Quarterly Monitoring Report
Qtr 4 2016

London
Luton
Airport

INTRODUCTION

The purpose of this report is to advise the community of statistics concerning aircraft operations at London Luton Airport (LLA) during the period October to December 2016.

KEY MONITORING INDICATORS – 4TH QUARTER 2016

Parameter		4th Quarter 2016	4th Quarter 2015
Total Passenger Number	↑	3,399,831	2,863,315
Total Aircraft Movements	↑	31,554	28,269
Night Movements (23.00 – 07.00)	↑	3,167	2,821
Early Morning Movements (06.00 – 07.00)	↑	1,130	994
Aircraft Movement and Quota Count limits (per rolling 12-month period)			
Night Quota Movements (*9,650 limit*)	↑	7,503	6,844
Night Quota Count (*3,500 limit*)	↑	2,663.75	2,480.00
Early Morning Shoulder (*7,000 movements*)	↑	5,161	4,778
24hr CDA (% achievement)	↑	89%	86%
Day CDA (% achievement)	↑	89%	86%
Night CDA (% achievement)	↑	85%	84%
Track Violations	↓	16	23
Departure Noise Infringements (Day)	-	3	3
Departure Noise Infringements (Night)	↓	1	2
Noise Monitor Results			
No. Day (Night) > 80 dB(A)	-	29 (1)	3 (2)
No. Day (Night) > 75 dB(A)	-	1,626 (206)	1,460 (165)
No. Day (Night) > 70 dB(A)	-	9,916 (898)	7,892 (748)
Night Noise Contour Area (48 dB $L_{Aeq, 8h}$)		25.5km^2	22.8km^2
Noise Complaints	↑	1,136	155
Complainants	↑	218	73
Number of New Complainants	↑	143	23
Largest Source of Complaints	-	Deps. West	Deps. West
Origin of Concerns (>5 Complainants)	-	Harpenden Knebworth Sandridge St Albans Stevenage Wheathampstead	Flamstead Harpenden Kensworth South Luton St Albans
Westerly/Easterly Runway Split (%)	-	60/40	72/28

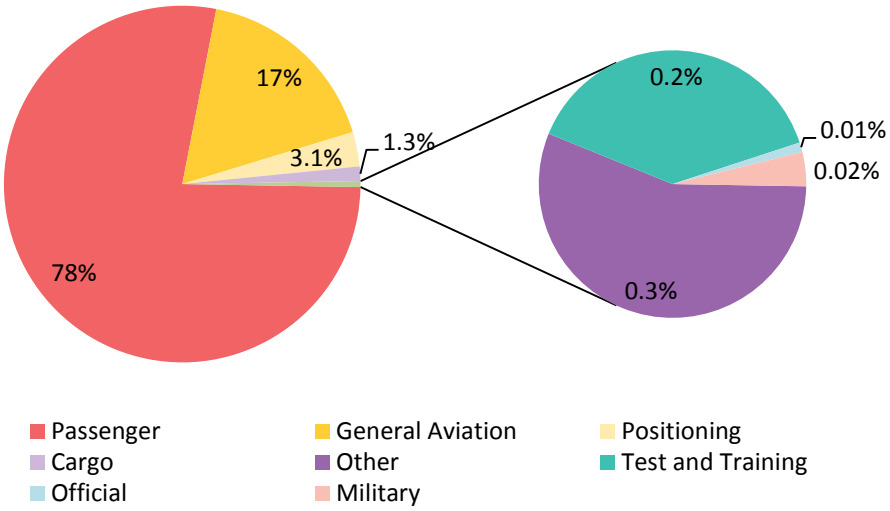
1 AIR TRAFFIC DATA

1.1 Aircraft Movements

There were a total of 31,554 aircraft movements during this quarter (compared with 28,269 for the same period in 2015), an increase of 12%.

This resulted in an average 343 movements per 24 hours (compared to 307 last year).

Total Aircraft Movements (%)



A breakdown of these movements is shown below:

	Commercial				Non-Commercial*					Total
	Cargo	*Passenger*	*Positioning*		*Military*	*Official*	*Other*[1]	*General Aviation*[2]	*Test & Training*	
			Other	*STN*						
Oct 2016	144	9,720	352	10	4	2	27	1,918	4	**12,181**
Nov 2016	137	7,058	268	17	2	0	29	1,807	27	**9,345**
Dec 2016	134	7,769	326	14	1	0	39	1,710	35	**10,028**
QTR Total	**415**	**24,547**	**946**	**41**	**7**	**2**	**95**	**5,435**	**66**	**31,554**

1.2 Passenger Statistics

A total of 3,399,831 passengers passed through LLA during the period October to December 2016 (compared with 2,863,315 for the same period last year), 3,319,915 on scheduled flights (97.6%) and 79,916 on charter flights (2.4%). This represents an increase in passengers of 19% year on year and equates to an average 36,955 passengers per 24 hours (compared to 31,123 during the third quarter last year).

	Domestic	EU	Non-EU	Total
Oct 2016	96,063	936,984	333,089	**1,366,136**
Nov 2016	78,476	621,484	255,108	**955,068**
Dec 2016	82,066	697,126	299,435	**1,078,627**
QTR Total	**256,605**	**2,255,594**	**887,632**	**3,399,831**

* *Non-Commercial relates to aircraft not operating for hire or reward.*

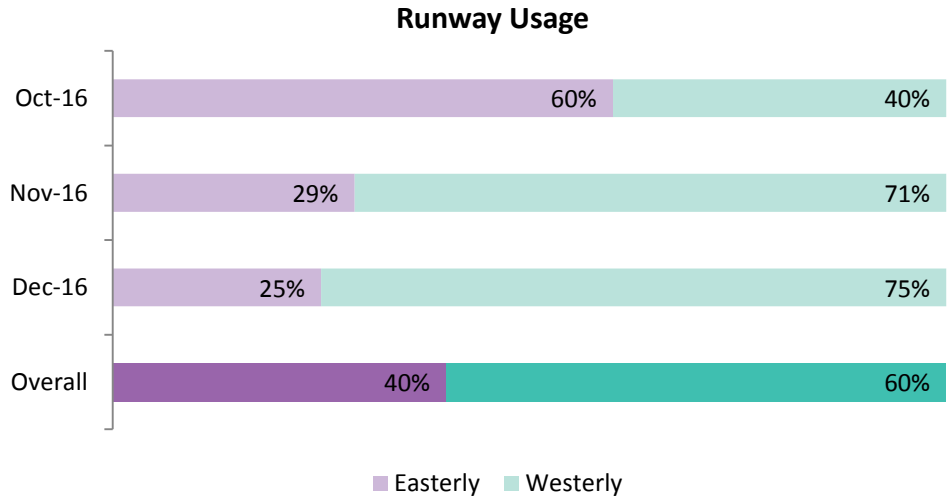
[1] *Other relates to flights coming for maintenance and or departing aircraft that has made an unscheduled return to base*

[2] *General Aviation incorporates Private Aircraft, Helicopters and Business Jets*

1.3 Runway Usage

The direction of operation is determined by wind direction. 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.

The runway usage split during this period was 40% easterly and 60% westerly (compared to 28% / 72% for the same quarter last year). The breakdown of these statistics, on a monthly basis, is as follows:



1.4 Night Flying Restrictions

As from 1st April 2015 London Luton Airport introduced new Night Restrictions as part of the planning conditions.

These restrictions have been put in place to limit and mitigate noise disturbance from aircraft operating at night, to prohibit aircraft of certain types from operating, as well as limiting the number of occasions on which aircraft may take off or land.

The night flying restrictions contain a 12 month period aircraft movement limit and a 12 month period quota count limit. The quota count (QC) is a points based system that allocates points to different aircraft types according to how noisy they are. The noisier the aircraft type, the higher the points allocated.

1.4.1 Definitions

The 'Night Quota Period'

The 'Night Quota Period' is from 23:30 to 06:00 hours local, during which period the number of aircraft movements (take-off or landing) is restricted, as well as an additional limit on number of noise QC points.

