

Community Noise Report

Potton

December - February 2025



London Luton Airport

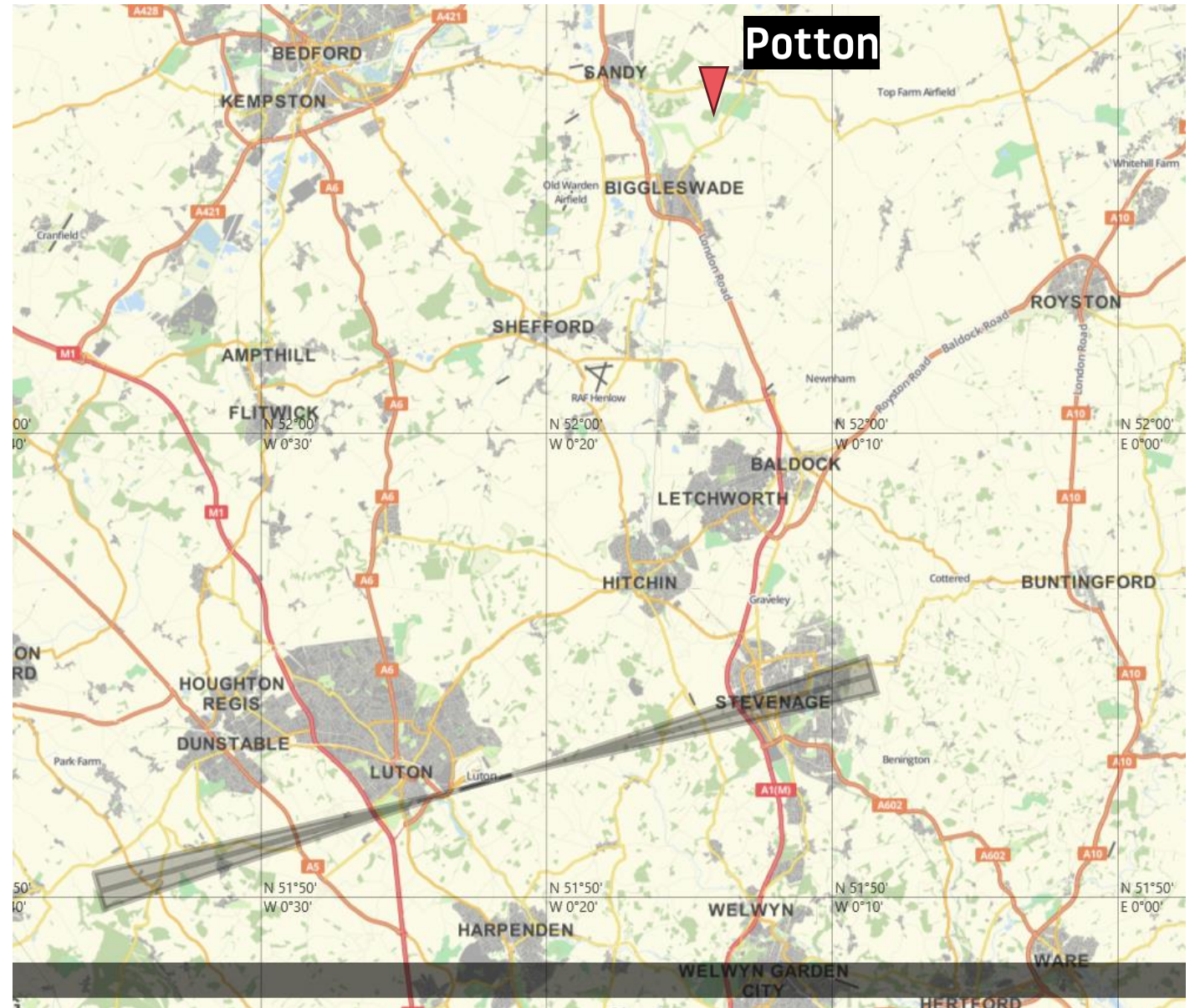
Introduction

As part of the ongoing noise monitoring programme, London Luton Airport deployed a portable noise monitoring terminal in Potton.

The purpose of the monitoring programme is to understand the typical noise levels created in the local community. **For Potton it specifically related to easterly and westerly arrivals. The final approach flightpath are shown on the map.** The noise monitor was located at a residential property on Carthagera road, at an altitude of 114 feet above sea level. The red pinpoint on the map shows the noise monitor location.

The noise monitor in Potton was in place between the 2nd December 2024 and 24th February 2025.

