



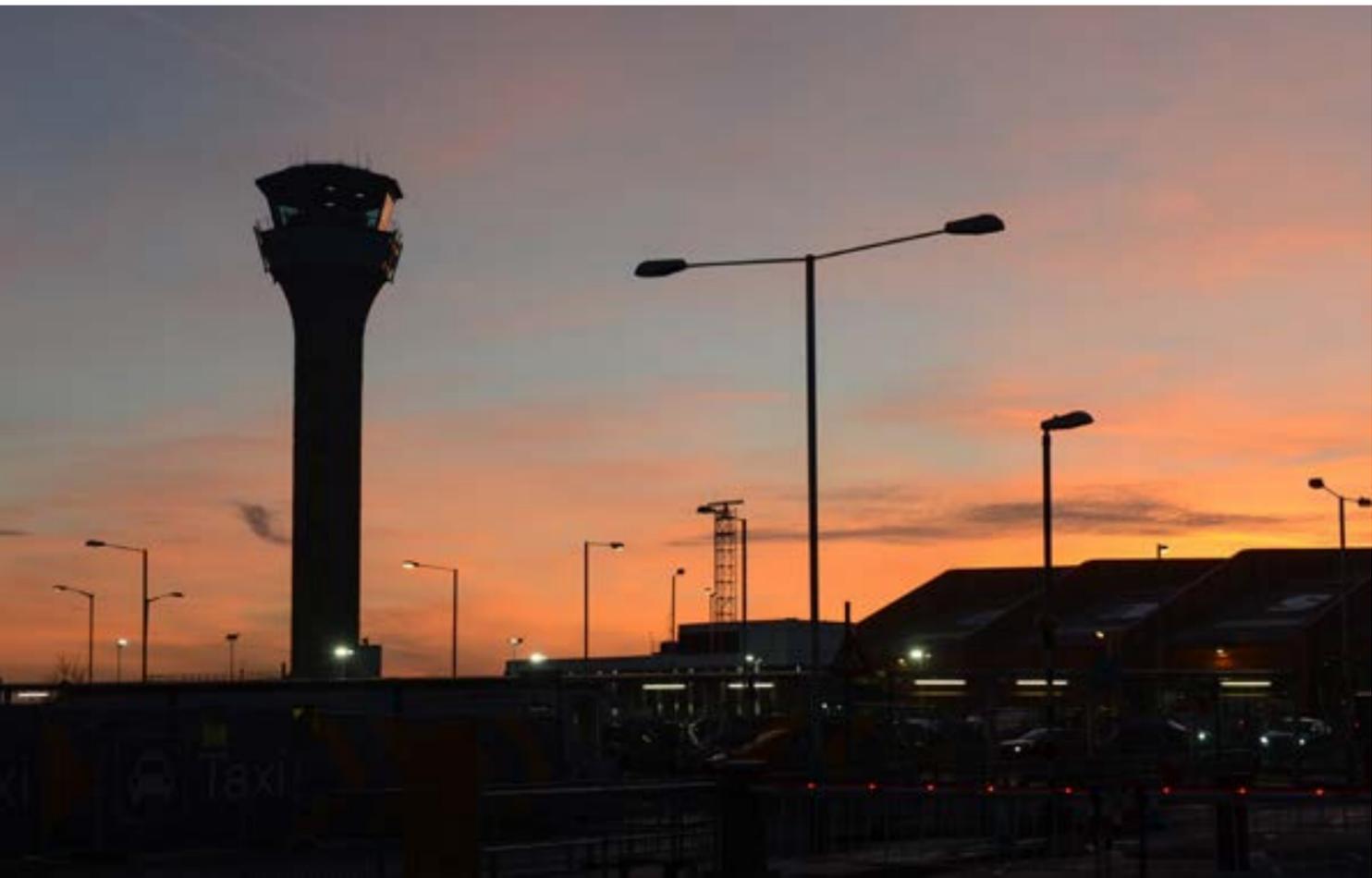
London
Luton
Airport



Environmental Noise Directive Noise Action Plan 2019 - 2023

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Foreword

2017 was the busiest year on record for London Luton Airport (LLA). 15.8 million passengers travelled with us, and together with our airline partners we enabled 135,000 flights; representing a 37 per cent increase over the last five years.

Our story is similar to all London airports and is a reflection of the record demand for air travel across the UK. According to their latest figures, NATS handled 2.6m flights in 2017, a 24 per cent increase over the last five years.

To meet this increasing demand and open up the full potential of the airport we have invested £160 million since 2015 in a programme to transform LLA.

This major development, the biggest in our 80-year history, will increase annual capacity to 18 million passengers per annum by 2020. As a major employer and economic contributor, the new and expanded airport will contribute £1.4billion per year to the local economy and £2.3billion nationally; supporting over 37,700 jobs by 2031.

However, we're acutely aware of the importance of balancing the benefits of being a thriving business with the operational reality of aircraft noise, which we know can often be an area of concern for our neighbours.

LLA has some of the most stringent noise control measures of any UK airport, and we've already made great progress when it comes to tackling noise. Recent measures include increasing the number of local noise monitors and improving the way that we communicate with local communities via our dedicated noise website and regular noise surgeries. We have also committed £100,000 per year to insulate local properties, including installing high performance glazing.

We're particularly proud of our trial involving delayed landing gear deployment. During the trial, which saw pilots delay the deployment of landing gear as late as possible. We measured noise levels at strategic locations and found that average noise from aircraft reduced by 2.7dB at six nautical miles and 3.4dB at seven nautical miles from the airport. This meant that ground noise was reduced by 50%.



As we continue to grow, we know that we must continue to tackle the issue of noise.

This Noise Action Plan sets out our vision for the next five years, and contains policies and initiatives which have been developed in close collaboration with our local communities.

Some of the new measures contained in this plan include a voluntary commitment that all aircraft using the airport will be at least Chapter 4 or below by 2022. We're introducing a new biennial noise survey to create another voice for local communities to give us feedback on how we're doing.

All of these improvements will be taking place at a time when the UK's airspace is under general review – the current airspace was designed in the 1960s and modernisation is required to ensure that it is fit to handle the growing number of aircraft which use it every day. We are working closely with other industry partners to make this happen, and are always looking for ways to reduce the impact of noise on our communities.

Noise is an unavoidable part of being a busy UK airport, but as this plan demonstrates, we're committed to reducing it wherever we can. It is important to work together with our local communities to build an airport which works for everyone.

Neil Thompson
Operations Director
London Luton airport

Purpose and Scope

This Draft Noise Action Plan has been prepared in response to the Environmental Noise Directive (2002/49/EC) which requires all Member States within the European Union to produce Noise Maps and Action Plans for the main sources of environmental noise, including airports. This Plan addresses the period 2019 – 2023, whilst the previous approved Noise Action Plan addressed the period 2013 – 2018.

The requirements of the Environmental Noise Directive (2002/49/EC) are transposed into the Environmental Noise (England) Regulations 2006 (as amended) and build upon the Government's aim, as set out in the Aviation Policy Framework (March 2013), "to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise".

The Regulations require the preparation of Strategic Noise Maps and this Action Plan has been developed in connection with the 2016 noise mapping and in accordance with the Environmental Noise (England) Regulations 2006 (as amended) and associated guidance updated by DEFRA in July 2017.

London Luton Airport Operations Limited, as operator of London Luton Airport, is the competent authority for developing this Noise Action Plan. This Noise Action Plan will be formally submitted to the Secretary of State for Environment, Food and Rural Affairs and will be published in its final format once formal adoption has been confirmed by DEFRA.

This plan includes updated noise mapping and a new set of noise actions. It has been developed with the London Luton Airport Consultative Committee (LLACC) with an initial four week consultation period taking place in line with the directive. LLA also conducted a second two-week consultation period in order to gather further feedback from stakeholders.

For some residents, aircraft noise is a serious concern and the aviation industry recognises that it needs to better understand specific issues that disturb the public.

London Luton Airport is committed to being a good neighbour and endeavours to minimise the impact of its operations on local communities. Continued and enhanced consultation with the community is essential so that an appropriate balance can be struck between the socio-economic benefits of airport operations and its environmental impacts. This Noise Action Plan, once adopted by DEFRA, will provide a meaningful framework for London Luton Airport and its Consultative Committee to build upon its established approach to the proactive management of aircraft noise in and around the airport.



London Luton Airport

London Luton Airport is an important international centre for commercial, business and cargo aviation, as well as aircraft maintenance. In 2016 (the assessment year for this Noise Action Plan), London Luton Airport handled 131,435 aircraft movements and 14.5 million passengers.

The main aircraft types operating in 2016 were Airbus A320 and A321 aircraft, operated by easyJet and Wizz Air. These were closely followed by Airbus A319 (also operated by easyJet) and Boeing 737-800, operated mainly by Ryanair. In 2016, our airlines flew to 135 destinations across 35 different countries. The map below shows the destinations flown/on sale to and from London Luton in 2016.



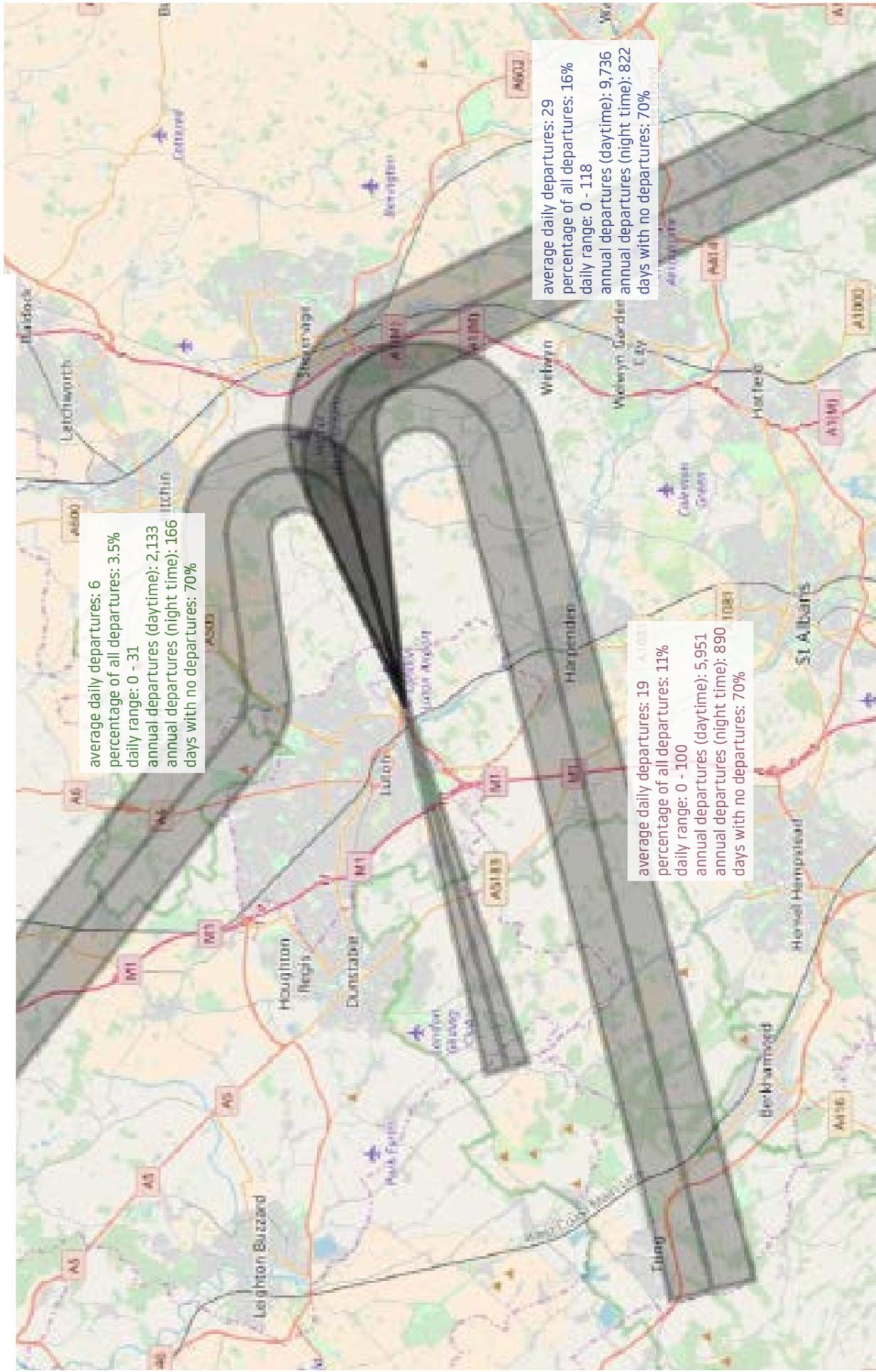
Local Communities

London Luton Airport has one runway which is 2160m in length and six main Noise Preferential Routes (NPRs); three departing in an easterly direction and three departing in a westerly direction. There are two arrival routes, one arriving from a westerly direction and one from the east. The maps on the following pages illustrate the six Noise Preferential Routes and two arrival routes at the airport.

