



FARNBOROUGH AIRPORT SUSTAINABILITY

Town and Country Planning Act Section 106/299A

Environment Report 1 January to June 2024

Farnborough Airport Ltd
Farnborough
Hampshire
GU14 6XA

1. INTRODUCTION

- 1.1 In compliance with the requirements of the agreement in place under Sections 106 and 299A of the Town and Country Planning Act 1990 between Farnborough Airport (FAL) and Rushmoor Borough Council (RBC), FAL hereby submits a report for January to June 2024, detailing results of environmental monitoring as required by clause 1.3, 2.8a, 2.8b and 3.4.

2. NOISE MONITORING

- 2.1 Two permanent noise monitoring terminals (NMTs) continuously operate at the sites of Tweseldown Racecourse and Farnborough College of Technology, approximately one mile from the airfield and beneath the typical arrival and departure flight path.

Portable NMT is provided for ad-hoc monitoring in connection with trials of alternative Noise Abatement Procedures or in response to requests from groups or individuals in the surrounding community.

- 2.2 Correlated Noise data (dB(A) L_{eq16}) recorded by the fixed NMTs for “Aircraft”, “Community” and “Total” noise is tabulated in Appendix A.

- 2.3 Tweseldown Racecourse events have the potential to influence values for “community” and “total” noise at the Tweseldown NMT. The following events took place at the racecourse during the reporting period:

- 9-10 March
- 23-24 March
- 10-12 May

- 2.4 All three operational NMTs were subject to calibration by an independent specialist on the 5th of April 2024. All data submitted during this period is valid.

- 2.5 Noise contours produced using the FAA’s Integrated Noise Model (INM 7.0d) for previous year business movements, together with predicted contours for the year ahead, were submitted to RBC in February 2024 in accordance with the requirements of the agreement between FAL and RBC. The modelling exercise results are given below in Table 1, along with those included within the planning agreement. The predicted noise contours were generated using movement data (flight tracks) from the study year, which considers the forecast growth for the year ahead (including predicted helicopter movements).

Table 1: Most recent results of the INM Modelling exercise

dB $L_{Aeq,16h}$	Control Contours Predicted 20,000 (km ²) movements (1997 mix)	Amended Control Contour Areas (km ²) as per clause 12.1a of the S106 (29/10/2010)	Actual contour areas 2023 (km²)	Predicted contour areas, 2024 (km²)
55	9.07	6.58	2.20	2.39
60	4.03	2.42	0.94	1.00
65	1.70	N/A	0.45	0.48

- 2.6 Contours relating to actual movements for January to June and predicted contours for July to December this calendar year will be submitted to RBC in August with the INM report.

- 2.7 Use of the dB(A) L_{eq16} contour is internationally recognised as a means of noise measurement. A 66 dB(A) L_{eq16} indicates that the average level of noise during a 16-hour day is 66 dB(A).

- 2.8 In accordance with the requirements of the Section 106 Agreement FAL uses INM 7.0d to produce noise contours. This version of the software includes helicopter movements and considers surrounding terrain within the modelling process.

2.9 Daily dB(A) L_{eq16} Figures are given in Appendix A.

3. AIRCRAFT MOVEMENTS

3.1 Table 2 displays a summary of aircraft movements for the reporting period by movement category.

Table 2: Movements summary by type

Category	Jan	Feb	Mar	Apr	May	Jun	Report 1 Total
Business	1,962	2,089	2,229	2,078	2,778	3,073	14,209
Helicopter	48	52	42	60	96	80	378
Subtotal (Reported under planning obligations)	2,010	2,141	2,271	2,138	2,874	3,153	14,587
Military	3	2	5	7	3	10	30
Flying Club	22	16	42	34	58	62	234
Other	50	51	76	65	45	92	379
ADS	0	0	0	0	0	0	0
Total	2,085	2,210	2,394	2,244	2,980	3,317	15,230

3.2 Tables 3 and 4 display a summary of movement percentages against the total for each month, by category for weekdays and weekends.

