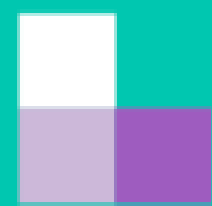
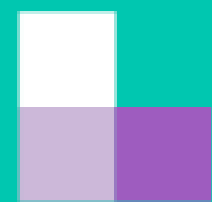


# Community Noise Report

## Wheathampstead

### Sept-Oct 2017



London  
Luton  
Airport





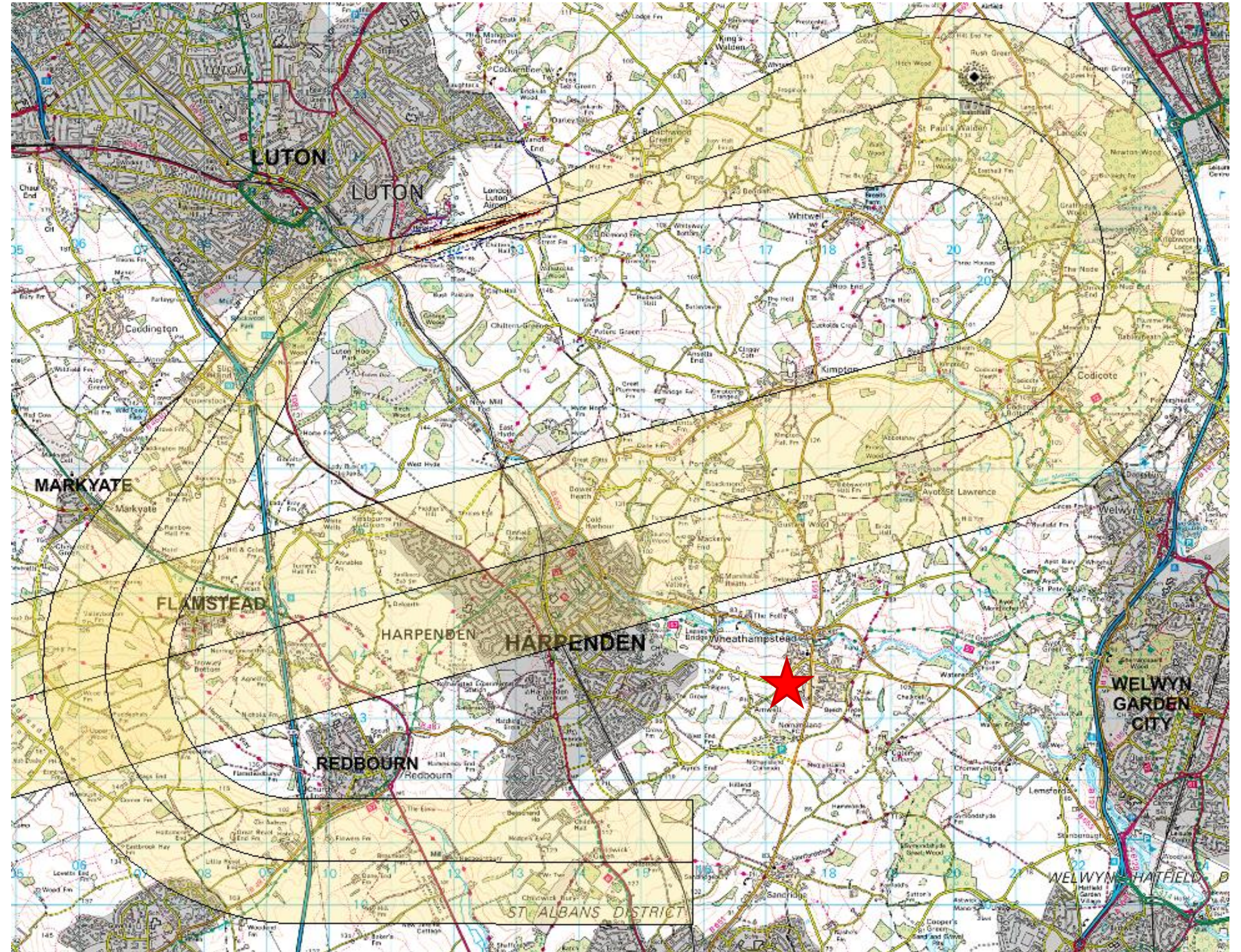
# Introduction

London Luton Airport undertook unattended noise monitoring in Wheathampstead 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 both easterly and westerly operations.

The noise monitor was located in Hill Top View, Wheathampstead between the 25th September to 27th October 2017. This location was at an altitude of 400ft above sea level.

The monitor's location was north of the westerly Match/Detling departure route with aircraft tracking approximately 24km before reaching the monitor. The location was beyond the end of the Noise Preferential Route. It was also south of the easterly Compton departure route with aircraft tracking approximately 22km before reaching the noise monitor.

Aircraft tracks and noise events recorded were extracted from LLA's noise and track-keeping system (TopSonic). Lateral and vertical dispersion was evaluated by drawing a 3km 'gate' in a north south direction across the noise monitoring location.

