Community Noise Report Sandridge April - June 2017

London Luton Airport

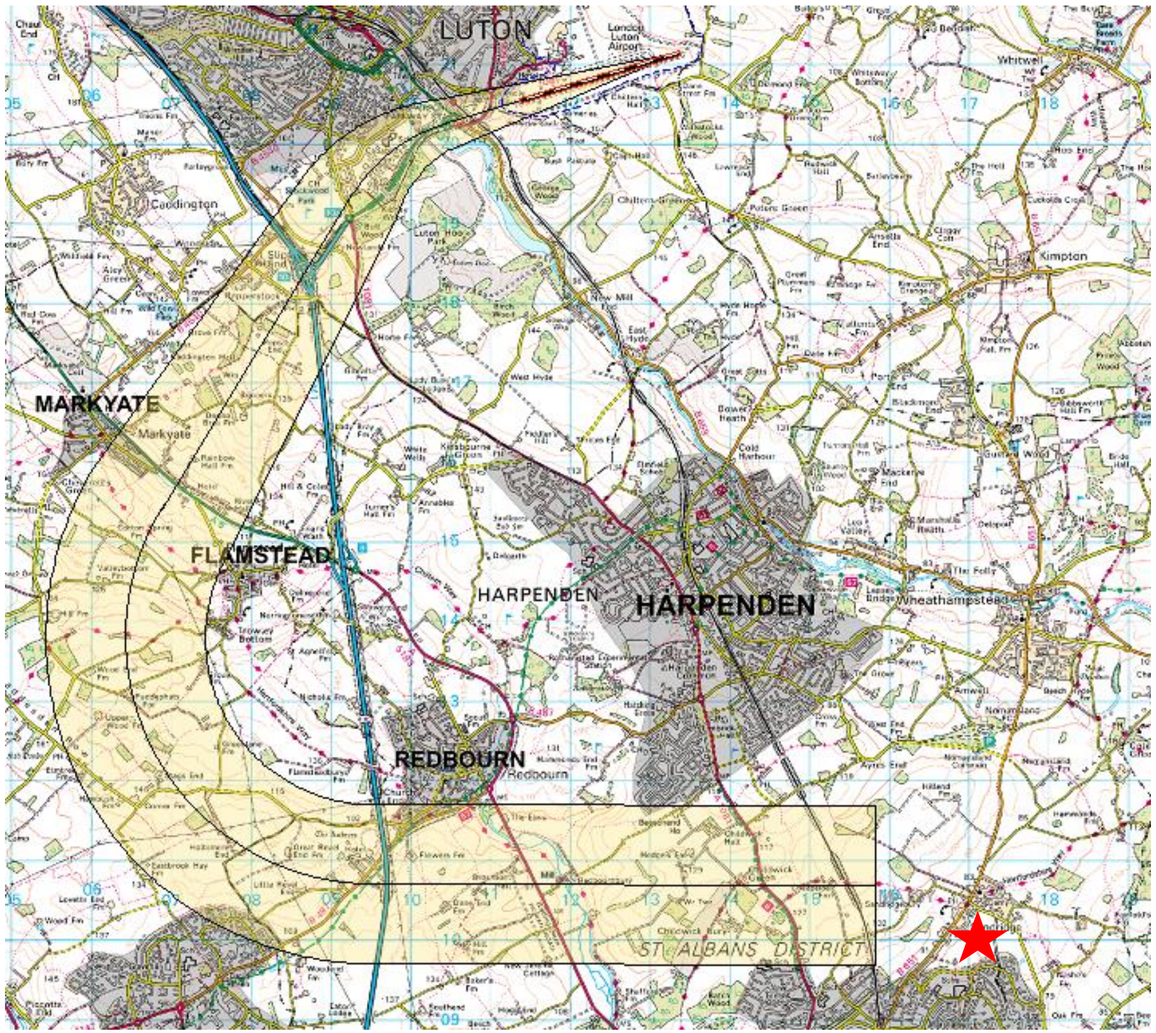
Introduction

London Luton Airport undertook unattended noise monitoring in Sandridge 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 St Helier Road, Sandridge between the 30th March to 5th June 2017.

The monitor was located nearby the westerly Match/Detling departure route, with aircraft taking approximately 22 track miles before reaching the monitor. The altitude at the monitor was 360ft above mean sea level.

