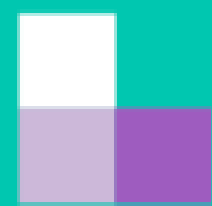
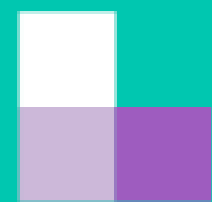


Community Noise Report

Hemel Hempstead

September 2017



London
Luton
Airport



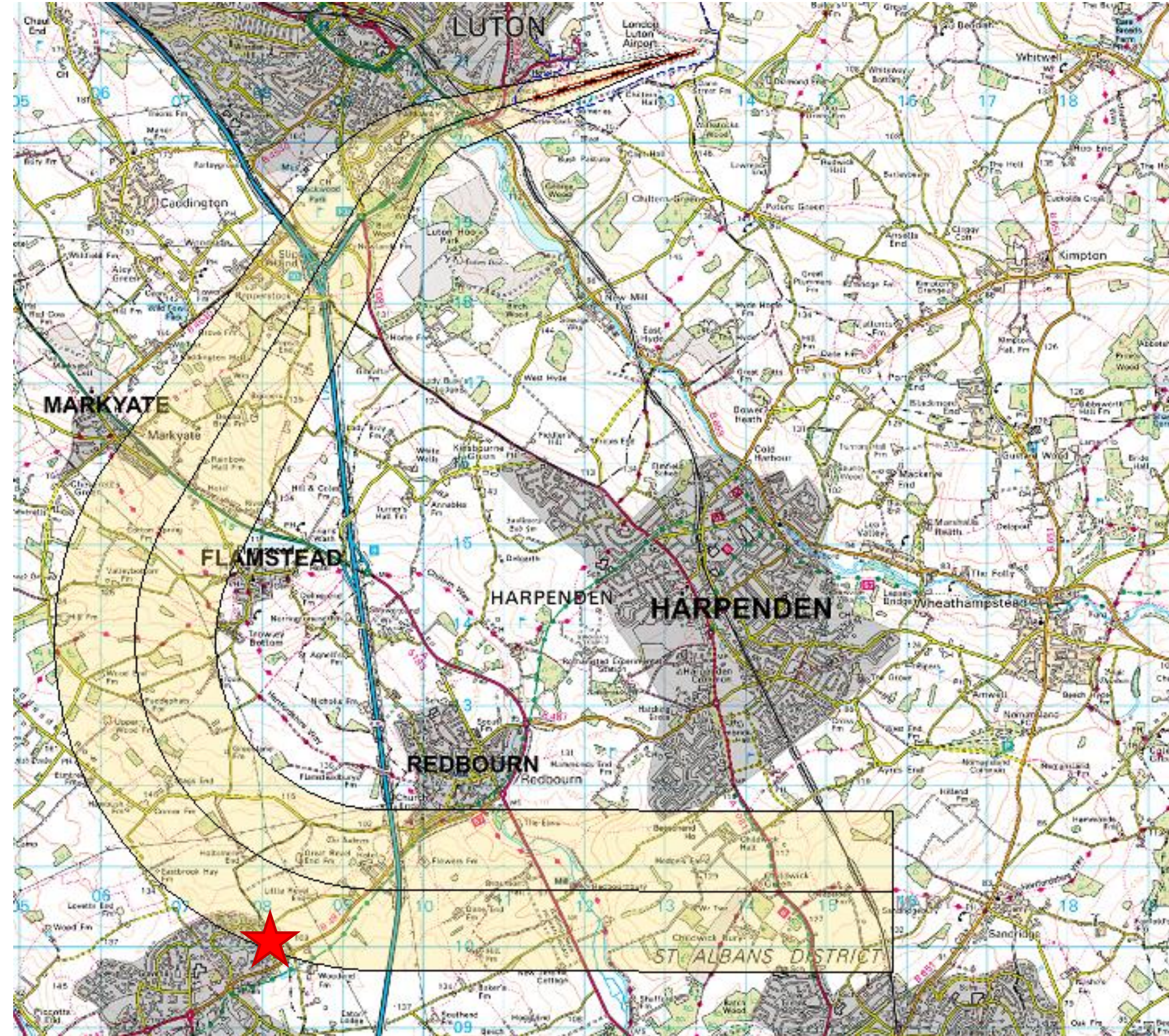
Introduction

London Luton Airport undertook unattended noise monitoring in Hemel Hempstead 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 in Berkeley Square, Hemel Hempstead between the 8th September to 21st September 2017. This location was at an altitude of 400ft above sea level.

