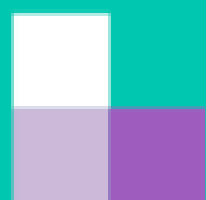
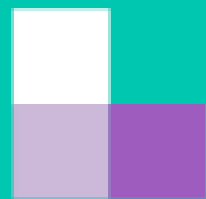


Community Noise Report

Dagnall

Nov 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 Dagnall.

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

The noise monitor was located in Dagnall between the 19 November 2018 and 4 January 2019.

The monitor's location was within the main easterly arrival corridor approximately 475m south of the route's centreline at an altitude of 623 feet.

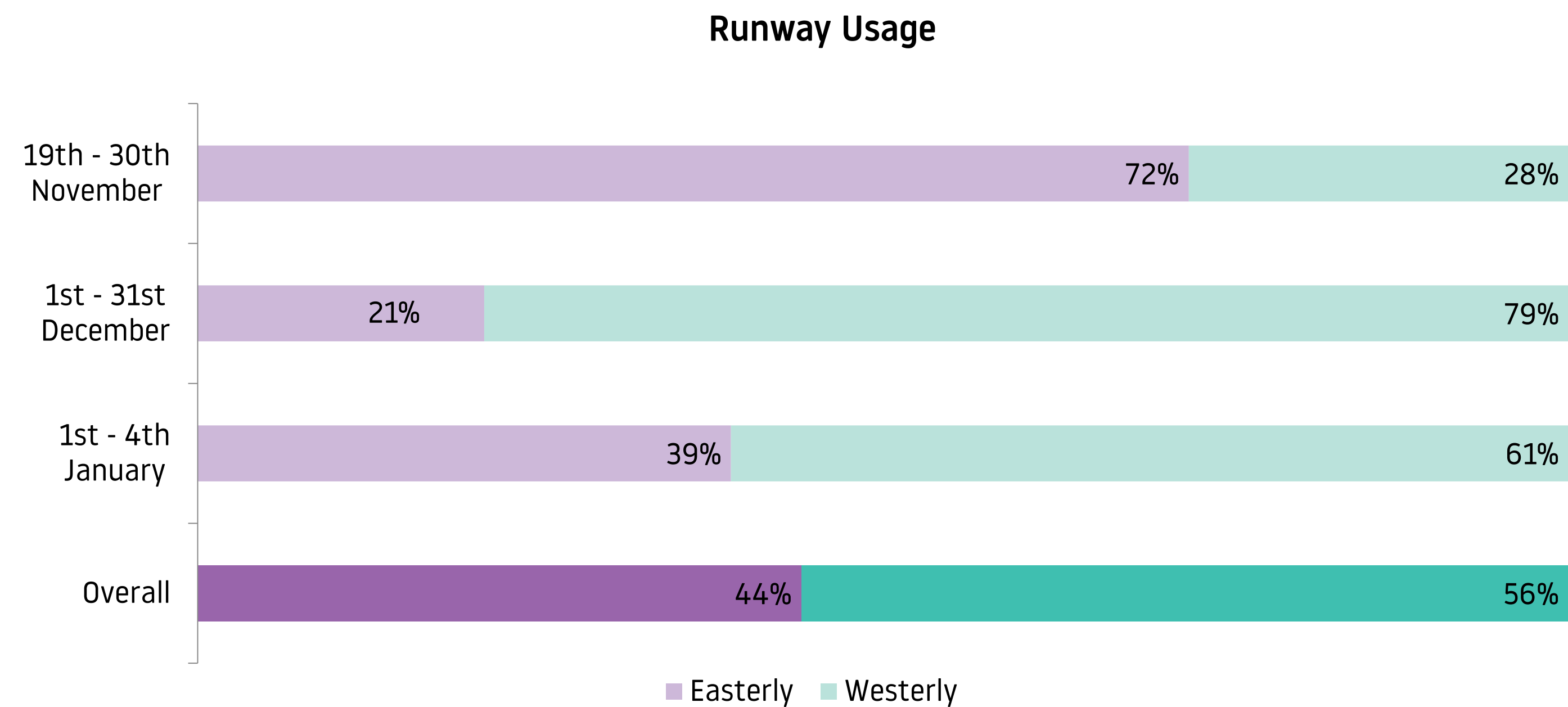
Aircraft noise and tracks recorded were extracted from LLA's noise and track-keeping system. This document evaluates the lateral and vertical positioning of aircraft near the monitor as well as the noise recorded at ground level.



