

South Luton Operations

We will answer your questions at the end,
please use the question cards at the back of
the room to submit these in the break.



London Luton Airport

Contents

- Easterly and Westerly operations
- Track deviations
- CDA- Arrivals
- South Luton Community noise report 2024

Map of London Luton Airport- Westerly Operations



Westerly Operations

On average westerly operations are used around 70% of the year

It is preferable for aircraft to take off and land into the wind to increase stability and easier flying.

During westerly operations, wind conditions travel in a west to east direction.

On a westerly operation aircraft will take off following one of our 3 Noise preferential routes (NPR) depending on their onward travel this will be either MATCH, RODNI and OLNEY.

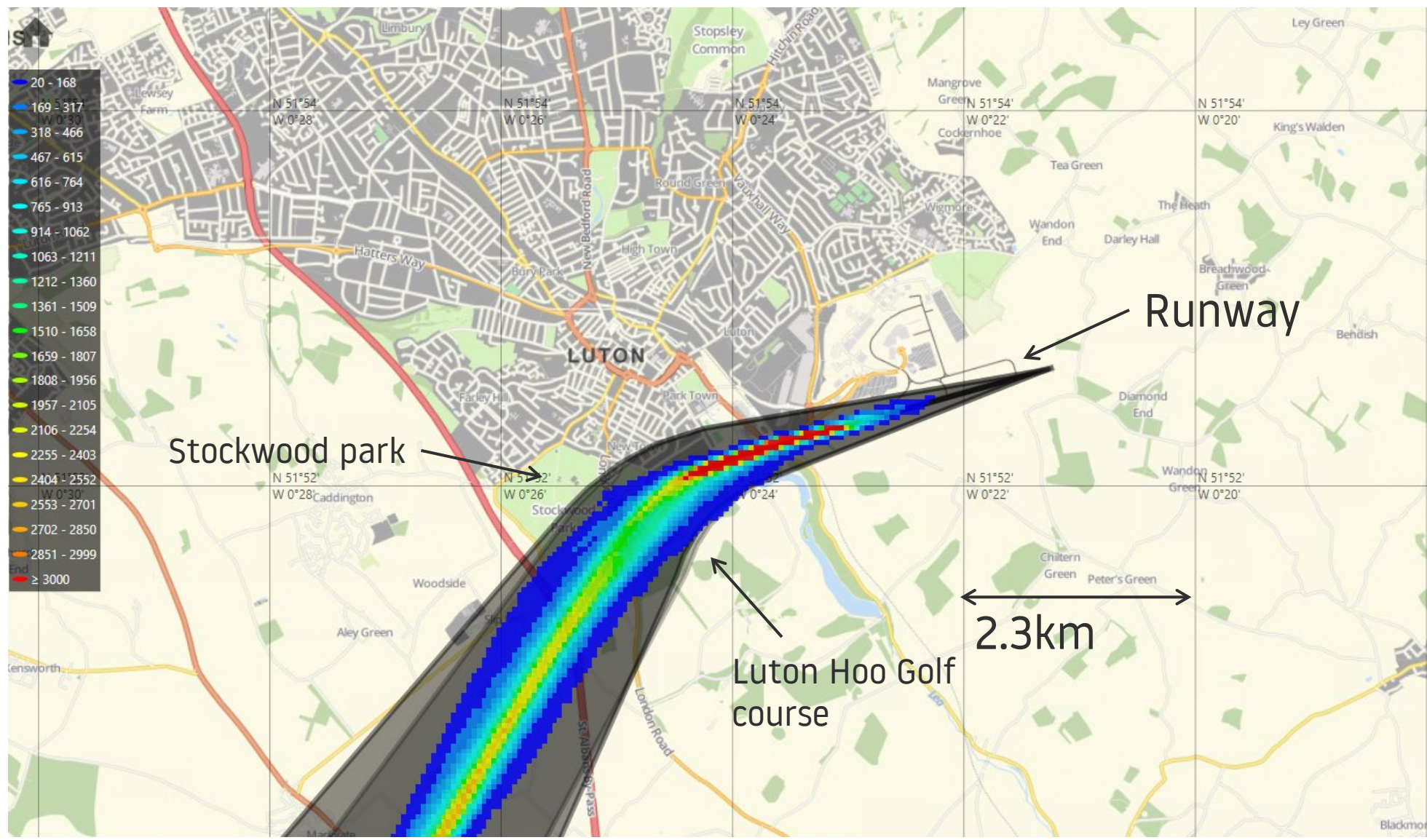
Aircraft will operate within these 'corridors', if they exit these corridors they will receive a fine.

For westerly operations, aircraft can only exit these corridors when they reach the set altitude.

Map of London Luton Airport- Westerly Departures 2016



Map of London Luton Airport- Westerly Departures 2024



Departures- Track deviations

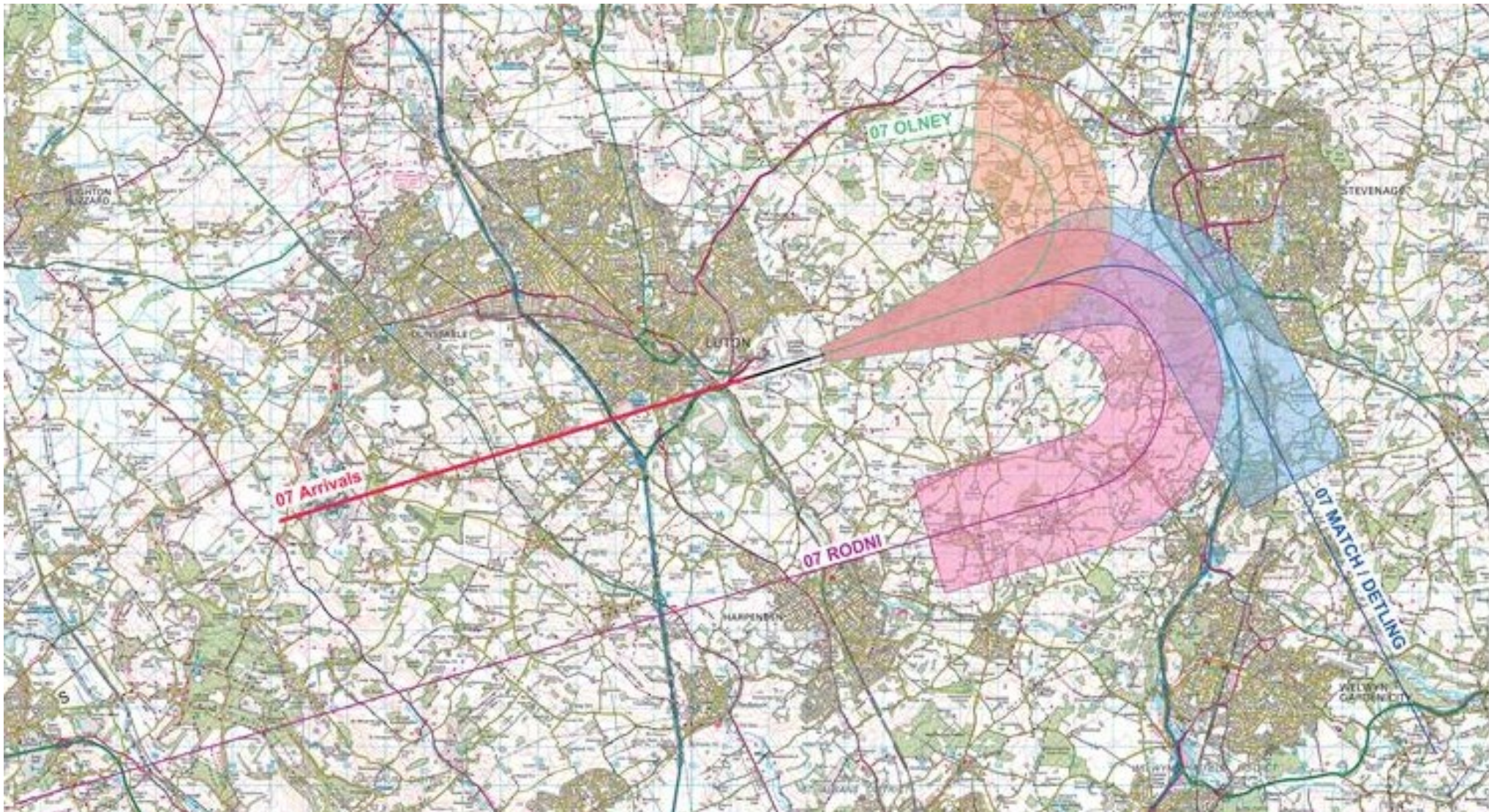
If aircraft exit these noise preferential routes (NPR's), then they will be investigated and if deemed there is no reason for their deviation, then they will be issued a fine that then goes into the Community trust fund to support local projects.

