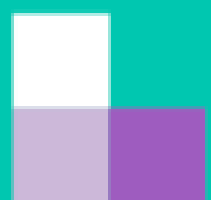
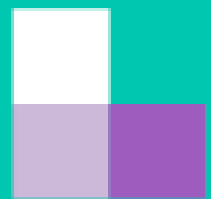


Community Noise Report

Stevenage

March-May 2018



London
Luton
Airport

Introduction

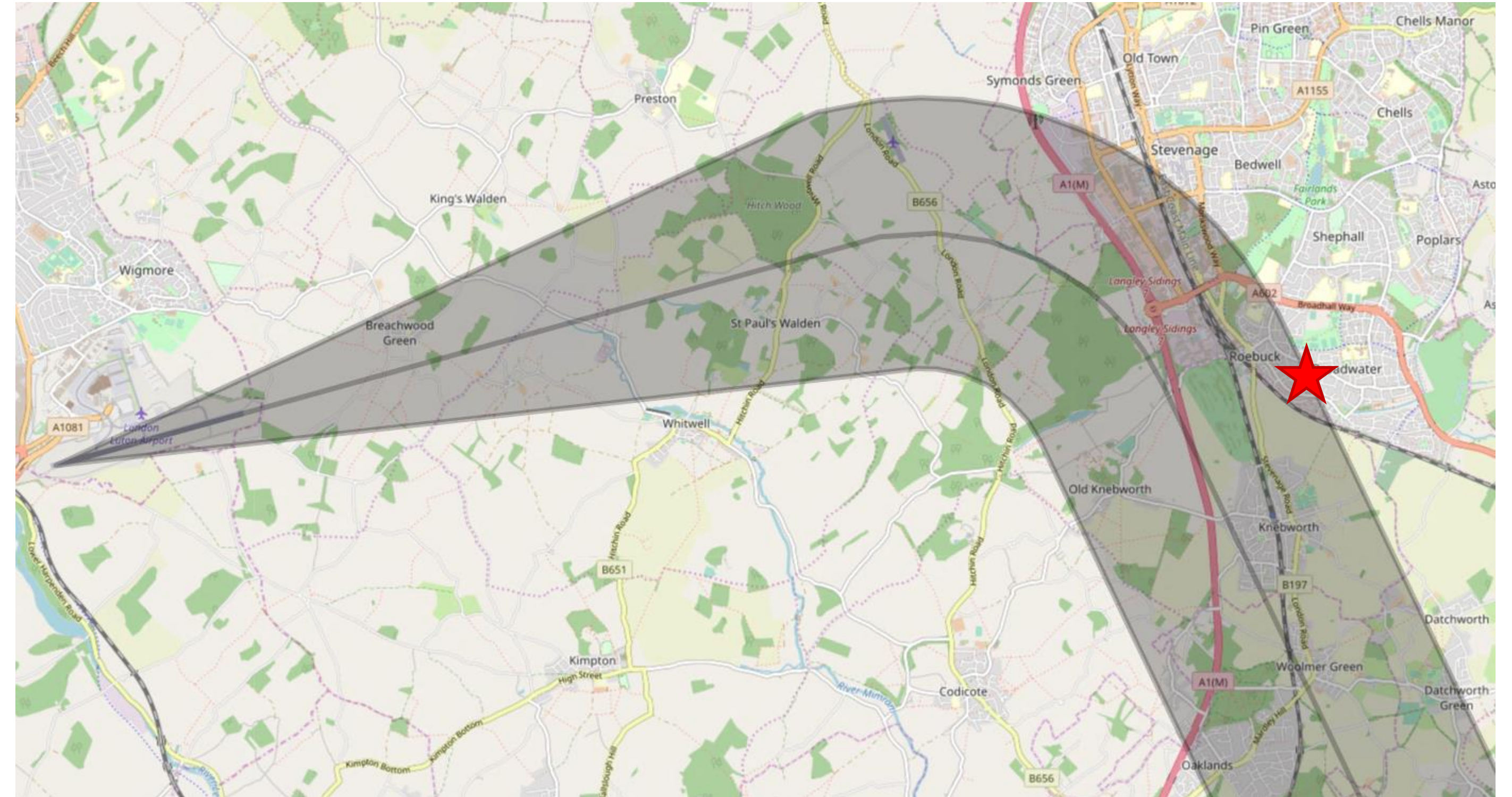
London Luton Airport undertook unattended noise monitoring in Stevenage as part of the ongoing noise monitoring programme. The purpose of the monitoring was to understand the typical noise levels created in this area by departing aircraft during easterly operations.

The noise monitor was located at Stevenage between the 26th March and 15th May 2018.

