

# Gatwick Airport Airspace Office Quarterly Report

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This report covers the period  
(1st April – 30th June 2020)



YOUR LONDON AIRPORT  
*Gatwick*

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# Introduction

## ABOUT THIS REPORT

This report is produced by the Gatwick Airspace Office (formerly known as the Flight Performance Team). 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 department 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, a report on night flying during the period, and an analysis of noise complaints received during the period.

## KEY MONITORING INDICATORS – 1<sup>st</sup> APRIL – 30<sup>th</sup> JUNE 2020

Parameter		12 month performance averages <sup>1</sup>			
		2020	2019	2011	2006
Track keeping performance (% on track)	▲	98.33%	98.21%	97.47%	98.17% <sup>3</sup>
24hr CDO (% achievement) <sup>4</sup>	▼	89.31%	90.29%	90.49%	80.79%
Day/Shoulder CDO (% achievement)	▼	89.47%	90.34%	90.19%	79.9%
Core night CDO (% achievement)	▼	87.54%	89.71%	93.96%	89.6%
1,000ft Infringements (No.)	-	0	0	3	11
1,000ft Infringements (No. below 900ft)	-	0	0	1	6
Departure Noise Infringements (Day)	▼	0	1	0	10
Departure Noise Infringements (Night/Shoulder)	-	0	0	4	2
Individual complainants	▼	557	753	343	587
Total noise complaints received <sup>5</sup>	▼	18,985	26,364	2,673	4,791
Enquiry response performance target is 95% within 8 days (April to June 2020)	▲	99.70%	49.00%	KPI 95%	
West/East Runway Split (%)	-	77/23	67/33	67/33	68/32

<sup>1</sup> The colour indicates the most recent 12 month performance compared to the 2011 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 SID's 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.

# Executive Summary

## Performance Headlines

### AIRPORT OPERATIONS

Between 1<sup>st</sup> April and 30<sup>th</sup> June 2020, there were a total of 971 fixed wing aircraft movements at Gatwick, a decrease of about 98% compared with the same period last year due to the impact of the Covid-19 pandemic. The direction of operation is determined by wind direction and this was split 55% on the westerly runway and 45% on the easterly runway for the period. The 18 year average for the split in runway usage is approximately 68% westerly and 32% easterly.

### STANDBY RUNWAY (26R/08L) USAGE

Although Gatwick has the main runway and the 'reserve' or standby runway, they cannot be operated simultaneously.

The standby runway is normally only utilised during the night when maintenance on the main runway is planned. During these three months, there were a total of 270 movements from the standby runway.

### TRACK KEEPING

Track keeping performance has increased slightly compared to the previous year's performance, details of which will follow later in this report. As part of our continuing commitment to increase on-track performance, the Airspace Office continues to engage with the airlines directly and through the Flight Operations Performance and Safety Committee (FLOPSC) on a range of initiatives to monitor compliance.

### WOULD YOU LIKE TO KNOW MORE ABOUT AIRCRAFT NOISE OR TRACK A FLIGHT?

To track aircraft, see noise readings or make a complaint about aircraft noise at Gatwick you can visit our website: <http://www.gatwickairport.com/noise>

The website provides detailed maps on aircraft traffic around the airport as well as useful information on noise and statistics on aircraft movements. It also details the work we undertake with others in the aviation industry to try and alleviate the impact of our operations on both the local and wider community.

### CONTINUOUS DESCENT OPERATIONS (CDO) PERFORMANCE

While the Noise and Track Keeping (NTK) system utilises the most up-to-date format of radar data currently available, the

algorithm that measures CDO performance has remained unchanged since the definition was initially defined several years ago. As part of a development project to improve the accuracy of CDO measurement, the Airspace Office has worked closely with NATS to upgrade the current algorithm. The core algorithm remains unaltered, although some additional rules have been added with the result that some marginal profiles, previously classified as CDO compliant, will now be re-classified as non-CDO flights. These changes came into effect from May 2015 and the resulting variance in recorded levels of performance is in the order of 1%, therefore we expect to see a minor drop off in recorded performance from this date. Historical observations have consistently shown a reduction in performance during the winter months due to instances of inclement weather.

It is important to note that as recommended by the Independent Review of Arrivals, the altitude at which CDO is measured has changed as of 1<sup>st</sup> August 2016, more details later in the report.

### COMMUNITY NOISE MONITORING

In addition to fixed monitors located close to the ends of the runway, there are currently mobile noise monitors deployed at sites in Lingfield, Rusper, Cowden, Charlwood, South Holmwood, Withyham, Hever Castle, Rusthall, Alfold, Slinfold, Faygate, Newdigate, Ruckmans, Sidlow, Ifold, Kingsfold, Chiddingstone and Outwood.

For several years, we have run a programme of noise monitoring to get a better understanding of the levels of aircraft noise in the communities surrounding Gatwick Airport. The noise monitors provide a method of monitoring and recording noise from both aircraft, and background sources. This allows us to evaluate trends and make comparisons between the noise environments at different locations.

### COMPLAINTS

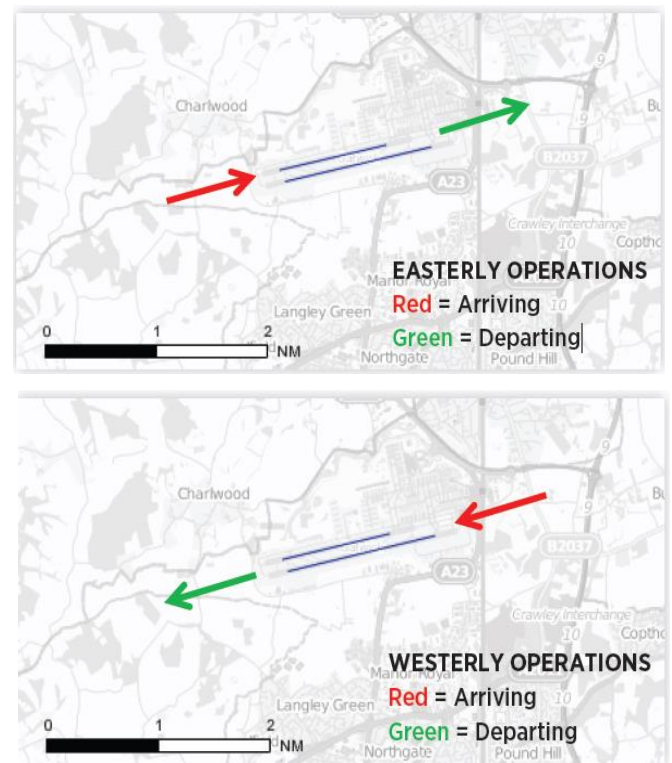
The number of recorded complaints has decreased compared to the previous twelve months as well as the number of complainants which has also decreased. The number of complaints has reduced in recent months due to the reduction in air traffic caused by the Covid-19 pandemic.

The postcode areas with the greatest number of enquiries during the three month period were Horley, Horsham and Newdigate. The number of individual complainants between April and June was **78**. Complaints about aircraft operations are processed in accordance with our published Complaints Handling Policy. Details of this policy are available on our website.

# Runway Direction

The images represent the direction of runway operation at Gatwick. Aircraft operating in a westerly direction take off towards the west and land from the east. Aircraft operating in an easterly direction take off towards the east and land from the west. Although the long term average is approximately 68:32 in favour of westerly operations, it is not unusual to experience long periods of prolonged operation in either one direction or another.

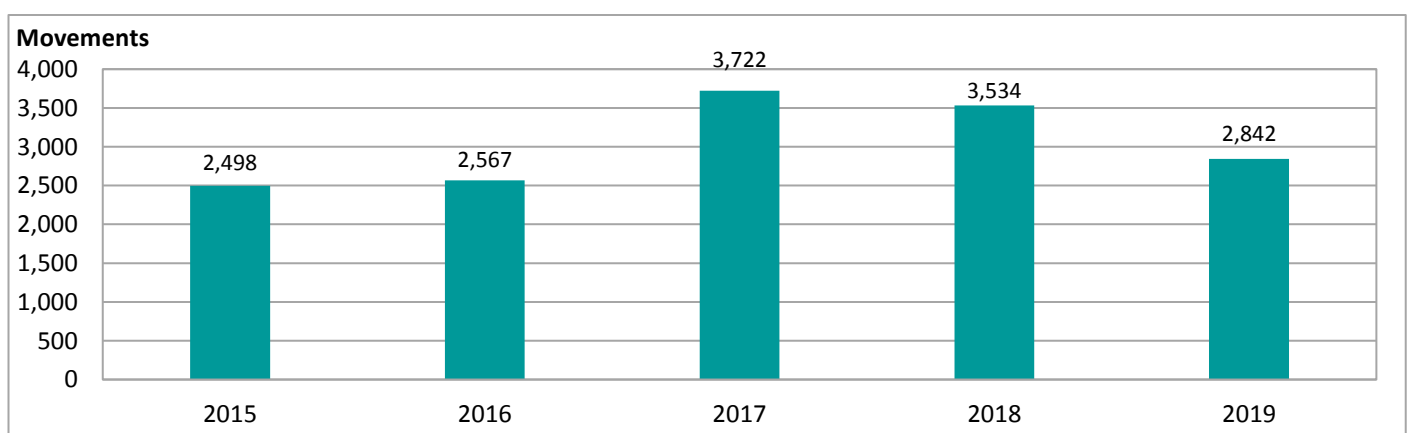
The airport has one main runway. When the main runway is out of operation there is a northern runway adjacent to the main runway that can be used. This runway is shorter than the main runway and is not equipped with an Instrument Landing System and under current regulations, due to its proximity to the main runway, it cannot be used at the same time. The northern runway is normally only used during periods of essential maintenance on the main runway and this is normally carried out during night time when the airport is not as busy.



## NORTHERN RUNWAY MOVEMENT TABLE

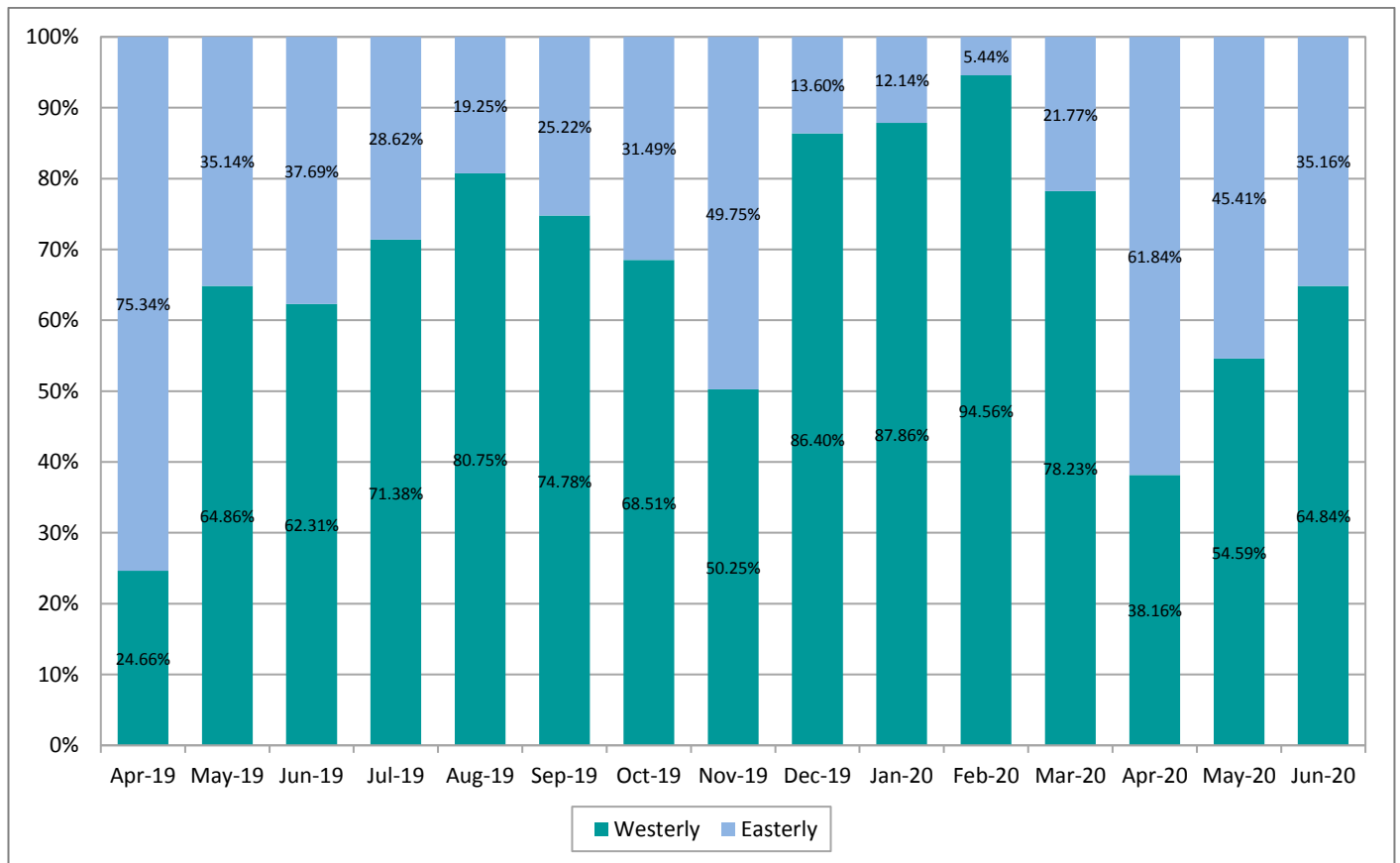
Month	Number of Northern Runway Movements	% of Movements in Month
Apr-19	123	0.5%
May-19	218	0.8%
Jun-19	376	1.4%
Jul-19	723	2.6%
Aug-19	112	0.4%
Sep-19	459	1.8%
Oct-19	547	2.2%
Nov-19	22	0.1%
Dec-19	83	0.4%
Jan-20	132	0.7%
Feb-20	139	0.7%
Mar-20	51	0.4%
Apr-20	91	32.2%
May-20	158	80.6%
Jun-20	21	4.2%

## NUMBER OF NORTHERN RUNWAY MOVEMENTS UTILISED OVER THE PAST 5 YEARS



## RUNWAY DIRECTION SPLIT

THE GRAPH BELOW SHOWS THE SPLIT OVER THE 15 MONTH PERIOD (APRIL 2019 – JUNE 2020)



## The Aeronautical Information Publication

An AIP is defined by the International Civil Aviation Organisation (ICAO) as a publication issued by or with the authority of a state and containing aeronautical information of a lasting character essential to air navigation.