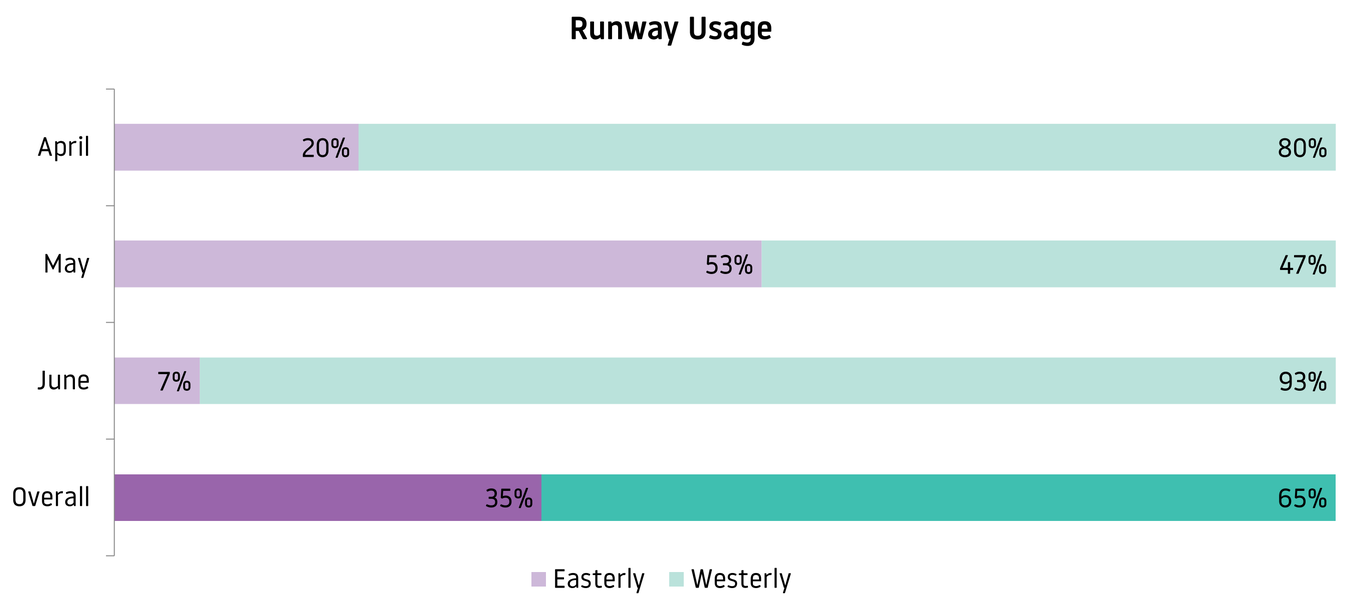
Aircraft data captured was extracted from LLA's noise and track-keeping system (TopSonic). Operations in the area was evaluated by drawing a 3km 'gate' perpendicular to the Noise Preferential Route corridor.



LLA Operations During the Monitoring

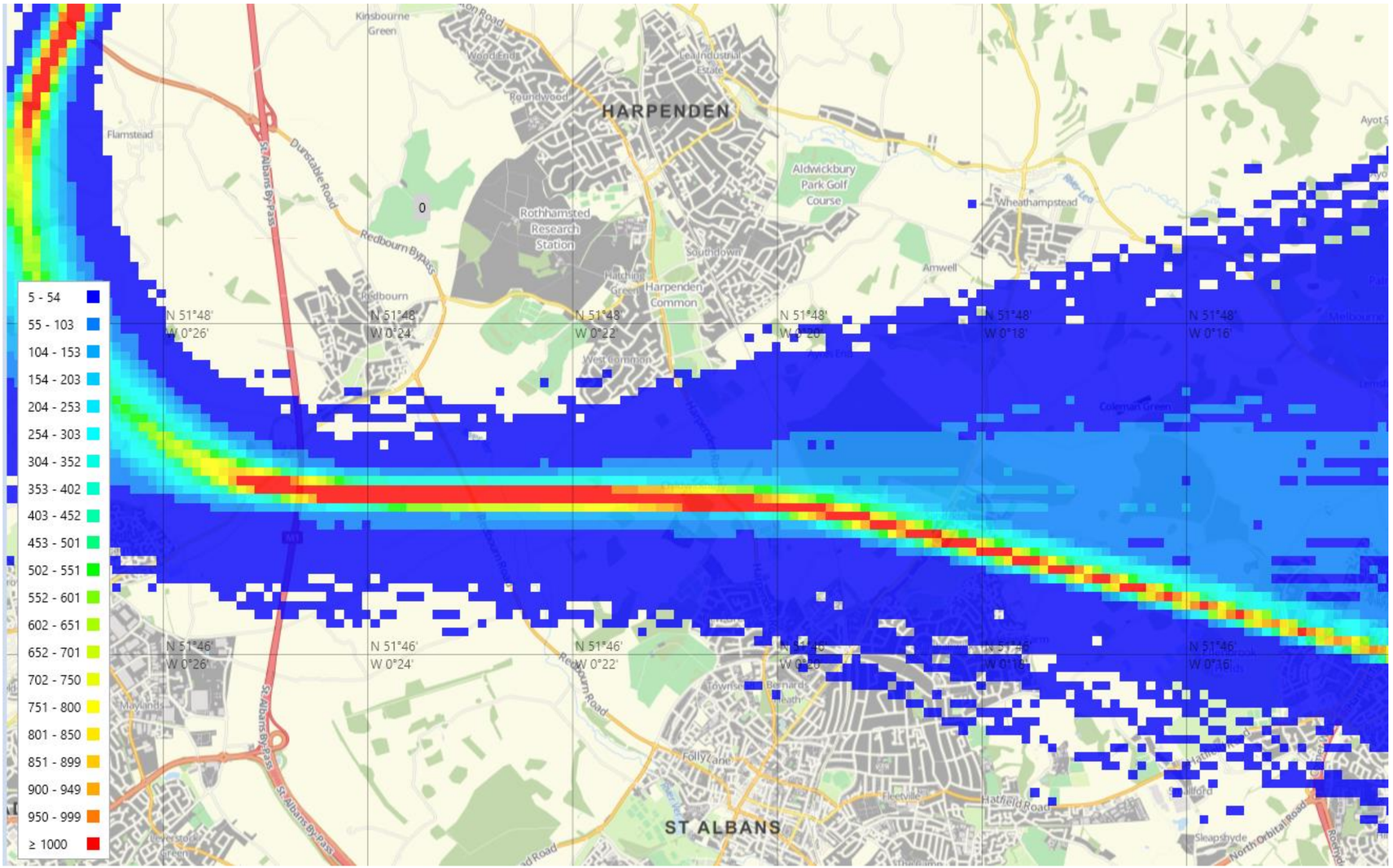
During the monitoring 26,922 air traffic movements were handled by LLA, there were no trials in place that could have affected the position of aircraft during this time.

