

Gatwick Airport Flight Performance Report

This report covers the period
(1st January – 31st March 2018)



YOUR LONDON AIRPORT
Gatwick

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Introduction

ABOUT THIS REPORT

This report is produced by the Gatwick Flight Performance Team (FPT). 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 – 1st JANUARY – 31st MARCH 2018

Parameter		12 month performance averages ¹			
		Year to date (2018)	Previous year (2017)	2011	2006
Track keeping performance (% on track)	▲	98.09% ²	98.27%	97.47%	98.17% ³
24hr CDO (% achievement) ⁴	▼	90.42%	89.37%	90.49%	80.79%
Day/Shoulder CDO (% achievement)	▲	90.54%	89.07%	90.19%	79.9%
Core night CDO (% achievement)	▼	89.11%	92.53%	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	0	0	10
Departure Noise Infringements (Night/Shoulder)	▼	0	0	4	2
Individual complainants	▲	952	2354	343	587
Total noise complaints received ⁵	▲	18281	23289	2673	4791
Enquiry response performance target is 95% within 8 days (January to March 2018)	▲	100%	81.99%	KPI 95%	
West/East Runway Split (%)	-	76/24	67/33	67/33	68/32

¹ The colour indicates the most recent 12 month performance compared to 2011, with green showing improvement and red a decline in performance.

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

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

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

⁵ Complaints are recorded in line with our published complaints handling policy. The revised policy, published in November 2014, advised that only one complaint per day is recorded per individual. On the 29th September 2016, there was a further revision to our complaints handling policy which now allows individuals to make multiple complaints per day and these will each be recorded. It is important to note that since January 2018, complaints which have been deleted from the Casper 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 1st January and 31st March 2018, there were a total of 60,376 fixed wing aircraft movements at Gatwick, a decrease in traffic of about 1.5% compared to the same period in 2017. The direction of operation is determined by wind direction and this was split 61% on the westerly runway and 39% on the easterly runway for the period. The rolling 16 year average for the split in runway usage is approximately 68% westerly and 32% easterly.

NORTHERN RUNWAY (26R/08L) USAGE

Although Gatwick has the main runway and the ‘reserve’ or northern runway, they cannot be operated simultaneously.

The northern 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 966 movements from the northern runway.

TRACK KEEPING

Track keeping performance has decreased slightly compared to the previous years performance, details of which will follow later in this report. As part of our continuing commitment to increase on-track performance, the FPT also 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/aircraftnoiseandairspace>

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 Flight Performance Team 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 1st 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, Oakwood Hill, Cowden, Charlwood and South Holmwood.

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 past year has been the busiest year in the airport’s history and there has also been a large amount of publicity surrounding the potential second runway, and the community issues related to the Route 4 amendment, which may be contributing factors for the number of complaints in 2018.

The postcode areas with the greatest number of enquiries during the three month period were Outwood, Horley and Newdigate. The number of individual complainants between January and March was **236**. 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

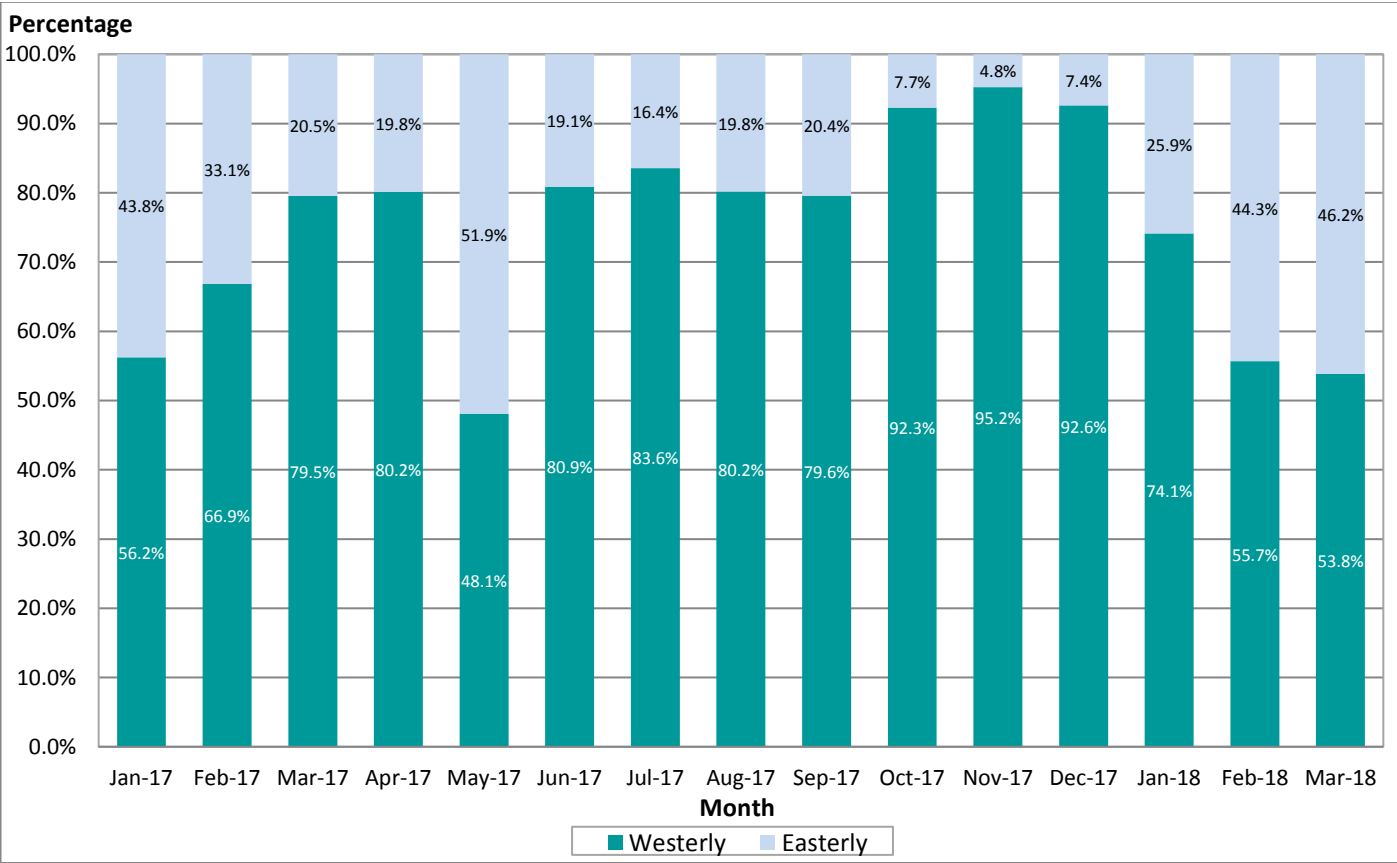
The graph below represents the direction of runway operation at Gatwick. Aircraft operating in a westerly direction take off towards the west and land from the east. Aircraft operating in an easterly direction take off towards the east and land from the west.

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.



RUNWAY DIRECTION SPLIT

THE GRAPH BELOW SHOWS THE SPLIT OVER THE 15 MONTH PERIOD (JANUARY – MARCH 2018)



The Aeronautical Information Publication

An Aeronautical Information Publication (or 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 Aeronautical Information Publication (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 Noise and Track Keeping system (NTK) 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. 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		

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		

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 the three month period.

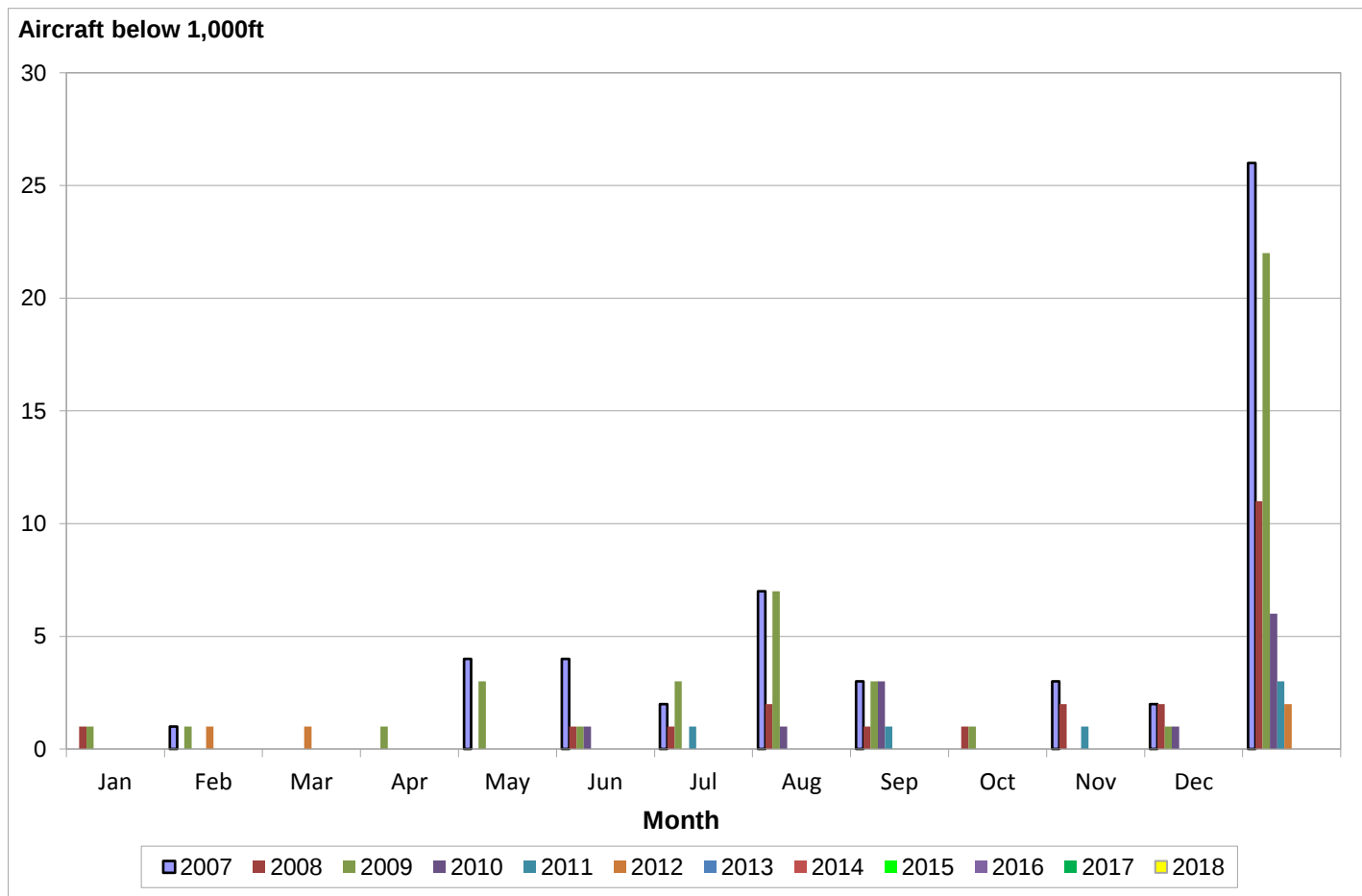
Historically, the summer months are typically the peak period for aircraft failing to meet the 1,000ft requirement, primarily due to the warmer weather which reduces aircraft climb performance.

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		

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 associate compliance monitoring swathe (3km across, i.e. 1.5km either side of the NPR centreline). These NPR's are mapped below. As long as aircraft remain within the corridor boundaries, they are deemed to be on-track. A map illustrating the Noise Preferential Routes at Gatwick is available below.

Air Traffic Control (ATC) are responsible for the routing of aircraft once airborne and when 3,000 or 4,000ft has been reached, they may give a flight a more direct heading, known as vectoring, off 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 tagged and details are sent to the airline for investigation. Our Flight Operations Performance & Safety Committee (FLOPSC) regularly review track keeping performance.

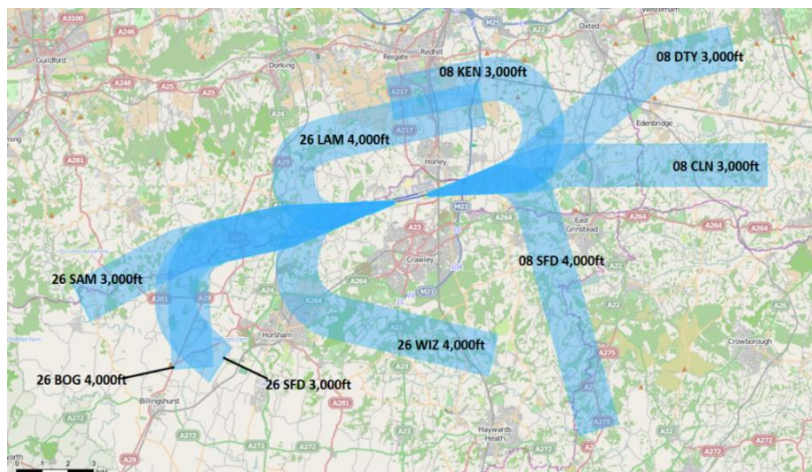
In 2012, Gatwick Airport publicly consulted on the implementation of a more modern form of aircraft navigation called P-RNAV (Precision Route Navigation). After having assessed all consultation feedback, the Civil Aviation Authority (CAA) granted the airport permission to implement P-RNAV on all of our departure routes. Implementing P-RNAV on the published departure routes has resulted in the tracks of departing aircraft being more concentrated within the boundaries of the current NPR's, with one exception. This is the NPR designed 26LAM/Route 4 that heads west then turns back on itself and passes to the north of the airfield. This route has always presented a challenge for modern jets as it was designed to accommodate propeller-driven aircraft and early jets that were around in the 1960's.

Implementing P-RNAV on this route required aircraft to fly outside of the current NPR. Therefore, as approved by the CAA, aircraft on a P-RNAV departure on this route were not classified as off-track as they were following the published route.