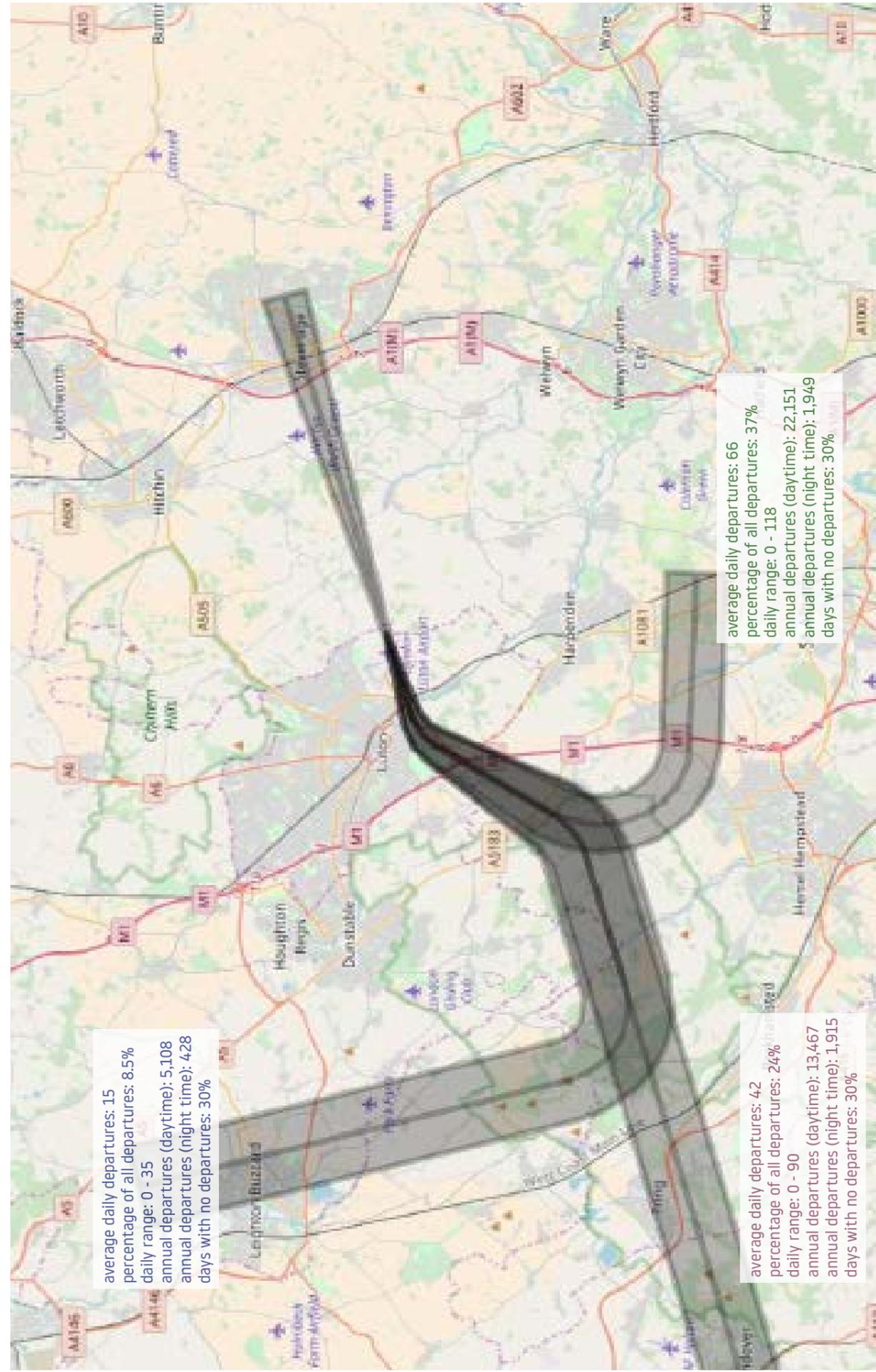
The closest residential areas to the airport are those located to the west and south-west of Luton however the more densely populated areas are to the north. There are a number of small villages within relatively close proximity. Breachwood Green and Whitwell, located to the east, are predominantly affected by easterly departures and westerly arrivals. Residential areas to the west, such as Slip End, Caddington, Flamstead and Markyate are generally affected by easterly arrivals or westerly departures.

In addition to aircraft noise originating from London Luton Airport, the surrounding areas are also affected to varying degrees by road traffic noise, as well as overflights travelling to and from other UK airports.

Plan showing Easterly (08) flight routes and 2016 traffic statistics



Plan showing Westerly (26) flight routes and 2016 traffic statistics



LLA's Contribution to the Local Economy

In February 2015, the airport owner London Luton Airport Limited (LLAL) and the operator London Luton Airport Operations Limited (LLAOL) commissioned Oxford Economics to undertake an analysis of the nature and scale of the economic impact of London Luton Airport on the UK as a whole, and on the surrounding sub-regional and local economies.

The study found that in 2013, the economic activity created by London Luton Airport contributed some £1.3 billion to UK GDP. For every pound London Luton Airport contributes to GDP itself, it creates another £2 elsewhere in the UK economy. Furthermore, for every direct job the airport supports, another 1.9 are supported elsewhere in the UK economy. The airport is estimated to have sustained 27,000 jobs in 2013, comprising 9,400 direct jobs (10% of all employment in Luton Borough), 7,700 indirect jobs within the supply chain of the airport and 10,000 induced jobs as employees of the airport and its supply chain spent their wages.

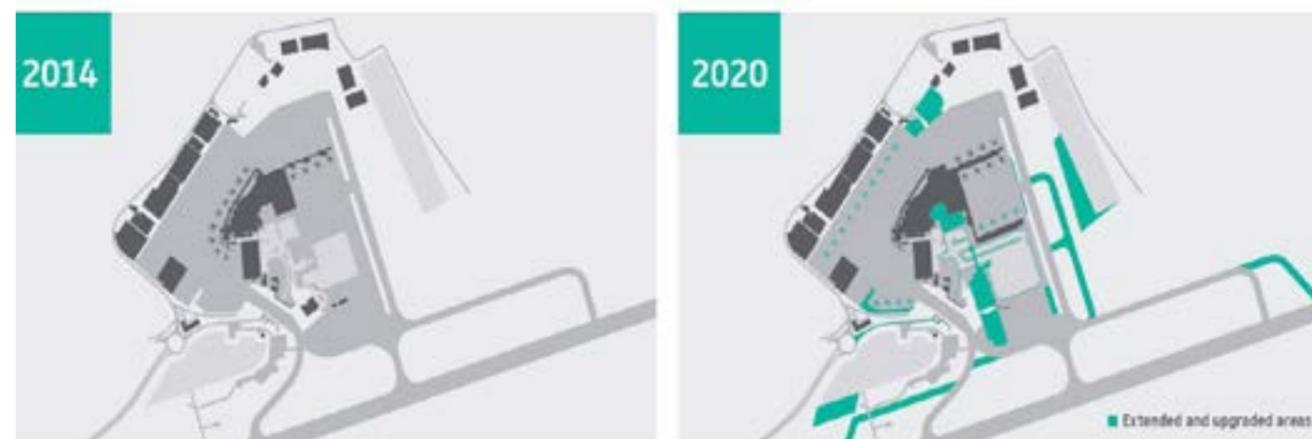
With changes to the capacity of London Luton Airport planned, the study was able to forecast how LLA's economic impact would likely evolve to 2031. By 2031, it is expected that LLA will support 37,700 jobs in the wider economy and the contribution to the Three Counties will almost double from £732m to £1.4bn.

Airport Development

On 3rd December 2012, LLA submitted a full planning application to Luton Borough Council for:

“Dualling of Airport Way/Airport Approach Road and associated junction improvements, extensions and alterations to the terminal buildings, erection of new departures / arrivals pier and walkway, erection of a pedestrian link building from the short-stay car park to the terminal, extensions and alterations to the mid-term and long-term car parks, construction of a new parallel taxiway, extensions to the existing taxiway parallel to the runway, extensions to existing aircraft parking aprons, improvements to ancillary infrastructure including access and drainage, and demolition of existing structures and enabling works. Outline planning application for the construction of a multi-storey car park and pedestrian link building (all matters reserved)”

This application sought to increase the capacity of London Luton Airport to 18mppa from 12mppa. The planning consent was granted in 2014 and the ambitious project aims to greatly enhance the passenger experience with an extensive terminal upgrade, better road access and a new multi-storey car park. The maps below show the extent of the works and more information can be found at transforminglla.com.



Background to Legal Context

The following section sets out a summary of the relevant international, national and local legislation and policy for aircraft noise management. The diagram at the bottom of the page provides the tiers of aircraft noise regulation for operations at London Luton Airport.

International Regulation

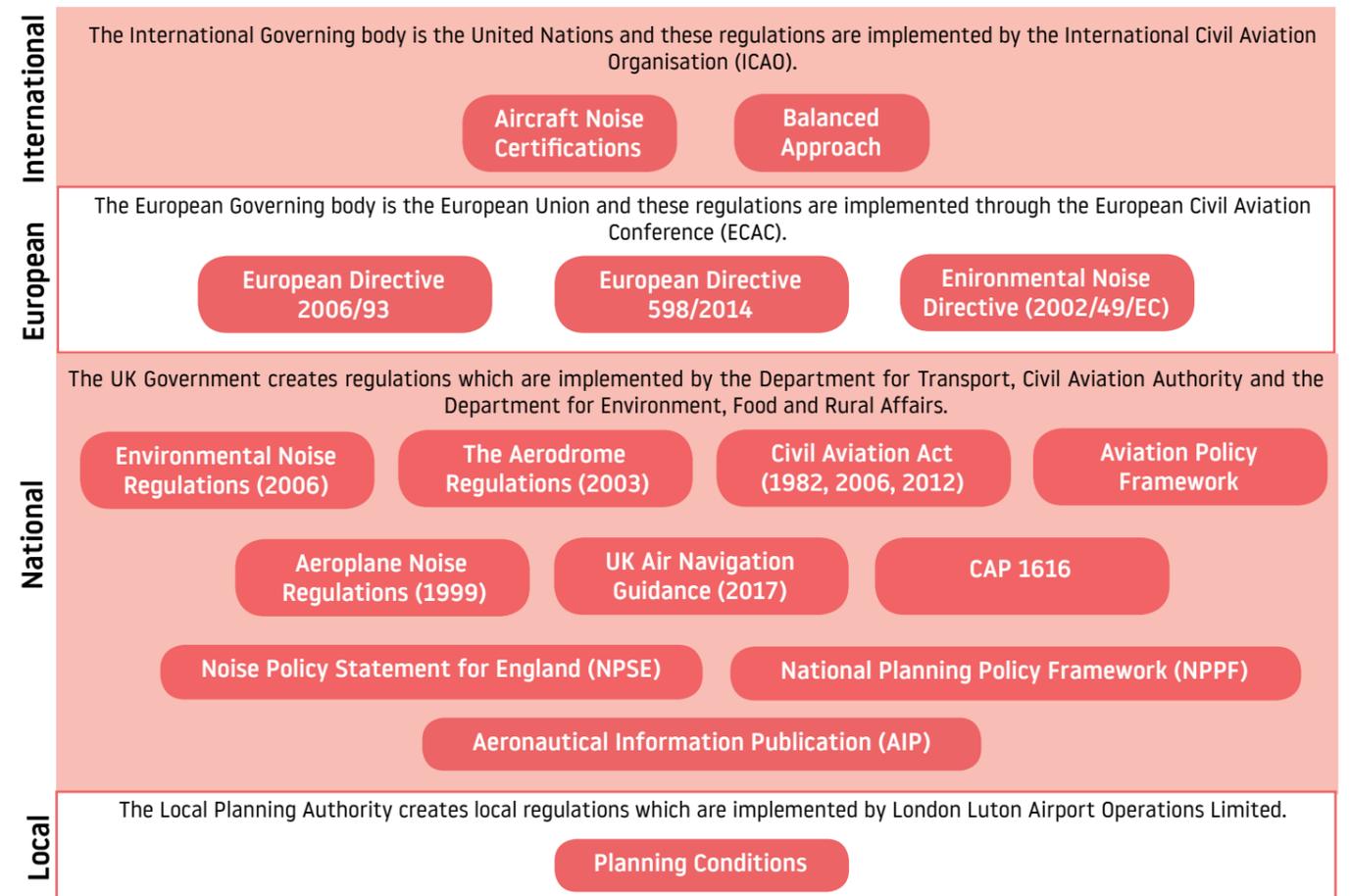
The International Civil Aviation Organisation (ICAO) is the agency of the United Nations which oversees the civil aviation industry. ICAO adopts standards, protocols and recommended practices relating to all aspects of international aviation.

