



FLIGHT EVALUATION REPORT 2009

YOUR LONDON AIRPORT
Gatwick

GATWICK AIRPORT LIMITED

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Gatwick is the second largest airport in the UK and the eighth-largest in Europe in terms of passengers handled. In 2009, Gatwick handled 32 million passengers from its single runway.

Security, safety and responsibly managing our environmental impact are always our top priorities.

As Gatwick establishes itself as a truly independent, major, competitive airport, one important development has been the re-establishment of Gatwick's own Flight Evaluation Unit.

This team is responsible for:

- Receiving, investigating and responding to aircraft noise complaints and enquiries from members of the public

- Monitoring airline compliance to noise mitigation measures as detailed in the UK Aeronautical Information Publication
- Engaging with the airlines to improve their adherence to the above noise mitigation measures
- Managing the night-time restrictions on flying at Gatwick
- Producing reports covering the areas of activity of the FEU for various stakeholders, committees and the Department for Transport.

More details about all our work can be found on Gatwick's official noise website. Please visit www.gatwickairport.com/noise for more information.

About this report

This report contains detailed data on aircraft activity at Gatwick including the fleet mix, direction of operation of the airport, the number and types of night flights that took place, aircraft adherence to the noise mitigation measures employed and also an analysis of complaints/enquiries received during the year.

The majority of this data is circulated throughout the year to various committees including the Flight Operations Performance & Safety Committee (FLOPSC), the Noise & Track Monitoring Advisory Group (NATMAG) and the Gatwick Airport Consultative Committee (GATCOM).

This report complements the noise section of Gatwick Airport Limited's 2009 Sustainability Performance Report which is available at www.gatwickairport.com.

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This section of Gatwick's FEU Report provides detailed statistics on the number and types of aircraft operating in and out of the airport, as well as relevant information about runway usage and westerly-easterly operations, during 2009 and previous years.

Table A1 shows the average number of aircraft movements per day during the past three years. In 2009, the average number of movements per day was considerably lower than in 2007 and 2008, especially in the first two quarters. As is generally the case at the airport, the peak months were in the summer (June to September) when, with the exception of June, there were more than 800 movements per day. In the last two months of 2009, the average number of movements picked up and there were more movements per day than the previous year. In 2009 overall there were 251,714 aircraft movements at Gatwick and passenger figures fell to 32.37 million from 34.1 million in 2008.

Table A2 shows a breakdown of movements by aircraft type. The recent trend in increased numbers of modern aircraft operating at the airport continued in 2009. The Airbus 319 was the aircraft type with the greatest number of movements, increasing by 17% in 2009 compared to the previous year. EasyJet operates the majority of Airbus 319s from Gatwick. There were no 747-200 movements during 2009, and only eight DC10 movements compared with 40 and 50 movements respectively in 2008.

The number of movements by Embraer ERJ195s has also increased significantly since being introduced at the airport by Flybe in 2007. And as in recent years, there were fewer movements by older, noisier planes.

Table A2

Annual aircraft movements by aircraft type

Aircraft Type	2006	2007	2008	2009
Airbus 319	49,183	54,142	61,895	74,826
Airbus 320/321	30,046	31,025	36,254	40,328
Boeing 737-400	34,706	35,169	32,171	29,988
Boeing 737-800	12,516	14,038	16,213	17,415
DHC-8/Dash 8-300/400	3,534	4,662	9,320	17,029
Boeing 757	25,071	23,289	21,585	13,382
Embraer ERJ195	358	794	8,048	9,170
Boeing 737-300	13,474	13,255	12,016	7,170
Boeing 777	12,560	11,789	7,518	7,091
Airbus 330	7,352	7,925	5,851	4,867
Boeing 737-700	1,653	3,545	3,177	4,640
Boeing 767-300	8,546	10,551	8,185	4,565
Boeing 747-400	4,201	5,017	4,397	4,206
Boeing 737-500	26,511	24,397	19,577	4,180
ATR 72	3,476	2,854	2,836	3,234
Airbus 300	2,272	1,903	2,033	1,783
Canadair Jet	1,874	1,368	609	1,468
Arvliner RJ series	13,994	11,930	3,594	990
Fokker 100	38	50	358	984
Boeing 767-200	3,006	2,712	1,187	624
Others	190	817	884	547
Airbus 310	840	838	1,648	518
Cessna Citation	651	587	634	458
MD 80 all series	808	636	576	372
Boeing 737-600	490	520	828	358
Boeing 767-400	494	394	804	288
Gulfstream	188	236	230	244
Dassault Falcon	259	215	201	217
Airbus 340	896	452	248	192
Hawker 125	276	228	242	192
Learjet	294	300	212	160
Embraer EMB135	50	24	25	86
Ilyushin IL96	0	0	6	64
Embraer EMB145	308	78	32	62
DC 10 all series	1,115	28	50	8
M90	424	372	16	6
Boeing 737-200	56	66	124	2
Boeing 747-300	341	304	6	0
ATR 42	344	30	86	0
Boeing 747-200	14	12	40	0
Total	263,357	266,552	263,716	251,714

Table A1

Average number of aircraft movements per day

	2007	2008	2009
January	635	644	580
February	627	654	598
March	666	687	624
April	711	712	673
May	764	769	721
June	804	815	763
July	828	841	809
August	839	851	822
September	824	812	800
October	764	722	717
November	634	561	587
December	639	574	575

Table A3

Monthly runway modal split, 2009

Month	Movements	Westerly	Easterly
January	17,980	60.8%	39.2%
February	16,738	68.4%	31.6%
March	19,341	81.0%	19.0%
April	20,184	50.8%	49.2%
May	22,357	66.1%	33.9%
June	22,891	56.2%	43.8%
July	25,085	91.4%	8.6%
August	25,490	93.1%	6.9%
September	23,986	60.1%	39.9%
October	22,232	59.9%	40.1%
November	17,597	87.5%	12.5%
December	17,833	61.8%	38.2%

Tables A3 and A4 show how the direction of the airport's operations varies from month to month due to the wind direction. In 2009, as with the previous year, the highest percentage of westerly operations was in August and the highest easterly usage was in April. The westerly-easterly split was comparable with the long-term average of 70% in favour of westerly operations.

In any month, the percentage of westerly operations can vary dramatically and there has been no set pattern over the years – as **Table A4** shows. The highest number of westerly operations since 1998 is still in February 2000 but in 2009 the months of July and August became the second and third highest. May 2008 is the lowest percentage of westerly operations.

Table A5 shows the annual westerly-easterly split over the last four years. In 2009 the average split was slightly higher in favour of westerly operations than the previous three years, namely 70.2% westerly and 29.8% easterly.

Northern runway use

During any given year, there are occasions when Gatwick's main runway is temporarily closed for use (for example during maintenance projects). When this happens, operations are switched to the northern (standby) runway. The two runways are not used simultaneously.

