London Gatwick Airspace Office 2023 Annual Report

This report covers the period 1st January – 31st December 2023

LONDON GATWICK

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Executive Summary

This comprehensive report provides essential insights into noise levels, track keeping, and airfield performance, offering a detailed overview of London Gatwick's operational landscape throughout the year.

During 2023, there was a consistent rise in air traffic movements across all four quarters when compared to 2022. The most substantial growth occurred during the first quarter of 2023, with an 80% increase in movements compared to the same period in 2022. Short-haul travel maintained its growth trajectory from the previous year, while long-haul travel experienced a substantial 32% increase compared to the preceding year. The Airline Noise Performance Table reflects this through the inclusion of 6 additional airlines.

London Gatwick operated 256,831 air traffic movements in 2023, which represented an 18% increase compared to the previous year. These movements accounted for 90% of the traffic movements in 2019.

Passenger numbers followed a similar trend. In 2023, a total of 40.9 million passengers travelled through the airport, marking a substantial 24% increase from 2022. During the 2023 summer season, there were 11,830 night flights conducted during core hours. Furthermore, in the 2023/2024 winter season night period, 1,009 night flights occurred up to the year-end.

Regarding noise complaints, 10,794 complaints were recorded in 2023, submitted by 545 individual complainants. These figures represent a 34% reduction in complaints and an 18% reduction in the number of complainants compared to the previous year. When compared to the baseline year of 2019, there was a 58% reduction in complaints and a 22% reduction in the number of complainants. A new process for the breakdown of complaints by category was launched in January the output of which can be found on page 33. The drive by the Airspace Office to improve reporting and intensify its airline engagement effort is providing demonstrable impact with airlines and consequently benefiting local communities.

The Airspace Office continued to carefully monitor all aircraft activity, complete the relevant noise abatement compliance reporting, record and monitor noise levels through our network of Noise Monitoring Terminals, provide responses to noise complaints and requests for information, and monitor and report compliance with the night flying restrictions applicable to the airport. In addition, the airport continued to implement its Section 106 obligations and selected actions from our Noise Action Plan and support the delivery of the Noise Management Board workplan.

In late March, construction commenced on a new Rapid Exit Taxiway (RET). Consequently, the Main Runway underwent night-time closures, prompting increased utilisation of the Northern Runway during the summer period. However, as traffic volumes subsided toward year end, the usage of the Northern Runway decreased. The ongoing RET construction, extending into 2024, aims to enhance operational efficiency by reducing runway occupancy times. Specifically, the RET will facilitate more expeditious aircraft runway exits upon landing.

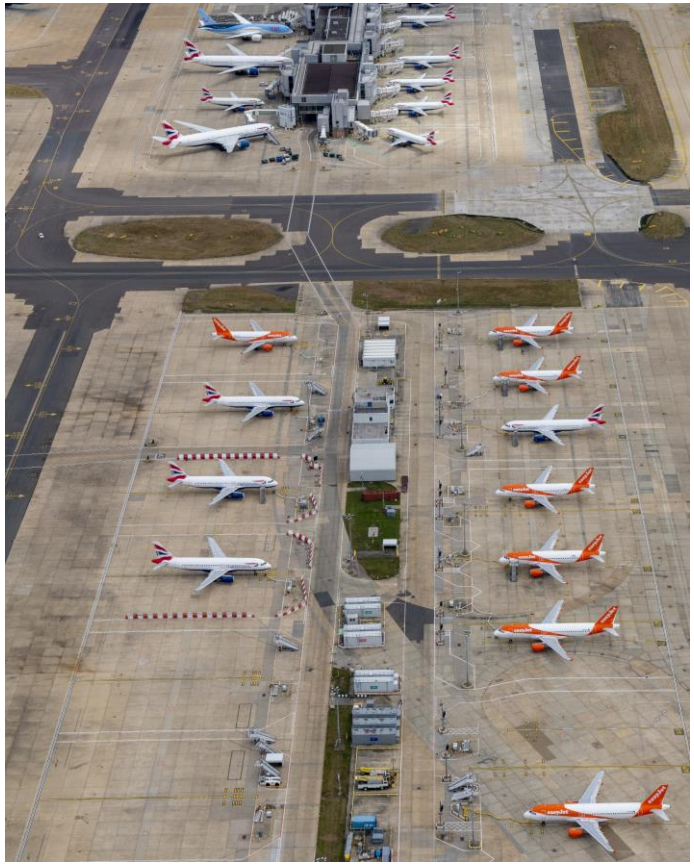
In addition to the routine reports and updates provided to the Noise and Track Monitoring Advisory Group (NaTMAG), and the Noise Management Board (NMB), we recently introduced a dynamic Airspace and Noise Performance Dashboard on our website. These dynamic reports not only showcase the Aircraft Noise Performance Tables (ANPT) featured in our standard reporting but also include dedicated dashboards for Track Keeping and Continuous Descent Operations. Users can delve into detailed data related to individual airline performance. This valuable resource enables local communities to gain deeper insights into the levels of aircraft activity occurring at London Gatwick.

Airspace Office

London Gatwick

About this report

This report is produced by the London Gatwick Airspace Office. This team is responsible for recording, investigating and responding to aircraft noise enquiries as well as monitoring airline compliance with the noise mitigation measures as detailed in the UK Aeronautical Information Publication (AIP). The team also actively engages with airlines to help improve their adherence to the stipulated noise mitigation measures and in addition manages the night-time flying restrictions at London Gatwick. This report contains detailed data on aircraft activity at London Gatwick including the adherence to the noise mitigation measures detailed in the UK AIP, an airline noise performance table, a report on night flying during the period, and an analysis of noise complaints received during the period. Footnotes are explained in the Annex to provide insight into the regulatory basis of the reported figures.



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Gatwick Key Statistics 2023

- Total passengers: 40.9 million
- Aircraft movements: 256,831
- Total number of aircraft seats: 48.6 million
- Average load factor: 84.1%
- Biggest airline: EasyJet carrying 19m passengers
- Long haul passengers: 14%

Performance Summary

Key Performance Indicators

This section details how the airport is performing according to a suite of Key Performance Indicators (KPIs), the change in traffic numbers over the course of the year and provides information of the types of aircraft and airlines which operate at the airport. The KPIs are in line with the noise mitigation measures set out in the UK Aeronautical Information Publication (AIP).

KPIs	Q1 2023	Q1 2023 vs Q1 2022		Q2 2023	Q2 2023 vs Q2 2022		Q3 2023	Q3 2023 vs Q3 2022		Q4 2023	Q4 2023 vs Q4 2022	
Total Aircraft Movements	50,548	↑	79.59%	68,645	↑	8.44%	77,205	↑	8.16%	60,433	↑	9.59%
Percentage of Chapter 14 Aircraft	63.18%	↑	7.15%	65.60%	↑	6.28%	62.58%	↓	-0.96%	60.96%	↓	-3.24%
Percentage of Chapter 4 Aircraft & Above	99.85%	↕	0.00%	99.85%	↑	1.07%	99.89%	↑	0.79%	99.92%	↑	0.41%
Percentage of Chapter 3 & Below Aircraft	0.03%	↑	0.02%	0.08%	↑	0.04%	0.02%	↓	-0.04%	0.02%	↓	-0.04%
Continuous Descent Operations (CDO) Performance	89.79%	↓	-1.94%	89.22%	↑	2.14%	88.21%	↑	0.43%	88.39%	↓	-1.44%
Track Keeping Conformance	98.24%	↓	-0.57%	91.94%	↓	-5.51%	85.76%	↓	-11.33%	91.30%	↓	-5.57%
Total Noise Infringements	0		0	0		0	0		0	0		0
Noise Complaints Received	1836	↓	-36.29%	2939	↓	-117.39%	3964	↓	-22.98%	2055	↑	2.04%
Individual Complainants	81	↓	-22.86%	233	↓	-5.28%	427	↓	-2.73%	103	↓	-6.36%
Enquiry Response Performance Target is 95% Within 8 Days	99.89%	↑	0.39%	98.43%	↓	-0.19%	95.80%	↑	0.37%	98.80%	↓	-0.30%

Figure 1: Summary of KPIs

Performance Summary

Key Performance Indicators – five-year view

This KPI table shows the last 5 years of statistics in line with the noise mitigation measures of the UK Aeronautical Information Publication (AIP).

	12 Month Performance								
Parameter	2023	2023 vs 2022	2022	2022 vs 2021	2021	2021 vs 2020	2020	2020 vs 2019	2019
Track keeping performance (% on track)	91.17%	-6.36%	97.36%	-0.86%	98.20%	-0.29%	98.49%	0.07%	98.42%
24hr CDO (% achievement)	88.83%	0.25%	88.61%	-2.51%	90.89%	1.45%	89.59%	0.01%	89.58%
Day/Shoulder CDO (% achievement)	89.04%	-0.17%	89.19%	-1.92%	90.94%	1.28%	89.79%	0.09%	89.70%
Core night CDO (% achievement)	87.11%	3.91%	83.83%	-6.93%	90.07%	5.05%	85.74%	-2.53%	88.27%
1000ft Infringements (No.)	1	100.00%	0	N/A	0	N/A	0	N/A	0
Departure Noise Infringements	0	N/A	0	N/A	0	0.00%	0	0.00%	1
Individual Complainants	545	-17.92%	664	161.42%	254	-18.85%	313	-55.16%	698
Total Noise Complaints Received	10,794	-34.31%	16,431	224.21%	5,068	-23.54%	6,628	-74.10%	25,593
Enquiry Response Performance Target is 95% Within 8 Days	97.70%	-1.41%	99.10%	-0.88%	99.98%	0.49%	99.49%	21.86%	77.63%
Percentage of Chapter 4 (or equivalent) aircraft %	99%	0.00%	99%	0.00%	99%	0.00%	99%	1.00%	98%
Percentage of Chapter 14 aircraft %	63%	1.61%	62%	6.90%	58%	-12.12%	66%	4.00%	62%
West/East Runway Split (%)	70/30	N/A	66/34	N/A	68/32	N/A	83/17	N/A	68/32
Total Air Traffic Movements	256831	18.07%	217524	293.89%	55225	-30.37%	79310	-72.15%	284736

Figure 2: Summary of Annual KPIs

Performance Summary
Comparison to Noise Action Plan 2016 Baseline

Parameter	+/-	12 Month Performance Averages[1] 2023	2022	2019	2016	2006
Track Keeping Performance (% On Track)[2]	▼	91.17%	97.36%	98.42%	98.56%	98.17%[3]
24hr CDO (% Achievement)[4]	▲	88.83%	88.61%	89.58%	88.58%	80.79%
Day/Shoulder CDO (% Achievement)	▼	89.04%	89.19%	89.70%	88.18%	79.90%
Core Night CDO (% Achievement)	▲	87.11%	83.83%	88.27%	92.90%	89.60%
1,000ft Infringements (No.)	▲	1	0	0	0	11
Departure Noise Infringements (Day)	-	0	0	1	0	10
Departure Noise Infringements (Night/Shoulder)	-	0	0	0	1	2
Individual Complainants	▼	545	664	698	2,324	587
Total Noise Complaints Received[5]	▼	10,794	16,431	25,593	17,715	4,791
Enquiry Response Performance Target is 95% Within 8 Days	▼	97.70%	99.10%	77.63%	46.55%	-
West/East Runway Split (%)	-	70/30	66/34	68/32	67/33	68/32

Figure 3: Summary of 2023 and 2022 KPIs against the 2016 NAP Baseline

[1] The colour indicates the most recent 12-month performance compared to the 2016 NAP Baseline, with green showing improvement and red a decline in performance, the directional arrow indicating performance compared to the previous 12-month performance.

[2] Track keeping statistics measurement changed on the 26th May 2016 due to the Route 4 amendment, all SIDs are now included in the total figure.

[3] This figure did not include deviations from prop types or those due to weather.

[4] As a result of the Independent Review of Arrivals, it was recommended (Imm-05) that the CDO monitoring altitude be increased from 6,000ft to 7,000ft as of 1st August 2016.

[5] Complaints are recorded in line with our published Complaints Handling Policy. The revised policy, published in November 2014, advised that only one complaint per day is recorded per individual. On the 29th September 2016, there was a further revision to our Complaints Handling Policy which now allows individuals to make multiple complaints per day and these will each be recorded. It is important to note that, since January 2018, complaints which have been deleted from the NTK system are no longer counted in the complaint statistics when they had been previously. Complaints are only deleted if they contain abusive, obscene or threatening language.

Airline Noise Performance Table

In order to drive continuous improvement and to help showcase airline performance in relation to noise, London Gatwick issues a quarterly Airline Noise Performance Table (ANPT), comparing operators' performance against strategic and operational metrics. This report presents the ANPT for all of 2023. Carriers with an established base at London Gatwick are highlighted in **bold.**

Rank by ATMsp	Airline name	Total movements	QC/Seat	Rank (QC)	CDO performance	Rank (CDO)	TK conformance*	Rank (TK)
1	**EasyJet**	125,316	**0.00173**	7	94.79%	3	99.67%	18
2	Vueling	17,233	**0.00182**	9	86.00%	11	99.62%	20
3	**BA EuroFlyer**	16,937	**0.00197**	13	84.54%	13	99.50%	25
4	**TUI Airways**	13,790	**0.00246**	24	87.98%	8	99.62%	21
5	**British Airways**	13,129	**0.00311**	28	90.64%	5	99.12%	29
6	Norwegian	10,944	**0.0034**	30	90.61%	6	99.30%	28
7	Ryanair	7,520	**0.00248**	25	97.85%	1	99.72%	16
8	**WizzAir UK**	6,807	**0.00159**	5	87.43%	9	99.61%	22
9	Aurigny	4102	**0.00223**	18	92.49%	4	99.80%	14
10	Wizz Air Malta	3555	**0.00169**	6	60.35%	28	99.30%	27
11	WizzAir Hungary	3187	**0.00176**	8	60.51%	27	99.71%	17
12	Aer Lingus	3050	**0.00212**	15	84.00%	14	99.60%	23
13	TAP Portugal	2504	**0.00225**	19	72.12%	23	99.84%	12
14	Turkish Airlines	2251	**0.00194**	12	86.23%	10	100.00%	1
15	Emirates	2194	**0.00236**	20	73.56%	22	100.00%	1
16	**Norse Atlantic Airways**	2194	**0.00201**	14	97.81%	2	99.42%	26

Airlines are ranked by number of flights. The ranking within each metric is presented. The threshold for inclusion is an average of 10 movements per week.

In the 2023 ANPT, there are an additional 6 airlines compared to the previous year. These are all new or returning airlines to Gatwick.

In total, the Airspace Office conducted 21 airline engagement meetings in 2023. These meetings give the opportunity for the metrics included in this table to be discussed, as part of a wider conversation to help drive continuous improvement.

* Route 4 excluded from TK conformance.

Figure 4a: Airline Noise Performance Table

Rank by ATMs	Airline name	Total movements	QC/Seat	Rank (QC)	CDO performance	Rank (CDO)	TK conformance*	Rank (TK)
17	Eastern Airways	1837	0.00188	10	77.48%	17	99.67%	19
18	JetBlue	1518	0.00242	21	76.55%	18	99.86%	10
19	Air Europa	1458	0.00357	31	56.24%	29	99.59%	24
20	Air Transat	1452	0.00242	22	76.03%	20	99.82%	13
21	Air Baltic	1448	0.0013	3	82.46%	15	100.00%	1
22	Iberia Airlines	1366	0.00218	16	71.60%	24	99.85%	11
23	SunExpress	1056	0.00266	26	51.52%	30	100.00%	1
24	Air India	962	0.00244	23	81.70%	16	100.00%	1
25	Lufthansa	962	0.00219	17	69.44%	25	100.00%	1
26	Qatar	918	0.00194	11	75.38%	21	100.00%	1
27	Royal Air Maroc	716	0.00324	29	76.26%	19	99.72%	15
28	Icelandair	710	0.00149	4	89.01%	7	98.51%	31
29	Air Malta	670	0.00122	2	85.97%	12	98.71%	30
30	Sky Express	546	0.00105	1	61.54%	26	100.00%	1
31	Corendon Airlines	536	0.00296	27	48.88%	31	100.00%	1

* Route 4 excluded from TK conformance.

Figure 4b: Airline Noise Performance Table

Airline Noise Performance Table – Methodology Statement

This page describes the methodology used to calculate the three metrics that form the Airline Noise Performance Table (ANPT) and explains some of the key terms.

Noise Quota Count (QC) per Seat

This metric assesses the average Quota Count (QC) per seat per flight. Individual aircraft have a defined QC value for arrival and departure, which is determined by the Effective Perceived Noise Level (EPNdB) stated on its noise certificate and may be affected by the type of engines used, certified Maximum Take-Off Weight (MTOW) and any applicable noise modifications (e.g. landing gear plugs for B787). QC/seat is a strategic metric as it can only improve in the longer term when airlines change their fleet mix, introduce newer aircraft types, or modify existing aircraft to reduce their noise impact.

Airlines operating modern and quieter aircraft will have a lower QC/seat score. For example, a typical A320 has a QC value of 0.25 for arrival and 0.5 for departure and a typical number of seats would be around 180, although this may vary between airlines. Therefore, an A320 would normally have an average QC/seat score = (0.25 + 0.5) / (180 * 2) = **0.00208**, as each rotation of the aircraft requires one arrival and one departure. For comparison, an A320 NEO would typically have an arrival and departure QC equal to 0.125, which reflects the fact that it is much quieter than its predecessors within A320 family, but the number of seats is roughly the same. An A320 NEO's QC/seat score would therefore be = (0.125 + 0.125) / (180 * 2) = **0.00069**.

