Community Noise Report Breachwood Green July – October 2018





Introduction

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

The purpose of the monitoring programme is to understand the typical noise levels created in the local community, for Breachwood Green it specifically related to Westerly arrivals and Easterly departures.

The noise monitor was located in Breachwood Green between the 23rd July and 23rd October 2018.

The monitor's location was within the main Easterly departure/Westerly arrival corridor approximately 500m North of the route's centreline at an altitude of 482 above mean sea level.

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 period of monitoring, the direction of operation was 17% Easterly and 83% Westerly. The 5 year average for this time of year is 27% Easterly vs 73% Westerly which demonstrates that residents in the area would have experienced a decreased number of Easterly departures, but an increased number of Westerly arrivals.

37,757 aircraft operated from the airport whilst the monitor was located in Breachwood Green as well as an additional 150 helicopters. During the monitoring period we saw 15,665 aircraft arrive whilst on Westerly operations and 3,051 depart on Easterly operations, therefore 18,716 aircraft passed nearby the monitor.



Runway Usage

Daily Movements

that departed whilst on Easterly Operations and arrived on Westerly Operations would have flown passed the monitor.



The chart below shows the number of daily departures that passed the noise monitor. Due to the location of Breachwood Green, all flights

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Breachwood Green

Operations

The graph below represents the average number of Arrivals during the monitoring period. During the peak periods, local residents of Breachwood Green may notice more aircraft. Peak periods were at 07:00, 12:00 and 18:00.

During the night period of 23:00 – 06:00 there were an average of 29 arrivals compared to 29 for the previous year.



Aircraft Tracks - Arrivals





Aircraft Tracks - Departures

The sample below shows the representative departure flight tracks that passed nearby the monitor during the monitoring period.





Arrival Altitude Analysis

Altitude analysis shows the vertical and lateral dispersion of 15,149 aircraft either side of the noise monitor. The chart below shows that 75% of arrivals were between 900 & 949 feet and 16% between 950 & 999 feet. The average altitude of arriving aircraft in this area was 923 feet above mean sea level.



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Departure Altitude Analysis

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Altitude analysis shows the vertical and lateral dispersion of 15,149 aircraft either side of the noise monitor. The chart below shows that 49% of departures were between 1,500 & 1,999 feet and 43% between 2,000 & 2,499 feet. The average altitude of arriving aircraft in this area was 2,034 feet above mean sea level.







How we analyse the noise data

Following the noise monitoring period, we collate the data taken from our Noise and Track Keeping system. When analysing the results the first thing we do is ensure that there are no unusual noise events present which might not be caused by aircraft (e.g. vehicles or wildlife).

The weather also plays a big part in the data recorded and in periods of extreme weather the equipment can record noise incorrectly so during these weather conditions we exclude recordings from the analysis. i.e (periods of heavy rain, extreme temperatures or very strong winds)

We are always looking at new ways to make our Noise Reports easier for local communities to understand as well as including the right information. If you have any suggestions about how we can make these reports better, please do not hesitate to let us know.

For the monitoring period in Breachwood Green the Noise Monitoring Terminal collected results for 13,453 aircraft. However, 685 aircraft did not register noise events as they were either too high or too quiet. 5,593 results were excluded for weather reasons as outlined above, which left 7,175 noise results to analyse which are shown in the next few pages



Noise Results - Arrivals

During the monitoring period, noise results were gathered from various aircraft types, the most popular aircraft types are shown in the table below*.

Aircraft Type	Number of movements
A320 NEO (A20N)	137
A319	1,625
A320	2,131
A321	665
B733	22
B734	44
B738	984
B739	41
B752	104
C56X	50

The average maximum noise event in Breachwood Green is 72.4 dB with a standard deviation of 2.4 dB. This is based on a sample size of 6,354.

*The noise results shown in the analysis are only for those aircraft types that recorded more than 20 events per aircraft.



Noise Results - Departures

During the monitoring period, noise results were gathered from various aircraft types, the most popular aircraft types are shown in the table below*.

Aircraft Type	Number of movements
A319	167
A320	282
A321	96
B738	100

The average noise in Breachwood Green is 77.8 dB with a standard deviation of 3.3. This is based on a sample size of 821

*The noise results shown in the analysis are only for those aircraft types that recorded more than 20 events per aircraft.



Conclusion – Arrivals

- this time period, and therefore residents would have experienced more arrivals during this period than in recent years.
- line with this.
- 2% of the noise events recorded were created by easyJet A320 NEO aircraft, registering average noise events of 72 dB. ullet
- typically be 441 feet above ground level in this area.
- ulletAircraft are very concentrated within this 100 foot band as aircraft descend on the Instrument Glide Path to land.

During the monitoring period, the airport was using westerly operations for 83% of the time, this is greater than the 5 year average of

The main aircraft types operating at the airport are A320 & A321 therefore the aircraft flying in the vicinity of Breachwood Green are in

The average altitude of aircraft in the area is 923 feet above sea level, and as Breachwood Green is 482 feet above sea level, aircraft will

Above Breachwood Green, aircraft are typically between 900-949 feet, during the monitoring period this accounted for 75% of all aircraft.

Conclusion - Departures

- ullettime period, and therefore residents would have experienced less departures during this period than in recent years.
- ulletline with this.
- aircraft will typically be 1,552 ft above ground level in this area.
- ullet
- ulletperformance than those scheduled passenger aircraft which allow them to climb quicker.
- ulletcurrently working with the operator to ensure that this doesn't happen again in the future.

During the monitoring period, the airport was using westerly operations for 17% of the time, this is less than the 5 year average of this

The main aircraft types operating at the airport are A320 & A321 therefore the aircraft flying in the vicinity of Breachwood Green are in

The average altitude of aircraft in the area is 2,034 feet above sea level, and as Breachwood Green is already 482 feet above sea level,

Above Breachwood Green, aircraft are typically between 1,500-1,999 feet, during the monitoring period this accounted for 49% of all aircraft. We also saw 43% of aircraft achieve altitudes between 2,000-2,499 feet with an additional 7% greater than 2,500 feet.

Of those 27 aircraft shown in the altitude analysis that achieved altitudes above 3,000 feet, 7 were cargo aircraft, 19 were business jet aircraft and 1 was a scheduled passenger aircraft. We often see this situation as business jets are often lighter and have greater climb

Of the three aircraft that deviated more than 500 metres from the centre of the gate, the two aircraft to the south still remained within the NPR, however the 1 aircraft that deviated to the North was investigated as part of the Noise and Track Violation Scheme. We are

Glossary of Terms

Westerly Operations: As aircraft take off and land into the wind, westerly operations refers to the time when the wind is blowing from the west

Easterly Operations: As aircraft take off and land into the wind, easterly operations refers to the time when the wind is blowing from the east

SID: Standard instrument departure, is the published route that an aircraft must follow on departure.

Aircraft Movement: A single aircraft departing or arriving at the airport.

Gate Analysis: A 3km gate which is drawn across an area and will gather information about every aircraft passing through the gate area.

Noise Event: A single event is the period from when an aircraft approaches the monitor until when the aircraft is leaving the area.

Decibel (dB): The unit used to measure noise (typically 50-60dB is equivalent to a normal conversation level).

LasMax: A unit of measure and is the maximum noise level from a single aircraft passing over the noise monitor.

LAeq (16hr day): the average noise level during the day (a 16-hour day) during the summer period. The measure of noise is given in decibels (dB). This averaged decibel measurement 'LAeq', is the most common international measure of aircraft noise, it means 'equivalent continuous noise level'.



taking off