Table A6 shows northern runway usage during the past five years. In 2009, although the northern runway was used on more days than in 2008, there were many days when only one flight operated from it. This was usually at night for periods when routine maintenance was being carried out on the main runway. Usage of the northern runway, particularly during the night period, usually has an adverse affect on Gatwick's joining point and Continuous Descent Approach performance (CDA reduces noise from arriving aircraft by keeping them higher for longer). The reason for this is that the northern runway is not equipped with Instrument Landing System (ILS) equipment.

Aircraft go-arounds

There are occasions when it is not possible for an inbound aircraft to land due to the fact that Gatwick has only one main runway. In such circumstances aircraft will abort the landing carrying out a procedure known as a go-around. There are a number of reasons why go-arounds occur, but the most common are when arriving aircraft are slow to leave the runway, departing aircraft are slow to roll and when some aircraft are unstable in the final stages of approach due to adverse weather.

Table A4
Variations in monthly runway modal split,
April 1998-December 2009

Month	Highest	Westerly	Lowest	Westerly	Range
January	2008	90.2%	2006	43.1%	47.1%
February	2000	97.9%	2003	52.6%	45.3%
March	1999	84.9%	2001	54.6%	30.3%
April	2001	82.9%	2007	36.3%	46.6%
May	2003	86.9%	2008	15.1%	71.8%
June	2002	89.9%	2006	54.3%	35.6%
July	2009	91.4%	2006	57.6%	33.8%
August	2009	93.2%	2003	50.4%	42.8%
September	2001	80.6%	2002	32.0%	48.6%
October	2000	93.1%	2007	42.6%	50.5%
November	2006	92.1%	2003	63.4%	28.7%
December	1999	84.3%	2001	48.5%	35.8%

Table A5
Annual split in easterly and westerly operations (%)

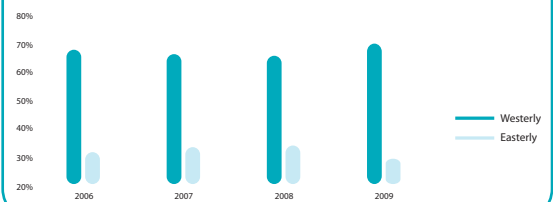


Table A6
Use of northern runway

Year	Days used	Movements	% of annual movements
2005	155	5,447	2.09
2006	65	1,029	0.39
2007	70	1,286	0.48
2008	71	1,008	0.38
2009	101	904	0.36

Table A7
Aircraft go-arounds

Year	Go-arounds	% of total arrivals
2006	378	0.29
2007	434	0.33
2008	415	0.31
2009	455	0.36

Table A7 shows that compared to recent years there has been a small increase in the number of go-arounds. Although this increase has been the subject of discussion at the regular Noise and Track-keeping Monitoring Group meetings, there has been no obvious causal factor. Historically the percentage of go-arounds has remained relatively constant between 0.3% and 0.35%.

Night flights are classified as those which take off and land between 23:00 and 07:00 (known as the night restrictions period). Government restrictions specify that between 23:30 and 06:00 (the night quota period), aircraft movements are restricted by both a movements limit and a noise quota.

During the night quota period, a limited number of flights are allowed and the noisiest aircraft are not allowed to fly. This system encourages the airlines who want to fly at night to use quieter aircraft.

The noise quota of an individual type of aircraft is based on its official certification data, with separate classifications for landing and take-off in the form of quota count (QC) values. **Table B1** shows the different QC categories. The new night restriction period, which began in Winter 2006/07, established a new QC0.25 category which reclassified some QC0.5 and QC0 aircraft as QC0.25.

Generally speaking, the smaller or newer the aircraft, the lower its QC value. For each aircraft type, the departure QC tends to be higher than that for arrival. The total number of all aircraft movements in the night quota period over the past 18 seasons is shown in **Table B2** (see next page). The table is subdivided into arrivals and departures and the totals include all aircraft subject to movement and quota limits, as well as those exempt or granted dispensation.

During the Summer 2009 season, there was a significant drop in the number of night quota period movements. This reflects the general reduction in aircraft traffic as a result of the economic downturn. The percentage of arrivals against departures increased slightly on the previous year.

The number of movements during the Winter 2009/10 season was very slightly up on the previous year, but still down on historic numbers. The percentage split between arrivals and departures for Winter 2009/10 was similar to the 2008/09 figures.

Table B1
QC categories

Certificated noise level (EPNdB)	Quota count QC
Less than 84	0
84 to 86.9	0.25
87 to 89.9	0.5
90 to 92.9	1
93 to 95.9	2
96 to 98.9	4
99 to 101.9	8
Greater than 101.9	16

Planes with a QC0 classification are also known as exempt aircraft as they do not count against either the movement or QC limits. Aircraft can also be granted a dispensation to operate during the night quota period but only in special circumstances.

Tables B3 and **B4** show exempt aircraft and dispensed movements. The reduction in the overall number of movements from the Winter 2006/07 season onwards shown in **Table B3** is the result of some previously exempt aircraft being reclassified as QC0.25 aircraft. **Table B4** shows that in 2009/10 there were just two dispensations granted by the Department for Transport (DfT). Both dispensations were for VIP flights for foreign ministers attending the G20 summit in London.

Movement limits and noise quotas

The night movements and quota count use relative to allocation for the last 16 operating seasons are shown in **Tables B5** and **B6** respectively. The Winter 2006/07 season was the first to operate under the DfT's new quotas and movement limits and also includes the new 0.25 category.

The introduction of the new quota and movement limits meant a reduction in the number of movements permitted and QC allowance. **Figure B7** reflects the continuing downward trend in the average QC in both winter and summer months since 2000. This mirrors the gradual shift towards quieter, more modern aircraft operating at Gatwick. The introduction of the new QC0.25 category has also impacted this trend. The average QC has now remained fairly consistent for the last six seasons.

Table B8 (on page 8) shows a breakdown of night movements by QC usage and category. As previously mentioned, more airlines are now operating in the QC0.25 category. Although QC4 aircraft can still operate at night, they have not been allowed to operate scheduled flights since October 2006. There was one QC4 movement in Summer 2009 and none during the Winter 2009/10 season. There were two QC16 movements in Summer 2009 and both were compassionate flights operated by UK military aircraft – these are unclassified for night movements and automatically assigned as QC16 movements.

Table B9 shows the percentage of movements in each QC category over the past 16 seasons. Compared to previous seasons, there was an increased percentage of QC0.25 and QC2.0 movements but a reduced percentage of QC1 movements. However for 2009/10 as a whole, around 80% of movements are still classified as QC0.5 or below.

