Community Noise Report Childwickbury Mar-Apr 2018





Introduction

London Luton Airport undertook unattended noise monitoring in Harpenden as part of the ongoing noise monitoring programme. The purpose of the monitoring was to understand the typical noise levels created in this area by departing aircraft during westerly operations.

The noise monitor was located at Childwickbury Stud between the 19th March to 24th April 2018.

The monitor's location was within the corridor for the westerly Match/Detling departure route with aircraft tracking approximately 19km before reaching the monitor. The location was approx. 600m north of the route's centreline and at an altitude of 410ft above sea level.

Aircraft tracks and noise recorded was extracted from LLA's noise and track-keeping system (TopSonic). Lateral and vertical dispersion was evaluated by drawing a 3km 'gate' perpendicular to the departure route's centreline.





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LLA Operations during the monitoring period

During the monitoring 13,765 air traffic movements were handled by LLA, there were no trials in place that could have affected the position of aircraft during this time.

During the period of monitoring the direction of operation was 41% easterly and 59% westerly and therefore during easterly operations no data was captured.



Aircraft tracks during the monitoring period

The sample below shows 1,927 flight tracks that passed nearby the monitor during the monitoring period (19th March-24th April 2018).



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Gate analysis during the monitoring period

Gate analysis shows the altitude and lateral dispersion of aircraft at this point on the departure route. The chart below shows that 80% of flights were above 4,500ft. The average altitude of aircraft in this area was 5,400ft above mean sea level.



1,900 aircraft shown on gate analysis

Perecentage of Operations

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Noise results during the monitoring period

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	41
A320	230
A321	95
B734	12
B738	45

*Although 1,927 aircraft used the westerly Match route during the monitoring period, noise data was only gathered for the 473 of aircraft. This was due to the parameters of the noise monitor, such as weather conditions, distance from the monitor and achieving a minimum noise level.



Noise Level (dB A)



Summary

- ulletaverage for westerly operations is 70% of the time.
- The main aircraft types operating at the airport are A320 and A319's, whereas the main aircraft types near ulletChildwickbury were A320's and A321's.
- ulletabove sea level, aircraft will typically be 4,990ft above ground level in this area.
- ulletChildwickbury monitoring location was 1,100m closer to the centreline.

During the monitoring period, the airport was using westerly operations for 59% of the time, whereas annually the

The average altitude of aircraft in the area is 5,400ft above sea level, and as the monitoring location was already 410ft

When compared to the Harpenden noise monitoring results, the results are higher, although this is to be expected as the



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 and aircraft follow the departure routing in the direction of Childwickbury.

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 70dB 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'.



130 dB - Pneumatic drill 120 dB - Loud car horn one metre away 120 db - Airport 100 dB - Inside underground train or alongside mainline railway 90 dB - Bus interior 80 dB - Busy residential road 70 dB - Conversational speech 60 dB - Living room with music or television playing quietly 50 dB - Quiet office 40 dB - Bedroom 30 dB - Recording studio 20 dB - Broadcasting studio 10 dB - Threshold of hearing 0 dB