Balanced Approach

Since 2001, ICAO seeks members to adopt a ‘balanced approach’ to aircraft noise management. This includes reducing noise at source; the use of operational noise abatement procedures, land use policies and management, and restricting and banning the operation of certain aircraft; ICAO has developed policies on each of these elements. This approach has been followed when developing this Noise Action Plan.

Aircraft Noise Certifications

ICAO sets noise emission standards for all aircraft types, these are known as ‘chapters’. These standards are progressively strengthened to prohibit aircraft that do not meet certain noise emission standards. Chapter 2 aircraft have been banned from operating in the EU since 1st April 2002, unless granted exemptions.



European Regulation

Directives relating to the management and control of environmental noise have been issued by the European Commission (EC). These are legislative acts which require Member States to achieve a specified result without necessarily determining a means of how it can be achieved.

European Directive 598/2014

This legislation establishes the rules and procedures with regard to the introduction of noise related operating restrictions at Union Airports within a Balanced Approach. It also sets out the definition of marginally compliant aircraft and the process to be followed in the implementation of an operating restriction.

Environmental Noise Directive (2002/49/EC)

Directive 2002/49/EC is the Environmental Noise Directive (END) which defines a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure of environmental noise. It requires airports over 50,000 movements to develop Noise Action Plans and produce Strategic Noise Maps.

In accordance with the END, London Luton Airport was identified as a major airport and consequently Strategic Noise Maps have been produced and this Noise Action Plan prepared. Annex V of END (Appendix F) specifies those elements that a Noise Action Plan must include.

On 23 June 2016, the EU referendum took place and the people of the United Kingdom voted to leave the European Union. Until exit negotiations are concluded, the UK remains a full member of the European Union and all the rights and obligations of EU membership remain in force. During this period the Government will continue to negotiate, implement and apply EU legislation. Therefore END Noise Action Plans are still necessary.

National Regulation

The UK Government has enacted several policies and regulations relating to the management and control of environmental noise and noise from aircraft and airports. These are summarised below:

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

The Environmental Noise (England) Regulations 2006 (as amended), came into force in 2006 and transpose the requirements of the European Noise Directive (2002/49/EC) into English law. The Regulations also name the competent authorities responsible for their delivery. Under the Regulations, the competent authority for preparing Strategic Noise Maps and a Noise Action Plan for London Luton Airport is London Luton Airport Operations Limited, the airport operator. Strategic Noise Maps for London Luton Airport have been produced and submitted to the Secretary of State for Environment, Food and Rural Affairs.

The Regulations state that Noise Action Plans must be prepared, adopted and reviewed when necessary but at least every 5 years and whenever a major development occurs.

Furthermore, in July 2017, DEFRA published updated guidance for airport operators to produce airport Noise Action Plans. This Noise Action Plan has been prepared having regard for this guidance, as required by the Regulations.

Civil Aviation Act 1982 (as amended including the Civil Aviation Act 2006 and 2012)

The Civil Aviation Act 1982 is the principal legislation within the UK for the control of aircraft operations. The Act provides a legislative means of avoiding and limiting the effect of noise from aircraft arriving and departing at UK airports. This includes the enforcement of aircraft noise emission standards and operational procedures as well as the provision to enable airport operators to use charging mechanisms to encourage the use of aircraft that are quieter or with lower emission levels.

Aeroplane Noise Regulations 1999

These regulations provide a set of statutory instruments that describe various methods that are implemented by the Civil Aviation Authority (CAA) that allow noise certified aircraft to use UK airports. The Regulations refer to ICAO noise certification standards and noise limits. The Regulations also provide a list of aircraft that are exempt from noise certification by ICAO.

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

These regulations were transposed from EC Directive 2002/30/EC which builds on ICAO's Balanced Approach. The Regulations apply to all city airports and other civil airports within the UK which have more than 50,000 civil aircraft movements a year and give airport operators the scope to restrict marginally compliant aircraft.

Aviation Policy Framework

The Aviation Policy Framework (APF) was published in March 2013 and fully replaced the 2003 Air Transport White Paper (ATWP) as government's policy on aviation, alongside any decisions government makes following the recommendations of the independent Airports Commission. The Government have advised in the APF that they want to strike a fair balance between the negative impacts of noise and the positive economic impacts of aviation. 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." This is consistent with the Government's Noise Policy, as set out in the Noise Policy Statement for England (NPSE) which aims to avoid significant adverse impacts on health and quality of life. The noise commitments are similar to those given in the ATWP.

In 2017, following a consultation, the Department for Transport introduced some changes to airspace policy, including the creation of a new Independent Commission on Civil Aviation Noise (ICCAN), amendments to compensation policy, and new metrics to consider noise and health impacts further away from the airport than at present; LLA will ensure these policy requirements are met wherever applicable.

UK Air Navigation Guidance (2017)

This guidance is intended to provide direction to the CAA and airports when conducting an airspace change. It includes detailed guidance on the potential environmental impacts of airspace change as well as highlighting the need for engagement and transparency during an airspace change. The guidance also provides clarity of the Secretary of State's call-in function during the Airspace Change Process.



Planning Policy

In 2010 the Noise Policy Statement for England (NPSE) was brought in for noise to be considered in all planning applications, this includes noise from aircraft. The policy aims 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.

In March 2012, the Government discarded the advice on planning and noise, recorded in PPG24, and issued the National Planning Policy Framework (NPPF). It is important that aircraft noise is considered when considering new developments close to the airport boundary or flight paths. In order to address this the NPPF advised that planning policies and decisions should aim to:

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

CAP 1616

CAP 1616 is a CAA document which explains the regulatory process to change current airspace. It is a seven stage process which includes developing and assessing airspace change options, engagement with stakeholders, consultation requirements and the decision process. Any airspace change must follow this process.

Local Regulation

A range of policy instruments are available at a local level to manage and minimise the effects of aircraft operations.

Aeronautical Information Publication (AIP)

As a result of the National regulations listed, each UK airport created a document which provides the specific noise controls when operating at each airport. It includes Noise Preferential Routes (NPR's), Continuous Descent Approaches (CDAs) and night noise restrictions. LLA's AIP can be found [here](#).

Planning Conditions

As well as government legislation, extra noise controls have been defined by LLA's local planning authority (Luton Borough Council) as part of the recent redevelopment plans granted in 2014. These conditions are some of the most stringent in the country and relate to the specific aircraft types operating, number of aircraft operating during the night time period, as well as the introduction of a Noise Insulation Scheme. A full list of planning conditions relating to noise can be found in Appendix F.

Framework for Noise Management

Demand for air travel across the UK is increasing rapidly. In response to increased demand, we are making the biggest investment in LLA's history to transform the airport. The redevelopment of our terminal will bring huge benefits for passengers, but it is vitally important to us that the local community also shares in the success of the airport.

At LLA, our aim is always to work constructively with the local community and our partners to strike the right balance between maximising the positive social and economic benefits to the local area and the UK as a whole while minimising the impact of aircraft noise.

Once the current development is complete, LLA will contribute £1.4 billion per year to the local economy and £2.3 billion nationally. By 2031 we expect to support over 37,700 jobs, which on average pay £11,000 per year more than the national average wage.

But we recognise that the airport's growth may give rise to questions about noise levels. LLA already operates under the most stringent noise restrictions of any major UK airport. But we are continually looking to do more. As the airport continues its growth and development, we are evolving our approach to noise management and this can be seen through the development of our Noise Action Plan.

LLA's Noise Strategy

The main objective of managing noise is to limit and where possible reduce the number of people significantly affected. Aircraft noise is subjective and people's level of tolerance may vary. The diagram shown to the right* details the factors which can cause an individual to become annoyed at aircraft noise. Some of these variables can be minimised by the aviation industry, whereas others may need a multi-stakeholder approach. There are also some factors which cannot be controlled by the aviation industry and therefore these will not be addressed in this plan.

Our strategy has been developed in line with the International Civil Aviation Organisation's (ICAO's) Balanced Approach to Aircraft Noise Management, which comprises of four key elements, such that they achieve maximum environmental benefit in the most cost effective manner. We have combined this approach with Sustainable Aviation's Noise Road-Map as we believe that working with the local community and industry partners should also form part of our Noise Strategy. Our 5 main work areas are explained in the table on the following page.



*Source: Sustainable Aviation Noise Road-Map
<https://www.sustainableaviation.co.uk/goals/noise/>

Approach	Description
Operational Procedures	We will constantly review our operating procedures to ensure the most environmentally friendly procedures are in place, as part of this we will challenge best practice to provide continuous improvement. If more fundamental changes to airspace are required we will proactively engage with stakeholders, in line with CAP 1616, to effectively manage aircraft noise impacts.
Quieter Aircraft	Modern aircraft of today are less noisy than previous generations, however as traffic continues to grow where demand for air travel increases, this reduction can often be counteracted by the number of aircraft overflying an area. At LLA we are encouraging operators to use the quietest aircraft practicable to the Luton operation, particularly during early morning and night time periods.
Land-use Planning and Mitigation	Through communication with local planning authorities we will continue to discourage developments near the airport which would give rise to the number of people significantly effected by noise. Furthermore, we will proactively review the Noise Insulation Scheme to ensure that it remains an effective means of noise mitigation.
Operational Restrictions	Restrictions should not be the first option when it comes to noise management however, we have a range of operating restrictions including movement limits and noise quota limits. Where restrictions are in place we are focused on ensuring that they are adhered to fully.
Working with the local community & industry partners	In order to reduce the impact of noise we recognise the importance of working with our communities and industry partners to understand any concerns and take action where possible, keeping communities up to date.

Operational Procedures

At London Luton Airport we monitor adherence to noise procedures through our Aircraft Noise and Track System. This system captures aircraft flight information operating within a 25 mile radius of the airport and generally up to an altitude of 12,000ft. The public can access this system [here](#).

It receives data from our fixed and portable noise monitoring terminals, located within the neighbouring communities. This enables us to:

- identify noise infringements and to subsequently impose penalties where relevant;
- monitor track-keeping and work with operators to improve performance;
- monitor noise in all our local communities;
- Investigate complaints of disturbance and enquiries.

Off-track Violation Scheme

Aircraft taking off normally generate more noise than landing, as such aircraft are required to follow specific paths called Noise Preferential Routes (NPRs) unless otherwise directed by air traffic control.

Each NPR corridor extends 1.5 km either side of the NPR centre-line and to a release altitude typically 3,000 feet in the day and 4,000 feet at night. Aircraft flying inside this corridor are considered to be flying on-track, those flying outside are considered to be off track and may be subject to a penalty. All of the fines are put into the Community Trust Fund, which provides grants to community groups and charities in Bedfordshire, Hertfordshire and Buckinghamshire. In 2016, there were 91 off-track violations which contributed £72,000 to the Community Trust Fund.

Once an aircraft reaches the NPR release altitude an air traffic controller can instruct it to turn onto a more direct heading to its destination, which may take the aircraft outside the NPR corridor - this is called vectoring. There may be occasions where it is necessary for safety reasons (e.g. to avoid severe weather conditions) to vector aircraft off NPRs below the release altitude.

The approved Noise Preferential Routes for departures from LLA are shown on pages 6 and 7. These areas have been established in consultation with the Civil Aviation Authority and LLACC.

Noise Violation Scheme

Noise levels of departing aircraft are monitored at three locations 6.5km from start of roll on the runway, this is the international standard set by ICAO. Any aircraft departure exceeding the noise violation limits at these monitors will be charged accordingly. The noise limits are:

82dB(A) during the daytime (07:00hrs – 23:00hrs)
80dB(A) at night (23:00hrs – 07:00hrs)

Further reductions to the noise violation levels are planned for 2020, down to 80dB(A) during the daytime and 79dB(A) at night.

Since April 2018, if an aircraft exceeds these noise limits during the day time they will be fined £1000, an aircraft exceeding in the night time will be fined £2000. All fines are put into the Community Trust Fund, which is independently administered by the Bedfordshire and Luton Community Foundation.

Continuous Descent Approach

We encourage all operators to use a Continuous Descent Approach (CDA), this technique means an aircraft stays higher for longer and descends at a continuous rate to the runway threshold therefore reducing periods of prolonged level flight at lower altitudes. With CDA less fuel is burnt, less emissions are produced but most importantly it reduces the noise by avoiding the use of engine thrust required for level flight.

At LLA we regularly achieve our target of 90% compliance and work with operators to increase CDA performance where possible.

Delayed Landing Gear

In 2017, LLA conducted a trial aimed at reducing the noise generated by arriving aircraft. The trial consisted of aircraft delaying the deployment of landing gear. As an aircraft makes its final approach most noise is caused by the flow of air over the fuselage as drag is created to slow the aircraft down.

Noise was measured along the arrivals flightpath to understand what, if any, reduction could be achieved. Stevenage, Dagnall and Whipsnade were among those communities who saw the greatest benefit of between 2.7db and 3.4db. Overall the results showed a 50% reduction in aircraft noise for communities between 5 and 7 nautical miles from the runway. The detailed report of this trial is available on our website [here](#).