Table 3: Percentage summary by category for weekday movements

	Jan	Feb	Mar	Apr	May	Jun
Business	69.6	65.7	63.3	66.6	67.9	65.4
Helicopter	2.1	2.1	1.6	2.2	2.4	1.9
Military	0.1	0.1	0.1	0.3	0.0	0.2
Flying Club	0.7	0.5	0.9	1.3	1.4	1.4
Other	1.9	1.8	2.6	2.6	1.4	2.5
ADS	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	74	70	69	73	73	71

* totals to the nearest whole percent

Table 4: Percentage summary by category for weekend movements

	Jan	Feb	Mar	Apr	May	Jun
Business	24.5	28.9	29.8	26.0	25.3	27.3
Helicopter	0.2	0.3	0.1	0.4	0.8	0.5
Military	0.0	0.0	0.1	0.0	0.1	0.1
Flying Club	0.4	0.3	0.8	0.2	0.6	0.5
Other	0.5	0.5	0.6	0.3	0.1	0.3
ADS	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	26	30	31	27	27	29

* totals to the nearest whole percent

- 3.3 Table 5 displays runway use data. Operations are divided into Arrivals, Departures and those undertaken by helicopters without use of the runway (Aerodrome).

Table 5: Runway in use (as percentages) by mode of operation

	Jan	Feb	Mar	Apr	May	Jun
06 Arrival	11	6	9	11	16	10
24 Arrival	39	44	40	39	34	39
06 Departure	11	5	8	11	15	11
24 Departure	38	44	42	38	34	39
Aerodrome (Heli)	1	1	1	1	1	1

- 3.4 The month of May saw highest sustained period of Runway 06 in use, this is typical for the time of year and the associated change in weather and wind direction.
- 3.5 Table 6 displays Maximum Take Off Weight data for aircraft operated during this reporting period, reflected as a percentage of the overall movements in each month.

Table 6: Percentage by Maximum Take-Off Weight (MTOW) against monthly movements total

	Jan	Feb	Mar	Apr	May	Jun
Over 50t	4	4	3	4	3	4
50t or less	96	96	97	96	97	96

- 3.5 All civil aircraft using Farnborough during the reporting period were compliant with the International Civil Aviation Organisation (ICAO) Chapter 4. All aircraft must provide certification of Noise Chapter prior to permission being granted to operate.
- 3.6 Helicopters, light aircraft and turbo-prop aircraft are not subject to the requirements of the ICAO noise certification scheme.

4. AIR QUALITY MONITORING

- 4.1 The locations of the thirteen Nitrogen Dioxide diffusion tubes and the two Learian Streetbox monitors remain as previously reported, to see details of the locations of the monitors please refer to previous reports prior to the first quarter of 2005.
- 4.2 Table 7 displays the standards accepted by the Government and recommended by the expert panel on air quality standards.

Table 7: Objectives included in regulations for purposes of local Air Quality Management