Reasons for track deviations could include Air traffic control (ATC) vectoring, weather avoidance, technical issues and emergencies, in these circumstances aircraft won't receive fines.

99.9% of departing aircraft complied with our departure procedures in Q2 2024.

We're currently working on further analysis for South Luton westerly departures with reports raised that aircraft may be straying outside of the NPR and in different paths compared with previous years, data on this is being investigated, we are working closely with local residents and Councillors on this.

Map of London Luton Airport- Easterly Operations



Easterly Operations- Arrivals

On average easterly operations are used around 30% of the year.

South Luton is affected by easterly arrivals, this will involve aircraft travelling in an easterly direction on our (07) runway to land.

Air traffic controllers will direct aircraft to align onto the Instrument landing system (ILS). This is an approach radar system giving the pilot both vertical and horizontal guidance to execute an accurate landing.

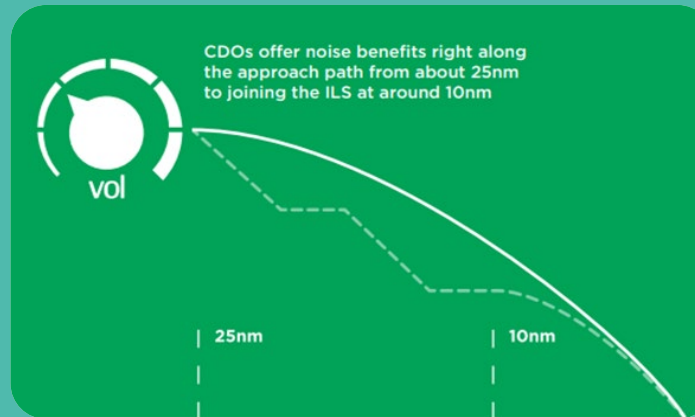
Aircraft on the ILS will typically join around 10nm away, for Luton easterly arrivals this is around Pitstone. Aircraft will then follow this direct route down to the runway.

This Instrument landing system (ILS) instrument aid is particularly beneficial in fog, also aided by the approach lighting system (ALS)

Aircraft will use the ILS to aid them in achieving continuous descent approach (CDA), resulting in less thrust needed and the reduction of fuel, emissions and noise.

CDA- Arrivals

Continuous descent approach (CDA) or continuous descent operations (CDO) involves aircraft to descend onto the runway on the most efficient glide path during landing.



We are always looking to improve the performance of all users and by doing so will benefit the community and help to achieve the goal towards net zero

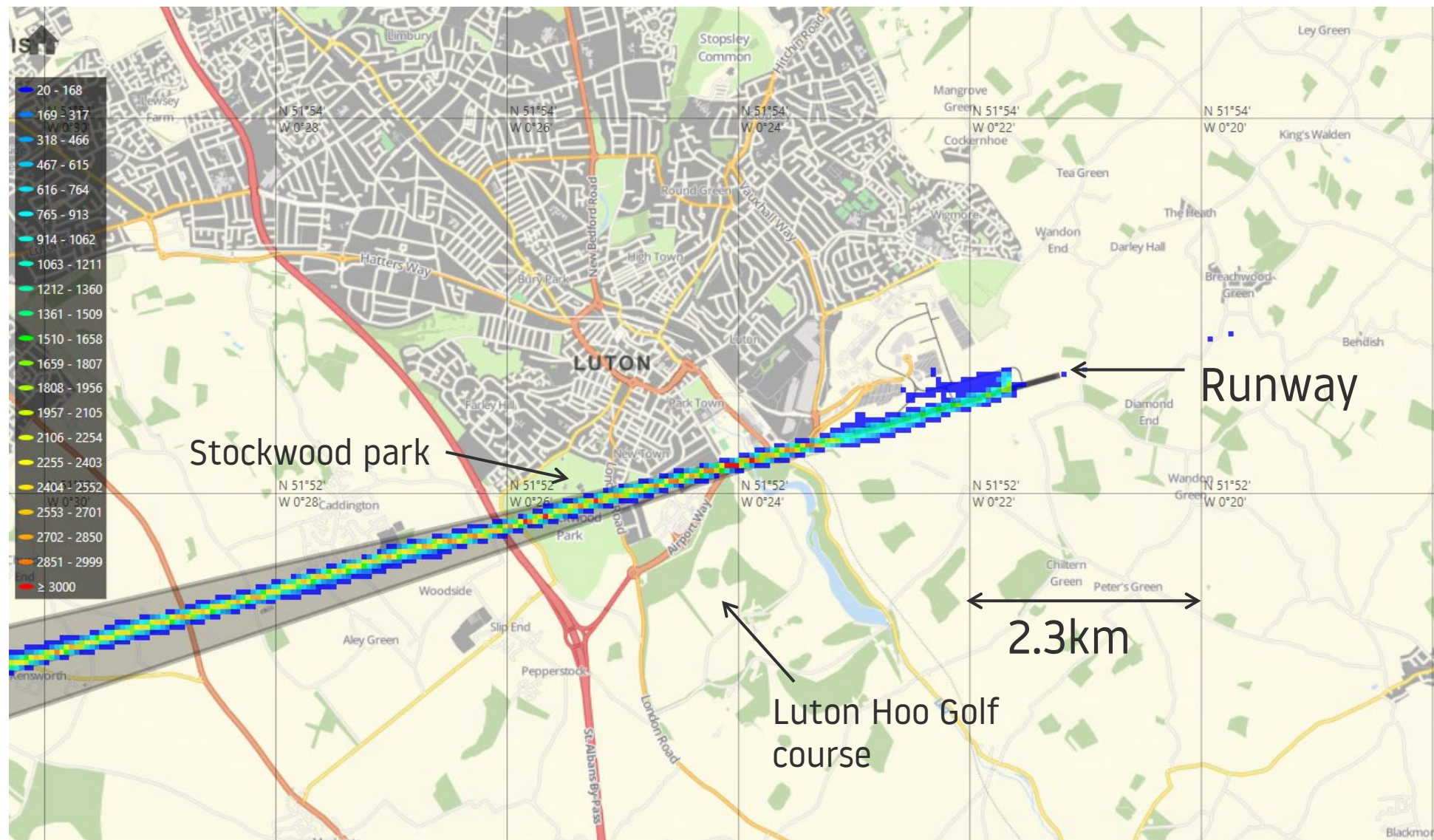
The aircraft will use the computer on board to calculate the distance from the runway and the current altitude to create a glide path and descend using minimal thrust, usually around 3 degrees.