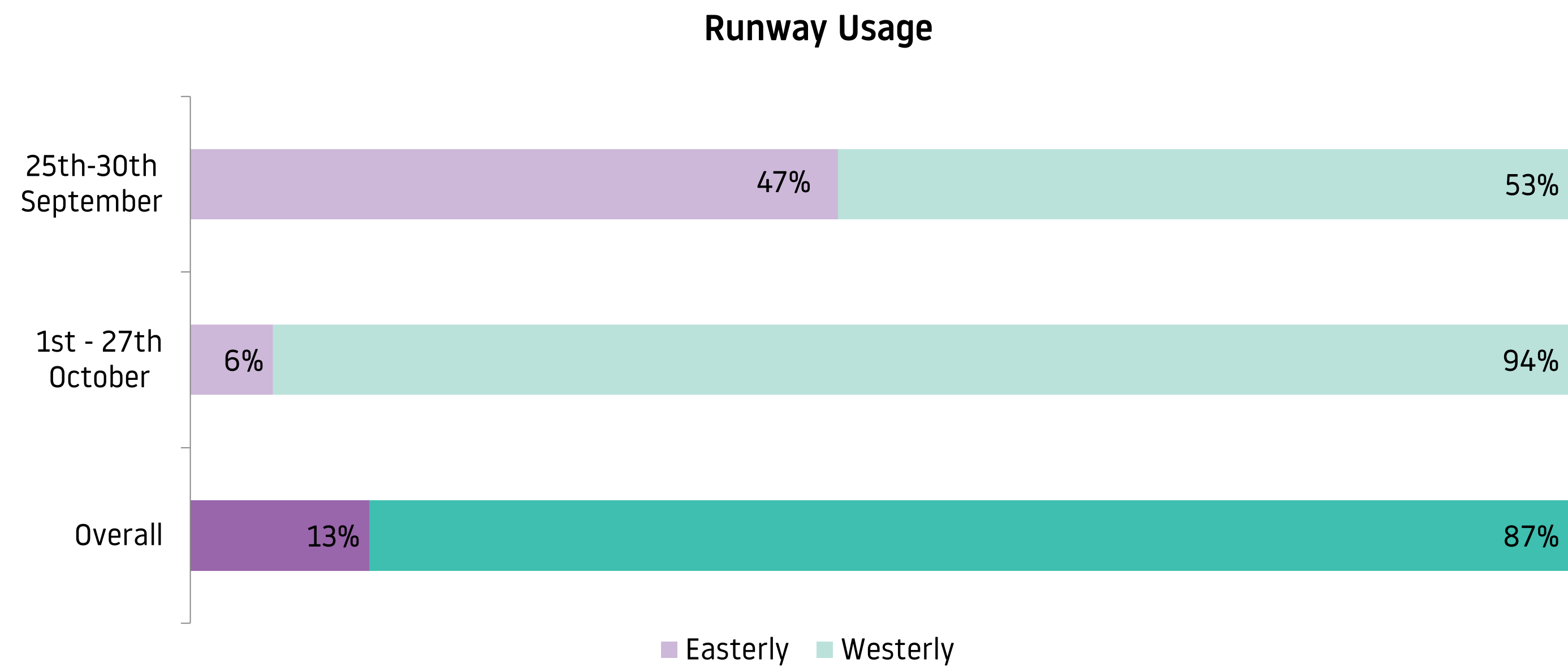




# LLA Operations During the Monitoring

During the monitoring 13,121 air traffic movements were handled by LLA, there were no trials in place that could have affected the position of aircraft during this time.

