

# Gatwick Airport Limited Airspace Office 2020 Annual Report

This report covers the period 1<sup>st</sup> January – 31<sup>st</sup> December 2020



# Introduction and Executive Summary

It is my pleasure to introduce the Gatwick Airport Airspace Office Annual Report for 2020. Readers familiar with these reports will notice that this report takes a different format to those of previous years. In 2018 the project to improve the then Flight Performance Team commenced. This improvement project resulted in Gatwick Airport Ltd investing in a new Noise and Track Keeping System and associated Noise Monitoring Terminals, updated website content, improved processes and capabilities for the new Airspace Office and significantly increased noise management information being made publicly available.

One of the improved processes mentioned above relates to the improvement of the regular monitoring and reporting of the key noise abatement measures described in the Aeronautical Information Publication for Gatwick Airport. This is the first such annual report to be created in this manner and its aim is to provide an overview of 2020 performance in a more engaging, informative and user-friendly style.

Any aviation related report focussing on 2020 must necessarily capture the dramatic impact of the COVID-19 pandemic on the entire industry and Gatwick Airport is no exception. Despite an encouraging start to 2020, traffic started to gradually reduce in March 2020 before dropping off significantly and persistently through the second quarter with the airport experiencing near zero

traffic levels as the UK and most of Europe imposed national lockdowns. Traffic volumes increased marginally over the summer but decreased from the autumn due to further Government restrictions both in the UK and in destination countries as successive waves of the virus flared up during autumn and winter 2020.

During 2020 there were 79,310 air traffic movements at Gatwick Airport, this being 27.85% of the 2019 total. Passenger numbers reduced by 78.2% from 46.6 million in the prior year to 10.2 million. With regards to air traffic operations during the night period, during the 2020 summer season there were 1,284 night movements, representing 11.10% of the traffic during the same season in the previous year. The winter season of 2020/2021 had 302 movements at night, representing 16.94% of those in the previous year.

It is acknowledged by the airport that even with these reduced operations, aircraft noise remains a concern for our communities and during 2020 there were 6,628 aircraft noise complaints registered with the airport from 313 complainants. These figures represent 25.90% and 44.84% respectively of the complaints and complainants registered in 2019.



Throughout 2020, Gatwick Airport's top priority remained the health and safety of passengers and airport employees. This focus, together with communication with stakeholders and Government, and careful action to manage resources, absorbed most of the airport's attention during 2020.

Nevertheless, throughout 2020, the work of the Airspace Office continued to carefully monitor all aircraft activity. It also reports compliance with the relevant noise abatement requirements, record noise levels through our Noise Monitoring Terminals, provides a noise complaint and information facility and to oversee and report usage of the night flying restrictions applicable to the airport. In addition, the airport continued to implement its Section 106 Obligations and selected actions from our Environmental Noise Directive Noise Action Plan and support the commencement of the second term of the Noise Management Board.

Each year, the UK's Civil Aviation Authority (CAA) undertakes noise exposure contour analysis for Gatwick Airport. The 2020 report shows that the airport's day noise footprint (54 dBA  $L_{eq}$ ) reduced, as expected, by 82%: from an area of 74.0 km<sup>2</sup> in 2019 to 13.3 km<sup>2</sup> in 2020. The number of people living within this area fell by 95% to 500 people from 9,850. The CAA attributed the reductions to the fall in movements (76% reduction) and also to fleet mix changes and noise updates following 2020 measurements (6% reduction). This also accounted for a similar reduction in night noise.

Additionally, Gatwick Airport commissioned in the 2020 analysis the N-above contours for day (N65) and night (N60); i.e. the number of noise events (aircraft overflights) which exceeded a 'trigger' noise level of 65dB during the day and 60dB at night. N-above contours are now a standard part of the report.

It is recognised that over the past year many will have become used to quieter skies and as civil aviation begins to resume in 2021, the increase in noise may, for some, be more noticeable than usual. Aircraft noise can never be removed completely, but the airport does try to strike a balance by reducing noise impacts as much as possible, while facilitating the many benefits that it delivers.

As well as the usual reports and updates to the Noise and Track Monitoring Advisory Group and the Noise Management Board, as air travel starts to return the airport noise webpages will be updated regularly in order to help local communities understand the levels of aircraft activity that are expected to take place at Gatwick Airport.

Lee Howes,

Airspace and Environmental Performance Manager



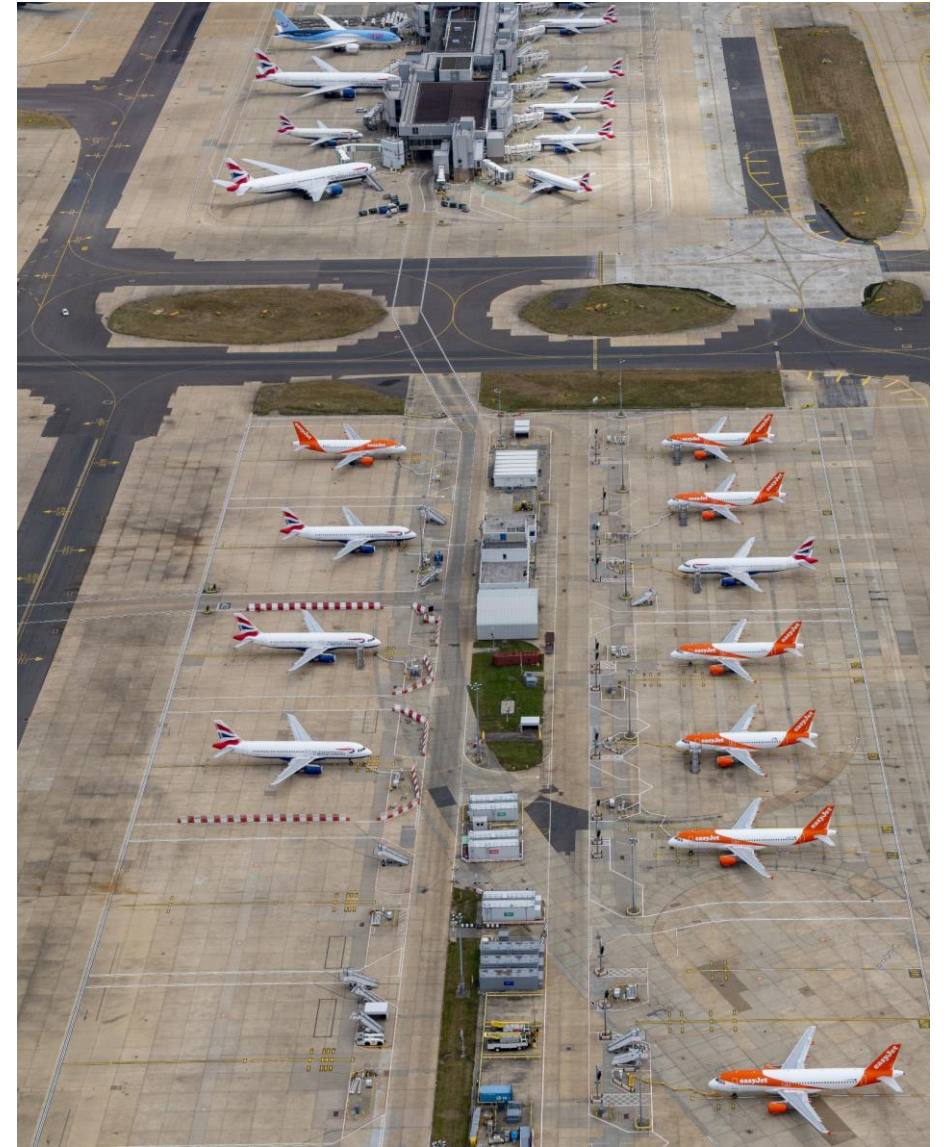


# About this report

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 the Annex to provide insight into the regulatory basis of the reported figures.



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# Performance Summary

## Gatwick Key Statistics 2020

Total passengers: 10.2 million

Aircraft movements: 79,310

Total number of aircraft seats: 14.7 million

Average number of passengers per flight: 133

Average load factor: 69.2%

Biggest airline: easyJet carrying 4.8m passengers

Long haul passengers: 1.8m

Top destination served: Dublin





# 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%	↑ 63.64%
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%	↑ 2.01%	87.05%	↓ -3.69%
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	↓ -42.50%	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%

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.

Parameter	12 Month Performance											
	2020	2020 vs 2019	2019	2019 vs 2018	2018	2018 vs 2017	2017	2017 vs 2016	2016			
Track keeping performance (% on track)	98.49%	↑ 0.07%	98.42%	↑ 0.34%	98.08%	↑ 0.02%	98.06%	↓ -0.50%	98.56%			
24hr CDO (% achievement)	89.59%	↑ 0.01%	89.58%	↓ -1.16%	90.74%	↑ 0.26%	90.48%	↑ 1.90%	88.58%			
Day/Shoulder CDO (% achievement)	89.79%	↑ 0.09%	89.70%	↓ -1.10%	90.80%	↑ 0.24%	90.56%	↓ 2.38%	88.18%			
Core night CDO (% achievement)	85.74%	↓ -2.53%	88.27%	↓ -1.76%	90.03%	↑ 0.43%	89.60%	↓ -3.30%	92.90%			
1000ft Infringements (No.)	0	- n/a	0	- n/a	0	- n/a	0	- n/a	0			
Departure Noise Infringements	0	- n/a	0	- n/a	0	↓ -100.00%	2	↑ 100.00%	1			
Individual Complainants	313	↓ -55.16%	698	↓ -16.51%	836	↓ -16.15%	997	↓ -57.10%	2,324			
Total Noise Complaints Received	6,628	↓ -74.10%	25,593	↑ 4.69%	24,447	↓ -0.86%	24,658	↑ 39.19%	17,715			
Enquiry Response Performance Target is 95% Within 8 Days	99.49%	↑ 21.86%	77.63%	↓ -22.35%	99.98%	↑ 0.09%	99.89%	↑ 53.34%	46.55%			
Percentage of Chapter 4 (or equivalent) aircraft %	99%	↑ 1.00%	98%	↓ -1.00%	99%	- 0.00%	99%	- 0.00%	99%			
Percentage of Chapter 14 aircraft %	66%	↑ 4.00%	62%	↑ 6.00%	56%	↑ 1.00%	55%	- n/a	n/a			
West/East Runway Split (%)	83/17	- n/a	68/32	- n/a	62/38	- n/a	78/22	- n/a	67/33			
Total Air Traffic Movements	79,310	↓ -72.15%	284,736	↑ 0.29%	283,926	↓ -0.82%	286,271	↑ 2.21%	280,089			

Figure 2: Summary of Annual KPIs





# Performance Summary

## Comparison to END 2016 Baseline

Parameter	12 Month Performance Averages <sup>1</sup>					
	+/-	2020	2019	2016	2011	2006
Track keeping performance (% on track) <sup>2</sup>	▲	98.49%	98.42%	98.56%	97.47%	98.17% <sup>3</sup>
24hr CDO (% achievement) <sup>4</sup>	▲	89.59%	89.58%	88.58%	90.49%	80.79%
Day/Shoulder CDO (% achievement)	▲	89.79%	89.70%	88.18%	90.19%	79.9%
Core night CDO (% achievement)	▼	85.74%	88.27%	92.90%	93.96%	89.6%
1,000ft Infringements (No.)	-	0	0	0	3	11
1,000ft Infringements (No. below 900ft)	-	0	0	0	1	6
Departure Noise Infringements (Day)	▲	0	1	0	0	10
Departure Noise Infringements (Night/Shoulder)	-	0	0	1	4	2
Individual complainants	▼	313	698	2,324	343	587
Total noise complaints received <sup>5</sup>	▼	6,628	25,593	17,715	2,673	4,791
Enquiry response performance target is 95% within 8 days	▲	99.49%	77.63%	46.55%	KPI 95%	
West/East Runway Split (%)	-	83/17	68/32	67/33	67/33	68/32

Figure 3: Summary of 2020 and 2019 KPIs against the 2016 END Baseline

<sup>1</sup> The colour indicates the most recent 12 month performance compared to the 2016 END Baseline, with green showing improvement and red a decline in performance, the directional arrow indicating performance compared to the previous 12 month performance.

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

<sup>3</sup> This figure did not include deviations from prop types or those due to weather.

<sup>4</sup> 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 1<sup>st</sup> August 2016.

<sup>5</sup> 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 29<sup>th</sup> 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, Gatwick Airport issues a quarterly Airline Noise Performance Table (ANPT), comparing operators' performance against strategic and operational metrics. This report presents the ANPT for all of 2020. Carriers with an established 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	<b>EasyJet</b>	<b>40,063</b>	<b>0.00155</b>	2	95.11%	2	99.54%	11
2	<b>British Airways</b>	<b>10,977</b>	<b>0.00261</b>	9	92.20%	3	99.45%	13
3	<b>Norwegian</b>	<b>5,764</b>	<b>0.00331</b>	12	90.99%	5	99.92%	5
4	<b>TUI Airways</b>	<b>3,412</b>	<b>0.00257</b>	8	89.99%	6	99.46%	12
5	Vueling	3,116	<b>0.00179</b>	3	82.63%	8	99.73%	8
6	Ryanair	3,024	<b>0.00271</b>	10	97.36%	1	99.86%	6
7	<b>Wizzair</b>	<b>1,607</b>	<b>0.00205</b>	4	69.53%	13	100.00%	1
8	Turkish Airlines	1,139	<b>0.00292</b>	11	79.82%	10	99.15%	14
9	Aer Lingus	1,060	<b>0.00217</b>	6	79.70%	11	100.00%	1
10	Air Baltic	909	<b>0.00130</b>	1	82.47%	9	100.00%	1
11	Aurigny	881	<b>0.00224</b>	7	91.53%	4	99.77%	7
12	<b>Virgin Atlantic</b>	<b>768</b>	<b>0.00568</b>	14	85.68%	7	99.71%	9
13	Air Europa	616	<b>0.00334</b>	13	62.01%	14	99.67%	10
14	TAP Portugal	555	<b>0.00217</b>	5	74.82%	12	100.00%	1

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

Figure 4: Airline Noise Performance Table

This table is based on operational data from before and during the COVID-19 pandemic. Throughout the year, operations were impacted by travel restrictions and multiple national lockdowns. A number of airlines ceased their operations at Gatwick, but still appear on this table due to operations in January, February and March 2020. The threshold for inclusion in the table is an average of 10 movements per week.



# 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 =  $(0.25 + 0.5) / (180 * 2) = \mathbf{0.00208}$ , 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 =  $(0.125 + 0.125) / (180 * 2) = \mathbf{0.00069}$ .

