London Borough of Haringey
Annual Air Quality Status Report 2022

This report provides a detailed overview of air quality in London Borough of Haringey during 2022. It has been produced to meet the requirements of the London Local Air Quality Management (LLAQM) statutory process[1].

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[1] LLAQM Policy and Technical Guidance 2019 (LLAQM.TG (19))

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Abbreviations

Abbreviation	Description
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
BEB	Buildings Emission Benchmark
CAB	Cleaner Air Borough
EV	Electric Vehicle
GLA	Greater London Authority
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LLAQM	London Local Air Quality Management
NRMM	Non-Road Mobile Machinery
PM_{10}	Particulate matter less than 10 micron in diameter
$PM_{2.5}$	Particulate matter less than 2.5 micron in diameter
TEB	Transport Emissions Benchmark
TfL	Transport for London

Table A. Summary of National Air Quality Standards and Objectives

Pollutant	Standard / Objective (UK)	Averaging Period	Date[(1)]
Nitrogen dioxide (NO_2)	200 µg m^{-3} not to be exceeded more than 18 times a year	1-hour mean	31 Dec 2005
Nitrogen dioxide (NO_2)	40 µg m^{-3}	Annual mean	31 Dec 2005
Particles (PM_{10})	50 µg m^{-3} not to be exceeded more than 35 times a year	24-hour mean	31 Dec 2004
Particles (PM_{10})	40 µg m^{-3}	Annual mean	31 Dec 2004
Particles ($PM_{2.5}$)	20 µg m^{-3}	Annual mean	2020
Particles ($PM_{2.5}$)	Target of 15% reduction in concentration at urban background locations	3-year mean	Between 2010 and 2021
Sulphur dioxide (SO_2)	266 µg m^{-3} not to be exceeded more than 35 times a year	15-minute mean	31 Dec 2005
Sulphur dioxide (SO_2)	350 µg m^{-3} not to be exceeded more than 24 times a year	1-hour mean	31 Dec 2004
Sulphur dioxide (SO_2)	125 µg m^{-3} mot to be exceeded more than 3 times a year	24-hour mean	31 Dec 2004

Notes:

(1) Date by which to be achieved by and maintained thereafter

1. Air Quality Monitoring

Haringey now operates three automatic monitoring stations (Table B), which are all representative of public exposure.

For Haringey Roadside, the nearest relevant exposures are residential properties located less than 4m from the kerb; the sample inlet is in line with the building façades, demonstrating relevant exposure. This site is located at 639 High Road, Tottenham and is classified as a Roadside site. Monitoring at this location has been undertaken since December 1994.

The Haringey South site is located in a local park and is classified as an urban background site. Whilst this location is not defined as a sensitive receptor, it is representative of relevant exposure, being a background site within the Greater London area with monitoring at the location started in November 2012. In 2013, the monitoring equipment was relocated to its current location within the park from another area within the park for safety reasons.

The third automatic monitoring station (Wood Green Monitoring Station) is locally managed by the council and is classified as a Roadside site. Monitoring at this location commenced in May 2021.

1.1 Locations

Table B. Details of Automatic Monitoring Sites for 2022

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Monitoring technique
UK-AIR ID: UKA00260 **EU Site ID:** GB0637A	Haringey Roadside (639, High Road)	533894	190707	Roadside	Yes	3m – residential	4m	4m	NO_2,	APNA-370

UK-AIR ID: UKA00568 **EU Site ID:** GB1024A	Haringey South (Priory Park)	529987	188917	Urban Background	Yes	None	N/A	3.5m	NO_2, Ozone	APNA-370; Chemiluminescent
Site ID: HG005	Haringey Wood Green, (14 High Rd Hornsey, London N22 6HH)	531255	189961	Roadside	Yes	2m	1m	2m	NO_2, PM10, PM2.5	APNA-370; APDA-372

The Council has been monitoring for nitrogen dioxide by diffusion tube throughout the borough since 2004. Towards the end of 2010, six of the existing monitoring location sites were closed and nine new locations were opened. These nine new locations were chosen as a result of the latest air quality modelling that was carried out in 2009 by Bureau Veritas on behalf of the North London Cluster Group. The modelling identified hotspot locations where the hourly NO_2 objective may be at risk of being exceeded and where there is relevant exposure.

In March 2021, nineteen additional monitoring locations HR39 – HR57 were added to the existing sixteen monitoring locations as part of the Council's effort to implements its action on the measures submitted in the approved AQAP.

Table C below gives individual site details, locations for the 2021 monitoring round. There were thirty-five diffusion tubes monitoring locations throughout the borough in 2022. All diffusion tube sites are indicative of relevant exposure from roadside and background sites. The diffusion tubes are located at building facades of residential properties and schools or adjacent to hotspot locations where possible.

Three of the diffusion tubes sites have been at their location long-term (>10 years); these are a mixture of Roadside and Background sites and thus provide good long-term trends. Diffusion tube HR14; a triplicate site from July 2020 is co-located with Haringey Roadside automatic monitoring site and the data is fed into the National Diffusion Tube Co-location study. In 2018, monitoring at locations HR20 and HR28 stopped and monitoring at locations HR36 and HR37 began as detailed in the following table: In 2019, two additional monitoring locations in HR21 and HR38 began whilst HR28 also re-commenced.

Location	Number (see Table C)	Description/Comments
• **Schools**	5	All school diffusion tube monitoring sites are located within 150m of a main road carrying >10,000 vehicles per day. Existing: <u>Diffusion tubes added:</u> 2017: HR34 and HR35. 2018: HR36. 2019: HR21, HR38 whilst HR28 re-commenced. 2021: HR39, HR43, HR44, HR45, HR46, HR48, HR50, HR55, HR56 and HR57. <u>Diffusion tube stopped:</u> 2018: HR28

Location	Number (see Table C)	Description/Comments
• **Main road**	5	Diffusion tube added: 2018: Monitor HR37; 2020: HR14b and HR14c; 2021: HR40, HR41, HR42, HR47, HR49, HR51, HR52, HR53 and HR54.
• **GP Surgeries**	2	These are located outside GP surgeries i.e., HR24 and HR27.
• **Urban background**	1	HR08 was classified as an urban background site, however the adjacent site has been undergoing redevelopment to mixed use, residential and commercial. Therefore, consideration is still being given to relocation.

Table C. Details of Non-Automatic Monitoring Sites for 2022

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor. (Y/N)
HR06	200A, Archway Road, N6 5BA	528945	187682	Roadside	Y	<0.5m	1.5m	2.5m	NO_2	N
HR08	7 Cross Lane, N8 7QG	530512	189446	Urban Background	Y	2m	0m	2.5m	NO_2	N
HR14a	639 High Road, N17	533890	190710	Roadside	Y	3m	4m	3.5m	NO_2	Y
HR14b [d]	639 High Road, N17	533890	190710	Roadside	Y	3m	4m	3.5m	NO_2	Y
HR14c [d]	639 High Road, N17	533890	190710	Roadside	Y	3m	4m	3.5m	NO_2	Y
HR21 [c]	Lordship Lane Primary School, N22 5PS	532010	190549	Roadside	Y	0m - located in school playground	N/A	1.5m	NO_2	N

