Gatwick Airport Limited Airspace Office 2020 Quarter 4 Report

This report covers the period 1st October – 31st December 2020

Executive Summary

From the 1st of October to 31st of December 2020, there were 8,731 aircraft movements in total at Gatwick, which is a decrease of -86% compared to the same period last year due to the impact the COVID-19 pandemic had on air transport. Gatwick Airport, sadly, has been severely affected.

We have launched our Airline Noise Performance Table, and this is the first time it is included in the Airspace Office quarterly report. This tool allows us to compare airlines' performance in CDO, track-keeping and fleet noise efficiency, which we express through a new metric – quota count per seat.

Track-keeping performance has been consistent this year, with 97.87% compliance in quarter 4, which is only slightly worse (-0.21%) than last year.

CDO performance has decreased by approx. -4% year-on-year to 87%. This can be attributed to extremely low traffic levels in this quarter, also due to the second national lockdown in November and December, which can lead to unusual traffic patterns and thus increased difficulty in maintaining continuous descent. In addition, historical observations have consistently shown a reduction in performance during the winter months due to instances of inclement weather.

The number of submitted complaints has decreased to 567, which is a decrease of -90% compared with the same period last year. This is a larger reduction than what we have seen in traffic. The number of individual complainants has decreased to 70, which equals a -65% year-on-year reduction. There were no noise infringements this quarter.

If you would like to know more about aircraft operation, noise, make a complaint about aircraft noise, or learn about airspace around Gatwick, I would like to invite you to visit our website: <u>http://www.gatwickairport.com/noise</u>.

You can also see additional statistics and check how Gatwick traffic may affect your area on our Airspace Performance Dashboard: https://aircraftnoise.gatwickairport.com/overview-dashboard/.

Daniel Kominak, Airspace and Noise Programme Manager

About this report

This report is produced by the Gatwick Airport Airspace Office. This team is responsible for recording, investigating and responding to aircraft noise enquiries as well as monitoring airline compliance to noise mitigation measures as detailed in the UK Aeronautical Information Publication (AIP). This team also actively engages with the airlines to improve their adherence to the above noise mitigation measures and in addition manages the night-time restrictions on flying at Gatwick.

This report contains detailed data on aircraft activity at 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 Annex B to provide insight into the regulatory basis of the reported figures.



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Performance Summary

Key Performance Indicators This section details how the airport is performing in conjunction with its 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 of the UK Aeronautical Information Publication (AIP).

KPIs	Q1 2020	Q1 2020 vs Q1 2019	Q2 2020	Q2 2020 vs Q2 2019	Q3 2020	Q3 2020 vs Q3 2019	Q4 2020	Q4 2020 vs Q4 2019
Total Aircraft Movements	51,183	🔶 -17.95%	971	- 98.73%	18,425	- 77.49%	8,731	+ -86.33%
Percentage of Chapter 14 aircraft	63.70%	6.08%	45.45%	- 17.52%	70.18%	† 7.34%	70.83%	† 7.14%
Percentage of Chapter 4 aircraft & above	99.23%	58.05%	97.53%	62.66%	99.41%	65.36%	99.09%	6 3.64%
Percentage of Chapter 3 & Below Aircraft	0.12%	-0.26%	0.35%	- 1.35%	0.14%	- 1.98%	0.31%	0.07%
Continuous Descent Operations (CDO) compliance	89.32%	- 1.10%	72.69%	- 17.95%	92.43%	1 2.01%	87.05%	
Track Keeping Compliance	98.62%	0.53%	97.93%	- 0.17%	98.45%	0.36%	97.87%	- 0.21%
Total Noise Infringements	0	0	0	-100.00%	0	- 0	0	- 0
Noise Complaints Received	3408	🔶 -24.94%	318	-94.52%	2336	+ -75.02%	567	-90.39%
Individual complainants	115	4 2.50%	78	-71.22%	189	- 51.41%	70	-64.82%
Enquiry response performance target is 95% within 8 days	99.10%	•0.88%	99.70%	^ 50.70%	99.87%	20.72%	99.82%	^ 14.75%

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Figure 1: Summary of KPIs



Airline Noise Performance Table

In order to drive continuous improvement and to help showcase airline performance in relation to noise, an Airline Noise Performance Table has been developed. In collaboration with airlines, Gatwick Airport Limited identified strategic and operational metrics which are being monitored and reported against.

QC/seat is the strategic metric in the performance table, whilst both Continuous Descent Operations (CDO) and Track-Keeping (TK) are operational metrics. The methodology for all three metrics is detailed on the following slide.