Following the successful trial, the majority of operators (77%) have changed their operating procedures to make this standard practice. LLA continues to work with all operators to encourage them to follow suit.

Airspace modernisation

London's Airspace is a particularly busy area and is in need of modernisation, the current airspace was designed in the 1960's for fewer aircraft and it has not been re-designed since, despite the increase in flights from all airports and advances in aircraft technological capabilities.

As part of a National airspace change programme, London Luton Airport is required to update all of its departure procedures in a move towards satellite based technology. LLA is using this opportunity to identify the most environmentally efficient way of managing our airspace with the main focus being on reducing the noise impact associated with aircraft operations.

Any proposed designs will look to replicate as closely as possible the routes being used today but we will also look at how we can move flights away from areas of population to reduce the noise in those communities.

Single engine taxi (Ground noise procedures)

Aircraft ground noise can be generated by aircraft whilst on the ground during taxiing. We encourage all operators to taxi using just one engine, in order to reduce the noise for our communities closest to the airport.

Landing Charges

Night-time noise can be particularly disturbing and can lead to sleep deprivation and sleep pattern disruption. Furthermore, noise generated during the night-time is often perceived to be louder in the absence of other daytime background noise.

We encourage aircraft to operate during daytime hours through financial incentives. For example, airline landing fees are increased during the night-time period. These are outlined in our Charges and Conditions of use, available to view on our website [here](#).

Quieter Aircraft

Quota Count

In line with other UK airports, LLA operates a Quota Count system during the night time period (23:30hrs – 06:00hrs). Aircraft operating at night are given a quota count rating determined from the aircraft manufacturer’s noise certification test results. Quieter aircraft have a lower quota count (QC) value, with some particularly quiet aircraft being exempt. The table below shows Quota Count noise classification.

Noise Classification	Quota Count Value
Below 84 EPNdb1	Exempt
84-86.9 EPNdb	0.25
87-89.9 EPNdb	0.5
90-92.9 EPNdb	1
93-95.9 EPNdb	2
96-98.9 EPNdb	4

Since 2010 aircraft movements with a QC value of greater than 2 have been excluded during the night-time period.

In October 2015 a QC limit was put in place and LLA is currently subject to a 3,500 night noise QC point limit, the QC value therefore indicating points per corresponding aircraft movement (e.g. 1,750 QC2 movements, or 3,500 QC 1 movements, or 7,000 QC0.5 movements). As part of the 2015 planning conditions the 3,500 night noise QC limit is to be reduced until it does not exceed 2,800 by 2028.

Operational Restrictions

Movement Limits

As part of our commitment to minimise disturbance during the night time period, we operate a rolling 12-month limit on the number of movements permitted to operate during the night time period (23:00hrs – 06:00hrs) and the early morning shoulder period (06:00hrs – 07:00hrs). These limits are listed in the table to the right.

Time Period	Total number of movements permitted per 12 month period
Night-time (23:30-06:00hrs)	9,650
Early Morning Shoulder Period (06:00-07:00hrs)	7,000

Chapter 2 Aircraft

Chapters are a categorisation method for aircraft, based on their noise. It was introduced by ICAO in 1972 and has been developed through time as manufacturers reduce the noise of aircraft through new technologies. The exact categorisation is listed in ICAO Annex 16 Volume 1.

In line with the European Directive 2006/93 and Aeroplane Noise Regulations 1999, aircraft operating within the UK must be Chapter 3 or above. Aircraft hush-kitted or modified to Chapter 3 standards comply with this requirement. LLA operates in line with this requirement.

Aircraft Engine Testing

After maintenance an aircraft’s engines must be tested before a flight is permitted. At LLA we have a certain area to conduct this testing a distance away from local properties. This area is only to be used during day time periods, in order to reduce the night time noise disturbance for our local community. If an aircraft needs to conduct engine testing during the night time period, the operator must apply for the permission of LLA and this permission is only granted in exceptional circumstances.

Auxiliary Power Unit’s

An Auxiliary Power Unit (APU), is a device on an aircraft which provides energy on board the aircraft whilst not in the air. When an aircraft is running an APU, usually when boarding passengers, this can create additional noise. An alternative to using an APU is a Ground Power Unit (GPU) which provides the aircraft which power and uses less energy and is much quieter. At LLA we encourage operators to use GPU’s, in order to minimise the noise emitted from aircraft on the ground. Furthermore, we also restrict the length of time an APU is permitted to be used.



Land-Use Planning and Mitigation

Noise Insulation Scheme

Together with an Independent Noise analyst and our London Luton Airport Consultative Committee (LLACC) Noise Insulation Sub-Committee, we offer noise insulation to eligible properties. Our Annual Noise Contours determine the eligible properties each year.

The scheme covers both residential and non-residential properties in Bedfordshire and Hertfordshire. Depending on any existing insulation in the property, double glazing, secondary glazing and ventilation units can be provided. Rooms eligible for insulation include living rooms, dining rooms, kitchen-diners and bedrooms. More information is available on our website [here](#).

Noise Contours

In the UK, noise measurements are evaluated using the average noise level during the day (a 16-hour day) during the summer period. The measure of noise is given in decibels (dB) and presented as noise contours.

This averaged decibel measurement 'LAeq', is the most common international measure of aircraft noise, it means 'equivalent continuous noise level'. LLA's planning conditions refer to the 57dB LAeq (16 hour) as the area enclosed by this contour should not exceed 19.4 sq km for daytime noise. The planning conditions also state a limit on the area enclosed by the 48dB LAeq 8hr (2300-0700) contour, this should not exceed 37.2 sq km for night-time noise.

By 2021, LLA will develop a strategy to define methods to reduce the area of the noise contours by 2028 for daytime noise to 15.2sq km for the area exposed to 57dB(A) Leq16hr (0700-2300) and above and for night-time noise to 31.6 sq km for the area exposed to 48dB(A) Leq8hr (2300-0700) and above.

Local Development Control

London Luton Airport works closely with local planning authorities to ensure that careful consideration is given to planning decisions in noise sensitive areas. LLACC also monitors wider development planning matters to discourage local planning authorities from permitting inappropriate development in noise sensitive areas.

Working with the Local Community and Industry Partners

Complaints Handling

London Luton Airport investigates, logs and responds to all concerns relating to aircraft activity. General information is available on the London Luton Airport website and complaints can be submitted by telephone, email, or through our online Flight Tracking system ([TraVis](#)).

Complaint statistics are reported quarterly and annually to LLACC and trends are identified. The noise complaints handling system is kept under continual review to ensure the local community receives timely feedback in relation to concerns raised.

London Luton Airport Consultative Committee (LLACC)

LLACC is the formal mechanism for the airport to interact and exchange information with communities. Its membership includes representatives from local authorities, community groups, airport users and other interested parties. The Committee meets quarterly and is supported by the Noise and Track Sub Committee and Passenger Services Sub Committee. Both the Consultative Committee and sub-committee's are well attended, with current members listed in Appendix C.

The LLACC and its membership have assisted in the development of this Noise Action Plan and will play a full role in monitoring the implementation and effectiveness of the actions.

Flight Operations Committee (FLOPC)

The FLOPC is made up of operators at LLA, the committee discusses noise infringements, track keeping statistics, data from any ongoing trials and CDA compliance. The committee is focussed on improving operations at LLA, whilst ensuring this minimises the noise to our local community.

Public Surgeries

LLA holds approximately 6 Public Surgeries each year which provides an opportunity for local residents and councillors to meet with the Flight Operations team to personally answer any queries on airspace and aircraft noise. At LLA we believe that these are an effective way to understand the concerns of local residents. In addition to this, we offer invitations for local parish councils to visit the Flight Operations team at the airport.

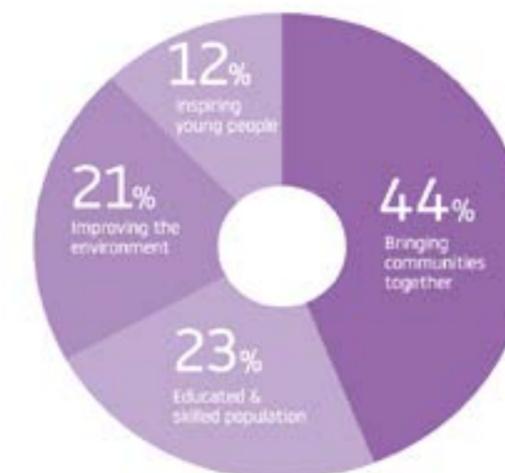
Community Updates - Inform

Inform is LLA's Flight Operations team bi-monthly newsletter to keep stakeholders and members of our local community up to date with the latest information, this is directly sent to all interested parties. All issues are also uploaded to our website [here](#).

Community Trust Fund

At London Luton Airport, we are proud to say that all of our Noise and Off-track fines are added to our Community Trust Fund. During 2016, £75,700 was transferred into the community trust fund from violations, this is in addition to the £50,000 the airport already commits each year.

Our Community Trust Fund allows communities to apply for grants between £250 to £7,500, to help fund or support projects and charities within the local area. The graph to the right shows the activities supported in 2016.



Sustainable Aviation

Sustainable Aviation is a UK aviation industry group, made up of UK airlines, manufacturers, airports and air-traffic control. LLA is part of the Noise Working Group and actively engages with this committee to limit and where possible reduce the impact of aviation noise.



Noise Mapping

In the UK, the noise impact of an airport is primarily described in terms of the LAeq averaged over the 16 hour period from 0700 – 2300, for an average day between the 16th June and 15th September. London Luton Airport annually produces these contours as well as the 8 hour night period between 2300 and 0700 for an average summer night, over the same period as the day time period, using the LAeq,8h indicator. These are published in our Annual Monitoring Reports.

Furthermore, since 2002, London Luton Airport has produced noise contour information for an average night each quarter, together with comparative values from the previous quarter and the equivalent period the previous year. This data is presented to LLACC (via NTSC) within the Quarterly Monitoring Reports.

As LLA, already conducts regular noise mapping assessments, the results of the noise mapping in 2016 did not raise any new concerns. Typically our approach has been to reduce noise for location both inside and outside of these contours, as we understand the noise disturbance from our operations is not constrained to these areas.

Noise Mapping Results

For the purpose of the Noise Action Plan, the noise maps have been produced in terms of the five noise metrics (Lden, Lnight, LAeq,16h, Lday, and Levening) for aircraft movements in 2016, as required by the Regulations. The Noise Mapping data has been taken from the Airport Noise Action Planning Data Pack published by DEFRA. The Strategic Noise Maps can be found at Appendix B.

The shape of the contours are illustrative and show the noise from LLA operations in the context of the local area. Due to the alignment of the runway, both South Luton (to the west of the airfield) and Breachwood Green (to the east of the airfield) are incorporated within the noise contours.

The contours stretch further to the east, with the 55 Lden contour extending to the A1(M) at Stevenage to the east of the airport, incorporating Bendish, St Paul's Walden and the Breachwood Green. The eastern side of the contour extends further when compared to the west as all easterly departure and westerly arrivals follow the extended centreline of the runway up to Stevenage.

To the west of the airport, the contours show two distinctive spurs, the first is caused by the easterly arrivals path, in line with the runway, and includes parts of Caddington. The second spur is larger and stretches towards Markyate and Flamstead caused by the initial turn in the main westerly departure corridor.

The noise mapping results continue to indicate that no residential properties are located within the 69dB(A) LAeq 16h contour area.

Contour Population Results

The estimated total number of people and dwellings exposed above various noise levels from aircraft using London Luton Airport are shown in the tables below and on the following page.

In order to derive the statistics, analysis has been undertaken to count the population and number of dwellings within the specified noise contours. This assessment was carried out utilising a strategic residential population location dataset, provided by DEFRA.

Population and dwelling counts have been rounded as follows:

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

L _{den}	2006		2011		2016	
	Number of Dwellings	Number of People	Number of Dwellings	Number of People	Number of Dwellings	Number of People
≥ 55	3,800	8,600	6,450	14,300	8,250	17,000
≥ 60	850	2,100	1,800	4,700	2,150	5,600
≥ 65	< 50	100	350	1,000	400	1,100
≥ 70	0	0	0	0	0	0
≥ 75	0	0	0	0	0	0

Estimated total number of people and dwellings above various noise levels (L_{den}) between 2006 - 2016.

L _{day}	2006		2011		2016	
	Number of Dwellings	Number of People	Number of Dwellings	Number of People	Number of Dwellings	Number of People
≥ 54	2,800	6,500	5,050	11,300	6,000	13,200
≥ 57	1,050	2,600	2,550	6,200	3,000	7,500
≥ 60	450	1,100	950	2,500	1,050	2,800
≥ 63	< 50	< 100	300	800	400	1,000
≥ 66	< 50	< 100	< 50	< 100	< 50	< 100
≥ 69	0	0	0	0	0	0

Estimated total number of people and dwellings above various noise levels (L_{day}) between 2006 - 2016.

