# Quarterly Monitoring Report Qtr 2 2016



#### INTRODUCTION

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

### KEY MONITORING INDICATORS – 2<sup>ND</sup> QUARTER 2016

Parameter		2 <sup>nd</sup> Quarter 2016	2 <sup>nd</sup> Quarter 2015
Total Passenger Number	<b>1</b>	3,907,157	3,329,344
Total Aircraft Movements	1	35,301	31,353
Night Movements (23.00 – 07.00)	<b>1</b>	4,404	4,006
Early Morning Movements (06.00 – 07.00)	1	1,538	1,445
Aircraft Movement and Quota Count limits (per 12 month period)			
Night Quota Period ( <i>9,650 movements</i> )	1	7,108	6,770
Night Quota Period ( <i>3,500 QC</i> )	-	2,623.75	-
Early Morning Shoulder (7,000 movements)	1	4,942	4,667
24hr CDA (% achievement)	1	90%	87%
Day CDA (% achievement)	1	91%	88%
Night CDA (% achievement)	1	89%	86%
Track Violations	个	16	14
Departure Noise Infringements (Day)	4	3	4
Departure Noise Infringements (Night)	Ψ	1	6
Noise Monitor Results			
No. Day (Night) > 80 dB(A)	-	25 (1)	20 (6)
No. Day (Night) > 75 dB(A)	-	1,975 (319)	2,380 (441)
No. Day (Night) > 70 dB(A)	-	11,359 (1,352)	10,003 (1,338)
Night Noise Contour Area (48 dB L <sub>Aeq, 8h</sub> )	1	33.6km <sup>2</sup>	31.8km <sup>2</sup>
Noise Complaints	<b>1</b>	609	709
Complainants	1	163	116
Number of New Complainants	1	58	37
Largest Source of Complaints	-	Deps. West	Deps. West
Origin of Concerns (>5 Complainants)	-	Childwickbury Flamstead Harpenden Luton Markyate Redbourn St Albans	Edlesborough Harpenden Kensworth St Albans
Westerly/Easterly Runway Split (%)	-	59/41	69/31

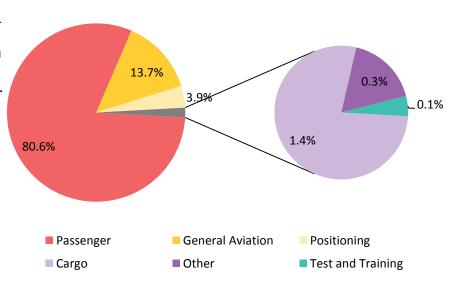
Page 2 2<sup>nd</sup> Quarter 2016

#### 1.1 Aircraft Movements

## There were a total of 35,301 aircraft movements during this quarter (compared with 31,353 for the same period in 2015), an increase of 13%.

This resulted in an average 388 movements per 24 hours (compared to 345 last year).

#### **Total Aircraft Movements (%)**



A breakdown of these movements is shown below:

		Commer			Non-Commercial*					
	Cargo	Passenger	Positi	ioning	Military	Official	Other <sup>1</sup>	General Aviation <sup>2</sup>	Test & Training	Total
		Other STN			AVIALIUII	Training				
Apr 2016	156	8,665	355	17	0	0	47	1,395	20	10,655
May 2016	155	9,850	468	11	0	0	38	1,683	2	12,207
Jun 2016	171	9,943	510	33	0	0	23	1,751	8	12,439
QTR Total	482	28,458	1,333	61	0	0	108	4,829	30	35,301

#### 1.2 Passenger Statistics

A total of 3,907,157 passengers passed through LLA during the period April to June 2016 (compared with 3,329,344 for the same period last year), 3,766,351 on scheduled flights (96.4%) and 140,806 on charter flights (3.6%). This represents an increase in passengers of 17% year on year and equates to an average 42,935 passengers per 24 hours (compared to 36,586 during the first quarter last year).

	Domestic	EU	Non-EU	Total
Apr 2016	87,277	779,266	288,452	1,154,995
May 2016	88,599	934,481	314,277	1,337,357
Jun 2016	92,305	992,981	329,519	1,414,805
QTR Total	268,181	2,706,728	932,248	3,907,157

Page 3 2<sup>nd</sup> Quarter 2016

<sup>\*</sup> Non-Commercial relates to aircraft not operating for hire or reward.

