationary aircraft located at stands or aprons, aircraft engine testing for maintenance purposes and other ancillary activities in the airfield such as baggage handling. Ground noise therefore tends to be dominated by aircraft engine noise in addition to Auxiliary Power Unit (APU) usage.

4.2 Aircraft Noise Metrics

Quantifying sound for the purposes of describing and determining its impacts can be a complex process.

The most common international measure of noise is the $L_{Aeq,T}$ which means the 'A-weighted equivalent continuous noise level.' The metric is defined in terms of a duration (T) over which the measurement is logarithmically averaged. Noise is commonly considered in respect of the daytime period (07:00 – 22:59 hrs) and night-time (23:00 – 06:59 hrs). Most policy in the UK is based on the $L_{Aeq,T}$ metric because it has proven to have the best correlation with associated health outcomes such as annoyance and sleep disturbance. L_{Amax} and sound exposure level (SEL) are other metrics used to characterise sound from discrete events and are most commonly employed in the assessment of night-time noise events.

In respect of aircraft noise, UK stakeholders have long expressed a difficulty in understanding some of the noise metrics and often cite a discrepancy between their experience and the noise metrics, resulting in a level of distrust. Consequently, supplementary noise metrics, such as noise above contours (N65 and N60) have been adopted in recent years with the intention of better reflecting subjective experiences and objective health effects.

[8] Aircraft are subject to noise certification, which has facilitated the progressive tightening of noise standards over time, which is discussed in more detail in Section 5.

To inform the Noise Action Plan, the Regulations specifically require the preparation of information for a suite of noise exposure metrics which originate from the Environmental Noise Directive (END) as follows:

- L_{den}[9] - 24 hours
- L_{day} - $L_{Aeq,12h}$ (07:00 – 19:00 hrs)
- $L_{evening}$ - $L_{Aeq,4h}$ (19:00 – 23:00 hrs)
- $L_{Aeq,16h}$ - $L_{Aeq,16h}$ (07:00 – 23:00 hrs)
- L_{night} - $L_{Aeq,8h}$ (23:00 – 07:00 hrs)

In all cases the levels are to be presented as external noise levels and therefore do not take account of the building envelope sound insulation performance of individual properties and buildings.

For the purposes of the Regulations, the metrics should be based on an annual average of operations, which for Round 4 is 2021. This contrasts with the longstanding common practice in the UK of calculating aircraft exposure data based on an average of the '92-day summer day period', from 16th June to 15th September. The summer day period is used because people are more likely to have their windows open or be outdoors, and because aviation activity is generally at its most intense during the summer period due to the peak season demand for aircraft movements.

With respect to noise limit values, these operate on a sliding scale and are linked to epidemiological studies which are used to define dose-response curves. Research and the associated evidence base continue to develop and is generally reflected in Government Policy once the evidence is considered sufficiently robust. In respect of policy, the Government published their Response to their Airspace Consultation[10] in 2017 and acknowledged the evidence from the SoNA study[11], which showed that sensitivity to aircraft noise had increased compared to historical norms, with the same percentage of people reported to be highly annoyed at a level of 54 $dBL_{Aeq,\ 16hr}$ (daytime) as previously occurred at 57 $dBL_{Aeq,\ 16hr}$. Government noise policy is discussed in more detail in Section 5.

4.3 Effects of noise

There has been extensive research and studies into the effects of environmental noise exposure. In respect of aviation noise, historically, research focussed on annoyance and sleep disturbance but has seen an increased emphasis on other health effects in recent years.

[9] The 'den' in the suffix represents day (07:00 – 19:00 hrs), evening (19:00 – 23:00 hrs) and night (23:00 – 07:00 hrs), and the metric combines the $L_{Aeq,T}$ values into single figure having applied differing weightings to the respective periods to reflect perceived sensitivity.

[10] Consultation Response on UK Airspace Policy: A framework for balanced decisions on the design and use of airspace - October - 2017

[11] CAP 1506 - Survey of Noise Attitudes 2014: Aircraft Noise and Annoyance - 2014

Studies have considered transportation noise sources including road, rail and aircraft with responses being found to differ depending upon the source. This work has resulted in organisations such as the European Environment Agency (EEA)[12] and the World Health Organization (WHO) developing guidelines and advice based on reviews and meta-analysis of the available research.

In 2011, the WHO Europe and the Joint Research Centre published the report: Burden of Disease from Environmental Noise[13]. The aim of this report was to provide technical support to policymakers in the form of quantitative risk assessment of environmental noise, using the evidence available in Europe.

For each noise-induced outcome, the report estimated the number of life years affected by noise, defined as Disability Adjusted Life Years (DALYs). DALYs are the sum of the potential years of life lost due to premature death and being in states of poor health or disability. The outcomes considered included were ischemic heart disease, cognitive impairment of children, sleep disturbance, tinnitus, and annoyance. It was estimated that 654,000 years were lost annually due to annoyance in the EU Member States, and other western European countries (from combined noise sources, but predominantly road traffic noise). This was only exceeded by those lost due to sleep disturbance annually, which were calculated as 903,000 years.

In October 2018, the WHO published new "Environmental Noise Guidelines for the European Region" [14]. The guidelines summarise the research into the impact on health of environmental noise. The critical health outcomes investigated are presented below including the noise metrics most closely correlated to them:

- Cardiovascular disease – L_{den}, $L_{Aeq,16h}$, $L_{Aeq,24h}$
- Effects on sleep – $L_{Aeq,8h}$, L_{Amax} and SEL
- Annoyance – L_{den}, L_{dn} and $L_{Aeq,24h}$
- Cognitive development in children - L_{den}, L_{Aeq}, L_{Amax} and SEL
- Wellbeing - $L_{Aeq,16h}$ and $L_{Aeq,8h}$

Importantly the guidance strongly recommends reducing noise levels produced by aircraft below 45 dB L_{den}, as aircraft noise above this level is associated with adverse health effects. For night noise exposure, guidance recommends reducing noise levels produced by aircraft during night-time below 40 dB L_{night}, as nighttime aircraft noise above this level is associated with adverse effects on sleep.

In the UK, important historical studies include the UK Aircraft Noise Index Study (ANIS) published in 1984 and Attitudes to Noise from Aviation Sources in England (ANASE) published in 2007. In 2014, the Department for Transport commissioned the Survey of Noise Attitudes (SoNA) study, which built on previous noise attitudes surveys by Defra with the addition of an aircraft noise section. Importantly

[12] https://www.eea.europa.eu/publications/environmental-noise-in-europe

[13] Burden of disease from environmental noise Quantification of healthy life years lost in Europe - 2011

[14] Environmental Noise Guidelines for the European Region, World Health Organization, 2018

SoNA has been significant in informing the Government noise policy by way of their published Consultation Response on UK Airspace Policy in 2017.

In the UK the CAA regularly reconsider the evidence base and report their findings, including the following key documents:

- Sleep disturbance
  - CAP 2370 - Aircraft Noise and Sleep Disturbance: An update (2014-2022) - 2022
  - CAP 2161 - Survey of Noise Attitudes 2014: Aircraft Noise and Sleep Disturbance - 2021
  - CAP 1164 - Aircraft noise, sleep disturbance and health effects - 2014
  - ERCD report 1208 - Aircraft Noise, Sleep Disturbance and Health Effects: A Review – 2013
- Annoyance
  - CAP 1588 – Aircraft Annoyance: Recent Findings – 2018
  - CAP 1506 - Survey of Noise Attitudes 2014: Aircraft Noise and Annoyance - 2014,
- Cardiovascular disease and daytime health effects
  - CAP 1278 - Aircraft noise and health effects: Recent findings
  - ERCD report 0907 - Environmental Noise and Health: A Review - 2010
- Cognitive development in children
  - ERCD Report 0908 – Aircraft Noise and Children's Learning - 2010

Since 2019, the CAA have provided regular updates on recent work and findings in the field of aircraft noise and health effects to provide a succinct overview of emerging work in the field of aviation noise and health.

Importantly, the DfT has recently commissioned the Aviation Night Noise Effects (ANNE) study[15], to examine the relationship between aviation noise on sleep disturbance and annoyance, and how this varies by different times of the night.

Additionally, the Civil Aviation Authority (CAA) has recently been tasked with developing the new Aviation Noise Attitudes Survey (ANAS). ANAS, expected to launch in 2023, will build on lessons learnt from SONA, focussing on experiences of exposure to day-time aviation noise.

4.4 Interdependencies

There are interdependencies between the emissions of local air pollutants and carbon dioxide (CO2) from aircraft engines, which affect aircraft noise management strategies. Most of the technological advances in aircraft design in the last 25 years have led to both a reduction in noise and CO2 emissions, but in some cases have resulted in an increase in emissions of local air pollutants such as

[15] https://www.sgul.ac.uk/about/our-institutes/population-health/projects/aviation-night-noise-effects-study

oxides of nitrogen (NOx). The challenge for the aviation industry is to address these three issues simultaneously.

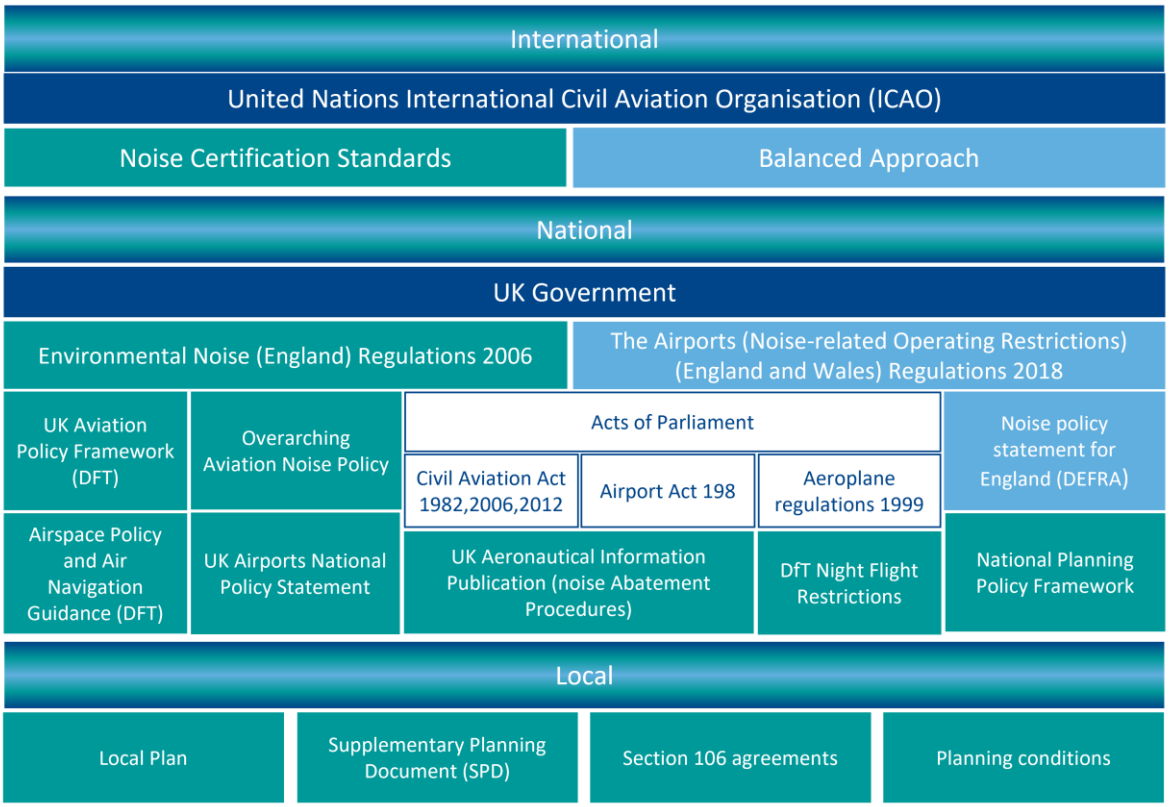
Operational controls also need to be balanced. For example, the adoption of a reduced thrust setting for an aircraft during take-off can reduce NOx emissions by up to 30% or more compared to a full thrust setting. Many airlines already employ 'reduced thrust' as their standard operating procedure. While this is beneficial in the immediate vicinity of the airport, there can be a small increase in the noise experienced by those further away under the departure flight path.

London Gatwick Airport has long been aware of the interdependencies between noise, local air quality and CO_2 emissions and has undertaken a number of studies to help quantify the exact balance that needs to be struck for specific situations. The level of understanding of this interdependency external to the aviation community is not complete, and the airport aims to promote further research.

5 Aviation Policy and Regulation Overview

The mitigation and management of aircraft noise in the England is governed by three main tiers comprising international, national, and local, as summarised the following Figure 3.

Figure 3: Aviation Policy and Regulation in England



5.1 International Regulation

5.1.1 The International Civil Aviation Organization

The International Civil Aviation Organization (ICAO) is a specialised agency of the United Nations which promotes the safe and orderly development of international civil aviation throughout the world including in England. It aims to develop the principles and techniques of international civil air navigation and foster the planning and development of international air transport. ICAO establishes International Standards, Recommended Practices and Procedures regarding the technical areas of aviation, including aircraft noise. The Standards, once adopted, are put into effect by each ICAO member state in its own country.

In relation to the management of aircraft noise, ICAO is responsible for:

- Aircraft noise certification standards; and
- The ICAO Balanced Approach to Aircraft Noise Management

5.1.2 ICAO Noise Certification Standards

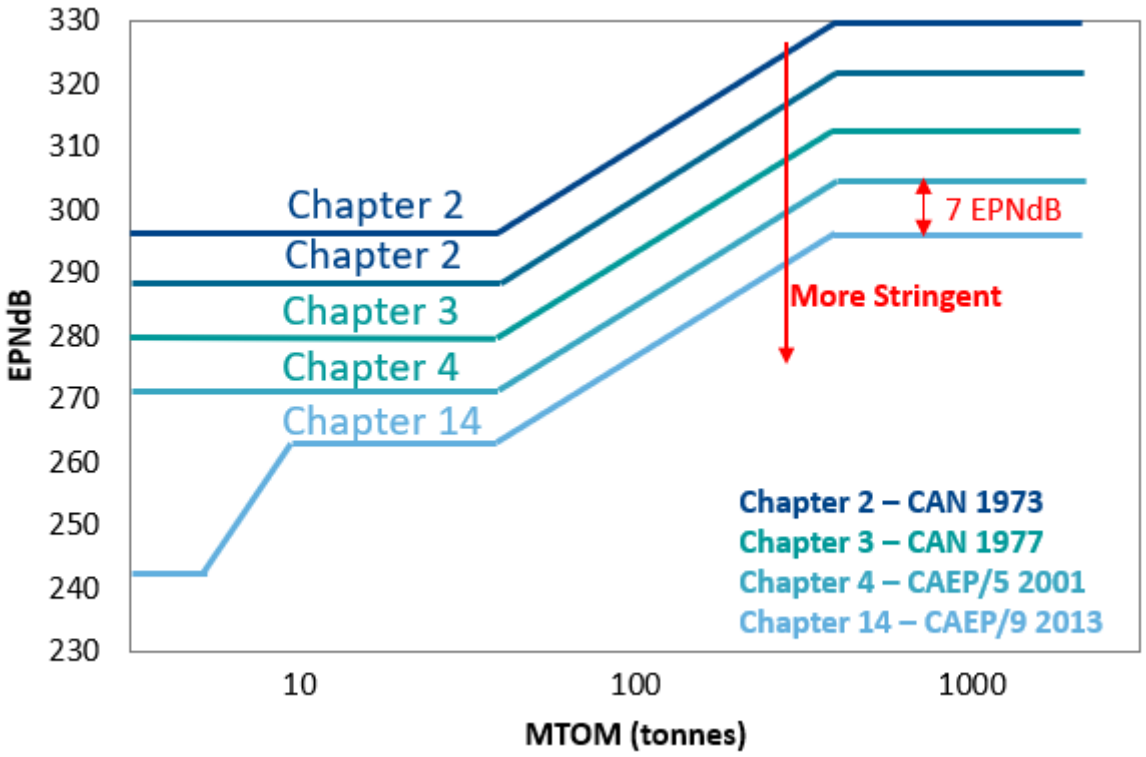
ICAO is responsible for the setting of aircraft noise standards through a process of certification. The primary purpose of noise certification is to ensure that the latest available noise reduction technology is incorporated into aircraft design. The noise tests which support certification are undertaken for three modes of aircraft operation which are intended to closely align with procedures observed in the vicinity of airports. This approach aims to ensure that noise reductions offered by technology are tailored towards achieving noise reduction for communities and stakeholders.