The monitor's location was within the westerly RNAV departure route from runway 26, 900m away from the route's centreline and approximately 14km from the runway.

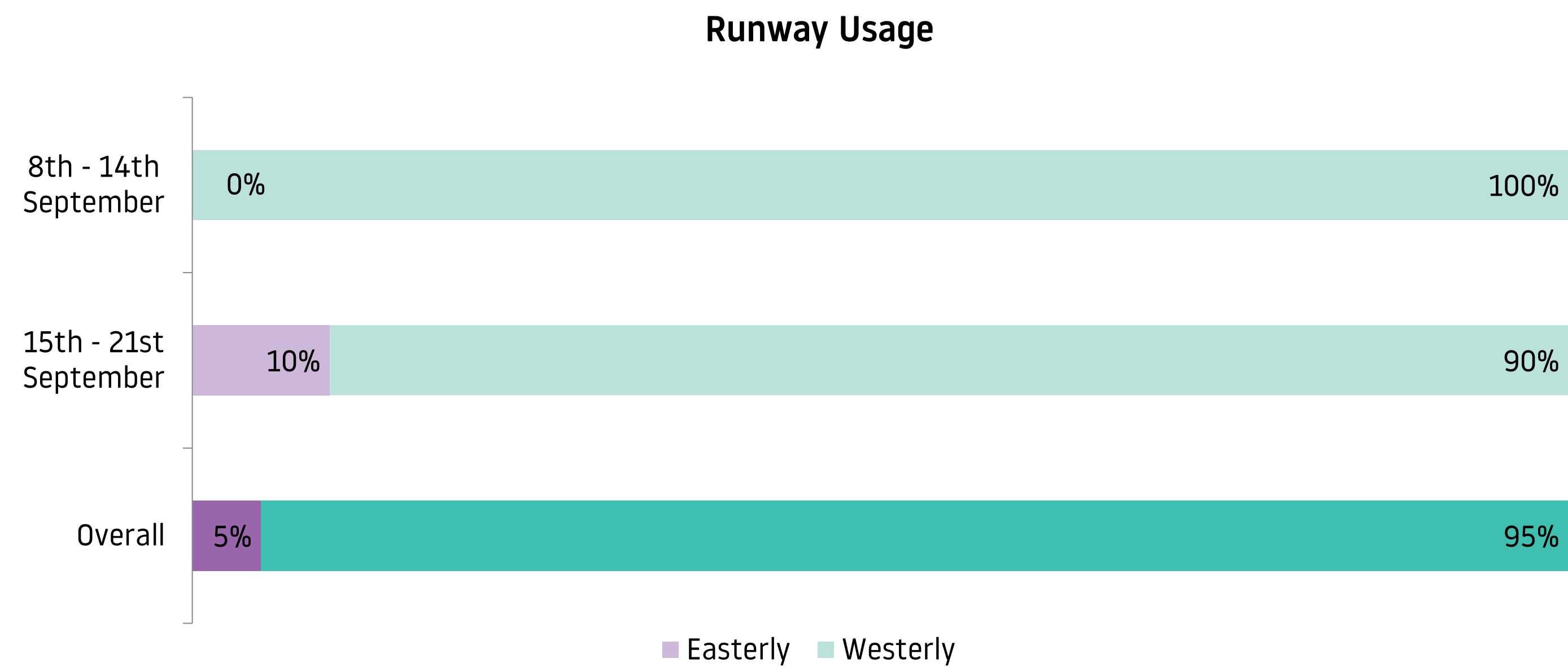
Aircraft tracks and noise events recorded were extracted from LLA's noise and track-keeping system (TopSonic). Lateral and vertical dispersion was evaluated by drawing a 2km 'gate' in a north south direction across the noise monitoring location.