Airlines with more than ten movements per week during Quarter 4 are included in the ranking. Carriers with a base at Gatwick are highlighted in **bold**.

Rank by ATMs	Airline name	Total movements	QC/Seat	Rank (QC)	CDO performance	Rank (CDO)	TK performance*	Rank (TK)
1	EasyJet	5,187	0.00132	2	93.49%	2	99.24%	7
2	British Airways	716	0.00338	9	89.53%	4	98.94%	8
3	TUI Airways	541	0.00270	7	92.83%	3	97.78%	9
4	Ryanair	400	0.00265	6	95.48%	1	100.00%	1
5	Vueling	356	0.00159	5	75.28%	7	100.00%	1
6	Wizz Air	280	0.00153	4	75.18%	8	100.00%	1
7	Air Baltic	218	0.00129	1	84.26%	5	100.00%	1
8	Air Europa	155	0.00320	8	66.23%	9	100.00%	1
9	Turkish Airlines	154	0.00151	3	81.58%	6	100.00%	1

Airlines are ranked by the number of movements. The ranking within each metric is presented.

Figure 2: Airline Noise Performance Table

The COVID-19 pandemic has had an unprecedented impact on the aviation industry. During the reporting period, the Government had in place travel restrictions to control the spread of the virus and a second national lockdown occurred in November/December. A number of airlines reduced or ceased their operations at Gatwick during the quarter, and hence there are fewer airlines shown on the table than would be expected in a typical year.

* Route 4 Track-Keeping performance is excluded from 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 dependent on noise performance of the aircraft. The QC value 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 4: Comparison of easterly and westerly runway usage



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The number of total movements (Figure 3) in quarter 4 continues to display the impact of the COVID-19 pandemic and the second national lockdown in November.

Figure 5 shows that the A320 aircraft family was the most common type at Gatwick Airport and is used by easyJet, British Airways, Vueling and Wizz Air. Wizz Air have stationed their first aircraft of this family at Gatwick in October.

There were more northern runway movements in April and May during the quiet lockdown period and main runway maintenance could take place.



72%

■ B787 family

B757 family

B777 family

Other

12%

B737 family

E-Jet family

A320 family

A330 family

Arrivals Statistics – Continuous Descent Operations¹



9

The national Lockdown 1 period that began on 23 March had a significant impact on CDO operations due to the reduction of movements. The gap in figure 9 results from the cessation of night flights in April & May.

It was also observed that there has been an increase in the number of ad-hoc airlines utilising the airport during the year. In many cases these were airlines operating repatriation flights to retrieve UK citizens from abroad or to retrieve foreign nationals from the UK.

CDO historically declines slightly during the winter months due to adverse weather conditions, however a second lockdown affected CDO once again in December 2020.

Arrivals Statistics – Go-Arounds

A go-around is a procedure adopted when an arriving 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 the pilots can anticipate where the aircraft will go following the decision to go-around.

The standard missed approach procedure applicable to Gatwick Airport requires 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.



Arrivals Statistics – Go-Arounds

The causes for go-arounds are recorded by controllers in the ATC Tower and provide an insight into the operational situations causing them to happen. The top three reasons in figure 13 (left) are weather (e.g. wind shear), unstable approach and an occupied runway. The latter may be caused by a range of conditions as broken down in figure 13 (right).

In quarter 4, the few go-arounds which took place were never caused by an occupied runway, which reflects lower traffic levels and the consequent lower runway utilisation.



Arrivals Statistics – Joining Point





As per the AIP rule, aircraft shall not join the ILS at less than 10NM from touchdown or below 3000ft at night. Figure 15 shows the percentage of arrivals violating this rule. In June, a single night-time operation took place and violated the rule, which is why the data point (100% for <10 NM & <2,798 ft) has been excluded for improved readability.

During the day, arrivals shall not join the ILS below 2000ft. Figure 16 shows a less than 1% of arrivals joining the ILS at less than 2,000 ft in the few months that had any violations of this rule. The Airspace Office is continuing to monitor this.

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 – Overflight³





1

Arrival infringements over Horsham

February

Narch

APrill May Inue

HUI

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 or Lingfield below 2,000ft.

The aircraft recorded in Figure 17 and 20 were all caused by go-arounds.

The infringement shown in Figure 21 was caused by a light propeller aircraft crossing Lingfield at 1,691 ft. The reference altitude for Lingfield after adjusting for all tolerances is 1,698 ft.



13

1

october November

september

AUBUST

Departure Statistics – Track Keeping



14

Figure 22 shows that track keeping compliance was consistently lower in quarter 4 of 2020 compared to 2019, especially in December.