LLA Operations During the Monitoring

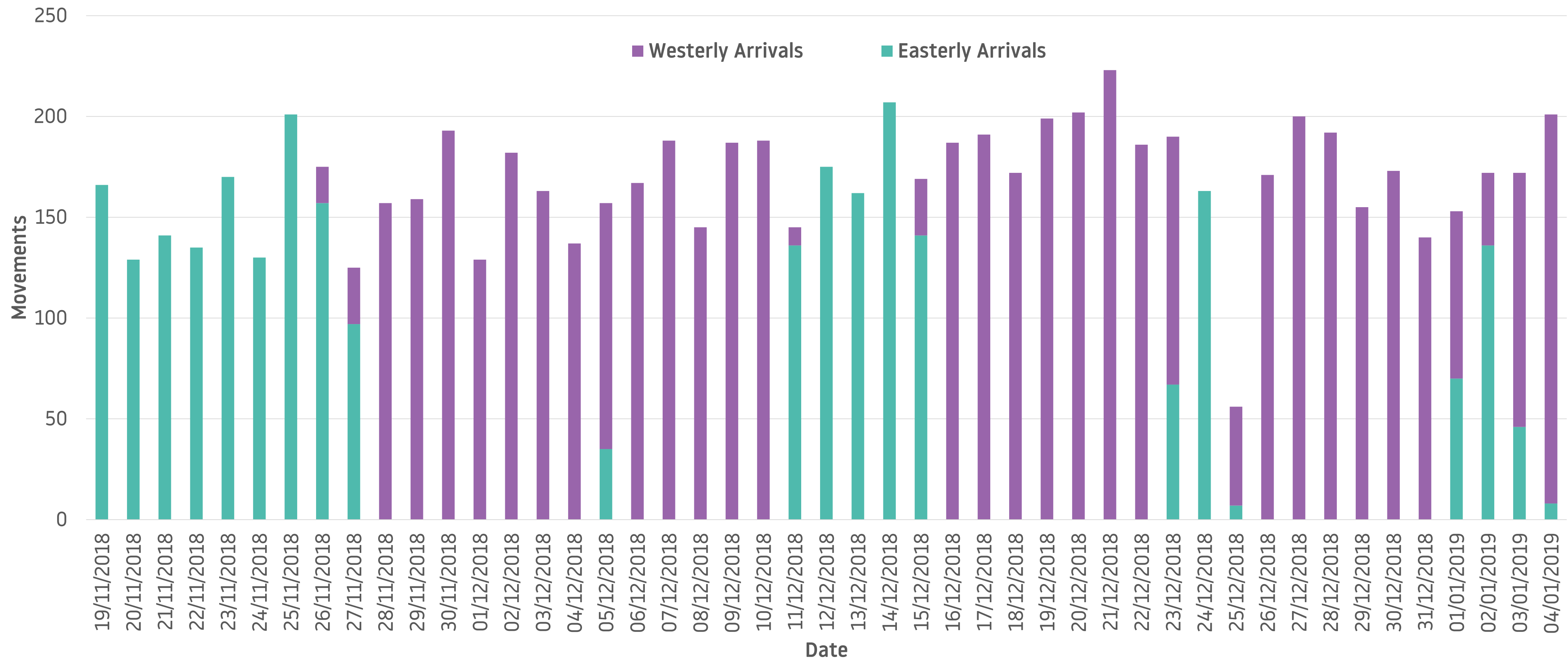
During the period of monitoring, the direction of operation was 44% Easterly and 56% Westerly. The 5 year average for this time of year is 18% Easterly vs 82% Westerly which demonstrates that residents in the area would have experienced increased movements.