HR24	Westbury Medical Centre, 205 Westbury Av., N22 6RX	532155	190517	Roadside	Y	0m – located on building facade	9m	2.0m	NO_2	N
HR25	Rowland Hill Nursery, White Hart Lane	532554	191383	Roadside	Y	0m – located in school playground	7m	1.5m	NO_2	N
HR27	The Old Surgery, 572 Green Lanes, N8 0RP	531758	188872	Roadside	Y	0m – located on building facade	4.5m	2.5m	NO_2	N
HR28 [c]	Bounds Green Primary School, N11 2QG	530063	191324	Roadside	Y	7.5m	2m	2.5m	NO_2	N
HR30	Earlsmead Primary School, N17	533899	189023	Roadside	Y	0m – located within school site.	<0.5m	2.5m	NO_2	N
HR31	97/101 High Road, N22 6BB	531245	189935	Roadside	Y	3m	<0.5m	2..0m	NO_2	N
HR32	271 Archway Road, N6 5AA	528612	188072	Roadside	Y	<1m	<0.5m	2.0m	NO_2	N
HR34 [a]	Coleridge Primary school	531079	187926	Roadside	Y	0m – located within school site.	<0.5m	2.5m	NO_2	N
HR35 [a]	Chestnuts Primary School	532324	188766	Roadside	Y	0m – located within school site.	<0.5m	2.5m	NO_2	N
HR36 [b]	Holy Trinity CE School, Tottenham	533842	189581	Roadside	Y	0m - On Large Gate Outside Playground Area Somerset Rd, London N17 9EJ	2m	2.0m	NO_2	N
HR37 [b]	Weston Park/Broadway, 48 The Broadway, N8 9TP	530123	188420	Roadside	Y	0m - Outside Gail's Bakery 48 The Broadway, London N8 9TP	2m	2.0m	NO_2	N

HR38 [C]	Welbourne Primary School N15	533991	189460	Roadside	Y	0m – Located on the school fence	2m	2.5m	NO_2	N
HR39 [e]	Fortismere School, N10 1NE	528180	189842	Roadside	Y	2m	1m	2.0m	NO_2	N
HR40 [e]	Opposite Highgate Private Hospital, 17 – 19 View Road, Highgate. N6 4DJ	527884	188089	Roadside	Y	5m	<0.5m	2.5m	NO_2	N
HR41 [e]	258 Muswell Hill Broadway, N10 3SH	528797	189636	Roadside	Y	1m	1m	2.5m	NO_2	N
HR42 [e]	15 Stanhope Road, N6 5NE	529254	188051	Roadside	Y	1m	1m	2.5m	NO_2	N
HR43 [e]	St Aidan's VC Primary School, N4 4RR	531018	188018	Roadside	Y	2m	<0.5m	2.0m	NO_2	N
HR44 [e]	North Harringay Primary School, N8 0NU	531303	189128	Roadside	Y	5m	1m	2.0m	NO_2	N
HR45 [e]	Tiverton Primary School, Pulford Road. N15 6SP	532866	188246	Roadside	Y	5m	1m	2.0m	NO_2	N
HR46 [e]	St John Vianney Roman Catholic Primary School, N15 3HB	531882	189187	Roadside	Y	5m	1m	2.0m	NO_2	N
HR47 [e]	134 West Green Rd, N15 5AD	533117	189142	Roadside	Y	3m	1m	2.5m	NO_2	N
HR48 [e]	Mulberry Primary School, N17 9RB	534022	190341	Roadside	Y	2m	<0.5m	2.0m	NO_2	N
HR49 [e]	151 Mount Pleasant Road, N17 6TQ	533199	190058	Roadside	Y	1m	1m	2.5m	NO_2	N
HR50 [e]	Belmont Junior School, Rusper Road, N22 6RA	532063	189889	Roadside	Y	2m	1m	2.0m	NO_2	N
HR51 [e]	76 Coburg Road, N22 6UB	530691	189963	Roadside	Y	5m	1m	2.5m	NO_2	N
HR52 [e]	263 Victoria Road, N22 7XH	529423	190621	Roadside	Y	3m	1m	2.5m	NO_2	N

HR53 [e]	56 Partridge Way, N22 8DW	530497	190904	Roadside	Y	5m	2m	2.5m	NO_2	N
HR54 [e]	Woodside High Road/ White Hart Lane, N22 5QJ	531617	191114	Roadside	Y	5m	1m	2.5m	NO_2	N
HR55 [e]	Risley Ave. Primary, London N17 7AB	533257	190739	Roadside	Y	5m	<0.5m	2.0m	NO_2	N
HR56 [e]	Dukes Aldridge Academy, Almond Road, N17 0PG	534205	191270	Roadside	Y	5m	<0.5m	2.0m	NO_2	N
HR57 [e]	Campsbourne School Nightingale Lane, N8 7AF	530186	189628	Roadside	Y	1m	1m	2.0m	NO_2	N

[a] monitoring started in 2017, [b] added in 2018, [c] added in 2019, [d] added in 2020 and [e] added in 2021.

1.2 Comparison of Monitoring Results with AQOs

The results presented are after adjustments for “annualisation” and for distance to a location of relevant public exposure (if required), the details of which are described in Appendix A.

Table D1. Annual Mean NO_2 Ratified and Bias-adjusted Monitoring Results

Site ID	Site type	Valid data capture for monitoring period %[a]	Valid data capture 2022 %[b]	2016	2017	2018	2019	2020	2021	2022
UK-AIR ID: UKA00260 **EU Site ID:** GB0637A	Automatic		94.0	**43**	40	39	37	33	32	30
UK-AIR ID: UKA00568 **EU Site ID: GB1024A**	Automatic		93.0	26	24	23	22	16	18	17
Site ID: HG005	Automatic		89.1	-	-	-	-	-	**44**	**44**

Table D2. Annual Mean NO_2 Ratified and Bias-adjusted Monitoring Results

Site ID	Site type	Valid data capture for monitoring period %[a]	Valid data capture 2022 %[b]	2016	2017	2018	2019	2020	2021	2022
HR06	200A, Archway Road, N6 5BA	-	100	**44**	**41**	35	36.3	30.24	32.8	35.2
HR08	7 Cross Lane, N8 7QG	-	100	28	27	19	29.5	20.32	25.3	26.4
HR14a	639 High Road, N17	-	100	33	34	33	34.1	30.10	30.7	28.8
HR14b [d]	639 High Road, N17	-	91.7	-	-	-	-	33.01	30.4	30.6
HR14c [d]	639 High Road, N17	-	91.7	-	-	-	-	30.20	31.8	32.2
HR21 [c]	Lordship Lane Primary School	-	100	31	30	-	23.0	21.98	21.4	23.3
HR24	Westbury Medical Centre, 205 Westbury Av., N22 6RX	-	91.7	37	33	33	34.1	28.72	30.8	32.9
HR25	Rowland Hill Nursery, White Hart Lane	-	100	30	29	35	27.4	20.16	23.0	24.5
HR27	The Old Surgery, 572 Green Lanes, N8 0RP	-	91.7	36	33	31	36.4	28.97	32.7	31.2
HR28 [C]	Bounds Green Primary School, N11	-	100	33	34	-	30.7	28.97	30.5	26.7
HR30	Earlsmead Primary School, N17	-	66.7	**43**	**40**	**44**	39.6	33.12	30.1	32.1
HR31	97/101 High Road, N22 6BB	-	91.6	**59**	**52**	**65**	**67.8**	**71.52**	**62.3**	**64.5**
HR32	271 Archway Road, N6 5AA	-	91.6	**69**	**55**	**66**	**53.4**	**49.51**	**54.0**	**50.9**

Site ID	Site type	Valid data capture for monitoring period %[(a)]	Valid data capture 2022 %[(b)]	2016	2017	2018	2019	2020	2021	2022
HR34 [a]	Coleridge Primary school	-	83.3	-	31	31	32.1	28.15	29.7	32.0
HR35 [a]	Chestnuts Primary School	-	91.7	-	22	31	30.5	22.25	23.8	25.5
HR36 [b]	Holy Trinity CE School, Tottenham	-	100	-	-	30	33.9	29.11	29.1	29.3
HR37 [b]	Weston Park/Broadway, 48 The Broadway, N8 9TP	-	91.7	-	-	36	**42.2**	29.59	32.3	33.4
HR38 [C]	Welbourne Primary School N15	-	83.3	-	-	-	24.5	21.36	22.4	23.6
HR39 [e]	Fortismere School, N10 1NE	-	83.3	-	-	-	-	-	21.6	26.6
HR40 [e]	Opposite Highgate Private Hospital, 17 – 19 View Road, Highgate. N6 4DJ	-	100	-	-	-	-	-	25.5	29.3
HR41 [e]	258 Muswell Hill Broadway, N10 3SH	-	100	-	-	-	-	-	**42.5**	**44.0**
HR42 [e]	15 Stanhope Road, N6 5NE	-	91.7	-	-	-	-	-	21.0	22.7
HR43 [e]	St Aidan's VC Primary School, N4 4RR	-	91.7	-	-	-	-	-	19.3	21.2
HR44 [e]	North Harringay Primary School, N8 0NU	-	100	-	-	-	-	-	19.9	21.1
HR45 [e]	Tiverton Primary School, Pulford Road. N15 6SP	-	100	-	-	-	-	-	17.5	22.1

