Community Noise Report Edlesborough

Sept 2018 – Jan 2019

London Luton Airport

Introduction

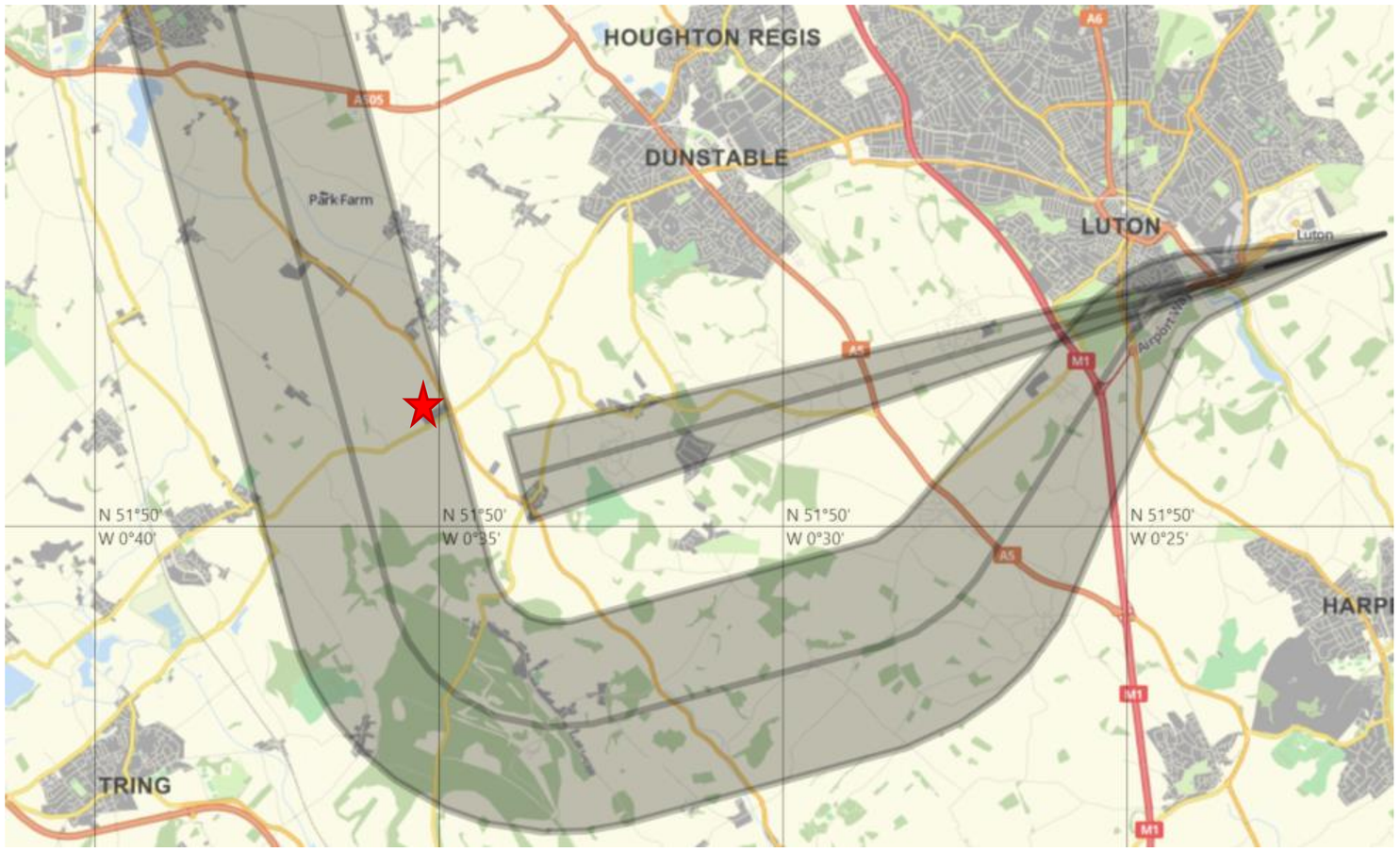
As part of the ongoing noise monitoring programme, London Luton Airport deployed a portable noise monitoring terminal in Edlesborough.

The purpose of the monitoring programme is to understand the typical noise levels created in the local community, for Edlesborough it specifically related to easterly arrivals and westerly OLNEY departure route.

The noise monitor was located in Edlesborough between the 11st September 2018 and 4th January 2019.