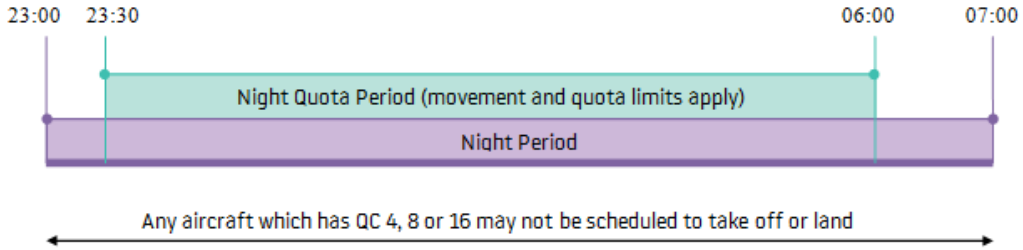
Aircraft are certified by the International Civil Aviation Organisation (ICAO) according to the noise they produce during specific certification tests conducted by the manufacturer. They are classified separately for both take-off and landing. The points are then allocated to different aircraft types according to how noisy they are. The table overleaf details the QC bands identified by the certified noise levels, and gives some typical example aircraft, some of which operate from LLA:

Certificated noise level (EPNdB)	Quota count	Typical aircraft
Greater than 101.9	QC 16	Some Boeing 747-100/200 Antonov 124/225
99 to 101.9	QC 8	Some Boeing 747-400 McDonnell Douglas DC-8
96 to 98.9	QC 4	Boeing 737-200ADV McDonnell Douglas DC-10
93 to 95.9	QC 2	Boeing 777-200 Airbus A300-600 Airbus A330
90 to 92.9	QC 1	Airbus A320/A321 Some Boeing 737-800 Boeing 757-200 Boeing 787-8
87 to 89.9	QC 0.5	Airbus A319/A320 Boeing 737-400 Boeing 737-800 Boeing 787-8
84 to 86.9	QC 0.25	Airbus A319/A320 Global Express Dassault Falcon 7X/900/2000
Less than 84	QC 0	Airbus A320neo BAe ATP Challenger series (eg CL600) Cessna 525/550

The 'Early Morning Shoulder Period'

The 'Early Morning Shoulder Period' is 06:00 to 07:00 hours local. During this period the number of aircraft movements (take-off or landing) is also restricted in a similar way to the Night Quota Period.

1.4.2 Restrictions at London Luton Airport



1.4.3 Aircraft movement and quota count limits (per 12 month period)

Condition 11(f) requires that for the Night Quota Period (2330 - 0600) the following limits shall not be exceeded:

(i) Total annual movements by aircraft per 12 month period shall be limited to 9,650;
(ii) The total annual noise quota in any 12 month period shall be limited to 3,500.

Condition 11(h) requires that for the Early Morning Shoulder Period (0600 – 0700) the total number of movements by aircraft in any 12 month period shall be limited to 7,000.

The table overleaf provides the aircraft movement and quota count for the period October to December 2016, and shows total movements and noise quota per 12 month period and compares those against the limits set within the planning conditions.

	Night Quota Period (2330-0600)		Early Morning Shoulder (0600-0700)
	Movements Limited to 9,650 Annually	*Quota Count Limited to 3,500 Annually*	*Movements Limited to 7,000 Annually*
Jan 2016	360	133.25	250
Feb 2016	366	151.75	259
Mar 2016	396	166.50	313
Apr 2016	576	201.75	509
May 2016	745	250.75	544
Jun 2016	940	301.00	485
Jul 2016	931	309.50	556
Aug 2016	834	293.75	539
Sep 2016	801	267.00	576
Oct 2016	746	253.25	525
Nov 2016	388	156.25	296
Dec 2016	420	179.00	309
QTR Total	**1,554**	**588.50**	**1,130**
Total for preceding 12 months	*7,503*	*2,663.75*	*5,161*

1.5 Day/Night Ratio of Movements - Actual

There were 3,167 night operations during the quarter (compared to 2,821 for the fourth quarter 2015), an average 34 movements per night (compared to 31 last year). Arriving aircraft accounted for 57% of total night movements, relating primarily to the last rotation of Luton based passenger aircraft scheduled to land between 23:00 hours local and midnight. 59% of total night departures took off between 06:00 – 07:00 hours local in the morning. The average ratio of total aircraft operations during the quarter was 90% day / 10% night (in line with 90% / 10% for the same quarter last year).

	Day Movements (0700-2300)			Night Movements (2300-0700)					Total
	Day movements			*Night Quota Period (2330-0600)*		*Early Morning Shoulder (0600-0700)*		*Total Night Movements (2300 – 0700)*	
	A	D	Total	A	D	A	D		
Jan 2016	3,795	3,827	7,622	219	141	87	163	718	8,340
Feb 2016	3,971	4,029	8,000	225	141	85	174	727	8,727
Mar 2016	4,463	4,541	9,004	263	133	95	218	836	9,840
Apr 2016	4,640	4,757	9,397	414	162	115	394	1,258	10,655
May 2016	5,264	5,455	10,719	552	193	141	403	1,488	12,207
Jun 2016	5,197	5,584	10,781	731	209	119	366	1,658	12,439
Jul 2016	5,433	5,800	11,233	718	213	132	424	1,705	12,938
Aug 2016	5,199	5,478	10,677	631	203	124	415	1,604	12,281
Sep 2016	5,304	5,562	10,866	598	203	150	426	1,588	12,454
Oct 2016	5,224	5,460	10,684	571	175	118	407	1,497	**12,181**
Nov 2016	4,231	4,305	8,536	238	150	103	193	809	**9,345**
Dec 2016	4,519	4,648	9,167	277	143	103	206	861	**10,028**
QTR Total	**13,974**	**14,413**	**28,387**	**1,086**	**468**	**324**	**806**	**3,167**	**31,554**
Total for preceding 12 months	*57,240*	*59,446*	*116,686*	*5,437*	*2,066*	*1,372*	*3,789*	*14,749*	*131,435*

1.6 Day/Night Ratio of Movements – Forecast

	2017 Forecast of Aircraft Movements				
	Day Movements (0700 – 2300hrs)	*Night Quota Period (2330-0600)* *Limited to 9,650*	*Early Morning Shoulder (0600-0700)* *Limited to 7,000*	*Total Night Movements (2300-0700hrs)*	*Total*
January 2017	8,135	373	267	754	8,889
February 2017	8,536	378	276	763	9,299
March 2017	9,610	409	334	878	10,488
April 2017	10,031	603	544	1,331	11,362
May 2017	11,441	783	581	1,577	13,018
June 2017	11,504	992	518	1,758	13,262
July 2017	11,989	982	594	1,809	13,798
August 2017	11,399	879	576	1,701	13,100
September 2017	11,599	843	615	1,684	13,283
October 2017	11,725	774	593	1,544	13,269
November 2017	9,828	465	335	929	10,757
December 2017	9,831	448	310	906	10,737
Total for following 12 months	125,628	7,929	5,543	15,634	*141,262*

2 DEPARTING AIRCRAFT

2.1 Departure Route Analysis

The following table reports the average and total number of departures on each flight route, differentiating between easterly (08) and westerly (26) operations. Night movements quoted below departed between 23:00 hrs and 07:00 hrs.

		Departures											Total
		MATCH/ DETLING			*COMPTON*		*OLNEY*		*Other**		*Helicopter*		
		08	26 Conv	26 RNAV	08	26	08	26	08	26	08	26	
Oct 2016	Daytime	1,732	156	998	1,076	768	400	253	31	22	2	22	**5,460**
	Night-time	155	25	63	211	110	31	15	4	1	0	4	**619**
Nov 2016	Daytime	688	225	1,482	354	918	144	412	22	35	0	25	**4,305**
	Night-time	67	33	86	42	82	16	31	1	3	1	8	**370**
Dec 2016	Daytime	652	241	1,658	332	1,104	140	453	12	36	1	19	**4,648**
	Night-time	45	32	122	33	90	15	36	1	0	0	6	**380**
QTR	**Total**	**3,339**	**712**	**4,409**	**2,048**	**3,072**	**746**	**1,200**	**71**	**97**	**4**	**84**	**15,782**
	Daily Average	*36*	*8*	*48*	*22*	*33*	*8*	*13*	*<1*	*<2*	*<1*	*<1*	*172*

2.2 Departure – Track Keeping

All propeller-driven aircraft with Maximum Take Off Mass (MTOM) over 5,700kg and all jet aircraft leaving London Luton Airport are required to follow specific departure routes known as Noise Preferential Routes (NPRs). The obligations of NPRs for conventional SIDs cease when a height of 3,000ft AMSL (between 07:00hrs to 23:00hrs local time) and 4,000ft AMSL (during night time, 23:00hrs to 07:00hrs local time) has been reached. The obligations of the RNAV1 NPR ceases when a height of 4,000ft AMSL has been reached at all times. An NPR is a corridor 3 kilometres wide (2km for the RNAV route), within which aircraft are deemed to be flying on track.

