Redbridge Air Quality Annual Status Report for 2024

Date of publication: July 2025

This report provides a detailed overview of air quality in Redbridge during 2024. 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
AQN	Air Quality Neutral
AQO	Air Quality Objective
AQP	Air Quality Positive
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 and International Standards, Objectives and Guidelines

Pollutant	Standard / Objective / Guideline	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
Nitrogen dioxide (NO_2)	WHO AQG[2]: 10 µg m^{-3}	Annual mean	
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})	WHO AQG[2]: 45 µg m^{-3} not to be exceeded more than 3-4 times a year	24-hour mean	
Particles (PM_{10})	40 µg m^{-3}	Annual mean	31 Dec 2004
Particles (PM_{10})	WHO AQG[2]: 15 µg m^{-3}	Annual mean	
Particles ($PM_{2.5}$)	20 µg m^{-3}	Annual mean	2020
Particles ($PM_{2.5}$)	London Mayoral Objective[3]: 10 µg m^{-3}	Annual mean	2030
Particles ($PM_{2.5}$)	WHO AQG[2]: 5 µg m^{-3}	Annual mean	
Particles ($PM_{2.5}$)	Target of 15% reduction in concentration at urban background locations	3-year mean	Between 2010 and 2021
Particles ($PM_{2.5}$)	WHO AQG[2]: 15 µg m^{-3}	24-hour mean	
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
Sulphur dioxide (SO_2)	WHO AQG[2]: 40 µg m^{-3} not to be exceeded more than 3-4 times a year	24-hour mean	

Notes:

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

(2) 2021 World Health Organisation Air Quality Guidelines

(3) London Mayoral Objective

1. Air Quality Monitoring

1.1 Locations

Table B. Details of Automatic Monitoring Sites for 2024

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m)	Inlet Height (m)
RB7	Redbridge 7 Ley Street	Urban background	544454.8	187681. 9	NO_2,PM_{10}, $PM_{2.5}$,	Y	Chemiluminescent; BAM	2.0	40.0	2.7
RB4	Redbridge 4 Gardner Close	Roadside	540828.3	188367. 9	NO_2,PM_{10},	Y	Chemiluminescent; BAM	11.0	4.2	2.

Note : In table B above, PM2.5 monitoring is only monitored at RB7.

Table C. Details of Non-Automatic Monitoring Sites for 2024

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT A	Mayfield School	Urban Background	547022.3	187232.3	NO2	Y	8.0	2.0	N	1.5
DT B	Ilford Lane	Roadside	543688.0	186139.6	NO2	Y	4.0	4.0	N	3.1

DT C	Ilford Lane BP	Roadside	544132.4	184945.6	NO2	Y	3.0	4.0	N	2.7
DT D	Ley Street	Urban Background	544454.8	187681.9	NO2	Y	2.0	40.0	Y	2.7
DT E	Gardner Close	Roadside	540828.3	188367.9	NO2	Y	11.0	4.2	Y	2.6
DT F	Fulwell Cross	Roadside	544560.7	190400.8	NO2	Y	11	1.0	N	1.7
DT G	Perth Road	Roadside	543421.7	188322.6	NO2	Y	3.0	4.0	N	2.8
DT H	West B Eastern Ave	Roadside	543450.6	188371.1	NO2	Y	1.0	4.0	N	2.4
DT I	Central Res	Roadside	543453.7	188384.4	NO2	Y	12.0	3.0	N	2.5
DT J	East B Eastern Ave	Kerbside	543442.0	1888400. 2	NO2	Y	6.0	3.0	N	2.7
DT K	Parham Drive	Near Road	543498.3	188427.6	NO2	Y	7.0	2.0	N	2.6
DT L	NCR North Royston Gardens	Roadside	541816.3	188161.3	NO2	Y	21.0	6.0	N	2.8
DT M	NCR South Wanstead Park	Roadside	541887.8	188136.2	NO2	Y	17.0	0.5	N	3.0
DT N	Ethal Davis School	Near Road	546675.6	188886.1	NO2	Y	2.0	0.0	N	2.8
DT O	Grove Road	Roadside	540025.7	190494.3	NO2	Y	20.0	1.0	N	2.7
DT P	High Road Woodford	Roadside	540076.0	190682.6	NO2	Y	14.0	0.5	N	2.6
DT Q	Chigwell Rd M11	Near Road	541992.1	191799.9	NO2	Y	3.0	3.0	N	2.4

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT R	Winston Way Primary	Roadside	544364.1	186597.4	NO2	Y	0.0	6.0	N	2.8
DT S	Winston Way Gyratory	Kerbside	544360.4	186615.3	NO2	Y	3.0	1.0	N	2.6
DT T	Chadwell Heath Primary	Kerbside	547158.3	187699.4	NO2	Y	4.0	0.0	N	2.8
DT U	Goodmayes Primary	Roadside	546665.3	187046.3	NO2	Y	2.0	3.0	N	2.6

DT V	Isaac Newton Academy	Near Road	545030.2	186919.8	NO2	Y	4.0	0.5		2.6
DT W	Inside Winston Way Prim.	Near Road	544332.3	186571.3	NO2	Y	4.0	1		3.0

1.2 Comparison of Monitoring Results with AQOs

Table D. Annual Mean NO_2 Monitoring Results: Automatic Monitoring (µg m^{-3})

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid data capture for monitoring period %[a]	Valid data capture 2024 %[b]	2018	2019	2020	2021	2022	2023	2024
RB7	544454.8	187681.9	Automatic Background (Ley Street)		94.5	30.4	30.6	30	21	25	21.5 annualised	15
RB4	540828.3	188367.9	Roadside (Gardner Close)		99.46	38.8	37.4	37	27	26	24	22

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%.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(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%).

Comment data trends:

In general, the NO_2 concentrations monitored at all monitored locations have decreased. This can most likely be attributed to the London wide ULEZ expansion, the impact of EURO vehicle emissions improvements and uptake of ultra-low emission vehicles.

Similarly, RB4 (roadside) and RB7 (background) sites have decreased, are below the limit value and lower than 2023 concentrations at these sites. **Figures C, D, and E** below show in graphical form the NO2 trend decrease in automatic and diffusion tube data between 2018 and 2024.