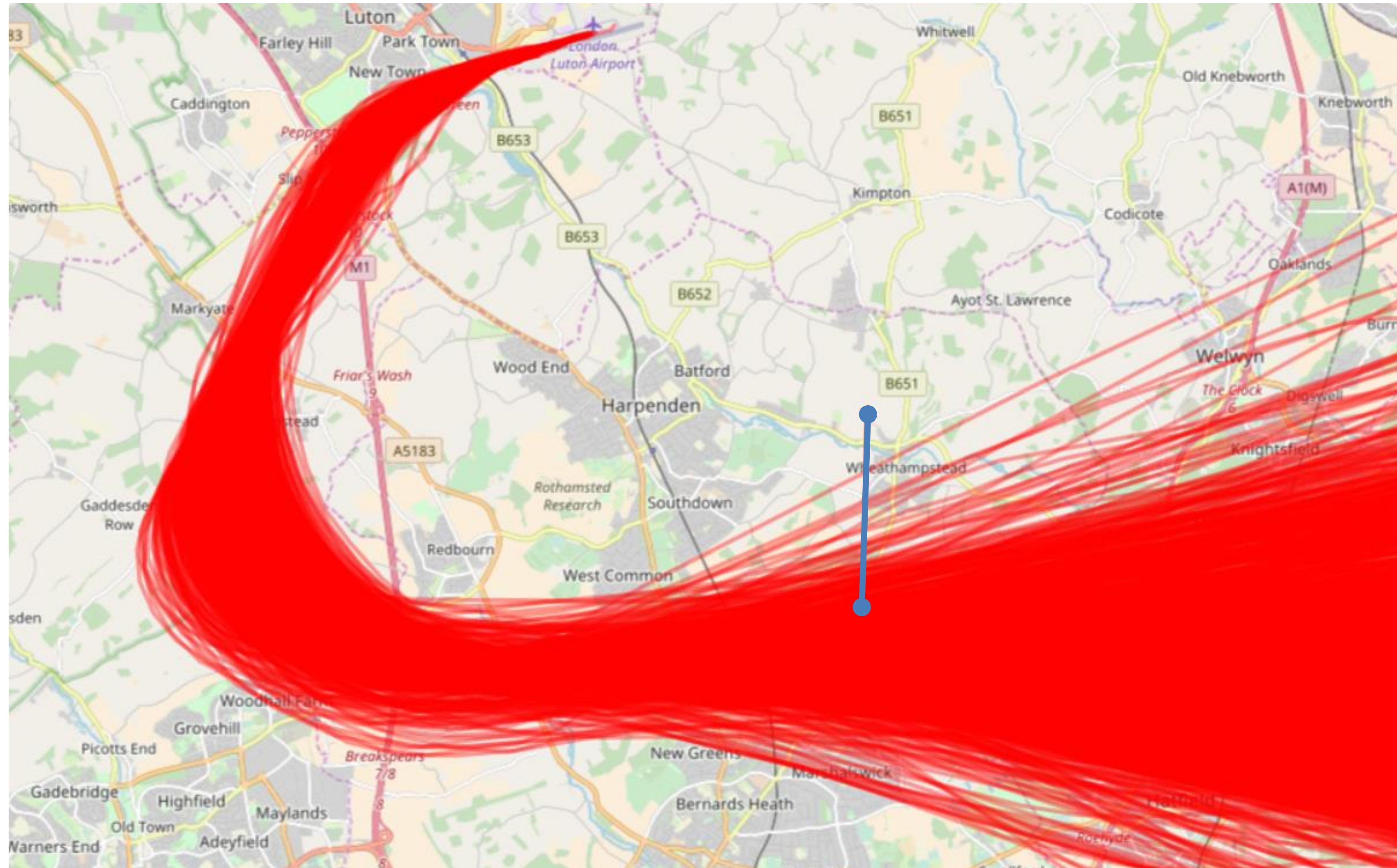
During the period of monitoring the direction of operation was 13% easterly and 87% westerly.





# Westerly Tracks During the Monitoring Period

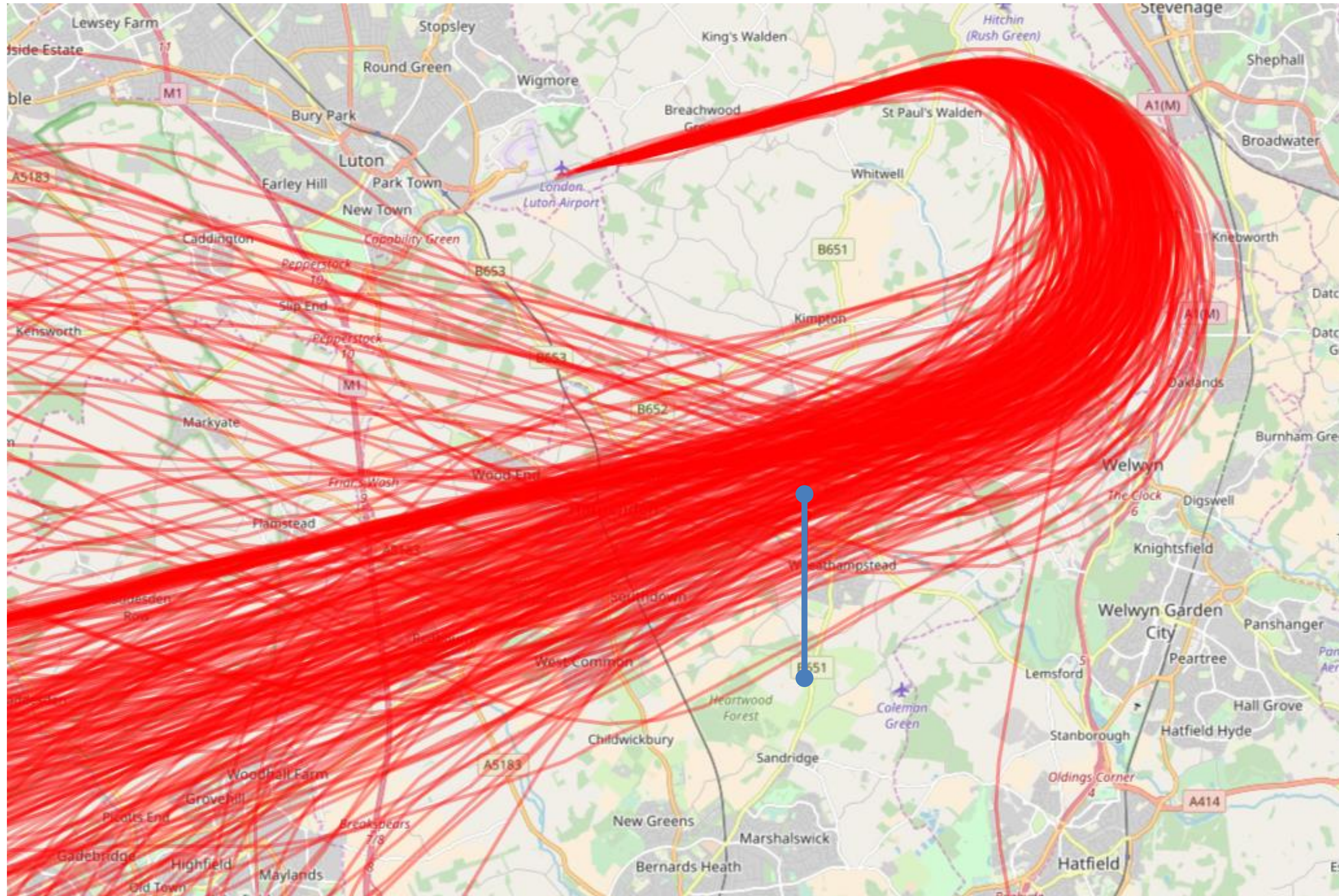
The sample below shows 2,790 flight tracks that followed the westerly Match/Detling route during the monitoring period.





