

AIRFIELD ENVIRONMENT REPORT

1. INTRODUCTION

- 1.1. The purpose of this report is to advise members of statistics concerning LLA aircraft operations and related complaints during the period April to June 2014.

2. AIRCRAFT MOVEMENTS / PASSENGER STATISTICS

2.1 Total Aircraft Movements

There were a total of 28,547 aircraft movements during the quarter (compared with 26,870 for the same period in 2013), an increase of 6%. This resulted in an average 314 movements per 24 hours (compared to 295 last year).

A breakdown of these movements is shown below:

	Apr 2014	May 2014	Jun 2014	Total %	QTR Total
Cargo	137	155	146	1.5%	438
Passenger	6,690	7,546	7,635	77%	21,871
Other Positioning	412	569	551	5%	1,532
Stansted Positioning	14	29	22	0.2%	65
Official	0	8	4	0%	12
Other Non-Commercial*	37	27	22	0.2%	86
General Aviation**	1,259	1,483	1,764	16%	4,506
Test & Training	11	22	4	0.1%	37
Total	8,560	9,839	10,148	100%	28,547

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

** General Aviation incorporates Private Aircraft, Helicopters and Business Jets.

2.2 Passenger Statistics

A total of 2,906,597 passengers passed through LLA during the period April to June 2014 (compared with 2,667,986 for the same period last year), an increase of 9% year on year. This equates to an average 31,941 passengers per 24 hours (compared to 29,319 during the second quarter last year).

2.3 Runway Usage

The runway usage split during this period was 42% easterly and 58% westerly (compared to 39% / 61% for the same quarter last year). The breakdown of these statistics, on a monthly basis, is as follows:

Apr 2014	43% easterly / 57% westerly
May 2014	36% easterly / 64% westerly
Jun 2014	47% easterly / 53% westerly

2.4 Day / Night Ratio of Movements

There were 2,681 night operations during the quarter (compared to 2,309 for the second quarter 2013), an average 29 movements per night (compared to 25 last year). Arriving aircraft accounted for 74% of total night movements and the average ratio of total aircraft operations during the quarter was 91% day / 9% night (in line with 91% / 9% for the same period last year).

N.B. The number of night operations quoted above will differ from those given by Bickerdike Allen & Partners in the night contour figures as the 8 hour Leq contour calculation period extends between 23:00 hrs and 07:00 hrs, 7 days per week. The figures above are for the night period, as defined in the Night Noise Policy for noise violation purposes, 23:00 hrs until 06:00 hrs, Mon-Sat and until 07:00 hrs on Sundays.

2.5 Departure Route Analysis

The following table reports the total number of departures on each flight route, differentiating between easterly (08) and westerly (26) operations. Night movements quoted below departed between 23:00hrs and 06:00hrs, Mon-Sat and until 07:00hrs on Sunday.

		Clacton*		Compton		Olney		Other**		Heli	Total
		08	26	08	26	08	26	08	26		
Apr	Day	812	1,061	651	863	259	336	15	27	17	4,041
	Night	46	68	36	59	9	15	1	2	0	236
	Total	858	1,129	687	922	268	351	16	29	17	4,277
May	Day	724	1,404	643	1,183	241	421	25	42	24	4,707
	Night	40	58	20	71	7	23	1	2	0	222
	Total	764	1,462	663	1,254	248	444	26	44	24	4,909
Jun	Day	1,067	1,239	831	1,018	274	329	27	29	23	4,837
	Night	66	51	48	47	7	7	0	2	1	229
	Total	1,133	1,290	879	1,065	281	336	27	31	24	5,066
Day Total		2,603	3,704	2,125	3,064	774	1,086	67	98	64	13,585
Night Total		152	177	104	177	23	45	2	6	1	687
Total		2,755	3,881	2,229	3,241	797	1,131	69	104	65	14,272

* Clacton/Dover/Detling departures have been merged as the immediate flight routes follow the same path.

N.B. NATS removed the Dover SID on 29th May 2014 and replaced this with the existing Detling SID to enable more accurate fuel planning.

** This category relates to those aircraft that are not required to follow Noise Preferential Routes on Non-Airways Departures, such as Test/Training flights or short positioning flights.

2.6 Arrivals Route Analysis

The following table reports the total number of arrivals differentiating between easterly (08), westerly (26) operations and helicopters. Night movements quoted below landed between 23:00hrs and 06:00hrs, Mon-Sat and until 07:00hrs on Sunday.

