

Departures Performance

Track Keeping

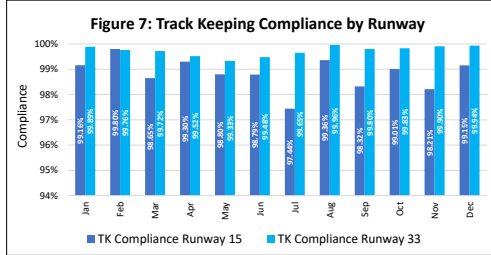
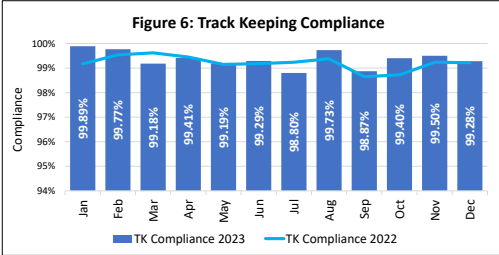


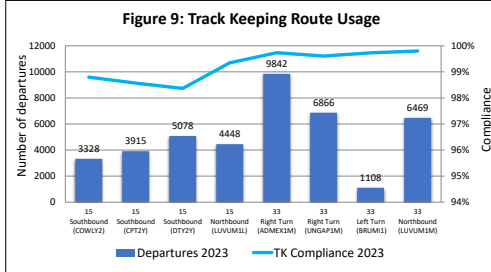
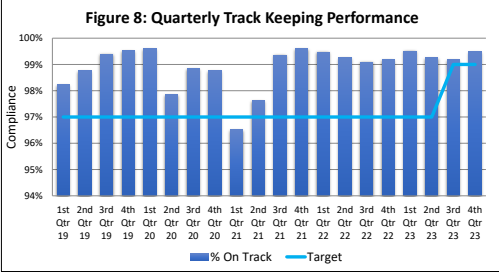
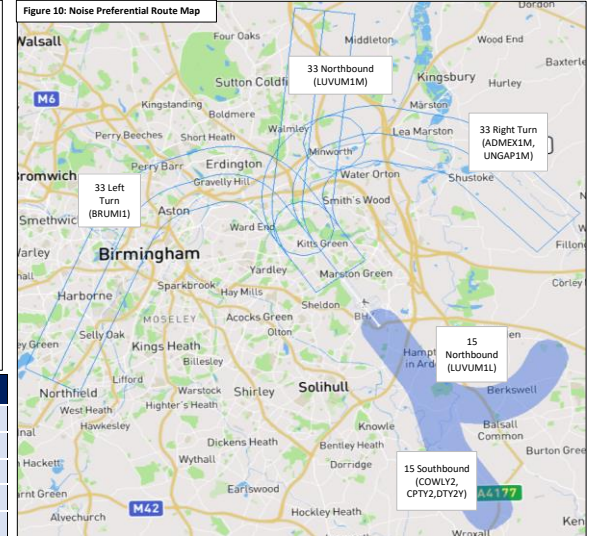
Figure 10 shows a map of the five noise preferential routes (NPRs) for departures in use at Birmingham Airport. The table below lists the altitudes up to which aircraft are required to stay within the noise preferential route, in order to be classified as 'on-track'. Once above the minimum vectoring altitude, air traffic control may provide pilots with vectors to facilitate a more direct path towards their destination.

Figure 6 shows the overall departure track keeping compliance for 2023 vs 2022. Track keeping compliance in Q4 2023 remained in excess of 99% in each month. Figure 7 shows rolling track keeping compliance by runway, with a marginal difference between R33 and R15, with track keeping compliance higher for operations departing from Runway 33. This is due to there being more total departures off R33, as seen in the Runway Statistics section of this report.

