

2015 Operations Monitoring Report



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Bristol Airport is committed to developing in a sustainable manner and controlling the adverse effects of its operations by minimising their impact on the environment and the local community. This report provides statistical information on the operational activities of the Airport, and their impacts, during 2015. It is the ninth comprehensive monitoring report prepared by the Airport.

This report is presented to the Bristol Airport Consultative Committee to enable key stakeholders to monitor our performance and to demonstrate progress against the requirements of the 2011 planning permission for development and the Noise Action Plan.

2. SUMMARY AND KEY YEAR HIGHLIGHTS

- Terminal passengers increased by 7% to 6,786,790.
- Air transport movements increased by 3% to 55,949.
- Amsterdam remains the most popular destination from Bristol.
- Noise monitoring indicates that the noise climate at the noise monitors remains stable. The peak departure noise levels recorded were below the noise infringement limits and broadly similar to 2014 and 2013 levels.
- The area of the 57 dB(A) Leq 16hr noise contour for summer 2016 is predicted to be 9.6 sq km.
- 173 complaints about aircraft noise were recorded, a decrease from 191 in the previous year.
- During the summer season there were 2,378 aircraft movements using 1,180 quota count points, during the night quota period of 23:30 to 06:00. This was within the Night Flying limits. A further 4,656 aircraft movements took place during the 'shoulder periods' of 06:00 to 07:00 and 23:00 to 23:30.
- Over 891,000 passenger journeys were undertaken on the Bristol Flyer Airport Express bus service to Bristol, an increase of 15.8% on the previous year. An estimated 14% of air passengers used public transport for their journey to or from the airport.
- The air quality monitoring programme shows air quality levels at the Airport remain stable, and within Government Air Quality Objectives.
- 98% of general waste generated at the Airport was recycled or reprocessed and diverted from landfill, an increase from 95% in 2014.
- In 2015 Bristol Airport achieved Airports Council International Airport Carbon Accreditation. The 2015 carbon footprint has been generated using the industry-wide methodology and a new carbon management plan is under development in 2016.
- The number of people working at the airport in summer 2015 was 2,818 full time equivalents, up from 2,696 in 2014.
- The Bristol Airport Community Fund provided grants totalling over £129,000 to 32 local projects during the year. £25,000 was raised for charity by staff and passengers.

3. AIRCRAFT MOVEMENTS

There were a total of 68,074 aircraft movements in 2015 (compared with 64,230 in 2014). The breakdown of aircraft movements¹ is provided in Table 1 below.

	2015	2014	Change 2014 to 2015
Air transport movements:			
Cargo	0	0	0%
Air taxi	1,208	1,670	-27.66%
Scheduled EU passenger aircraft	36,007	34,092	5.62%
Scheduled other international passenger aircraft	2,224	2,287	-2.75%
Scheduled domestic passenger aircraft	11,003	10,818	1.71%
Charter EU passenger aircraft	4,059	3,763	7.87%
Charter other international passenger aircraft	845	1,130	-25.22%
Charter domestic passenger aircraft	603	484	24.59%
Total air transport movements (1)	55,949	54,244	3.14%
Positioning flights (2)	813	728	11.68%
Local movements (3)	2	4	-50 %
Non-commercial movements:			
Test and training	302	0	100%
Other	23	17	35.29%
Flying club	6,264	3,129	100.19%
Private	4,620	5,917	-21.92%
Official	0	4	-100%
Military	100	187	-46.52%
Business aviation	1	0	100%
Total non-commercial movements (4)	11,310	9,254	22.22%
Total aircraft movements (1+2+3+4)	68,074	64,230	5.98%

Table 1: Aircraft movements

¹ Data is as reported by CAA Airport Statistics. A full description of the categories is available on the CAA website at:

www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Airport_stats/Airport_data_2015/Foreword.pdf

The numbers of aircraft movements for the past twelve years is shown in Figure 1.

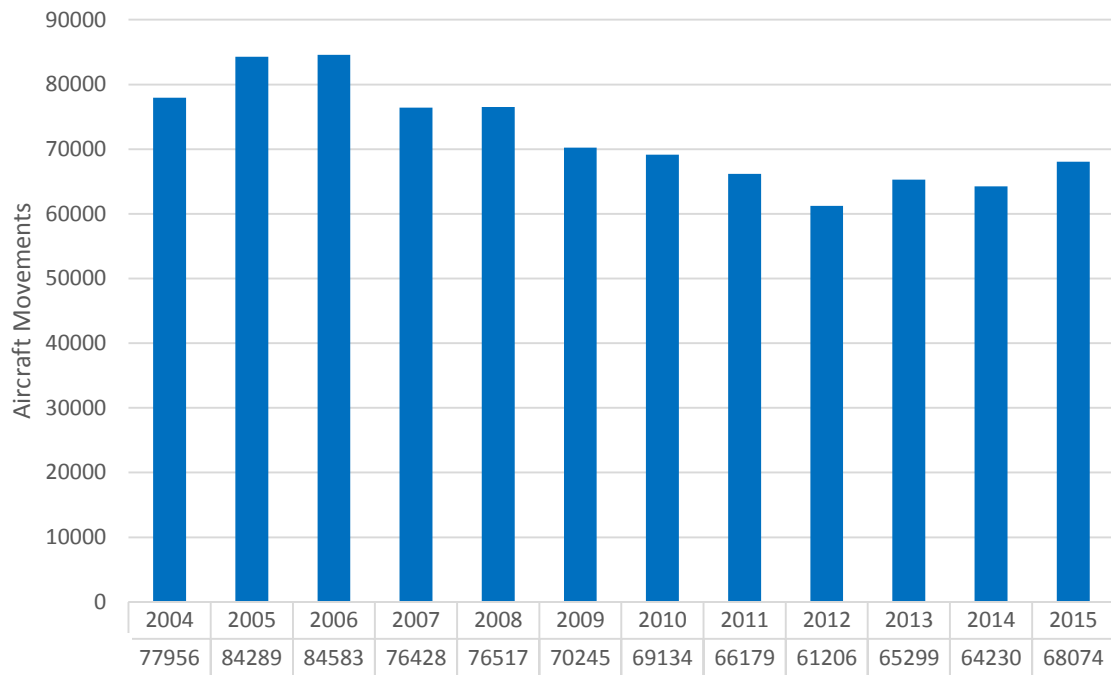


Figure 1: Aircraft movements 2004 to 2015

A breakdown of commercial aircraft by type that used Bristol Airport during 2015 is set out in Table 2.

Aircraft	No. of Movements	Aircraft	No. of Movements
Jet		Turboprop	
Airbus A319	15857	ATR-42	1534
Airbus A320	10403	ATR-72	2546
Airbus A321	1777	BE-200 Super King Air	1081
BAe-125	2	BE-76 Duchess	4
BAe-146	28	Beechcraft 1900	6
Boeing 717	6	BN Trislander	2
Boeing 737-300	42	Cessna Citation	20
Boeing 737-400	67	Dash 8-400 series	26
Boeing 737-600	24	Dornier 328	8
Boeing 737-700	10	Fokker F-50	38
Boeing 737-800	9483	Grumman AA-5	65
Boeing 757-200	2048	Jetstream 31	4
Boeing 767-300	4	Jetstream 41	2
Bombardier CL300	4	Piper	21
Bombardier CRJ-900	2		
Embraer ERJ 145	8915		
Embraer ERJ E170	2	Helicopters (all types)	2240
Embraer ERJ E190	2605		
Embraer ERJ E195	8		
Fokker 100	40		
Fokker F-70	74		
Gulfstream 5	2		
LearJet-35/36/45	28		
McDonnell Douglas MD-83	2		

Table 2: Commercial aircraft by type and helicopter movements

5. PASSENGER STATISTICS

The number of terminal passengers using Bristol Airport increased by 7% in 2015. Statistics related to passenger numbers¹ are provided in Table 3.