During the period of monitoring the direction of operation was 35% easterly and 65% Westerly and therefore during easterly operations no data was captured.



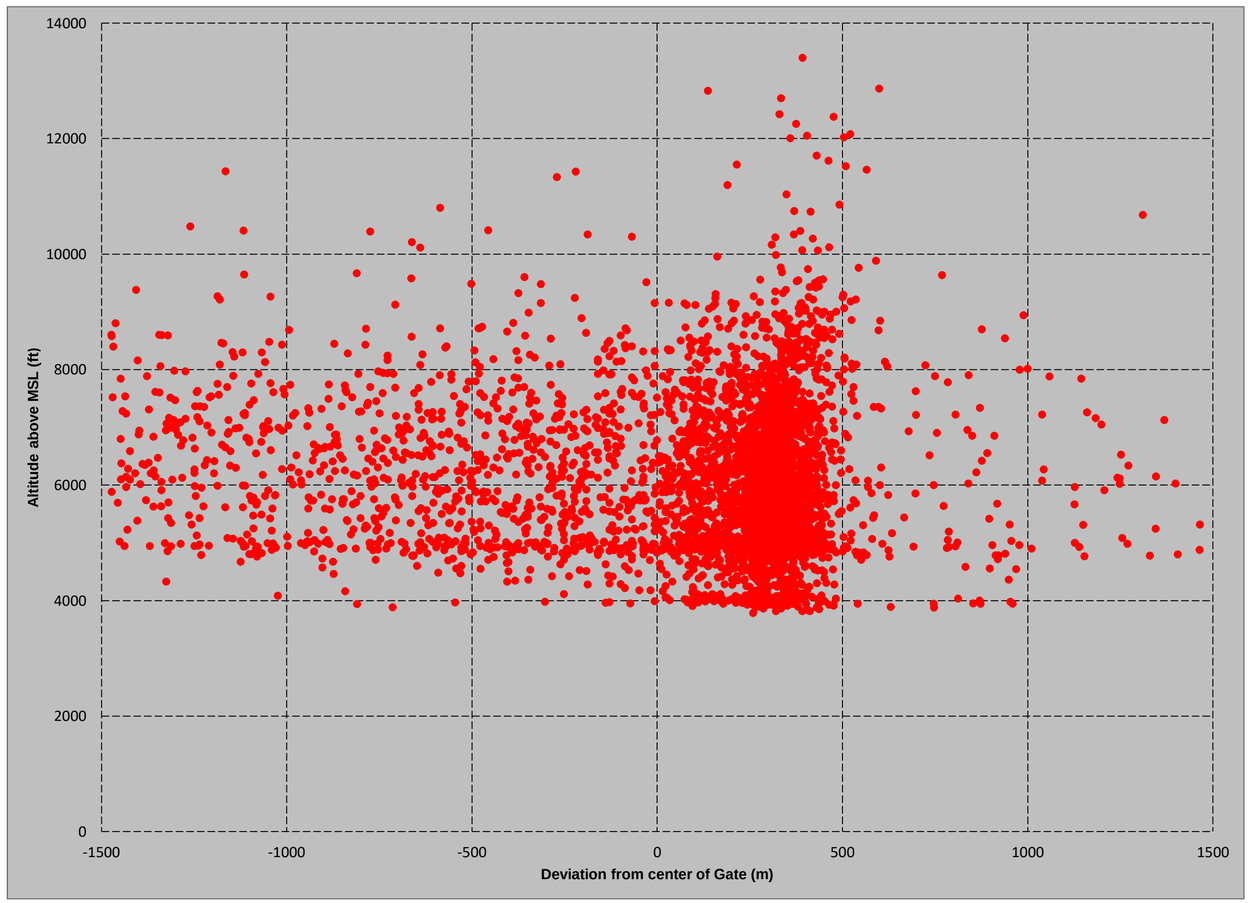
Aircraft Tracks During the Monitoring Period