Following the introduction of P-RNAV at Gatwick Airport, the CAA conducted a Post Implementation Review (PIR) on all routes. The Review has recommended that this particular route (Route 4) be modified so that departing aircraft are compliant and remain within the published NPR swathe. It now requires all Standard Instrument Departure routes (SID's) to be counted in the track keeping statistics whereas previously, the P-RNAV SID's were not included. Following the PIR and consultation, the CAA concluded that the modified Route 4 SID's achieve a satisfactory replication of the nominal track of the corrected conventional SID and confirmed the P-RNAV SID designs currently published in the UK Aeronautical Information Publication (AIP) as permanent. This decision has since been quashed by the Court at the request of the CAA. The result is that the Route 4 P-RNAV SID routes remain in place but will revert to a temporary status as was the case prior to the amendment. We will continue to follow CAA guidance through this process and will work closely with them to understand the next steps. This may involve a further redesign of Route 4 but no changes are anticipated in the short term.

There has also been a modification to our 08CLN/Route 5 NPR which has been in place since the 30th 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 30th September 2017 to ensure the aircraft were operating as anticipated. Gatwick is awaiting a decision from the CAA regarding its status.

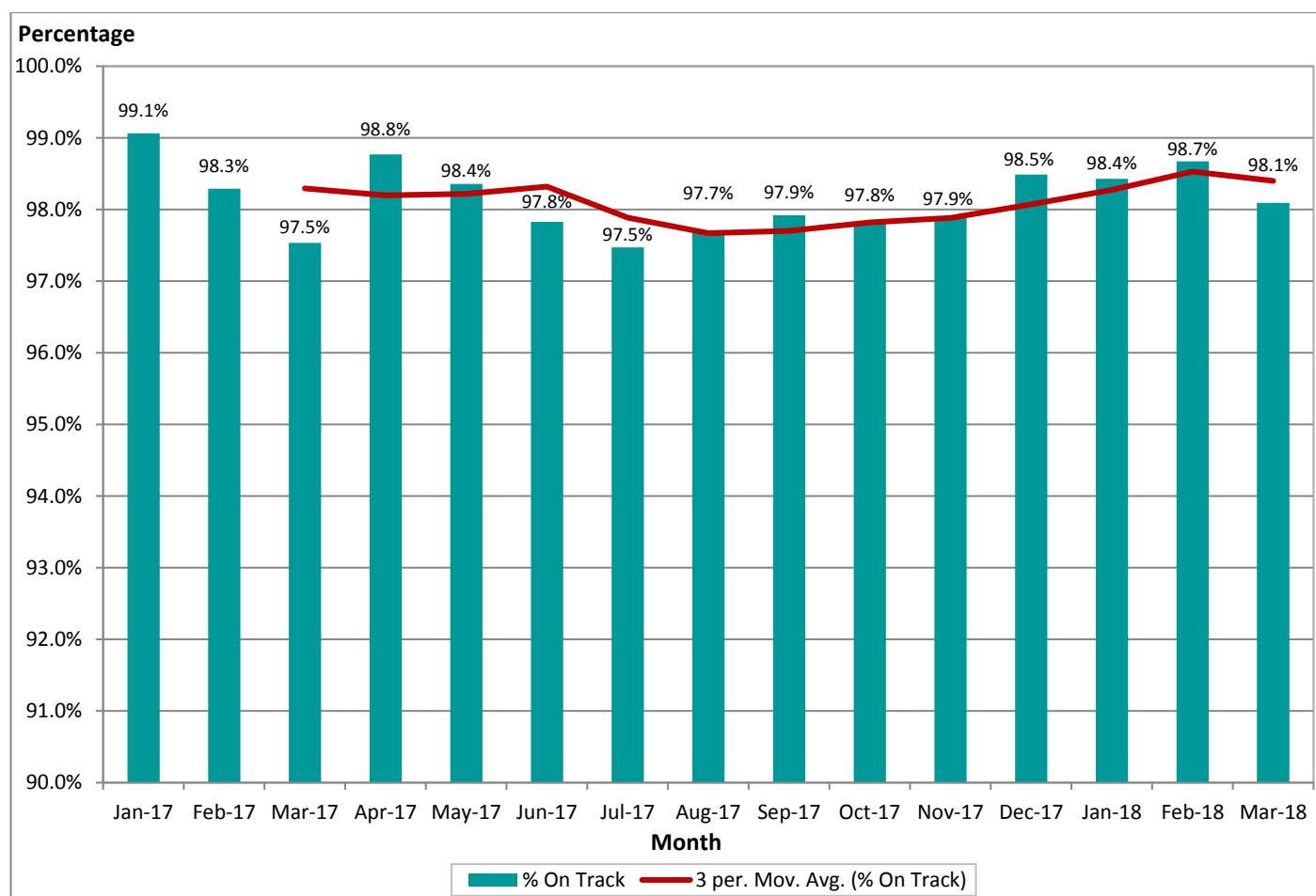
THE MAP BELOW ILLUSTRATES THE NOISE PREFERENTIAL ROUTES USED BY DEPARTING AIRCRAFT WITH MINIMUM VECTORING ALTITUDE FIGURES



THE TABLE BELOW ILLUSTRATES TRACK KEEPING PERFORMANCE OVER 15 MONTHS

Month	Total			Westerly			Easterly		
	Deviations	Departures	%	Deviations	Departures	%	Deviations	Departures	%
Jan-17	92	9822	0.94%	80	5570	1.44%	12	4252	0.28%
Feb-17	166	9711	1.71%	162	6443	2.51%	4	3268	0.12%
Mar-17	274	11102	2.47%	270	8853	3.05%	4	2249	0.18%
Apr-17	146	11862	1.23%	130	9553	1.36%	16	2309	0.69%
May-17	216	13157	1.64%	198	6344	3.12%	18	6813	0.26%
Jun-17	291	13395	2.17%	275	10843	2.54%	16	2552	0.63%
Jul-17	355	14029	2.53%	340	11681	2.91%	15	2348	0.64%
Aug-17	325	14202	2.29%	318	11368	2.80%	7	2834	0.25%
Sep-17	283	13604	2.08%	266	10834	2.46%	17	2770	0.61%
Oct-17	273	12547	2.18%	269	11577	2.32%	4	970	0.41%
Nov-17	195	9288	2.10%	194	8832	2.20%	1	456	0.22%
Dec-17	155	10234	1.51%	154	9478	1.62%	1	756	0.13%
Jan-18	150	9546	1.57%	142	7004	2.03%	8	2542	0.31%
Feb-18	127	9577	1.33%	123	5370	2.29%	4	4207	0.10%
Mar-18	211	11065	1.91%	196	5930	3.31%	15	5135	0.29%

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

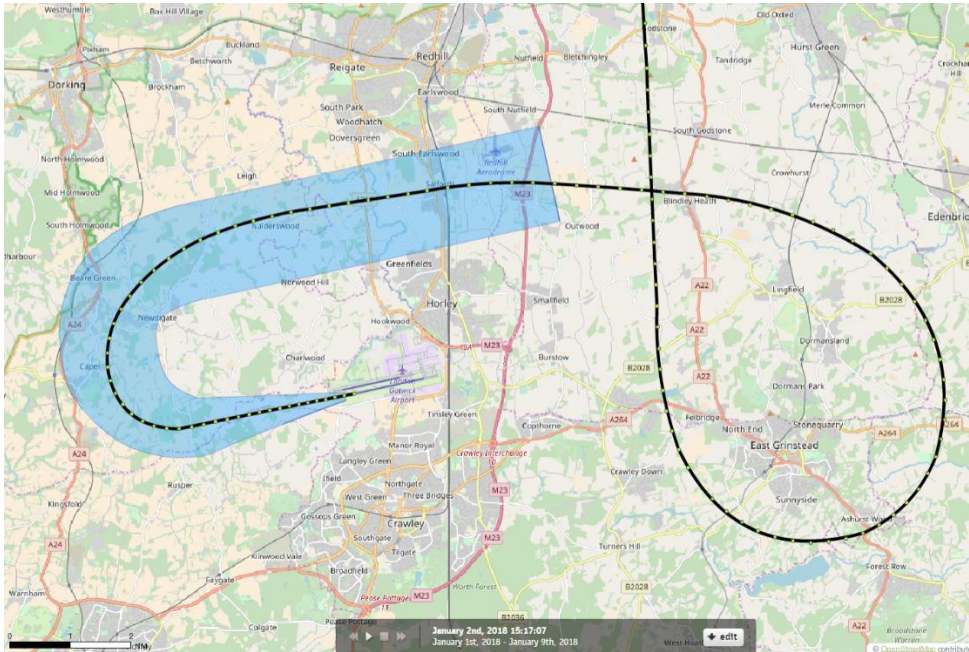


UNUSUAL TRACKS

Some 'unusual tracks' taken by departing aircraft are recorded by our Noise and Track Keeping system and these can occur for a number of reasons, such as weather avoidance. These can result in the aircraft leaving the NPR

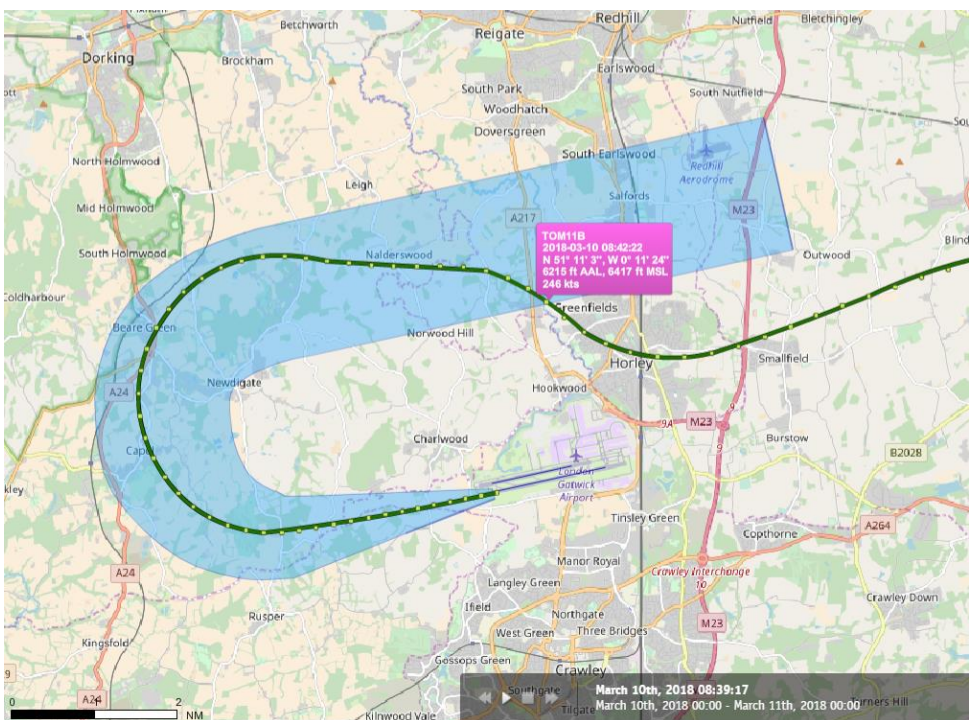
below the required altitude or aircraft that have vectored at the required altitude and then misdirected to avoid conflict with traffic from other airports. All unusual tracks are investigated with the airline concerned.

THE MAP BELOW SHOWS THE EASYJET AIRCRAFT WHICH TOOK AN USUAL TRACK ONCE VECTORED FROM THE NPR



This easyJet flight occurred on the 2nd January 2018 at 15:17. NATS Swanwick was contacted regarding this deviation and they explained that there was congestion in the area with a large number of inbound traffic enroute to Heathrow being held in the Biggin stack to the north of Gatwick. Therefore the controller had to give the pilot an extended track mileage to climb above the stack safely.

THE MAP BELOW SHOWS THE TUI AIRCRAFT WHICH DEVIATED FROM THE PRESCRIBED NPR OVER HORLEY



This TUI Airways flight occurred on the 10th March at 08:42. NATS Swanwick investigated the flight and explained that this was due to pilot error.