It is designed to be a manual containing thorough details of regulations, procedures and other information pertinent to flying aircraft in the particular country to which it relates. It is usually issued by or on behalf of the respective civil aviation administration.

The structure and contents of AIPs are standardized by international agreement through ICAO. AIPs normally have three parts - GEN (general), ENR (en route) and AD (aerodromes).

The Gatwick Aerodrome AIP contains details regarding the noise mitigation measures in place and adherence to these is reported in this section.

## ADHERENCE TO NOISE MITIGATION MEASURES AS DETAILED IN THE GATWICK AIP

Each element of this report is preceded, where applicable, by the relevant AIP reference and summary text detailing the purpose of the requirement. Data is then presented on current performance.

It should be noted that Gatwick is 202ft above mean sea level (AMSL) and the NTK system measures height relative to Gatwick elevation and not sea level.

References in the AIP are usually above sea level (quoted as Gatwick QNH) and therefore need to be reduced by 202ft to be comparable with heights, as measured by the NTK system. For example, the requirement to join the ILS at 3,000ft would equate to 2,798ft in the NTK system.

No account is taken of the variability of heights as measured by the radar which, depending on the distance from the radar head, can be +/- 200ft from that indicated. This is obviously allowed for by NATS and ANS when managing operations.

# Departures - Noise Infringements

## DEPARTURE NOISE LIMITS (DAYTIME)

**EGKK AD 2.21 (3(3))** Subject to sub-paragraphs (5) and (6) below, 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 to 2300 hours local time) as measured at any noise monitoring terminal at any of the sites referred to in sub-paragraph (2). This is to ensure that departing aircraft do not exceed the stated level during the day.

Year	Number of Day Infringements	Year	Number of Day Infringements
2006	9	2013	0
2007	13	2014	0
2008	2	2015	0
2009	0	2016	0
2010	0	2017	0
2011	0	2018	0
2012	0	2019	1

## DEPARTURE NOISE LIMITS (CORE NIGHT & SHOULDERS)

**EGKK AD 2.21 (3(4))** Subject to sub-paragraphs (5) and (6) below, 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 to 0700 hours local time) and that it will not cause more than 87 dBA Lmax during the night quota period (from 2330 to 0600 hours local time) as measured at any noise monitoring terminal at any of the sites referred to in sub-paragraph (2). This is to ensure that departing aircraft do not exceed the stated levels during the night and shoulder periods.

Year	Number of Night & Shoulder Infringements	Year	Number of Night & Shoulder Infringements
2006	2	2013	0
2007	2	2014	0
2008	2	2015	0
2009	1	2016	1
2010	0	2017	2
2011	4	2018	0
2012	0	2019	0

\*The daytime noise infringement was caused by a Virgin Atlantic Boeing 747-400 Series aircraft which breached the daytime noise limit of the fixed monitor at Russ Hill by 0.9dB (adjusted for tailwind) at 10:29 on the 11 May 2019. The airline has been fined £500 for the infringement and has paid. The funds have been issued to the Gatwick Airport Community Trust (GACT).

# Departures - Initial Climb Performance

**EGKK AD 2.21 (3(1))** After take-off the aircraft shall be operated in such a way that it is at a height of not less than 1000ft aal (above airfield level) at 6.5 km from start of roll as measured along the departure track of the aircraft. This is to ensure departing aircraft achieve at least that climb gradient in order to reduce the impact on the ground.

### Comment:

There were no infringements of the 1,000ft rule during this three month period.

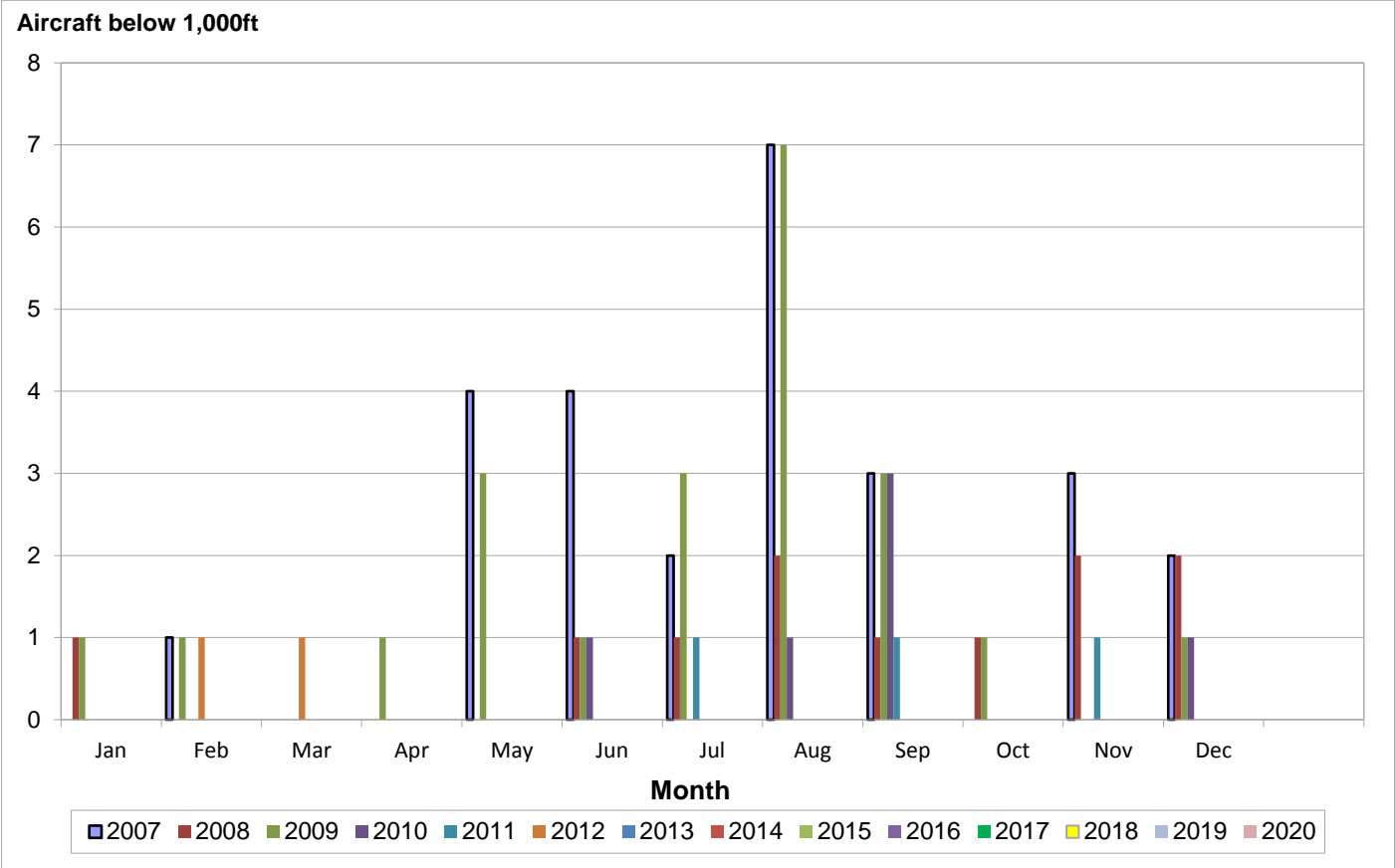
Historically, the summer months are typically the peak period for aircraft failing to meet the 1,000ft requirement, primarily due to the warmer weather which reduces aircraft climb performance.

## 1,000ft INFRINGEMENT TABLE

Year	Total Infringements	Year	Total Infringements
2006	11	2013	0
2007	26	2014	0
2008	11	2015	0
2009	22	2016	0
2010	6	2017	0
2011	3	2018	0
2012	2	2019	0

THE GRAPH BELOW ILLUSTRATES 1,000ft INFRINGEMENT PERFORMANCE SINCE 2007

Initial Climb Performance





## Departures – Track Keeping

All jet aircraft leaving Gatwick Airport should follow flight paths known as Noise Preferential Routes (NPRs) up to a height of 3,000ft or 4,000ft depending on the route. An NPR consists of a 'centreline' and an associated compliance monitoring swathe (3km across, i.e. 1.5km either side of the NPR centreline). As long as aircraft remain within the corridor boundaries, they are deemed to be on-track. A map illustrating the NPRs at Gatwick is available overleaf.

Air Traffic Control (ATC) are responsible for the routing of aircraft once airborne and when 3,000ft or 4,000ft has been reached, they may give a flight a more direct heading, known as vectoring off of the route. This is subject to certain factors, including weather conditions and other traffic in the vicinity. Flights leaving the route below the required height are automatically flagged and details are sent to the airline for investigation. FLOPSC regularly review track keeping performance.

In 2012, Gatwick Airport publicly consulted on the implementation of a more modern form of satellite-based aircraft navigation called P-RNAV (Precision Route Navigation). After having assessed all consultation feedback, in November 2013 the Civil Aviation Authority (CAA) granted the airport permission to add P-RNAV Standard Instrument Departures (SID) to all of Gatwick's departure routes to complement the existing 'conventionally' navigated SIDs.

Implementing these P-RNAV procedures on the published departure routes resulted in the flight tracks of departing aircraft being more concentrated within the boundaries of the Noise Preferential Routes (NPR) conformance monitoring swathes with one exception, Route 4. This route had always presented a challenge for modern jets as it was designed to accommodate the previous generation of propeller-driven aircraft and early jets that were prevalent in the 1960's when the NPR was established by the Department for Transport.

In April 2014 the CAA conducted a Post Implementation Review (PIR) on all of the new P-RNAV SIDs. The Review recommended that the Route 4 SIDs be modified so that departing aircraft remained within the published NPR conformance monitoring swathe. The CAA also required that the conventional SID be reviewed and corrected during the airspace change process to address changes to the SID track over time as the objective of the 2012 Airspace Change Proposal (ACP) was tied to this conventional SID. Following a subsequent re-design modified Route 4 SIDs were implemented in May 2016. A subsequent CAA PIR, published in April 2017, concluded that the modified Route 4 SIDs achieved a satisfactory replication of the nominal track

of the conventional SID and confirmed the P-RNAV SID designs as permanent.

A Judicial Review, instigated by a local community noise action group, of the CAA PIR decision resulted in the quashing of the CAA's April 2017 decision by consent and required Gatwick to revert the Route 4 conventional SID's to their position as they were before 7 April 2017, when the CAA decision was taken. In support of this, Gatwick completed a comprehensive safety review, validated with an independent instrument flight procedure designer and submitted the changes to the CAA for approval in May 2018. (Note: this change to the conventional SID did not affect the distribution of flight tracks).

In order to address the reversal of this decision and due to a fundamental issue in relation to changes in the track of the Route 4 SID over time (which had meant the original 2012 ACP objective was technically and legally unachievable) Gatwick initiated, in 2018, a new airspace change not tied to the original 2012 airspace change objective specifically aimed to implement permanent P-RNAV SIDs for Route 4.

The CAA was then served with a pre-action protocol – an early stage notification of a potential legal challenge – in relation to Route 4. This prompted the CAA, as a consequence, to instruct Gatwick to initiate another airspace change focussed on the conventional Route 4 SIDs; not the P-RNAV SIDs. Due to the potential change to the lateral track of the conventional departure routes this would require the development of a full Airspace Change Proposal (ACP). A rigorous legal process that is likely to take a minimum of two years to achieve. Gatwick believed that this would introduce significant risk to the Route 4 ACP initiated in 2018. Our key concern was that the proposal from the CAA risked confusing stakeholders and local residents with multiple consultations at the same time and add significant delay to the already challenging timescales for the existing Route 4 airspace change.

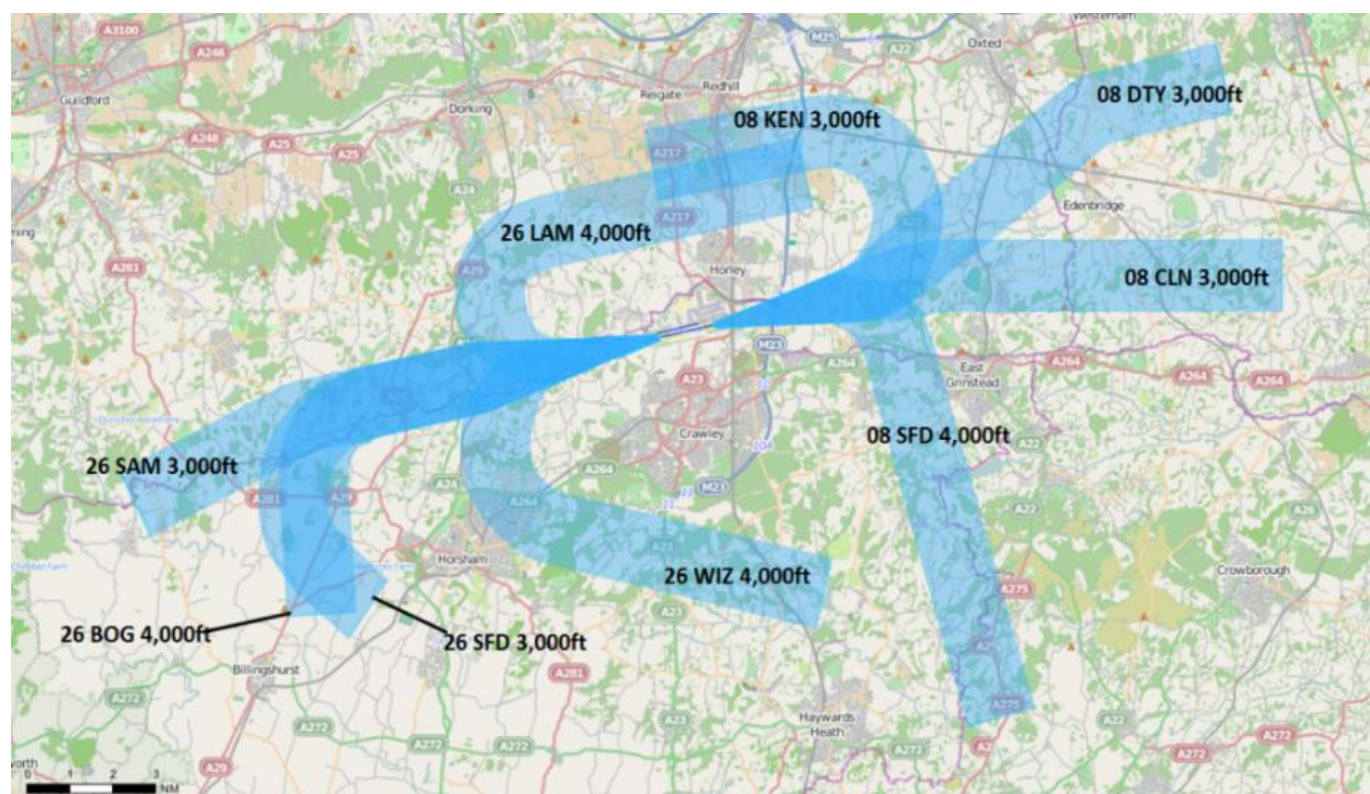
After careful consideration Gatwick decided not to carry out this additional airspace change, therefore allowing the CAA's recent decision to bring to a close the 2012 ACP.