Table E. Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg m^{-3})

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)(1)	Valid Data Capture 2024 (%)(2)	2018	2019	2020	2021	2022	2023	2024
DT A	547022.3	187232.3	Urban Background	100.0	100.0	24.9	25.1	20.4	18.6	17.7	17.6	15.9
DT B	543688	186139.6	Roadside	100.0	100.0	**45.6**	**43.0**	36.5	34.9	31.6	31.8	29.1
DT C	544132.4	184945.6	Roadside	100.0	100.0	**46.9**	**43.2**	34.4	34.7	31.5	31.9	29.1
DT D	544454.8	187681.9	Urban Background	100.0	100.0	25.2	25.0	20.7	21.0	19.0	17.8	14.9
DT E	540828.3	188367.9	Roadside	100.0	100.0	34.5	35.7	28.0	26.1	25.8	24.0	22.3
DT F	544560.7	190400.8	Roadside	100.0	100.0	37.6	37.4	29.4	30.2	27.6	27.6	28.2
DT G	543421.7	188322.6	Roadside	100.0	100.0	**51.5**	**42.2**	35.9	34.4	34.7	31.0	29.7
DT H	543450.6	188371.1	Roadside	100.0	100.0	**46.8**	**41.3**	37.2	32.5	29.8	31.4	26.3
DT I	543453.7	188384.4	Roadside	100.0	100.0	**47.2**	**47.5**	34.7	34.3	32.7	31.2	28.6
DT J	543442	188161.3	Kerbside	100.0	100.0	**43.4**	**41.4**	37.1	33.5	33.9	30.1	30.2
DT K	543498.3	188840.2	Near Road	100.0	100.0	**45.9**	**43.4**	31.9	34.0	29.7	29.9	27.8
DT L	541816.3	188161.3	Roadside	100.0	100.0	**42.2**	36.7	27.6	28.7	22.5	22.3	23.2
DT M	541887.8	188136.2	Roadside	100.0	100.0	**68.4**	**61.4**	**50.3**	**45.7**	**40.7**	39.6	38.1
DT N	546675.6	188886.1	Near Road	100.0	100.0	26.3	23.5	19.3	18.8	19.4	20.3	17.2
DT O	540025.7	190494.3	Roadside	100.0	100.0	**49.5**	**47.4**	**44.7**	**41.3**	28.4	26.8	24.2
DT P	540076	190682.6	Roadside	100.0	100.0	38.8	37.6	34.8	32.0	21.8	20.0	20.1
DT Q	541992.1	191799.9	Near Road	100.0	100.0	**42.1**	**43.9**	36.7	34.7	22.4	21.5	19.8
DT R	544364.1	186597.4	Roadside	100.0	100.0	**57.3**	**54.5**	**53.4**	**47.5**	39.2	39.0	36.3
DT S	544360.4	186615.3	Kerbside	100.0	100.0	**58.3**	**55.5**	**54.2**	**45.7**	38.0	38.9	36.2

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)([1])	Valid Data Capture 2024 (%)([2])	2018	2019	2020	2021	2022	2023	2024
DT T	547158.3	187699.4	Kerbside	100.0	100.0	**47.8**	**43.3**	**44.8**	39.4	32.0	32.6	27.2
DT U	546665.3	187046.3	Roadside	100.0	100.0	37.6	36.1	36.5	32.6	25.8	26.9	23.6
DT V	545030.2	186919.8	Near Road	100.0	100.0	34.0	32.8	31.1	29.2	21.2	21.0	19.1
DT W	544332.3	186571.3	Near Road	100.0	100.0	38.1	35.8	37.1	30.4	23.0	24.0	20.1

☐ **Annualisation has been conducted where data capture is <75% and >25% in line with LLAQM.TG19**

☒ **Diffusion tube data has been bias adjusted**

☐ **Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction**

Notes:

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

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

NO_2 annual means exceeding 60µg m^{-3}, indicating a potential exceedance of the NO_2 1-hour mean 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%.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

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

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid data capture for monitoring period %(a)	Valid data capture 2024 %(b)	2018	2019	2020	2021	2022	2023	2024
RB7	544454.8	187681.9	Automatic Background (Ley Street)	94.5	94.5	0	**1**	0	0	0	0	0
RB4	540828.3	188367.9	Roadside (Gardner Close)	99.46	99.46	0	0	0	0	0	0	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%)