The monitor's location was within the main westerly OLNEY departure corridor and north of the easterly arrival corridor at approximately 1.5km east and 1.1km north of the route's centreline respectively, at an altitude of 469 feet.

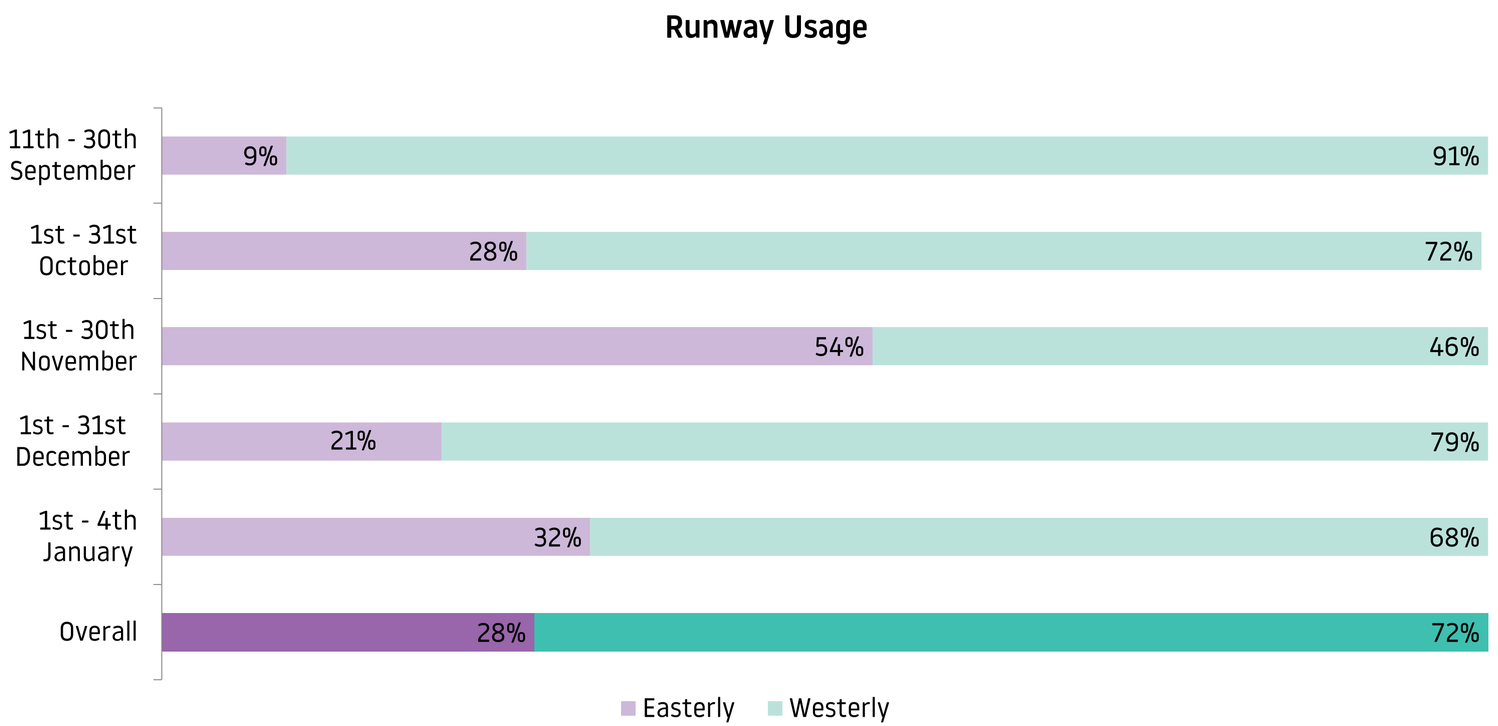
Aircraft noise and tracks recorded were extracted from LLA's noise and track-keeping system. This document evaluates the lateral and vertical positioning of aircraft near the monitor as well as the noise recorded at ground level.