Continuous Descent Operations (CDO) Performance

CDO performance is the first operational metric in the ANPT and relates to the vertical profiles flown during arrival. CDO performance is equal to the proportion of arrivals that meet the criteria for CDO, 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 lower engine thrust and the aircraft stays higher for longer. The airport-wide CDO performance is also presented separately in this report.

RAG definition: **Green ≥ 85%** **70% ≤ Amber < 85%** **Red < 70%**

Track Keeping (TK) Performance

Track keeping performance is the second operational metric in the ANPT and applies to the lateral departure track. All departures are required to stay within the Noise Preferential Routes (NPRs) defined by the Department for Transport to avoid more densely populated areas. Track keeping performance is equal to proportion of departures that stay within the NPRs until they reach an altitude of 3,000ft or 4,000ft depending on the route. Note that the Route 4 NPR has been excluded from the ANPT statistics for the time being due to the more challenging flyability and its inclusion would unfairly penalise airlines with higher proportion of Route 4 departures. Track keeping performance at airport level is also presented separately in this report.

RAG definition: **Green ≥ 95%** **90% ≤ Amber < 95%** **Red < 90%**

Airlines with CDO or Track keeping performance in the red or amber range will be considered as priority for engagement and we will work with them to improve their operational performance.

Airport and Runway Statistics

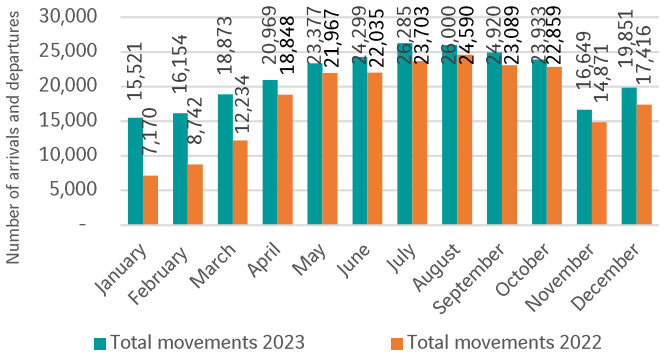

Figure 5: Comparison of arrival and departure numbers over the past two years

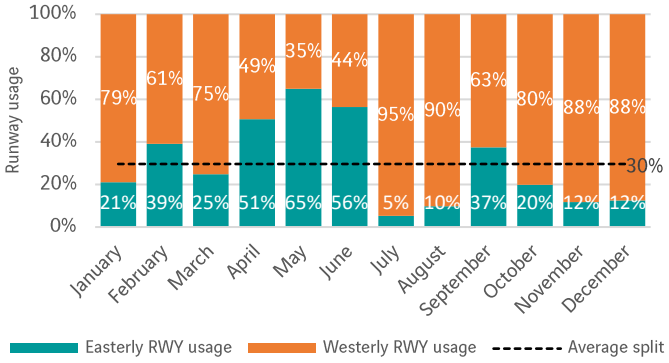

Figure 6: Comparison of easterly and westerly runway usage

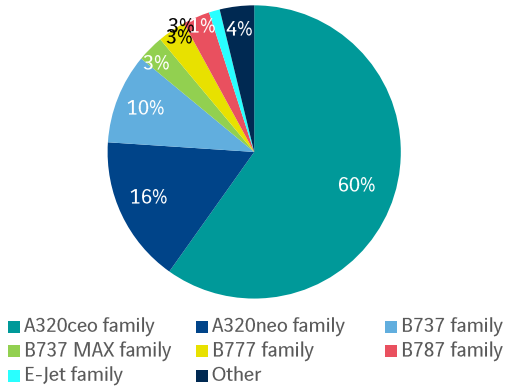

Figure 7: Aircraft fleet mix

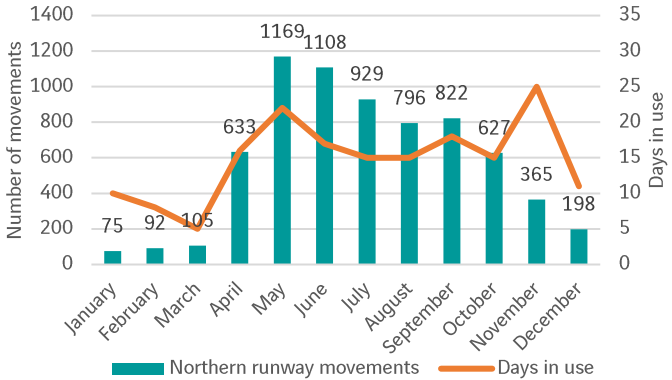

Figure 8: Northern Runway usage

Traffic movements continued to increase in 2023 versus 2022 as recovery from the COVID-19 pandemic accelerated. Traffic movements in Q1 2023 were up on Q1 2022 by 79.6%, mainly driven by the reopening of the South Terminal and the continued increase in consumer demand for flights post COVID-19 pandemic. Prevailing meteorological conditions at London Gatwick means more frequent use of westerly operations, with an average use of 71% in 2023.

In 2023, the Airbus A320 family of aircraft continued to be the most common type of aircraft used, accounting for 66% of all aircraft at Gatwick. This is a slight decrease of 1% from 2022.

There was a 13% increase in the number of newer generation (e.g. A320/321 Neo and 737 MAX) aircraft operating at Gatwick in 2023, compared to 2022. This is a positive as it means airlines are introducing newer, more environmentally friendly aircraft to their fleets.

The works on the new Echo Romeo Rapid Exit Taxiway continued throughout the summer of 2023 which increased the number of movements on the Northern Runway. December saw a decline in usage, mainly driven by the poor weather and a reduction in traffic during the night period.

Movements by Aircraft Type

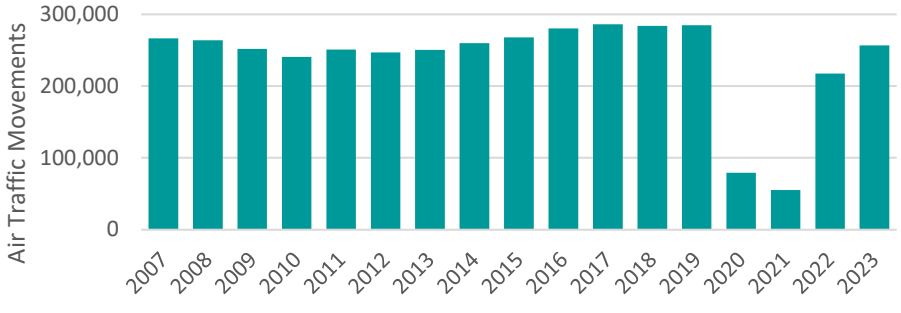

Figure 9: Annual Air Traffic Movements 2007-2023

Figure 9 shows the annual air traffic movements since 2007. A breakdown by aircraft type is presented in Figure 10. 2023 saw a 18% increase in traffic movements compared to 2022 as the airport recovers from the COVID-19 pandemic.

The largest percentage change in aircraft type was the Airbus A350 which was introduced to service by several operators to include Qatar Airways, Ethiopian Airlines and Air Mauritius. Narrow-bodied aircraft (A319, A320, A321, B737) usage increased by 13.9% in 2023 versus 2022, and wide-bodied aircraft (A380, A350, B777, B767) increased by 32.4% in 2023 versus 2022, as long-haul operations continued to recover.

Smaller aircraft and business jets saw slower increases or a decline in movements as the airport returns to more commercial-based operations, with the exceptions being the Embraer 135/145, E170/175, E190/195 being used on more domestic routes. Newer generation aircraft usage (A350, A319/20/21 Neo, 737Max) increased by 13%.

Aircraft Type	2023	2022	Percent +/-
Airbus A220 (Bombardier C-Series)	1,565	1,618	-3.28%
Airbus A310	6	2	200.00%
Airbus A319	58,563	46,479	26.00%
Airbus A320	82,774	79,502	4.12%
Airbus A320 Neo	17,644	15,278	15.49%
Airbus A321	12,316	3,827	221.82%
Airbus A321 Neo	24,027	20,742	15.84%
Airbus A330	995	448	122.10%
Airbus A340	2	8	-75.00%
Airbus A350	180	18	900.00%
Airbus A380	1,962	1,202	63.23%
ATR 42/72	3,945	3,008	31.15%
BAe 146/Avro RJ	0	27	-100.00%
Beech B200	10	8	25.00%
Boeing 737	25,563	23,478	8.88%
Being 737 MAX	7,540	6,835	10.31%
Boeing 747	0	2	-100.00%
Boeing 757	132	309	-57.28%
Boeing 767	446	172	159.30%
Boeing 777	7,981	6,420	24.31%
Boeing 787	7,689	4,705	63.42%
Bombardier Learjet	36	28	28.57%
Cessna Citation/Challenger	86	94	-8.51%
Dassault Falcon	48	48	0.00%
Embraer 135/145	52	34	52.94%
Embraer 170/175	32	0	
Embraer 190/195	3,088	3,003	2.83%
Embraer Phenom/Legacy	16	18	-11.11%
Gulfstream	68	79	-13.92%
Other Jet Aircraft	38	73	-47.95%
Other Propeller Aircraft	27	59	-54.24%
Total	256,831	217,524	18.07%

Figure 10: Movements by Aircraft Type 2023 vs 2022

Westerly Operations

These charts depict aircraft tracks (Figure 11) and track density (Figure 12) on the busiest day of westerly operations in 2023. Westerly operations means that aircraft will depart towards the west and arrive from the east (see Annex F for more information on westerly operations).

The frequency and altitude of overflight over different locations depends on the weather, the destination/origin of the flights and the traffic volumes at the airport and the surrounding airspace. Flights to and from London Gatwick need to be integrated with traffic to and from other airports in the London Terminal Manoeuvring Area (LTMA).

During westerly operations, aircraft will arrive over East Sussex, Surrey and west Kent and depart over areas in Surrey, West Sussex and west Kent meaning that certain settlements in these areas will be overflown by Gatwick traffic.

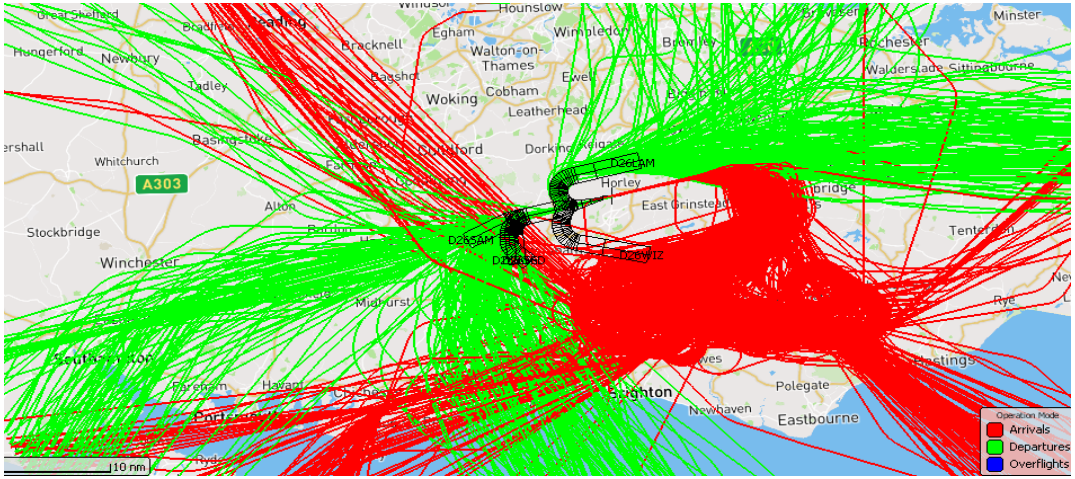

Figure 11: Westerly Operations Arrival and Departure Tracks

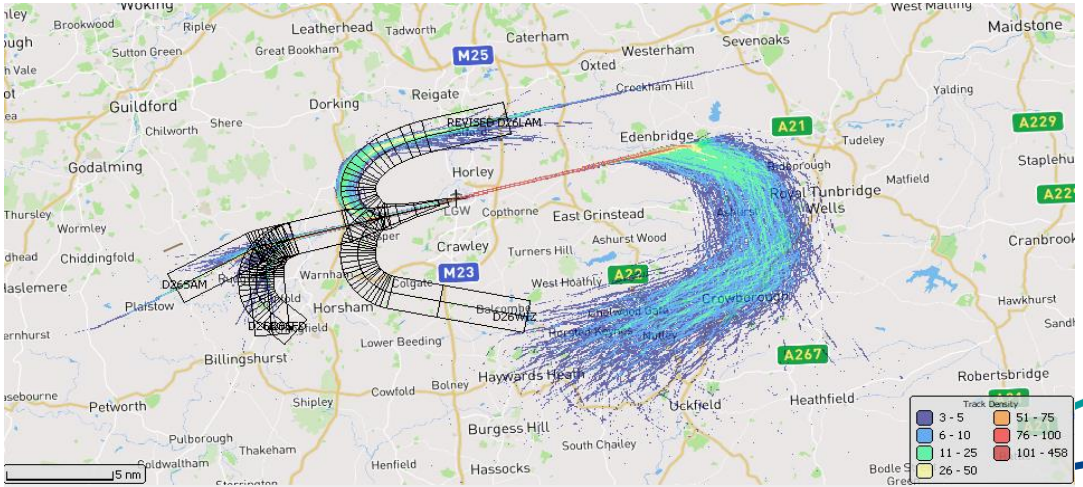

Figure 12: Westerly Operations Track Density

Easterly Operations

These charts depict aircraft tracks (Figure 13) and track density (Figure 14) on the busiest day of easterly operations in 2023. Easterly operations means that aircraft will depart towards the east and arrive from the west (see Annex F for more information on easterly operations).

The frequency and altitude of overflight over different locations depends on the weather, the destination/origin of the flights and the traffic volumes at the airport and the surrounding airspace. Flights to and from London Gatwick need to be integrated with traffic to and from other airports in the London Terminal Manoeuvring Area.

During easterly operations, aircraft will arrive over East and West Sussex, Surrey and west Kent and depart over areas in Surrey, East Sussex and west Kent meaning that certain settlements in these areas will be overflown by Gatwick traffic.

Aircraft arriving from the north-west or south may be directed straight onto the final approach, leading to a less concentrated arrival swathe.

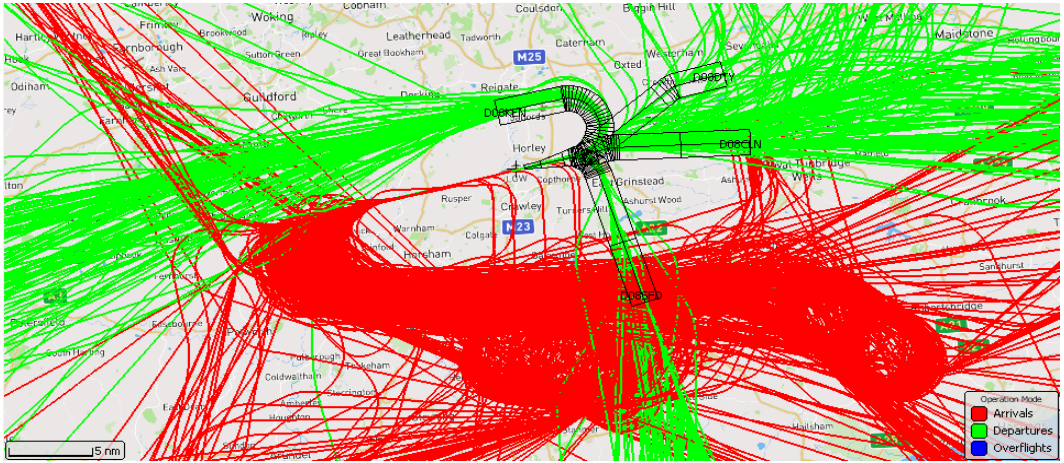

Figure 13: Easterly Operations Arrival and Departure Tracks

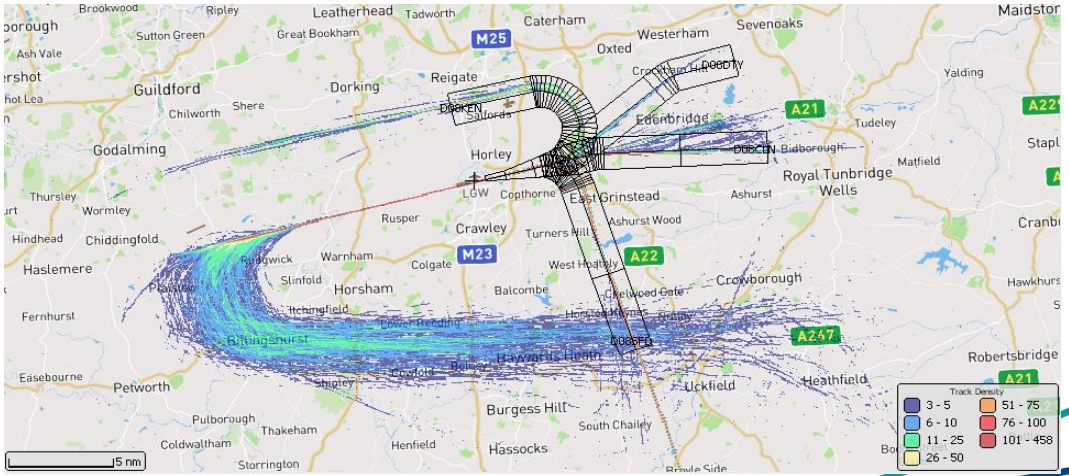

Figure 14: Easterly Operations Track Density

Arrivals Statistics – Continuous Descent Operations[1]