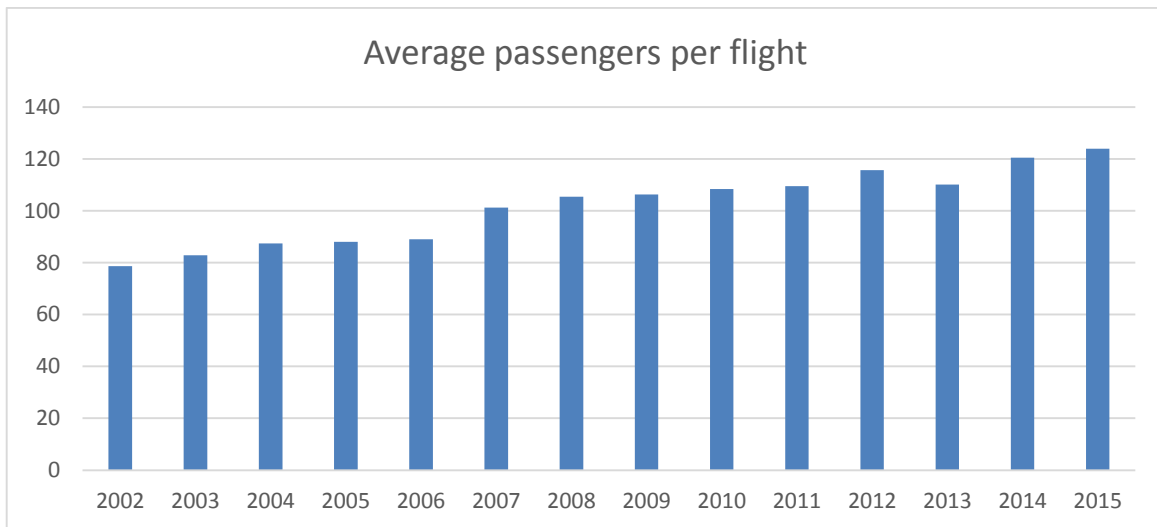
	2015	2014	Change
Terminal passengers			
Scheduled flights	5,958,476	5,539,478	7.56%
Charter flights	822,719	793,580	3.67%
Total terminal passengers	6,781,195	6,333,058	7.08%
Transit passengers ¹	5,595	6,747	-17.07%
Total terminal and transit passengers	6,786,790	6,339,805	7.05%
Terminal passengers by type:			
EU international services	5,061,694	4,654,747	8.74%
Other international services	490,034	531,106	-7.73%
Total international	5,551,728	5,185,853	7.06%
Domestic passengers	1,224,167	1,147,205	6.71%

Table 3: Passenger statistics

The average number of terminal passengers per commercial passenger carrying aircraft is shown in Table 4.

Average passengers on scheduled and charter flights			
Year	Charter	Schedule	Total
2002	182.06	58.26	78.59
2003	179.66	64.97	82.86
2004	182.06	72.74	87.38
2005	181.63	74.94	88.03
2006	179.18	76.75	88.99
2007	184.23	89.18	101.21
2008	183.09	95.78	105.43
2009	187.25	97.94	106.32
2010	181.16	100.76	108.33
2011	187.55	102.51	109.42
2012	191.01	109.81	115.64
2013	133.72	110.91	110.09
2014	147.58	117.36	120.45
2015	149.39	121.02	123.87

Table 4: Passengers per aircraft movement



Due to differences in the way some flights are recorded, passenger figures reported by Bristol Airport may contain small variances when compared to those reported by the UK Civil Aviation Authority (CAA)

6. PASSENGER ROUTES

The ten most popular routes have stayed the same as they were in 2014.

Destination	2015 Passengers	2014 Passengers
Amsterdam	384,902	348,140
Dublin	377,725	329,488
Edinburgh	351,600	320,828
Malaga	299,522	277,824
Palma	285,088	269,969
Alicante	270,751	269,499
Faro	270,104	266,631
Glasgow	266,729	243,723
Belfast	245,583	228,604
Geneva	207,726	186,367

Table 5: Top ten most popular routes 2015

7. RUNWAY USAGE

The runway at Bristol Airport is aligned east/west. The runway designation is derived from the compass bearing of each direction. The westerly runway is known as runway 27 and the easterly runway as 09. Runway use is dictated by wind direction. The percentage of movements by runway direction since 2001 is provided in Table 6 below. The average usage over this period has been 78% Runway 27 and 22% Runway 09.

Year	Westerly (27)	Easterly (09)
2001	79%	21%
2002	77%	23%
2003	65%	35%
2004	82%	18%
2005	71%	29%
2006	75%	25%
2007	79%	21%
2008	84%	16%
2009	80%	20%
2010	82%	18%
2011	83%	17%
2012	86%	14%
2013	75%	25%
2014	67%	33%
2015	76%	24%
Average	78%	22%

Table 6: Runway usage 2001 to 2015

Indicative flight routes for easterly and westerly operations are provided in Appendix A. Flight routes are shown as 3km swathes for departing aircraft on Noise Preferential Routings (NPRs) and arrivals which are established on final approach. The NPRs are to be flown by all departing aircraft of more than 5700 kg maximum certified weight, unless otherwise instructed by Air Traffic Control (ATC) or unless deviations are required in the interests of safety and/or weather. The NPR requires aircraft to climb straight ahead for 4.5 nautical miles when departing on runway 27 and 4.7 nautical miles on runway 09 and to be no lower than 3,000ft above sea level before commencing the turn. The obligations of the NPR cease when an altitude of 4,000ft above sea level has been reached.

Bristol Airport's noise and track keeping system, ANOMS (previously Tracker), is used to monitor adherence to the NPRs and to record continuous descent approaches. Aircraft tracks can be downloaded from www.bristolairport.co.uk/about-us/environment/tracker-online.aspx and viewed using Google Earth.

Bristol Airport works with the airlines and the air traffic services provider, NATS, to promote the use of continuous descent approaches (CDAs). In contrast to conventional airport approaches, aircraft following CDAs descend continuously from as high as possible. A continuous descent requires less engine thrust than level flights and also provides additional noise attenuation by keeping the aircraft higher for longer. In 2015 86.5% of arrivals were undertaken using the CDA operating technique, an increase on 81.7% recorded in the previous year. An arrival is classified as a CDA if it contains, below an altitude of 6000ft, no level flight, or one phase of level flight not longer than 2.5 nautical miles. CDA performance is regularly reviewed with the airlines at the Flight Operations and Safety Committee in order to improve performance. In 2015, 99.76% of monitored departures conformed to the NPRs.

Bristol Airport reserves the right to levy a surcharge against any operator who, on a persistent basis, fails to operate along the prescribed NPRs as recorded by ANOMS. No such surcharges were levied in 2015.

9. NOISE MONITORING

Bristol Airport continually monitors aircraft noise using three monitors located near Felton, Winford and Congresbury. The Congresbury and Winford (known as Littleton Hill) monitors are positioned in accordance with ICAO standards for monitoring noise from departing aircraft, being positioned 6,500m, from the start of roll from Runway 09 (Littleton Hill) and Runway 27 (Congresbury).