Departures – Over Congested Areas

THE WIZAD NOISE PREFERENTIAL ROUTE

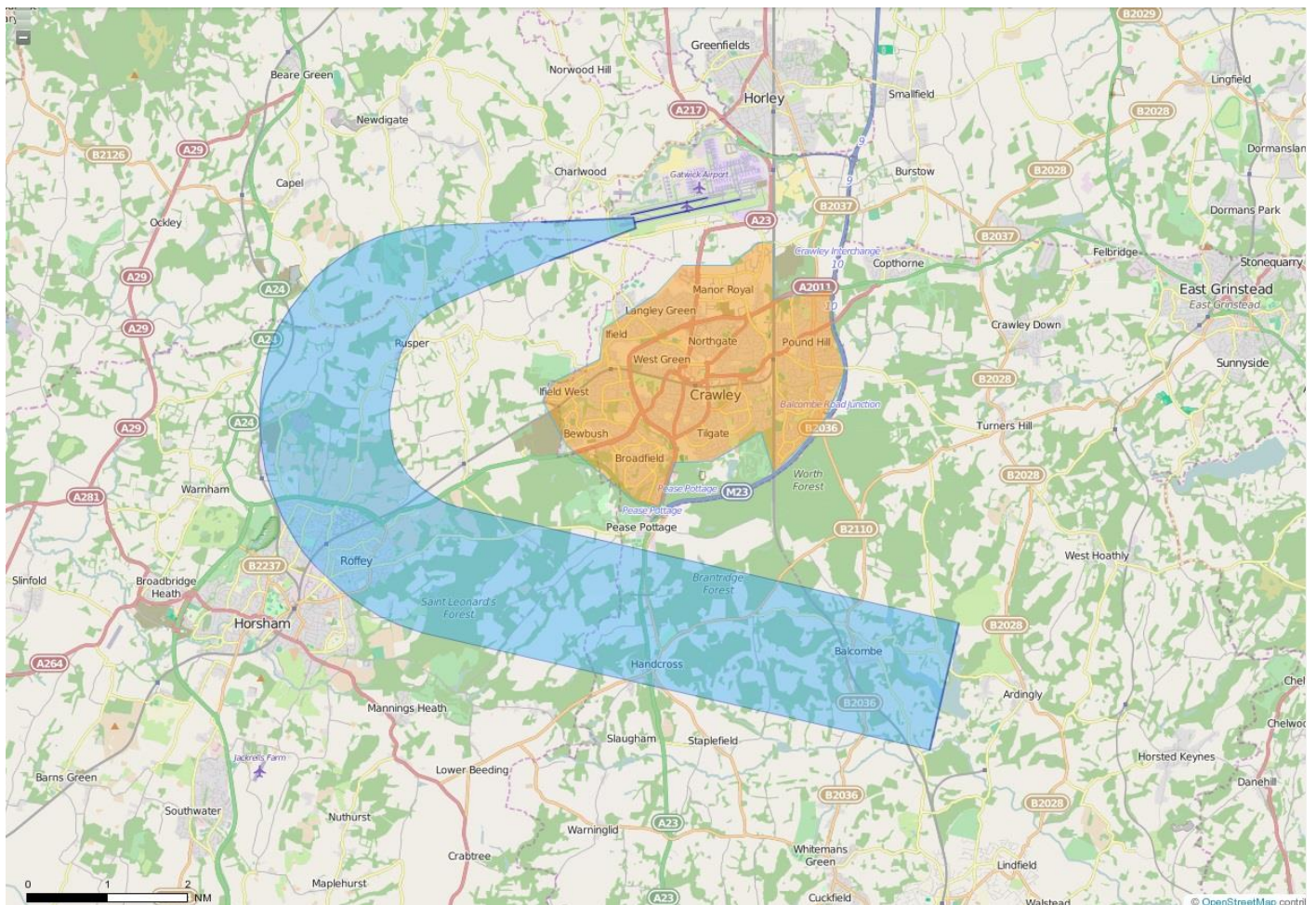
The Wizad Noise Preferential Route was designated by the Government at the same time as all other Gatwick departure routes; however, it is not used on an equal basis with the other routes. It is a Tactical Offload Route and is not usually offered as part of a flight path. If the 26 LAM Route (to the North of Horley) 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' Noise Preferential Route.

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



Overflight of Crawley and Horley

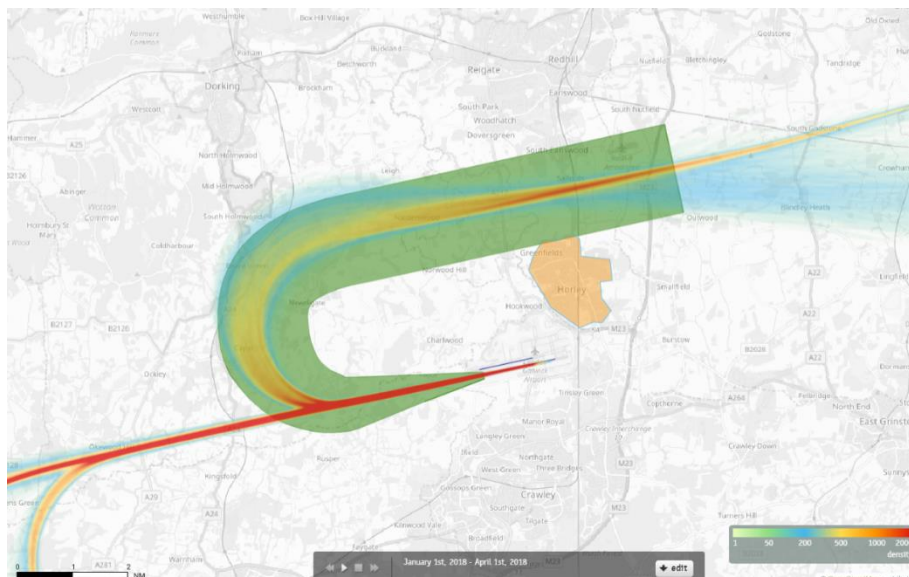
EGKK AD 2.21 (9) *After taking off the aircraft shall avoid flying over the congested areas of Horley and Crawley.*

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

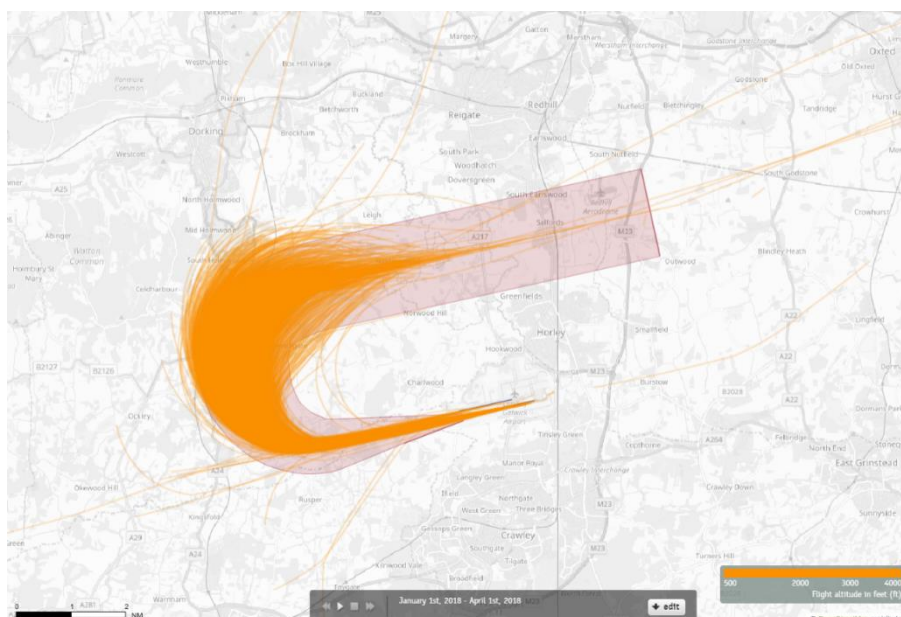
Comment: During this period, there were no departing flights that passed over Crawley. It should also be noted that although Casper Noiselab does not show tracks relating to other airports, Horley does experience overflight from Heathrow Airport traffic. The current construction of the SID

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



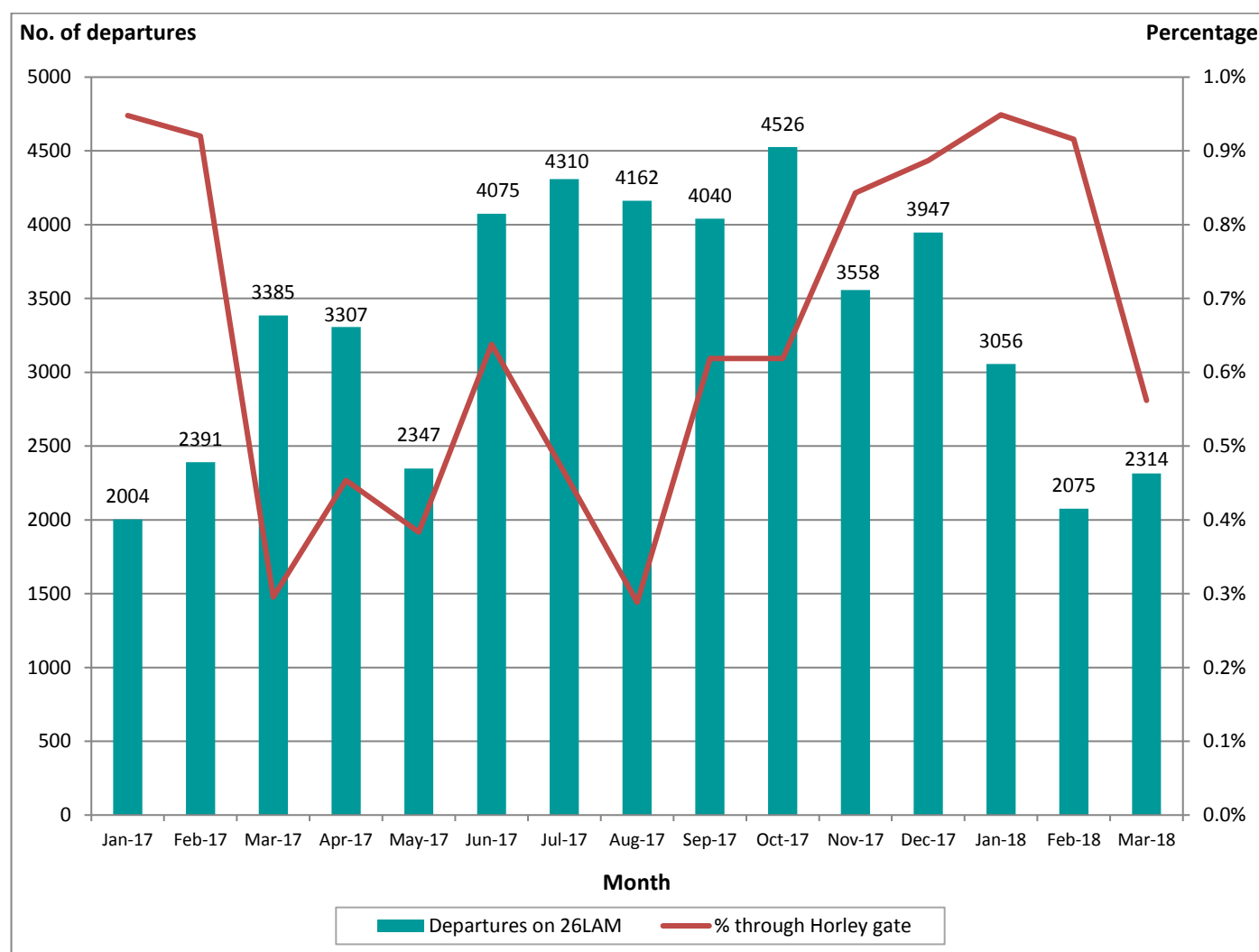
THE MAP BELOW ILLUSTRATES THE TRACKS OF DEPARTING AIRCRAFT ON THE '26 LAM' DEPARTURE ROUTE USING P-RNAV DURING THE THREE MONTH PERIOD UP TO AN ALTITUDE OF 4,000FT



THE TABLE BELOW ILLUSTRATES THE ANALYSIS OF HORLEY OVERFLIGHT

Month	Departures on 26LAM	Horley gate	% through Horley gate	Month	Departures on 26LAM	Horley gate	% through Horley gate	Month	Departures on 26LAM	Horley gate	% through Horley gate
Jan-16	3031	70	2.31%	Jan-17	2004	19	0.95%	Jan-18	3056	29	0.95%
Feb-16	2449	58	2.37%	Feb-17	2391	22	0.92%	Feb-18	2075	19	0.92%
Mar-16	2282	67	2.94%	Mar-17	3385	10	0.30%	Mar-18	2314	13	0.56%
Apr-16	3018	91	3.02%	Apr-17	3307	15	0.45%	Apr-18	-	-	-
May-16	2114	51	2.41%	May-17	2347	9	0.38%	May-18	-	-	-
Jun-16	2922	173	5.92%	Jun-17	4075	26	0.64%	Jun-18	-	-	-
Jul-16	4968	420	8.45%	Jul-17	4310	20	0.46%	Jul-18	-	-	-
Aug-16	4099	355	8.66%	Aug-17	4162	12	0.29%	Aug-18	-	-	-
Sep-16	4409	210	4.76%	Sep-17	4040	25	0.62%	Sep-18	-	-	-
Oct-16	1719	61	3.55%	Oct-17	4526	28	0.62%	Oct-18	-	-	-
Nov-16	2072	79	3.81%	Nov-17	3558	30	0.84%	Nov-18	-	-	-
Dec-16	2463	14	0.57%	Dec-17	3947	35	0.89%	Dec-18	-	-	-

THE GRAPH BELOW ILLUSTRATES THE ANALYSIS OF HORLEY OVERFLIGHT



Arrivals – Continuous Descent Operations (CDO)

A Continuous Descent Operation (CDO) (formerly known as a 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 very hard to improve compliance and an Arrivals Code of Practice (ACoP) has been produced by the Department for Transport 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 FPT 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:

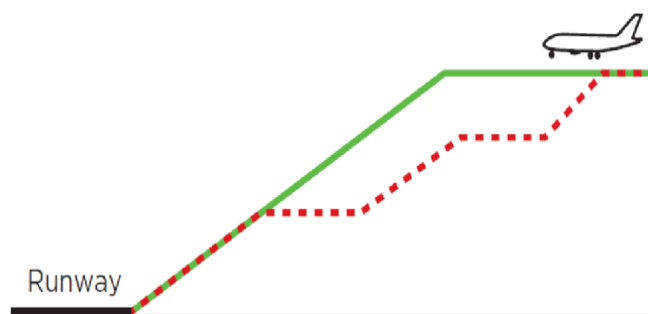
- The Core Night period (2330-0600)
- The Day and Shoulder periods (0600–2330)
- The 24-hour period

The following text appears in the UK Aeronautical Information Package (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 descent 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 1st August 2016.

**Due to the increase in the usage of northern runway operations during the core night period during the last 3 months, this has had an impact on the CDO performance during this time.