Notably the quota count (QC) system, referred to throughout this document, first developed by the Department for Transport, is based on the certificated noise levels for individual aircraft and is classified separately for arrivals and departures. The QC classification is intended to indicate the relative contributions from individual aircraft to the total noise exposure experienced by communities near airports.

Since the introduction of certification, ICAO has progressively tightened noise certification standards. Aircraft which operate in ICAO member states must conform to the relevant standards in force at the time of manufacture, which are specified into one of four categories, known as 'Chapters'. Since Chapter 2 aircraft were effectively banned, with some exemptions, from operating within the EU in 2002, the vast majority of aircraft now fall within the much quieter Chapter 3, 4 and 14 categories.

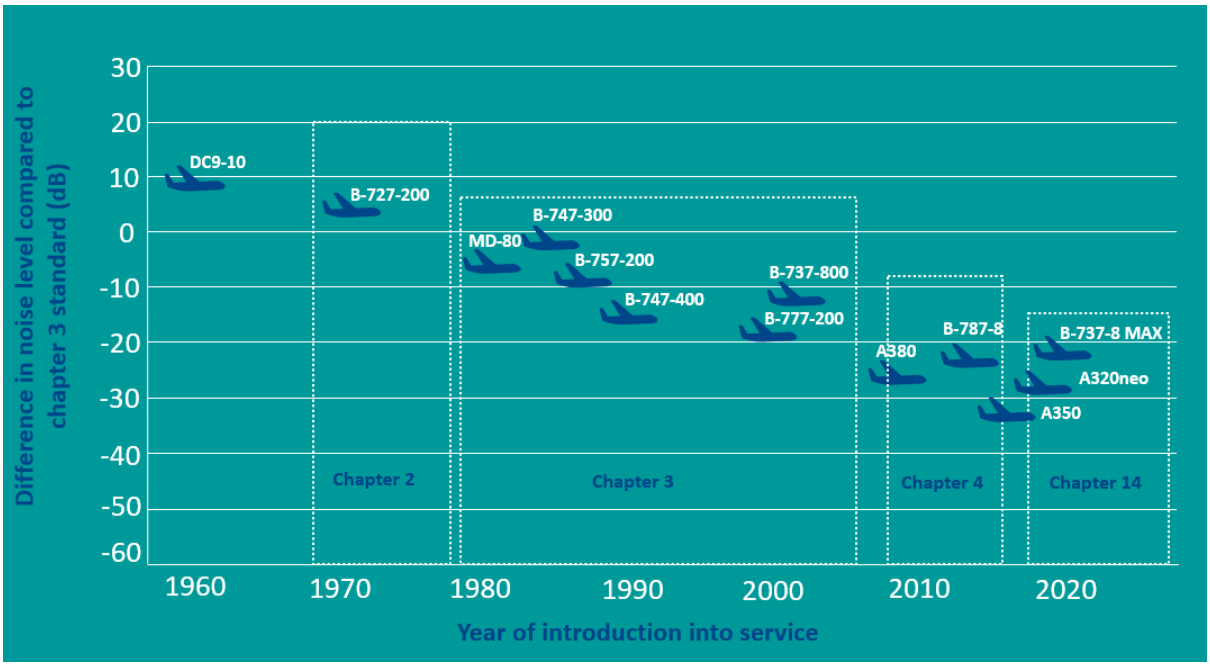
Chapter 4 standards have applied to all new aircraft manufactured since April 2006. The standard is cumulatively 10 decibels quieter than Chapter 3 aircraft. The Chapter 14 standard was agreed in 2013 and is cumulatively 7 decibels quieter than Chapter 4 aircraft. It has applied to all large aircraft since 2017 and smaller aircraft since 2020. The cumulative noise limits for different chapters are presented in the following Figure 4 as a function of maximum take-off weight.

Figure 4: ICAO noise certification limits


330
320
310
300
290
280
270
260
250
240
230
EPNdB
Chapter 2
Chapter 2
Chapter 3
Chapter 4
Chapter 14
7 EPNdB
More Stringent
Chapter 2 – CAN 1973
Chapter 3 – CAN 1977
Chapter 4 – CAEP/5 2001
Chapter 14 – CAEP/9 2013
10
100
1000
MTOM (tonnes)

The progressive tightening of noise standards over time, is demonstrated in the following Figure 5.

Figure 5: Progressive tightening of noise standards over time



The majority of aircraft, in service today at London Gatwick, already meet the Chapter 4 requirements with an ever-increasing number qualifying for Chapter 14 status. As yet, there is no agreed date for the phase out of Chapter 3 aircraft.

5.1.3 The ICAO Balanced Approach

In 2001, ICAO published "A Balanced Approach to Aircraft Noise Management", also known as the "Balanced Approach". The Balanced Approach aims to address aircraft noise problems where they occur at individual airports in an environmentally responsive and economically responsible way. The Balanced Approach encompasses four principal elements:

1. The reduction of noise at source i.e., quieter aircraft
2. Noise abatement operational procedures i.e., optimising how aircraft are flown and the routes they follow to limit the noise impacts
3. Land-use planning and management.
4. Operating restrictions such as air traffic movement caps or preventing certain nosier types of aircraft operating at certain times.

Importantly operating restrictions should be considered to be a last resort, that should be employed only after consideration of other measures.

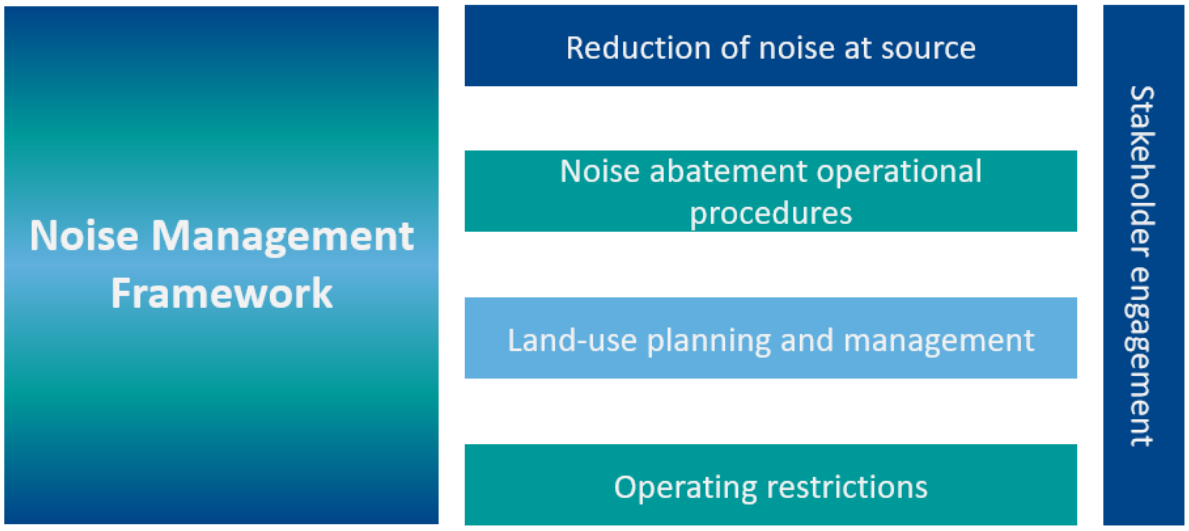
Where a noise problem has been identified at an airport, the Balanced Approach process requires the agreement of a noise objective. Following this, all potential measures to manage noise at the airport must be identified, and a cost benefit analysis to determine the most cost-effective package of measures, carried out.

The balanced approach has increasingly become enshrined in national legislation specifically as promulgated by the EU Regulation 598/2014 (commonly referred to as (Balanced Approach Regulation or "BAR").

In 2007 the Balanced Approach guidance was expanded to include 'People issues' which relates to communications strategies and enhanced information for public access. This is often described as the fifth pillar and referred to as community or stakeholder engagement. The fifth pilar, goes beyond the Balanced Approach and entails reaching out to stakeholders and local communities identifying and understanding issues and working towards improvements.

The ICAO Balanced Approach is demonstrated in the following Figure 6.

Figure 6: The ICAO Balanced Approach



5.1.4 The World Health Organization

The World Health Organization (WHO) is the United Nations agency that promotes health, keeps the world safe and serves the vulnerable. WHO leads global efforts to expand universal health coverage and direct and coordinate the world's response to health emergencies.

In respect of noise, the WHO have published three important Guidelines.

WHO Guidelines for Community Noise 1999

The WHO Guidelines for Community Noise are partially superseded by the WHO Environmental Noise Guidelines for the European Region, 2018. However, the guideline values for internal noise and maximum noise levels from regular noise events remain relevant in the 1999 WHO guidelines.

WHO Night Noise Guidelines for Europe 2009

The Night Noise Guidelines for Europe recommend a lowest observed adverse effect level (LOAEL) for night-time noise and an interim target.

WHO Environmental Noise Guidelines for the European Region 2018

The Environmental Noise Guidelines for the European Region provide recommendations for protecting human health from exposure to environmental noise originating from various sources

including road traffic, railway, and aircraft noise. The 2018 Guidelines partially superseded the WHO Guidelines for Community Noise 1999 but do not supersede the Night Noise Guidelines for Europe, 2009. The recommendations include guideline values for aircraft noise, road traffic noise and railway noise using L_{den} and L_{night} metrics in terms of the onset of health effects.

5.2 National Regulation

The EU regulations and directives of most relevance to the Noise Action Plan are:

- the Environmental Noise Directive (END)[16]
- the Balanced Approach Regulations (BAR)[17].

Both were transposed in UK law, with the following being relevant to London Gatwick:

- the Environmental Noise (England) Regulations 2006 (as amended) (Statutory Instrument 2238)
- The Airports (Noise-related Operating Restrictions) (England and Wales) Regulations 2018 (Statutory Instrument 785).

Since the UK's withdrawal from the European Union on the 31 January 2020 (EU Exit), the transposed regulations have been retained in English law subject to some amendments. Such amendments can be found in The Aviation Noise (Amendment) (EU Exit) Regulations 2019.

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

The Regulations aim to avoid, prevent, or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise. It requires the creation of strategic noise maps from all transport sources (road, rail, and air) in urban areas every five years, and the adoption of Noise Action Plans to manage noise. It is under these Regulations that London Gatwick Airport has produced its first three rounds of Noise Action Plans.

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

These Regulations provide the general rules on aircraft noise management by ensuring that the ICAO Balanced Approach is adopted. It also sets out the definition of marginally compliant aircraft and the process to be followed in the implementation of an operating restriction which might restrict access to the airport. It requires that noise-related operating restrictions cannot be introduced as a first resort as a range of other mitigation measures must be considered first. If a noise-related operating

[16] Directive 2002/49/EC of the European Parliament and of the Council of 25 June 2002 relating to the assessment and management of environmental noise - Declaration by the Commission in the Conciliation Committee on the Directive relating to the assessment and management of environmental noise, OJ L 189, 18.7.2002, p. 12–25. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32002L0049.

[17] Regulation (EU) 598/2014 of the European Parliament and of the Council of 16 April 2014 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach and repealing Directive 2002/30/EC, OJ L 173, 12.6.2014, p. 65–78. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014R0598.

restriction is considered necessary, it can only be imposed after the 'cost effectiveness' of the restriction has been considered.

5.2.3 Acts of Parliament

The UK Government also enacts Acts of Parliament and regulations which deal with aircraft noise. The relevant legislation is detailed below:

Civil Aviation Acts 1982, 2006, 2012

These Acts grant the Government powers to introduce noise control measures to limit or mitigate the effect of noise and vibration connected with taking off or landing aircraft at 'designated airports' i.e., Heathrow, Gatwick, and Stansted.

These powers were widened by the Civil Aviation Act 2006. The Act permits an airport authority to charge aircraft operators for use of the airport based on noise and emissions. Airport operators can thereby introduce differential charges to incentivise the use of quieter and cleaner aircraft.

The Act also permits airport operators to levy financial penalties on aircraft operators who breach noise abatement requirements imposed by the Secretary of State. A sum equal to the penalties received must then be paid for the benefit of people who live in the vicinity of the airport. At London Gatwick, we enforce this power and did so long before 2006. All fines are paid to an independent charity, the Gatwick Airport Community Trust.

The 2012 Act was designed to modernise key elements of the regulatory framework for civil aviation in the UK and it offers a packaged of reforms to make regulation, and the sanctions which support I, flexible, proportionate, targeted, and effective.

Airport Act 1986

This Act gives power to the Secretary of State to make orders if it appears to them that the existing runway capacity of the airport is not fully utilised for a substantial proportion of the time during which it is available. It includes powers to limit the number of occasions on which aircraft may land or take off at an airport and schemes to allocate airport capacity.

Aeroplane Noise Regulations 1999

These regulations set out the noise certificate requirements for both propeller and jet aeroplanes registered in the UK. It makes provision to ensure that no aircraft can land or take off in the UK without a noise certificate issued by its competent authority which meets at least equal requirements to those for UK registered aircraft. The regulations make reference to noise certification standards and noise limits issued by ICAO and also provides a list of aircraft that are exempt from the ICAO noise certification.

5.2.4 National Regulations and Policy

Noise Policy Statement for England 2010

The Noise Policy Statement for England (NPSE) of March 2010 states the long-term vision of Government noise policy is 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 long-term vision is supported by the following aims: "through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

1. Avoid significant adverse impacts on health and quality of life
2. Mitigate and minimise adverse impacts on health and quality of life
3. Where possible, contribute to the improvement of health and quality of life

The NPSE introduced the concepts of the Significant Observable Adverse Effect Level (SOAEL) and the Lowest Observable Adverse Effect Level (LOAEL) to draw the distinction between those noise levels that should be avoided (above SOAEL) and those that should be minimised (above LOAEL), all in the context of Government policy on sustainable development.

The NPSE does not stipulate the values of the LOAEL and SOAEL, which can vary depending on noise source, receptor, and time of day. This allows flexibility for different policy areas such as annoyance as opposed to impact on health indicators, and the ability to adapt policy in line with recent research.

In relation to aircraft noise the government, in their published response to their Airspace Consultation[18] in 2017, acknowledged LOAEL values of 51 $dBL_{Aeq,\ 16hr}$ (daytime) and 45 $dBL_{Aeq,8hr}$ (night-time).

[18] Consultation Response on UK Airspace Policy: A framework for balanced decisions on the design and use of airspace - October - 2017

Aviation Policy Framework 2013

The 2013 Aviation Policy Framework (APF) set out the challenges of noise control at airports and noted the Government's recognition of the Balanced Approach principle of aircraft noise management. The APF focused on the benefits of aviation and its environmental impacts and framed national policy to strike a balance between the two. The APF sought to integrate aviation noise policy with other Government policies for land use planning in the National Planning Policy Framework (NPPF) and the promotion of good health and good quality of life through the management of noise in the Noise Policy Statement for England (NPSE).

Airports National Policy Statement 2018

The APF strongly supported making best use of existing airport capacity as part of a strategy to promote a vibrant aviation sector. This policy has been re-affirmed in the Airports National Policy Statement[19] published in June 2018, where Government states that it is supportive of all airports who wish to make best use of their existing runways. Beyond the horizon – The future of UK aviation – Making best use of existing runways[20], also published in June 2018, advised that "the government is supportive of airports beyond Heathrow making best use of their existing runways."

Airspace Policy Framework 2017

In 2017 the UK Government published, and consulted on, its Airspace Policy (AP)[21] framework. The Government's consultation response provided an update to the some of the policies on aviation noise outlined in the APF and continues to be viewed as informing Government policy.

The consultation response advised that, "The government's overall policy on aviation noise is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise, as part of a policy of sharing benefits of noise reduction between industry and communities in support of sustainable development. Consistent with the Noise Policy Statement for England…".

Importantly the Noise Policy Statement for England makes a distinction between those significant adversely affected, and those adversely affected, and requires the focus of noise control to be on those people significantly adversely affected because those are the people most at risk of health impacts.