LLA Operations During the Monitoring

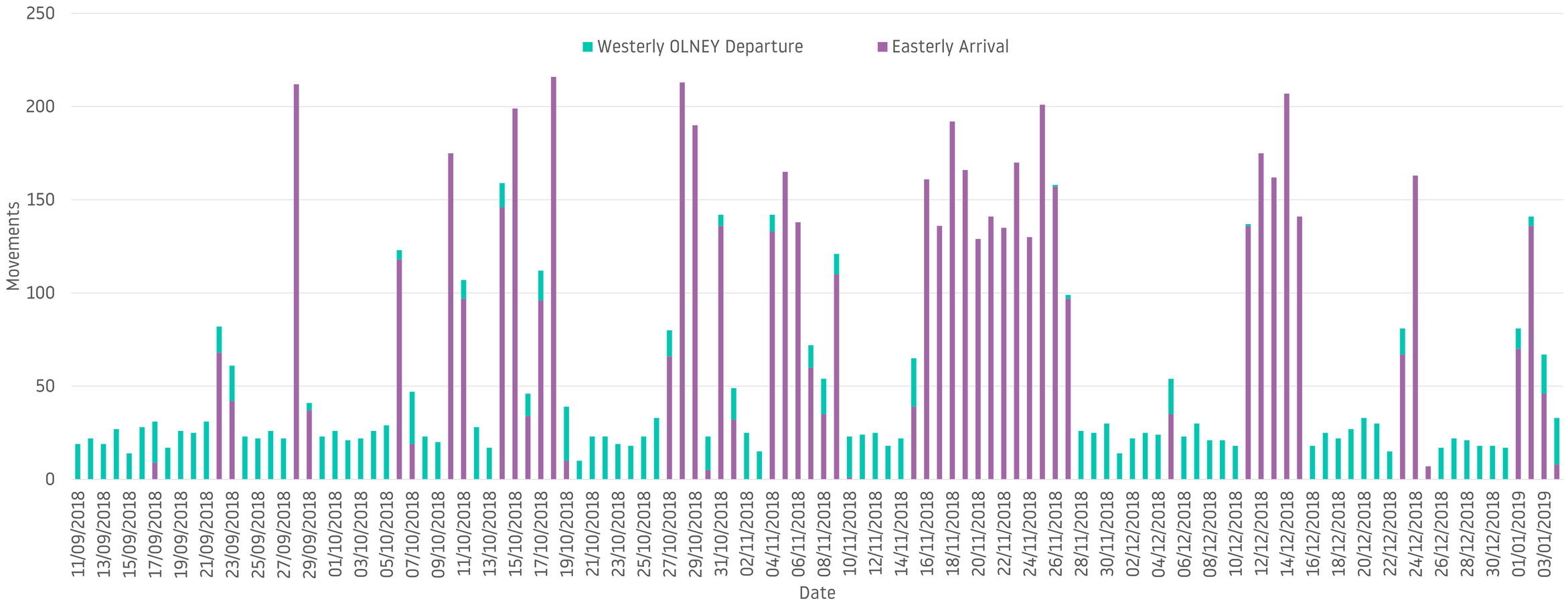
During the period of monitoring, the direction of operation was 28% Easterly and 72% Westerly. The 5 year average for this time of year is 30% Easterly vs 70% Westerly which demonstrates that the operating direction was in line with expectations.

1,821 aircraft departed on the OLNEY route from the airport and 5,969 aircraft arrived on the easterly Runway 08 whilst the monitor was located in Edlesborough as well as an additional 2 helicopter movements.



Daily Movements During Monitoring Period

The chart below shows the number of aircraft movements that passed the noise monitor. Due to the location of Edlesborough, all flights that departed on our OLNEY SID whilst using westerly operations and arrived during easterly operations would have flown nearby the monitor. During the monitoring period there were 54 days of easterly operations.