Figure C: Long term NO2 trends 2018 to 2024 Automatic Station Gardner Close RB4

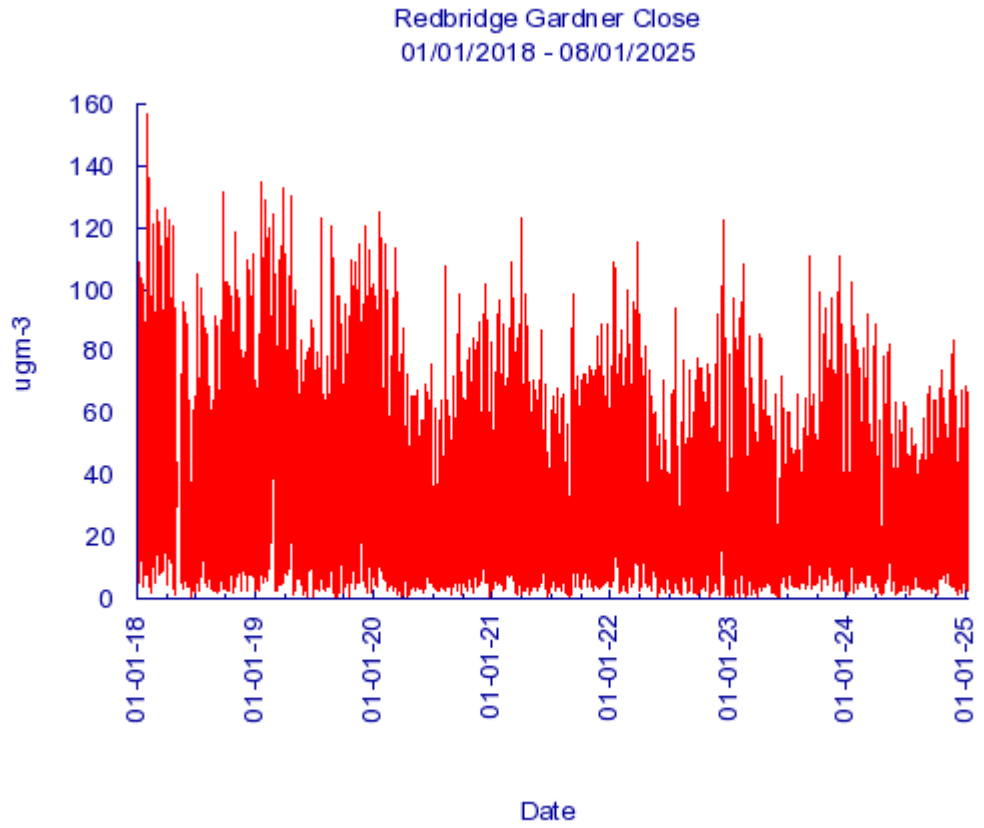

Figure D: Long term NO2 trends 2018 to 2024 Automatic Station Ley Street RB7

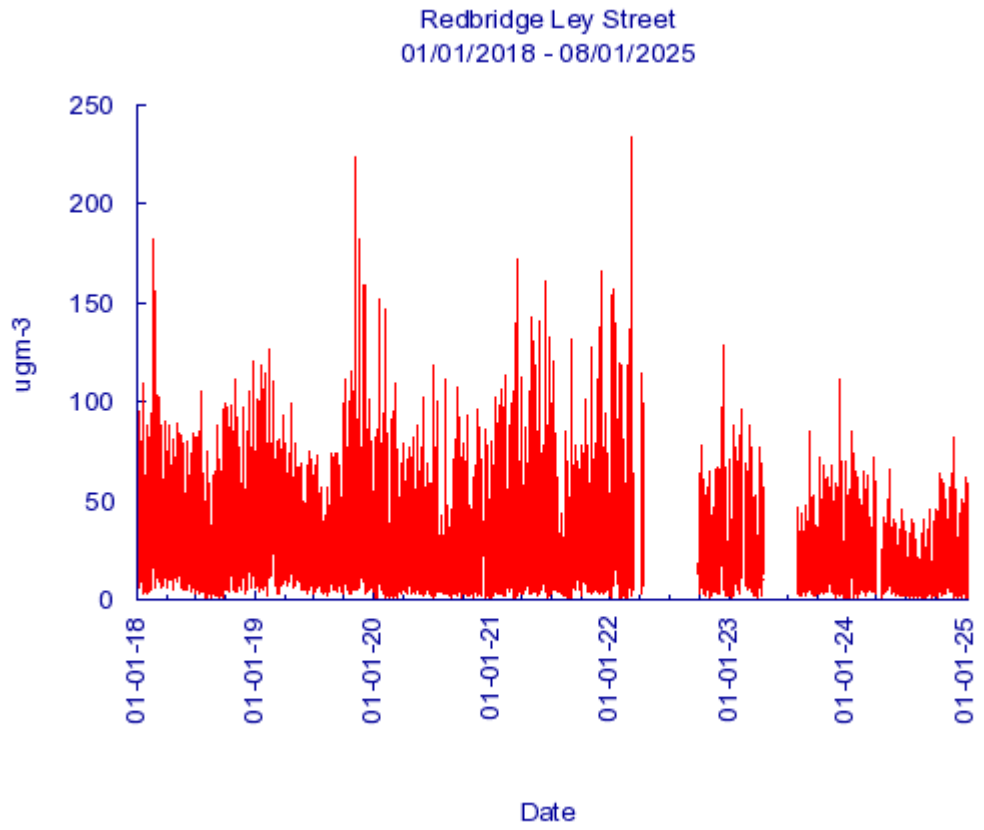

Figure E: Long term NO2 trends 2018 to 2024 Diffusion Tube NO2 annual mean concentrations

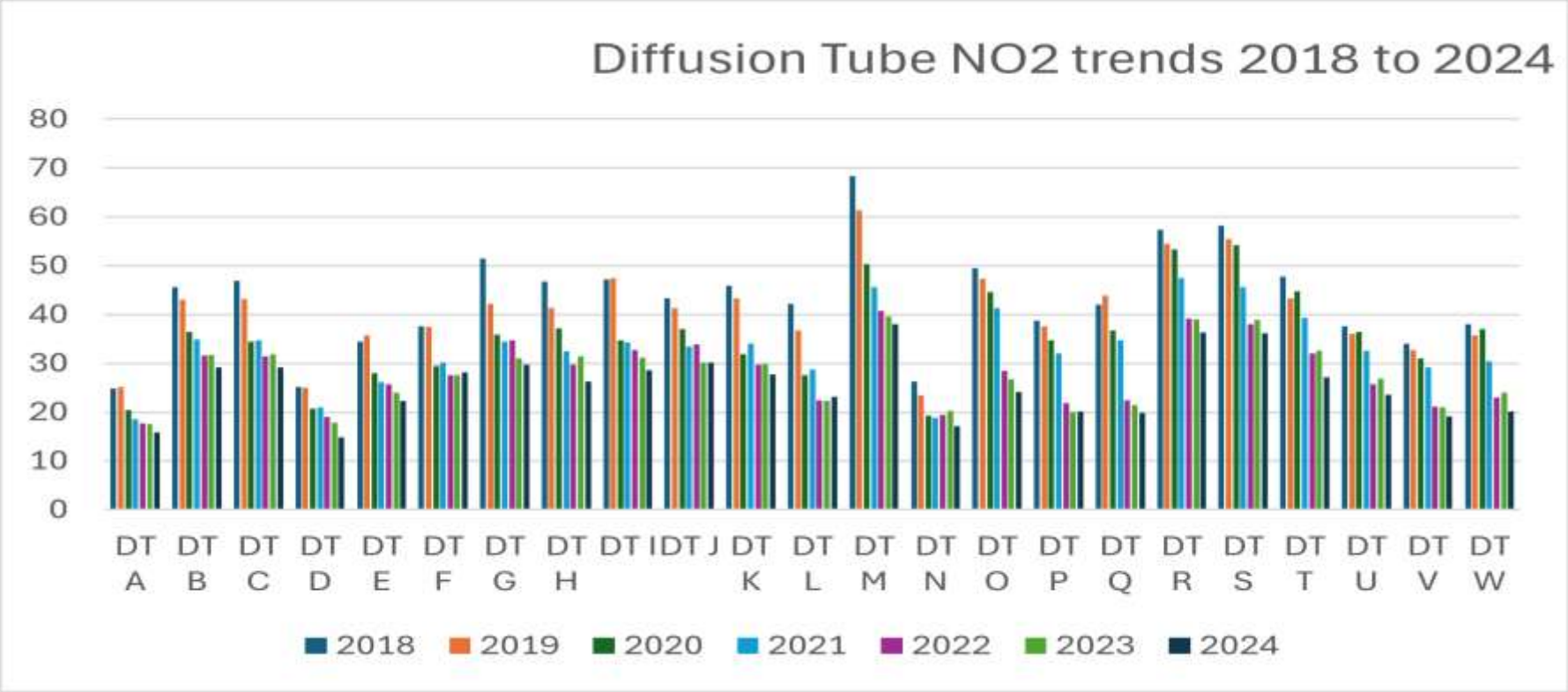

Table G. Annual Mean PM_{10} Automatic Monitoring Results (µg m^{-3})

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid data capture for monitoring period %([a])	Valid data capture 2024 %([b])	2018	2019	2020	2021	2022	2023	2024
RB7	544454.8	187681.9	Automatic Background (Ley Street)	87.63	87.63	18	16	15	13.3 (annualised)	15	13	14
RB4	540828.3	188367.9	Roadside (Gardner Close)	90.31	90.31	18	19	17	16 (annualised)	-	16	14

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%).

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RB7 and RB4 had no exceedances of the annual mean objective, and the trend is downwards. AQ objectives met at both sites

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid data capture for monitoring period %[(a)]	Valid data capture 2024 %[(b)]	2018	2019	2020	2021	2022	2023	2024
RB7	544454.8	187681.9	Automatic Background (Ley Street)	87.63	87.63	1	2	1	- data capture 59%	0	0	0
RB4	540828.3	188367.9	Roadside (Gardner Close)	90.31	90.31	1	2	1	- data capture 70%	-	1	0

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%).