Once aircraft have cleared the designated NPR zone Air Traffic Control (ATC) can instruct the pilots to fly a more direct heading towards their destination. This is known as vectoring.

Last year London Luton Airport implemented a Track Violation Penalty Scheme in connection with the planning conditions. Using the current Aircraft Noise and Track Monitoring System the Airport's specialist Flight Operations Department evaluates the radar tracks and investigates with required input from ATC and airlines. Where the aircraft is clearly flying outside the corridor, i.e. 250m outside, the aircraft is identified as causing a "possible" track violation.

As always, safety prevails and there may be cases which involve vectoring an aircraft sooner than at the NPR height restriction. If there is valid justification that could explain the deviation from the track, then the operator causing it will be exempt from the fine. Valid justifications include:

- Safety or operational reasons
- Weather avoidance
- Emergencies

* *This category relates to Test/Training flights or short positioning flights.*

The table below shows track keeping violations over the previous 3 month period. The on track performance for the quarter was 99.76%. This calculation includes deviations for weather, traffic avoidance and those classed as violations. The breakdown of the violations is shown in the table below.

	Number of Violations	Total Penalties Collected
Oct 2016	3	£2,750
Nov 2016	7	£5,500
Dec 2016	6	£4,500
QTR	**16**	**£12,750**

	Airline or Aircraft Operator	Aircraft Type/Occurrence
Oct 2016	European Air Transport	ATP/2
	Privately owned aircraft	GLF6/1
Nov 2016	Albinati Aeronautics SA	GL5T/1
	Pelangi Air	GLF4/1
	Privately owned aircraft	CL30/1; CRJ2/1; GLF5/1; GLF6/1
	Xclusive Jet Charter Limited	C500/1
Dec 2016	Arika Israel Airlines	B734/1
	Arcus-Air Logistic	E50P/1
	Blue Air	B734/1
	Privately owned aircraft	GLF4/1; GLF6/1
	Small Planet Airlines	A320/1

3 ARRIVING AIRCRAFT

3.1 Arrivals Route Analysis

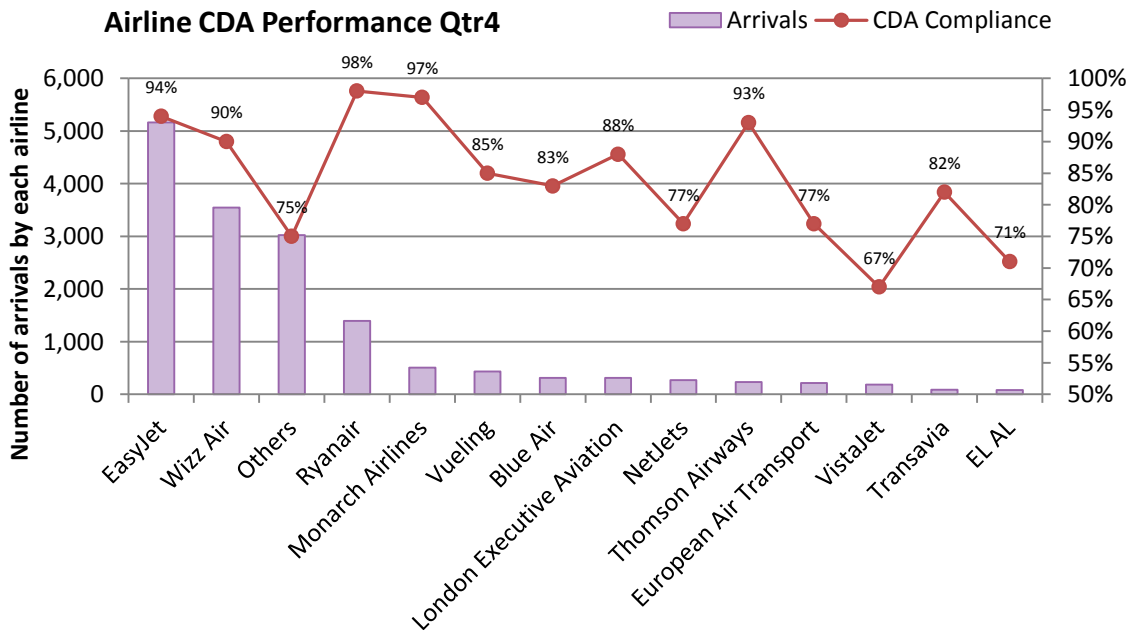
The following table reports the total number of arrivals differentiating between easterly (08), westerly (26) operations and helicopters between 23:00 hrs and 07:00 hrs.

		Arrivals			Total
		08	26	Heli	
Oct 2016	Daytime	3,101	2,100	23	**5,224**
	Night-time	556	318	4	**878**
Nov 2016	Daytime	1,203	2,999	29	**4,231**
	Night-time	148	287	4	**439**
Dec 2016	Daytime	1,156	3,338	25	**4,519**
	Night-time	103	376	2	**481**
QTR	**Total**	**6,267**	**9,418**	**87**	**15,772**
	Daily Average	*68*	*102*	*<1*	*171*

The table below shows the percentage of flights that achieved a Continuous Descent Approach (CDA), which involves continuous descent with no more than one section of level flight greater than 2.5Nm in length following descent from an altitude of 5000ft.

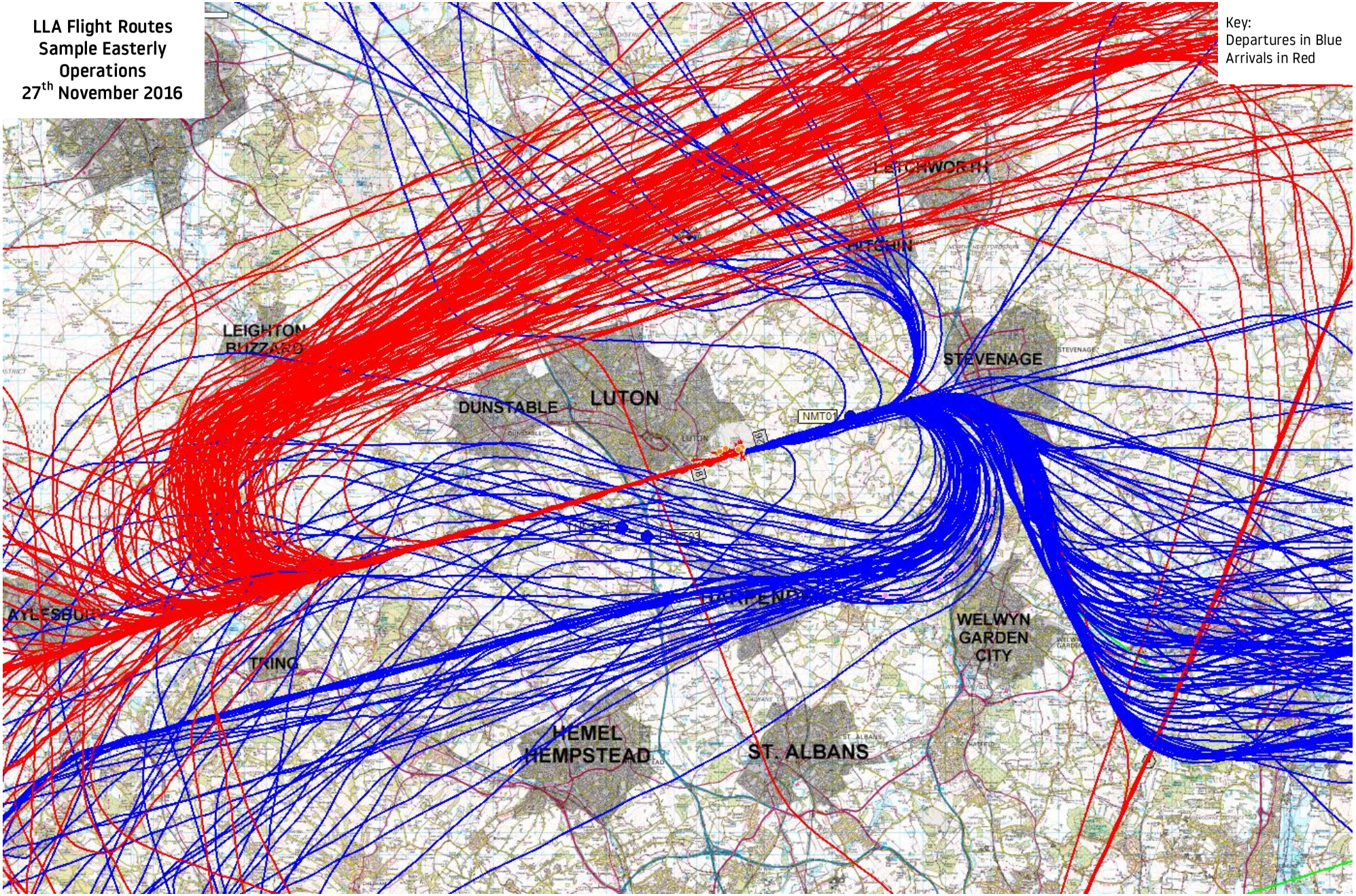
	All Arrivals			08 Easterly Arrivals			26 Westerly Arrivals		
	% CDA			*% CDA*			*% CDA*		
	Total	*Day*	*Night*	*Total*	*Day*	*Night*	*Total*	*Day*	*Night*
Oct 2016	**91%**	92%	86%	**92%**	93%	86%	**89%**	89%	85%
Nov 2016	**88%**	89%	82%	**90%**	91%	79%	**88%**	88%	84%
Dec 2016	**86%**	86%	85%	**92%**	93%	82%	**84%**	83%	85%
QTR Total	**89%**	*89%*	*85%*	**92%**	*93%*	*84%*	**86%**	*86%*	*85%*