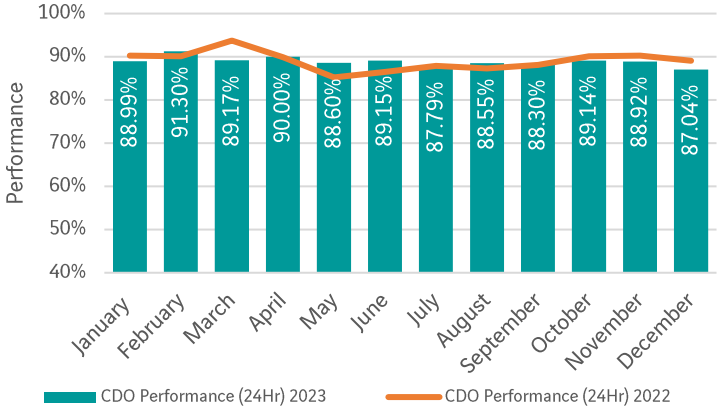

Figure 15: CDO compliance (24Hr)

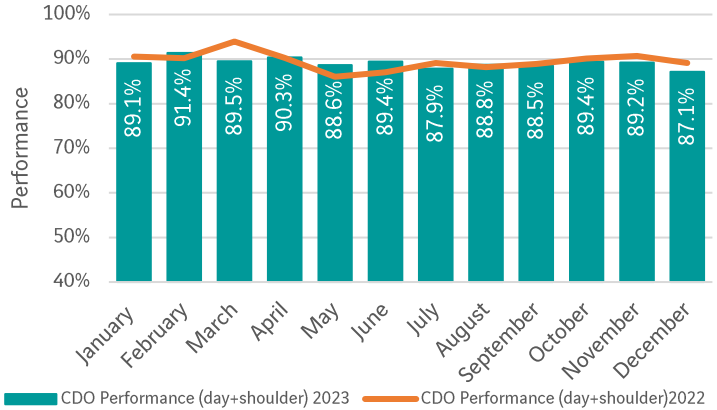

Figure 16: CDO compliance (Day+Shoulder)

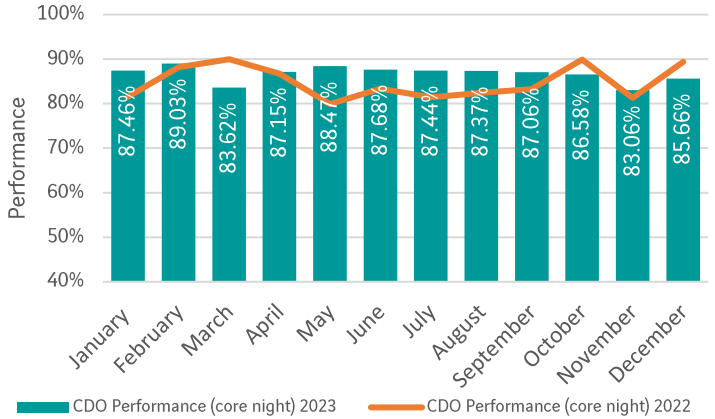

Figure 17: CDO compliance (Core Night)

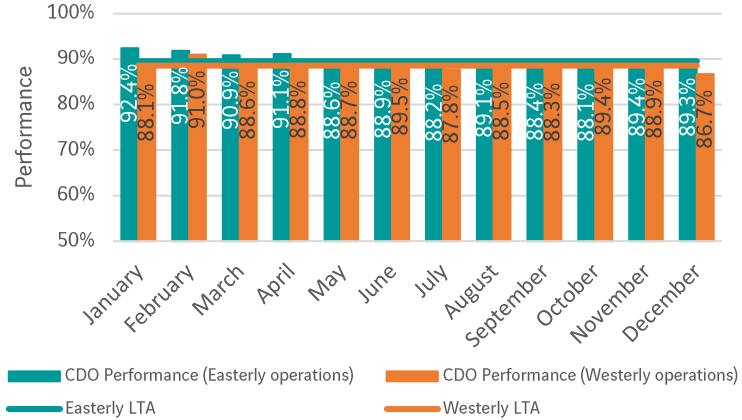

Figure 18: CDO compliance per runway

Across the 24-hour period, CDO performance in 2023 was in line with 2022 at 89% average performance. In Q1 2023, adverse weather conditions such as strong winds and thunderstorms affected performance across all time periods shown in Figures 15-18. In Q2 and Q3 2023, CDO performance was above that achieved in the same period in 2022 despite multiple days of localised thunderstorms in May.

During the core night period for the summer months, CDO performance (Figure 17) improved against 2022. This is a positive improvement considering the increase in core night arrivals into the airport.

As per Figure 18, easterly CDO performance was above the LTA in Q1 and broadly in line for Q2, other than in April when it continued above the LTA. Q3 and Q4 performance was slightly below the LTA. For westerly operations, performance broadly remained in line or above the LTA, apart from in December when it fell slightly below. This can be attributed to the poor weather during this month.

Arrivals Statistics – Go-Arounds

A go-around is a safety procedure, adopted when an aircraft on final approach, aborts landing by applying take off power, and climbing away from the airport. It is a set procedure to be followed by the flight crew in the event of an aircraft being unable to land. The procedure is published so that ATC and Pilots can anticipate where the aircraft will go following the decision to go-around.
The standard missed approach procedure applicable to London Gatwick requires the affected aircraft to climb straight ahead to 3,000ft, then, on passing 2,000ft or 1DME (distance measuring equipment), whichever is later, turn heading 180. This may or may not result in aircraft overflying the town of Crawley or outlying areas. The number and reasons for go-arounds are routinely discussed at FLOPSC meetings, as they are performed to avoid potentially unsafe situations and maintain a safe separation between aircraft.

If a flight performs multiple go-arounds before landing, only one is recorded in the NTK (Noise and Track keeping) system. If a flight diverts after multiple landing attempts, then a go-around is not recorded as the aircraft did not land at Gatwick.

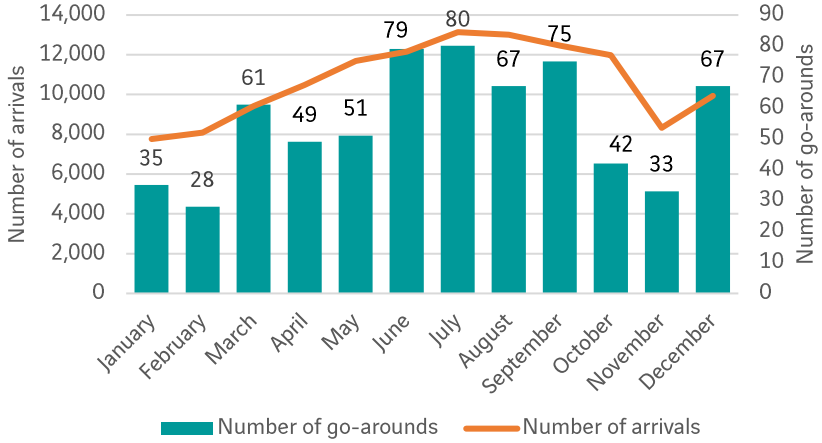

Figure 19: Number of arrivals and go-arounds

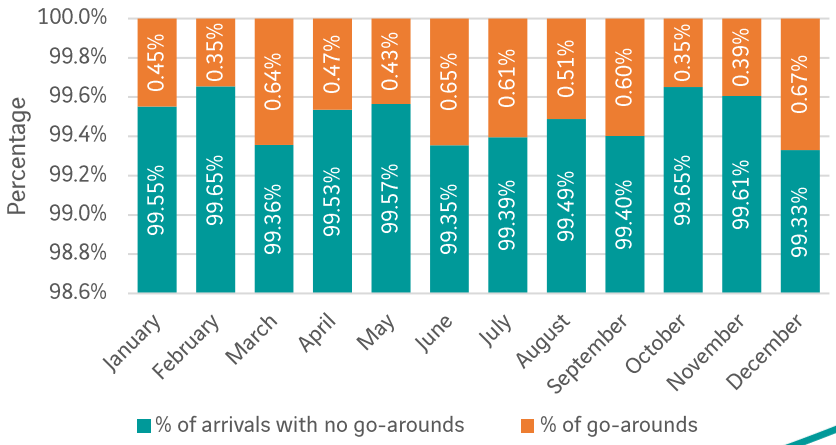

Figure 20: Ratio of go-arounds

Arrivals Statistics – Go-Arounds

The causes of go-arounds are recorded by controllers in the ATC Tower. They also provide an insight into the operational situations causing them to happen. The top three reasons in Figure 21 (left) are Runway Occupied, Unstable Approach and Weather for 2023. The reason a runway can be occupied can be due to range of reasons, and these are broken down in Figure 21 (right). The number of go arounds generally increases in line the increase in traffic movements per month into the summer season, with the most occurring in July 2023.

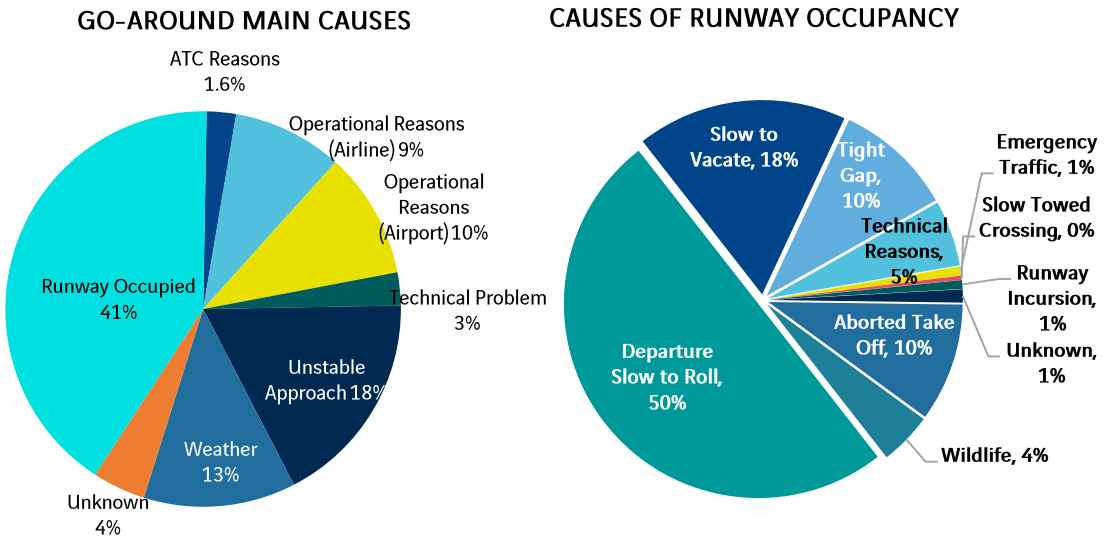

Figure 21: Reasons for go-arounds in 2023

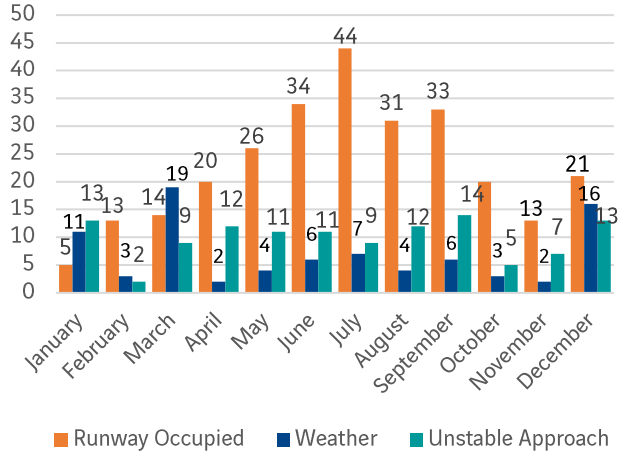

Figure 22: Main reasons for go-arounds per month

Arrivals Statistics – Joining Point

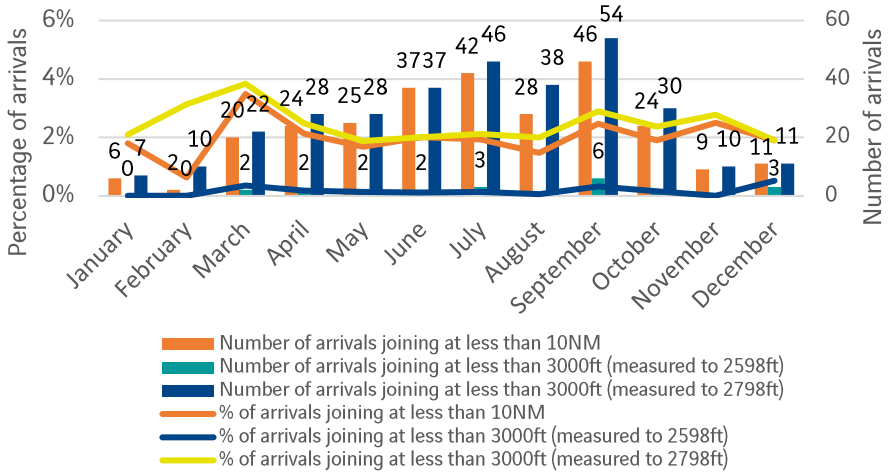

Figure 23: Night-time joining point violations[2]

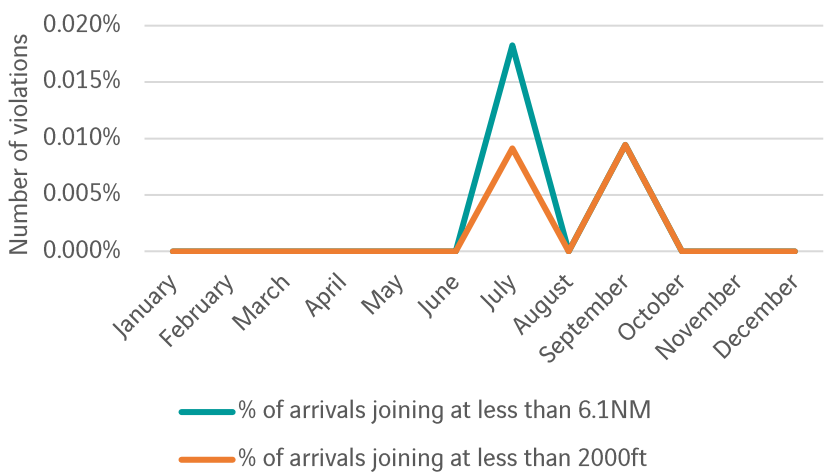

Figure 24: Day time joining point violations

As per the AIP rule, aircraft shall not join the ILS at less than 10NM from touchdown or below 3,000ft at night. Figure 23 shows the percentage of arrivals violating this rule.

During the day, the DfT noise abatement procedures stipulate that arrivals shall not descend below 2,000ft before intercepting the ILS glidepath; this equates to 6.1NM from touchdown. We continually monitor this for conformance, as shown in Figure 24, and infringements are followed up with the airline and NATS for feedback on the event to prevent future infringements. Helicopters and calibration flights are excluded from this requirement. For detail on the monitoring of the arrivals swathe see Annex C.

Joining point distance is measured from the approximate touchdown point abeam the Precision Approach Path Indicator (PAPI) lights.

Joining point altitude is assessed through the Noise & Track Keeping system, see Annex B Note 2.