LLA's Noise Action Plan

This Noise Action Plan has been developed with the support of LLACC, NATS (our air traffic control provider) and airline partners.

During the drafting of the initial Noise Action Plan in 2009, London Luton Airport held a 16 week consultation exercise to seek the views of key stakeholders and the local community, from 28th September 2009 to 17th January 2010. During the consultation period representatives from London Luton Airport attended meetings with Planning and Environmental Health Officers from neighbouring local authorities and other key stakeholders and community groups on request.

According to guidance updated by DEFRA in June 2017, the airport involved LLACC and FLOPC members in two further consultations. The first was a four-week consultation from the 4th-29th June 2018. There were few responses to this consultation and therefore LLA conducted a further two-week consultation between 3rd - 17th August 2018. In addition, LLA hosted a drop-in event providing an opportunity for any stakeholders to ask questions about the Noise Action Plan, this was held on the 14th June 2018.

A schedule of all those individuals and organisations that were notified of the consultation in 2018 can be found in Appendix C.

A copy of the final Noise Action Plan (2019 -2023) will be sent to key stakeholders and those who participated in the consultation process once it has been formally adopted by DEFRA. It will also be published on the airport community website [here](#).

London Luton Airport, through its Consultative Committee, remains committed to public engagement and communication with respect to noise management. This consultative approach will be sustained throughout the life of this Noise Action Plan.

L _{evening}	2006		2011		2016	
	Noise Level (dB)	Number of Dwellings	Number of People	Number of Dwellings	Number of People	Number of Dwellings
≥ 54	1,900	4,500	2,950	7,000	4,600	10,800
≥ 57	800	1,900	1,150	3,000	2,050	5,300
≥ 60	250	600	450	1,200	750	2,000
≥ 63	< 50	< 100	< 50	< 100	150	400
≥ 66	< 50	< 100	0	0	< 50	< 100
≥ 69	0	0	0	0	0	0

Estimated total number of people and dwellings above various noise levels (L_{evening}) between 2006 - 2016.

L _{Aeq 16h}	2006		2011		2016	
	Noise Level (dB)	Number of Dwellings	Number of People	Number of Dwellings	Number of People	Number of Dwellings
≥ 54	2,550	6,000	4,550	10,300	5,700	12,600
≥ 57	1,000	2,400	2,150	5,400	2,800	7,000
≥ 60	400	900	800	2,100	950	2,500
≥ 63	< 50	< 100	150	400	350	900
≥ 66	< 50	< 100	< 50	< 100	< 50	< 100
≥ 69	0	0	0	0	0	0

Estimated total number of people and dwellings above various noise levels (L_{Aeq 16h}) between 2006 - 2016.

L _{night}	2006		2011		2016	
	Noise Level (dB)	Number of Dwellings	Number of People	Number of Dwellings	Number of People	Number of Dwellings
≥ 48	-	-	5,000	11,400	5,300	11,800
≥ 51	-	-	2,400	6,000	2,300	5,900
≥ 54	2,450	5,800	900	2,400	850	2,220
≥ 57	950	2,300	300	900	200	600
≥ 60	400	900	< 50	< 100	< 50	< 100
≥ 63	< 50	< 100	0	0	0	0
≥ 66	< 50	< 100	0	0	0	0

Estimated total number of people and dwellings above various noise levels (L_{night}) between 2006 - 2016.



Section 1: Operational Procedures

We will constantly review our operating procedures to ensure the most environmentally friendly procedures are in place, as part of this we will challenge best practice to provide continuous improvement. If more fundamental changes to airspace are required we will proactively engage with stakeholders, in line with CAP 1616, to effectively manage aircraft noise impacts.

Ref:	Action	Impact	Timescale	Performance Indicator	Numbers Affected	Target
1.1	Reduce the Maximum Noise Violation Limits (NVL) for departing aircraft and bi-annually review the penalties to ensure it remains effective in seeking to reduce departure noise.	Departure Noise	2020	Reduction of NVL's.	Residents within and beyond 55dB L _{den}	Reduce NVL's to 80dB during the day time and 79dB during the night-time by 2020.
1.2	We will work with our airline partners to improve performance relating to Continuous Descent Approach (CDA) with the aim of reducing the noise impact to the communities below.	Arrival Noise	Ongoing	CDA Compliance.	Residents within and beyond 55dB L _{den}	92% compliance by 2020. 95% compliance by 2022.
1.3	We will identify and act on opportunities to minimise noise through modernisation of the airspace structure working with both community and industry partners.	Departure/ Arrival Noise	Ongoing	Progress through CAP 1616 process.	Residents within and beyond 55dB L _{den}	Submit Airspace Change Proposal to the CAA by 2022.
1.4	Work with Air Traffic Control, airlines and local communities stakeholders to explore opportunities to facilitate more continuous climb operations (CCO).	Departure Noise	2019-2023	Evidence of work.	Residents within and beyond 55dB L _{den}	Explore opportunities and make appropriate changes to facilitate more CCO's.
1.5	Undertake a review of Noise Abatement Departure Procedures used at London Luton Airport to evaluate their effectiveness and work with our airline partners to identify and implement improvements.	Departure Noise	2019	Evidence of the review.	Residents within 55dB L _{den}	To assess the effectiveness and establish targets for noise reduction.
1.6	Review and promote the Arrivals Code of Practice and Departures code of Practice and work with our airline partners to set minimum performance criteria and a method for measuring performance.	Arrivals/ Departure/ Ground Noise	2019-2023	Evidence of review and new performance criteria.	Residents within and beyond 55dB L _{den}	Set minimum performance criteria by Q2 2019.
1.7	Continue to promote and encourage the use of single engine taxi procedures at London Luton Airport.	Ground Noise	Ongoing	Minutes of FLOPC meetings.	Residents within 65dB L _{den}	Increase the number of aircraft using single engine taxi procedures.
1.8	Work with our airline partners to promote and encourage the adoption of low power, low drag procedures such as delayed landing gear deployment in order reduce noise from arriving aircraft.	Arrival Noise	Ongoing	% of aircraft using low power, low drag procedures.	Residents within and beyond 55dB L _{den}	Increase the number of operators using low power, low drag procedures.
1.9	Working with our partners at Sustainable Aviation we will challenge current operational procedures to ensure continuous improvement to best practice.	Departure/ Arrival Noise	Ongoing	Minutes of Sustainable Aviation meetings.	Residents within and beyond 55dB L _{den}	Annually review and improve the departures and arrivals code of practice.

Section 2: Quieter Aircraft

Modern aircraft of today are less noisy than previous generations, however as traffic continues to grow where demand for air travel increases, this reduction can often be counteracted by the number of aircraft overflying an area. At LLA we are encouraging operators to use the quietest aircraft practicable to the Luton operation particularly during early morning and night time periods.

Ref:	Action	Impact	Timescale	Performance Indicator	Numbers Affected	Target
2.1	We will work with our Airline Partners to achieve the voluntary phase out of aircraft that are Chapter 3 or below, to encourage the introduction of quieter aircraft.	Departure/ Arrival/ Ground Noise	2019-2023	% of Chapter 4 aircraft.	Residents within and beyond 55dB L _{den}	100% Chapter 3 aircraft by 2020 and 100% Chapter 4 aircraft by 2022.
2.2	We will review our landing charges annually to encourage the use of quieter aircraft at London Luton Airport.	Departure/ Arrival/ Ground Noise	Annually	Publication of Charge's and Conditions of use.	Residents within and beyond 55dB L _{den}	Reduce the size of the noise contours.
2.3	Introduce incentives for airlines to adopt the quietest aircraft e.g. Airbus NEO and Boeing Max.	Departure/ Arrival/ Ground Noise	2019	Publication of Charge's and Conditions of use.	Residents within and beyond 65dB L _{den}	Introduce new charges in 2019.

Section 3: Operational Restrictions

Restrictions should not be the first option when it comes to noise management however, we have a range of operating restrictions including movement limits and noise quota limits. Where restrictions are in place we are focused on ensuring that they are adhered to fully.

Ref:	Action	Impact	Timescale	Performance Indicator	Numbers Affected	Target
3.1	We will operate within our agreed Total Annual Movement caps.	Night Noise	Ongoing	Movement reports in AMR and QMR.	Residents within and beyond 48dB L _{night}	A maximum of 9,650 movements between 23:00hrs-06:00hrs and a maximum of 7000 movements between 06:00hrs-07:00hrs for a rolling 12-month period.
3.2	We will continue to operate within our agreed Total Annual Quota Count (QC) caps.	Night Noise	Ongoing	QC reports in AMR and QMR.	Residents within and beyond 48dB L _{night}	3,500 QC points for a rolling 12-month period between (23:30hrs-06:00hrs).
3.3	To review and reduce the Total Annual Quota Count (QC) cap.	Night Noise	2020	Reduction of annual QC cap.	Residents within and beyond 48dB L _{night}	To review the Quota Count (QC) cap in 2020 to minimise night time noise disturbance.
3.4	We will operate within our agreed contour area limits.	Arrivals/Departure/ Ground Noise	Ongoing	Area of noise contours	Residents within 57dB L _{aeq 16h} and within 48dB L _{night}	57dB(A) Leq16hr (0700-2300) - 19.4 sq km. 48dB(A) Leq8hr (2300-0700) - 37.2 sq km.
3.5	Develop a noise contour reduction strategy to define methods to reduce the area of the noise contours.	Arrivals/Departure/ Ground Noise	2021	Evidence of work.	Residents within 57dB L _{aeq 16h} and within 48dB L _{night}	Submit strategy to Local Planning Authority in 2021.
3.5	In order to minimise ground noise we will monitor and enforce restrictions around the use of Aircraft Auxiliary Power Unit's (APU).	Ground Noise	Ongoing	Minutes of FLOPC meetings.	Residents within 65dB L _{den}	Ensure operators are aware of the APU procedures at Flight Operations Committee meetings.
3.6	In order to minimise ground noise, particularly at night, we will restrict the permitted hours for engine testing to daytime periods only.	Ground Noise	Ongoing	Log of engine testing.	Residents within 48dB L _{night}	Restrict engine testing for aircraft in the daytime period only.

Section 4: Land-use Planning and Mitigation

Through communication with local town councils we will continue to discourage developments that would increase the number of properties within noise sensitive areas around the airport. Furthermore, we will proactively review the Noise Insulation Scheme to ensure that it remains an effective means of noise mitigation.

Ref:	Action	Impact	Timescale	Performance Indicator	Numbers Affected	Target
4.1	We will install acoustic insulation in eligible properties as part of our residential and non-residential Noise Insulation schemes.	Ground/Departure/Arrival Noise	Ongoing	Noise Insulation Scheme update in QMR and AMR.	Residents within 63dB L _{day} or 55dB L _{night} or any property in which airborne noise level in excess of 90dB SEL occurs.	Continue to spend the full NIS budget annually.
4.2	We will conduct an annual survey of those properties who have received noise insulation to measure the levels of satisfaction with the current Noise Insulation Scheme.	Ground/Departure/Arrival Noise	2019- 2023	Annual Survey Results.	N/A	Conduct annual survey of insulated properties by the following February. Report results of survey to Noise and Track Sub-Committee.
4.3	We will offer households exposed to levels of noise of 69dB L _{Aeq 16h} or more assistance with the cost of moving.	Ground/Departure/Arrival Noise	Ongoing	Evidence in AMR.	Residents within 69dB L _{Aeq}	Continue to offer assistance.
4.4	We will work with community stakeholders to develop a plan to protect quiet areas as defined by UK government policy.	Ground/Departure/Arrival Noise	2020	Evidence of Plan.	Residents within and beyond 55dB L _{den}	Develop a plan by 2020 and ensure this is protecting quiet areas.
4.5	Through the Airspace Change Process we will ensure areas identified as 'quiet areas' are preserved as far as possible. 'Quiet Areas' will be defined and assessed as per government legislation.	Ground/Departure/Arrival Noise	Ongoing	Stages in CAP 1616 process.	Residents within and beyond 55dB L _{den}	Preserve quiet areas through Airspace Change Process as far as possible.
4.6	We will work with local authorities to raise awareness of the impacts of siting new developments that may be affected by aircraft noise.	Ground/Departure/Arrival Noise	Ongoing	Local Planning Group meeting minutes.	N/A	Increase awareness for local authorities through our Local Planning Group.

Section 5: Working with the Local Community and Industry Partners

In order to reduce the impact of noise we recognise the importance of working with our communities and industry partners to understand their concerns and ensure our actions address the issues.