Table B2

Arrivals and departures in the night quota period

Season	Arrivals	Departures	Total	% arrivals	% departures	Weeks
Summer 2001	8,812	2,726	11,538	76.40	23.60	31
Winter 2001/02	2,504	775	3,279	76.40	23.60	22
Summer 2002	7,457	2,488	9,946	75.00	25.00	30
Winter 2002/03	2,638	727	3,365	78.40	21.60	22
Summer 2003	7,352	2,151	9,503	77.40	22.60	30
Winter 2003/04	2,283	776	3,059	74.60	25.40	22
Summer 2004	8,451	2,227	10,678	79.10	20.90	31
Winter 2004/05	2,328	828	3,155	73.80	26.20	21
Summer 2005	9,061	2,077	11,138	81.40	18.60	31
Winter 2005/06	2,883	737	3,620	79.60	20.40	21
Summer 2006	9,442	1,873	11,315	83.45	16.55	31
Winter 2006/07	2,475	309	2,784	88.90	11.10	21
Summer 2007	8,866	1,416	10,282	86.20	13.80	31
Winter 2007/08	2,575	416	2,991	86.10	13.90	22
Summer 2008	8,883	1,735	10,618	83.66	16.34	30
Winter 2008/09	1,993	274	2,267	87.91	12.09	22
Summer 2009	7,084	1,371	9,175	85.06	14.94	30
Winter 2009/10	2,013	289	2,302	87.45	12.55	22

Table B3

Exempt aircraft movements

Season	Movements
Summer 2000	711
Winter 2000/1	339
Summer 2001	645
Winter 2001/2	415
Summer 2002	584
Winter 2002/03	389
Summer 2003	525
Winter 2003/04	329
Summer 2004	429
Winter 2004/05	156
Summer 2005	199
Winter 2005/06	363
Summer 2006	379
Winter 2006/07	50
Summer 2007	107
Winter 2007/08	50
Summer 2008	83
Winter 2008/09	62
Summer 2009	74
Winter 2009/10	103

Table B4

Dispensations

Year	Number of dispensations
2001/02	3
2002/03	4
2003/04	0
2004/05	0
2005/06	0
2006/07	18
2007/08	14
2008/09	7
2009/10	2

Table B5

Night movements limits and usage

Season	Movements limit	Actual movements	Percentage use of movements
Summer 2002	11,200	9,358	83.55
Winter 2002/03	5,250	2,976	56.69
Summer 2003	11,200	8,978	80.16
Winter 2003/04	5,250	2,730	52.00
Summer 2004	11,200	10,249	91.50
Winter 2004/05	5,250	3,000	57.14
Summer 2005	11,200	10,939	97.67
Winter 2005/06	5,250	3,257	62.04
Summer 2006	11,200	10,918	97.48
Winter 2006/07	3,250	2,734	84.12
Summer 2007	11,200	10,173	90.83
Winter 2007/08	3,250	2,240	68.92
Summer 2008	11,200	10,618	94.8
Winter 2008/09	3,250	2,145	66.00
Summer 2009	11,200	9,099	81.24
Winter 2009/10	3,250	2,199	67.66

Table B6
Night QC allocation and usage

Season	QC allocation	QC use	% use
Summer 2002	9,060	6,905.0	76.21
Winter 2002/03	6,660	2,358.0	35.41
Summer 2003	9,030	6,357.5	70.40
Winter 2003/04	6,640	2,468.0	37.17
Summer 2004	9,000	7,863.0	87.36
Winter 2004/05	6,640	2,614.5	39.38
Summer 2005	9,000	8,255.5	91.72
Winter 2005/06	6,640	2,677.0	40.32
Summer 2006	9,000	7,749.5	86.11
Winter 2006/07	2,300	1,355.3	58.92
Summer 2007	6,700	5,328.5	79.53
Winter 2007/08	2,240	1,542.3	68.85
Summer 2008	6,600	5,659.8	85.76
Winter 2008/09	2,180	1,169.0	53.62
Summer 2009	6,500	4,786.50	73.64
Winter 2009/10	2,120	1,236.75	58.34

Figure B7
Average QC per movement by season

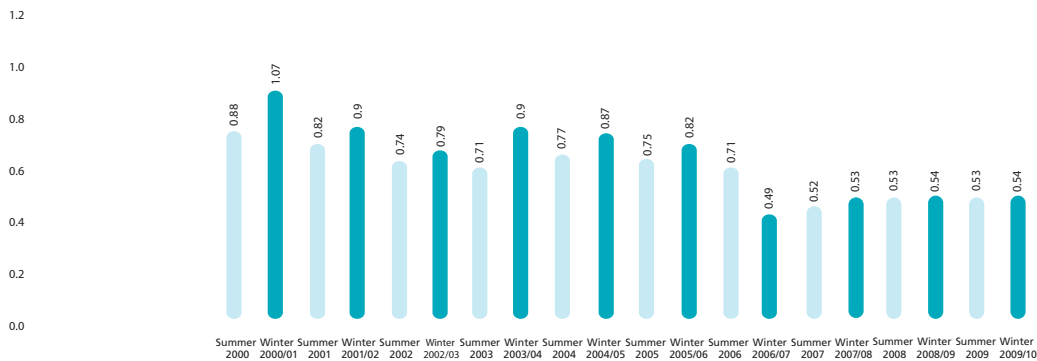


Table B9
Percentage movements by QC category

Season	QC0.25	QC0.5	QC1	QC2	QC4	QC8	QC16	Earlies
Summer 2001	n/a	63.85	25.42	8.87	1.70	0.01	0.00	0.16
Winter 2001/02	n/a	66.06	18.58	11.31	3.98	0.00	0.00	0.07
Summer 2002	n/a	73.01	19.35	5.67	1.65	0.00	0.00	0.26
Winter 2002/03	n/a	73.42	17.81	4.84	3.76	0.00	0.00	0.13
Summer 2003	n/a	76.44	17.96	3.71	1.80	0.00	0.00	0.09
Winter 2003/04	n/a	70.55	13.96	9.74	5.42	0.00	0.00	0.33
Summer 2004	n/a	70.09	22.82	4.51	2.46	0.00	0.00	0.12
Winter 2004/05	n/a	73.70	10.90	10.57	4.57	0.00	0.00	0.27
Summer 2005	n/a	71.98	22.75	4.45	0.76	0.00	0.02	0.04
Winter 2005/06	55.93	28.68	9.62	5.74	0.04	0.00	0.00	*n/a
Summer 2007	51.82	24.45	20.52	3.08	0.13	0.00	0.00	*n/a
Winter 2007/08	51.86	29.19	12.80	6.15	0.00	0.00	0.00	*n/a
Summer 2008	48.63	28.65	18.65	3.99	0.04	0.00	0.00	*n/a
Winter 2008/09	42.75	40.37	10.12	6.76	0.00	0.00	0.00	*n/a
Summer 2009	47.70	32.54	15.44	4.29	0.01	0.00	0.02	*n/a
Winter 2009/10	52.16	28.58	9.23	9.78	0.00	0.00	0.00	*n/a

*Earlies no longer counted in new regime

Table B8

Night movements and QC usage, by QC category

Category	Movements		Quota	
	Summer 2004	Winter 2004/05	Summer 2004	Winter 2004/05
0.5	7184	2211	3592	1105.5
1	2339	327	2339	327
2	462	317	924	634
4	252	137	1008	548
8	0	0	0	0
16	0	0	0	0
Earlies	12	8	0	0
Total:	10,249	3,000	7,863	2,614.5

Category	Movements		Quota	
	Summer 2005	Winter 2005/06	Summer 2005	Winter 2005/06
0.5	7815	2384	3907.5	1192
1	2332	437	2332	437
2	550	302	1100	604
4	229	111	916	444
8	0	0	0	0
16	0	0	0	0
Earlies	13	22	0	0
Total:	10,939	3,256	8,255.5	2,677