Levelling off during approach breaks CDA and uses extra thrust resulting in more fuel and emissions.

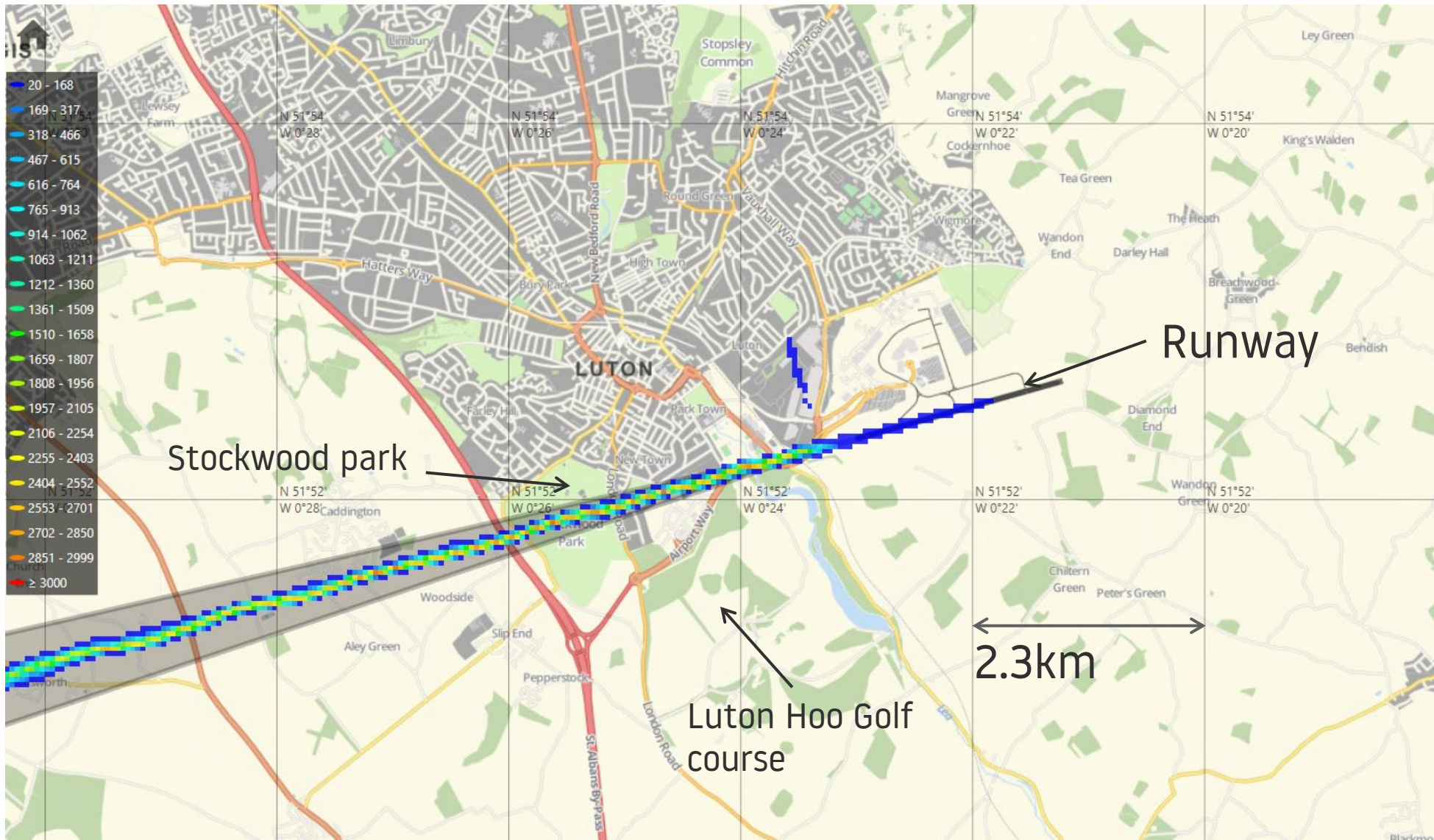
All airlines are continuously monitored for their achievement on CDA, these statistics are shared with the airlines for them to monitor.

<https://www.sustainableaviation.co.uk/wp-content/uploads/2018/06/A-Guide-to-CDOs-Booklet1.pdf>

Map of London Luton Airport- Easterly Arrivals 2016



Map of London Luton Airport- Easterly Arrivals 2024



Community Noise Report

South Luton

June- September 2024



London Luton Airport

Introduction

As part of the ongoing noise monitoring programme, London Luton Airport deployed a portable noise monitoring terminal in South Luton.

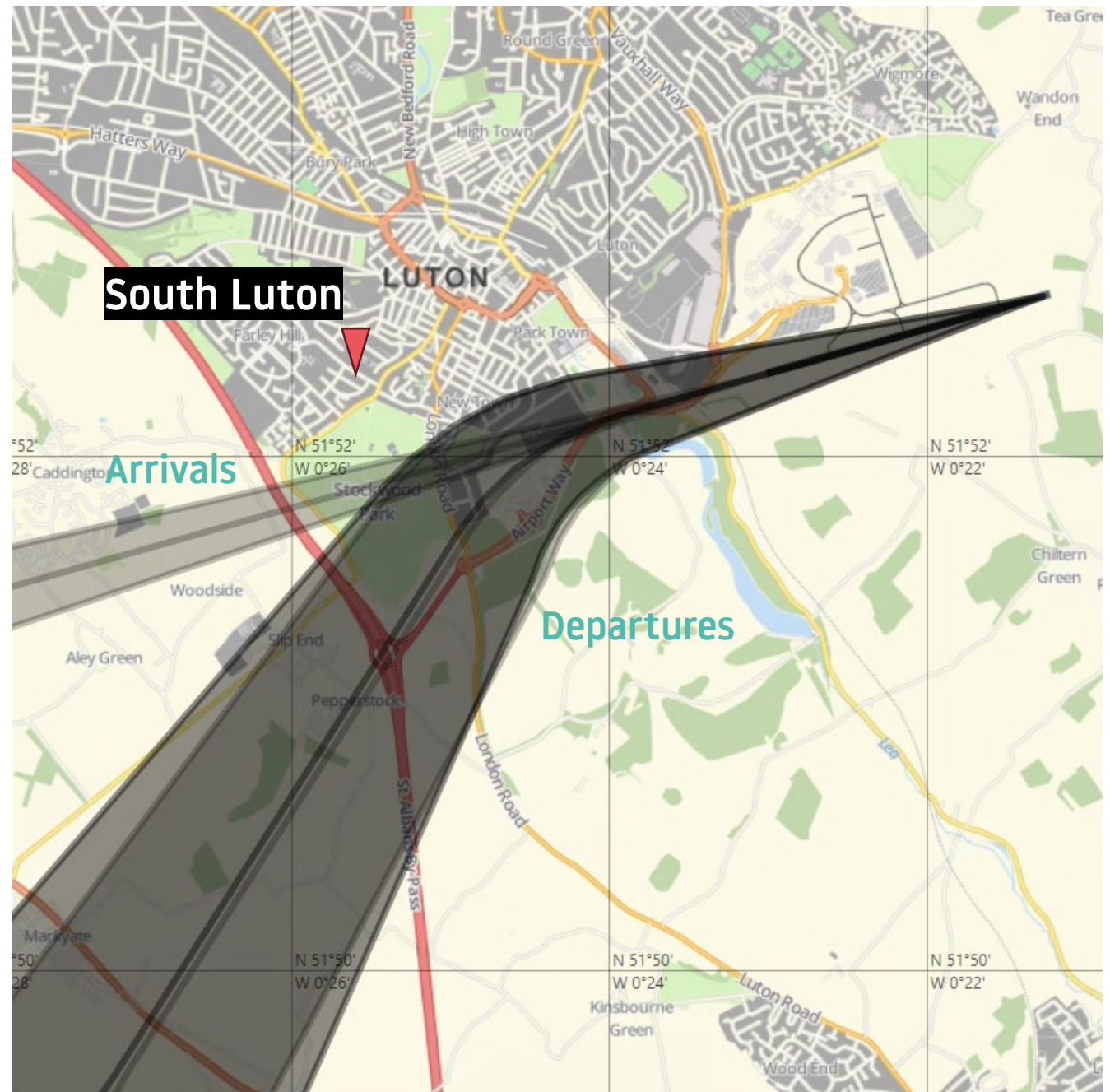
The purpose of the monitoring programme is to understand the typical noise levels created in the local community. **For South Luton it specifically related to westerly departures and easterly arrivals.** The arrival and departures flightpath is shown on the map.