Aviation 2050 – The Future of UK Aviation 2018

19 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/858533/airports-nps-new-runway-capacity-and-infrastructure-at-airports-in-the-south-east-of-england-web-version.pdf

20 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/714069/making-best-use-of-existing-runways.pdf

21 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/918784/consultation-response-on-uk-airspace-policy-web.pdf

Aviation 2050 is a draft strategy document consulted on by Government in 2018 The document set out Government thinking on the interaction between its noise policy and its wider airspace modernisation policies and proposals. The document emphasised the need for a clearer noise policy framework alongside measures to incentivise best operational practice to reduce noise and measures to improve airport noise insulation schemes. The document proposed the following new measures:

- *"Setting a new objective to limit, and where possible, reduce total negative effects on health and quality of life from aviation noise. This brings national aviation policy in line with airspace policy updated in 2017*
- *Developing a new national indicator to track the long-term performance of the sector in reducing noise. This could be defined either as a noise quota or a total contour area based on the largest airports*
- *Routinely setting noise caps as part of planning approvals (for increase in passengers or flights). The aim is to balance noise and growth and to provide future certainty over noise levels to communities. It is important that caps are subject to periodic review to ensure they remain relevant and continue to strike a fair balance by taking account of actual growth and the introduction of new aircraft technology. It is equally important that there are appropriate compliance mechanisms in case such caps are breached, and the government wants to explore mechanisms by which airports could 'pay for' additional growth by means of local compensation as an alternative to the current sanctions available*
- *Requiring all major airports to set out a plan which commits to future noise reduction, and to review this periodically. This would only apply to airports which do not have a noise cap approved through the planning system and would provide similar certainty to communities on future noise levels. The government wants to see better noise monitoring and a mechanism to enforce these targets as for noise caps. The noise action planning process could potentially be developed to provide the basis for such reviews, backed up by additional powers as necessary for either central or local government or the CAA".*

The document also recognised the development of evidence in relation to the effects of aviation noise in stating that:

> *"The government is considering the recent new environmental noise guidelines for the European region published by the World Health Organization (WHO). It agrees with the ambition to reduce noise and to minimise negative health effects, but it wants policy to be underpinned by the most robust evidence on these effects, including the total cost of action and recent UK specific evidence which the WHO report did not assess."*

Flightpath to the Future: a strategic framework for the aviation sector 2022

'Flightpath to the future' is a DfT policy document building on the responses to the Aviation 2050 consultation (2018) and setting out a strategic framework for the aviation industry over the next 10 years.

The executive summary advises that:

> "The Government recognises that, whilst many of the issues considered through the Aviation 2050 consultation (2018) remain very relevant today, it is important that we have

> a clear action plan for the sector. This must take into account contextual changes, including the impact of the pandemic and the opportunities presented by our exit from the European Union (EU)".

The document includes a ten-point plan for the future of aviation and the establishment of a new Aviation Council to deliver the plan. Noise is considered under point 4 in relation to "tackling the localised impacts of aviation".

The document does not update any of the polices but makes reference to Aviation 2050.

Overarching Aviation Noise Policy 2023

In March 2023 the government updated its overall policy on noise ahead of the anticipated publication of a noise policy paper in late 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 Organization'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."

In relation to aviation noise, the policy statement recognises that:

> "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."

The policy builds upon the Aviation 2050 Green Paper, the 2020 consultation on night flight restrictions, and the Air Navigation Guidance 2017 and advises that:

> *"We consider that 'limit, and where possible reduce' remains appropriate wording. An overall reduction in total adverse effects is desirable, but in the context of sustainable growth an increase in total adverse effects may be offset by an increase in economic and consumer benefits. 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 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."*

Planning Policy – National Policy Planning Framework

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. The NPPF provides Government's policies to promote sustainable development and sets out that the purpose of the planning system is to contribute to the achievement of sustainable development. Sustainable development includes three dimensions: economic, social, and environmental, and thus, when planning decisions are made to increase capacity, the process requires weighing the relative balance of these three factors.

Planning law requires that applications for planning permission must be determined in accordance with the development plan, unless material considerations indicate otherwise. The National Planning

Policy Framework must be taken into account in the preparation of local and neighbourhood plans and is a material consideration in planning decisions. Planning policies and decisions must reflect and where appropriate promote relevant obligations and statutory requirements.

The NPPF does not contain specific policies for nationally significant infrastructure projects for which particular considerations apply. These are determined in accordance with the decision-making framework set out in the Planning Act 2008 and relevant national policy statements for major infrastructure, as well as any other matters that are considered both important and relevant (which may include the National Planning Policy Framework). National policy statements form part of the overall framework of national planning policy and may be a material consideration in decisions on planning applications.

UK Air Navigation Guidance 2017

This overarching law defines requirements for certifying aircraft, regulations for how pilots must operate aircraft in the UK and rules for how air traffic control must be arranged and managed. It was last reviewed and updated in 2019.

In October 2017 the Government published its Air Navigation Guidance (ANG) setting out how it will implement its environmental, airspace and noise management policies in relation to air navigation. The 2017 UK ANG replaces the 2014 UK ANG.

The Air Navigation Guidance provides guidance to:

- the Civil Aviation Authority (CAA) on its environmental objectives when carrying out its air navigation functions; and
- the CAA and the wider aviation industry on airspace and noise management, including in relation to the role of the Secretary of State in the UK's airspace change process.

It also includes a copy of the new air navigation directions issued to the CAA under the Transport Act 2000, The Civil Aviation Authority (Air Navigation) Directions 2017, since amended by the Civil Aviation Authority (Air Navigation) (Amendment) Directions 2018, and The Civil Aviation Authority (Air Navigation) (Amendment) Directions 2019.

DfT Night Flight Restrictions

London Gatwick, as a 'designated airport' for the purposes of Section 78 of the Civil Aviation Act 1982, is subject to Government mandated night flight restrictions. The restrictions, imposed by the DfT, are defined in terms of a limit on the number of movements, limits on the maximum quota count (QC) for an individual aircraft and limits on the total cumulative quota count (QC) for a defined period.

Since Round 3 of the Noise Action Plan (2016), there have been a number of updates to the night fights regime in 2017 and 2022. The 2017 Restrictions set out a regime to be in place until October 2022. The aim was to "maintain the status quo and ensure that communities do not experience any overall increase in the noise created by night flights". No changes to the movement limits were proposed for London Gatwick Airport, however, noise quotas were revised to incentivise the use of quieter aircraft. The Quota Count limits were reduced in October 2018.

A consultation in 2020 concluded with the existing night noise objectives and night flight restrictions being maintained for a further 3-year period to October 2025. In addition, a ban on QC4 rated aircraft

movements at the designated airports has been implemented during the night quota period from October 2022[22].

Night-time Noise Abatement Objectives for the Designated Airports from October 2025 (March 2023)

The Government consultation related to the redefinition of a 'night-time noise abatement objective' in advance of an anticipated consultation on the next night flight regime from late 2023. The consultation ran from March to May 2023. The consultation sought to set changes to the night-time noise objectives from October 2025.

The Government's proposed night-time noise abatement objective is:

> *"Whilst supporting sustainable growth and recognising the importance to the UK of maintaining freight connectivity, to limit and where possible reduce, the negative effects of aviation noise at night on health and quality of life."*

The objective would apply to London Gatwick and would apply to the night-time period 23:00 to 07:00 hrs. It seeks to move away from focussing on the number of people affected by noise to a greater focus on the adverse effects on health and quality of life.

The consultation also identified a number of areas where progress might be expected in respect of the evidence base supporting the night flight regime:

> *"We have commissioned an aviation night noise effects (ANNE) study, to examine the relationship between aviation noise on sleep disturbance and annoyance, and how this varies by different times of the night.*
>
> *We are also supporting the ongoing review of the evidence underpinning the World Health Organization (WHO) guidelines on noise, together with more recent evidence. This review is being undertaken by the Interdepartmental Group on Costs and Benefits (Noise) to consider whether there are any necessary updates to relevant government guidance.*
>
> *We are also continuing to review new literature and research on the costs of night flights, being supported by the CAA who also monitor new literature on the health impacts of exposure to aviation noise."*

The DfT is currently reviewing night-time restrictions and conducting a two-stage consultation process to determine the restrictions for 2025[23]. This process includes proposing a new objective for night-time noise. The revised policy and confirmation of the night-time noise objective are expected to be announced towards the end of 2023.

[22] Importantly London Gatwick Airport had voluntarily introduced a QC4 scheduling ban 12 months before the revised restrictions came into action

[23] https://www.gov.uk/government/consultations/night-time-noise-abatement-objectives-for-the-designated-airports/night-time-noise-abatement-objectives-for-the-designated-airports-from-october-2025

5.3 Local Regulation

As well as Government legislation, additional policies can be introduced by local planning authorities and noise related controls secured through the planning system. Such policies can equally apply in relation to airport development as well as adjacent land use, through the following:

- Local Plan – which sets out a vision and a framework for the future development of an area and once in place is a statutory consideration in determining any planning applications.
- Supplementary Planning Document (SPD) – which is intended to expand upon policy or provide further detail to policies in Local Plans
- Planning conditions – which are imposed as part of the granting of a planning permission.
- Planning obligations also known as Section 106 agreements – which are private agreements made between local authorities and developers that be attached to a planning permission and offering more flexibility than a planning condition

London Gatwick Airport is subject to a Crawley Borough Council SPD entitled "Development at Gatwick Airport"[24] dating from 2008. This document identifies how the local authority propose to approach development at the airport from a policy perspective.

For smaller planning applications the local authority is at liberty to impose planning conditions. For example, there are several planning conditions relating to North Terminal which require towing of aircraft between 23:00 - 06:30 on some aircraft stands as well as limits of the amount of aircraft engine tests permitted.

Additional noise constraints are secured through planning obligations contained in Section 106 Legal Agreements made between the airport operator and the planning authority. London Gatwick Airport recently re-negotiated and signed their S106 Agreement[25] with West Sussex County Council and Crawley Borough council in 2022, extending the agreement to 2024. In respect of noise, the agreement includes an overriding objective and four obligations; these are independently audited annually.

For Nationally Significant Infrastructure projects (NSIPs), which are subject to alternative planning legislation overseen by the Planning Inspectorate for England (PINS), Local Authorities will be Statutory Consultees retaining significant influence in the decision-making process and able secure S106 agreements in their favour.

[24] https://crawley.gov.uk/sites/default/files/2020-06/Development%20at%20Gatwick%20Airport%20SPD.pdf
[25] https://www.gatwickairport.com/globalassets/company/policies/section106.pdf

6 Noise Management at London Gatwick Airport

6.1 Introduction

Airports bring positive economic and social benefits. They are important to the economy, providing jobs, encouraging inward investment, and boosting local tourism. However, they can also have an impact for those communities that exist around airports. Noise remains a significant issue for people living or working close to airports or under flight paths.

Despite the considerable social and economic benefits that the airport delivers for the region; London Gatwick fully recognises its responsibility to deliver a sustainable and considerate airport operation. This includes striving to limit the impact that aircraft noise has on residents and communities close to the airport.

Responding to this, as part of its Decade of Change sustainability policy, published in 2020, the airport's vision is to:

> *Limit and where possible reduce the airport's impact on local communities by working with partners and stakeholders to create the most noise efficient operation possible.*

This philosophy underpins the airport's strategic approach to noise management. Importantly the Decade of Change policy is currently in the process of defining specific targets, which are reflected in this Noise Action Plan.

While the management of some of the noise impacts from the airport's operations are within the direct control of the airport, it should be recognised that the management of some impacts are dependent upon other parties. Where this is the case London Gatwick will exert influence to bring about change, working with airlines, air navigation services providers and local authorities towards achieving our noise objectives. Managing the impact of noise is a long-standing commitment for London Gatwick and is critical to maintaining the airport's licence to operate and grow.

The aviation sector is heavily regulated with noise being subject to national, international, and local policy and regulation as discussed in Section 5. Notably, London Gatwick is a 'designated airport', therefore the Government has specific powers in defining and setting noise control objectives and controls for the airport. This is particularly the case in relation to the DfT night flights restrictions.

6.2 Our Current Noise Strategy

Our current noise strategy has evolved over many years reflecting changes in the aviation industry, changes in policy and the evolution in attitudes towards noise, whilst exhibiting flexibility to deal with local issues identified by stakeholders.

Our previous Decade of Change objective was *'To gain the trust of our stakeholders that we are using best practicable means to minimise aircraft noise impacts'* which we are confident has been achieved. Whilst this remains a key aspiration that must be maintained, the latest Decade of Change has an emphasis on limiting and where possible reducing the noise impact of the airport by targeting the most noise efficient operation possible. This can be viewed as accommodating growth in passenger numbers whilst managing noise impacts through driving operational efficiencies and incentivising the use of aircraft with the best-in-class noise performance.

Notably, when viewed from a national perspective, the airport is inherently noise efficient in terms of the numbers of people affected, by virtue of its relatively rural location. However, we recognise that this will be of little comfort to communities around the airport experiencing aircraft noise. Therefore, this Noise Action Plan sets out how we will continue to manage and where possible reduce the impact of aircraft noise in line with national policy and regulations.

Noise management at the airport has long been based upon the four elements of ICAO's Balanced Approach as described in Section 5.1.2. including the so called 'fifth pillar' of community or stakeholder engagement. These five elements are discussed in more detail in the following sections and are fundamental to our noise management efforts, encompassing the following high-level activities:

- Incentivisation of airlines to procure and operate aircraft with best-in-class noise performance through differential airport charges
- Investigation and adoption of low noise operational procedures including the development of airspace change proposals
- Incentivisation of airlines to comply with low noise operational procedures through the airline noise performance table
- Maintaining an appropriate and relevant acoustic insulation scheme in line with Government Policy
- Conducting feasibility studies into the application of voluntary operating restrictions
- Responding to noise complaints in a timely manner and maintaining transparent engagement with community groups and stakeholders to promote community trust and awareness

6.3 Current Measures to Manage Aircraft Noise at London Gatwick

We believe that we have a full and comprehensive range of noise management measures already in place. These measures cover reduction of noise at source, operational procedures and restrictions, stakeholder communication and engagement as well as mitigation and compensation schemes. In respect of 'air noise', these measures are discussed in more detail in the following sections based on the ICAO Balanced Approach.

Importantly, ground noise is covered in a separate section because it does not strictly fall within the requirements of the Regulations and does not readily fit within a single ICAO pillar due to its multifaceted nature.

6.3.1 Reduction of Noise at Source

Measures categorised as "Reduction of noise at source" are presented in Table 22.

Table 1: Reduction of Noise at Source Measures at London Gatwick

Activity	Background	Current provision
Charging differentials	London Gatwick has maintained differentials in aeronautical charges to incentivise the use of quieter aircraft at the airport.	The current charging differentials start at Chapter 4 aircraft and increasingly incentivise the use of Chapter 14 aircraft. The current 2023/2024 charges are provided in Appendix A8 and are included in the Gatwick Airport Ltd Conditions of Use document which is published annually.
Industry-Acknowledged Acoustic Defects	In 2018 the airport introduced specific charges for the Airbus A320 family aircraft that had not been retrofitted with the Fuel Over Pressure Protector (FOPP) modification. The charging tariff sought to incentivise airlines to complete the modification upgrade.	The percentage of retrofitted aircraft is reported in the quarterly Airspace Office reports and at NaTMAG meetings. The airport is committed to remaining vigilant in respect of aircraft with industry acknowledged defects and will seek to resolve such issues through appropriate means.

6.3.2 Noise Abatement Operational Procedures

Table 2 presents a range of operational procedures intended to help with the management of noise perceived by communities.

Table 2: Noise Abatement Operational Procedures at London Gatwick

Activity	Background	Current provision
Departures Noise: Noise Preferential Routes (NPR)	NPRs provide volumes of pre-defined airspace within which Standard Instrument departure (SID) routes are established. Aircraft must follow these routes on departure from an aerodrome up to their notified altitude, unless there is a risk to safety (for example weather conditions, other traffic). This provides some certainty as to which areas will be exposed to aircraft activity at lower altitudes. Such routes are chosen because they direct aircraft, where possible, over less densely populated areas. NPRs consist of a centreline and a conformance monitoring swathe (1.5 km either side of the centreline).	London Gatwick has nine NPRs (five for Runway 26 and four for Runway 08) which were defined by the Department for Transport in the late 1960s. All aircraft departing London Gatwick should follow the NPRs up to an altitude of 3,000 ft or 4,000 ft, depending on the route, which is the minimum vectoring altitude where aircraft are given a more direct heading off the route, unless a lower altitude is required for safety (to avoid a thunderstorm or due to other traffic). NPR conformance (aircraft departing within the NPR swathe) is monitored and reported quarterly to NaTMAG through the Airspace Office Reports. The NPRs are illustrated in Appendix A9.
Departures Noise: 1,000 ft Rule	Departing aircraft are required to be at a height of not less than 1,000 ft at 6.5 km from start-of-roll.	Compliance is monitored and reported quarterly to NaTMAG and through the Airspace Office Reports.
Departures Noise: Noise Infringements	Noise limits were set at the London Airports (Gatwick, Heathrow and Stansted) in 2001. The noise limits are related to a fixed reference distance of 6.5 km from the start of roll and are defined in terms of a maximum A-weighted noise level, L_{Amax}. The limits are set at 94 dB(A) for daytime, 89 dB(A) for shoulder periods and 87 dB(A) for the night-time (23:30 to 06:00 local time). Shoulder periods are 23:00 to 23:30 local time and 06:00 to 07:00 local time.	Fixed noise monitors are located at the reference point (6.5 km from start of roll) to capture departure noise infringements. Any airline breaching the noise limits will be fined up to £1,000 with the monies passed to the independently run Gatwick Airport Community Trust (GACT). Compliance is monitored and reported quarterly to NaTMAG and through the Airspace Office Reports. The departure noise limits have recently been subject to a review and more stringent limits are in the process of being implemented.
Arrivals Noise: Continuous Descent Operations (CDO)	Although originally developed as a procedure for reducing fuel use, CDO is an important tool for reducing the noise of aircraft approaching airports. CDO is a technique of flight in which a pilot descends at a continuous rate to join the glidepath at the correct height for the distance and thereby avoids the need for extended periods of level flight. Aircraft remain higher for longer, using reduced thrust and reducing arrival noise.	The airport raised the level at which a CDO is measured from 6,000 ft to 7,000 ft in 2016 and is exploring ways to improve this further through our work with the Noise Management Board. The airport regularly reports to NaTMAG, GATCOM and the Flight Operations Performance & Safety Committee (FLOPSC), publish the Airline Noise Performance Table (ANPT) and carry out engagement with airlines to encourage improvements in CDO.