## 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**  $\geq 85\%$  **70%  $\leq$  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**  $\geq 95\%$  **90%  $\leq$  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

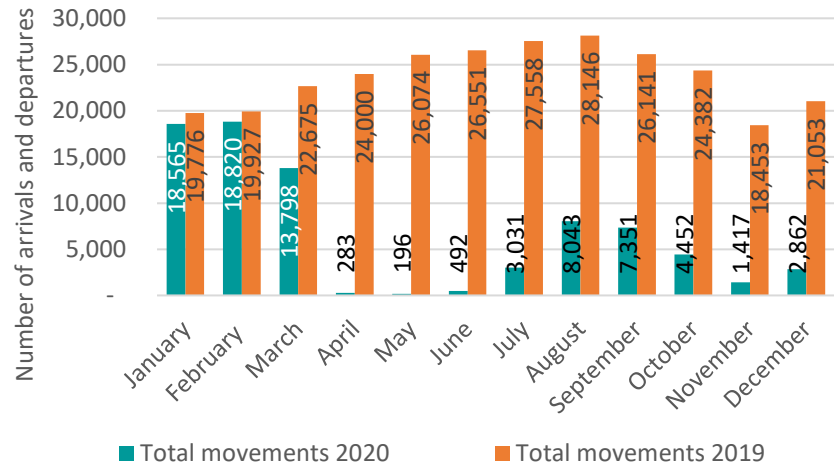


Figure 5: Comparison of number of arrivals and departures of this and previous year

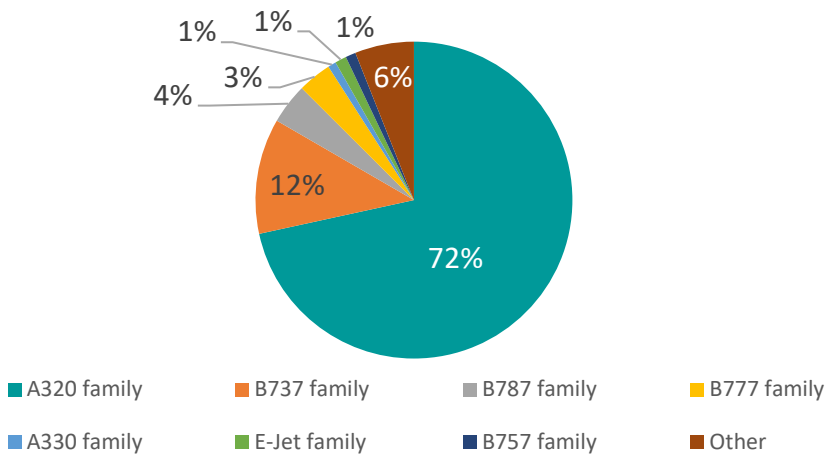


Figure 7: Aircraft fleet mix in 2020

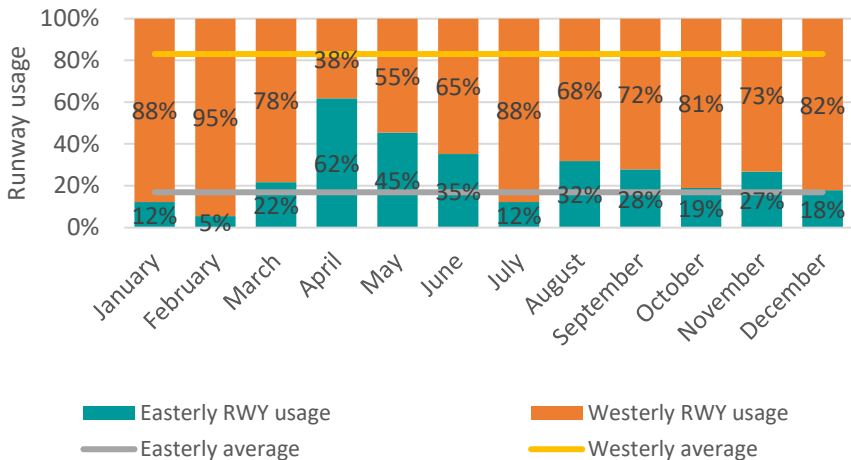


Figure 6: Comparison of easterly and westerly runway usage

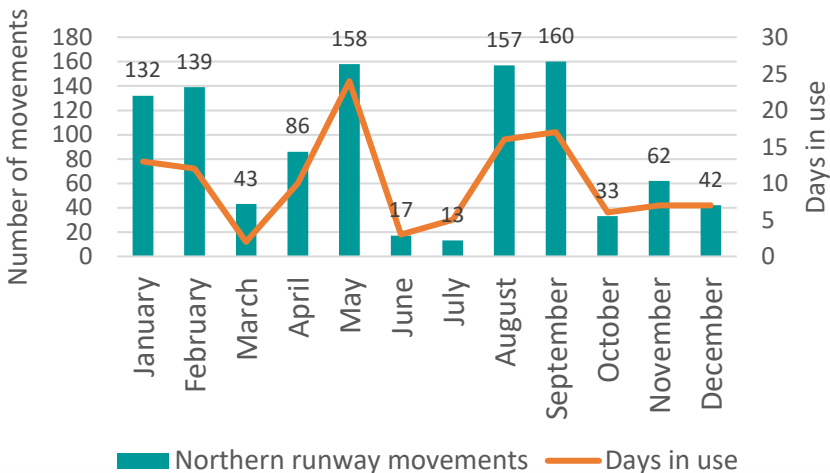


Figure 8: Northern runway usage

The number of total movements (Figure 5) during 2020 shows the impact of the COVID-19 pandemic and the effect of two national lockdowns during the year.

Figure 7 shows that the A320 aircraft family was the most common type at Gatwick Airport in 2020 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, when the main runway maintenance took place.





# Movements by Aircraft Type

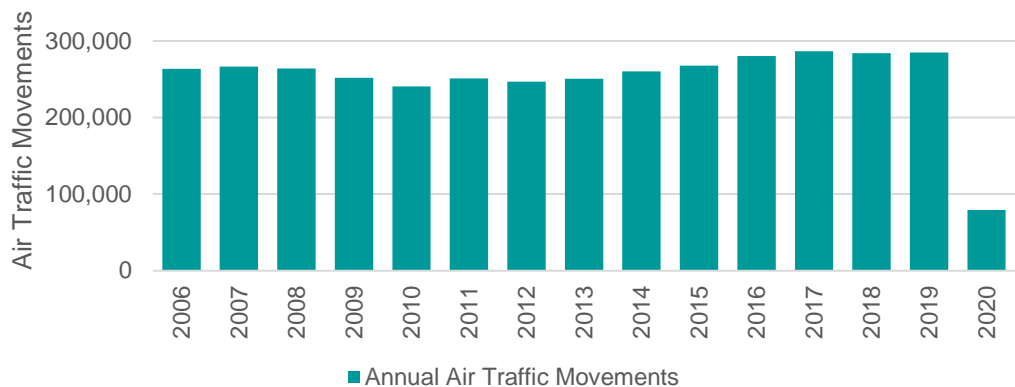


Figure 9: Annual Air Traffic Movements 2006-2020

Figure 9 shows the annual air traffic movements since 2006. A breakdown by different aircraft types is presented in Figure 10. The decline in air traffic volumes affected all aircraft types, although differences can be identified. Most notably from a noise perspective, operators favoured newer, quieter aircraft during the pandemic due to the higher fuel efficiency of these aircraft. For example, previous generations of A320 family aircraft were used 71 to 87 percent less than in 2019, while usage of A320 “Neo” family only declined by 33 to 36 percent.

Usage of business jets, such as Cessna Citations, declined only slightly reflecting the fact that business aviation was not affected by the pandemic as much as commercial aviation. In contrast, many long-haul aircraft were used significantly less due to travel restrictions, although some were used for cargo or repatriation flights. Some operators even opted to retire older types, such as the Boeing 747-400, which will bring a permanent noise reduction to Gatwick’s communities.

Aircraft Type	2020	2019	Percent +/-
Airbus A320	25,107	86,768	-71.06%
Airbus A319	17,051	79,815	-78.64%
Boeing 737	10,941	41,757	-73.80%
Airbus A320 Neo	8,378	12,499	-32.97%
Airbus A321 Neo	4,887	7,673	-36.31%
Boeing 787	3,275	12,179	-73.11%
Boeing 777	2,731	8,903	-69.32%
Airbus A321	1,346	11,167	-87.95%
Airbus A220 (Bombardier C-Series)	958	1,524	-37.14%
Embraer 190/195	929	3,651	-74.55%
Boeing 757	825	3,337	-75.28%
Airbus A330	662	4,664	-85.81%
ATR 42/72	547	1,434	-61.85%
Airbus A380	506	2,125	-76.19%
Boeing 747	340	2,058	-83.48%
Airbus A350	248	1,277	-80.58%
Cessna Citation/Challenger	130	142	-8.45%
BAe 146/Avro RJ	78	0	n/a
Boeing 767	58	1,234	-95.30%
Embraer 135/145	49	n/a	n/a
Airbus A340	36	330	-89.09%
Embraer Phenom/Legacy	36	n/a	n/a
Gulfstream	32	47	-31.91%
Other Jet Aircraft	32	n/a	n/a
Embraer 170/175	28	954	-97.06%
Dassault Falcon	26	39	-33.33%
Other Propeller Aircraft	24	n/a	n/a
Beech B200	22	n/a	n/a
Bombardier Learjet	16	n/a	n/a
Airbus A310	12	322	-96.27%
Total	79,310	283,899	-72.06%

Figure 10: Movements by Aircraft Type 2020 vs 2019



# Westerly Operations

These maps depict aircraft tracks (Figure 11) and track density (Figure 12) on the busiest day with westerly operations in 2020. 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 Gatwick need to be integrated with traffic to and from other airports in the London Terminal Manoeuvring Area.

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.

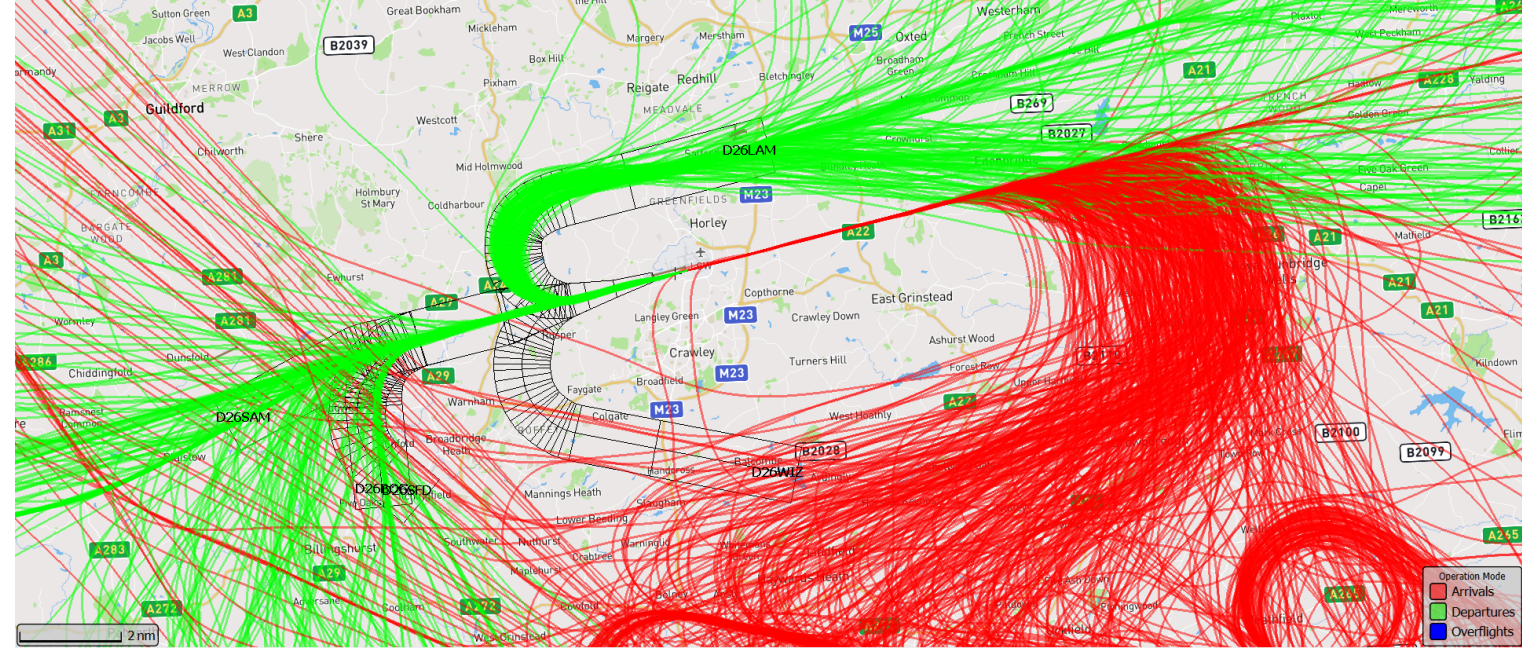


Figure 11: Westerly Operations Arrival and Departure Tracks

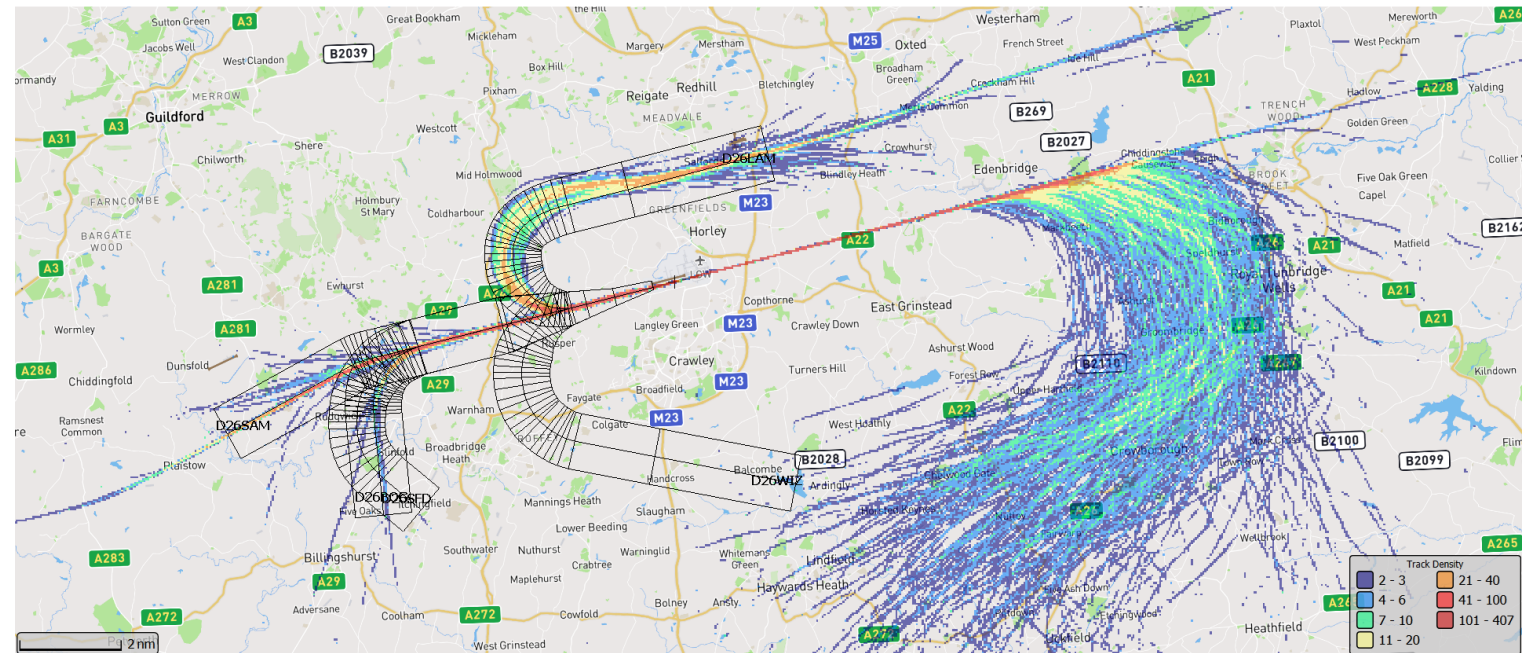


Figure 12: Westerly Operations Track Density



# Easterly Operations

These maps depict aircraft tracks (Figure 13) and track density (Figure 14) on the busiest day with easterly operations in 2020. 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 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 overflowed 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.