This report also includes percentage figures for flights that have 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 5,000ft.

		Arrivals				CDA		
		08	26	Heli	Total	08 (%)	26 (%)	Total (%)
Apr	Day	1,579	2,145	18	3,742	92	90	91
	Night	234	307	0	541	80	86	83
	Total	1,813	2,452	18	4,283	91	89	90
May	Day	1,535	2,657	24	4,216	92	88	90
	Night	280	414	0	694	90	83	86
	Total	1,815	3,071	24	4,910	91	88	89
Jun	Day	1,998	2,299	26	4,323	92	91	91
	Night	407	352	0	759	86	92	89
	Total	2,405	2,651	26	5,082	91	91	91
Day Total		5,112	7,101	68	12,281	92%	90%	91%
Night Total		921	1,073	0	1,994	85%	87%	86%
Total		6,033	8,174	68	14,275	91%	89%	90%

3. NOISE MONITORING DATA

3.1 Daytime Noise Levels (April to June 2014)

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 94dB(A), between 06:00hrs and 22:59hrs Monday to Saturday and 07:00hrs to 22:59hrs on Sunday, is fined accordingly)

(The 18 daytime departures registering maximum noise levels in excess of 82dB(A)

	Number of Departures (Daytime)										Total
	<70 dB(A)	>=70<73 dB(A)	>=73<76 dB(A)	>=76<79 dB(A)	>=79<82 dB(A)	>=82<85 dB(A)	>=85<88 dB(A)	>=88<91 dB(A)	>=91<94 dB(A)	>=94 dB(A)	
Apr	466	953	1,855	348	16	3	2	2	0	0	3,645
May	504	782	2,089	526	31	3	1	1	0	0	3,937
Jun	667	807	2,274	567	30	3	3	0	0	0	4,351
% Total	14%	21%	52%	12%	1%	0%	0%	0%	0%	0%	100%
Total	1,637	2,542	6,218	1,441	77	9	6	3	0	0	11,933

during the period April to June 2014 related primarily to ad hoc, older generation business jets, involving B737-200, Gulfstream 3, MD87 and FA50 aircraft types and an ad hoc AN12 heavylift cargo flight.)

3.1.1 Daytime Noise Violations (April to June 2014)

There were no daytime noise violations during the quarter.

3.2 Night Noise Levels (April to June 2014)

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 82dB(A), between 23:00hrs and 06:00hrs Monday to Saturday and 23:00hrs to 07:00hrs on Sunday, is fined accordingly)

	Number of Departures (Night time)										Total
	<70 dB(A)	>=70<73 dB(A)	>=73<76 dB(A)	>=76<79 dB(A)	>=79<82 dB(A)	>=82<85 dB(A)	>=85<88 dB(A)	>=88<91 dB(A)	>=91<94 dB(A)	>=94 dB(A)	
Apr	59	39	64	26	2	0	0	0	0	0	190
May	39	37	71	23	3	2	0	0	0	0	175
Jun	40	37	84	31	1	0	0	0	0	0	193
% Total	25%	20%	39%	14%	1%	0%	0%	0%	0%	0%	100%
Total	138	113	219	80	6	2	0	0	0	0	558

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.

3.2.1 Night Noise Violations (April to June 2014)

There were two night noise violations during this quarter, both involving special football charter flights, taking fans home to Madrid following the UEFA Champions League match at Stamford Bridge the previous evening.

Date/Time (Local)	Aircraft Type	Noise Level	Penalty
1/5/2014 (02:18 hrs)	MD83 (Special Charter)	82.6dB(A)	300% of runway charge
1/5/2014 (02:30 hrs)	MD83 (Special Charter)	84.4dB(A)	300% of runway charge

3.2.2 Night Noise Contours (April to June 2014)

Night contour data for the 2nd Quarter 2014 is attached at the end of this report.

4. COMPLAINTS

4.1 Total Complaints relating to LLA aircraft operations

	2 nd QTR 2013	2 nd QTR 2014
Total No. of Complaints relating to LLA aircraft operations	329	391
No. of Complainants	142	191
No. of Events (eliciting a complaint)	744 [#] (555 [*])	868 [#] (510 ^{**})
<i>Average No. of Complaints per Complainant</i>	2	2
<i>Average No. of Events per Complainant</i>	5.2 [#] (3.9 [*])	4.5 [#] (2.7 ^{**})
<i>Average No. of Events per Complaint</i>	2.3 [#] (1.7 [*])	2.2 [#] (1.3 ^{**})
<i>No. of Aircraft Movements per Complaint</i>	82	73
<i>No. of Aircraft Movements per Event</i>	36 [#] (48 [*])	33 [#] (56 ^{**})

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

* Figures excluding 189 events reported by one resident of Harpenden.