Arrivals Noise: Low Power/Low Drag Procedure (LPLD)	Additional noise reductions may be achieved by using a Low Power/Low Drag (LPLD) procedure. In this, the aircraft is flown in a 'clean' configuration (i.e., with no flaps or wheels deployed) for as long as possible, consistent with safety, which can result in lower noise levels when the aircraft are close to the ground.	There are currently no processes for measuring LPLD performance apart from visual inspection. The airport focuses on airline engagement and sharing of best practice. During the period of the R4 NAP, a Low Noise Arrivals Metric (LNAM) will be trialled and, if successful, introduced into the ANPT to improve LPLD performance.
Arrivals Noise: Instrument Landing System (ILS) Joining Points	An initiative in 2013 by NATS and the airport relocated the minimum joining points on the final approach track both east and west from 7NM to 10NM from touchdown. This resulted in increased concentration for communities located between the two points. Following the Independent Arrivals Review (IAR) in 2016, one recommendation proposed the re-expansion of the arrival swathe by reducing the ILS minimum joining point back to 8NM outside of night hours. An operational evaluation was commenced in August 2016 through the first term workplan of the Noise Management Board (NMB) and was extended in January 2017 for a 3-month period to avoid temporarily reverting to 10NM whilst the results were analysed. The results concluded that reducing the minimum joining point improved geographic dispersal of aircraft in the arrivals swathe and the 8NM minimum ILS joining point became permanent in May 2017.	After the adoption in 2017, the airport initially continued to report performance to the NMB before it was transferred to NaTMAG. In Q4 2020, ILS joining point distance analysis statistics were incorporated into the Airspace Office Quarterly and Annual reporting. Performance is monitored and reported quarterly to NaTMAG and through the Airspace Office Reports.
Arrivals Noise: Core Night-time (23:30 to 06:00 hrs)	Inbound aircraft, whether using ILS or not, shall not join the centreline below 3,000 ft or closer than 10NM from touchdown. Before landing, aircraft shall maintain as high an altitude as practicable and shall not fly over the congested areas of Crawley, East Grinstead, Horley and Horsham at an altitude of less than 3,000 ft (Gatwick QNH) nor over the congested area of Lingfield at an altitude of less than 2,000 ft (Gatwick QNH). Pilots are requested to avoid the use of reverse thrust after landing, unless required for safe operation of the aircraft, between 23:00 and 06:00 local time. This is to minimise disturbance in areas adjacent to the airport.	The airport regularly reports to NaTMAG, GATCOM and the Flight Operations Performance & Safety Committee (FLOPSC), publish the Airline Noise Performance Table (ANPT) and carry out engagement with airlines if performance is lower than expected.

These measures are generally replicated in the London Gatwick Aeronautical Information Publication (AIP) entry (EGKK AIP). The UK AIP is designed to be an operations manual containing comprehensive details of regulations, procedures, and other information pertinent to flying aircraft in the UK. It covers aspects such as Continuous Descent Operations (CDO) and other noise abatement procedures.

Furthermore, the Airspace Modernisation Process, as discussed in Section 3.4.2, emphasises the reduction of noise, amongst other environmental considerations. This is expected to facilitate improvements in the use of the above noise abatement operational procedures and introduce the potential new noise abatement procedures.

6.3.3 Land Use Planning and Management

Measures related to "Land Use Planning and Measurement" are summarised in Table 3.

Table 3: Land Use Planning and Management at London Gatwick

Activity	Background	Current provision
Noise Insulation Scheme	The airport's current Noise Insulation Scheme was launched in 2014 following stakeholder feedback. The scheme represented a significant expansion from the previous scheme, encompassing an additional 1,000 properties. The noise boundary was increased by reducing eligibility from 66 dB $L_{Aeq,16hr}$ to 60 dB $L_{Aeq,16hr}$ as a baseline. The boundary was modified to incorporate whole roads and communities in addition to increasing the eligibility 15 km to the east and west, immediately below the extended runway centreline.	The grant offered has recently been increased from £3,000 +VAT to £4,300 +VAT per household, to account for inflation. The NIS boundary can be viewed in Appendix A9. Full details can be found at: https://aircraftnoise.gatwickairport.com/2021/03/29/noise-insulation-scheme/ NaTMAG review the NIS uptake and suitability as part of the ongoing monitoring of the NAP.
Homeowner Support Scheme	Airport development, such as a new runway, can affect land and property values. Normally, under the Land Compensation Act, 1973, homeowners would not be able to apply for compensation for the loss in the value of their property until a year after the development comes into use. However, it is likely to be many years from the approval of permission for a development to it becoming operational. In the meantime, there is no legal obligation to provide any support. Assurance of statutory compensation is not always enough to keep a property marketable.	In order to support the local property market in the years before eligible property owners can receive any statutory support, we have developed a voluntary scheme which means that people will not have to wait until the development has opened for any support or assistance against blight. The scheme applies to the area where properties will be newly exposed to medium-to-high levels of noise resulting from the development of a second runway. This is the area covered by the 66 dB L_{eq} noise contour of a new runway as forecast by the CAA's ERCD. A map of the eligible area is provided Appendix A9. The scheme includes: A. Home Owner Support Scheme (HOSS) Option Agreement. A fully transferrable scheme allowing eligible property owners to require Gatwick to purchase their property for the

Activity	Background	Current provision
		unblighted market value (as if no development had been proposed) if and when London Gatwick announces the intention to proceed with construction (having received planning permission). B. The Early Movers' Home Purchase which, once Gatwick announces its intention to apply for planning permission, allows property owners who wish to move, but have been unable to sell the property for a price within 15% of the prevailing market value, to sell their property to Gatwick at an unblighted price. C. The Early Movers' Contribution to Sale Costs which, once Gatwick announces its intention to apply for planning permission for development, the scheme provides property owners who wish to move and who are able to sell their properties for a price within 15% of the index linked option price, with a contribution to sale costs of up to 5% of their property's sale price.
Property Market Support Bond	Where land and properties need to be bought by a public body, statutory undertaker, or infrastructure provider (such as Gatwick), the law allows that organisation to apply for a Compulsory Purchase Order, normally during the planning application process or after planning approval has been given. Under a Compulsory Purchase Order, the land and property must be bought by the developer at a fair, unblighted market price (i.e., as if no development had been proposed and no reduction in value had occurred). Eligible property owners are therefore guaranteed compensation under law for loss of their property. However, this compensation is only paid once the developer has bought the property.	In the event that a second Gatwick runway goes ahead, it is likely to be many years before planning approval is granted and properties will have to be bought. In the meantime, there is no legal obligation to provide any support, although property values could be affected in the years before Compulsory Purchase Orders are granted. In order to support the local property market in the years before eligible property owners could receive any statutory support, we have developed a voluntary scheme, which aims to do two things: First, to make sure that properties in the area where land would be needed for any new runway development can be bought and sold at normal market rates in the years before any development takes place. This is to counter any negative impact on property prices caused by the Government's proposals for possible runway development.

Activity	Background	Current provision
		Second, to enable people who take part in the scheme to sell their property to Gatwick, if Gatwick announces its intention to apply for planning permission for a second runway. The scheme applies to the area where land would be required by Gatwick for a new runway development. A map of the eligible area is provided Appendix A9.
New Noise Sensitive Developments	Guidance on the planning of new noise sensitive development, such as housing, near airports can be found in some local authority local planning guidance. Following the repeal of national guidance on the subject, the Institute of Acoustics, Chartered Institute of Environmental Health, and the Association of Noise Consultants produced Professional Practice Guidance (ProPG) Planning and Noise: New Residential Development in May 2017 which promotes good acoustics design to achieved suitable design standards in new housing in existing noisy environments including near airports.	Under the Noise Management Board's work programme, London Gatwick has worked with local authorities to promote good land use planning and held a workshop sharing experiences in November 2017. Since 2022, new residential development will also need to comply with the Building Regulations Approved Document O – Overheating (ADO). ADO sets out night-time noise limits within bedrooms above which it should be assumed that windows are closed for the purposes of the assessment.

6.3.4 Operating Restrictions

Table 4 presents a range of "operating restrictions" which are in place at London Gatwick.

Table 4: Operating Restrictions at London Gatwick

Activity	Background	Current provision
Night restrictions	As a designated airport, London Gatwick is subject to DfT Night Flight Restrictions. London Gatwick has been a designated airport since 1971 which was also the same year that night flight restrictions were first introduced. In support of the restrictions, the Quota Count (QC) system was introduced in 1993, which covers the core night period of 23:30 to 06:00 local time. The system limits both the number of movements, and the amount of sound energy that can be emitted by aircraft, both in terms of individual aircraft as well a cumulative total over a defined period. This is achieved by classifying aircraft in terms of a particular QC value on arrival or departure based on official noise certification data derived from measurements in accordance with the ICAO certification process. The QC system was last updated in 2017.	The current night restrictions have been extended until October 2025 and details are presented in Appendix A8. The airport regularly reports to GATCOM, the DfT and NaTMAG on the usage of the movements limits and quota counts utilised, and details of any dispensations or exemptions granted. Statistics are reported in the Airspace Office quarterly and annual reports, however, dispensations must be reported in writing to the DfT within 7 days of the event occurring.
Voluntary Bans	London Gatwick introduced a voluntary ban on the operation of QC4 aircraft within the core night period by the end of 2022. This was achieved ahead of schedule in 2021. As of October 2022, a ban on QC4 aircraft in the core night period has been introduced into Government policy for all designated airports.	The airport is committed, within the period of the Round 4 NAP, to investigate the feasibility of introducing a similar phasing out of QC2 aircraft in the core night period.

6.3.5 Ground Noise

Measures related to "Ground Noise Management" are summarised in Table 3.

Table 5: Ground noise management at London Gatwick

Activity	Background	Current provision
Ground Noise	The airport continues to manage ground noise by improving Fixed Electrical Ground Power (FEGP) availability, monitoring the amount of Ground Power Unit (GPU) dispensations granted and number of non-compliances of aircraft Auxiliary Power Unit (APU) operations. In addition, the airport carries out audit checks of aircraft running auxiliary power units. The number of aircraft engine runs permitted are limited by the Section 106 agreement with the local authorities and enforced through the Gatwick Airport Directives (GADs).	The airport continues to monitor adherence and review the effectiveness of the ground noise operational controls and report quarterly and annually to NaTMAG through the Airspace Office reports.

6.3.6 Stakeholder Communication and Engagement

Stakeholder communication and engagement at London Gatwick comprises a mix of reactive and proactive activities as discussed in the following section. Central to this is the Airspace Office, who provide an information service for various stakeholders in relation to noise, track keeping and other operational activities, in addition to overseeing the implementation of the Noise Action Plan. Their role encompasses maintaining a number of lines of communication with communities and other stakeholders and responding to complaints and requests for information, built on a platform of continuous monitoring of aircraft operations. To fulfil this role this role, the Airspace Office relies on the following tools and functions presented in Table 6.

Table 6: Communication management tools and functions at London Gatwick

Tool/Functions	Description
WebTrak	Our WebTrak flight tracking tool is available on our website. WebTrak can be used to view all aircraft movements in the vicinity of the airport and gain further information about a specific flight, e.g., aircraft details, location, and altitude. It also provides quick and easy access to a noise form to submit a complaint, if necessary.
Noise and Track-Keeping (NTK)	The airport operates a Noise and Track Keeping system which comprises of a series of Noise Monitoring Terminals at various distances from the airfield and hardware which combines this with radar data and aircraft specific information. In addition to proving data for WebTrak, the system is primarily employed for complaint investigation, noise abatement reporting and fines for departure noise infringements.

Tool/Functions	Description
Complaints Handling Service	London Gatwick's Airspace Office registers and investigates all complaints received in line with our published Complaints Handling Policy. Complaints can be submitted through a variety of means including the WebTrak system, online form, automated telephone line, via a mobile app and by post. Relevant information is offered to the complainant to help with understanding of the issue, but the Airspace Office will not repeatedly supply the same or similar information, substantial amounts of data, or undertake extensive data gathering exercises in individual cases.
Airspace and Noise Information portal	The airport operates an Airspace and Noise Information Portal, which consolidates all the relevant information about how our airport and airspace works. Users can enter their postcode and access a number of tailored dashboards that show information about the airport and flights in and around their area. The Portal includes dashboards for noise monitoring, noise complaints, current and historic noise contours, amongst the wealth of information provided.

In addition to the above tools and functions, London Gatwick also regularly engages with stakeholders at a strategic level including airlines, air navigation service providers, local community groups, local authorities, and Government bodies. This is done through various engagement fora, which comprise both external committees and internal groups. The primary external committees and internal groups are described in the following Table 7and Table 8, respectively. Table 9 below shows the types of stakeholders who participate in each committee and group.

Table 7: External committees at London Gatwick

External Committees	Description
Gatwick Airport Consultative Committee (GATCOM) and Steering Group	GATCOM is constituted to meet the requirements of Section 35 of the Civil Aviation Act 1982 for an airport "to provide adequate facilities for consultation with respect to any matter concerning the management or administration of the airport which affects the interests of users of the airport, local authorities and any other organisation representing the interests of persons concerned with the locality in which the airport is situated". The role of the Steering Group is to give preliminary consideration to new or detailed matters to be dealt with by GATCOM and to identify the facts and major issues, and to make recommendations to GATCOM. The Steering Group also deals with urgent matters on behalf of GATCOM.
Noise and Track Monitoring Advisory Group (NaTMAG)	The Noise and Track Monitoring Advisory Group brings together a number of stakeholders to discuss a wide range of noise and track keeping issues at the airport. The aims of the Noise and Track Monitoring Advisory Group (NaTMAG) are: • To oversee the operation of London Gatwick's Airspace Office NTK system to ensure that the requirements of the local community are taken into account in respect of the production of statistics, information, and complaint handling. • To advise London Gatwick on issues relating to noise and track monitoring which derive from the results obtained from the monitoring equipment. • To assist London Gatwick in seeking improvements to the noise climate and track-keeping performance around Gatwick.

External Committees	Description
	• To provide information and recommendations regarding noise and track monitoring to the GATCOM via the GATCOM Steering Group.
Noise Management Board (NMB)	The Noise Management Board (NMB) was established in 2016 following a recommendation in the 2015 Independent Review of Arrivals. The NMB is independently chaired and oversees joint strategies to deal with noise around the airport. The board comprises aviation stakeholders and representatives of local communities.
Gatwick Noise Monitoring Group (GNMG)	Gatwick Noise Monitoring Group is a sub-group of NaTMAG and comprises representatives from the environment departments of local authorities as well as acoustic consultants. The group discusses with the airport about the location of mobile noise monitors, the duration they are to be onsite and to review and verify the data. This group also makes recommendations on the format the data to be reported to NaTMAG and the wider community.
Aircraft Noise Management Advisory Committee (ANMAC)	ANMAC was set up by the DfT to advise on policy relating to aircraft noise at Heathrow, Gatwick, and Stansted. It continues to advise the Department on technical and policy aspects of aircraft noise mitigation and track-keeping. ANMAC has become increasingly overshadowed in recent years with the Airspace and Noise Engagement Group (ANEG) providing the most frequent interaction between DfT and stakeholders.
Airspace and Noise Engagement Group (ANEG)	The ANEG covers all aspects of national airspace and airport noise policy development. It acts as a sounding board to identify, discuss and, where possible, resolve airspace and airport noise issues that impact on the work of the department. ANEG provides a formal channel for communication between the Department for Transport and airspace and airport noise stakeholders. The ANEG is also an open forum for members to share their own relevant airspace and airport noise projects.
Airspace Change Organising Group (ACOG)	ACOG's role is to coordinate the delivery of key aspects of the UK Government's Airspace Modernisation Strategy that will contribute to the Government's vision for quicker, quieter, and cleaner flights.
Sustainable Aviation	London Gatwick is a 'Council' Member of Sustainable Aviation, which promotes a collective long term strategy for UK aviation to tackling the challenge of ensuring a sustainable future for the aviation industry. Launched in 2005, it is a world first in bringing together major UK airlines, airports, manufacturers, and air navigation service providers. The signatories and members are focused on finding collaborative ways of improving environmental performance and creating a balanced debate in the interests of ensuring sustainable growth.
S106 Legal Agreement Meetings	In 2001, Gatwick Airport Ltd signed a Section 106 (S106) legal agreement with West Sussex County Council and Crawley Borough Council. The agreement defines how Gatwick's operation, growth and environmental impacts will be managed responsibly and ensures that our wider sustainability strategy is aligned with local authority partners. At the meetings, the performance of the airport in respect of the S106 agreement is discussed. The findings are then presented in Annual Monitoring Report which covers our actions to fulfil our obligations and commitments. This is also communicated to the Gatwick Airport Consultative Committee (GATCOM).