The noise monitor was located at a residential property on Wilsden Avenue, to the north of Stockwood park, at an altitude of 539 feet above sea level. The red pinpoint on the map shows the noise monitor location.

The noise monitor in South Luton was in place between the 18th June- 9th September 2024.

Aircraft noise and tracks recorded were extracted from LLA's noise and track-keeping system.

This document evaluates the lateral and vertical positioning of aircraft near the monitor as well as the noise recorded at ground level.

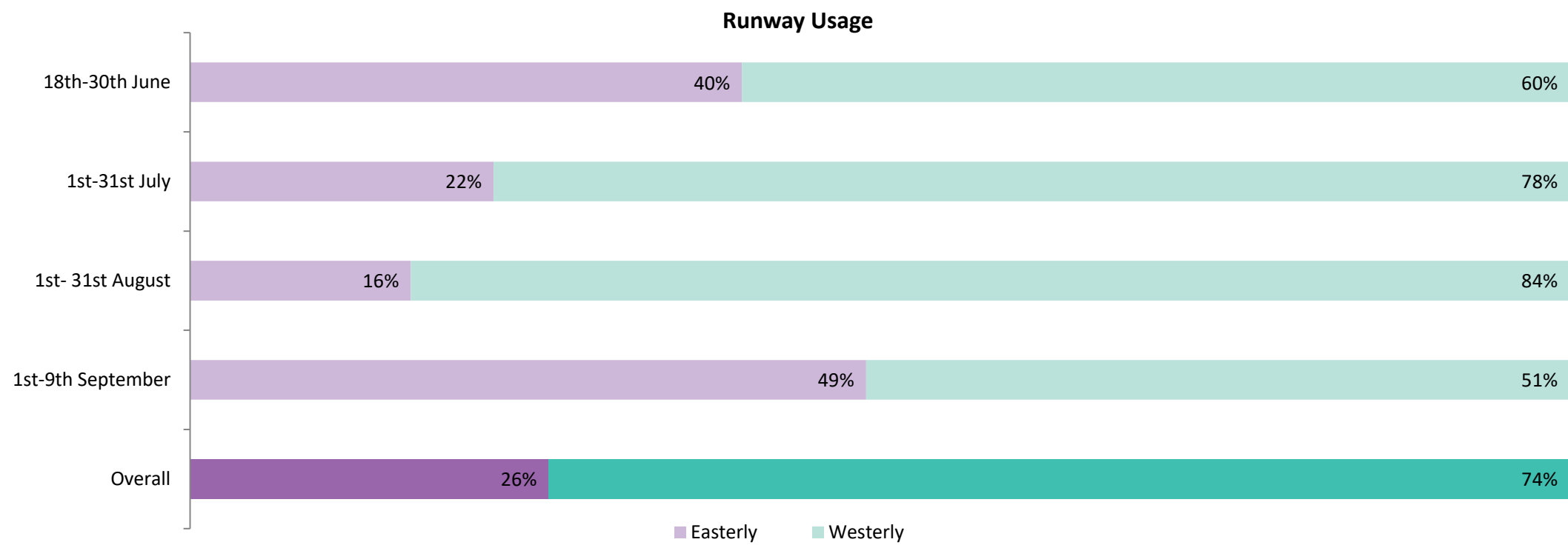


LLA operations during the monitoring period

There are two operating directions at LLA. The operating direction depends on the wind direction as aircraft are required to take off and land into the wind for aircraft performance and safety reasons. These are known as easterly operations and westerly operations and can change the aircraft tracks nearby specific areas. The split in operating direction varies from year to year and month to month. The amount of time that the runway operates in one direction depends on the wind direction.

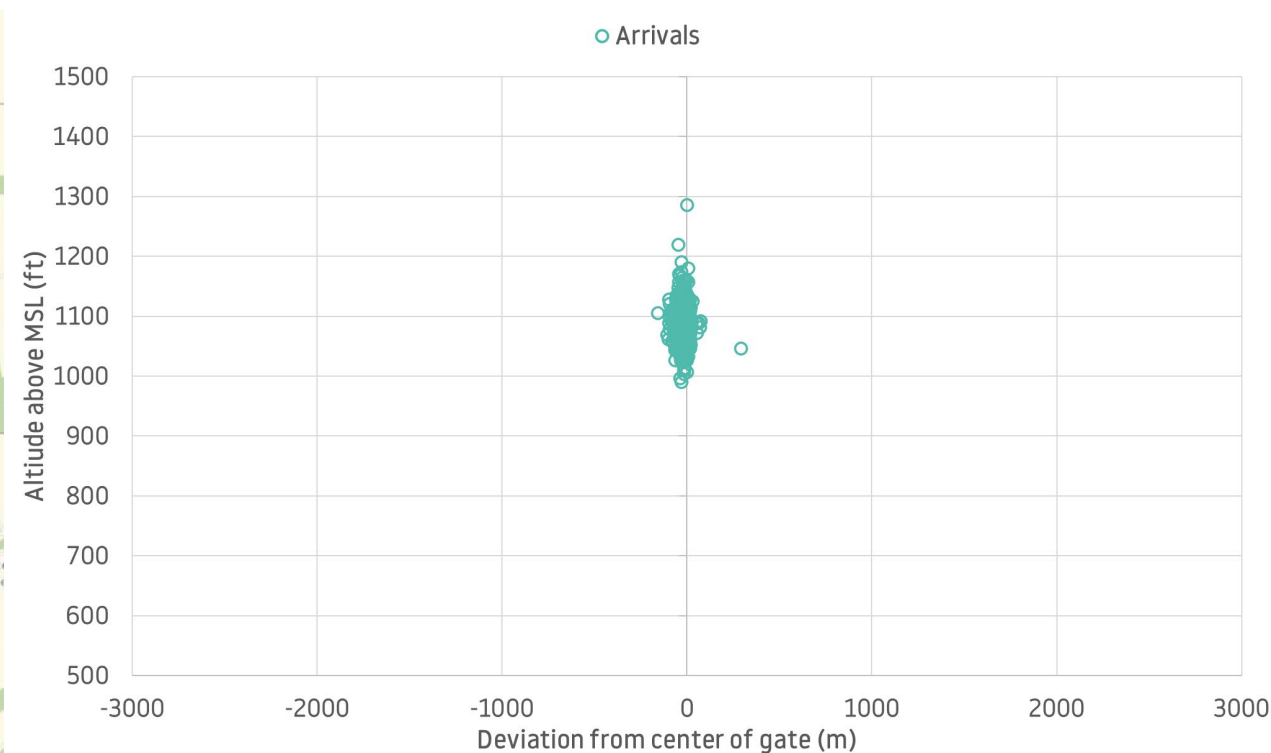
During the period of monitoring, the direction of operation was 26% Easterly and 74% Westerly. The 5-year average for this time of year is 30% easterly vs 70% westerly.