** Figures excluding 358 events reported by one resident of St Albans. These events all involved westerly departures following the 26 Clacton/Dover/Detling heading, for which we are proposing to introduce a revised RNAV1 flight route to help improve track-keeping away from highly populated areas.

It should be noted that one other individual in Harpenden has continued to report a large number of events during this quarter. In order not to cause distortion in the reported statistics and in agreement with LLACC, these events are no longer included in statistics. However, complaints received from this individual (reporting general disturbance and frequency) have still been included in the complaints total and this individual has been included in the number of complainants.

- 4.1.1 During the last quarter a total of 391 complaints relating to LLA aircraft operations (on average just over 4 complaints per 24 hours) were received by the Airfield Environment Office, compared with 329 for the same period last year, an increase of 19%.

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

Apr 2014	106 complaints	(223 events)
May 2014	106 complaints	(226 events)
Jun 2014	179 complaints	(419 events)

- 4.1.2 A further 31 complaints (reporting 33 specific events) not attributable to LLA traffic were received throughout the quarter, compared to 28 (32 events) for the period April to June last year.
- 4.1.3 A total of 191 complainants reported concerns to the Airfield Environment Office between April and June 2014, compared to 142 for the same period last year. Statistics identify that 124 of the complainants (65%) contacted the airport only once during the quarter and that 44 individuals (23%) were reporting concerns for the first time.
- 4.1.4 Within the 391 complaints received during the quarter, a total of 868 events (eliciting a complaint) were listed, compared to 744 events for the same period last year. It should be noted, however, that 41% of events this quarter were reported by just one individual in St Albans.
- 4.1.5 Throughout the quarter a total of 30 complaints related to aircraft that had been identified as having deviated from Noise Preferential Route (NPR) swathes below the vectoring altitude of 3,000ft during the day and 4,000ft at night (off-track). Following investigations, it was verified that in 16 cases revised vectors had been given by Air Traffic Control for reasons of weather avoidance, whilst 14 complaints related to aircraft which did indeed fly outside the stipulated departure corridor (10 of which related to just 2 specific departures). Any track deviations are automatically highlighted by the Topsonic monitoring system, prompting further analysis and details are discussed with NATS and/or operators, reminding them of our standard recommended procedures.

4.2 Breakdown of Complaints relating to LLA aircraft operations

The table below identifies the areas of concern reported with regard to aircraft activity during the period April to June 2014.

<u>Reported Concerns</u>	<u>No. of Complaints</u>	<u>% of Total Complaints</u>
Westerly Departures	158	40%
Easterly Arrivals	100	25%
Easterly Departures	78	20%
General / Frequency	22	6%
Westerly Arrivals	15	4%
Go Arounds	9	2%
Helicopters	6	1.5%
Air Quality	1	0.5%
Engine Ground Runs	1	0.5%
Alleged Near Miss	1	0.5%
Total	391	100%

- 4.2.1 During the last quarter 76 individuals reported a total of 143 complaints concerning aircraft noise disturbance at night (37% of overall complaints). This compares to 109 night noise complaints (from 52 individuals) received during the same period last year.

Departing aircraft accounted for 44% of the 143 night complaints and 46% involved arrivals. A further 10% of night complaints reported general disturbance. Cargo flights, primarily involving A306 aircraft and ATP postal flights were reported in 22% of night complaints.

- 4.2.2 Within the 158 complaints concerning westerly departures, 86 complaints involved aircraft on the Clacton/Dover/Detling flight route, 62 were of a general nature, 2 involved Olney departures and 8 related to aircraft following the Compton heading.

- 4.2.3 With regard to the 78 complaints attributed to easterly departures, 41 related to aircraft following the Compton flight route, 18 were of a general nature, 12 to aircraft following the Olney flight route, 4 related to aircraft on the Clacton/Dover and 3 involved aircraft on short positioning flights, following off-airways routings.

- 4.2.4 Whilst 67 of the 100 complaints concerning easterly arrivals reported general disturbance, 33 related specifically to aircraft following the arrivals routing from the Lorel Reporting Point.

