

# Airfield Environment Report

## **Qtr 3 2015**



# INTRODUCTION

The purpose of this report is to advise the community of statistics concerning aircraft operations at London Luton Airport (LLA) and related complaints during the period July to September 2015.

## KEY MONITORING INDICATORS – 3<sup>RD</sup> QUARTER 2015

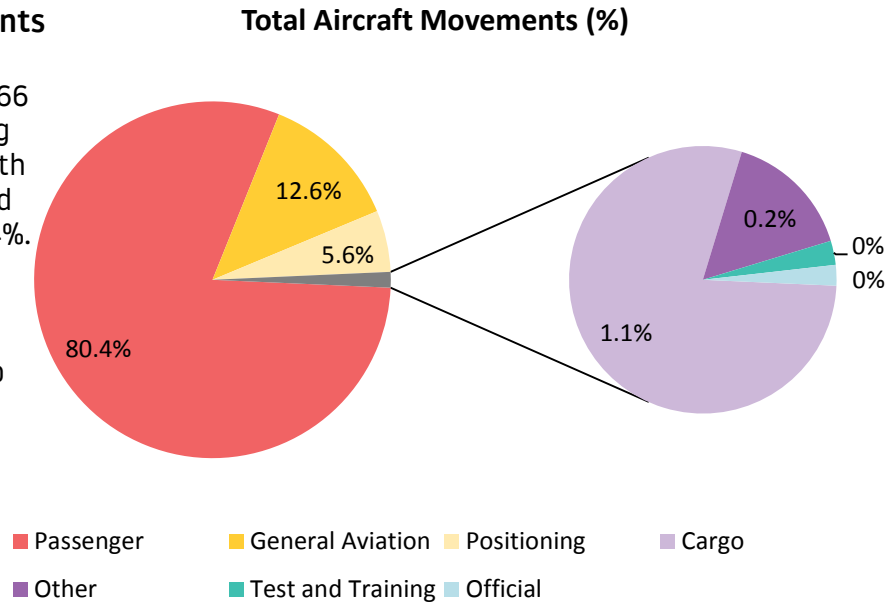
| Parameter  |   | 3 <sup>rd</sup> Quarter 2015 | 3 <sup>rd</sup> Quarter 2014 |
|--|---|------------------------------|------------------------------|
| Total Aircraft Movements                               | ↑ | 33,966                       | 29,859                       |
| Night Movements (23.00 – 07.00)                        | ↓ | 4,374                        | 4,400                        |
| Early Morning Movements (06.00 – 07.00)                | ↑ | 1,588                        | 1,556                        |
| Total Passenger Number                                 | ↑ | 3,901,534                    | 3,333,428                    |
| 24hr CDA (% achievement)                               | ↓ | 90%                          | 91%                          |
| Day CDA (% achievement)                                | ↓ | 90%                          | 91%                          |
| Night CDA (% achievement)                              | - | 89%                          | 89%                          |
| Track Violations                                       | - | 25                           | -                            |
| Departure Noise Infringements (Day)                    | ↑ | 8                            | 1                            |
| Departure Noise Infringements (Night)                  | ↑ | 1                            | 0                            |
| Noise Monitor Results                                  |   |                              |                              |
| No. Day (Night) > 85 dB(A)                             | - | 5 (0)                        | 5 (0)                        |
| No. Day (Night) > 76 dB(A)                             | - | 2,372 (431)                  | 2,711 (410)                  |
| No. Day (Night) > 70 dB(A)                             | - | 11,307 (1,589)               | 10,465 (1,387)               |
| Night Noise Contour Area (48 dB L <sub>Aeq, 8h</sub> ) | ↑ | 35.4km <sup>2</sup>          | 34.6km <sup>2</sup>          |
| Noise Complaints                                       | ↓ | 396                          | 495                          |
| Complainants   | ↓ | 212                          | 279                          |
| Number of New Complainants                             | ↓ | 80                           | 98                           |
| Largest Source of Complaints                           | - | Deps. West                   | Deps. West                   |
| Origin of Complainants (>5)                            |   | Caddington                   | Caddington                   |
|  |   | Flamstead                    | Flamstead                    |
|  |   | Harpenden                    | Harpenden                    |
|  |   | Kensworth                    | Hemel Hempstead              |
|  |   | South Luton                  | Hitchin                      |
|  |   | Markyate                     | Kensworth                    |
|  | ↓ | Redbourn                     | Luton                        |
|  |   | St Albans                    | Markyate                     |
|  |   | Stevenage                    | Redbourn                     |
|  |   | Wheathampstead               | Slip End                     |
|  |   |                              | St Albans                    |
|  |   |                              | Stevenage                    |
|  |   |                              | Wheathampstead               |
| Westerly/Easterly Runway Split (%)                     | - | 71/29                        | 65/35                        |

# 1 AIR TRAFFIC DATA

## 1.1 Aircraft Movements

There were a total of 33,966 aircraft movements during this quarter (compared with 29,859 for the same period in 2014), an increase of 14%.

This resulted in an average 369 movements per 24 hours (compared to 325 last year).



A breakdown of these movements is shown below:

|           | Commercial |           |             |     | Non-Commercial* |          |       |                    |                 | Total  |
|-----------|------------|-----------|-------------|-----|-----------------|----------|-------|--------------------|-----------------|--------|
|           | Cargo      | Passenger | Positioning |     | Military        | Official | Other | General Aviation** | Test & Training |        |
|           |            |           | Other       | STN |                 |          |       |                    |                 |        |
| July 2015 | 132        | 9,348     | 661         | 19  | 0               | 4        | 28    | 1,584              | 2               | 11,778 |
| Aug 2015  | 107        | 9,234     | 541         | 13  | 0               | 3        | 25    | 1,146              | 4               | 11,073 |
| Sept 2015 | 141        | 8,721     | 635         | 26  | 0               | 5        | 22    | 1,557              | 8               | 11,115 |
| QTR Total | 380        | 27,303    | 1,837       | 58  | 0               | 12       | 75    | 4,287              | 14              | 33,966 |

## 1.2 Passenger Statistics

A total of 3,901,534 passengers passed through LLA during the period July to September 2015 (compared with 3,333,428 for the same period last year), 3,689,578 on scheduled flights (94.6%) and 211,956 on charter flights (5.4%). This represents an increase in passengers of 17% year on year and equates to an average 42,408 passengers per 24 hours (compared to 36,233 during the third quarter last year).

|           | Domestic | EU        | Non-EU  | Total     |
|-----------|----------|-----------|---------|-----------|
| July 2015 | 89,313   | 898,104   | 334,745 | 1,322,162 |
| Aug 2015  | 85,782   | 927,999   | 354,324 | 1,368,105 |
| Sept 2015 | 81,061   | 823,809   | 306,397 | 1,211,267 |
| QTR Total | 256,156  | 2,649,912 | 995,466 | 3,901,534 |

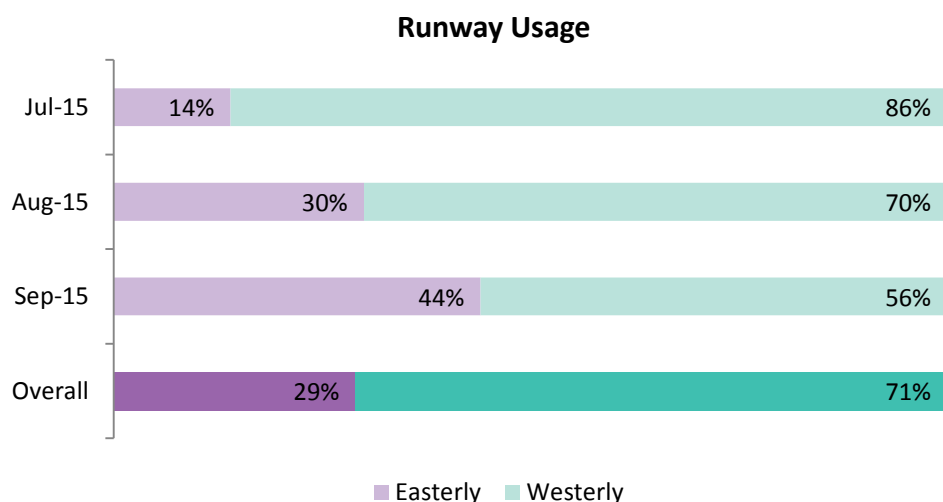
\* Non-Commercial relates to aircraft not operating for hire or reward.

\*\* 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 29% easterly and 71% westerly (compared to 35% / 65% 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 with noise quotas as an additional measure. At Luton Airport these number of movements and quota counts allowed are set to 9,650 and 3,500 respectively in any twelve month period in the new planning conditions.