The decision means that a new ACP will not need to run in parallel to the current ACP on Route 4, initiated in 2018. This will make the current process less confusing and easier for local communities to understand given the complex nature of the history of the track of the route. Importantly it will also make the ongoing Route 4 ACP less likely to be delayed, which

These variations in flight paths are likely to continue until new Route 4 satellite-based departure routes, being considered under the current 2018 ACP, are approved by the CAA and then implemented.

There has also been a modification to our 08CLN/Route 5 NPR which has been in place since the 30<sup>th</sup> March 2017, as advised by the CAA. Previously, aircraft were flying slightly to the south of the NPR centreline and this modification aims to better replicate the existing conventional SID route and bring aircraft back towards the centre. This was monitored by the CAA for a six month period until the 30<sup>th</sup> September 2017 to ensure the aircraft were operating as anticipated. Gatwick is awaiting a decision from the CAA regarding its status.

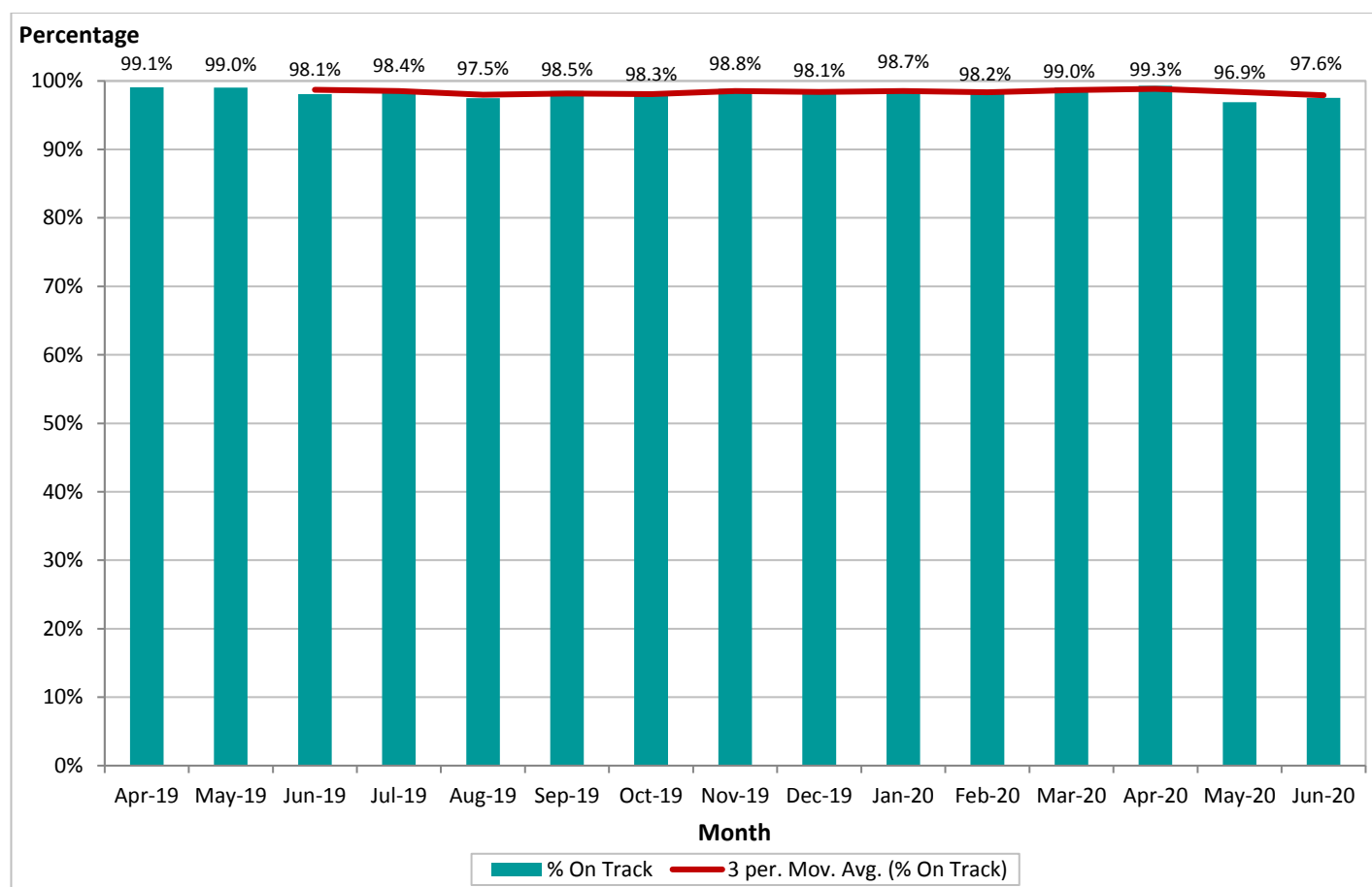
THE MAP BELOW ILLUSTRATES THE NOISE PREFERENTIAL ROUTES USED BY DEPARTING AIRCRAFT WITH MINIMUM VECTORING ALTITUDE FIGURES



THE TABLE BELOW ILLUSTRATES TRACK KEEPING PERFORMANCE OVER 15 MONTHS

Month	Total			Westerly			Easterly		
	Deviations	Departures	%	Deviations	Departures	%	Deviations	Departures	%
Apr-19	109	11989	0.91%	88	2948	2.99%	21	9041	0.23%
May-19	127	13041	0.97%	109	8440	1.29%	18	4601	0.39%
Jun-19	255	13280	1.92%	245	8179	3.00%	10	5101	0.20%
Jul-19	217	13774	1.58%	211	9812	2.15%	6	3962	0.15%
Aug-19	354	14080	2.51%	348	11448	3.04%	6	2632	0.23%
Sep-19	190	13051	1.46%	186	9776	1.90%	4	3275	0.12%
Oct-19	213	12187	1.75%	199	8314	2.39%	14	3873	0.36%
Nov-19	107	9221	1.16%	92	4718	1.95%	15	4503	0.33%
Dec-19	203	10527	1.93%	203	9098	2.23%	0	1429	0.00%
Jan-20	119	9271	1.28%	119	8094	1.47%	0	1177	0.00%
Feb-20	168	9405	1.79%	167	8865	1.88%	1	540	0.19%
Mar-20	66	6889	0.96%	65	5409	1.20%	1	1480	0.07%
Apr-20	1	142	0.70%	1	59	1.69%	0	83	0.00%
May-20	3	97	3.09%	3	59	5.08%	0	38	0.00%
Jun-20	6	245	2.45%	3	163	1.84%	3	82	3.66%

THE GRAPH BELOW ILLUSTRATES TRACK KEEPING PERFORMANCE OVER 15 MONTHS WITH A TREND LINE



## UNUSUAL TRACKS

Some 'unusual tracks' taken by departing aircraft are recorded by our NTK system and these can occur for a number of reasons, such as weather avoidance. These can result in the aircraft leaving the NPR below the required altitude or aircraft that have vectored at the required altitude and then misdirected to avoid conflict with traffic from other airports. All unusual tracks are investigated with the airline concerned.

**Comment:** During this three month period, there were no unusual tracks identified.



# Departures – Over Congested Areas

## THE WIZAD NOISE PREFERENTIAL ROUTE

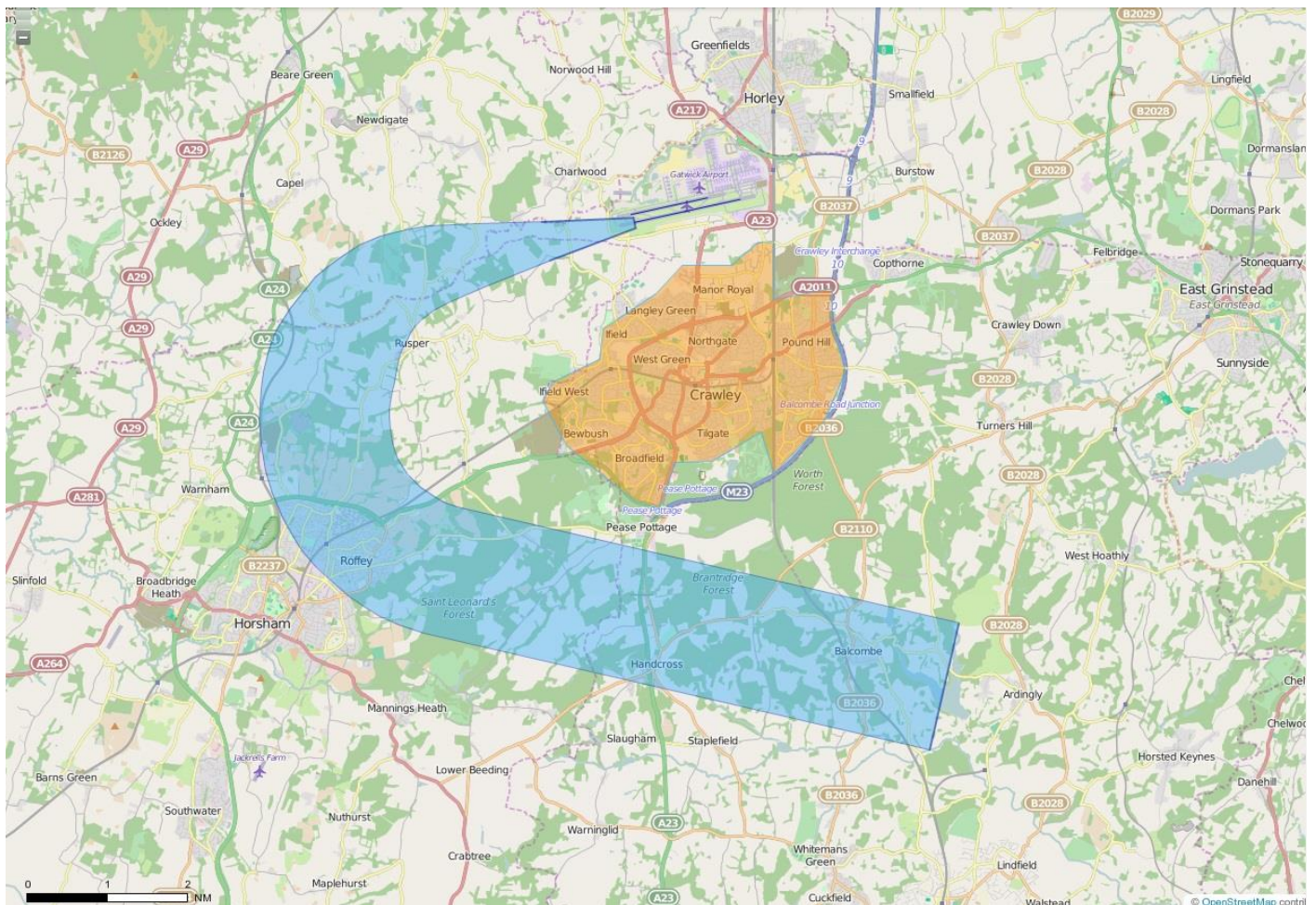
The WIZAD NPR (26WIZ or Route 9) was designated by the Government at the same time as all other Gatwick departure routes; however, it is not used on an equal basis with the other routes. It is a Tactical Offload Route and is not usually offered as part of a flight path. If the 26LAM Route (or Route 4) is very busy, WIZAD will be offered as a last minute alternative to ease the load.

As it is only a Tactical Offload Route, it is not well known and it is only offered to local pilots and usually used by more modern, high performance aircraft. It will also be used during periods of poor weather when an alternative to the usual routes may be required as aircraft should not fly through thunderstorms.