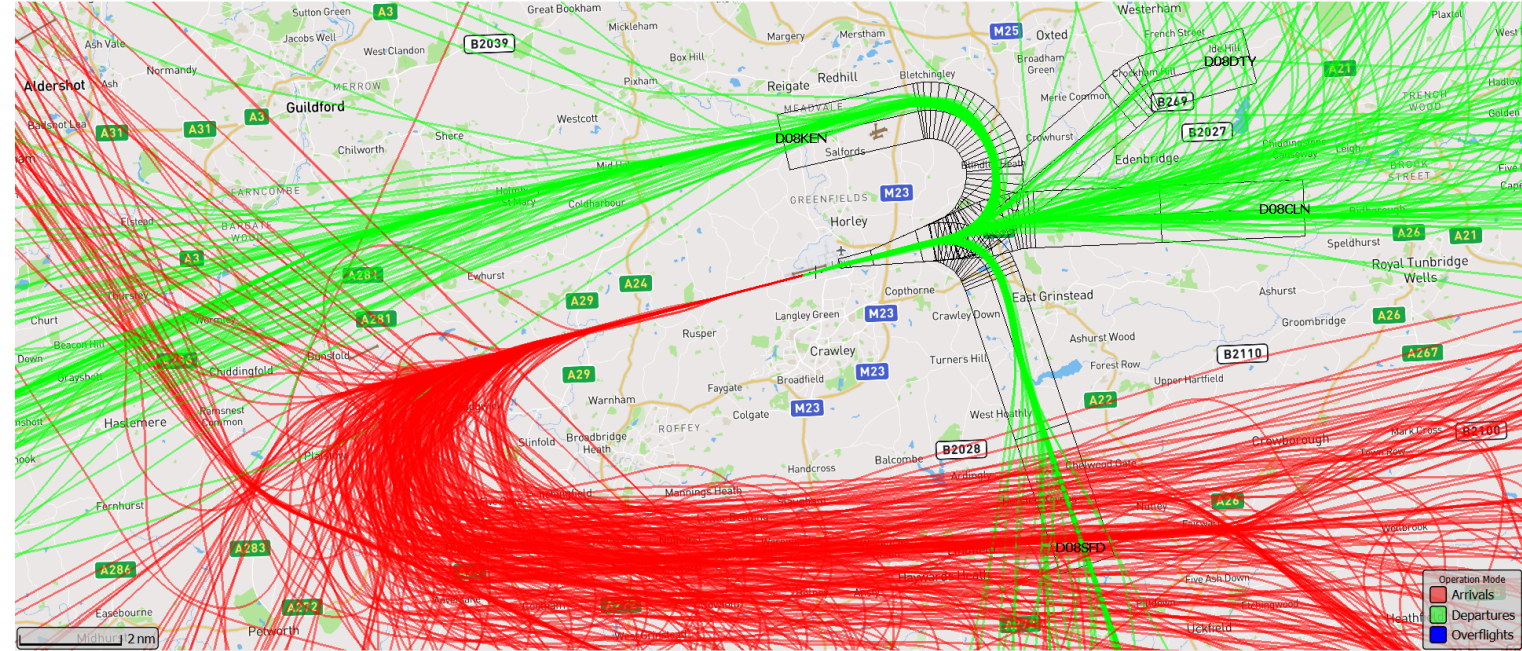


Figure 13: Easterly Operations Arrival and Departure Tracks

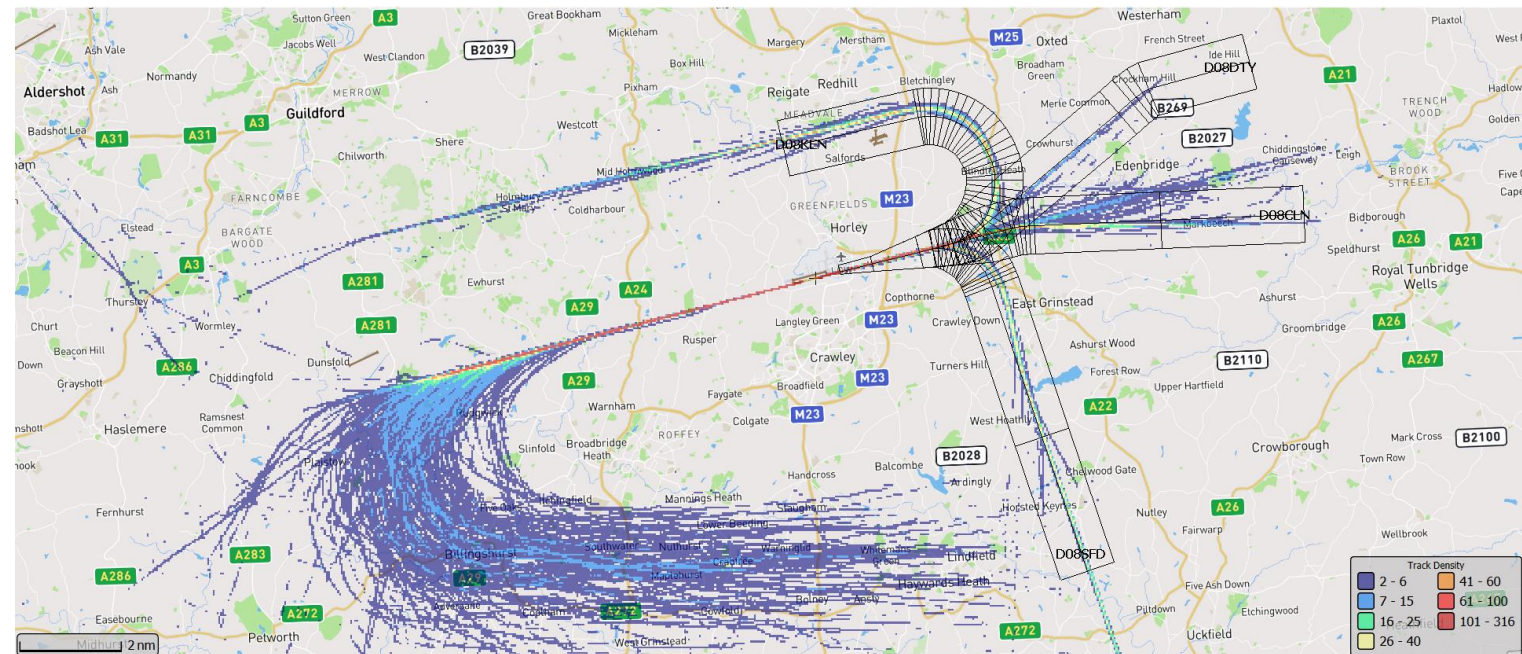


Figure 14: Easterly Operations Track Density

# Arrivals Statistics – Continuous Descent Operations<sup>1</sup>

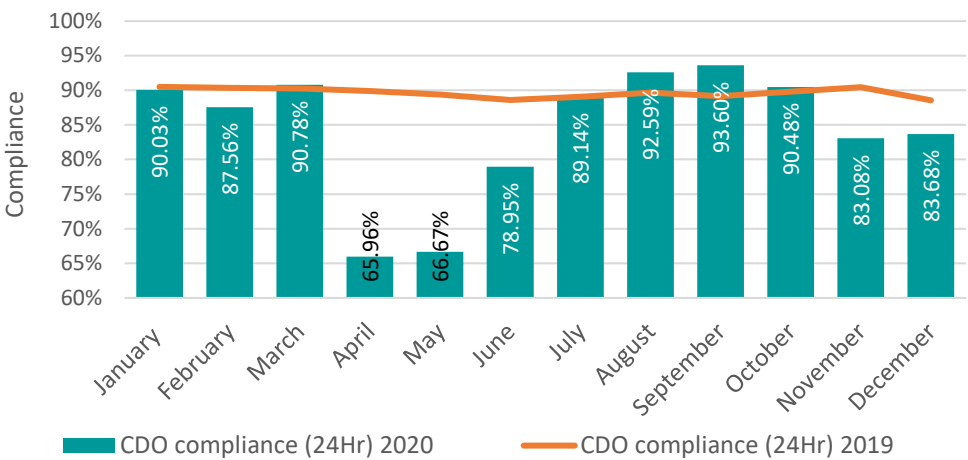


Figure 15: CDO compliance (24Hr)

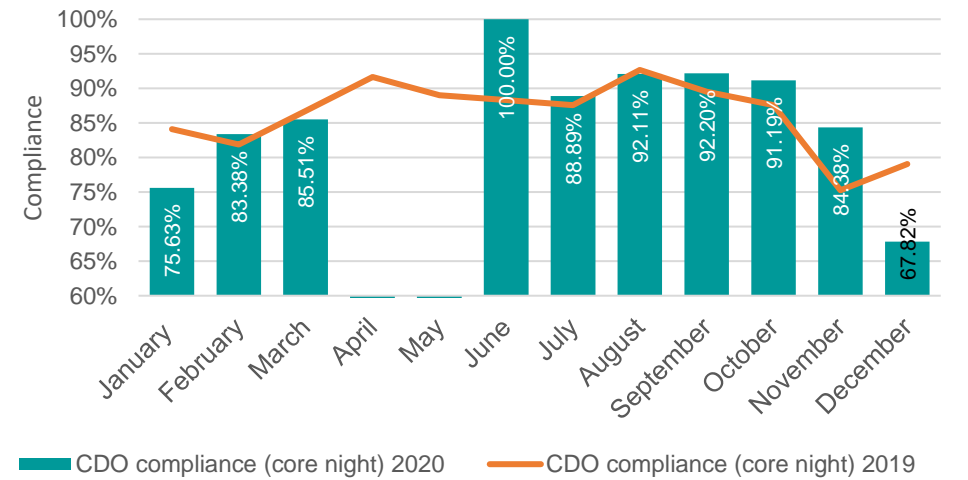


Figure 17: CDO compliance (Core Night)

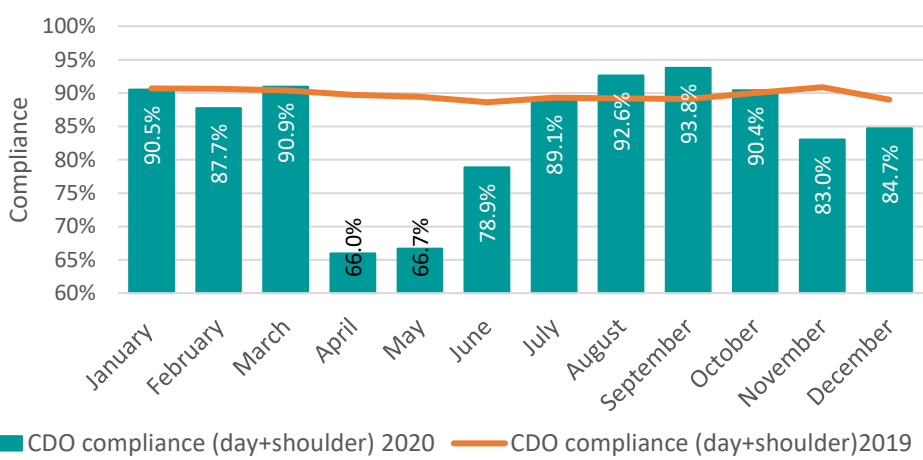


Figure 16: CDO compliance (Day+Shoulder)

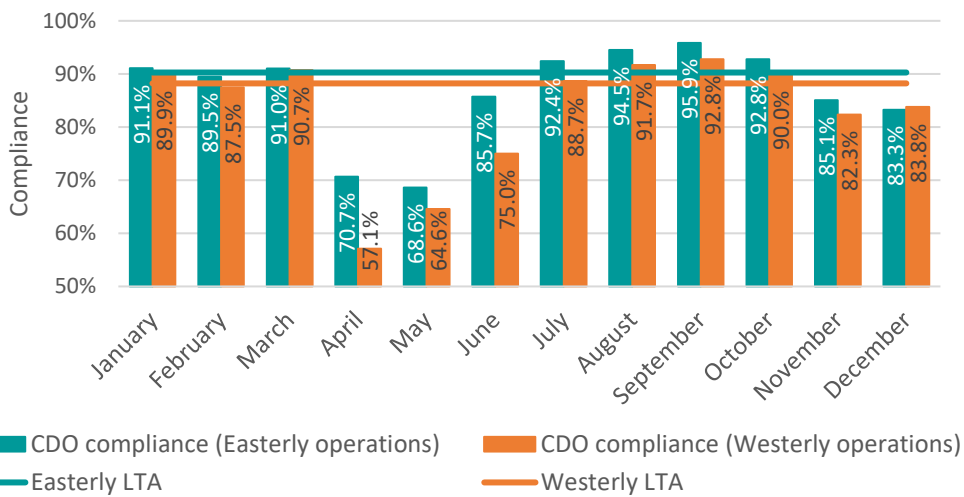


Figure 18: CDO compliance per runway

The two national lockdowns due to COVID-19 has had a significant impact on CDO performance during 2020. The gap in Figure 17 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.

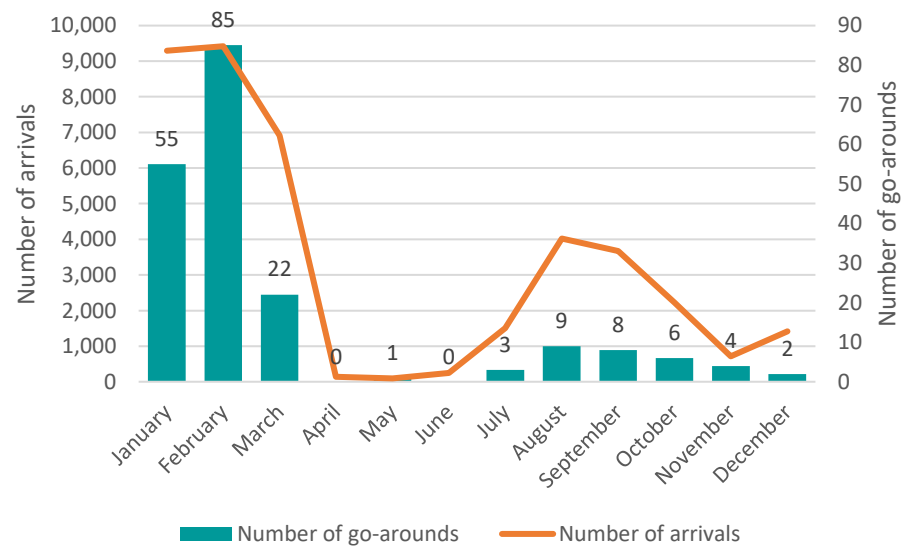


Figure 19: Number of arrivals and go-arounds

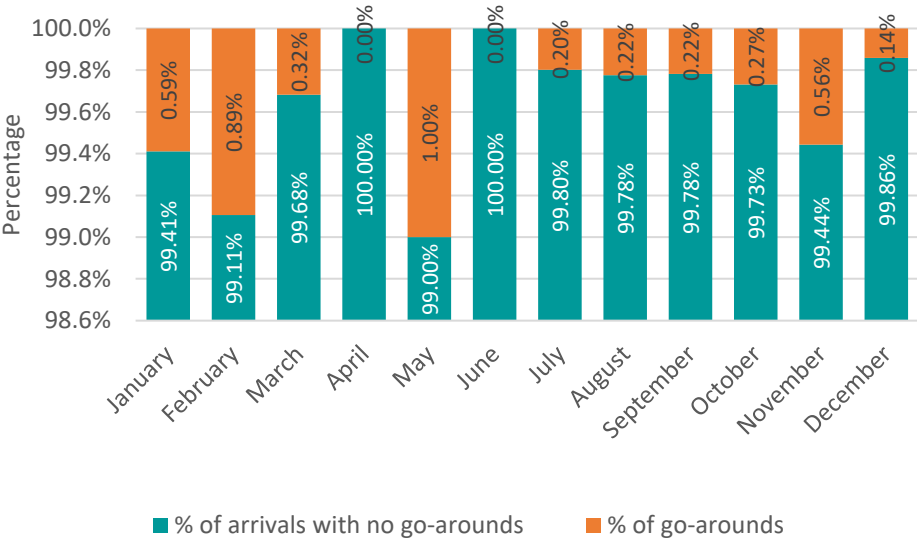


Figure 20: Ratio of go-arounds



# 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 21 (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 22 (right).

Few go-arounds took place from March 2020 onwards, which reflects lower traffic levels and the consequent lower runway utilisation.

GO-AROUND MAIN CAUSES

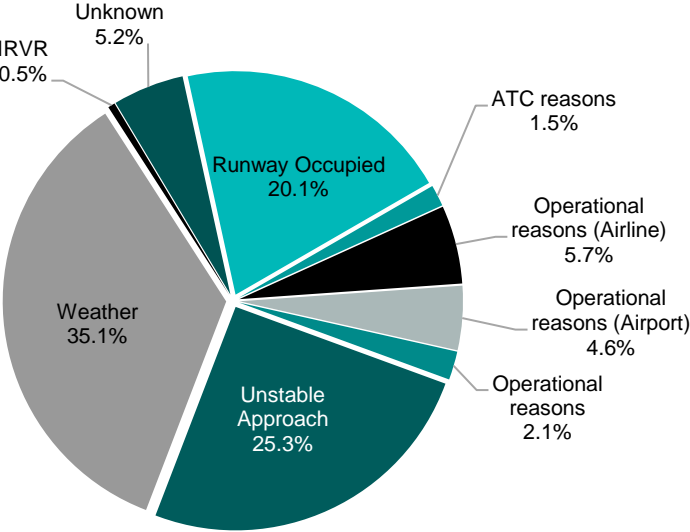


Figure 21: Reasons for go-arounds in 2020

CAUSES OF RUNWAY OCCUPANCY

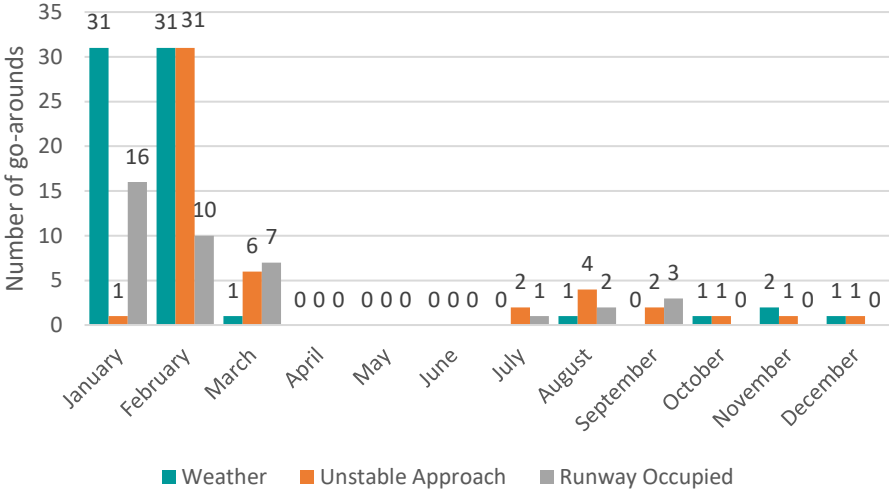
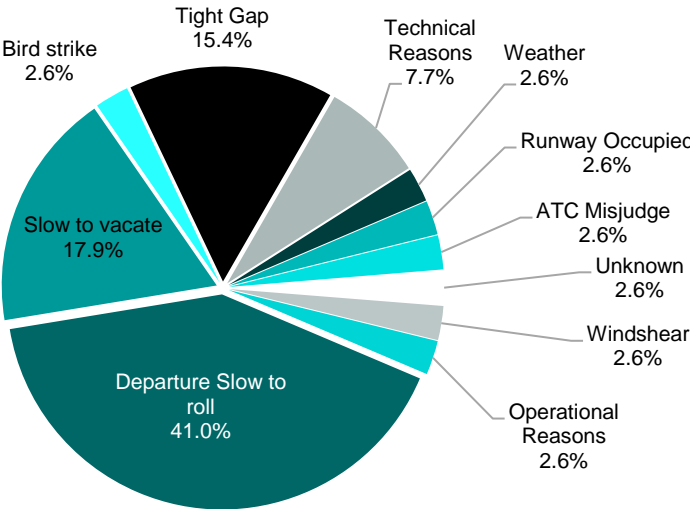