The monitor's location was on the east edge of the noise preferential route for the Easterly MATCH departure route. The monitor's location was 321 feet above sea level.

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

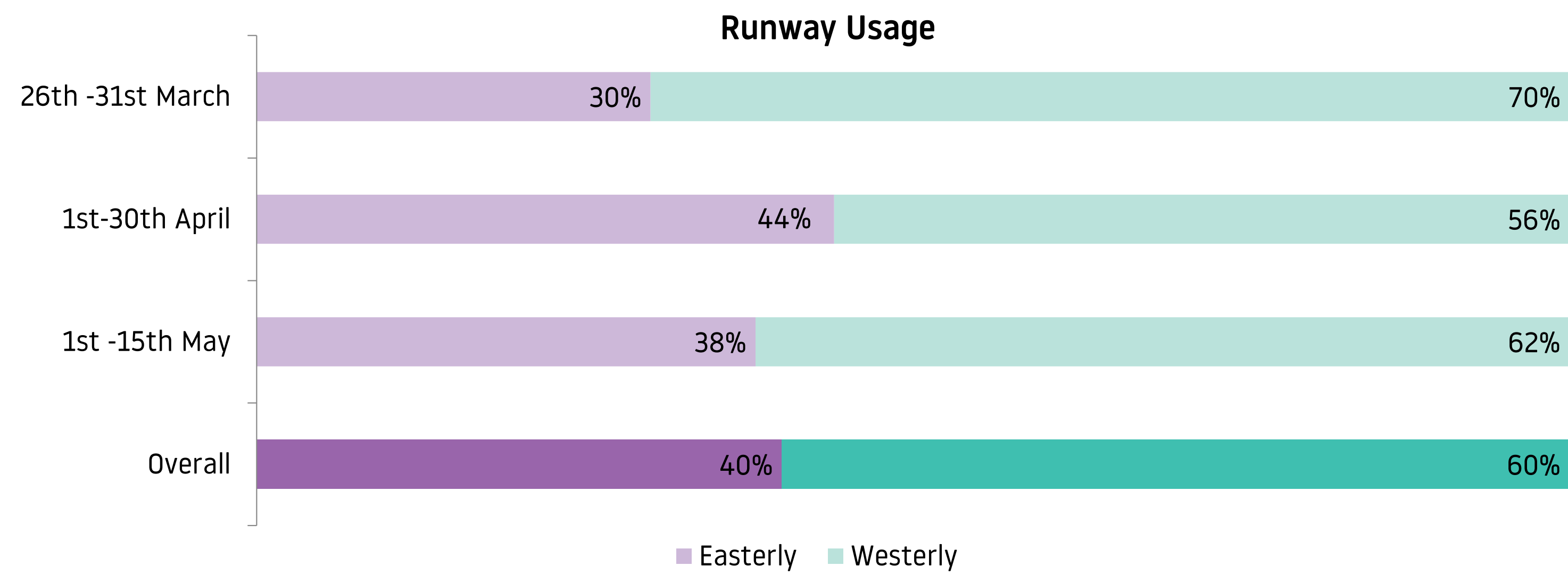
Lateral and vertical dispersion was evaluated by drawing a 3km 'gate' perpendicular to the departure route's centreline.



LLA Operations

During the period of monitoring, the direction of operation was 40% easterly and 60% westerly. The 5 year average for this time of year is 41% Easterly vs 59% Westerly which demonstrates that residents in the area would have experienced fewer days of aircraft activity compared to previous years.