Site ID	Site type	Valid data capture for monitoring period %[a]	Valid data capture 2022 %[b]	2016	2017	2018	2019	2020	2021	2022
HR46 [e]	St John Vianney Roman Catholic Primary School, N15 3HB	-	100	-	-	-	-	-	20.6	21.1
HR47 [e]	134 West Green Rd, N15 5AD	-	100	-	-	-	-	-	30.3	30.2
HR48 [e]	Mulberry Primary School, N17 9RB	-	91.7	-	-	-	-	-	20.6	23.8
HR49 [e]	151 Mount Pleasant Road, N17 6TQ	-	83.3	-	-	-	-	-	23.7	27.4
HR50 [e]	Belmont Junior School, Rusper Road, N22 6RA	-	91.7	-	-	-	-	-	19.2	20.8
HR51 [e]	76 Coburg Road, N22 6UB	-	100	-	-	-	-	-	20.4	21.9
HR52 [e]	263 Victoria Road, N22 7XH	-	100	-	-	-	-	-	28.7	27.4
HR53 [e]	56 Partridge Way, N22 8DW	-	100	-	-	-	-	-	22.5	25.7
HR54 [e]	Woodside High Road/ White Hart Lane, N22 5QJ	-	100	-	-	-	-	-	20.9	25.3
HR55 [e]	Risley Ave. Primary, London N17 7AB	-	91.7	-	-	-	-	-	31.2	31.3
HR56 [e]	Dukes Aldridge Academy, Almond Road, N17 0PG	-	83.3	-	-	-	-	-	22.5	23.9
HR57 [e]	Campsbourne School Nightingale Lane, N8 7AF	-	100	-	-	-	-	-	19.9	21.5

Notes:

The annual mean concentrations are presented as µg m-3.

Exceedances of the NO_2 annual mean AQO of 40 µg m-3 are shown in bold.

NO_2 annual means in excess of 60 µg m-3, indicating a potential exceedance of the NO_2 hourly mean AQS objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias.

All means have been "annualised" in accordance with LLAQM Technical Guidance if valid data capture for the calendar year is less than 75% and greater than 25%.

Results have been distance corrected where applicable.

(a) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(b) data capture for the full calendar year (e.g., if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

The concentration of NO_2 monitored along the two Haringey Roadside for the automatic monitoring stations were still higher than that recorded on London Haringey Priory Park South.

No exceedances of the annual objective of 40µg/m^3 NO_2 were identified at either of the two existing Haringey locations, therefore the annual objective has been achieved. The hourly NO_2 objective was also achieved at both monitoring locations. However, there is an exceedance of the annual objective of 40µg/m3 NO_2 at the locally managed (Wood Green Monitoring Station) but the hourly NO_2 objective was achieved at the monitoring location.

At the Haringey South location, the NO_2 trend remains steady and low whilst that of the Haringey Roadside has also continued to fall in concentration.

All the diffusion tube results have been appropriately bias adjusted, using the Lambeth Scientific Services analytical laboratory national adjustment factors. Exceedances of the annual objective of 40µg/m3 are highlighted in bold. Similarly, to the 2021 data, HR31(Wood Green High Road) and HR32 (Archway Road/Southwood) exceed the air quality objective but HR30 (Earlsmead primary) and HR37 (Weston Park/Broadway Crouch End) continue to fall below the air quality objective. With the expansion of the monitoring locations to 35 in the borough, there is also an exceedance of the annual objective of 40µg/m3 at HR41 (Muswell Hill). The results are in accordance with the fact that the diffusion tubes are located in or adjacent to hotspot locations, as identified by the Bureau Veritas AQ modelling.

The data presented represents monitoring results for a 12-month period (January – December) and tubes are exposed in accordance with the UK Defra guidance LAQM.TG (16).

With diffusion tubes considered to have limitations, the government recommends that; tubes should be co-located with an automatic analyser to determine a bias adjustment factor, which is then applied to the raw annual average concentrations for the same year to obtain bias adjusted results. Haringey co-locates a diffusion tube at HR14 (639 High Road, Tottenham) and submits the data annually.

However, it is the national laboratory average adjustment factor (Lambeth Scientific Services) that is applied to the raw annual average concentrations for the correct year to obtain the bias adjusted results. The bias adjustment factors are on their website:

http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html

The raw data from the co-located diffusion tube is submitted annually to the NO_2 diffusion tube network data managers for verification of the diffusion tubes and calculation of the laboratory bias adjustment factor.

The bias adjustment factor used was 0.95 of 4 study national bias adjustment factor by Lambeth Scientific Services for year 2022.

With the triplicate tube introduced at the council own co-location site from July 2020; we might start considering using the calculated local bias adjustment factor from the next year’s report.

Table E shows that there have been no exceedances of the hourly NO_2 objective in 2022.

Table E. NO_2 Automatic Monitoring Results: Comparison with 1-hour Mean Objective, Number of 1-Hour Means > 200 µg m^{-3}

Site ID	Valid data capture for monitoring period %([a])	Valid data capture 2022 %([b])	2016	2017	2018	2019	2020	2021	2022
UK-AIR ID: UKA00260 **EU Site ID:** GB0637A	-	94.0	6	5	0	0	0	0	0
UK-AIR ID: UKA00568 **EU Site ID:** GB1024A	-	93.0	0	0	0	0	0	0	0
Site ID: HG005	-	89.1	-	-	-	-	-	0 (120)	0

Notes

Results are presented as the number of 1-hour periods where concentrations greater than 200 µg m^{-3} have been recorded.

Exceedance of the NO_2 short term AQO of 200 µg m^{-3} over the permitted 18 hours per year are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

(a) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

(b) Data capture for the full calendar year (e.g., if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

There have been no exceedances of the hourly NO_2 objective in 2022.

The 2022 annual Mean NO_2 Concentration in the London Borough of Haringey is attached to this report (Appendix B).

Table F. Annual Mean PM_{10} Automatic Monitoring Results (µg m^{-3})

Site ID	Valid data capture for monitoring period %(a)	Valid data capture 2022 %(b)	2016	2017	2018	2019	2020	2021	2022
Site ID: HG005	-	96.32	-	-	-	-	-	16	19

Notes

The annual mean concentrations are presented as µg m^{-3}.

Exceedances of the PM_{10} annual mean AQO of 40 µg m^{-3} are shown in **bold**.

All means have been "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75% and more than 25%.

(a) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(b) Data capture for the full calendar year (e.g., if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

PM10 Automatic Monitor:

Whilst monitoring for PM_{10} ceased in Haringey in 2014, this was recommenced at the Wood Green monitoring station in May 2021. However, the historical PM_{10} monitoring data is available at:

www.uk-air.defra.gov.uk

No exceedances of the annual objective of 40µg/m3 PM_{10} identified at the Haringey location therefore, the annual objective has been achieved.

Table G. PM_{10} Automatic Monitoring Results: Comparison with 24-Hour Mean Objective, Number of PM_{10} 24-Hour Means > 50 µg m^{-3}

Site ID	Valid data capture for monitoring period %[(a)]	Valid data capture 2022 %[(b)]	2016	2017	2018	2019	2020	2021	2022
Site ID: HG005	-	96.32	-	-	-	-	-	0 (24)	8

Notes

Exceedances of the PM_{10} 24-hour mean objective (50 µg m^{-3} over the permitted 35 days per year) are shown in **bold.**

Where the period of valid data is less than 85% of a full year, the 90.4th percentile is provided in brackets.