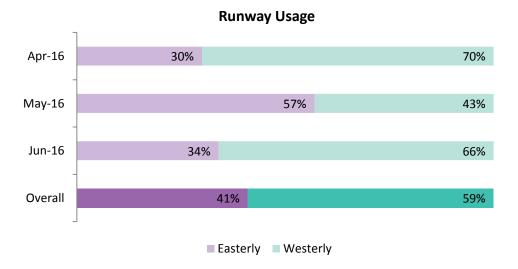
Other relates to flights coming for maintenance and or departing aircraft that has made an unscheduled return to base

<sup>&</sup>lt;sup>2</sup> 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 41% easterly and 59% westerly (compared to 31% / 69% 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 1<sup>st</sup> 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) means that points are allocated to different aircraft types according to how noisy they are. The noisier the aircraft type, the higher the points allocated. This provides an incentive for airlines to use quieter aircraft types.

#### 1.4.1 Definitions

#### The 'Night Quota Period'

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

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:

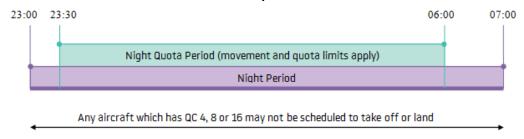
Page 4 2<sup>nd</sup> Quarter 2016

Certificated noise level (EPNdB)	Quota count	Typical aircraft
Greater than 101.9	QC 16	Some Boeing 747-100/200 Antonov 124/225
<b>99 to 101.9</b> 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 O	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 aircraft movements (take-off or landing) are restricted by a limit on the number of movements (the same as 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 guota 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 annual 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 April to June 2016, and shows total annual movements and noise quota per 12 month period and compares those against the limits set within the planning conditions.

Page 5 2<sup>nd</sup> Quarter 2016

	Night Quo (2330-	ota Period -0600)	Early Morning Shoulder (0600-0700)
	Movements Limited to 9,650	Quota Count Limited to 3,500	Movements Limited to 7,000
July 2015	786	297.50	521
Aug 2015	700	265.00	544
Sept 2015	772	293.25	523
Oct 2015	658	242.50	469
Nov 2015	413	160.50	269
Dec 2015	396	161.00	256
Jan 2016	360	133.25	250
Feb 2016	366	151.75	259
Mar 2016	396	166.25	313
Apr 2016	576	201.75	509
May 2016	745	250.50	544
Jun 2016	940	300.50	485
QTR Total	2,261	752.75	1,538
Total for preceding 12 months	7,108	2,623.75	4,942

#### 1.5 Day/Night Ratio of Movements - Actual

There were 4,404 night operations during the quarter (compared to 4,006 for the second quarter 2015), an average 48 movements per night (compared to 44 last year). Arriving aircraft accounted for 58% of total night movements, relating primarily to the last rotation of Luton based passenger aircraft scheduled to land back at the airport at night, between 23:00 hours local and midnight. 63% 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 87.5% day / 12.5% night (compared to 87.2% / 12.8% for the same quarter last year).

		Day Movements (0700-2300)			Night Movements (2300-0700)					
	Da	y moveme	ents	Night Quota Period (2330-0600)			<i>1orning</i> 0600-0700)	Total Night Movements	Total	
	Α	D	Total	Α	D	Α	D	(2300 – 0700)		
July 2015	5,023	5,256	10,279	598	188	92	429	1,499	11,778	
Aug 2015	4,769	4,894	9,663	554	146	90	454	1,410	11,073	
Sept 2015	4,748	4,902	9,650	577	195	104	419	1,465	11,115	
Oct 2015	4,687	4,816	9,503	480	178	108	361	1,270	10,773	
Nov 2015	3,924	4,068	7,992	259	154	120	149	787	8,779	
Dec 2015	3,882	4,071	7,953	263	133	106	150	764	8,717	
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	
QTR Total	15,101	15,796	30,897	1,697	564	375	1,163	4,404	35,301	
Total for preceding 12 months	54,363	56,200	110,563	5,135	1,973	1,262	3,680	13,880	124,443	

Page 6 2<sup>nd</sup> Quarter 2016

#### 1.6 Day/Night Ratio of Movements – Forecast

		2016/2017 Fore	cast of Aircraft M	ovements	
	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
July 2016	12,037	908	627	1,763	13,800
August 2016	11,424	813	657	1,670	13,094
September 2016	11,326	885	628	1,712	13,038
October 2016	11,155	740	564	1,472	12,627
November 2016	9,352	446	319	888	10,240
December 2016	9,352	430	295	866	10,218
January 2017	8,015	375	263	751	8,766
February 2017	8,411	381	272	760	9,171
March 2017	9,468	412	329	875	10,343
April 2017	9,884	602	536	1,320	11,204
May 2017	11,273	780	573	1,562	12,835
June 2017	11,334	985	511	1,741	13,075
Total for following 12 months	123,031	7,757	5,574	15,380	138,411