4.3 Nature of Disturbance

Noise was cited as a main disturbance in 93% of the 391 complaints received during the quarter. Aircraft being perceived as **off track** were reported in 39% of complaints and concerns relating to aircraft flying **low** were reported in 32% of complaints received. The **frequency** of operations was cited in 22% of complaints.

(It should be noted that complaints received may relate to more than one type of disturbance (i.e. noisy, low and off track) and therefore the totals given in the table below will not correspond to the number of complaints received during the quarter.)

Disturbance	Day	Night	General *	Total
Aircraft Noise	222	112	29	363
Off Track	130	17	5	152
Low-Flying	74	36	16	126
Frequency	44	27	14	85

* The 'General' category relates to non-specific reports of disturbance

4.3.1 Attached to this report are two print-outs, extrapolated from the Topsonic Aircraft Noise & Track Monitoring System, identifying samples of actual flown tracks of Luton aircraft operations (arrivals and departures during both easterly and westerly operations) for a typical 24 hour period within the second quarter of 2014.

4.3.2 Within the 391 complaints registered during the quarter a total of 292 complaints (75%) were clearly correlated to a specific aircraft type, although many complaints were of a general nature.

Aircraft Type	No. of correlated complaints	% of Total complaints
A320 (Wizz/Monarch/easyJet)	75	19%
B737-800 (Ryanair/EI AI/Thomson/GA)	41	10.5%
A319 (easyJet)	34	9%
A306 (MNG Cargo & DHL)	32	8%
B737-400 (Blue Air)	17	4.5%
GLF4/GLF5/GLF6 (GA)	12	3%
ATP (Atlantic Airlines)	11	3%
B737-200 (GA)	11	3%
B757/B767 (Thomson/Monarch/EI AI)	10	2.5%
FA50/FA70 (GA)	9	2.5%
Helicopter	6	1.5%
GLF3 (GA)	2	0.5%
<i>Other Private Aircraft</i>	24	6%
<i>Other Cargo Aircraft</i>	4	1%
<i>Other Passenger Aircraft</i>	4	1%
Total	292	75%

4.4 Origin of Complaints

The chart below identifies the areas around the Airport from which complaints relating to LLA aircraft operations were received during the period April to June 2014.

<u>Location</u>	<u>Complaints</u>	<u>Events*</u> <u>(eliciting a complaint)</u>	<u>Complainants</u>	<u>Average Complaints per Complainant</u>	<u>Average Events per Complainant</u>
Aldbury	1	0	1	1	0
Aley Green	2	3	2	1	1.5
Ayot St Lawrence	14	0	3	4.7	0
Bellingdon, Bucks	1	1	1	1	1
Bendish	5	2	3	1.7	0.7
Breachwood Green	8	6	5	1.6	1.2
Caddington	19	16	17	1.1	0.9
Cholesbury	1	1	1	1	1
Codicote	1	1	1	1	1
Dagnall	9	4	4	2.3	1
Diamond End	1	1	1	1	1
Dunsmore, Wendover	1	2	1	1	2
Dunton	2	6	1	2	6
Eaton Bray	18	41	5	3.6	8.2
Edlesborough	14	19	8	1.8	2.4
Flamstead	7	5	6	1.2	0.8
Great Brickhill	1	0	1	1	0
Gubblecote	2	18	1	2	18
Harpenden	61	69	25	2.4	2.8
Hemel Hempstead	15	20	5	3	4
Hitchin	14	22	3	4.7	7.3
Horton	1	0	1	1	0
Hulcott	1	0	1	1	0
Kensworth	21	66	7	3	9.4
Leighton Buzzard	3	2	3	1	0.7
Luton	34	56	15	2.3	3.7
Markyate	7	10	6	1.2	1.7
Melbourn	1	0	1	1	0
Pepperstock	4	16	2	2	8
Peters Green	3	3	1	3	3
Poynders End	1	0	1	1	0
Redbourn	14	15	7	2	2.1
Rushden	1	1	1	1	1
Sandon	4	6	1	4	6
Slip End	2	2	1	2	2
St Albans	41	376	10	4.1	38
St Paul's Walden	1	0	1	1	0
Stevenage	4	1	3	1.3	0.3
Studham	3	2	3	1	0.7
Tea Green	1	0	1	1	0
Tring	8	26	5	1.6	5.2
Walkern	4	9	3	1.3	3
Welwyn	2	0	1	2	0
Weston Turville	1	4	1	1	4
Wheathampstead	10	16	4	2.5	4
Whipsnade	1	1	1	1	1
Whitwell	11	14	5	2.2	2.8

Wilstone	1	0	1	1	0
Woodside	7	3	5	1.4	0.6
Totals	391	868 (510 **)	191	2	4.5 (2.7 **)

* Where complaints are of a general nature (i.e. frequency), individual events may not have been specified.