(a) data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

(b) data capture for the full calendar year (e.g., if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

No exceedances of the PM_{10} 24-hour mean objective (50 µg m-3 over the permitted 35 days per year) identified at the Haringey location therefore, the 24-hour mean objective has been achieved.

Table H. Annual Mean $PM_{2.5}$ Automatic Monitoring Results (µg m^{-3})

Site ID	Valid data capture for monitoring period %[(a)]	Valid data capture 2022 %[(b)]	2016	2017	2018	2019	2020	2021	2022
Site ID: HG005	-	96.32	-	-	-	-	-	10	12

Notes

The annual mean concentrations are presented as µg m^{-3}.

Exceedances of the $PM_{2.5}$ annual mean AQO of 20 µg m^{-3} are shown in **bold**.

All means have been "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75% and more than 25%.

(a) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(b) Data capture for the full calendar year (e.g., if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

In January 2016; Defra's AURN London Network managers (Environmental Research Group, Kings College, London) notified the Council of its intention to remove the $PM_{2.5}$ Defra network monitor from the HGY1 location to another location, outside of the borough:

'Under the AQ Directive, Defra are required to regularly assess the monitoring requirements in the UK. During the most recent assessment, London was found to have a greater number of $PM_{2.5}$ instruments than required under the directive but the number in some other zones and agglomerations in the UK were identified as requiring additional PM measurement. Defra therefore needs to move the $PM_{2.5}$ instrument from the site at Haringey Roadside to another AURN site'.

However, whilst $PM_{2.5}$ monitoring was stopped in the borough since that time, this was recommenced at the Wood Green monitoring station in May 2021. The historical $PM_{2.5}$ monitoring data is available at: www.uk-air.defra.gov.uk.

No exceedances of the annual objective of 25µg/m3 $PM_{2.5}$ identified at the Haringey location therefore, the annual objective has been achieved.

Table I. Days where maximum rolling 8hr mean >100ug/m3: (AQS Objective <= 10) for Ozone

Site ID	Valid data capture for monitoring period %[a]	Valid data capture 2022 %[b]	2016	2017	2018	2019	2020	2021	2022
UK-AIR ID: UKA00568 **EU Site ID:** GB1024A	-	69	-	-	-	-	-	7	22

Notes

There is an exceedance of the annual objective of Days where maximum rolling 8hr mean >100ug/m3: (AQS Objective <= 10) for Ozone identified at the Haringey location therefore, the annual objective has not been achieved. The exceedance has not been helped by the amount of valid data captured at the site which was due to the issues of the old machine becoming end-of-life.

To mitigate extreme data loss, a replacement DEFRA analyser, was loaned to the council by Bureau Veritas (BV) and with this, we were able to obtain a considerable amount of data for the period year.

2. Action to Improve Air Quality

2.1 Air Quality Action Plan Progress

Table J provides a brief summary of London Borough of Haringey progress against the Air Quality Action Plan, showing progress made this year (2022).

Table J. Delivery of Air Quality Action Plan Measures

Measure	LLAQM Action Matrix Theme	Action	Progress • Emissions/Concentration data • Benefits • Negative impacts / Complaints
1.	**Monitoring and other core statutory duties**	a. With the support of all relevant teams, monitoring to include maintaining the borough's two automatic and 13 NO_x diffusion tube monitors across the borough and expand monitoring networks, especially around schools. b. Complete and submit Annual Status Reports on time. c. Update AQAPs every five years at a minimum and follow LLAQM guidance when doing this; check/amend AQMA's as required.	• Whilst we increased monitoring by additional 19 NOx diffusion tubes, 1 automatic monitoring station and 2 indicative monitors for our school street project in 2021, the council is now in the position to report a full year monitoring data for the additional monitoring locations whilst the contract for the replacement of the end-of-life ozone analyser at our priory park site was also signed off. • Following the update in our last progress report that Haringey Low Emission Neighbourhood Feasibility Study was conducted at Tottenham High Road with the result submitted January 2021 and that following its review, the council is seeking funding to progress Haringey's preferred solutions. We are still seeking for the necessary funding to progress the preferred solutions.
2.	**Emissions from developments and buildings**	a. Investigate the potential for larger development areas to proactively assess air quality impacts cumulatively. b. Ensuring emissions from demolition and	• The council has continued to deliver on this measure. In 2022, 30 major planning applications were required to submit a dust management plan and register with the Considerate Constructors Scheme.

Measure	LLAQM Action Matrix Theme	Action	Progress • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		construction are minimised.	
3.	Emissions from developments and buildings	a. Ensuring enforcement of non-road mobile machinery (NRMM) air quality policies	• The council continues to deliver on this measure in conjunction with its partner (GLA). In 2022, of the 7 sites audited, 5 were in compliant, 2 have not yet a NRMM within the scope (37 – 560KW) on site that can be audited. 32 sites were registered on the nrmm website in 2022.
4.	Emissions from developments and buildings	a. Reducing emissions from CHP. b. Enforcing CHP air quality policy. Ensure smaller developments use ultra-low NO_x Boilers.	• The council continues to monitor the impact of CHP plant within our borough and in 2022, only three (3) major developments with CHPs boiler was subject to GLA emissions limits and/or other restrictions to reduce emissions but no Biomass boiler was installed for the year. Moreover, one (1) of these developments was also subject to install Ultra-Low NOx boilers.
5.	Emissions from developments and buildings	a. Enforce Air Quality Neutral (AQN) policy	• We continue to enforce this policy and in 2022, there are twenty (20) developments where an AQ Neutral building and/or transport assessments were undertaken.
6.	Emissions from developments and buildings	a. Ensuring adequate, appropriate, and well-located green space and infrastructure is included in new and existing developments.	• The council continues to ensure that exposure in amenity spaces is considered during development. This means having the activities appropriate in existing amenity areas and at the design stage for the new sites. We aim to ensure there is a provision for green infrastructure in each development approved by the planning service. However, with the council not successful in its 2021 Defra bid to roll out its successful pilot on pollution screens, we are still exploring other sources of fundings.
7.	Emissions from developments and buildings	a. Declaring Smoke Control Zones and ensuring they are fully promoted. To include: an awareness campaign, engagement with suppliers, and active enforcement. b. Ensuring that Smoke Control Areas are appropriately identified and fully enforced.	• The council continues to enforce smoke emissions from bonfires. • We continue to be a member of the GLA wood burning working group and following our success in our Defra joint bid with other local authorities on Wood burners London wide project, we have held few stakeholders meeting, presentation, surveys, and campaign to minimise its impact. • We still receive complaints about smoke from wood burning on canal boats and from restaurants using charcoal grills and in 2022, the council received 80 bonfire complaints which was about 10% less than the number of similar complaints received in 2021. • Moreover, the council civil enforcement officers continue to deal with perpetrators whilst we have also intensified our awareness campaign through our website and constant response to public enquiries on this.
8.	Emissions from developments and buildings	a. Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces and homes through EFL	• The on-site regulated carbon savings are increasing year-on-year, with higher fabric efficiencies and lower space heating demand, as well as more developments proposing heat pump solutions to reduce on-site fossil fuel burning. • Schemes achieved on average a reduction of 62.1% (this is not weighed against the size of development).