Figure 22: Ratio of main reasons for go-arounds per month



# Arrivals Statistics – Joining Point

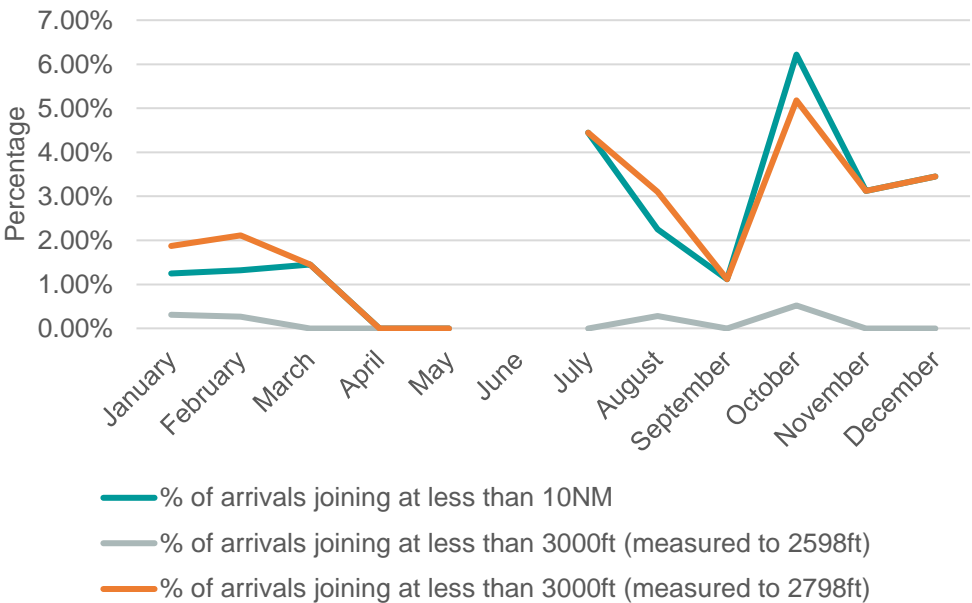


Figure 23: Night time joining point violations<sup>2</sup>

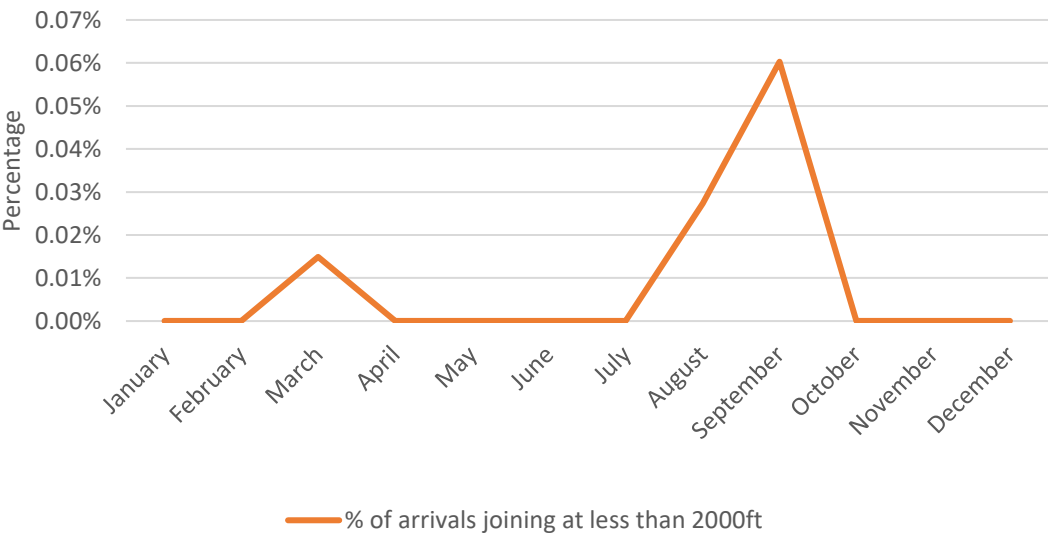


Figure 24: Day time joining point violations

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. 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 2,000ft. Figure 24 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 – Joining Point

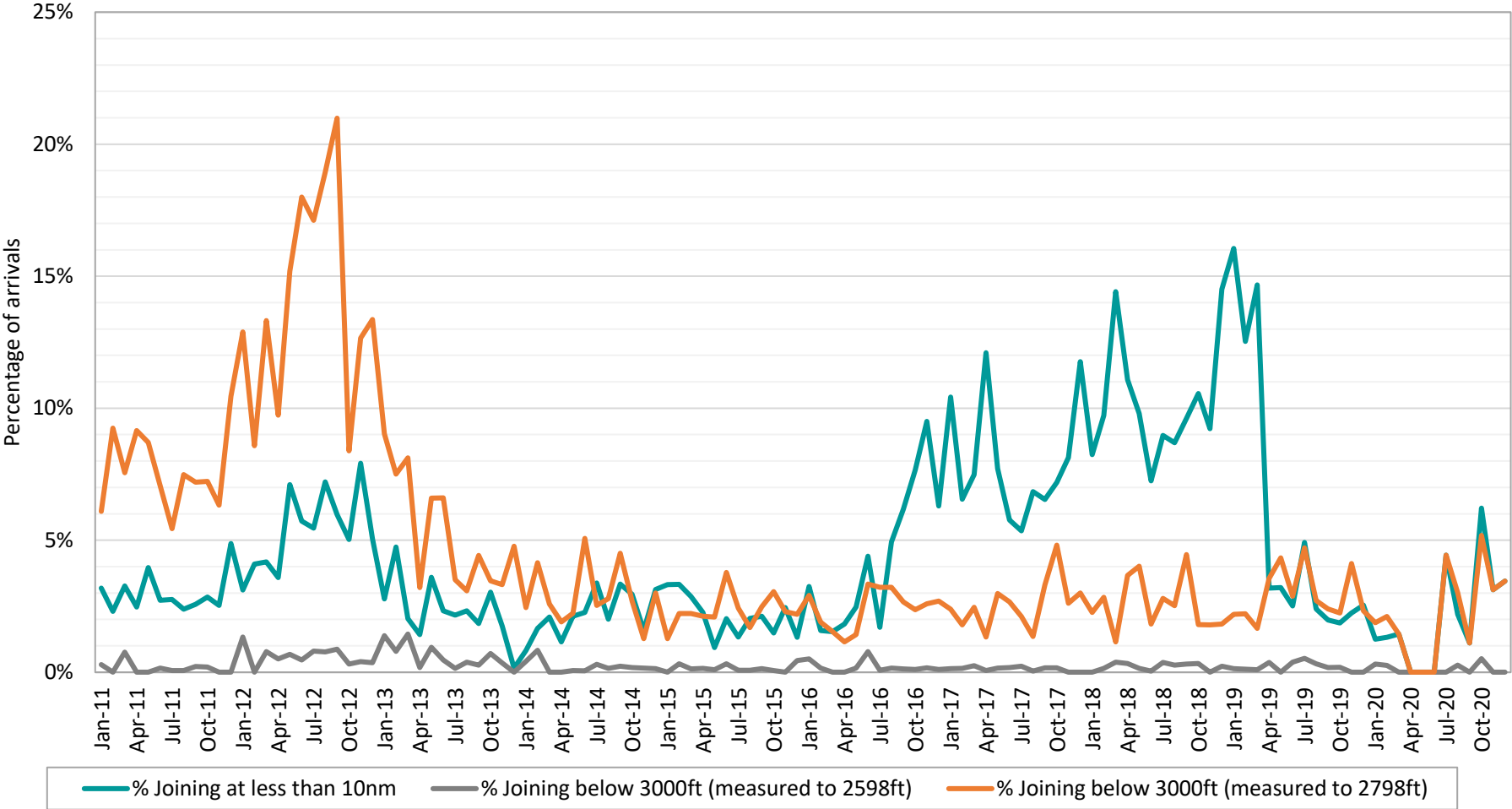


Figure 25: Night-time joining point violations (past 10 years)

Figure 25 shows the last 10 years of ILS joining point data for night time 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 below 10NM.

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

The Airspace Office continues to monitor these statistics and are in regular contact with NATS to identify reasons for violations.





# Arrivals Statistics – Overflight<sup>3</sup>

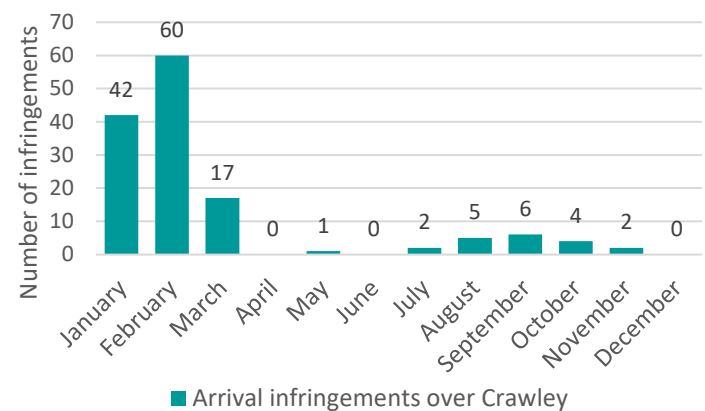


Figure 26: Arrival infringements over Crawley

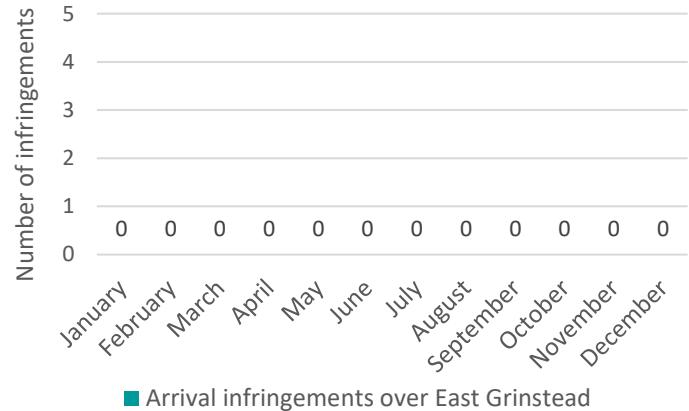


Figure 27: Arrival infringements over East Grinstead

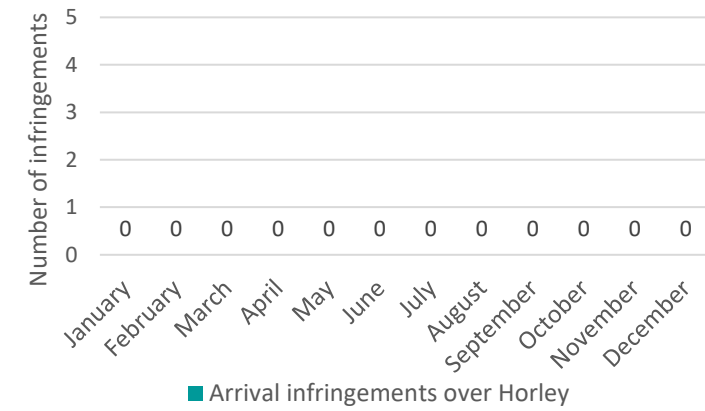


Figure 28: Arrival infringements over Horley

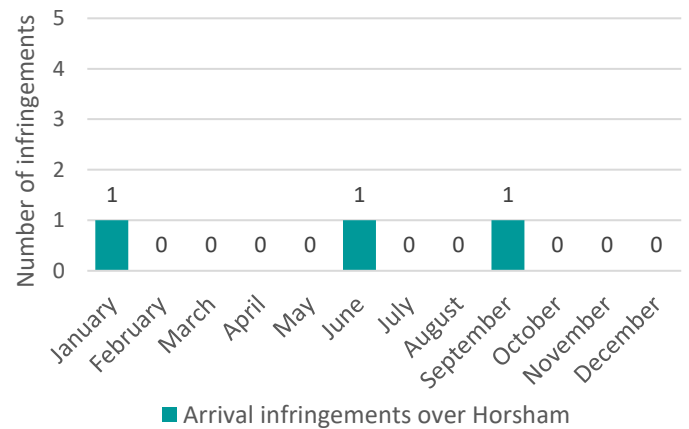


Figure 29: Arrival infringements over Horsham

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 26 and 29 were all caused by go-arounds.

The infringement shown in Figure 30 was caused by a light propeller aircraft crossing Lingfield at 1,691ft. The reference altitude for Lingfield after adjusting for all tolerances is 1,698ft.

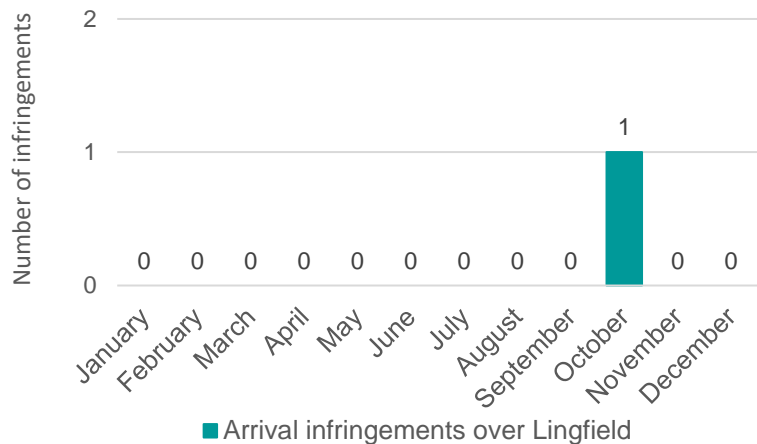


Figure 30: Arrival infringements over Lingfield



# Departures

## Noise Preferential Routes (NPRs)

Aircraft departing Gatwick Airport 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 compliance 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 [www.gatwickairport.com/noise](http://www.gatwickairport.com/noise).

Air Traffic Control (ATC) is responsible for the routing 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 of 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 before the required minimum altitude are classified as track deviations. Track keeping performance at Gatwick is generally very good, however the westerly wrap around route designated as 26LAM / Route 4 has always presented a challenge for modern aircraft to fly as the tight turn was designed in 1968 when very different types of aircraft types were in operation. Flights leaving the route below the required height are automatically flagged and details are sent to the airline for investigation. Our Flight Operations Performance & Safety Committee (FLOPSC) regularly reviews track keeping performance. Our track keeping performance is detailed on the following pages.



# Departure Statistics – Track Keeping

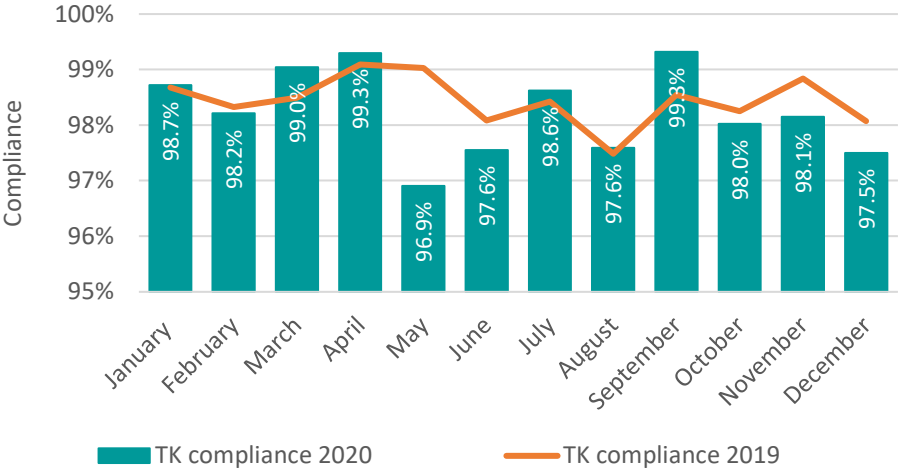


Figure 31: TK compliance (24Hr)

Figure 31 shows that track keeping compliance was consistently lower in quarters 2 and 4 of 2020 compared to 2019, especially in December. This was due to extremely low traffic volumes and ad-hoc operators, with low track keeping performance, representing higher proportion of overall traffic. Quarters 1 and 3 illustrated similar performance to the previous year.

Figure 32 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.