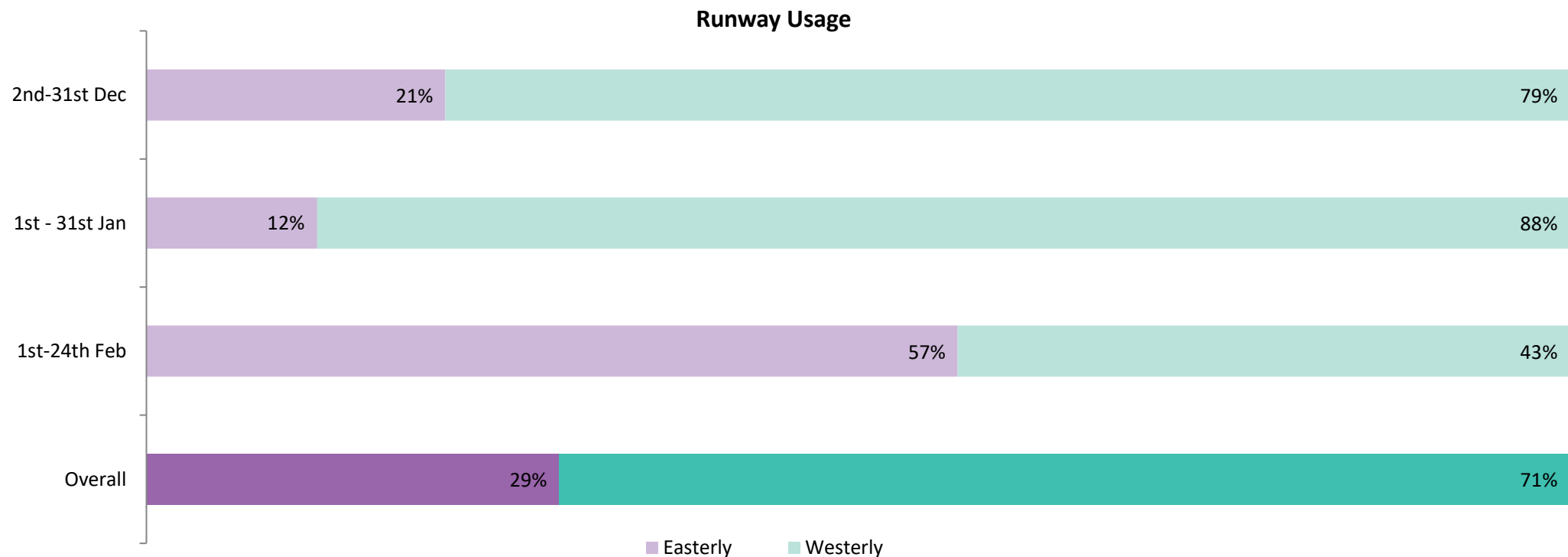
Aircraft noise and tracks recorded were extracted from LLA's noise and track-keeping system. This document evaluates the lateral and vertical positioning of aircraft near the monitor as well as the noise recorded at ground level.



LLA operations during the monitoring period

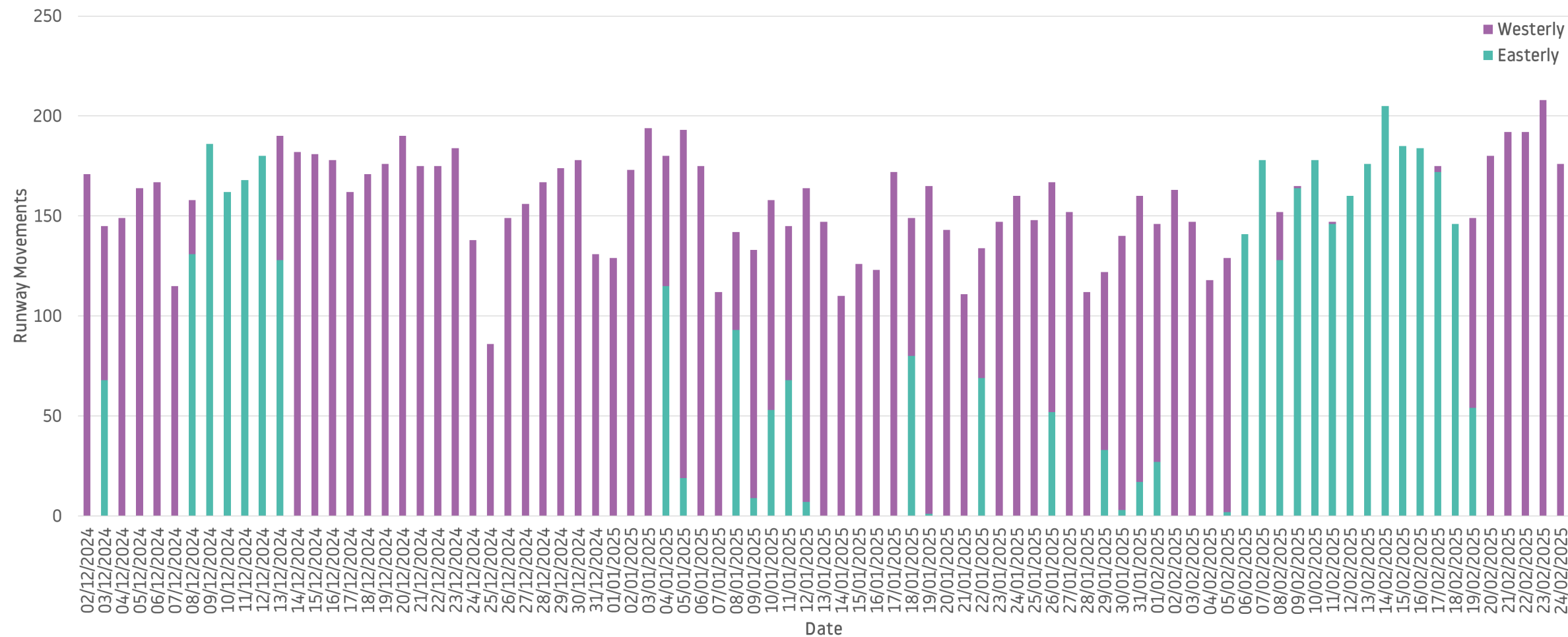
There are two operating directions at LLA. The operating direction depends on the wind direction as aircraft are required to take off and land into the wind for aircraft performance and safety reasons. These are known as easterly operations and westerly operations and can change the aircraft tracks nearby specific areas. The split in operating direction varies from year to year and month to month. The amount of time that the runway operates in one direction depends on the wind direction.