Arrivals Statistics – Joining Point

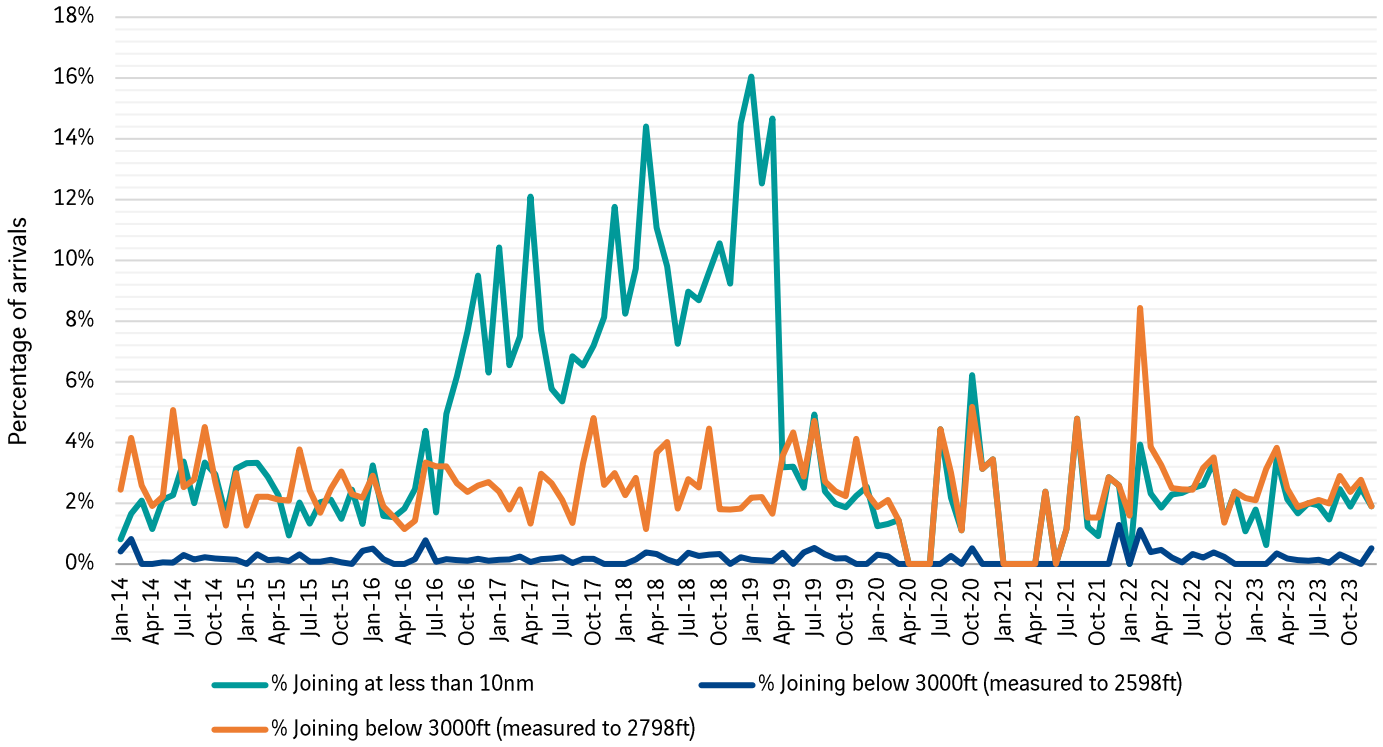

Figure 25: Night-time joining point violations (past 10 years)

Figure 25 shows the last 10 years of ILS joining point data for night arrivals.

The daytime joining point was altered in August 2016 which meant that aircraft could join between 8NM and 14NM, allowing for a wider distribution of arrivals. As a knock-on effect, more arrivals at night joined at just inside 10NM.

Upon upgrading the NTK system in April 2019, the analytic process was updated and independently verified, leading to the observed decline in Figure 25.

The Airspace Office continues to monitor this data and are in regular contact with NATS to identify reasons for infringements.

Arrivals Statistics – Overflight

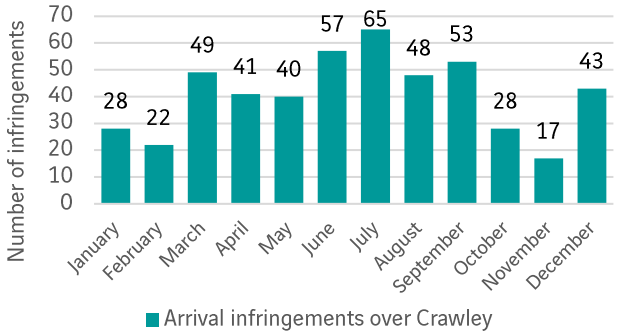

Figure 26: Arrival infringements over Crawley

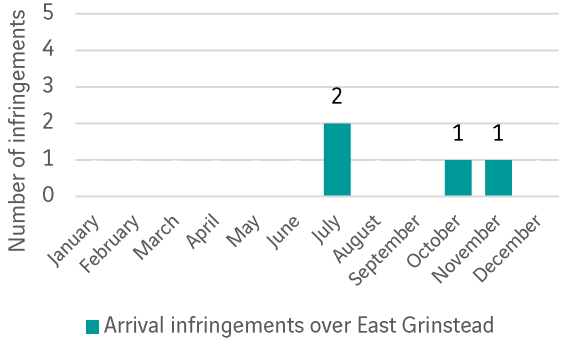

Figure 27 Arrival infringements over East Grinstead

The Gatwick AIP does not allow arriving aircraft to pass over the congested areas of Crawley, East Grinstead, Horley or Horsham below the altitude of 3,000ft QNH or Lingfield below 2,000ft QNH.

The infringements shown in Figures 26, 27 and 29 were all caused by go-arounds.

The infringements in Figure 30 were all caused by pilot error and have been followed up with the airlines concerned.

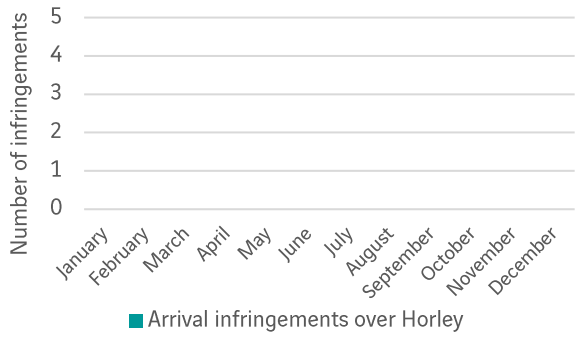

Figure 28: Arrival infringements over Horley

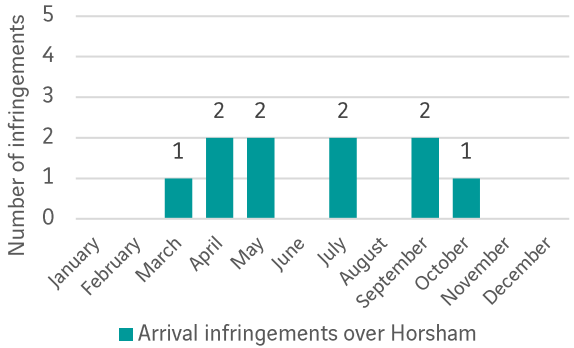

Figure 29: Arrival infringements over Horsham

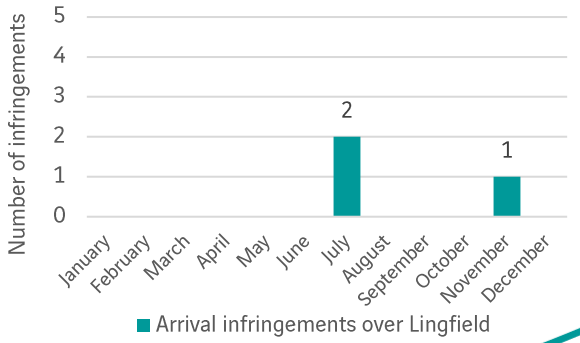

Figure 30: Arrival infringements over Lingfield

Departures

Noise Preferential Routes (NPRs)

Aircraft departing London Gatwick are required to follow specific departure flight paths for the initial stages of flight called Noise Preferential Routes (NPRs). The nine NPRs at Gatwick were designed and set by the DfT to avoid overflight of built-up areas where possible. NPRs provide volumes of pre-defined airspace within which Standard Instrument Departure (SID) routes are established where aircraft must follow on departure from an aerodrome and so provide certainty as to which areas will be exposed to aircraft activity.

An NPR consists of a 'centreline', where SIDs follow, and an associated conformance monitoring swathe, which is 3km wide, i.e. 1.5km either side of the NPR centreline. These NPRs are mapped in Figure 34, together with minimum vectoring altitudes. As long as aircraft remain within the corridor boundaries up to the minimum vectoring altitude, they are deemed to be on-track. A map illustrating the Noise Preferential Routes is also available from https://webtrak.emsbk.com/lgw2

Air Traffic Control (ATC) is responsible for the routeing of aircraft once they are airborne and each departure will be assigned a route to follow, however once aircraft reach a minimum vectoring altitude of 4,000ft (or 3,000ft dependent on departure route and time) at any point along an NPR, they may be vectored off the route by ATC onto more direct headings to their destinations.

There are also occasions when ATC direct aircraft off from NPRs for safety reasons, such as to avoid adverse weather conditions along the intended route or to maintain safe separation from other traffic.

Aircraft that leave the NPR below the required minimum altitude are classified as track deviations. Track keeping conformance at London Gatwick is generally very good, however the westerly wrap around route designated as 26LAM / Route 4 consistently presents a challenge for modern aircraft to fly; this tight turn was designed in 1968 when very different types of aircraft types were in operation. Flights off-track below the required height are automatically flagged to the Airspace Office and details are sent to the airline for investigation. Our Flight Operations Performance & Safety Committee (FLOPSC) regularly reviews track keeping conformance. Our track keeping conformance is detailed on the following pages.

Departure Statistics – Track Keeping

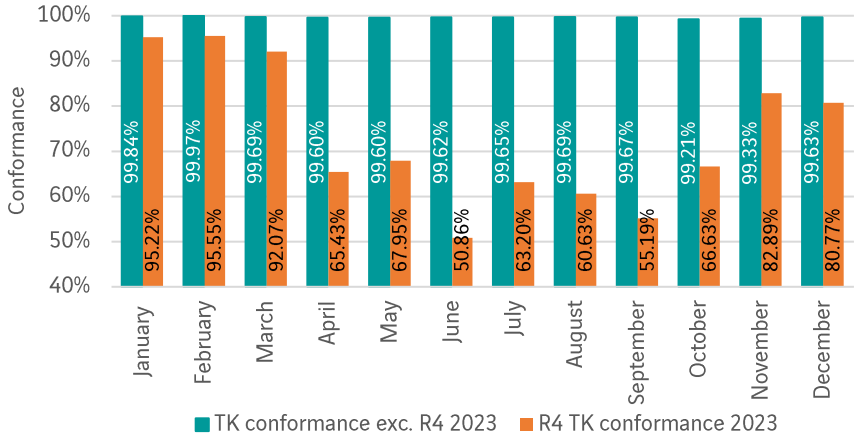

Figure 31: TK conformance (24 hours)

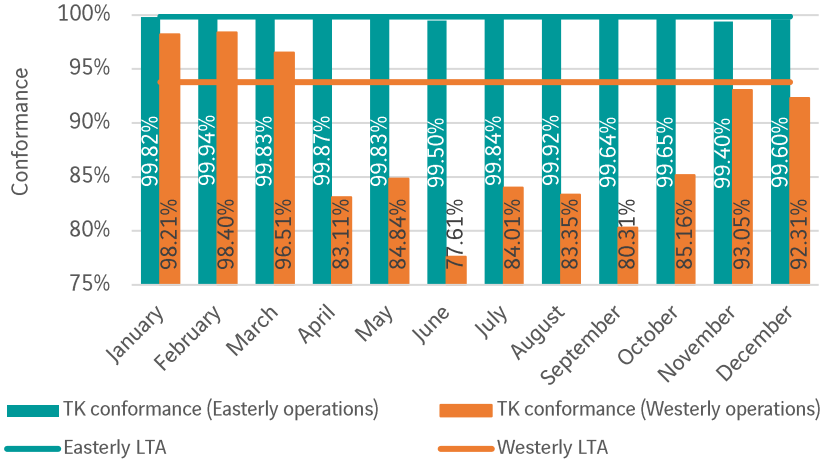

Figure 32: TK conformance per runway

From 1 April 2023, the Noise Preferential Route for Route 4 (26LAM) on westerly operations was updated in the Noise and Track Keeping system to conform with the conventional SID routings as specified by the DfT. This has only changed how track keeping conformance is monitored in the system and has had no effect on flight tracks over the ground.

Track keeping conformance maintained above 99% throughout 2023 for all departure routes excluding Route 4 (D26LAM). As per Figure 31, Route 4 conformance decreased in Q2 2023 which was driven by the repositioning of the Noise Preferential Route as mentioned above. This can also be seen in Figure 23 by the drop in conformance on westerly operations. Route 4 conformance hit a low of 50.8% in June 2023 mainly due to the increased traffic levels and several days of adverse weather. Route 4 conformance increased in October and November as the winter season commenced and traffic levels decreased. Conformance decreased slightly in December which can be attributed to the increase in traffic due to the holiday season, and several days of adverse weather.

Departure Statistics – Track Keeping in 2023

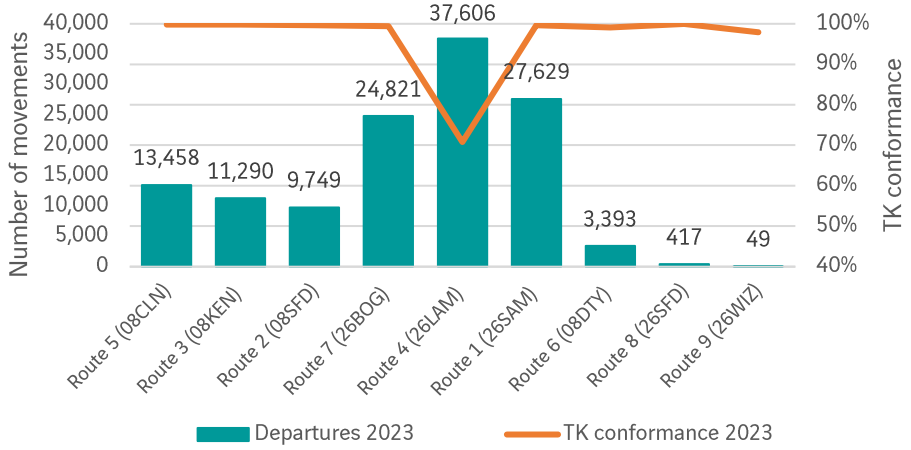

Figure 33: Track keeping and route usage

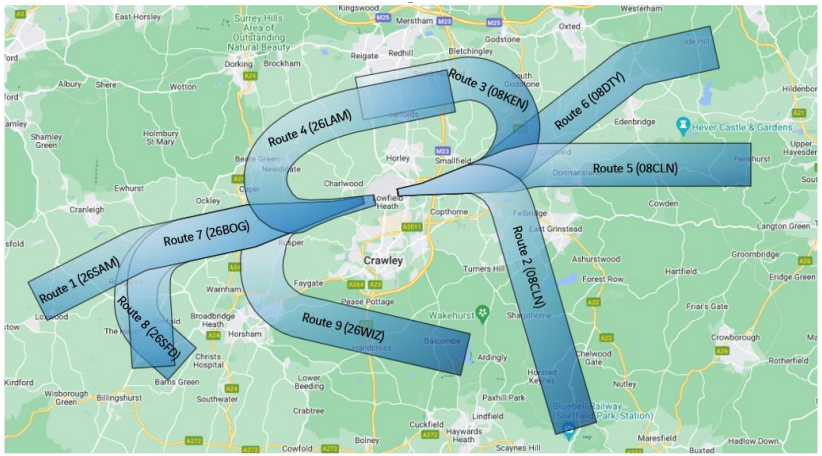

Figure 34: Noise Preferential Routes for departures

Figure 33 shows that the most frequently utilised routes during 2023 were 26LAM / Route 4, 26SAM / Route 1 and 26BOG / Route 7. Track keeping was above 99% for all routes, except Route 4 (70.2%) and Route 9 (97.96%), although only 49 departures used Route 9, most of which were due to weather avoidance.

Figure 34 shows a map of all nine Noise Preferential Routes for departures in use at London Gatwick. The table to the right lists the altitudes up to which aircraft are required to remain within the conformance monitoring swathe of the respective Noise Preferential Route. Once above the minimum vectoring altitude, Air Traffic Control may give them vectors to direct them onto a more direct path towards their destination.

Although Figure 33 shows relatively low usage of 26WIZ / Route 9, especially compared to other departure routes at London Gatwick, it is important to note this route option still exists as a tactical offload route and increased future usage of this route would not be atypical or a change to the airport's existing operation.

Route	Minimum vectoring altitude
Route 1 (26SAM)	3,000 ft
Route 2 (08SFD)	4,000 ft
Route 3 (08KEN)	3,000 ft
Route 4 (26LAM)	4,000 ft
Route 5 (08CLN)	3,000 ft
Route 6 (08DTY)	3,000 ft
Route 7 (26BOG)	4,000 ft
Route 8 (26SFD)	3,000 ft
Route 9 (26WIZ)	4,000 ft

Departure Statistics – Noise, Climb and Overflight

There were no departure noise infringements in 2023.