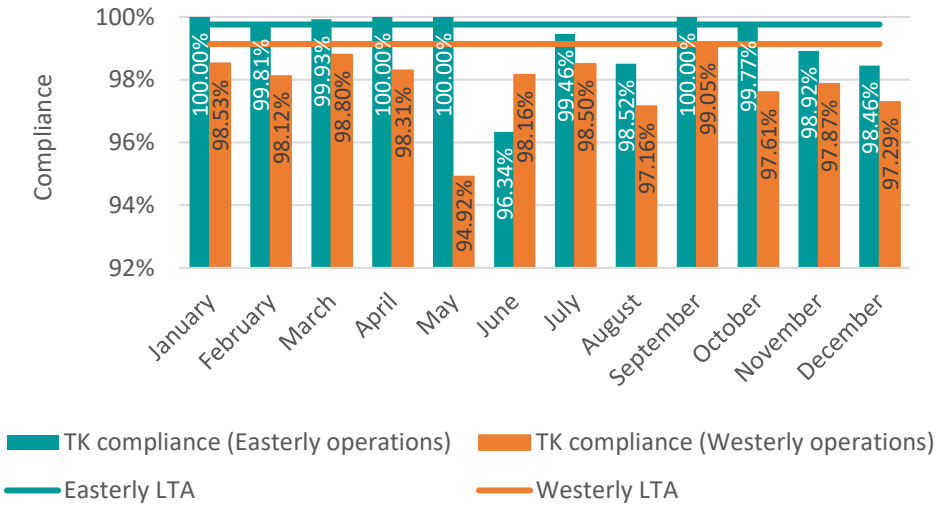


Figure 32: TK compliance per runway



# Departure Statistics – Track Keeping in 2020

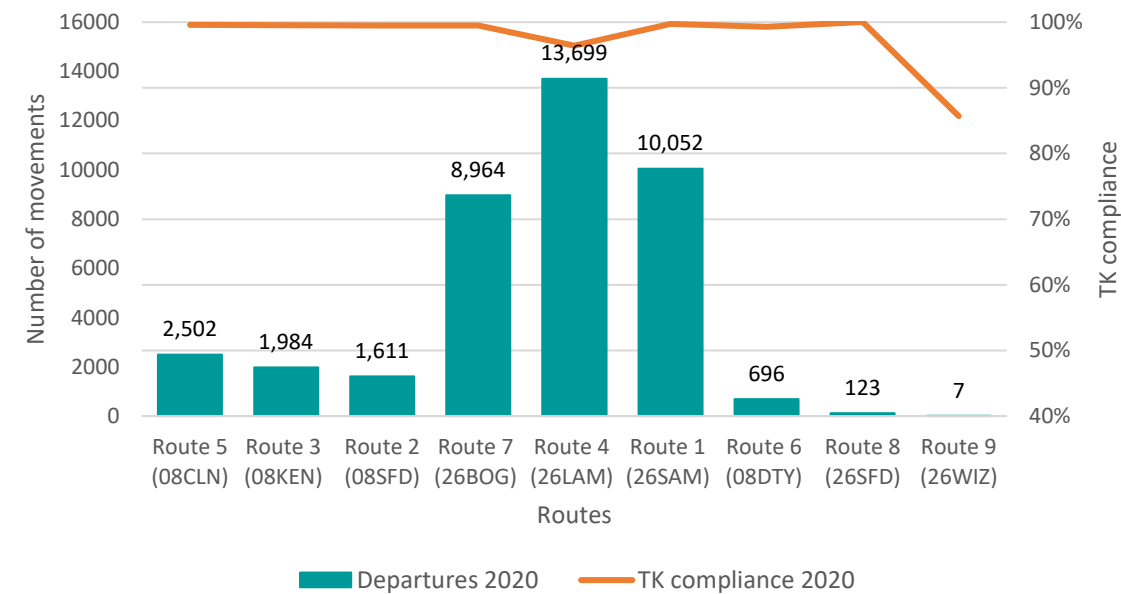


Figure 33: Track keeping and route usage

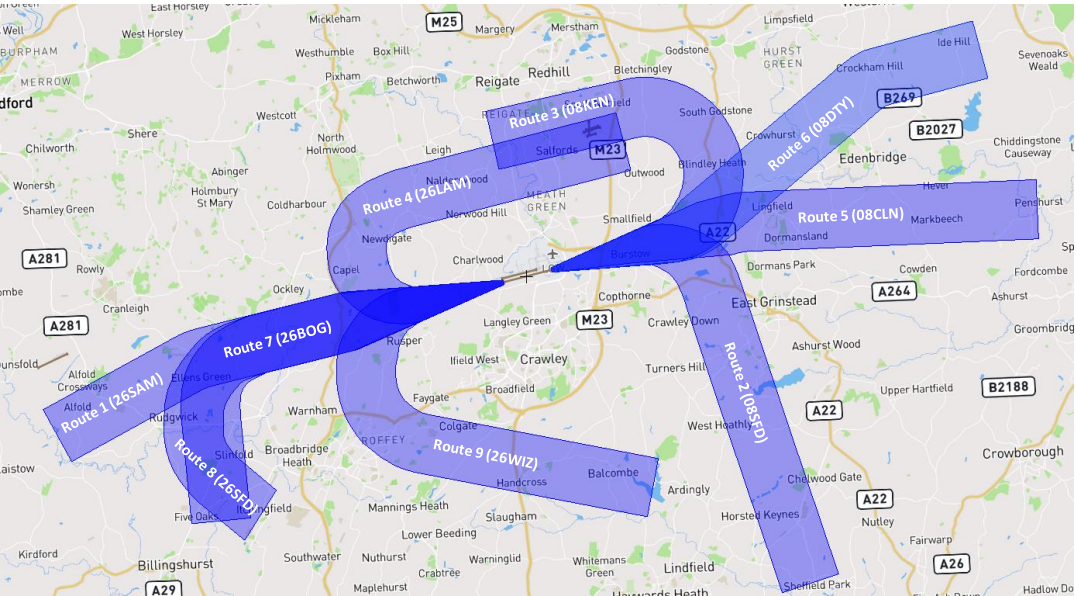


Figure 34: Noise Preferential Routes for departures

Figure 33 shows that the most used route was 26LAM/Route 4 in 2020, however the track keeping compliance has decreased with the increase in flights. As mentioned previously, there is a known issue with the track keeping on Route 4.

Figure 34 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.

The previous departure noise infringement occurred on 11 May 2019. This was 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).

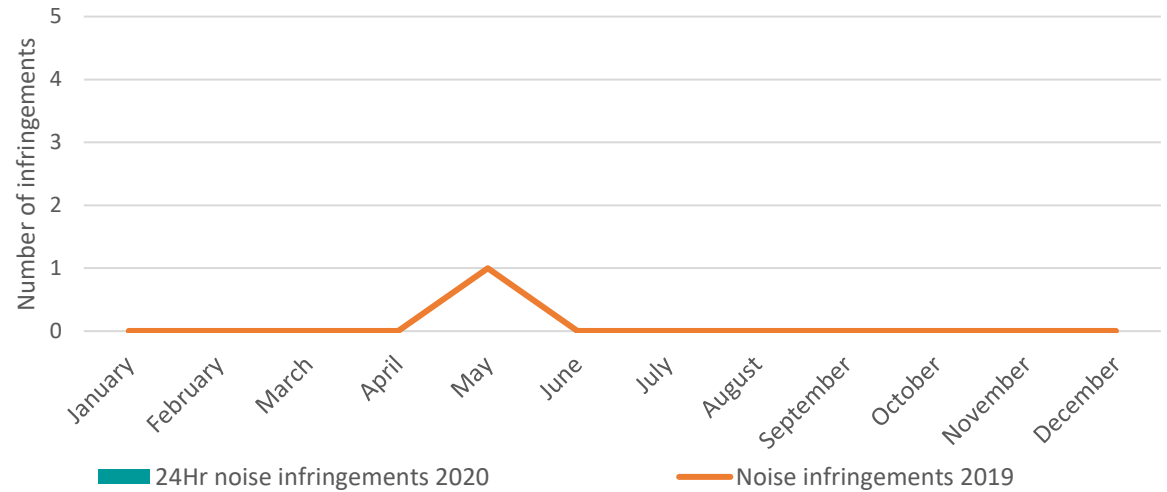


Figure 35: H24 noise infringements<sup>5</sup>

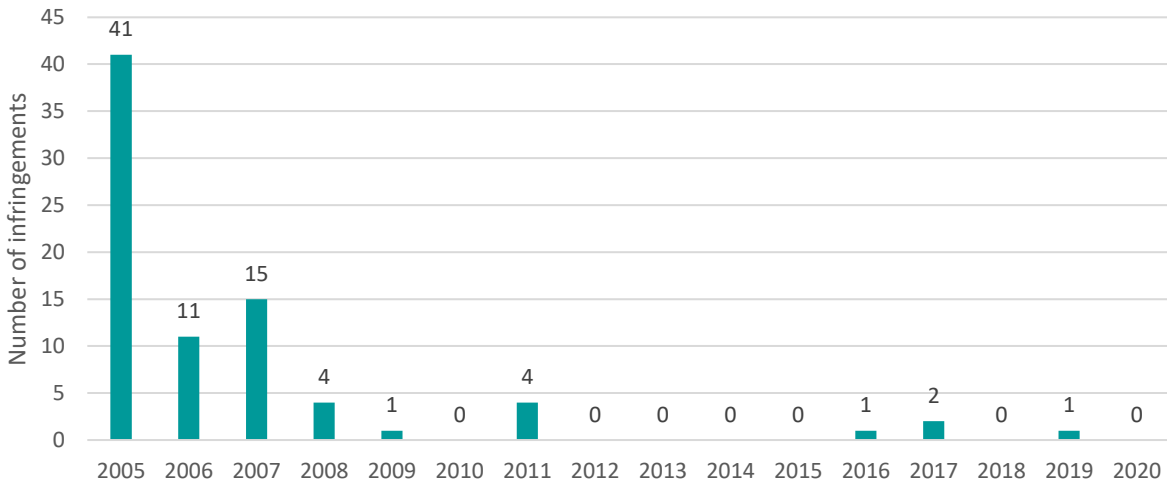


Figure 36: Past 16 years noise infringements<sup>5</sup>



# Departure Statistics – Noise, Climb and Overflight

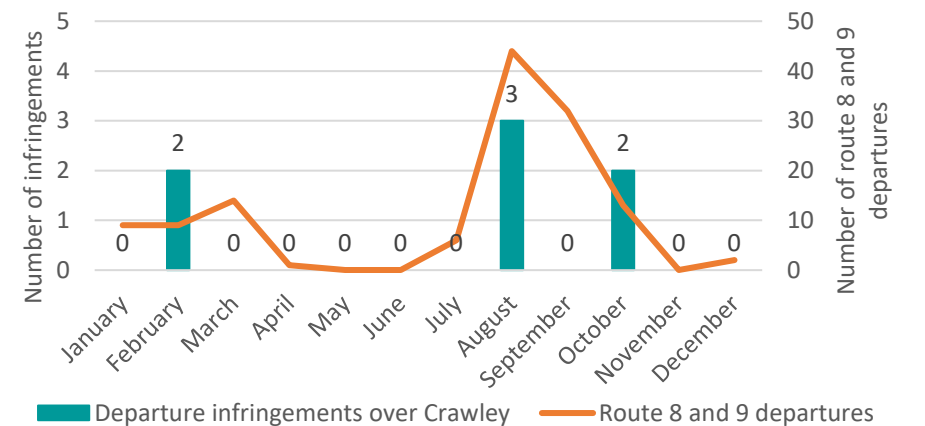


Figure 37: Departure overflight infringements over Crawley<sup>4</sup>

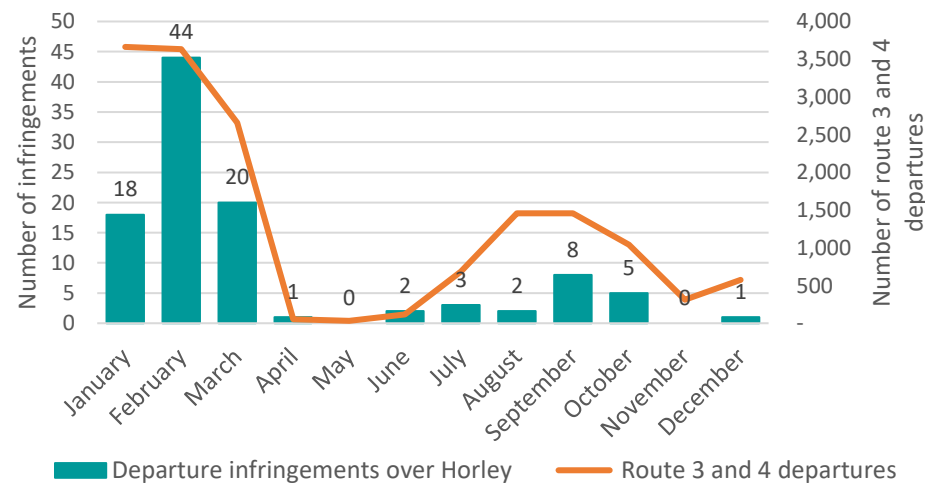


Figure 38: Departure overflight infringement over Horley<sup>4</sup>

Figure 37 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 38 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 39 shows that there have been no 1,000ft departure noise infringements during the year.

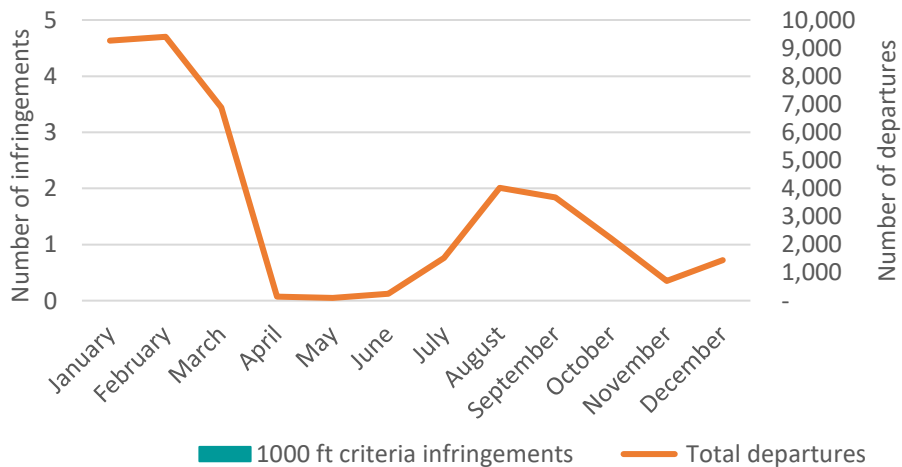


Figure 39: Number of aircraft not meeting the required climb performance<sup>5</sup>



# Night Operations – Summer Season

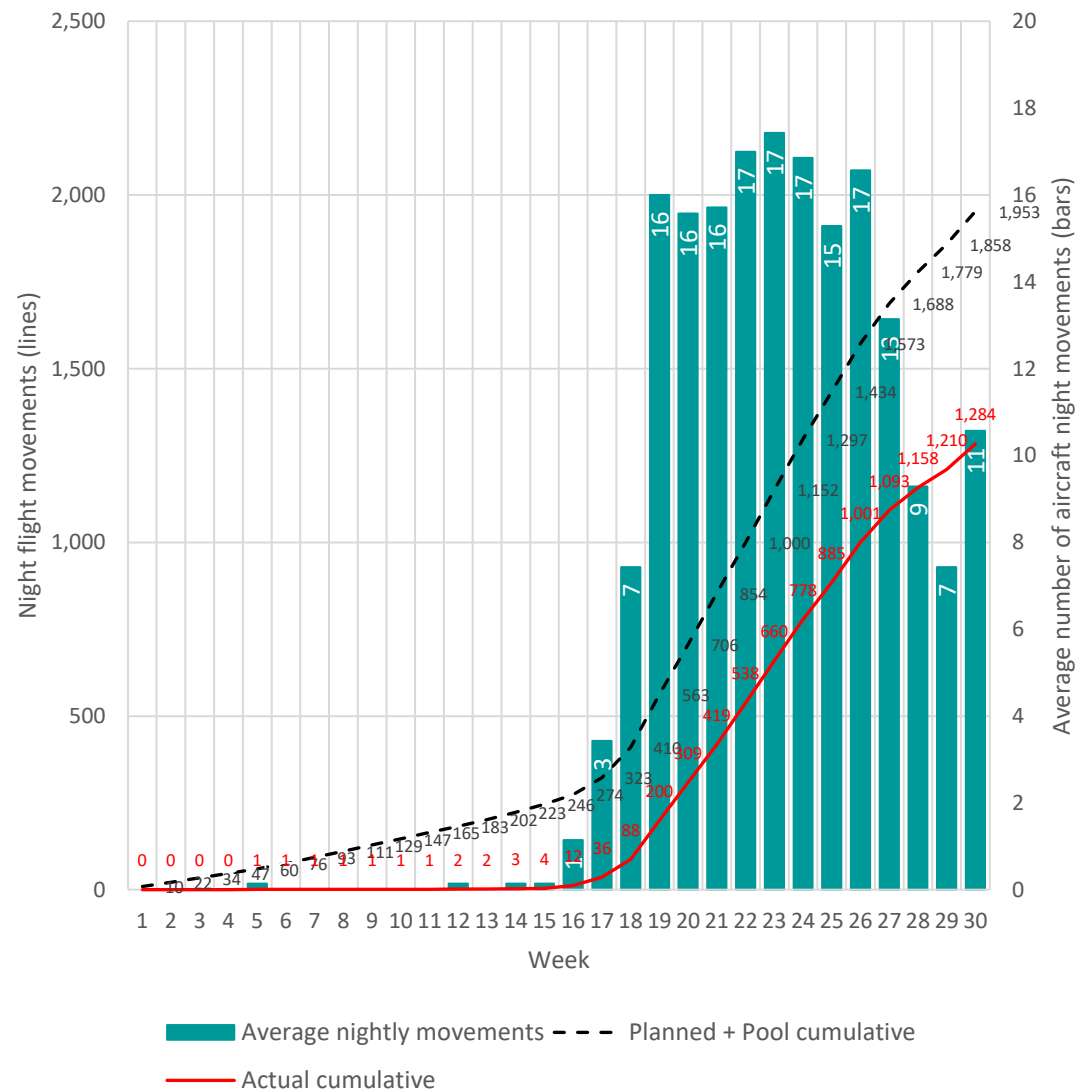


Figure 40: Night flight movements in summer

The Summer 2020 season started on 29<sup>th</sup> March 2020 (0100hrs) and ran until 25<sup>th</sup> October 2020 (0159hrs). Figure 40 depicts the planned and actual usage of the night flight movement and quota. The usage decreased to very low levels since March 2020 and the season finished with only 1,284 movements against a limit of 11,200 movements.