Measure	LLAQM Action Matrix Theme	Action	Progress • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		retrofit programmes such as RE: FIT, RE: NEW and through borough carbon offset funds to replace old boilers/top-up lost insulation in combination with other energy conservation measures.	• Some developments which previously received permission for a gas-led heating system are now proposing to amend this to air source heat pump solutions, reducing the on-site fossil fuel burning and air pollution. • The New Local Plan policies are being developed in response to the new Building Regulations Part L, aiming to set higher standards for energy efficiency and energy supply to new buildings and the extension and retrofit of existing buildings. • Some of the collected Section 106 carbon offset contributions have been allocated to the Community Carbon Fund. • In 2022/23, seven carbon reduction projects by community groups have been implemented in Year 1 of the funding programme. These includes installing solar photovoltaic panels and replacement of LED lighting, new glazing, electric bikes and cargo bikes, repair of materials, and low-carbon and local food production. These projects include wider community engagement on climate change awareness, reducing energy use, changing travel behaviours, and reducing carbon emissions. • The Year 1 projects (implemented in 2022) provide: - Estimated savings of 12.5 tCO2/year and a one-off 2.3 tCO2 saving for the repair of goods. - Totals spend of £73,414. • The Year 2 projects (submitted in 2022; granted/implemented in 2023) provide: - Estimated savings of 19.8 tCO2/year - Totals spend of £85,944 • Drafted Council's Housing Energy Action Plan (HEAP) which sets out the Council's approach for retrofitting its housing stock, with detailed targets and outcomes for the period 2023 to 2028. The first phase of retrofits will have 465 homes retrofitted from March 2023. • Promotion of Ecofurb advice service which aims to take the uncertainty and hassle away from homeowners who are undertaking an energy efficiency project by providing impartial support and advice. • 393 residents supported to reduce their energy bills through Shine London and LEAP energy advice partners. • 343 applications for GHG LAD and sustainable warmth funding. • Selective licencing landlord scheme introduced for 14 wards. With a specific focus on reducing fuel poverty, the Selective Licensing scheme will help the council identify properties with the worst energy efficiency ratings and provide landlords with the relevant support and education to adapt their properties and effectively measure their carbon emissions.
9.	Emissions from developments and buildings	a. Installation of residential electric charge points within developments. b. Master planning and redevelopment areas aligned with Air Quality	• The council currently have 169 EV charging bays installed on the public highway and planning to install a further 150 Source London Standard EVCPs & 18 Charging LC EVCPs in 23/24. • The map can be found: https://www.google.com/maps/d/edit?mid=1xOOrGSnckjwPD3iRuEo6T5nVLx_M11JW&usp=sharing .

Measure	LLAQM Action Matrix Theme	Action	Progress • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		Positive and Healthy Streets approaches.	• In addition to the above, the council continues to recommend installation of EVCP within new development at planning stage. Requesting that 20% of all new parking bays are to be electrified before occupation of units. • In the year 2022 we implemented 6 school streets as part of the LTNs and as a measure to improving the borough through reducing number of vehicles passing schools at the start and finish of the day. • https://www.haringey.gov.uk/parking-roads-and-travel/travel/smarter-travel/school-streets/existing-school-streets#ltn • Parents were encouraged to travel more sustainably whilst; • We have also consulted and planned the next batch of school streets.
10.	**Public health and awareness raising**	a. Public Health department taking shared responsibility for borough air quality issues and implementation of Air Quality Action Plans. b. Public Health Teams should be supporting engagement with local stakeholders (businesses, schools, community groups and healthcare providers). They should be asked for their support via the DPH when projects are being developed. c. Directors of Public Health (DsPH) fully briefed on the scale of the problem in your local authority area; what is being done, and what is needed. A briefing should be provided. d. Directors of Public Health to have responsibility for ensuring their Joint	• In 2022, Public Health Children & Young People Commissioning team continue to roll out Asthma Friendly schools training for schools and school nurses; • Under School Super zones project in Tottenham, we have worked with Regeneration in helping to get external funding to bring back a green space into use for the children and the local community. • The Council secured £30,000 for community focused cycle training for all ages of the community in Northumberland Park. • We continue to work with Regeneration to improve green spaces and trees within the town centres and areas in negative deficit of trees and green space. • We are also working at a strategic level to work with planning policy to improve air quality within the new local plan; parks and green space strategy and housing strategic.

Measure	LLAQM Action Matrix Theme	Action	Progress • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		Strategic Needs Assessment (JSNA) has up to date information on air quality impacts on the population. e. Strengthening co-ordination with Public Health by ensuring that at least one public health specialist within the borough has air quality responsibilities outlined in their job profile. f. Director of Public Health to sign off Statutory Annual Status Reports and all new Air Quality Action Plans	
11.	Public health and awareness raising	a. Engagement with businesses as part of the 'Liveable Neighbourhoods' project in Crouch End	• Project was put on hold indefinitely by TfL so no further progress on this project.
12.	Public health and awareness raising	a. Supporting Airtext, promotion and dissemination of high pollution alert services.	• The council has continued to deliver on this measure in 2022 by disseminating high pollution alert service to members of the public. • The council Airtext awareness raising was mainly carried out by the Active Travel Team as part of their work. • Smarter Travel team promote the Air Text information service to all our schools (101) and give them information regarding usage. • We have promoted to all teachers to offer support especially for vulnerable colleagues and children re pollution alerts that would aid asthma and Chronic obstructive pulmonary disease (COPD) sufferers.
13.	Public health and awareness raising	a. Encourage schools to join the TfL STARS accredited travel planning programme	• We continue to promote TfL STARS activities and national and local actions to offer as many schools as possible opportunities to take part. • In 2022, we have a rolling programme allowing schools to take part and apply for accreditation. • Although there is a dip in accreditations now, new schools are logging in and achieving accreditation, but some have suffered due to the change in leadership or teachers.

Measure	LLAQM Action Matrix Theme	Action	Progress • Emissions/Concentration data • Benefits • Negative impacts / Complaints
			• This year we have 54 schools achieving TfL STARS accreditation:40 Gold, 4 Silver and 10 Bronze. • In May 2022 we provided our own Walk to School Resources to every primary school child in the borough. These promoted Active travel and focussed for 1 week on activities.
14.	Public health and awareness raising	a. Air quality in and around schools	• Smarter Travel Team provide resources to support the schools, encourage participation in the Anti Idling workshops offered and support schools with School Streets project. • We provide promotional items regarding air quality activities. • We still have the stop animation on our Smarter Travel page. • This is a child's version of why we should pay attention to pollution and how we can all tackle it. • The school streets are our major message delivery point. TfL STARS has several activities that support the improvements via self-led Air Quality lessons and activities.
15.	**Delivery servicing and freight**	a. Update of procurement policies to reduce pollution from logistics and servicing. b. Ensure local authority procurement policies include a requirement for suppliers with large fleets to have attained bronze Fleet Operator Recognition Scheme (FORS) accreditation or equivalent standard. c. Priority loading for ultra-low emission delivery vehicles.	• The council continues to follow the rules set by procurement for any freight that falls under our service areas.
16.	Delivery servicing and freight	a. Reducing emissions from deliveries to local businesses and residents: Re-organisation of freight to support consolidation (or micro-consolidation) of deliveries, by setting up or participating in new logistics facilities, and/or potentially additional cost depending upon type of	• With this major exercise likely to have contractual, cost and service disruption implications, this action will be reviewed as part of the new contract which expires in 2 years when service round is due for review.