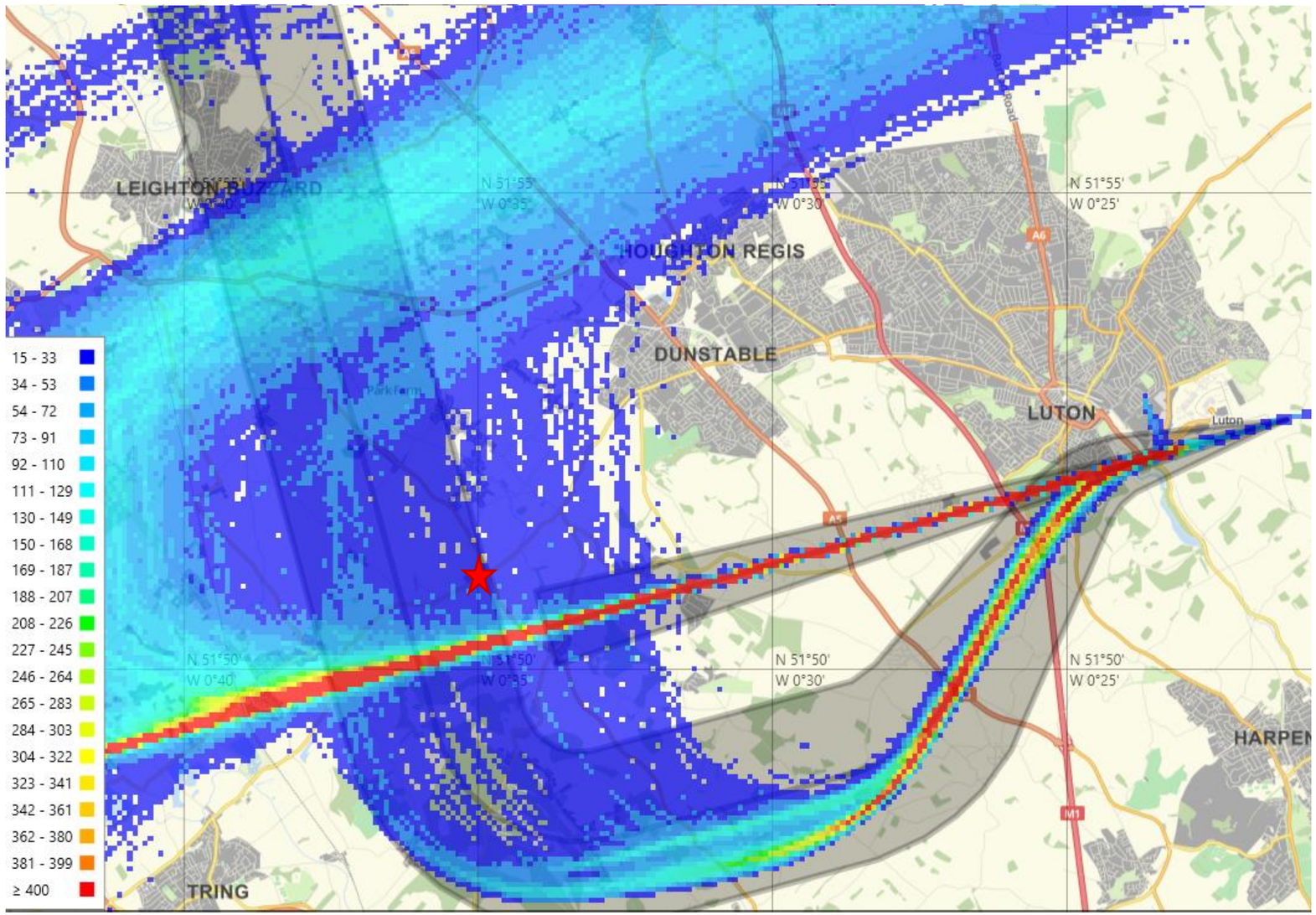
Operations during the monitoring period

The graph below represents the average number of movements during the monitoring period. During the peak periods, local residents of Edlesborough may notice more aircraft. Peak periods were at 07:00-08:00, 13:00-14:00 and 18:00-19:00.

During the night period of 23:00 – 06:00 there was an average of 6 departures and 21 arrivals compared to 5 and 17 for the previous year respectively, showing a small increase in night time operations.