Page 7 2<sup>nd</sup> Quarter 2016

#### 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.

						De	epartur	es					
		MATCH/ DETLING		COMPTON		OLNEY		Other*		Helicopter		Total	
		08	26 Conv	26 RNAV	08	26	08	26	08	26	08	26	
Apr 2016	Daytime	771	241	1,537	458	1,050	180	445	15	41	0	19	4,757
Abi 5010	Night-time	61	40	129	84	213	12	36	0	2	0	1	578
May 2016	Daytime	1,614	175	1,067	1,121	772	353	293	30	15	1	14	5,455
May 2016	Night-time	160	25	88	173	128	26	25	4	4	1	3	637
lun 2016	Daytime	1,025	265	1,605	725	1,238	209	424	11	54	0	28	5,584
Jun 2016	Night-time	83	45	175	80	172	19	39	1	10	1	8	633
	Total	3,714	791	4,601	2,641	3,573	799	1,262	61	126	3	73	17,644
QTR	Daily Average	41	9	51	29	39	9	14	<1	1	<1	<1	194

#### 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 QNH (between 07:00hrs to 23:00hrs local time) and 4,000ft QNH (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 QNH 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 System as part of the noise planning conditions. Using the current Aircraft Noise and Track Monitoring System the Airport's specialist Flight Operations Department evaluates the radar tracks and investigate 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

Page 8 2<sup>nd</sup> Quarter 2016

<sup>\*</sup> 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, that is counting the deviations for weather and traffic avoidance and those classed as violations, was 99.65%.

	Number of Violations	Total Penalties Collected
Apr 2016	4	£3,250
May 2016	4	£3,250
Jun 2016	8	£6,250
QTR	16	£12,750

The breakdown of the violations is shown in the table below.

	Airline or Aircraft Operator	Aircraft Type/Occurrence	
Apr 2016	Privately owned aircraft	B732/1; CL30/1; F2TH/1; H25B/1	
	FAI Rent-A-Jet	LJ31/1	
May 2016	Privately owned aircraft	FA7X/1	
May 2010	Thomson Airways	B738/1	
	VistaJet	CL30/1	
	Arke Fly	B763/1	
	London Executive Aviation	C550/1	
Jun 2016	Lucky Fives LLC	CL60/1	
Juli 2016	Privately owned aircraft	GALX/1; GLF6/1; SW4/1	
	Saxonair	GLF6/1	
	Silesia Air	C560/1	

#### 2.3 Performance Based Navigation (PBN)

As per the commitments within the RNAV ACP, the Flight Operations Department continue to work on the next phase of airspace design involving the R26 Match/Detling departure route, preliminary designs have been validated in the flight simulator however, we are exploring what additional opportunities there are to further reduce the audible and visual nuisance of aircraft operations in the area before a formal trial submissions is sent to the CAA.

The fix for the RNAV design has been validated within flight simulators and the formal validation will be submitted to the CAA shortly.

Page 9 2<sup>nd</sup> Quarter 2016

#### 3 ARRIVING AIRCRAFT

#### 3.1 Arrivals Route Analysis

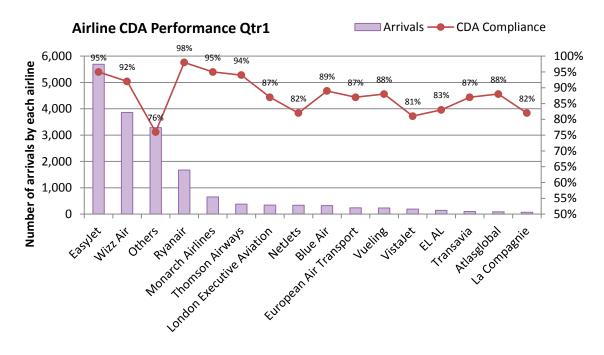
The following table reports the total number of arrivals differentiating between easterly (08), westerly (26) operations and helicopters between 23:00 hrs and 07:00 hrs.

			Arrivals		
		08	26	Heli	Total
Apr 2016	Daytime	1,460	3,163	17	4,640
Apr 2010	Night-time	186	492	2	680
May 2016	Daytime	2,973	2,275	16	5,264
May 2010	Night-time	498	350	3	851
Jun 2016	Daytime	1,807	3,355	35	5,197
Juli 2016	Night-time	298	725	2	1,025
OTD	Total	7,222	10,360	75	17,657
QTR	Daily Average	79	114	0	194

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.