Figure 41 provides a breakdown of the flights either avoiding the night quota period or using unplanned quota usage (dispensed or non-dispensed). 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.

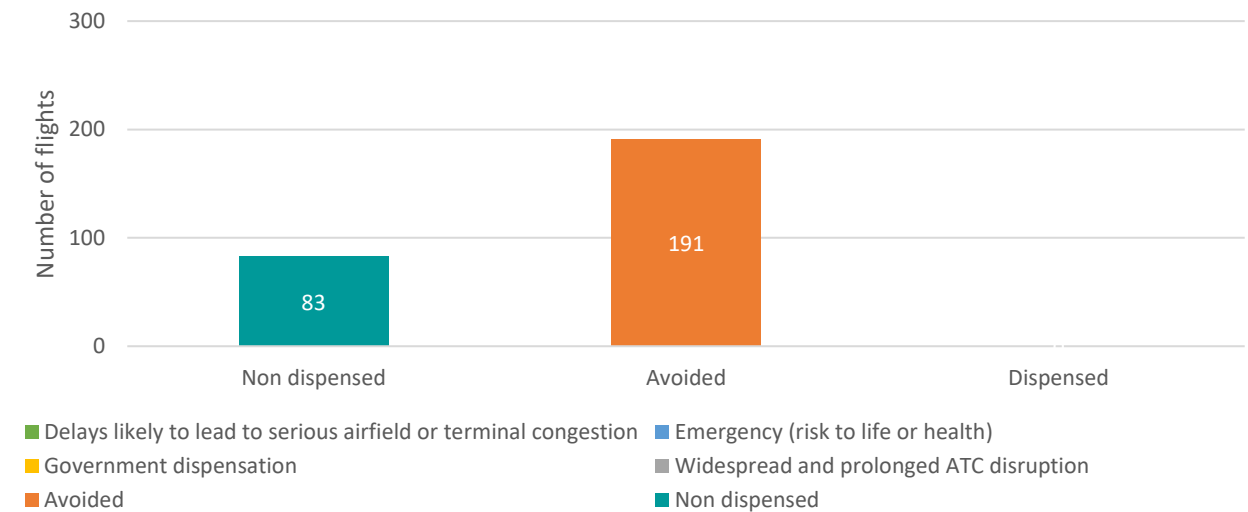


Figure 41: Number of non-dispensed, avoided and dispensed flights



# Night Operations – Winter Season

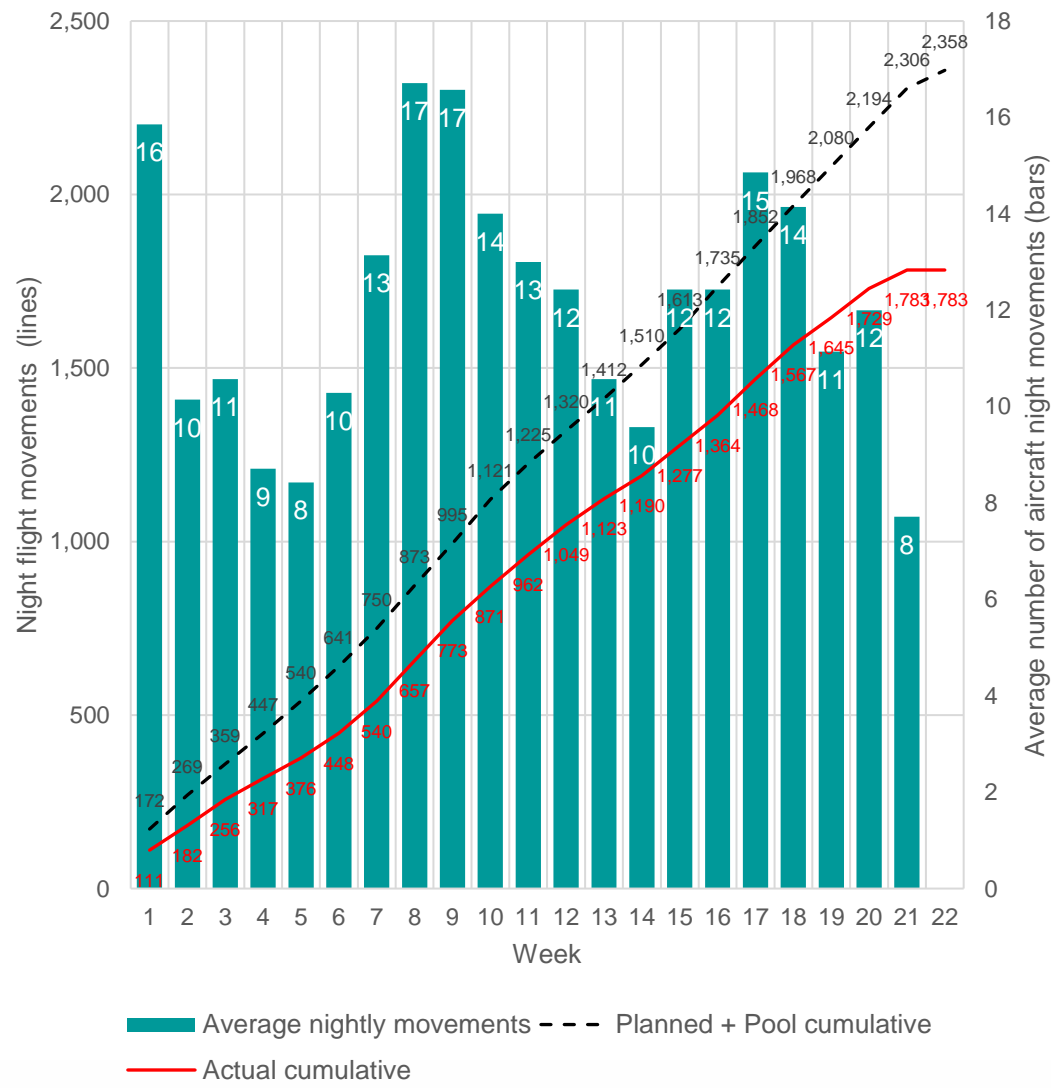


Figure 42: Night flight movements in winter

This report details the usage during the Winter 2019/2020 season, which started on 27<sup>th</sup> October 2019 (0200hrs) and ended on 29<sup>th</sup> March 2020 (0059hrs).

Figure 42 depicts the planned and actual usage of the night flight movement and quota. The usage dropped off towards the end of March due to the outbreak of the COVID-19 pandemic.

Figure 43 provides a breakdown of the flights either avoiding the night quota period or using unplanned quota usage (dispensed or non-dispensed) due to delayed arrivals or early departures.

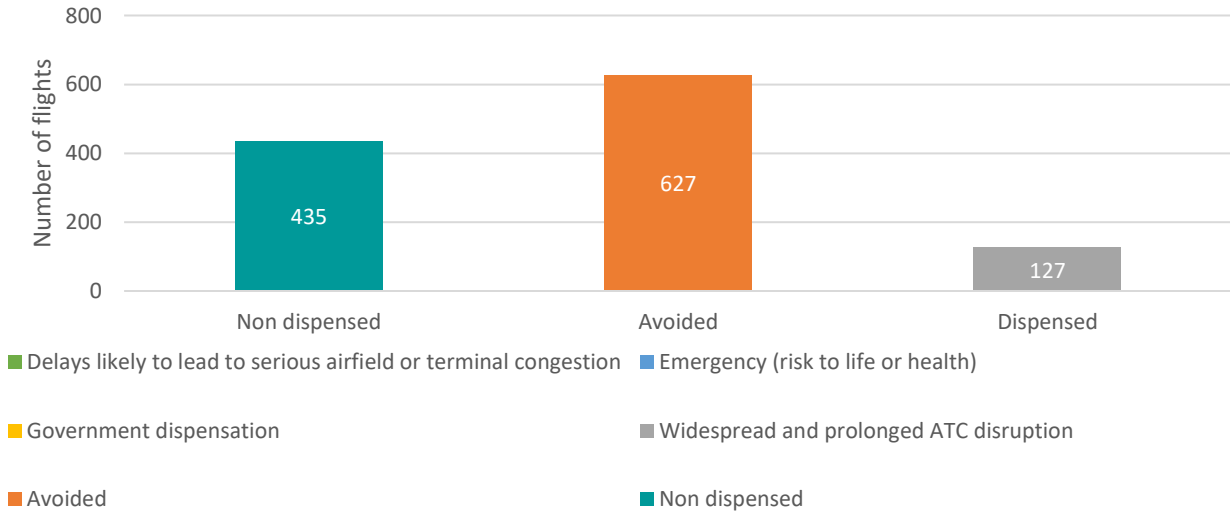


Figure 43: Number of non-dispensed, avoided and dispensed flights



# Night Operations – Historic Usage in Summer

Gatwick Airport has always been operating for 24 hours each day, offering great flexibility for passengers and airlines. However, in order to try to balance the interests of the local communities and those of the airport users, there are stringent restrictions and rules in place governing how the airport manages night flights.

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. The limits in Winter are lower at 3,250 movements and 1,785 QC points, and are generally not utilised fully.

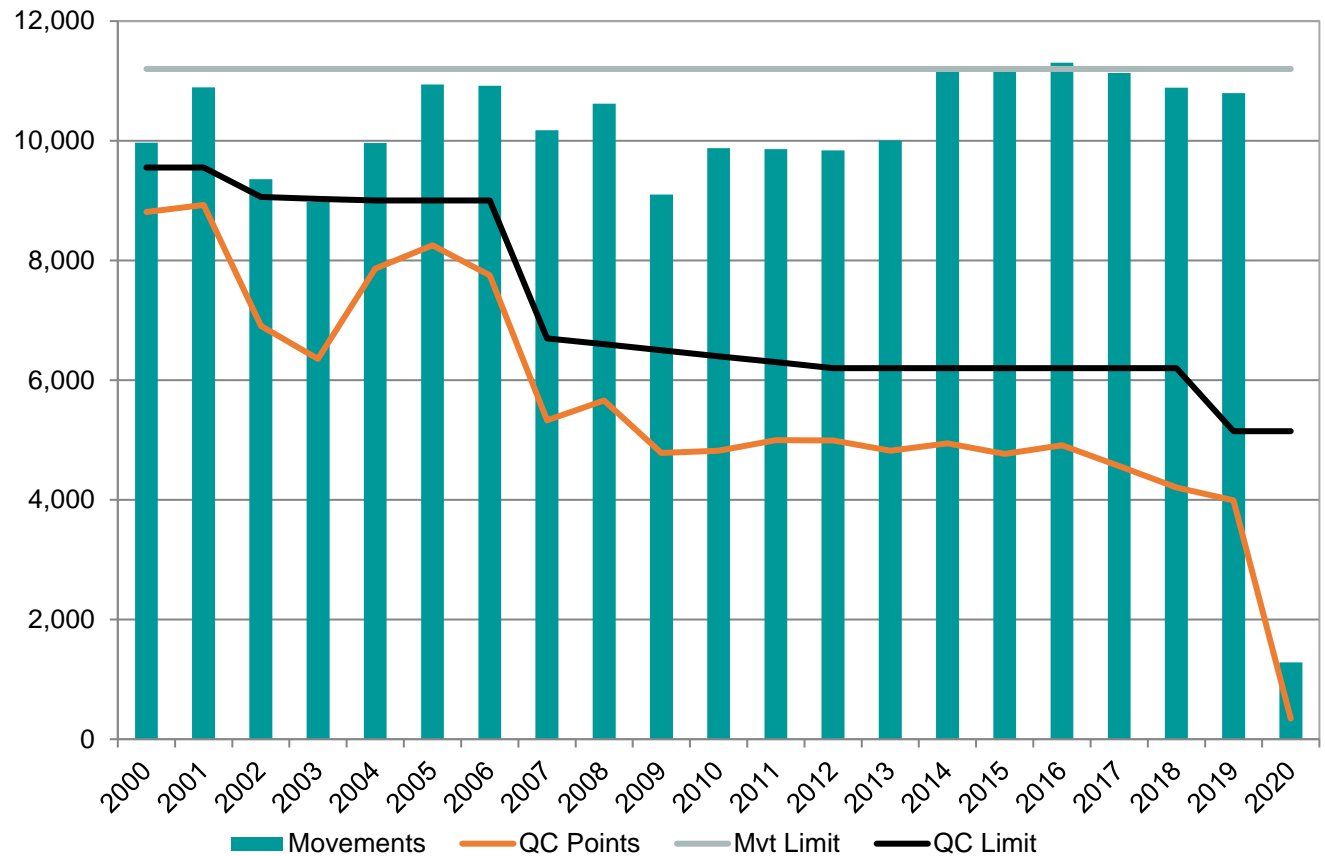


Figure 44: Night flight usage in Summer since 2000





# Noise Monitoring

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.



# Noise Contours 2020

In the UK, originally Government research indicated that people start being annoyed by aircraft noise at 57dB averaged over 16 hours (57 dB LAeq). There has since been a Survey of Noise Attitudes (SONA 2014) that has found the degree of annoyance now occurs at 54 dB LAeq.

To show where the different average noise levels are located around the Airport, the Government has developed maps showing noise contours. Figure 47 on the next page shows the noise contour map for the area around Gatwick Airport.

The contours are an irregular shape because typically people experience a greater amount noise at the ends of the runway (where planes take off and land) than along the sides of the runway.

The 57 dBA Leq day contour area for 2020 based on the day standard runway modal split was calculated to be just 7.0km<sup>2</sup>, which as expected is -82% lower than in 2019 due to unprecedented reduction in traffic. Similarly, the population enclosed within the actual 57 dBA Leq day contour reduced by -94%.

LAeq,16h (dB)	2019 area (km <sup>2</sup> )	2020 area (km <sup>2</sup> )	Area change	2019 population	2020 population	Population change
>54	74.0	13.3	-82%	9,850	500	-95%
>57	38.7	7.0	-82%	2,550	150	-94%
>60	22.4	3.6	-84%	1,450	50	-97%
>63	12.6	2.0	-84%	550	0	-100%
>66	6.7	1.2	-82%	200	0	-100%
>69	3.5	0.8	-77%	100	0	-100%
>72	1.9	0.5	-74%	0	0	(-)

Figure 46: Gatwick 2019 and 2020 summer day standard LAeq,16h contours – area and population estimates  
Note: The 2019 and 2020 summer day standard runway modal splits were both 75% W / 25% E.