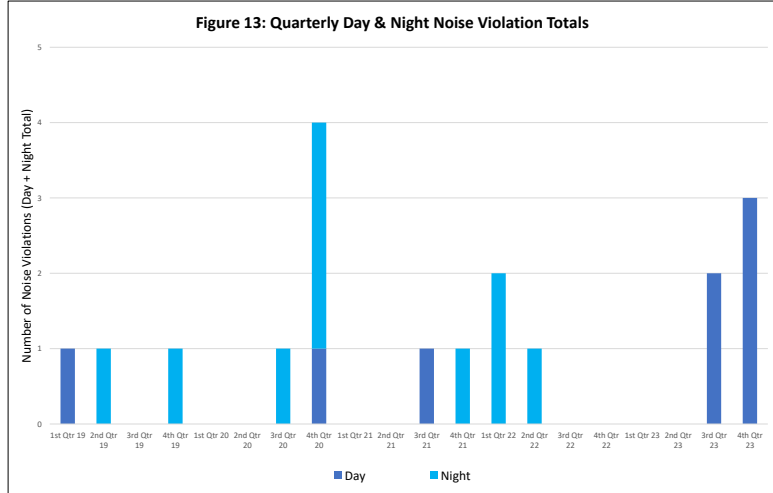
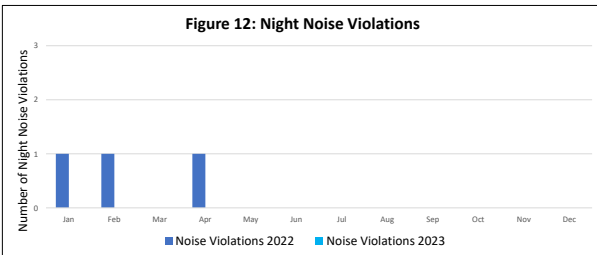
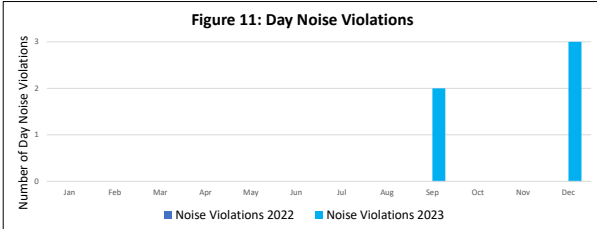
Figure 8 shows quarterly track keeping performance vs target. Track keeping has exceeded 96% consistently since 2018 and has met target for all quarters except Q1 2021. It should be noted that from Q3 2023 the track keeping target has risen from 97% to 99%.

Figure 9 shows 2023 route usage and the associated track-keeping compliance. Track keeping was above 98% for all routes. The routes most utilised were R33 Right-turn (ADMEX1M/UNGAP1M), R33 Northbound (LUVUM1L) and R15 Southbound (COWLY2, CPTY2, DTY2Y, WCOZY) consecutively.

Route	Minimum Vectoring Altitude
15 Southbound (COWLY2, CPTY2, DTY2Y)	4000 ft
15 Northbound (LUVUM1L)	3000 ft
33 Right Turn (ADMEX1M/UNGAP1M)	3000 ft
33 Left Turn (BRUM1)	3000 ft
33 Northbound (LUVUM1M)	3000 ft



Noise Violations



Birmingham Airport operates a fining regime for noisy aircraft departing from the airfield. There are two violation level limits: a daytime limit of 90dB(A), operational between 0600-2329 hours and a more stringent night-time limit of 83dB(A), operational between 2330-0559 hours. If a departing aircraft registers a noise level above this at our centreline noise monitors (Noise Monitors 1 and 2), the airline is surcharged an amount equivalent to a full runway charge, thus deterring noisier aircraft from operating. All funds from night noise violations are placed into the Community Trust Fund, a registered charity that benefits projects in the local community.

Figure 11 shows monthly daytime noise violations, comparing 2022 to 2023. There were no daytime noise violations in 2022. There were three daytime noise violations in the 4th Quarter of 2023. These were incurred by two Emirates A380 flights, the first measured 90.1dB at Noise Monitor 2 on 04/12/2023 at 13:56, the second 91.8 at Noise Monitor 2 on 12/12/2023 at 14:54. The third daytime noise violation was incurred by a military flight which registered 96.1dB at Noise Monitor 2 on 02/12/2023 at 14:54.