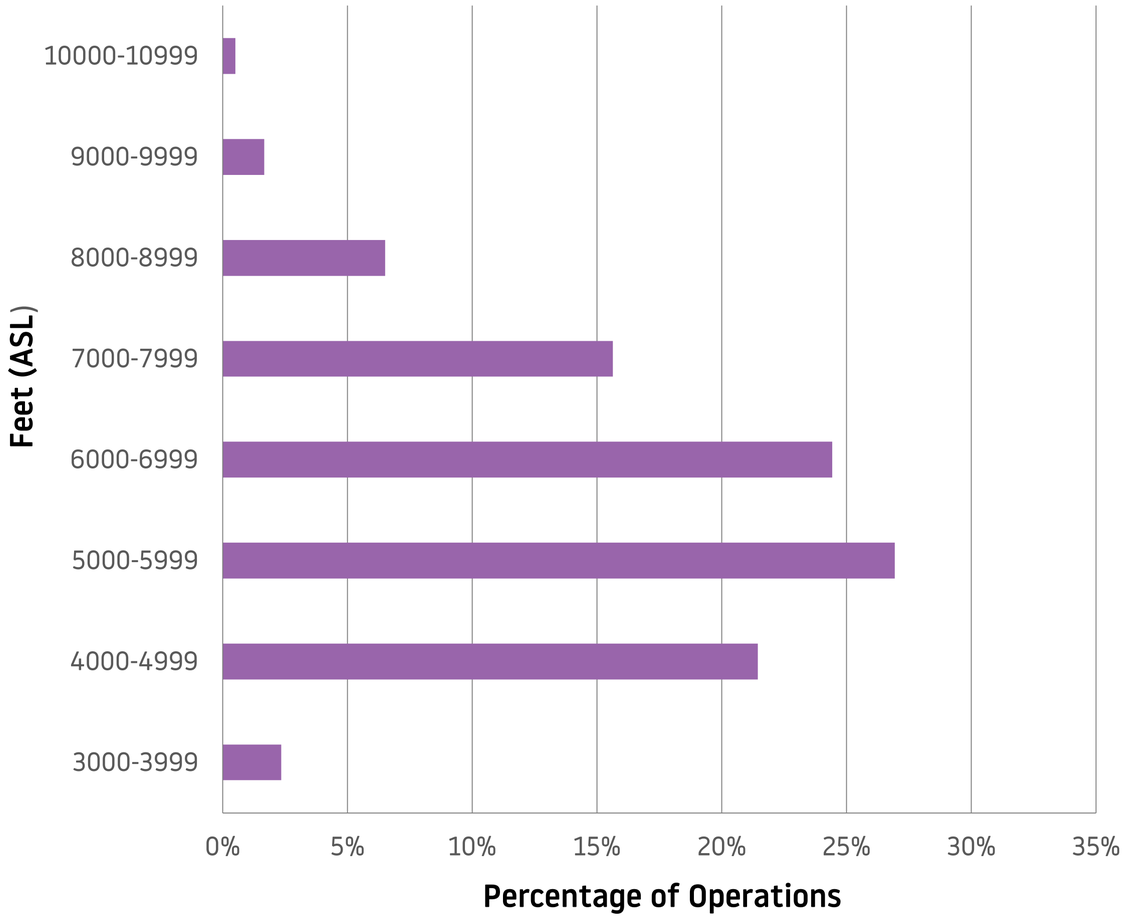
The plot density map below shows the 4,361 flight tracks that passed nearby the monitor during the monitoring period.



Gate analysis During Monitoring Period 2017

Gate analysis shows the altitude and lateral dispersion of aircraft between 30th March – 5th June 2017. The chart below shows that 50% of all flights were above 6000ft when passing through the gate. The average altitude of aircraft in the area is 6150ft above mean sea level.