The overall CDA achievement was 89% with several major LLA operators achieving high performance – easyJet, Wizz Air, Ryanair, Monarch and Thomson Airways.



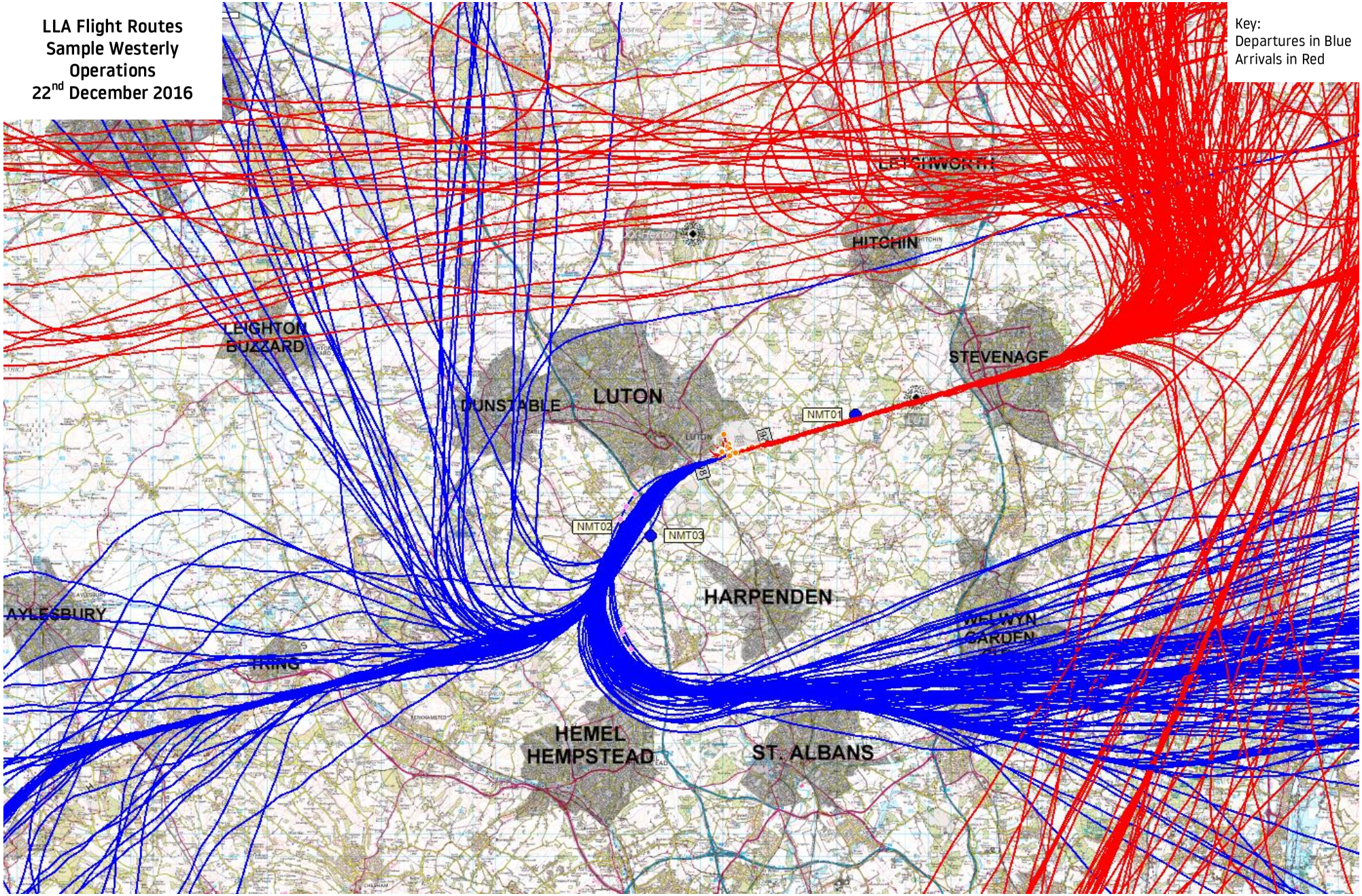
The maps overleaf, produced from the Topsonic Aircraft Noise & Track Monitoring System, identify samples of actual flown aircraft tracks operating from LLA (arrivals and departures during both easterly and westerly operations) for a typical 24 hour period within the fourth quarter of 2016.

LLA Flight Routes
Sample Easterly Operations
27th November 2016



© Crown Copyright. All rights reserved. London Luton Airport, O.S. Licence Number 0000650804

LLA Flight Routes
Sample Westerly Operations
22nd December 2016



© Crown Copyright. All rights reserved. London Luton Airport, O.S. Licence Number 0000650804

4 AIRCRAFT NOISE

During the 4th quarter of 2016, the maximum noise levels less than 79 dB(A) was recorded by 98% of correlated departing aircraft, compared to 99% for the same quarter last year.

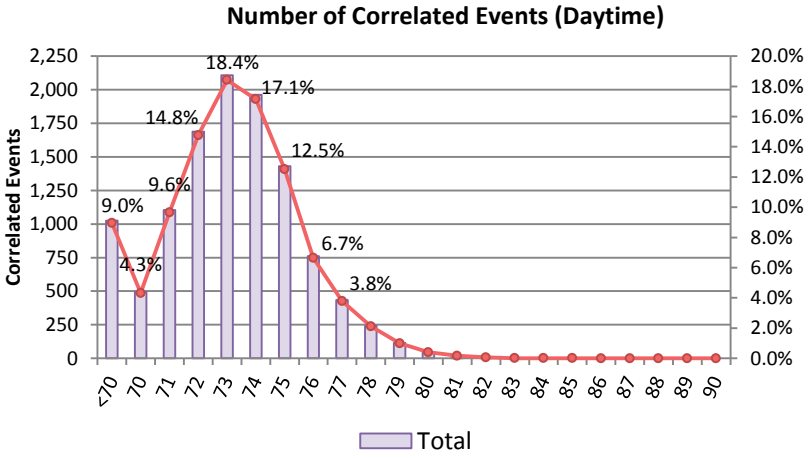
The maximum noise level less than 76 dB(A) recorded by 85% of correlated departing aircraft just slightly higher compared to 84% for the same period last year.