# Easterly Tracks During the Monitoring Period

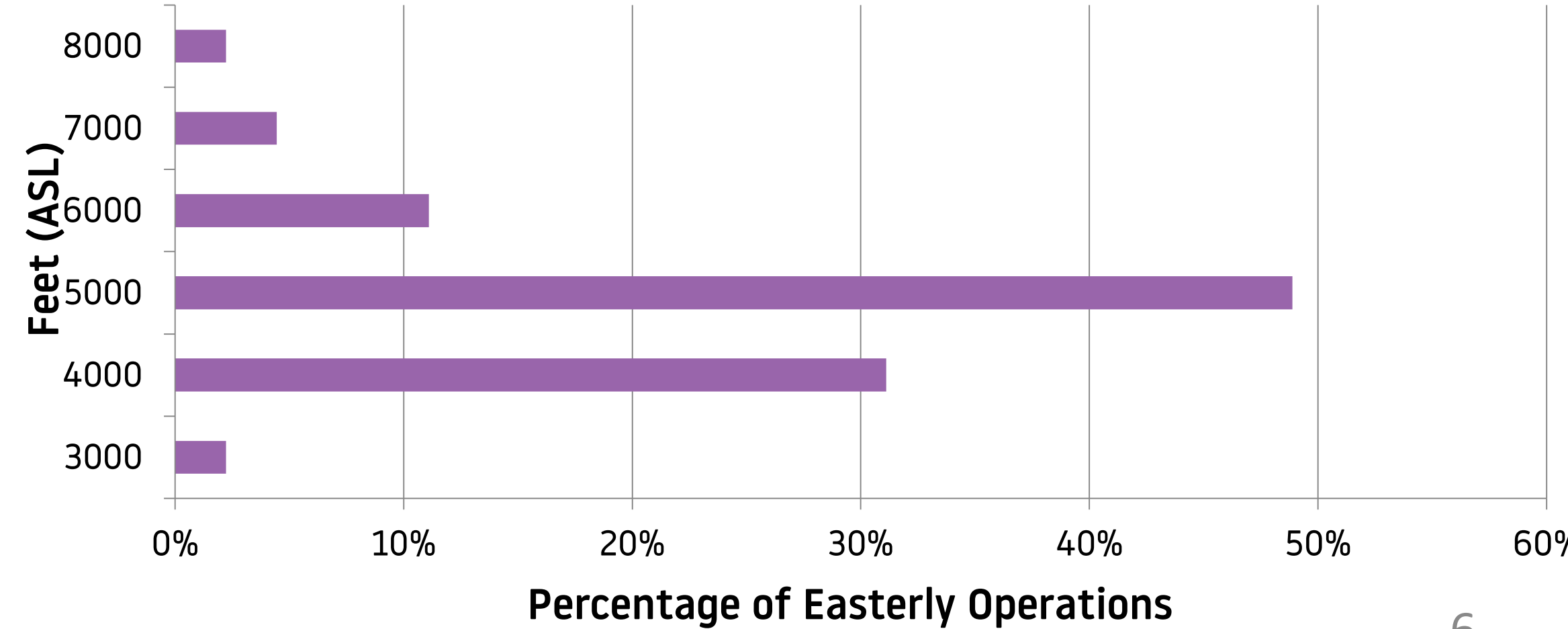
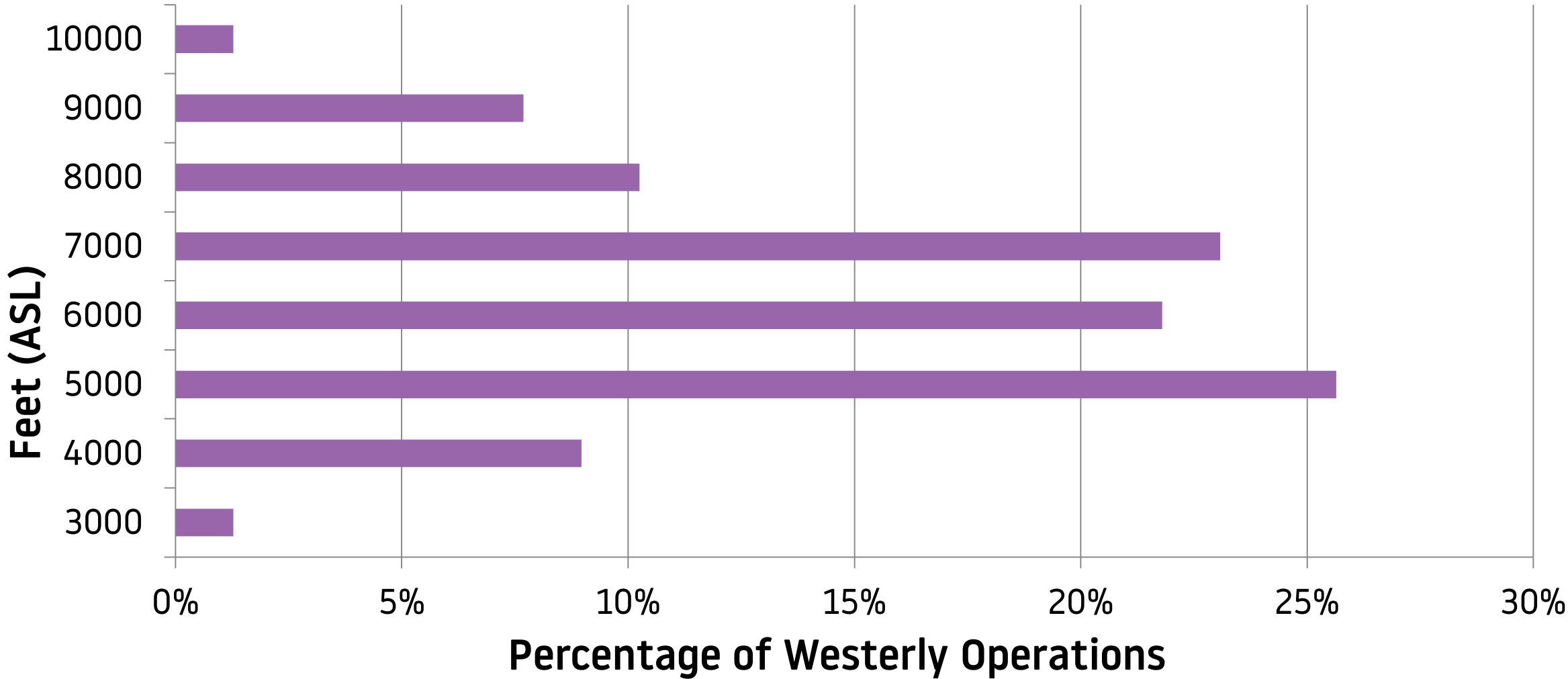