** Figures excluding 358 events, reported by one individual from St Albans

5. COMPLAINTS ADMINISTRATION

5.1 Method of Receipt

<u>How Received</u>	<u>% of Total Complaints</u>
E-mail*	69%
Telephone	30.5%
Letter	0.5

* During the period April to June a total of 270 complaints were reported to the Airfield Environment Office by e-mail. Within this total 56% of e-mail complaints (150) were submitted via the noise complaint template on the website www.london-luton.co.uk, with the remaining 44% (120) being sent directly to noise@ltn.aero.

6. COMMUNITY RELATIONS

6.1 Community Visits to the Airport

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

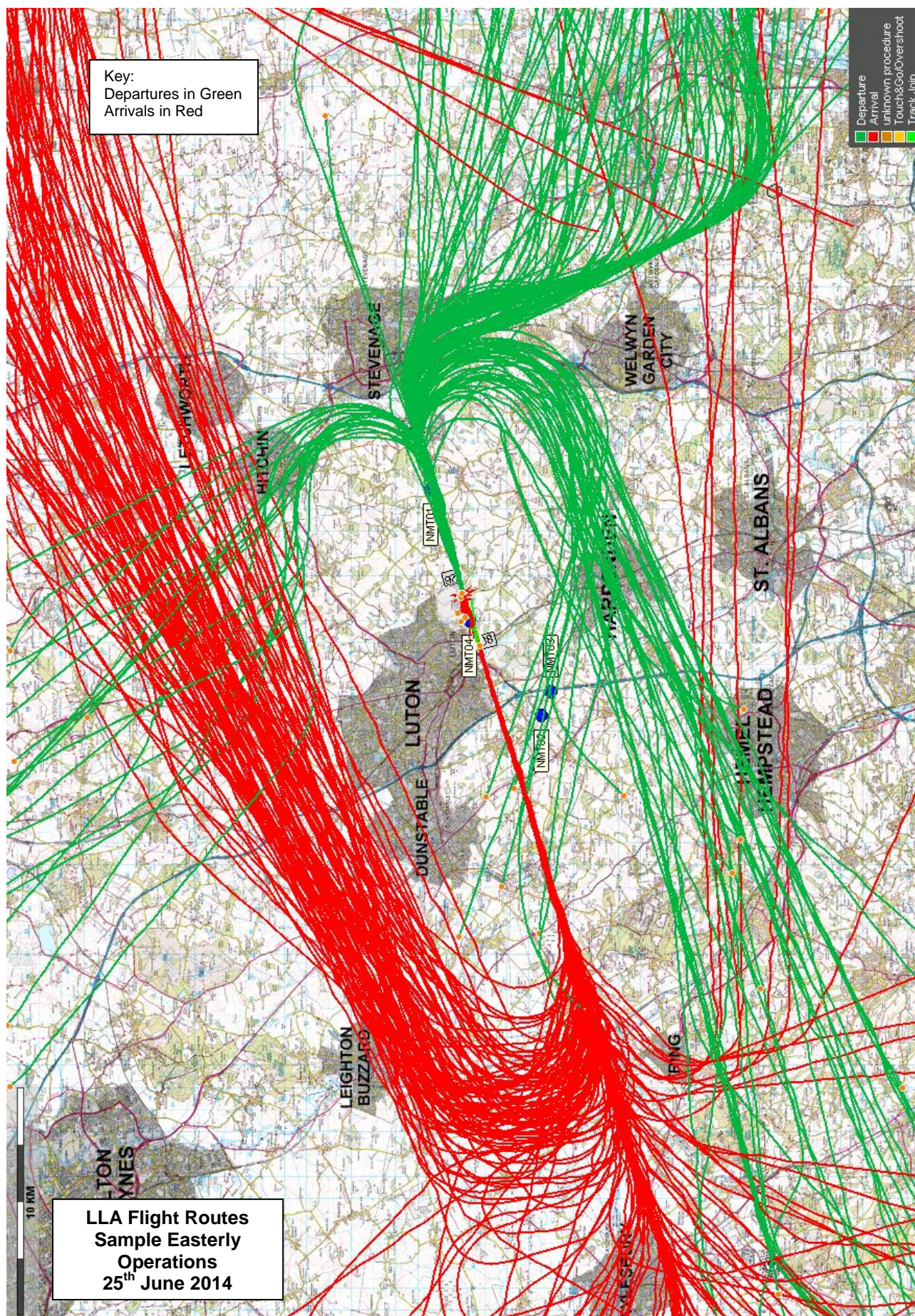
Towards the end of May 2014, the airport hosted a meeting for two representatives of Save Our Skies (SOS) from St Albans. This visit was arranged primarily to provide an update concerning the RNAV1 Consultation but also to discuss concerns relating to general disturbance from aircraft activity in the St Albans area.