Category	Movements		Quota	
	Summer 2006	Winter 2006/07	Summer 2006	Winter 2006/07
0.25	n/a	1529	0	382.25
0.5	7859	784	3929.5	392
1	2484	263	2484	263
2	486	157	972	314
4	83	1	332	4
8	0	0	0	0
16	2	0	32	0
Earlies	4	n/a	0	n/a
Total:	10,918	2,734	7,749.5	1,355.25

Category	Movements		Quota	
	Summer 2007	Winter 2007/8	Summer 2007	Winter 2007/08
0.25	5,272	1519	1318	379.75
0.5	2,487	855	1243.5	427.50
1	2,087	375	2087	375
2	314	180	628	360
4	13	0	52	0
8	0	0	0	0
16	0	0	0	0
Total:	10,173	2,929	5,328.5	1,542.25

Category	Movements		Quota	
	Summer 2008	Winter 2008/09	Summer 2008	Winter 2008/09
0.25	5,164	917	1,291	229
0.5	3,042	866	1,521	433
1	1,984	217	1,984	217
2	424	145	848	290
4	4	0	16	0
8	0	0	0	0
16	0	0	0	0
Total:	10,618	2,145	5,644	1,169

Category	Movements		Quota	
	Summer 2009	Winter 2009/10	Summer 2009	Winter 2009/10
0.25	4,340	1,147	1,085	286.75
0.5	2,961	317	1,480.5	634
1	1,405	203	1,405	317
2	390	430	780	215
4	1	0	4	0
8	0	0	0	0
16	2*	0	0	0
Total:	9,097	2,097	4,786.5	1,452.75

* Unclassified military aircraft

The Department for Transport (DfT) has overall responsibility for noise policies at Gatwick and the rest of the UK's airports. The DfT has established a number of key procedures and measures to help minimise the disturbance caused by aircraft taking off and landing at all UK airports. Gatwick's Flight Evaluation Unit (FEU) plays a key role in monitoring and enhancing its performance against these key measures.

Figures C1 and **C2** illustrate a typical day of westerly and easterly operations at Gatwick. These maps show that the operational patterns for arriving aircraft (shown in red) are very different to those for departing aircraft (green). It should be remembered that Gatwick does not operate in isolation – its day-to-day operations are integrated with traffic travelling to and from other airports.

If you would like to find out more information about specific aircraft flights flying over where you live, visit www.gatwickairport.com/noise, enter your postcode and you will be able to access detailed information.

Figure C1
Gatwick westerly operations – typical day



Figure C2
Gatwick easterly operations – typical day



Departing aircraft

All departing aircraft from Gatwick follow one of a number of noise preferential routes (NPRs) on leaving the runway.

Table C3 shows the deviations from these NPRs as a percentage of departures per route since 2006. The way that track deviations are recorded was changed in October 2008, to include all aircraft leaving a NPR below the required height for any reason. Previously aircraft that had been instructed by Air Traffic Control (ATC) to leave a NPR early were excluded from the statistics. These included aircraft redirected to avoid adverse weather and also propeller-driven aircraft that are not required to follow the normal NPRs used by jet aircraft. The 2008 change was agreed by Gatwick's Noise and Track Monitoring Advisory Group (NATMAG) as it was felt it painted a more accurate picture of the experience of the local communities. As a result this has contributed to an increase in the reported number of deviations in 2009. It should also be noted that a significant portion of track deviations come from propeller types, which have seen an increase in operations at Gatwick over recent years. For example, the number of Dash 8-type operations has increased from about 9,000 in 2008 to just over 17,000 in 2009.

Traditionally, most of Gatwick's deviations occur on the westerly LAM route due to technical issues. In 2009, 6.91% of departures on this route were deviations. Although the WIZ route accounts for the highest percentage of deviations, the route typically accounts for just 1% of all departures so each deviation accounts for a larger percentage of departures than on the more frequently used routes. The WIZ route is primarily used when adverse weather is affecting the Gatwick area.

Table C4 shows the annual average of on-track aircraft as a percentage of departures from the westerly and easterly runways. The 2009 performance was consistent with 2008 and 2007 and the greater percentage of deviations on the westerly route is due to technical issues on the 26 LAM route mentioned above.

Tables C5 and **C6** show track deviations by airline and aircraft type respectively. In both tables there were increases in deviations in 2009, but this is partly explained by a change in reporting procedures. Since October 2008, all propeller and weather vectors are now included in the statistics, bringing Gatwick into line with the other airports in the South East. It also reflects more accurately the experiences of the local community. **Table C5** shows that Gatwick's largest airlines – Easyjet, British Airways and Flybe – have above average track-keeping performances. Overall performance declined but the change in the way the figures are calculated had a significant impact. GB Airways ceased operations in March 2008 following its acquisition by Easyjet and XL Airways ceased operations in September 2008.

Table C3

Deviations from NPRs as percentage of departures per route

Year	Runway 26 (Westerly)					Runway 08 (Easterly)			
	LAM	SAM	SFD	BOG	WIZ	08KEN	08DTY	08CLN	08SFD
2006	5.26	0.03	0.00	0.21	13.32	1.36	0.19	0.06	0.45
2007	4.12	0.06	0.18	0.16	12.66	0.80	0.07	0.04	0.40
2008	4.27	0.54	0.51	0.26	7.38	0.80	0.28	0.15	0.55
2009	6.91	2.36	1.73	0.90	29.57	1.82	0.77	0.36	1.60