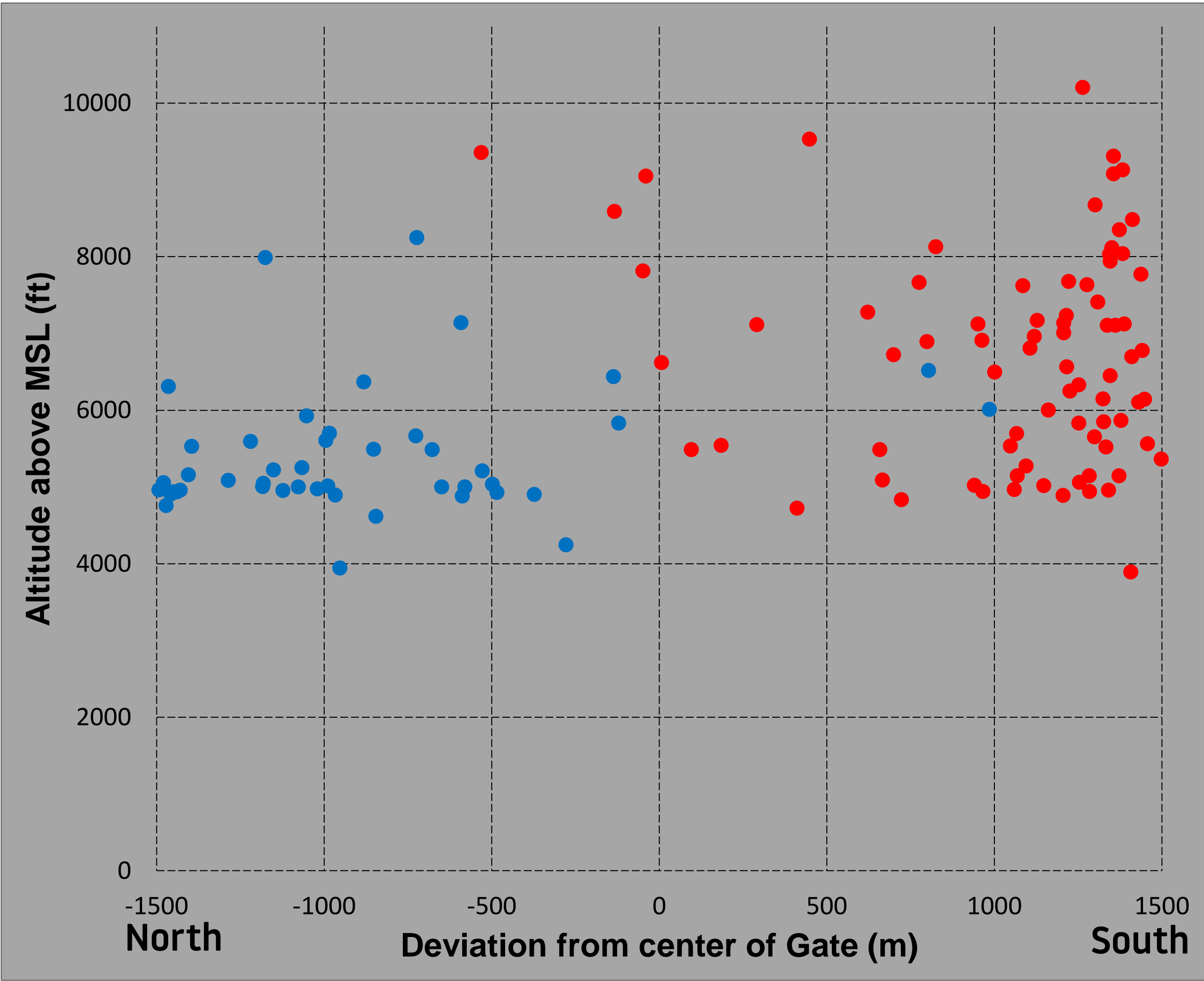
The sample below shows 299 flight tracks that followed the easterly Compton route during the monitoring period.