RB7 and RB4 had no exceedances of the hourly mean objective, and the trend is downwards. AQ objectives met at both sites

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid data capture for monitoring period %[a]	Valid data capture 2024 %[b]	2018	2019	2020	2021	2022	2023	2024
RB7	544454.8	187681.9	Automatic Background (Ley Street)	82.5	82.5	12	11	13	10	9	7	6

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%).

The 7 year trend of the PM2.5 annual mean at RB7 is decreasing. The 2024 annual mean for PM2.5 is 6 µg m^{-3} which is lower than the pandemic annual means (2020-2021). This result is significantly below the legal limit value of 20 µg m^{-3} and the 2028 target value of 12 µg m^{-3}

Table J. 2024 SO_2 Automatic Monitoring Results: Comparison with Objectives

SO2 is no longer monitored at the Gardner Close location

2. Action to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 12 months. The AQAP should specify how air quality targets will be achieved and maintained and provide dates by which measures will be carried out.

A summary of AQMAs declared by Redbridge can be found in Table . The table presents a description of the one borough wide AQMA(s) that is currently designated within Redbridge Appendix C provides maps of AQMA and also the air quality monitoring locations in relation to the AQMA. The air quality objectives pertinent to the current AQMA designation are as follows:

- NO_2 annual mean;
- PM_{10} 24-hour mean;

Table L. Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
Redbridge AQMA	31/12/2003,	Nitrogen dioxide NO_2- Annual Mean Particulate Matter	Borough wide AQMA	YES	NO2 : 55 PM 10: 59 days	None	6 years	AQAP 2020-2025	aqap-2020-to-2025.pdf

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Number of Years Compliant with Air Quality Objective	Name and Date of AQAP Publication	Web Link to AQAP
		PM_{10} - 24-Hour Mean							

☒ **Redbridge confirm the information on UK-Air regarding their AQMA(s) is up to date**

☒ **Redbridge confirm that all current AQAPs have been submitted to GLA**

2.2 Air Quality Action Plan Progress

Table M provides a summary of Redbridge progress against the current Quality Air Action Plan 2020-2025, showing progress made this year. The actions are now complete for the current plan. At the time of writing, Redbridge are in the process of writing a new Air Quality Action Plan for 2026 onwards. Once this has been completed, Redbridge will subsequently report on action progress in the next ASR for 2026. The AQAP progress will be scrutinised and monitored by the council's Air Quality Steering Group

Table M. Delivery of Air Quality Action Plan Measures

Measure	LLAQM Action Matrix Theme	Action	Progress
1	Monitoring and other core statutory duties	Maintenance of monitors, and target to install new monitors subject to available funding	Ongoing. Currently 26 Diffusion tube and 2 AMS sites are located across the borough. A network of Breathe London Nodes have been installed across the borough to monitor the effects of project work outside schools, the efficacy of the Business Low Emission Neighbourhood, and the effects of ULEZ extension.

2	Emissions from developments and buildings	Ensuring major sites have a dust management plan (DMP) and construction management plan (CMP) and appropriate real-time monitoring in accordance with the identified risk of the site	Ongoing. Refer to Table M.
3	Emissions from developments and buildings	Adoption of a Planning Obligations Supplementary Planning Document (SPD) and securing additional funding from developers through s.106 agreements to manage and enforce	Completed. The S106 SPD has been adopted by Redbridge.
4	Emissions from developments and buildings	Educate, raise awareness and enforce Non Road Mobile Machinery (NRMM) air quality policies. This includes compliance inspections as part of the pan-London NRMM project.	Ongoing. Refer to Table M.
5	Emissions from developments and buildings	Air Quality planning requirements met by planning applications Redbridge	Ongoing Refer to Table M.

6	Emissions from developments and buildings	Annual reporting on number of planning applications conditioned for CHP or biomass in line with SPG Guidance	Ongoing Refer to Table M.
7	Emissions from developments and buildings	Enforcing Air Quality Neutral and Air Quality Positive policies for new developments and require Air Quality Assessments	Ongoing, Refer to Table M.
8	Emissions from developments and buildings	Ensuring adequate, appropriate, and well located green space and infrastructure is included in new developments	Planning policy LP29 sets out amenity space for developments. Private amenity space is generally provided as balconies/terraces and is a small space (5m² for 2-person unit, increasing by 1m² per additional person). Communal amenity space requires 5m² per unit for all developments over 50 units (applied to 10+ unit schemes). Play space is required and often integrated.
9	Emissions from developments and buildings	Promoting and delivering in the Council's own stock energy efficiency retrofitting projects in workplaces and homes using RE:NEW and RE:FIT to replace polluting plant	Ongoing. Measured by the number of eligible buildings to benefit from these programmes and delivery date. Council signed up to Re-fit for the corporate estate. Programme no longer running; new climate policies in development.

10	Public health and awareness raising	Director fully briefed and debriefed annually and at AQ meetings/projects that require Public Health input. AQ included in JSNA and Health and Wellbeing Board priorities	Ongoing. Public Health team contributes to all MAQF school projects through awareness raising via GPs and schools.
11	Public health and awareness raising	Public Health are supporting engagement with local stakeholders (businesses, schools, community groups, healthcare providers)	Ongoing. Monthly meetings with Public Health, gaining input into MAQF projects.
12	Public health and awareness raising	JSNA has up-to-date information on air quality impacts; revised Health & Well Being Strategy	Completed.
13	Public health and awareness raising	Strengthen coordination with Public Health by assigning AQ responsibilities to Consultant grade public health specialist	Completed. Public Health Consultant is the AQ lead.
14	Public health and awareness raising	Engagement with businesses: disseminate AQ information to GPs and pharmacies to reduce exposure	Ongoing. Collating contact details for GP surgeries and pharmacies.

15	Public health and awareness raising	Promotion of airTEXT and London air pollution forecast; track new airTEXT subscribers	Ongoing. Measured by increase in Redbridge users. Interim reports received from AirTEXT
16	Public health and awareness raising	Encourage school participation in TfL STARS and retain/improve rating through MAQF projects	Ongoing. 47% of schools signed up to TfL Travel for Life programme (formerly STARS).
17	Public health and awareness raising	Cleaner walking routes with supported mapping	Ongoing. Promoting sustainable travel and cleaner walking and cycle routes with mapping support. This is available on the Redbridge Council web site.
18	Public health and awareness raising	Reduce school area pollution via MAQF anti-idling, road closures. Extend Mayor's school audits	30 School Streets implemented across the borough as of 2 June 2025.
19	Delivery servicing and freight	Update procurement policies to require Bronze FORS accreditation for large fleet suppliers	Approval has been considered as part of the procurement process for larger fleet service provider contracts.
20	Delivery servicing and freight	Update procurement to prefer bidders delivering goods/services with low emissions	Procurement scoring assessment procedure in place.