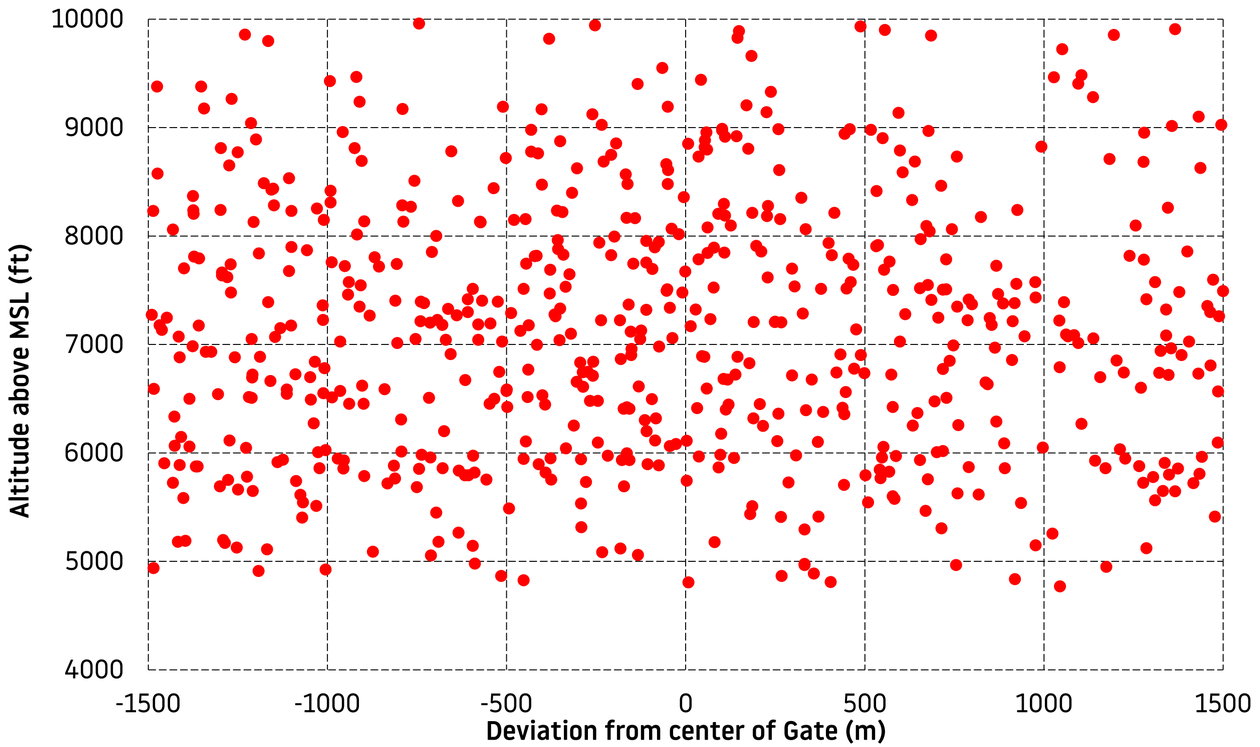
Aircraft Tracks During the Monitoring Period

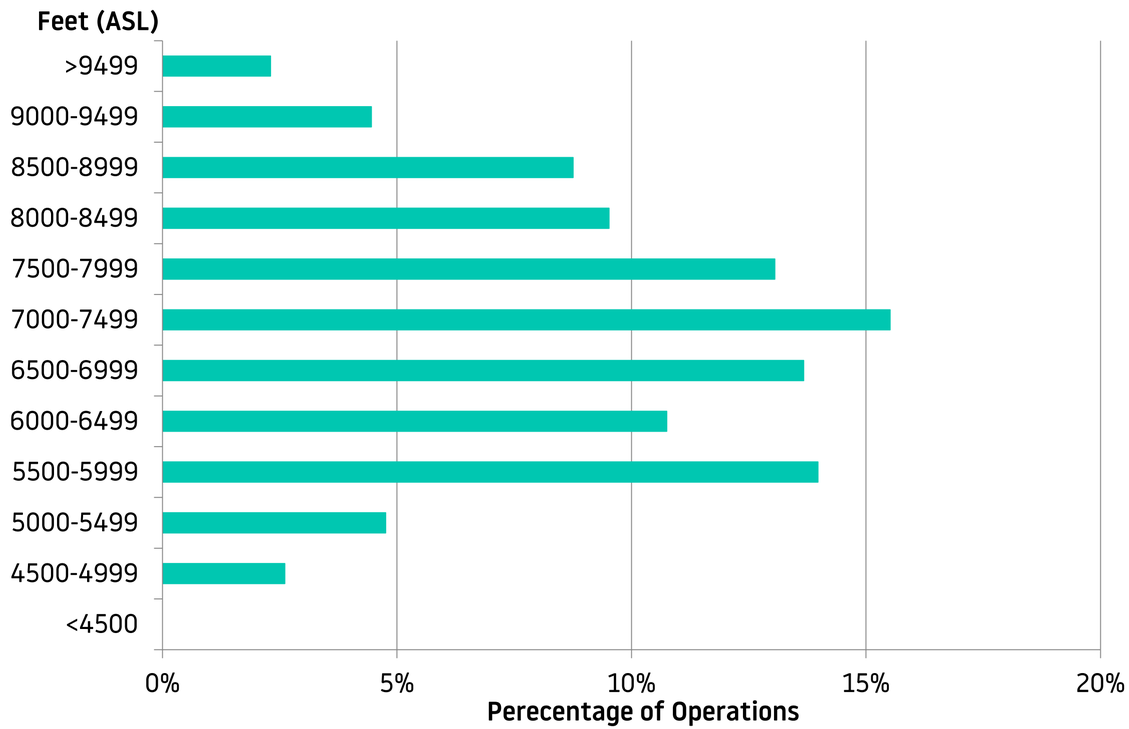
The sample below shows the representative flight tracks that passed nearby the monitor during the monitoring period.