Figure 23 shows that track keeping is better during easterly operations compared to westerly operations. This is due to a known issue with Route 4 track keeping which can be affected by strong south-westerly winds.

Departure Statistics – Track Keeping in 2020



Figure 24: Track keeping and route usage



Figure 25: Noise Preferential Routes for departures

Figure 24 shows that the most used route was 26LAM/Route 4 in 2020, however the track keeping	
	R
compliance has decreased with the increase in flights. As mentioned previously, there is a known	R
issue with the track keeping on Route 4.	R
	R

Figure 25 shows a map of all the nine departure routes in use at Gatwick Airport.

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 2020.

During 2019, there was one departure noise infringement observed during the day on 11 May 2019 caused by a departing Virgin Atlantic Boeing 747-400 Series which breached the noise limit by 1.4dB. The airline was fined £500 for the infringement and the funds were paid to the Gatwick Airport Community Trust (GACT).





Departure Statistics – Noise, Climb and Overflight





Figure 27 shows the number of departures that have overflown Crawley. The majority of Crawley overflights are due to weather avoidance on westerly departure routes, particularly on Route 9.

Figure 28 shows the number of Horley overflights during the year. The Airspace Office are continuing to work with NATS to reduce the number of overflights of the town as they continue to educate their controllers to avoid the town.

Figure 29 shows that there have been no 1,000ft departure noise infringements during the year.



Figure 29: Number of aircraft not meeting the required climb performance⁵

Night Operations – Summer Season





Actual cumulative

Figure 30: Night flight movements in summer

The Summer 2020 season started on 29th March 2020 (0100hrs) and ran until 25th October 2020 (0159hrs). Figure 30 depicts the planned and actual usage of the night flight movement and quota. The usage decreased to very low levels in quarter 4 and the season finished with 1,284 movements against a limit of 11,200 movements.

Figure 31 provides a breakdown of the flights either avoiding the night quota period or using unplanned quota usage (dispensed or nondispensed). No dispensations were applied in the summer season. "Avoided" describes flights which had been scheduled to operate during night quota period but operated outside of it instead.



Figure 31: Number of non-dispensed, avoided and dispensed flights



Night Operations – Winter Season



The Winter 2020/2021 season started on 25th October 2020 (0200hrs) and will run until 28th March 2021 (0059hrs). Figure 32 depicts the planned and actual usage of the night flight movement and quota limit up until the end of week 11 of the season, i.e. as of 9th January 2021. The usage remained very low in Quarter 4.

Figure 33 provides a breakdown of the flights either avoiding the night quota period or using unplanned quota usage (dispensed or nondispensed) due to delayed arrivals or early departures.



Figure 33: Number of non-dispensed, avoided and dispensed flights

19



Figure 32: Night flight movements in winter

Noise Monitoring

Like most airports, 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 34: Location of current and historical noise monitors and NPRs

Complaints



The number of noise complaints significantly reduced during the two national lockdown periods of 2020 but increased when traffic levels began to resume in the summer. This is also reflected in Figure 40 where we have received complaints from those who have not previously complained.

Complainants are more frequently using the web form and WebTrak to submit noise complaints.

The areas in 2020 with the greatest number of complaints received were Tunbridge Wells, Tonbridge and Langton Green. A map of the distribution of individual complainants is shown on the following page.

Complaints



Ground Noise



23

Figure 40 shows that the number of engine tests remain below the Section 106 limit of 250 in a six-month period.

Figure 41 shows that there were five uses of a Ground Power Unit in Q4 and they were used with a dispensation granted.

Figure 43 shows that were no further instances of APU noncompliance in Q4. The earlier occurrences were mainly due to the FEGP being unavailable at the time and flight deck errors in shutting down the APU on time.

Annex A – Additional Statistics



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

The number of flights operated by unmodified A320 family aircraft, which have not had fuel over-pressure protector modification installed, has reduced since the beginning of the year in line with the overall reduction of movements. Gatwick Airport 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 -80% since then and represented 0.9% of all the A320 traffic in 2020. The higher share in April & May was caused by the extremely low total movement count.



Annex A – Additional Statistics



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

Figure A-2 shows that the percentage of traffic joining the ILS on Runway 26 has varied per quarter. In Q4, 0.91% of aircraft joined ILS inside 8 NM. The high percentage of arrivals joining between 14.5 – 14.99 NM accounts for aircraft that arrive directly from the East. Also, the airspace has been quieter since the March 2020 national lockdown meaning aircraft have more room for manoeuver. Figure A-3: Traffic Joining ILS per quarter – Runway 08 Only

Figure A-3 shows a lower percentage of arrivals joining the ILS in an easterly direction compared with westerly, however there is a similar pattern to westerly ops. In Q4, 0.7% of aircraft joined ILS inside 8NM. There have been more 15NM+ during Q4 2020, mainly due to the airspace becoming quieter due to the second national lockdown.