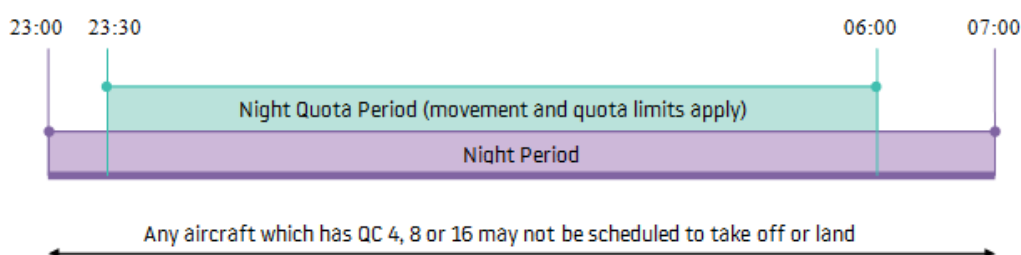
Aircraft are certified by the International Civil Aviation Organisation (ICAO) according to the noise they produce during specific certification tests conducted by the manufacturer. They are classified separately for both take off and landing. The points are then allocated to different aircraft types according to how noisy they are. The table overleaf records to 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<br>Antonov 124/225                                |
| 99 to 101.9                      | QC 8        | Some Boeing 747-400<br>McDonnell Douglas DC-8                             |
| 96 to 98.9                       | QC 4        | Boeing 737-200ADV<br>McDonnell Douglas DC-10                              |
| 93 to 95.9                       | QC 2        | Boeing 777-200<br>Airbus A300-600<br>Airbus A330                          |
| 90 to 92.9                       | QC 1        | Airbus A320/A321<br>Some Boeing 737-800<br>Boeing 757-200<br>Boeing 787-8 |
| 87 to 89.9                       | QC 0.5      | Airbus A319/A320<br>Boeing 737-400<br>Boeing 737-800<br>Boeing 787-8      |
| 84 to 86.9                       | QC 0.25     | Airbus A319/A320<br>Global Express<br>Dassault Falcon 7X/900/2000         |
| Less than 84                     | QC 0        | Challenger series (eg CL600)<br>BAe ATP<br>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). Total annual movements by aircraft in any 12 month period shall be limited to 7000.

### 1.4.2 Restrictions at London Luton Airport



|                  | Night Quota Period<br>(2330-0600) |               | Early Morning<br>Shoulder<br>(0600-0700) |
|------------------|-----------------------------------|---------------|--|
|                  | <i>Movements</i>                  | <i>QC</i>     | <i>Movements</i>                         |
| Jul 2015         | 786                               | 289.25        | 521                                      |
| Aug 2015         | 700                               | 259.00        | 544                                      |
| Sept 2015        | 772                               | 280.50        | 523                                      |
| <b>QTR Total</b> | <b>2,258</b>                      | <b>828.75</b> | <b>1,588</b>                             |

## 1.5 Day/Night Ratio of Movements - Actual

There were 4,374 night operations during the quarter (compared to 4,400 for the third quarter 2014), an average 48 movements per night (compared to 48 last year). Arriving aircraft accounted for 56% of total night movements and the average ratio of total aircraft operations during the quarter was 87% day / 13% night (compared to 85% / 15% for the same period last year).

*N.B. The figures quoted for 2014 cover the revised night period that has been extended by one hour, between 23:00 hrs and 07:00 hrs, as opposed to a shorter night period that was previously used.*

|                                     | Day Movements<br>(0700-2300) |        |        | Night Movements (2300-0700)       |       |                                       |       | Total  |  |
|-------------------------------------|------------------------------|--------|--------|-----------------------------------|-------|---------------------------------------|-------|--------|--|
|                                     | Day movements                |        |        | Night Quota Period<br>(2330-0600) |       | Early Morning<br>Shoulder (0600-0700) |       |        | Total Night<br>Movements<br>(2300 –<br>0700) |
|                                     | A                            | D      | Total  | A                                 | D     | A                                     | D     |        |  |
| Oct 2014                            | 4,086                        | 4,244  | 8,330  | 451                               | 173   | 117                                   | 321   | 1,184  | 9,514  |
| Nov 2014                            | 3,338                        | 3,433  | 6,771  | 203                               | 113   | 114                                   | 131   | 648    | 7,419  |
| Dec 2014                            | 3,457                        | 3,605  | 7,062  | 210                               | 139   | 115                                   | 117   | 664    | 7,726  |
| Jan 2015                            | 3,228                        | 3,319  | 6,547  | 218                               | 130   | 112                                   | 120   | 659    | 7,206  |
| Feb 2015                            | 3,268                        | 3,358  | 6,626  | 186                               | 119   | 104                                   | 122   | 597    | 7,223  |
| Mar 2015                            | 3,783                        | 3,877  | 7,660  | 214                               | 143   | 121                                   | 172   | 735    | 8,395  |
| Apr 2015                            | 4,001                        | 4,058  | 8,059  | 404                               | 171   | 103                                   | 344   | 1,156  | 9,215  |
| May 2015                            | 4,618                        | 4,774  | 9,392  | 539                               | 184   | 96                                    | 391   | 1,367  | 10,759                                       |
| June 2015                           | 4,834                        | 5,062  | 9,896  | 620                               | 191   | 96                                    | 415   | 1,483  | 11,379                                       |
| 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                                       |
| QTR Total                           | 14,540                       | 15,052 | 29,592 | 1,729                             | 529   | 286                                   | 1,302 | 4,374  | 33,966                                       |
| Total for<br>preceding<br>12 months | 49,153                       | 50,782 | 99,935 | 4,774                             | 1,892 | 1,264                                 | 3,435 | 12,867 | 112,802                                      |

## 1.6 Day/Night Ratio of Movements – Forecast

|                               | 2015/2016 Forecast of Aircraft Movements |                                   |         |
|-------------------------------|--|-----------------------------------|---------|
|                               | Day Movements (0700 – 2300hrs)           | Night Movements (2300 to 0700hrs) | Total   |
| Jul 2015                      | 9,414                                    | 1,695                             | 11,109  |
| Aug 2015                      | 9,125                                    | 1,589                             | 10,714  |
| Sep 2015                      | 8,946                                    | 1,464                             | 10,410  |
| Oct 2015                      | 8,956                                    | 1,258                             | 10,214  |
| Nov 2015                      | 7,355                                    | 687                               | 8,042   |
| Dec 2015                      | 7,804                                    | 715                               | 8,519   |
| Jan 2016                      | 6,870                                    | 700                               | 7,570   |
| Feb 2016                      | 6,952                                    | 634                               | 7,586   |
| Mar 2016                      | 8,037                                    | 787                               | 8,824   |
| Apr 2016                      | 8,461                                    | 1,223                             | 9,684   |
| May 2016                      | 9,662                                    | 1,518                             | 11,180  |
| Jun 2016                      | 9,887                                    | 1,601                             | 11,488  |
| Total for following 12 months | 101,469                                  | 13,871                            | 115,340 |

## 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/<br>DETLING |       | COMPTON |       | OLNEY |       | Other* |     | Helicopter |    |        |
|           |               | 08                | 26    | 08      | 26    | 08    | 26    | 08     | 26  | 08         | 26 |        |
| July 2015 | Daytime       | 381               | 2,214 | 274     | 1,651 | 100   | 563   | 5      | 48  | 2          | 18 | 5,256  |
|           | Night-time    | 37                | 268   | 34      | 256   | 5     | 44    | 0      | 3   | 0          | 4  | 651    |
| Aug 2015  | Daytime       | 773               | 1,727 | 524     | 1,227 | 180   | 400   | 11     | 41  | 0          | 11 | 4,894  |
|           | Night-time    | 84                | 198   | 68      | 230   | 12    | 41    | 0      | 1   | 0          | 1  | 635    |
| Sept 2015 | Daytime       | 1,131             | 1,361 | 747     | 1,003 | 270   | 309   | 27     | 34  | 1          | 19 | 4,902  |
|           | Night-time    | 112               | 153   | 131     | 184   | 26    | 35    | 3      | 1   | 0          | 0  | 645    |
| QTR       | Total         | 2,518             | 5,921 | 1,778   | 4,551 | 593   | 1,392 | 46     | 128 | 3          | 53 | 16,983 |
|           | Daily Average | 27                | 64    | 19      | 49    | 6     | 15    | 0      | 1   | 0          | 1  | 185    |

### 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) up to a height of 3,000ft (or 4,000ft at night). An NPR is a corridor 3 kilometres wide, 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.