There were 4,665 aircraft arriving on the easterly route and 12,420 westerly departure aircraft in Q3 2024.



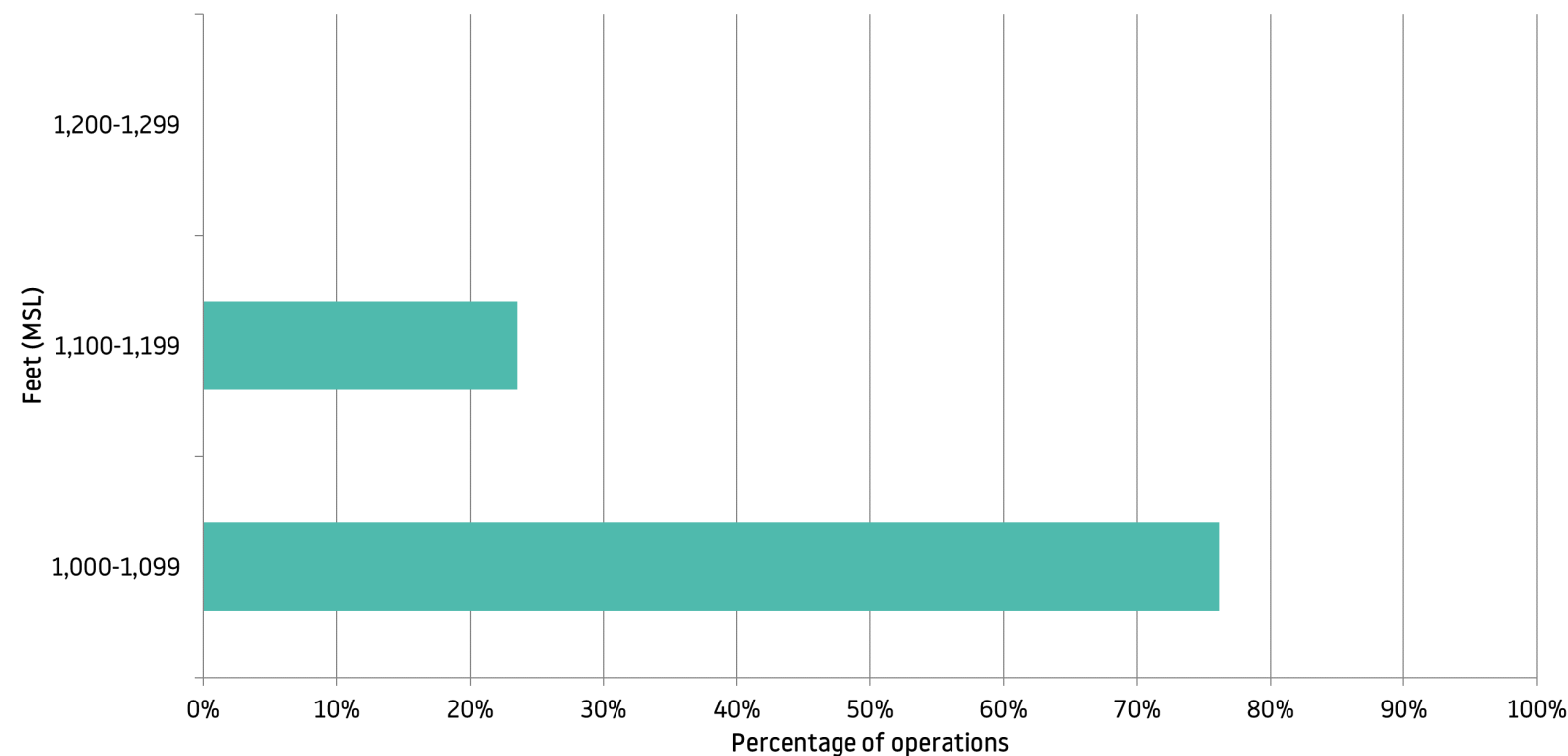
Altitude Gate Analysis- Easterly Arrivals

The altitude analysis for South Luton, shows the vertical and lateral dispersion of aircraft 1km either side of the noise monitor. The map below shows the 2km gate (blue line) which is drawn perpendicular to the NPR from northwest to southeast and it gathered information of every aircraft passing through the gate area. The scatter graph below shows the distance and altitude of aircraft from the noise monitor during the monitoring period. Residents in South Luton will see aircraft flying on the days of easterly operations for arrival aircraft.