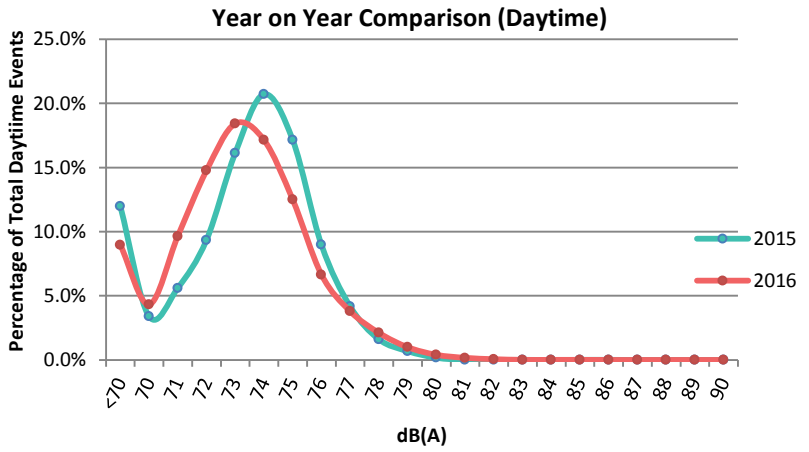
There were three daytime noise violations and one night time noise violation in this quarter, compared to three daytime noise violations and two night time noise violations during the 4th quarter 2015.

4.1 Daytime Noise Levels – October to December 2016

The following table identifies daytime noise levels correlated to departing aircraft at the fixed noise monitoring terminals. (*Any aircraft exceeding the Daytime Noise Violation Limit of 82dB(A), between 07:00 hrs and 23:00 hrs, is fined accordingly*)

	db (A)	Oct	Nov	Dec	QTR
Number of Correlated Events (Daytime)	<70	403	186	436	**1,025**
	70	201	136	157	**494**
	71	430	375	298	**1,103**
	72	731	549	409	**1,689**
	73	818	655	634	**2,107**
	74	744	504	713	**1,961**
	75	499	330	601	**1,430**
	76	247	187	327	**761**
	77	149	124	161	**434**
	78	75	82	85	**242**
	79	41	44	29	**114**
	80	15	20	11	**46**
	81	7	7	5	**19**
	82	4	2	1	**7**
	83	0	0	1	**1**
	84	1	0	0	**1**
	85	0	1	0	**1**
	86	0	0	0	**0**
	87	0	0	0	**0**
	88	0	0	0	**0**
	89	0	0	0	**0**
	90	0	0	0	**0**
Total		**4,365**	**3,202**	**3,868**	**11,435**

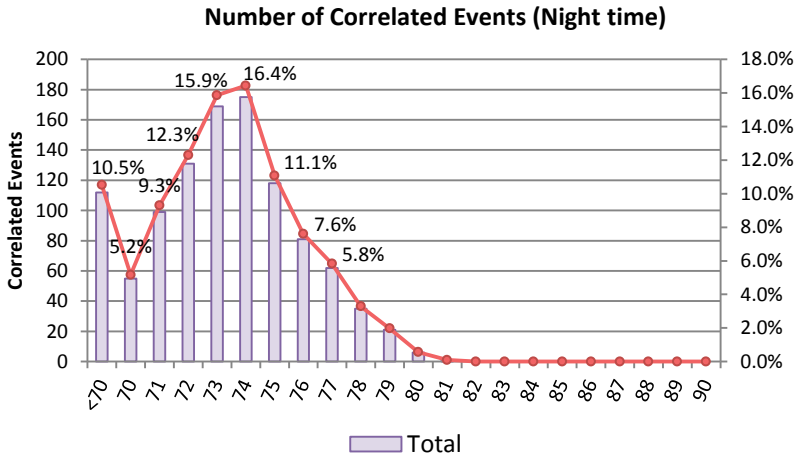


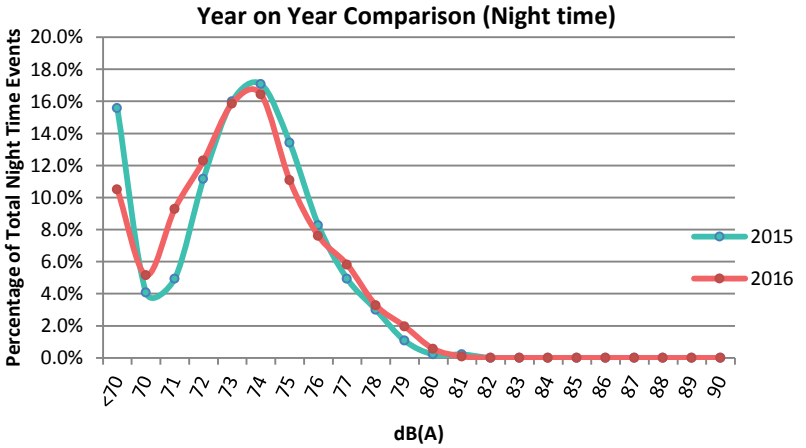


4.2 Night Noise Levels – October to December 2016

The following table identifies the night noise levels correlated to departing aircraft at the fixed noise monitor terminals. *(Any aircraft exceeding the Night Noise Violation Limit of 80dB(A), between 23:00 hrs and 07:00 hrs, is fined accordingly)*

	db (A)	Oct	Nov	Dec	QTR
Number of Correlated Events (Night time)	<70	49	23	40	**112**
	70	21	14	20	**55**
	71	62	16	21	**99**
	72	71	30	30	**131**
	73	94	32	43	**169**
	74	82	45	48	**175**
	75	58	27	33	**118**
	76	28	23	30	**81**
	77	27	15	20	**62**
	78	9	11	15	**35**
	79	3	10	8	**21**
	80	0	4	2	**6**
	81	0	0	1	**1**
	82	0	0	0	**0**
	83	0	0	0	**0**
	84	0	0	0	**0**
	85	0	0	0	**0**
	86	0	0	0	**0**
	87	0	0	0	**0**
	88	0	0	0	**0**
	89	0	0	0	**0**
	90	0	0	0	**0**
Total		**504**	**250**	**311**	**1,065**





N.B. The detection thresholds for the noise monitoring terminals are set at the lowest level to record the maximum number of aircraft noise events. However, a number of smaller aircraft types, such as business jets and propeller aircraft, get very close to but do not reach the detection threshold. Ambient background noise is also an important factor as strong winds and specific incidents such as loud road traffic, emergency vehicle sirens, lawn mowers, drills etc. can register noise levels louder than an aircraft overhead, which results in not all aircraft movements being correlated to noise events. Generally the louder noise events have more certainty of being correlated with aircraft movements. Furthermore, for a short period during Quarter 4, one Noise Monitor was out of service due to calibration, this may have an effect on the overall noise recordings within the Quarter.

4.3 Noise Violations during Qtr4 (October to December 2016)

There were three daytime noise violations and one night time noise violation during the quarter.

	Date/Time (Local)	Aircraft Type	Noise Level
Daytime	02/10/2016 10:23 hrs	B732 (Executive Jet)	84 dB(A)
	28/11/2016 13:10 hrs	B732 (Executive Jet)	85 dB(A)
	30/12/2016 12:44 hrs	B732 (Executive Jet)	83 dB(A)
Night-time	01/12/2016 06:54 hrs	B738 (Ryanair)	81 dB(A)
Total Penalties Collected			**£400**

5 NOISE CONTOURS

5.1 Night Noise Contours – October to December 2016

5.1.1 Contour Production

Aircraft movement data for use in the contour production has been supplied by LLA. The contour production methodology is the same as that used for the 2016 Qtr3 contours. It includes terrain data, and was produced using INM software Version 7.0d. The validation is based on measured results in 2015 at the fixed noise monitors, and user-defined profiles for the most common aircraft have been used, as for the 2015 contours.

5.1.2 Noise Contour Results

The resulting noise contours are shown in the attached Figure A9457-NN16-Q4 and presented at values from 48 to 72 dB $L_{Aeq,8h}$. The area of each noise contour is given in Table 1 below and compared with the values for the previous quarter (July – September 2016) and the equivalent quarter during the previous year (October – December 2015).