	<i>F</i>	All Arrival	S	08 Ea	sterly Ar	rivals	26 Westerly Arrivals			
	% CDA			% CDA % CDA					% CDA	
	Total	Day	Night	Total	Day	Night	Total	Day	Night	
Apr 2016	90%	91%	88%	93%	94%	90%	89%	89%	87%	
May 2016	90%	90%	89%	93%	93%	91%	86%	86%	86%	
Jun 2016	91%	91%	90%	93%	94%	88%	90%	90%	91%	
QTR Total	al <b>90%</b> <i>91% 89%</i> <b>93%</b> <i>94% 90%</i>		90%	89%	89%	89%				

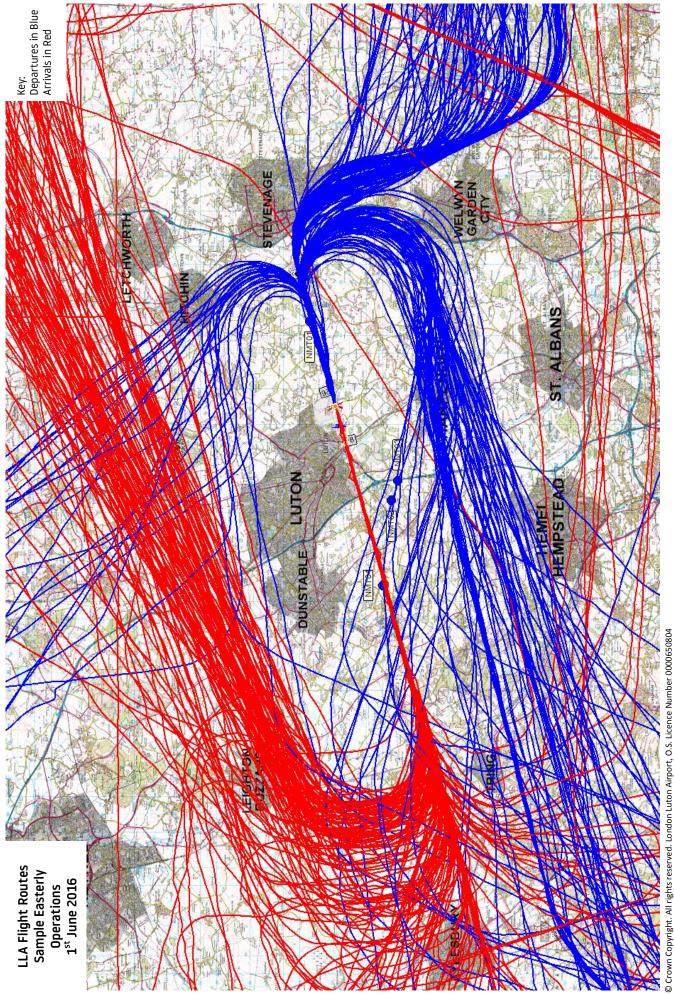
The overall CDA achievement was 90% with several major LLA operators achieving higher performance – easyJet, Wizz Air, Ryanair, Monarch and Thomson Airways.



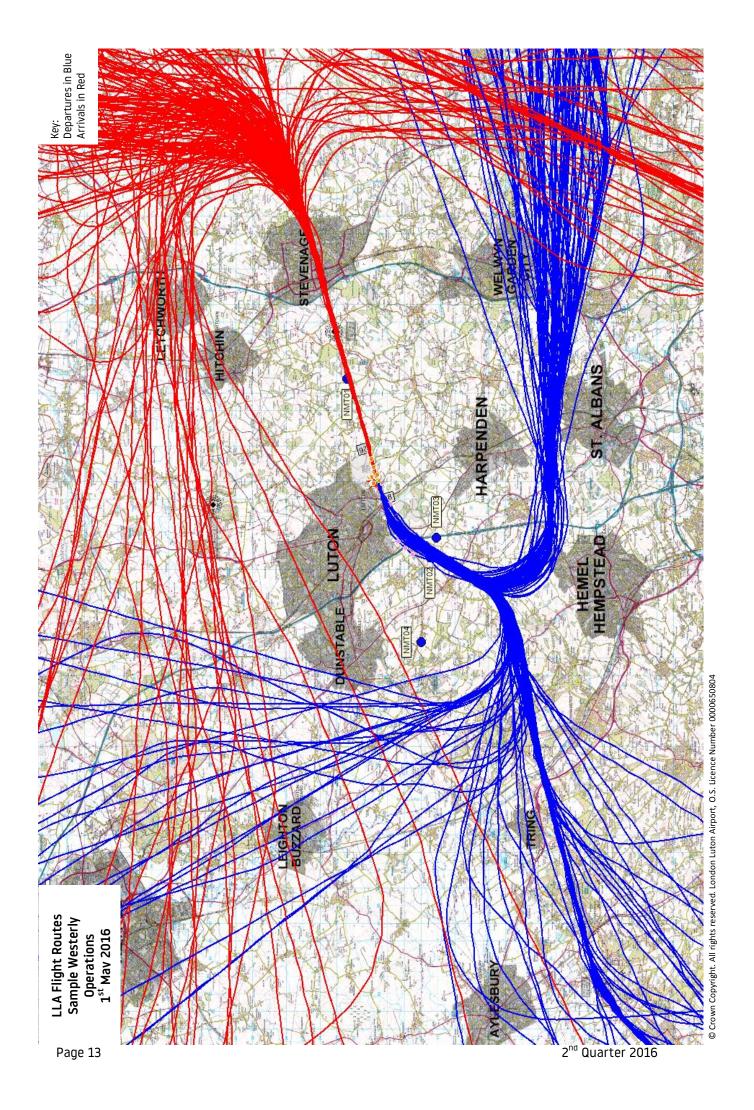
Page 10 2<sup>nd</sup> Quarter 2016

The maps overleaf, extrapolated 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 second quarter of 2016.