On the 1st April 2015 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 environmental team observes 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

---

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

The table below shows track keeping performance over the previous 3 month period. The on track performance for the quarter was 99.56%

|            | Number of Violations | Total Penalties Collected |
|------------|----------------------|---------------------------|
| July 2015  | 8                    | £6,000                    |
| Aug 2015   | 11                   | £9,250                    |
| Sept 2015  | 6                    | £5,500                    |
| <b>QTR</b> | <b>25</b>            | <b>£20,750</b>            |

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

|           | Airline or Aircraft Operator                           | Aircraft Type/Occurrence |
|-----------|--|--------------------------|
| July 2015 | Abelag Aviation  | C25A/1                   |
|           | Privately owned aircraft (handled by Harrods Aviation) | GL5T/1; GLF5/1           |
|           | NetJets  | CL30/1; GLF5/1           |
|           | Privately owned aircraft (handled by Signature)        | H25B/1                   |
|           | TAG Aviation Asia                                      | GLEX/1                   |
|           | Valair-Aviacao   | C25B/1                   |
| Aug 2015  | Air Hamburg  | C25B/1                   |
|           | Atlantic Airlines                                      | ATP/1                    |
|           | Cello Aviation   | B462/1                   |
|           | Executive Jet Management                               | GLF4/1                   |
|           | Privately owned aircraft (handled by Harrods Aviation) | CL60/1; GLEX/1; GLF6/1   |
|           | Privately owned aircraft (handled by Landmark)         | CL30/1                   |
|           | Privately owned aircraft (handled by Signature)        | C56X/1; H25B/1           |
|           | Unijet   | FA50/1                   |
| Sep 2015  | European Air Transport                                 | ATP/1                    |
|           | Privately owned aircraft (handled by Harrods Aviation) | GLEX/1                   |
|           | NetJets  | GL5T/1;                  |
|           | Privately owned aircraft (handled by Signature)        | CL60/1; GLEX/1; GLF5/1   |

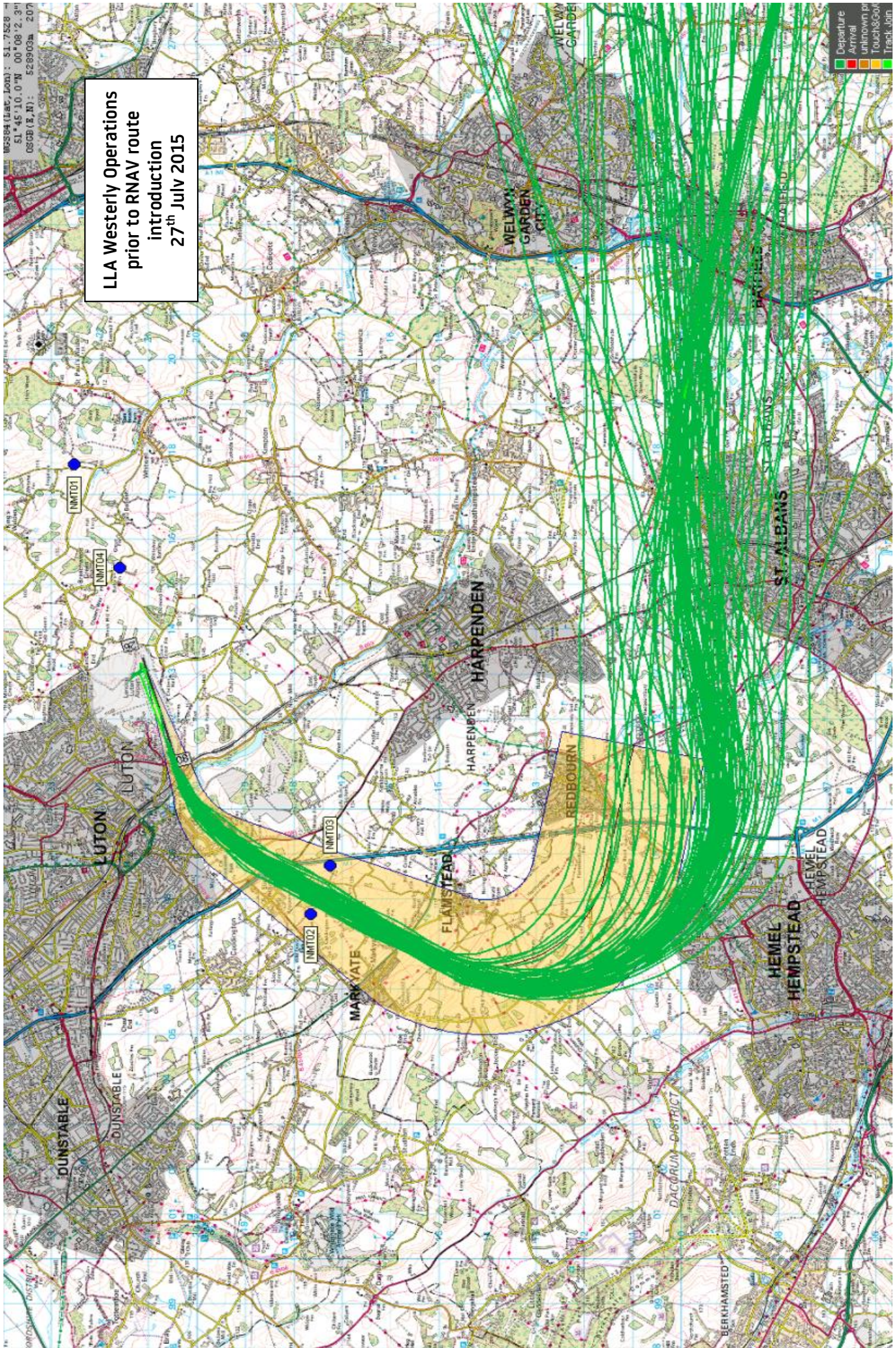
## 2.2 Area Navigation (RNAV) departure route

On the 20<sup>th</sup> August London Luton Airport (LLA) introduced Area Navigation (RNAV1) technology for departing flights leaving the airport along the Match/Detling flight routes used during westerly operations; helping to draw aircraft away from densely populated areas.

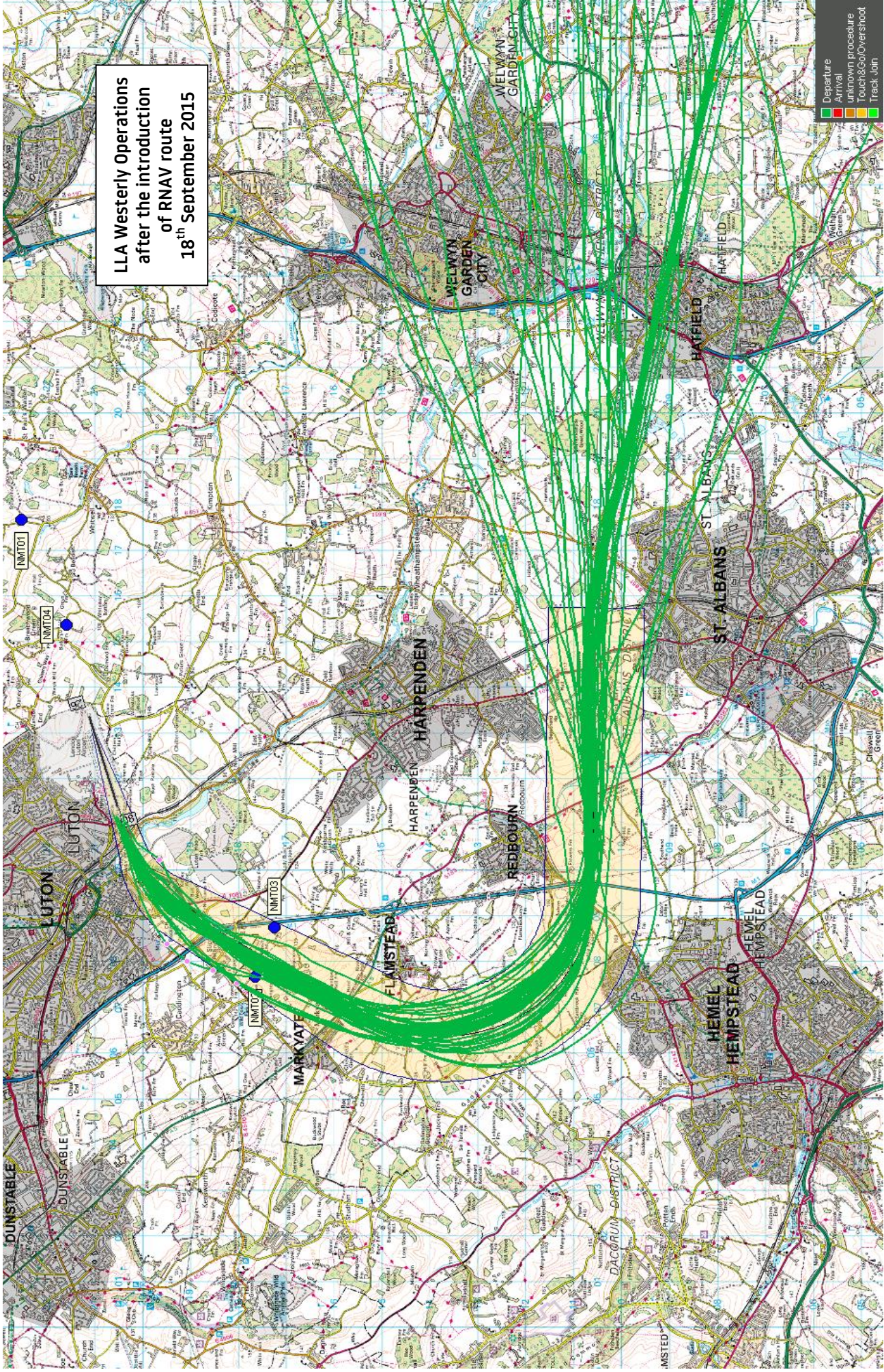
The introduction followed approval of the airport's 'Airspace Change Proposal' by the Civil Aviation Authority (CAA) earlier this year which was made possible thanks to the positive engagement from Air Navigation Service Provider, NATS, airlines and local stakeholders and community groups.