Altitude Analysis During Monitoring Period

Altitude analysis shows the vertical and lateral dispersion of aircraft 1.5km east/west of the noise monitor. The chart below shows that all aircraft were above 4,500 feet and 54% of flights were above 7,000 feet. The average altitude of aircraft in this area was 7,127 feet above mean sea level.





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How we analyse the Noise data

Following the noise monitoring period, we collate the data taken from our Noise and Track Keeping system and analyse the results. 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 (i.e. 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 the 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 don't hesitate to let us know.

For the monitoring period in Edlesborough the Noise Monitoring Terminal collected results for 3,297 aircrafts. However, 3,823 aircraft did not register noise events as they were either too high or too quiet, 2,558 results were excluded for weather reasons as outlined above, which left 739 noise results to analyse which are shown in the next few pages.

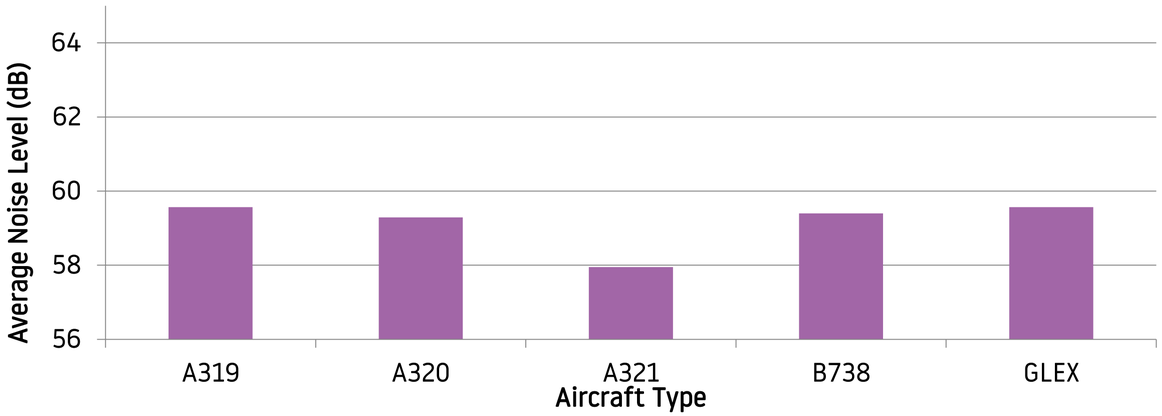
Noise Results During Monitoring Period

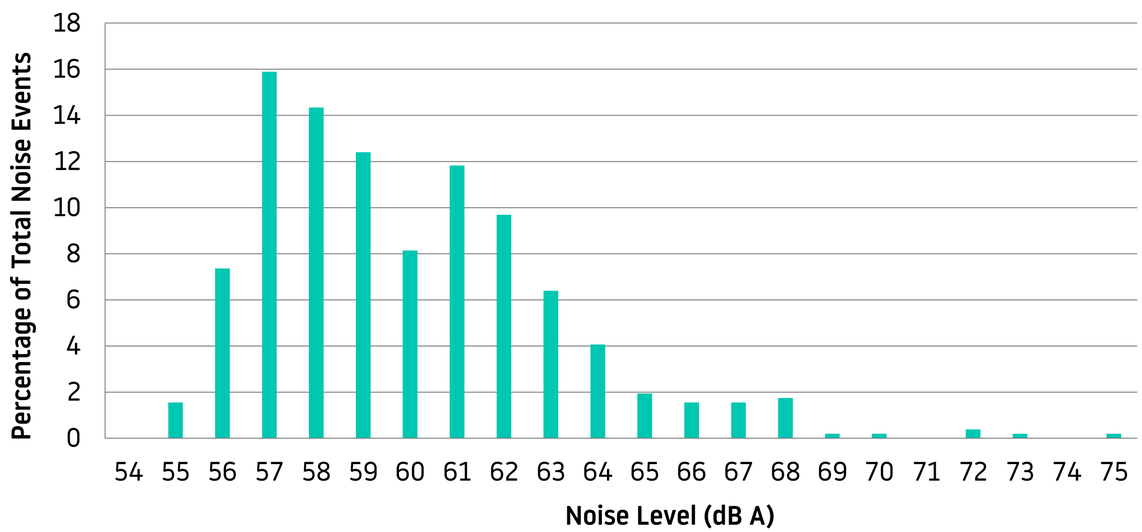
During the monitoring period, noise results were gathered from various aircraft types during both arrival and departure, the most common aircraft types are shown in the table below*.