Altitude Gate Analysis – Easterly Arrivals

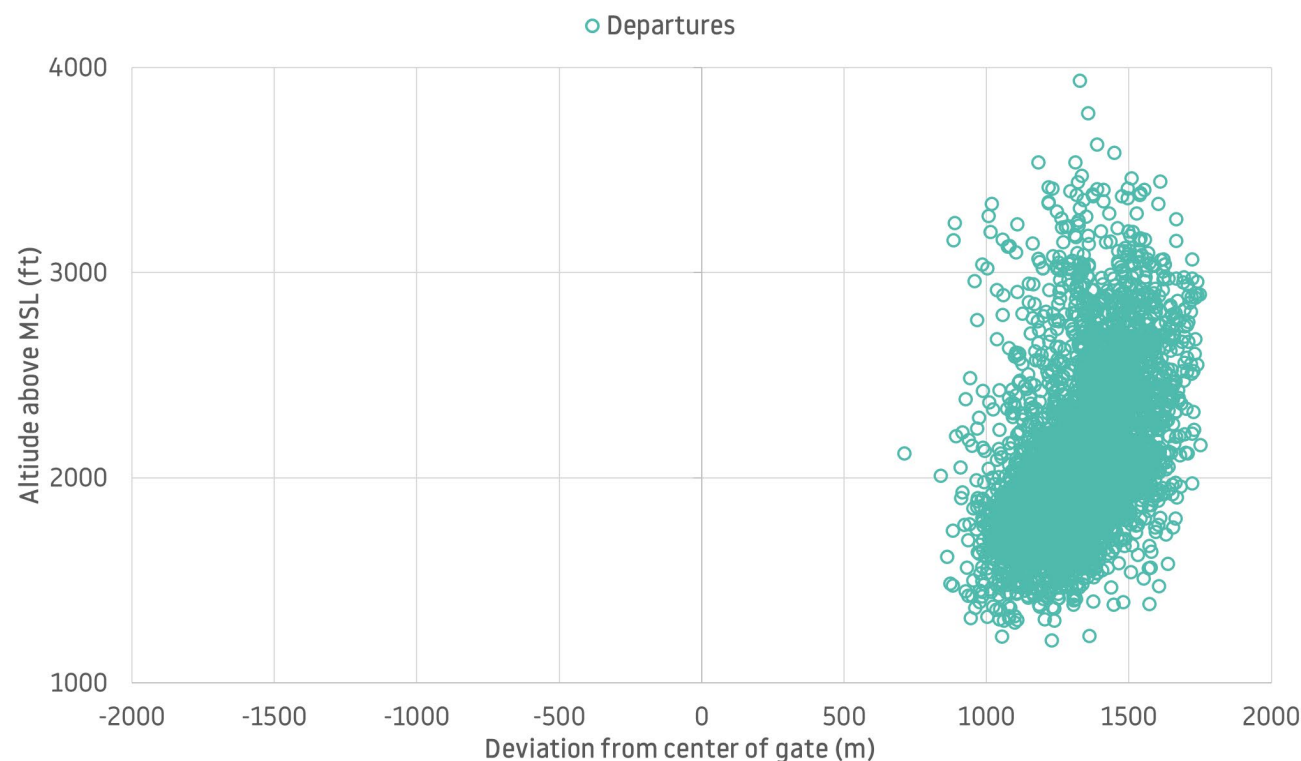
The average altitude of aircraft was 1,087 feet AMSL (548 feet AGL) when they reach near the noise monitor in South Luton. The bar chart on the below shows the percentage rate and altitude of aircraft arriving.



Aircraft Type	Number of movements detected	Average Altitude (AMSL in ft)
A306 (Cargo)	29	1,083
A319	592	1,093
A320 CEO	547	1,087
A320 NEO (A20N)	527	1,088
A321 CEO	149	1,066
A321 NEO (A21N)	676	1,093
B737-800 NG (B738)	290	1,079
B737 Max 8 (B38M)	213	1,079
Global Express (GLEX)	92	1,106
Cessna 560X (C56X)	72	1,091
All	3,187	1,087

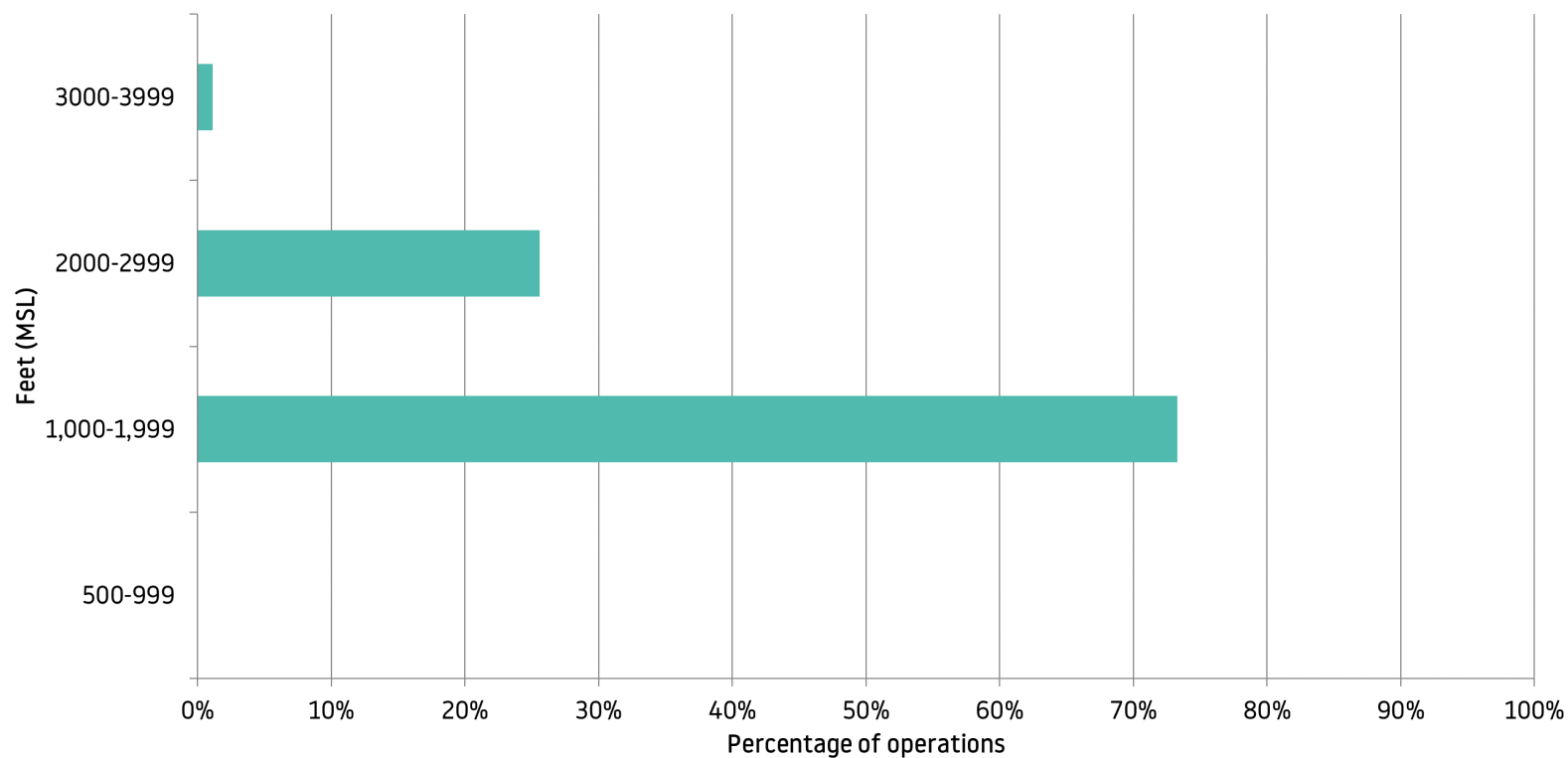
Altitude Gate Analysis- Westerly Departures

The altitude analysis for South Luton, shows the vertical and lateral dispersion of aircraft 1.75km either side of the noise monitor. The map below shows the 3.5km gate (blue line) which is drawn perpendicular to the NPR from northwest to southeast and it gathered information of every aircraft passing through the gate area. The scatter graph below shows the distance and altitude of aircraft from the noise monitor during the monitoring period. Residents in South Luton will see aircraft flying on the days of westerly operations for departure aircraft. The edge of the NPR is around 625m from the noise monitor.



Altitude Gate Analysis – Westerly Departures

The average altitude of aircraft was 2,019 feet AMSL (1,480 feet AGL) when they reach near the noise monitor in South Luton. The bar chart on the below shows the percentage rate and altitude of aircraft arriving.