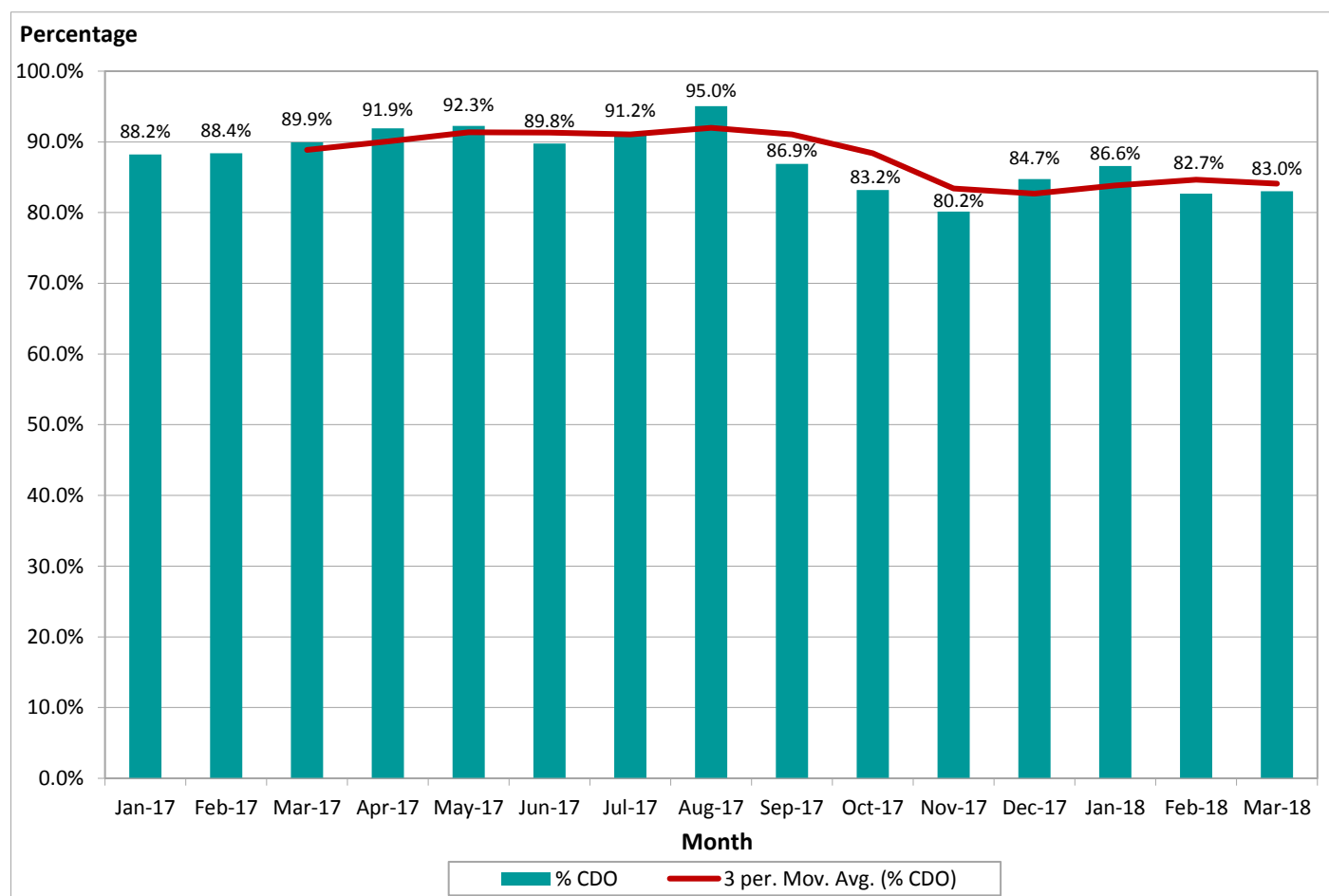


CORE NIGHT PERIOD (2330-0600)

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
Jan-17	391	46	88.24%	150	11	92.67%	241	35	85.48%
Feb-17	370	43	88.38%	121	17	85.95%	249	26	89.56%
Mar-17	447	45	89.93%	125	4	96.80%	322	41	87.27%
Apr-17	779	63	91.91%	214	12	94.39%	565	51	90.97%
May-17	1266	98	92.26%	664	64	90.36%	602	34	94.35%
Jun-17	1512	155	89.75%	266	23	91.35%	1246	132	89.41%
Jul-17	1834	162	91.17%	252	37	85.32%	1582	125	92.10%
Aug-17	1715	85	95.04%	330	21	93.64%	1385	64	95.38%
Sep-17	1733	227	86.90%	390	42	89.23%	1343	185	86.22%
Oct-17	1213	204	83.18%	50	4	92.00%	1163	200	82.80%
Nov-17	267	53	80.15%	12	2	83.33%	255	51	80.00%
Dec-17	373	57	84.72%	49	7	85.71%	324	50	84.57%
Jan-18	291	39	86.60%	91	11	87.91%	200	28	86.00%
Feb-18	300	52	82.67%	150	21	86.00%	150	31	79.33%
Mar-18	547	93	83.00%	254	36	85.83%	293	57	80.55%

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

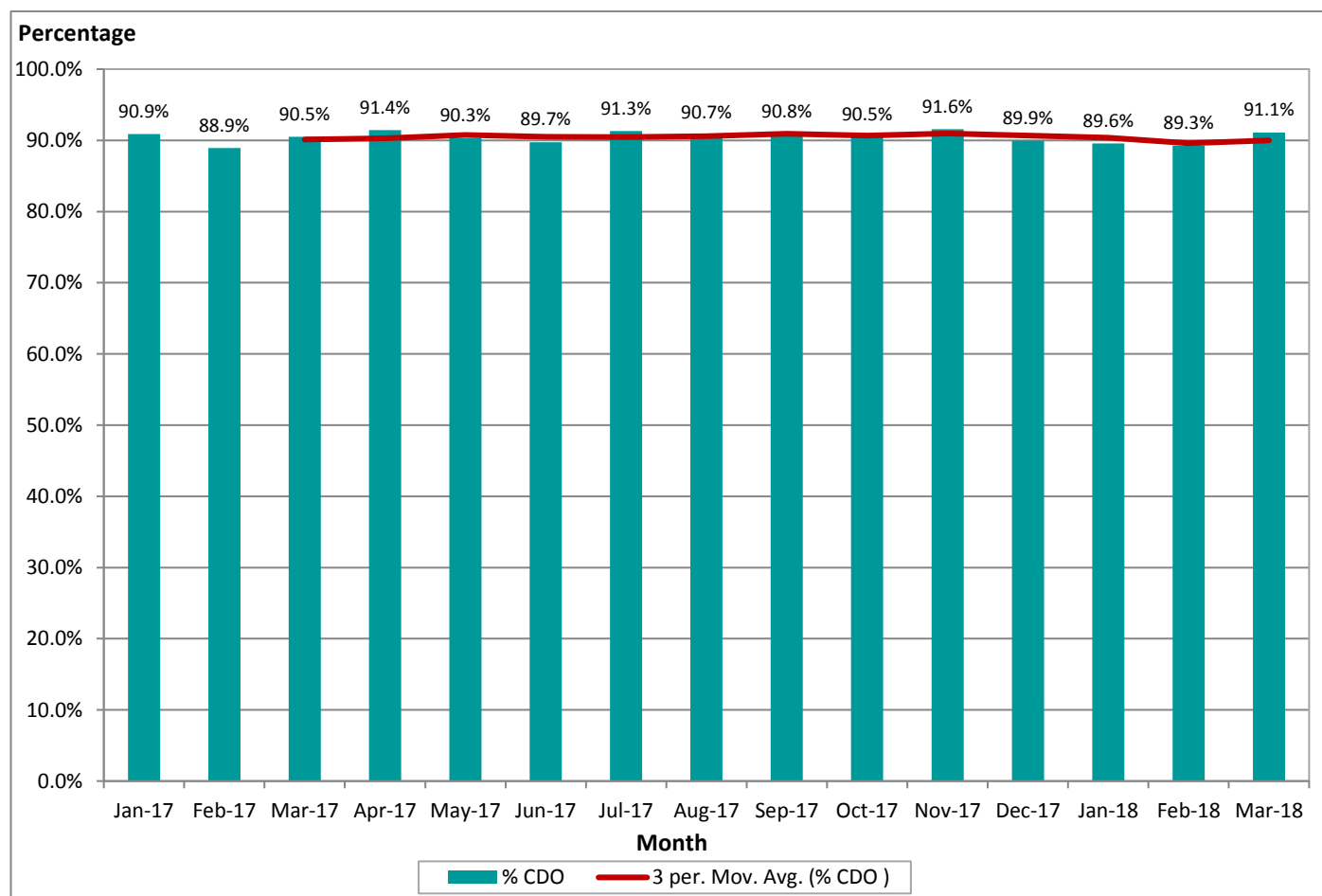


DAYTIME AND SHOULDER PERIOD CDO ACHIEVEMENT (0600-2330)

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
Jan-17	9395	855	90.90%	4085	317	92.24%	5310	538	89.87%
Feb-17	9305	1031	88.92%	3017	342	88.66%	6288	689	89.04%
Mar-17	10587	1004	90.52%	2157	225	89.57%	8430	779	90.76%
Apr-17	11016	943	91.44%	2159	193	91.06%	8857	750	91.53%
May-17	11873	1154	90.28%	6104	600	90.17%	5769	554	90.40%
Jun-17	11902	1222	89.73%	2288	204	91.08%	9614	1018	89.41%
Jul-17	12221	1061	91.32%	2016	199	90.13%	10205	862	91.55%
Aug-17	12483	1164	90.68%	2446	263	89.25%	10037	901	91.02%
Sep-17	11879	1089	90.83%	2381	181	92.40%	9498	908	90.44%
Oct-17	11369	1082	90.48%	909	65	92.85%	10460	1017	90.28%
Nov-17	9012	760	91.57%	415	37	91.08%	8597	723	91.59%
Dec-17	9879	993	89.95%	711	108	84.81%	9168	885	90.35%
Jan-18	9264	965	89.58%	2311	219	90.52%	6953	746	89.27%
Feb-18	9279	997	89.26%	4136	453	89.05%	5143	544	89.42%
Mar-18	10503	935	91.10%	4826	461	90.45%	5677	474	91.65%

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

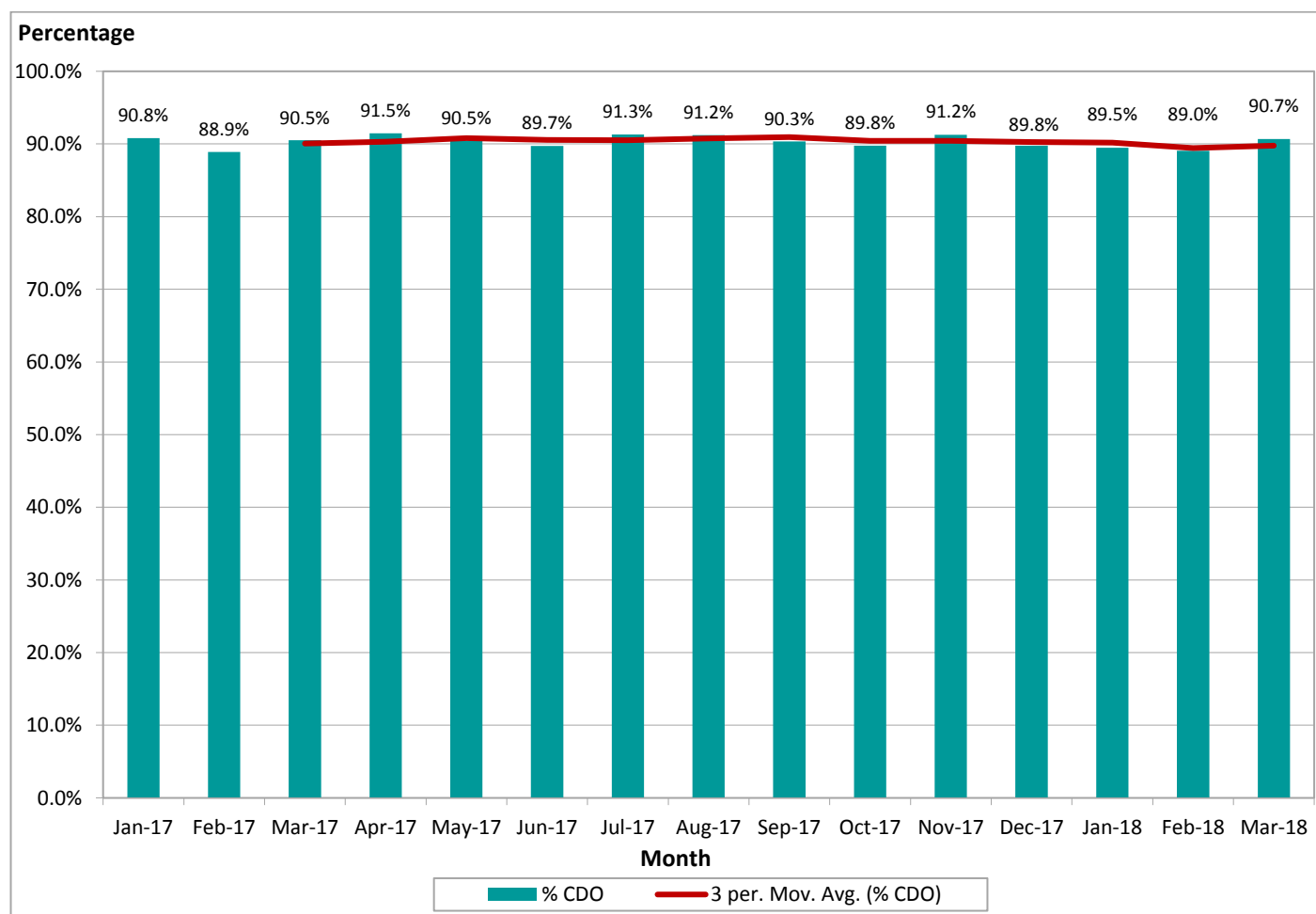


24 HOUR PERIOD CDO ACHIEVEMENT

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
Jan-17	9786	901	90.79%	4235	328	92.26%	5551	573	89.68%
Feb-17	9675	1074	88.90%	3138	359	88.56%	6537	715	89.06%
Mar-17	11034	1049	90.49%	2282	229	89.96%	8752	820	90.63%
Apr-17	11795	1006	91.47%	2373	205	91.36%	9422	801	91.50%
May-17	13139	1252	90.47%	6768	664	90.19%	6371	588	90.77%
Jun-17	13414	1377	89.73%	2554	227	91.11%	10860	1150	89.41%
Jul-17	14055	1223	91.30%	2268	236	89.59%	11787	987	91.63%
Aug-17	14198	1249	91.20%	2776	284	89.77%	11422	965	91.55%
Sep-17	13612	1316	90.33%	2771	223	91.95%	10841	1093	89.92%
Oct-17	12582	1286	89.78%	959	69	92.81%	11623	1217	89.53%
Nov-17	9279	813	91.24%	427	39	90.87%	8852	774	91.26%
Dec-17	10252	1050	89.76%	760	115	84.87%	9492	935	90.15%
Jan-18	9555	1004	89.49%	2402	230	90.42%	7153	774	89.18%
Feb-18	9579	1049	89.05%	4286	474	88.94%	5293	575	89.14%
Mar-18	11050	1028	90.70%	5080	497	90.22%	5970	531	91.11%