RNAV1 uses GPS type technology enabling aircraft to fly routes more precisely, drawing aircraft away from densely populated areas, reducing noise disturbance and cutting emissions. Trials carried out from March to June 2013 found that the introduction of RNAV technology reduced the number of people overflown by 79%. The maps overleaf show the westerly departures prior to and after the introduction of the new route.











### 3 ARRIVING AIRCRAFT

#### 3.1 Arrivals Route Analysis

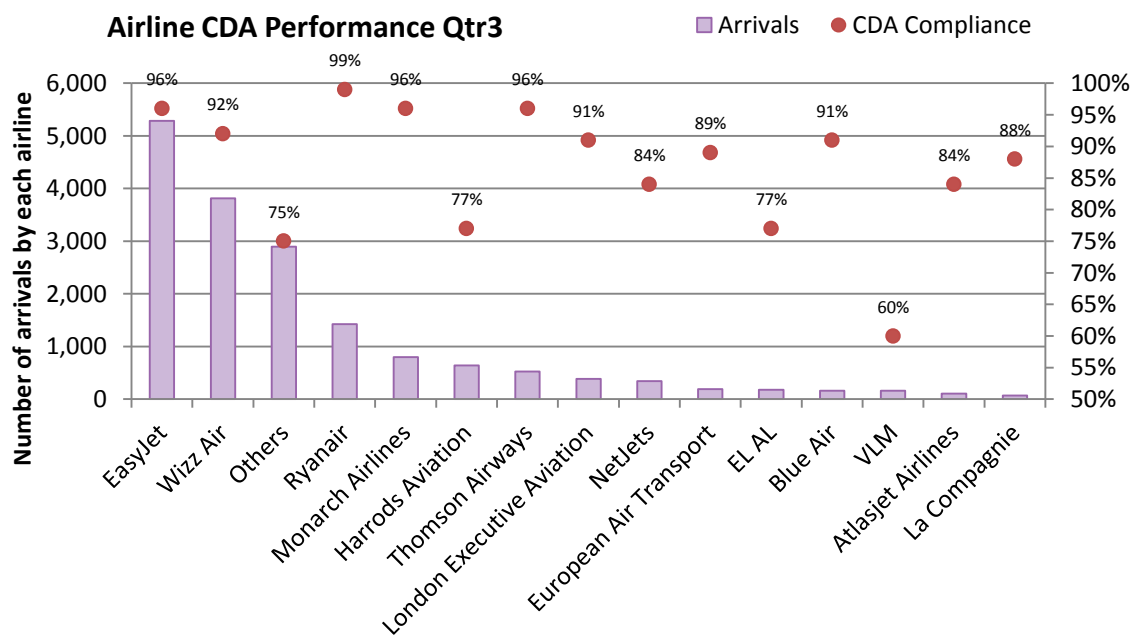
The following table reports the total number of arrivals differentiating between easterly (08), westerly (26) operations and helicopters. Night movements quoted below landed between 23:00 hrs and 07:00 hrs.

|           |               | Arrivals |        |      | Total  |
|-----------|---------------|----------|--------|------|--------|
|           |               | 08       | 26     | Heli |        |
| July 2015 | Daytime       | 695      | 4,305  | 23   | 5,023  |
|           | Night-time    | 103      | 744    | 1    | 848    |
| Aug 2015  | Daytime       | 1,466    | 3,292  | 11   | 4,769  |
|           | Night-time    | 200      | 574    | 1    | 775    |
| Sept 2015 | Daytime       | 2,144    | 2,585  | 19   | 4,748  |
|           | Night-time    | 338      | 481    | 1    | 820    |
| QTR       | Total         | 4,946    | 11,981 | 56   | 16,983 |
|           | Daily Average | 54       | 130    | 1    | 185    |

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.

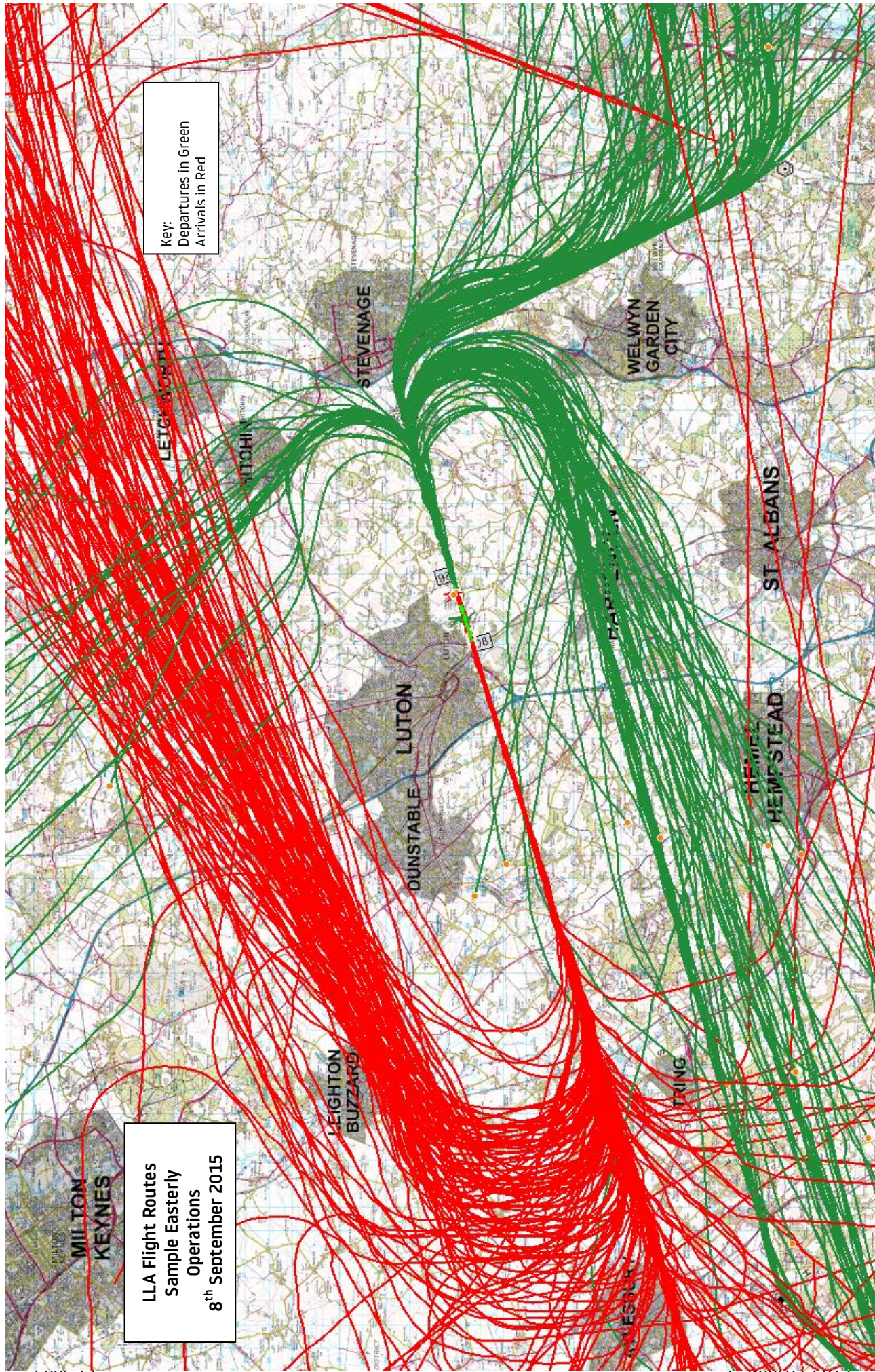
|           | All Arrivals |     |       | 08 Easterly Arrivals |     |       | 26 Westerly Arrivals |     |       |
|-----------|--------------|-----|-------|----------------------|-----|-------|----------------------|-----|-------|
|           | % CDA        |     |       | % CDA                |     |       | % CDA                |     |       |
|           | Total        | Day | Night | Total                | Day | Night | Total                | Day | Night |
| July 2015 | 89%          | 89% | 88%   | 90%                  | 91% | 86%   | 89%                  | 89% | 89%   |
| Aug 2015  | 92%          | 92% | 92%   | 94%                  | 94% | 90%   | 91%                  | 90% | 93%   |
| Sept 2015 | 90%          | 90% | 87%   | 92%                  | 93% | 83%   | 89%                  | 88% | 89%   |
| QTR Total | 90%          | 90% | 89%   | 92%                  | 93% | 85%   | 89%                  | 89% | 90%   |

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



Maps on page overleaf, extrapolated from the Topsonic Aircraft Noise & Track Monitoring System, identify samples of actual flown tracks of LLA aircraft operations (arrivals and departures during both easterly and westerly operations) for a typical 24 hour period within the third quarter of 2015.