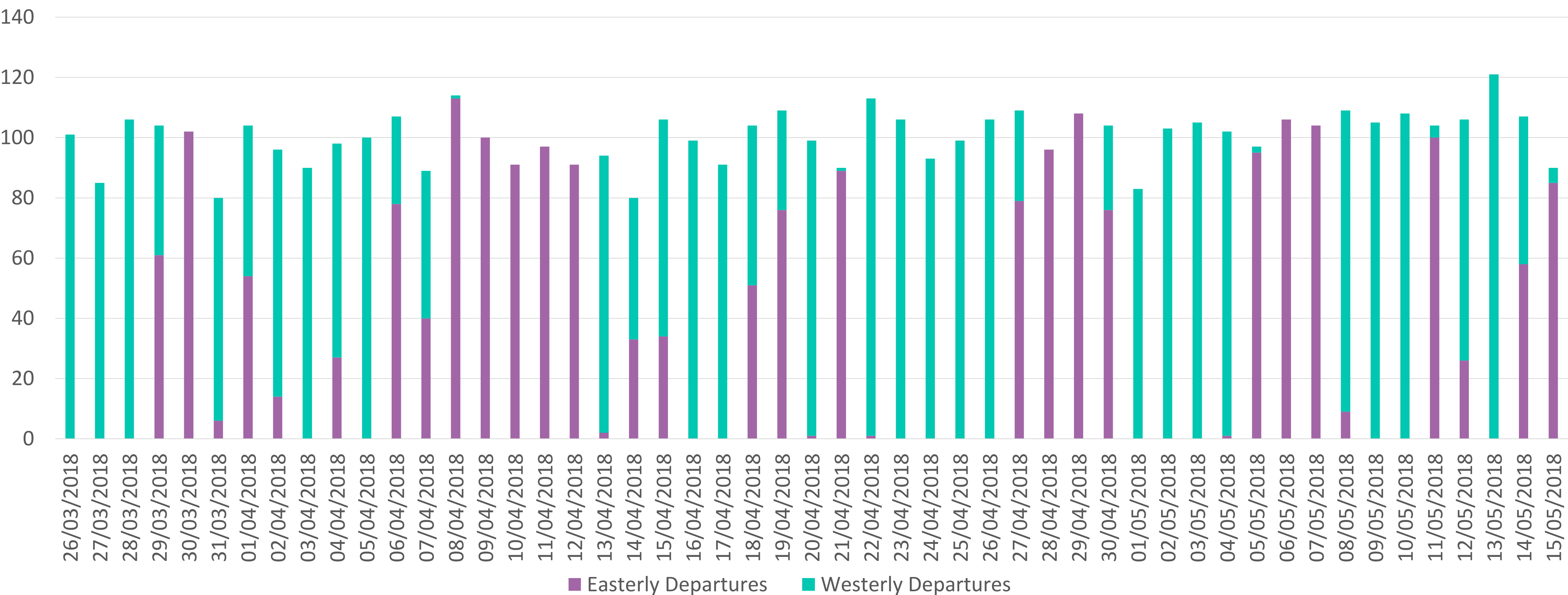
2,106 easterly departing flights on the Match route, operated from the airport whilst the monitor was located in Stevenage.



Daily Movements

The chart below shows the number of aircraft along the MATCH departure route daily with a split between Easterly and Westerly operations. For those days where there are Easterly and Westerly operations, this indicates that during the day we switched runway direction.

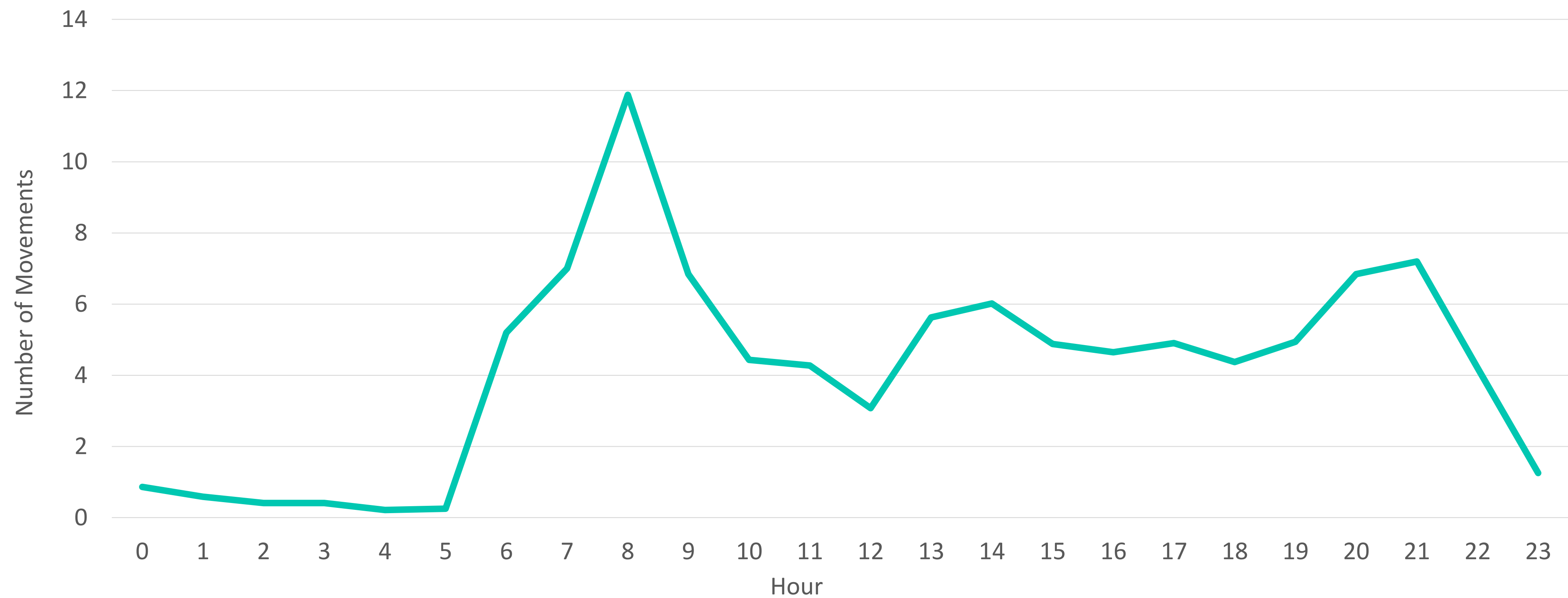
All flights that departed during easterly operations and used the MATCH route would have flown nearby the monitor and therefore captured data. During the monitoring period there were 17 days of westerly operations and therefore no flights passed near the monitor on these dates.