**EGKK AD 2.21 (8)(c)** *The ATC clearance via Mayfield specified in the second column of the table will not be available between 2300 hours and 0700 hours local time. Aircraft following the Noise Preferential Routing Procedure which relates to that clearance shall not fly over Crawley, Crawley Down or East Grinstead. This is to avoid aircraft noise from departing aircraft over areas of high population at night on the 26 WIZAD NPR.*

**Comment:** During this three month period, there were no departures during the restricted period on the 26 WIZAD NPR.

## THE MAP BELOW ILLUSTRATES THE CRAWLEY TOWN BOUNDARY WITH NOISE PREFERENTIAL ROUTE 26 WIZAD



# Overflight of Crawley and Horley

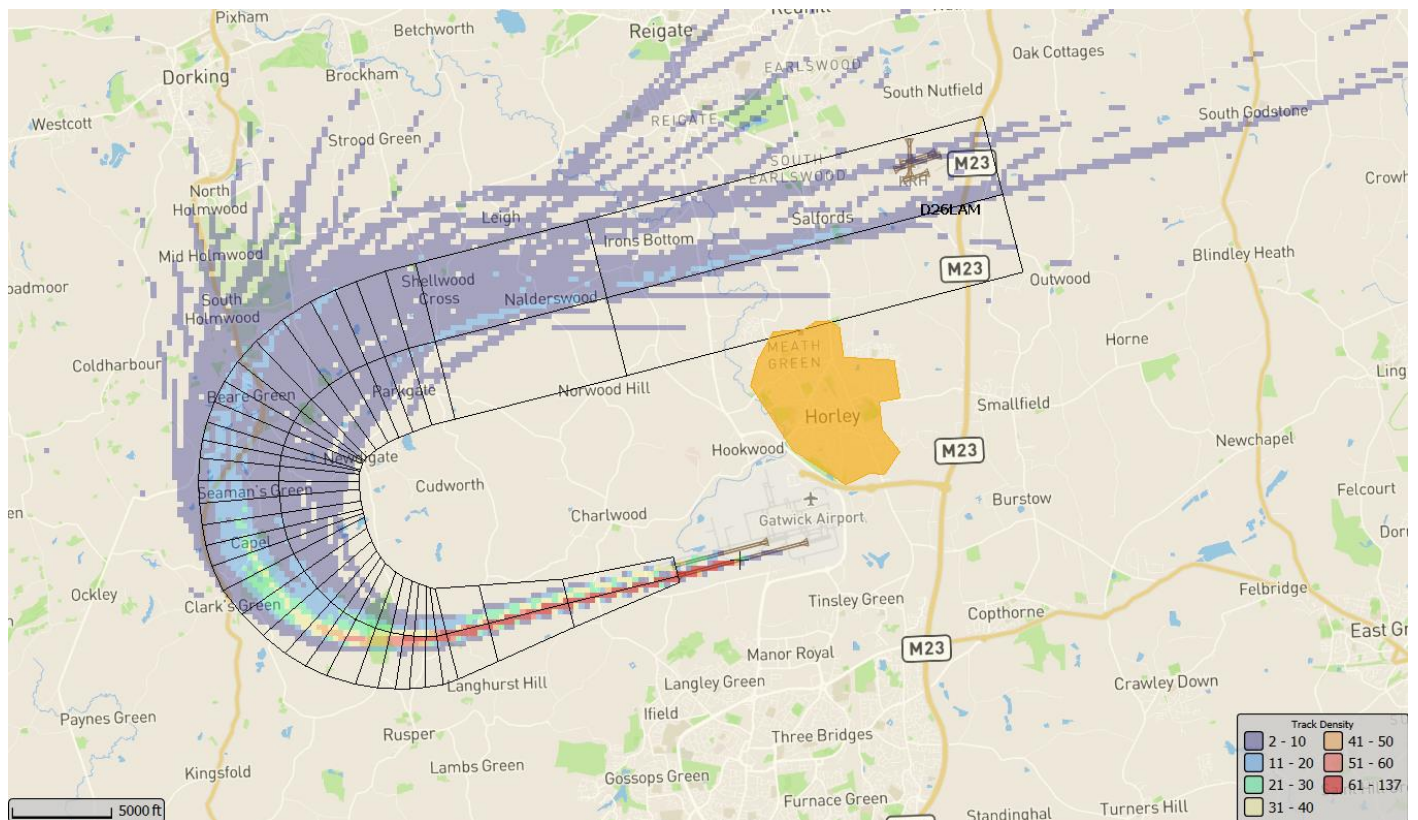
**EGKK AD 2.21 (9)** *After taking off the aircraft shall avoid flying over the congested areas of Horley and Crawley.*

This is to avoid aircraft noise from departing aircraft over areas of high population.

**Comment:** During this period, there were no departing flights that passed over Crawley. It is important to note that Horley does experience overflight from Heathrow Airport traffic. The current construction of the SID is of the 'course to fix' type which determines the course to fly terminating at a waypoint

whereas the 'radius to fix' specifies the curved path defined by radius, arc length and fix with the angle of bank being varied to achieve the specified path. Accelerating to a fixed speed in times of strong south westerly winds (2000' wind >25kts) can exceed the aircraft's authorised limits. This leads to a variance between different aircraft types and operators and therefore, some aircraft fly further north or south than others. The wind and weather (e.g. thunderstorms) also has an effect on the headings of aircraft which may result in direct overflight of Horley.

THE MAP BELOW ILLUSTRATES THE TRACK DENSITY OF DEPARTING AIRCRAFT ON THE 26 LAM DEPARTURE ROUTE DURING THE THREE MONTH PERIOD WITH HORLEY TOWN HIGHLIGHTED

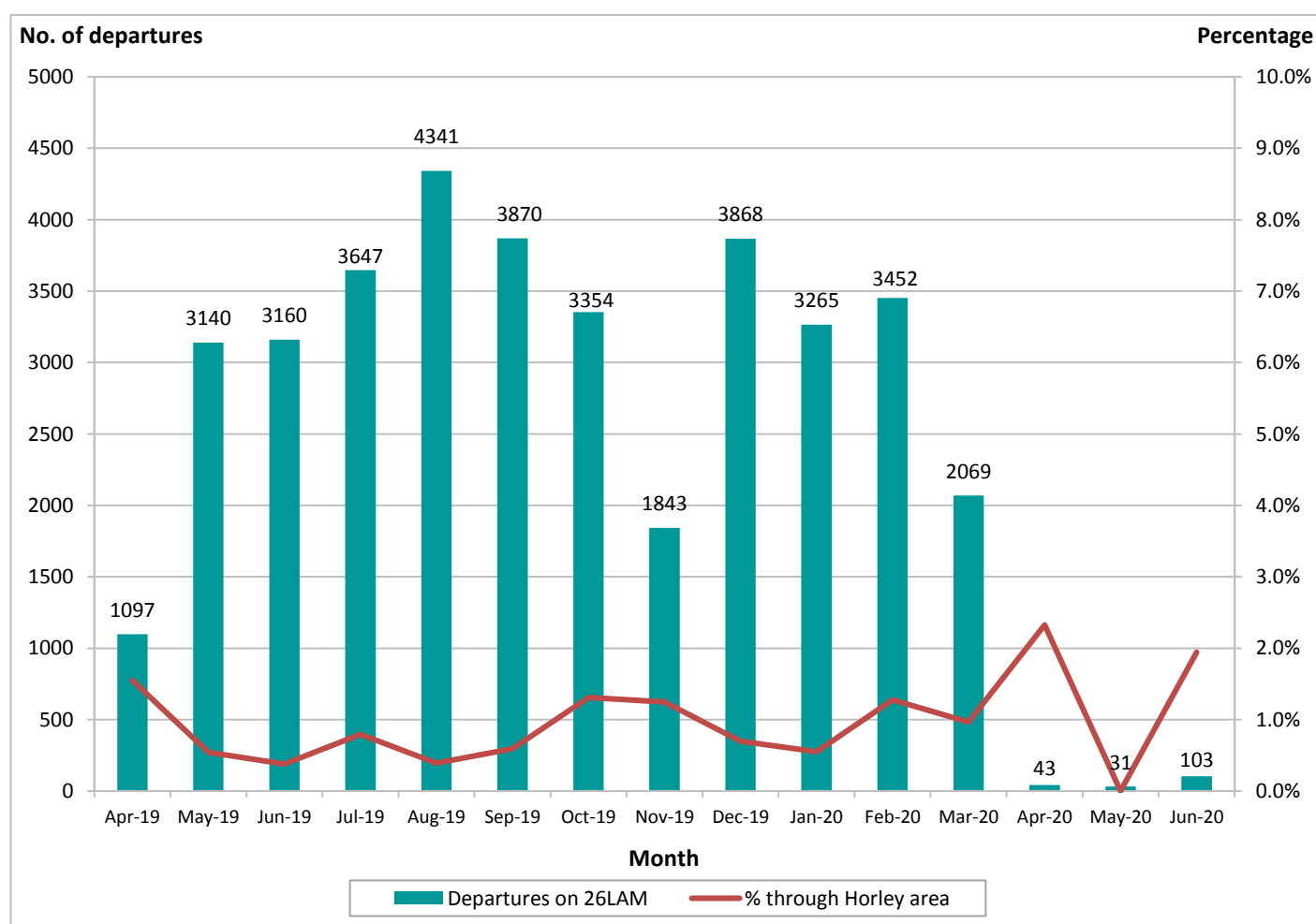




THE TABLE BELOW ILLUSTRATES THE ANALYSIS OF HORLEY OVERFLIGHT

Month	Deps on 26LAM	Horley Area	% through Horley Area	Month	Deps on 26LAM	Horley Area	% through Horley Area	Month	Deps on 26LAM	Horley Area	% through Horley Area
Jan-18	3056	29	0.95%	Jan-19	3040	39	1.28%	Jan-20	3265	18	0.55%
Feb-18	2075	19	0.92%	Feb-19	2807	10	0.36%	Feb-20	3452	44	1.27%
Mar-18	2314	13	0.56%	Mar-19	3702	48	1.30%	Mar-20	2069	20	0.97%
Apr-18	2793	9	0.32%	Apr-19	1097	17	1.55%	Apr-20	43	1	2.33%
May-18	2025	15	0.74%	May-19	3140	17	0.54%	May-20	31	0	0.00%
Jun-18	2648	14	0.53%	Jun-19	3160	12	0.38%	Jun-20	103	2	1.94%
Jul-18	3316	9	0.27%	Jul-19	3647	29	0.80%	Jul-20	-	-	-
Aug-18	4088	19	0.46%	Aug-19	4341	17	0.39%	Aug-20	-	-	-
Sep-18	3764	20	0.53%	Sep-19	3870	23	0.59%	Sep-20	-	-	-
Oct-18	3225	26	0.81%	Oct-19	3354	44	1.31%	Oct-20	-	-	-
Nov-18	2015	14	0.69%	Nov-19	1843	23	1.25%	Nov-20	-	-	-
Dec-18	3126	20	0.64%	Dec-19	3867	27	0.70%	Dec-20	-	-	-

THE GRAPH BELOW ILLUSTRATES THE ANALYSIS OF HORLEY OVERFLIGHT



# Arrivals – Continuous Descent Operations (CDO)

A CDO (also known as a Continuous Decent Approach, CDA) is a noise abatement technique of flight during which a pilot descends at a rate with the intention of achieving a continuous descent to join the glide path at the correct height for the distance. This procedure thereby avoids the need for extended periods of level flight and results in keeping the aircraft higher for longer reducing the need for thrust. In addition to aiding noise reduction, this also reduces fuel burn thereby cutting emissions and producing an overall environmental benefit.

A CDO is a procedure designed to try and avoid prolonged periods of level flight below 7,000ft\*. Studies have determined that elements of prolonged level flight are noisier than when following CDO. The aviation industry is working hard to improve compliance and an Arrivals Code of Practice (ACoP) has been produced by the Department for Transport (DfT) which aims to promote the use of CDO as a regular practice for all arriving aircraft:

‘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.’

A CDO is not a precise art and relies on the accuracy of track miles provided by ATC to the flight crew coupled with pilot skill, weather conditions and operational circumstances. Additionally, different aircraft types perform differently requiring varying operating practices to be utilised in order to slow the aircraft down and meet speed restrictions. Therefore the procedures in the ACoP are advisory rather than compulsory, so there are no sanctions against pilots or airlines that fail to comply with the measures. Despite this, publication of the ACoP has resulted in significant

improvements in CDO achievement at all times of day and night. The Airspace Office are actively working with the airlines to encourage the use of CDO as a best practice method by continually providing monthly reports.

Airlines and pilots are keen to adopt this procedure for economic as well as environmental reasons and are active in promoting CDO within their companies.

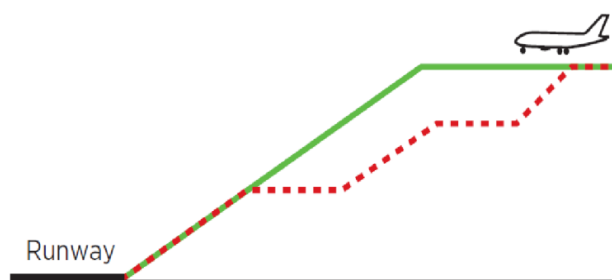
CDO data is measured over three time periods:

- The Core Night period (2330-0600)
- The Day and Shoulder periods (0600–2330)
- The 24-hour period

The following text appears in the UK AIP Noise Abatement Procedures for Gatwick Airport:

**EGKK AD 2.21 (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 decent and low power, low drag operating procedures (referred to in Detailed Procedures for descent clearance in EGKK AD 2.22 of the UK AIP). Where the use of these procedures is not practicable, the aircraft shall maintain as high an altitude as possible. In addition, when descending on initial approach, including in the closing heading, and on intermediate and final approach, thrust reductions should be achieved where possible by maintaining a ‘clean’ aircraft configuration and by landing with reduced flap, provided that in all the circumstances of the flight this is consistent with safe operation of the aircraft. This is to avoid prolonged periods of level flight and keep aircraft as high as possible for as long as possible.*

\*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.