During the period of monitoring, the direction of operation was 29% Easterly and 71% Westerly. The 5-year average for this time of year is 21% easterly vs 79% westerly.



Daily Movements during monitoring period

The chart below shows the number of daily easterly and westerly arrivals that passed over the noise monitor. Due to the location, all flights that landed on our easterly and westerly runways would have flown above the noise monitor terminal. The graph shows the westerly arrivals (purple) as well as easterly arrivals (green).

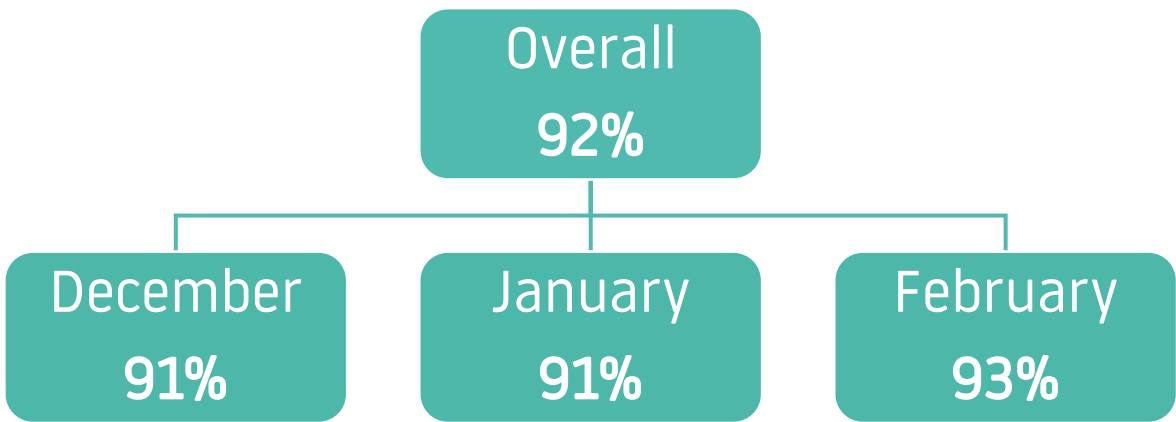


Continuous Descent Operations (CDO)

Continuous Descent Operations (CDO) is an operational technique for arriving aircraft. This form of operation targets noise, fuel and emission reduction. Each time a plane performs level flight it involves increased thrust therefore an increase in fuel consumption and higher noise. A CDA approach is measured from 5,000ft and has no level flight of more than 2.5nm (nautical miles) using minimal thrust.