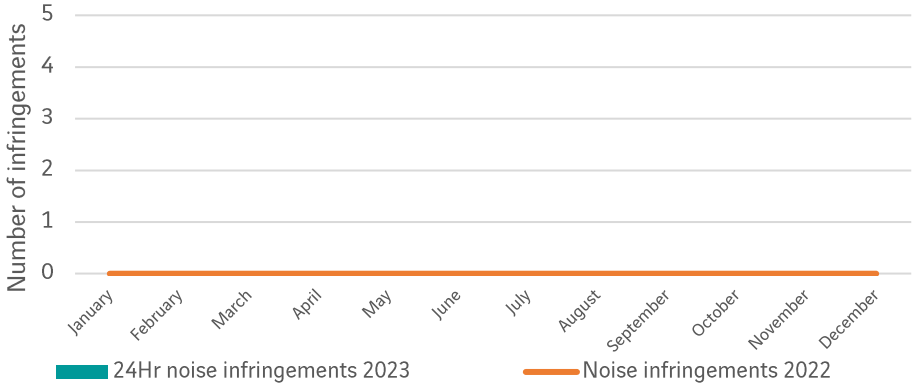

Figure 35: 24H Noise Infringements[5]

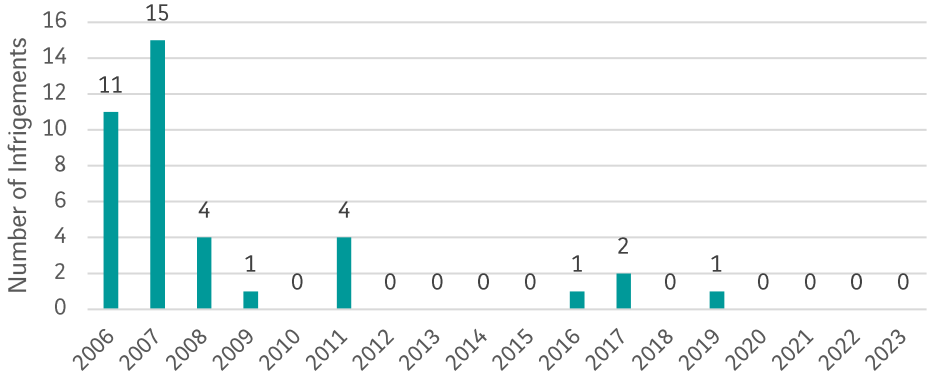

Figure 36: Historic Noise Infringements[5]

Departure Statistics – Noise, Climb and Overflight

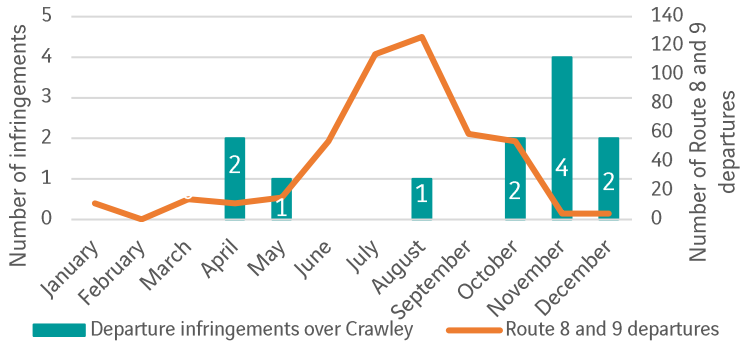

Figure 37: Departure overflight infringements over Crawley[4]

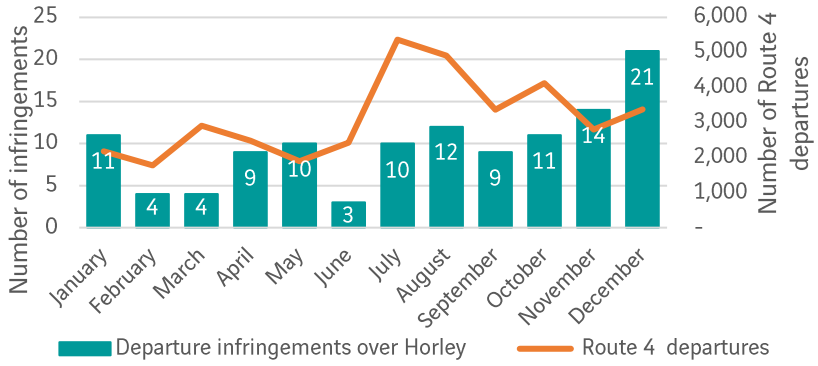

Figure 38: Departure overflight infringement over Horley[4]

The departure infringements over Crawley in 2023 (Figure 37) were all caused by weather avoidance which is a safety procedure.

Figure 38 shows the number of departures overflying Horley in 2023. Although the number of these occurrences are relatively low compared to the number of departures using Routes 3 and 4, the Airspace Office continues to work closely with NATS to further reduce the number of these infringements over the town.

Figure 39 shows that there was a single 1,000ft departure noise infringement during the year. Although this was an infringement in the Noise and Track Keeping system, this was caused by the slight amendment of the distance that the 1,000ft metric is measured from to account for the displaced runway thresholds. This was done at the request of the CAA ERCD.

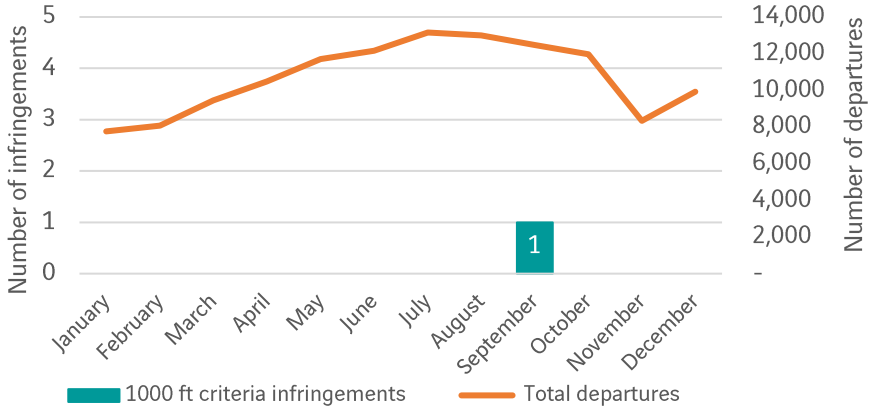

Figure 39: Number of aircraft not meeting the required climb performance[5]

Night Operations – Summer Season

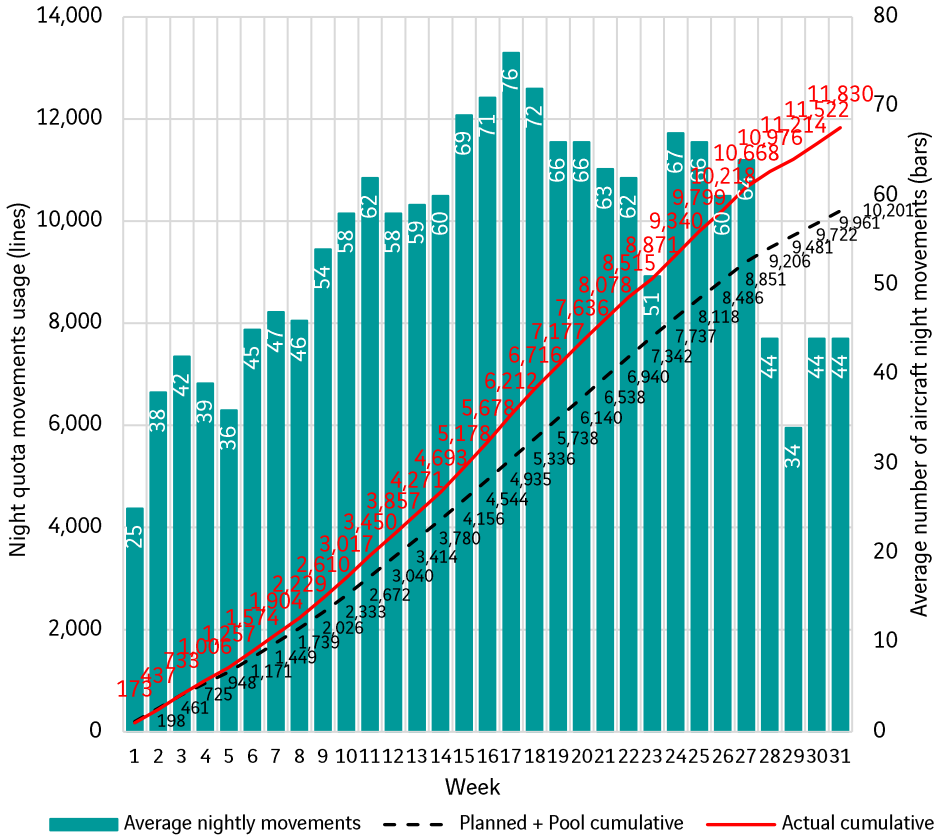

Figure 40: Night flight movements in summer

The summer 2023 season began on 26th March 2023 (0100hrs local) and ended on 29th October 2023 (0159hrs local). Figure 40 depicts the planned and actual usage of the night flight movement and quota limits for the summer season.

Figure 41 provides a breakdown of the number of flights either avoiding the night quota period (avoided) or using unplanned quota usage (non-dispensed). GAL were granted 1,293 dispensations in 2023. 1,265 of these were due to widespread and prolonged disruption caused by events to include French ATC strikes, ATC staffing across the European network and thunderstorms (CB) in both Europe and the London area. There were also 24 Government (20 NATS system failure, 2 related to the King's coronation, 2 for repatriation flights from Sudan/Israel) and 4 medical emergency dispensations granted.

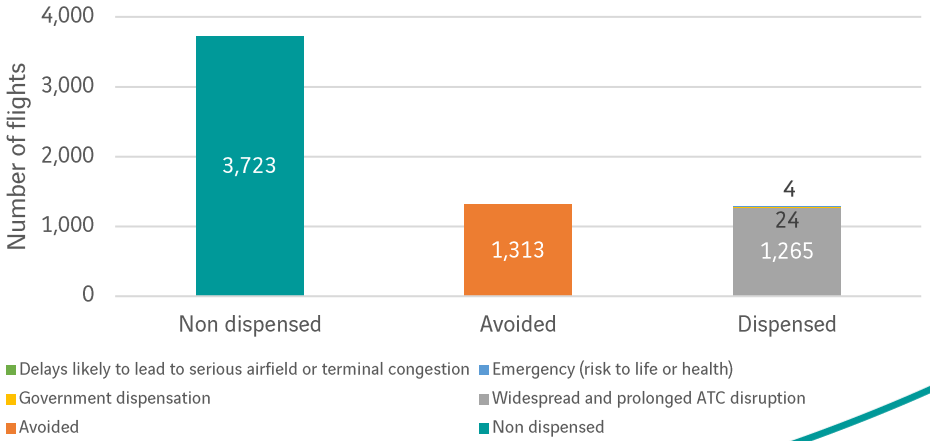

Figure 41: Number of non-dispensed, avoided and dispensed flights

Night Operations – Winter Season

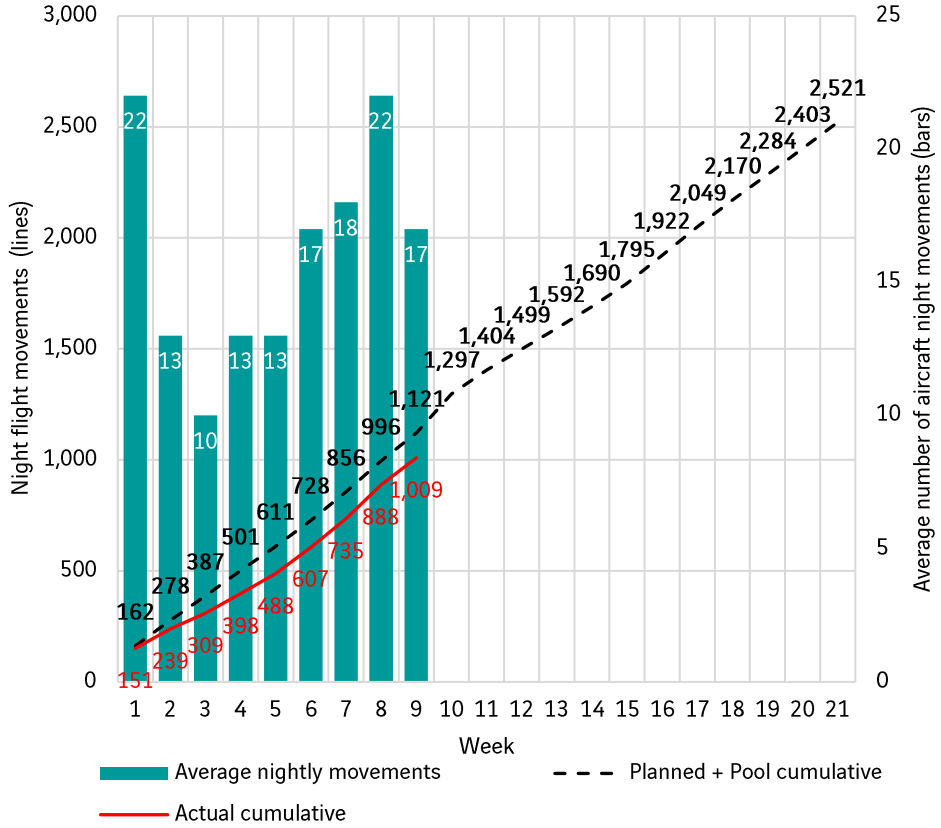

Figure 42: Night flight movements in summer

The winter 2023/24 season began on 30th October 2023 (0200hrs local) and will end on 26th March 2024 (0059hrs local). Figure 42 depicts the planned and actual usage of the night flight movement and quota limits for the winter season thus far.

Figure 43 provides a breakdown of the number of flights either avoiding the night quota period (avoided) or using unplanned quota usage (non-dispensed). GAL were granted 53 dispensations in the winter season up until the end of 2023, all of which were due to widespread and prolonged disruption caused by thunderstorms, low visibility and strong winds in London, and French ATC strikes and staffing.

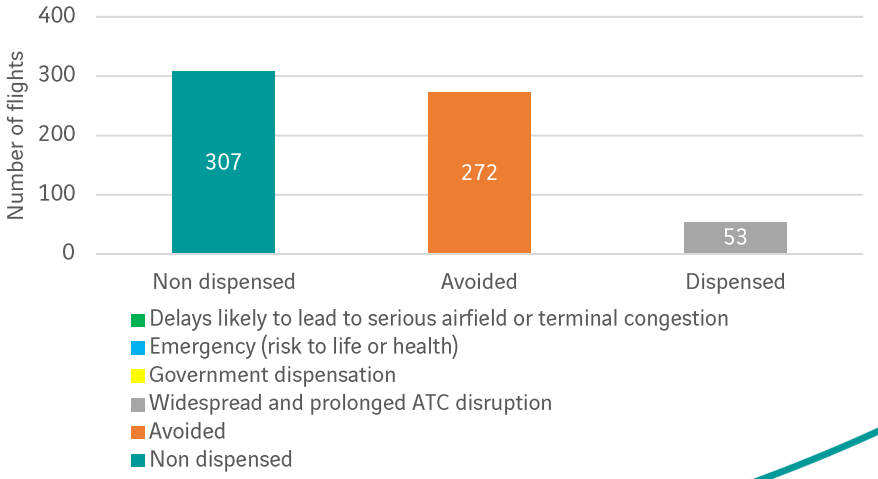

Figure 43: Number of non-dispensed, avoided and dispensed flights

Night Operations – Historic Usage in Summer

London Gatwick operates as a Public Licensed Aerodrome for 24 hours each day, offering great flexibility for passengers and airlines. However, in order to try to balance the interests of local communities and those of airport users, there are stringent restrictions and rules in place governing how the airport manages flights at night.

The Department for Transport (DfT) is responsible for defining these restrictions. The current rules apply between 23:30 to 06:00 with a set movement and quota count (QC) limit. QC is based on how noisy a particular aircraft is, with the noisier the aircraft type, the higher the points allocated. This is designed to encourage the use of the quietest aircraft types within a limited number of movements.

Figure 44 depicts the usage of the night quota period since 2000. While the movement limit has remained at 11,200 movements, the QC limit has been repeatedly lowered and is now at 5,150 as show by the blue trend line. The limits in winter are lower at 3,250 movements and 1,785 QC points and are generally not utilised fully.

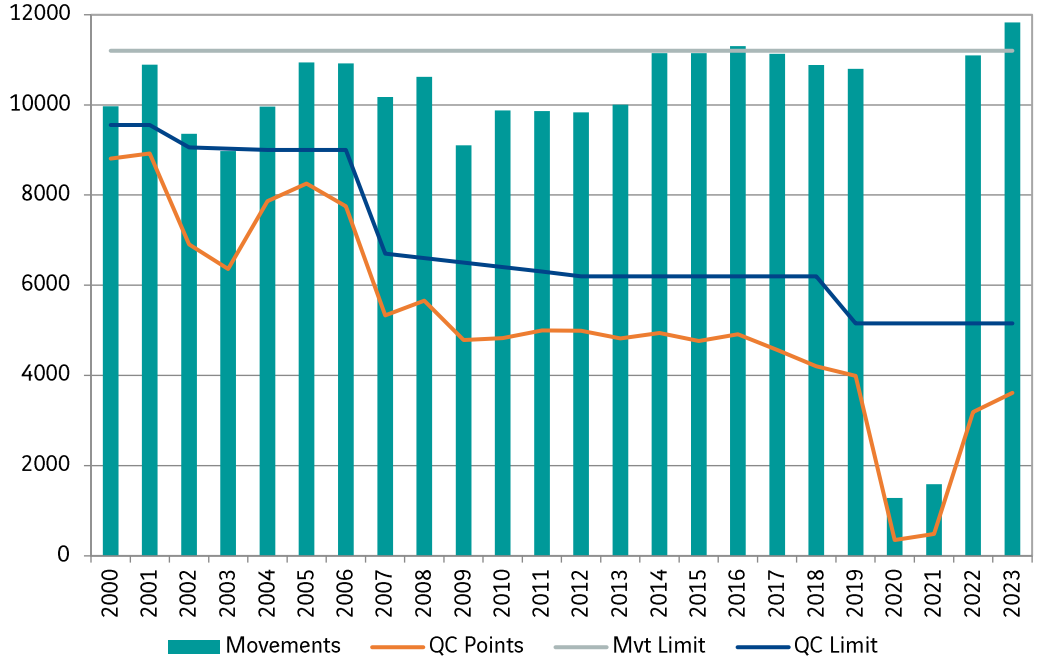

Figure 44: Night flight usage in Summer since 2000

Noise Monitoring

Gatwick has a local noise monitoring system this consists of a number of 'monitoring stations'. Each station includes a microphone, recording device and transmitter to send the data back to our servers.