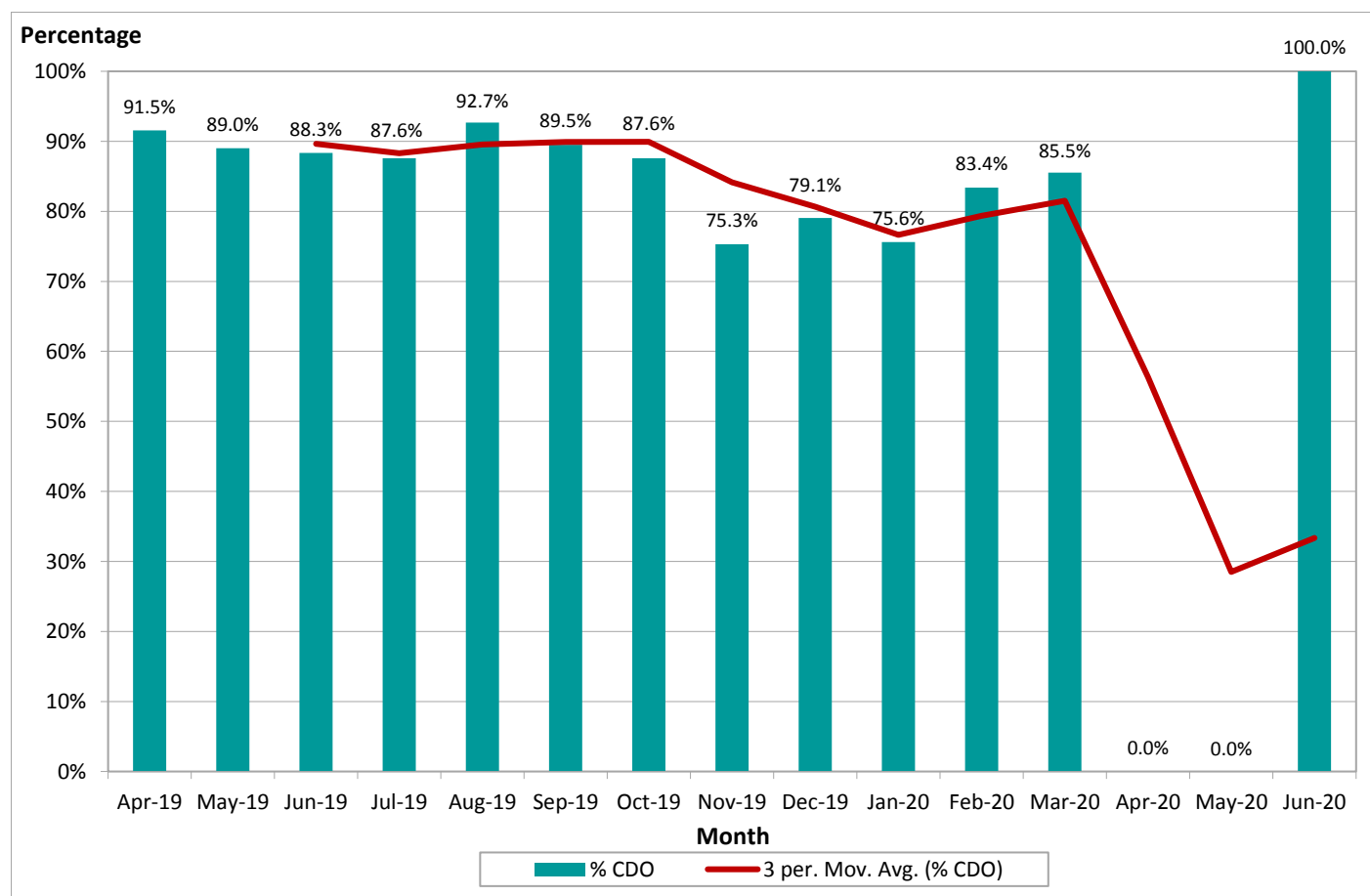


## CORE NIGHT PERIOD (2330-0600)

THE TABLE BELOW ILLUSTRATES THE BREAKDOWN OF THE CDO CORE NIGHT TIME PERIOD

Month	All Arrivals			08 Easterly Arrivals			26 Westerly Arrivals		
	Total	Non CDO	% CDO	Total	Non CDO	% CDO	Total	Non CDO	% CDO
<b>Apr-19</b>	816	68	91.67%	664	53	92.02%	152	15	90.13%
<b>May-19</b>	1246	137	89.00%	479	47	90.19%	767	90	88.27%
<b>Jun-19</b>	1595	186	88.34%	574	71	87.63%	1021	115	88.74%
<b>Jul-19</b>	1891	235	87.57%	499	48	90.38%	1392	187	86.57%
<b>Aug-19</b>	1873	137	92.69%	497	22	95.57%	1376	115	91.64%
<b>Sep-19</b>	1669	175	89.51%	460	37	91.96%	1209	138	88.59%
<b>Oct-19</b>	1072	133	87.59%	224	24	89.29%	848	109	87.15%
<b>Nov-19</b>	267	66	75.28%	153	33	78.43%	114	33	71.05%
<b>Dec-19</b>	473	99	79.07%	35	3	91.43%	438	96	78.08%
<b>Jan-20</b>	320	78	75.63%	28	3	89.29%	292	75	74.32%
<b>Feb-20</b>	379	63	83.38%	20	2	90.00%	359	61	83.01%
<b>Mar-20</b>	207	30	85.51%	7	1	85.71%	200	29	85.50%
<b>Apr-20</b>	0	0	0.00%	0	0	0.00%	0	0	0.00%
<b>May-20</b>	0	0	0.00%	0	0	0.00%	0	0	0.00%
<b>Jun-20</b>	1	0	100.00%	0	0	0.00%	1	0	100.00%

THE GRAPH BELOW ILLUSTRATES THE CORE NIGHT TIME CDO COMPLIANCE WITH A TREND LINE

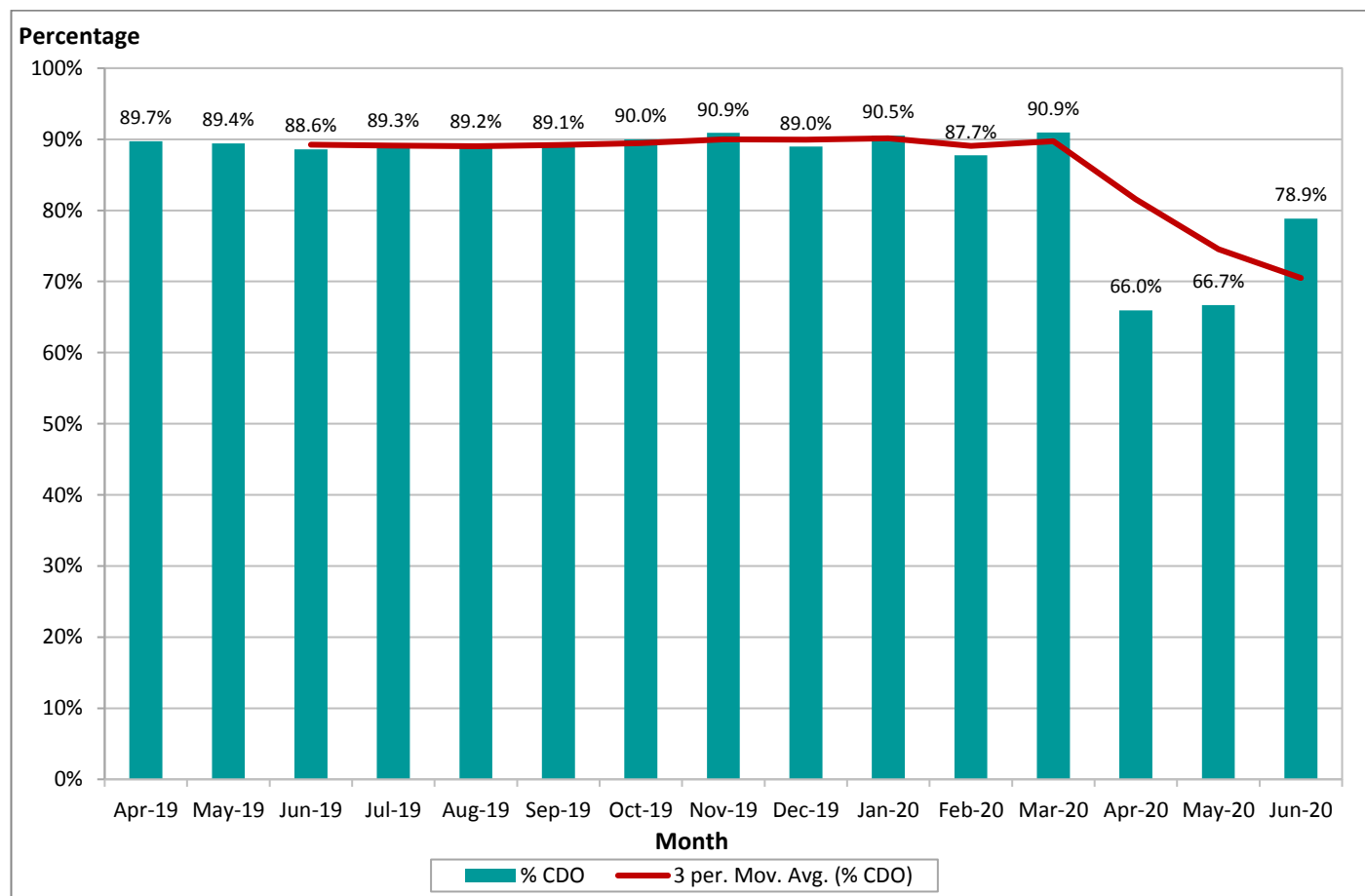


## DAYTIME AND SHOULDER PERIOD CDO ACHIEVEMENT (0600-2330)

THE TABLE BELOW ILLUSTRATES THE BREAKDOWN OF THE CDO DAYTIME AND SHOULDER PERIOD

Month	All Arrivals			08 Easterly Arrivals			26 Westerly Arrivals		
	Total	Non CDO	% CDO	Total	Non CDO	% CDO	Total	Non CDO	% CDO
Apr-19	11195	1149	89.74%	8377	849	89.87%	2818	300	89.35%
May-19	11787	1245	89.44%	4082	363	91.11%	7705	882	88.55%
Jun-19	11676	1331	88.60%	4332	455	89.50%	7344	876	88.07%
Jul-19	11893	1272	89.30%	3426	361	89.46%	8467	911	89.24%
Aug-19	12193	1316	89.21%	2289	208	90.91%	9904	1108	88.81%
Sep-19	11421	1244	89.11%	2859	250	91.26%	8562	994	88.39%
Oct-19	11123	1111	90.01%	3581	348	90.28%	7542	763	89.88%
Nov-19	8965	816	90.90%	4525	368	91.87%	4440	448	89.91%
Dec-19	10053	1107	88.99%	1400	105	92.50%	8653	1002	88.42%
Jan-20	8974	849	90.54%	1048	93	91.13%	7926	756	90.46%
Feb-20	9036	1108	87.74%	464	49	89.44%	8572	1059	87.56%
Mar-20	6702	607	90.94%	1517	136	91.03%	5185	471	90.92%
Apr-20	141	48	65.96%	92	27	70.65%	49	21	57.14%
May-20	99	33	66.67%	51	16	68.63%	48	17	64.58%
Jun-20	246	52	78.86%	91	13	85.71%	155	39	74.84%

THE GRAPH BELOW ILLUSTRATES THE DAY & SHOULDER CDO COMPLIANCE WITH A TREND LINE

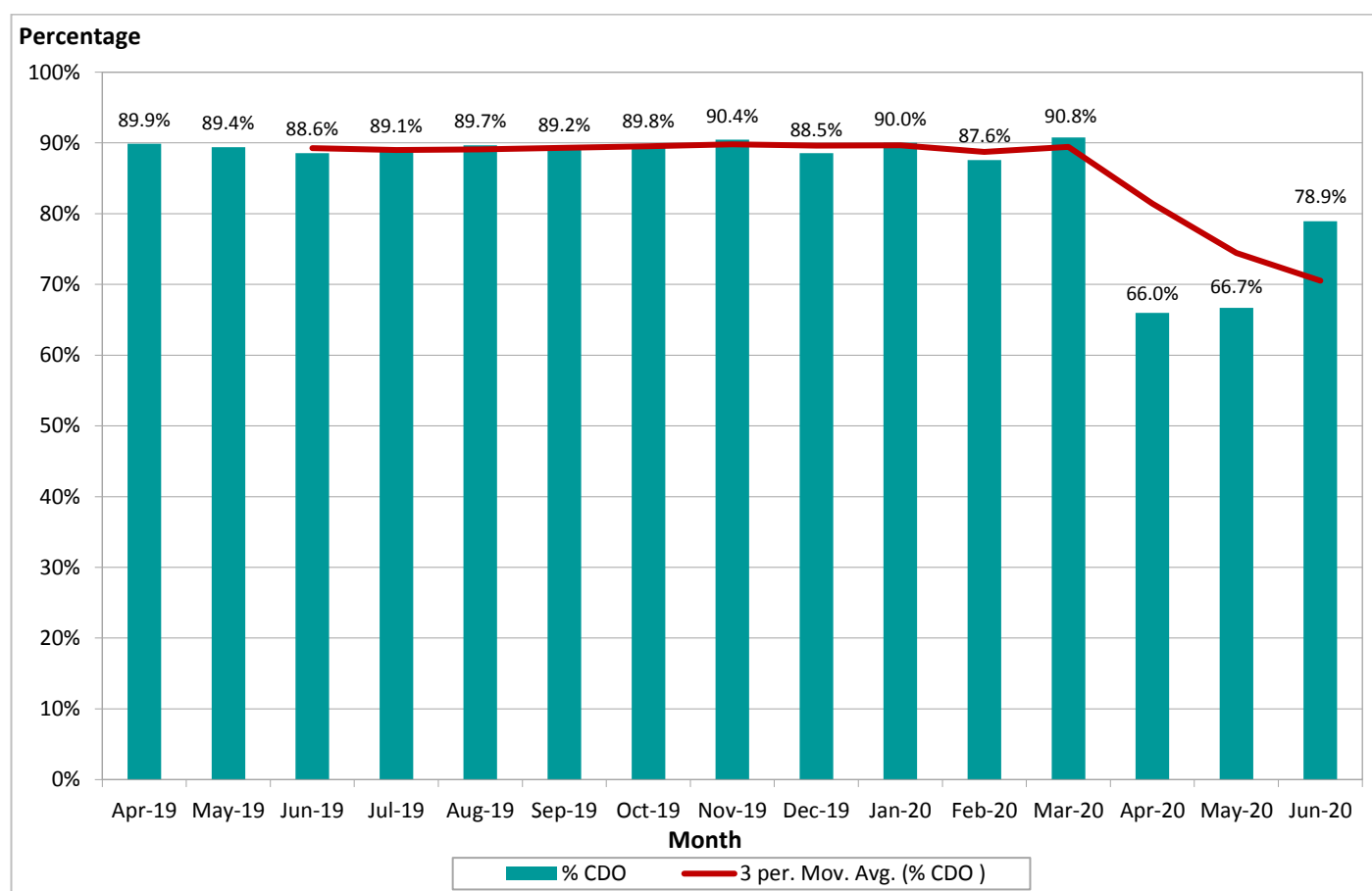


## 24 HOUR PERIOD CDO ACHIEVEMENT

THE TABLE BELOW ILLUSTRATES THE BREAKDOWN OF THE CDO 24 HOUR TIME PERIOD

Month	All Arrivals			08 Easterly Arrivals			26 Westerly Arrivals		
	Total	Non CDO	% CDO	Total	Non CDO	% CDO	Total	Non CDO	% CDO
<b>Apr-19</b>	12011	1217	89.87%	9041	903	90.01%	2970	315	89.39%
<b>May-19</b>	13033	1382	89.40%	4561	410	91.01%	8472	972	88.53%
<b>Jun-19</b>	13271	1517	88.57%	4906	526	89.28%	8365	991	88.15%
<b>Jul-19</b>	13784	1507	89.07%	3925	409	89.58%	9859	1098	88.86%
<b>Aug-19</b>	14066	1453	89.67%	2786	230	91.74%	11280	1223	89.16%
<b>Sep-19</b>	13090	1419	89.16%	3319	287	91.35%	9771	1132	88.41%
<b>Oct-19</b>	12195	1244	89.80%	3805	372	90.22%	8390	872	89.61%
<b>Nov-19</b>	9232	882	90.45%	4678	401	91.43%	4554	481	89.44%
<b>Dec-19</b>	10526	1206	88.54%	1435	108	92.47%	9091	1098	87.92%
<b>Jan-20</b>	9294	927	90.03%	1076	96	91.08%	8218	831	89.89%
<b>Feb-20</b>	9415	1171	87.56%	484	51	89.46%	8931	1120	87.46%
<b>Mar-20</b>	6909	637	90.78%	1524	137	91.01%	5385	500	90.71%
<b>Apr-20</b>	141	48	65.96%	92	27	70.65%	49	21	57.14%
<b>May-20</b>	99	33	66.67%	51	16	68.63%	48	17	64.58%
<b>Jun-20</b>	247	52	78.95%	91	13	85.71%	156	39	75.00%

THE GRAPH BELOW ILLUSTRATES THE 24 HOUR PERIOD CDO COMPLIANCE WITH A TREND LINE



# Arrivals – Over Congested Areas

## OVERFLIGHT OF CONGESTED AREAS

**AD 2-EGKK1-12 (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 3,000ft (Gatwick QNH) nor over the congested area of Lingfield at an altitude of less than 2,000ft (Gatwick QNH).*

N.B. 2,000ft – (202ft (airfield elevation) + 100ft (radar/ILS tolerance)) = 1,698ft on Airports Noise & Aircraft Tracking System

**Comment:** There were no arriving flights which passed over the towns of Horley, Crawley or East Grinstead other than helicopters. The map overleaf illustrates these analysis zones.