Hourly Profile

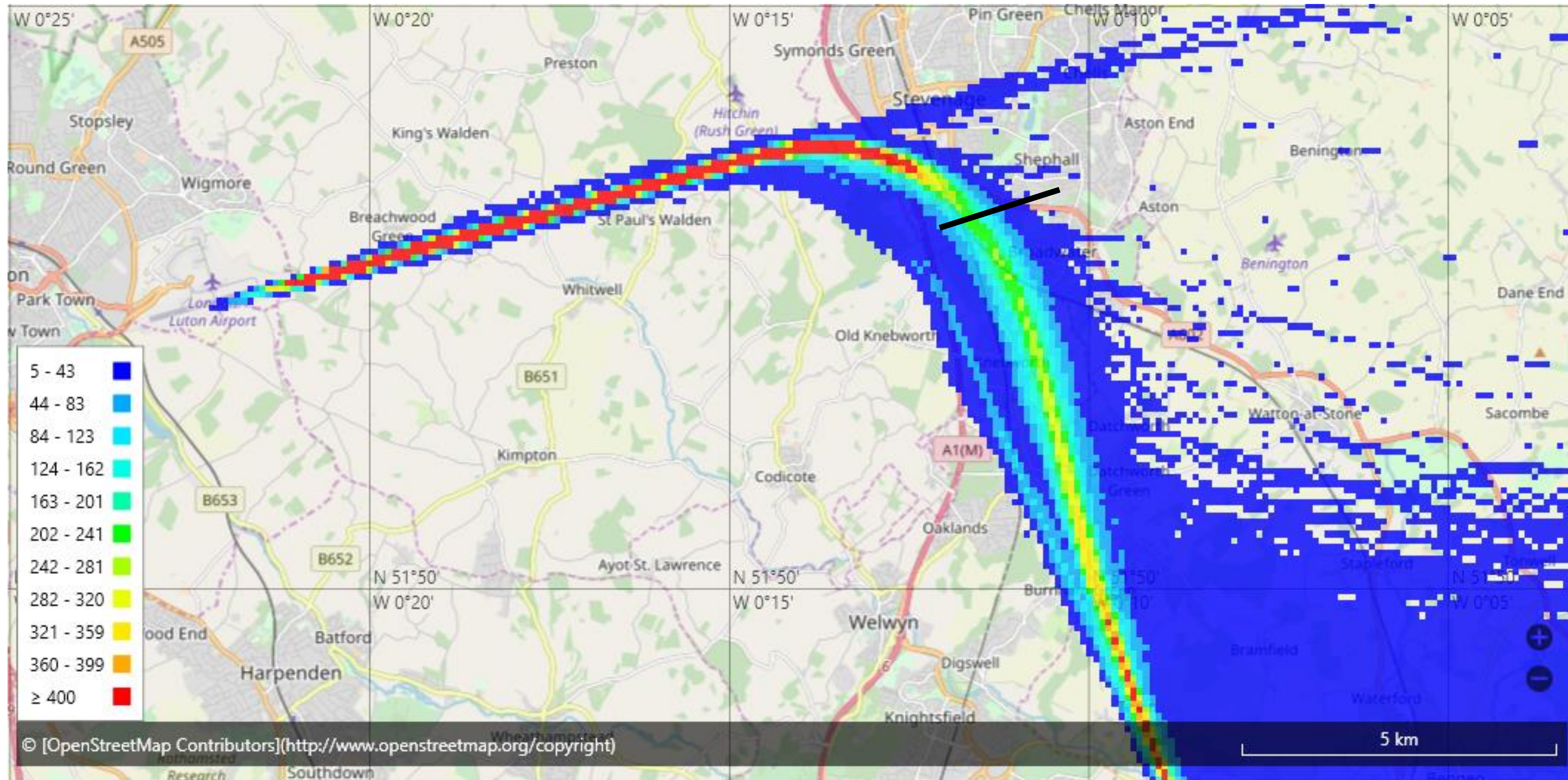
The graph below represents the average number of departures per hour during the monitoring period. During the peak periods, local residents of Stevenage may notice more aircraft. As a result, we saw peak periods between the hours of 06:00 – 09:00 and a second peak between 13:00-14:00 and a final peak at 21:00 before a steady decline in departures as we approach the night-time period.