The monitor records noise from both aircraft and background sources such as road traffic or the wind in the trees. The active monitoring of noise allows us to track aircraft noise levels, evaluate trends and make comparisons between the noise environments.

Noise monitoring is useful as it gives a better understanding of the levels of aircraft noise and how it may affect communities surrounding Gatwick Airport. It is especially important during trial periods where new routes or procedures may be under review.

The Gatwick Noise Monitoring Group (GNMG) is responsible for suggesting the location of noise monitors and has an established process to follow.

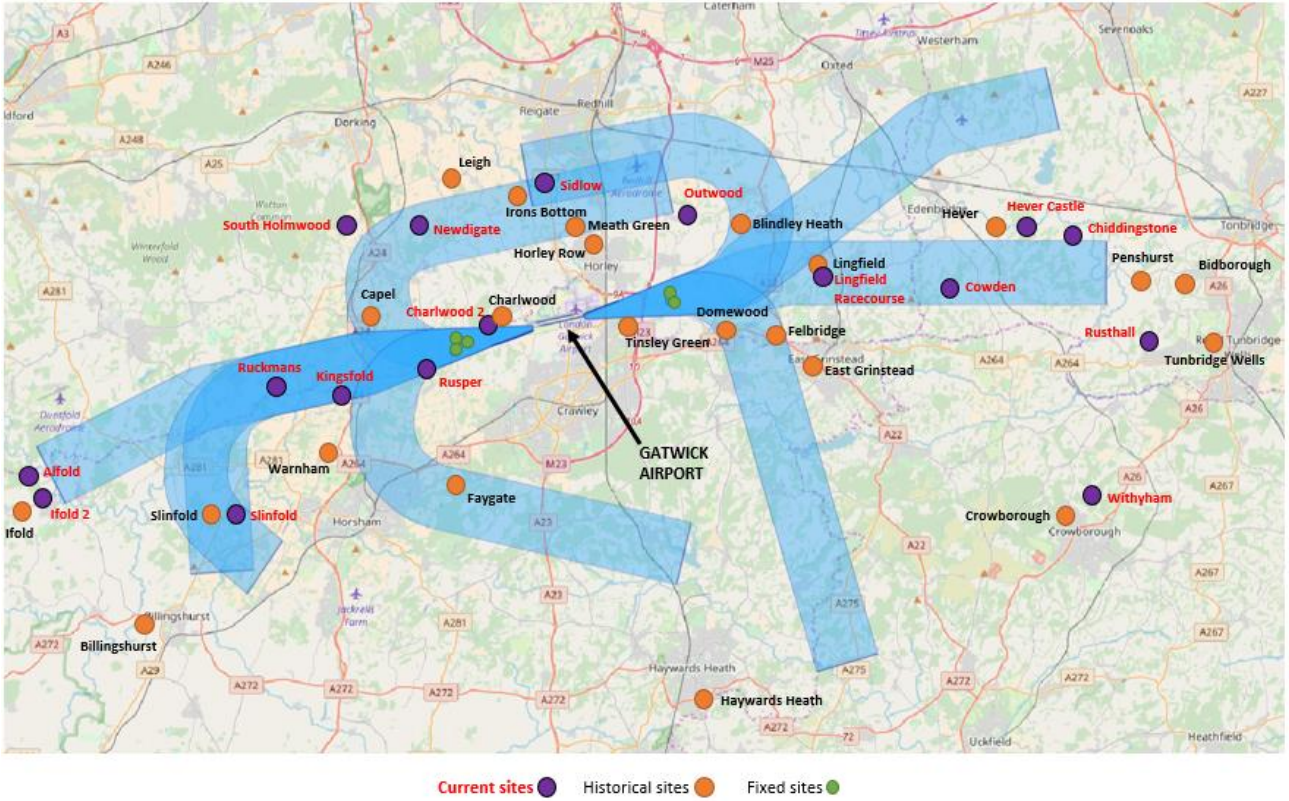

Figure 45: Location of current and historical noise monitors and NPRs

Complaints

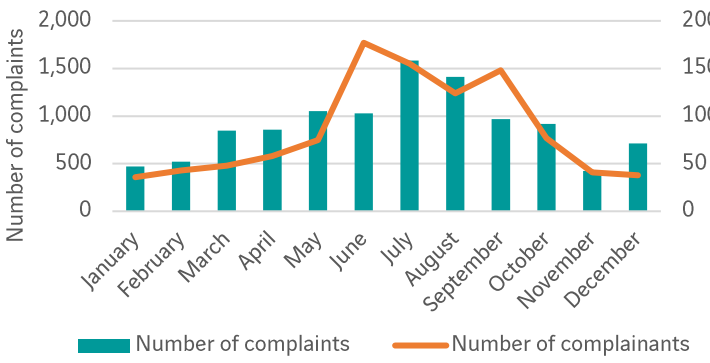

Figure 46: Number of complaints and complainants

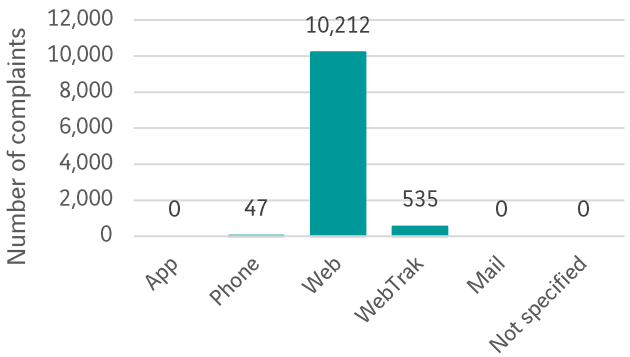

Figure 47: Complaints submission methods (whole year)

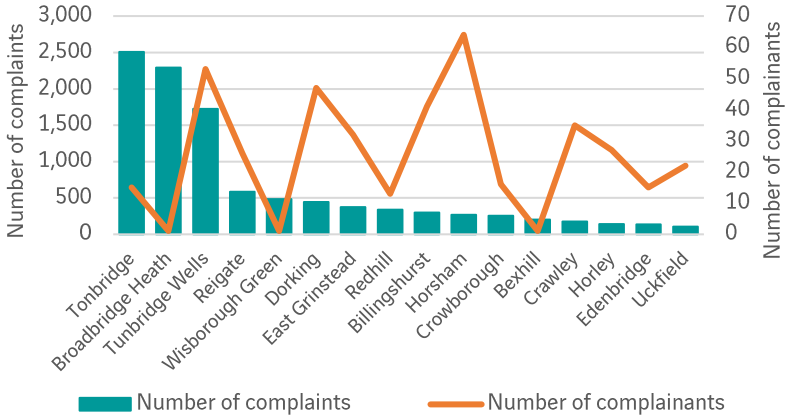

Figure 48: Areas with most complaints (whole year)

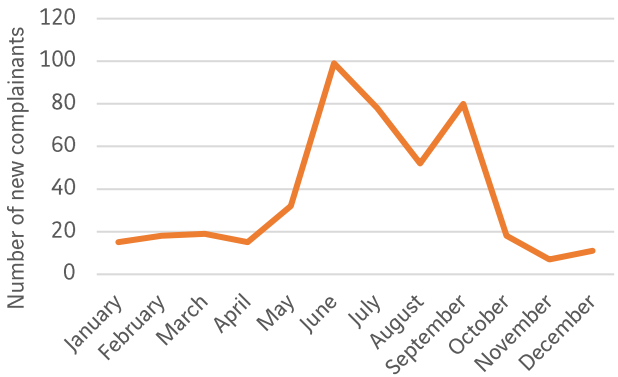

Figure 49: New complainants

In 2023, the number of complaints recorded peaked in July during the busy summer period. Complaint numbers then began to fall as complainants become accustomed to the increase in noise compared to winter, with a slight increase in September, before tailing off towards the end of the year as traffic levels declined.

Figure 47 shows that the online web form and WebTrak continue to be the preferred method of submitting complaints (>99%).

Figure 48 displays the areas with the greatest number of complaints recorded. In 2023, the areas with most complaints were Tonbridge, Broadbridge Heath (Horsham) and Tunbridge Wells. It is important to note that all Broadbridge Heath complaints are from a single individual.

Figure 49 shows a spike of new complainants in June and September 2023. This can be attributed to the unusual periods of prolonged easterly operations experienced in these months.

Complaint Categories

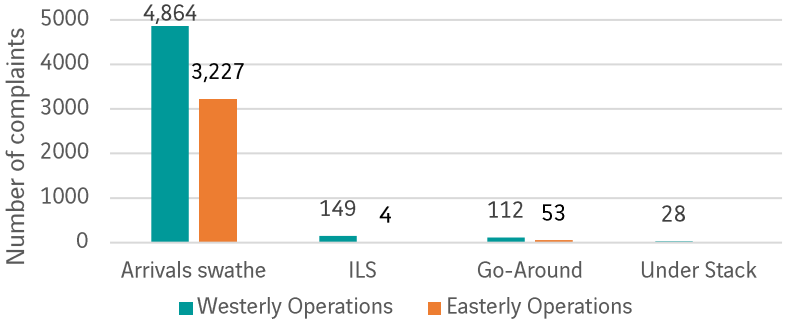

Figure 50: Complaint categories during arrival operations

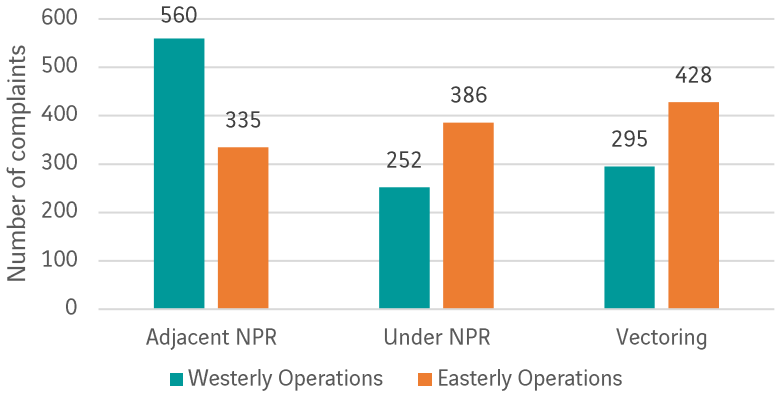

Figure 51: Complaint categories during departure operations

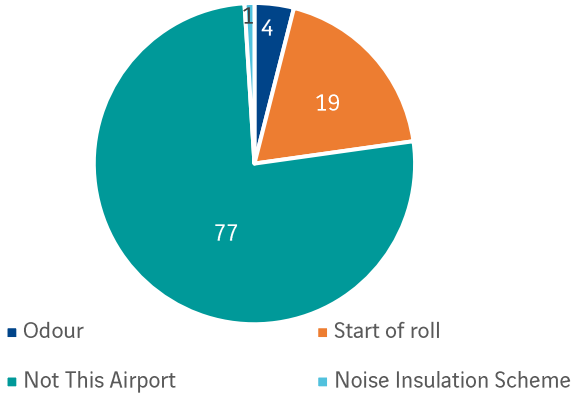

Figure 52: Other complaint categories

The Airspace Office have introduced further analysis on the types of complaints recorded since 1 January 2023. The largest proportion of complaints were from residents living under the arrivals swathe for both westerly and easterly operations as shown in Figure 50.

Figure 51 illustrates that the trend of more complaints being received during easterly departure operations continued in 2023 for 'Under NPR' and 'Vectoring'. Westerly 'Adjacent NPR' complaints exceeded easterly operations in the same category. A contributing factor for this is the predominant westerly operations that Gatwick operates.

As shown in Figure 52, of the remaining other complaint categories, 'Not This Airport' complaints make up 76% of the total. These complainants are redirected to other airports for further information and to log a complaint directly with them. Start of roll complaints (19% of total) are categorised as complaints that have mentioned engine noise or runway take-off noise and who are not directly overflown and reside close to the airport.

Complaints

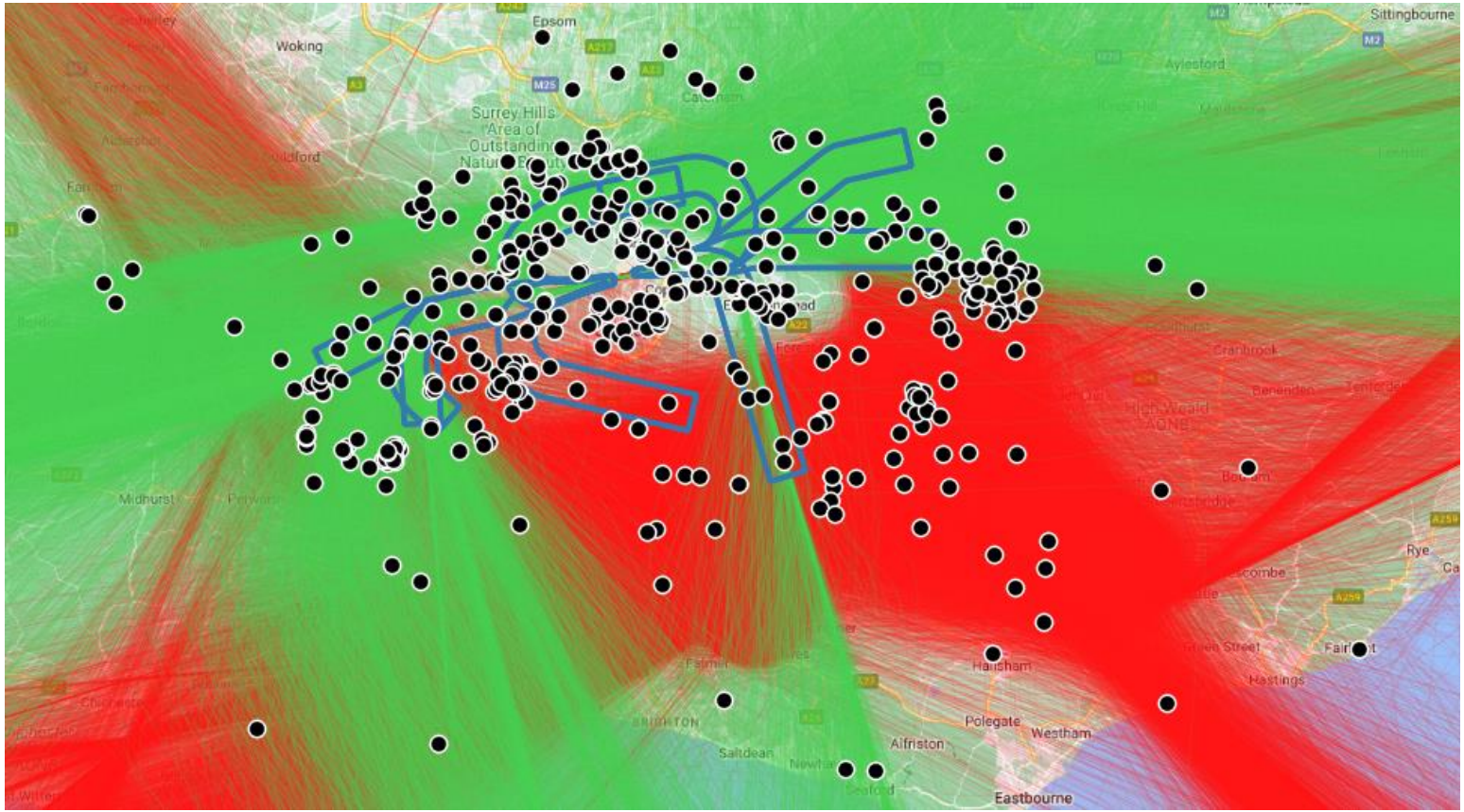

Figure 53 shows the distribution of individual complainants throughout 2023, as well as the tracks of all movements in Q4 for representative purposes.