2,679 aircraft arrived on the Runway 08 route whilst the monitor was located in Dagnall.



Daily Movements During Monitoring Period

The chart below shows the number of daily arrivals that passed the noise monitor. Due to the location of Dagnall, all flights that arrived on easterly Runway 08 would have flown past the monitor. During the monitoring period there were 25 days of Westerly operations and therefore no flights passed near the monitor on these days.



Operations during the monitoring period

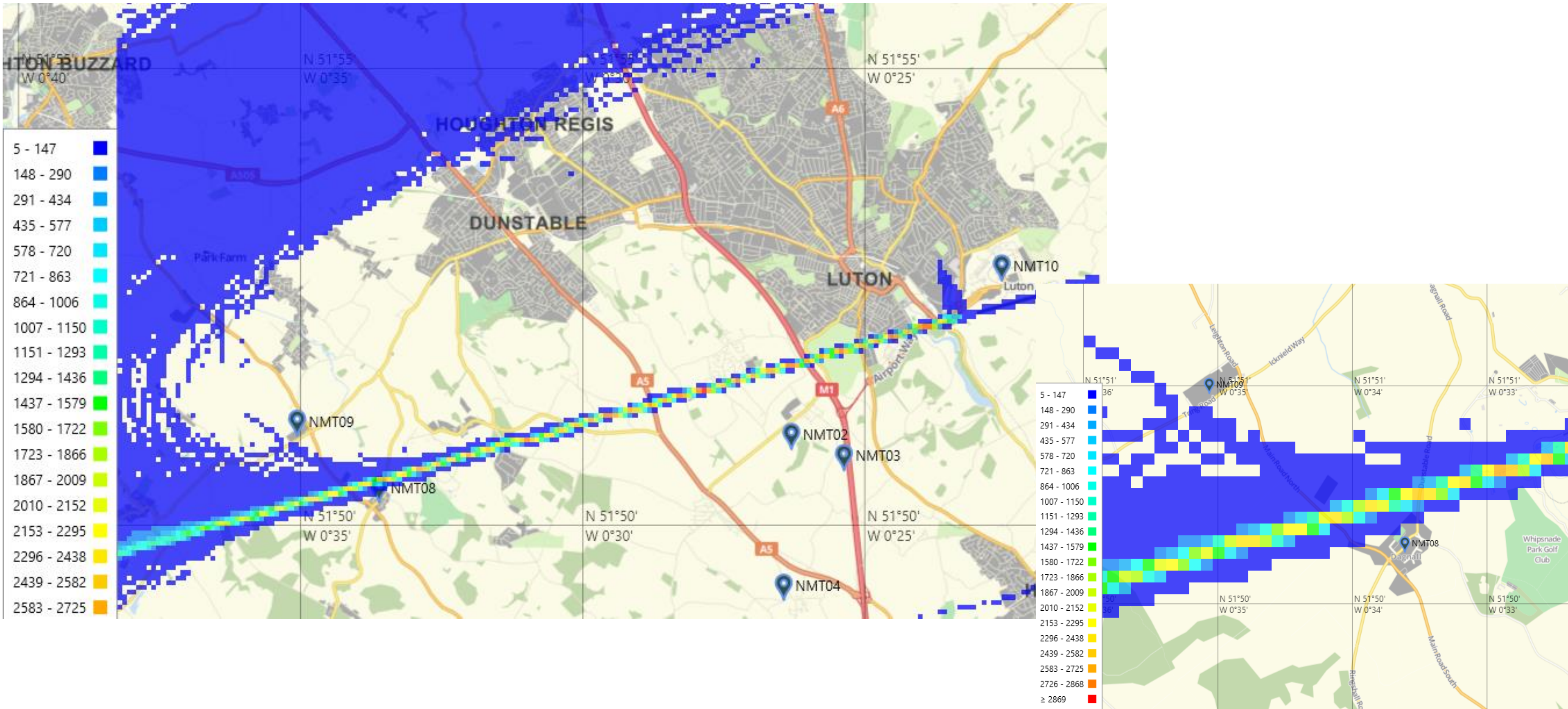
The graph below represents the average number of arrivals during the monitoring period. During the peak periods, local residents of Dagnall may notice more aircrafts when Runway 08 is in operation. The peak periods were at 07:00–08:00, 13:00-14:00, 16:00-17:00 and 21:00-22:00, average of 12 arrivals during the period.