21	Borough fleet	Investigate truck accreditation scheme equivalent to FORS for council fleet	Ongoing objective proposed to be included in new AQAP 2026–2031.
22	Borough fleet	Increase electric, hybrid, and cleaner vehicles in borough fleet	Redbridge fleet ULEZ compliant; expanding with ULEZ vehicles subject to funding.
23	Borough fleet	Increase Euro VI diesel vehicles in borough fleet	All but two vehicles are Euro VI diesel; remaining two will be replaced within 12 months.
24	Borough fleet	Smarter Driver Training for fleet drivers; regular retraining and starter programme	Vocational drivers receive LoCity training. Fleet efficiency improved with journey mapping tools.
25	Localised solutions	Expand and improve green infrastructure	Ilford arrival plan redeveloped spaces into green, pedestrian/cycle-friendly areas. 6,970 trees planted in 2024; 6,800 trees proposed for 2025. Includes replacements and new highway/park trees. In 2024 this included: • Redbridge removed and replaced 32 parking metres with new trees. • 100 replacement trees planted on LBR Housing Sites. • 6,000 trees in Forest Road Playing Field and Hainault Forest • 777 Replacement trees on the Streets • 12 new trees on the highway • 42 new trees in parks

			• 7 replacements in housing and schools (Does not include tree planted as part of development, however this is picked up as part of the planning application process for major developments) In 2025 the proposed tree planting: • 100 new/replacement housing trees • 6,000 new in open spaces • 700 Highway tree replacements
26	Localised solutions	Ilford Garden Junction	Ilford Garden Junction complete, Ley Street BLEN complete.
27	Cleaner transport	Discourage unnecessary idling through Pan London campaign and enforcement at schools	"We Care for our Air" campaign raised awareness and reduced idling outside schools (Loxford, Newbury Park, Goodmayes). Redbridge participates in the London-wide Idling Action campaign.
28	Cleaner transport	Promote Car Free Days and road closures	Delivered at Wanstead Festival; further events in discussion with its Leisure service partner Vision RCL for future events.
29	Cleaner transport	Promote free EV parking permit scheme	Completed. Note: as of 1 Feb 2025, no longer subsidised in council car parks.

30	Cleaner transport	Install rapid chargers for taxis/cabs/commercial vehicles with TfL/OLEV partnership	Installing chargers via grants from UBER, ORCS, LEVI Pilot and Capital. (numbers can be seen in additional AQ activities below):
31	Cleaner transport	Provide infrastructure for walking and cycling	Programmes of work have include:. • The Ilford arrival plan will improve connections between Ilford Town, the Roding valley and Western Gateway which will include new walking and cycling routes. • Gants Hill to Redbridge: rolling out segregated cycle lanes on Clarence Avenue, plus raised junctions and speed humps to slow vehicles and create safer, quieter cycle routes • Mandatory cycle lanes introduced in Wanstead (e.g., Blake Hall Rd, Aldersbrook Rd) along with widened lanes and safety upgrades designed to link high streets, stations, parks, and neighbouring boroughs redbridge.gov.uk. • Added over 100 cycle parking racks near major high streets (Green Lane, Ilford Lane, South Woodford, Wanstead, etc.) to support multi-modal journeys • Promoting the Roding Valley Way, a signed walking and cycling corridor from Woodford to Ilford • The council's Sustainable Transport Strategy (consultation ended recently) aims for two-thirds of journeys by public transport, walking, wheeling, cycling, or scooting by 2041

32	Cleaner transport	Introduce diesel surcharge for CPZ permits (below Euro 6)	Cancelled due to borough-wide ULEZ. Potential surcharge policy under review.
33	Cleaner transport	Reallocate/restrict road space around schools in high pollution areas	Implemented as part of School Streets.
34	Cleaner transport	Pollution School Superzones	Completed. Funded by GLA.
35	Cleaner transport	Solar panels on 26 minibuses, 15 nuscats, 5 vans	Completed. Dust carts and lorries will require future review.
36	Cleaner transport	Pilot electric dust cart	Pilot completed with Scania Renault and Electra. Council will not proceed with procurement at this point. Fleet Services to explore alternative options for cleaner dustcarts.

Top 3 Air Quality Actions:

Redbridge is currently in the process of drafting a new Air Quality Action Plan:

Our top 3 air quality actions will be focussed on:

1. To increase electric vehicles and charging facilities across the borough aligning with the Governments Net Zero policy.
2. To align more of our actions in with our Climate Strategy to reduce CO2 emissions as well as NOX and PM.
3. To be ambitious towards achieving further reductions that are closer to the WHO Standards. The actions for these ambitions will evolve in our new Air Quality Action Plan after they have been discussed with our cabinet member and Air Quality Action Steering Committee**.**

3. Planning Update and Other New Sources of Emissions

Table N. Planning requirements met by planning applications Redbridge in 2024

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	95
Number of planning applications required to undertake construction dust monitoring and reporting (Please specify how you get access to dust monitoring data i.e. online tool or CSV file)	69
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 as detailed in Air Quality Neutral LPG (london.gov.uk) point 3.1.5.	0
Number of developments required to install Ultra-Low NO_x boilers	37
Number of developments where an AQ Neutral building and/or transport assessments undertaken	57
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 planning applications with conditions related to NRMM included. Number of developments registered at www.nrmm.london. Number of audits (based on the pan-London project report and / or inhouse auditing program) % of sites unregistered prior to audit % of sites 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 planning applications with conditions related to NRMM included. Number of developments registered at www.nrmm.london. Number of audits (based on the pan-London project report and / or inhouse auditing program)% of sites unregistered prior to audit % of sites compliant with Stage IIIB of the Directive and/or exemptions to the policy.	NRMM Conditions 16 Number of Audits : 16 Self-compliant : 4 Non-compliant: 0 No NRMM: 2 Site Complete 1

4. Additional Activities to Improve Air Quality

4.1 London Borough of Redbridge Fleet

There are 285 vehicles in Redbridge's fleet 11 are electric and 5 are hybrid. Redbridge are seeking to increase the number of electric, hybrid and cleaner vehicles in the boroughs' fleet. Redbridge are compliant with the ULEZ standard.

The figures for number electric chargers installed up to 2025 are:

Slow (<7kW) 233

Fast (7-22kW) 230

Rapid (22-50kW) 4

Ultra-rapid (<50kW) 2

Total 469

4.2 Redbridge School Streets

The Council has introduced clean air zones, known as School Streets, around some Redbridge Schools as part of our plans to deliver a healthier, safer, greener and cleaner borough.

Redbridge School Streets aim to:

- Reduce air pollution around our schools, making the air children breathe cleaner;

- Protect children from the dangers of traffic at the school gate, preventing accidents and keeping children safe;
- Encourage families to walk and cycle to school, improving health and fitness.

Redbridge School Streets prevent non-residential vehicle traffic from outside the zone from entering School Street zones and travelling past schools during school start and finish times, during term time only.