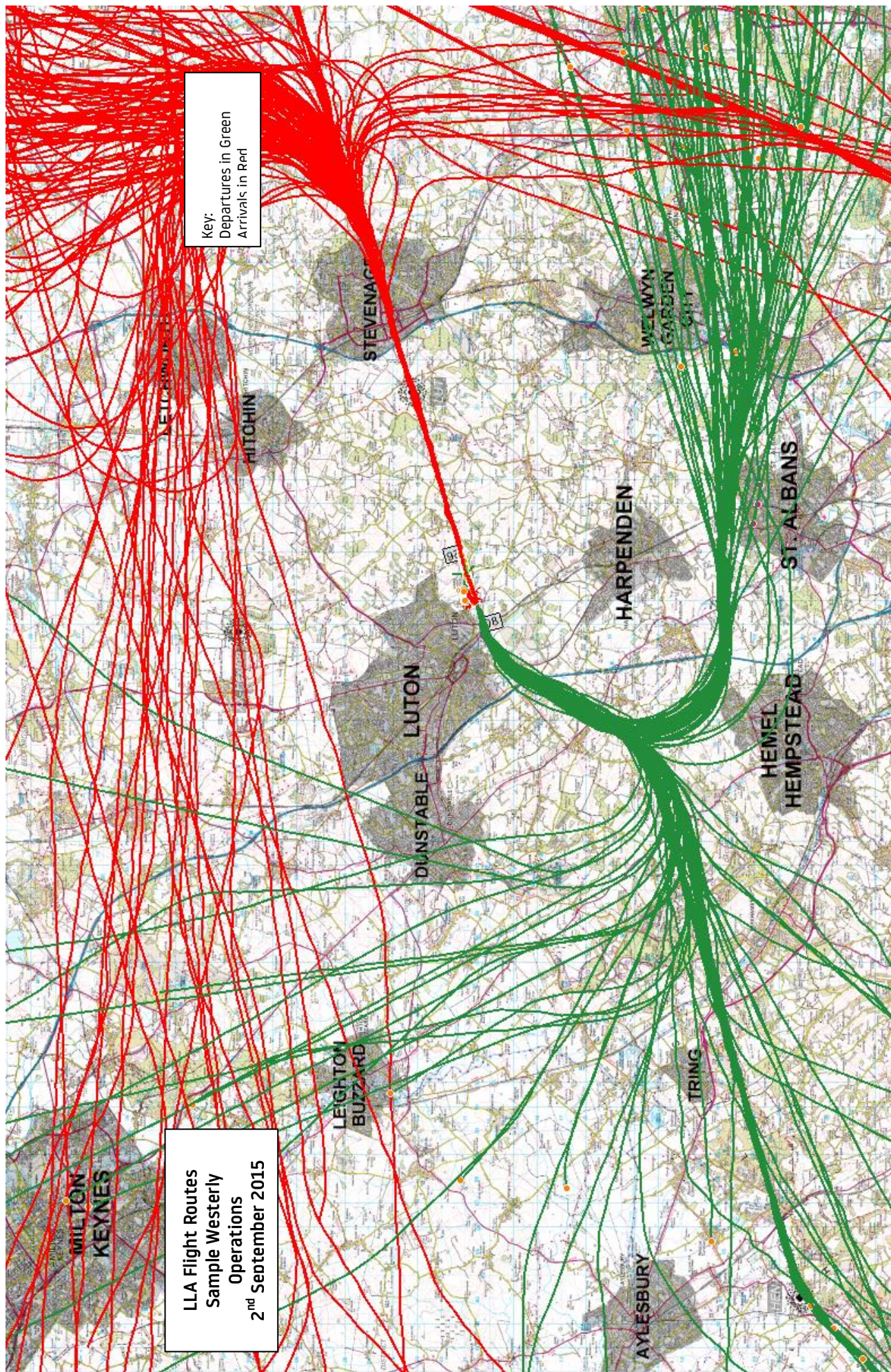




LLA Flight Routes  
Sample Easterly  
Operations  
8th September 2015

Key:  
Departures in Green  
Arrivals in Red







## 4 AIRCRAFT NOISE

During the 3<sup>rd</sup> quarter of 2015, between 07:00 hrs and 23:00 hrs, 99% of correlated departed aircraft recorded maximum noise levels less than 79 dB(A), and 81% of correlated departed aircraft recorded maximum noise levels less than 76 dB(A), compared with 98% and 77% respectively for the same period in 2014.

During the night-time 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. However, the night-time maximum noise level less than 76 dB(A) recorded by 75% of correlated departing aircraft slightly increased compared to 73% for the same quarter last year.

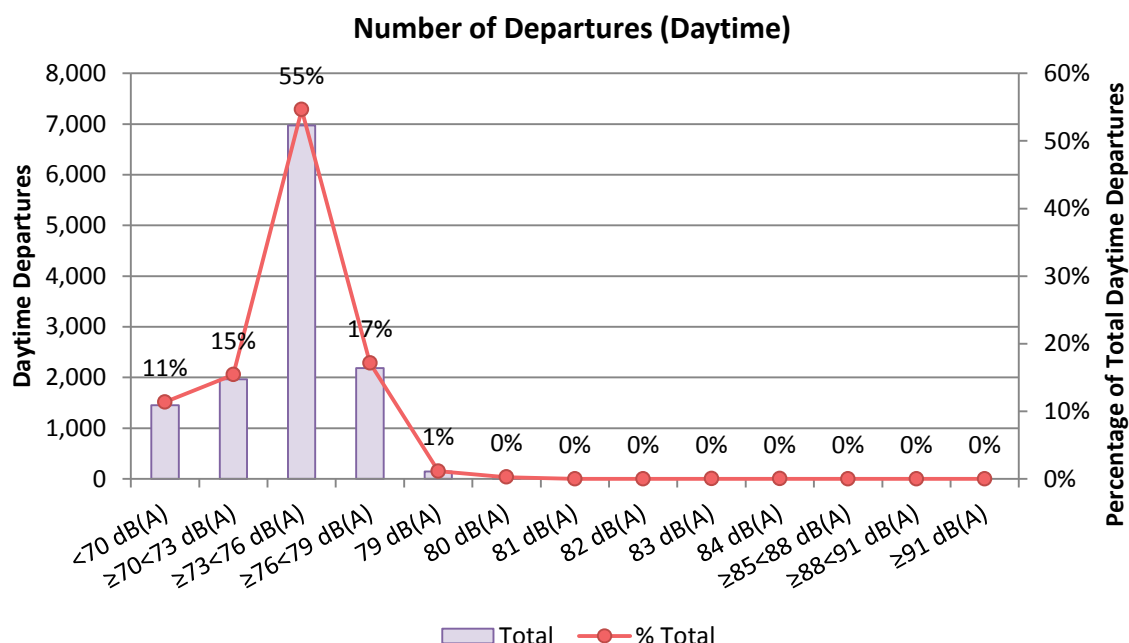
There was one violation of the night-time noise level in this quarter, and a total of eight violations of the 82 dB(A) day noise violation level, compared to one day noise violation in 2014.