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).*

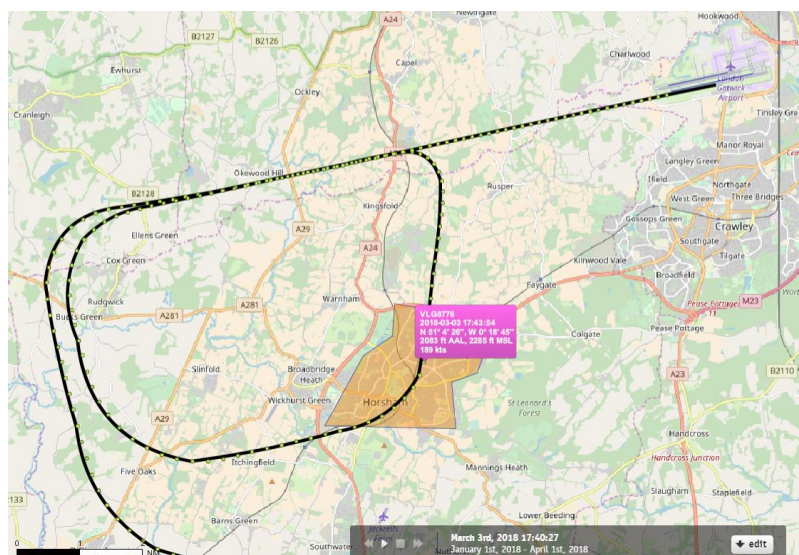
N.B. 2,000ft – (202ft (airfield elevation) + 100ft (radar/ILS tolerance)) = 1,698ft on Airports Noise & Aircraft Tracking System

Comment: There were no arriving flights which passed over the towns of Crawley or Horley. There was an arrival that passed over Horsham and an arrival passed over East Grinstead below the required altitude for this period. 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.

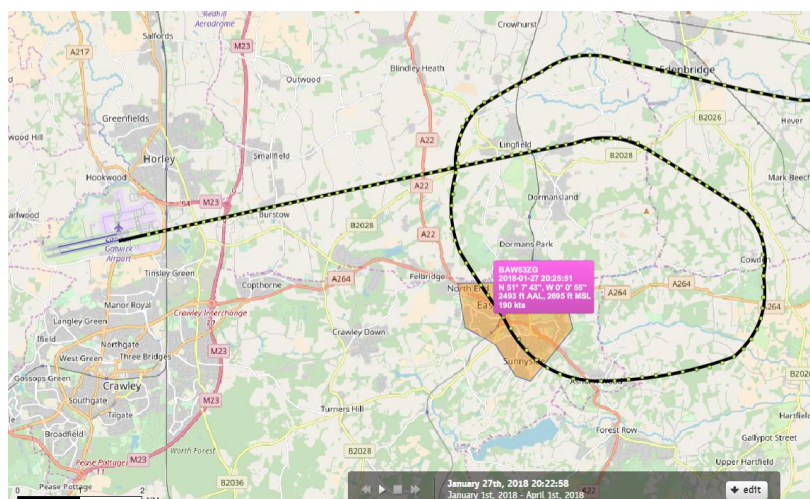
During the analysis period, there were a total of 70 arrivals that passed through this area. Aircraft tracks were analysed for January, February and March 2018 and with the exception of a small number of go-arounds, a single easyJet flight passed over Lingfield below the altitude of 1,698ft (2,000ft Gatwick QNH) on 16 January. The airline was contacted by Gatwick Airport regarding this event and the airline confirmed that the aircraft did not follow easyJet's normal CDO policy, which is part of its commitment to noise reduction. easyJet has assured Gatwick that this was a one-off event and that it will continue to use the CDO procedure.

THE MAP BELOW SHOWS THE VUELING AIRCRAFT THAT PASSED OVER HORSHAM AT 2,360FT



This Vueling Airlines flight occurred on the 3rd March 2018 at 17:44. This was confirmed as a go-around.

THE MAP BELOW SHOWS THE BRITISH AIRWAYS AIRCRAFT THAT PASSED OVER EAST GRINSTEAD AT 2,695FT



This British Airways flight occurred on the 27th January 2018 at 20:25. This was confirmed as a missed approach.

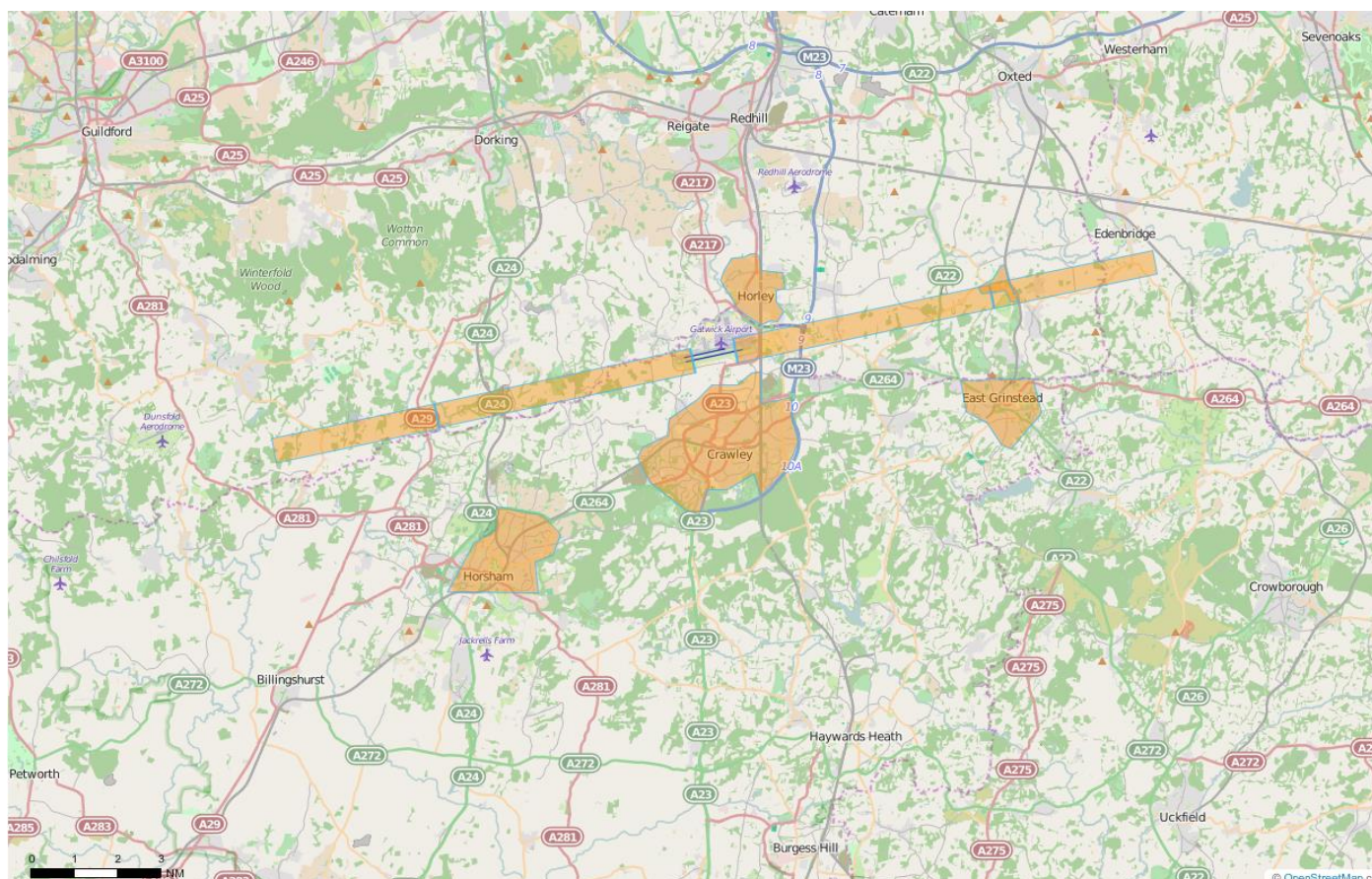
A) DAY TIME JOINING HEIGHT (0700-2300)

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 30,194 arrivals recorded by the Casper NTK system between 1st January and 31st March 2018. 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 1,428 (4.7%). In addition, there were 20 go-arounds that were not included in this figure. 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 (2300-0700)

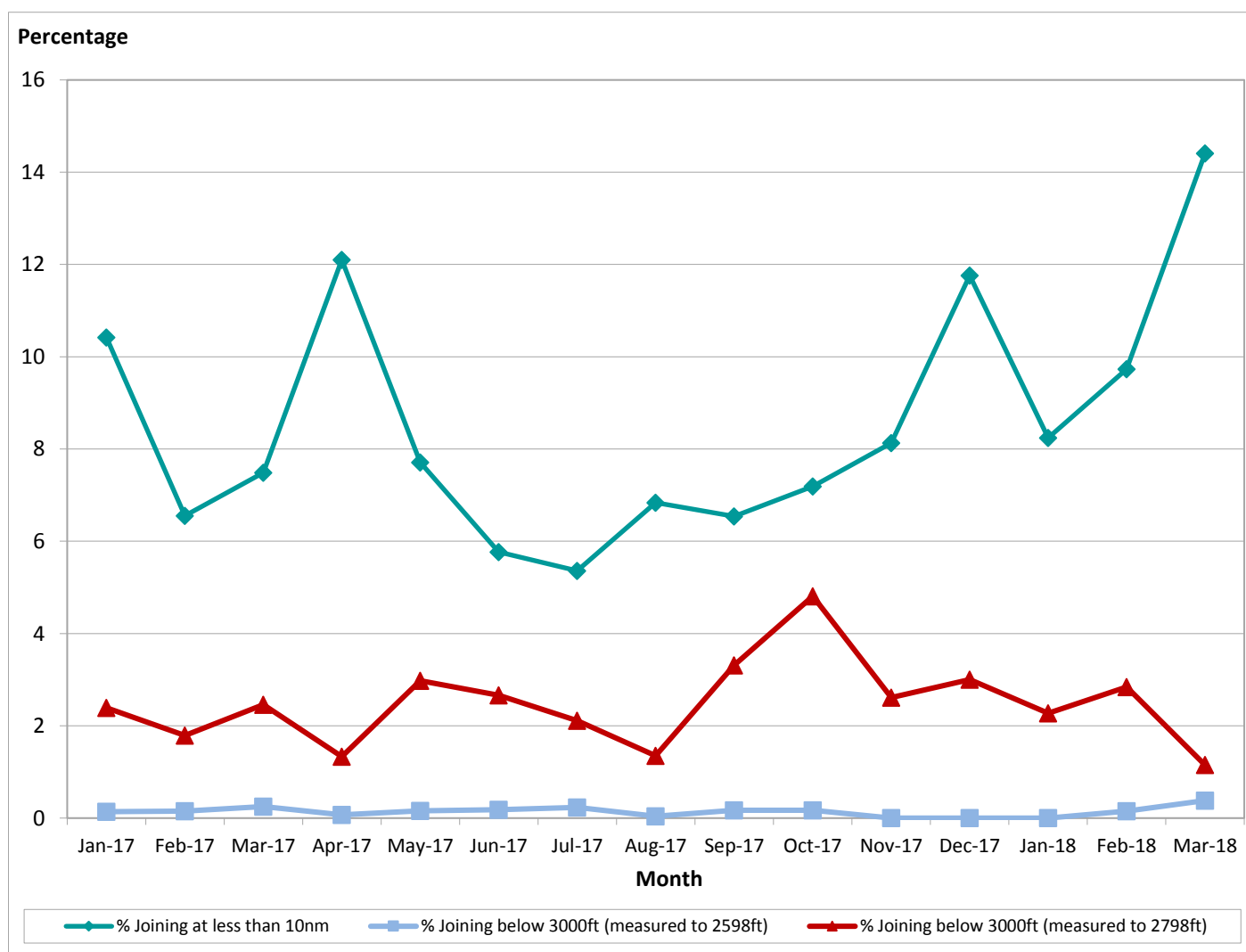
EGKK AD 2.21 (14) Aircraft which land at Gatwick Airport - London between the hours of 2300 (local) and 0700 (local), whether or not making use of the ILS localizer and irrespective of weight or type of approach, shall not join the centre-line:

- 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 northern runway operations, usually during the night period during maintenance of the main runway, as the threshold is in a different location that 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 northern runway, this may be flagged as a join inside 10nm on the main runway. This means the percentage joining below 10nm may be slightly higher in recent months as there has been an increased use of northern runway operations at night.