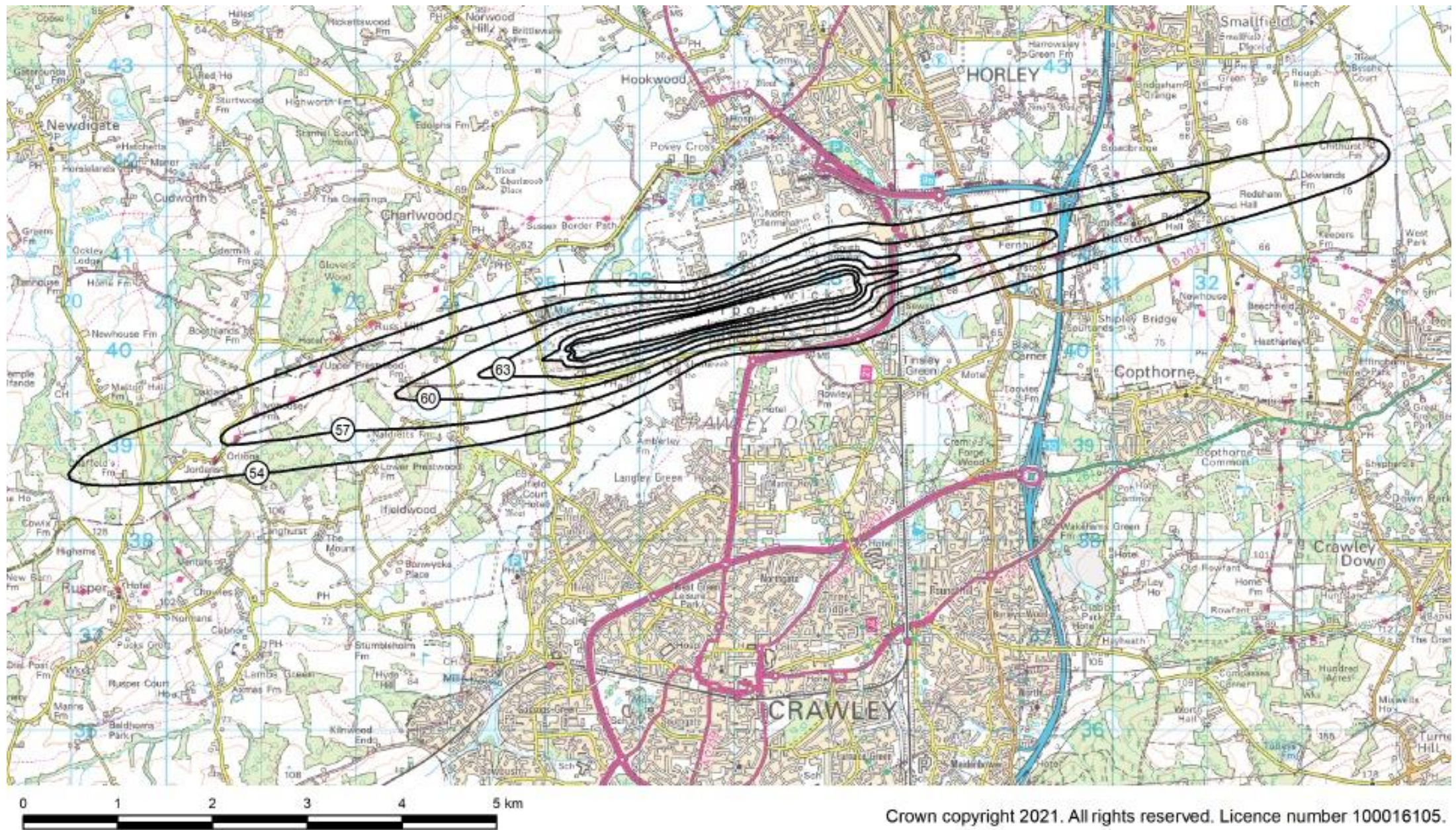


Figure 47: The Gatwick day standard noise exposure contours 2020



# Complaints

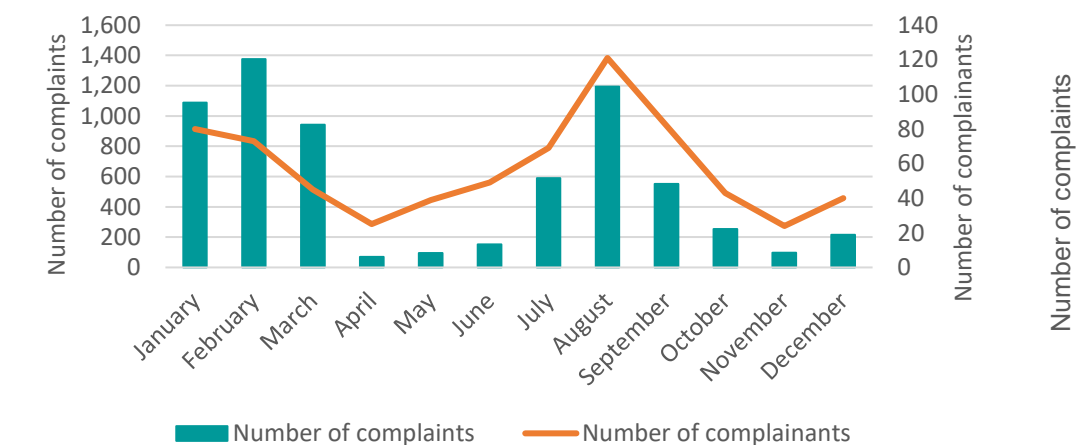


Figure 48: Number of complaints and complainants

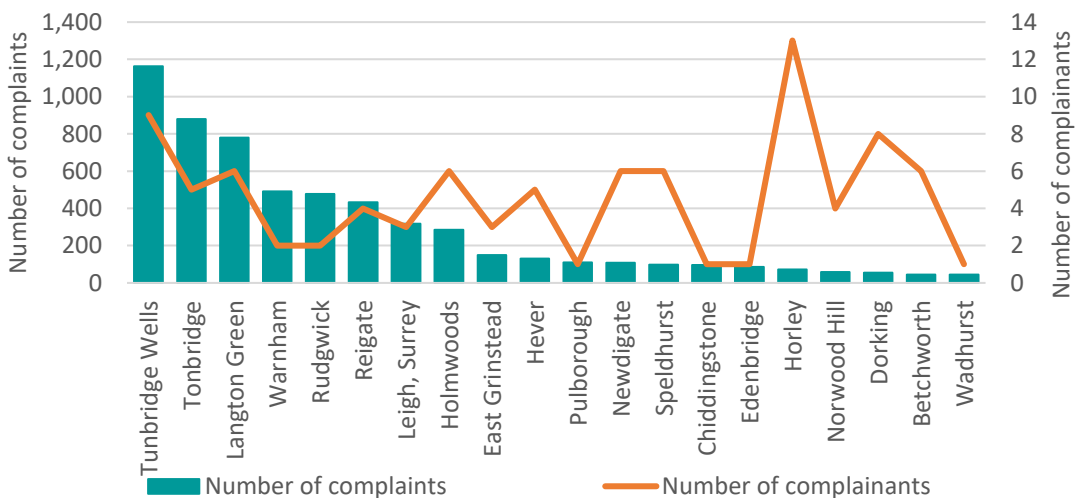


Figure 50: Areas with most complaints (whole year)

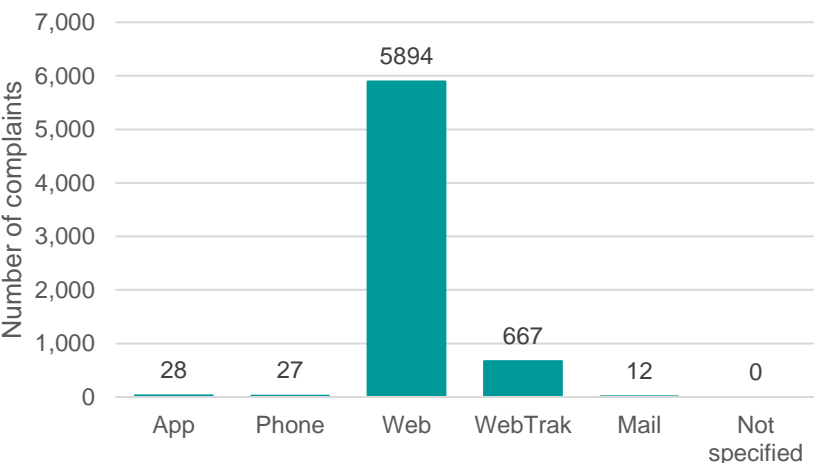


Figure 49: Complaints submission methods (whole year)

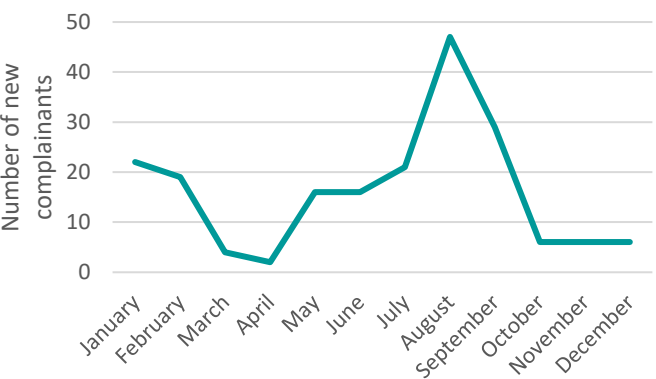


Figure 51: New complainants

The Airspace Office handled 6,628 noise complaints in 2020.

The number of noise complaints, complainants and new complainants reduced significantly during the two national lockdown periods of 2020 but increased when traffic levels began to resume in the summer.

The web form and WebTrak remain to most popular means 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

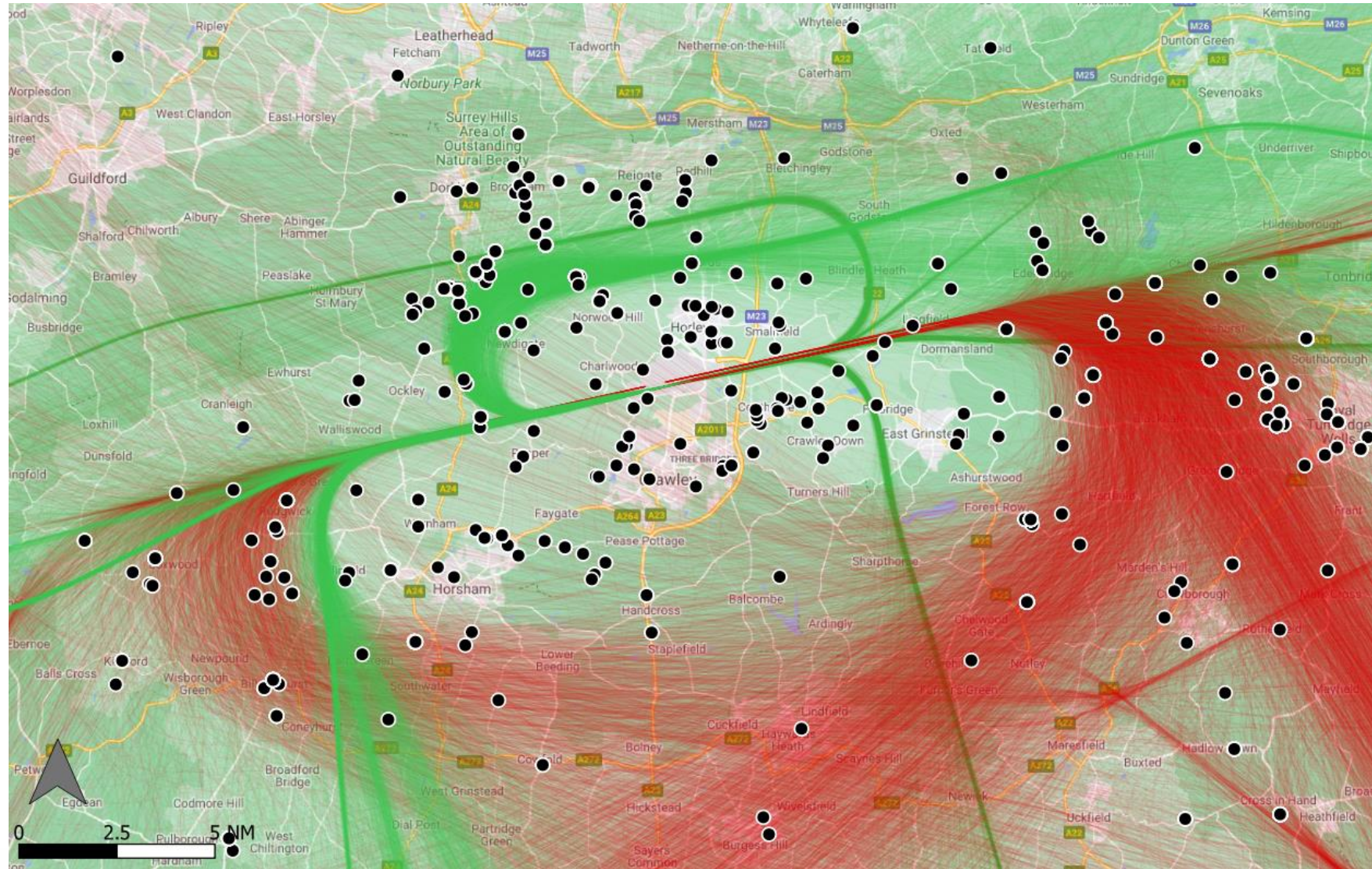


Figure 52 shows the distribution of all individual noise complainants that were recorded in 2020.

The arrival and departure tracks are shown for Q3 2020 (July - September) as this was the busiest period during the COVID-19 pandemic, which had a major impact on air traffic movements.

Figure 52: Individual complainants in 2020 with Q3 arrivals and departure tracks and NPRs



# Complaints

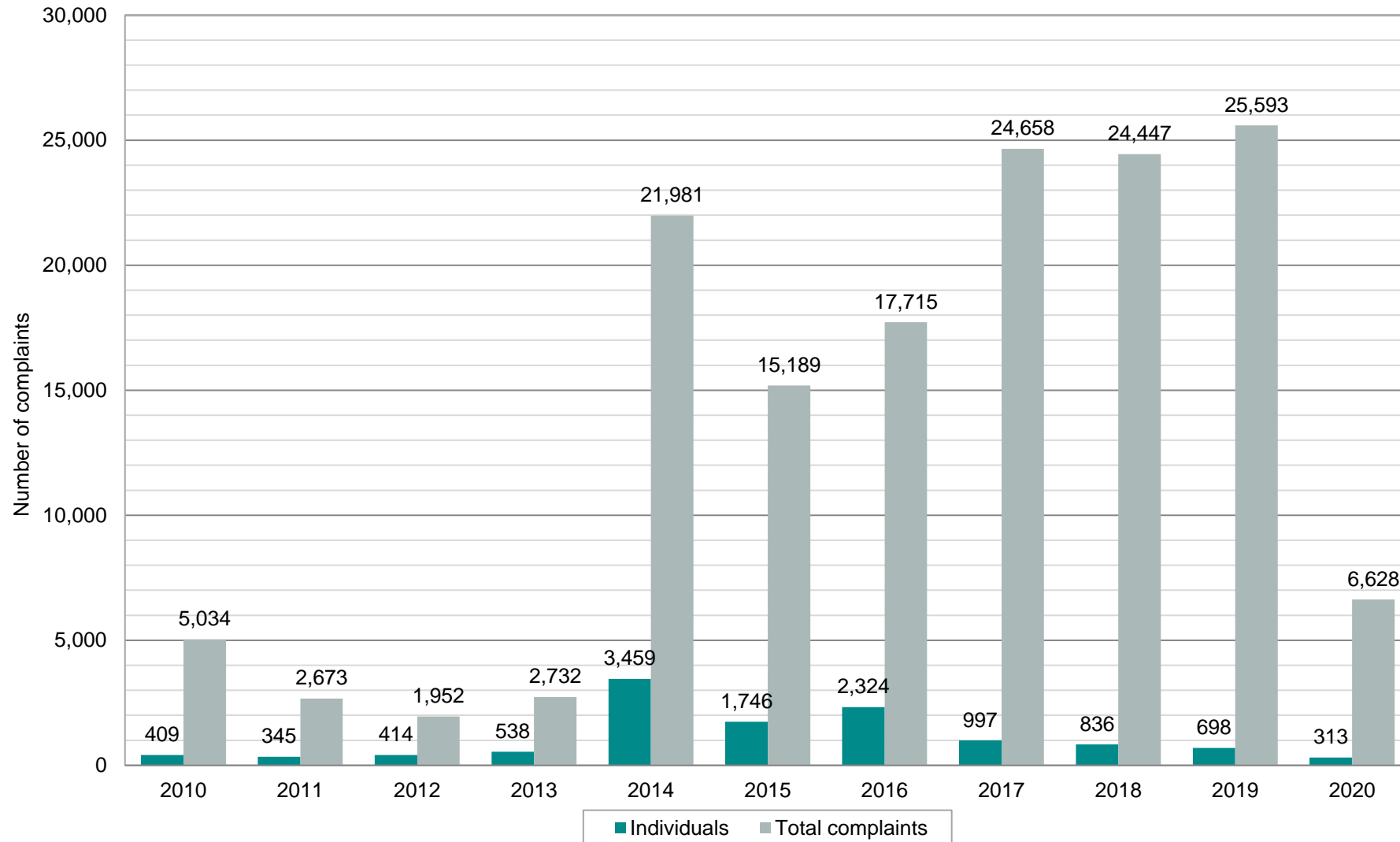


Figure 53: Number of individual complainants and complaints 2010-2020

Figure 53 shows how the total number of complaints and the number of individual complainants have developed since 2010.

The number of individuals complainants has significantly reduced compared with recent years due to the impact of COVID-19 on the reduction of air traffic movements. This has led to fewer noise complaints being received by the Airspace Office. The number of complainants has been declining each year since 2016.