Table 8: Internal groups at London Gatwick

Internal Groups	Description
Airspace Office	The Airspace Office provides an information service for various stakeholders in relation to noise, track keeping and other operational activities, in addition to overseeing the implementation of the Noise Action Plan. Their role encompasses maintaining a number of lines of communication with communities and other stakeholders and responding to complaints and requests for information, built on a platform of continuous monitoring of aircraft operations. The team also provides relevant statistics to the Department for Transport, the Noise and Track Monitoring Advisory Group (NaTMAG), the Noise Management Board (NMB) and the Gatwick Airport Consultative Committee (GATCOM).
Flight Operations Performance and Safety Committee (FLOPSC)	FLOPSC ensures the development of best practice in flight operations by all airlines using London Gatwick in order to minimise their effect on the local community. Matters discussed include departure track keeping, Continuous Descent Operations, noise complaints and departure noise infringements.

Table 9: Attendance at Committees and Groups

Group	Gatwick Airport Limited	Communities	Community Action Groups	Local Authorities	Airlines	Business Interests	Passengers and Consumer Interest Groups	Travel and Tourism Interest Groups	Trade Unions	GATCOM	NaTMAG	ANSP (NATS)	DfT	CAA	DEFRA	Charities	Consultants
GATCOM	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	-	✓✓	✓✓	✓	✓	✓	✓	✓
GATCOM Steering Group	✓	✓✓								✓✓							✓
NaTMAG	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓			✓✓	-	✓✓	✓	✓			✓
NMB	✓	✓✓									✓✓						✓
NEX		✓✓	✓✓*														✓
NCF		✓✓	✓✓*														✓
NDG		✓✓	✓✓*														✓
FLOPSC	✓✓	✓										✓✓					✓
ANMAC	✓✓	✓✓			✓✓							✓✓					✓
ANEG	✓✓				✓✓		✓✓						✓✓	✓✓			✓
ACOG	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓							✓✓				✓
S106 Legal Agreement Meetings	✓	✓		✓✓								✓✓					✓
Gatwick Noise Monitoring Group (GNMG)	✓✓			✓						✓	✓						✓
Sustainable Aviation	✓✓				✓✓												

Legend	✓✓	Permanent members	✓✓*	Cyclical representation	✓	Ad hoc/by invitation/delegates

7 Evolution of the Noise Action Plan

7.1 Introduction

This section sets out the baseline upon which the Round 4 Noise Action Plan is founded. This includes noise exposure data from the Round 4 (2021) strategic noise mapping, as required by the Regulations, in addition to data from previous rounds.

Due to COVID-19 travel restrictions, mapping for 2021 is recognised as being a highly anomalous. Therefore, additional context has been provided by considering the 92-day summer contours which are prepared annually in relation to both the daytime and night-time periods.

Analysis is provided regarding the medium-term trends in noise exposure. Building upon this, this section goes further in advising the airport's noise exposure forecast for 2029, accounting for potential growth in passenger numbers and anticipated fleet modernisation.

7.2 2021 Strategic Noise Mapping

The Regulations require the creation of strategic noise maps for the main sources of environmental noise, i.e., major roads, major railways, major airports, and agglomerations every five years.

The Defra guidance requires that mapping is generated in relation to an entire calendar year in terms of the following metrics L_{den}, L_{day}, $L_{evening}$, L_{night} and $L_{Aeq,16h}$.

The 2021 Strategic Noise Maps for London Gatwick were produced by Environmental Research and Consultancy Department (ERCD) of the Civil Aviation Authority (CAA) and submitted to Defra. The population count data was provided in the Defra data pack. The strategic noise maps are reproduced at Appendix A3.

The estimated total number of dwellings and people exposed above various noise levels in 2021, derived from the strategic mapping of noise are shown in Table 10 to Table 14. For comparison purposes, data from the previous rounds are shown in the tables.

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 10: Dwellings and People in Noise Contour Areas – L_{den} (24h Period): 2006, 2011, 2016 and 2021

Contour Level (dBL_{den})	Number of dwellings				Number of People			
	2006	2011	2016	2021	2006	2011	2016	2021
≥55	4,700	4,500	5,450	350	11,900	11,300	13,500	900
≥60	1,300	850	950	50	3,200	2,000	2,300	100
≥65	250	200	250	0	600	500	600	0
≥70	50	<50	<50	0	100	<100	<100	0
≥75	0	0	0	0	0	0	0	0

Table 11: Dwellings and People in Noise Contour Areas – L_{day} (07:00 – 19:00 hrs): 2006, 2011, 2016 and 2021

Contour Level (dBL_{day})	Number of dwellings				Number of People			
	2006	2011	2016	2021	2006	2011	2016	2021
≥54	4,100	3,550	4,000	350	10,300	8,700	9,800	900
≥57	1,850	1,200	1,350	150	4,400	2,800	3,200	400
≥60	500	500	550	<50	1,300	1,200	1,400	<100
≥63	250	200	250	0	600	500	600	0
≥66	150	100	50	0	300	200	200	0
≥69	<50	<50	<50	0	<100	<100	<100	0

Table 12: Dwellings and People in Noise Contour Areas – $L_{evening}$ (19:00 – 23:00 hrs): 2006, 2011, 2016 and 2021

Contour Level ($dBL_{evening}$)	Number of dwellings				Number of People			
	2006	2011	2016	2021	2006	2011	2016	2021
≥54	2,550	2,600	3,300	200	6,200	6,400	8,000	500
≥57	750	750	900	<50	1,900	1,800	2,100	100
≥60	350	300	450	<50	800	700	1,000	<100
≥63	150	150	150	0	400	400	400	0
≥66	<50	<50	<50	0	100	100	100	0
≥69	<50	0	0	0	<100	0	0	0

Table 13: Dwellings and People in Noise Contour Areas – L_{night} (23:00 – 07:00 hrs): 2006, 2011, 2016 and 2021

Contour Level (dBL_{night})	Number of dwellings				Number of People			
	2006	2011	2016	2021	2006	2011	2016	2021
≥48	3,000	2,950	3,650	150	7,500	7,200	9,000	500
≥51	1,500	1,250	1,150	<50	3,700	2,900	2,800	100
≥54	450	450	500	0	1,100	1,000	1,100	0
≥57	200	200	200	0	500	500	500	0
≥60	100	100	50	0	300	200	200	0
≥63	<50	<50	<50	0	<100	<100	<100	0
≥66	0	0	0	0	0	0	0	0

Table 14: Dwellings and People in Noise Contour Areas – $L_{Aeq,16h}$ (07:00 – 23:00 hrs): 2006, 2011, 2016 and 2021

Contour Level ($dBL_{Aeq,16h}$)	Number of dwellings				Number of People			
	2006	2011	2016	2021	2006	2011	2016	2021
≥54	3,550	3,300	3,850	300	8,900	8,100	9,400	800
≥57	1,550	1,050	1,200	100	3,700	2,500	2,900	300
≥60	450	450	550	<50	1,200	1,100	1,300	<100
≥63	200	200	200	0	600	500	600	0
≥66	100	50	50	0	300	200	200	0
≥69	<50	<50	<50	0	<100	<100	<100	0

Table 10 to Table 14 show a pronounced downward trend in noise exposure between 2016 (Round 3) and 2021 (Round 4), as measured in terms of the number of dwellings and number of people exposed. The decrease is commensurate with a significant reduction in aircraft movements associated with COVID-19 travel restrictions.

When considered over the longer term, Table 10 shows that that noise exposure measured in terms of L_{den} increased slightly between 2006 (Round 1) and 2016 (Round 3), having seen a small reduction in 2011 (Round 2). Notably, the reduction in 2011 was observed across nearly all noise exposure metrics and is considered to result from reduced passenger numbers during that period and a consequent reduction in aircraft movements. Between 2006 and 2016, noise exposure measured in terms of L_{day} was slightly reduced, but $L_{evening}$ saw a pronounced increase, the combination of which saw overall daytime $L_{Aeq,16h}$ noise exposure increase. L_{night} also saw a pronounced increased between 2006 and 2016. Importantly L_{den} is a metric which significantly penalises noise during the night-time and to a lesser degree in the evening, consequently the increase in L_{den} between 2006 and 2016 can be attributed to evening activities and night-time.

7.3 Annual 92-day summer contours

For the purposes of the development of this Round 4 Noise Action Plan, it is recognised that comparisons cannot readily be made, and conclusions easily drawn from the strategic noise mapping data from 2021 alone. Therefore, in accordance with Defra guidance, pre-pandemic supplementary data has been considered to provide more context, with 2019 being considered as the most representative in informing the noise action plan.

As part of London Gatwick's status as a 'designated airport', noise contours are required to be produced annually. These contours are produced for both the 16-hour daytime period (07:00 - 23:00 hrs) and 8-hour night period (23:00 – 07:00 hrs), based on the actual 92-day summer period.

The estimated total number of dwellings, people exposed, and contour area since Round 3 (2016) are shown in Table 15 to Table 20 as follows:

- $L_{Aeq,16h}$ (07:00-23:00 hrs) - Table 15, Table 16 and Table 17
- $L_{Aeq,8h}$ (23:00-07:00 hrs) - Table 18, Table 19 and Table 20

The data presented in the tables is for the 'actual modal split' representing the balance of runway direction operated within the specific year.

7.3.1 Daytime

Table 15: Comparison of the number of dwellings within the daytime noise contours

Contour Level ($dBL_{Aeq,16h}$)	Daytime Air Noise Contours - Number of Dwellings						
	2016	2017	2018	2019	2020	2021	2022
≥51	-	-	-	-	-	-	5,000
≥54	4,550	4,500	4,150	**3,850**	150	400	1,900
≥57	1,700	1,650	1,100	**1,000**	50	100	700
≥60	550	550	550	**500**	<50	<100	400
≥63	150	150	150	**150**	0	0	100
≥66	100	100	100	**50**	0	0	<100
≥69	<50	<50	<50	**0**	0	0	0
≥72	0	0	0	**0**	0	0	0

Table 16: Comparison of the number of people within the daytime noise contours

Contour Level ($dBL_{Aeq,16h}$)	Daytime Air Noise Contours - Number of People						
	2016	2017	2018	2019	2020	2021	2022
≥51	-	-	-	-	-	-	12,600
≥54	11,600	11,300	10,450	**9,900**	500	1,000	4,300
≥57	4,150	4,050	2,800	**2,550**	150	400	1,700
≥60	1,550	1,450	1,450	**1,450**	50	100	800
≥63	550	500	550	**550**	0	<100	300
≥66	350	350	300	**200**	0	0	100
≥69	150	150	100	**100**	0	0	0
≥72	0	150	0	**0**	0	0	0

Table 17: Comparison of the area enclosed within the daytime noise contours

Contour Level ($dBL_{Aeq,16h}$)	Daytime Air Noise Contours – Area (km2)						
	2016	2017	2018	2019	2020	2021	2022
≥51	-	-	-	-	-	-	88.0
≥54	88.1	83.8	76.5	**73.6**	13.3	18.3	47.3
≥57	44.2	42.7	40.0	**38.7**	7.0	9.7	27.1
≥60	25.1	24.1	23.2	**22.4**	3.6	5.2	15.3
≥63	13.7	13.3	13.1	**12.6**	2.0	2.7	8.1
≥66	7.2	7.1	6.9	**6.7**	1.2	1.6	4.1
≥69	3.8	3.7	3.6	**3.5**	0.8	1.0	2.1
≥72	2.1	2.1	2.0	**1.9**	0.5	0.6	1.3

Table 15 to Table 17 show a pronounced downward trend in daytime noise exposure from 2016 (Round 3) to 2019, as measured in terms of the number of dwellings, people exposed, and contour area. The decrease in noise exposure has been achieved despite an increase in passenger numbers and the numbers of aircraft movements remaining broadly static. This reduction is considered to be largely due to fleet modernisation and the success of incentivizing modifications to the Airbus A320 family of aircraft in relation to noise generation from the Fuel Over Pressure Protector (FOPP). The tables also demonstrate that 2022 is not representative, because movements remain below pre-pandemic levels.

7.3.2 Night-time

Table 18: Comparison of the number of dwellings within the night-time noise contours

Contour Level ($dBL_{Aeq,8h}$)	Night-time Air Noise Contours - Number of Dwellings						
	2016	2017	2018	2019	2020	2021	2022
≥45	-	-	-	-	-	-	5,300
≥48	5,750	5,550	4,850	4,750	150	200	2,600
≥51	2,800	2,700	2,150	2,150	50	100	700
≥54	750	700	600	600	<50	<100	300
≥57	350	300	250	250	0	0	100
≥60	100	100	100	100	0	0	<100
≥63	50	<50	<50	50	0	0	0
≥66	0	0	0	0	0	0	0

Table 19: Comparison of the number of people within the night-time noise contours

Contour Level ($dBL_{Aeq,8h}$)	Night-time Air Noise Contours - Number of People						
	2016	2017	2018	2019	2020	2021	2022
≥45	-	-	-	-	-	-	13,400
≥48	14,600	13,900	12,300	12,200	500	700	6,600
≥51	7,150	6,700	5,450	5,500	150	200	1,600
≥54	1,850	1,800	1,600	1,600	50	<100	700
≥57	950	900	750	750	0	<100	300
≥60	350	350	300	300	0	0	100
≥63	200	200	150	150	0	0	0
≥66	150	150	0	0	0	0	0

Table 20: Comparison of the area enclosed within the night-time noise contours

Contour Level ($dBL_{Aeq,8h}$)	Night-time Air Noise Contours – Area (km^2)						
	2016	2017	2018	2019	2020	2021	2022
≥45	-	-	-	-	-	-	105.8
≥48	107.1	101.0	91.6	90.5	13.1	14.2	53.8
≥51	58.8	54.4	47.0	46.0	6.9	7.5	29.2
≥54	28.6	27.7	25.1	24.7	3.5	4.0	16.2
≥57	15.9	15.1	14.1	14.0	1.9	2.1	8.9
≥60	8.0	7.8	7.5	7.4	1.2	1.3	4.7
≥63	4.1	4.0	3.9	3.8	0.8	0.8	2.3
≥66	2.2	2.2	2.1	2.1	0.5	0.5	1.4
≥69	1.3	1.3	1.3	1.3	0.3	0.3	0.9
≥72	0.8	0.8	0.8	0.8	0.1	0.2	0.5

In respect of the night-time period Table 18 to Table 20 show a similar downward trend in noise exposure, from 2016 (Round 3) to 2019, to the daytime period. As for the daytime this reduction is considered to be largely due to fleet modernisation and the success of incentivising modifications to the Airbus A320 family of aircraft in relation to noise generation from the Fuel Over Pressure Protector (FOPP).

7.4 Identification of Problems and Long-Term Noise Strategy

The identification of problems and situations to be improved is a key component of the Regulations, reliant upon analysis of the strategic noise mapping data. It is intended to inform the long-term strategy and consequently any new noise management measures within the Noise Action Plan. Importantly, citing the Government's aviation noise policy objective, the Defra guidance invites airport operators to consider additional measures to further reduce noise impacts.

In many jurisdictions and for other types of noise source, the identification of problems is focussed on mitigating specific locations which are exposed to levels above certain thresholds. As London Gatwick has a Noise Insulation Scheme, Home Owner Support Scheme and Property Market Support Bond, which align with Government policy, this objective is satisfied, however the airport continually strives to improve upon these schemes. For aviation noise in the UK, a broader view is also taken, considering larger scale measures of community noise exposure, longer-term trends and incorporating stakeholder feedback. This approach facilitates the consideration of wider impacts whilst not losing sight of issues that are important to specific local communities.