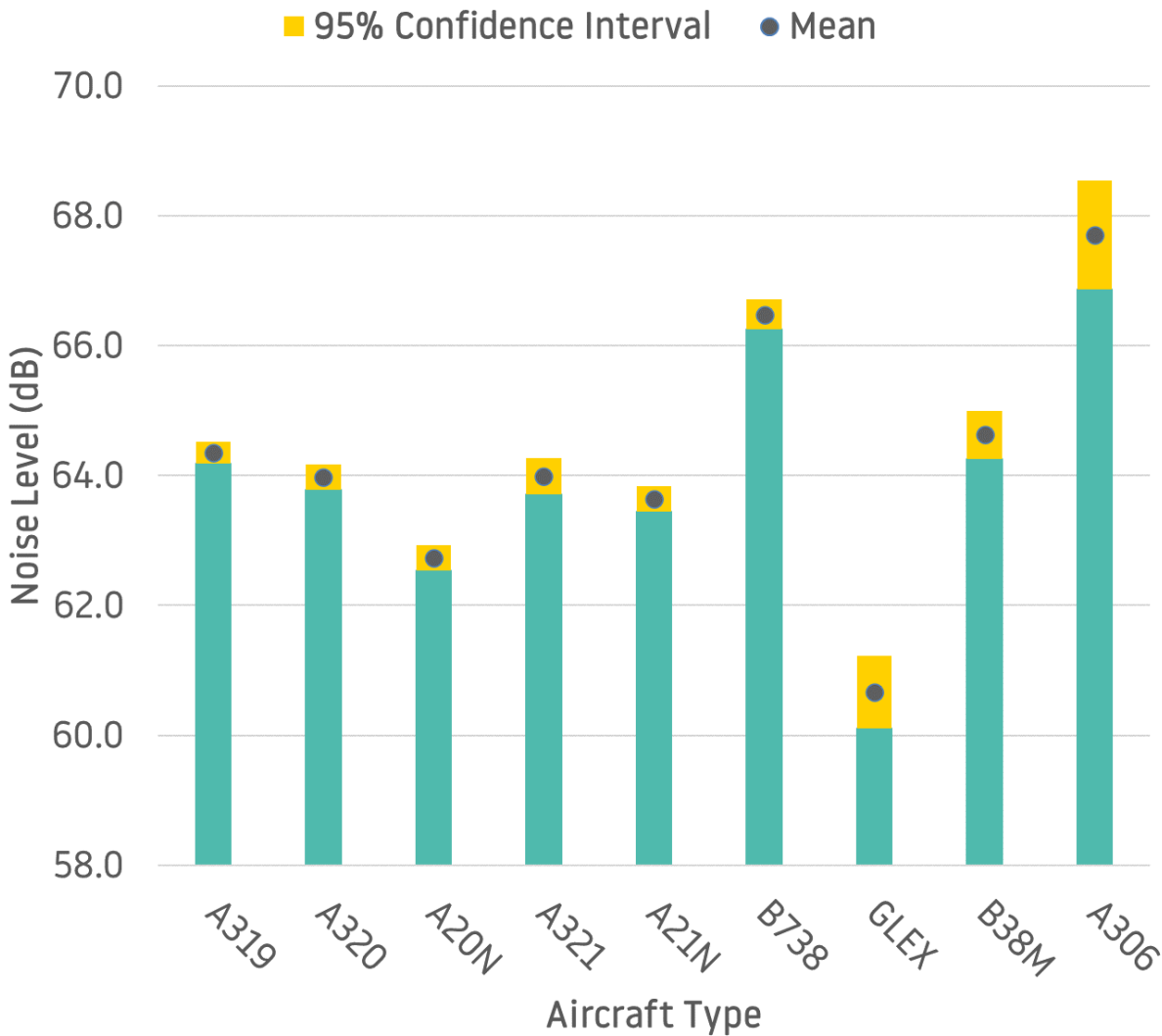
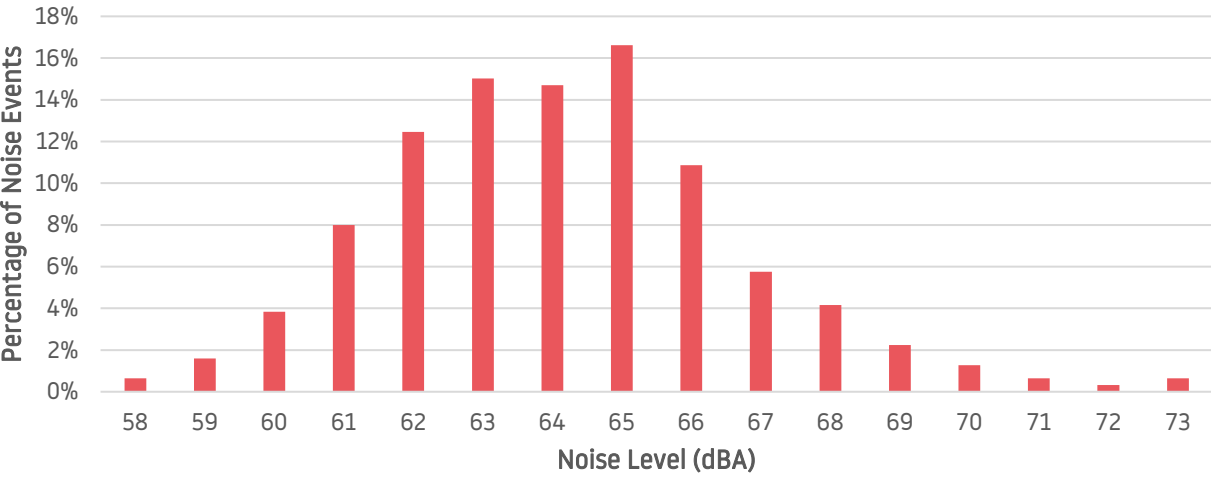


Aircraft Type	Number of movements detected	Average Altitude (AMSL in ft)
A306	88	2,425
A319	1,759	1,825
A320 CEO	1,661	1,919
A320 NEO (A20N)	1,544	1,917
A321 CEO	415	1,979
A321 NEO (A21N)	2,041	1,866
B737-800 NG (B738)	901	1,873
B737 Max 8 (B38M)	635	1,853
Global Express (GLEX)	290	2,126
Cessna 560X (C56X)	216	2,403
All	9,550	2,019

Noise Results – Easterly Arrivals

During the monitoring period, the noise recording samples were gathered from the most popular aircraft types at London Luton Airport*. The summary of the noise results is shown in this section. The tables show the average noise by aircraft type and the bar chart shows the uncertainty caused by the spread in readings and the sample size (95% confidence interval).

Aircraft Type	Number of movements	Average Noise (dB)
A319	531	64.4
A320 CEO	498	64.0
A320 NEO (A20N)	475	62.7
A321 CEO	140	64.0
A321 NEO (A21N)	599	63.6
B737-800 NG (B738)	263	66.5
GLEX	43	60.7
B737 Max 8 (B38M)	198	64.6
A306	25	67.7
All	2,772	64.2