During the night period of 23:00–06:00 there was an average of 2.1 arrivals compared to 1.6 for the previous year showing a small increase in night time operations.



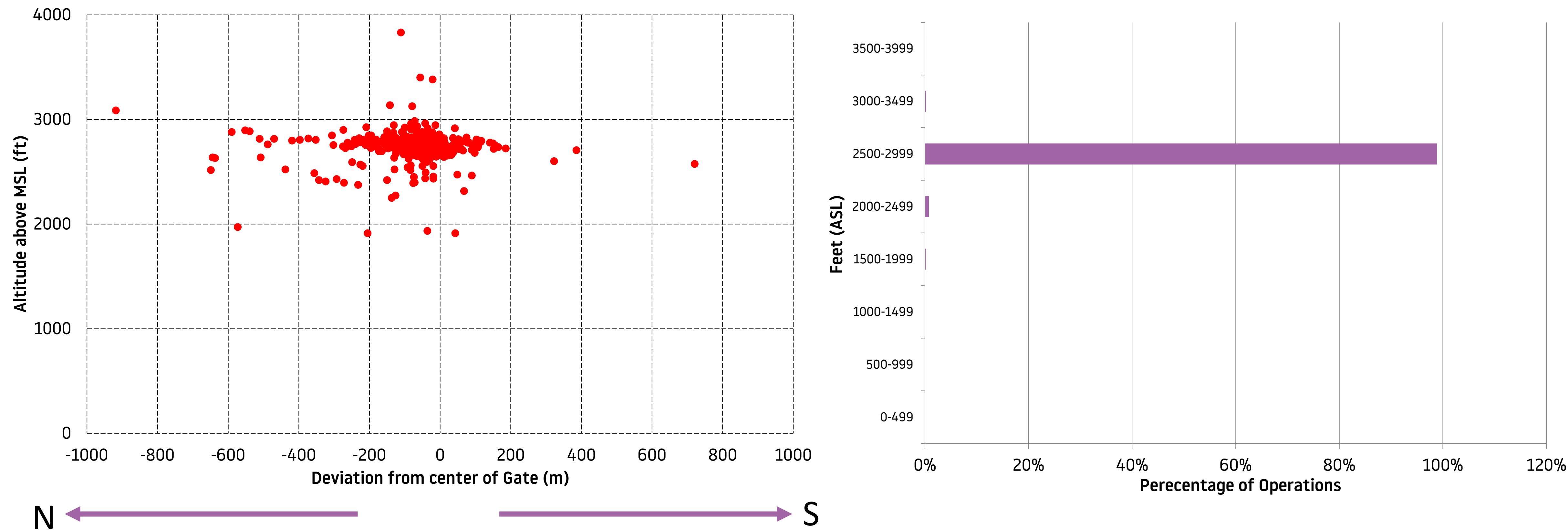
Aircraft Tracks During the Monitoring Period

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 1,000m either side of the noise monitor. The chart below shows that 99% of flights were between 2,500 feet & 2,999 feet. The average altitude of aircraft in this area was 2,734 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 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 Dagnall the Noise Monitoring Terminal collected results for 2,439 arrival movements. 240 movements did not register noise events as they were either too high or too quiet, 1,923 results were excluded for weather reasons as outlined above, which left 516 noise results to analyse which are shown in the next few pages.