From a high-level perspective, whilst it can be seen that noise exposure increased slightly between Round 1 (2006) and Round 3 (2016), the annual 92-day summer contours show a pronounced reduction between 2016 and 2019. In the context of recent pattern of reducing noise exposure, it is considered that maintaining the current direction of travel is a priority, especially as passenger numbers return to and ultimately increase above pre-pandemic levels.

To maintain the current trajectory, our long-term strategy will be to build upon the existing measures described in Section 6.3, which are based on the ICAO Balanced Approach, including stakeholder engagement. Reflecting this and responding to the invitation to consider additional measures, a number of new noise actions have been incorporated within the Round 4 Noise Action Plan based on stakeholder feedback.

7.5 Our forecast

In response to stakeholder feedback and reflecting the direction of travel of recent Government policy, London Gatwick have included noise exposure forecasts within the Round 4 Noise Action Plan. These are the first forecasts to be included in our Noise Action Plan and are intended to provide stakeholders with an understanding of how the noise situation will evolve over the period of the Plan.

Forecasts have been developed for 2029 informed by a detailed review of anticipated future passenger growth and the likely changes to fleet mix at the airport. The forecasts comprise noise exposure data for both the daytime and night-time periods, presented in terms of the noise contour area and associated population count. Full details are presented in Appendix A9, covering 3 dB intervals from 54 – 72 dBA and 48 – 66 dBA, for the daytime and night-time respectively. Table 21

presents headline noise exposure data, representing the lowest noise band, with a baseline year of 2019 provided for context.

Table 21: Future Noise Exposure Forecasts

Year	Time period	Metric	Contour area (km^2)	Population Count
2029 Forecast	Day	54 $dBL_{Aeq,16h}$	62.4	8,200
	Night	48 $dBL_{Aeq,8h}$	77.4	10,100
2019 Baseline	Day	54 $dBL_{Aeq,16h}$	73.6	9,900
	Night	48 $dBL_{Aeq,8h}$	90.5	12,200

It can be seen from the above table that, over a ten-year period from 2019, the forecasts indicate a reduction in community noise exposure for both the daytime and night-time periods. In order to develop a clearer view of the future trend, in addition to reviewing annual 92-day summer noise contours, London Gatwick has committed to updating these forecasts for the years 2034 and 2039, towards the end of the Round 4 Noise Action Plan for inclusion in the Round 5 Plan.

8 Our Round 4 Noise Action Plan

Our Round 4 Noise Action Plan is provided in this section. The proposed actions are provided in Section 8.1 and 8.2 comprising retained, consolidated, updated and new actions. The proposed actions have been grouped to reflect the pillars of the ICAO Guidance on the Balanced Approach to Noise Management.

The Actions have been captured across two tables; comprising 'Progressive Actions' intended to proactively advance noise management at the airport beyond current industry standards and 'Core Actions', which form the core of the airport's longstanding noise management framework.

Where the 'Impact Area' is defined, Table 22 provides the descriptions.

Table 22: Description of Impact Areas

Impact Area	Description
Arrivals	Relating to any and all arrival procedures for aircraft arriving at Gatwick Airport.
Departures	Relating to any and all departure procedures for aircraft departing Gatwick Airport.
Ground	Relating to aircraft operations on the ground, including taxiing, holding points, aircraft on stands, and ancillary operations including engine testing.
Strategic	Relating to overarching noise management activities and initiatives, including policy development, influence, research, and innovation.
Community Trust and Awareness	Relating to our relationship with our neighbouring communities and their interaction with the airport.
Night Flights	Relating As per the DfT's definitions; split into night and core night 23:30 - 05:59 hours local) and 'shoulder periods' (06:00 - 06:59 and 23:00 - 23:29 hours local).
Community Noise Mitigation	Means used to mitigate or compensate specific properties and communities around Gatwick Airport.

Importantly all actions are intended to benefit communities both within and beyond the 55dB L_{den} contour with the exception of 'Community Noise Mitigation', which has defined geographic boundaries.

8.1 Progressive Actions

Table 23: Progressive Actions

Reference	Action	Objective	Means	Measure of Success	Impact Area
Reduction of Noise at Source					
P.1	We will continue to be vigilant in respect of aircraft with industry acknowledged acoustic issues and seek to resolve such issues through appropriate means.	To promote the uptake of remedial measures in order to reduce noise exposure.	We will aim to resolve such issues through industry stakeholder groups and the DfT. Where identified and considered readily rectifiable by way of retrofit modifications, we will apply charging incentives to those operators of affected unmodified aircraft and report on these.	Government or regulator action in place, for example the DfT tracking of the Airbus A220 engine combustor resonance issue. Where appropriate charging incentives in place, for example the change to the London Gatwick airline charges to encourage the Airbus A320 Fuel Over Pressure Protector (FOPP) modification.	Arrivals Departures
Operational Procedures					
P.2	We will continue to evolve the measures by which we rank airline noise and track keeping performance and report through our Airline Noise Performance Table (ANPT).	To encourage continual operational improvement and providing clear and transparent information to stakeholders.	Evaluation metrics will be reviewed and revised where appropriate.	We will continually review the evaluation metrics with one formal review per year. We will provide one case study on the effectiveness of the action within the life of this Noise Action Plan.	Arrivals Departure Strategic Community Trust and Awareness
P.3	We will improve operational performance to reduce arrivals noise.	To drive continuous improvement in operational practices leading to a reduction in arrivals noise.	We will work with our airlines through increased engagement via the Airspace Office to encourage the increased adoption of Continuous Decent Operations (CDO). Furthermore, we will introduce a Low Noise Arrival Metric (LNAM) onto the ANPT, to improve Low Power Low Drag performance.	Our target is 3 airline engagements meetings per quarter. Our target is to increase CDO performance to 92% with a stretch target of 93% by 2030. An LNAM target will be developed through the rollout of the metric.	Arrivals

Reference	Action	Objective	Means	Measure of Success	Impact Area
P.4	We will continue to explore opportunities to remove the altitude restrictions on our departure routes.	To facilitate an increase in the ability to perform Continuous Climb Operations (CCO) leading to a reduction in departure noise.	Through the Future Airspace Strategy Implementation - South (FASI-S) airspace change project, we will promote the adoption of continuous climb for all departure route designs.	Our target implementation dates are related to the FASI-S programme deployment timelines, for which the airport has only limited control.	Departures
P.5	We will continue to explore the feasibility of introducing Standard Instrument Departure (SID) routes that distribute traffic within our Noise Preferential Routes (NPR).	To investigate the spatial and temporal distribution of aircraft within an NPR leading to a reduction in the impact of noise.	Through the Future Airspace Strategy Implementation - South (FASI-S) and Route 4 airspace change projects, we will develop multiple departure route options within an NPR conformance monitoring swathe that provide, where possible, combinations of dispersal, distribution, and respite.	Our target implementation dates are related to the FASI-S programme deployment timelines, for which the airport has only limited control.	Departures
P.6	We will improve track keeping conformance for departing aircraft on our Noise Preferential Routes (NPR).	To drive continuous improvement in operational practices to provide certainty for our communities who experience departure noise.	We will work with our airlines through increased engagement via the Airspace Office to improve NPR track keeping conformance. We will deliver airspace change in relation to the Route 4 and Future Airspace Strategy Implementation - South airspace changes.	Our target is 3 airline engagement meetings per quarter. Our target is to achieve a track keeping conformance of 99% with a stretch of 99.5% by 2030.	Departures
P.7	We will review the departure noise limits and fines for airlines that breach the limits.	To drive operational improvement by reducing the occurrence of excessive noise exposure (outliers) from departing aircraft.	We will review the efficacy of limits and fines, including the benchmarking of other schemes. If appropriate, the limits and/or fines will be amended.	We will conduct a review of departure noise limits and fines within the life of this Noise Action Plan.	Departures
Land-use Planning and Management					
P.8	We will review our acoustic insulation schemes to ensure they remain appropriate and relevant.	To help reduce the impact of airport noise on households most affected by aircraft noise.	We will work with consultants to ensure that the schemes are policy compliant including the benchmarking of other schemes.	We will maintain a review of the schemes, with one formal review within the life of this Noise Action Plan.	Community Noise Mitigation

Reference	Action	Objective	Means	Measure of Success	Impact Area
P.9	We will monitor the number of additional residential units being created annually within the vicinity of the airport.	To assess how planning permissions for additional residential units within the contours have been granted. This will assist London Gatwick in developing new/carrying out existing noise impact mitigation initiatives with a more granular understanding, and feed into wider Land Use Planning work outlined in C.10.	We will develop a method for collecting data year on year, of both the additional residential units and the reason for their development.	We will develop a method in 2024, for ongoing use thereafter.	Strategic
Operating Restrictions					
P.10	We will consider the voluntary phase out of the scheduling of QC2 aircraft during the core night period.	To reduce, noise exposure during the core night period, from individual aircraft movements on departure and consequently overall.	We will conduct a feasibility study and report on the voluntary phase out of the scheduling of QC2 aircraft during the core night period.	We will conduct and publish a review within the life of this Noise Action Plan.	Night Flights Departures
P.11	We will consider the introduction of a daytime noise envelope, in accordance with the Government Policy at the time.	To provide increased certainty for communities regarding future noise exposure.	We will conduct a feasibility study into the potential adoption of a daytime noise envelope cognisant that as an operating restriction this would be subject to the Airports (Noise-related Operating Restrictions) (England and Wales) Regulations 2018.	We have proposed a noise envelope as part of our Northern Runway Project Development Consent Order. If this were to be unsuccessful, we will publish a formal review within the life of this Noise Action Plan.	Strategic Community Trust and Awareness
Stakeholder Engagement					
P.12	We will continue to explore innovative methods to reduce noise impacts.	To encourage and facilitate operational improvement in the interest of reducing noise exposure and impacts.	This will be delivered through the London Gatwick sponsored Noise Management Board (NMB) workplan.	We will conduct a formal review at the end of each NMB term, along with a summary outcomes report.	Departures Arrivals Community Trust and Awareness
P.13	We will continue to maintain a Noise and Track Keeping (NTK) system that is suitable, relevant, and reliable.	To facilitate operational improvement in the interests of reducing noise outliers and consequent noise exposure.	We will continue to keep abreast of latest technologies and innovations as part of a continual review of the effectiveness of our Noise and Track Keeping (NTK) system. When necessary, upgrades to the system will be procured.	We will review the efficacy of the NTK system, with one formal review within the life of this Noise Action Plan.	Community Trust and Awareness

Reference	Action	Objective	Means	Measure of Success	Impact Area
P.14	We will continue to explore opportunities to improve noise information transparency and accessibility.	To maintain appropriate and relevant provision of timely and transparent airspace and noise data for community stakeholders to better facilitate their understanding of noise and its associated impacts.	We will explore the best ways to present information to the public as new noise information and technology becomes available.	We will continually review the efficacy provision of noise information, with one formal review within the life of this Noise Action Plan. We will provide one case study on the effectiveness of the action within the life of this Noise Action Plan.	Community Trust and Awareness
P.15	We will continue to provide a fit for purpose Community Noise Monitoring Scheme (CNMS).	To facilitate a better understanding of arrival and departure noise for stakeholders. This can also benefit London Gatwick in terms of measuring the benefits of potential mitigation measures where trialled and/or adopted.	We will review the feasibility of expanding the CNMS and report to NaTMAG and the Gatwick Noise Monitoring Group (GNMG). We will review the reporting process incorporating stakeholder feedback and update as necessary. In conjunction with the GNMG, we will review the requirement for noise studies. We will publish any reports commissioned on our website.	We will review the feasibility of expansion and review of the reporting process annually. We will review the requirement for commissioning noise studies on a 6-monthly basis.	Community Trust and Awareness
P.16	We will commission the preparation of additional, annual based, noise exposure contours assessments.	To help facilitate better understanding of the noise environment around London Gatwick for stakeholders.	We will annually prepare the following annual noise exposure contours: • Annual 24-hour L_{den} • Annual 12-hour L_{day}) • Annual 4-hour $L_{evening}$ • Annual 8-hour L_{night} • Annual 16-hour day L_{eq} We will also include the following annual noise exposure contours: • Annual 16-hour day N65 • Annual 8-hour night N60	We will publish annual exposure contours in our annual reports with effect from the 2024 reporting year.	Strategic Community Trust and Awareness

Reference	Action	Objective	Means	Measure of Success	Impact Area
P.17	We will ensure that our procedures relating to the receipt, processing, and reporting of aircraft noise complaints remain fit for purpose.	To provide community confidence and transparency of information.	Delivered through a review, which will include benchmarking against other schemes.	We will continually review the evaluation metrics with one formal review per year.	Community Trust and Awareness
P.18	We will consider the feasibility of implementing evaluation metrics to better reflect potential health effects resulting from aviation noise.	To help facilitate better understanding of the noise environment and associated health effects around London Gatwick for stakeholders.	We will conduct a feasibility study into reporting annually, the following noise related health information: • the population highly annoyed in relation to the daytime period • the population highly sleep disturbed at night • Night-time awakening data	We will conduct and publish a feasibility study within the life of this Noise Action Plan.	Strategic Community Trust and Awareness

8.2 Core Actions

Table 24: Core Actions

Reference	Action	Objective	Means	Measure of Success	Impact Area
Reduction of Noise at Source					
C.1	We will continue to maintain a charging differential in our published airport charges which incentivises the use of aircraft with the best-in-class noise performance.	To encourage continual operational improvement in the interest of reducing noise exposure.	Gatwick Airport Ltd will consult with its airline partners annually regarding the Airport Charges Structure. The Noise Management Board will also be asked for its feedback.	As part of the Airport Charges, we will review our environmental differential charges (including noise) within the life of this Noise Action Plan.	Arrivals Departures
C.2	We will continue to review and report adherence to the effectiveness of our ground noise operational controls.	To encourage continual operational improvement in the interest of reducing noise exposure.	We will continue to monitor adherence to and review the effectiveness of our ground noise operational controls. We will report on a quarterly and annual basis to NaTMAG.	We will continue to monitor the following metrics. • Fixed Electrical Ground Power availability (target 99%) • The amount of Ground Power Unit dispensations granted. • The number of audit checks of aircraft auxiliary power unit running. • The number of non-compliances of aircraft auxiliary power unit runs identified. • The number of aircraft engine runs undertaken (limit imposed by Section 106 Agreement).	Ground

Reference	Action	Objective	Means	Measure of Success	Impact Area
Operational Procedures					
C.3	We will continue to rank our airline partners in relation to their noise and track keeping performance and report the results through our Airline Noise Performance Table.	To encourage continual operational improvement and providing clear and transparent information to stakeholders.	Delivered quarterly and annually on the website and also in the quarterly and annual Airspace Office reports. Used to pinpoint poor performers required for airline engagement.	Case studies of airline performance pre-and post-airline engagement to show improvements in noise metrics. Our target is 3 airline engagement meetings per quarter. We will provide one case study on the effectiveness of the action within the life of this Noise Action Plan.	Arrivals Departures
C.4	We will continue to promote, monitor, and report on adherence to the arrival and departure noise abatement procedures detailed in the London Gatwick Aeronautical Information Publication.	To drive continual improvement in operational practices leading to a reduction in aviation noise.	We will work with our airlines through increased engagement via the Airspace Office. Enabled through an increased tempo of airline engagement by the Airspace Office (compared to 2019). The introduction of the Low Noise Arrival Metric (LNAM).	Our target is 3 airline engagement meetings per quarter. Meetings will be published in the quarterly reports to NaTMAG. The LNAM will be rolled out - including a substantial validation phase - throughout the life of this NAP.	Arrivals Departures
C.5	We will continue to monitor and enforce our departure noise limits.	To encourage continuous operational improvement in the interest of reducing noise exposure.	Monitored daily by the Airspace Office. Any aircraft in breach of the noise limits will be fined and such monies will be passed to the Gatwick Airport Community Trust.	We will apply fines for breaches and direct these to the Gatwick Airport Community Trust. Reported in the Airspace Office quarterly and annual reports.	Departures
Land-use Planning and Management					
C.6	We will continue to offer to purchase those properties of owners suffering from a high level of noise and/or a large increase in noise.	To provide community reassurance to those properties that may be significantly affected by any future growth of London Gatwick.	We will continue to offer to purchase all buildings eligible for the scheme, in accordance with the Terms of Reference of the Property Market Support Bond and Home Owners Support Scheme.	We will maintain the scheme during the life of this Noise Action Plan.	Community Noise Mitigation