# Gate analysis During Monitoring Period

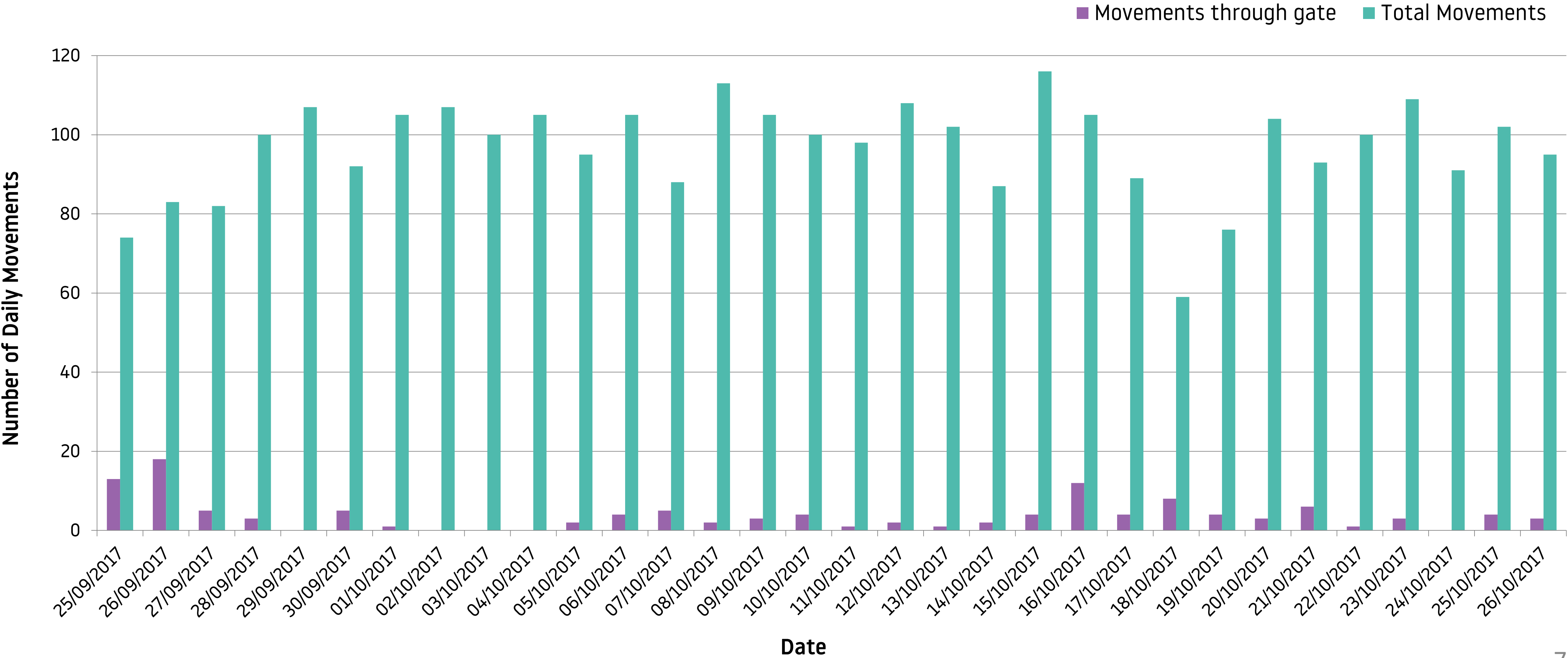
Gate analysis shows the altitude and lateral dispersion of aircraft nearby the noise monitor. The chart below shows that 47% of flights were above 6,000ft. The average altitude of aircraft in this area was 6,200ft above mean sea level.