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



Go-Around Statistics 2004 - 2018

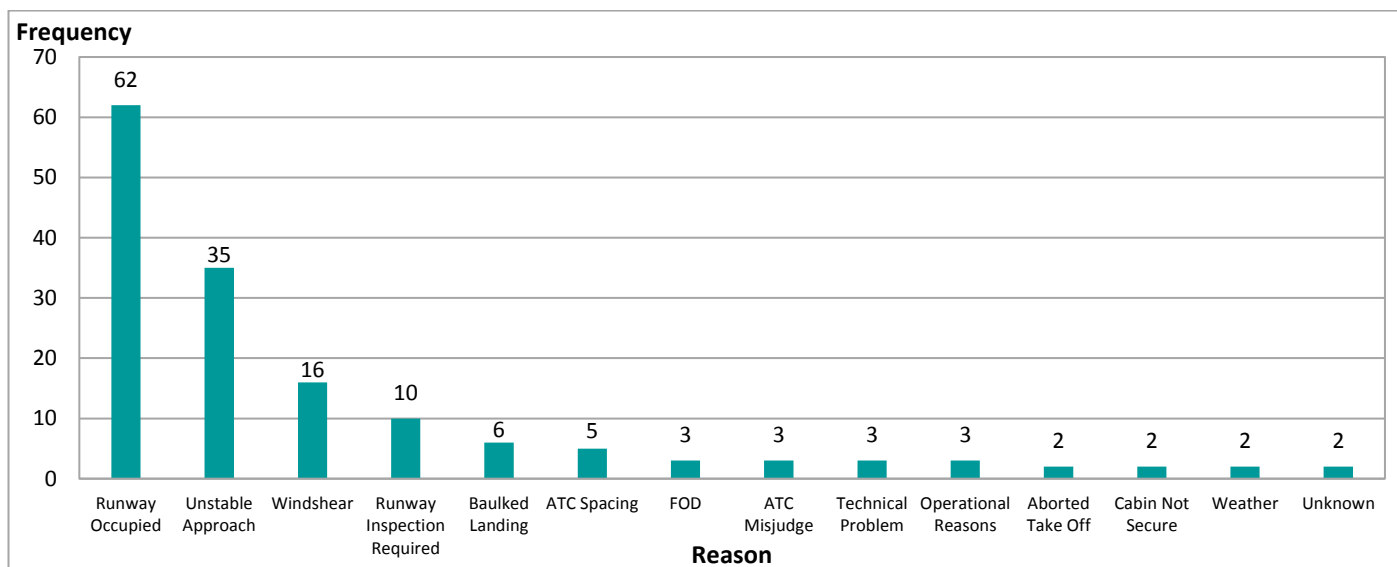
A go-around is a procedure adopted when an arriving aircraft on final approach aborts landing by applying take-off power and climbing away from the airport. It is a set procedure to be followed by the flight crew in the event of an aircraft being unable to land. The procedure is published so that Air Traffic Control (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.

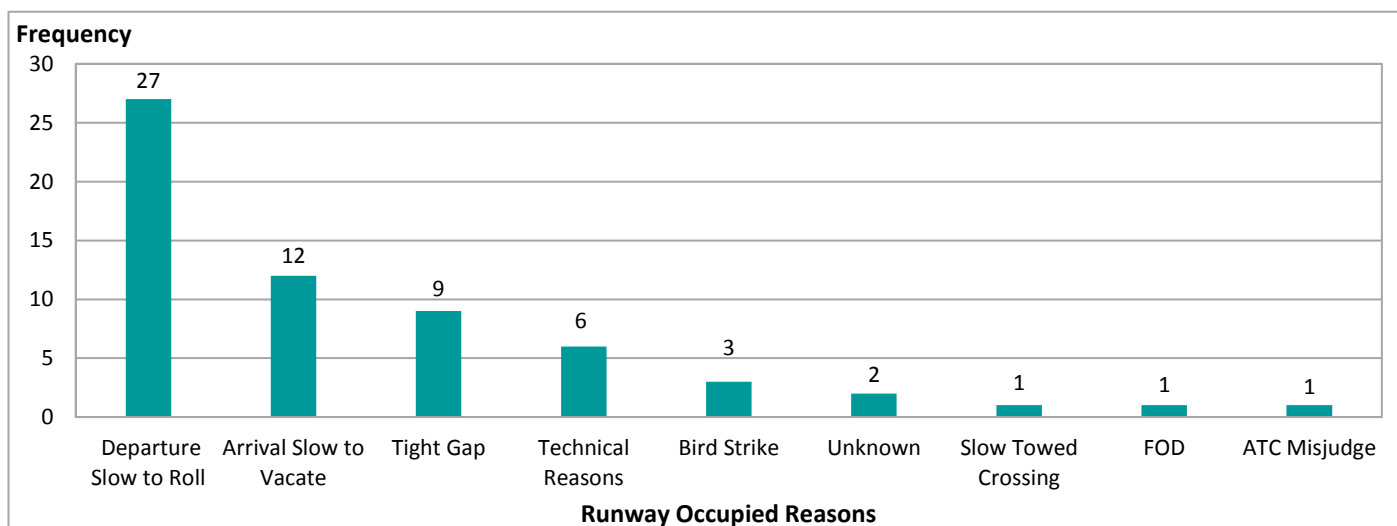
The number and reasons for go-arounds are routinely discussed at FLOPSC meetings and Pilot Forums. All parties are focussed on minimising the number of occasions when a go-around is required, but expect some to occur given the fact that Gatwick is a busy single runway airport.

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 (JANUARY - MARCH 2018)



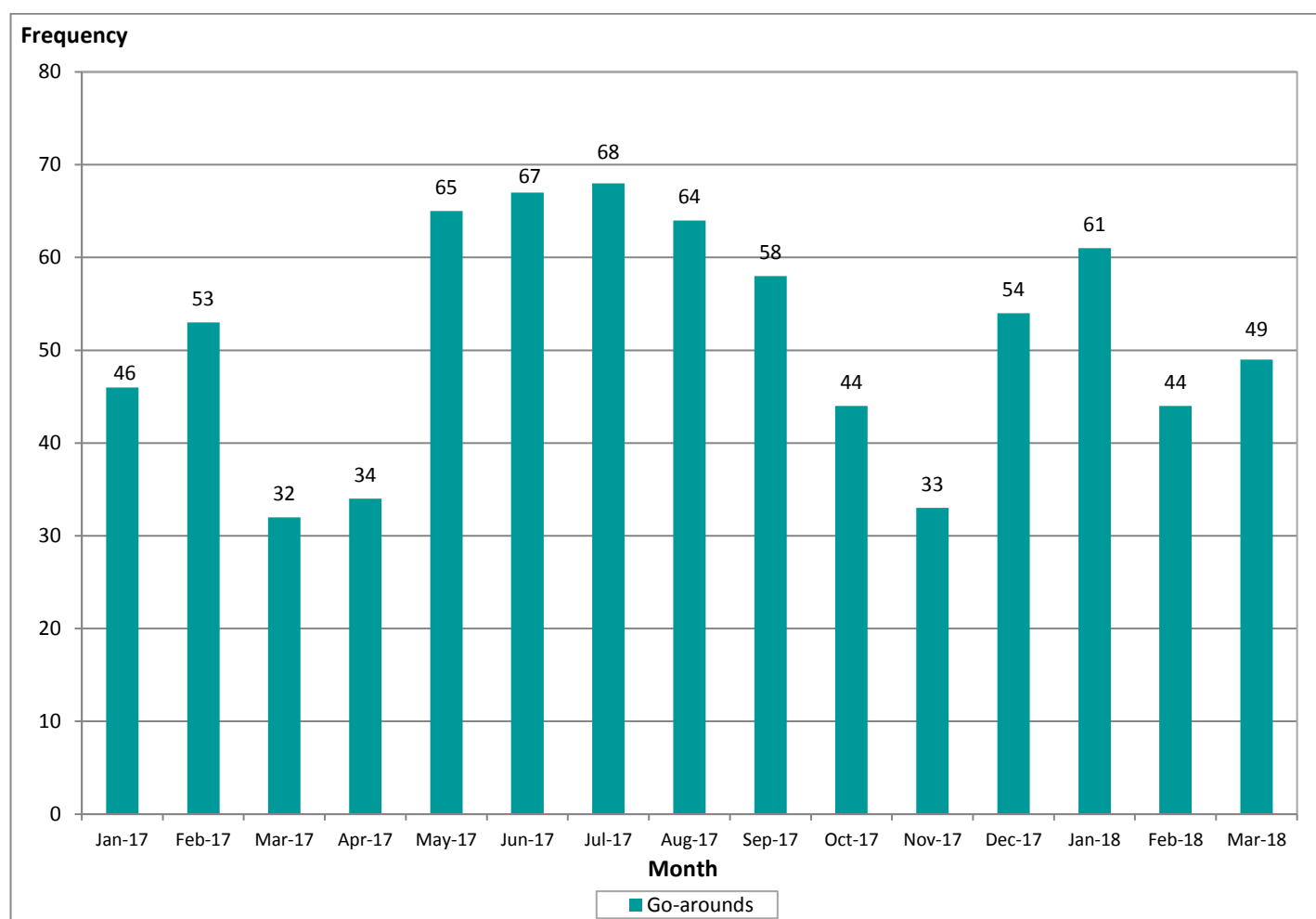
THE REASONS GIVEN BY ANS FOR GO-AROUNDS DUE TO RUNWAY OCCUPANCY DURING THE THREE MONTH PERIOD



THE TABLE BELOW ILLUSTRATES GO-AROUND STATISTICS 2004 – 2018

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	154	30173	0.51

THE GRAPH BELOW ILLUSTRATES TOTAL NUMBER OF GO-AROUNDS PER MONTH (JANUARY – MARCH 2018)



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, 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 the International Civil Aviation Organisation (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 new restrictions on night flying came into force in October 2017, to remain in force until 2022 for all the London airports. At Gatwick, the new regime will maintain the status quo for movements and quota count (QC) until the winter season in 2018/19. This will see a reduction in the QC limit and a new QC value of 0.125 applied to some aircraft which are currently exempt. As of October 2017, all aircraft movements have counted towards the night quota limit, including those previously exempt which will carry a QC value

of zero. 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 an end of season report for Winter 2017/18 which commenced at 02:00 on the 29th October 2017 and ended at 01:00 on the 25th March 2018. The total number of movements available for the Winter season was 3250.

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 flight slot. Examples of such instances include humanitarian relief flights, emergencies, VIP visits, delays as a result of disruption leading to passenger hardship, Air Traffic Control 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 were 73 dispensations applied during the Winter 2017/18 season and they were all granted due to adverse weather conditions.

QC4, QC8 and QC16 MOVEMENTS

There have been no 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. There were no unscheduled QC4 movements during the 'night quota period'. 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	3250	3250	3250	3250	3250	3250
Limits						
Quota Points	2000	2000	1785	1785	1785	1785

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

AIRPORT MOVEMENTS and QUOTA SUMMARY to WEEK 21 (29 OCTOBER 2017 TO 24 MARCH 2018 inc.)

Wk No.	Week Ending Date	QC0 No.	QC0.25 No.	QC0.5 No.	QC1 No.	QC2 No.	QC4 No.	QC8 No.	QC16 No.	Total Quota Value	Mvmnts Against Limit	Not Cont'd Delays	Not Cont'd Gov't	Not Cont'd Emerg	Total Arrivals No.	Total Arrivals %	Total Deps No.	Total Deps %	Total Runway Mvmnts
1	04/11/2017	3	61	62	20	2	0	0	0	70.25	148	0	0	0	128	86.5	20	13.5	148
2	11/11/2017	4	20	34	14	3	0	0	0	42.00	75	0	0	0	60	80.0	15	20.0	75
3	18/11/2017	5	23	34	11	3	0	0	0	39.75	76	0	0	0	64	84.2	12	15.8	76
4	25/11/2017	5	18	34	13	4	0	0	0	42.50	74	0	0	0	61	82.4	13	17.6	74
5	02/12/2017	3	21	27	12	4	0	0	0	38.75	67	0	0	0	57	85.1	10	14.9	67
6	09/12/2017	4	22	28	17	4	0	0	0	44.50	75	0	0	0	62	82.7	13	17.3	75
7	16/12/2017	13	50	33	15	3	0	0	0	50.00	114	0	0	0	102	89.5	12	10.5	114
8	23/12/2017	9	50	44	18	4	0	0	0	60.50	125	0	0	0	107	85.6	18	14.4	125
9	30/12/2017	5	29	32	18	3	0	0	0	47.25	87	0	0	0	71	81.6	16	18.4	87
10	06/01/2018	5	32	40	23	6	0	0	0	63.00	106	0	0	0	86	81.1	20	18.9	106
11	13/01/2018	3	26	39	16	4	0	0	0	50.00	88	0	0	0	75	85.2	13	14.8	88
12	20/01/2018	4	17	25	17	3	0	0	0	39.75	66	0	0	0	54	81.8	12	18.2	66
13	27/01/2018	2	15	28	24	3	0	0	0	47.75	72	0	0	0	41	72.2	20	27.8	72
14	03/02/2018	1	22	23	16	2	0	0	0	37.00	64	0	0	0	42	82.8	11	17.2	64
15	10/02/2018	1	21	33	12	3	0	0	0	39.75	70	0	0	0	48	84.3	11	15.7	70
16	17/02/2018	3	35	37	23	3	0	0	0	56.25	101	0	0	0	84	83.2	17	16.8	101
17	24/02/2018	2	28	37	15	5	0	0	0	50.50	87	0	0	0	71	81.6	16	18.4	87
18	03/03/2018	3	56	42	15	4	0	0	0	58.00	120	20	0	0	127	90.7	13	9.3	140
19	10/03/2018	1	43	51	17	4	0	0	0	61.25	116	0	0	0	98	84.5	18	15.5	116
20	17/03/2018	1	35	40	19	3	0	0	0	53.75	98	3	0	0	88	87.1	13	12.9	101
21	24/03/2018	5	39	46	18	5	0	0	0	60.75	113	50	0	0	133	81.6	30	18.4	163
TOTALS		79	666	769	353	75	0	0	0	1054	1942	73	0	0	1692	84.0	323	16.0	2015