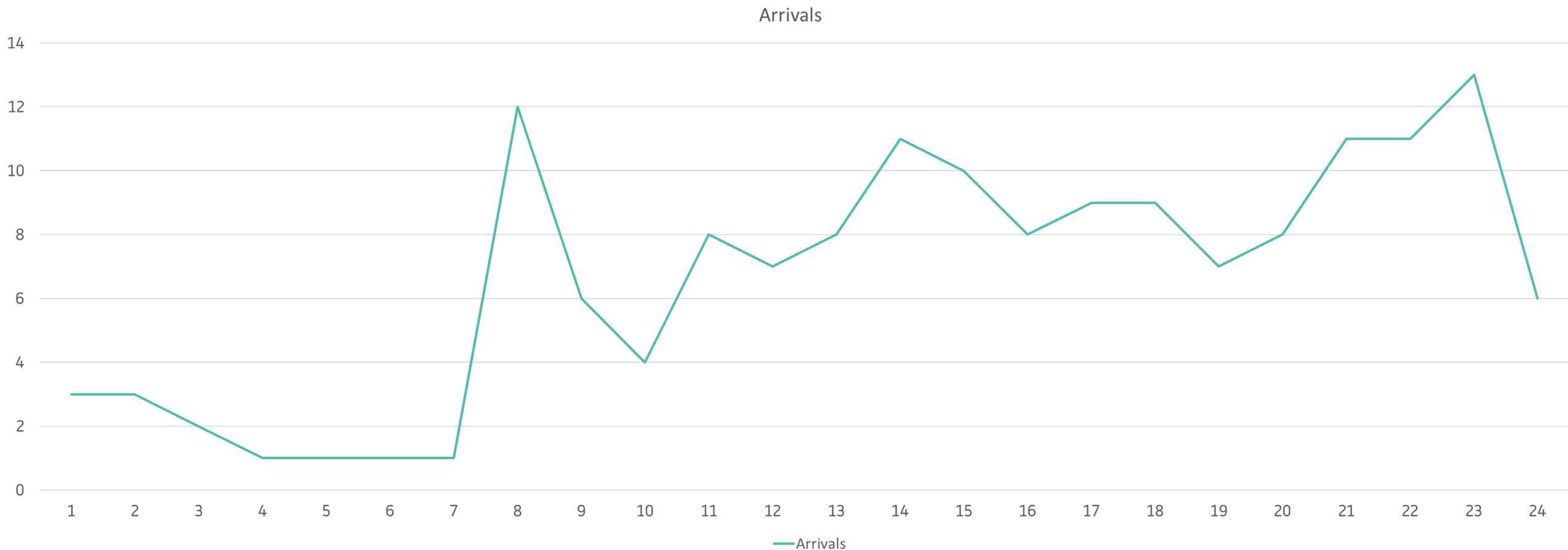
We continuously monitor this and aim to increase these operations for benefit to all, our target for CDO is 95%. CDO is not always possible for every flight as there are factors that would affect this such as- safe operations of the aircraft, ATC instruction, weather, compliance with procedures etc.

The percentages below detail the CDO achieved during the monitoring period.