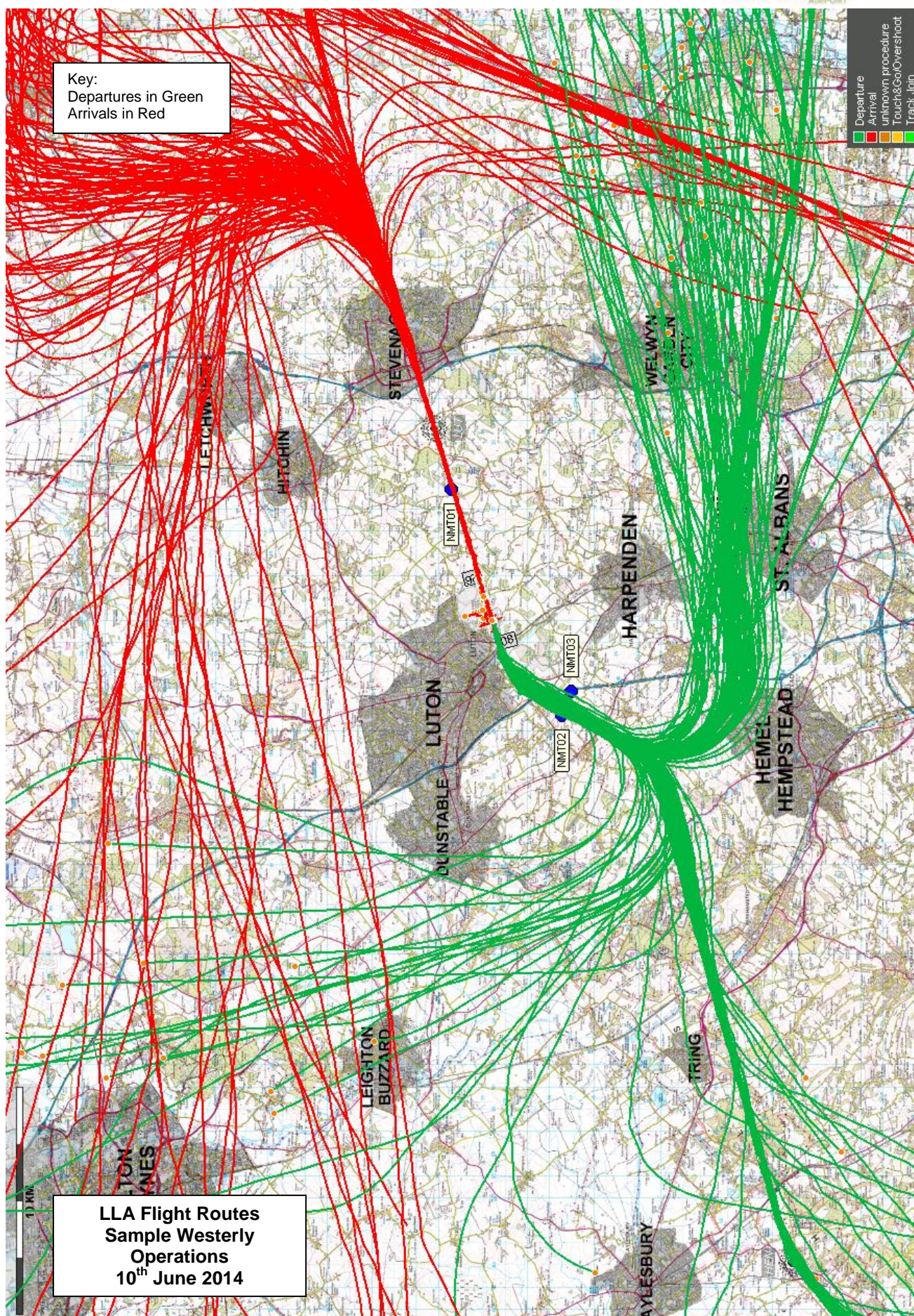
6.2 Airport Visits to the Community

At the beginning of April 2014, the Operations Director and Airfield Environment Officer accepted an invitation to meet with a local resident of St Albans at his home to view the actual flown tracks of Luton departures in relation to his property.