# Ground Noise

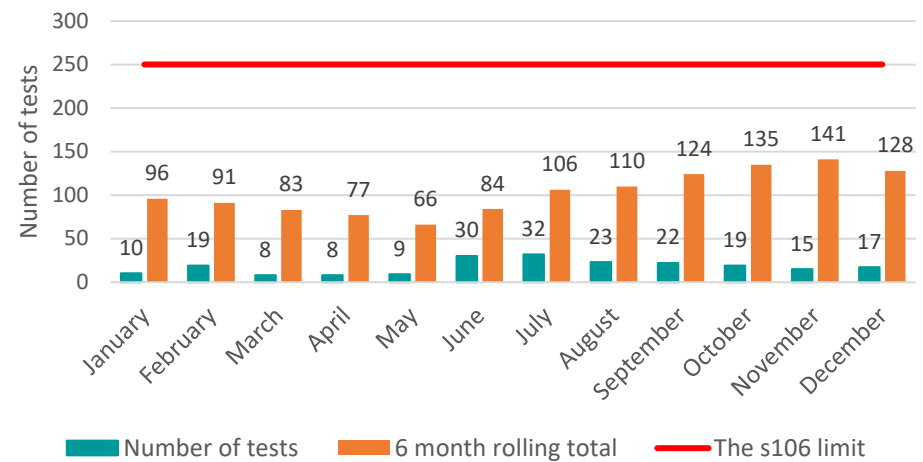


Figure 54: Engine runs<sup>7</sup>

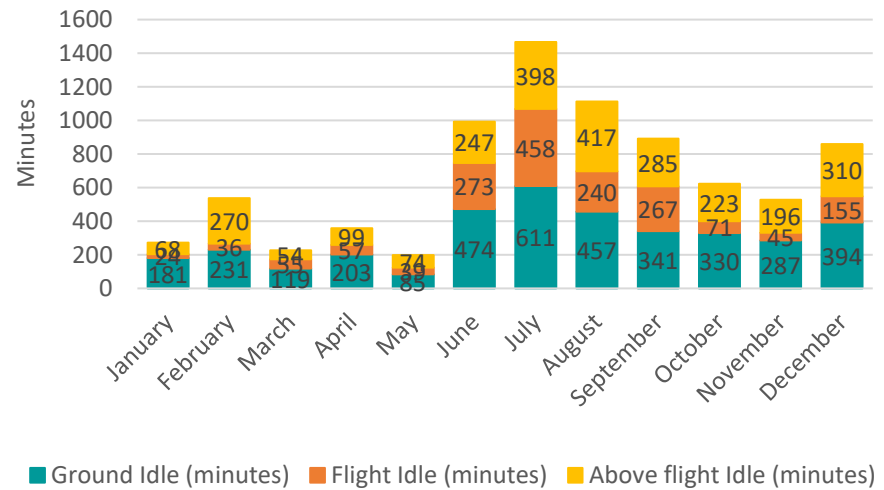


Figure 56: Cumulative minutes of engine tests

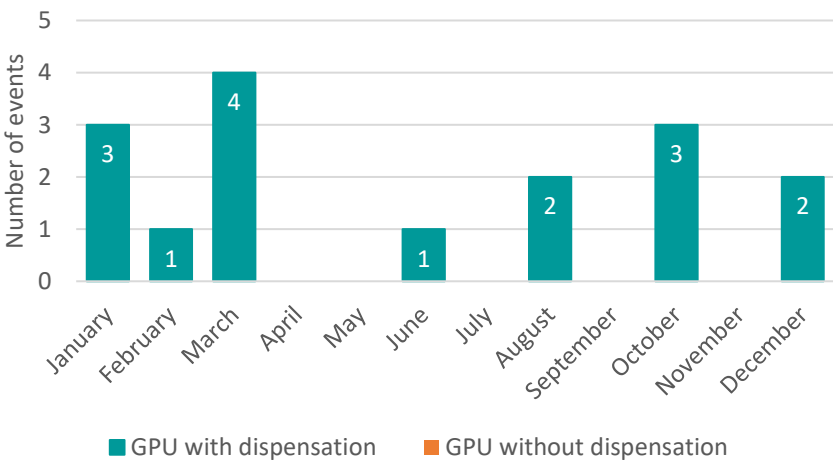


Figure 55: GPU usage<sup>8</sup>

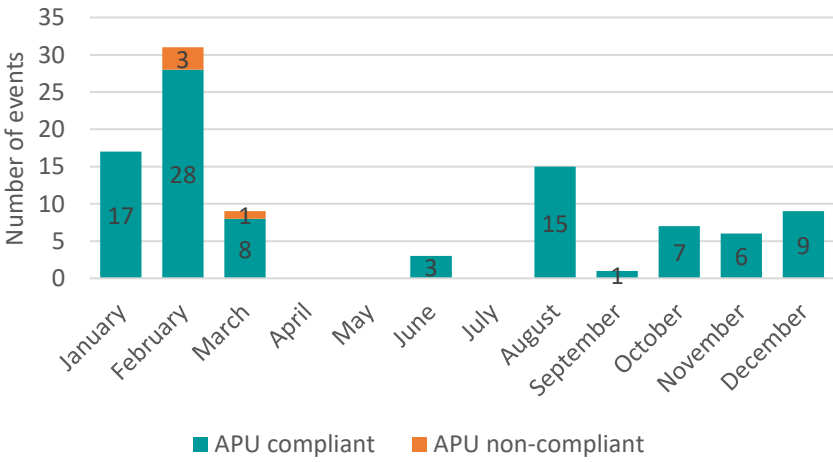


Figure 57: APU usage<sup>8</sup>

Figure 51 shows that the number of engine tests remain below the Section 106 limit of 250 in a six-month period.

Figure 52 shows that there were 16 uses of a Ground Power Unit and they were used with a dispensation granted.

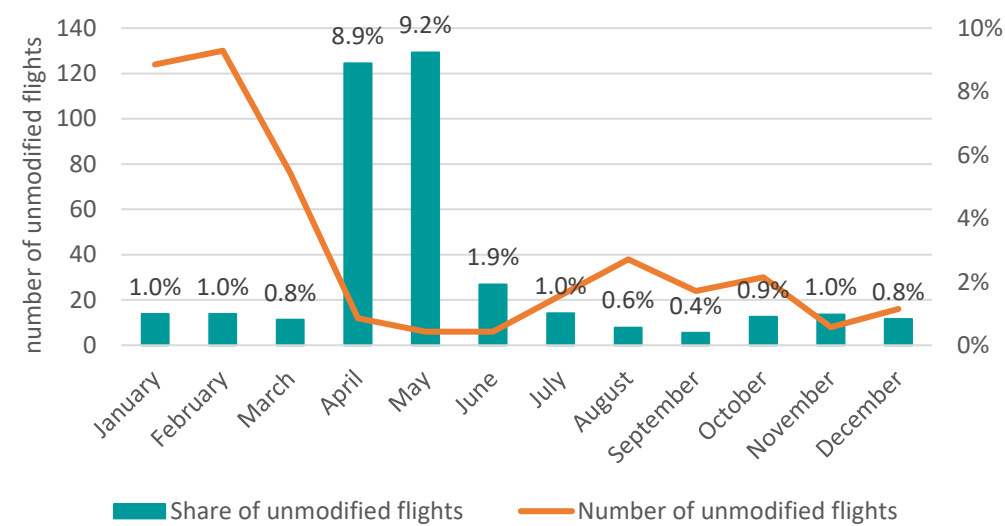
Figure 54 shows four instances of APU non-compliance early in the year. These were mainly due to the FEGP being unavailable at the time and flight deck errors in shutting down the APU on time.





# Annex A

## Additional Statistics



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 1<sup>st</sup> 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.

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





# Annex A

## Additional Statistics

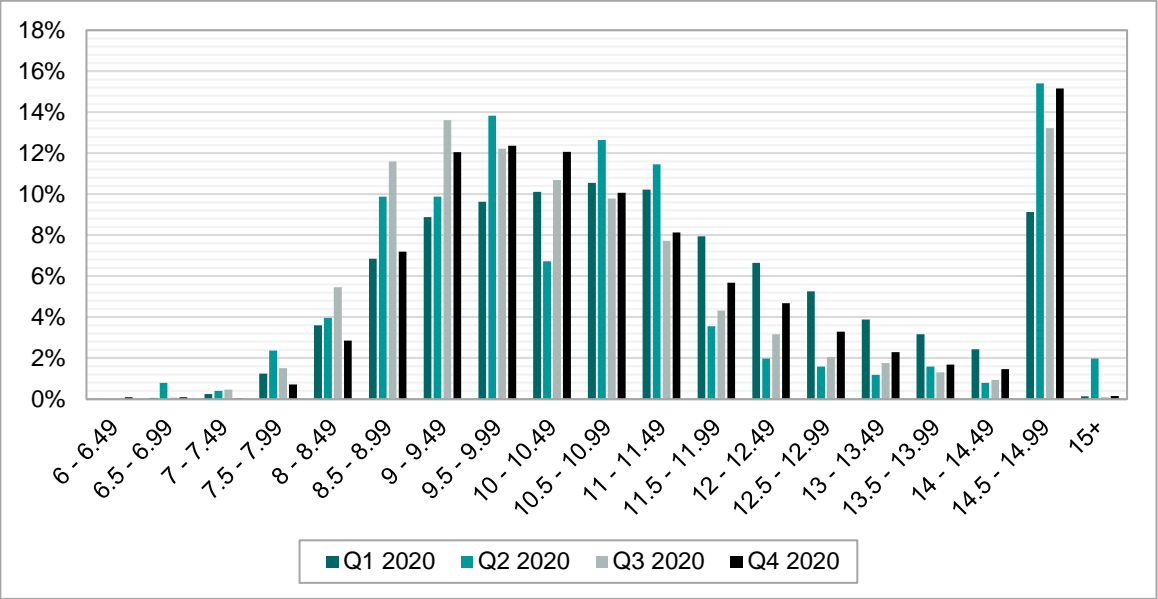


Figure A-2: Traffic Joining ILS per quarter – Runway 26 Only

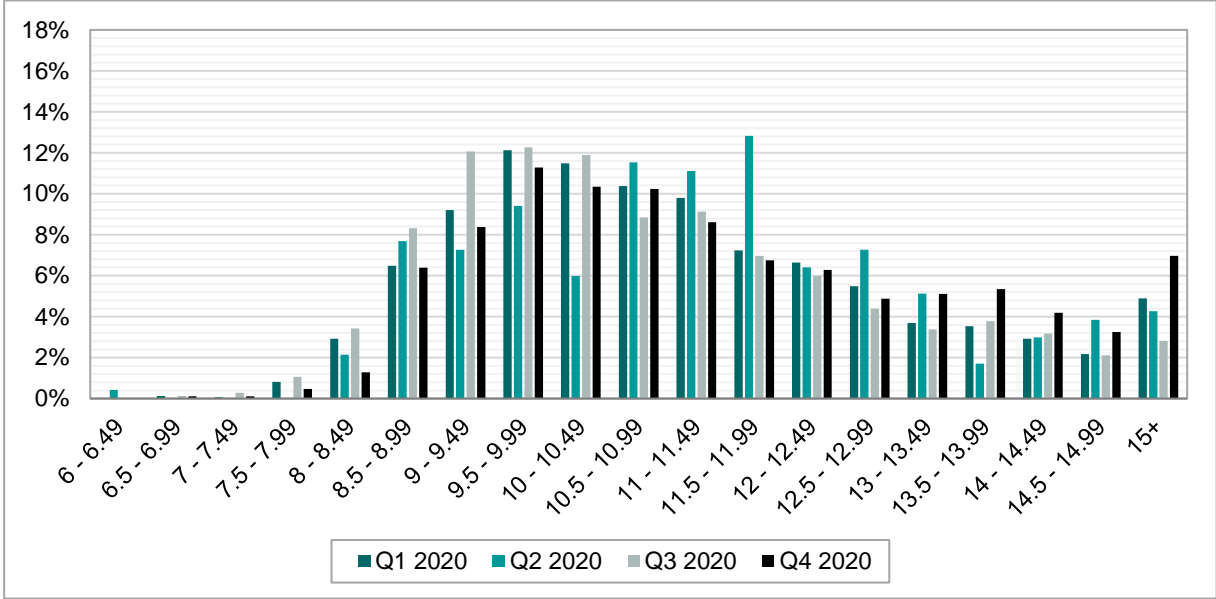


Figure A-3: Traffic Joining ILS per quarter – Runway 08 Only

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 manoeuvre.

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 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 L<sub>max</sub> 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 L<sub>max</sub> by night (from 2300 (2200) to 0700 (0600) hours) and that it will not cause more than 87 dBA L<sub>max</sub> 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/completed-s.106-agreement-30.04.19.pdf](https://www.gatwickairport.com/globalassets/publicationfiles/business_and_community/all_public_publications/sustainability/s106/completed-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 15<sup>th</sup> 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 15<sup>th</sup> 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.



# 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, Gatwick Airport uses ANOMS provided by Envirosuite, which is linked to our webservices Webtrak and Insightful. 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, ANS 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, ANS, 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](http://www.sustainableaviation.co.uk).

### Gatwick Noise Monitoring Group (GNMG)

Gatwick Airport 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. The group's activities have been paused since the onset of the COVID-19 pandemic.



# 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 32% of aircraft operations taking place in an easterly direction and 68% 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

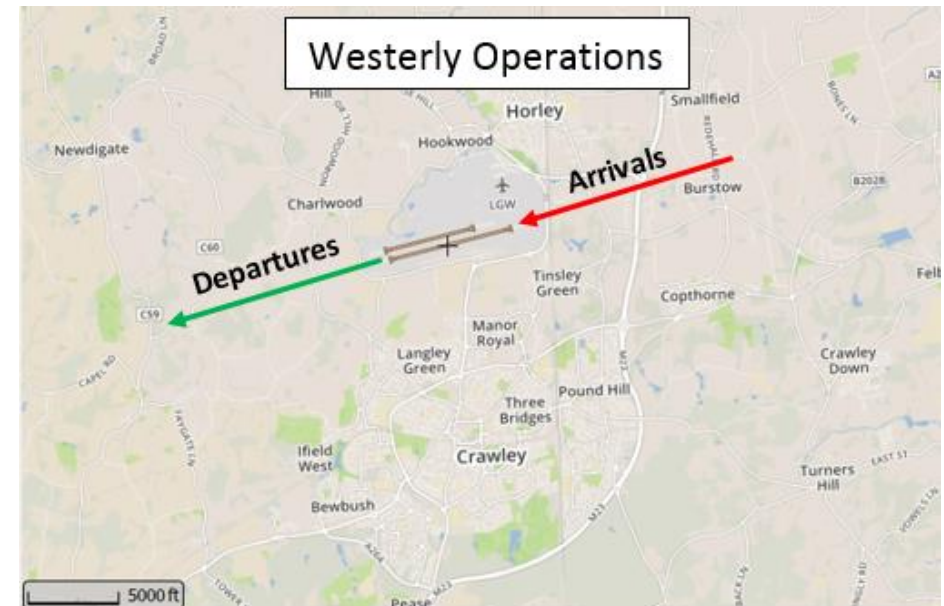


Figure F-2: Westerly Runway Directions

# Annex G

## Ground Noise – Background

Gatwick Airport 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.

Thirdly and 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 & Quota Count

The night period at Gatwick Airport 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 & 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 2022. 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](http://www.gact.org.uk).



# Glossary of Terms (1)

<b>AAL</b>	Above Aerodrome Level	The height of an aircraft above the elevation of the referenced aerodrome.
<b>AIP</b>	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.
<b>ANPT</b>	Airline Noise Performance Table	A programme that ranks airlines flying into and from Gatwick Airport in relation to their overall noise performance.
<b>ANS</b>	Air Navigation Solutions Ltd	The air navigation service provider operating the control tower at Gatwick.
<b>APU</b>	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.
<b>ATC</b>	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.
<b>ATM</b>	Air Traffic Movement	An aircraft operation on the airport's runway, i.e. either a departure or an arrival.
<b>CAA</b>	Civil Aviation Authority	The UK independent civil aviation regulator
<b>CDO</b>	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.'
<b>DfT</b>	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)

<b>DME</b>	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.
<b>EGKK</b>	(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.
<b>EPNdB</b>	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.
<b>FEGP</b>	Fixed Electrical Ground Power	FEGP provides aircraft with the necessary power to operate its electrical and air conditioning systems.
<b>FLOPSC</b>	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.
<b>GACT</b>	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.
<b>GAL</b>	Gatwick Airport Limited	-
<b>GNMG</b>	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.
<b>GPU</b>	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.
<b>IAR</b>	Independent Arrivals Review	Gatwick commissioned an independent review of air traffic around the airport in. The final report has been published in 2016. <a href="#">Click here for more information.</a>



# Glossary of Terms (3)

<b>ILS</b>	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.
<b>KPI</b>	Key Performance Indicator	A set of metrics or values by which performance is measured and monitored.
<b>MOTW</b>	Maximum Take-Off Weight	The certified maximum total weight of an aircraft during take-off.
<b>NaTMAG</b>	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.
<b>NATS</b>	National Air Traffic Service	NATS is the main Air Navigation Service Provider in the United Kingdom.
<b>NMB</b>	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.
<b>NPR</b>	Noise Preferential Route	Departure flight paths that avoid densely populated areas and therefore reduce the noise.
<b>NTK</b>	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.
<b>QC</b>	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.
<b>QNH</b>	(no acronym)	When set to QNH, an altimeter reads the altitude above mean sea level.
<b>RAG</b>	Red-Amber-Green	A tier system used to rate and categorise performance.
<b>S106</b>	Section 106	Refers to Section 106 the Town and Country Planning Act 1990.
<b>TK</b>	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.

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