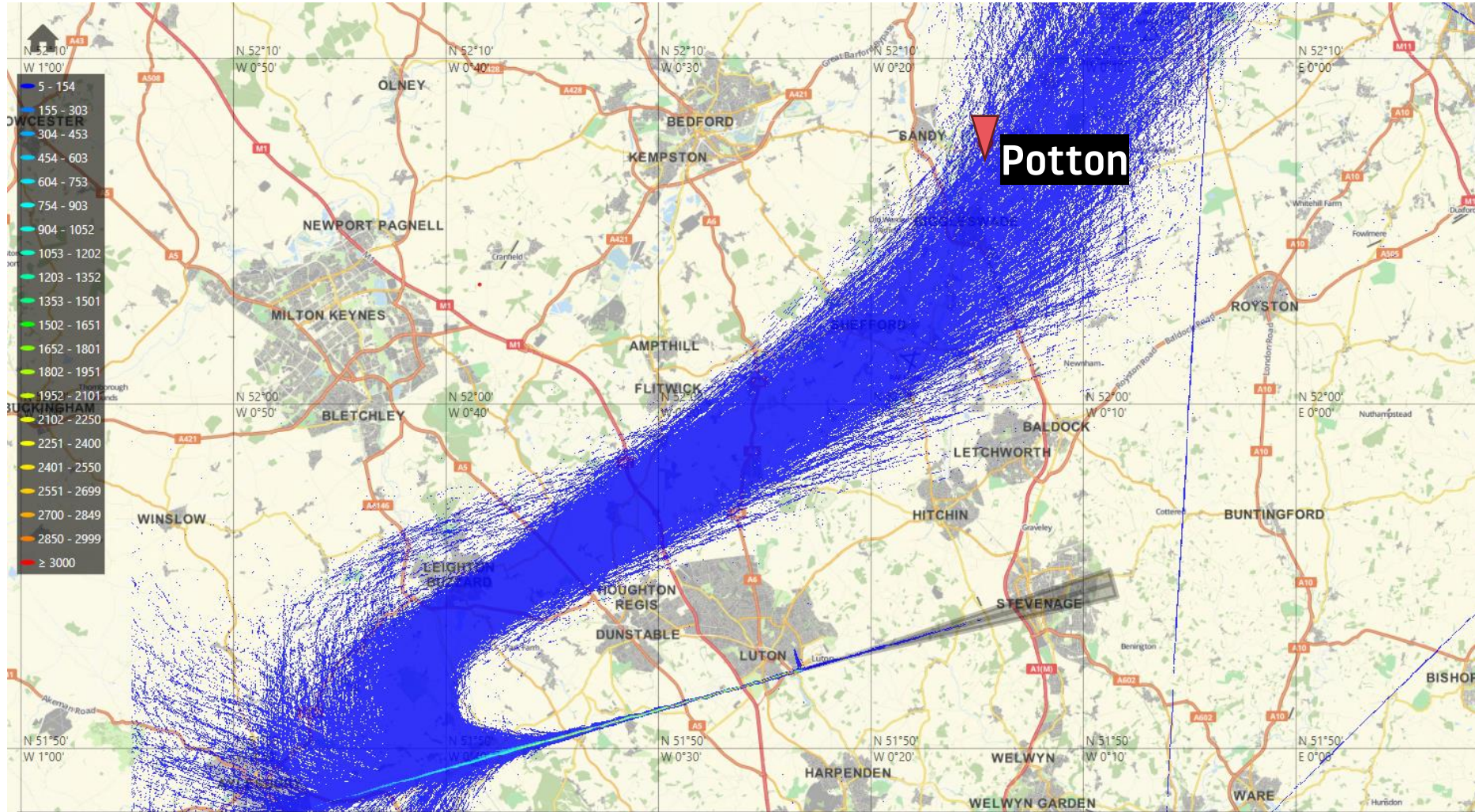
Operations during monitoring period

The graph below represents the average aircraft movement by hours during the monitoring period. Depending on the operating direction on the day, residents in Potton may experience different flight patterns. During the peak periods, residents of Potton may notice more frequent aircraft movements. In general, the morning peak starts at 7am on the days of arrival operations and more noticeable as the dwellings at this location are under the arrival's flightpath. During the night period of 23:00 – 06:59 in the monitoring period, there were an average of 18 arrivals.



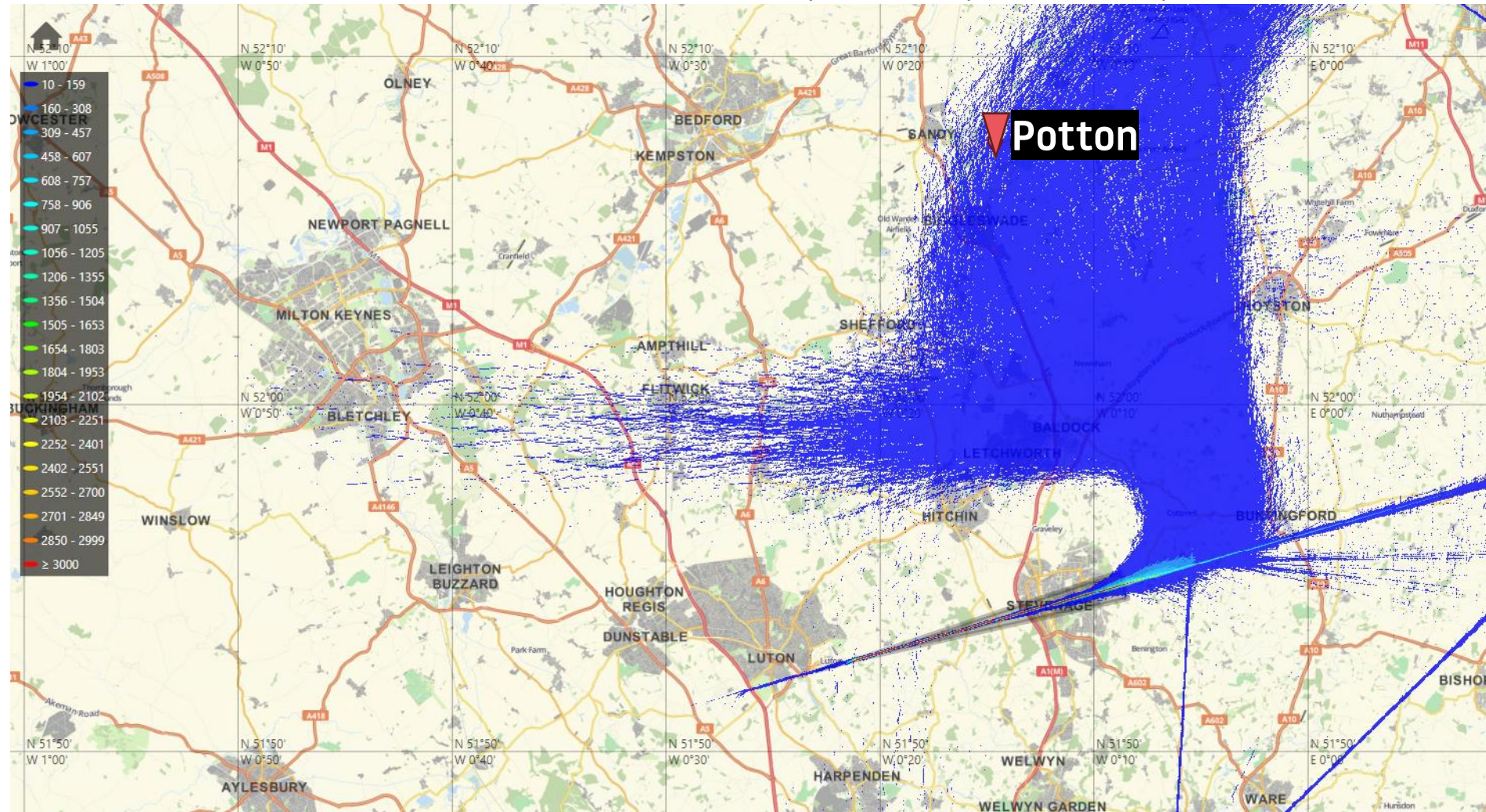
Aircraft Tracks

The heat map below show the representative flight tracks that passed near the noise monitor terminals during the monitoring period. The red pinpoint indicates the location of the noise monitor in Potton. This map shows the path of easterly arrivals.