Aircraft using Bristol Airport are required to be operated in the quietest possible manner. Departing aircraft exceeding 90 dB(A) by day (0600 to 2330 local time) and 85 dB(A) by night (2331 to 0559 local time) at the Congresbury and Littleton Hill noise monitoring points will be subject to a penalty as set out in the Airport Fees and Charges. A summary of data relating to departing aircraft from the noise monitoring undertaken in 2015 is provided in Table 7. All departing aircraft complied with the noise infringement limits and no penalties were levied in 2015.

	Peak departures noise level Lmax dB(A)		Average departures noise level
Month	Runway 27	Runway 09	Runways 09 and 27
January	82.9 (81.0)	80.1 (80.5)	73.1 (71.6)
February	79.4 (82.8)	80.1 (79.8)	73.7 (71.5)
March	78.9 (78.9)	81.5 (80.6)	73.0 (72.3)
April	82.3 (79.8)	80.4 (80.2)	72.0 (72.1)
May	78.7 (79.9)	82.4 (80.8)	73.7 (73.1)
June	78.7 (81.0)	85.0 (79.4)	73.2 (72.3)
July	84.0 (81.7)	80.9 (79.7)	73.3 (71.2)
August	81.3 (78.9)	79.6 (82.0)	73.5 (70.8)
September	86.3 (79.5)	82.2 (80.5)	73.7 (73.3)
October	80.8 (87.9)	82.0 (84.4)	73.6 (71.3)
November	83.8 (80.9)	77.8 (78.6)	72.4 (70.9)
December	83.3 (80.5)	83.9 (79.6)	73.3 (72.0)

Table 7: Noise monitoring - departing aircraft (2014 data in brackets)

The noise climate recorded at the three noise monitors is provided in Table 8 below.

	Congresbury		Littleton Hill		Felton	
Month	2015	2014	2015	2014	2015	2014
	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)	Leq dB(A)
January	60.3	61.4	58.8	57.7	60.1	61.2
February	60.6	61.4	56.1	61.2	59.1	62.9
March	60.4	60.5	59.4	56.2	60.7	60.7
April	59.9	60.3	55.9	55.9	59.5	60.8
May	60.0	60.6	57.6	59.5	60.4	64.3
June	59.3	60.0	56.4	55.8	60.2	60.9
July	59.2	59.8	56.3	55.3	60.5	60.5
August	59.4	60.4	56.0	56.9	60.2	68.1
September	59.7	59.9	55.9	55.0	60.4	61.3
October	59.5	59.8	55.1	56.1	60.2	60.4
November	60.3	59.9	59.4	53.6	60.7	58.7
December	60.7	59.8	58.7	56.8	59.7	59.5

Table 8: Noise climate

10. NOISE CONTOURS

Conditions 30 and 31 attached to the planning permission for the development of the Airport dated 16 February 2011 require forecast aircraft movements and consequential noise contours over a 92 day period between mid-June and mid-September to be reported to the local planning authority on 31 January each year. Condition 30 refers to the 57dB(A) Leq16hr (0700-2300) contour and condition 31 refers to the 63dB(A) Leq 16hr (0700-2300) contour. Noise predictions have been undertaken using the latest version of the Federal Aviation Authority Integrated Noise Model 7.0. Forecast commercial aircraft movements for summer 2016 have been derived from the airline scheduling system operated and co-ordinated for Bristol Airport by Airport Coordination Limited. General aviation movements have been overlaid onto the commercial aircraft movements based on the assumption that the movements will be as recorded in the summer period of 2015. Movements have been allocated to the 09 and 27 runway directions in accordance with the 15-year average modal split between the two runways for the summer period of 22%/78%. The area of the 57dB contour for summer 2016 has been calculated at 9.6 sq km, compared with a limit of 12.42 sq km set out in planning condition 30. The resulting noise contours are included at Appendix B.

Bristol Airport operates a dedicated noise complaint telephone number, an email address and a web based system for logging and tracking complaints at www.bristolairport.co.uk. Noise complaints can also be received by post. During 2015 a total of 173 complaints relating to aircraft operations from Bristol were received through these communication channels. This compares with a total of 191 in 2014. Complaint statistics are provided in Table 9 below.

	2015	2014
Total number of complaints	173	191
Number of individual complainants	77	89
Average number of complaints per complainant	2.1	2.1
Number of aircraft movements per complaint	393	336

Table 9: Noise complaints

The distribution of noise complaints by month throughout 2015 is shown in Figure 2.

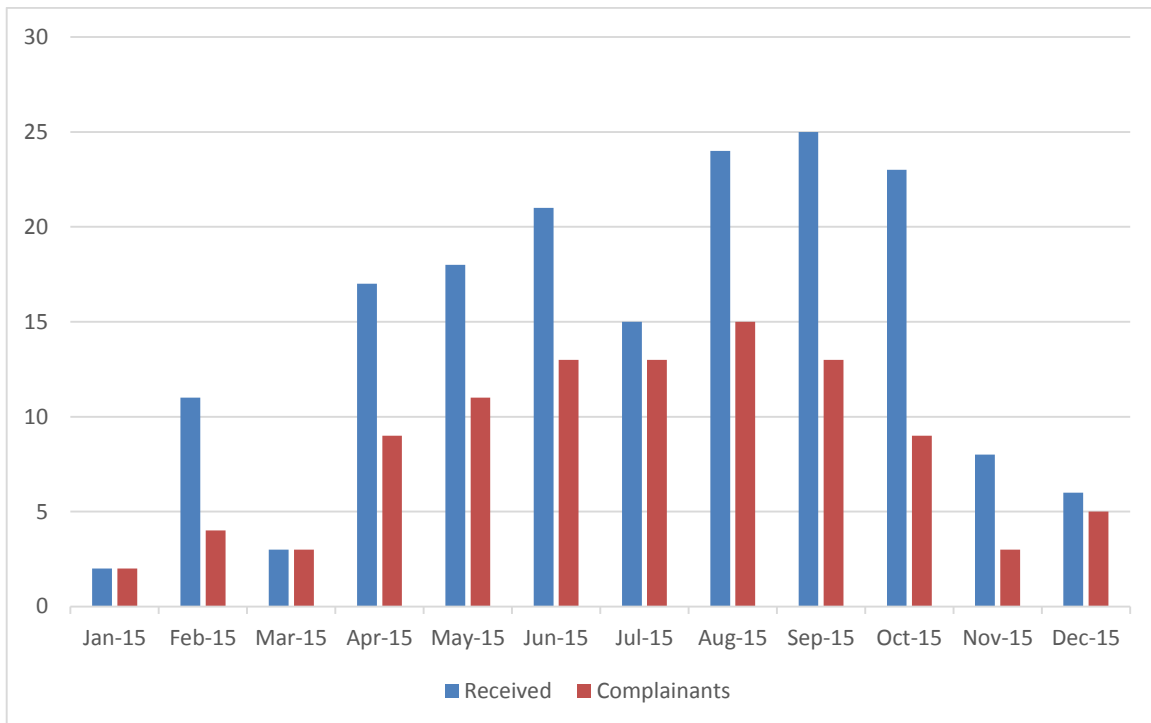


Figure 2 Complaints by month

The nature of complaints in 2015 is shown in Figure 3.