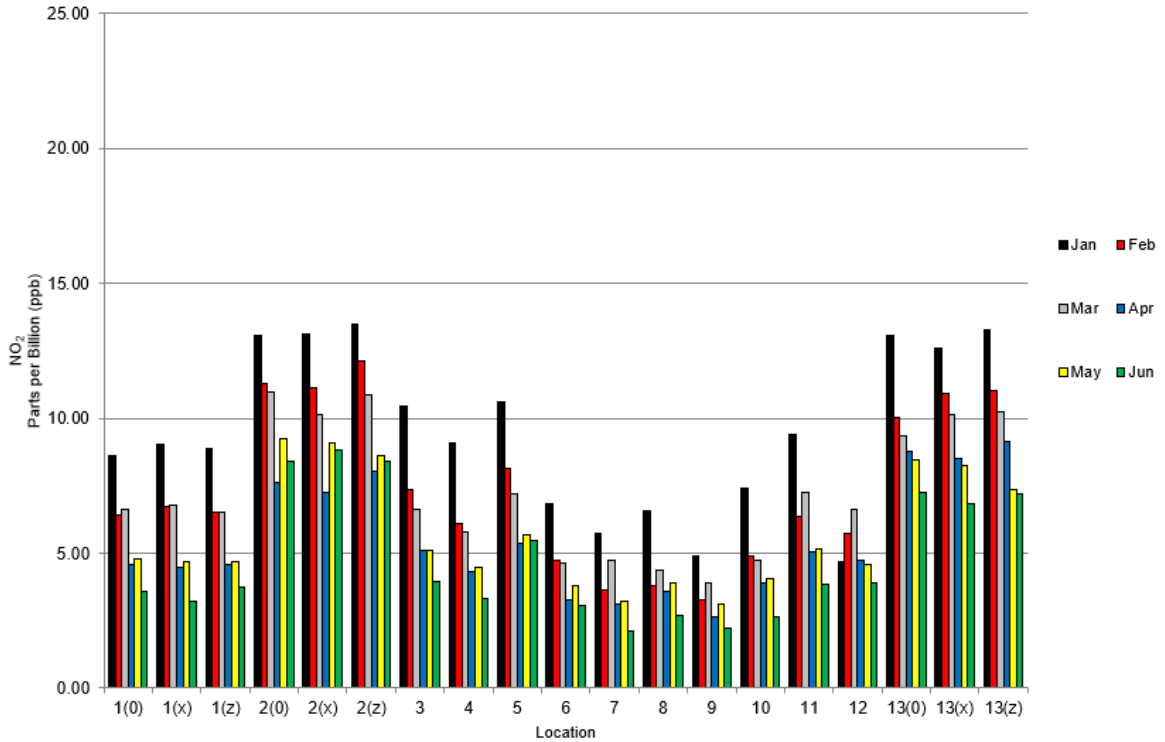
Pollutant	Air Quality Objective		Date to be achieved by and maintained thereafter
	Concentration	Measured as	
NO ₂	200µg/m ³ (105ppb) not to be exceeded more than 18 times a year	1 hour mean	1 st Jan 2010
NO ₂	40µg/m ³ (21ppb)	annual mean	1 st Jan 2010

^a Conversions of ppb and ppm to µg/m³ and mg/m³ at 20°C and 1013mb. ppb = parts per billion, µg/m³ = micrograms per cubic metre. Source: https://uk-air.defra.gov.uk/assets/documents/National_air_quality_objectives.pdf (last updated 22-09-17)

- 4.3 Air quality monitoring results consist of raw data and ratified data by a third-party consultant. Data taken from the Learian Streetbox Monitors consists of hourly mean concentrations of NO₂. As this data set is extensive when covering a six-month period, it has been displayed as monthly means for the purpose of this report.
- 4.4 Passive and active NO₂ monitoring results are detailed in Figures 1 and 2.