Ref:	Action	Impact	Timescale	Performance Indicator	Numbers Affected	Target
5.1	Carry out biennial surveys of local communities to seek feedback on our approach to noise management and our complaints service for continual improvement and to offer the ability for local communities to help shape the future of noise controls.	Community relationship	2019 / 2020	Results of Survey.	N/A	Carry out first survey in 2019 to define baseline and set improvements in 2020.
5.2	We will improve communications through regular updates to our website, noise blog, community newsletters (Inform) and reports.	Community relationship	Ongoing	Evidence of comms. on website.	N/A	Review website annually and publish newsletter bi-monthly.
5.3	We will positively respond to requests for meetings with airport representatives regarding aircraft noise, airspace modernisation and expansion plans*.	Community relationship	Ongoing	Minutes of meetings.	N/A	Engage proactively with any visitors to the airport, as well as visiting local residents.
5.4	We will regularly organise public drop in sessions in locations surrounding the airport for community members to visit and speak to airport employees about noise management.	Community relationship	Ongoing	Evidence in QMR and AMR.	N/A	Organise and attend at least 6 Public Surgery drop-in events each year.
5.5	We will log all enquiries and complaints relating to airport operations and publish complaint statistics in our QMR & AMR.	Community relationship	Ongoing	Evidence in QMR and AMR.	N/A	Regularly publish statistics in monitoring reports on quarterly and annual basis.
5.6	We will annually monitor the Noise Action Plan (NAP) actions with LLACC and where we recognise that further improvements can potentially be achieved; we will look to address it.	Community relationship	Ongoing	Evidence in AMR.	N/A	Publish NAP update in the AMR annually.
5.7	We will give the public access to our online noise and track monitoring system (TraVis) and work with the supplier to enhance future functionality.	Community relationship	Ongoing	Evidence of TraVis website.	N/A	Maintain and enhance functionality of TraVis system.
5.8	We will divert all money raised from noise and track violations penalty schemes into the Community Trust Fund (CTF).	Community relationship	Ongoing	Evidence in annual Community Strategy and AMR.	N/A	Annually publish the amount of money diverted to the CTF.

*expansion of the airport is currently being sought by the airport owners, more detail will be provided as and when it becomes available. Any increase in noise will be addressed through this application process.

Ref:	Action	Impact	Timescale	Performance Indicator	Numbers Affected	Target
5.9	We will produce and publish Quarterly Monitoring reports to inform Stakeholders of performance trends and noise management at London Luton Airport.	Community relationship	Ongoing	QMR published on website.	N/A	Publish reports on our website at earliest opportunity each quarter.
5.10	We will continue to present summer and annual noise contours within our Annual Monitoring Report.	Community relationship	Ongoing	Evidence in AMR.	N/A	Publish contour statistics in Annual Monitoring Reports.
5.11	We will continue to produce and publish an Annual Monitoring Report to inform stakeholders of performance trends and noise management at London Luton Airport.	Community relationship	Ongoing	AMR published on website.	N/A	Publish AMR on our website by 31st May each year.
5.12	We will engage proactively with LLACC and NTSC to identify initiatives which will help minimise noise in our local community.	Community relationship	Ongoing	Minutes of Meetings.	N/A	Meet with LLACC and NTSC every 3 months.
5.13	We will collaborate with our Flight Operations Committee (FLOPC) to determine new initiatives to reduce noise.	Community relationship	Ongoing	Minutes of FLOPC meetings.	N/A	Engage proactively with FLOPC at meetings held twice a year.

Evaluating the Noise Action Plan

LLA is committed to working openly with the local community in order to balance the benefits of a successful airport, while minimising the impact of aircraft noise. Therefore, in order to evaluate the effectiveness of our Noise Action Plan we have created a set of 10 Key Performance Indicators and associated targets. The full list of indicators and targets are listed on pages 25-29 of the Noise Action Plan.

Our definition of a Key Performance Indicator is a long term, quantifiable measure that can be easily understood and monitored. Alongside the Key Performance Indicators, we have created accompanying targets to review and measure progress over the length of the plan.

We want to ensure that we are always transparent when reporting progress on our Noise Action Plan, so we will publish these statistics within our Annual Monitoring Report's. These reports are currently presented to our consultative committee and published on our website - this will continue.

During the 5-year period of the Noise Action Plan, it may be necessary to add or amend the performance indicators to enable effective management and continuous improvement of our aircraft noise impacts. Occasionally we may also set annual targets after discussion with our London Luton Airport Consultative Committee.

Ref:	Key Performance Indicator (KPI)	Target
KP1	Percentage of aircraft on-track	Maintain on-track performance of no less than 99%.
KP2	Population inside 51dB LAeq (16hr) Daytime Contour	Limit and where possible reduce the population within the contour over the course of the action plan.
KP3	Population inside 45dB LAeq (8hr) Night time contour	Limit and where possible reduce the population within the contour over the course of the action plan.
KP4	Percentage of Chapter 4 aircraft	100% Chapter 4 by 2022.
KP5	QC and Movement limits	Ensure compliance within the set limits.
KP6	Percentage of aircraft conducting a CDA	To improve CDA compliance to 95% by 2022.
KP7	Overall Satisfaction with NIS	To ensure an overall satisfaction of the Noise Insulation scheme of 80%.
KP8	Public perception as rated by survey	To increase the percentage of local community that consider that we are doing all we reasonably can to manage the noise impacts of our operations over the course of our action plan.
KP9	Departure Noise Infringement (Day)	To reduce the number of infringements over the course of the action plan.
KP10	Departure Noise Infringement (Night)	To reduce the number of infringements over the course of the action plan.

Conclusion

This Noise Action Plan has been produced with regard to the European Noise Directive and the DEFRA guidance and builds on London Luton Airport's established approach to noise management.

It includes 37 actions that will further improve noise management at London Luton Airport, representing a robust and acceptable approach to addressing noise matters. A large proportion of these measures are voluntary in nature, demonstrating our commitment to take a proactive approach to noise management and seek to minimise the adverse effects of our operations.

The strategy includes a range of instruments, including operational controls, financial penalties and mitigation, where appropriate. It highlights the need to monitor our operations carefully and to report this information transparently and in a way it can be easily understood. It also stresses our commitment to engage in an open and honest way.

In line with the Environmental Noise Directive (END) 2002 and associated regulations, we will formally review our Noise Action Plan every five years. This will follow the END five year cycle starting from 2019 - 2023. We are however committed to continue to review and deliver improvements where possible and necessary.

The successful delivery of this Noise Action Plan requires the cooperation and support of our air traffic control provider, NATS, airlines and other operators. However, it also requires support from the local community and other key stakeholders, to ensure that noise management is considered in the context of the ICAO Balanced Approach.

We will continue to listen and engage. With the support of LLACC we will seek to deliver improvements in the noise performance at London Luton Airport whilst maximising the wider benefits that a major international airport can bring to the local region.



Appendix A

Glossary of Terms

AIP	Aeronautical Information Publication
APU	Auxiliary Power Unit. A power unit located on the aircraft.
ATC	Air Traffic Control
CAA	Civil Aviation Authority
CDA	Continuous Descent Approach
dB (A)	A unit of sound pressure level, adjusted in accordance with the A weighting scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Decibel (dB)	The unit used to measure noise (typically 70dB is equivalent to a normal conversation level).
DEFRA	Department for Environment Food and Rural Affairs
DfT	Department for Transport
END	Environment Noise Directive
EPNdB	Effective Perceived Noise Decibels. It refers to the metric 'EPNL' (Effective Perceived Noise Level) which is used for noise certification and takes account of tones and duration.
FLOPC	Flight Operations Committee
GPU	Ground Power Unit. A power unit located on the ground.
ICAO	International Civil Aviation Organisation
ILS	Instrument Landing System
LAeq, 16hr	The A-weighted average sound level over the 16 hour period of 07:00 – 23:00
Lday	The A-weighted average sound level over the 12 hour day period of 0700 - 1900 hours.
Lden	The day, evening, night level. It is a logarithmic composite of the Lday, Levening, and Lnight levels but with 5 dB(A) being added to the Levening value and 10 dB(A) being added to the Lnight value.
Leq	Equivalent sound level of aircraft noise in dBA, often called equivalent continuous sound level. For conventional historical contours this is based on the daily average movements that take place in the 16 hour period (0700- 2300 LT) during the 92 day period 16 June to 15 September inclusive.
Levening	The A-weighted average sound level over the 4 hour evening period of 1900 - 2300 hours
LLACC	London Luton Airport Consultative Committee
Lmax	The maximum noise level from a single aircraft passing.
LPA	Local Planning Authority
Lnight	The A-weighted average sound level over the 8 hour night period of 2300 - 0700 hours.

Appendix A (continued)

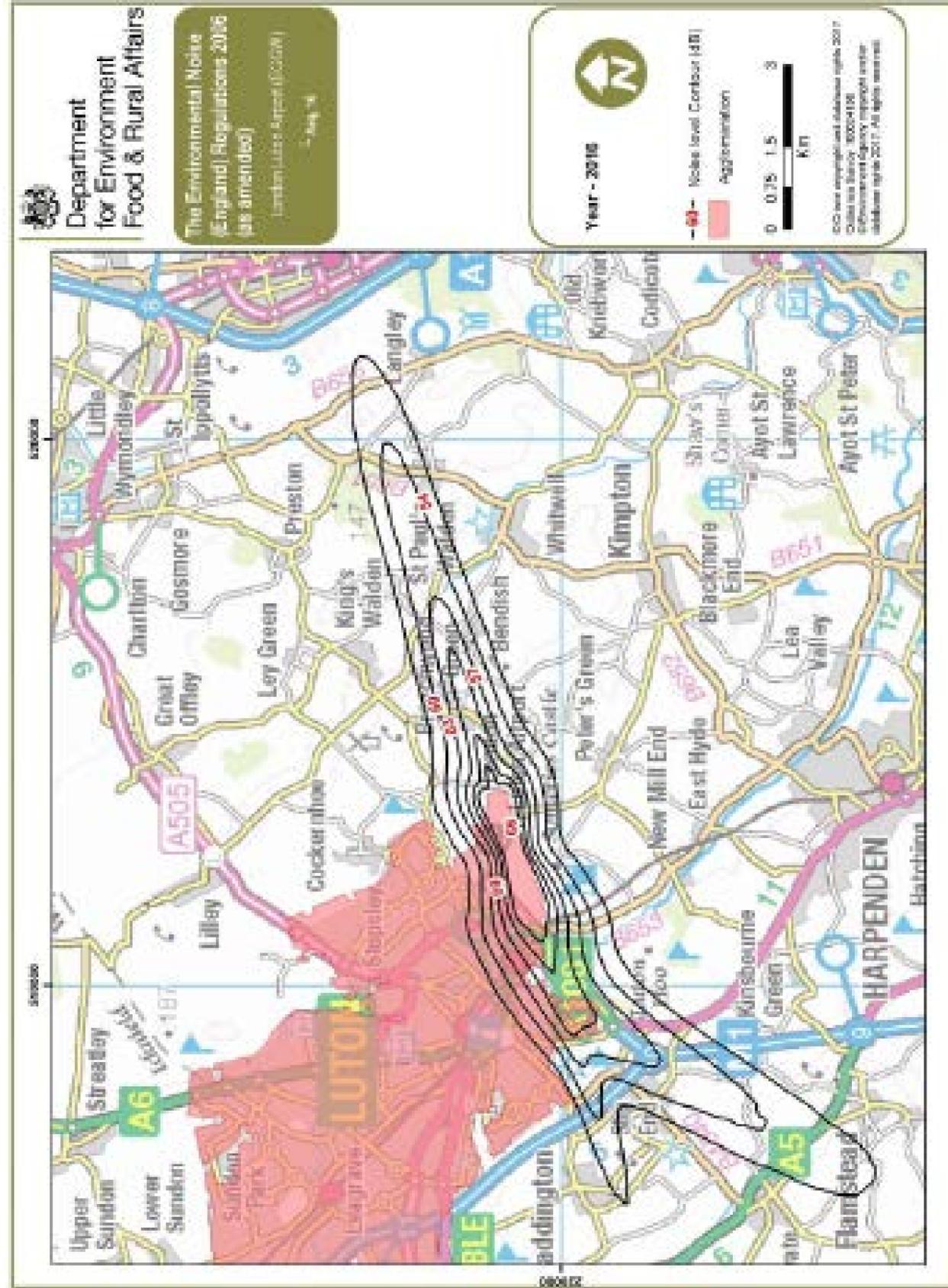
Glossary of Terms

NATS	Formerly known as National Air Traffic Services Ltd. NATS provides en-route air traffic control for the UK, including local air traffic services at Luton.
Noise Contour	Map contour line indicating noise exposure in dB for the area that it encloses
NTSC	London Luton Airports Noise and Track Sub-Committee
NPR	Noise Preferential Route
QC	Quota Count
SEL	Sound Exposure Level. The level generated by a single aircraft at the monitoring point. This normalised to a 1 second burst of sound and takes account of the duration of the sound as well as its intensity.
SID	Standard Instrument Departure, the published route that an aircraft must follow on departure.
SoS	Secretary of State
Sustainable Aviation	A UK aviation industry initiative aiming to set out a long term strategy for the industry to address sustainability issues.