Page 11 2<sup>nd</sup> Quarter 2016



Page 12 2<sup>nd</sup> Quarter 2016



#### 4 AIRCRAFT NOISE

During the 2<sup>nd</sup> quarter of 2016, the maximum noise levels less than 79 dB(A) was recorded by 98% of correlated departing aircraft, in line with 98% for the same quarter last year.

The maximum noise level less than 76 dB(A) recorded by 85% of correlated departing aircraft significantly increased compared to 78% for the same period last year, indicating that aircraft operating from the airport are quieter. This is partly due to modernisation of fleets as well as improved operational procedures.

There was one violation of the night-time noise level in this quarter, and a total of three violations of the 82 dB(A) day noise violation level, compared to six night noise violations and four daytime noise violations during the 2nd quarter 2015.

#### 4.1 Daytime Noise Levels – April to June 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)

	Number of Departures (Daytime)													
db (A)	<70	>=70 <73	>=73 <76	>=76 <79	79	80	81	82	83	84	>=85 <88	>=88 <91	>=91	Total
Apr	418	634	2,182	639	56	23	3	6	0	0	2	0	0	3,963
May	649	971	2,449	610	40	14	3	4	0	0	0	0	0	4,740
Jun	661	1,263	2,382	531	27	10	4	2	1	0	0	0	0	4,881
QTR	1,728	2,868	7,013	1,780	123	47	10	12	1	0	2	0	0	13,584

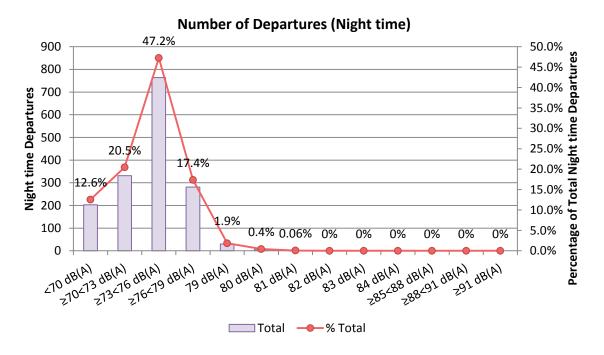
#### **Number of Departures (Daytime)** 8,000 60.0% 51.6% 7,000 50.0% Daytime Debartnres 5,000 4,000 3,000 2,000 40.0% 30.0% 21.1% 20.0% 13.1% 12.7% Percentage of 10.0% 0.9% 1,000 0.35% 0.09% 0% 0% 0.01% 0% Jupin dB(A) 270213 dB(A) n A dB(A) dB(A) dB(A) dB(A) 285\_88\_291 dB(A) 0.0% 6 dB(A) dB(A) dB(A) = 16219 dB(A) 270 dB(A) A) 48(A) 48(A) 82 48(A) 84 48(A) 84 48(A) 82 48(B) 83 48(A) 84 48( ──Total <del>──</del>% Total

#### 4.2 Night Noise Levels - April to June 2016

The following table identifies the night noise levels correlated to departing aircraft at the fixed noise monitor terminals.

Page 14 2<sup>nd</sup> Quarter 2016

	Number of Departures (Night time)													
db (A)	<70	>=70 <73	>=73 <76	>=76 <79	79	80	81	82	83	84	>=85 <88	>=88 <91	>=91	Total
Apr	53	73	243	126	13	5	1	0	0	0	0	0	0	514
May	81	111	262	82	10	1	0	0	0	0	0	0	0	547
Jun	69	147	259	73	7	1	0	0	0	0	0	0	0	559
QTR	203	331	764	281	30	7	1	0	0	0	0	0	0	1,617



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.