Vehicles parked within the School Streets zone can exit the School Streets zone without penalty, at any time, even during the restricted period.

Residents and business located within the zone are entitled to a free vehicle exemption allowing them to enter the area during restricted times.

Across Redbridge there are currently twenty-six School Streets schemes in operation at twenty-six schools and results show they have been successful at reducing traffic at the school gate, making the area safer for children and encouraging them to walk, scoot and cycle to school.

4.3 We Care for Our Air Project

Redbridge Council was awarded funding from to help reduce air pollution to make the borough's air cleaner and healthier for local people. The funding, announced on 9 February 2023 by the Department of Environment, Food and Rural Affairs (DEFRA), supported the Council's drive to improve air quality in the borough.

The project entitled **We Care for Our Air** delivered several initiatives, encouraging and supporting local people and businesses to take part in active travel schemes. The project also bolstered information and knowledge about Redbridge's air quality, focusing on children and vulnerable groups who are particularly susceptible to poor air quality.

Monitoring air pollution is crucial to understanding the risk that poor air quality poses. The project increased the number of Breathe London air quality monitors across the borough while enabling the Council to develop interactive air quality maps using data gathered by the community. The project also helped deliver cycle

training and additional school cycle storage for pupils and parents and contributed to a reduction in anti-idling across various locations in Redbridge through awareness raising actions.

4.4 Planning Enforcement

All major planning applications and developments where future occupants may be exposed to poor air quality are reviewed by planning and environmental. Where deemed appropriate they are conditioned accordingly to address the relevant air quality impacts and mitigation is proposed to control these impacts before planning permission is granted.

4.5 Pan-London NRMM Auditing Project

Redbridge is continuing to support the pan-London NRMM auditing project in 2025-2026.

The standard wording used by Redbridge Planning department for NRMM conditions is as follows:

(Non-Road Mobile Machinery): No NRMM shall be used on the site unless it is compliant with the NRMM Low Emission Zone requirements (or any superseding requirements) and until it has been registered for use on the site on the NRMM register (or any superseding register).

Reason: To ensure that air quality is not adversely affected by the development in line with London Plan policy SI 1 and the Mayor's SPG: The Control of Dust and Emissions during Construction and Demolition.

This is applied to all major planning applications.

4.6 Air Quality Alerts

Redbridge currently supports airTEXT (https://www.airtext.info/)

Redbridge also cascades the Mayor's air quality alert messaging.

Appendix A Details of Monitoring Site Quality QA/QC

A.1 Automatic Monitoring Sites

Air quality monitoring data provides a measure of actual concentrations and therefore exceedances of air quality objectives. Data also provides information on trends in air pollution and can provide the basis for verifying the various models used to predict future pollution levels.

In 2024 London Borough of Redbridge undertook automatic monitoring at the following two sites:

- CM7 - Redbridge 7 (Ley Street) located northeast of Ilford – an urban background site within the Ley Street Depot that is sited on Ley Street. The site monitored nitrogen dioxide, PM10 (by BAM), and ozone. Since 2016 this site began monitoring PM2.5 (by BAM). Redbridge 7 (Ley Street) was set up in 2014, and is also identified in this report as CM7.

- CM4 - Redbridge 4 (Wanstead) – an urban traffic site close to the A12 towards the southwest of the Borough. The site started operating in November 1999. The site monitors nitrogen dioxide, PM10 and PM2.5 (both by BAM). Until March 2012 it also monitored carbon monoxide and sulphur dioxide.

The sites represent relevant exposure within the Borough. The sites are part of the London Air Quality Network for 2023 and therefore the standards of QA/QC are similar to those of the government's AURN sites. Fortnightly local site operator (LSO) zero/span calibrations of the gas analysers are carried out by the local authority, with subsequent data collection, validation and ratification undertaken by Ricardo. In all cases the data are fully ratified unless reported otherwise. Details of the sites can be found at Air quality in England

UKCAS accredited independent site audits are carried out every 6 months by the National Physics Laboratory (NPL). Additional six monthly equipment service visits by Enviro Technology Services Plc.

The Council previously operated three other automatic monitoring stations in the Borough: Redbridge 2 - a roadside site on Ilford Broadway closed in 2003,

Redbridge 3 – a kerbside site at Fulwell Cross closed in 2012, and Redbridge 5 – a roadside site in South Woodford closed in2012

PM10 Monitoring Adjustment

The LLAQM.TG16 guidance highlights that Met-One PM10 Unheated BAM 1020 instruments conform to the equivalence criteria relating to the gravimetric European reference method. A correction using a factor of 1.2 is automatically applied to adjust for slope.

A.2 Diffusion Tubes

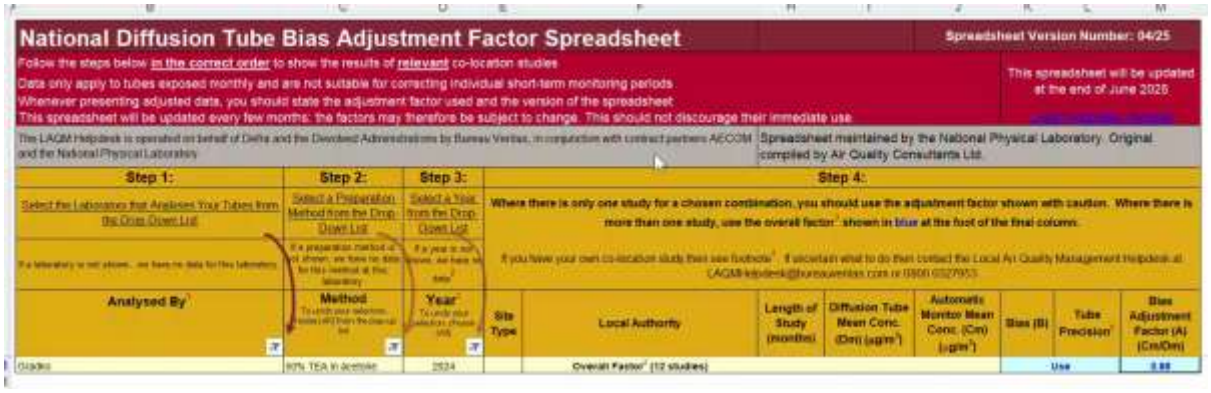
Diffusion Tubes are prepared and analysed by UKAS accredited Gradko International Ltd. • Diffusion Tubes are prepared using 50% triethanolamine with acetone method and analysed using UV spectrophotometry

- The lab follows the procedures set out in the Defra Technical Guidance for LAQM TG (22).

- For details attaining to 'results' – precision, bias adjustment factors; and reference methods are as follows: Results of laboratory precision (tube precision and WASP results): The LAQM website gives the following precision results for Gradko 50% TEA in acetone: 2024 Good (12 studies)

The laboratory performance of Gradko International was tested in July to August 2021 to July to August 2023 under AIR NO2 PT Rounds AR045, AR046, AR049, AR050 , AR052, AR053, AR055, AR056 and AR058. The performance was 100% in all rounds.