Measure	LLAQM Action Matrix Theme	Action	Progress • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		contract and distance needed to travel	
17.	**Borough Fleet**	a. Reducing emissions from council fleets: Increasing the number of hydrogens, electric, hybrid, bio-methane, and cleaner vehicles in the boroughs' fleet	• The Council is constantly reviewing its fleet. This has included using tracking equipment to monitor usage levels and compare these vehicles to alternative electric vehicles (EVs). This analysis has shown that at this time there are no EVs on the market that deliver our service requirements, but we believe that the vehicles will be there within the next year or so. Therefore, where vehicles need to be replaced, they will be replaced with new and cleaner Euro 6 vehicles. However, where we can stretch the life of the vehicles we will do so, with the ambition to switch to EVs within the next few years. • In 2022, we have provided 4 x E-cargo bikes for our park's operations in Finsbury and Lordship Rec. This included training in using the bikes.
18.	**Localised solutions**	a. Expanding and improving green Infrastructure (GI)	• During 2022, we planted 526 new standard trees and 600 saplings to create Haringey's first mini forest. • The Parks and Green Spaces Strategy (PGSS) which was developed in draft, was consulted upon, and adopted in 2022.
19.	Localised solutions	a. Low Emission Neighbourhoods (LENs) b. Low Emission Vehicle Strategy c. Road closures around Schools d. Public recognition of businesses that contribute to good air quality. e. Publicity of air quality status and Council activity	• We have now delivered 23 new school streets in the borough with a rolling plan to increase the number of School Streets in future, where feasible. • https://www.haringey.gov.uk/parking-roads-and-travel/travel/smarter-travel/school-streets • E-cargo bikes purchased for the Parks team to be use instead of vehicles for site inspections and minor works/maintenance duties. • Smarter Travel Team continue to offer support and guidance to schools and help to deliver 6 School Street schemes in 2022 as part of the 3 LTN projects in the borough. • These are subject to consultation as part of their ETO status. Then we have a further 4 being implemented by July and a then we are at formal consultation stage of the next batch of schools for delivery circa September 2023. • https://www.haringey.gov.uk/parking-roads-and-travel/travel/transport-strategy/low-traffic-neighbourhoods-haringey
20.	**Cleaner transport**	a. Ensuring that Transport and Air Quality policies and projects are integrated	• Officers from both transport planning and pollution continue to work together as evident in the Walking and Cycling Action Plan and the Low Traffic Neighbourhoods project which is still on-going. • We have a considerable input from transport team into AQAPs and AQ on all major transport projects. • School Street action plan was adopted in 2020, and an updated version will be adopted in 2023". • Adopted Walking and Cycling Action Plan was developed in 2022. • In 2022, we also reviewed and updated the current planning policies ahead of the forthcoming local plan review of December 2023. • Identifying of monitoring measures in the School Streets Action Plan.

Measure	LLAQM Action Matrix Theme	Action	Progress • Emissions/Concentration data • Benefits • Negative impacts / Complaints
21.	Cleaner transport	a. Discouraging unnecessary idling by taxis and other vehicles	• The council has continued to drive behavioural changes whilst its effort on campaigning and education has also continued to be intensified through the council participation in the Pan London Anti-Idling Project and enforcement. • In 2022, a couple of face-to-face idling campaigns were carried out. • We continue to work with TFL and GLA to reduce emission from transport sources.
22.	Cleaner transport	a. Regular temporary car free days	• In 2022, we assisted all the schools at Broad waters Farm in a one-day free car. • We invited Pedal Power all ability cycling club, bike mechanic and assisted with the event promotion on social media. • Games were played and the messaging of lower car usage was made. The event took place prior to the LTN for the area.
23.	Cleaner transport	a. Using parking policy to reduce pollution emissions such as free or discounted parking charges or residential parking permits for zero emission cars and/ or surcharges on diesel vehicles below Euro 6 standards for Resident and Controlled Parking Zone permits	• No further update beside the progress below reported in 2020 report. • In September 2020, the Council agreed to add a £10 increase across all existing parking permit charge bands. Alongside this, a surcharge (£80) was added on diesel fuelled vehicles and on second and subsequent residential parking permits per household (£50 per second vehicles). The report can be seen here.
24.	Cleaner transport	a. Installation of Ultra-low Emission Vehicle (ULEV) infrastructure (electric vehicle charging points, rapid electric vehicle charging point and hydrogen refuelling stations): Support GLA in the Expansion of ULEZ b. Increasing the proportion of electric, hydrogen and ultra-low emission vehicles in Car Clubs c. Increase the introduction and use of electric vehicle	• The council has 169 EV charging bays installed on the public highway that are managed by the Council. The map can be found: • https://www.google.com/maps/d/edit?mid=1xOOrGSnckjwPD3iRuEo6T5nVLx_M11JW&usp=sharing • The council so far has installed a total of 167 EV points at various locations in the borough. • These are Lamp column, standard, fast, and rapid EV points. • In 2022 we installed 58 EV points. We have also consulted on a proposal to install additional 36 EVCPs and DA approval has been granted for these to be installed. These will be installed in 2023. • The Council supports TfL's proposal to expand the ULEZ London-wide in 2023.

Measure	LLAQM Action Matrix Theme	Action	Progress • Emissions/Concentration data • Benefits • Negative impacts / Complaints
		Car Clubs across the borough. d. Reprioritisation of road space; reducing parking at some destinations and or restricting parking on congested high streets and A roads to improve bus journey times, cycling experience, and reduce emissions caused by congested traffic.	
25.	Cleaner transport	a. Provision of infrastructure to support walking and cycling. To enable cycling by increasing the number of secure cycle parking spaces.	• The council have installed a total of 173 cycle storage facilities so far which can accommodate 1038 bikes. • In 2022 we installed 32 bike hangars that have 192 bike spaces. • We have also consulted on a proposal to install a further 26 storages which can accommodate 156 bikes, and these will be installed in 2023. • We have also adopted Walking and Cycling Action Plan in 2022.

3. Planning Update and Other New Sources of Emissions

Table K. Planning requirements met by planning applications in London Borough of Haringey in 2022

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	22
Number of planning applications required to monitor for construction dust	30
Number of CHPs/Biomass boilers refused on air quality grounds	0
Number of CHPs/Biomass boilers subject to GLA emissions limits and/or other restrictions to reduce emissions	3
Number of developments required to install Ultra-Low NO_x boilers	1
Number of developments where an AQ Neutral building and/or transport assessments undertaken	20
Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	2
Number of planning applications with S106 agreements including other requirements to improve air quality	0
Number of planning applications with CIL payments that include a contribution to improve air quality	0
NRMM: Central Activity Zone, Canary Wharf and Opportunity Areas Number of conditions related to NRMM included. Number of developments registered and compliant. Number of audits % of sites unregistered prior to audit Please include confirmation that you have checked that the development has been registered with the GLA through the relevant NRMM website and that all NRMM used on-site is compliant with Stage IV of the Directive and/or exemptions to the policy.	N/A
NRMM: Greater London (excluding Central Activity Zone, Canary Wharf and Opportunity Areas) Number of conditions related to NRMM included. Number of developments registered and compliant. Number of audits % of sites unregistered prior to audit Please include confirmation that you have checked that the development has been registered at www.nrmm.london and that all NRMM used on-site is compliant with Stage IIIB of the Directive and/or exemptions to the policy.	68 There are 68 conditions related to NRMM at the relevant 34 major building sites. 32 sites were registered on the nrmm website in 2022. In 2022, of the 7 sites audited, 5 were in compliant, 2 have not yet a NRMM within the scope (37 – 560KW) on site that can be audited. The Council will continue to work to ensure development

Condition	Number
	sites are compliant regarding emissions from NRMM. The borough is a member of the Pan London NRMM monitoring scheme hosted by Merton Council. It aims to continue to collate reports on, and to monitor the emissions from NRMM on development sites across London ensuring standards are applied consistently.

Records of the above information on planning applications are kept in the Haringey internal database called M3. This is also duplicated in the pollution team planning folder for officers' comment and recommendation.
The council received 22 major planning applications that required AQ assessment in 2022 which all submitted such reports at the planning stage.

The NRMM record is from the yearly audit report submitted to the council through its membership of Pan London NRMM as well as from the registered information on the nrmm.london website for the council.

3.1 New or significantly changed industrial or other sources.

No new sources identified.

4. Additional Activities to Improve Air Quality

4.1 London Borough of Haringey Fleet

We can't provide details of how many a) zero emission and b) zero emission capable vehicles there are within our borough's fleet, and what percentage of the fleet these represent.

However, we procured additional four (4) E-Cargo Bikes for the Parks service (Finsbury and Lordship Rec), which will replace the small diesel buggies that are currently used in services across our parks as additions to their maintenance fleet.

Moreover, "a fleet review is starting to follow the in-sourcing of Home for Haringey into the Council. This increase in the number of vehicles under a single management system will enable the Council to increase its supply of Zero Emission and Zero Emission Capable vehicles."