Table C5

Track deviations by airline

Airline	Total	Total	%	Total	Total	%	Total	Total	%	Total	Total	%
	departures	departures	departures	departures	departures	departures	departures	departures	departures	departures	departures	departures
	2006	2006	2006	2007	2007	2007	2008	2008	2008	2009	2009	2009
Easylet	19,959	83	0.42	22,573	66	0.29	23,391	172	0.74	34,290	840	2.45
British Airways	36,586	534	1.46	33,992	331	0.97	31,401	401	1.28	25,930	483	1.86
Others	15,321	443	2.89	15,730	362	2.30	18,375	1,270	6.91	12,000	1,091	9.09
Flybe	3,970	82	2.07	5,495	116	2.11	8,284	163	1.97	11,269	155	1.38
Thomson Airways	4,396	66	1.50	4,478	80	1.79	4,531	112	2.47	7,001	251	3.59
Monarch Airlines	5,631	77	1.37	5,792	49	0.85	5,444	112	2.06	5,644	181	3.22
Ryanair	3,162	33	1.04	2,885	3	0.10	3,173	28	0.88	4,627	23	0.50
Thomas Cook	3,706	67	1.81	3,704	54	1.46	3,196	118	3.69	4,575	339	7.41
Virgin Atlantic	2,271	114	5.02	2,201	74	3.36	2,024	89	4.40	2,085	83	3.98
Norwegian Air Shuttle	-	-	-	-	-	-	522	23	4.41	2,045	114	5.57
Easyjet Switzerland	1,379	4	0.29	356	0	0.00	1,377	8	0.58	1,693	15	0.89
Aurigny	-	-	-	-	-	-	1,384	110	7.95	1,602	74	4.62
Emirates	1,102	50	4.54	1,096	78	7.12	1,074	76	7.08	1,093	45	4.12
Cimber Air	-	-	-	-	-	-	26	0	0.00	1,039	26	2.50
TAP Portugal	-	-	-	-	-	-	1,533	26	1.70	1,024	16	1.56
GB Airways	7,730	47	0.61	8,010	54	0.67	7,979	128	1.60	888	8	0.90
Malev	-	-	-	-	-	-	757	13	1.72	719	6	0.83
Air Malta	-	-	-	-	-	-	681	7	1.03	714	7	0.98
Meridiana	-	-	-	-	-	-	781	3	0.38	678	4	0.59
SN Brussels	617	45	7.29	621	23	3.70	485	21	4.33	634	17	2.68
Air Europa	-	-	-	-	-	-	43	0	0.00	599	2	0.33
Astraeus	1,809	88	4.86	1,720	40	2.33	789	23	2.92	426	25	5.87
Air Baltic	-	-	-	-	-	-	700	11	1.57	422	10	2.37
Croatia Airlines	-	-	-	-	-	-	399	12	3.01	389	29	7.46
First Choice	4,541	127	2.80	4,397	85	1.93	4,089	94	2.30	377	7	1.86
Delta Airlines	1,402	37	2.64	1,627	23	1.41	1,148	20	1.74	369	5	1.36
Afriqiyah Airways	-	-	-	-	-	-	336	5	1.49	366	2	0.55
Qatar Airways	90	3	3.33	276	9	3.26	361	24	6.65	362	23	6.35
Adria Airways	79	3	3.80	259	2	0.77	306	4	1.31	355	4	1.13
Ukraine International	88	2	2.27	279	3	1.08	395	6	1.52	344	4	1.16
BMI	-	-	-	-	-	-	252	28	11.11	326	46	14.11
Air Transat	-	-	-	-	-	-	444	6	1.35	250	7	2.80
Onur Air	-	-	-	-	-	-	331	26	7.85	237	35	14.77
My Travel	1,738	74	4.26	1,686	45	2.67	1,537	101	6.57	171	3	1.75
US Airways	719	7	0.97	719	28	3.89	702	28	3.99	171	2	1.17
Northwest Airlines	660	26	3.94	715	85	11.89	432	58	13.43	160	19	11.88
Estonian Air	99	1	1.01	330	6	1.82	337	5	1.48	126	2	1.59
Bulgaria Air	134	2	1.49	328	4	1.22	391	8	2.05	115	2	1.74
Jet2.com	808	49	6.06	719	8	1.11	258	8	3.10	75	4	5.33
American Airlines	1,096	44	4.01	1,081	33	3.05	393	30	7.63	66	4	6.06
Maersk Air/Sterling	1,597	25	1.57	2,150	22	1.02	1,853	49	2.64	63	2	3.17
Olympic Air	329	25	7.60	410	19	4.63	215	11	5.12	52	3	3.85
Centralwings	875	28	3.20	786	11	1.40	289	7	2.42	-	-	-
Continental Airlines	1,691	25	1.48	1,722	38	2.21	1,037	19	1.83	-	-	-
Lithuanian Airlines	126	2	1.59	273	4	1.47	357	9	2.52	-	-	-
XL Airways	3,897	120	3.08	3,225	48	1.47	2,172	48	2.21	-	-	-
Totals	127,608	2,333	1.83	129,665	1,803	1.39	125,680	3,113	2.48	125,361	4,018	3.21

Table C4

Annual average of on-track aircraft as percentage of departures by runway direction

Year	Runway 26 (Westerly)	Runway 08 (Easterly)
2006	97.60	99.40
2007	98.10	99.60
2008	98.00	99.50
2009	98.08	99.12

Table C6

Track deviations by all aircraft – by aircraft type

Aircraft type	Departures 2009	Deviations 2009	% Deviations 2009	%On Track 2009
A319	37,078	589	1.59	98.41
B737-400	14,931	287	1.92	98.08
A320	14,335	612	4.27	95.73
DHC-8/8-400/300	8,436	822	9.74	90.26
B737-800	8,394	138	4.66	95.34
D757	6,654	310	4.66	95.34
A321	5,756	237	4.12	95.88
EMB195	4,569	54	1.18	98.82
B737-300	3,657	100	2.73	97.27
B777	3,523	73	2.07	97.93
A330	2,415	210	8.70	91.30
B737-700	2,263	53	2.34	97.66
B767-300	2,260	59	2.61	97.39
B747-400	2,080	81	3.89	96.11
B737-500	2,057	41	1.99	98.01
ATR 72 (prop)	1,606	74	4.61	95.39
A300	890	18	2.02	97.98
Canadair RJ	665	18	2.71	97.29
Fokker 100	485	23	4.74	95.26
Avro RJ	484	17	3.51	96.49
Others	450	60	13.33	86.67
Cessna Citation	339	47	13.86	86.14
B767-200	311	29	9.32	90.68
A340	269	13	4.83	95.17
A310	241	8	3.32	96.68
B767-600	210	1	0.48	99.52
B767-400	143	2	1.40	98.60
Gulfstream	128	6	4.69	95.31
MD81/82/83	106	6	5.66	94.34
Dassault Falcon	101	7	6.93	93.07
Hawker 125	92	5	5.43	94.57
MD87/88	78	2	2.56	97.44
Learjets	65	7	10.77	89.23
EMB135/145	43	5	11.63	88.37
Canadair CL600/601/604	41	4	9.76	90.24
Ilyushin 96	32	0	0.00	100.00
BA 146-200	10	0	0.00	100.00
Totals	125,197	4,018	3.21	96.79

The FEU continues to work with Gatwick's airlines to improve overall track-keeping performance.

As previously mentioned, the majority of track deviations at Gatwick occur on the westerly wrap-around route 26 LAM, with this route accounting for a greater number of deviations than all of the other routes combined. All of the NPRs were designated in 1968, but the aircraft types operating have changed significantly since then and the acute 180 degree turn on the 26 LAM route is more difficult for faster modern jets to negotiate.

The A319 remains the most commonly used aircraft at the airport: from more than 37,000 departures in 2009, there were only 589 deviations (1.59%).

When planes deviate from the NPRs, the relevant airlines are notified and ongoing performance is monitored by Gatwick's Flight Operations Performance Committee (FLOPC).

Arriving aircraft

There are no set routes for arriving aircraft but there are long-established procedures to mitigate the disturbance they can cause when landing. These procedures focus on night-time operations and are aimed at keeping aircraft as high as possible for as long as possible. For example, there are specific distances and heights that aircraft need to maintain on the final approach or instrument landing system (ILS).

Collectively, these distances and heights are known as the joining point criteria. Between 23:30 and 06:00, aircraft must not join the ILS below 3,000 feet or closer than ten nautical miles (nm). **Table C7** shows the joining point criteria adherence from 2005 to 2009. Overall joining point adherence improved in 2009 from 2008. From June 2007 onwards, the data has been collected in a slightly different way, which goes some way to explain the reduction in overall achievement in 2007 compared to 2006.