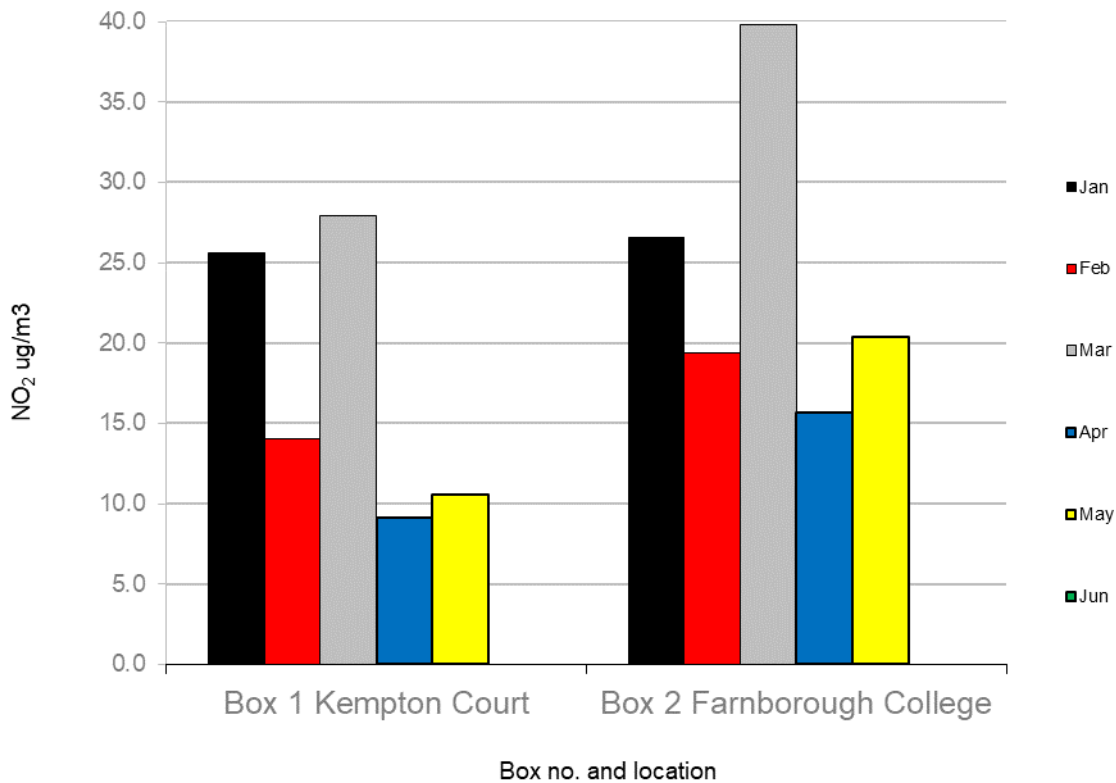
Figure 1: Passive NO₂ monitoring results, January to June

N.B. ppb - parts per billion expressed as a monthly mean. This data has not had a bias adjustment applied



4.5 The results taken from the diffusion tubes indicate that NO₂ levels around the airfield and local communities during the reporting period have achieved the objectives within the regulations for the purpose of Air Quality Management.

Figure 2: Active NO₂ monitoring results, January – June



N.B. ug/m³ expressed as a monthly mean

4.6 Rushmoor Borough Council were notified of the technical issue with the Learian Streetboxes. The battery packs of the units were identified as the cause for loss of data during this period,

upon further investigation it was identified as a supplier issue for the batch of battery packs in use in the units. Units will now be brought in monthly to establish if the issue persists.

Table 8 below shows the dates the Learian Streetbox did not record any data. As a result, the results are higher than typically seen in previous years. Within Table 9, the averages over the past two years have been highlighted to give more of a representative of typical NO₂ levels.

Table 8: Missing data periods for active Air Quality Monitoring

Kempton Court	Farnborough College
4 th to 31 st January	3 rd and 4 th January
2 nd to 8 th February	1 st and 8 th February
7 th to 31 st March	7 th to 31 st March
1 st and 2 nd April	1 st to 5 th and 11 th to 13 th April
2 nd to 6 th and 31 st May	2 nd to 7 th May
1 st to 30 th June	1 st to 30 th June

Table 9: Historical Learian Streetbox data (µg/m³)

Period	2022		2023		2024	
	Kempton Court	Farnborough College	Kempton Court	Farnborough College	Kempton Court	Farnborough College
January to June	15.6	25.8	16.8	18.2	17.4	24.4
July to December	12.6	23.7	12.1	23.3		
Whole Year	14.1	24.8	14.5	20.8		

5. CONCLUSION

- 5.1 Routine monitoring of compliance with noise abatement routes, air quality targets, and aircraft movements continues at the Airport. To date, all environmental monitoring undertaken has been implemented in accordance with the regulatory requirements and those of the Town and Country Planning Act Section 106 Agreement.
- 5.2 All movements operated at the airport are restricted to those permitted by the terms of the planning consent and the accompanying agreement.
- 5.3 NO₂ levels recorded by monitoring stations remain compliant with applicable legislation.
- 5.4 The activities at the airport remain within the specifications of the Section 106/299A agreement.
- 5.5 Missing data from the NO₂ Learian Streetboxes has been stated above.