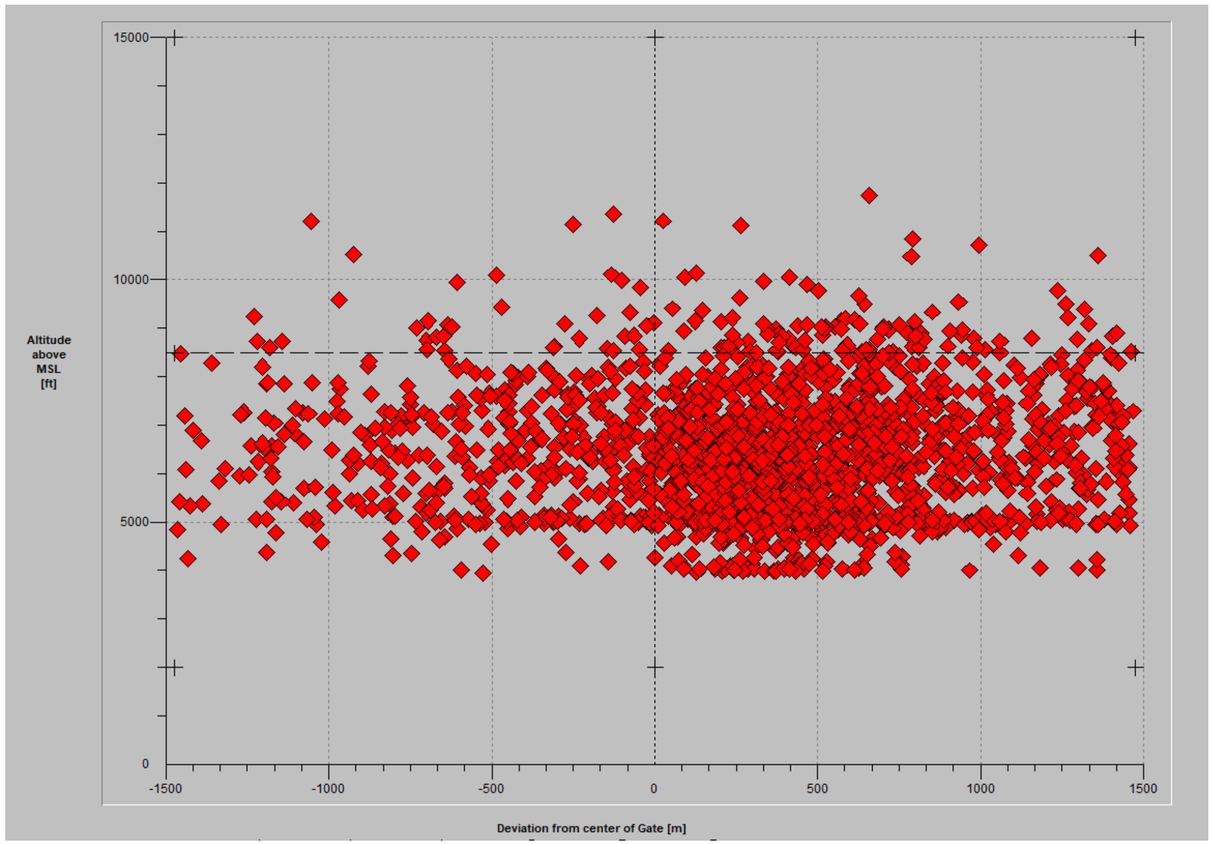


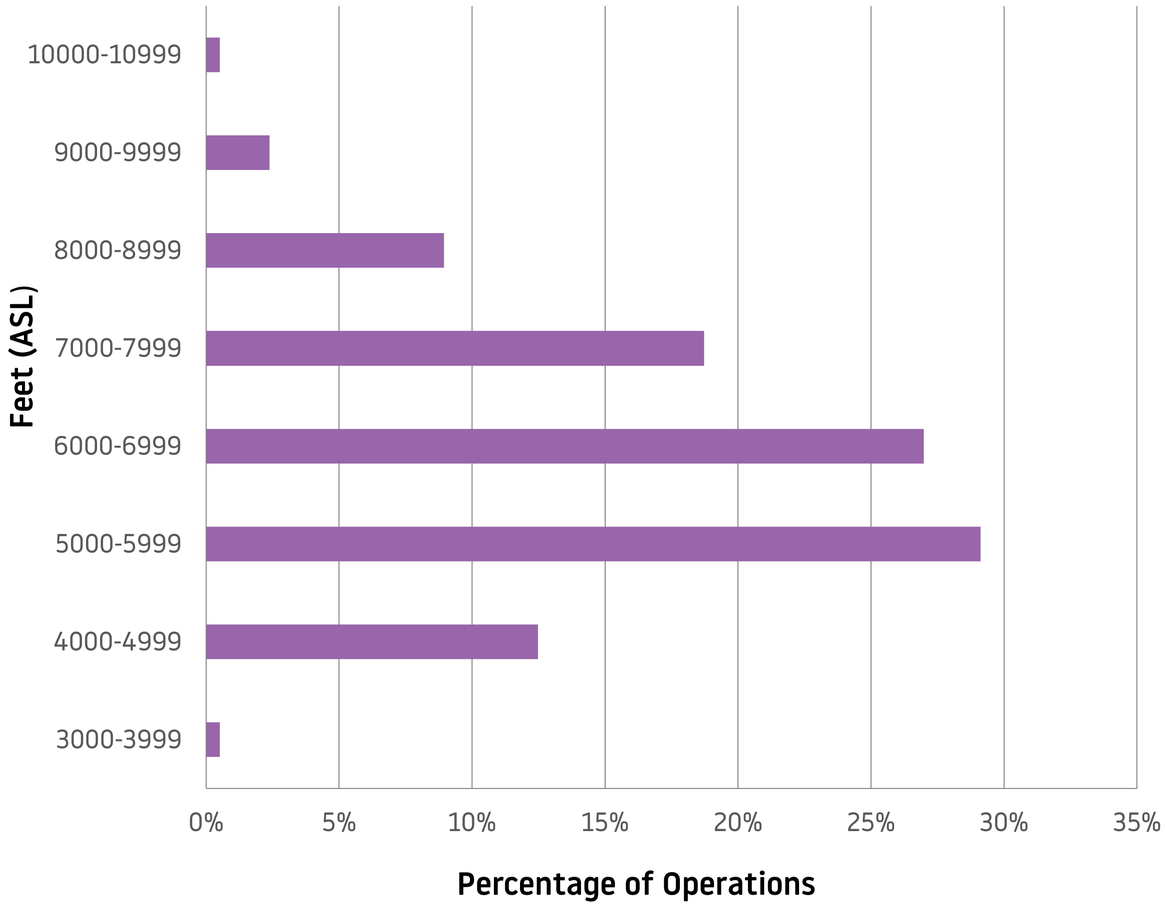


4081 aircraft shown on gate analysis

Gate analysis During Monitoring Period 2014

Gate analysis shows the altitude and lateral dispersion of aircraft between 22nd July 2014 – 19th Sept 2014. The chart below shows that 58% of all flights were above 6000ft when passing through the gate. The average altitude of aircraft in the area is 6400ft above mean sea level.