### 4.1 Daytime Noise Levels – July to September 2015

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) |             |             |             |     |    |    |    |    |    |             |             |      | Total  |
|---------------|--------------------------------|-------------|-------------|-------------|-----|----|----|----|----|----|-------------|-------------|------|--------|
| <i>db (A)</i> | <70                            | >=70<br><73 | >=73<br><76 | >=76<br><79 | 79  | 80 | 81 | 82 | 83 | 84 | >=85<br><88 | >=88<br><91 | >=91 |        |
| July          | 505                            | 724         | 2,351       | 672         | 44  | 12 | 0  | 0  | 0  | 1  | 1           | 1           | 0    | 4,308  |
| Aug           | 427                            | 685         | 2,444       | 689         | 36  | 8  | 0  | 0  | 0  | 1  | 0           | 1           | 0    | 4,291  |
| Sept          | 518                            | 559         | 2,175       | 825         | 65  | 13 | 0  | 0  | 1  | 0  | 2           | 0           | 0    | 4,158  |
| QTR           | 1,450                          | 1,965       | 6,970       | 2,186       | 145 | 33 | 0  | 0  | 1  | 2  | 3           | 2           | 0    | 12,757 |

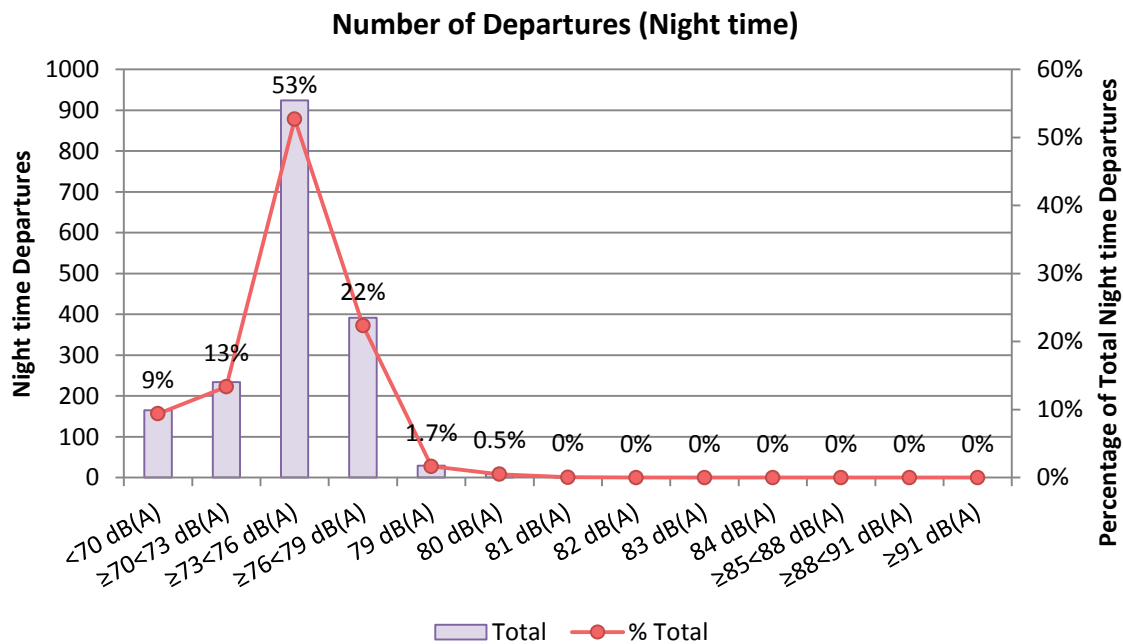


### 4.2 Night Noise Levels – July to September 2015

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)

|               | Number of Departures (Night time) |             |             |             |    |    |    |    |    |    |             |             |      | Total |
|---------------|-----------------------------------|-------------|-------------|-------------|----|----|----|----|----|----|-------------|-------------|------|-------|
| <i>db (A)</i> | <70                               | >=70<br><73 | >=73<br><76 | >=76<br><79 | 79 | 80 | 81 | 82 | 83 | 84 | >=85<br><88 | >=88<br><91 | >=91 |       |
| July          | 51                                | 77          | 303         | 140         | 11 | 1  | 0  | 0  | 0  | 0  | 0           | 0           | 0    | 583   |
| Aug           | 52                                | 85          | 324         | 128         | 5  | 2  | 0  | 0  | 0  | 0  | 0           | 0           | 0    | 596   |
| Sept          | 62                                | 72          | 297         | 124         | 13 | 6  | 1  | 0  | 0  | 0  | 0           | 0           | 0    | 575   |
| QTR           | 165                               | 234         | 924         | 392         | 29 | 9  | 1  | 0  | 0  | 0  | 0           | 0           | 0    | 1,754 |



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 Qtr3 (July to Sept 2015)

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

|                           | Date/Time (Local)    | Aircraft Type          | Noise Level |
|---------------------------|----------------------|------------------------|-------------|
| Daytime                   | 02/07/2015 14:26 hrs | B732 (Executive Jet)   | 86 dB(A)    |
|                           | 16/07/2015 11:43 hrs | B732 (Executive Jet)   | 89 dB(A)    |
|                           | 18/07/2015 14:46 hrs | B732 (Executive Jet)   | 84 dB(A)    |
|                           | 30/08/2015 13:30 hrs | B732 (Executive Jet)   | 88 dB(A)    |
|                           | 30/08/2015 14:13 hrs | F900 (Executive Jet)   | 84 dB(A)    |
|                           | 07/09/2015 16:06 hrs | GLF3 (Executive Jet)   | 85 dB(A)    |
|                           | 10/09/2015 09:21 hrs | A320 (Wizz Air)        | 85 dB(A)    |
|                           | 23/09/2015 11:35 hrs | AN12 (Chartered Cargo) | 83 dB(A)    |
| Night-time                | 04/09/2015 06:56 hrs | B738 (Ryanair)         | 81 dB(A)    |
| Total Penalties Collected |                      |                        | £2,100      |



## 5 NOISE CONTOURS

### 5.1 Night Noise Contours – July to September 2015

#### 5.1.1 Contour Production

Aircraft movement data for use in the contour production has been supplied by LLAOL. The contour production methodology is the same as that used for the 2015 Q2 contours. It includes terrain data, and was produced using INM software Version 7.0d. The validation is based on measured results in 2014 at the fixed noise monitors, and user-defined profiles for the most common aircraft have been implemented, based on information provided by easyJet and measured results from the mobile noise monitor while it was stationed in south Luton (Ludlow Avenue) in December 2014 and January 2015.

#### 5.1.2 Noise Contour Results

The resulting noise contours are shown in the attached Figure A9457-NN15-Q3 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 (April – June 2015) and the values for the equivalent quarter during the previous year (July – September 2014).

| Contour Value<br>(dB $L_{Aeq,8h}$ ) | Contour Area (km <sup>2</sup> ) |                       |                       |
|-------------------------------------|---------------------------------|-----------------------|-----------------------|
|                                     | <i>Jul – Sep 2014</i>           | <i>Apr – Jun 2015</i> | <i>Jul – Sep 2015</i> |
| 48                                  | 34.6                            | 31.8                  | 35.4                  |
| 51                                  | 19.6                            | 17.8                  | 20.2                  |
| 54                                  | 11.0                            | 9.2                   | 10.7                  |
| 57                                  | 6.3                             | 5.0                   | 5.7                   |
| 60                                  | 3.4                             | 2.6                   | 3.1                   |
| 63                                  | 1.6                             | 1.5                   | 1.7                   |
| 66                                  | 1.0                             | 0.9                   | 1.0                   |
| 69                                  | 0.6                             | 0.6                   | 0.6                   |
| 72                                  | 0.4                             | 0.4                   | 0.4                   |
| W/E Split (%)                       | 66/34                           | 70/30                 | 74/26                 |

**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 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 | Jul – Sep 2014 | Apr – Jun 2015 | Jul – Sep 2015 |
|-------------------|----------------|----------------|----------------|
| 737300            | 44             | 54             | 49             |
| 737400            | 87             | 122            | 140            |
| 737700            | n/a            | n/a            | 10             |
| 737800            | 765            | 667            | 688            |
| 757RR             | 77             | 91             | 114            |
| A300-622R         | 143            | 131            | 196            |
| A319-131          | 857            | 866            | 1025           |
| A320-211          | 1295           | 896            | 1124           |
| A321-232          | 189            | 140            | 202            |
| A330-301          | 14             | n/a            | n/a            |
| BAE146            | 11             | n/a            | 18             |
| CL600             | 124            | 59             | 97             |
| CL601             | 20             | 48             | 43             |
| CNA441            | 21             | 11             | n/a            |
| CNA500            | 14             | 24             | 19             |
| CNA510            | 20             | 19             | 31             |
| CNA525C           | 48             | 50             | 31             |
| CNA55B            | 14             | n/a            | n/a            |
| CNA560XL          | 48             | 31             | 58             |
| CNA680            | 10             | 10             | 10             |
| D0328             | 139            | 127            | 27             |
| EMB145            | 57             | 61             | 46             |
| F10062            | 53             | 91             | 68             |
| F2TH              | n/a            | 33             | n/a            |
| GIV               | 67             | 60             | 61             |
| GV                | 212            | 278            | 242            |
| IA1125            | 10             | n/a            | n/a            |
| LEAR35            | 25             | 44             | 15             |
| <i>Other</i>      | 29             | 78             | 52             |
| <b>Total</b>      | <b>4393</b>    | <b>3991</b>    | <b>4366</b>    |