ENDS

Appendix A

Noise Report
Farnborough Airport

Total Noise By Day of Month and NMT

Start Date:01-Jan-2024

End Date: 30-Jun-2024

January 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	54.8	67.3	54.4	54.4	54.5	54.7	53.9	58.7	60.9	56.5	54.6	53.7	52.4	53.0	54.7	47.2	53.4	53.5	53.8	55.0	72.4	58.3	64.2	55.9	56.0	53.7	51.0	52.3	53.4	52.6	56.1
3	55.2	61.5	58.3	57.3	56.3	56.4	56.5	55.3	54.4	55.8	56.5	57.0	54.1	55.7	55.7	57.0	54.8	56.1	57.7	56.6	60.8	58.8	59.0	56.9	58.6	55.9	55.7	57.6	57.0	56.1	57.4

February 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
2	54.6	55.2	52.5	53.8	54.9	61.2	52.3	55.0	59.6	55.4	53.1	52.5	55.2	53.4	53.4	53.7	57.4	52.7	53.3	55.3	59.9	56.4	53.9	54.2	59.6	66.5	54.0	54.7	54.5
3	56.9	57.1	57.1	56.2	58.3	57.7	55.3	60.7	60.3	56.5	56.0	55.9	57.6	56.9	55.8	56.3	59.5	59.0	56.0	57.0	58.4	58.7	57.2	56.0	58.2	57.3	55.2	57.3	58.9

March 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	56.8	53.9	52.7	55.2	55.2	52.3	56.0	59.2	59.3	56.3	52.5	54.4	55.4	55.9	55.6	52.1	52.5	54.1	54.1	54.2	57.3	54.7	58.5	55.0	53.0	53.1	56.6	68.1	59.4	52.3	51.4
3	57.5	55.7	55.5	58.4	55.5	56.1	56.7	56.9	57.1	57.4	57.4	58.8	57.8	58.1	57.8	55.6	57.6	56.8	55.8	56.2	56.3	56.6	56.7	54.2	56.3	56.4	57.9	60.6	58.2	54.6	53.3

April 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
2	53.1	54.4	56.8	56.3	64.7	60.7	61.9	53.1	66.9	55.0	53.0	53.5	53.4	51.6	67.5	57.8	54.6	54.3	56.1	52.7	55.1	52.7	53.3	52.9	54.0	52.3	52.6	53.8	54.3	54.6
3	54.8	57.7	56.6	57.0	64.4	57.6	58.9	56.9	58.5	58.1	57.8	57.0	55.4	56.4	60.5	56.7	55.7	56.6	57.7	54.0	56.5	57.0	55.2	57.0	57.6	57.8	55.3	56.2	56.9	57.0

May 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	52.5	54.7					54.3	53.8	54.9	57.6	54.7	57.8	54.2	54.1	53.7	54.1	54.3	52.1	52.7	54.4	53.2	53.6	54.5	52.9	54.7	54.5	54.4	54.7	53.5	53.7	56.2
3	56.2	56.9	57.2	53.6	54.1	57.7	58.3	56.6	56.9	57.5	58.0	57.0	57.8	57.7	58.6	57.5	56.7	55.8	55.7	55.8	58.1	58.1	57.3	57.5	55.8	57.0	56.9	58.0	56.2	57.8	57.7

June 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
2	55.9	54.5	53.2	54.2	54.0	52.6	53.0	51.4	54.3	55.3	53.3	54.5	54.2	56.4	58.1	54.1	54.1	55.6	55.2	54.8	54.7	53.1	56.6	54.4	53.1	53.1	56.5	54.1	51.3	53.2
3	57.0	58.9	57.0	57.4	57.1	57.5	57.7	55.1	55.2	58.0	56.8	58.4	58.8	58.9	57.9	58.3	57.6	59.8	58.5	58.5	59.3	55.8	56.2	58.2	57.8	58.8	58.4	57.5	54.8	56.1