A large percentage of our night flights are cargo operations, this comprised of an average of 4 departures between the hours of 23:00 – 07:00 compared to 3 for the previous year showing a slight increase in night time operations.



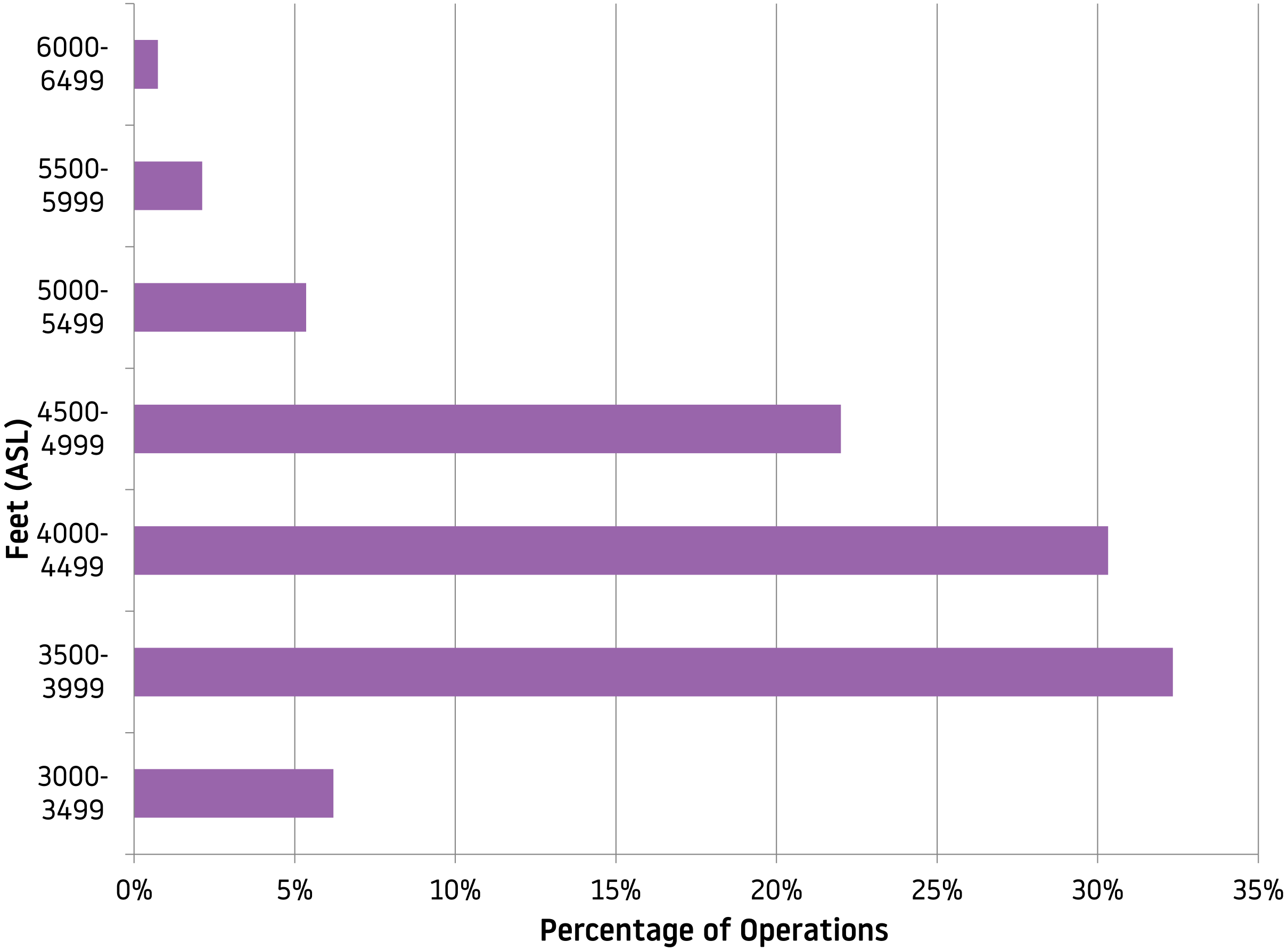
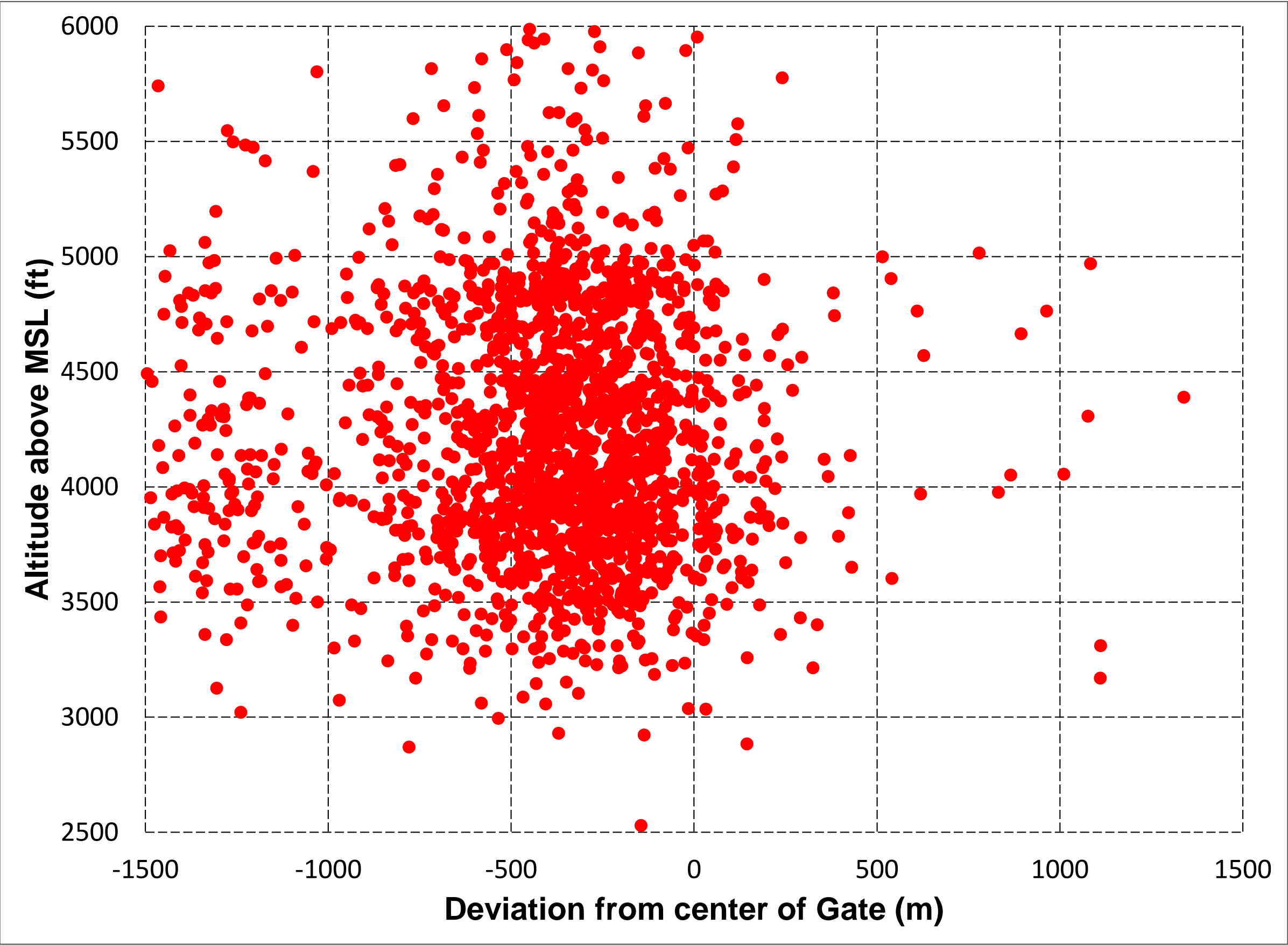
Aircraft Tracks

The sample below shows flight tracks that passed nearby the monitor during the monitoring period (26th March – 15th May 2018).



Altitude Analysis

The altitude analysis below shows the altitude of aircraft at this point on the departure route. The chart below shows that only 6% of flights were between 3,000 – 3,499 feet, whilst 30% of aircraft achieved an altitude greater than 4,500 feet. The average altitude of aircraft during the monitoring period in this area was 4,190 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.