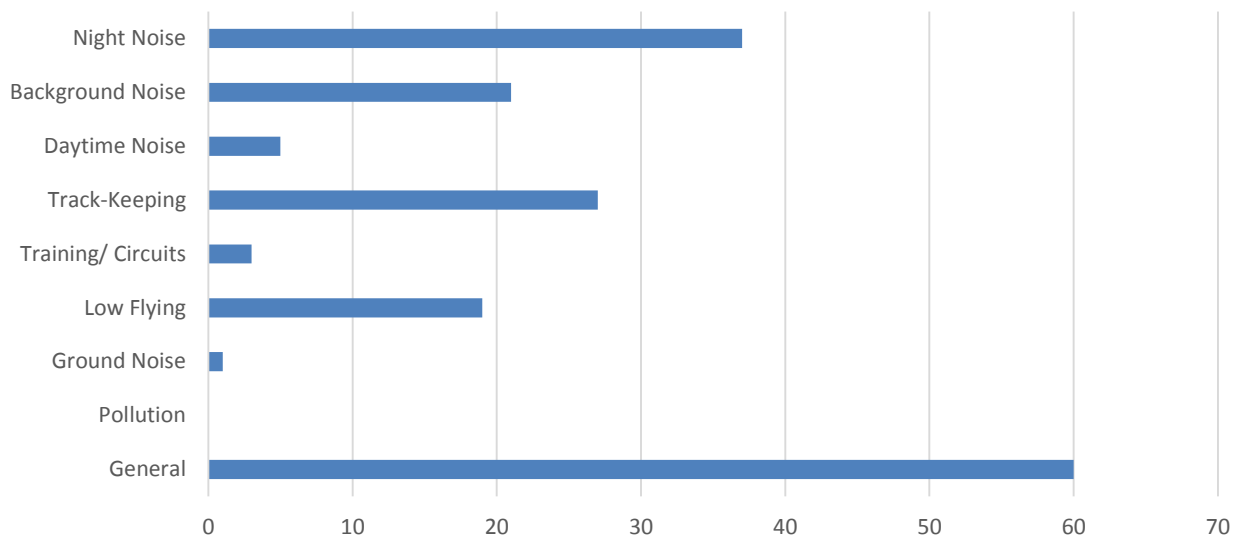


Figure 3: Nature of complaints

The source of noise complaints is indicated by the circles shown on the map at Figure 4.

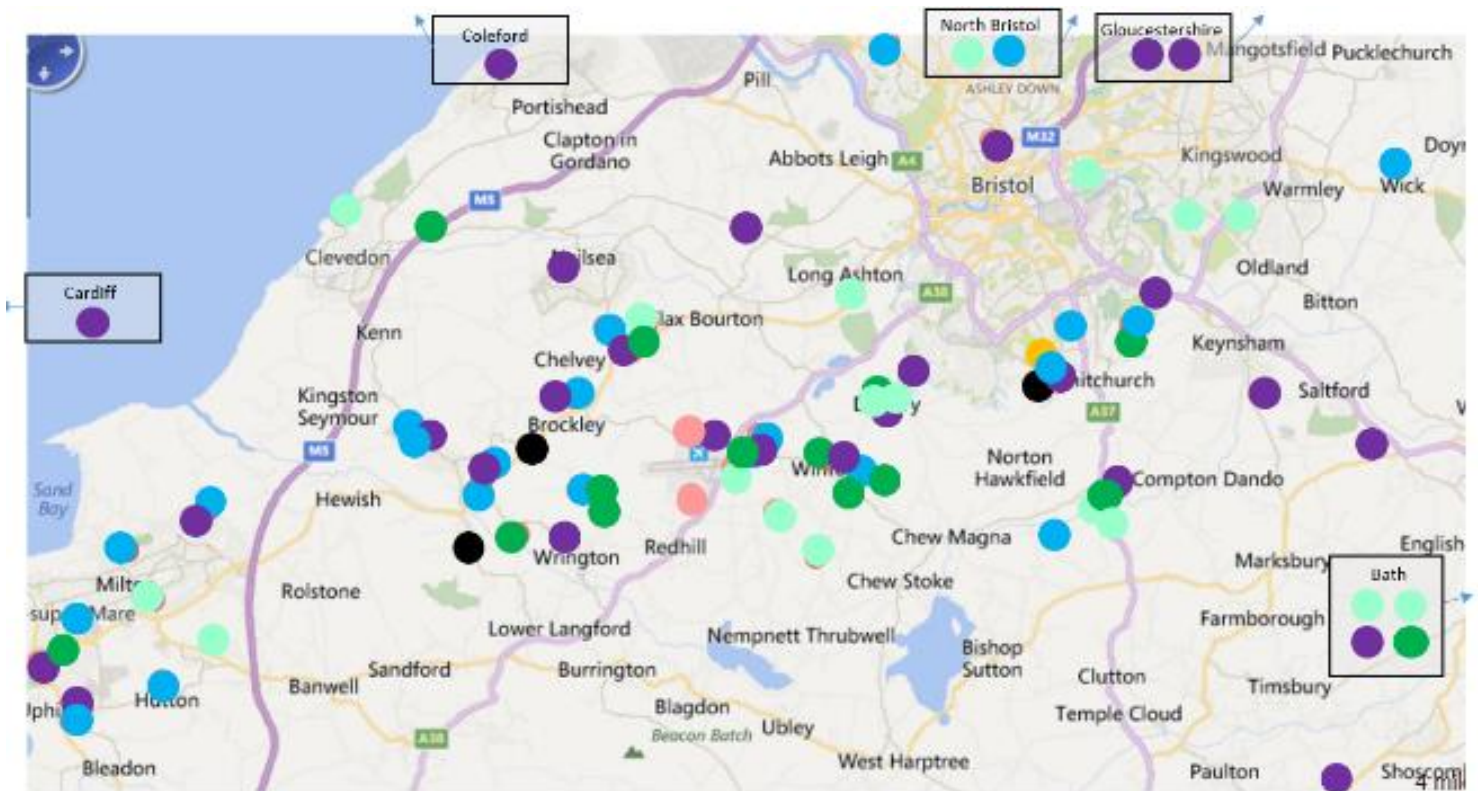


Figure 4: location of noise complaints

Key

- | | | |
|--|--|--|
| ● Night | ● Background | ● Pollution/ Fumes |
| ● Track-keeping | ● Training/ circuits | |
| ● Daytime | ● Low flying | |
| ● General | ● Multiple | |

Table 10 identifies the areas from which three or more complaints were received in 2015, compared with 2014.

Location	Number of complaints	
	2015	2014
Bath	4	5
Cleeve	74	62
Congresbury	12	5
Felton	5	3
Milton, Weston-super-Mare	7	24
Pensford	8	15
Wrington	5	5
Yatton	4	11
Stockwood	3	1
Winford	5	3
Whitchurch	10	1
Brockley	3	5
Bristol (City)	7	22
Dundry	6	1
Backwell	4	4

Table 10: Areas with three or more noise complaints during 2015

12. NIGHT NOISE QUOTA USAGE

Night time operations at Bristol Airport are controlled by a noise quota system. The restrictions specify a night period (23:00-07:00) during which time the noisiest types of aircraft may not be scheduled to land or take off. In addition, between 23:30 and 06:00, the night quota period, aircraft movements are restricted by a noise quota limit. Aircraft count against the noise quota according to their quota count (QC) classification.

The quota count itself is related to the noise classification of aircraft as set out in a formal notice published by the CAA on a regular basis. The restrictions allow for dispensations to be given in certain circumstances and there are provisions for dealing with delayed departures and early arrivals. The quota limits are set on a seasonal basis, defined by the period of British Summer Time. The summer season is therefore about seven months long for which a current quota count limit of 1,260 applies. The winter season is about five months long for which a current quota count limit of 900 applies. Up to 10% of the noise quota, if not used in the current season, is carried over to the following season. Similarly up to 10% of the next season's quota may be anticipated in the event of an overrun. Any excess overrun is penalised in the following season at double the amount of the excess.