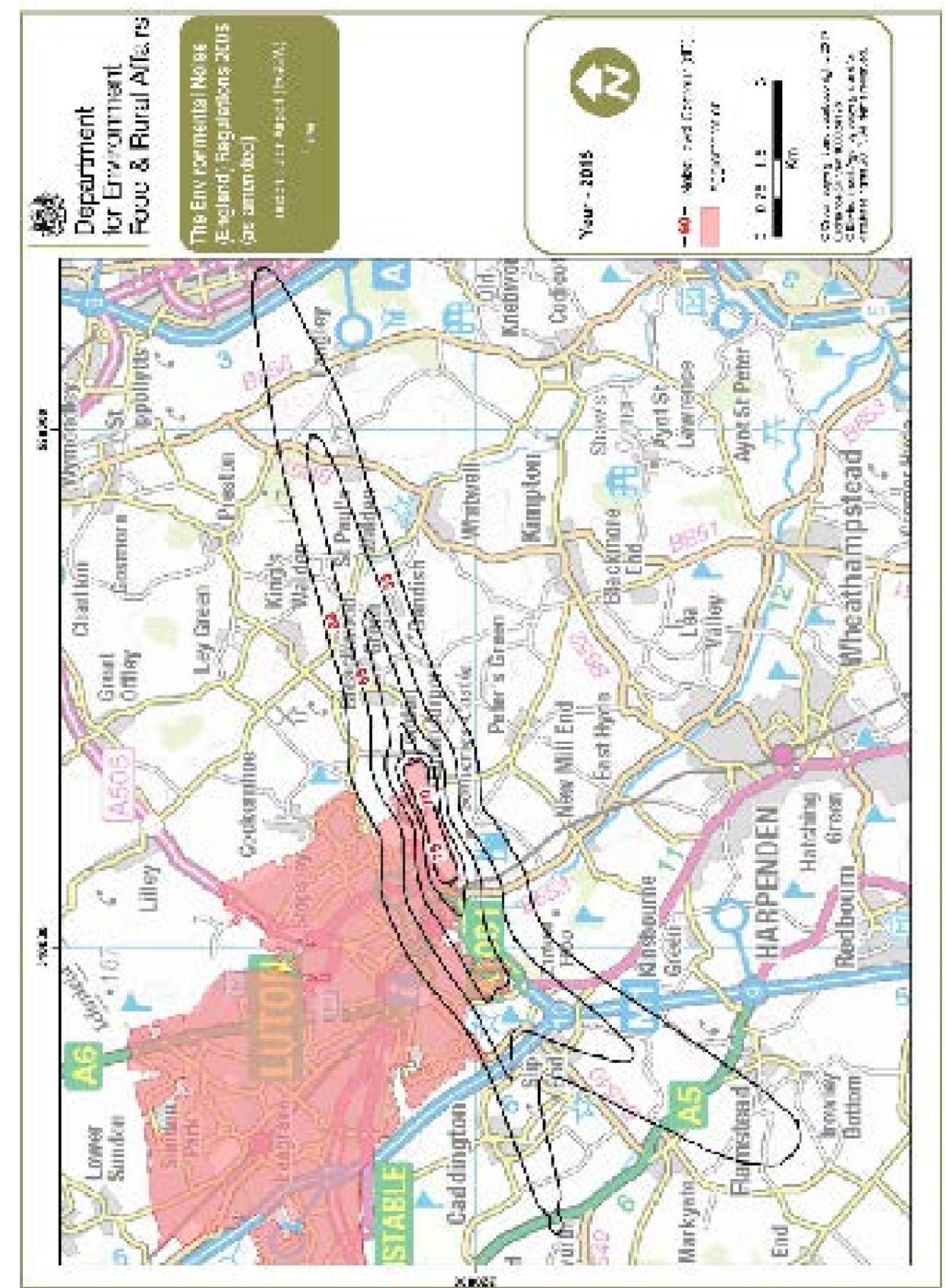
Appendix B

Noise Map - LAeq (16hr)



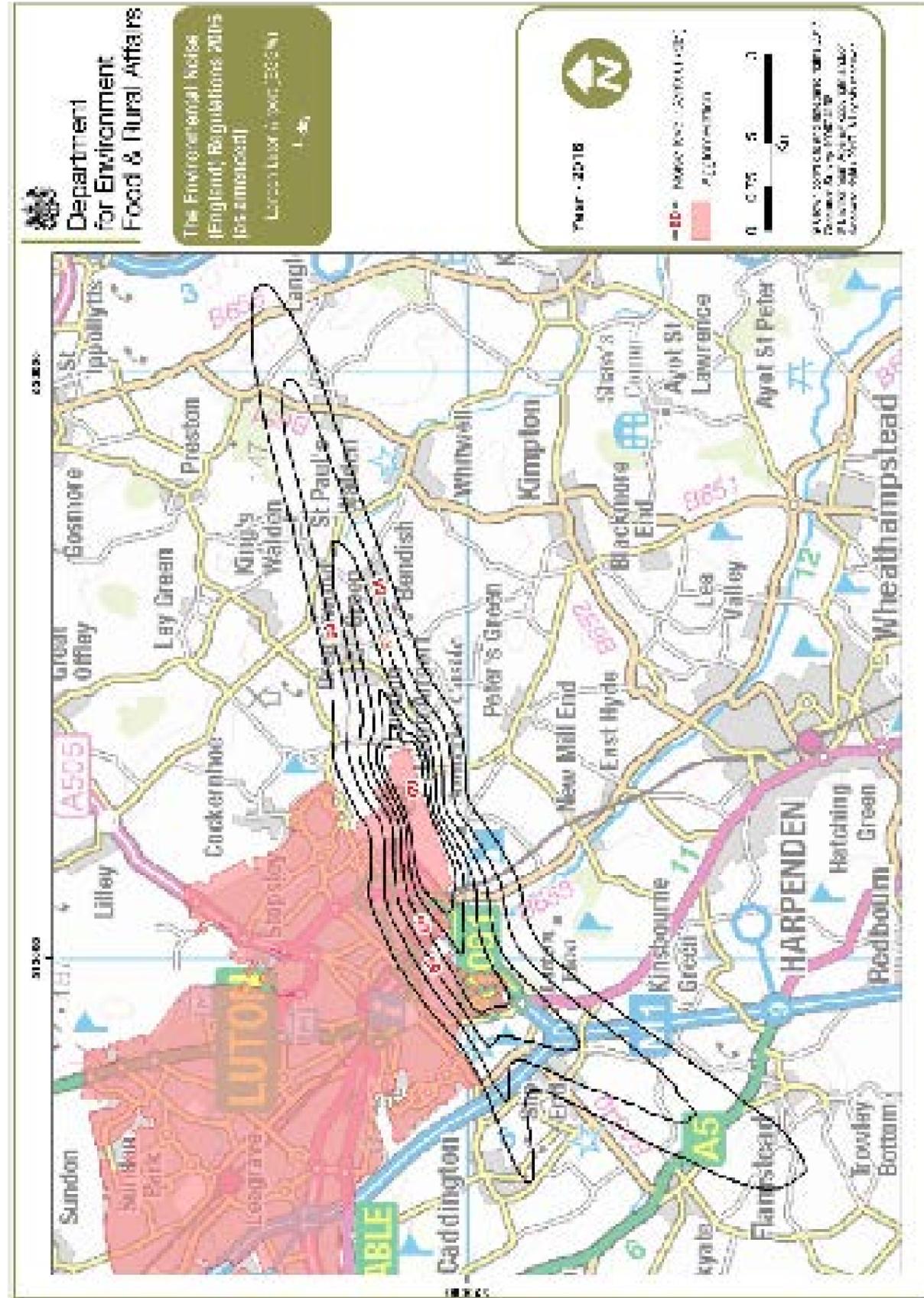
Appendix B (continued)

Noise Map - Lden



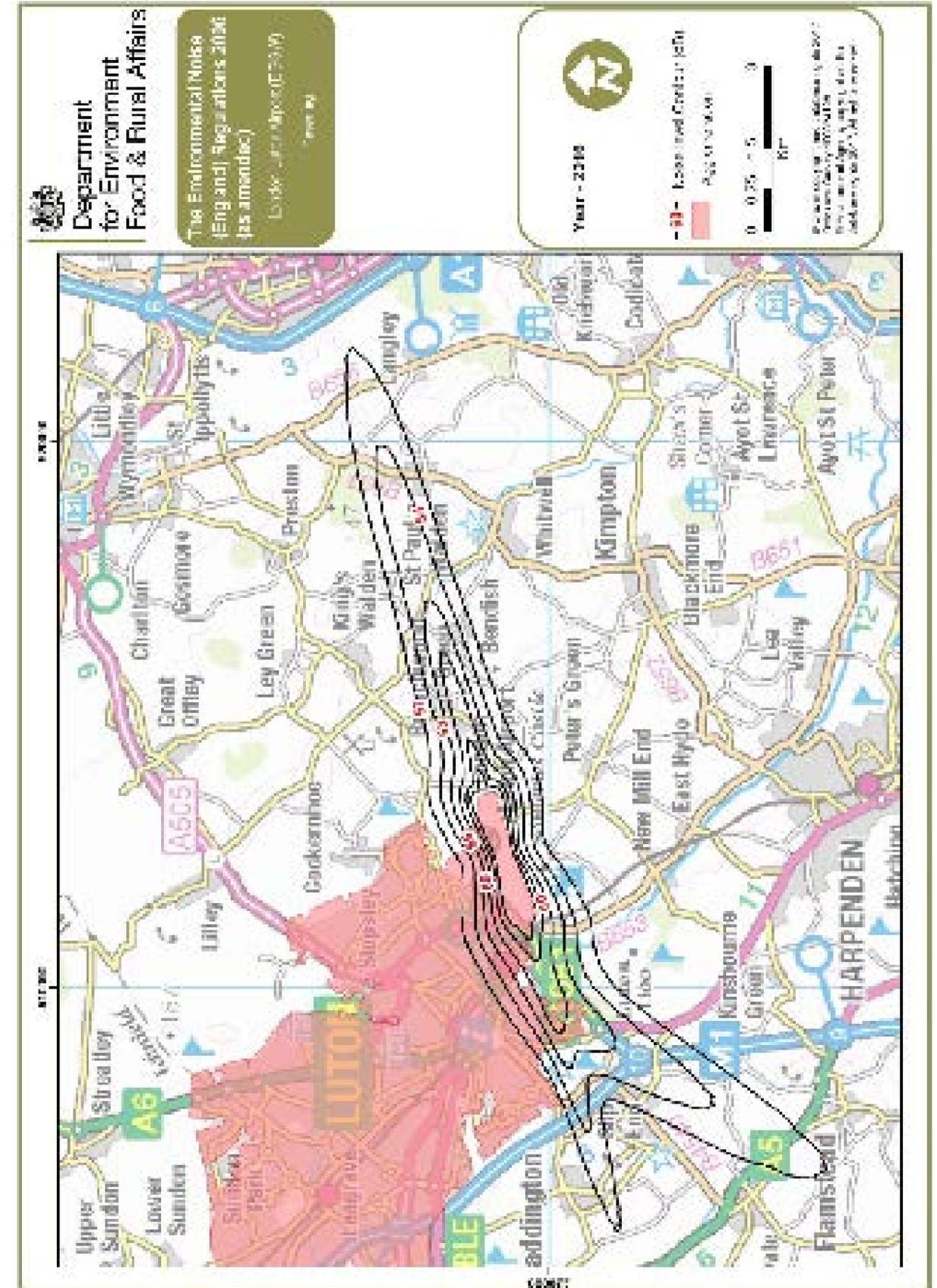
Appendix B (continued)