Table C8 shows consistently high levels of compliance in 2009 (93%) with regard to the height requirements, an improvement on the previous year.

Table C7

Aircraft joining the ILS at distances greater than 10nm (23:30-06:00)

	2005		2006		2007		2008		2009	
	Number	%	Number	%	Number	%	Number	%	Number	%
January	442	95	493	95	440	93	415	91	362	98
February	410	96	500	96	397	91	389	87	316	97
March	516	97	642	97	536	86	564	94	336	96
April	713	97	792	95	716	94	745	92	721	94
May	1,067	98	1,067	97	1,067	96	1,116	96	965	96
June	997	80	1,254	94	1,205	93	1,332	95	1,077	95
July	1,255	83	1,462	94	1,481	98	1,122	98	1,470	97
August	1,415	85	1,637	97	1,450	96	1,588	98	1,422	97
September	1,289	88	1,434	96	1,302	96	1,318	94	1,236	98
October	994	80	1,070	95	1,029	89	1,037	96	911	97
November	451	89	383	98	348	85	327	97	288	97
December	617	96	571	97	515	90	366	97	416	97
Year total	10,166	90	11,305	96	10,486	92	10,319	95	9,520	97

Table C8

Aircraft joining the ILS above an altitude of 2,900 feet (23:30-06:00)

	2005		2006		2007		2008		2009	
	Number	%	Number	%	Number	%	Number	%	Number	%
January	450	97	513	98	451	96	370	81	309	85
February	422	99	511	98	420	96	379	85	292	92
March	522	98	651	99	603	96	508	85	291	87
April	732	99	827	99	758	98	704	87	655	91
May	1,084	99	1,079	98	1,099	99	1,803	93	890	92
June	1,217	98	1,316	99	1,184	91	1,256	89	1,001	93
July	1,473	97	1,510	97	1,405	93	1,063	93	1,388	94
August	1,620	98	1,677	99	1,423	94	1,494	93	1,354	95
September	1,443	99	1,475	98	1,238	91	1,259	90	1,165	94
October	1,217	98	1,123	99	955	83	982	91	842	92
November	499	98	389	99	345	85	295	88	256	89
December	633	99	569	97	465	81	338	90	380	91
Year total	11,312	98	11,640	98	10,346	92	9,731	89	8,823	93

Figure C9
Example of a CDA and non-CDA approach profile

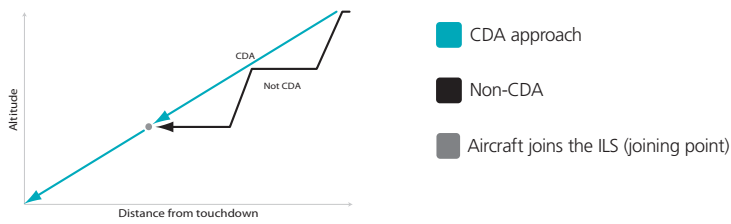


Table C10
Monthly core night-time arrivals (23:30-06:00) and achievement of CDAs

	2005		2006		2007		2008		2009	
	Arrivals	% CDA	Arrivals	% CDA	Arrivals	% CDA	Arrivals	% CDA	Arrivals	%CDA
January	463	81	521	82	472	84	446	88	362	85
February	425	84	523	81	439	86	441	85	316	87
March	531	89	667	85	626	85	599	83	333	86
April	728	89	837	89	760	91	800	90	717	90
May	1,089	92	1,104	92	1,108	90	1,142	90	951	88
June	1,234	84	1,336	91	1,301	90	1,416	89	1,073	91
July	1,506	85	1,560	92	1,512	92	1,180	92	1,466	95
August	1,663	84	1,688	91	1,508	94	1,567	92	1,426	95
September	1,475	85	1,502	92	1,354	90	1,423	89	1,246	93
October	1,253	83	1,132	89	1,151	86	1,078	91	906	92
November	527	77	391	87	408	79	370	89	312	91
December	646	78	588	86	571	86	377	88	420	89
Year Total	11,540	85	11,849	90	11,210	89	10,839	89	9,528	92

Table C11
CDA achievement

Period	2007	2008	Change	2008	2009	Change
	%CDA	%CDA		%CDA	%CDA	
Core night (23:30-06:00)	89	89	0	89	92	3
Night and shoulder (23:00-07:00)	85	85	0	85	89	4
Daytime (07:00-23:00)	80	83	+3	83	88	5
24-hour period	81	84	+3	84	88	4

All arriving aircraft aim to achieve, wherever possible, a CDA, as it is another important way of mitigating noise.

Put simply, a CDA keeps the aircraft higher for longer, avoiding periods of prolonged level flight at lower altitudes. Achieving a CDA is not a precise art – it relies on a combination of the pilot’s skill, the quality of information provided by NATS and weather and operational conditions.

Figure C9 illustrates CDA and non-CDA approach profiles. There are no set approach angles or heights for an arrival to be classified as following a CDA.

The Arrivals Code of Practice is a technical document aimed at reducing the noise created by arriving aircraft. The code, allied with subsequent communications and analysis by airlines, NATS and the FEU, has resulted in significant improvements in the CDA achievement rate across all time periods.

Not surprisingly, the most sensitive time is the night quota period. In 2009 Gatwick improved its night-quota CDA performance, recording a 92% achievement compared to 89% the previous year – see **Table C10**. **Table C11** shows the overall CDA achievement for the last three years.

Figures C12 and **C13** illustrate the track density plots of night-time westerly arriving aircraft to 4,000 feet for July 1996 and July 2009. The area covered by aircraft below 4,000 feet in 2009 is notably smaller than in 1996 – underlining the significant improvement in CDA achievement during that period.

CDA achievement in 2009 for the whole night restriction period (**Table C14**) followed the trend of previous years with the achievement being greater in the summer months. The performance throughout 2009 shows a consistent improvement on the 2008 figures. In the daytime period (**Table C15**), CDA achievement has improved over the last four years and the average achievement rate of 88% represents an 8% improvement on the 2006 performance.

Figure C16 shows the seasonal nature of CDA achievement across the three key time periods, 2002-2009.

The Arrivals Code of Practice contains further noise mitigation measures related to arriving aircraft. For more details visit: www.gatwickairport.com/noise.