The total number of take-offs and landings between the hours of 23:30 and 06:00 shall not exceed 3000 in the summer season and 1000 in the winter season. The total number of take-offs and landings between the hours of 06:00 and 07:00 and between 23:00 and 23:30 shall not exceed 10,500 in any calendar year.

Table 11 records the night movements and quota usage since the system came into use.

Year	Night movements		Quota use	
	Summer	Winter	Summer	Winter
1996/97		1251		447.5
1997/98	2334	1238	1124	675
1998/99	2492	1361	1351	765
1999/00	2940	1254	1294	632.5
2000/01	2564	1371	1239	435.5
2001/02	2999	1536	1230	614
2002/03	2655	1386	1150	444.5
2003/04	2960	1033	1378	413.5
2004/05	2082	786	1288	426
2005/06	2183	891	1225.5	472.5
2006/07	2181	163	1138	88
2007/08	2057	939	974.5	451
2008/09	2322	831	1118.5	326
2009/10	2146	816	940	346
2010/11	2984	559	1375.5	216
2011/12	2216	257	1112.5	120
2012/13	1861	253	938	117
2013/14	1888	233	975.5	100
2014/15	2210	232	1145	106
2015/16	2378	current	1180	current

Table 11: Night movements and quota use

The breakdown of movements in each quota count level in summer 2015 is shown in Table 12 separated in to arrivals and departures.

	Movements	Quota count use			
		Exempt	0.5	1	2
Arrivals	2136	104	2032	0	0
Departures	242	43	70	129	0

Table 12: Quota use by aircraft quota count, summer 2015

There were 4,656 movements between the hours of 06:00 and 07:00 and between 23:00 and 23:30 in 2015 compared with 3,955 in 2014.

13. GROUND NOISE MANAGEMENT

Measures adopted by Bristol Airport to minimise the effects of ground noise are set out in a Ground Noise Management Strategy prepared in accordance with the Section 106 Agreement dated 16 February 2011. Progress and key performance indicators against the areas of action are set out below.

Fixed electrical ground power

- Fixed electrical ground power (FEGP) is provided as a primary substitute for the use of aircraft auxiliary power units (APUs) or mobile ground power units. Its use is mandatory where provided and is subject to strict operational rules. Three new aircraft stands on the Western Apron have been equipped with FEGP and the equipment was used by 568 aircraft turnarounds in 2015.

Ground running of aircraft engines

- Ground running of aircraft engines is necessary as part of the scheduled maintenance undertaken to ensure that aircraft are airworthy and fit for flight. All such activities are subject to strict operational procedures.

	2015	2014	2013
Idle	300	291	302
Above Idle	27	22	21

Aircraft auxiliary power units

- Strict operational procedures are in place to control the use of APUs. APU runs between 23:00 and 07:00 are subject to prior approval and there were 47 such runs in 2015 (43 in 2014 and 93 in 2013).

Complaints about ground noise

- As noted in section 11 there was one specific complaint about ground noise in 2015. This related to running of Auxiliary Power Units on stands on the eastern apron during the morning when weather was considered to be an exacerbating factor. There were 21 complaints about background noise. These generally

related to noise disturbance experienced to the west of the airport from aircraft taking off to the east on runway 09, rather than the ground noise sources indicated above.

14. PUBLIC TRANSPORT

The Bristol Flyer Airport Express is the mainstay of the Airport public transport offer. The A1 service links the Airport with Bristol Temple Meads Railway Station, Bristol Bus and Coach Station and the city centre. The service carried 891,964 passengers in 2015, an increase of 15.8% compared with the previous year. The Flyer service is available to Airport staff for a nominal charge and plays a valuable role in getting employees to work, accounting for 62,347 staff journeys in 2015.

It is estimated that around 14% of air passengers used public transport in 2015.

Passenger numbers on the Bristol Flyer over the past ten years are shown in Figure 5.

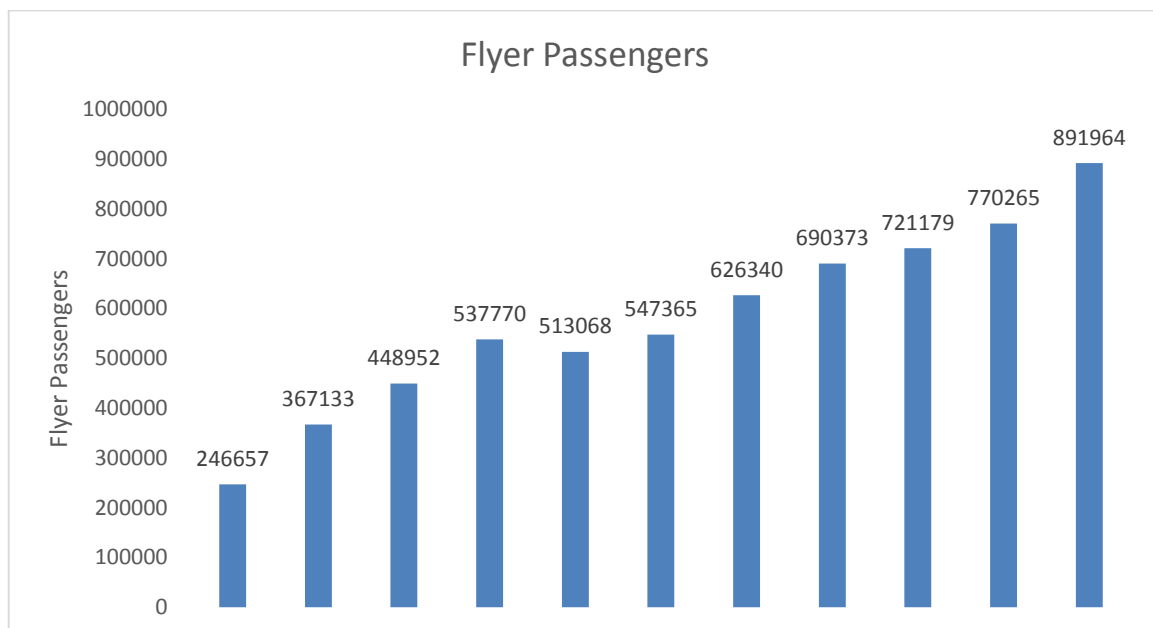


Figure 5: Flyer passenger numbers 2005 to 2015

Other public transport services operating during 2015 included the Bristol Airport Express coach from Cardiff and Swansea operated by National Express, the Bath Bus Company service from Bath and the A2 Link connecting Weston-super-Mare and Nailsea with the Airport.

15. AIR QUALITY

Air quality can be affected by a number of pollutants that in high concentrations may pose harm to human health. Combustion processes produce Nitrogen Dioxide (NO₂) and Particulate Matter (PM₁₀) with the main potential airport sources coming from vehicle traffic (staff and passenger journeys and airport operational vehicles), aircraft engines (during taxiing, take-off and landing), energy generation (diesel generators and gas boilers), fugitive emissions (evaporation - during fuelling of aircraft and vehicles) and other activities such as fire training.

This section considers air quality at Bristol Airport during 2015, comparing recorded concentrations with the UK's Air Quality Strategy and against the commitments contained within Bristol Airport's S106 Agreement with North Somerset Council.

The National Air Quality Strategy (NAQS) forms the legislative basis for air quality in the UK, stipulating long and short term objectives to ensure air quality does not result in health issues.