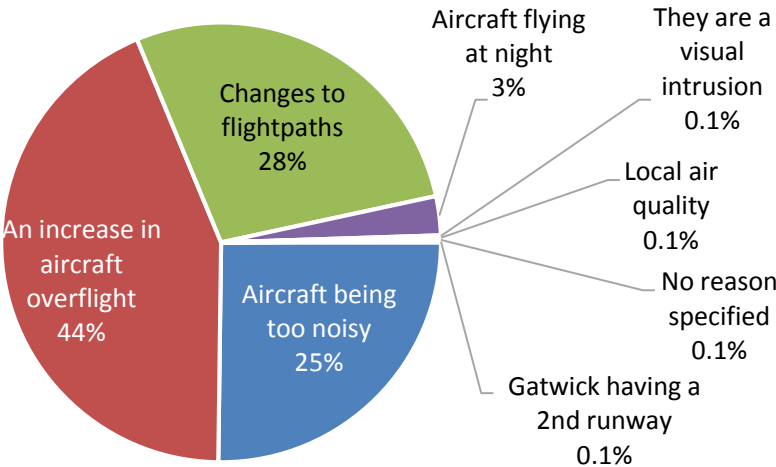
Note 1 Not Cont'd Delays	Delays likely to lead to serious congestion and delays resulting from widespread disruption of Air Traffic.
Note 2 Not Cont'd Gov't	Exemptions granted by Gov't (VIP Passengers, Emergency Relief).
Note 3 Not Cont'd Emerg	Emergency Take-offs and Landing

Noise Complaints

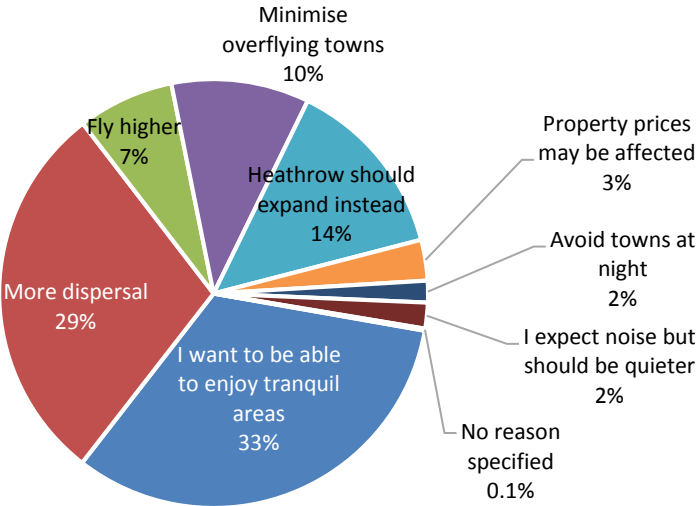
It is important that we understand the issues of noise disturbance from individuals and communities who live around the airport. By studying the complaints we receive and by communicating with the affected towns and villages surrounding the Airport, we believe that this gives us a greater understanding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

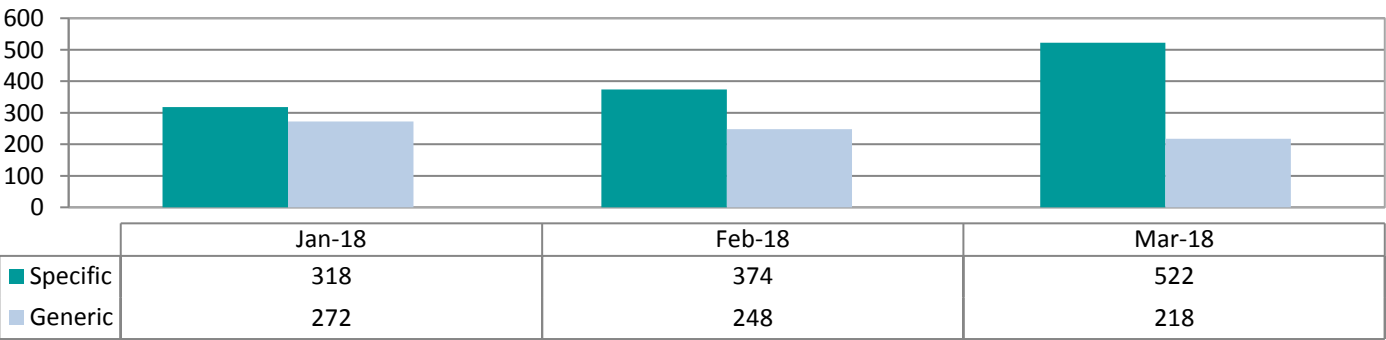
PERCENTAGE OF COMPLAINT OBSERVATIONS MOST AGREED WITH



PERCENTAGE OF COMPLAINT CONCERNS MOST AGREED WITH



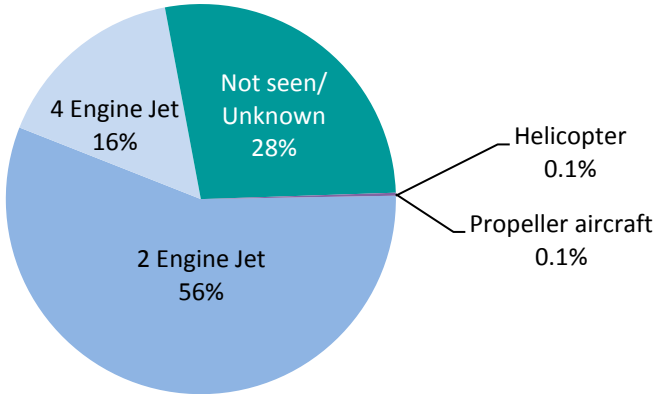
COMPLAINTS RECORDED BY MONTH



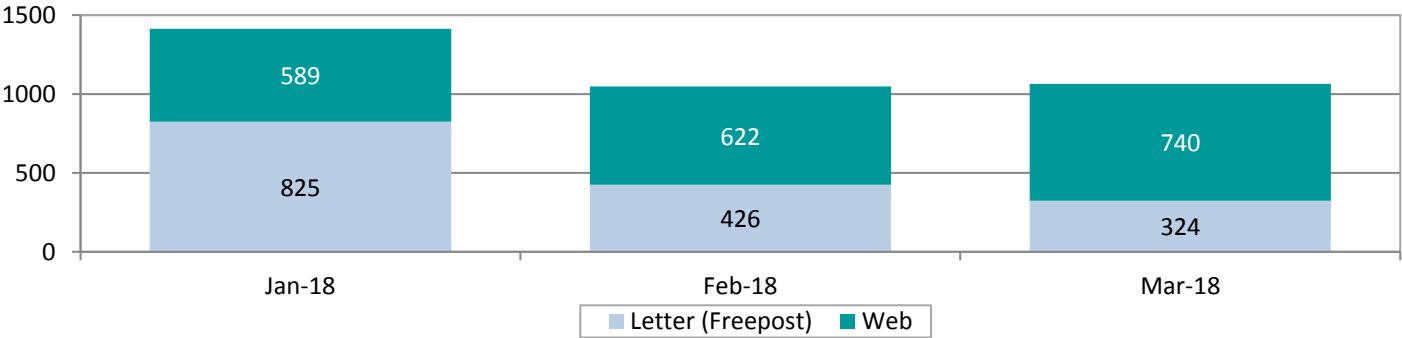
Noise is very subjective and can affect people in different ways. Some people can tolerate a certain noise level whilst it can cause disturbance to others. As well as identifying the issues of noise, it is important to understand the location of each individual complaint.

The charts below provide further analysis of the categories of aircraft types and the method of complaint and the location of individual complainants.