The version of the bias adjustment factor database used is: 04/25



Factor from Local Co-location Studies

Gardner Close local bias adjustment factor 0.86, good precision and good data capture.

Ley Street local bias adjustment factor 0.91, good precision and good data capture.

Using the Diffusion Tube Data ~Processing tool v5.4 2004, the combined local bias adjustment factor from Ley Street and Gardner Close was 0.88 with good overall precision and data capture.

Discussion of Choice of Factor to Use

The local bias adjustment factor is 0.88 and the national factor is 0.88. The national factor was derived from 12 studies, so this factor has been chosen.

Table O. Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	04/25	0.88
2023	National	06/24	0.83
2022	National	06/23	0.82
2021	National		0.82
2020	National		0.83
2019	National		0.89
2018	National	-	0.92
2017	National	-	0.97

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

N/A

Table T. NO_2 Fall off With Distance Calculations

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted (µg m^{-3})	Background Concentration (µg m^{-3})	Concentration Predicted at Receptor (µg m^{-3})	Comments
DT M	0.5	17.5	38.1	18.8	26	
DT S	1.0	4.0	36.2	17.3	30.9	

Appendix B Full Monthly Diffusion Tube Results for 2024

Table U. NO_2 2024 Diffusion Tube Results (µg m^{-3})

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT A	547022	187232	21.5	20.3	18.2	17.4	15.3	13.4	14.0	15.8	14.0	25.0	24.4	15.7	17.9	15.9	-	
DT B	543688	186140	37.7	32.2	26.8	40.0	35.6	34.6	29.9	28.9	25.3	41.2	37.6	24.3	32.8	29.1	-	
DT C	544132	184946	40.7	30.1	31.1	34.7	30.7	36.0	32.6	29.5	28.5	41.0	36.1	23.5	32.9	29.1	-	
DT D	544455	187682	21.1	21.0	15.2	12.6	16.1	12.1	13.5	12.4	14.5	25.3	22.2	15.5	16.8	14.9	-	
DT E	540828	188368	32.8	25.2	27.1	23.4	22.4	24.7	20.8	23.4	16.4	37.0	29.6	20.3	25.2	22.3	-	
DT F	544561	190401	32.4	30.2	27.3	39.5	26.3	30.3	35.1	26.5	30.8	38.3	39.9	26.3	31.9	28.2	-	
DT G	543422	188323	45.8	36.3	33.7	22.3	31.2	35.2	33.1	20.3	27.8	53.3	24.1	39.9	33.6	29.7	-	
DT H	543451	188371	26.2	31.0	26.3	27.6	37.8	36.7	20.3	24.6	22.9	36.8	30.6	35.3	29.7	26.3	-	
DT I	543454	188384	36.1	46.9	25.7	37.6	40.0	33.7	24.8	24.3	26.4	34.8	27.7	29.2	32.3	28.6	-	
DT J	543442	188161	37.6	33.3	30.0	27.4	21.2	47.7	32.8	32.9	29.7	42.9	32.8	41.4	34.1	30.2	-	
DT K	543498	188840	34.8	28.6	20.1	39.0	20.9	35.0	28.9	31.9	28.3	48.0	26.3	34.9	31.4	27.8	-	
DT L	541816	188161	31.8	36.9	21.1	28.4	27.3	23.9	25.3	22.1	22.8	31.8	27.9	15.3	26.2	23.2	-	
DT M	541888	188136	49.1	37.7	39.1	52.1	43.6	46.0	40.7	42.4	33.8	51.3	45.9	35.5	43.1	38.1	26.0	
DT N	546676	188886	26.1	25.9	17.4	22.6	16.5	15.4	17.2	16.2	13.3	24.9	21.0	17.2	19.5	17.2	-	
DT O	540026	190494	35.6	19.6	29.1	32.4	23.8	28.4	24.9	17.2	20.9	40.2	33.0	22.5	27.3	24.2	-	
DT P	540076	190683	30.7	24.2	19.2	22.1	20.3	17.9	16.4	29.5	16.2	32.2	25.4	18.3	22.7	20.1	-	
DT Q	541992	191800	26.8	30.8	22.1	27.6	15.3	20.9	21.8	21.2	15.4	26.7	20.9	19.1	22.4	19.8	-	
DT R	544364	186597	46.4	38.5	36.5	51.7	42.3	44.6	37.7	39.6	33.0	48.2	44.3	29.7	41.0	36.3	-	
DT S	544360	186615	46.8	37.4	37.3	47.7	43.1	45.6	43.0	40.8	28.5	48.1	39.3	32.6	40.9	36.2	30.9	
DT T	547158	187699	46.1	31.8	34.2	37.0	33.3	25.3	22.5	26.1	21.0	33.3	33.2	25.6	30.8	27.2	-	
DT U	546665	187046	37.2	23.7	24.4	28.7	25.3	25.0	25.7	22.7	20.3	36.7	26.7	24.0	26.7	23.6	-	
DT V	545030	186920	31.0	20.4	21.8	22.3	21.8	16.7	15.8	18.9	16.0	25.0	28.3	20.8	21.6	19.1	-	
DT W	544332	186571	28.1	26.4	21.7	29.1	20.8	17.9	17.8	19.6	19.8	30.0	19.8	22.3	22.8	20.1	-	

☒ **All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table**

☐ **Annualisation has been conducted where data capture is <75% and >25% in line with LLAQM.TG19**

☒ **National bias adjustment factor used**

☒ **Where applicable, data has been distance corrected for relevant exposure in the final column**

☒ **Redbridge Council confirm that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System**

Notes:

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

NO_2 annual means exceeding 60µg m^{-3}, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

Appendix C Map(s) of Monitoring Locations and AQMAs

Figure A. Map of Non-Automatic Monitoring Site(s)