National Air Quality Strategy Objectives		
Pollutant	Annual objective (mean limit)	Short term objective. (max events per annum)
NO ₂	40 µg/m ³	18 hourly means > 200 µg/m ³
PM ₁₀	40 µg/m ³	35 daily means > 50 µg/m ³

Section 106 Agreement <ul style="list-style-type: none"> Highlight air quality monitoring locations where monitored levels exceed 90% of the National Air Quality Strategy limit Report significant deterioration in air quality, defined as an increase in average annual concentration of more than 15% compared to the average levels recorded between 2007 – 2011 (NO₂) or particulate levels exceeding 50 µg/m³ in more than 15 days in a calendar year (PM₁₀) 		
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Monitoring of air quality is undertaken continuously, with real time monitors recording levels of both NO₂ and PM₁₀ at the Airport site. Additionally, passive diffusion tubes are deployed to monitor average monthly NO₂ concentrations at nine locations across the Airport site, including the location of the continuous air quality monitor. The locations of the monitors are shown in Figure 5.

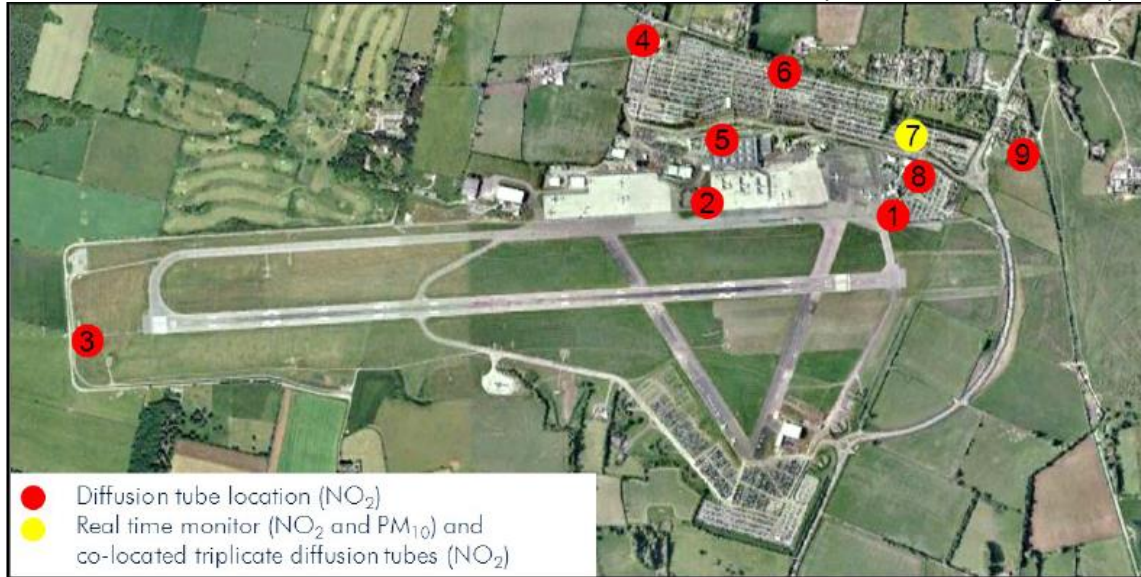


Figure 5: Location of air quality monitors

Ambient concentrations of NO₂ and PM₁₀ recorded by real time monitoring in 2015 are shown in Table 13 with analysis against NAQS and S106 objectives.

	5yr Baseline (µg/m ³)	Recorded Annual Mean (µg/m ³)	NO ₂ - Hourly Means > 200µg/m ³ PM ₁₀ - Daily Means > 50µg/m ³	NAQS Compliant	Annual Mean <90% NAQS Objective	Significant Deterioration
NO ₂	N/A	18	0	Yes	Yes	N/A
PM ₁₀	N/A	21	4	Yes	Yes	N/A

Table 13: Air quality real time monitoring results

Five year baseline data is derived from historic monitoring prior to 2012. The current air quality monitoring programme includes a number of sites which were not monitored prior to 2012 and therefore a five year baseline is not available at all locations.

Monthly ambient concentrations recorded by real time monitoring are detailed in Figure 5

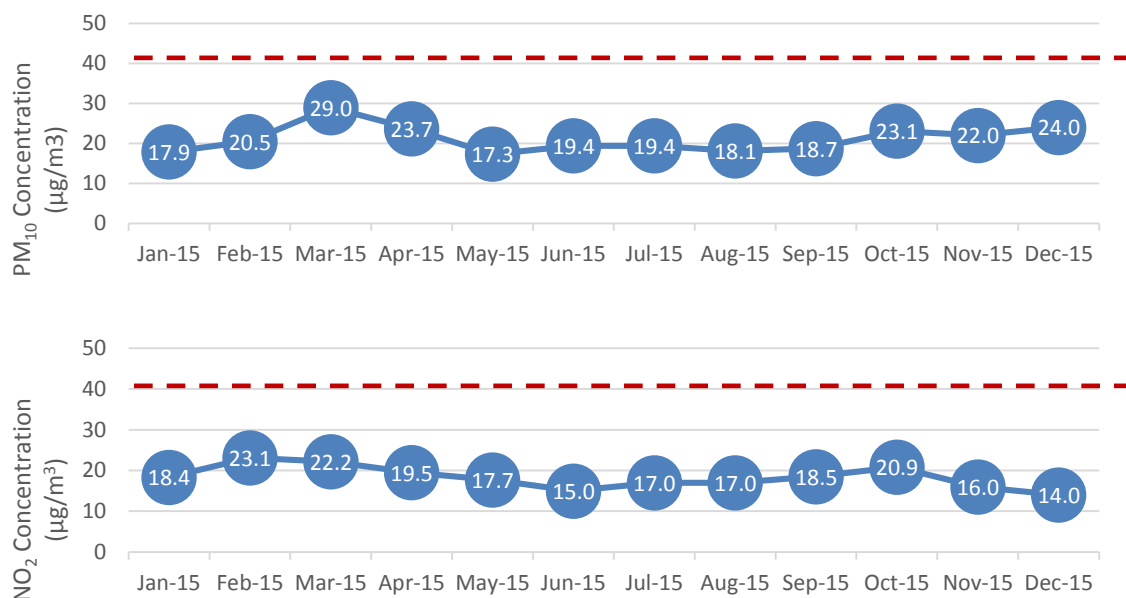


Figure 6: Monthly concentrations NO₂ and PM₁₀ recorded by real time monitoring

NO₂ levels recorded by diffusion tube monitoring are shown in Table 14 with analysis against NAQS and S106 objectives.

Monitoring Location	5yr Baseline (µg/m ³)	Recorded Annual Mean (µg/m ³)	NAQS Compliant	Annual Mean <90% NAQS Objective	Significant Deterioration
1	34	25	Yes	Yes	No
2	39	27	Yes	Yes	No
3	16	9	Yes	Yes	No
4	N/A	11	Yes	Yes	N/A
5	38	29	Yes	Yes	No
6	N/A	17	Yes	Yes	N/A
7	N/A	19	Yes	Yes	N/A
8	50	27	Yes	Yes	No
9	N/A	17	Yes	Yes	N/A

Table 14: Diffusion tube monitoring results²

²Diffusion tube monitoring results are reported following the removal of anomalous data and bias adjustment in line with Defra Guidance. The baseline data is based on data collected between 2007 and 2011.

Bristol Airport Limited manages all the waste streams from property under its control (including terminal and administration waste). The waste figures for 2015 and 2014 are shown in Table 15.