Figure C12
Colour by height plots of westerly (23:30-06:00) arriving aircraft to 4,000ft for July 1996

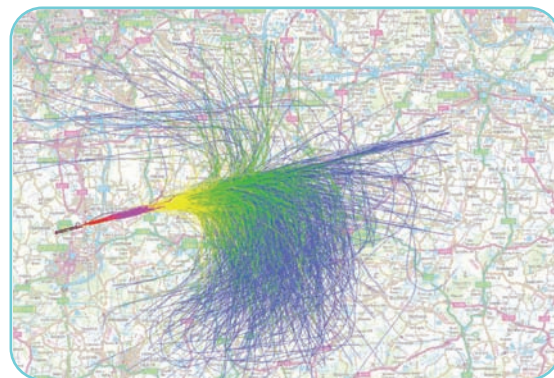
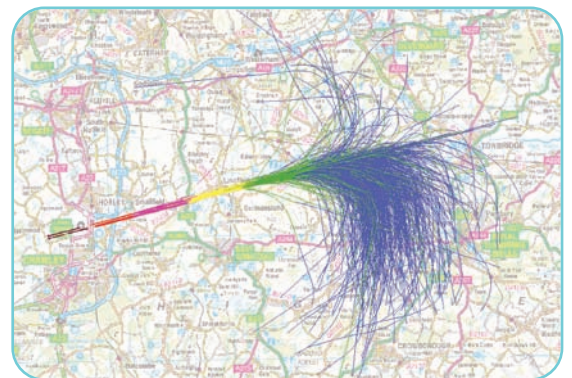


Figure C13
Colour by height plots of westerly (23:30-06:00) arriving aircraft to 4,000ft for July 2009



■ 0-800ft
 ■ 801-1,600ft
 ■ 1,601-2,400ft
 ■ 2,401-3,200ft
 ■ 3,201-3,999ft

Table C14

Monthly core night & shoulder arrivals (23:00-07:00) and achievement of CDAs

	2006		2007		2008		2009	
	Arrivals	%	Arrivals	%	Arrivals	%	Arrivals	%
January	1,017	79	1,086	76	1,047	75	786	84
February	1,015	78	1,024	80	992	77	709	84
March	1,164	82	1,262	81	1,197	79	763	83
April	1,236	93	1,415	90	1,378	87	1,224	87
May	1,772	86	1,850	85	1,775	87	1,474	88
June	2,042	89	1,971	88	2,148	88	1,656	90
July	2,235	88	2,339	88	1,807	89	2,151	93
August	2,460	90	2,309	90	2,379	89	2,150	93
September	2,292	88	2,182	86	2,178	89	1,864	91
October	1,910	85	1,850	84	1,706	90	1,444	90
November	930	81	981	76	752	85	730	85
December	1,180	81	1,175	78	825	85	814	86
Year total	19,265	87	19,444	85	18,184	85	15,765	89

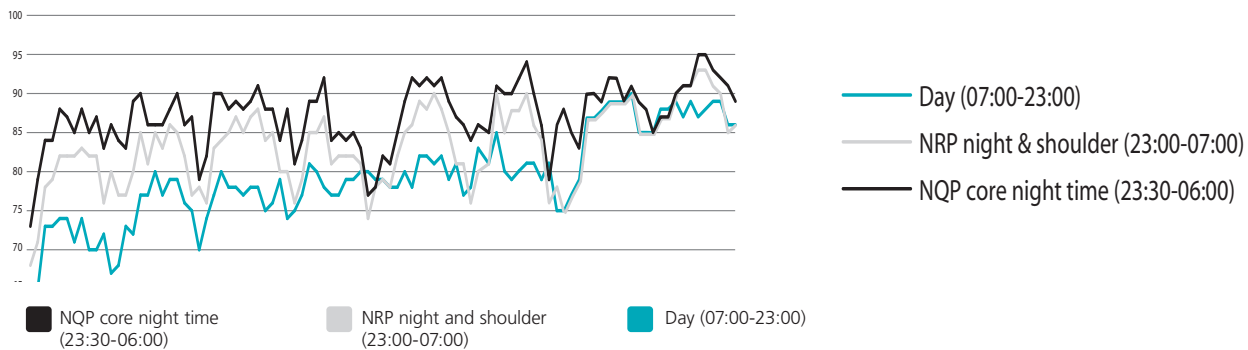
Table C15

Monthly day arrivals (07:01-22:59) and achievement of CDAs

	2006		2007		2008		2009	
	Arrivals	% CDAs	Arrivals	% CDAs	Arrivals	CDAs %	Arrivals	CDAs %
January	8,868	79	8,715	78	1,047	75	8,187	85
February	8,221	78	8,012	83	992	77	8,363	89
March	9,135	78	9,034	81	1,197	79	9,651	88
April	8,666	80	9,249	85	1,378	87	9,965	89
May	9,856	78	9,853	80	1,775	87	11,157	87
June	9,842	82	10,078	79	2,148	88	11,394	89
July	9,989	82	10,446	80	1,807	89	10,238	87
August	10,254	81	10,656	81	2,379	89	10,565	88
September	9,894	82	10,158	81	2,178	89	10,110	89
October	9,684	79	9,980	79	1,706	90	9,623	89
November	7,975	81	8,518	81	752	85	8,059	86
December	8,436	77	8,727	75	825	85	8,101	86
Year total	110,820	80	113,426	80	18,184	85	109,587	88

Figure C16

CDA achievement by month for the three key time periods



The FEU assesses aircraft noise in three different ways:

- annual air noise contours
- mobile noise monitoring studies
- departure noise limit compliance.

The DfT is responsible for issuing noise contours and full details are available on the DfT website: www.dft.gov.uk. The noise contours for 2010 have not yet been published.

Mobile noise monitoring data is recorded at five community locations close to the airport (see **Figure D1**). Members of the FEU team meet on a quarterly basis with local Environmental Health Officers to discuss the results.

Noise limits

All take-offs from the airport are subject to departure noise limits set by the DfT. Since 2001, there have been three limits in place at Gatwick for the day, shoulder and night-time periods.

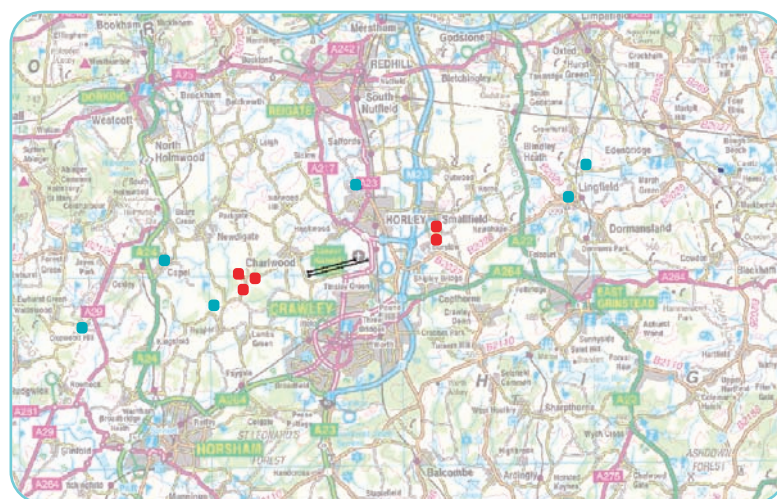
Departure noise limits are based on the assumption that the noise monitors are exactly 6.5km from the start of roll point on the runway and at the same elevation as the airfield. In practice, this is seldom possible and adjustments are made to the limits to account for any variances in monitor position. There is a margin of error for the microphone which is also taken into account (+/- 0.7dBA). **Table D2** summarises the limits that apply to the five permanent monitors.

In 2009 there was only one noise infringement, the lowest figure for the last five years (**Figure D3**).