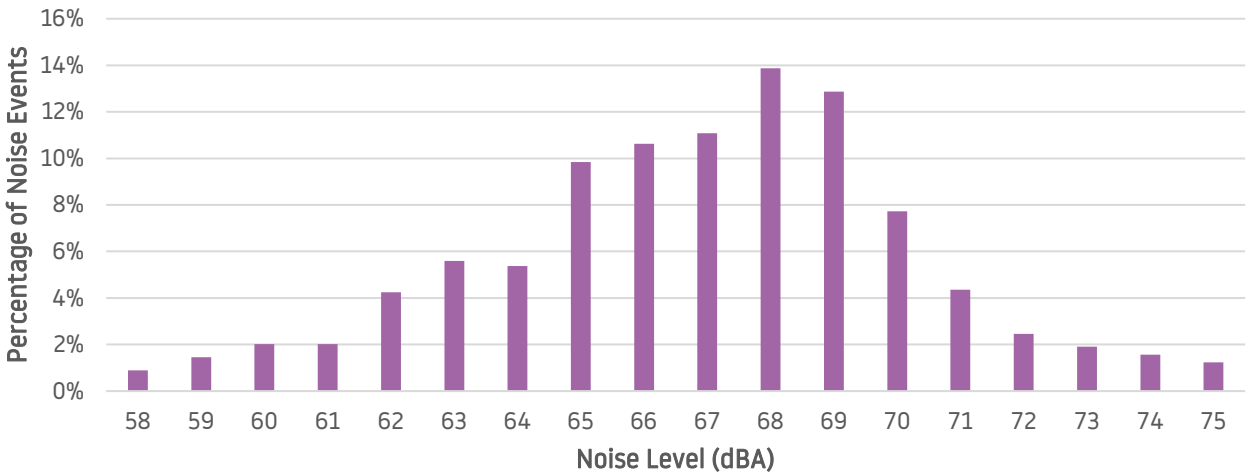


*The noise results shown in the analysis are only for those aircraft types that recorded more than 40 events per aircraft. A306 included for comparison.

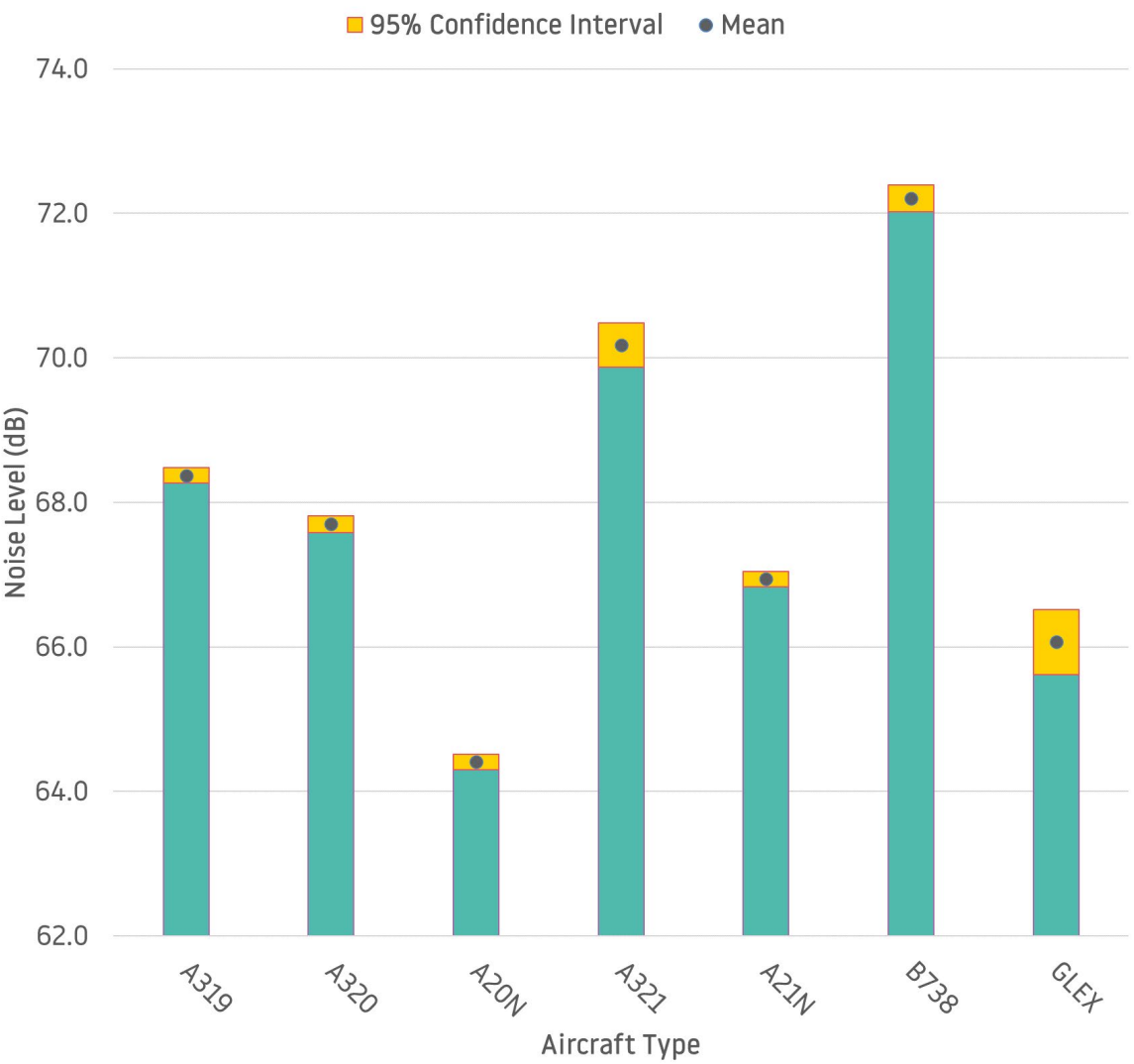
Noise Results – Westerly Departures

During the monitoring period, the noise recording samples were gathered from the most popular aircraft types at London Luton Airport*. The summary of the noise results is shown in this section. The tables show the average noise by aircraft type and the bar chart shows the uncertainty caused by the spread in readings and the sample size (95% confidence interval).

Aircraft Type	Number of movements	Average Noise (dB)
A319	1,455	68.4
A320 CEO	1,396	67.7
A320 NEO (A20N)	1,261	64.4
A321 CEO	340	70.2
A321 NEO (A21N)	1,682	66.9
B737-800 NG (B738)	738	72.2
B737 Max 8 (B38M)	521	66.5
A306	77	69.4
GLEX	218	66.1
All	7,688	67.7



*The noise results shown in the analysis are only for those aircraft types that recorded more than 200 events per aircraft. A306 included for comparison.



Noise Results - Summary

- The average arrival noise in South Luton was 64.2dB, based on a sample size of 2,772.
- From the results, South Luton's most popular aircraft type by operators, Airbus and Boeing.
- Airbus operate the A320 CEO, A321 CEO and Boeing the B738-800NG.
- Both Airbus and Boeing also operate the newer generation aircraft. Airbus- A320 NEO (A20N) and A321 NEO (A21N). Boeing- operate the new B737 Max 8.
- These newer generation aircraft are quieter and more fuel efficient which also impacts reduction in emissions.
- The table below shows the Aircraft type, both older generation and the new, showing both their arrival and departure decibels (dB) also showing the dB difference between the two types and reduction of dB in red the new generation of aircraft has.
- Around 46% of all noise results movements were newer generation aircraft which are more fuel efficient and quieter.

Aircraft type	Arrival dB	Departure dB	New aircraft type	Arrival dB	Departure dB
A320	64.0	67.7	A320N (A20N)	62.7 (-1.3)	64.4 (-3.3)
A321	64.0	70.2	A321N (A21N)	63.6 (-0.4)	66.9 (-3.3)
B738	66.5	72.2	B737 MAX8 (B38M)	64.6 (-1.9)	66.5 (-5.7)

Thank you for listening

Please fill out your questions on the question cards on the desk at the back and return to us.

We will now take a 15 minute break.