Reference	Action	Objective	Means	Measure of Success	Impact Area
C.7	We will continue to offer a Noise Insulation Scheme (NIS) that helps with the cost of acoustically insulating homes against the effects of aircraft noise within the NIS boundary.	To reduce noise exposure inside properties for those areas most highly exposed.	We will continue to offer acoustic insulation to all buildings eligible for the scheme.	We will maintain the scheme during the life of this Noise Action Plan.	Community Noise Mitigation
C.8	We will continue to offer a scheme for acoustic insulation to noise sensitive buildings within the 60 dBL_{Aeq} noise contour.	To reduce noise exposure inside noise sensitive buildings for those areas most highly exposed.	We will continue to offer noise insulation to all buildings eligible for the scheme.	We will maintain the scheme during the life of this Noise Action Plan.	Community Noise Mitigation
C.9	We continue to review residential land-use legislation and policies and seek to influence them where practicable.	To help mitigate new population affected by aircraft noise around London Gatwick	We will work with the DfT to understand ways in which Policy can be influenced and utilised to achieve this. We will continue to engage with local authorities and explore wider industry initiatives.	We will continue existing collaboration with industry stakeholders and local authorities.	Strategic
Operating Restrictions					
C.10	We will continue to administer the Department for Transport night flight regime and ensure that we operate within the prescribed ATM and Quota Count (QC) limits.	To incentivise the use of the quietest aircraft in the night period in the interests of reducing noise exposure.	All night movement data is published in the Airspace Office quarterly and annual reports to NaTMAG.	The Airspace Office will continue to work with internal and external partners, airlines and the DfT to ensure that aircraft maintain the night noise quota set by the DfT.	Night Flights
C.11	We will continue, as far as is practicable, take all necessary steps to manage the late running of aircraft to prevent scheduled day movements taking place during the sensitive night period.	To incentivise the avoidance of aircraft movements in the core night period in the interests of reducing noise exposure.	All night movement data is published in the Airspace Office quarterly and Annual reports to NaTMAG.	The Airspace Office will continue to work with internal and external partners, airlines and the DfT to ensure that aircraft maintain the night noise quota set by the DfT.	Night Flights

Reference	Action	Objective	Means	Measure of Success	Impact Area
Stakeholder Engagement					
C.12	We will continue to engage actively with Government, the Regulator, Sustainable Aviation, and other bodies where relevant to aviation noise impact management and implement all relevant recommendations and requirements.	To promote the continuous improvement in operational and strategic management of noise.	Gatwick will respond appropriately to relevant consultations, engagement exercises and recommendations arising from the engagement activities.	We report to NaTMAG on engagement activities undertaken in relation to key strategic stakeholders.	Strategic
C.13	We will continue to participate in the Government's Airspace Modernisation Strategy (AMS) incorporating Future Airspace Strategy Implementation – South (FASI-S).	To promote the continual improvement in operational and strategic management of noise.	London Gatwick's FASI-S airspace change aims to deliver options that limit and where possible reduce the adverse impacts of aircraft noise as per the Design Principle 3 of this ACP.	The outcomes of Design Principles Evaluation, Initial Options Appraisal and ultimately, the Full Options Appraisal of Gatwick's FASI-S ACP.	Strategic
C.14	We will continue to ensure that local communities are informed about London Gatwick's activities as part of the Government's Airspace Modernisation Strategy (AMS) incorporating Future Airspace Strategy Implementation – South (FASI-S).	To provide local communities with progress updates and opportunities to input into the airspace concept and design.	Provide regular engagement with local communities, informing on the progress, outcomes and where required, seeking feedback.	We will carry out community engagements at each Stage, and brief NaTMAG quarterly.	Strategic Community Trust and Awareness
C.15	We will continue to provide public access to flight track information and noise related data.	To provide a suitable relevant, and reliable flight tracking system, appropriate for use by industry and community stakeholders.	WebTrak and the Airspace and Noise Information Portal will be reviewed regularly to ensure the software is up to date.	We will regularly review this action throughout the life of this Noise Action Plan.	Community Trust and Awareness
C.16	We will continue to maintain the Airspace and Noise Information Portal, refining the existing content as necessary.	To provide timely and transparent data for industry and community stakeholders in the interests of increasing the understanding of noise and associated impacts.	Delivered through a review of the content and when new noise information becomes available, we will explore the best way to display this through the Portal.	We will regularly review this action throughout the life of this Noise Action Plan.	Community Trust and Awareness

Reference	Action	Objective	Means	Measure of Success	Impact Area
C.17	We will continue to review compliance with Noise Abatement Procedures contained within the London Gatwick Aeronautical Information Publication.	To track and report adherence in the interests of delivering further reductions in arrival and departure noise.	Reported quarterly and annually to NaTMAG and published on the website.	We will report progress against on a quarterly basis to NaTMAG, the Gatwick Airport Consultative Committee and on our webpages.	Arrivals Departures Ground
C.18	We will continue to publish 92-day summer noise exposure contours assessments.	To help facilitate a better understanding of noise exposure for stakeholders.	We will annually prepare the following annual noise exposure contours: • Summer 16-hour day L_{eq} • Summer 8-hour night L_{eq} • Summer 16-hour day N65 • Summer 8-hour night N60	We will continue to publish 92-day summer exposure contours annually during the life of this Noise Action Plan.	Arrivals Departures Ground
C.19	We will continue to provide a complaint handling service in line with our published Complaints Handling Policy.	To provide community confidence and transparency of information, including trend analysis, to facilitate continuous operational improvement with the aim of reducing noise impacts.	We will continue to offer 5 methods of noise complaint submission. We will continue to log all complaints and provide detailed analysis on a quarterly basis on our website. We will review the Complaints Handling Policy on an annual basis to ensure it is relevant and up to date.	We will target a response rate for complaints within 8 working days of 95% or above. We will continue to report our performance in the Airspace Office quarterly and annual reports to NaTMAG and published on the website.	Community Trust and Awareness
C.20	We will continue to engage with local communities through the established noise governance groups, and to host an annual airspace public meeting in line with our Section 106 Agreement.	To obtain an understanding of local community issues and provide an annual summary of London Gatwick's Airspace achievements and activities to our neighbours.	Co-ordination of a meeting annually will take place through the NMB Secretariat.	We will conduct a formal review at the end of each NMB term, along with a summary outcomes report.	Community Trust and Awareness
C.21	We will continue to maintain the Noise Management Board	To encourage and facilitate operational improvement in the interests of reducing noise impacts on the ground, and where possible, noise exposure.	We will continue to support the existence of, and engagement with a Noise Management Board, associated workplan and meeting papers.	We will conduct a formal review at the end of each NMB term, along with a summary outcomes report.	Arrivals Departures Ground Community Trust and Awareness

Reference	Action	Objective	Means	Measure of Success	Impact Area
C.22	We will continue to engage with and provide noise data as required to local Environmental Health Officers through the Gatwick Noise Monitoring Group.	To obtain an understanding of local community issues, and the provision of airport information to local authorities, to facilitate continuous operational improvement with the aim of reducing noise impacts.	Noise monitoring data provided at GNMG meetings for discussion around the technical aspects of acoustics and noise trends in the areas surrounding the airport.	GNMG meetings held every six months.	Strategic
C.23	We will continue to engage with Local Authorities for knowledge sharing purposes.	To obtain an understanding of local community issues, and the provision of airport information to local authorities, to facilitate continuous operational improvement with the aim of reducing noise impacts.	We will continue to engage with local planning authorities including the circulation of data, publication of reports, and participation and support to the Quarterly S106 steering group meetings.	We will regularly review this action throughout the life of this Noise Action Plan.	Strategic

A1 Glossary

A2 Defra Guidance

A3 Strategic Noise Contours

A4 92-day Summer Contours

A5 Historical noise contour performance

A6 Historical KPI performance

A7 Complaints Data

A8 Summary of Limit Values in Place

A9 Spatial information

A10 Financial Information

A11 Stakeholder Feedback

A11.1 List of Stakeholder Meetings

Table 25 sets out the key stakeholders' meetings that have been attended, in support of the development of the Round 4 Noise Action Plan. These meetings were intended to provide opportunities for stakeholder feedback to the widest possible audience. In some cases, meetings were more targeted, where key elements of the Noise Action Plan were presented and discussed in detail. The membership of the respective groups is summarised in Table 9.

Table 25: Key Stakeholder Meetings

Date	Stakeholder Group	Purpose of Meeting
27 April 2023	Gatwick Airport Consultative Committee (GATCOM)	Briefing on work to date and plans for engagement. Opportunity for initial feedback.
11 May 2023	Noise and Track Monitoring Advisory Group (NaTMAG)	Briefing on work to date and plans for engagement. Opportunity for initial feedback.
19 May 2023	Noise Management Board (NMB): Graham Lake, NMB Secretary	Initial feedback from NMB and understanding of how their work could interact with the NAP
24 May 2023	NMB Noise Community Forum (NCF)	Briefing on work to date and plans for engagement. Opportunity for initial feedback.
12 June 2023	Defra	Briefing on work to date and plans for engagement. Sought clarification from Defra with regards to their Round 4 guidance, proposed approach and deliverables.
22 June 2023	Extraordinary NaTMAG (deliverables)	Technical briefing note (benchmarking, baseline and Round 4 NAP proposals) circulated to NatMAG for consideration in advance of Extraordinary NaTMAG meeting.
29 June 2023	Extraordinary NaTMAG	Extraordinary meeting specifically relating to the Round 4 NAP. A benchmarking study of Noise Actions at other Airports was presented. In addition, analysis of key changes during Round 3, pertinent to the NAP, was presented, for the purposes determining the current baseline situation. Building upon the above, outline proposals for the revision of the NAP were discussed including proposed new actions, consolidation of existing actions and removal of obsolete / completed actions.

Date	Stakeholder Group	Purpose of Meeting
		Opportunity for feedback to inform the draft R4 actions.
7 July 2023	GATCOM Steering Group	Progress update. Opportunity for further feedback.
12 July 2023	NMB Executive Board (NEX)	Progress update. Opportunity for further feedback.
19 July 2023	NMB Noise Delivery Group (NDG)	Progress update. Opportunity for further feedback.
20 July 2023	GATCOM	Progress update. Opportunity for further feedback.
21 July 2023	NaTMAG Pre-meet (deliverables)	Draft NAP Actions and Skeleton NAP circulated to NatMAG for consideration in advance of NaTMAG Pre-meet and subsequent meeting.
25 July 2023	NaTMAG Pre-meet	No GAL attendance. Feedback received from NATMAG on the draft R4 actions.
3 August 2023	NaTMAG	Presentation on the proposed Round 4 Noise Actions with an emphasis on responding to and discussion on the pre-meet comments on specific actions.
21st– 25th August 2023	NaTMAG (deliverables)	Final draft NAP circulated for information.

A11.2 Key Consultation Themes

Table 26 sets out the key themes identified by stakeholders for consideration in the Round 4 NAP.

Table 26: Key Consultation Themes and GAL response

Key Theme	Summary of Comments Received	GAL Response
Adequacy of previous NAPs	The current and past Gatwick NAPs have been inadequate. Historic plans have not achieved the Environmental Noise Directive (END) aim of *"avoiding, preventing or reducing on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise"*.	All NAPs are approved by the Secretary of State and therefore considered fit for purpose and legally compliant.
Adherence to noise policy objectives	The NAP has not achieved the Aviation Policy Framework (APF) objective to *"reduce and mitigate noise as airport capacity grows"*. The NAP has not achieved results consistent with UK Airspace Policy (AP) to *"to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise as part of a policy of sharing benefits of noise reduction with industry in support of sustainable development*".	Aviation noise is subject to a number of policy requirements including the APF (2013), AP (2017), Airports National Policy Statement(s) (2018), Aviation 2050 (2018), Flightpath to the future (2022) and the Overarching Aviation Noise Policy (2023). London Gatwick is committed to reducing its noise impacts in line with these policies. This This action plan includes forecast noise exposure for 2029. This is the first forecast to be included in our NAP and intends to provide stakeholders with an understanding of how the noise situation will evolve over the period of the plan.
Noise envelopes and the setting of reduction targets and outcomes	The NAP should commit to noise impact outcomes, based on the government's core policy principles of balance, benefit sharing and noise impact reduction. The central requirement for the 2024-29 NAP should be quantified estimates of the noise reduction the airport's plans will achieve. Defra's guidance requires the estimates to be challenging, objective and subject to specific timescales. We expect to see estimates of the reduction in L_{eq} and noise event frequency measures (N above) as a minimum but suggest GAL engages widely on which metrics to use. Gatwick NAPs have not contained *"estimates … of the reduction of the number of people affected (annoyed, sleep disturbed, or other) as a result of the*	The Round 4 NAP has been developed, cognisant of current and emerging policy, with amendments included where appropriate and practicable to do so. Specifically, it includes forecasting of noise exposure in 2029 against which the success of the NAP process can be judged. Importantly current and future night noise restrictions set by DfT provide a noise envelope which, subject to no increase in the movements cap, shares 100% of the benefits of noise reduction with the community. Furthermore, an action (P.11) has been added to consider the introduction of a noise envelope in the event that the Northern Runway Project Development Consent Order is unsuccessful. Furthermore, an action (P.18) has been added to consider noise impacts over time

	measures proposed …", as required by the END.	in terms of headline health effects of 'highly annoyed' and 'highly sleep disturbed' from a baseline year of 2019.
Noise envelopes and the setting of reduction targets and outcomes	Add an action to cover a Noise Envelope	The night noise regime forms a kind of envelope. An action (P.11) has been added to consider the introduction of a noise envelope in the event that the Northern Runway Project Development Consent Order is unsuccessful.
Role of Defra in monitoring and enforcing noise reduction outcomes	The NAP noise reduction targets (suggested above) should be independently monitored and enforced by DEFRA's Secretary of State, including limiting its growth, so as to achieve them.	The Round 4 NAP itself will be subject to scrutiny from the Defra Secretary of State to determine whether it is fit for purpose and policy complaint. Importantly the NAP Actions are subject independent monitoring by NaTMAG on behalf of GATCOM. This could include a review of progress against the forecasts that will be included for the first time in the NAP.
Estimating the benefits of actions	Stakeholders are keen to see estimates of the benefits of the actions and quantified improvements being targeted, that actions are specific, measurable, achievable, relevant, and time-bound (SMART) and that the NAP is more target driven to enable better monitoring and scrutiny.	Following consultation on the draft Round 4 actions, a number of targets have been incorporated into our actions where practicable to do so. In general it is not practicable to disaggregate the benefit of individual actions, however it is proposed that for some actions, that case studies are develop during the life of the Round 4 action plan, to more clearly quantify resultant benefits.
Changes to flight paths to reduce the number of people affected by noise	The *"numbers of people affected by noise"* might not work at LGW as it would mean very concentrated routes through rural areas with low ambient noise. This would not be an acceptable outcome.	Noted. The Airport is aware of comments received by some stakeholders as part of its airspace modernisation that there is a perceived preference for the dispersal of aircraft over concentration of aircraft.
Accessibility of the Noise Action Plan	The NAP should be easily digestible and understandable by the lay person. The report should be as short as possible and avoid repetition.	Noted. This has been a primary goal for the drafting of the R4 NAP.
Accessibility of the Noise Action Plan	Importance of ensuring that all documents must be drafted in a way that they are clearly understandable to a lay reader. Important or relevant benchmark type concepts should have the basis explained. For example, how are noise contours determined.	The Round 4 NAP has been developed with the intention of making the technical content as accessible as possible to the lay person.