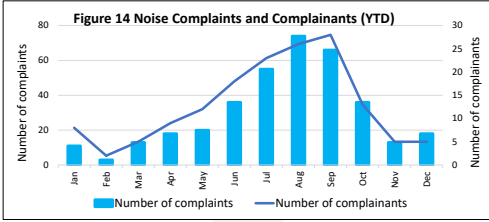
Figure 12 shows monthly night noise violations, comparing 2022 to 2023. There were three night noise violations in 2022, in January, February and April. There were no night noise violations in 2023. The airport has committed within the Noise Action Plan to investigating the feasibility of reducing the night noise limit to 81dB(A). This will be considered alongside the daytime noise limit as part of wider Night Flying Policy review work.

Figure 13 shows quarterly day and night noise violations from Quarter 1 2019 to Quarter 4 2023. There have been no night noise violations since Quarter 2 2022. Peak night noise violations occurred in Quarter 4 of 2020 with three night noise violations. Peak day noise violations occurred in Quarter 4 2023, with three.

Date & Time (GMT)	NMT	Max. Level (dB(A))	Flight No.	Runway	Aircraft	Paid (Yes/No)
02/12/2023 19:43	2	96.1	295	15	B703	No
04/12/2023 13:56	2	90.1	UAE40	15	A388	Yes
12/12/2023 14:54	2	91.8	UAE40	15	A388	Yes

Aircraft Activity Complaints

Complaints - 2023



In Quarter 4 2023, 67 aircraft complaints were received from 20 individual correspondents (complainants), who collectively contacted the airport on 42 separate occasions.

When compared to Quarter 4 2022 there has been an 8% increase in the number of aircraft complaints received and a 33% decrease in the number of complainants.

Figure 14 (left) illustrates the number of noise complaints received in each month of 2023, August saw the highest number of complaints (76) and September saw the highest number of complainants (28).

Figure 15 (below left) provides a breakdown of complaints and complainants by area of origin for 2023 Year to Date, for the top ten areas of complaint. Warwick was the area from which we received the most complaints in 2023 with 92 complaints from 1 complainant.

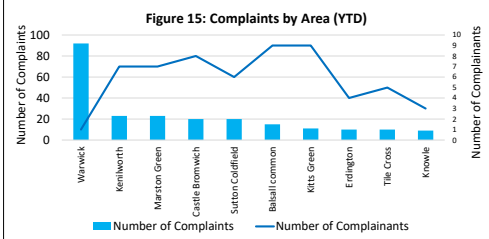
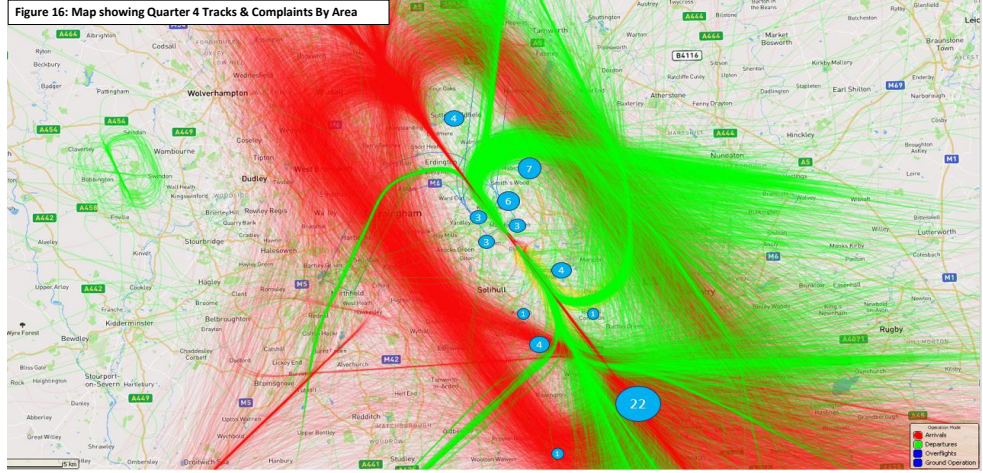


Figure 16 (right) is a map showing the distribution of individual complainants, as well as the tracks of all movements in Q4 2023.

It should also be noted that during Q4 2023, one persistent complainant has been excluded from the statistics in the figures shown, as per the Birmingham Airport Complaints Policy and as reported to the Airport Consultative Committee. This one complainant registered a further 6 complaints regarding aircraft in Q4 2023.