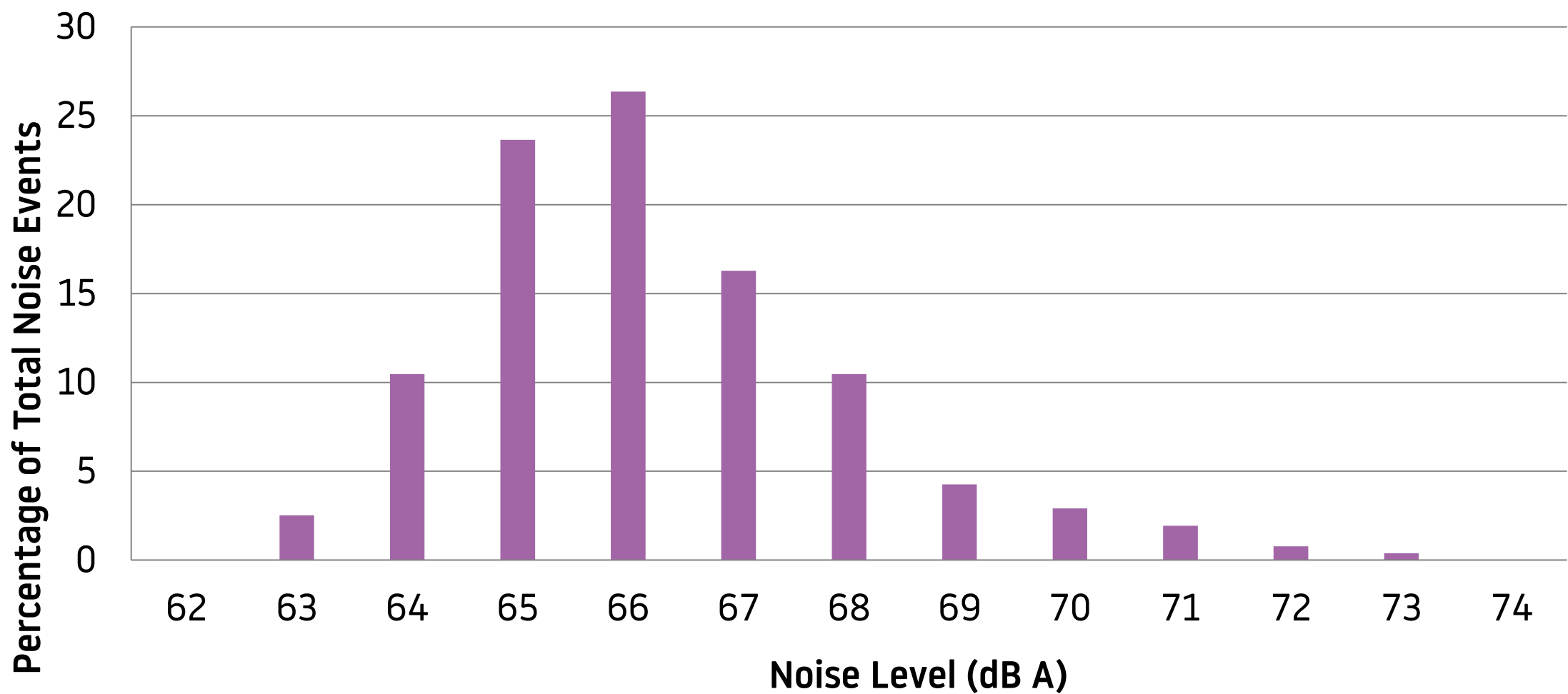