Contour Value (dB $L_{Aeq,8h}$)	Contour Area (km^2)		
	Oct – Dec 2015	*Jul - Sep 2016*	*Oct – Dec 2016*
48	22.8	36.2	25.5
51	12.7	20.8	14.3
54	6.7	11.3	7.5
57	3.7	5.9	4.2
60	1.9	3.1	2.1
63	1.2	1.7	1.3
66	0.7	1.0	0.8
69	0.5	0.6	0.5
72	0.3	0.4	0.3
W/E Split (%)	69/31	85/15	55/45

Table 1: Area of Night Noise Contours

N.B. The runway split percentage in Table 1 is based only on night time (2300 – 0700) movements, and as a result there might be discrepancies between the figures quoted in a Runway Usage diagram and this Table.

5.1.3 Aircraft Movements

The aircraft movements for the night noise contours as supplied by LLA are summarised in Table 2 below, and compared with the movements from the previous quarter and the equivalent quarter in the previous year. Only aircraft types with at least 10 movements have been presented. For aircraft types with less than 10 movements in a period or types that were not explicitly presented in previous periods, 'n/a' is shown.

INM Aircraft Type	Oct – Dec 2015	Jul – Sep 2016*	Oct – Dec 2016
B733	28	44	44
B734	69	26	65
B737	11	n/a	n/a
B738	413	837	467
B752	131	180	136
A306	185	122	145
A319	329	992	422
A320	643	1,651	924
A321	118	157	120
A330	n/a	n/a	14
BAE146	n/a	17	n/a
CL600	89	59	20
CL601	30	49	67
C441	10	48	42
C500	11	n/a	14
C510	25	20	20
C525	41	31	31
C56X	45	55	38
C680	10	11	n/a
D328	88	131	74
E145	54	53	53
F100	74	46	57
GLF4	52	41	43
GLF5	292	234	254
LJ35	13	20	37
MU3001	11	n/a	n/a
Other	43	53	51
Total	**2,815**	**4,877**	**3,138**

Table 2: Night-time Aircraft Movement Numbers by Aircraft Type

* *Some aircraft were incorrectly grouped in Table 2 of the Qtr3 report, and therefore some numbers above do not match the previous report. This error was presentational and did not affect the noise contour work.*

5.1.4 Noise Contour Comparison

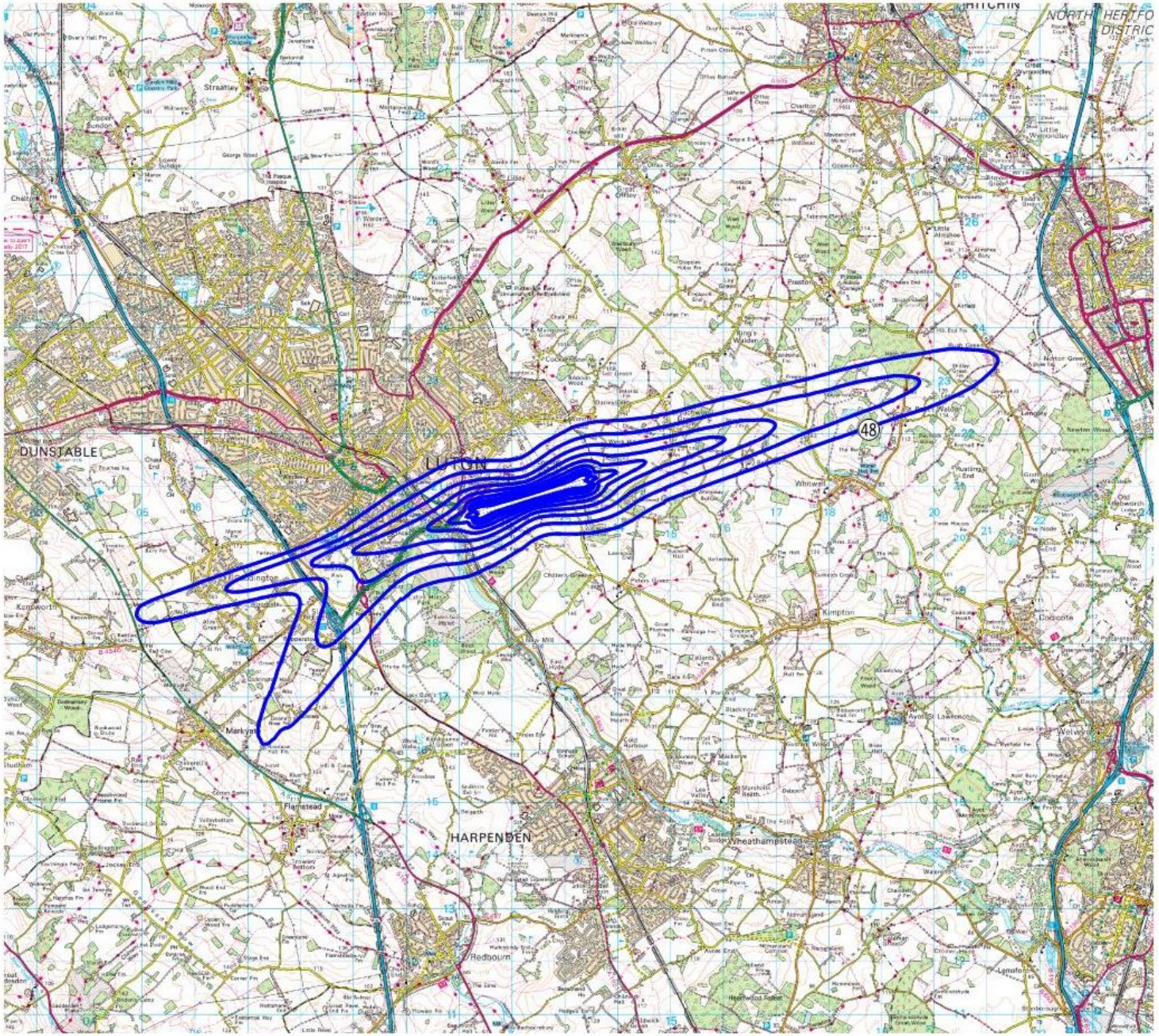
Compared with the same quarter in 2015, there has been an increase of 11% in the total number of movements. The proportion of arrivals in the fourth quarter has remained similar, going from 58% in 2015 to 57% in 2016.

The aircraft mix has changed slightly as 79% of the movements were carried out by turbofan aircraft, which is 5% more than the proportion in the same quarter in 2015. This increase is largely due to an increase in the proportion of Airbus A320 operations. Other turbofan aircraft have remained at similar proportions as the same quarter in 2015, while a number of business jet types have decreased slightly.

The modal split has changed compared to the same quarter in 2015, with 55% of movements in 2016 Qtr4 using runway 26, compared to 69% in 2015 Qtr4.

The area within the 48 dB(A) noise contour has increased by 12% compared to the same quarter last year. This increase is primarily due to the increase in overall movements. Increases of a similar magnitude are evident across the other contour bands.

The number of movements, and therefore the contour area, has decreased compared to the previous quarter (July - September 2016).



This drawing contains Ordnance Survey data © Crown Copyright and database right 2016.

LEGEND:

Noise Contours,
48 to 72 dB $L_{Aeq,8h}$ in 3 dB steps

REVISIONS

Bickerdike
Allen
Partners
Architecture
Acoustics
Technology

121 Salusbury Road, London, NW6 6RG
Email: mail@bickerdikeallen.com T: 0207 625 4411
www.bickerdikeallen.com F: 0207 625 0250

London Luton Airport
Regular Contouring

Airborne Aircraft Noise Contours
Oct-Dec 2016 Average Night time

DRAWN: DCH CHECKED: DC

DATE: February 2017 SCALE: 1:100000@A4

FIGURE No:

A9457/NN16/Q4

6 COMPLAINTS

6.1 Total Complaints relating to LLA aircraft operations*

	4th QTR 2016	4th QTR 2015
Total No. of Complaints relating to LLA aircraft operations	1136	-
No. of Complainants	218	94
No. of General Complaints	251	-
No. of Specific Complaints	885	-
No. of Events	-	365
Average No. of Complaints per Complainant	5.2	3.9
No. of Aircraft Movements per Complaint	28	159

During the last quarter a total of 1136 complaints relating to LLA aircraft operations (on average just over 12 complaints per 24 hours) were received by the Flight Operations Department. This has been compared with the 365 events which were received for the same period last year. This was an increase of 211.2%.