A polygon located over the urban area at about 7 nautical miles (NM) from touchdown is normally used to analyse tracks over the Lingfield area.

During the analysis period, there were a total of 4 arrivals that passed through this area. Aircraft tracks were analysed for April, May and June and there were no flights which passed over Lingfield below the required altitude.

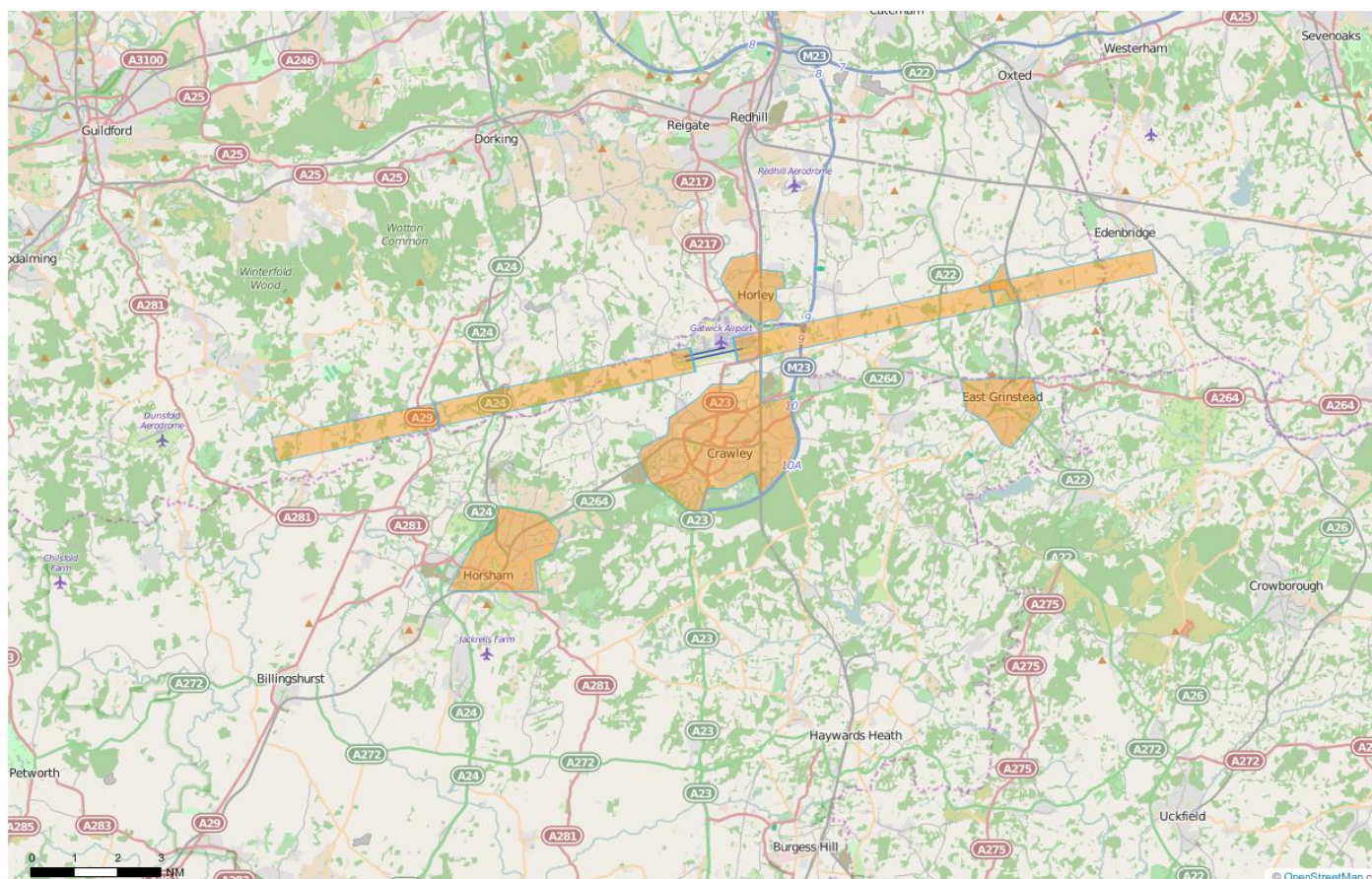
## A) DAY TIME JOINING HEIGHT (0600-2359)

**EGKK AD 2.21 (13(a))** *Where the aircraft is using the ILS in IMC or VMC it shall not descend below 2,000ft (Gatwick QNH) before intercepting the glidepath, nor thereafter fly below the glidepath. This is aimed at keeping aircraft as high as possible for as long as possible.*

The map below shows the congested urban areas, a series of gates running parallel to the extended runway centreline for around 6NM east and west of the airport, used to monitor low arrivals, joining the ILS below 2,000ft.

There were 487 arrivals recorded by the Airports Noise and Track Keeping system between 1<sup>st</sup> April and 30<sup>th</sup> June 2020. Of these, the number of arrivals that were operating below an altitude of 2,000ft (equivalent to a height in the NTK system of 1,798ft) through one or more of the analysis gates was 0 (0%). This figure is a sum of both easterly and westerly arrivals joining the ILS.

THE FOLLOWING MAP ILLUSTRATES THE ANALYSIS ZONES USED FOR LATE AND LOW ARRIVALS FOR BOTH ENDS OF THE AIRFIELD AND THE CONGESTED URBAN AREAS



## B) NIGHT TIME JOINING HEIGHT AND DISTANCE (2330-0559)

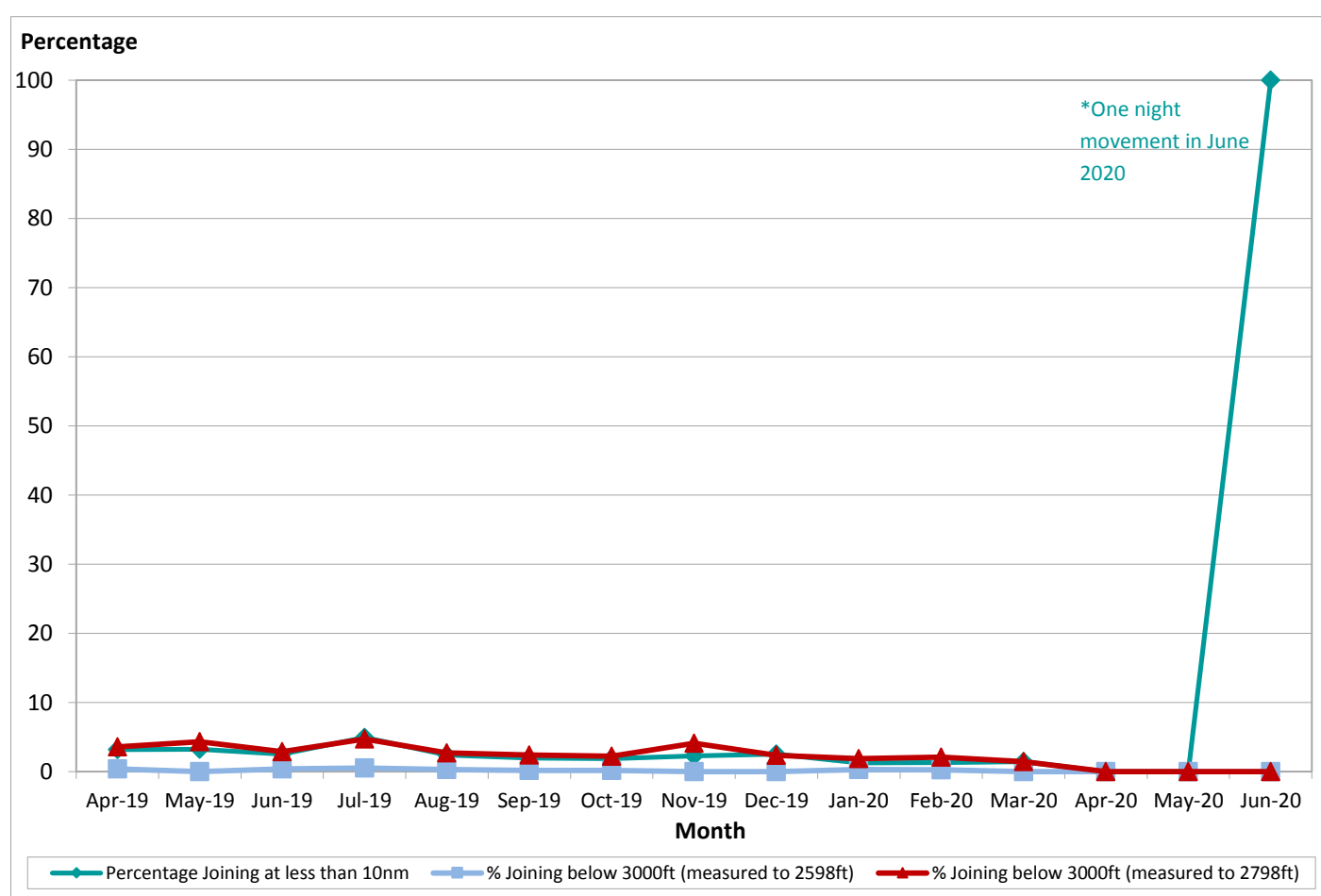
**EGKK AD 2.21 (14)** Aircraft which land at Gatwick Airport - London between the hours of 2330 (local) and 0600 (local), whether or not making use of the ILS localizer and irrespective of weight or type of approach, shall not join the centre-line:

- a) below 3000ft, or
- b) closer than 10 nm from touchdown.

This aims to keep aircraft higher for longer and avoid overflying areas en route to the ILS below 3,000ft.

During standby runway operations, usually at night during maintenance of the main runway, the threshold is in a different location than the main runway (a different radar map is used for the extended centreline) so the 10 nautical mile (NM) marker is in a slightly different location. As we are complying with 10NM on the standby runway, this may be flagged as a join inside 10NM on the main runway.

THE GRAPH BELOW ILLUSTRATES THE NIGHT TIME JOINING POINTS OVER THE 15 MONTH PERIOD



N.B. 3,000ft (Gatwick QNH) – 202ft (airfield elevation) = 2,798ft on Airports Noise & Track Keeping System

3,000ft (Gatwick QNH) – 202ft (airfield elevation) – 200ft ATC radar tolerance = 2,598ft on Airports Noise & Track Keeping System

Following the implementation of the new NTK system, all of the data analysis processes were re-created. These processes were checked and once confirmed, the resulting data outputs were compared to the previous Casper system. In almost all cases the data was comparable, however, this particular data set (aircraft joining the ILS at less than 10NM

in the night period) does not align with the Casper system over-reporting. It is not possible to explore how Casper calculated this value and as the new process has been independently checked, all analysis presented beyond the 1st April 2019 will use this new process.



# Go-Around Statistics 2004 - 2020

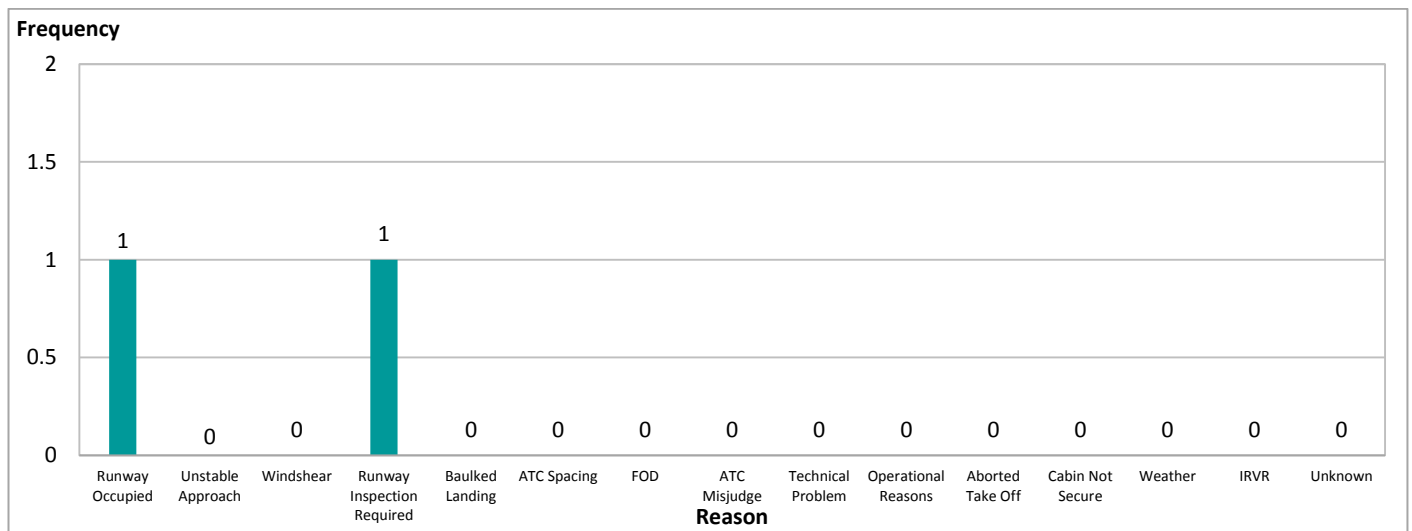
A go-around is a procedure adopted when an arriving aircraft on final approach aborts landing by applying take off power and climbing away from the airport. It is a set procedure to be followed by the flight crew in the event of an aircraft being unable to land. The procedure is published so that ATC 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 aircraft that are aborting their approach to climb to 3,000ft straight ahead, 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.