LLA Operations During the Monitoring

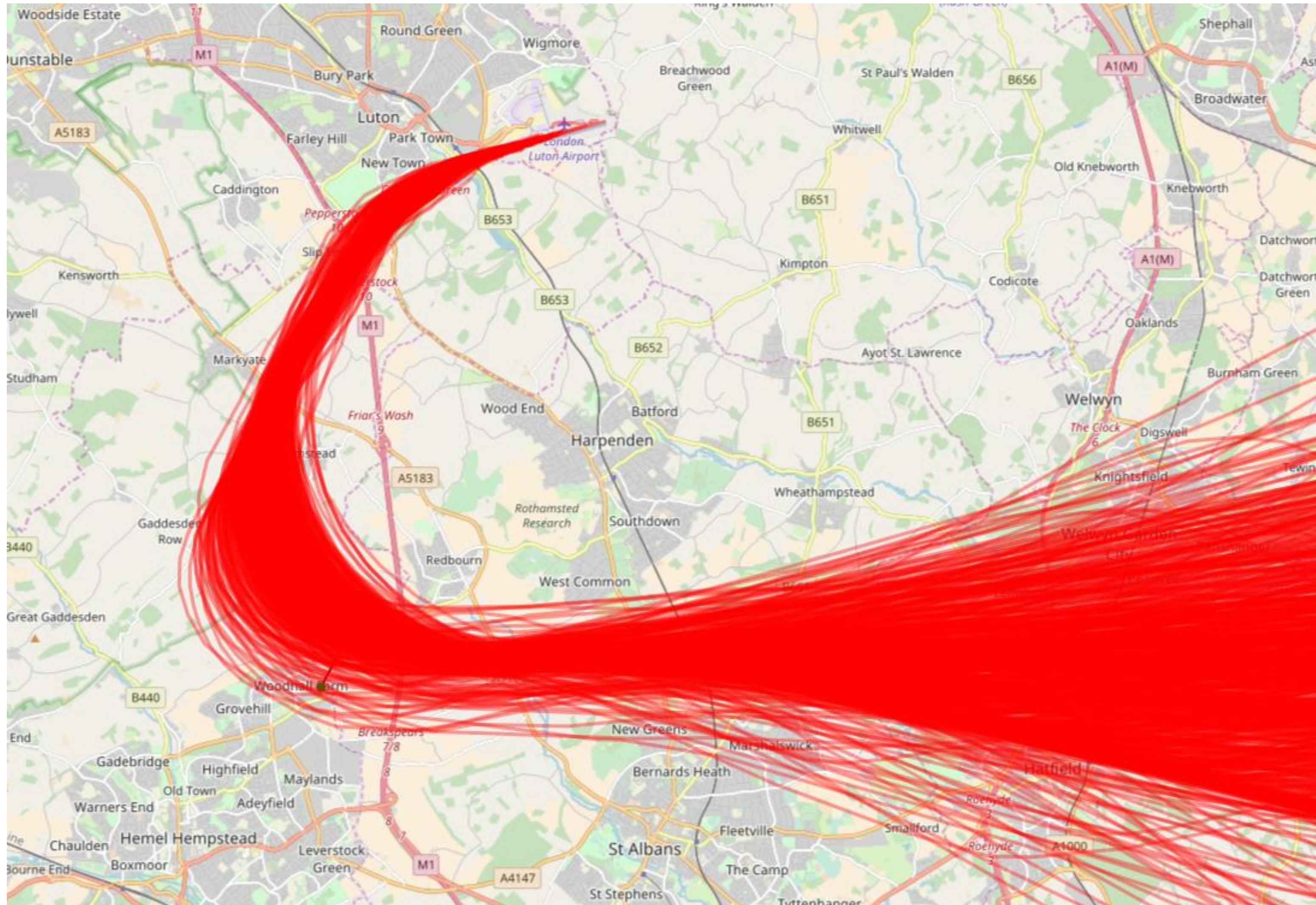
During the monitoring 5,857 air traffic movements were handled by LLA, there were no trials in place that could have affected the position of aircraft during this time.