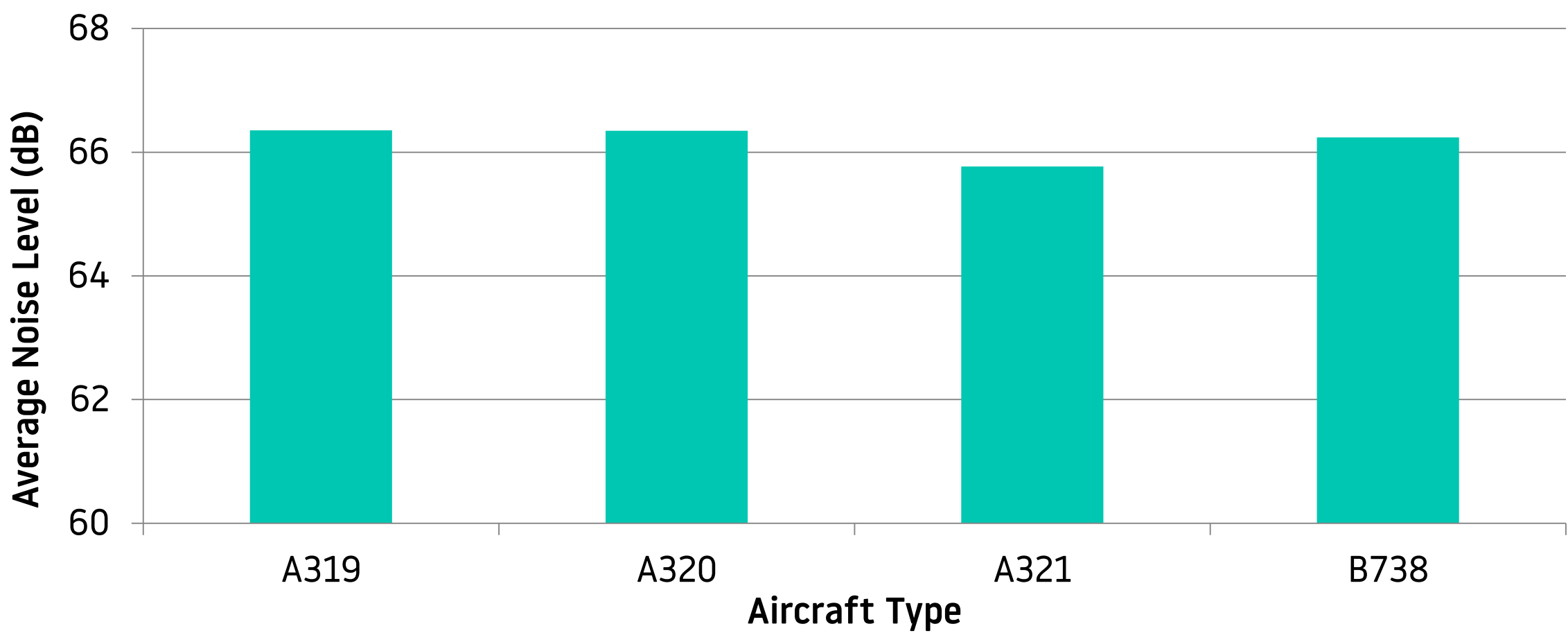
Noise Results During Monitoring Period