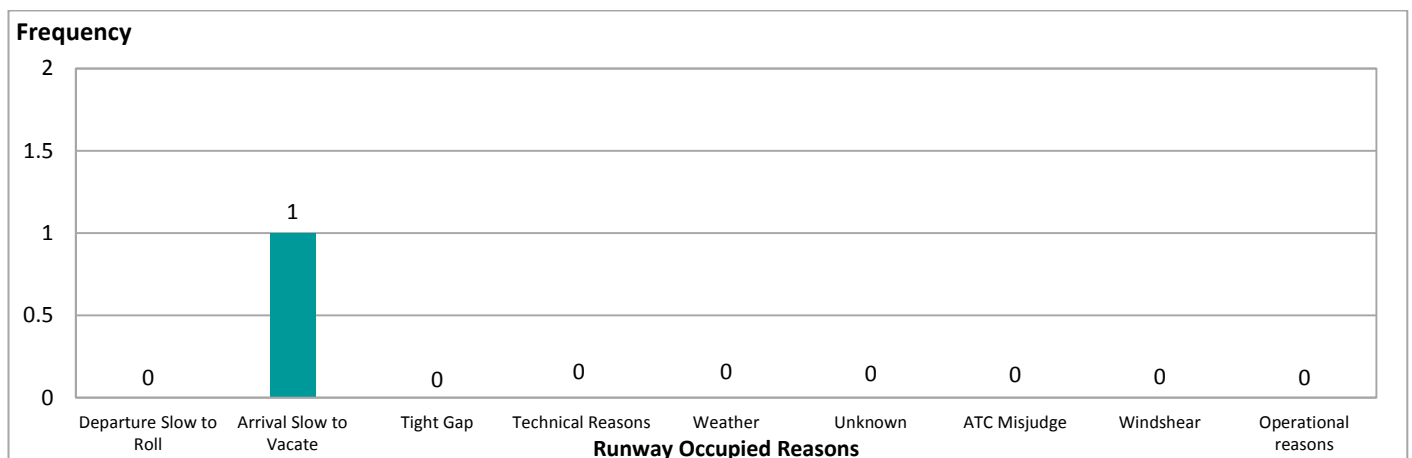
The number and reasons for go-arounds are routinely discussed at FLOPSC meetings and Pilot Forums. All parties are focussed on minimising the number of occasions when a go-around is required, but expect some to occur given the fact that Gatwick is a busy single runway airport.

It should be stated that there are well established standard procedures which both pilots and controllers are trained in and are familiar with. Gatwick Airport Limited, as the airport operator, actively encourages airlines operating at the airport to fly to the best possible environmental standards; however, safety must and always will be the number one priority.

## ANS CURRENTLY RECORD GO-AROUNDS UNDER ONE OF THE FOLLOWING CAUSAL FACTORS (APRIL – JUNE 2020)



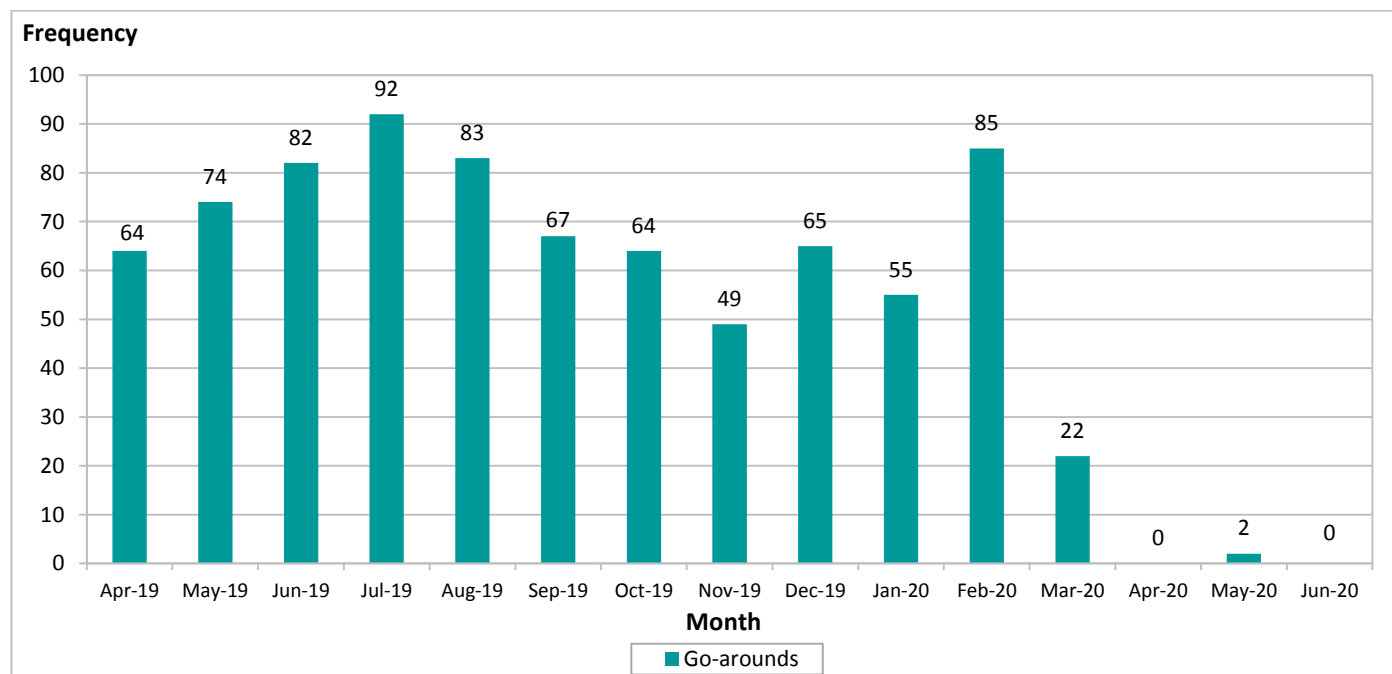
## THE REASONS GIVEN BY ANS FOR GO-AROUNDS DUE TO RUNWAY OCCUPANCY DURING THE THREE MONTH PERIOD



THE TABLE BELOW ILLUSTRATES GO-AROUND STATISTICS 2004 – 2020

Year	Total	Total Arrivals	% of Arrivals
2004	344	124665	0.28
2005	450	129509	0.35
2006	405	130954	0.31
2007	434	133271	0.33
2008	359	131858	0.27
2009	455	125861	0.36
2010	364	120263	0.30
2011	386	125541	0.31
2012	520	123408	0.42
2013	473	125290	0.38
2014	512	129966	0.39
2015	520	133869	0.39
2016	642	139998	0.46
2017	618	142956	0.43
2018	699	141950	0.49
2019	819	142384	0.58
2020	164	26105	0.63

THE GRAPH BELOW ILLUSTRATES TOTAL NUMBER OF GO-AROUNDS PER MONTH





# Night Flights

The Secretary of State, in exercise of his powers under Section 78 of the Civil Aviation Act 1982, has imposed restrictions at Gatwick Airport on aircraft operating at night. These restrictions are in place to limit and mitigate noise disturbance from aircraft operating at night and to prohibit aircraft of specified descriptions from operating, and also to limit the number of occasions on which other aircraft may take off or land.

The night flying restrictions are divided into summer and winter seasons which coincide with the start and end of British Summer Time. They consist of a movement limit and a quota count system. The quota count (QC) means that points are allocated to different aircraft types according to how noisy they are. The noisier the aircraft type, the higher the points allocated. This provides an incentive for airlines to use quieter aircraft types. Aircraft are certified by ICAO according to the noise they produce and are classified separately for both take-off and landing.

For the purposes of night flying operations, the night quota period is defined as the period between 2330-0600 (local time). In addition, there are two further shoulder periods of 2300–2330 and 0600–0700 (local time), where other restrictions apply to the scheduling and operation of aircraft of specified descriptions.

The current restrictions on night flying came into force in October 2017, to remain in place until 2022 for all the London Airports. At Gatwick, this regime maintained the status quo for movements and QC until the Winter 2018/19 season. This season sees a reduction in the QC limit and a new QC value of 0.125 applied to some aircraft which were classified as QC0. As

of October 2017, all aircraft movements have counted towards the night quota limit, including those previously exempt. This will further incentivise the use of quieter aircraft as an airport can continue the use of its movement allowance but the average noise produced by an aircraft cannot increase.

Overleaf is a mid-season report for Summer 2020 which commenced at 01:00 on 29<sup>th</sup> March 2020. The total number of movements available for the summer season is 11,200.

## DISPENSATIONS

In accordance with the DfT guidelines, there may be times when an aircraft can be disregarded from the night flight restrictions. As a general rule these are unforeseen circumstances outside the control of either the airport or Airline resulting in the unscheduled use of a night slot. Examples of such instances include humanitarian relief flights, emergencies, VIP visits, delays as a result of disruption leading to passenger hardship, ATC disruption or airspace closure caused by a volcanic ash cloud. The rules related to dispensations are strictly adhered to and all instances are reported to the DfT within 7 days.

There have been no dispensations applied during the summer night season to date.

## QC4, QC8 and QC16 MOVEMENTS

There have been no QC4, QC8 or QC16 movements during either the night quota or shoulder periods. These QC values are not to be scheduled to take off or land between 2300 and 0700. QC4 types may not be scheduled to take off or land during this period.

## RESTRICTIONS

Winter	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Movements Limits	3250	3250	3250	3250	3250	3250
Quota Points	2000	2000	1785	1785	1785	1785

Summer	2017	2018	2019	2020	2021	2022
Movements Limits	11200	11200	11200	11200	11200	11200
Quota Points	6200	6200	5150	5150	5150	5150

## London Gatwick

### AIRPORT MOVEMENTS and QUOTA SUMMARY to WEEK 14 (29 MARCH TO 04 JULY 2020 inc.)

Season Quota Points Limit	5,041	Season Movement Limit	11,200
Total Quota Points Allowed	5,041	Total Movements Allowed	11,200

Wk No.	Week Ending Date	QC0 No.	QC0.125 No.	QC0.125 Value	QC0.25 No.	QC0.25 Value	QC0.5 No.	QC0.5 Value	QC1 No.	QC1 Value	QC2 No.	QC2 Value	QC4 No.	QC4 Value	Total Quota Value	Mvmts Against Limit	Not Cnt'd Delays	Not Cnt'd Govt	Not Cnt'd Emgcy	Total Arvls No.	Total Arvls %	Total Deps No.	Total Deps %	Total Rnwy Mvmts
5	02/05/2020	1	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0.000	1	0	0	0	0	.0	1	100.0	1
12	20/06/2020	0	0	0.000	1	0.250	0	0.000	0	0.000	0	0.000	0	0.000	0.250	1	0	0	0	1	100.0	0	.0	1
14	04/07/2020	0	0	0.000	1	0.250	0	0.000	0	0.000	0	0.000	0	0.000	0.250	1	0	0	0	0	.0	1	100.0	1
TOTALS		1	0	0.000	2	0.500	0	0.000	0	0.000	0	0.000	0	0.000	0.500	3	0	0	0	1	33.3	2	66.7	3

Quota Points Available	5,040.500	Movements Available	11,197
Quota % Points Used	<1%	Movements % Used	<1%

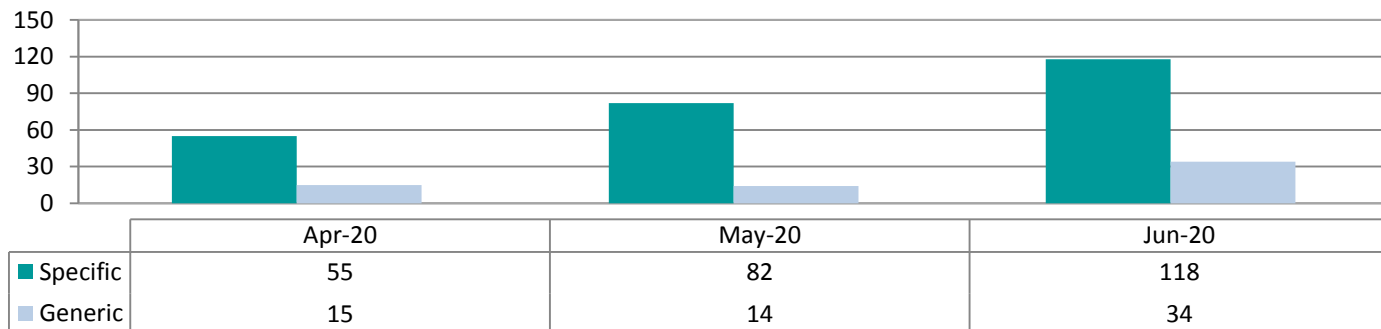
Note 1 Not Cont'd Delays	Delays likely to lead to serious congestion and delays resulting from widespread disruption of Air Traffic.
Note 2 Not Cont'd Gov't	Exemptions granted by Gov't (VIP Passengers, Emergency Relief).
Note 3 Not Cont'd Emerg	Emergency Take-offs and Landing

# Noise Complaints

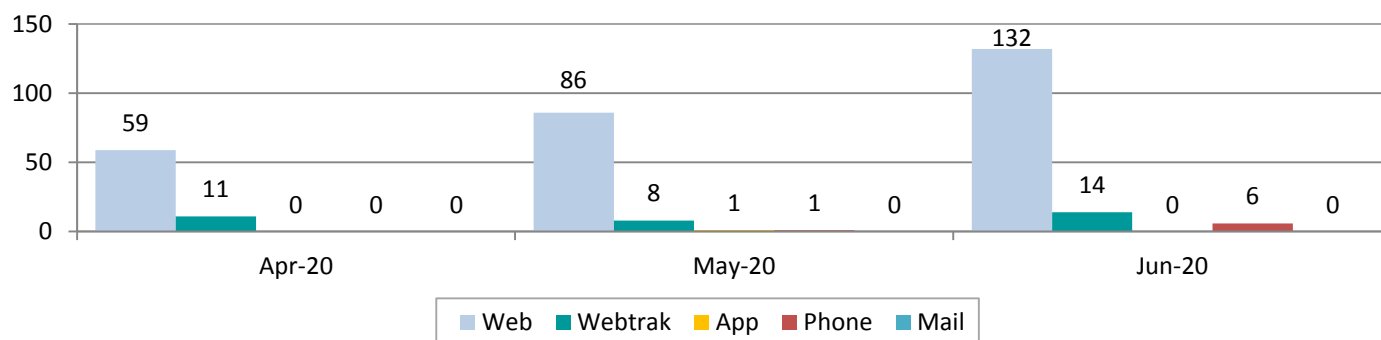
It is important that we understand the issues of noise disturbance from individuals and communities who live around the airport. By studying the complaints we receive and by communicating with the affected towns and villages surrounding the airport, we believe that this gives us a greater understanding of the issues related to noise.