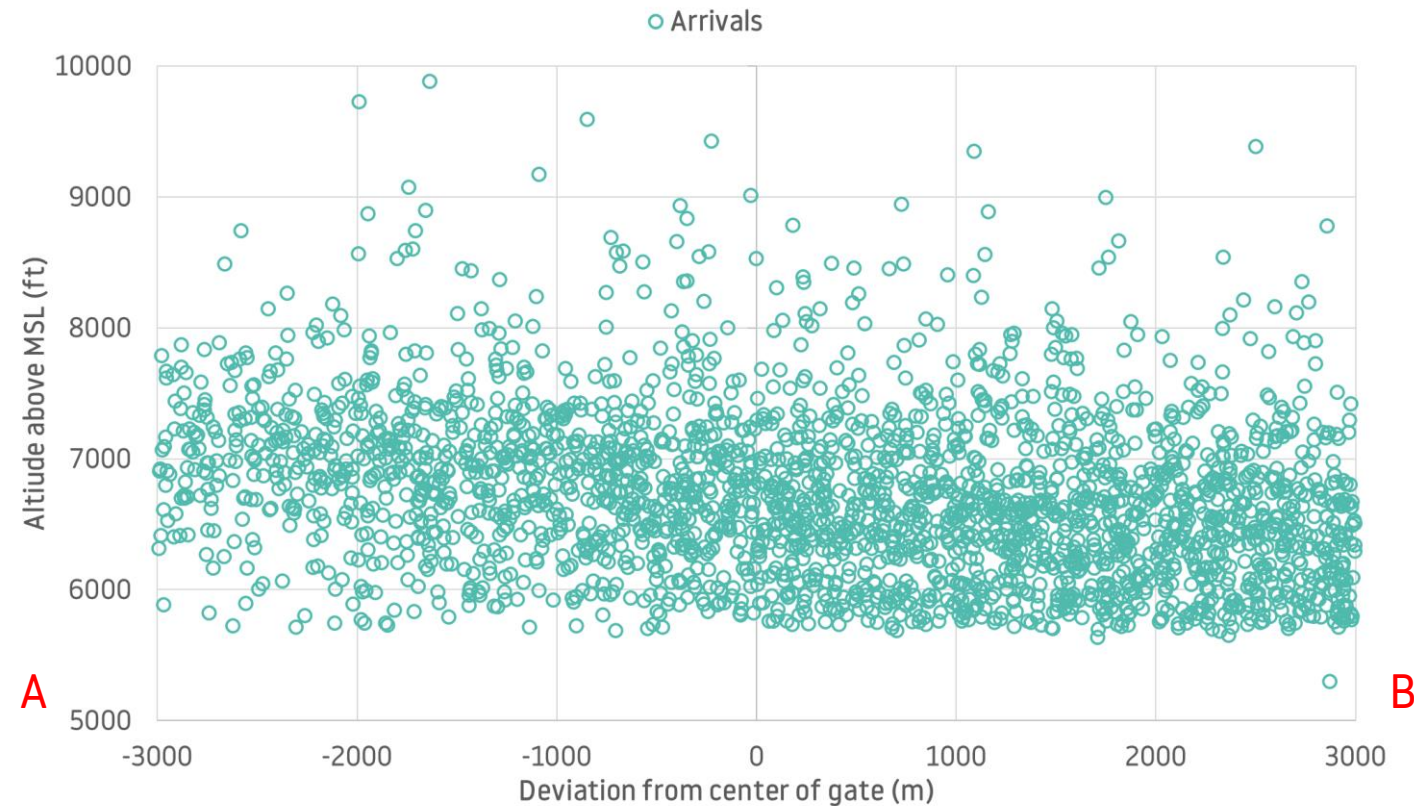
Aircraft Tracks

The heat map below shows the representative flight tracks that passed near the noise monitor terminals during the monitoring period. The red pinpoint indicates the location of the noise monitor in Potton. This map shows the path of westerly arrivals.