During the period of monitoring the direction of operation was 5% easterly and 95% westerly and therefore during easterly operations no data was captured.



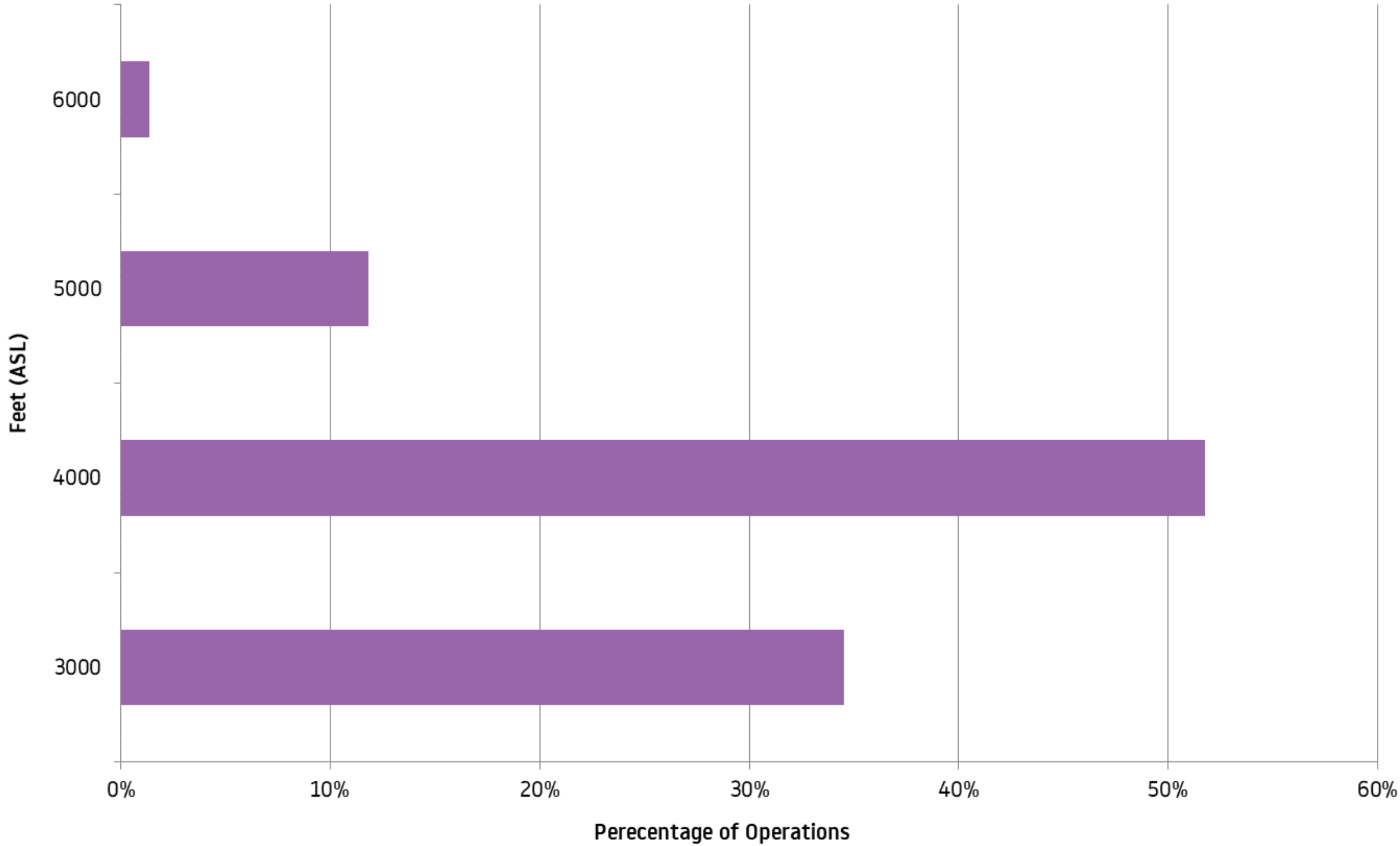
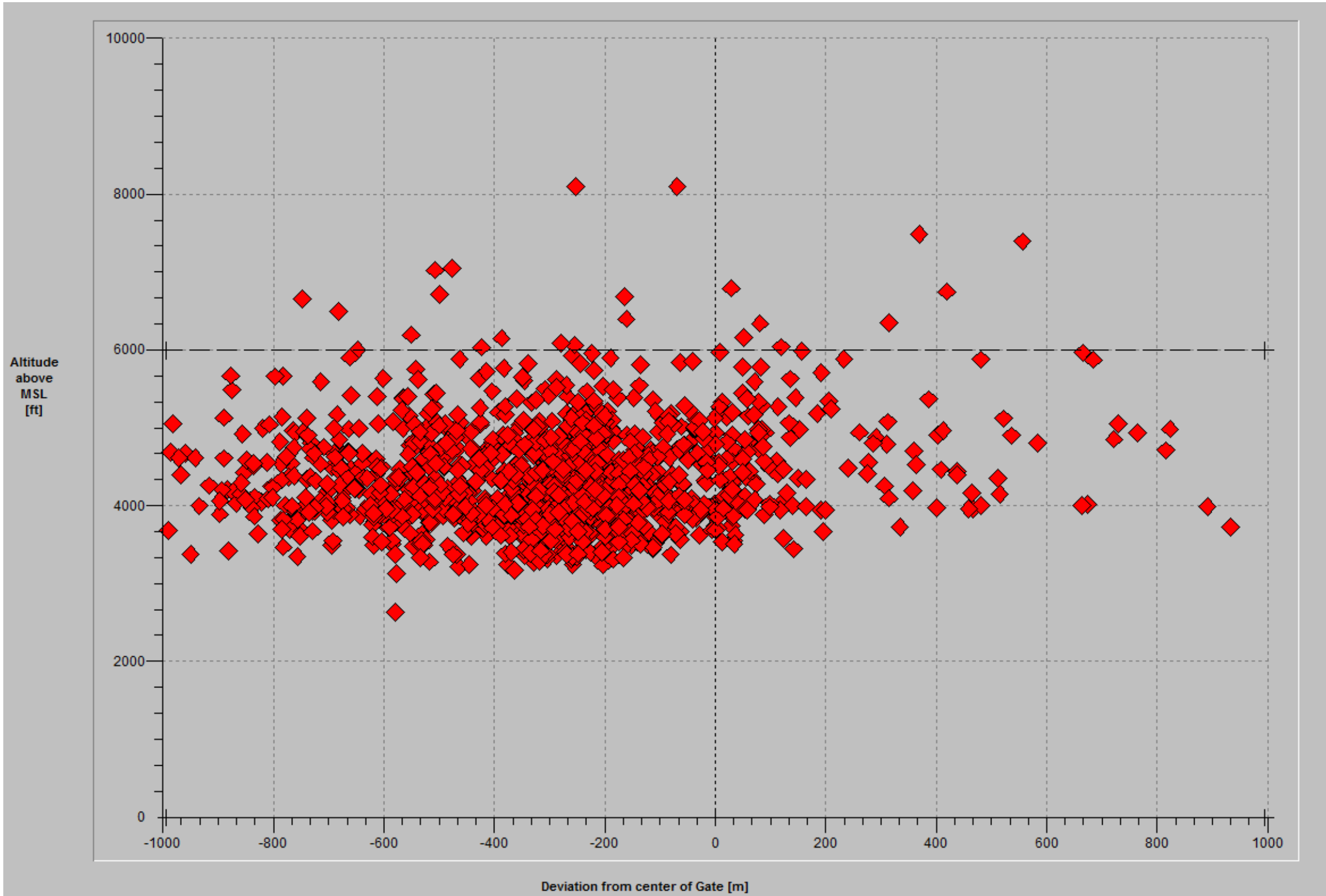
Aircraft Tracks During the Monitoring Period