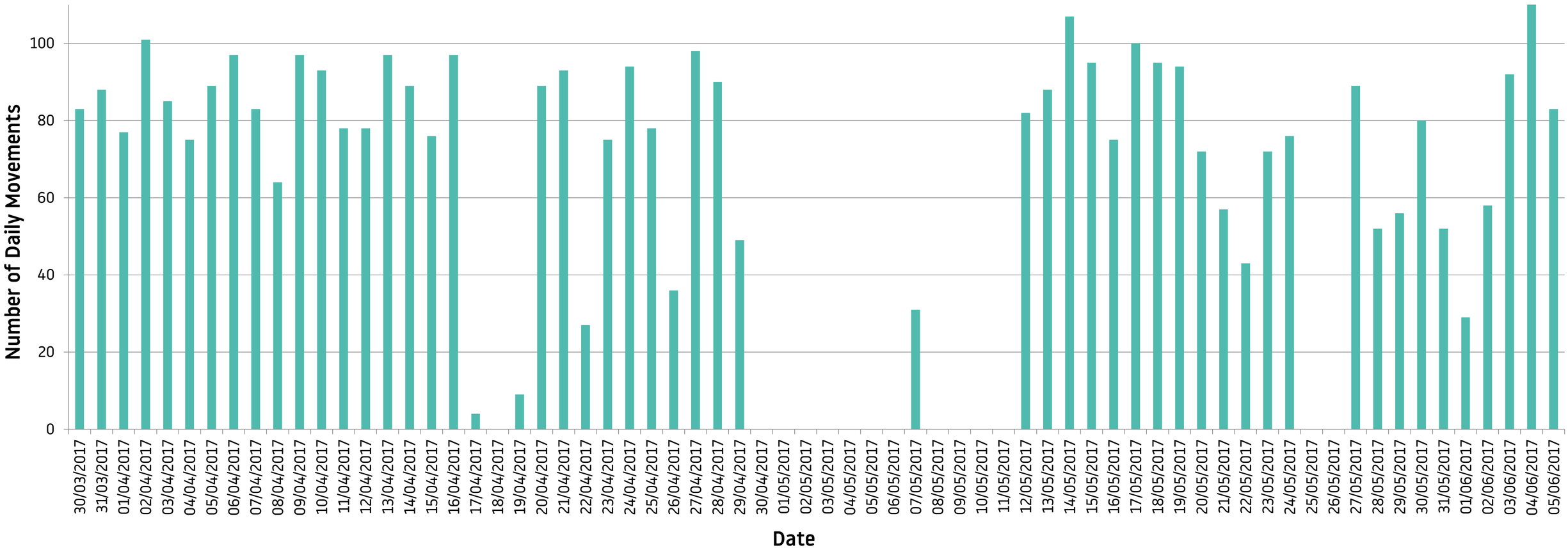




1923 aircraft shown on gate analysis

Daily Movements During Monitoring Period

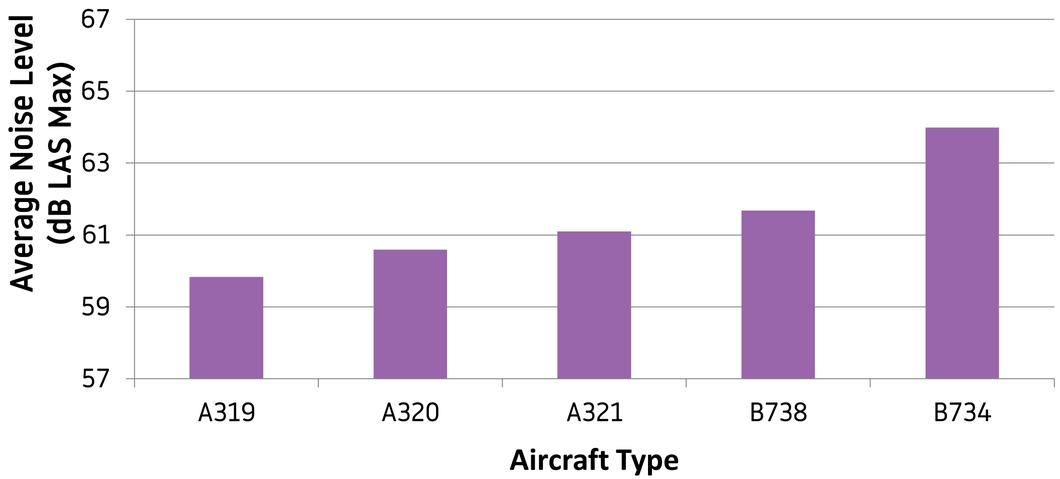
92% of westerly departures passed through the ‘gate’ during the monitoring period. The chart below shows the daily number of movements that passed through the ‘gate’ and nearby Sandridge. During the monitoring period there were 14 days of only easterly operations meaning no flights passed through the gates on these days.