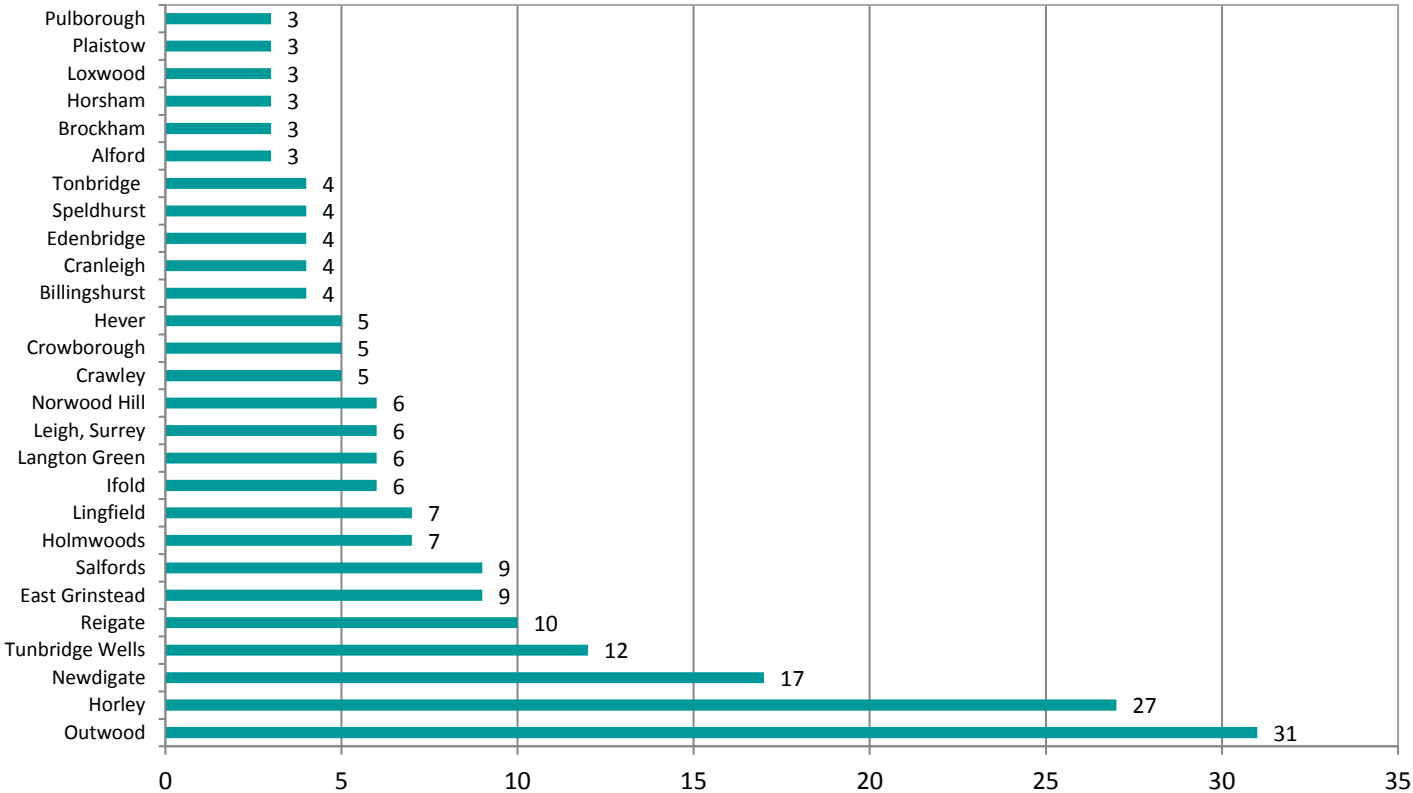
CATEGORIES OF AIRCRAFT TYPES FROM SPECIFIC COMPLAINTS



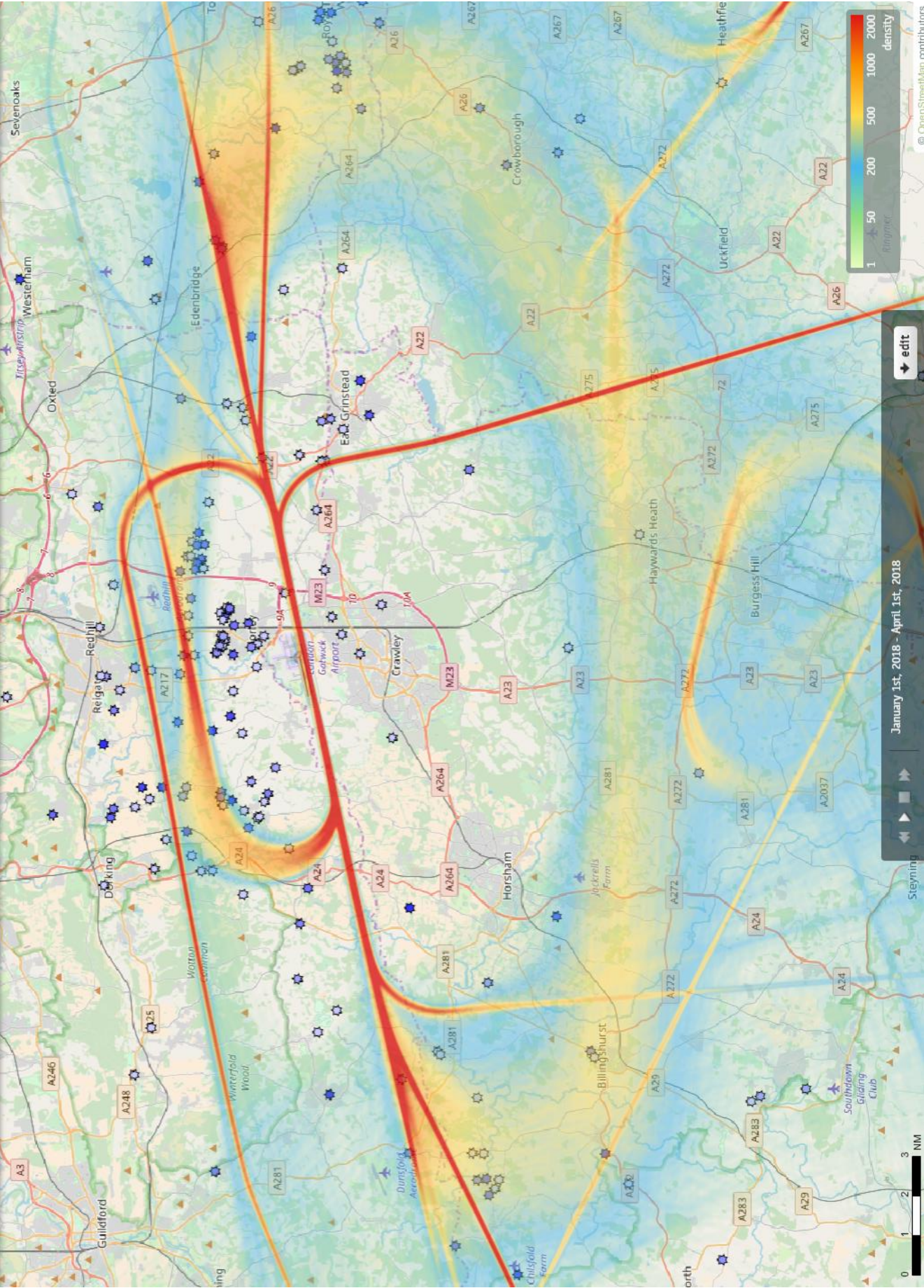
METHOD OF COMPLAINT



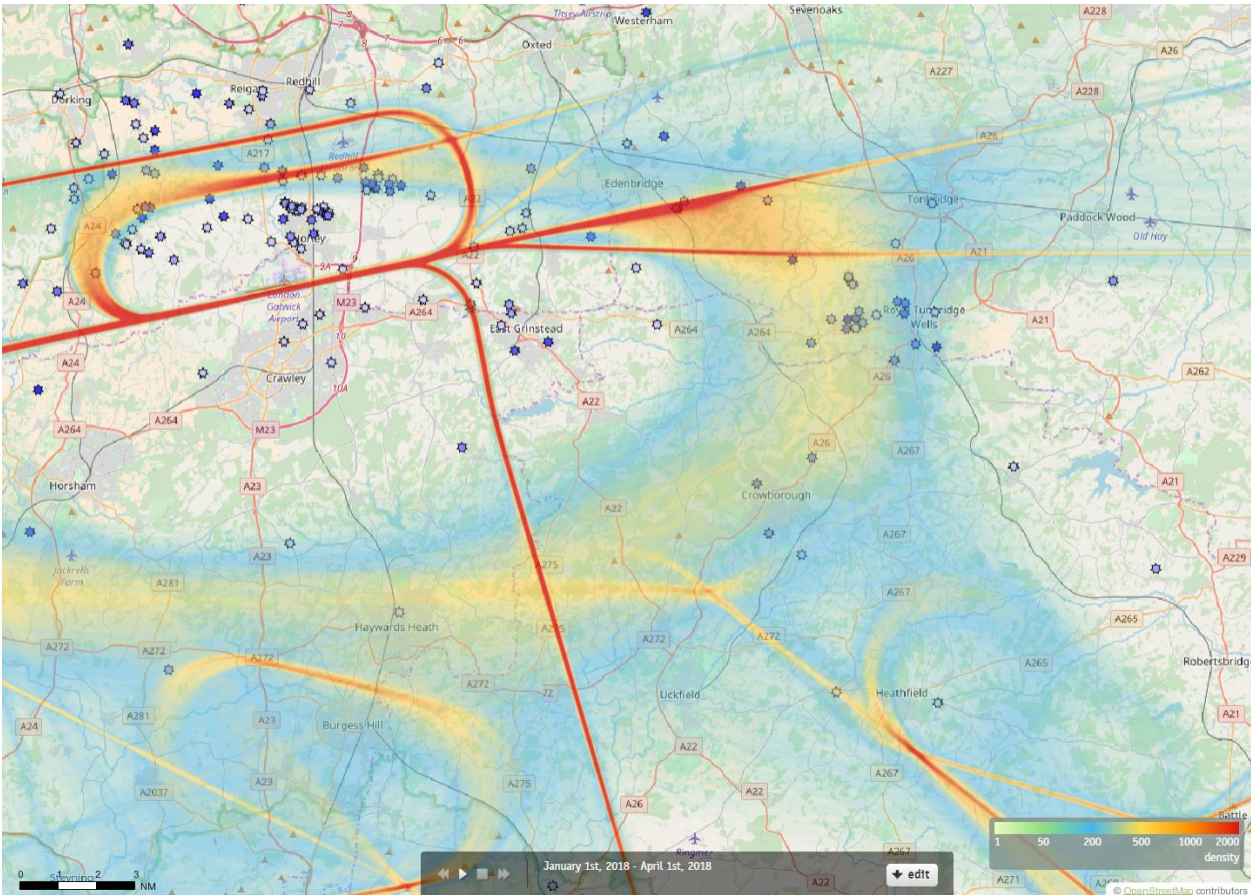
NUMBER OF INDIVIDUAL COMPLAINANTS BY TOWN/VILLAGE



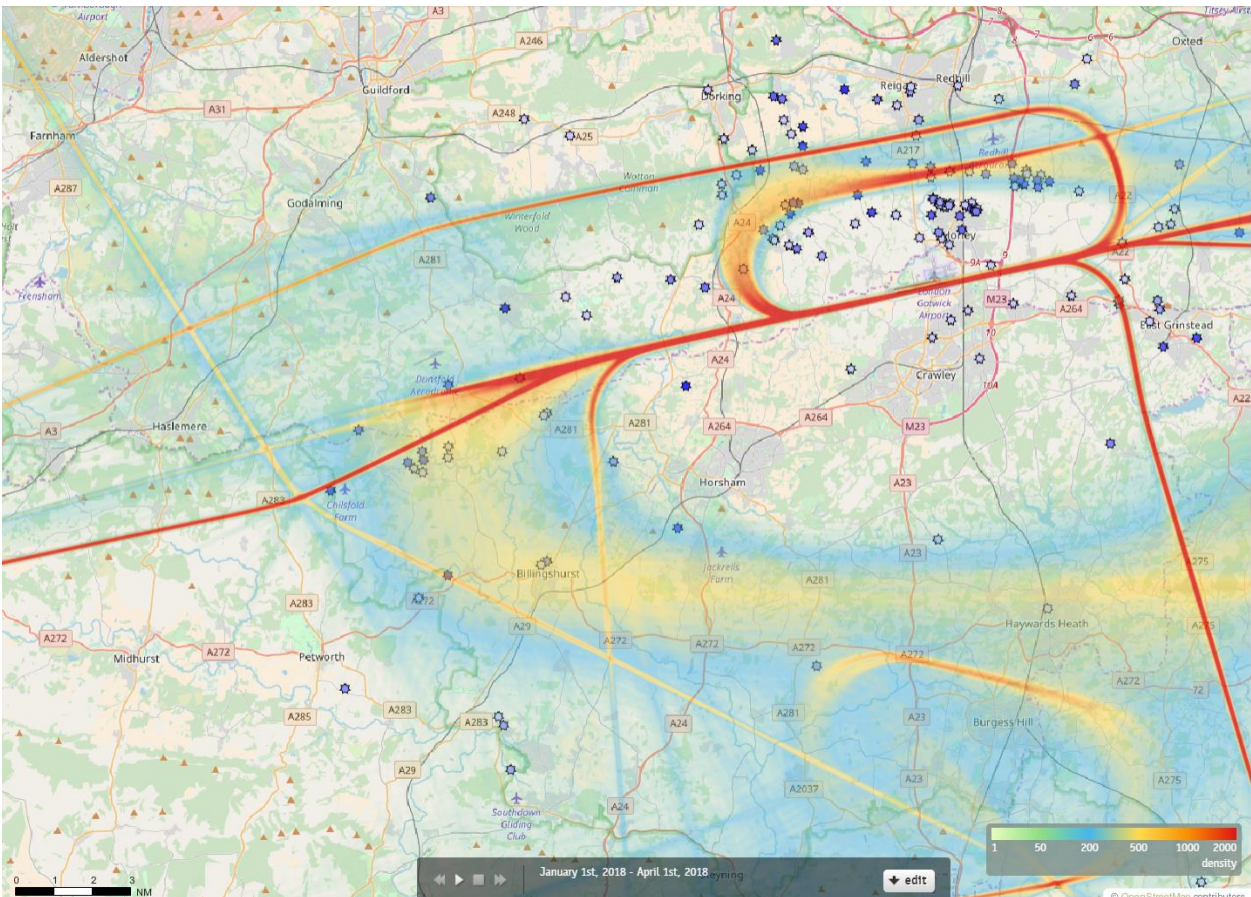
THE MAP BELOW ILLUSTRATES THE LOCATION OF NOISE COMPLAINTS RECEIVED BETWEEN JANUARY - MARCH 2018



THE MAP BELOW ILLUSTRATES NOISE COMPLAINTS RECEIVED TO THE EAST (JANUARY – MARCH 2018)



THE MAP BELOW ILLUSTRATES NOISE COMPLAINTS RECEIVED TO THE WEST (JANUARY – MARCH 2018)



Ground Noise Complaints

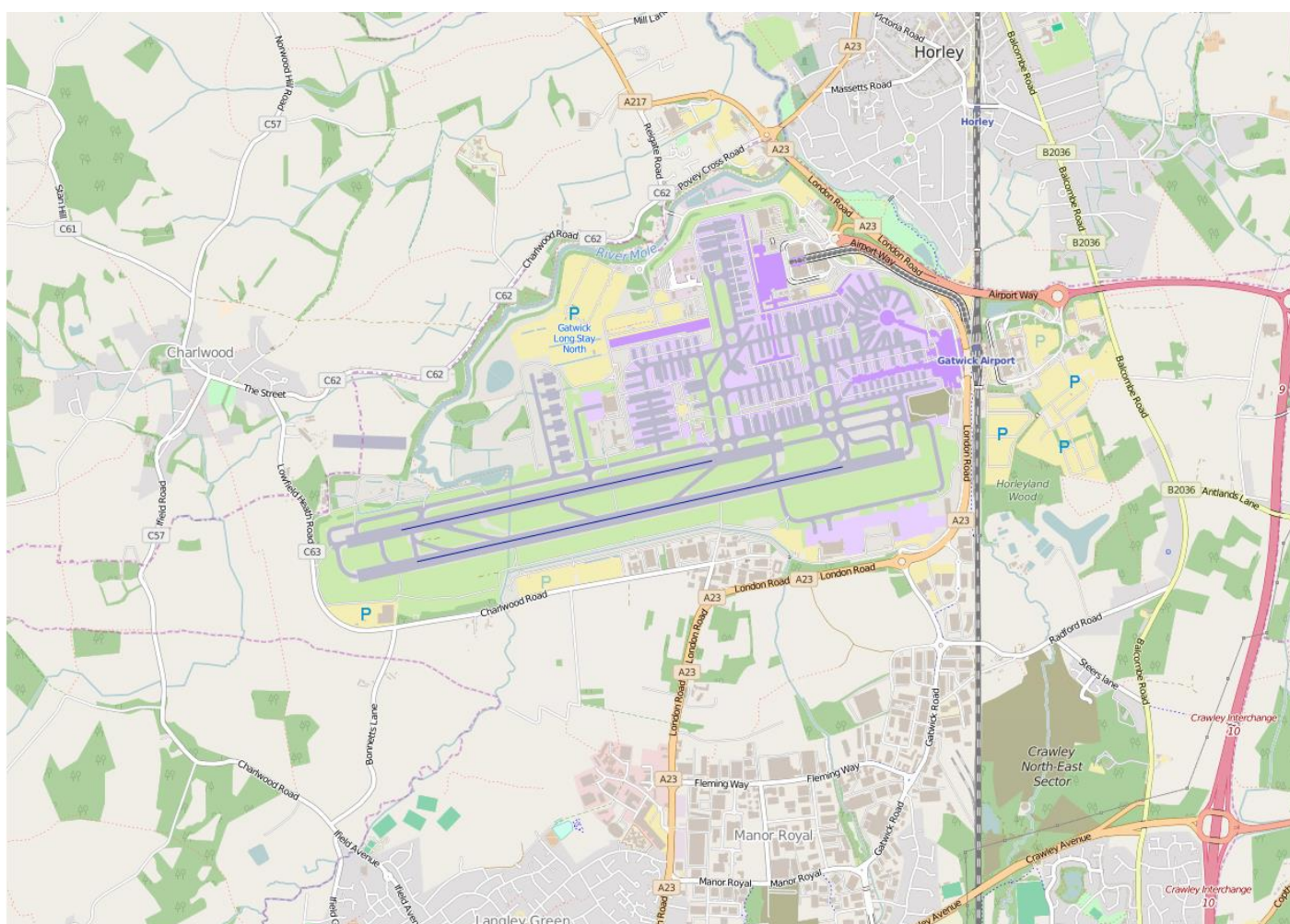
We occasionally receive complaints about disturbance from noise from within the boundary of the airfield. These can be caused by the normal operation of aircraft moving about the airfield, taking off and landing. Additional sources of noise disturbance can be the use of Auxiliary Power Units (APU) by 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 the three month period.

THE MAP BELOW ILLUSTRATES THE GATWICK AIRPORT AIRFIELD



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

Glossary

ACoP – Arrivals Code of Practice

AIP – Aeronautical Information Publication

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

FPT – Flight Performance Team

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 using Casper.

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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