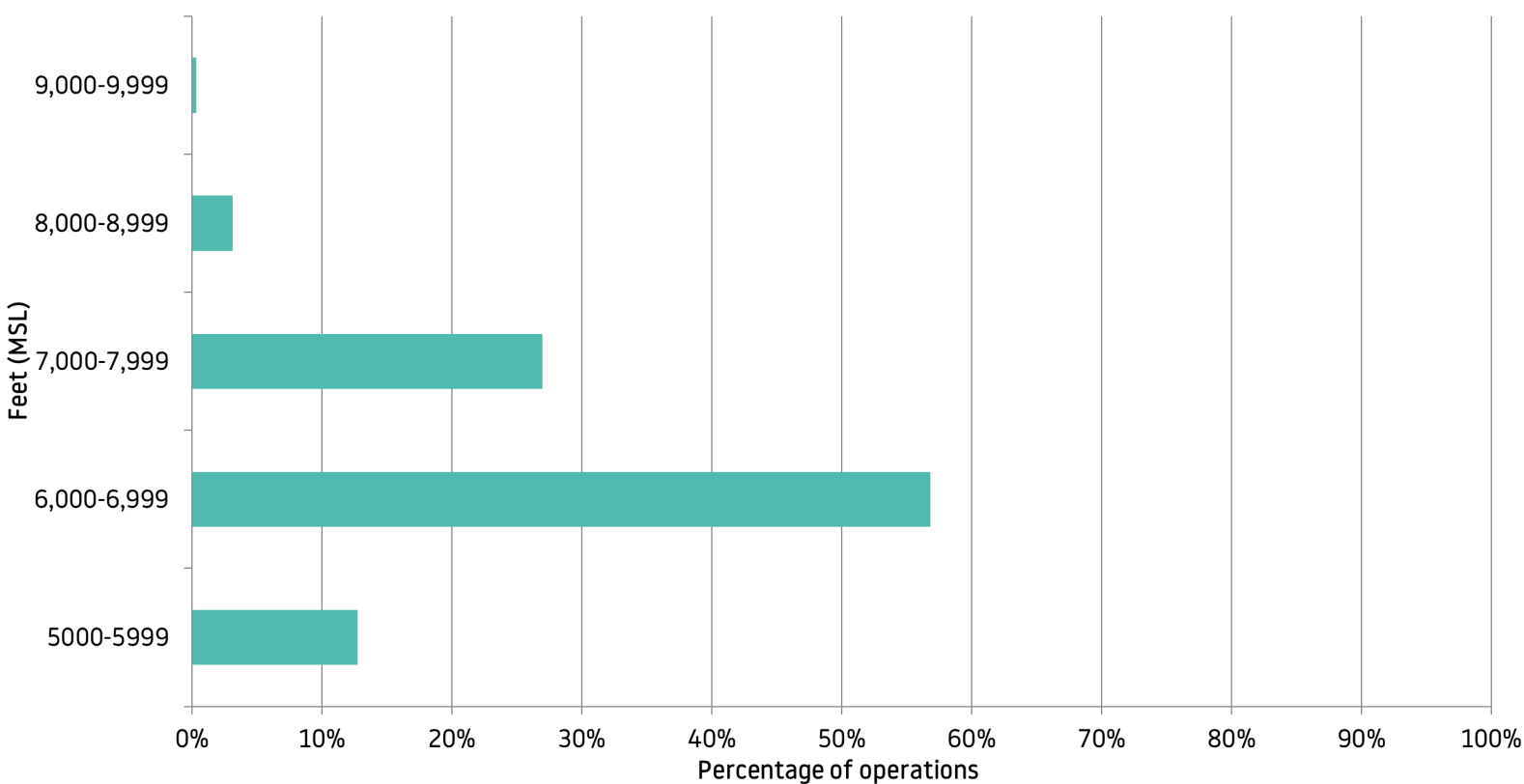
Altitude Gate Analysis

The altitude analysis for Potton, shows the vertical and lateral dispersion of aircraft 3km either side of the noise monitor. The map below shows the 6km gate (blue line in picture) which is drawn perpendicular to the NPR from northwest to southeast and it gathered information of every aircraft passing through the gate area. The scatter graph below shows the distance and altitude of aircraft from the noise monitor during the monitoring period.



Altitude Gate Analysis – Arrivals

The average altitude of aircraft was 6,728 feet AMSL (6,614 feet AGL) when they reach above the noise monitor at Potton. The bar chart on the below shows the percentage rate and altitude of aircraft arriving.



Aircraft Type	Number of movements detected	Average Altitude (AMSL in ft)
A306	20	6,807
A319	165	6,669
A320 CEO	458	6,769
A320 NEO (A20N)	278	6,708
A321 CEO	184	6,914
A321 NEO (A21N)	841	6,759
B737-800 NG (B738)	154	6,790
B737 Max 8 (B38M)	92	6,769
Global Express (GLEX)	35	6,526
Cessna 560X (C56X)	31	6,566
All	2,258	6,728

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 noise reading samples.