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: 3,000ft (Gatwick QNH) – 202ft (airfield elevation) 2,798 ft – 200ft ATC radar tolerance

= 2,798ft on Airports Noise & Track Keeping System= 2,598ft on Airports 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:

https://www.gatwickairport.com/globalassets/publicationfiles/business_and_community/all_public_publications/sustainability/s106/complet ed-s.106-agreement-30.04.19.pdf

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

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

Recommendation Imm-10 of the Independent Arrivals Review (IAR) in 2016 proposed a reduction in the ILS minimum joining point from 10NM to 8NM from touchdown. The reason for this recommendation was to extend the arrival swathe 2NM closer to the airport and increase the arrivals dispersal to more closely emulate the operations prior to the 2013 change.

Following the publication of the Action Plan, GAL working closely with NATS, progressed the implementation of the recommendation supported by significant detailed analysis to support the implementation of an operational evaluation. The evaluation commenced on the 15th August 2016. GAL along with 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 reduced joining point (8 to 10 NM) 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. At NMB/5 it was agreed that the 8NM minimum ILS joining point would be transitioned to a permanent procedure on the 15th 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. The reporting and monitoring function was then transferred to NaTMAG, as the procedure became part of daily operational monitoring. In Q4 2020, ILS joining point distance statistics were absorbed into the new Airspace Office Quarterly and Annual reporting.

Communities regularly express concerns regarding the number of flights that join 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 and refers this to the Airport's Flight Operations Performance and Safety Committee (FLOPSC) for further investigation. The rationale for this is that 8NM ILS minimum joining point is not an official noise abatement procedure, but primarily a safety feature relating to the stabilised approach of aircraft to the runway and therefore needs to be followed up by FLOPSC as the competent safety body.

Annex D Roles and Responsibilities

Gatwick Airport Limited

GAL is the licensed operator of Gatwick Airport. 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.

The Airspace Office

The Airspace Office is responsible for recording, investigating and responding to aircraft noise enquiries as well as to monitor and report airline compliance 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 Gatwick Airport. 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 Gatwick Airport Tower is operated by Air Navigation Solutions, who oversee the runway and ground operations.

Air Navigation Solutions

ANS is responsible for aerodrome Air Traffic Control at Gatwick Airport from when the aircraft leaves its stand to when it reaches 4,000ft in the air. ANS 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.



Glossary of Terms (1)

AAL	Above Aerodrome Level	The height of an aircraft above the elevation of the referenced aerodrome, usually the one from which they departed or which they are approaching.
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 Gatwick Airport 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 from a radar centre.
ΑΤΜ	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 Gatwick airport)	These four-letter airport codes are used in the AIP and other aeronautical documents. This code is unique to Gatwick airport.
EPNdB	Effective Perceived Noise in decibels	A noise metric aimed to measure the relative noisiness of an individual aircraft flying by. The value is relevant for the quota count classification can be calculated from the certified noise levels.
FLOPSC	Flight Operations Performance & Safety Committee	An engagement committee at Gatwick Airport ensuring the development of best practice by airline operators using Gatwick. It is made up of representatives of Gatwick Airport, 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 Gatwick Airport. The GNMG evaluates and discusses the data collected from the fixed and mobile noise monitors surrounding Gatwick Airport.
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. More information: <u>https://www.gatwickairport.com/business-community/airspace-noise/airspace/arrivals-review/</u>

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.
LTA	Long Term Average	Values of a metric averaged over a relatively long period – typically one year.
мтоw	Maximum Take-Off Weight	The certified maximum total weight of an aircraft during take-off.
NaTMAG	Noise and Track-Keeping Monitoring and Advisory Group	NaTMAG brings together representatives from the DfT, ANS, NATS, airlines, Gatwick Airport 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.
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.
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.
тк	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.

Glossary of Terms – Night Flight Restrictions

For the purposes of the night flight restrictions, the hours of the day have been categorised into four periods. These are also used for some noise abatement procedures such as CDO (see page 10).

The periods are called Day, Shoulder 1, Night and Shoulder 2. However, the night flight restrictions differentiate between the night period (Night + Shoulder 1 + Shoulder 2) and the night quota period (Night only). The latter is referred to as Core Night in the context of CDO.

The graphic below depicts the different periods and their boundaries. The Day period runs from 07:00:00 to 22:59:59. All times are local times.



Figure G-1: Definition of time periods referred to in this report

YOUR LONDON AIRPORT Gatwick