Aircraft Type	Number of movements
A319	162
A320	282
A321	83
B738	96
GLEX	21

The average noise in Edlesborough is 59.2 dB with a standard deviation of 3.28. This is based on a sample size of 739.

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





Conclusion

- During the monitoring period, the airport was using westerly operations for 72% of the time, this is slightly greater than the 5 year average of this time period.
- The main aircraft types operating at the airport are A319 and A320 therefore the aircraft flying in the vicinity of Edlesborough are in line with this.
- 2% of the noise events recorded were created by easyJet A320 NEO aircraft, registering average noise events of 59.3 dB.
- The average altitude of aircraft in the area is 7,127 feet above sea level, and as Edlesborough is already 469 feet above sea level, aircraft will typically be 6,658 feet above ground level in this area.
- Above Edlesborough aircraft are typically between 5,000-7,999 feet, during the monitoring period this accounted for 72% of all aircraft. We also saw 18% of aircraft achieve altitudes between 8,000-8,999 feet with a further 7% achieving altitudes higher than 9,000 feet.
- During the monitoring period 1 aircraft on the 26OLNEY departure route was investigated as part of the track violation scheme. As part of the Noise and Track violation scheme, all fines generated go directly into the community trust fund, more information on the community trust fund can be found here.

Glossary of Terms

Westerly OLNEY 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 aircrafts follow the departure route in the direction of Edlesborough.

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.

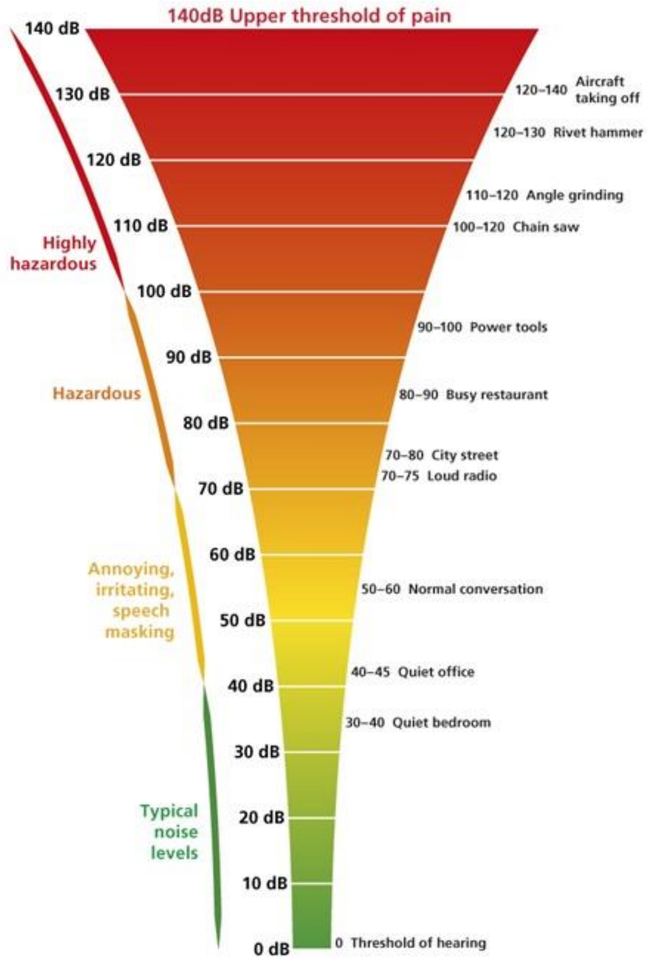
Gate Analysis: A 3km gate which is drawn across an area and will gather information about every aircraft passing through the gate area.

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'.



Source: iosh.co.uk