Waste stream	2015		2014	
	Total (tonnes)	Waste per passenger (kg)	Total (tonnes)	Waste per passenger (kg)
Recycled waste				
• Cardboard	55.35	0.01	54.65	0.01
• Glass	122.8	0.02	129.87	0.02
• Mixed (incl. paper/plastic/cans)	74.89	0.01	75.14	0.01
Total recycled waste	320.56	0.05	259.66	0.04
Food waste to energy recovery	62.79	0.01	70.53	0.01
Waste treated and reprocessed ³	1259.98	0.19	956.70	0.15
Waste to landfill	16.38	0.002	59.64	0.01
Total waste removed from BIA	1596.92	0.24	1351.56	0.21
% waste recycled or recovered	98.97		95.6	

Table 15: Waste management

17. UTILITIES & ENERGY MANAGEMENT

Bristol Airport had been working towards a target for carbon emissions reduction as set out in the Carbon Management Plan prepared in accordance with condition 64 of the planning permission. This target, to be achieved by 2015, aimed to achieve a 2.5% per annum saving in Scope 1 and 2 emissions per passenger compared with the average of 2009 and 2010. This was reported as achieved in the last Annual Monitoring Report.

Bristol Airport is committed to continuing to measure energy use across the site and seek to limit emissions. With the original Carbon Management Plan target now achieved Bristol Airport will be establishing a new Carbon Management Plan during 2016 for the next three years. Going forward Bristol Airport will be calculating and reporting its footprint in accordance with the Airports Council International's (ACI's) Airport Carbon Accreditation (ACA) Scheme.

ACI's ACA is endorsed by the European Civil Aviation Conference (ECAC), the European Organisation for the Safety of Air Navigation (EUROCONTROL) and the United Nations Framework Convention on Climate Change (UNFCCC). Over 120 airports across the world are also accredited.



³ This waste was processed by a Mechanical Biological Treatment (MBT) facility.

As part of this transition Bristol Airport has achieved the first level of certification in the ACA scheme during 2015.

Below is a breakdown of our 2015 Carbon Footprint.

Scope 1

Activity	Component	CO2eq (kg)
Gas use	Natural Gas	586,583
Fleet vehicles	Biodiesel	3,846
Heating/ red diesel	Gas Oil	156,537
Fire Training	LPG	8,706
Company cars	Petrol	4,276
Refrigerants	F-Gas	201,048
	Total Scope 1 tonnes CO2eq	961

Scope 2

Activity	Component	CO2eq (kg)
Grid electricity	Electricity	6,369,828
	Total Scope 2 tonnes CO2eq	6,370
	TOTAL ALL SCOPES tonnes CO2eq	7,331

Bristol Airport's carbon footprint includes all Scope 1 (directly generated) and Scope 2 (indirectly generated) emissions. This includes all directly run infrastructure and vehicles; including:

- Terminal common areas
- Offices and workshops (Administration Building, Northside House, Fire Station, Motor Transport)
- Fleet vehicles (car park buses, airside operations vehicles, fire vehicles, other pool vehicles)
- Air Traffic Control Tower- electricity use (gas for heating is paid for by the tenant).

It includes tenanted common areas but not tenant's units, as operators are accountable for their own energy use in those areas using metered rates.

Key achievements in carbon and energy management in 2015 include:

- Solar panels have been installed on the East Terminal Extension roof and are predicted to provide approximately 35,000 kilowatt hours of electricity per year
- Upgrades have taken place to the terminal chiller units and burner units that will improve the efficiency of the terminal energy use

- Site wide energy audits have taken place as part of the Energy Saving Opportunities Scheme. These have highlighted potential energy saving projects for the years to come.
- Purchase of first electric vehicle and installation of two electric charging points for customers.

18. EMPLOYMENT

Bristol Airport is a major employment site within North Somerset. Regular surveys are undertaken by Bristol Airport to determine the extent and nature of employment available. The number of staff working at the Airport between 2011 and 2015 is reported in [Table 16](#).

	2015	2014	2013	2012	2011
Full time staff	2,243	2,396	2,241	2,193	2,206
Part time staff	1,149	600	754	783	715
Total number of staff	3,392	2,996	2,995	2,976	2,921
Full time equivalents	2,818	2,696	2,618	2,585	2,564
Number of companies	52	47	47	44	44

Table 16: Employment

A breakdown of the airport staff headcount by area of employment is provided in [Figure 7](#).

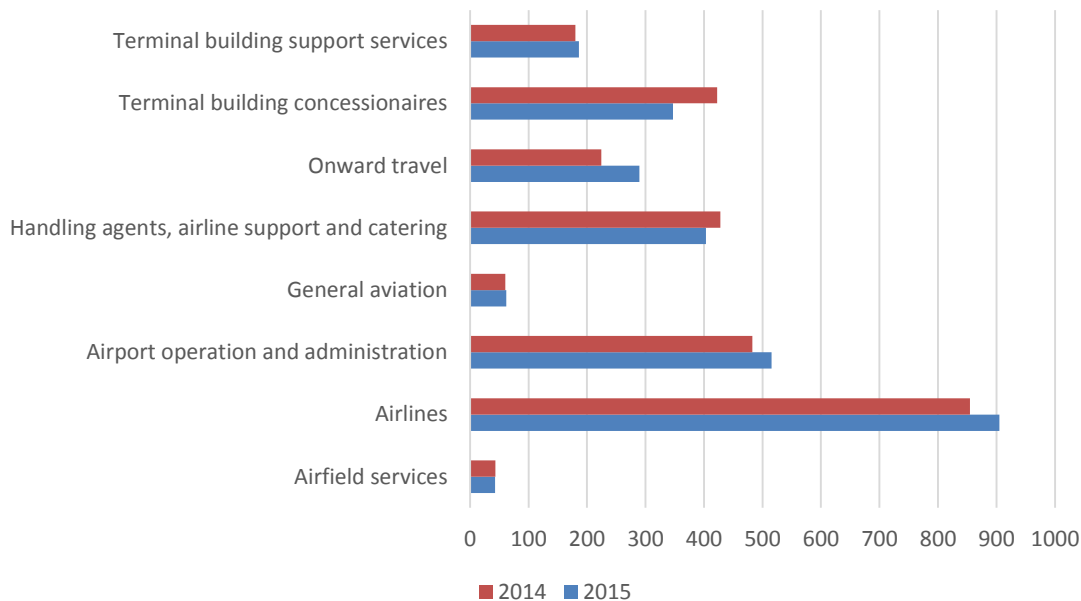


Figure 7: Areas of employment

Bristol Airport's Skills and Employment Plan aims to provide opportunities for local residents, particularly young people, to access jobs at Bristol Airport. The following activities were undertaken during 2015:

- Co-ordinated marketing of job opportunities across the airport through the Bristol Airport website, traditional print media, digital and social media, Jobcentre Plus, Westonworks, OneStop Skills Job Shop, and local Universities / Colleges. Seasonal recruitment activity was co-ordinated through the Bristol Airport Employers Forum. Bristol Airport Limited recruited 19 additional seasonal staff during the year.
- Provision of three careers fairs to showcase available seasonal roles with 15 business partners across the site. Around 950 prospective employees signed up to attend the events.
- The publication of an annual Bristol Airport 'Your Jobs' supplement to the Airport news magazine, Your Airport. Around 13,000 copies were circulated to the local community, community organisations and stakeholders.
- Provision of a structured work experience programme for three local schools in Churchill, Backwell and Chew Valley.
- Working alongside the West of England Local Enterprise Partnership to provide work shadowing days for local tutors
- Co-ordinated lunch time visits for students from Churchill Academy Sixth Form to visit the airport and better understand the variety of roles available.
- Mock interviews held with younger students at Churchill Academy Sixth Form.
- Attendance at careers fairs throughout the West of England.