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

Aircraft Type	Number of movements
A319	107
A320	207
A321	74
B738	72

The average noise in Dagnall is 66 dB with a standard deviation of 1.75. This is based on a sample size of 516.

*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 easterly operations for 44% of the time, this is greater than the 5 year average of this time period, and therefore residents would have experienced more during this period than in recent years.
- The main aircraft types operating at the airport are A319 & A320 therefore the aircraft flying in the vicinity of Dagnall are in line with this.
- 2.5% of the noise events recorded were created by easyJet A320 NEO aircraft, registering average noise events of 65 dB.
- The average altitude of aircraft in the area is 2,734 feet above sea level, and as Dagnall is already 623 feet above sea level, aircraft will typically be 2,111 feet above ground level in this area.
- Above Dagnall aircraft are typically between 2,500-2,999 feet, during the monitoring period this accounted for 99% of all aircraft.

Glossary of Terms

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 and aircrafts land in the direction to the east, overflying Dagnall.

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.

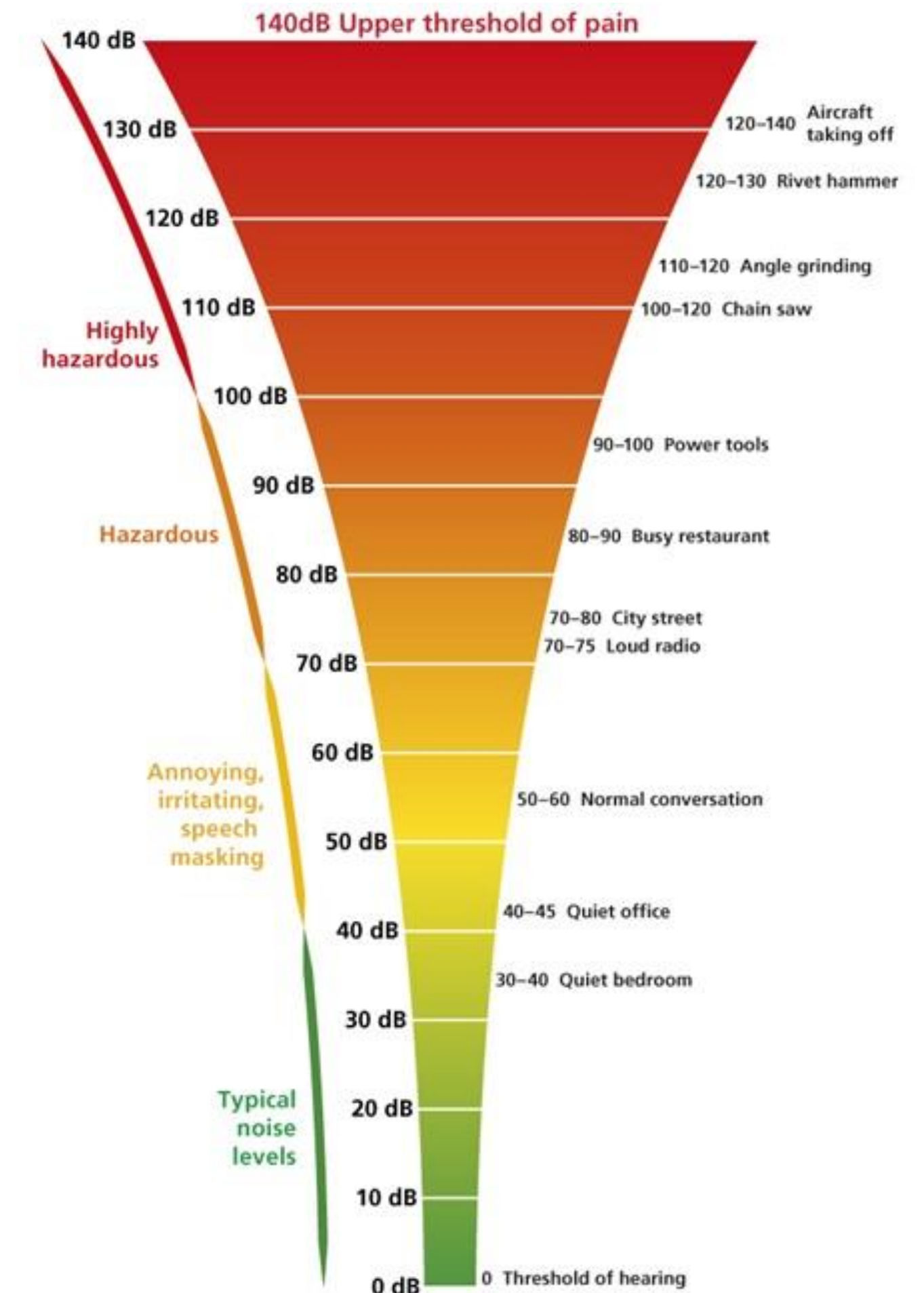
Gate Analysis: A 2km gate which is drawn across an area and will gather information about every aircraft passing through the gate area.

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