#### 4.3 Noise Violations during Qtr2 (April to June 2016)

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

	Date/Time (Local)	Aircraft Type	Noise Level
	07/04/2016 20:14 hrs	AN12 (Ad-Hoc)	85 dB(A)
Daytime	13/04/2016 13:39 hrs	B732 (Executive Jet)	85 dB(A)
	13/06/2016 14:14 hrs	MD87 (Executive Jet)	83 dB(A)
Night-time	27/04/2016 03:08 hrs	A306 (MNG Airlines)	81 dB(A)
	£400		

Page 15 2<sup>nd</sup> Quarter 2016

#### 5.1 Night Noise Contours - April to June 2016

#### **5.1.1** Contour Production

Aircraft movement data for use in the contour production has been supplied by LLA. The contour production methodology has been updated from that used for the 2015 contours. It retains the inclusion of terrain, and the latest INM software Version 7.0d, but the validation has been updated. The validation is now based on measured results in 2015 at the fixed noise monitors. User-defined profiles for the most common aircraft have been used, as for the 2015 contours.

This update to the contour production methodology is described in the BAP note A9457-N22-NW.

#### 5.1.2 Noise Contour Results

The resulting noise contours are shown in the attached Figure A9457-NN16-Q2 and presented at values from 48 to 72 dB  $L_{Aeq,8h}$ . The area of each noise contour is given in Table 1 below including comparisons with the values for the previous quarter (January – March 2016) and the equivalent quarter during the previous year (April – June 2015).

Contour Value	Contour Area (km²)					
(dB L <sub>Aeq,8h</sub> )	Apr – Jun 2015	Jan - Mar 2016	Apr - Jun 2016			
48	31.8	19.6	33.6			
51	17.8	10.8	18.8			
54	9.2	5.9	9.9			
57	5.0	3.2	5.4			
60	2.6	1.7	2.9			
63	1.5	1.0	1.6			
66	0.9	0.7	1.0			
69	0.6	0.4	0.6			
72	0.4	0.3	0.4			
W/E Split (%)	70/30	76/24	62/38			

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.

Page 16 2<sup>nd</sup> Quarter 2016

#### 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	Apr – Jun 2015	Jan – Mar 2016	Apr – Jun 2016	
B733	54	32	37	
B734	122	63	32	
B737	n/a	11	n/a	
B738	667	308	718	
B752	91	89	152	
A306	131	171	134	
A319	866	162	811	
A320	896	554	1,396	
A321	140	87	143	
CL600	59	61	75	
CL601	48	43	51	
C441	11	n/a	22	
C500	24	14	13	
C510	19	13	23	
C525	50	29	42	
C56X	31	51	50	
C680	10	n/a	n/a	
D328	127	118	124	
E145	61	35	74	
F100	91	68	44	
F2TH	33	n/a	n/a	
GLF4	60	60	40	
GLF5	278	223	296	
LJ35	44	38	56	
Other	78	45	50	
Total	3,991	2,275	4,383	