Figure 53: A graphical representation of 2023's individual complainants, with an overlay of Q4 arrivals & departure tracks and NPRs

Complaints

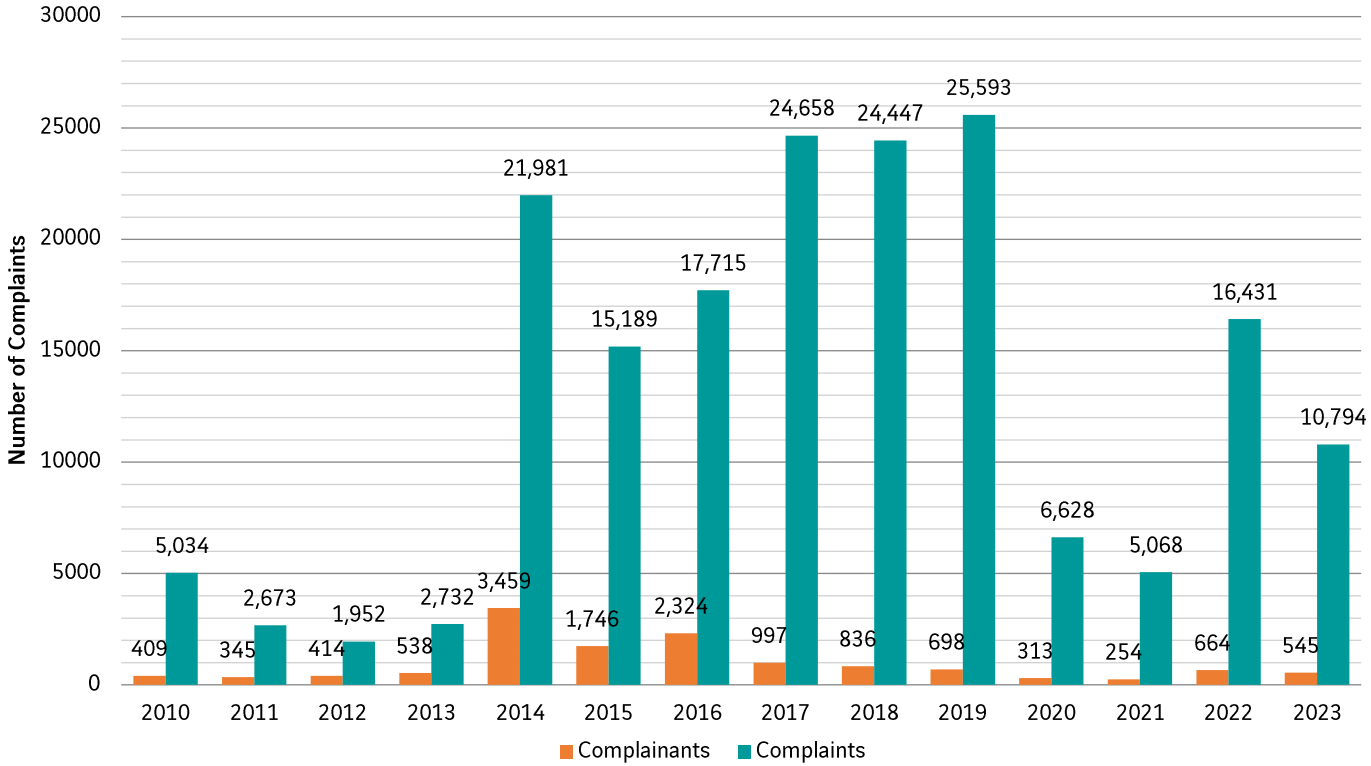

Figure 54: Number of individual complainants and complaints 2010-2023

Figure 54 shows how the total number of complaints and the number of individual complainants have varied since 2010.

Total complaints and total complainants both decreased in 2023 compared to 2022. We did however see a spike of complaints in 2022 which can be attributed to the reopening of the South Terminal and increasing traffic levels post COVID-19 pandemic. The number of total complaints in 2023 decreased by 34.3% compared to 2022, and the number of individual complainants also decreased by 17.9%.

Ground Noise

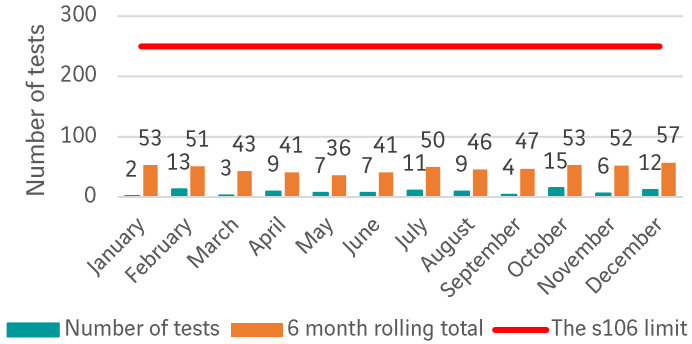

Figure 55: Engine runs

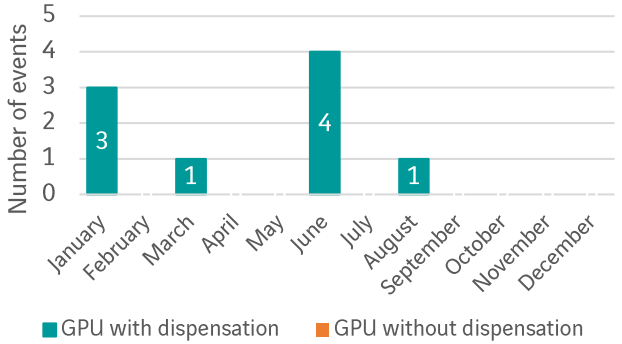

Figure 56: GPU usage

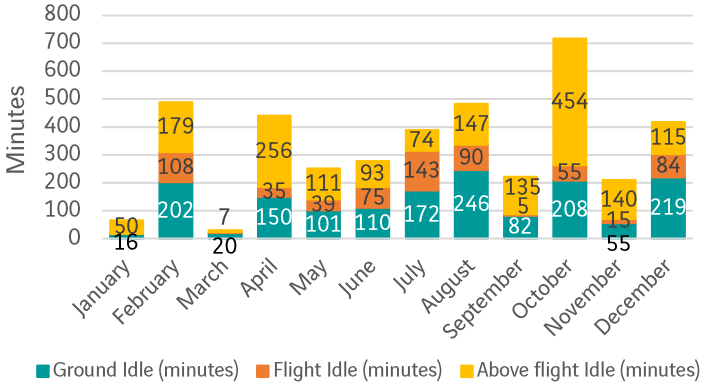

Figure 57: Cumulative minutes of engine tests

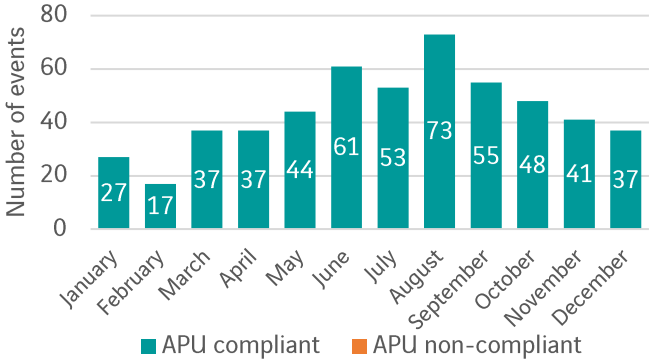

Figure 58: APU usage

Figure 55 shows that the number of engine tests conducted over the quarter remained fewer than the Section 106 legal limit of 250 in a six-month period in 2023

There were 9 uses of Ground Power Units (GPU) with dispensation in 2023 as shown in Figure 56.

Figure 57 shows that Q4 saw the most minutes of engine testing at the airport. Airlines can carry out aircraft maintenance during this period due to the less demanding flight schedules.

Figure 58 shows that in 2023, there were no non-compliant Auxiliary Power Unit (APU) usages.

Further details on ground noise can be found in Annex F.

Annex A – Additional Statistics

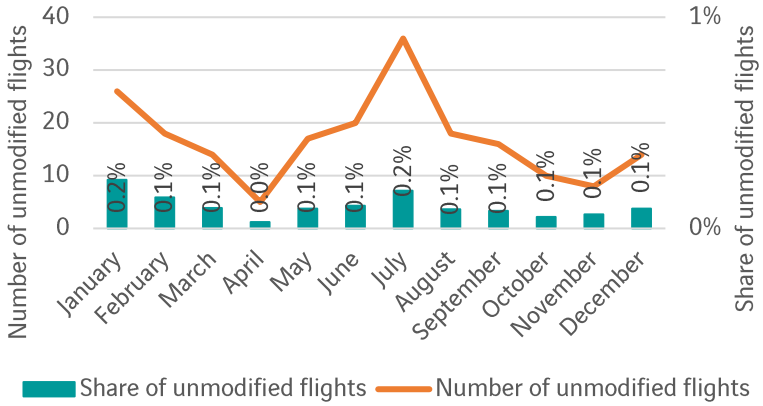

Figure A-1: Number and share of flights by unmodified A320 family aircraft

The number of flights operated by unmodified Airbus A320 family aircraft, which have not had Fuel Over-Pressure Protector modification (FOPP) installed, has been very low. The use of these aircraft has remained low during 2023 as airlines have been utilising and leasing more aircraft that have been modified compared to the previous summer. The increases in January and July are driven by the demand over the peak summer and holiday seasons.

London Gatwick has been applying an additional noise charge to unmodified A320 aircraft since the 1st January 2018. The number of these flights has been reduced by 95% since then and represents less than 0.1% of all A320 traffic in 2023.

Annex A – Additional Statistics

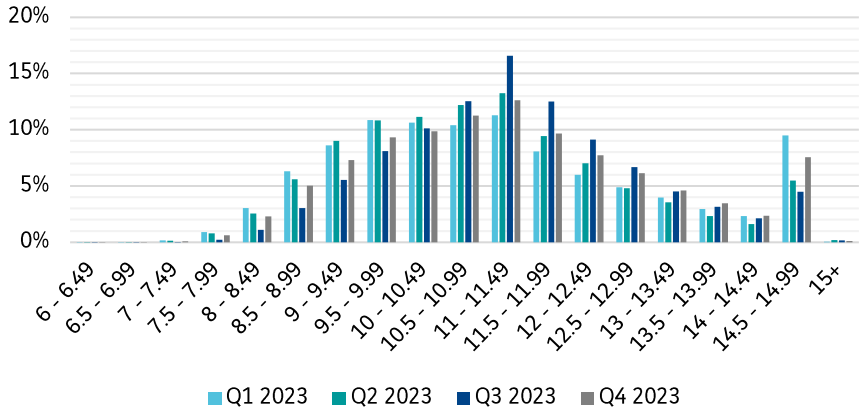

Figure A-2: Traffic Joining ILS per quarter – Runway 26 Only (westerly)

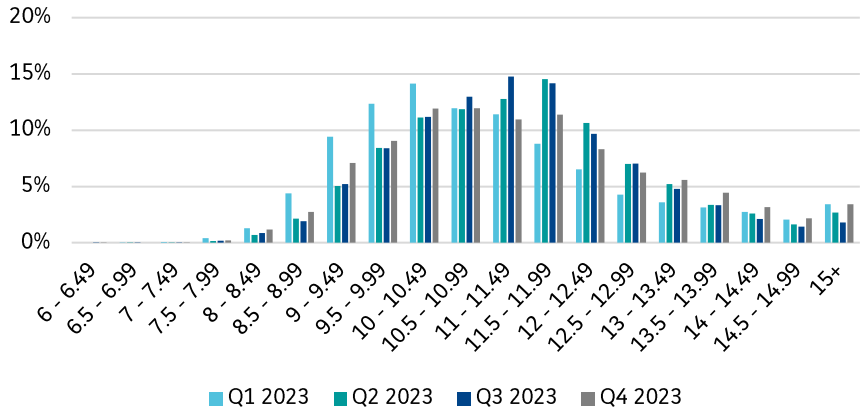

Figure A-3: Traffic Joining ILS per quarter – Runway 08 Only (easterly)

Figure A-2 shows a high percentage of aircraft joining the ILS between 8NM and 14NM in 2023.

In Q1 2023, 1% of aircraft joined inside 8NM, however by Q3 this had decreased to 0.27% as traffic levels increased. ATC controllers allow more spacing between arrivals during the busier summer period so that more aircraft could depart in between landings.

This is monitored as a result of Recommendation Imm-10 of the 2016 Independent Arrivals Review (IAR). Please refer to Annex C for the full background and rationale for continuous monitoring.

Figure A-3 shows a more even distribution of arrivals during easterly operations. 2023 saw an increase of aircraft joining greater than 15NM, however this was more predominant in Q1 and Q4 due to the less congested airspace in the winter season allowing more aircraft to perform a straight-in approach.

Annex B
Noise Abatement Procedures referred to by figures in this report

1 AIP, EGKK AD 2.21 NOISE ABATEMENT PROCEDURES, Sub-paragraph 10

Where the aircraft is approaching the aerodrome to land it shall, commensurate with its ATC clearance, minimise noise disturbance by the use of continuous descent and low power, low drag operating procedures.

2 AIP, EGKK AD 2.21 NOISE ABATEMENT PROCEDURES, Sub-paragraph 14

Aircraft which land at Gatwick Airport - London between the hours of 2330 (2230) and 0600 (0500), whether or not making use of the ILS localiser and irrespective of weight or type of approach, shall not join the centre-line: below 3,000 FT or closer than 10 NM from touchdown.

Note on altitude tolerances:
3,000 ft (Gatwick QNH) – 202 ft (airfield elevation) = 2,798 ft
2,798 ft – 200ft ATC radar tolerance = 2,598 ft
These values are used to assess compliance within the Airport Noise & Track-Keeping System.

3 AIP, EGKK AD 2.21 NOISE ABATEMENT PROCEDURES, Sub-paragraph 11

Before landing at the aerodrome the aircraft shall maintain as high an altitude as practicable and shall not fly over the congested areas of Crawley, East Grinstead, Horley and Horsham at an altitude of less than 3000 FT (Gatwick QNH) nor over the congested area of Lingfield at an altitude of less than 2000 FT (Gatwick QNH).

4 AIP, EGKK AD 2.21 NOISE ABATEMENT PROCEDURES, Sub-paragraph 9

After taking off the aircraft shall avoid flying over the congested areas of Horley and Crawley.

5 AIP, EGKK AD 2.21 NOISE ABATEMENT PROCEDURES, Sub-paragraph 1

After take-off the aircraft shall be operated in such a way that it is at a height of not less than 1,000 FT AAL at 6.5 KM from start of roll as measured along the departure track of that aircraft.

6 AIP, EGKK AD 2.21 NOISE ABATEMENT PROCEDURES, Section 3 and section 4

Any aircraft shall, after take-off, be operated in such a way that it will not cause more than 94 dBA Lmax by day (from 0700 (0600) to 2300 (2200) hours) as measured at any noise monitoring terminal at any of the sites referred to in sub-paragraph (2).

Any aircraft shall, after take-off, be operated in such a way that it will not cause more than 89 dBA Lmax by night (from 2300 (2200) to 0700 (0600) hours) and that it will not cause more than 87 dBA Lmax during the night quota period (from 2330 (2230) to 0600 (0500) hours) as measured at any noise monitoring terminal at any of the sites referred to in sub-paragraph (2).

7 Agreement in relation to Gatwick Airport Under Section 106 of the Town and Country Planning Act 1990 and other powers

Full version:
www.gatwickairport.com/globalassets/company/sustainability/s106/s106-legal-agreement.pdf

8 AIP, EGKK AD 2.20 LOCAL AERODROME REGULATIONS, 1 AIRPORT REGULATIONS, Sub-paragraph l

Fixed Electrical Ground Power must be used when available and serviceable. Use of aircraft Auxiliary Power Units (APUs) and Ground Power Units (GPUs) are strictly controlled to minimise environmental impact. APUs must be shut down after arrival and only restarted before departure according to the timescales described in detail in published Gatwick Airport Instructions and Directives. Regular audits take place to ensure compliance with the regulations.

Annex C
ILS Joining Point – Background and Rationale for Monitoring

Background

Joining point data is monitored as a result of Recommendation Imm-10 of the 2016 Independent Arrivals Review (IAR). The recommendation proposed to alter a safety feature - the ILS minimum joining point - applied by air traffic controllers to help pilots ensure a fully stabilised final approach to the runway. The objective was to safely increase geographical dispersal of arrivals to more closely emulate the operations prior to a change in 2013 when the ILS minimum joining point had been increased from 7NM to 10NM. Specifically, the recommendation proposed extending the arrival swathe by reducing the ILS minimum joining point from 10NM to 8NM from touchdown. Hence the arrival swathe would extend from a minimum of 8NM to 14NM, with aircraft joining on a straight in approach when traffic permits.

Following the publication of the Action Plan, GAL working closely with NATS, progressed the implementation of the recommendation into an operational evaluation supported by detailed analysis. The evaluation commenced on the 15 August 2016. GAL & NATS have closely monitored use of the ILS since the implementation of the evaluation. In early January 2017, in anticipation of the need to conduct a thorough assessment of the results from the evaluation period and in order to avoid a temporary reversion to the pre-August 2016 minimum joining point, GAL made a request to CAA for a 3-month extension of the use of the reduced ILS minimum joining point.

Over the entire evaluation period the joining points between 8NM to 10NM was used by, on average, almost 20% of arrivals. As the evaluation progressed, the number of aircraft making use of joining points between 8NM and 10NM increased, reaching a peak of 31% in January 2017. The increased use of these joining points closer to touch down had increased the geographical dispersal of the arrivals swathe. With the agreement of the CAA and NATS at Noise Management Board (NMB) 5 it was decided that the 8NM minimum ILS joining point would be transitioned to a permanent procedure on the 15 May 2017.

Rationale for continuous monitoring

Following the adoption of the change as a permanent procedure, reporting continued to the NMB on a regular basis to provide transparency of the traffic dispersal achieved. The reporting and monitoring function was subsequently transferred to NaTMAG, as reporting became part of routine operational monitoring. In Q4 2020, ILS joining point distance statistics were absorbed into the new Airspace Office Quarterly and Annual reporting.

Communities continue to express concerns regarding flights that join the ILS inside 8NM during the day due to their noise impact. When the proportion of such flights becomes noticeably higher than the long-term average, the Airspace Office informs NATS (providing supporting data) and refers this to Gatwick's Flight Operations Performance and Safety Committee (FLOPSC) for further investigation. Whilst it is understood that vectoring practice by air traffic controllers has noise impacts, the rationale for taking action through FLOPSC - instead of NaTMAG - is that the 8NM ILS minimum joining point is a safety procedure, rather than a noise abatement procedure, relating to the stabilised approach of aircraft to the runway. FLOPSC is the competent safety body.