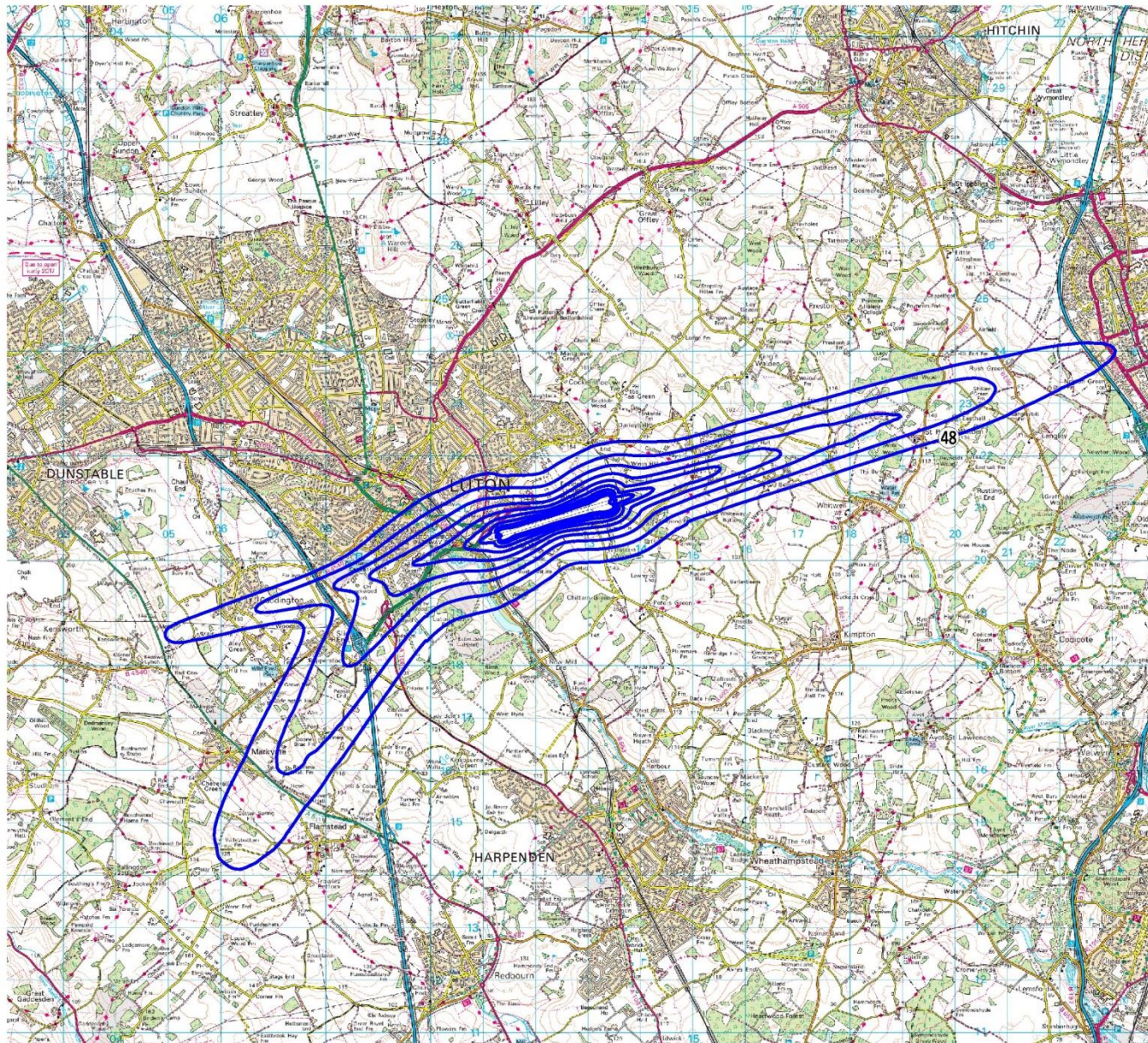
**Table 2: Night-time Aircraft Movement Numbers by Aircraft Type**

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

Compared with the same quarter in 2014 the total number of movements is very similar, although arrivals have decreased by 9% and departures, which contribute more to noise contour, have increased by 12%. The fleet mix is largely similar although movements by the Airbus A320 and Boeing 737-800 have decreased while movements by the Airbus A319 have increased. The modal split has changed with 74% of aircraft operations on runway 26, compared to 66% in the same quarter in 2014. The area within the 48 dB(A) noise contour has increased by 2% compared to the same quarter last year. This is largely due to the increase in the proportion of departures.

As in previous years, the number of movements, and therefore the contour area, has significantly increased compared to the previous quarter (April – June 2015).





This drawing contains Ordnance Survey data © Crown Copyright and database right 2014.

**LEGEND:**

— Noise Contours,  
48 to 72 dB Laeq,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  
Jul-Sep 2015 Average Night time**

**DRAWN: DR**

**CHECKED: NW**

**DATE: 4/11/2015**

**SCALE: 1:100000@A4**

**FIGURE No:**

**A9457/NN15/Q3**



## 6 COMPLAINTS

### 6.1 Total Complaints relating to LLA aircraft operations

|   | 3 <sup>rd</sup> QTR 2014                  | 3 <sup>rd</sup> QTR 2015     |
|---|---|------------------------------|
| Total No. of Complaints relating to LLA aircraft operations | 495                                       | 396                          |
| No. of Complainants   | 279                                       | 212                          |
| No. of Events (eliciting a complaint)                       | 1,198 <sup>#</sup><br>(739 <sup>*</sup> ) | 1,260<br>(714 <sup>*</sup> ) |
| <i>Average No. of Complaints per Complainant</i>            | 1.8                                       | 1.9                          |
| <i>Average No. of Events per Complainant</i>                | 4.3 <sup>#</sup><br>(2.6 <sup>*</sup> )   | 5.9<br>(3.4 <sup>*</sup> )   |
| <i>Average No. of Events per Complaint</i>                  | 2.4 <sup>#</sup><br>(1.5 <sup>*</sup> )   | 3.2<br>(1.8 <sup>*</sup> )   |
| <i>No. of Aircraft Movements per Complaint</i>              | 60  | 86                           |
| <i>No. of Aircraft Movements per Event</i>                  | 25 <sup>#</sup><br>(40 <sup>*</sup> )     | 27<br>(48 <sup>*</sup> )     |

During the last quarter a total of 396 complaints relating to LLA aircraft operations (on average just over 4 complaints per 24 hours) were received by the Airport Environment Office, compared with 495 for the same period last year. This was a decrease of 20%.

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

|           |                |              |
|-----------|----------------|--------------|
| July 2015 | 116 complaints | (539 events) |
| Aug 2015  | 117 complaints | (281 events) |
| Sept 2015 | 163 complaints | (440 events) |

---

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

*\* Figures excluding 546 events (43%) reported by one resident of St Albans. These events all involved westerly departures following the 26 Match/Detling heading, for which a revised RNAV1 flight route was implemented on the 20<sup>th</sup> August 2015. This was to help improve track-keeping away from highly populated areas.*

*# It should be noted that one other individual in Harpenden continued to report a large number of events during 2014. 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.*

---

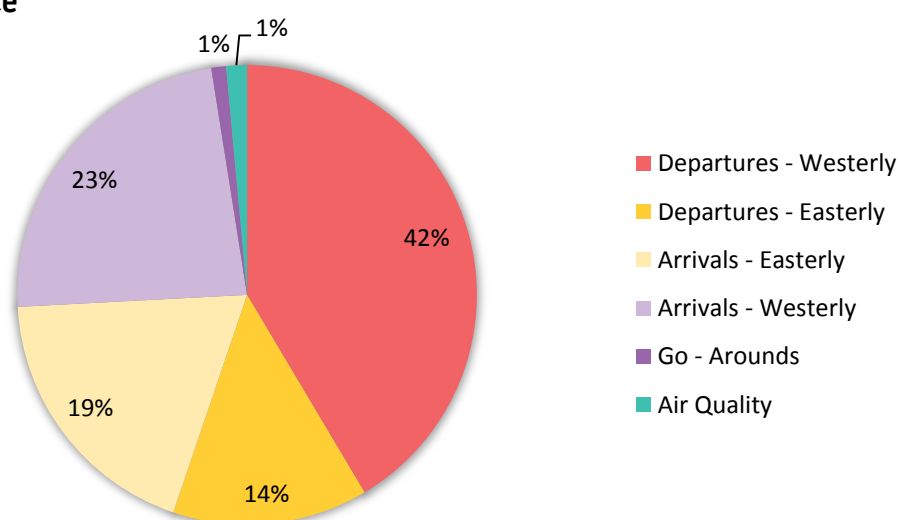
A further 9 complaints (reporting 8 specific events) not attributable to LLA traffic were received throughout the quarter, compared to 33 (34 events) for the period July to September last year.