4.2 NRMM Enforcement Project

We can confirm that London borough of Haringey will continue to support the NRMM Enforcement project in 2023 – 24.

4.2 Air Quality Alerts

We can confirm that London Borough of Haringey support *air*TEXT (https://www.airtext.info/) which can be accessed through this link on the council website.

https://www.haringey.gov.uk/business/licensing-and-regulations/environment-and-waste/pollution-control/air-pollution/airtext

Appendix A Details of Monitoring Site Quality QA/QC

A.1 Automatic Monitoring Sites

Haringey's two automatic monitoring stations are part affiliated to the Automatic Urban & Rural Network (AURN) whilst the third is locally managed by Ricardo Energy and Environment (Ricardo). AURN sites have Defra funding as the data is more rigorously scrutinised with traceability to EU standards. Part affiliated sites are part funded by Defra and part funded by the local authority.

Defra's London AURN data manager is the Environmental Research Group (ERG), Imperial College London. ERG collates the data on a daily basis, validates it before sending it onto the national data managers, who ratify it to EU standards.

Routine calibrations are undertaken monthly for both the (roadside sites) and (background site) by ESU1. Each site is audited bi-annually following a full service. The calibrations support the quality assurance and quality control (QA/QC) checks that are carried out on the raw data to the AURN standard. This is to ensure that:

- Data is representative of ambient concentrations in the area.
- Measurements are accurate and precise to meet monitoring requirements.
- Data can be consistently compared with data from national and international standard sites.
- Measurements are consistent over time.

Further information on data validation and ratification is available on the Defra website: www.uk-air.defra.gov.uk and https://www.airqualityengland.co.uk/ respectively.

PM_{10} Monitoring Adjustment

Whilst PM_{10} monitoring recommenced in May 2021, no monitoring adjustment was done for the year 2022 data.

A.2 Diffusion Tubes

Haringey's diffusion tubes are prepared and analysed by Lambeth Scientific Services which is a UKAS accredited laboratory. This laboratory participates in the Air Proficiency Testing (AIR – PT) scheme to meet European standards and is involved in the network field inter-comparison exercise operated by LGC, which assesses the sampling and analytical performance of the tubes. Nitrogen dioxide diffusion tubes are prepared using the 50% triethanolamine (TEA) in acetone method.

- Until July 2020 when we increased this to three, one diffusion tube was co-located with an automatic analyser for NO_2. This is at the Haringey Roadside monitoring site. All diffusion tube results have been appropriately bias adjusted, using the national analytical laboratory adjustment factor of 0.95 spreadsheet version issued 03/2023. Although we have not been able to change to the local factor, as previously intended now; that we are in a position of having a full monitoring data from the co-location site.
- Co-ordination of a quality assurance/quality control (QA/QC) framework, aimed at the analytical laboratories that supply and analyse the diffusion tubes currently comprises:
- Promotion of the independent Air Proficiency Testing (AIR – PT) scheme, operated by the Health and Safety Laboratory, with yearly assessment against agreed performance criteria.
- Operation of a field intercomparison exercise, in which diffusion tubes are co-located with an automatic analyser: from January 2006 this is at a roadside site.
- Operation of a QC solution testing scheme. Participation is recommended for any laboratory that prepares or analyses NO_2 diffusion tubes used by Local Authorities for LAQM purposes.
- Quarterly summaries of participating laboratories' performance in the Air Proficiency Testing (AIR – PT) scheme over the preceding 12 months, prepared by LGC, are available by clicking on the links below:

http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html

Table L. Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	National	03/23	0.95
2021	National	03/22	0.97
2020	National	03/21	0.96

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

The data for HR30 Earlsmead Primary School, was adjusted in line with Box 7.10 of the Local Air Quality Management Technical Guidance (TG16) using the co-located Haringey Tottenham Town Hall automatic monitoring station as the background site because, the data capture rate for all monitoring data for 2022 at HR30 was 66.7% which was below 75% for a full calendar year required.

Diffusion Tube Data Annualisation for HR30

Months	Start Date	End Date	B1	D1	B1 when D1 is available
January	05/01/22	07/02/22	40.1	33	40.1
February	07/02/22	07/03/22	23.1	38	23.1
March	07/03/22	05/04/22	34.6	35	34.6
April	05/04/22	04/05/22	24.2	35	24.2
May	04/05/22	08/06/22	26.7	22	26.7
June	08/06/22	06/07/22	25.8	24	25.8
July	06/07/22	03/08/22	23.3	28	23.3
August	03/08/22	06/09/22	23.8	34	23.8
September	06/09/22	03/10/22	28.6	-	-
October	03/10/22	03/11/22	35.7	-	-
November	03/11/22	02/12/22	36.0	-	-
December	02/12/22	05/01/23	39.7	-	-
		Average	**30.1**	**31.1**	**27.7**

Annual Mean (Am) = 30.1

Period Mean (Pm) of B1 = 27.7

Ratio of Am/Pm = 30.1/27.7 = 1.09

Therefore, the annualised average (D1) = Measured Period Mean Concentrations (M) x Annualisation Factor (Ra)

Thus, D1 = M × Ra

= 31.1 X 1.09 = 33.8µg/m^3

Distance Adjustment

All monitoring locations are representative of public exposure. No Distance adjustment is required.

Table M. Short-Term to Long-Term Monitoring Data Adjustment

Site ID	Annualisation Factor Haringey Town Hall	Annualisation Factor	Annualisation Factor	Annualisation Factor	Average Annualisation Factor	Raw Data Annual Mean (µg m^{-3})	Annualised Annual Mean (µg m^{-3})	Comments
HR30	1.09							Annualised with only one Roadside site

Appendix B Full Monthly Diffusion Tube Results for 2022

Table N. NO_2 Diffusion Tube Results

Site ID	Site address	Valid data capture for monitoring period % [a]	Valid data capture 2022 % [b]	Annual Mean NO_2													
				Jan	Feb	March	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Annual mean – raw data [c]	Annual mean – bias adjusted [c] (0.95)
HR06	Archway	-	100	43	45	48	24	29	32	33	39	40	41	40	30	37.0	35.2
HR08	Mortuary/ St James	-	100	37	38	32	19	21	23	26	25	26	29	30	28	27.8	26.4
HR14a	639 High Road, N17	-	100	33	30	29	17	26	33	32	29	28	40	38	29	30.3	28.8
HR14b	639 High Road, N17	-	91.7	38	30	31	17	28	-	34	31	32	42	39	32	32.2	30.6
HR14c	639 High Road, N17	-	91.7	33	30	31	-	29	34	31	30	33	49	37	36	33.9	32.2
HR21	Lordship Lane Primary School, N22 5PS	-	100	31	30	28	17	15	18	27	17	28	26	30	27	24.5	23.3
HR24	Westbury medical centre	-	91.7	36	36	33	24	28	32	40	-	35	40	39	38	34.6	32.9
HR25	Rowland Hill Nursery, White Hart Lane	-	100	24	34	32	21	21	23	22	25	22	27	27	32	25.8	24.5
HR27	The old surgery Green Lanes	-	91.7	38	-	39	19	25	26	30	31	36	41	41	35	32.8	31.2
HR28	Bounds Green School, N11 2QG	-	100	27	28	26	16	22	24	26	29	31	35	36	37	28.1	26.7
HR30	Earlsmead primary	-	66.7	33	38	35	35	22	24	28	34	-	-	-	-	33.8	32.1
HR31	Wood Green High Road	-	91.7	80	75	81	31	69	60	-	62	72	81	77	59	**67.9**	**64.5**
HR32	Archway Road/Southwood	-	91.7	57	51	48	33	51	57	56	63	59	66	-	49	**53.6**	**50.9**