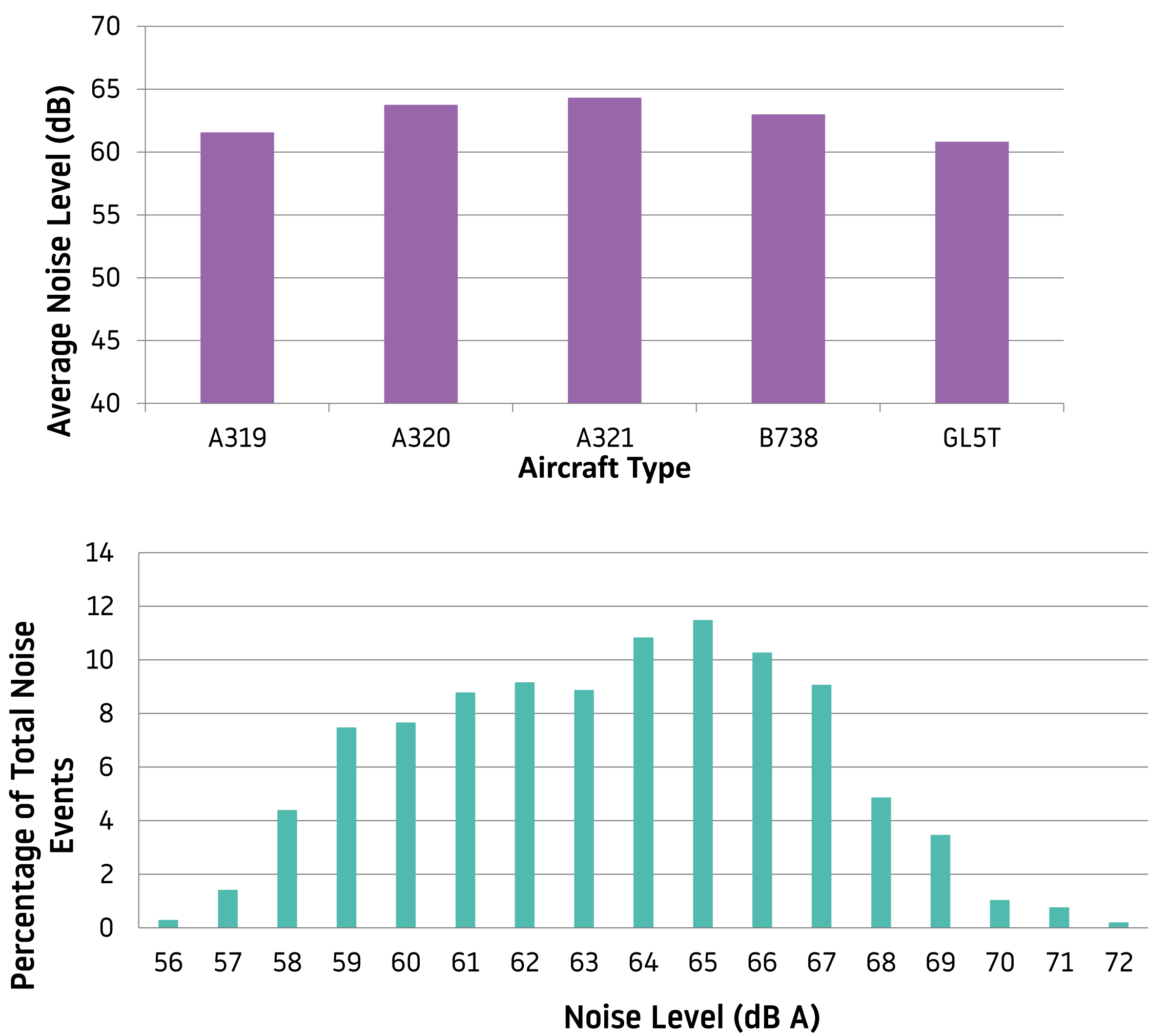
For the monitoring period in Stevenage the Noise Monitoring Terminal was overflowed by 2,106 aircraft. However, 1027 aircraft did not register noise events as they were either too high or too quiet, 6 results were excluded for the weather reasons outlined above, which left 1073 noise results to analyse which are shown in the next few pages

Noise Results

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	116
A320	532
A321	210
B738	77
GL5T	21

*With 99.9% confidence, the average noise level in the area of Stevenage during the monitoring period was 63.4dB with a standard deviation of 3.