Annex D
Roles and Responsibilities

Gatwick Airport Limited
GAL is the licensed operator of London Gatwick. It is not directly responsible for aircraft operations but is responsible for the control of ground noise at the airport and the implementation and monitoring of DfT policy.

Airspace Office
Gatwick's Airspace Office is responsible for recording, investigating and responding to aircraft noise enquiries as well as to monitor and report airline conformance to noise mitigation measures as detailed in the UK AIP. The Airspace Office can also, if requested, provide information regarding flight paths and arrival routes, for example to prospective homebuyers. The Airspace Office also manages the airport Noise and Track Keeping system 'ANOMS' and a number of fixed and mobile noise monitors within the local area. They are regularly relocated, the data analysed, and the findings reported.

Air Traffic Control
NATS is the main Air Navigation Service Provider in the United Kingdom and provide guidance to flights in the vicinity of London Gatwick. NATS' en-route business is regulated and operated under licence from the Civil Aviation Authority (CAA). The terms of the licence require NATS to be capable of meeting on a continuous basis any reasonable level of overall demand. They are charged with permitting access to airspace on the part of all users, whilst making the most efficient overall use of airspace.

The London Gatwick Air Traffic Contol Tower is operated by NATS, who oversee the runway and ground operations.

NATS
NATS is responsible for aerodrome Air Traffic Control at London Gatwick from when the aircraft leaves its stand to when it reaches 4,000ft in the air. NATS also manages air traffic engineering services, emergency and alerting services, and meteorological services.

Department for Transport
The DfT is responsible for the formulation of noise abatement policy, the location of Noise Preferential Routes (NPRs) for departing aircraft and night flight regulations.

Civil Aviation Authority
As the UK's independent specialist aviation regulator, the CAA has responsibility for regulating airspace over the UK. This includes the new and established air traffic routes and areas which commercial aircraft use to fly into and out of airports, and the airspace used by military and General Aviation flights.

An organisation proposing a change to the design of UK airspace must follow the CAA's airspace change process. The CAA has a duty to consider a range of factors set out by government in deciding whether or not to approve the change. One set of factors is the environmental objectives set for the CAA by the Secretary of State – including consideration of noise impacts.

Annex E
Gatwick's Framework for Noise Management

Noise and Track Keeping system (NTK)

The NTK system combines radar input from ATC with data from our fleet of fixed and mobile monitors placed around the airport. The system monitors all aircraft traffic within a 50 miles radius of the airport, up to 40,000 feet, and automatically records any infringements of the departure noise limits, deviations from the departure flightpaths, as well as other noise mitigation measures. Since April 2019, London Gatwick uses ANOMS provided by Envirosuite, which is linked to our webservices WebTrak and InsightFull. The airport invests over £300,000 a year in noise monitoring.

Flight Operations Performance and Safety Committee (FLOPSC)

FLOPSC is made up of representatives from the airport's operations team, the Airspace Office, our airlines, the DfT, CAA and NATS. It meets on a bi-monthly basis throughout the year to review operational performance, adherence to noise and track keeping rules and to share best practice.

Noise Management Board (NMB)

The role of the NMB is to develop, agree, oversee and maintain a co-ordinated noise management vision and subsequent strategies for Gatwick, on behalf of all stakeholders, with an aim to reduce the impact of noise on the local community.

Now in its second term, the NMB comprises of three groups: the NMB Community Forum (NCF); the NMB Executive Board (NEX); and the NMB Delivery Group (NDG). The governance structure includes a number of community action groups and local elected representatives.

Noise and Track Monitoring Advisory Group (NaTMAG)

This committee includes representatives from the Airport's Consultative Committee, local councils, the DfT, NATS, airlines and the airport. It meets every quarter to discuss the airport's performance against the range of rules and regulations pertaining to aircraft operations. It gives an opportunity for representatives of local communities to scrutinise the airport's reports and to discuss issues that may be a cause of concern.

Sustainable Aviation

Gatwick Airport Limited is a member of Sustainable Aviation, whose long-term strategy sets out the collective approach of UK aviation to tackling the challenge of ensuring a sustainable future for our industry. Sustainable Aviation brings together the main players from UK airlines, airports, manufacturers and air navigation service providers. The group produced a Noise Road-Map, which outlines the future aspirations of the industry. For more information visit: www.sustainableaviation.co.uk.

Gatwick Noise Monitoring Group (GNMG)

London Gatwick funds and co-ordinates a community noise monitoring programme in conjunction with local Environmental Health Officers and the airport's Consultative Committee. Noise monitors are located throughout local communities in Sussex, Surrey and Kent in order to develop an understanding of the noise environment and assess the impact of aircraft noise on those areas.

Annex F
Wind and Runway Direction

It is important for the safe operation of aircraft that they both land and take-off into wind. On take-off, this will increase airspeed and the amount of lift produced and, on landing, it will again assist with the creation of lift (required until touchdown) and also help to control airspeed. It is important that aircraft are travelling at the appropriate speeds specified during these critical stages of flight necessary for safety. A tailwind could increase the airspeed and may make an approach too fast and unsafe, therefore direction of operation is something which is considered carefully by ATC.

The wind direction and speed on the ground at the aerodrome can vary from what you may experience locally. In addition to wind on the ground, wind direction and speed are also assessed at 1,000ft and 2,000ft. Generally speaking, the wind speed increases considerably with altitude and may also have a significantly different direction. It is important to take these conditions into account, as they will affect flight during the initial stages of flight directly after take-off and during the final stages of the approach just before landing.

In recent years the annual average has approximately been a third of aircraft operations taking place in an easterly direction and two thirds in a westerly direction. The direction in which the runway is operated is determined purely by the prevailing wind direction, during the summer this typically results in a long period of time operating in an easterly direction. However, this split will vary from year to year and month to month and there is no correlation between the same months in different years.

Figure F-1: Easterly Runway Directions

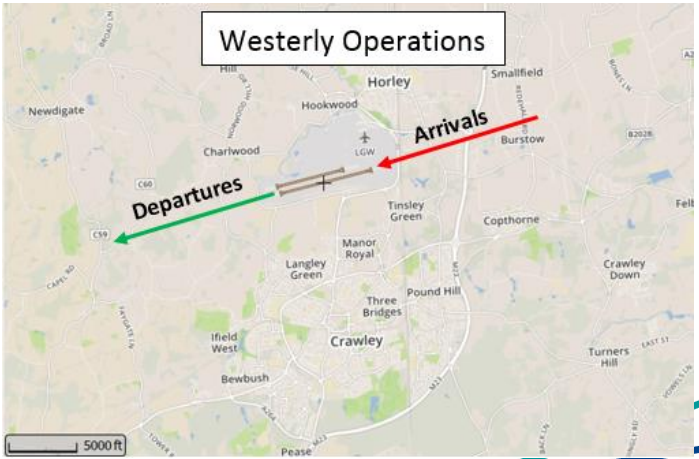

Figure F-2: Westerly Runway Directions

Annex G
Ground Noise – Background

London Gatwick is committed to mitigating and reducing noise disturbance caused by aircraft operating on the ground. Gatwick is a signatory to the Departure Code of Practice published in association with Sustainable Aviation. There are four key elements to this code:

1. **Reducing noise on the ground**
2. **Reducing noise and fuel emissions in the taxi stage**
3. **Airport Collaborative Decision Making (A-CDM)**
4. **Continuous Climb Operations**

There are a number of procedures aimed at mitigating ground noise.

Firstly, usage of Auxiliary Power Units (APU), small jet engines which generate electrical power for the aircraft on the ground, is restricted to a minimum to avoid unnecessary noise. Instead, electrical power is being supplied through Fixed Electrical Ground Power (FEGP) or – in case this cannot be utilised or is unavailable – by using a Ground Power Unit (GPU), which is a small diesel generator. The usage of GPUs is strictly controlled.

Secondly, there are limits in place concerning the maximum number of engine tests that can be conducted at the airport and there are strict regulations regarding when and where testing can be conducted in accordance with the S106 legal agreement. All testing must be authorised in advance by the Airfield Operations Team and there is a ban on testing during the night-time. Engine runs are an essential activity for maintenance and servicing work conducted at Gatwick.

Lastly, A-CDM in conjunction with reduced engine taxiing ensures that aircraft only use the minimum amount of thrust whilst on the ground, and only start their engines shortly before their departure. It also helps reduce the queueing time near the runway.

Annex H
Night Flights – Definition and Quota Count

The night period at London Gatwick spans from 23:00 to 07:00 and during this time the loudest aircraft (QC8 & QC16) are not allowed to operate. Stricter restrictions apply during the night quota period (or core night: 23:30 - 06:00) when there is a limit on the number of movements and the sum of quota count (QC). Furthermore, QC4-rated movements are not allowed to be scheduled during this period.

The noise quota of an individual aircraft is based on its official noise certification data, with separate classifications for take-off and landing in the form of QC values. As shown below, the smaller or newer the aircraft, the lower its QC value will be. As the QC is summed up over all movements, this incentivises the use of quieter aircraft in order to avoid being constrained by the QC limit.

Certificated noise level (EPNdB)	Quota count	Example aircraft (arrival)	Example aircraft (departure)
Less than 81	0	Bombardier Global Express	Bombardier Learjet 45
81 to 83.9	0.125	Airbus A320neo	Airbus A320neo
84 to 86.9	0.25	Airbus A319	Airbus A220-300
87 to 89.9	0.5	Airbus A330-200	Boeing 737-300
90 to 92.9	1	Boeing 737-300	Boeing 737-900
93 to 95.9	2	Boeing 747-400	Airbus A330-200
96 to 98.9	4	Douglas DC-10	Boeing 747-400
99 to 101.9	8	Ilyushin IL-76T	Douglas DC-10
Greater than 101.9	16	-	Antonov An-225

Figure H-1: Aircraft Noise Certifications

Annex I
Night Flights – Limits and Dispensations

The latest restrictions set by the DfT for all the London airports on night flying came into force in October 2017 and will remain in place until 2025. These allow 11,200 movements in the Summer season (quota limit 5,150) and 3,250 movements in Winter (quota limit 1,785). Any unused allowance (up to 10% of the total limit) from a preceding season can be carried over to next to allow some additional usage.

Every scheduled night flight movement that operates during the night quota period counts towards the allowance. Unscheduled night flight movements will generally count towards the allowance as well but may be granted a dispensation based on DfT guidelines. Examples of the extraordinary circumstances justifying a dispensation are:

- Medical emergencies
- Humanitarian flights
- Aircraft carrying heads of state or royal families
- Non-scheduled movements as a result of major Air Traffic disruption
- To alleviate serious hardship and congestion at the airfield or terminal
- Government requested dispensations

The number of potential dispensations per night is calculated as the difference between the number of unscheduled night flight movements and the number of flights that avoided the night quota period, i.e. those that were scheduled to operate at night but did not. The number of dispensations may only be as high as the “surplus” of unplanned movements.

Annex J
Departure Noise Limits

Departure noise limits are based on the assumption that the noise monitors are exactly 6.5km from the start of roll point on the runway and at the same elevation as the airfield. To judge the recorded noise levels in practice, adjustments are made to the limits to account for any variances in the monitor position.

There is also a margin of error taken into account for the microphone of +0.7dB. Details of the limits that apply to departing aircraft are shown below. In light of the more noise sensitive period, lower noise limits apply during the night and shoulder periods.

Site	Adjustments specific to monitoring sites			Adjusted Limit values at monitoring sites		
	Positional	Equipment	Total	Day	Shoulder	Night
101 Russ Hill	+5.0	+0.7	+5.7	99.7	94.7	92.7
103 Orltons	+1.9	+0.7	+2.6	96.6	91.6	89.6
105 Oaklands Farm	+1.9	+0.7	+2.6	96.6	91.6	89.6
104 Moat House	0.0	+0.7	+0.7	94.7	89.7	87.7
106 Bellwood	-0.2	+0.7	+0.5	94.5	89.5	87.5

Figure J-1: Departure noise limit adjustments

Financial penalties are applied to aircraft that exceed the noise monitor levels on departure (monitored at 6.5km from the start of roll). A minimum penalty of £500 will be applied for any departing flight that exceeds the above noise limits.

For any departure that exceeds the limit by 3 decibels or more, a fine of £1,000 is applied. All proceeds from noise fines are passed to the independently run Gatwick Airport Community Trust (GACT). Details of the work carried out by the GACT are available at www.gact.org.uk.

Glossary of Terms (1)

AAL	Above Aerodrome Level	The height of an aircraft above the elevation of the referenced aerodrome.
AIP	Aeronautical Information Publication	Essential air navigation information published by NATS on behalf of the CAA, detailing regulations applicable to the operation of aircraft, e.g. at specific aerodromes.
ANPT	Airline Noise Performance Table	A programme that ranks airlines flying into and from London Gatwick in relation to their overall noise performance.
APU	Auxiliary Power Unit	A small combustion engine on an aircraft that provides energy for functions like lighting or heating/cooling when the main engines are switched off.
ATC	Air Traffic Control	An entity responsible for a safe and expedite air traffic flow. To this end they monitor aircraft and issue instructions to the flight crew, either from the airport control tower or a radar centre.
ATM	Air Traffic Movement	An aircraft operation on the airport's runway, i.e. either a departure or an arrival.
CAA	Civil Aviation Authority	The UK independent civil aviation regulator
CDO	Continuous Descent Operations	An optimised descent profile utilised to reduce noise impact and fuel consumption by avoiding prolonged periods of level flight below 7,000ft. 'For monitoring purposes, a descent will be deemed to have been continuous provided that no segment of level flight longer than 2.5 Nautical Miles (NM) occurs below 7,000ft QNH and 'level flight' is interpreted as any segment of flight having a height change of not more than 50ft over a track distance of 2nm or more, as recorded in the airport Noise and Track Keeping system.'
DfT	Department for Transport	The government department providing policy & guidance for air traffic through their work with airlines, airports, the Civil Aviation Authority and NATS.

Glossary of Terms (2)

DME	Distance Measuring Equipment	DME is a fixed radio beacon which provides information to aircraft about their distance from its position. "1 DME" denotes 1 nautical mile from the selected ground station. The distance is measured as a slant range, not as distance over ground.
EGKK	(ICAO-code for London Gatwick)	These four-letter airport codes are used in the AIP and other aeronautical documents. This code is unique to London Gatwick.
EPNdB	Effective Perceived Noise in decibels	A noise metric aimed to measure the relative noisiness of an individual aircraft flying by and can be calculated from the certified noise levels. It is used for the quota count classification.
FEGP	Fixed Electrical Ground Power	FEGP provides aircraft with the necessary power to operate its electrical and air conditioning systems.
FLOPSC	Flight Operations Performance & Safety Committee	An engagement committee at London Gatwick ensuring the development of best practice by airline operators using Gatwick. It is made up of representatives of London Gatwick, the DfT, ATC service providers and airlines operating at the airport.
GACT	Gatwick Airport Community Trust	An independent charity which awards grants annually to local community schemes which benefit parts of East and West Sussex, Surrey and Kent.
GAL	Gatwick Airport Limited	-
GNMG	Gatwick Noise Monitoring Group	The GNMG consists of Environmental Health Officers and associated noise professionals from the local authorities surrounding London Gatwick. The GNMG evaluates and discusses the data collected from the fixed and mobile noise monitors surrounding London Gatwick.
GPU	Ground Power Unit	An either fixed or mobile unit (usually a diesel powered generator) which can supply electrical power to the electrical system of an aircraft while on the ground.
IAR	Independent Arrivals Review	Gatwick commissioned an independent review of air traffic around the airport in. The final report has been published in 2016. Click here for more information.

Glossary of Terms (3)

ILS	Instrument Landing System	Is a precision runway approach aid based on two radio beams which together provide pilots with both vertical and horizontal guidance during an approach to land.
KPI	Key Performance Indicator	A set of metrics or values by which performance is measured and monitored.
MOTW	Maximum Take-Off Weight	The certified maximum total weight of an aircraft during take-off.
NaTMAG	Noise and Track Monitoring Advisory Group	NaTMAG brings together representatives from the DfT, NATS, airlines, London Gatwick and local authorities. The group discusses a wide range of noise and track-keeping issues.
NATS	National Air Traffic Service	NATS is the main Air Navigation Service Provider in the United Kingdom and the service provider operating the control tower at Gatwick from 09th October 2022.
NMB	Noise Management Board	The Noise Management Board (NMB) is a unique body, bringing together representatives from all stakeholders in the management and mitigation of aircraft noise.
NPR	Noise Preferential Route	Departure flight paths that avoid densely populated areas and therefore reduce the noise.
NTK	Noise & Track-Keeping (System)	System used to assess flight performance and noise data, constituted by radar surveillance, noise monitoring terminals and software to process data.
QC	Quota Count	The QC is the noise quota assigned to an aircraft and is calculated on the basis of the EPNdB of that aircraft on take-off or landing. The QC is used for night flight restrictions at Gatwick, for which there is a set quota limit each season in addition to the movement limit.
QNH	(no acronym)	When set to QNH, an altimeter reads the altitude above mean sea level.
RAG	Red-Amber-Green	A tier system used to rate and categorise performance.
S106	Section 106	Refers to Section 106 the Town and Country Planning Act 1990.
TK	Track Keeping	A departure is defined as on-track if it does not deviate from the used NPR corridor before reaching the applicable minimum altitude.

LONDON GATWICK

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