This means that we can work together to improve the noise climate around the airport. The complaints we have received are either about specific aircraft events that cause disturbance or generic complaints about airport operations in general. The following charts provide an analysis of the complaints submission channels.

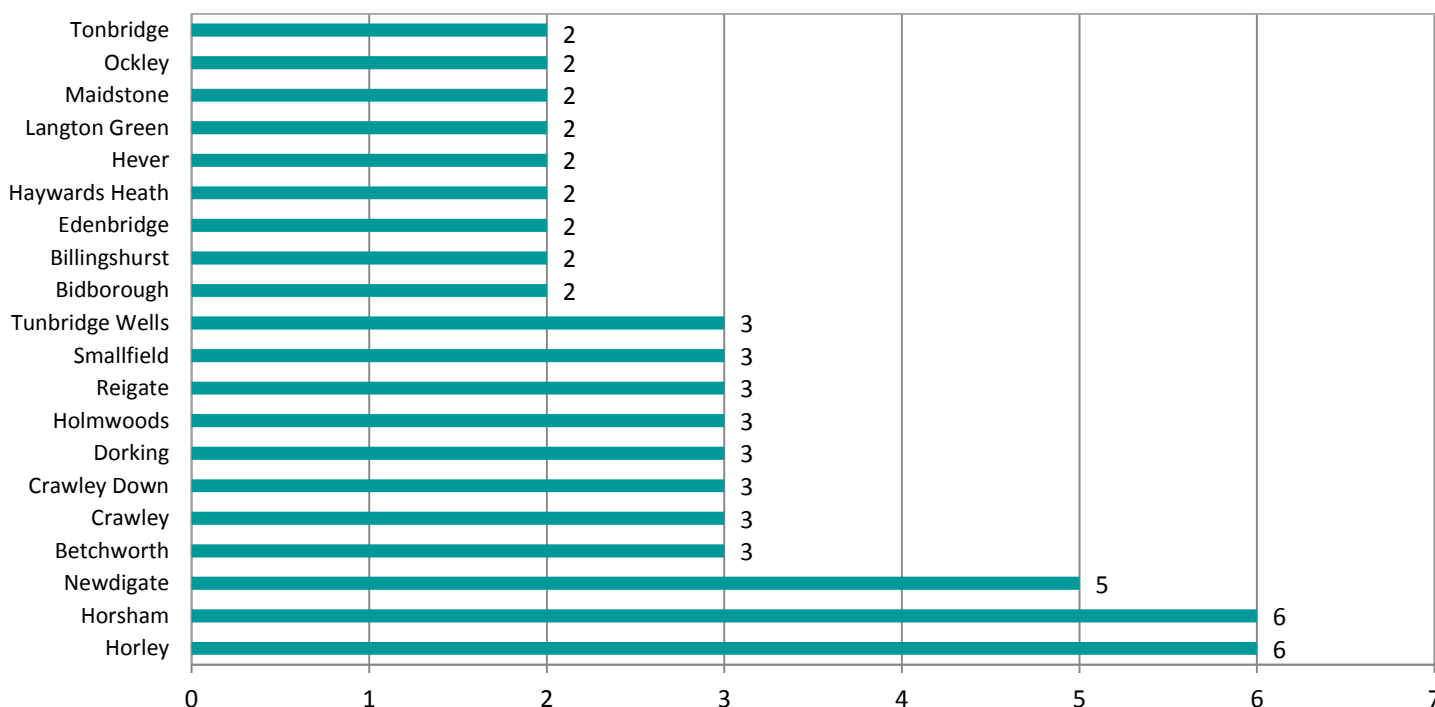
## COMPLAINTS RECORDED BY MONTH



## METHOD OF COMPLAINT



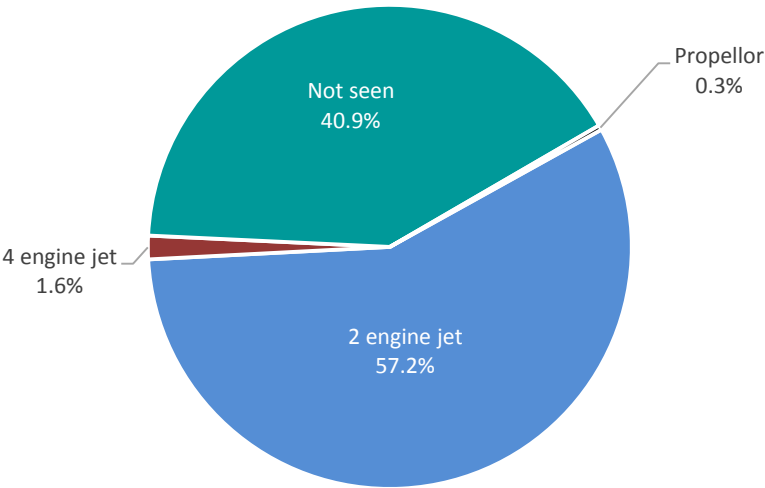
## NUMBER OF INDIVIDUAL COMPLAINANTS BY TOWN/VILLAGE



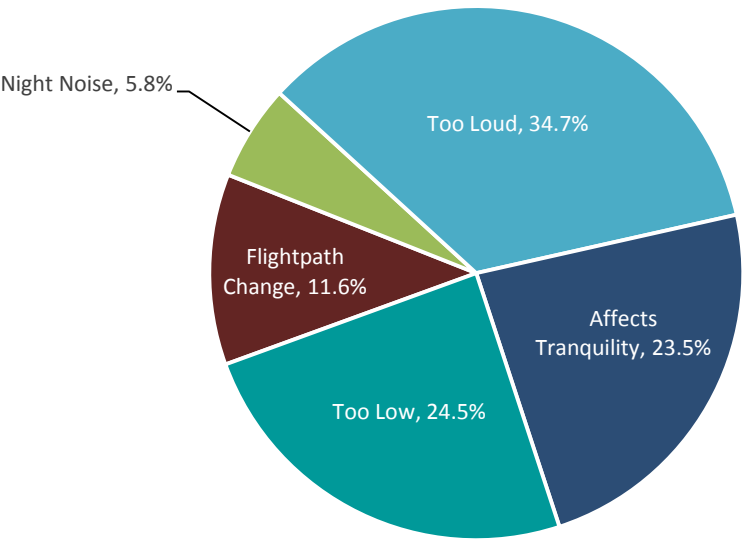
Noise is subjective and can affect people in different ways. Some people can tolerate a certain noise level whilst it can cause disturbance to others.

Below shows the breakdown of the types of aircraft that are being complained about as well as the main reasons for concern.

CATEGORIES OF AIRCRAFT TYPES FROM SPECIFIC COMPLAINTS



PERCENTAGE OF COMPLAINT CONCERNS





**Gatwick Airport Airspace Office Quarterly Report** covering the period April to June 2020



# Ground Noise Complaints

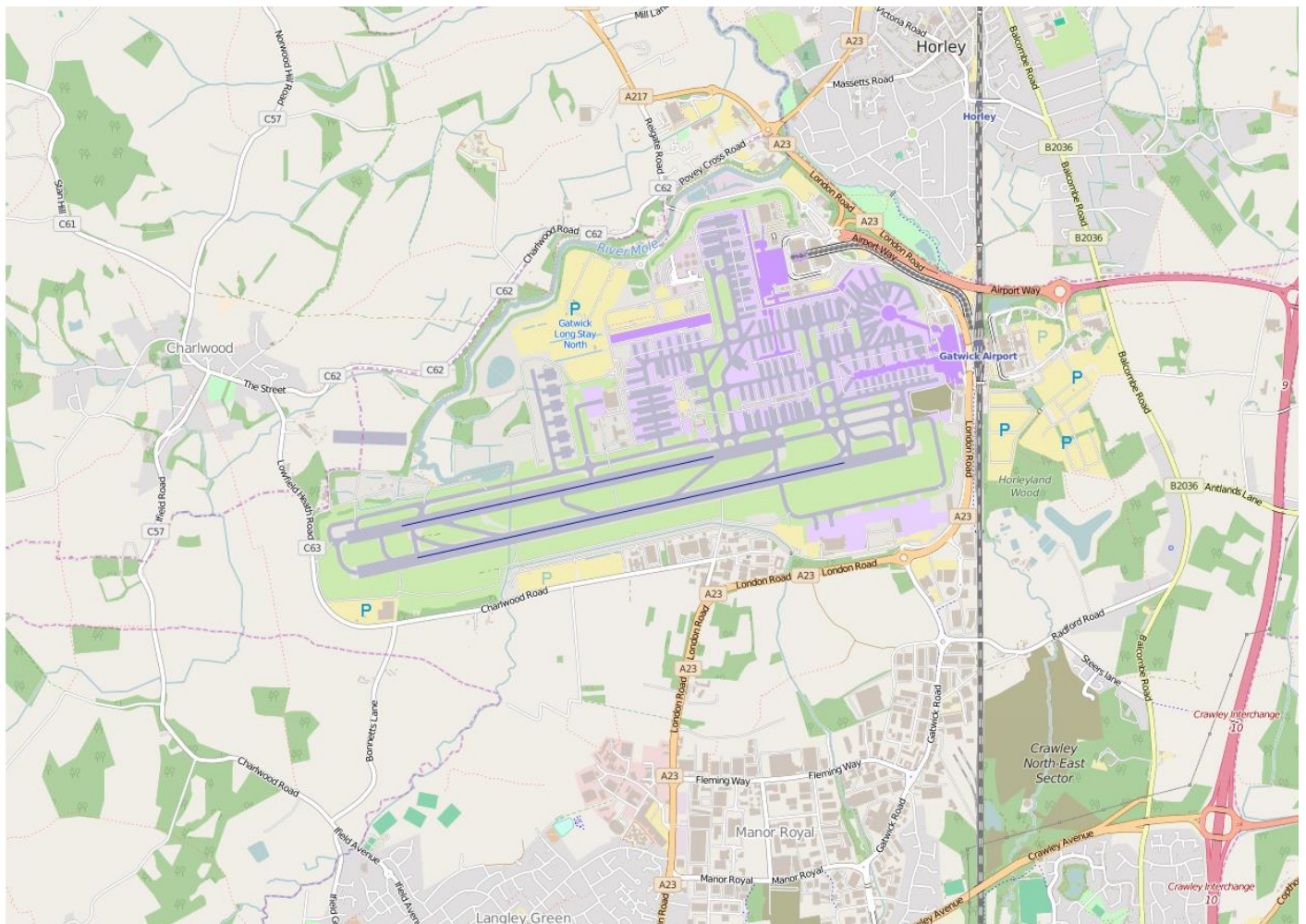
We occasionally receive complaints about disturbance from noise from within the boundary of the airfield. These can be caused by the normal operation of aircraft moving about the airfield, taking off and landing. Additional sources of noise disturbance can be the use of Auxiliary Power Units (APU) by aircraft on stand or the testing of engines following maintenance or repair (engine runs).

Strict regulations exist to minimise this disturbance, which includes a ban on engine running during the night. Details of any ground noise complaints are outlined below.

## Comment:

There were no recorded ground noise complaints during this three month period.

THE MAP BELOW ILLUSTRATES THE GATWICK AIRPORT AIRFIELD



For more information visit us at: <http://www.gatwickairport.com/noise>

# Glossary

**ACoP** – Arrivals Code of Practice

**AIP** – Aeronautical Information Publication

**Airspace Office** – previously known as the Flight Performance Team (FPT).

**AMSL** – Above Mean Sea Level

**ANS** – Air Navigation Solutions

**APU** – Auxiliary Power Unit - A small auxiliary engine on an aircraft used to provide electrical power when the main engines are shut down.

**ATC** – Air Traffic Control

**CAA** – Civil Aviation Authority

**CDO** – Continuous Descent Operations - A noise abatement procedure for arrivals used to avoid periods of level flight, reducing noise and emissions.

**dba** – A-weighted decibels that takes closest account of human hearing. It is used to measure aircraft noise.

**DfT** – Department for Transport

**DME** – Distance measuring equipment

**EGKK** or **LGW** – London Gatwick Airport

**FLOPSC** – Flight Operations Performance and Safety Committee

**Go-Around** – A go-around is an aborted landing of an aircraft which is on approach to the runway.

**ICAO** – International Civil Aviation Organisation

**ILS** – Instrument Landing System

**IMC** – Instrument Meteorological Conditions

**KPI** – Key Performance Indicators

**Lmax** – Maximum noise level

**NATS** – National Air Traffic Services

**nm** – Nautical Miles

**NPR** – Noise Preferential Route

**NTK** – Noise and Track Keeping monitoring system. Casper was replaced with ANOMS on 1<sup>st</sup> April 2019.

**P-RNAV** – Precision Route Navigation

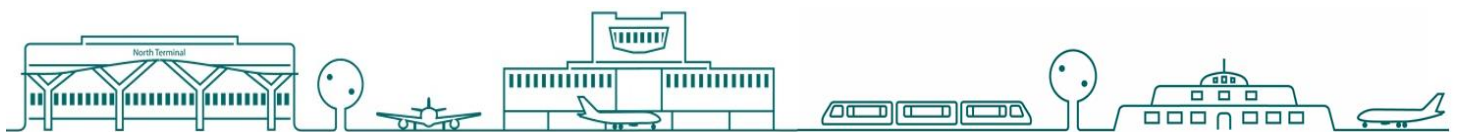
**QC** – Quota Count

**QNH** – The barometric pressure at sea level (QFE is the barometric pressure at the Airport).

**SID** – Standard Instrument Departure - A route out of UK airspace assigned to departing aircraft with an NPR in the first section.

**Vectoring** – Air Traffic Control procedure turning a departure off an NPR onto a more direct heading.

**VMC** – Visual Meteorological Conditions



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