The sample below shows 1361 flight tracks that passed nearby the monitor during the monitoring period.



Gate analysis During Monitoring Period

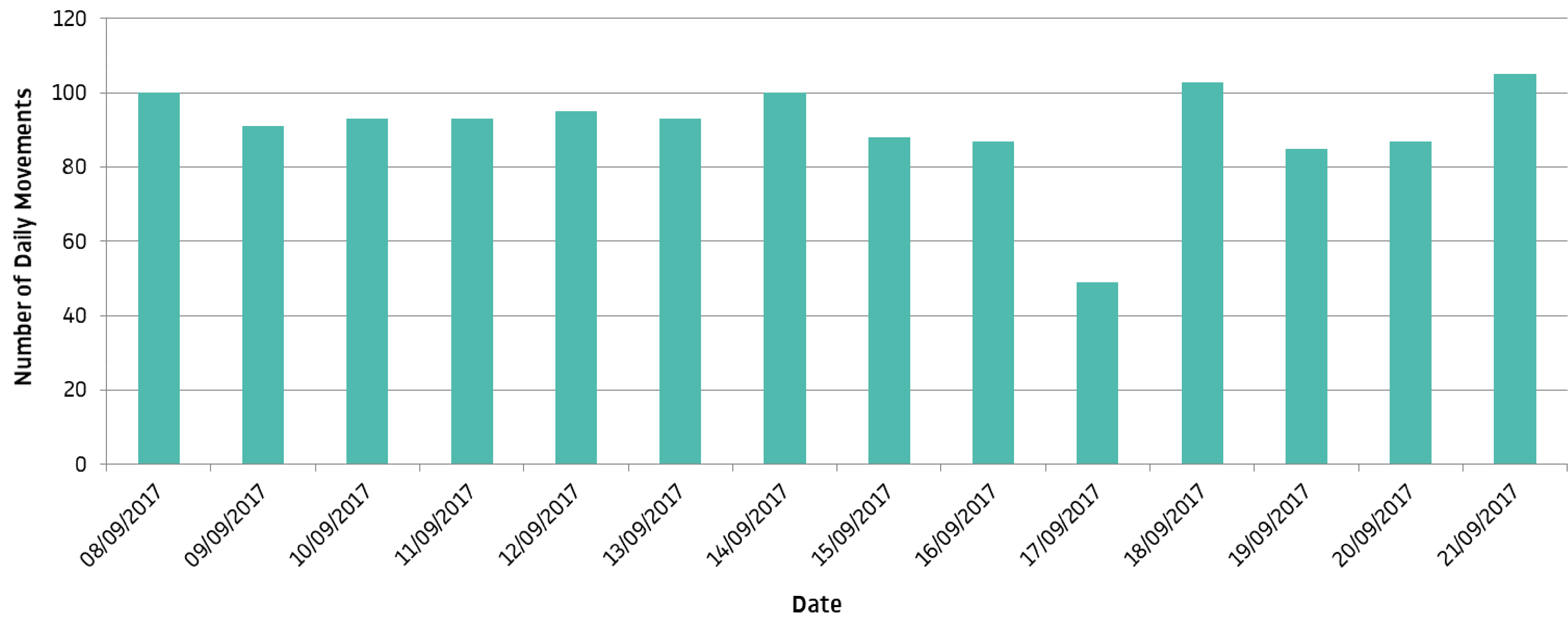
Gate analysis shows the altitude and lateral dispersion of aircraft at this point on the departure route. The chart below shows that 52% of flights were above 4000ft. The average altitude of aircraft in this area was 4,340ft above mean sea level.