19. COMMUNITY RELATIONS

In 2015, Bristol Airport paid £114,029 into the Airport Environmental Improvement Fund, also known as the Bristol Airport Local Community Fund. The main purpose of the Fund is to mitigate the environmental and social impacts of the Airport's operations and give something back to the surrounding communities affected by being situated in close proximity to an international airport. It reflects our aim to develop the airport in a sustainable way, respectful of the local community and the environment.

The Fund supports projects in the following areas:

- Initiatives to mitigate the impact of aircraft and ground noise on the local community which may include (but not be limited to) noise insulation for schools and homes in affected areas, the construction of additional noise insulation barriers and the funding of school trips;
- The on-going improvement of transport infrastructure and services to and from Bristol Airport with an emphasis on reducing the impact of airport traffic in the community and villages surrounding the Airport which may include (but not be limited to) road improvements, public transport initiatives and measures to reduce community severance; and
- Nature conservation, educational projects and sustainability initiatives in the locality of the Airport.

The Fund's area of benefit concentrates on the areas most affected by aircraft operations and comprises the parishes of Winford, Wrington, Backwell, Brockley, Cleeve and Barrow Gurney.

The Local Community Fund has been set up as a Community Interest Company dedicated to the purpose of investment in local community projects. A partnership approach has been taken to the management of the fund which involves community representatives in determining how funds are allocated. Applications for funding are considered four times a year by a Management Committee comprising four representatives from Bristol Airport Limited and four elected members of North Somerset Council. The Management Committee is independently chaired and the Chairman has a casting vote on funding decisions. The Management Committee evaluates each application carefully and uses its local knowledge and expertise to ensure that the fund is used to deliver the greatest possible benefit to the local community.

In 2015 the Fund provided grants totalling over £129,232 to 32 local projects. A list of the organisations and projects that have been supported follows:

Recipient	Project
The Theatre Orchard	Performing arts
Backwell Play Scheme	Educational play scheme
Winford Parish Council	Adult outdoor fitness equipment
Winford C of E School	Outdoor learning equipment
Wrington Parish Council	Movable traffic activated signs
Wrington Parish Council	New footway A38 (The Pound)
Wrington Parish Council	Refurbishment of village hall kitchen
North Somerset Agricultural Society	Countryside day
Local residents x 16	Noise grants
Backwell Junior School	Outdoor learning equipment
West Leigh Infants School	Outdoor learning equipment
Cleeve Village Hall	Solar panel village hall
Winford Pre-School	School trip
Barrow Gurney Parish Council	Pedestrian crossing
My Future My Choice	Educational project
Regil Village Hall	Equipment
Felton Village Hall	Solar panels

Airport staff raise money for a staff nominated charity of the year. In 2015 over £25,000 was raised by staff and customers for Children's Hospice South West. This charity provides hospice care for life-limited children and their families from across the South West of England. A further £2,860 was collected for the local Poppy Appeal.

Appendix A – Flight routing maps

Fig 1. Plan showing westerly flight routes

Flight routes shown are typical 3km swathes for departing aircraft on noise preferential routings, and arriving aircraft on final approach. Departure routes are valid up to an altitude of 4000ft, after which Air Traffic Control may vary the routings subject to operational requirements.

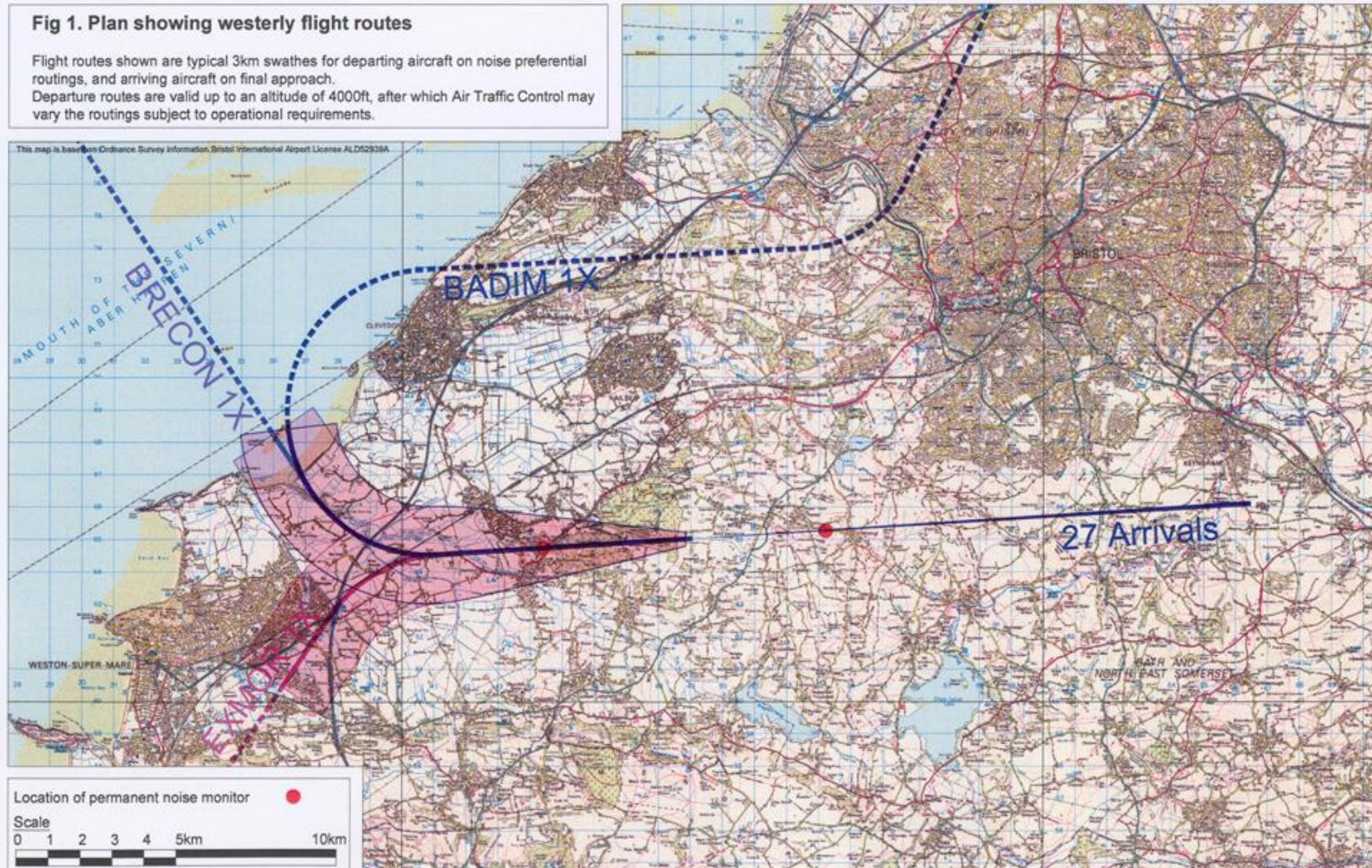


Fig 2. Plan showing easterly flight routes

Flight routes shown are typical 3km swathes for departing aircraft on noise preferential routings, and arriving aircraft on final approach. Departure routes are valid up to an altitude of 4000ft, after which Air Traffic Control may vary the routings subject to operational requirements.

(Version A 17th March 2008 WOTAN 12 SID Corrected)

This map is based on Ordnance Survey information, Bristol International Airport License ALD52355A



Appendix B – Predicted noise contours for summer 2016

Note: contours are at 3dB intervals with an outer contour of 57dB_{L_{Aeq} 16hour}