Consolidation of Actions	Where existing actions are proposed to be combined, care needs to be taken to avoid losing the thrust of either action.	Noted. Specific comments relating to combined actions have been addressed individually. Care has been taken when revising the wording of combined actions.
Review of the Noise Action Plan	An action should be added regarding the comprehensive mid-term and year 4 reviews of the NAP.	Noted. NaTMAG already have a comprehensive mid-term review of the NAP.
Noise Attitude Survey	GAL should commission an independent study of noise attitudes around Gatwick. This would be in a similar vein to the UK SoNA study but focused solely on Gatwick.	It is considered that a study of this nature specific to Gatwick would be disproportionate due to existing activity in this space. Existing policy is based on samples and participants from around Gatwick. New studies are already in preparation (ANNE and ANAS) which will also include samples and participants from around Gatwick.
Suggested changes to Night Noise Quota System	Suggestion to introduce a phasing out of QC2 aircraft scheduled in the core night period (23:30 to 06:00) Note that LHR have maintained a voluntary ban on arrivals before 04:30 and scheduling cargo flights in the Night Quota Period.	An action (P.10) has been added to conduct a feasibility study into the voluntary phasing out of QC2 aircraft during the core night period.
Appropriateness of 2021 Strategic Noise Contours	Strategic Noise Mapping based on 2021 will be highly anomalous. Suggest GAL sets out estimates of the noise reductions it is proposing from both 2019 and, when available, 2023.	2019 noise contours have been considered for the R4 NAP. 2023 noise contours will not be available until after the R4 NAP has been published. The 2022 season does not reflect a return to pre-pandemic conditions.
Concern that other actions could have been adopted	Identified common measures taken by other EU airports. Concern that most actions not already implemented at LGW were dismissed with the comment "other common measures in EU airports that are not implemented at Gatwick Airport require two or more runways for their implementation". This is not the case for a number of these measures including, for example, Continuous Climb Procedures.	A benchmarking study of the Round 3 NAPs of other airport was undertaken in support of the development of the Round 4 NAP. All measures identified in benchmarking study were considered in detail to determine whether they were appropriate to Gatwick Airport.
Thresholds for Noise Management Actions within the NAP	The legal requirement is for Heathrow Airport Limited to consider noise issues within the 55dB L_{den} and 50dB L_{night} noise contours. These contours take into account aircraft noise during take-off, landing and ground roll. LHR have extended the scope of this plan by giving consideration to actions which seek to address the impacts of aircraft noise in areas beyond the specified contours. Whilst communities on the extended centre line at LGW are clearly the priority, many other communities in the	Actions related to reducing noise in communities within the contours and on the extended runway centre line will also benefit outlying areas.

	surrounding area suffer greatly from environmental noise caused by LGW and need to be given much more attention.	
Health	In terms of health impact, the airport should be producing annual awakening contours.	An action has been added to develop and formalise an approach to quantifying awakenings at night due to noise. Upon completion this will be reported annually based on annual noise exposure.

A11.3 Comments on the Draft Noise Actions

The following tables set out comments received from NatMAG in relation to the 'Draft Noise Actions' circulated on 21st July 2023. For brevity only those actions which were subject to comments have been included in the table. These actions were then discussed in detail at the NaTMAG meeting on 3rd August 2023. GAL subsequently went away to further consider the responses received before revising the actions where appropriate. In some cases, the actions have been reworded in the interests of providing SMART Actions.

A11.3.1 Proposed Progressive Actions

Table 27 sets out the key comments on the proposed actions received from NaTMAG for consideration in the Round 4 NAP.

For brevity only those actions which were subject to comments have been included in the table.

Table 27: NaTMAG Comment on Proposed Actions and GAL response

Code	Action	Objective	Comment	GAL Response
Reduction of Noise at Source				
1	We will continue to review aircraft having potentially readily rectifiable industry acknowledged acoustic defects, for example, Airbus A320 family aircraft that have not had the Fuel Over Pressure Protector (FOPP) modification retrofitted. Where identified we will apply penalties to those operators of affected aircraft and report on charging penalties.	To encourage the uptake of remedial measures in the interests of reducing noise exposure.	Also needs to include the resonance issue with the A220.	Action (P.1) amended such that 'measure of success' mentions the A220 and also restructured such that charging incentives will only apply to readily rectifiable issues.
Operational Procedures				
3	We will work with our airlines and air navigation services providers to improve CDO at Gatwick. This will be supplemented by the introduction of the Low Noise Arrival Metric (LNAM) on a trial basis which will be fully implemented if successful.	To encourage continual operational improvement in operational practices leading to a reduction in arrivals noise.	There needs to be a target here e.g. the % increase in compliance with CDO.	Action (P.3) amended to include a target performance of 92% increasing to 93% by 2030 has been set. In addition, three airline engagements will be undertaken each quarter.
6	Every five years we will review the fines levelled against airlines which breech departure noise limits.	To encourage operational improvement in the interests of reducing noise exposure and outliers.	Needs a specific date.	Action (P.7) revised to "within the life of the Round 4 Noise Action Plan"
7	Every five years we will review the departure noise limits.	To encourage operational improvement in the interests of reducing noise	Needs a specific date.	Action (P.7) revised to "within the life of the Round 4 Noise Action Plan"

Code	Action	Objective	Comment	GAL Response
		exposure and outliers.		
Land Use Planning and Management				
9	We will review the acoustic insulation schemes within the Round 4 Noise Action Plan period to ensure they remain appropriate and relevant, including benchmarking of schemes at other UK airports.	To maintain an appropriate and relevant scheme in the interests of reducing noise exposure inside properties for those areas most highly exposed.	Needs a specific date. Also work should not just involve benchmarking but for the noise levels at which noise insulation is offered looking at the latest scientific literature.	Comment noted. Action (P.8) revised to "within the life of the Round 4 Noise Action Plan".
10 *NEW*	We will develop a method to monitor and take account of residential encroachment in terms of population count around Gatwick Airport within the Round 4 Noise Action Plan period.	To help disaggregate residential encroachment and population growth from noise exposure statistics. To help inform efforts in relation to action J in the interests of minimising the population affected by noise.	No Comment.	Explanation was provided in relation to the Action (P.9) to NaTMAG which was confirmed to be helpful in understanding the proposal
Stakeholder Engagement				
11	We will review the Noise and Track Keeping (NTK) system within the Round 4 Noise Action Plan period to ensure that it is suitable, relevant and reliable, updating as appropriate.	To encourage operational improvement in the interests of reducing noise exposure and outliers.	Needs a specific date.	Action (P.13) revised to "within the life of the Round 4 Noise Action Plan"
13	We will continue to provide a Community Noise Monitoring Scheme (CNMS), operated under the supervision of the Noise and Track Monitoring Advisory Group and the Gatwick Noise Monitoring Group. We will review on an annual basis the feasibility of expanding the CNMS with additional noise monitoring terminals, as appropriate. We will review the reporting process on an annual basis incorporating stakeholder feedback and update as necessary. In conjunction with the Gatwick Noise Monitoring Group (GNMG) we will regularly commission noise studies to gain an insight into the noise climate in a particular area and holistically across the Gatwick area. We will publish these reports on our website.	To facilitate a deeper understanding of arrivals and departure noise for stakeholders. This can also benefit Gatwick Airport in terms of measuring the benefits of potential mitigation measures where trialled and / or adopted.	The second paragraph needs to define how regularly studies will be done.	Noted. This is a repeated agenda item for the six-monthly GNMG meetings. Proposed to add a target to this effect to the Action (P.15)

Code	Action	Objective	Comment	GAL Response
14 *NEW*	We will introduce to our website, on a yearly basis, the following strategic noise contours: • Annual 24-hour L_{den} (actual modal split) • Annual 12-hour L_{day} (actual modal split) • Annual 4-hour $L_{evening}$ (actual modal split) • Annual 8-hour L_{night} (actual modal split) • Annual 16-hour day L_{eq} (actual modal split)	To provide more temporal granularity in relation to the strategic noise contours enabling long term trends to be more readily understood, having specific regard to all metrics which facilitate analysis in relation to dose-response research. To facilitate a deeper understanding of noise exposure for stakeholders.	Should also be producing N60 and N65 contours on an annual basis and also awakening contours to facilitate deeper understanding of noise exposure for stakeholders.	Noted. The requirement for the provision of N60 and N65 contours have been added to the Action (P.16)
15 *NEW*	We will conduct forecasting of future noise contours towards the end of the Round 4 Noise Action Plan period for inclusion in the Round 5 plan. In support of this exercise, we will benchmark new aircraft types which are expected to form the Gatwick Airport future fleet mix.	To provide visibility on the likely direction of travel for noise exposure to aid stakeholders and decision makers.	Need to also be producing contours for 2029 business as usual now to inform this plan, so there is a benchmark to assess the action plan measures against. Need also to do a mid-point review, and also a review in year 4 of the current plan.	GAL clarified that forecasts will form part of the evolution of this and future noise action plans. GAL will commit to a mid-term review as part of the NATMAG NAP oversight processes. See Section 7.5.

A11.3.2 Proposed Core actions

Table 28 sets out the key comments on the proposed actions received from NaTMAG for consideration in the Round 4 NAP.

Table 28: NaTMAG Comment on Proposed Actions and GAL response

CODE	Action	Objective	Comment	GAL Response
Reduction of Noise at Source				
A	We will maintain a charging differential in our published airport charges which incentivises the use of aircraft with the best in class noise performance. Gatwick Airport Ltd will consult with its airline partners annually regarding the Airport Charges Structure. The Noise Management Board will also be asked for its feedback. As part of the Airport Charges, we will review our environmental differential charges (including noise) at least every five years.	To encourage continual operational improvement in the interest of reducing noise exposure.	Need to put a date in here	Action (C.1) Revised to "within the life of the Round 4 Noise Action Plan"
B	We will continue to monitor adherence to and review the effectiveness of our ground noise operational controls. We will report on a quarterly and annual basis the following: • Fixed Electrical Ground Power availability • The amount of Ground Power Unit dispensations granted • The number of audit checks of aircraft auxiliary power unit running • The number of non-compliances of aircraft auxiliary power unit runs identified. • The number of aircraft engine runs undertaken. We will continue to minimise aircraft auxiliary power unit use in order to reduce ground noise and local air quality emissions via Gatwick Airport Directives and monitoring of compliance.	To encourage continual operational improvement in the interest of reducing noise exposure.	Add in that the reporting will be to NATMAG on a quarterly basis	Action (C.2) text revised.
Operational Procedures				
C	We will continue to rank our airline partners in relation to their noise and track keeping related performance within our quarterly Airline Noise Performance Tables.	To encourage continual operational improvement	Add in that the reporting will be to NATMAG and the GAL website on a quarterly basis.	Action (C.3) text revised

CODE	Action	Objective	Comment	GAL Response
		in the interest of reducing noise exposure.		
E	We have adopted an annual limit of no more than 5% off-track departures. We will continue to compare on an annual basis the percentage of off-track departures against the average performance over the previous five years.	To encourage continual operational improvement in the interest of reducing noise exposure.	Does this metric include route 4? Also note that the Heathrow action plan has no more than 3.5% off track compared to 5% at Gatwick.	This does include route 4. Action (P.6) has been revised to a 99% target with a stretch to 99.5% by 2030 including Route 4 and FASI-S.
Land Use Planning and Management				
H	We will continue to offer a scheme that helps with the cost of acoustically insulating homes against the effects of aircraft noise within the scheme boundary.	To reduce noise exposure inside properties for those areas most highly exposed.	How often does GAL review the effectiveness of the provider?	No changes proposed to wording to Action (P.8)
J *NEW*	We will keep under review residential land-use legislation and policies and seek to influence them where practicable. This will be achieved through engagement with Local Authorities (including involvement in the Development at Gatwick Airport of Supplementary Planning Document (s) (SPD)), representations to the DfT, DLUHC, and NMBs engagement with Strategic Aviation Special Interest Group (SASIG) and involvement in Sustainable Aviation initiatives.	To help disaggregate residential encroachment and population growth from noise exposure statistics in the interests of minimising the population affected by noise.	How far out are GAL looking to go with this – into Kent? Also recognise that this is NMB initiative, but view is that this should be government policy not set locally.	After discussion with NATMAG, no changes to wording proposed. Wording of Action (C.9) since revised.
Operating Restrictions				
L	We will, as far as is practicable, take all necessary steps to manage the late running of aircraft to prevent scheduled day movements taking place during the sensitive night period. We will continue to report on a quarterly basis to the Noise and Track Monitoring Advisory Group the number of flights delayed from planned daytime arrival into night movements (after 23:30 local).	To incentivise the avoidance of aircraft movements in the night period in the interests of reducing noise exposure.	There needs to be a statement on what this was in 2019 i.e. the number of late running aircraft that have ended up in this period, and what the target is to reduce this by. For example at Heathrow looking at 10 % increase in nights without late running aircraft, but at GAL could be 10 % reduction in the number of late running flights. Also why 23:30 given night period is 23:00 to 07:00.	Wording of Action (C.11) revised. No target adopted.
Monitoring and Stakeholder Engagement				
S	We will continue to update to our website with the following noise contours:	To facilitate a deeper understanding of	Also include N60 and N65 summer contours actual/standard as	This has been added to the Action (C.18).

CODE	Action	Objective	Comment	GAL Response
	• Summer 16 hour day L_{eq} (actual modal split) • Summer 16 hour day L_{eq} (standard modal split) • Summer 8 hour night L_{eq} (actual modal split) • Summer 8 hour night L_{eq} (standard modal split) • The above compared to the previous year.	noise exposure for stakeholders.	you are already doing this.	

A11.3.3 Proposed removed actions.

Table 29 sets out the key comments on the proposed actions received from NaTMAG for consideration in the Round 4 NAP.

Table 29: NaTMAG Comment on Proposed Actions and GAL response

Round 3 Action No.	Action	Reason	Comment	GAL Response
Reduction of Noise at Source				
Candidate Action from Benchmarking Study	Audit of EASA database. Audit of noise certification dataset and comparison with EASA central database. Ensure accuracy on noise certification data and provides support to the computation of noise contours around airports.	ERCD do this routinely as part of their work, not GAL.	Is the audit of the EASA database done by ERCD specific to Gatwick?	This issue is not specific to Gatwick Airport. This is expected to be picked up by routine ERCD QA procedures. Calibration of ERCD contours is based on Gatwick specific NTK data.
Operational Procedures				
26	We will work with our airlines and noise governance groups to explore the feasibility of introducing supplementary charges for aircraft departures which persistently fail to operate in accordance with Noise Preferential Routes prescribed for the airport as measured by the noise and track monitoring system operated by Gatwick Airport Ltd, with all such monies passed to the Gatwick Airport Community Trust.	Removed as track-keeping remains high and is continually reported through 'Core' action C.	Supplementary Charges for poor track keeping. – This should stay in the action plan as while compliance may be high now, need to define a penalty if compliance doesn't remain high.	Intend to retain the removal of this action as track keeping performance is high.
Land Use Planning and Management				
27	We will continue to provide a vortex-damage repair scheme to repair roofs that have been damaged by aircraft vortices.	Not applicable to noise.	where is this policy now going to?	It will continue to be tracked by NaTMAG
Operating Restrictions				
9	We will implement a voluntary ban on operations of Quota Count 4 aircraft within the core night period by the end of 2022.	Superseded by updated night flights regime.	as mentioned at the start the airport should now be looking to start a discussion within the life of the current plan on no longer scheduling QC2 in the night period, with a view to a longer term ban as	An Action (P.10) has been added to carry out a feasibility study into a voluntary ban on QC2 aircraft in the core night-time period.

			done previously for QC4.	
Monitoring and Stakeholder Engagement				
39a	We will aim to reach a measure of consensus with community groups on future airport utilisation relative to noise impacts. In order to achieve this, we will conduct a review of Government policy including how Government policy should be interpreted and how that policy has been applied in practice. Following the establishment of a workable policy baseline we will aim to develop new noise metrics and reporting to complement the current noise contours and measure our future noise performance. This work will be used to more precisely describe outcomes to support this END Noise Action Plan.	Removed. Partially superseded by DCO noise envelope.	The plan should include proposals for work on a noise envelope regardless of the DCO process	Action (P.11) reintroduced. In the event that the DCO is unsuccessful, GAL will consider the introduction of a noise envelope.
Candidate Action from Benchmarking Study	Track Community Trust Fund contributions Track long term contributions from noise fines etc and link to community projects To provide transparency on the effectiveness of noise fines and other sources of funding and demonstrate community benefits.	We propose that this is cascaded to the NMB for initial consideration for inclusion in their workplan.	this should not be cascaded to the NMB as the trust already has independent trustees in place to oversee the work.	After discussion, concluded that this is removed.
Other				
Candidate Action from Benchmarking Study	Update presentation of strategic noise contours Have Round 1 – Round 4 strategic contours represented in terms of common noise bands To facilitate better long term comparison of trends.	Under discussion with GAL for potential referral to NMB.	GAL should simply get on with this and not wait for the NMB.	Superseded as Strategic contours found to be presented in corrects bands in Defra data pack only
Candidate Action from Benchmarking Study	WHO and health impact review Review any updates in advice from bodies such as the WHO and the European Environment Agency in relation to aircraft noise and its health and quality of life effects To provide further metrics to evaluate the noise impacts on population, which can also be used to set the airport's long-term strategy for noise reduction.	Under discussion with GAL for potential referral to NMB.	Again, GAL should simply be getting on with this and not waiting for NMB given the likely delay in any newly formed NMB.	After discussion, action revised and incorporated as a new Action (P.18)

A12 Performance of the Round 3 Noise Action Plan

A13 Changes to the Noise Action Plan in Round 4