25-Jul-2024

Noise Report
Farnborough Airport

Aircraft Noise By Day of Month and NMT
 Start Date:01-Jan-2024
 End Date: 30-Jun-2024

January 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	46.5	54.2	46.2	50.2	49.8	52.5	51.2	53.2	53.6	51.4	51.2	51.4	49.1	49.8	45.4	34.9	50.6	48.6	48.2	45.9	55.8	47.1	52.8	45.7	48.6	48.0	41.3	47.2	48.8	47.7	47.9
3	52.7	58.1	56.4	52.7	53.9	55.0	55.1	52.3	49.7	53.3	54.3	55.2	52.1	54.0	52.8	54.5	51.9	53.6	55.2	54.3	56.3	54.5	55.6	54.1	56.9	52.8	52.2	56.3	54.9	54.3	55.0

February 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
2	50.0	45.8	43.8	46.3	48.4	44.7	49.3	50.0	53.8	53.9	49.6	45.6	49.4	43.3	49.0	47.4	49.6	48.2	48.3	48.8	49.7	49.2	48.0	51.5	52.8	56.5	51.0	48.6	50.9
3	55.1	54.8	55.3	53.8	56.1	54.1	52.6	59.1	58.8	54.8	54.3	53.4	55.0	54.6	53.7	54.1	58.4	58.0	53.7	54.5	55.6	55.9	54.7	53.9	56.4	53.9	52.7	55.4	57.2

March 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	48.0	50.3	49.6	49.1	53.5	48.4	51.9	54.5	51.1	52.7	47.9	48.7	50.9	47.8	50.3	48.3	48.3	50.6	47.1	50.0	50.9	51.9	51.3	49.0	49.4	50.1	51.1	54.9	52.4	49.4	47.3
3	54.0	53.1	53.9	56.6	53.5	53.8	54.0	54.8	55.6	56.6	55.6	56.8	55.9	56.2	55.7	53.9	56.4	55.0	53.4	54.8	54.6	55.0	54.2	51.6	53.8	54.2	55.6	57.3	56.6	52.4	51.2

April 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
2	49.7	46.7	47.6	45.7	49.5	50.9	52.3	49.1	54.5	47.1	46.2	47.6	46.8	45.5	55.5	52.5	49.6	48.7	50.8	49.5	51.5	50.0	50.8	50.6	50.9	49.6	50.2	49.6	49.2	49.5
3	52.8	56.1	53.9	54.7	55.0	54.9	57.4	55.3	56.2	56.5	56.7	55.2	53.4	55.3	58.1	53.8	53.3	55.0	56.3	51.8	55.5	54.0	52.8	55.8	56.1	56.8	52.7	54.3	54.6	55.1

May 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	49.4	50.5					52.6	51.6	53.2	50.8	51.3	51.3	52.1	51.7	51.5	52.6	52.9	49.9	51.2	53.2	51.3	47.7	50.6	50.5	53.3	49.5	51.1	46.7	50.2	50.7	53.9
3	54.7	55.3	55.4	51.2	52.2	56.3	57.4	55.4	55.7	56.4	57.3	56.3	56.6	56.4	57.6	56.5	55.6	54.9	54.8	54.4	57.3	56.6	55.8	56.5	54.8	55.7	55.4	56.6	54.9	56.5	56.4

June 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
2	54.4	53.3	51.1	49.3	50.7	49.5	49.2	46.3	51.9	52.9	50.9	48.8	50.1	52.1	49.4	50.0	51.8	54.0	54.2	53.7	51.9	50.4	53.2	52.8	51.3	51.2	49.9	49.8	48.5	51.6
3	55.9	58.5	55.9	56.0	55.5	56.3	56.4	53.6	53.7	56.9	55.6	55.8	57.5	57.5	55.4	57.5	56.3	59.3	57.7	57.7	58.5	54.7	55.5	57.4	57.2	58.2	57.3	56.2	53.7	55.1