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

Page 17 2<sup>nd</sup> Quarter 2016

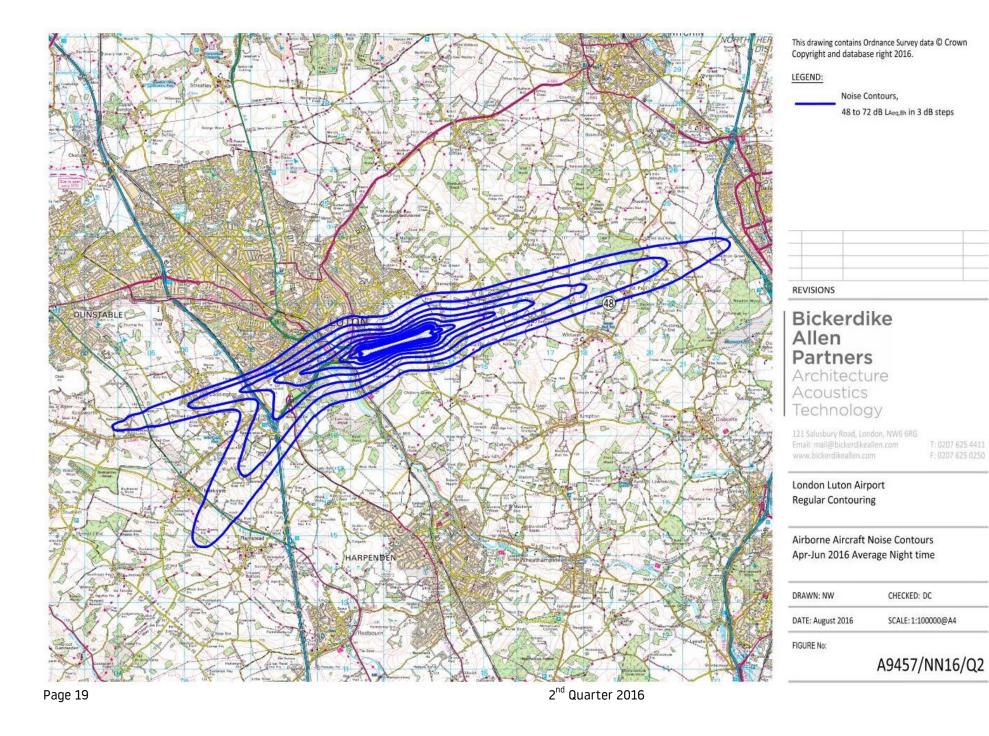
#### **5.1.4** Noise Contour Comparison

Compared with the same quarter in 2015, there has been an increase of 10% in the total number of movements. There has been a slight shift in aircraft mix, with 78% of the movements being carried out by turbofan passenger aircraft, compared to 75% in the same quarter in 2015. The modal split has also changed compared to the same quarter in 2015, with 62% of movements in 2016 Q2 using runway 26, compared to 70% in 2015.

The area within the 48 dB(A) noise contour has increased by around 6% compared to the same quarter last year. This is primarily due to the increase in overall movements. Increases of a similar magnitude are evident across the other contour bands.

As in previous years, the number of movements, and therefore the contour area, has significantly increased compared to the previous quarter (January - March 2016).

Page 18 2<sup>nd</sup> Quarter 2016



#### 6 COMPLAINTS

#### 6.1 Total Complaints relating to LLA aircraft operations

	2 <sup>nd</sup> QTR 2015	2 <sup>nd</sup> QTR 2016
Total No. of Complaints relating to LLA aircraft operations	-	609 (430 <sup>#</sup> )
No. of Complainants	116	163
No. of General Complaints	-	171
No. of Specific Complaints	-	438 (259 <sup>#</sup> )
No. of Events	709 (278*)	-
Average No. of Complaints per Complainant	2.0	3.7 (2.6 <sup>#</sup> )
No. of Aircraft Movements per Complaint	133	58 (82 <sup>#</sup> )

During the last quarter a total of 609 complaints relating to LLA aircraft operations (on average just over 6 complaints per 24 hours) were received by the Flight Operations Department. This has been compared with the 709 events which were received for the same period last year. This was a decrease of 14.1%.

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

April 2016	117 complaints	(81 Specific Complaints, 36 General Complaints)
May 2016	163 complaints	(99 Specific Complaints, 64 General Complaints)
June 2016	329 complaints	(258 Specific Complaints, 71 General Complaints)

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

Page 20 2<sup>nd</sup> Quarter 2016

<sup>\*</sup> Figures excluding 431 events (61%) reported by one resident of St Albans.

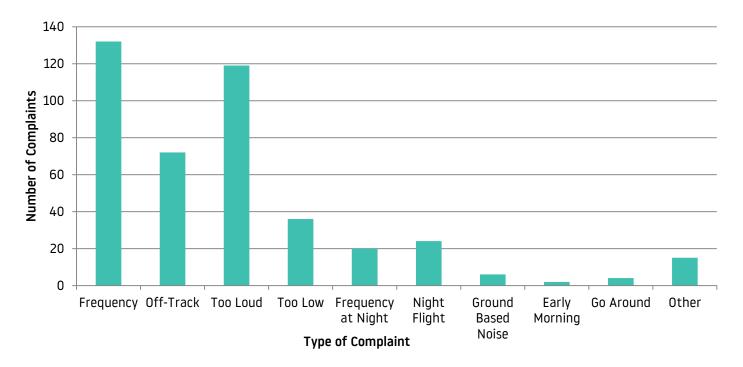
<sup>\*</sup>Figures excluding 179 specific aircraft complaints (41%) reported by one resident in St Albans. Complaints received from this individual have still been included in the complaints total and this individual has been included in the number of complainants.

A further 27 complaints not attributable to LLA traffic were received throughout the quarter, compared to 8 complaints for the period April to June last year.



#### 6.2 Type of Complaint

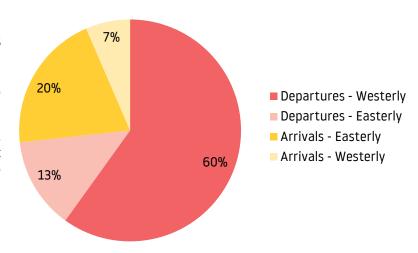
The types of complaint received by the Flight Operations Department from April to June 2016 are listed below. Please note the 179 specific aircraft complaints from one individual in St Albans have not been included in this graph.



#### 6.3 Nature of Disturbance

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

Please note, this graph does not including the 179 specific aircraft complaints from one individual in St Albans.



Page 21 2<sup>nd</sup> Quarter 2016

Within the 157<sup>#</sup> specific aircraft complaints concerning westerly departures, 143 complaints involved aircraft on the Match/Detling heading, and 10 related to aircraft following Compton flight route, 3 related to short positioning flights and 1 aircraft on the Olney route.