Complaints - Trend Analysis

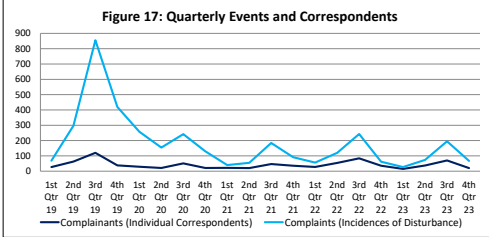
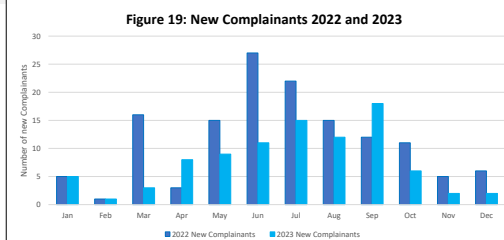
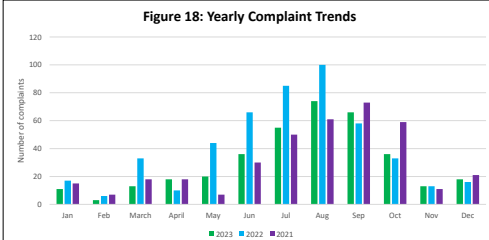


Figure 17 (left) shows quarterly complaints and complainant numbers and trends over a five year period, showing a peak in complaints and complainants at Q3 2019.

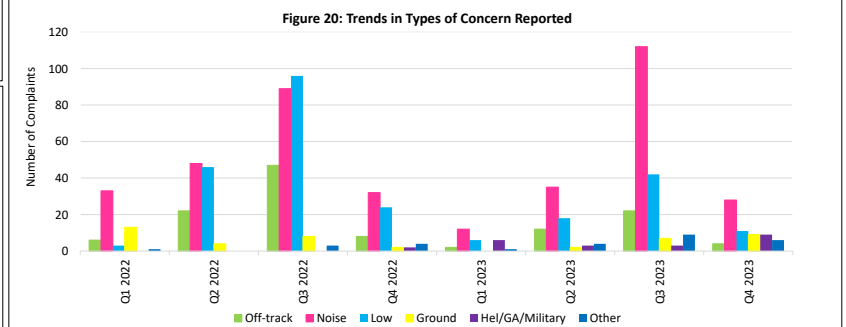
Figure 18 (below left) shows a comparison between the number of complaints per month for 2023, 2022 and 2021. October & December shows a slight increase in complaints compared to 2022, with November the same as 2022.

Figure 19 (below) shows the number of new complainants for 2022 and 2023, with the largest number of new complainants seen in June 2022 (27). New complainants for October, November and December decreased in 2023 compared with 2022.

Figure 20 (below right) shows noise complaints broken down by concern category (Noise, Off-Track, Low Flying Aircraft, Ground Noise, Helicopter/General Aviation/ Military, Other) by quarter. In Q4 2023 the category with the most complaints was Noise (aircraft noise) with 28 complaints, the category with the fewest complaints was Off-Track with 4. The table (right) shows noise complaints by concern category reported, this year vs last year rolling.



Concern Type	1st Qtr 2023	1st Qtr 2022	2nd Qtr 2023	2nd Qtr 2022	3rd Qtr 2023	3rd Qtr 2022	4th Qtr 2023	4th Qtr 2022	Last 12 months	Previous 12 Months
Off Track	2	6	12	22	22	47	4	8	40	83
Noise	12	33	35	48	112	89	28	32	187	202
Low	6	3	18	46	42	96	11	24	77	169
Ground Noise	0	13	2	4	7	8	9	2	18	27
Hel/GA/Military	6	0	3	0	3	0	9	2	21	2
Other	1	1	4	0	9	3	6	4	20	8
TOTAL	27	56	74	120	195	243	67	72	363	491