Conclusion

- During the monitoring period, the airport was using westerly operations for 40% of the time, this is in line with the 5 year average of this time period, therefore this report identifies noise levels that residents may experience during this time of year.
- The main aircraft types operating at the airport are A320 and A319's and the data gathered during the monitoring period was in line with this.
- The average altitude of aircraft in the area is 4,190 feet above sea level, and as the monitoring location was already 321ft above sea level, aircraft will typically be 3,870 feet above ground level in this area.
- Above Stevenage, aircraft were typically between 3,500 – 4,449 feet as this equated to 63% of departures. A further 27% achieved an altitude of between 4,500 – 5,499 feet, with a further 3% achieving altitudes higher than 5,500.
- Of those 67 aircraft shown in the gate analysis that achieved higher than 5,500 feet, 4 of these were cargo aircraft and 36 were privately owned aircraft. Many of these aircraft were operating during the night period, they were given continuous climb as the airspace is typically quieter during this period.
- There were no off-track violations for the easterly Match route during the monitoring period.

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 aircraft follow the departure routing in the direction of Stevenage .

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.

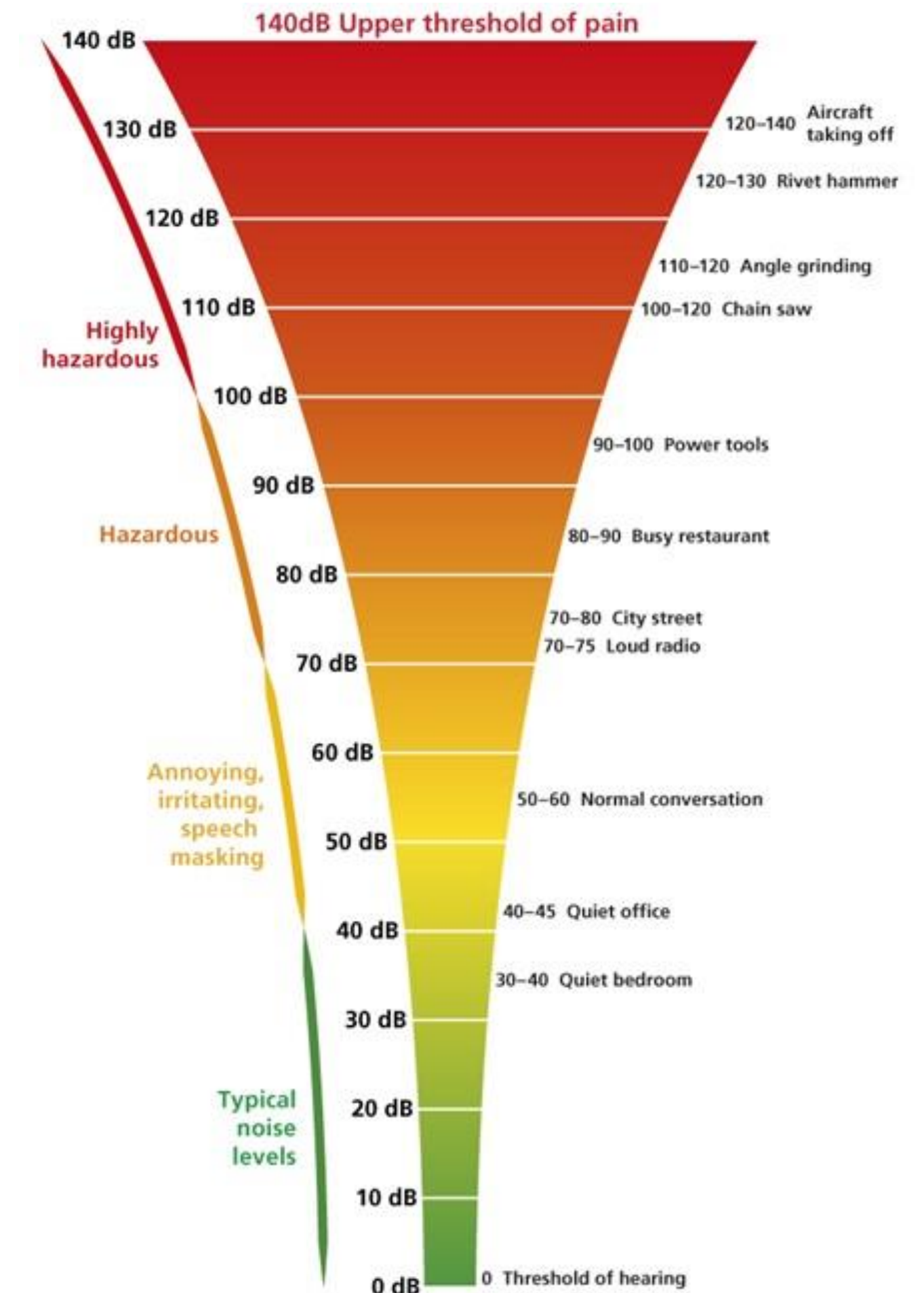
Gate Analysis: A 3km gate which is drawn across an area and will gather information about every aircraft passing through the gate area.

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