The 2009 noise infringement is detailed in **Table D4** and demonstrates the significant improvement from previous years. This reflects Gatwick FEU's continued work with airlines operating at the airport and the growth in recent years of a fleet of smaller, more modern aircraft operating at the airport. In 2009 there was one night-time infringement and none during the daytime.

Airlines are charged for noise infringements, with all proceeds going to the independently-run Gatwick Airport Community Trust. **Table D5** lists the different infringements during the past five years and the amount of money raised for the Community Trust.

Figure D1
Noise monitoring sites



■ Permanent Noise Monitors

■ Mobile Noise Monitors

Table D2

Noise limits as adjusted for individual monitoring sites

Site	Adjustments specific to monitoring sites			Adjusted limit values at monitoring sites		
	Positional	Equipment	Total	Day	Shoulder	Night
1	+5.0	+0.7	+5.7	99.7	94.7	92.7
3	+1.9	+0.7	+2.6	96.6	91.6	89.6
4	+1.9	+0.7	+2.6	96.6	91.6	89.6
5	0.0	+0.7	+0.7	94.7	89.7	87.7
6	-0.2	+0.7	+0.5	94.5	89.5	87.5

Figure D3 Total noise infringements

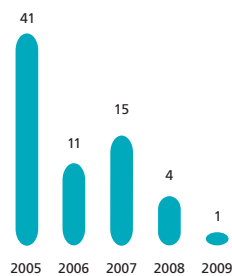


Table D4

All noise infringements 2009

Number	Date/Time	Flight No	A/C Type	Reg	RW	Monitor	Lmax	Limit at Monitor	Excess	Tailwind Adjustment	Adj Limit	Fine (£)	Day/Night
1	31/07/2009 23:40	OHY616	M88	TCONN	08R	6	88.1	87.5	0.6	0	91.3	£500	N

Table D5

Departure noise limit infringements

	2005	2006	2007	2008	2009
Night-time infringements	12	2	2	2	1
Shoulder hour infringements	0	0	0	0	0
Day-time infringements	29	9	13	2	0
Total	41	11	15	4	1
Total Gatwick departures	130,638	131,677	133,272	127,552	125,889
Infringements as % of departures	0.031%	0.008%	0.011%	0.003%	0.001%
Total surcharges	£21,500	£5,500	£8,500	£2,000	£500

Callers and enquiries

The number of different people calling Gatwick's FEU has generally been falling in recent years from 580 in 2006 to 406 in 2008. In 2009 that figure rose to 473 and the number of enquiries also increased. A possible reason for this increase is the publicity surrounding the 16-week public consultation on Gatwick's Noise Action Plan which raised awareness of aircraft noise throughout the local community. The consultation process was widely publicised in the local press, on local radio, through the Gatwick Airport and local authority websites, and also included public open evenings at the airport.

We also continue to experience a high level of enquiries from a small number of individuals. For example a resident from East Grinstead accounted for more than 65% of all enquiries made in 2009.

Table E1 shows the total number of callers and enquiries in the last four years.

Gatwick's noise website, which allows people to log complaints online and find out exactly which aircraft was flying over their house at any given time, went live in 2007 and is now a valuable tool to help monitor and manage enquiries. For more details, visit www.gatwickairport.com/noise

Figure E2 shows the differing levels of enquiries by quarter over the last four years. The peak quarter in 2009 was April-June, but this was primarily due to the individual from East Grinstead, who tends to call when the airfield is operating in an easterly direction. For the rest of the communities around Gatwick, the peak period is the summer months when people spend more time outside.

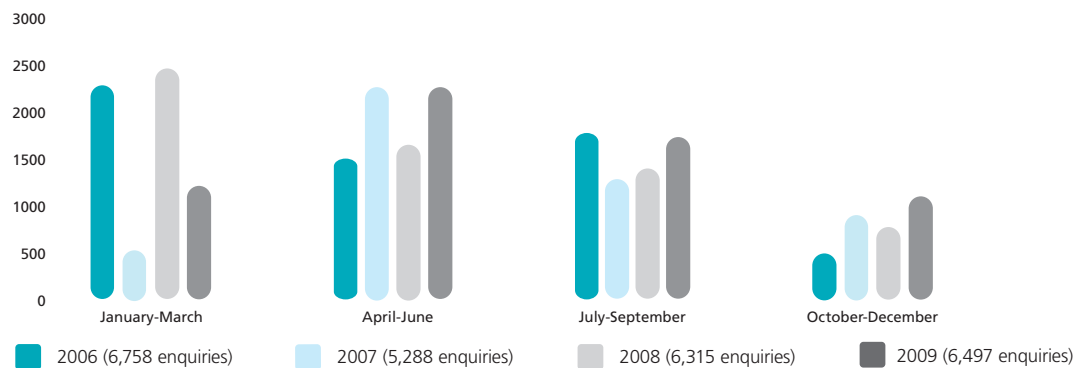
Reasons for enquiries

In keeping with recent years, the most common reasons given for enquiries in 2009 were aircraft noise, arrivals under ILS, arrivals en route from stack, low flying aircraft, night flights and increased number of flights.

Table E1
Callers and enquiries relating to airport operations

	2006	2007	2008	2009
Callers	580	482	406	473
Enquiries	6,758	5,288	6,315	6,497

Figure E2
Enquiries by quarter



Caller locations

The FEU’s investigation of enquiries and complaints is helped by quick address postcoding and geographic mapping, which can locate a caller’s postcode on an Ordnance Survey map (see **Figure E5**). This figure also shows Gatwick’s NPRs. In addition, radar data supplied by NATS can be overlaid, enabling accurate airline, aircraft type, height and noise data to be extracted.

Table E3 shows locations with ten or more callers. All these locations lie within approximately 12 miles of the airport. Many other locations record only one caller and enquiry.

Table E4 shows locations recording 50 or more events. Some of these locations are further away from the airport than those listed in **Table E3** (which shows locations with 10 or more callers) and suggest that some outlying, more sparsely populated areas can be more sensitive to noise disturbance than the areas closer to Gatwick.

Table E3

Locations with 10+ callers

Crawley	76
Edenbridge	45
Horsham	26
Horley	24
Dorking	19
East Grinstead	17
Lingfield	17
Tunbridge Wells	13

Table E4

Locations with 50+ enquiries

	Enquiries	Callers
Marsh Green	728	7
Edenbridge	334	45
Lingfield	308	17
Crawley	145	76
Hever	84	6
Horsham	79	26

Figure E5
Postcode locations of complaint enquiries in 2009 (NPRs shown)



ANOMS	Noise, Track-Keeping and Complaints System
ATC	Air Traffic Control
CAA	Civil Aviation Authority
CDA	Continuous Descent Approach
dBA	A-weighted Decibels
DfT	Department for Transport
FEU	Flight Evaluation Unit
FLOPC	Flight Operations Performance Committee
ILS	Instrument Landing System
Leq	Continuous Equivalent Noise Level
nm	Nautical Miles
NATMAG	Noise and Track Monitoring Advisory Group
NATS	formerly known as National Air Traffic Services
NPRs	Noise Preferential Routes
NQP	Night Quota Period
NRP	Night Restrictions Period
QC	Quota Count

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