Within the 396 complaints received during the quarter, a total of 1,260 events (eliciting a complaint) were listed, compared to 1,198 events for the same period last year. It should be noted, however, that 43% of events this quarter were reported by just one individual in St Albans.

## 6.2 Nature of Disturbance

The chart represents the areas of concern reported with regard to aircraft activity during the period July to Sept 2015.



Within the 203 complaints concerning westerly departures, 82 complaints involved aircraft on the Match/Detling flight route, whilst 84 complaints related to the Match/Detling RNAV route (implemented on the 20<sup>th</sup> August), 24 were of a general nature, 12 related to aircraft on the Compton heading and 1 involved aircraft on the Olney heading.

With regard to the 66 complaints attributed to easterly departures, 50 related to aircraft following the Compton flight route, 8 involved aircraft on the Match/Detling heading, 5 aircraft on the Olney route, 1 related to a short positioning flight and 2 were of a general nature.

Whilst 67 of the 91 complaints concerning easterly arrivals reported general disturbance, 24 related specifically to aircraft following the arrivals routing from the Lorel Holding Point.

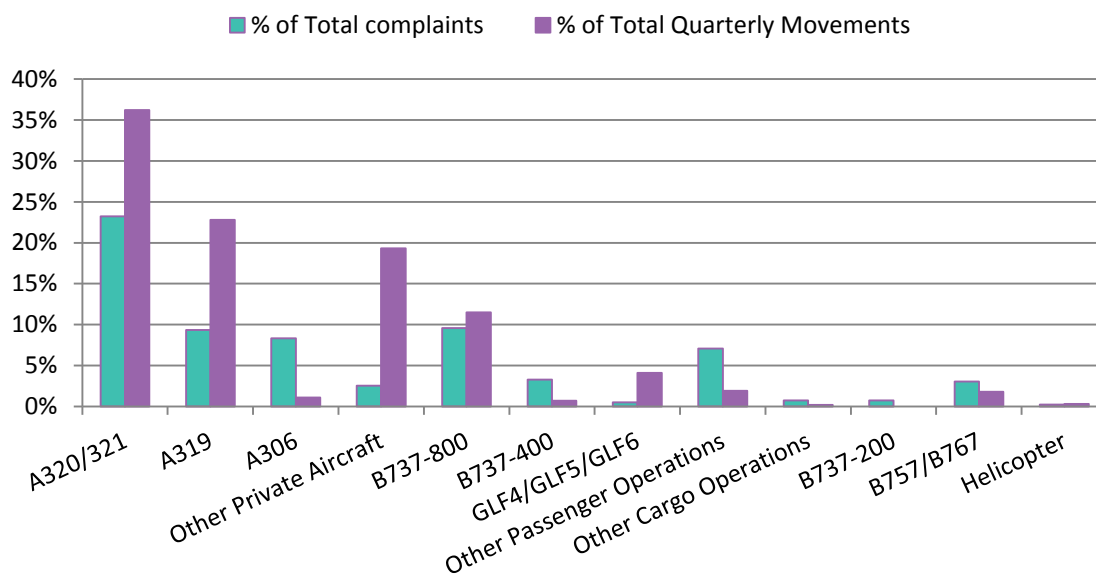


Departing aircraft accounted for 57% of the 178 night complaints and 41% involved arrivals. A further 1% of night complaints reported disturbance from helicopter activity and 1% reported disturbance from general noise during the night period. Cargo flights, involving A306 aircraft and ATP postal flights were reported in 17% of night complaints.



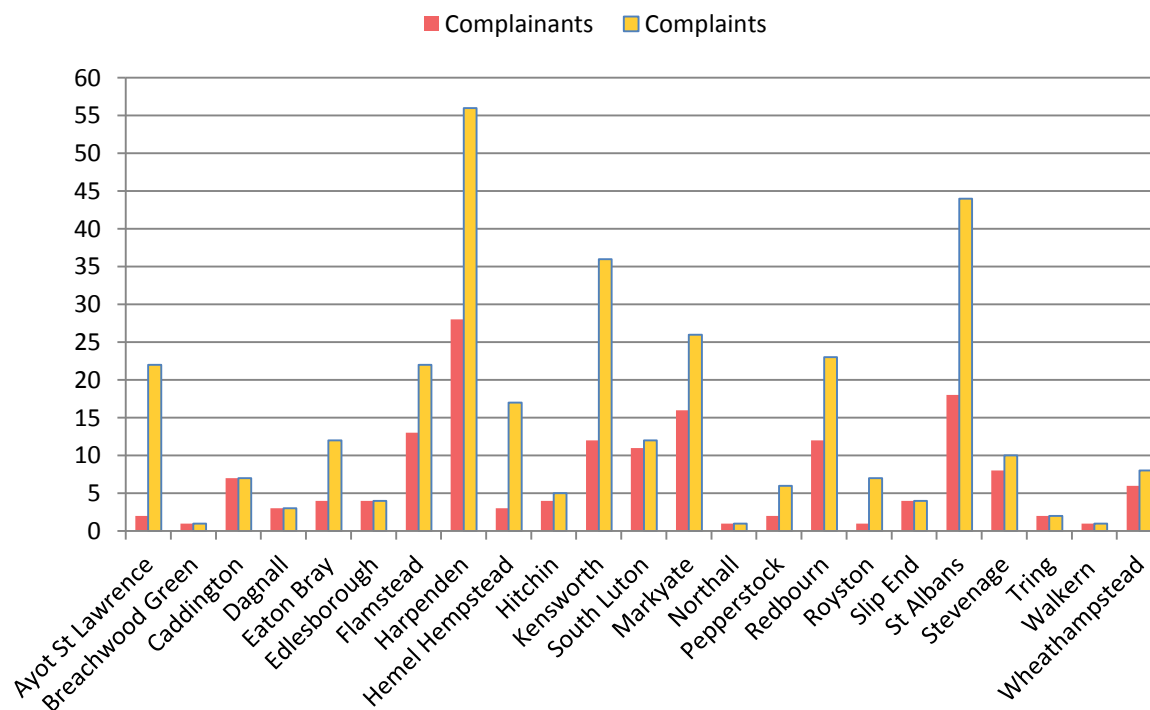
### 6.3 Complaints by aircraft type

Within the 396 complaints registered during the quarter a total of 272 complaints (69%) were clearly correlated to a specific aircraft type, although many complaints were of a general nature. The diagram below shows aircraft types generating complaints.



### 6.4 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 July to Sept 2015.



## 6.5 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*              | 73%                   |
| Telephone            | 26%                   |
| Letter               | 1%                    |

\* During the period July to Sept 2015 a total of 289 complaints were reported to the Airport Environment Office by e-mail. Within this total 50% (145) were sent directly to [noise@ltn.aero](mailto:noise@ltn.aero), and the other 50% of e-mail complaints (144) being submitted via the noise complaint template on the website [www.london-luton.co.uk](http://www.london-luton.co.uk)

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

|                         |   |
|-------------------------|---|
| <b>Postal Address</b>   | Airport Environment Office<br>London Luton Airport<br>Navigation House<br>Airport Way<br>Luton, Bedfordshire<br>LU2 9LY |
| <b>Direct Telephone</b> | (01582) 395382 (24 hours)   |



## *7 COMMUNITY RELATIONS*

### **7.1 Community Visits to 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.

On the 7<sup>th</sup> September 2015, the airport hosted a meeting for a resident and an MP to discuss the new RNAV1 route and general concerns relating to disturbance in the St Albans area.

Many LLACC/PSSC members also attended a tour at the airport on the 9<sup>th</sup> September 2015.

### **7.2 Airport Visits to the Community**

During the quarter there were two visits into the community in the form of Public Surgeries. These were held at Redbourn on the 16<sup>th</sup> July 2015 and in Markyate on the 9<sup>th</sup> September 2015. At each of these surgeries there were more than 50 attendees from the local areas. Many residents had concerns regarding the expansion and the impact this would have to them from both a noise and surface access point of view. Also there were a large number of concerns regarding the Night noise disturbance. The staff at LLA worked hard to ensure everyone leaving the surgeries were well informed and knew about the planning conditions and the new RNAV route. These have been positive for the Airport Environment Office, local councillors and residents in the area and these will continue in the future.

More Public Surgeries are scheduled; details of the Public Surgeries can be found on our Noise website, which is updated accordingly.