123 aircraft shown on gate analysis (Red is those operations on the westerly Match/Detling route, Blue is those on the easterly Compton route)

# Daily Movements During Monitoring Period

3% of westerly departures following the Match/Detling route passed through the ‘gate’ during the monitoring period, whereas 15% of easterly Compton departure passed through the ‘gate’. The chart below compares the number of daily number of movements that passed through the ‘gate’ with the total number of movements on both the westerly Match/Detling and easterly Compton routes. There was no loss of radar during the monitoring period.



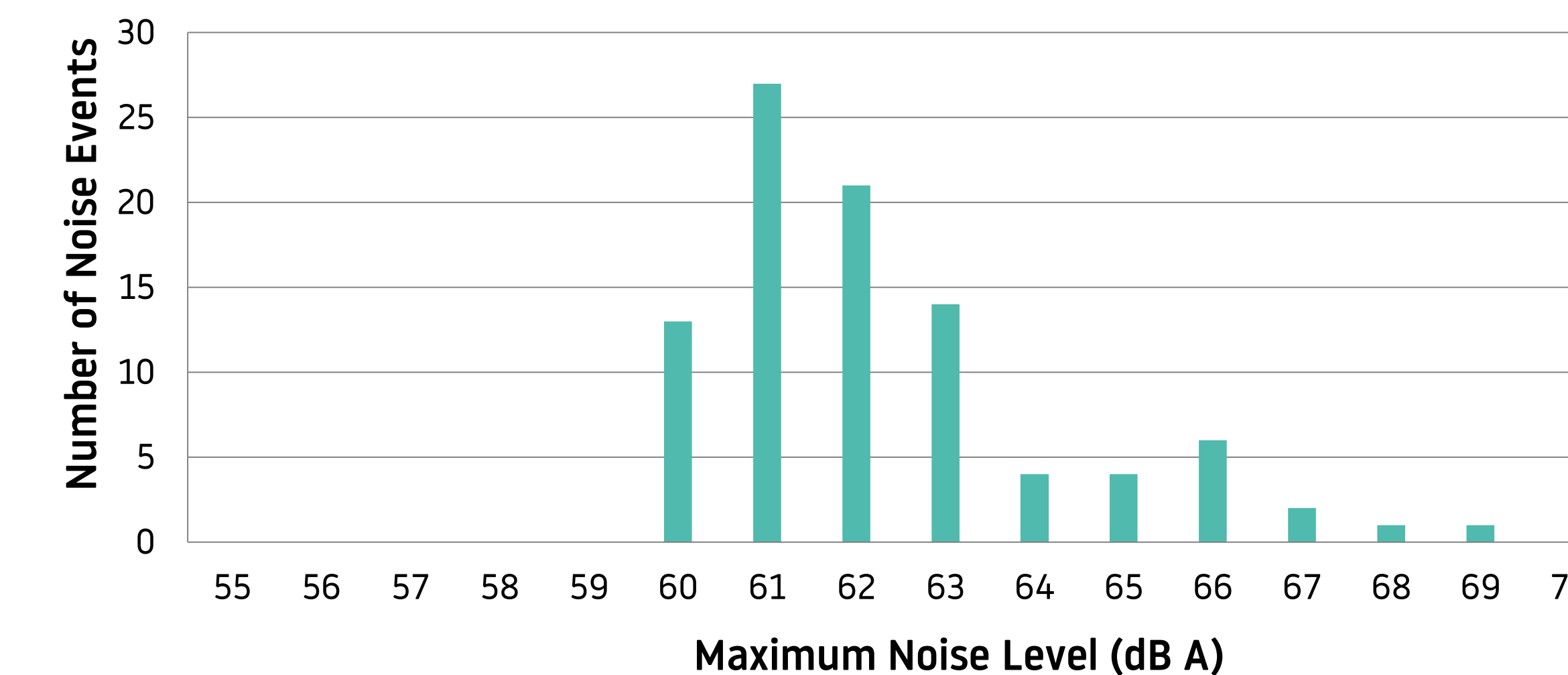
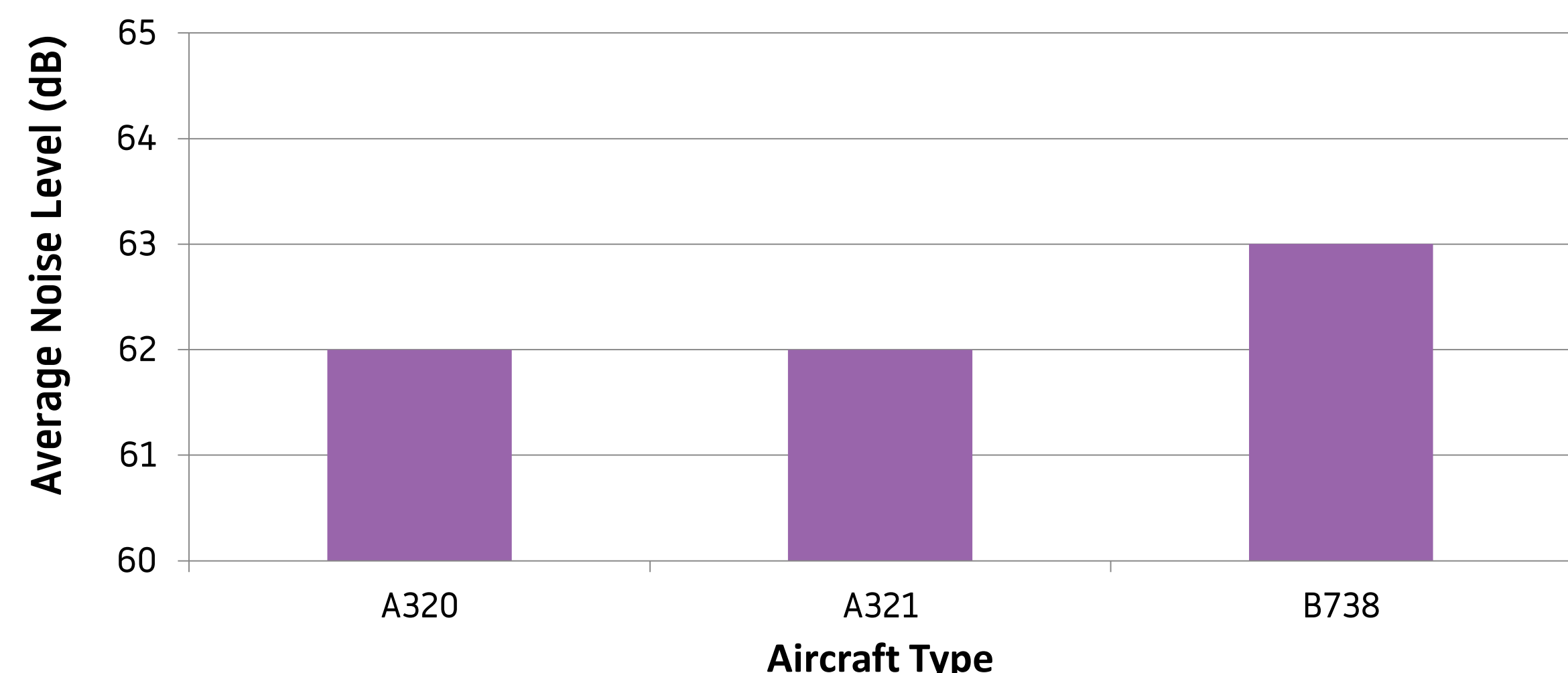
# Noise Results During Monitoring Period

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*
A320	46
A321	20
B738	21

\*It should be noted that the number of correlated noise events in this analysis was relatively low compared to other periods of monitoring. This is because many aircraft did not pass close enough to the noise monitor to trigger a noise event. In addition to this, many aircraft did not breach the noise threshold needed to record a valid event.

In order to breach the noise threshold, an aircraft must have a maximum noise level over 57dB and the total time of the event must be longer than 20 seconds.





# Summary

- During the monitoring period, the airport was using westerly operations for 87% of the time, whereas annually the average for westerly operations is 70% of the time.
- The main aircraft types operating at the airport at A320 and A319's, however, the main aircraft types nearby Wheathampstead were A320's and A321's.
- The average altitude of aircraft in the area is 6,200ft above sea level, and as Wheathampstead is already 400ft above sea level, aircraft will typically be 5,800ft above ground level in this area.
- Based on these noise results the Laeq (16hr day) value for Wheathampstead was 33dB. This result is very low, and is expected due to the low number of correlated noise events recorded.



# 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 Wheathampstead.

**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’.