The monthly breakdown of total complaints and events eliciting a complaint relating to LLA aircraft operations is as follows:

Oct 2016	351 complaints	(196 Specific Complaints, 155 General Complaints)
Nov 2016	289 complaints	(236 Specific Complaints, 53 General Complaints)
Dec 2016	496 complaints	(453 Specific Complaints, 43 General Complaints)

(Where a high proportion of events originate from one or more sources, these are identified in the above table)

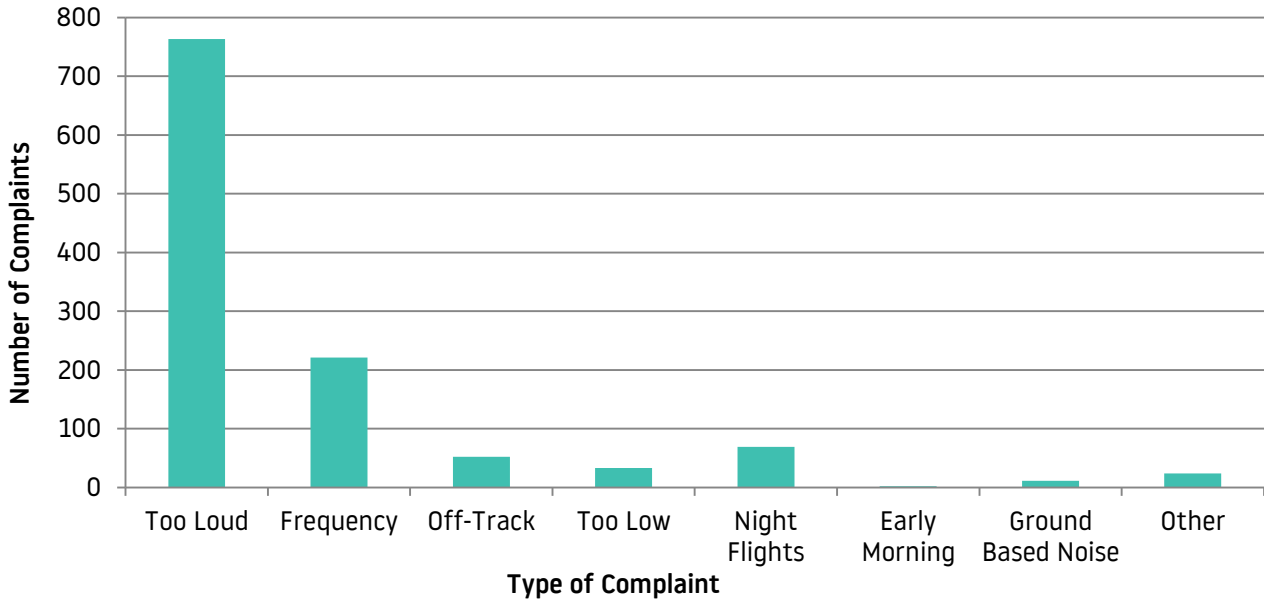
** All figures exclude 133 complaints (61 events in 2015) from one complainant in St Albans, although this individual has been included in the number of complainants.*

A further 31 complaints not attributable to LLA traffic were received throughout the quarter, compared to 9 complaints for the period October to December last year.

Out of 218 total complainants, there were 159 that contacted the airport only once meaning that 59 complainants generated 977 complaints; therefore the majority of complaints relate to a small number of residents complaining to LLA often.

6.2 Type of Complaint

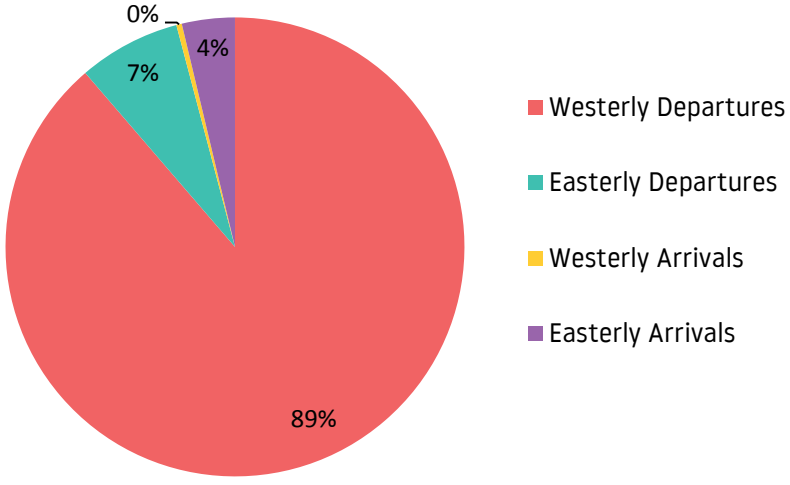
The types of complaint received by the Flight Operations Department from October to December 2016 are listed below. Please note the 133 complaints from one individual in St Albans have not been included in this graph.



6.3 Nature of Disturbance

The chart represents the areas of concern reported from specific complaints with regard to aircraft activity during the period October to December 2016.

Please note, this graph does not include the 133 complaints from one individual in St Albans.



Within the 690 specific aircraft complaints concerning westerly departures, 683 complaints involved aircraft on the Match/Detling heading and 7 related to aircraft following Compton flight route.

With regard to the 56 complaints attributed to easterly departures, 46 related to aircraft following the Compton flight route, 5 aircraft on the Match route, 2 using the Olney route and 3 using a an off airways routing.

In total the Flight Operations Department received a total of 32 complaints regarding arrivals. 29 of these complaints were about easterly arrivals and a further 3 concerning westerly arrivals.

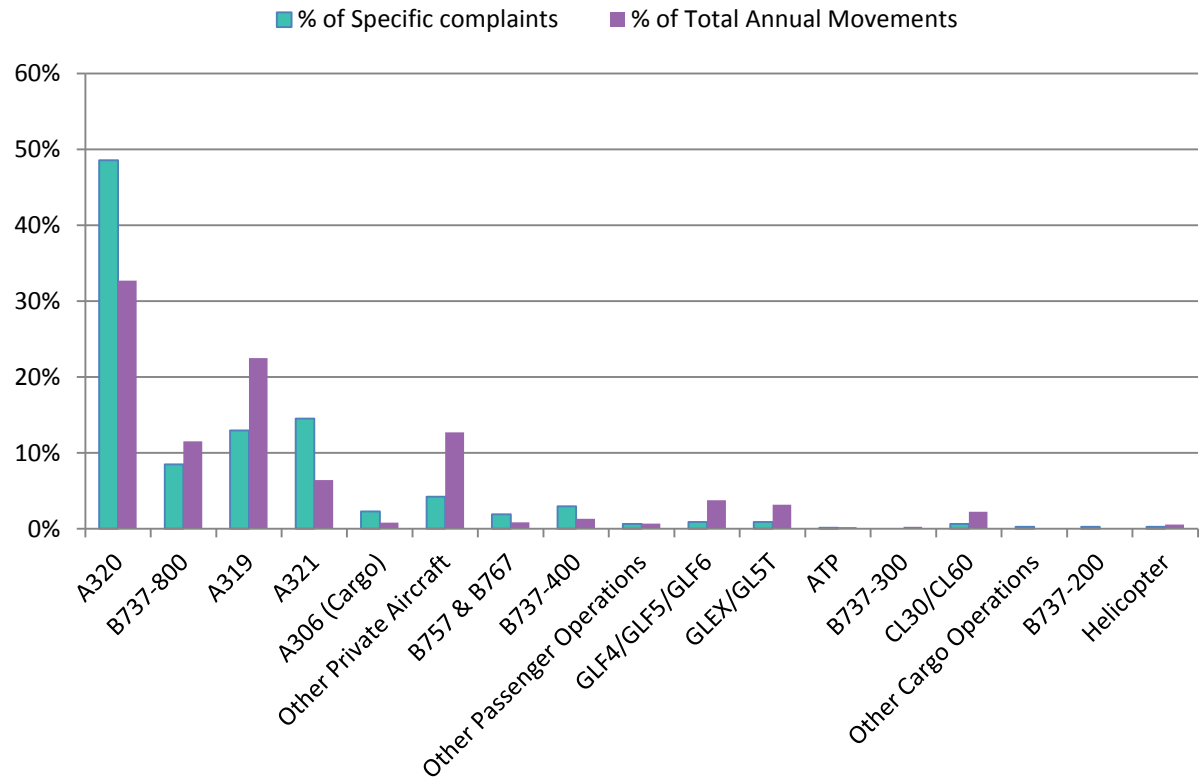
44
Complainants
reported noise disturbance at night (compared to **50 Complainants** for the same Quarter last year)

Departing aircraft accounted for 97% of the 30 specific night complaints and 3% involved arrivals. Cargo flights, involving A306 and B752 aircraft were reported in 66% of night complaints, whilst passenger and executive flights both accounted for 17% of night complaints.