Noise Map - Lday



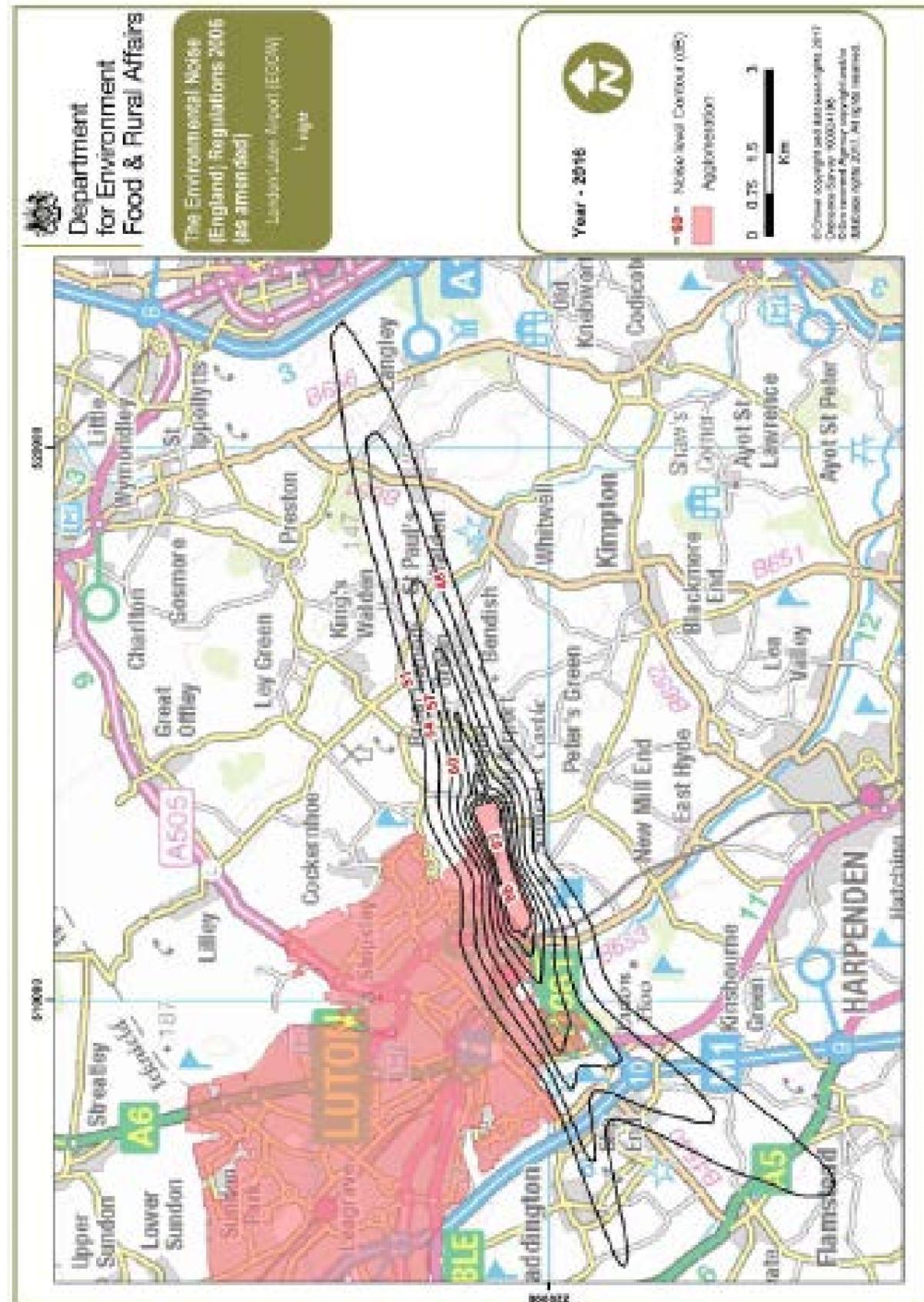
Appendix B (continued)

Noise Map - Levening



Appendix B (continued)

Noise Map - Night



Appendix C

Key Stakeholders

London Luton Airport held two consultation periods to seek the views of key stakeholders. The following were organisations notified of the consultations.

London Luton Airport Consultative Committee (LLACC)

- | | |
|---------------------------------------------------------------|----------------------------------------------------------------------------|
| LLACC Independent Chairman | Hertfordshire Association of Town & Parish Councils |
| Aylesbury Vale District Council | Hertfordshire County Council |
| Bedfordshire & Luton Chamber of Commerce | London Luton Airport Trade Union |
| Bedfordshire Association of Town and Parish Councils | Luton and District Association for the Control of Aircraft Noise (LADACAN) |
| Breachwood Green Society | London Luton Airport Town & Villages Communities Committee (LLATVCC) |
| British Business General Aviation Operators | Luton Borough Council |
| Buckinghamshire County Council | NATS – London Luton Air Traffic Control |
| Buckinghamshire & Milton Keynes Association of Local Councils | People Against Aircraft Intrusive Noise (PAIN) |
| Central Bedfordshire Council | St Albans City & District Council |
| Dacorum Borough Council | St Albans Quieter Skies |
| easyJet Airline Company Limited | Stevenage Borough Council |
| Freight Airline Representative | |

London Luton Airport Flight Operations Committee (FLOPC)

- | | |
|---------------------------|----------------------|
| Wizz Air | DHL |
| easyJet | BALPA |
| Ryanair | NATS (Swanwick) |
| Vueling | Lux Aviation |
| Blue Air | MNG Airlines |
| London Executive Aviation | El Al Airlines |
| TUI | Saxon Air |
| Harrods Aviation | Air Charter Scotland |
| Signature Aviation | West Atlantic |
| NetJets | Penavia |
| VistaJet | |

Other interested parties

- London Luton Airport Limited
- HarpendenSky
- Chiltern Conservation Board
- St Albans Save Our Skies



Appendix D

Consultation

In line with the requirements for Noise Action Plans, as set out in DEFRA's Guidance for Airport Operators to produce airport noise action plans under the terms of the Environmental Noise (England) Regulations 2006 (as amended), the information contained in this appendix provides a summary of the consultation responses received from 4th June to 17th August 2019.

The Airport launched its initial consultation on the Draft Noise Action Plan 2019-2023 (DNAP) on the 4th June 2018 and notified 48 organisations that the consultation was open for comment, it also held a consultation event on the 14th June 2018 where representatives from the airport were on hand to answer questions about the DNAP to ensure that consultees could enquire about the proposed actions, as well as providing an email point of contact for any questions in case attendance at the consultation event was not possible.

For the initial consultation period only 9 responses were received, no-one attended the consultation event nor did the Airport receive any questions relating to any of the proposed actions in the DNAP via email.

Following this, the Airport changed the DNAP to incorporate responses from the initial consultation period and chose to extend it to the 17th August 2018 in an attempt to gain further responses to the proposed action plan.

In total the Airport received 14 responses to the DNAP a summary of the common themes is detailed in the table overleaf and a reasoned justification for the response to the issues raised.

Please note that this is not an exhaustive list of all responses received, but all responses were considered and incorporated where possible.

Consultation Questions

Below are the questions used during the draft Noise Action Plan consultation. The responses we receive will be used to influence the detail of the final action plan.

1. Do you think the draft Noise Action Plan will help to strike the right balance between minimising the impact of aircraft noise whilst making best use of the positive social and economic benefits of a successful airport?

Yes/No

Comments

2. To what extent do you think that the draft noise action plan provides a suitable framework to manage aircraft noise?

Excellent - Above Average - Average - Below Average - Very Poor

3. To what extent do you believe that LLA's draft Noise Action Plan meets the requirements of The Noise Action Plan Guidance?

Excellent - Above Average - Average - Below Average - Very Poor

4. Do you think there are any additional actions that LLA should be including in the Noise Action Plan?

Yes/No.

If yes, examples:

5. The draft noise action plan proposes a number of performance indicators to measure progress in implementing the action plan. To what extent do you think that these performance indicators are sufficient?

Extremely - Very - Moderately - Slightly - Not at all

6. Do you have any further comments on the London Luton Airport Draft Noise Action Plan?

Comments

7. Are you happy to have your details recorded/reported?

Yes/No

Summary of Consultation Responses

Description of comments received	London Luton Airport Response	Change to the DNAP
Many of the NAP's actions are without quantitative targets to reduce noise.	Quantitative targets are included in the Airports planning conditions and detailed in the Noise Control Scheme most of which can be found in section 3. The NAP also includes actions to establish baselines and set reduction targets which will be done in collaboration with the Airport's Consultative Committee.	Y
There are no actions that relate to the LLAL vision2050 to expand the airport.	This noise action plan covers the actions proposed for the next 5 years. The proposal to expand the airport beyond 18m passengers per annum has not yet be submitted, The proposal, which will be submitted by the airport owner, will be subject to its own noise management plan, if approved the NAP will be reviewed and will include those additional actions where required.	N
Suggestions that EPNL should be used to show the true position of noise intrusion	Effective Perceived Noise Level (EPNL) is a measure of the relative loudness of an individual aircraft event, usually at the point of noise certification, and cannot be used to measure the impact over multiple aircraft over time. The recent CAA survey of noise attitudes (CAP1506 – SoNA) indicates that the LAeq 16h measurement is still the best to use for evidence based decisions.	N
Omission of the noise contour limits from the Operational Restrictions Section	This was an administrative error, DNAP now contains this action	Y
Lack of detail on how the Airport intends to reduce the noise impact for communities outside the 55dB LAeq	The action plan contains a number of actions that will benefit communities within and beyond the 55dB LAeq including incentivising the use of quieter aircraft and to identify and act on opportunities for modernising airspace structures to facilitate more continuous climb procedures as well as actions to further improve Continuous Descent Approach procedure adherence	N
“quiet areas” need to include rural villages which are beyond the 55dB LAeq contour	“Quiet areas” will be defined as per Government policy	N
LLAOL need to include measures which it is taking to address the mental health impacts of flights and aircraft noise and specifically the impact of sleep disturbance of residents who are most significantly impacted by aircraft noise events outside of the 57dB LAeq	The Noise Policy Statement for England makes the distinction between those significantly 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. Recent government research indicates that the 63 dB LAeq is the Significant Observed Adverse Effect Level. Many of the actions detailed in the NAP seek to address this requirement.	N

Appendix E

Financial Information

London Luton Airport has estimated the annual financial spend on noise management activities, this is detailed below.

Activity	Estimated Cost (£)
Staff Costs	£150,000
Equipment (including maintenance and licenses)	£110,000
Consultancy	£100,000
Noise Insulation Scheme	£100,000
Community Trust Fund	£125,000

Appendix F

Planning Conditions relating to noise

8. At no time shall the commercial passenger throughput of the airport exceed 18 million passengers in any twelve month period. From the date of this permission the applicant shall every quarter report in writing to the Local Planning Authority the moving annual total numbers of passengers through the airport (arrivals plus departures). The report shall be made no later than 28 days after the end of each quarter to which the data relates.

9 The development shall be operated in accordance with the Noise Control Scheme approved on 2 March 2015 (ref: 14/01519/DOC).

For the avoidance of doubt the controls within that scheme include:

- i) Measures with the purpose of phasing out of night time (2300 to 0700) operations by aircraft with a QC value of greater than 1 on either departure or arrival.
- ii) Monitoring and review of the scheme not later than the 1st and 4th year after its introduction and every subsequent five years.
- iii) Limits during the night time period (2330 to 0600) of:
 - a) Total annual movements by aircraft (per 12 month period) of no more than 9,650 movements; and
 - b) Total annual noise quota movements of no more than 3,500 which, using all reasonable endeavours, shall be reduced at each review until it reaches a point where it does not exceed 2,800 by 2028.
- iv) Limits for the Early Morning Shoulder Period (0600 to 0700) of not more than 7,000 movements in any 12 month period.
- v) Reporting of the actual and forecast total number of aircraft movements for the preceding and next 12 months to the Local Planning Authority every three months.
- vi) Within six months of the commencement of the development, a progressive reduction in the night-time (2300-0700) maximum Noise Violation Limits (NVL) by the noisiest aircraft shall be implemented, as follows:
 - o 80dB(A) the date hereof
 - o 79dB(A) from 1st January 2020
 - o 77dB(A) from 1st January 2028
- vii) Within six months of the commencement of the development, a progressive reduction in the daytime (0700 - 2300) maximum NVL by the noisiest aircraft shall be implemented, as follows:
 - o 82 dB(A) the date hereof
 - o 80 dB(A) from 1st January 2020

10 The development shall be operated in accordance with the Noise report approved on 2 March 2015 (ref: 14/01519/DOC), including providing details of forecast aircraft movements and consequential noise contours as set out in that report.

The area enclosed by the 57dB(A) Leq16hr (0700-2300) contour shall not exceed 19.4 sq km for daytime noise, and the area enclosed by the 48dB(A) Leq8hr (2300-0700) contour shall not exceed 37.2 sq km for night-time noise, when calculated by the Federal Aviation Authority Integrated Noise Model version 7.0-d (or as may be updated or amended).

Within five years of the commencement of development a strategy shall be submitted to the Local Planning Authority for their approval which defines the methods to be used by LLAOL or any successor or airport operator to reduce the area of the noise contours by 2028 for daytime noise to 15.2sq km for the area exposed to 57dB(A) Leq16hr (0700-2300) and above and for night-time noise to 31.6 sq km for the area exposed to 48dB(A) Leq8hr (2300-0700) and above.

Appendix F (continued)

11 The development shall be operated in accordance with the Noise Control Monitoring Scheme as approved on 2 March 2015 (ref: 14/01519/DOC).

For the avoidance of doubt the controls include:

- i) Fixed noise monitoring terminals and track keeping system (vertical and horizontal)
- ii) Complaint handling system
- iii) Sanctions to be imposed on infringement by aircraft in respect of track keeping and noise violation limits in accordance with condition 9 (parts vi and vii) of this permission
- iv) Arrangements for the verification of the submitted information

A review shall take place not later than the 1st and 4th year after introduction and every subsequent 5 years.

12 The development shall be operated in accordance with the scheme to control ground noise approved on 2 March 2015 (ref: 14/01519/DOC).