Noise Report
Farnborough Airport

Community Noise By Day of Month and NMT

Start Date:01-Jan-2024

End Date: 30-Jun-2024

January 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	54.2	67.9	53.8	52.4	52.8	50.6	50.6	57.5	60.3	55.1	52.0	49.8	49.7	50.1	54.1	47.0	50.3	51.9	52.4	54.6	73.5	58.3	64.3	55.6	55.3	52.4	50.5	50.6	51.6	50.8	55.6
3	51.7	59.2	53.9	55.5	52.5	50.8	50.7	52.2	52.6	52.1	52.5	52.0	49.6	50.6	52.6	53.5	51.6	52.3	53.9	52.8	59.1	56.7	56.3	53.7	53.6	52.9	53.1	51.9	52.9	51.4	53.6

February 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
2	52.9	54.7	51.9	53.0	53.8	61.4	49.1	53.4	58.6	50.1	50.6	51.5	53.9	53.0	51.4	52.6	57.1	50.9	51.8	54.3	59.8	55.7	52.6	50.7	58.7	66.4	50.9	53.6	52.0
3	52.1	53.2	52.3	52.5	54.2	55.3	51.9	55.4	55.1	51.5	51.2	52.2	54.1	53.1	51.7	52.2	52.7	52.1	52.2	53.2	55.0	55.4	53.7	51.7	53.5	54.8	51.5	52.8	54.0

March 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	56.5	51.5	49.7	54.0	50.5	50.0	54.1	57.7	58.8	53.9	50.6	53.2	53.6	55.3	54.2	49.7	50.4	51.5	53.2	52.2	56.5	51.4	58.1	53.9	50.6	50.1	55.3	68.4	58.7	49.1	49.3
3	54.9	52.3	50.3	53.8	51.2	52.1	53.2	52.9	51.7	49.5	52.4	54.4	53.2	53.4	53.6	50.5	51.3	52.1	52.2	50.5	51.3	51.4	53.0	50.7	52.7	52.5	54.1	57.9	53.0	50.5	49.2

April 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
2	50.4	53.7	56.5	56.1	64.7	60.5	61.7	50.8	67.1	54.3	51.9	52.3	52.4	50.4	67.6	56.5	53.1	53.1	54.7	49.8	52.7	49.4	49.7	49.0	51.1	49.0	48.8	51.8	52.8	53.2
3	50.5	52.5	53.3	53.0	53.7	54.2	53.7	51.5	54.7	53.2	51.1	52.1	50.9	49.6	56.9	53.5	51.8	51.3	52.0	50.0	49.6	54.0	51.6	50.6	52.2	50.8	51.8	51.6	53.0	52.5

May 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	49.5	52.6					49.4	49.8	49.9	56.6	52.2	57.0	50.1	50.4	49.7	48.9	48.7	48.0	47.4	48.0	48.7	52.4	52.3	49.3	48.9	53.0	51.7	54.1	50.9	50.8	52.4
3	50.7	51.6	52.6	49.8	49.5	51.7	50.7	50.6	50.8	50.6	49.6	49.1	51.7	51.8	51.4	50.2	50.0	48.4	48.2	49.8	50.4	52.8	51.7	50.5	48.8	51.0	51.4	52.5	50.1	51.8	51.7

June 2024

NMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
2	50.6	48.6	48.9	52.6	51.3	49.7	50.7	49.8	50.5	51.7	49.5	53.4	52.2	54.7	57.7	52.1	50.1	50.5	48.6	48.3	51.5	49.8	54.3	49.3	48.3	48.4	55.6	52.1	48.1	48.1
3	50.4	48.5	50.1	51.7	52.0	51.2	51.5	49.5	49.4	51.6	50.5	55.0	52.8	53.3	54.1	50.4	51.6	49.7	50.2	50.7	51.6	49.3	47.9	50.0	49.0	50.1	51.7	51.7	48.0	48.7

25-Jul-2024