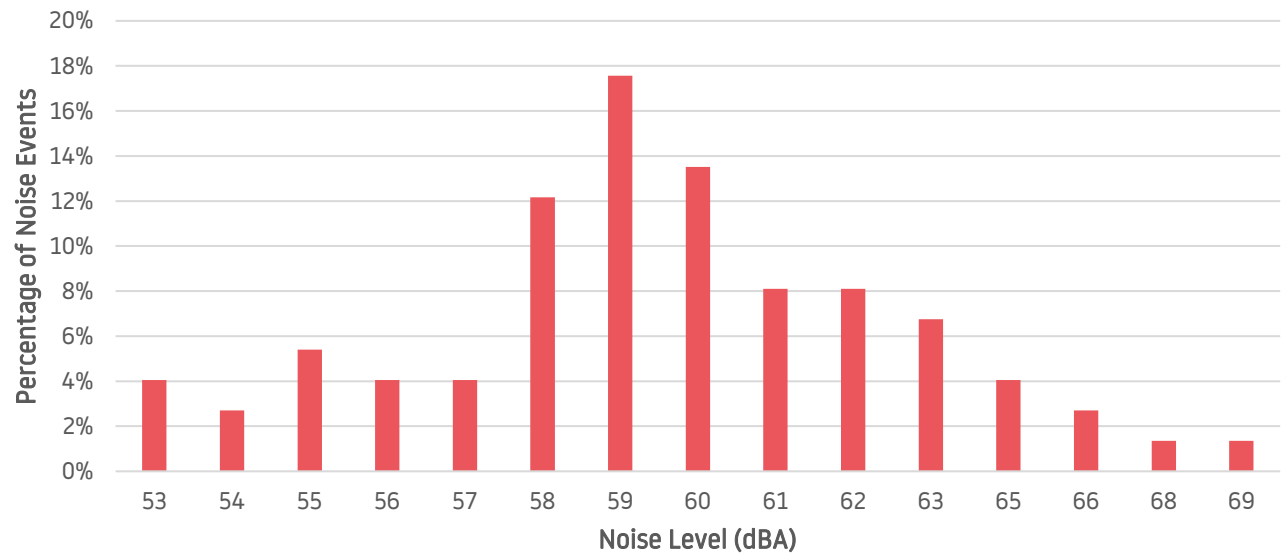
During the monitoring period in Potton, the noise monitoring terminal collected 127 readings. During the period, there were 13,486 arrivals.

It is noteworthy that the noise monitor may not be able to record every aircraft noise event if the aircraft noise level is below ambient background noise or aircraft following a different route and not through the gate selected. Therefore, there may be a difference between the number of actual air transport movements and number of aircraft noise events collected during the monitoring period.

The weather also plays a big part in the data recorded and in periods of extreme weather i.e (very strong winds) the equipment can record noise incorrectly, so we exclude samples from the analysis during these weather conditions. When analysing the samples, the first thing we do is to ensure that there is no unusual noise event present which might not be caused by aircraft (i.e. vehicles or wildlife). A total of 52 recordings were excluded from the analysis for the above reasons.

Noise Results – Arrivals

During the monitoring period, the noise recording samples were gathered and divided below into average of noise levels. The averages were divided up by Month, Day and Hour. The average noise level was 60.0dB during this monitoring period.



The graph shows the percentage of each dB captured within the monitoring period.

Due to aircraft being at a higher altitude at this location, a low number of aircraft noise events were captured and therefore wasn't sufficient data to compare aircraft types.

The average dB was 60.0dB during the monitoring period for the events that were captured.

Noise Results - Summary

- The average arrival noise in Pottton was 60.0dB
- The noise results during the monitoring period from 2nd December 2024 - 24th February 2025 were gathered and analysed.
- Due to the location of Pottton most activity was below ambient noise level and therefore not captured. Many aircraft types did not have any events captured; this will be because the noise of the aircraft was quieter than the general noise on the ground.
- The results that were captured were broken down into Month, Day and Hour.
- We will be looking to repeat another monitoring period in 2025 to gain more data.

Conclusion

- A mobile noise monitor was installed at a residential property on Carthage Road from the 2nd December to 24th February 2025.
- For Potters, it specifically related to arrivals. During the monitoring period, the airport operated in the direction of easterly and westerly for 29% and 71% of the time, respectively. Generally, over the year, LLA operate in the westerly direction for 70% of the time due to the prevailing wind.
- During the monitoring period, 53 aircraft were investigated as part of the Noise and Track violation scheme. Of these, 12 aircraft were fined. All fines generated by this scheme go directly into the community trust fund, more information on the community trust fund can be found on <https://www.london-luton.co.uk/corporate/community/community-trust-fund>.
- LLA publish other monitoring reports on a regular basis. These reports can be viewed and downloaded from the Noise webpage on the LLA website - <https://www.london-luton.co.uk/corporate/community/noise>.

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 route in the direction of South Luton.

Easterly Operations: Easterly operations refers to the time when the wind is blowing from the east and aircraft land on the easterly runway and would fly above South Luton.

Standard Instrument Departure (SID): Published route that an aircraft must follow on departure.

Noise Preferential Route (NPR): All aircraft except propeller aircraft leaving London Luton Airport should follow flight paths known as Noise Preferential Routes (NPRs) up to an altitude of 3,000 feet or 4,000 feet depending on the route. They lead from the runway to the main UK air traffic routes and form the first part of the Standard Instrument Departure routes (SIDs).

Aircraft Movement: A single aircraft departing or arriving at the airport.

Altitude Gate Analysis: A gate which is drawn across an area and will gather flight data 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.

95% Confidence Interval: A range of values that you can be 95% certain contains the population mean.