*Airfield Environment Office
London Luton Airport Operations Ltd
August 2014*

*Direct Dial: (01582) 395382 (24 hours)
email: noise@ltn.aero*





London Luton Airport

Briefing Note to NTSC – 3rd September 2014

Night Noise Contours April to June 2014

Introduction

Luton Airport Operations Limited (LLAOL) have retained Bickerdike Allen Partners to produce quarterly night noise contours for the second quarter of 2014 in accordance with Issue 8 of the Night Noise Policy, paragraph 3.6, which states: “LLAOL will prepare $L_{Aeq,8h}$ noise exposure contours for an average night in each quarter (Jan–Mar; Apr–Jun; Jul–Sep; and Oct–Dec) for the night contour period (2300-0700). These contours will commence at 48 dB(A) and show increasing values in 3 dB(A) steps and will be reported to the LLACC and/or NTSC.”

Contour Production

Aircraft movement data for use in the contour production has been supplied by LLAOL. The same contour production methodology has been used as for the revised 2014 Q1 contours. That is with the inclusion of terrain, and the latest INM software (Version 7.0d) which has been used with a validation based on measured results in 2013 at the fixed noise monitors. This methodology is very similar to that used for the 2013 Q1 to Q4 contours.

Noise Contour Results

The resulting noise contours are shown in the attached Figure A9457-NN14-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 and compared with the values for the previous quarter (January – March 2014) and the equivalent period during the previous year (April – June 2013).

Contour Value (dB $L_{Aeq,8h}$)	Contour Area (km ²)		
	Apr – Jun 2013	Jan – Mar 2014	Apr – Jun 2014
48	29.3	16.1	31.7
51	16.8	9.1	18.2
54	9.5	5.3	10.2
57	5.5	2.7	5.9
60	2.8	1.4	3.1
63	1.4	0.9	1.5
66	0.9	0.5	0.9
69	0.6	0.4	0.6
72	0.4	0.2	0.4
W/E Split (%)	65/35	80/20	56/44

Table 1: Area of Night Noise Contours

Aircraft Movements

The aircraft movements for the night noise contours as supplied by LLAOL 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 ^[1]	Apr – Jun 2013	Jan – Mar 2014	Apr – Jun 2014
737300	n/a	31	17
737400	81	12	79
737700	13	n/a	11
737800	605	190	688
757RR	72	n/a	51
A300-622R	97	134	142
A300B4-203	21	n/a	n/a
A319-131	755	159	722
A320-211	761	390	987
A321-232	124	67	192
A330-301	n/a	n/a	18
CL600	110	72	111
CL601	15	21	21
CNA441	12	n/a	14
CNA500	15	n/a	19
CNA510	28	13	21
CNA525C	45	30	42
CNA55B	n/a	10	21
CNA560XL	46	43	68
CNA680	12	n/a	13
CNA750	10	n/a	n/a
DO328	141	132	144
EMB145	61	31	59
F10062	62	60	70
GIV	79	95	64
GV	211	204	219
IA1125	15	n/a	n/a
LEAR35	70	42	19
Other	42	75	69
Total	3503	1811	3881

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

^[1] INM Aircraft Types include only actual types and not substituted types. Therefore totals for some types may not match those previously reported.

Noise Contour Comparison

Compared with the same quarter in 2013, there has been an increase in the total number of movements of 11%, and the fleet mix has changed, with the proportion of passenger jets rising from around 72% to around 79%. The modal split has changed slightly, with only 56% of aircraft operations using runway 26, compared to 65% of operations in the second quarter of 2013. The area within the 48 dB(A) noise contour has increased by 8% compared to the same period last year. This is due to the higher movement numbers and the changes in fleet mix. As in previous years, the number of movements has significantly increased compared to the previous quarter (January – March 2014).

Duncan Rogers

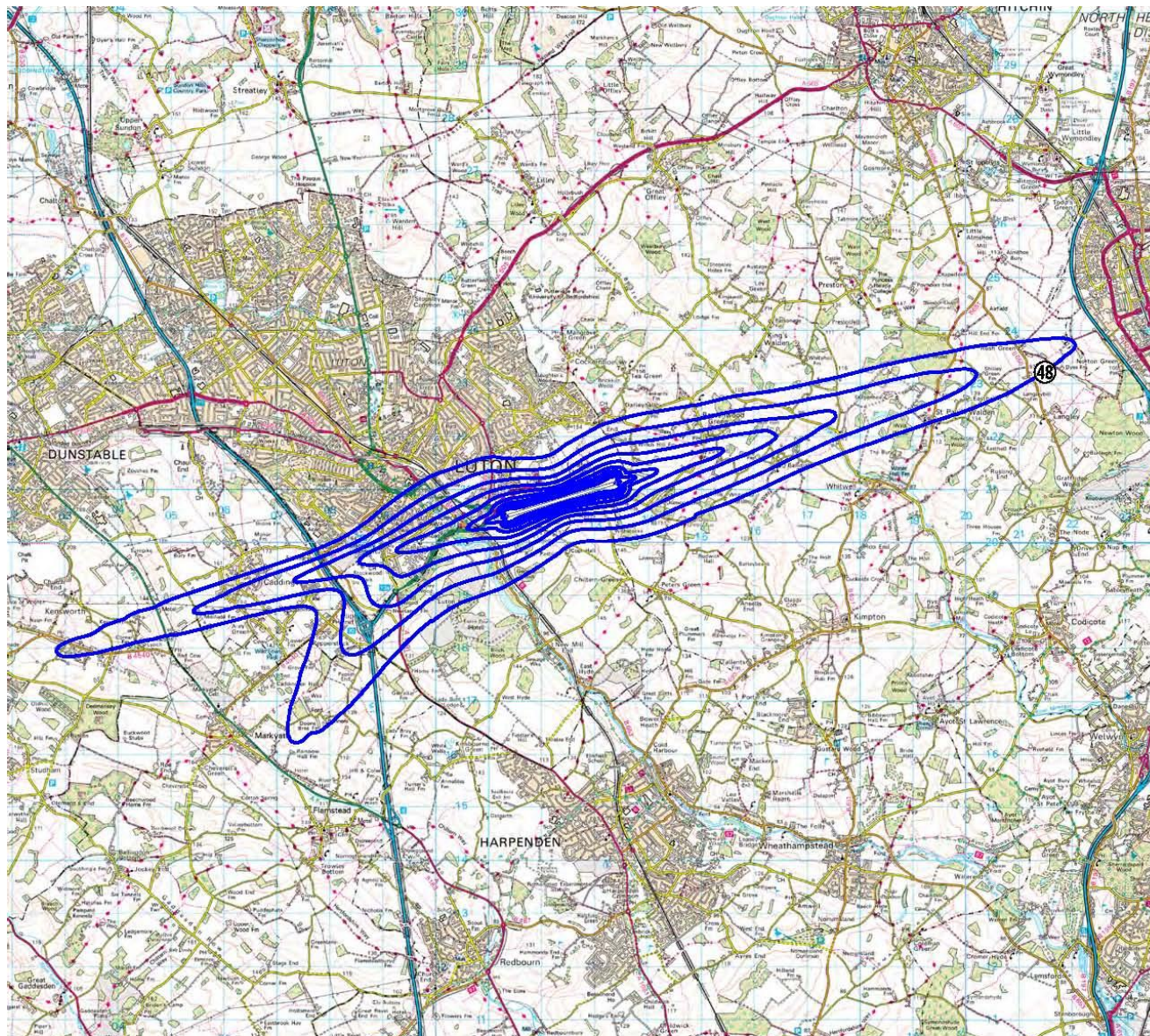
for Bickerdike Allen Partners

David Charles

Associate

Peter Henson

Partner



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LEGEND:

— Noise Contours,
48 to 72 dB Leq, h in 3 dB steps

REVISIONS

**Bickerdike
Allen
Partners**
Architecture
Acoustics
Technology

121 Salisbury Road, London, NW6 6RG
Email: mail@bickerdikeallen.com
www.bickerdikeallen.com

T: 0207 625 4411
F: 0207 625 0250

**London Luton Airport
Regular Contouring**

**Airborne Aircraft Noise Contours
Apr-Jun 2014 Average Night time**

DRAWN: DR CHECKED: NW

DATE: 11/08/2014 SCALE: 1:100000@A4

FIGURE No:

A9457/NN14/Q2