Airlines & Air Traffic

Airline Noise Performance

Rank by ATM	Airline Name	Total Movements	CDA Performance	Rank (CDA)	Track Keeping Performance	Rank (TK)
1	Ryanair	3929	96.99%	1	99.73%	2
2	Jet2	2636	95.92%	3	99.70%	5
3	TUI	2171	95.04%	4	99.72%	3
4	Easyjet	1456	91.35%	7	100.00%	1
5	Lufthansa	967	86.72%	17	99.59%	7
6	KLM Royal Dutch	799	92.02%	5	99.73%	2
7	Emerald Airlines (UK)	699	88.86%	14	99.43%	10
8	Logan Air	689	88.08%	16	99.71%	4
9	Easy Jet Europe	659	89.70%	9	99.70%	5
10	Air France	562	76.18%	20	99.64%	6
11	Aer Lingus	461	91.77%	6	99.57%	8
12	Emerald Airlines	405	89.60%	10	100.00%	1
13	Turkish Airlines	370	96.76%	2	99.46%	9
14	Emirates	369	84.32%	18	99.46%	9
15	Eurowings	315	89.24%	11	99.36%	11
16	Wizz Air Malta	260	89.23%	12	99.23%	12
17	Zimex Aviation	253	88.10%	15	100.00%	1
18	Brussels Airlines	252	82.54%	19	100.00%	1
19	Wizz Air	242	90.08%	8	100.00%	1
20	Qatar Airways	183	89.01%	13	97.83%	13

The table to the left shows airline noise performance. Airlines are ranked by the number of movements for Q4 2023. The ranking within each metric is also presented.

The methodology used to calculate the two metrics that form the airline noise performance table are described below. In order to drive continuous improvement and to help showcase airline performance in relation to noise, this table has been developed and is presented to airlines on a quarterly basis through the Operation Pathfinder programme. In collaboration with airlines, we have identified operational metrics which are being monitored and reported against. These metrics will develop over time in collaboration with the airlines. Please note, from Q3 2023 our track keeping target has been increased from 97% to 99%.

Continuous Descent Approaches (CDA) and Track Keeping (TK) are operational metrics. Airlines with more than ten movements per week during Q3 2023 are included in the ranking. Airlines with CDA or Track Keeping performance in green have met our CDA (96%) and Track Keeping (99%) targets. Airlines with CDA or Track Keeping performance in the red or amber range will be considered as a priority for engagement and we will work with them to improve their operational performance.

Continuous Descent Approaches (CDA) Performance is the first operational metric in the airline noise performance table and relates to the vertical profiles flown during arrival. CDA performance is equal to the proportion of arrivals that meet the criteria for CDA, i.e., no level segment longer than 2.5 nautical miles below the altitude of 7,000ft. Continuous descent approaches reduce the noise impact because they require significantly less engine thrust, which leads to reduced emissions of air pollutants and noise, with the aircraft staying higher for longer. Airport-wide CDA performance will also be presented separately in this report.

RAG definition: **Green** ≥ 96% **96%** < **Amber** ≤ 85% **Red** < 85%

Track Keeping (TK) Performance Track keeping performance is the second operational metric in the airline noise performance table and applies to the lateral departure track. All departures are required to stay within the Noise Preferential Routes (NPRs) designed to take departing aircraft over the least populated areas. Track keeping performance is equal to the proportion of departures that stay within the NPRs until they reach the required altitude of 3,000ft or 4,000ft depending on the route. Airport-wide Track Keeping performance is also presented separately in this report.

RAG definition: **Green** ≥ 99% **99%** < **Amber** ≤ 95% **Red** < 95%

Runway Statistics

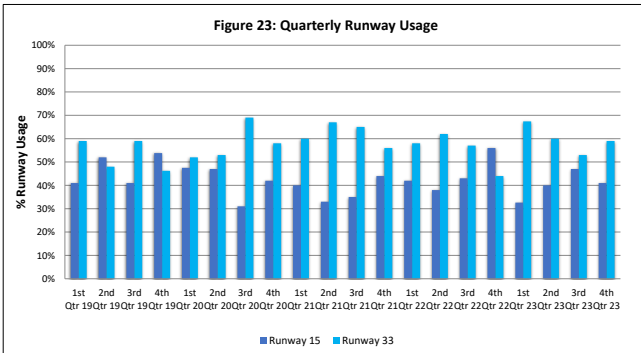
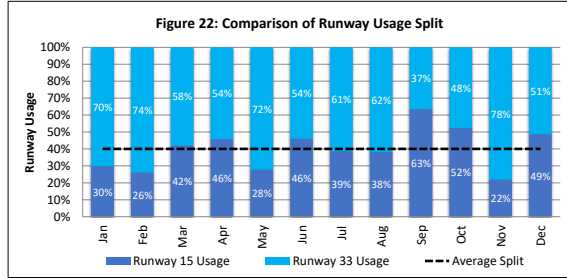
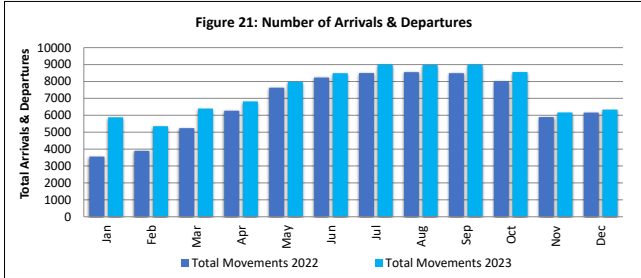