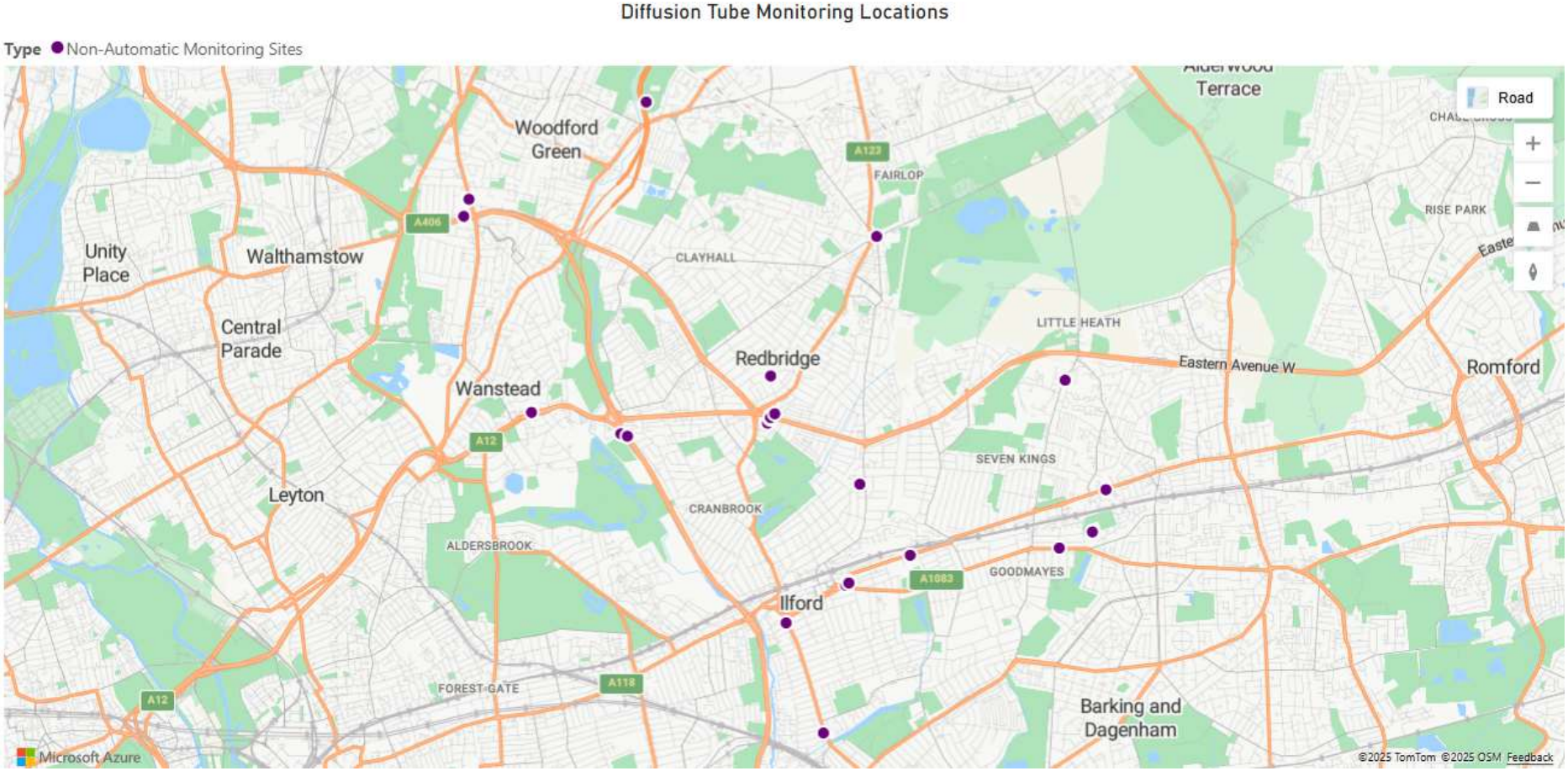


Figure B. Map of Automatic Monitoring Site(s)

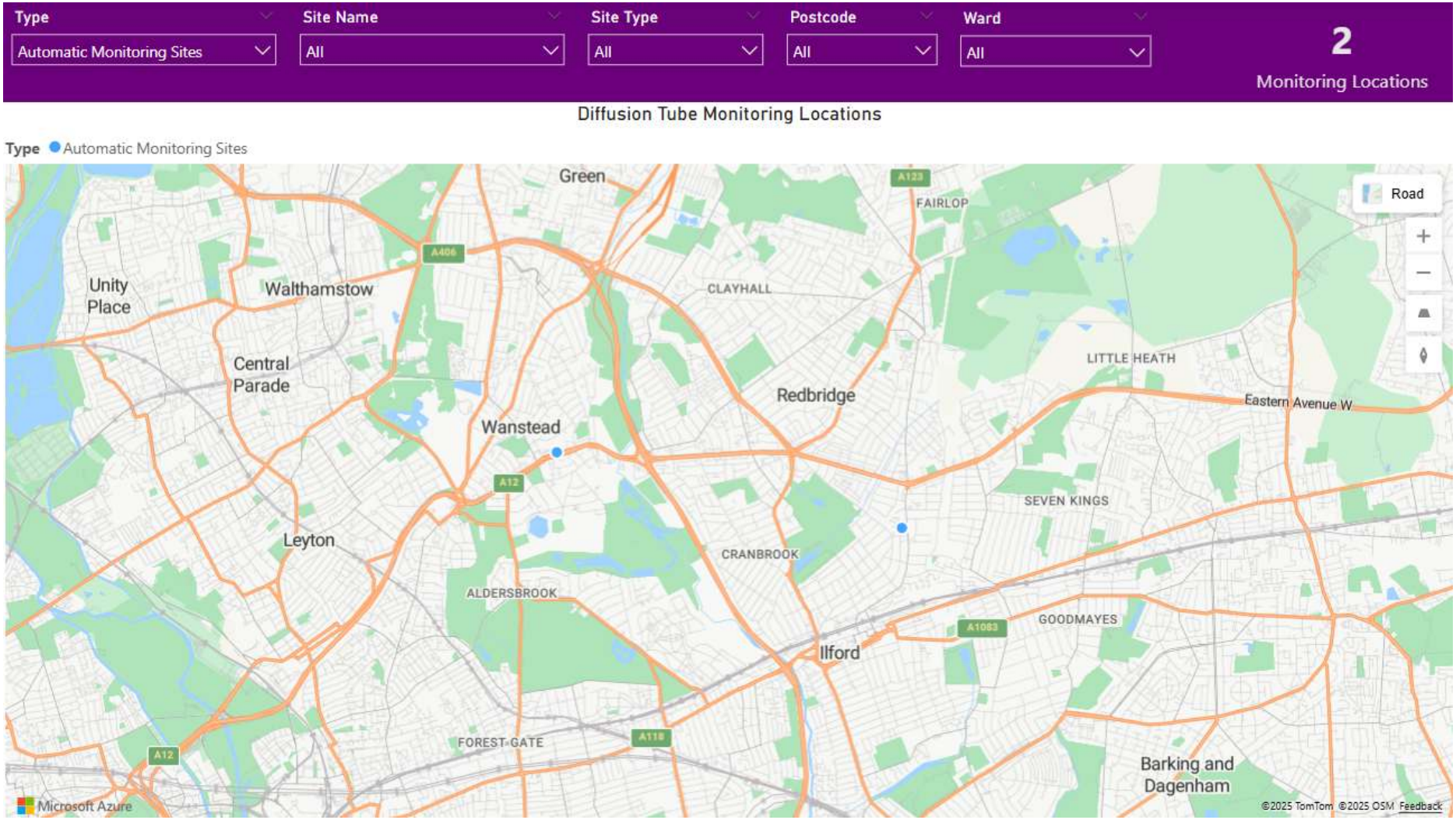


Figure F. Map of AQMA: