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 January to March 2014.

2. AIRCRAFT MOVEMENTS / PASSENGER STATISTICS

2.1 Total Aircraft Movements

There were a total of 20,881 aircraft movements during the quarter (compared with 20,634 for the same period in 2013), an increase of 1%. This resulted in an average 232 movements per 24 hours (compared to 229 last year).

A breakdown of these movements is shown below:

	Jan 2014	Feb 2014	Mar 2014	Total %	QTR Total
Cargo	123	131	139	2%	393
Passenger	4,931	4,825	5,553	74%	15,309
Other Positioning	362	356	392	6%	1,110
Stansted Positioning	7	15	14	0.1%	36
Official	0	1	9	0.1%	10
Other Non-Commercial*	24	27	41	0.5%	92
General Aviation**	1,214	1,273	1,396	17%	3,883
Test & Training	20	15	13	0.3%	48
Total	**6,681**	**6,643**	**7,557**	**100%**	**20,881**

* *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 1,900,214 passengers passed through LLA during the period January to March 2014 (compared with 1,870,327 for the same period last year), an increase of 2% year on year. This equates to an average 21,113 passengers per 24 hours (compared to 20,871 during the first quarter last year).

2.3 Runway Usage

The runway usage split during this period was 23% easterly and 77% westerly (compared to 56% / 44% for the same quarter last year). The breakdown of these statistics, on a monthly basis, is as follows:

Jan 2014 19% easterly / 81% westerly
Feb 2014 12% easterly / 88% westerly
Mar 2014 37% easterly / 63% westerly

2.4 Day / Night Ratio of Movements

There were 1,177 night operations during the quarter (compared to 1,206 for the first quarter 2013), an average 13 movements per night (in line with 13 last year). Arriving aircraft accounted for 60% of total night movements and the average ratio of total aircraft operations during the quarter was 94% day / 6% night (in line with 94% / 6% 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 23:00 hrs and 06:00 hrs, Mon-Sat and until 07:00 hrs on Sunday.

		Clacton*		Compton		Olney		Other**		Heli	Total
		08	26	08	26	08	26	08	26		
Jan	Day	294	1,285	166	770	116	473	9	45	20	3,178
	Night	16	60	11	49	4	8	0	1	0	149
	Total	310	1,345	177	819	120	481	9	46	20	3,327
Feb	Day	188	1,358	120	870	75	503	9	36	21	3,180
	Night	8	59	5	44	1	22	0	0	5	144
	Total	196	1,417	125	914	76	525	9	36	26	3,324
Mar	Day	655	1,080	417	758	236	388	20	29	23	3,606
	Night	24	58	25	43	7	12	1	1	2	173
	Total	679	1,138	442	801	243	400	21	30	25	3,779
Day Total		***1,137***	***3,723***	***703***	***2,398***	***427***	***1,364***	***38***	***110***	***64***	***9,964***
Night Total		***48***	***177***	***41***	***136***	***12***	***42***	***1***	***2***	***7***	***466***
Total		**1,185**	**3,900**	**744**	**2,534**	**439**	**1,406**	**39**	**112**	**71**	**10,430**

* Clacton/Dover/Detling departures have been merged as the immediate flight routes follow the same path.
** 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 23:00 hrs and 06:00 hrs, Mon-Sat and until 07:00 hrs 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 5000ft.

		Arrivals				CDA		
		08	**26**	**Heli**	**Total**	**08 (%)**	**26 (%)**	**Total (%)**
Jan	Day	598	2,518	22	3,138	89	83	85
	Night	39	177	0	216	87	76	78
	Total	637	2,695	22	3,354	**89**	**83**	**84**
Feb	Day	366	2,694	23	3,083	87	83	84
	Night	21	214	1	236	75	81	81
	Total	387	2,908	24	3,319	**86**	**83**	**84**
Mar	Day	1,293	2,202	24	3,519	93	87	89
	Night	83	175	1	259	86	75	78
	Total	1,376	2,377	25	3,778	**92**	**86**	**88**
Day Total		***2,257***	***7,414***	***69***	***9,740***	***91%***	***85%***	***86%***
Night Total		***143***	***566***	***2***	***711***	***84%***	***78%***	***79%***
	Total	**2,400**	**7,980**	**71**	**10,451**	**90%**	**84%**	**86%**

3. NOISE MONITORING DATA

3.1 Daytime Noise Levels (January to March 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 06:00 hrs and 22:59 hrs Monday to Saturday and 07:00 hrs to 22:59 hrs on Sunday, is fined accordingly*)

	Number of Departures (Daytime)										
	<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)	Total
Jan	331	490	1,530	275	7	2	2	0	0	0	**2,637**
Feb	228	286	1,355	313	17	1	0	0	0	0	**2,200**
Mar	424	633	1,636	327	23	0	1	0	0	*0*	**3,044**
% Total	*12%*	*18%*	*57%*	*12%*	*1%*	*0%*	*0%*	*0%*	*0%*	*0%*	**100%**
Total	**983**	**1,409**	**4,521**	**915**	**47**	**3**	**3**	**0**	**0**	**0**	**7,881**

(The 6 daytime departures registering maximum noise levels in excess of 82dB(A) during the period January to March 2014 all related to ad hoc, older generation business jets, involving B737-200 and FA50 aircraft types.)

3.1.1 Daytime Noise Violations (January to March 2014)

There were no daytime noise violations during the quarter.

3.2 Night Noise Levels (January to March 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 23:00 hrs and 06:00 hrs Monday to Saturday and 23:00 hrs to 07:00 hrs on Sunday, is fined accordingly)

	Number of Departures (Night time)										
	<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)	Total
Jan	24	20	43	16	0	0	0	0	0	0	**103**
Feb	23	20	28	9	1	0	0	0	0	0	**81**
Mar	39	27	48	13	0	0	0	0	0	0	**127**
% Total	*28%*	*22%*	*38%*	*12%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*100%*
Total	**86**	**67**	**119**	**38**	**1**	**0**	**0**	**0**	**0**	**0**	**311**

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 (January to March 2014)

There were no night noise violations during the quarter.

3.2.2 Night Noise Contours (January to March 2014)

Night contour data for the 1st Quarter 2014 is attached at the end of this report.

4. COMPLAINTS

4.1 Total Complaints relating to LLA aircraft operations

	1st QTR 2013	1st QTR 2014
Total No. of Complaints relating to LLA aircraft operations	169	104
No. of Complainants	85	47
No. of Events (eliciting a complaint)	*442[#] (244[*])*	*252[#] (114[**])*
Average No. of Complaints per Complainant	*2*	*2.2*
Average No. of Events per Complainant	*5.2[#] (2.9[*])*	*5.4[#] (2.4[**])*
Average No. of Events per Complaint	*2.6[#] (1.4[*])*	*2.4[#] (1.1[**])*
No. of Aircraft Movements per Complaint	*122*	*201*
No. of Aircraft Movements per Event	*47[#] (85[*])*	*83[#] (183[**])*

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

[*] *Figures excluding 198 events reported by two residents of Harpenden.*

[**] *Figures excluding 138 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. A 13 week consultation period on these proposals is currently underway, ending on 9th July 2014 (http://www.london-luton.co.uk/en/content/8/1235/rnav-consultation.html)*

[#] 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 104 complaints relating to LLA aircraft operations (on average just over 1 complaint per 24 hours) were received by the Airfield Environment Office, compared with 169 for the same period last year, a decrease of 38%.

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

Jan 2014	30 complaints	(29 events)
Feb 2014	17 complaints	(45 events)
Mar 2014	57 complaints	(178 events)

4.1.2 A further 10 complaints (reporting 7 specific events) not attributable to LLA traffic were received throughout the quarter, compared to 18 (35 events) for the period January to March last year.

4.1.3 A total of 47 complainants reported concerns to the Airfield Environment Office between January to March 2014, compared to 85 for the same period last year. Statistics identify that 33 of the complainants (70%) contacted the airport only once during the quarter and that 7 individuals (15%) were reporting concerns for the first time.

4.1.4 Within the 104 complaints received during the quarter, a total of 252 events (eliciting a complaint) were listed, compared to 442 events for the same period last year. It should be noted, however, that 55% of events this quarter were reported by just one individual in St Albans.

4.1.5 Throughout the quarter a total of 5 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 2 cases revised vectors had been given by Air Traffic Control for reasons of weather avoidance, whilst 3 complaints related to aircraft which did indeed fly outside the stipulated departure corridor. 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 January to March 2014.

Reported Concerns	No. of Complaints	% of Total Complaints
Westerly Departures	60	57%
Easterly Arrivals	16	15.5%
Easterly Departures	15	14.5%
General / Frequency	7	7%
Go Arounds	5	5%
Westerly Arrivals	1	1%
Total	**104**	**100%**

4.2.1 During the last quarter 20 individuals reported a total of 43 complaints concerning aircraft noise disturbance at night (41% of overall complaints). This compares to 77 night noise complaints (from 48 individuals) received during the same period last year.

Departing aircraft accounted for 58% of the 43 night complaints and 26% involved arrivals. A further 16% of night complaints reported general disturbance. Cargo flights, primarily involving A306 aircraft and ATP postal flights were reported in 35% of night complaints.

4.2.2 Within the 60 complaints concerning westerly departures, 38 complaints involved aircraft on the Clacton/Dover/Detling flight route, 20 were of a general nature, 1 involved an Olney departure and 1 related to an aircraft on a short positioning flight, following an off-airways routing.

4.2.3 With regard to the 15 complaints attributed to easterly departures, 7 related to aircraft following the Compton flight route, 6 to aircraft following the Olney flight route and 2 were of a general nature.

4.2.4 Whilst 11 of the 16 complaints concerning easterly arrivals reported general disturbance, 5 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 98% of the 104 complaints received during the quarter. Aircraft being perceived as **off track** were reported in 46% of complaints and concerns relating to aircraft flying **low** were reported in 16% of complaints received. The **frequency** of operations were cited in 12% 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	60	31	11	**102**
Off Track	31	14	3	**48**
Low-Flying	15	2	2	**17**
Frequency	8	2	2	**12**

* *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 first quarter of 2014.

4.3.2 Within the 104 complaints registered during the quarter a total of 84 complaints (81%) 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/ easyJet)	29	28%
A306 (MNG Cargo & DHL)	13	12.5%
A319 (easyJet)	10	9.5%
GLF4/GLF5/GLF6 (GA)	8	7.5%
B737-800 (Ryanair/Thomson)	5	5%
Global Express (GA)	4	3.5%
GLF2/GLF3 (GA)	2	2%
ATP (Atlantic Airlines)	2	2%
B737-300 (Tarom/Blue Air)	2	2%
B737-400 (Blue Air)	1	1%
B737-200 (GA)	1	1%
A30B (MNG Cargo)	1	1%
Other Private Aircraft	*5*	*5%*
Other Cargo Aircraft	*1*	*1%*
Other Passenger Aircraft	*0*	*0%*
Total	**84**	**81%**

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 January to March 2014.

Location	Complaints	Events* (eliciting a complaint)	Complainants	*Average Complaints per Complainant*	*Average Events per Complainant*
Ayot St Lawrence	6	0	1	*6*	*0*
Caddington	7	10	5	*1.4*	*2*
Codicote	1	0	1	*1*	*0*
Eaton Bray	3	4	2	*1.5*	*2*
Edlesborough	2	2	2	*1*	*1*
Flamstead	4	4	4	*1*	*1*
Harpenden	12	25	6	*2*	*4*
Hemel Hempstead	5	11	1	*5*	*11*
Hitchin	8	8	2	*4*	*4*
Kensworth	7	13	1	*7*	*13*
Luton	9	14	6	*1.5*	*2*
Markyate	1	1	1	*1*	*1*
Pepperstock	3	6	2	*1.5*	*3*
Redbourn	4	3	3	*1.3*	*1*
Slip End	1	1	1	*1*	*1*
St Albans	27	142	5	*5.4*	*28*
Wheathampstead	1	1	1	*1*	*1*
Whipsnade	1	5	1	*1*	*5*
Whitwell	1	1	1	*1*	*1*
Woodside	1	1	1	*1*	*1*
Totals	**104**	**252 (114**)**	**47**	***2.2***	***5.4* (2.4**)**

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

** *Figures excluding 138 events, reported by one individual from St Albans*

5. COMPLAINTS ADMINISTRATION

5.1 Method of Receipt

How Received	**% of Total Complaints**
E-mail*	76%
Telephone	24%

* During the period January to March a total of 79 complaints were reported to the Airfield Environment Office by e-mail. Within this total 57% (45) were sent directly to noise@ltn.aero, with the remaining 43% of e-mail complaints (34) being submitted via the noise complaint template on the website www.london-luton.co.uk.

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.

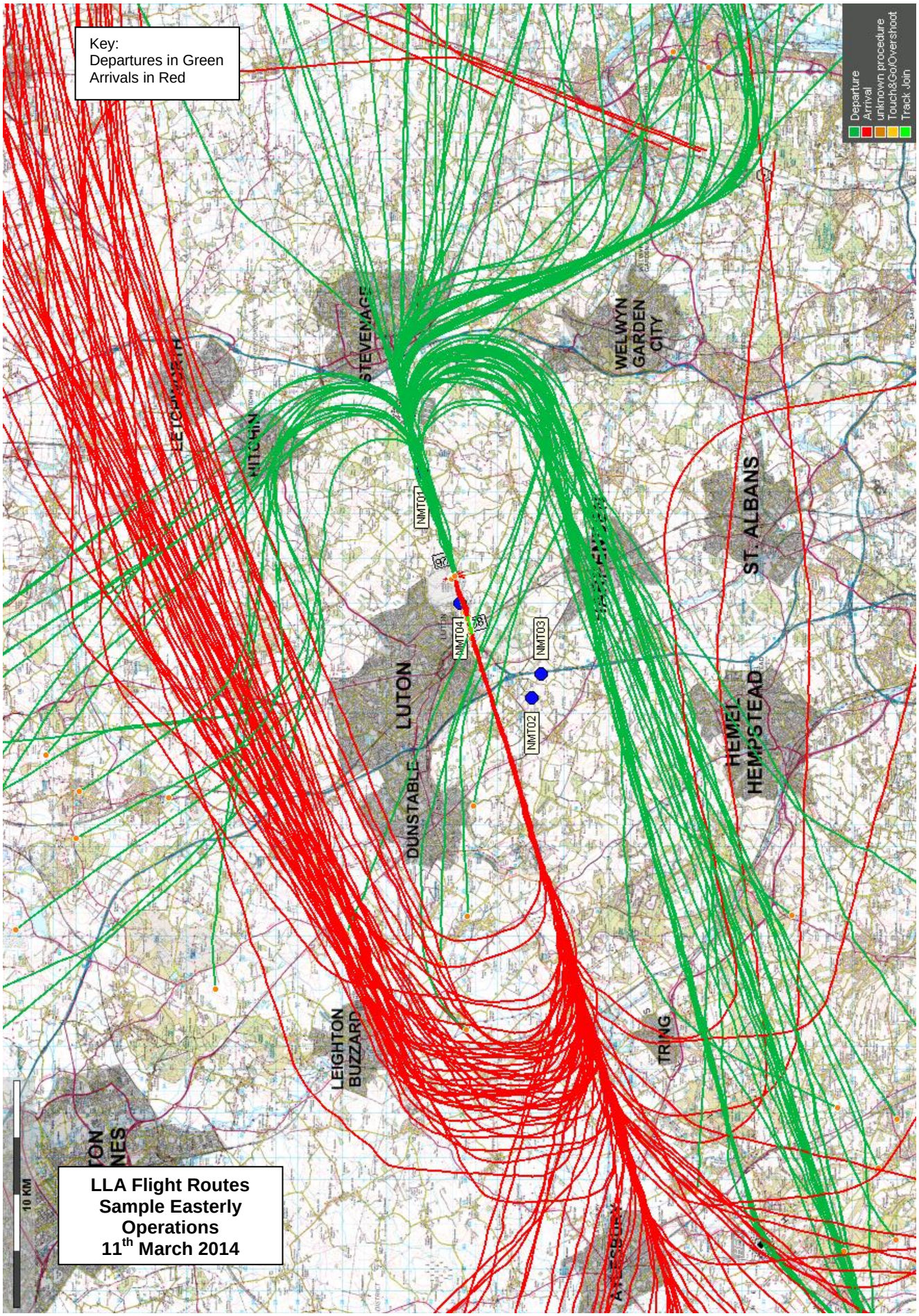
No offers to visit the airport were taken up during the period January to March 2014.

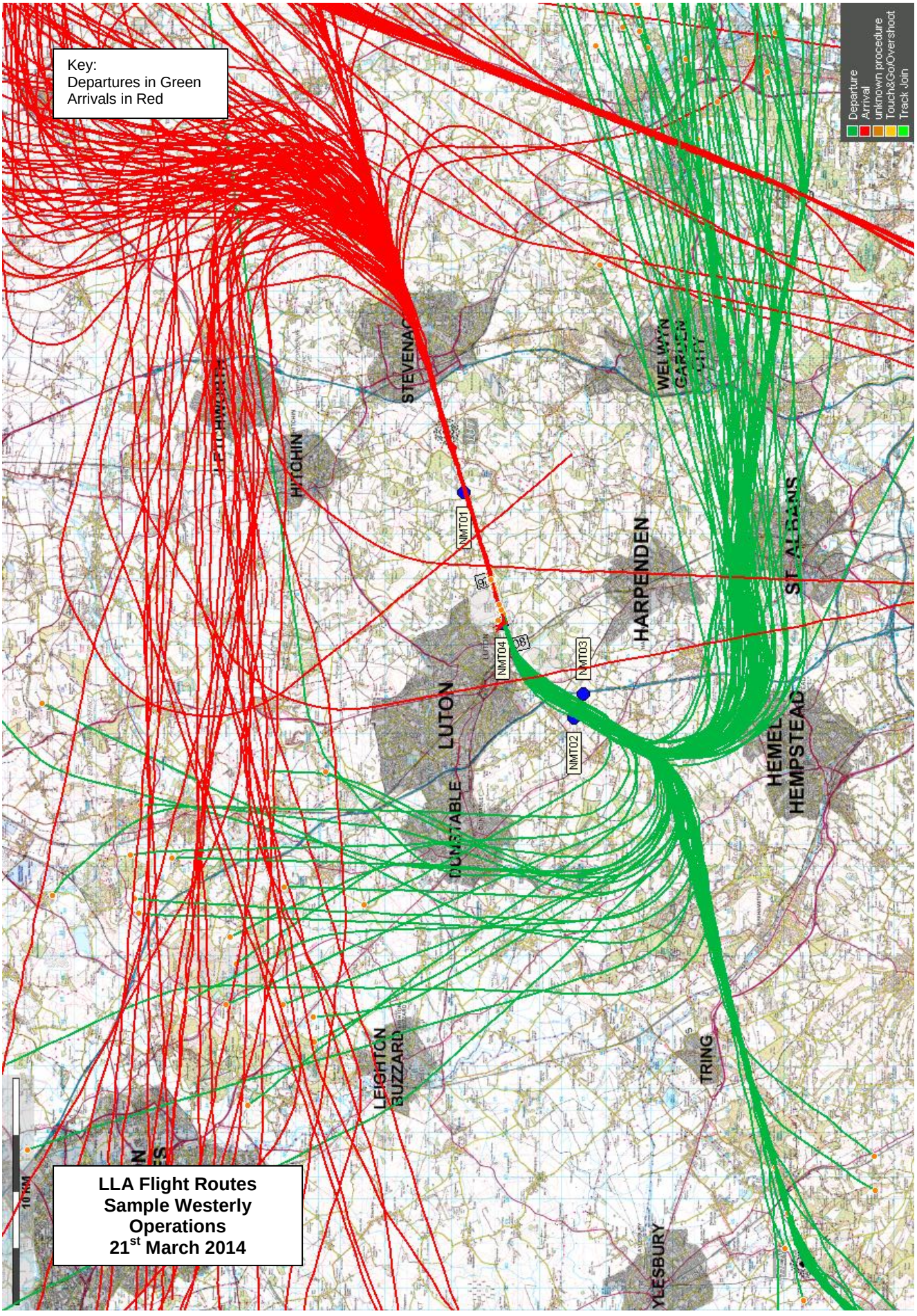
6.2 Airport Visits to the Community

No invitations were received by the Airfield Environment Office during the period January to March 2014.

Airfield Environment Office
London Luton Airport Operations Ltd
May 2014

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





London Luton Airport

Briefing Note to NTSC – 27th June 2014

Night Noise Contours
January to March 2014

Introduction

Luton Airport Operations Limited (LLAOL) have retained Bickerdike Allen Partners to produce quarterly night noise contours for the first 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 contours for 2013. 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 2012 at the fixed noise monitors. A check on this validation using data from 2013 is in progress.

Noise Contour Results

The resulting noise contours are shown in the attached Figure A9457-NN14-Q1 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 (October – December 2013) and the equivalent period during the previous year (January – March 2013).

Contour Value (dB $L_{Aeq,8h}$)	Contour Area (km^2)		
	Jan – Mar 2013	Oct – Dec 2013	Jan – Mar 2014
48	17.3	20.4	16.2
51	9.9	11.7	9.2
54	5.7	6.8	5.4
57	2.9	3.7	2.8
60	1.5	1.8	1.4
63	0.9	1.1	0.9
66	0.6	0.7	0.6
69	0.4	0.4	0.4
72	0.2	0.3	0.2
W/E Split (%)	41/59	81/19	80/20

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	Jan – Mar 2013	Oct – Dec 2013	Jan – Mar 2014
737300	n/a	42	31
737400	21	31	12
737700	17	15	n/a
737800	258	372	190
757RR	25	44	n/a
A300-622R	121	123	134
A319-131	246	311	159
A320-211	312	473	390
A321-232	71	101	67
A330-301	n/a	15	n/a
CL600	81	80	72
CL601	16	20	21
CNA441	17	20	n/a
CNA500	11	12	n/a
CNA510	10	20	13
CNA525C	20	41	30
CNA55B	11	11	10
CNA560XL	43	50	43
DO328	133	133	132
EMB145	19	54	31
F10062	39	42	60
GIV	52	66	95
GV	188	212	204
IA1125	10	n/a	n/a
LEAR35	45	45	42
Other	54	64	75
Total	**1820**	**2397**	**1811**

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

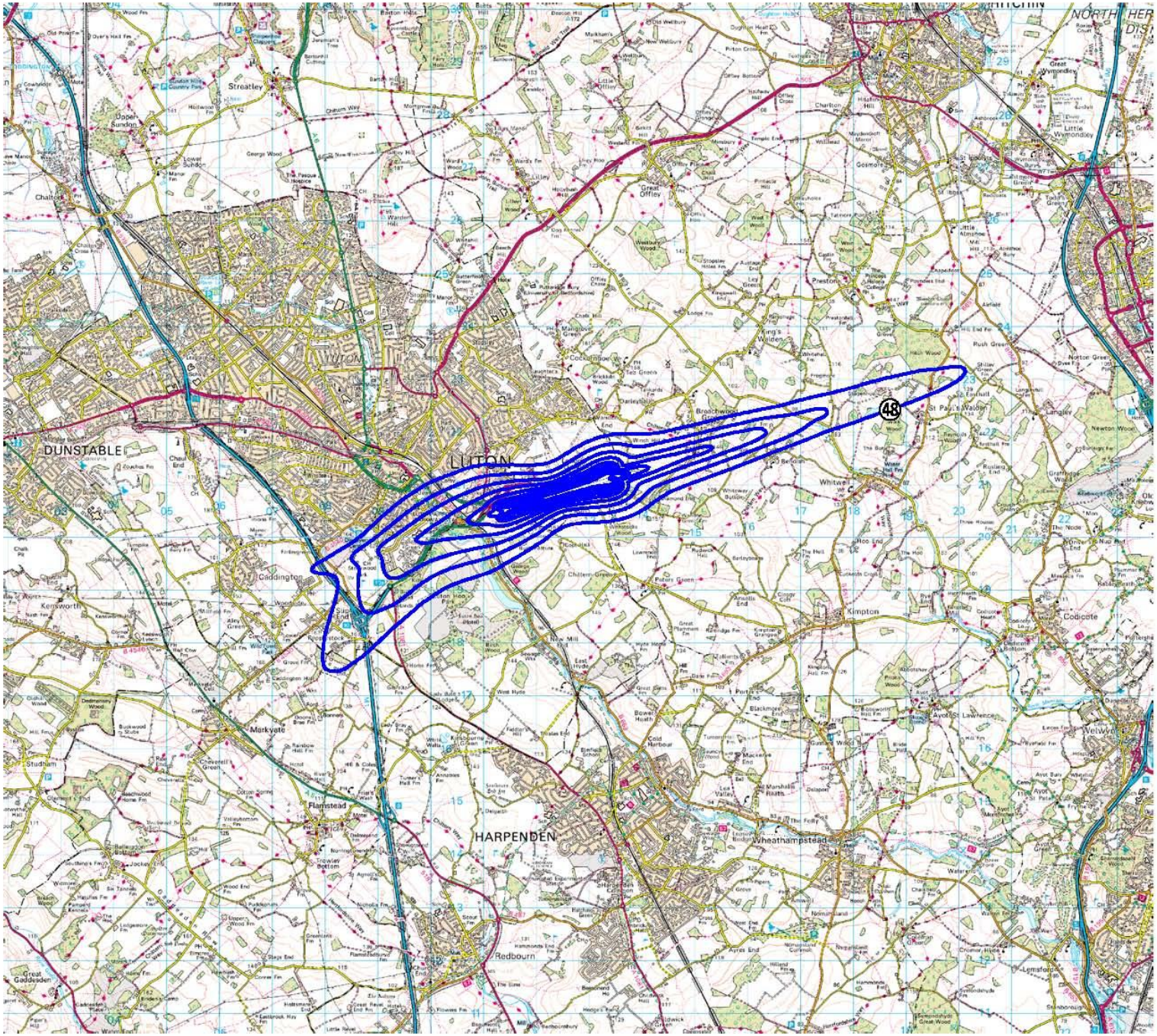
Noise Contour Comparison

There has been a negligible decrease in the total number of movements of less than 1%, but changes have occurred in the modal split and fleet mix, compared with the same quarter in 2013. The area within the 48 dB(A) noise contour has decreased by 6% compared to the same period last year. This is due to the changes in fleet mix, which has seen a drop in the number of movements by the Boeing 737-800, the loudest of the commonly operating passenger types. The change in modal split, although large, affects the shape of the contour but has very little impact on contour area. As in previous years, the number of movements has significantly decreased compared to the previous quarter (October - December 2013).

Nick Williams
for Bickerdike Allen Partners

David Charles
Associate

Peter Henson
Partner



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
Jan-Mar 2014 Average Night time

DRAWN: NW	CHECKED: DC
DATE: 27/05/2014	SCALE: 1:100000@A4

FIGURE No:

A9457/NN14/Q1