Figure 24 (right) Birmingham Airport has one runway which operates in two directions, known as Runway 15 and Runway 33; the direction of operation is primarily dependent upon meteorological conditions.

Where winds are below five knots, we operate our 'Preferential Runway' Policy, this is when Air Traffic Control will generally direct arrivals onto Runway 33 to minimise the risk of wake vortex strikes. Wake vortices are rotating columns of air generated by arriving aircraft as they pass through the air. Infrequently and in certain still, calm conditions they can cause damage to roofs. Although vortex strikes are rare, the Preferential Runway Policy minimises the risk to the large number of properties located to the north of the airport underneath the R15 centreline by directing arrivals onto R33, where there are very few properties at risk. Taken together, wind direction and the Preferential Runway policy explain why Runway 33 is utilised more than Runway 15.

Figure 21 (top left) shows the total number of air transport movements (ATMs) (both arrivals and departures) for 2022 and 2023. There has been an increase in movements for all months in Q4 of 2023 vs 2022.

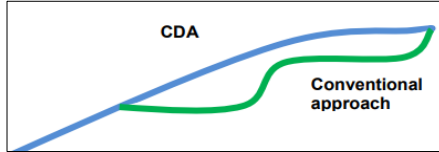
Figure 22 (top middle) shows monthly runway usage for 2023. The average split (dotted line) is also shown. For 2023 the average split is 40% R15 and 60% R33.

Figure 23 (bottom left) shows quarterly runway usage over a 5-year period. Over Q4 of 2023 the average runway split is 41% R15 and 59% R33. The number of Air Traffic Movements (ATMs) by runway for the 4th Qtr 2023 was 8,921 ATMs on runway 15 and 12,132 ATMs on runway 33.



Arrivals Performance + Helicopters

Continuous Descent Approaches (CDA)



Aircraft operate a Continuous Descent Approach (CDA) staying higher for longer, by descending at a continuous rate. CDAs require less engine thrust, reducing air pollutant and noise emissions. CDA compliance in Q4 2023 remained somewhat similar to that of the previous quarter, as shown in **Figure 25 (Left)**, but saw notable decreases in compliance in the months of November and December. The Sustainability Team continues engage with airlines through the Operation Pathfinder Forum to drive improvement in both arrivals and departure performance.

Figure 26 (bottom-left) provides a breakdown of CDA performance by Runway for 2023. Runway 33 arrivals generally had a higher degree of compliance than that of Runway 15 arrivals in 2023.

Figure 27 (bottom-right) shows CDA performance by quarter dating back to the first quarter of 2019. There was a slight decrease in compliance over the 4th Quarter of 2023 compared with the 3rd Quarter of 2023, however compliance levels remained the same as the 4th quarter of 2022 with 91% respectively.