HR34	Coleridge Primary school	-	83.3	31	31	-	17	21	35	-	55	29	37	32	29	33.7	32.0
HR35	Chesnuts primary school	-	91.7	28	30	28	18	24	26	24	-	23	28	32	34	26.8	25.5
HR36	Holy Trinity CE School, Tottenham	-	100	37	29	28	19	18	31	29	29	35	42	40	32	30.8	29.3
HR37	Weston Park/Broadway, N8	-	91.7	33	31	30	15	27	-	32	33	45	49	50	42	35.2	33.4
HR38	Welbourne School, N15 4EA	-	83.3	28	-	26	14	-	21	24	22	21	34	27	31	24.8	23.6
HR39	Fortismere School, N10 1NE	-	83.3	30	36	38	16	-	16	31	-	22	35	30	26	28.0	26.6
HR40	Opposite Highgate Private Hospital, 17 – 19 View Road, Highgate. N6 4DJ	-	100	34	34	37	43	12	26	31	23	29	33	36	32	30.8	29.3
HR41	258 Muswell Hill Broadway, N10 3SH	-	100	53	36	39	16	49	53	49	45	50	65	55	46	**46.3**	**44.0**
HR42	15 Stanhope Road, N6 5NE	-	91.7	34	-	29	14	16	18	23	21	21	28	30	29	23.9	22.7
HR43	St Aidan's VC Primary School, N4 4RR	-	91.7	29	27	26	15	8	15	-	20	19	29	30	27	22.3	21.2
HR44	North Harringay Primary School, N8 0NU	-	100	33	23	21	13	14	19	18	19	23	24	29	30	22.2	21.1
HR45	Tiverton Primary School, Pulford Road. N15 6SP	-	100	27	23	20	18	15	12	44	21	19	26	26	28	23.3	22.1
HR46	St John Vianney Roman Catholic Primary School, N15 3HB	-	100	31	22	25	22	19	14	12	18	20	24	32	27	22.2	21.1

HR47	134 West Green Rd, N15 5AD	-	100	39	39	37	16	19	27	36	35	32	24	39	39	31.8	30.2
HR48	Mulberry Primary School, N17 9RB	-	91.7	29	28	26	18	16	16	23	21	-	33	34	31	25.0	23.8
HR49	151 Mount Pleasant Road, N17 6TQ	-	83.3	22	33	30	16	14	23	27	23	-	-	65	35	28.8	27.4
HR50	Belmont Junior School, Rusper Road, N22 6RA	-	91.7	19	27	24	27	14	12	20	20	20	28	30	-	21.9	20.8
HR51	76 Coburg Road, N22 6UB	-	100	35	25	26	21	17	17	21	20	20	29	23	22	23.0	21.9
HR52	263 Victoria Road, N22 7XH	-	100	33	29	32	18	23	19	26	23	37	39	35	32	28.8	27.4
HR53	56 Partridge Way, N22 8DW	-	100	28	42	40	16	19	15	20	24	25	33	30	33	27.1	25.7
HR54	Woodside High Road/ White Hart Lane, N22 5QJ	-	100	35	30	31	23	14	22	26	22	20	35	31	30	26.6	25.3
HR55	Risley Ave. Primary, London N17 7AB	-	91.7	-	29	34	19	23	32	32	33	36	42	45	37	32.9	31.3
HR56	Dukes Aldridge Academy, Almond Road, N17 0PG	-	83.3	30	31	30	-	14	16	20	-	24	27	30	30	25.2	23.9
HR57	Campsbourne School Nightingale Lane, N8 7AF	-	100	27	27	26	18	13	14	22	19	20	29	27	29	22.6	21.5

Notes

Concentrations are presented as µg m^{-3}.

Exceedances of the NO_2 annual mean AQO of 40 µg m^{-3} are shown in **bold**.

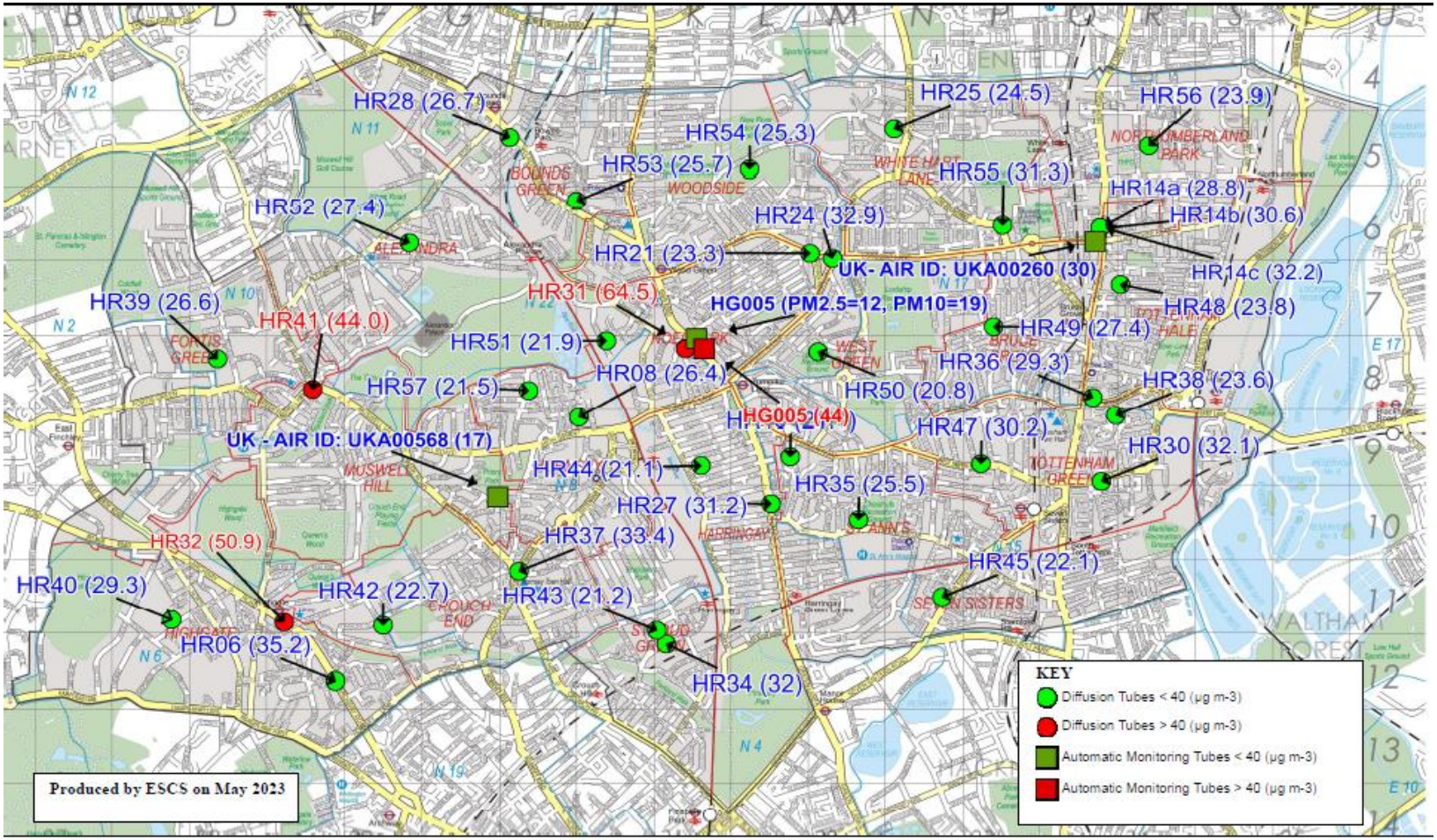
NO_2 annual means in excess of 60 µg m^{-3}, indicating a potential exceedance of the NO_2 hourly mean AQS objective are shown in **bold and underlined**.

All means have been "annualised" in accordance with LLAQM Technical Guidance if valid data capture for the calendar year is less than 75% and greater than 25%.

(a) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(b) data capture for the full calendar year (e.g., if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%).

Appendix C 2022 Monitoring Site Locations and Annual Mean NO_2, $PM_{2.5}$ and PM_{10} Concentration



Haringey LONDON

Air Quality monitoring sites across London Borough of Haringey -2022