1269 aircraft shown on gate analysis

Daily Movements During Monitoring Period

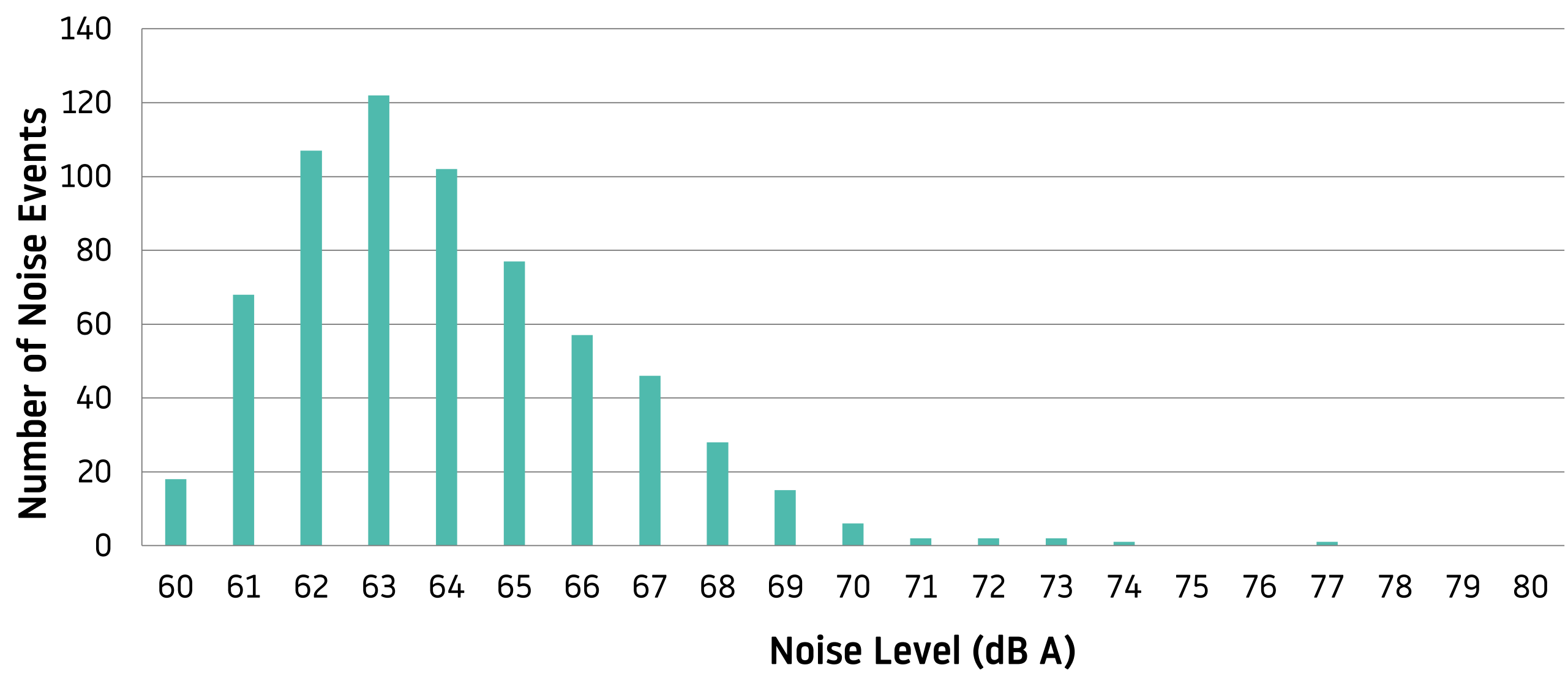
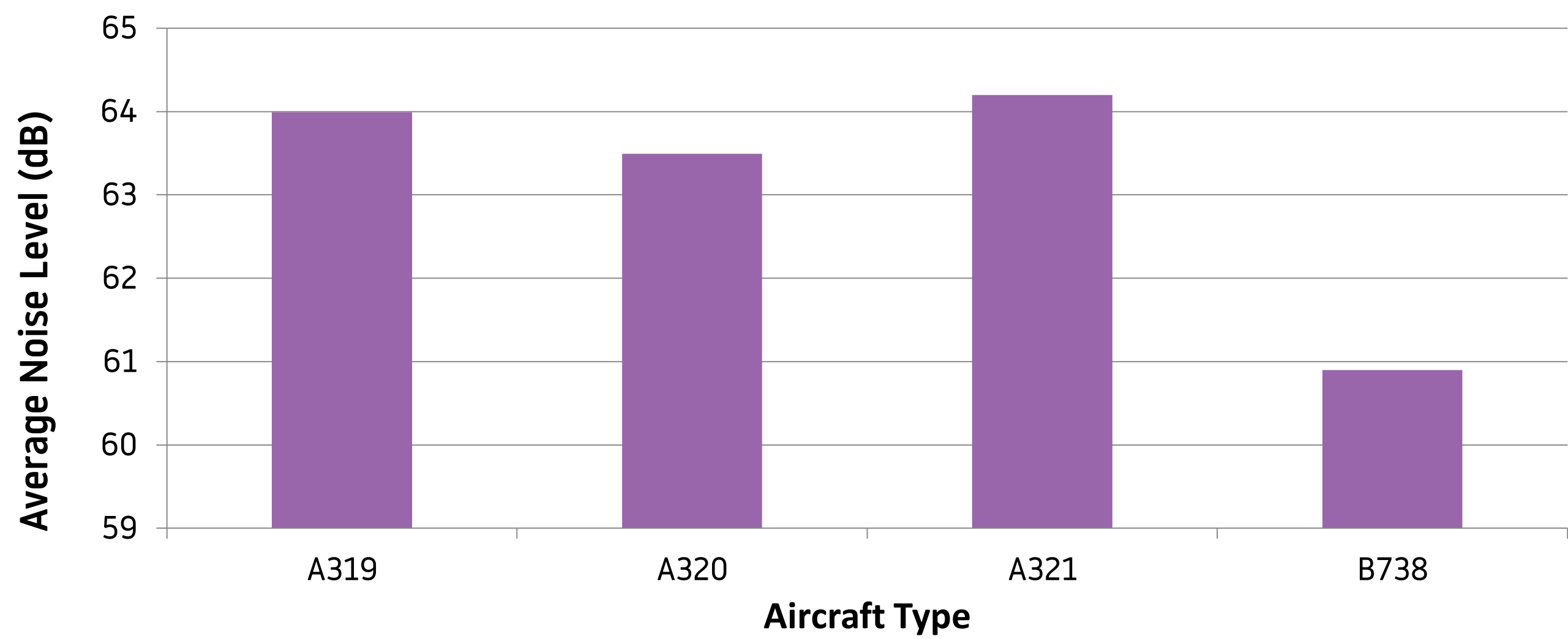
93% of westerly departures following the Match/Detling route passed through the ‘gate’ during the monitoring period. The chart below shows the daily number of movements that passed through the ‘gate’ and flew nearby Hemel Hempstead. There was no loss of radar during the monitoring period, and two days of easterly and westerly operations resulting in a slightly smaller number of daily movements that passed through the ‘gate’.



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	38
A320	400
A321	96
B738	51



Summary

- During the monitoring period, the airport was using westerly operations for 95% 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 therefore the aircraft types flying nearby Hemel Hempstead are in line with this.
- The average altitude of aircraft in the area is 4,340ft above sea level, and as Hemel Hempstead is already 400ft above sea level, aircraft will typically be 3,940ft above the properties in this area.
- Based on these noise results the Laeq (16hr day) value for Hemel Hempstead was 45dB. This result is consistent with the expected noise for the area, based on the annual noise contours produced.

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 Hemel Hempstead.

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’.