Figure 25: CDA Compliance

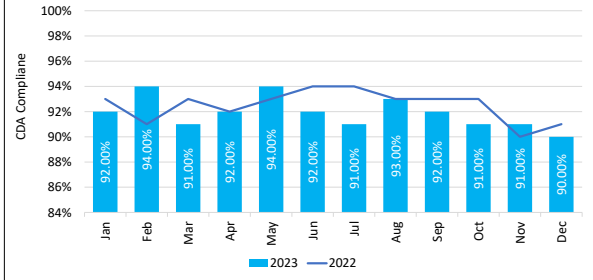


Figure 26: CDA Compliance by Runway

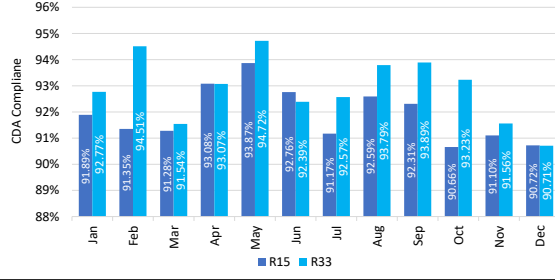
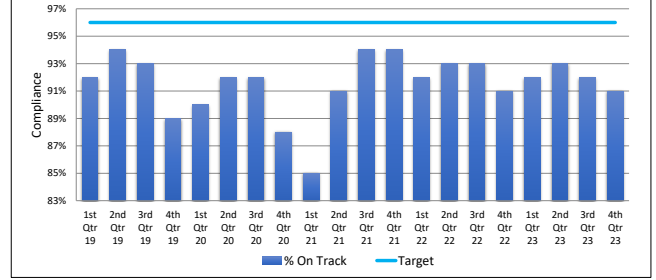


Figure 27: Quarterly CDA Performance



Helicopter Movements

Although helicopters have no set routes that they are required to follow, in recognition of the community sensitivity around helicopter noise BAL has implemented a noise abatement policy for helicopter operations. This policy states that 'Helicopters should, except in the case of an emergency, avoid overflying the noise sensitive area at less than 500 feet AAL (Above Aerodrome Level). This area extends between 230° and 290° from the Western end of stand 506, to a distance of 0.5 NM and covers the area of Elmdon and parts of Sheldon. Helicopters are also required to abide by the low flying rules, which require the helicopter to operate at a minimum height of 500 feet for rural areas and 1500 feet for built up areas. Exceptions to low flying rules do apply, including upon landing or take-off, utility network surveys and police helicopter movements.

Figure 29 shows quarterly helicopter movements since the start of 2021, with a breakdown of the split between those within the night period (23:30-06:00) and those within the daytime (06:00-23:30). The second quarter of 2023 saw the highest number of helicopter operations with 344 in the day and 111 at night.

Figure 30 shows a breakdown of all 2023 helicopter movements by category. Police helicopters accounted for the largest proportion of movements with 46% of all helicopter operations being police operated in 2023.

The below table shows a summary of total helicopter ATM's by category and calendar year, from 2018 to 2023. Data shows that from 2019 to 2022 the most notable increase (98%) is in police helicopter operations. The Birmingham National Police Air Service (NPAS) have commented that 'Each flight conducted is due to an operational policing need to support and assist the public to combat crime or assist with saving life in finding vulnerable people. Members of the Police Helicopter Unit are indeed mindful that their operations can have an impact on local communities.' Police helicopter movements have decreased in

Operation Category	Year					
	2018	2019	2020	2021	2022	2023
Air Ambulance	0	4	2	2	1	5
Military	4	6	1	2	12	2
Training & Engineering	2	4	4	6	8	5
Search & Rescue	0	0	0	0	6	22
Displays and Events	0	0	0	1	3	4
Pipeline Surveying	15	30	11	5	12	24
Police	742	574	685	774	1158	863
Private Charter	25	18	2	15	18	28
Private Owner	104	229	151	259	254	286
Total	892	865	856	1064	1472	1239

Figure 29: Quarterly Helicopter Movements

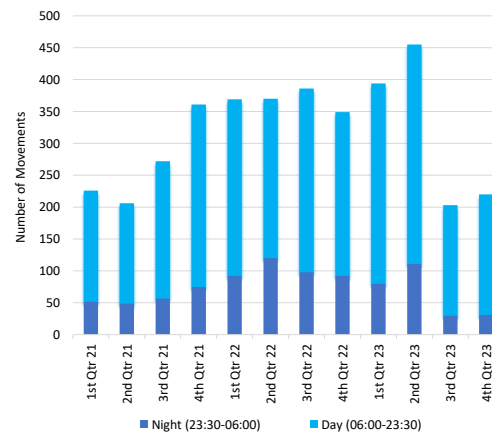


Figure 30: Helicopters by Operation Category Q4 2023