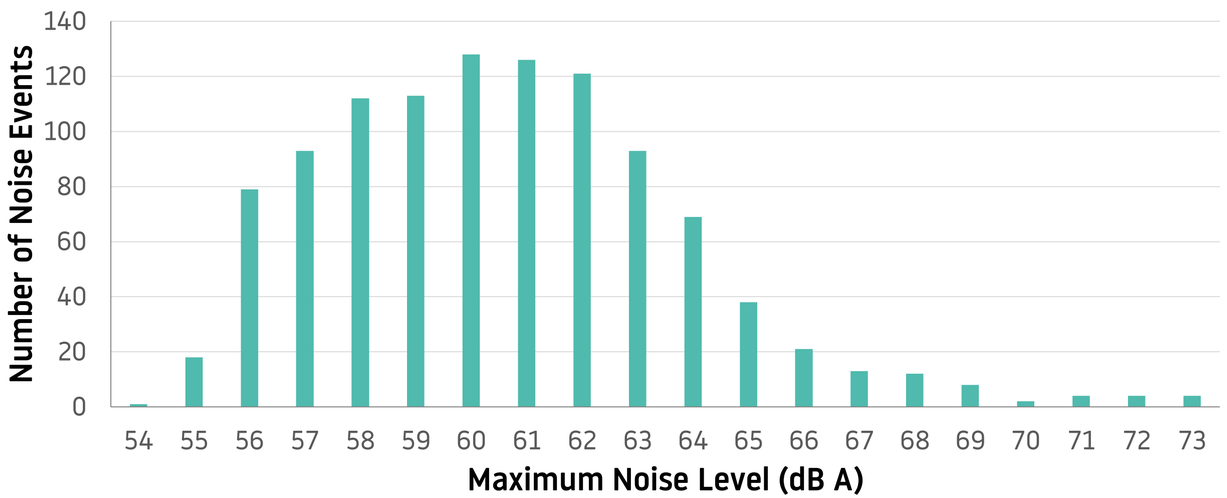


Noise Results During Monitoring Period 2017

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

Aircraft Type	Number of movements
A319	127
A320	568
A321	153
B738	86
B734	20

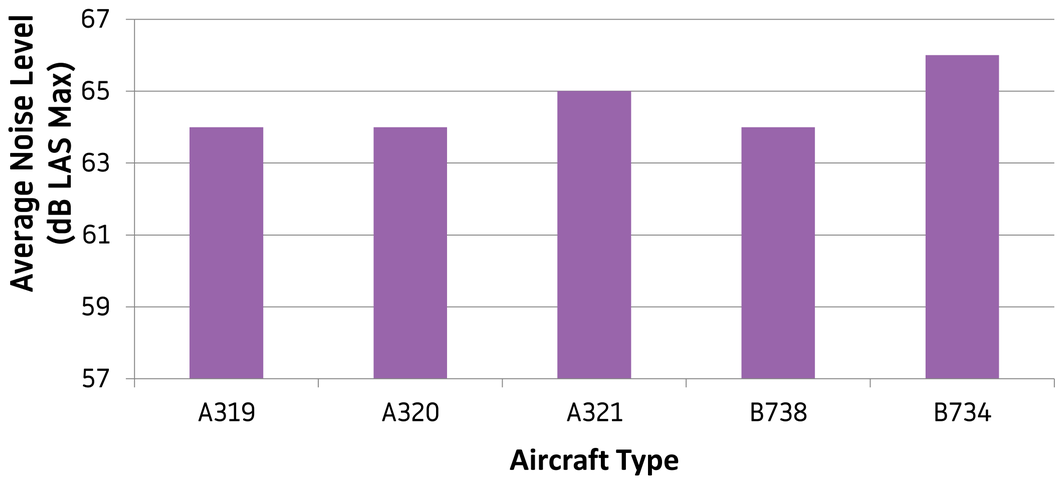


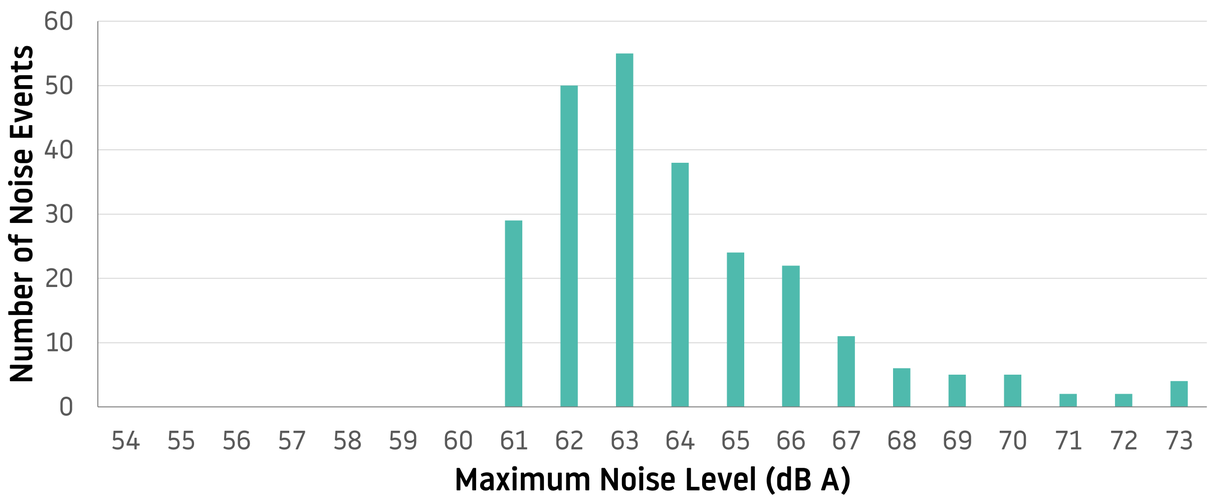


Noise Results During Monitoring Period 2014

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

Aircraft Type	Number of movements
A319	24
A320	129
A321	19
B738	34
B734	17





Summary

- During the monitoring period, the airport was using westerly operations for 65% of the time, whereas annually the average for westerly operations is 70% of the time.

- The main aircraft types operating at the airport are A320 and A321's therefore the aircraft types overflying Sandridge are in line with this.

- These 2017 noise results produced an LAeq (16hr day) value of 40dB which is consistent with the expected noise for the area.

- In comparison with 2014 monitoring data, the average altitude of aircraft in this area has declined slightly, however, the noise from the five main aircraft types has also declined, in some cases by as much as 4dB.

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 Sandridge.

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'.