With regard to the 35 complaints attributed to easterly departures, 18 related to aircraft following the Compton flight route, 11 involved aircraft on the Olney heading, 4 aircraft on the Match route and 2 related to short positioning flights.

In total the Flight Operations Department received a total of 70 complaints regarding arrivals. 53 of these complaints were about easterly arrivals and a further 17 concerning westerly arrivals.

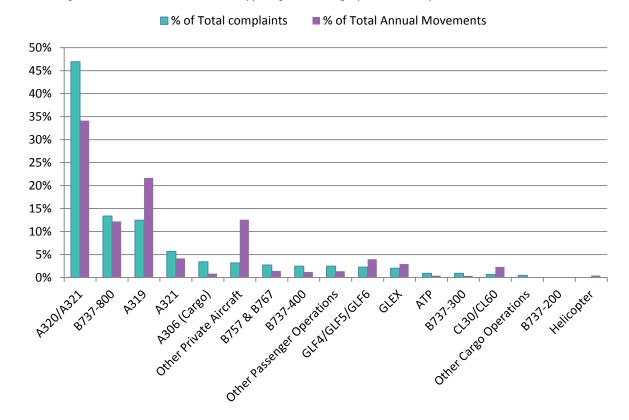
17
Complainants
reported specific
noise disturbance at
night (compared to 55
Complainants for the same
Quarter last year)

Departing aircraft accounted for 67% of the 24 night complaints and 33% involved arrivals. Passenger flights, involving A320, B738 and B733 aircraft were reported in 54% of night complaints.



#### 6.4 Complaints by aircraft type

The diagram below shows aircraft types generating specific complaints.

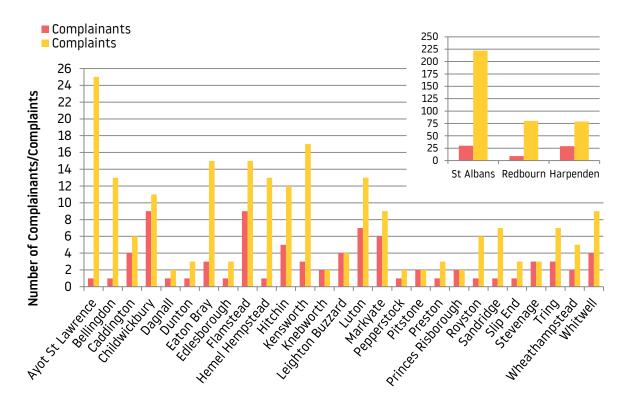


Page 22 2<sup>nd</sup> Quarter 2016

#### 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 April to June 2016.

The communities with one complaint include Barton-le-Clay, Berkhamsted, Berkshire, Blackmore End, Bracknell, Breachwood Green, Codicote, Datchworth, Gustard Wood, Kimpton, Radlett, Sandhurst, St Leonards, Stotfold, Sudbury and Welwyn.



#### 6.6 Communication Method

The following table shows the mode of communication used to contact London Luton Airport regarding noise. Please note, the online Noise Complaint form has been substituted with the online TraVis Complaints form.

Communication Method	% of Total Complaints
E-mail	59.4%
TraVis	25.5%
Telephone	14.6%
Letter	0.5%

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)

Page 23 2<sup>nd</sup> Quarter 2016

#### 7 COMMUNITY RFI ATIONS

#### 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 21<sup>st</sup> April 2016, the Flight Operations Department met with a number of Kensworth Parish councillors who attended the airport to view the Topsonic system, meet the team and were given a short tour of the airport and recent redevelopment works. Also, on the 25<sup>th</sup> April the team welcomed Save Our Skies to discuss the noise impacts in the St Albans area and gain an update on RNAV and future plans. Finally, following on from the St Albans District Council Scrutiny Committee which LLA attended in Q1 2016, an invitation was extended to members of this committee to visit the airport for a tour of the development works. Many councillors accepted this offer and visited the airport on the 22<sup>nd</sup> June 2016.

#### 7.2 Airport Visits to the Community

During the quarter there were two Public Surgeries – one was held for residents of Sandridge on the 15<sup>th</sup> April 2016. The other was in Knebworth on 15<sup>th</sup> June 2016. Many residents had questions regarding the airport expansion and what impact this would have on them; as a result concerns were raised regarding the potential increase in aircraft movements and the associated aircraft noise. 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 the Public Surgeries can be found on the Noise section of our website, which is updated accordingly.

It should also be noted that, on the 28<sup>th</sup> June 2016, the Flight Operations Department undertook some visual monitoring of aircraft in South Harpenden and at the centreline of the 26 Match/Detling RNAV route. This was conducted with members of Harpenden Sky.

Page 24 2<sup>nd</sup> Quarter 2016