69 (6%)
Complaints
concerning night noise disturbance from LLA operations

6.4 Complaints by aircraft type

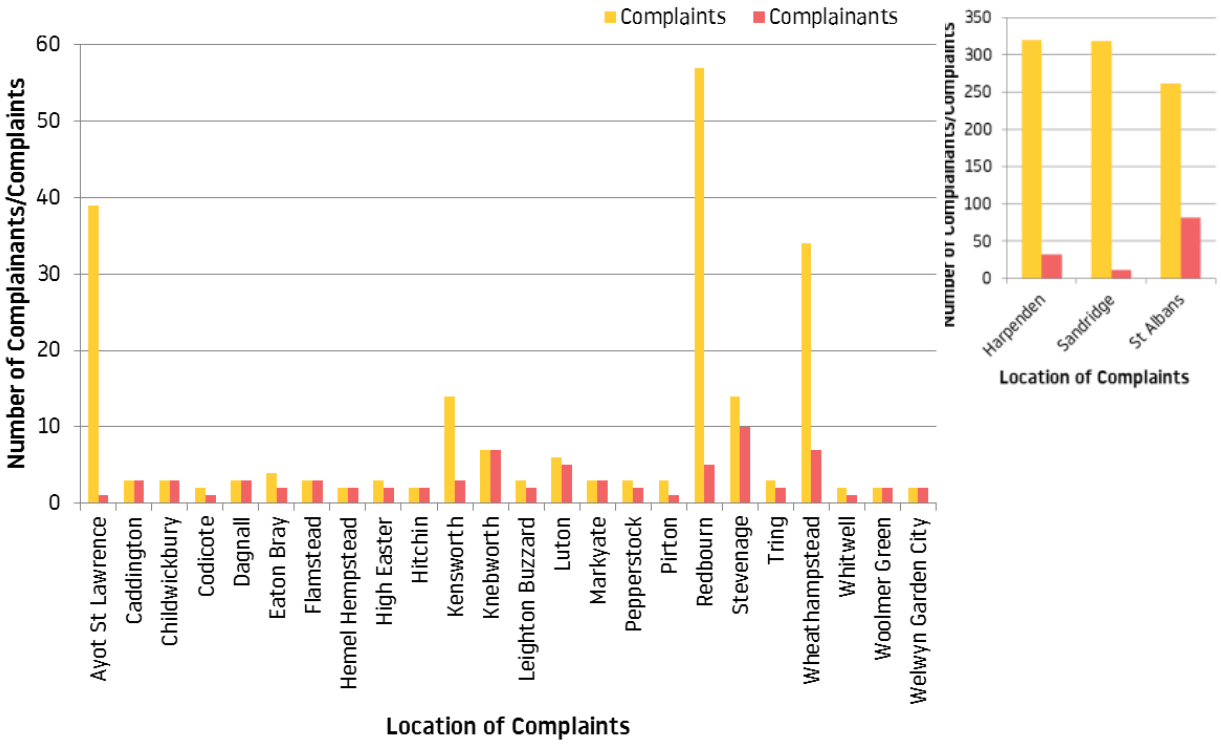
The diagram below shows aircraft types generating specific complaints.



6.5 Origin of Complaints

The chart below identifies the areas around the Airport from which more than one complaint relating to LLA aircraft operations was received during the period October to December 2016.

The communities with one complaint include Baldock, Bendish, Berkhamsted, Dunton, Eggington, Fowlmere, Gaddesden Row, Hertford, Little Gaddesden, Pitstone, Royston, Slip End, Stewkley, Whipsnade, Wilstone and Woodside.



6.6 Complaints Analysis

During Quarter 4 there has been an increase in complaints compared to the same quarter last year; this is thought to be due to a number of reasons:

- The airport has grown considerably during the quarter, in line with the redevelopment plans. This will have caused an increase in the number of movements on all routes.
- High numbers of complaints were recorded from specific locations, for example Harpenden, Sandridge and St Albans. Complaints from these areas accounted 85% of total complaints. In these areas there is a heightened awareness of aircraft, particularly in relation to the recent growth and RNAV implementation in 2015.
- The small changes in TraVis, means it is easier for residents to complain about more than one aircraft. This allows individuals to make more than one complaint easier and is less time consuming than the previous process.
- As easterly operations were used 40% of time during the quarter it is unusual these operations only accounted for 7% of complaints.

6.7 Communication Method

The following table shows the mode of communication used to contact London Luton Airport regarding noise.

Communication Method	% of Total Complaints
E-mail	23.0%
TraVis	72.4%
Telephone	4.2%
Other	0.4%

Any concerns relating to aircraft operations associated with London Luton Airport can also be reported to the Flight Operations Department by the following means:

Postal Address Flight Operations Department
London Luton Airport
Navigation House
Airport Way
Luton, Bedfordshire
LU2 9LY

Direct Telephone (01582) 395382 (24 hours)

6.8 Response Time

The following table shows the time taken to respond to complaints submitted by our local communities. We aim to respond to 80% of concerns within 8 days and 100% of concerns within 15 days.

Those complaints with longer response times are usually those requiring further investigation with the help of Air Traffic Control. If this is the case, the individual's complaint will be acknowledged and will state that additional investigation is required which may lengthen the response time.

Number of days	% of Total Complaints
0	62.7%
1	11.8%
2	11.2%
3	3.8%
4	2.6%
5	2.1%
6	1.3%
7	2.6%
8	1.0%
9	0.4%
10	0.2%
11	0.1%
12+	0.2%

7 COMMUNITY RELATIONS

7.1 Community Visits to Airport

Invitations are often extended to local residents and LLACC members to visit the Flight Operations Team for a demonstration of the Aircraft Noise & Track Monitoring System, to discuss specific concerns and to view the specific tracks of LLA aircraft operations in their area.

On the 15th November 2016, the Flight Operations Department welcomed HarpendenSky to visit the airport to discuss the short, medium and long term options relating to the westerly Match/Detling route. The Flight Operations team also received a visit request from the newly formed St Albans Quiet Skies to explain further the complexities with regard to the westerly Match/Detling route; this meeting took place on the 29th November 2016.

7.2 Airport Visits to the Community

On the 6th October, the airport organised an engagement afternoon, this was mainly associated with the westerly Match/Detling route. The afternoon was well attended by local councillors, MPs and local residents. The event involved presentations by the Flight Operations team, NATS and LADACAN. It also included a question and answer session with a panel.

The Flight Operations team arranged a public surgery in Sandridge on the 26th October 2016 to ensure that all residents in this area were updated with those items discussed on the 6th October, this event was well attended. The Flight Operations team also held a public surgery in Stevenage on the 7th December; many residents had questions and concerns regarding the westerly arrivals and easterly departures. The objective of these surgeries is to ensure that the communities have an opportunity to meet face to face with the Flight Operations Department and that everyone who attends is better informed about aircraft operations on their area. More public surgeries are scheduled; details of which can be found at the following website http://www.london-luton.co.uk/corporate/community/noise/talking-to-lla, which is updated accordingly.

It should also be noted that, on the 4th November and 9th December 2016, handheld monitoring was conducted in Harpenden and Stevenage respectively.